Smithsonian Miscellaneous Collections.

# TABLES,

# METEOROLOGICAL AND PHYSICAL,

PREPARED FOR

THE SMITHSONIAN INSTITUTION.

c V. 1 no. 3,

BY

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# METEOROLOGICAL TABLES.

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## I.

## THERMOMETRICAL TABLES.

# PREFACE

## TO THE FIRST EDITION.

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To PROF. JOSEPH HENRY,

*Secretary of the Smithsonian Institution.*

Sir, —

In compliance with your instructions, I have prepared the collection of Meteorological Tables contained in the following pages. I have endeavored to render it useful, not only to the observers engaged in the system of Meteorological Observations now in operation under the direction of the Smithsonian Institution, for whom it was immediately designed, but also to any Meteorologist who may desire to compare and to work out portions of the vast amount of Meteorological Observations already accumulated in the stores of science.

The reduction of the observations and the extensive comparisons, without which Meteorology can do but little, require an amount of mechanical labor which renders it impossible for most observers to deduce for themselves the results of their own observations. The difficulty is still further increased by the diversity of the thermometrical and barometrical scales which Meteorologists, faithful to old habits rather than to science and to reason, choose to retain, notwithstanding the additional labor they thus gratuitously assume to themselves. To relieve the Meteorologist of a great portion of this labor, by means of tables sufficiently extensive to render calculations and even interpolations unnecessary, is to save his time and his forces in favor of science itself, and thus materially contribute to its advancement. But most of the tables useful in Meteorology being scattered through many volumes, which are often not of easy access, this collection will be, it is hoped, acceptable to the friends of Meteorology, and will supply a want very much felt in this department of the physical sciences.

In the selection of the matter, I have been guided by the idea that the tables which I sought for my own use might also be those most likely to be wanted by others. But I wish the following to be considered as a first collection, containing only the tables most appropriate to the present purpose. They are, therefore, arranged in different and independent series, with distinct paging, but constituting together a frame-work into which any tables may be readily inserted when wanted, either to make the collection more complete, or to present a choice of tables calculated from somewhat different elements, or adapted to various methods of calculation.

The measurement of heights by means of the barometer being intimately connected with Meteorology, it was thought not inappropriate to admit into this collection Hypsometrical Tables, destined to render this kind of calculations more easy and more rapid, and thus to increase the taste for a method so useful in physical geography. I have preferred the tables of Delcros, as uniting in the greatest degree simplicity and accuracy. Those of Gauss, Bessel, and Baily may be given afterwards.

Every table contains directions for its use, when necessary; moreover, the indication of the elements used in its calculation, and of the source from which it has been taken. When no remark is made as to this last point, the table has been expressly calculated for this volume.

Very respectfully,

Your obedient servant,

A. GUYOT.

CAMBRIDGE, MASS., *December 15th*, 1851.

# PREFACE

## TO THE SECOND EDITION.

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To PROF. JOSEPH HENRY,

*Secretary of the Smithsonian Institution.*

Sir, —

In sending to you the Meteorological Tables composing the first edition of this volume, published in 1852, I expressed the desire that they be considered as a first collection, containing the tables most needed at the time by the meteorological observers engaged in the system carried on under the supervision of the Smithsonian Institution, but destined to be increased. It was in that expectation, I remarked, that the tables had been arranged in independent series, as a kind of framework, into which a larger number could readily be inserted. It seemed, indeed, highly desirable to offer to the Meteorologist and Physical Geographer, not only the tables they daily need for working out the results of their observations, but also such a variety of tables, computed from different elements, or by different methods, or adapted to different measures, as to enable every one to choose among them those that he most approves, and at the same time properly to compare and to appreciate the results obtained by others.

Thanks to the congenial spirit with which the elevated views of the founder of the Smithsonian Institution are carried out, that character of general usefulness is not wanting in the present volume. With your agreement, the present edition contains more than three times as much matter as the first; and a rapid indication of the additions will suffice to justify them, and to show that, in selecting or calculating the new tables, the object just mentioned was constantly kept in view

As to the tables in the first edition, I must remark that, several of them having been printed in my absence, the copy prepared for the printer, in which decimals had to be left out, failed to give always the nearest value. Though these errors are too small to have any importance whatsoever in Meteorology, a careful revision of all the tables on the original computations was made, and they were corrected in the present edition The few actual misprints which were discovered are indicated in a table of *errata* to the first edition.

In the Thermometrical series six small tables have been added; they were prepared for converting into each other differential results given in degrees of any one of the three thermometrical scales, irrespective of their zero point.

The Hygrometrical series has been entirely reorganized. It only contained five tables, all in French measures, and the Appendix. It is now composed of twenty-seven, arranged in three divisions. In the first are found ten tables, based on Regnault's hygrometrical constants, both in French and in English measures, in two corresponding sets, for the use of the psychrometer, the dew-point instruments, and for computing the weight of vapor in the air. The whole set in English measures, and Table V. in French measures, have been prepared for this edition. Being based on the best elements we now possess, they are given here for ordinary use. The second division contains the seven most important tables published in the *Greenwich Observations*, and Glaisher's extensive Psychrometrical Table. These tables being much used in England, and the results obtained by them exhibiting no inconsiderable differences from those derived from the preceding ones, they are indispensable for comparing these results. The third division, composed of ten miscellaneous tables, furnishes the means of comparing the different values of the force and the weight of vapor, especially those which have frequently been used in Germany, and also of reducing the indications of Saussure's Hair-Hygrometer to the ordinary scale of moisture. The Appendix has remained as in the first edition, but all the tables have been revised and corrected.

The Barometrical series, now in four divisions, has been increased from twelve to twenty-eight tables. Excepting three small tables for capillary action, all the new ones have been computed for this edition. The comparison, now so much needed, of the Russian barometer with the other scales, appears here for the first time.

The Hypsometrical series is almost entirely new. It contained only Delcros's table for barometric and Regnault's table for thermometric measurements, besides two auxiliary tables and the thirteen small tables of the Appendix. It now offers twenty-three tables for barometrical measurement of heights, in which all the principal formulæ and scales are represented; three for the measurement of heights by the thermometer, in French and in English measures; and a rich Appendix of forty-four tables, more extensive and convenient than those in the old set, which afford the means of readily converting into each other all the measures usually employed for indicating altitudes.

The series of Meteorological Corrections for periodic and non-periodic variations, for all parts of the world, mostly due to the untiring industry of Professor Dove, is an addition which will surely be appreciated by those who know how difficult access to the original tables is for most Meteorol-

ogists. A few tables have been added to Dove's collection, computed by Glaisher, Captain Lefroy, and by myself. Most of the tables refer to temperature, only two to moisture. Two tables of Barometrical Corrections have been placed in the Hypsometrical series, where they were needed, until they can be joined by others to make a set in this series, which still awaits new contributions, especially for these last two departments.

The Miscellaneous series is but begun. I have prepared a list of useful tables, which would be no doubt welcome to the lovers of Terrestrial Physics, and which may be published at some future occasion, if you should then find it expedient.

The present collection being designed, not for the scientific only, but for the observers at large, the propriety of the explicit and popular form of the explanations which accompany the tables, and of the directions for using them, will readily be understood.

I close by the remark, that, in every instance, the works from which the tables were taken have been carefully noted, and due credit given to their authors. For all the tables without author's names, I am myself responsible.

I remain, Sir,

Very respectfully, yours,

A. GUYOT.

PRINCETON, N. J., *December*, 1857.

# PREFACE

## TO THE THIRD EDITION.

A NEW series of Hygrometrical Tables, based on Regnault's Table of Elastic Forces of Vapor, has been published by Mr. Glaisher, in London, 1856. As, however, the Psychrometrical Table has not been computed from Regnault's formula, but by means of empirical factors, the results differ from those contained in Table VII. B. A table containing Glaisher's empirical factors, therefore, has been added, and will be found on page 144 B.

Table XVIII. of the Barometrical set, C, page 72, of the Second Edition, for reducing to the freezing point the Barometers with glass or wooden scales, copied from the Instructions of the Royal Society of London, and which is reprinted in most of the English works on Meteorology, having been found erroneous, a new table has been computed and substituted for it. As a large number of observers still use barometers with wooden scales, it was found advisable to enable them to make the needed interpolations at sight, by giving the corrections for every degree of the thermometer, from 0° to 100° Fahr., and for barometric heights ranging between 26 and 31 inches.

The small Table VI. D, page 48, of the Hypsometrical Tables by the writer, having been found useful for rapid computation of approximate results, a larger one of the same description, which allows to make at sight every interpolation, has been added, on page 92, as Table XIX'. The scientific traveller, wishing to determine, when ascending a mountain, the elevation of the physical or geological phenomena that he meets with, such as the stations of remarkable plants, limits of zones of vegetation, — the geologist who uses the aneroid barometer for geological sections, — the engineer who wishes to know, on the ground, approximately, his results, — will find it convenient to obtain the relative heights indicated by their instrument by a simple multiplication. The use of the table is explained page D 90.

Some of the decimals in the smaller Table VI. D, page 48, above mentioned, have been slightly altered in order to make both tables agree.

In set E of Meteorological Corrections, a table of corrections derived by Professor C. Dewey from the hourly observations of Professor Snell, at Amherst College, has been added, which will be of service especially to the numerous observers in New England and in the neighboring States.

The errata indicated in the Second Edition, and a few unimportant ones found since, have been corrected. No other changes have been made in this edition.

A. GUYOT.

PRINCETON, N. J., *April*, 1859.

I.–III.

# GENERAL COMPARISON

OF

# THE THERMOMETRICAL SCALES,

OR

# TABLES

SHOWING THE CORRESPONDING VALUES OF EACH FULL DEGREE OF FAHRENHEIT'S, CENTIGRADE, AND REAUMUR'S THERMOMETERS, FROM +212° TO —39° FAHRENHEIT.

# COMPARISON OF THE THERMOMETRICAL SCALES.

THE first three tables of this set give a simultaneous comparison of the three scales mostly used at present in Meteorology, and especially of the portion of the scales not comprised in the more extensive tables which follow them. They form thus a complement to these last tables; but as most of the temperatures contained in them do not occur in Meteorology, the comparison of the full degrees was found sufficient.

These three tables have been taken from E. L. *Schubarth's Collection of Physical Tables.* Berlin, 1836.

Tables IV. to IX. being more useful to the Meteorologist, the calculation has been carried out for every tenth of a degree. Tables VII. and IX. are from the *Annuaire Météorologique de France;* the others have been calculated.

A comparison of the Centigrade and Fahrenheit degrees near the boiling point, for every tenth of a degree, for the sake of the comparison of standard thermometers, will be found at the end of Table VI.

Tables X. to XV. will be found useful for comparing differential results, such as ranges of temperature, and any relative amount expressed in degrees of different scales, without reference to their respective zeros.

## I. COMPARISON OF FAHRENHEIT'S THERMOMETRICAL SCALE WITH THE CENTIGRADE AND REAUMUR'S.

$x°$ Fahr. $= (x° - 32°)\ \frac{5}{9}$ Centig. $= (x° - 32°)\ \frac{4}{9}$ Reaum.

| Fahren. | Centigrade. | Reaumur. | Fahren. | Centigrade. | Reaumur. | Fahren. | Centigrade. | Reaumur. |
|---|---|---|---|---|---|---|---|---|
| +212 | +100.00 | +80.00 | +172 | +77.78 | +62.22 | +132 | +55.56 | +44.44 |
| 211 | 99.44 | 79.56 | 171 | 77.22 | 61.78 | 131 | 55.00 | 44.00 |
| 210 | 98.89 | 79.11 | 170 | 76.67 | 61.33 | 130 | 54.44 | 43.56 |
| 209 | 98.33 | 78.67 | 169 | 76.11 | 60.89 | 129 | 53.89 | 43.11 |
| 208 | 97.78 | 78.22 | 168 | 75.56 | 60.44 | 128 | 53.33 | 42.67 |
| 207 | 97.22 | 77.78 | 167 | 75.00 | 60.00 | 127 | 52.78 | 42.22 |
| 206 | 96.67 | 77.33 | 166 | 74.44 | 59.56 | 126 | 52.22 | 41.78 |
| 205 | 96.11 | 76.89 | 165 | 73.89 | 59.11 | 125 | 51.67 | 41.33 |
| 204 | 95.56 | 76.44 | 164 | 73.33 | 58.67 | 124 | 51.11 | 40.89 |
| 203 | 95.00 | 76.00 | 163 | 72.78 | 58.22 | 123 | 50.56 | 40.44 |
| 202 | 94.44 | 75.56 | 162 | 72.22 | 57.78 | 122 | 50.00 | 40.00 |
| 201 | 93.89 | 75.11 | 161 | 71.67 | 57.33 | 121 | 49.44 | 39.56 |
| 200 | 93.33 | 74.67 | 160 | 71.11 | 56.89 | 120 | 48.89 | 39.11 |
| 199 | 92.78 | 74.22 | 159 | 70.56 | 56.44 | 119 | 48.33 | 38.67 |
| 198 | 92.22 | 73.78 | 158 | 70.00 | 56.00 | 118 | 47.78 | 38.22 |
| 197 | 91.67 | 73.33 | 157 | 69.44 | 55.56 | 117 | 47.22 | 37.78 |
| 196 | 91.11 | 72.89 | 156 | 68.89 | 55.11 | 116 | 46.67 | 37.33 |
| 195 | 90.56 | 72.44 | 155 | 68.33 | 54.67 | 115 | 46.11 | 36.89 |
| 194 | 90.00 | 72.00 | 154 | 67.78 | 54.22 | 114 | 45.56 | 36.44 |
| 193 | 89.44 | 71.56 | 153 | 67.22 | 53.78 | 113 | 45.00 | 36.00 |
| 192 | 88.89 | 71.11 | 152 | 66.67 | 53.33 | 112 | 44.44 | 35.56 |
| 191 | 88.33 | 70.67 | 151 | 66.11 | 52.89 | 111 | 43.89 | 35.11 |
| 190 | 87.78 | 70.22 | 150 | 65.56 | 52.44 | 110 | 43.33 | 34.67 |
| 189 | 87.22 | 69.78 | 149 | 65.00 | 52.00 | 109 | 42.78 | 34.22 |
| 188 | 86.67 | 69.33 | 148 | 64.44 | 51.56 | 108 | 42.22 | 33.78 |
| 187 | 86.11 | 68.89 | 147 | 63.89 | 51.11 | 107 | 41.67 | 33.33 |
| 186 | 85.56 | 68.44 | 146 | 63.33 | 50.67 | 106 | 41.11 | 32.89 |
| 185 | 85.00 | 68.00 | 145 | 62.78 | 50.22 | 105 | 40.56 | 32.44 |
| 184 | 84.44 | 67.56 | 144 | 62.22 | 49.78 | 104 | 40.00 | 32.00 |
| 183 | 83.89 | 67.11 | 143 | 61.67 | 49.33 | 103 | 39.44 | 31.56 |
| 182 | 83.33 | 66.67 | 142 | 61.11 | 48.89 | 102 | 38.89 | 31.11 |
| 181 | 82.78 | 66.22 | 141 | 60.56 | 48.44 | 101 | 38.33 | 30.67 |
| 180 | 82.22 | 65.78 | 140 | 60.00 | 48.00 | 100 | 37.78 | 30.22 |
| 179 | 81.67 | 65.33 | 139 | 59.44 | 47.56 | 99 | 37.22 | 29.78 |
| 178 | 81.11 | 64.89 | 138 | 58.89 | 47.11 | 98 | 36.67 | 29.33 |
| 177 | 80.56 | 64.44 | 137 | 58.33 | 46.67 | 97 | 36.11 | 28.89 |
| 176 | 80.00 | 64.00 | 136 | 57.78 | 46.22 | 96 | 35.56 | 28.44 |
| 175 | 79.44 | 63.56 | 135 | 57.22 | 45.78 | 95 | 35.00 | 28.00 |
| 174 | 78.89 | 63.11 | 134 | 56.67 | 45.33 | 94 | 34.44 | 27.56 |
| 173 | 78.33 | 62.67 | 133 | 56.11 | 44.89 | 93 | 33.89 | 27.11 |

$x°$ Fahr. $= (x° - 32°)\ \frac{5}{9}$ Centig. $= (x° - 32°)\ \frac{4}{9}$ Reaum.

| Fahren. | Centigrade. | Reaumur. | Fahren. | Centigrade. | Reaumur. | Fahren. | Centigrade. | Reaumur. |
|---|---|---|---|---|---|---|---|---|
| +92 | +33.33 | +26.67 | +48 | + 8.89 | + 7.11 | + 4 | −15.56 | −12.44 |
| 91 | 32.78 | 26.22 | 47 | 8.33 | 6.67 | 3 | −16.11 | −12.89 |
| 90 | 32.22 | 25.78 | 46 | 7.78 | 6.22 | 2 | −16.67 | −13.33 |
| 89 | 31.67 | 25.33 | 45 | 7.22 | 5.78 | 1 | −17.22 | −13.78 |
| 88 | 31.11 | 24.89 | 44 | 6.67 | 5.33 | 0 | −17.78 | −14.22 |
| 87 | 30.56 | 24.44 | 43 | 6.11 | 4.89 | − 1 | −18.33 | −14.67 |
| 86 | 30.00 | 24.00 | 42 | 5.56 | 4.44 | − 2 | −18.89 | −15.11 |
| 85 | 29.44 | 23.56 | 41 | 5.00 | 4.00 | − 3 | −19.44 | −15.56 |
| 84 | 28.89 | 23.11 | 40 | 4.44 | 3.56 | − 4 | −20.00 | −16.00 |
| 83 | 28.33 | 22.67 | 39 | 3.89 | 3.11 | − 5 | −20.56 | −16.44 |
| 82 | 27.78 | 22.22 | 38 | 3.33 | 2.67 | − 6 | −21.11 | −16.89 |
| 81 | 27.22 | 21.78 | 37 | 2.78 | 2.22 | − 7 | −21.67 | −17.33 |
| 80 | 26.67 | 21.33 | 36 | 2.22 | 1.78 | − 8 | −22.22 | −17.78 |
| 79 | 26.11 | 20.89 | 35 | 1.67 | 1.33 | − 9 | −22.78 | −18.22 |
| 78 | 25.56 | 20.44 | 34 | 1.11 | 0.89 | −10 | −23.33 | −18.67 |
| 77 | 25.00 | 20.00 | 33 | 0.56 | 0.44 | −11 | −23.89 | −19.11 |
| 76 | 24.44 | 19.56 | 32 | 0.00 | 0.00 | −12 | −24.44 | −19.56 |
| 75 | 23.89 | 19.11 | 31 | − 0.56 | − 0.44 | −13 | −25.00 | −20.00 |
| 74 | 23.33 | 18.67 | 30 | − 1.11 | − 0.89 | −14 | −25.56 | −20.44 |
| 73 | 22.78 | 18.22 | 29 | − 1.67 | − 1.33 | −15 | −26.11 | −20.89 |
| 72 | 22.22 | 17.78 | 28 | − 2.22 | − 1.78 | −16 | −26.67 | −21.33 |
| 71 | 21.67 | 17.33 | 27 | − 2.78 | − 2.22 | −17 | −27.22 | −21.78 |
| 70 | 21.11 | 16.89 | 26 | − 3.33 | − 2.67 | −18 | −27.78 | −22.22 |
| 69 | 20.56 | 16.44 | 25 | − 3.89 | − 3.11 | −19 | −28.33 | −22.67 |
| 68 | 20.00 | 16.00 | 24 | − 4.44 | − 3.56 | −20 | −28.89 | −23.11 |
| 67 | 19.44 | 15.56 | 23 | − 5.00 | − 4.00 | −21 | −29.44 | −23.56 |
| 66 | 18.89 | 15.11 | 22 | − 5.56 | − 4.44 | −22 | −30.00 | −24.00 |
| 65 | 18.33 | 14.67 | 21 | − 6.11 | − 4.89 | −23 | −30.56 | −24.44 |
| 64 | 17.78 | 14.22 | 20 | − 6.67 | − 5.33 | −24 | −31.11 | −24.89 |
| 63 | 17.22 | 13.78 | 19 | − 7.22 | − 5.78 | −25 | −31.67 | −25.33 |
| 62 | 16.67 | 13.33 | 18 | − 7.78 | − 6.22 | −26 | −32.22 | −25.78 |
| 61 | 16.11 | 12.89 | 17 | − 8.33 | − 6.67 | −27 | −32.78 | −26.22 |
| 60 | 15.56 | 12.44 | 16 | − 8.89 | − 7.11 | −28 | −33.33 | −26.67 |
| 59 | 15.00 | 12.00 | 15 | − 9.44 | − 7.56 | −29 | −33.89 | −27.11 |
| 58 | 14.44 | 11.56 | 14 | −10.00 | − 8.00 | −30 | −34.44 | −27.56 |
| 57 | 13.89 | 11.11 | 13 | −10.56 | − 8.44 | −31 | −35.00 | −28.00 |
| 56 | 13.33 | 10.67 | 12 | −11.11 | − 8.89 | −32 | −35.56 | −28.44 |
| 55 | 12.78 | 10.22 | 11 | −11.67 | − 9.33 | −33 | −36.11 | −28.89 |
| 54 | 12.22 | 9.78 | 10 | −12.22 | − 9.78 | −34 | −36.67 | −29.33 |
| 53 | 11.67 | 9.33 | 9 | −12.78 | −10.22 | −35 | −37.22 | −29.78 |
| 52 | 11.11 | 8.89 | 8 | −13.33 | −10.67 | −36 | −37.78 | −30.22 |
| 51 | 10.56 | 8.44 | 7 | −13.89 | −11.11 | −37 | −38.33 | −30.67 |
| 50 | 10.00 | 8.00 | 6 | −14.44 | −11.56 | −38 | −38.89 | −31.11 |
| 49 | 9.44 | 7.56 | 5 | −15.00 | −12.00 | −39 | −39.44 | −31.56 |

For the Continuation see Table IV. and V.

## II. COMPARISON OF THE CENTIGRADE THERMOMETER WITH REAUMUR'S AND FAHRENHEIT'S.

$x°$ Centig. $= (32 + \frac{9}{5}\,x°)$ Fahr. $= \frac{4}{5}\,x°$ Reaum.

| Centig. | Reaumur. | Fahrenheit. | Centig. | Reaumur. | Fahrenheit. | Centig. | Reaumur. | Fahrenheit. |
|---|---|---|---|---|---|---|---|---|
| +100 | +80.0 | +212.0 | +83 | +66.4 | +181.4 | +66 | +52.8 | +150.8 |
| 99 | 79.2 | 210.2 | 82 | 65.6 | 179.6 | 65 | 52.0 | 149.0 |
| 98 | 78.4 | 208.4 | 81 | 64.8 | 177.8 | 64 | 51.2 | 147.2 |
| 97 | 77.6 | 206.6 | 80 | 64.0 | 176.0 | 63 | 50.4 | 145.4 |
| 96 | 76.8 | 204.8 | 79 | 63.2 | 174.2 | 62 | 49.6 | 143.6 |
| 95 | 76.0 | 203.0 | 78 | 62.4 | 172.4 | 61 | 48.8 | 141.8 |
| 94 | 75.2 | 201.2 | 77 | 61.6 | 170.6 | 60 | 48.0 | 140.0 |
| 93 | 74.4 | 199.4 | 76 | 60.8 | 168.8 | 59 | 47.2 | 138.2 |
| 92 | 73.6 | 197.6 | 75 | 60.0 | 167.0 | 58 | 46.4 | 136.4 |
| 91 | 72.8 | 195.8 | 74 | 59.2 | 165.2 | 57 | 45.6 | 134.6 |
| 90 | 72.0 | 194.0 | 73 | 58.4 | 163.4 | 56 | 44.8 | 132.8 |
| 89 | 71.2 | 192.2 | 72 | 57.6 | 161.6 | 55 | 44.0 | 131.0 |
| 88 | 70.4 | 190.4 | 71 | 56.8 | 159.8 | 54 | 43.2 | 129.2 |
| 87 | 69.6 | 188.6 | 70 | 56.0 | 158.0 | 53 | 42.4 | 127.4 |
| 86 | 68.8 | 186.8 | 69 | 55.2 | 156.2 | 52 | 41.6 | 125.6 |
| 85 | 68.0 | 185.0 | 68 | 54.4 | 154.4 | 51 | 40.8 | 123.8 |
| 84 | 67.2 | 183.2 | 67 | 53.6 | 152.6 | 50 | 40.0 | 122.0 |

For the Continuation see Tables V. and VI.

## III. COMPARISON OF REAUMUR'S THERMOMETER WITH FAHRENHEIT'S AND THE CENTIGRADE.

$x°$ Reaum. $= (32° + \frac{9}{4}\,x°)$ Fahr. $= \frac{5}{4}\,x°$ Centig.

| Reaumur. | Fahrenheit. | Centigrade. | Reaumur. | Fahrenheit. | Centigrade. | Reaumur. | Fahrenheit. | Centigrade. |
|---|---|---|---|---|---|---|---|---|
| +80 | +212.00 | +100.00 | +66 | +180.50 | +82.50 | +52 | +149.00 | +65.00 |
| 79 | 209.75 | 98.75 | 65 | 178.25 | 81.25 | 51 | 146.75 | 63.75 |
| 78 | 207.50 | 97.50 | 64 | 176.00 | 80.00 | 50 | 144.50 | 62.50 |
| 77 | 205.25 | 96.25 | 63 | 173.75 | 78.75 | 49 | 142.25 | 61.25 |
| 76 | 203.00 | 95.00 | 62 | 171.50 | 77.50 | 48 | 140.00 | 60.00 |
| 75 | 200.75 | 93.75 | 61 | 169.25 | 76.25 | 47 | 137.75 | 58.75 |
| 74 | 198.50 | 92.50 | 60 | 167.00 | 75.00 | 46 | 135.50 | 57.50 |
| 73 | 196.25 | 91.25 | 59 | 164.75 | 73.75 | 45 | 133.25 | 56.25 |
| 72 | 194.00 | 90.00 | 58 | 162.50 | 72.50 | 44 | 131.00 | 55.00 |
| 71 | 191.75 | 88.75 | 57 | 160.25 | 71.25 | 43 | 128.75 | 53.75 |
| 70 | 189.50 | 87.50 | 56 | 158.00 | 70.00 | 42 | 126.50 | 52.50 |
| 69 | 187.25 | 86.25 | 55 | 155.75 | 68.75 | 41 | 124.25 | 51.25 |
| 68 | 185.00 | 85.00 | 54 | 153.50 | 67.50 | 40 | 122.00 | 50.00 |
| 67 | 182.75 | 83.75 | 53 | 151.25 | 66.25 | 39 | 119.75 | 48.75 |

For the Continuation see Tables VIII. and IX.

# IV.–V.

# COMPARISON

OF

# FAHRENHEIT'S THERMOMETER

WITH

# THE CENTIGRADE AND WITH THAT OF REAUMUR,

OR

# TABLES

FOR CONVERTING THE DEGREES OF FAHRENHEIT INTO CENTIGRADE DEGREES AND INTO DEGREES OF REAUMUR;

GIVING THE CORRESPONDING VALUES FOR EACH TENTH OF A DEGREE, FROM +122° TO —76° FAHRENHEIT.

| Degrees of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| +122 | +50.00 | +50.06 | +50.11 | +50.17 | +50.22 | +50.28 | +50.33 | +50.39 | +50.44 | +50.50 |
| 121 | 49.44 | 49.50 | 49.56 | 49.61 | 49.67 | 49.72 | 49.78 | 49.83 | 49.89 | 49.94 |
| 120 | 48.89 | 49.94 | 49.00 | 49.06 | 49.11 | 49.17 | 49.22 | 49.28 | 49.33 | 49.39 |
| 119 | 48.33 | 48.39 | 48.44 | 48.50 | 48.56 | 48.61 | 48.67 | 48.72 | 48.78 | 48.83 |
| 118 | 47.78 | 47.83 | 47.89 | 47.94 | 48.00 | 48.06 | 48.11 | 48.17 | 48.22 | 48.28 |
| 117 | 47.22 | 47.28 | 47.33 | 47.39 | 47.44 | 47.50 | 47.56 | 47.61 | 47.67 | 47.72 |
| 116 | 46.67 | 46.72 | 46.78 | 46.83 | 46.89 | 46.94 | 47.00 | 47.06 | 47.11 | 47.17 |
| 115 | 46.11 | 46.17 | 46.22 | 46.28 | 46.33 | 46.39 | 46.44 | 46.50 | 46.56 | 46.61 |
| 114 | 45.56 | 45.61 | 45.67 | 45.72 | 45.78 | 45.83 | 45.89 | 45.94 | 46.00 | 46.06 |
| 113 | 45.00 | 45.06 | 45.11 | 45.17 | 45.22 | 45.28 | 45.33 | 45.39 | 45.44 | 45.50 |
| 112 | 44.44 | 44.50 | 44.56 | 44.61 | 44.67 | 44.72 | 44.78 | 44.83 | 44.89 | 44.94 |
| 111 | 43.89 | 43.94 | 44.00 | 44.06 | 44.11 | 44.17 | 44.22 | 44.28 | 44.33 | 44.39 |
| 110 | 43.33 | 43.39 | 43.44 | 43.50 | 43.56 | 43.61 | 43.67 | 43.72 | 43.78 | 43.83 |
| 109 | 42.78 | 42.83 | 42.89 | 42.94 | 43.00 | 43.06 | 43.11 | 43.17 | 43.22 | 43.28 |
| 108 | 42.22 | 42.28 | 42.33 | 42.39 | 42.44 | 42.50 | 42.56 | 42.61 | 42.67 | 42.72 |
| 107 | 41.67 | 41.72 | 41.78 | 41.83 | 41.89 | 41.94 | 42.00 | 42.06 | 42.11 | 42.17 |
| 106 | 41.11 | 41.17 | 41.22 | 41.28 | 41.33 | 41.39 | 41.44 | 41.50 | 41.56 | 41.61 |
| 105 | 40.56 | 40.61 | 40.67 | 40.72 | 40.78 | 40.83 | 40.89 | 40.94 | 41.00 | 41.06 |
| 104 | 40.00 | 40.06 | 40.11 | 40.17 | 40.22 | 40.28 | 40.33 | 40.39 | 40.44 | 40.50 |
| 103 | 39.44 | 39.50 | 39.56 | 39.61 | 39.67 | 39.72 | 39.78 | 39.83 | 39.89 | 39.94 |
| 102 | 38.89 | 38.94 | 39.00 | 39.06 | 39.11 | 39.17 | 39.22 | 39.28 | 39.33 | 39.39 |
| 101 | 38.33 | 38.39 | 38.44 | 38.50 | 38.56 | 38.61 | 38.67 | 38.72 | 38.78 | 38.83 |
| 100 | 37.78 | 37.83 | 37.89 | 37.94 | 38.00 | 38.06 | 38.11 | 38.17 | 38.22 | 38.28 |
| 99 | 37.22 | 37.28 | 37.33 | 37.39 | 37.44 | 37.50 | 37.56 | 37.61 | 37.67 | 37.72 |
| 98 | 36.67 | 36.72 | 36.78 | 36.83 | 36.89 | 36.94 | 37.00 | 37.06 | 37.11 | 37.17 |
| 97 | 36.11 | 36.17 | 36.22 | 36.28 | 36.33 | 36.39 | 36.44 | 36.50 | 36.56 | 36.61 |
| 96 | 35.56 | 35.61 | 35.67 | 35.72 | 35.78 | 35.83 | 35.89 | 35.94 | 36.00 | 36.06 |
| 95 | 35.00 | 35.06 | 35.11 | 35.17 | 35.22 | 35.28 | 35.33 | 35.39 | 35.44 | 35.50 |
| 94 | 34.44 | 34.50 | 34.56 | 34.61 | 34.67 | 34.72 | 34.78 | 34.83 | 34.89 | 34.94 |
| 93 | 33.89 | 33.94 | 34.00 | 34.06 | 34.11 | 34.17 | 34.22 | 34.28 | 34.33 | 34.39 |
| 92 | 33.33 | 33.39 | 33.44 | 33.50 | 33.56 | 33.61 | 33.67 | 33.72 | 33.78 | 33.83 |
| 91 | 32.78 | 32.83 | 32.89 | 32.94 | 33.00 | 33.06 | 33.11 | 33.17 | 33.22 | 33.28 |
| 90 | 32.22 | 32.28 | 32.33 | 32.39 | 32.44 | 32.50 | 32.56 | 32.61 | 32.67 | 32.72 |
| 89 | 31.67 | 31.72 | 31.78 | 31.83 | 31.89 | 31.94 | 32.00 | 32.06 | 32.11 | 33.17 |
| 88 | 31.11 | 31.17 | 31.22 | 31.28 | 31.33 | 31.39 | 31.44 | 31.50 | 31.56 | 31.61 |
| 87 | 30.56 | 30.61 | 30.67 | 30.72 | 30.78 | 30.83 | 30.89 | 30.94 | 31.00 | 31.06 |
| 86 | 30.00 | 30.06 | 30.11 | 30.17 | 30.22 | 30.28 | 30.33 | 30.39 | 30.44 | 30.50 |
| 85 | 29.44 | 29.50 | 29.56 | 29.61 | 29.67 | 29.72 | 29.78 | 29.83 | 29.89 | 29.94 |
| 84 | 28.89 | 28.94 | 29.00 | 29.06 | 29.11 | 29.17 | 29.22 | 29.28 | 29.33 | 29.39 |
| 83 | 28.33 | 28.39 | 28.44 | 28.50 | 28.56 | 28.61 | 28.67 | 28.72 | 28.78 | 28.83 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| +82 | +27.78 | +27.83 | +27.89 | +27.94 | +28.00 | +28.06 | +28.11 | +28.17 | +28.22 | +28.28 |
| 81 | 27.22 | 27.28 | 27.33 | 27.39 | 27.44 | 27.50 | 27.56 | 27.61 | 27.67 | 27.72 |
| 80 | 26.67 | 26.72 | 26.78 | 26.83 | 26.89 | 26.94 | 27.00 | 27.06 | 27.11 | 27.17 |
| 79 | 26.11 | 26.17 | 26.22 | 26.28 | 26.33 | 26.39 | 26.44 | 26.50 | 26.56 | 26.61 |
| 78 | 25.56 | 25.61 | 25.67 | 25.72 | 25.78 | 25.83 | 25.89 | 25.94 | 26.00 | 26.06 |
| 77 | 25.00 | 25.06 | 25.11 | 25.17 | 25.22 | 25.28 | 25.33 | 25.39 | 25.44 | 25.50 |
| 76 | 24.44 | 24.50 | 24.56 | 24.61 | 24.67 | 24.72 | 24.78 | 24.83 | 24.89 | 24.94 |
| 75 | 23.89 | 23.94 | 24.00 | 24.06 | 24.11 | 24.17 | 24.22 | 24.28 | 24.33 | 24.39 |
| 74 | 23.33 | 23.39 | 23.44 | 23.50 | 23.56 | 23.61 | 23.67 | 23.72 | 23.78 | 23.83 |
| 73 | 22.78 | 22.83 | 22.89 | 22.94 | 23.00 | 23.06 | 23.11 | 23.17 | 23.22 | 23.28 |
| 72 | 22.22 | 22.28 | 22.33 | 22.39 | 22.44 | 22.50 | 22.56 | 22.61 | 22.67 | 22.72 |
| 71 | 21.67 | 21.72 | 21.78 | 21.83 | 21.89 | 21.94 | 22.00 | 22.06 | 22.11 | 22.17 |
| 70 | 21.11 | 21.17 | 21.22 | 21.28 | 21.33 | 21.39 | 21.44 | 21.50 | 21.56 | 21.61 |
| 69 | 20.56 | 20.61 | 20.67 | 20.72 | 20.78 | 20.83 | 20.89 | 20.94 | 21.00 | 21.06 |
| 68 | 20.00 | 20.06 | 20.11 | 20.17 | 20.22 | 20.28 | 20.33 | 20.39 | 20.44 | 20.50 |
| 67 | 19.44 | 19.50 | 19.56 | 19.61 | 19.67 | 19.72 | 19.78 | 19.83 | 19.89 | 19.94 |
| 66 | 18.89 | 18.94 | 19.00 | 19.06 | 19.11 | 19.17 | 19.22 | 19.28 | 19.33 | 19.39 |
| 65 | 18.33 | 18.39 | 18.44 | 18.50 | 18.56 | 18.61 | 18.67 | 18.72 | 18.78 | 18.83 |
| 64 | 17.78 | 17.83 | 17.89 | 17.94 | 18.00 | 18.06 | 18.11 | 18.17 | 18.22 | 18.28 |
| 63 | 17.22 | 17.28 | 17.33 | 17.39 | 17.44 | 17.50 | 17.56 | 17.61 | 17.67 | 17.72 |
| 62 | 16.67 | 16.72 | 16.78 | 16.83 | 16.89 | 16.94 | 17.00 | 17.06 | 17.11 | 17.17 |
| 61 | 16.11 | 16.17 | 16.22 | 16.28 | 16.33 | 16.39 | 16.44 | 16.50 | 16.56 | 16.61 |
| 60 | 15.56 | 15.61 | 15.67 | 15.72 | 15.78 | 15.83 | 15.89 | 15.94 | 16.00 | 16.06 |
| 59 | 15.00 | 15.06 | 15.11 | 15.17 | 15.22 | 15.28 | 15.33 | 15.39 | 15.44 | 15.50 |
| 58 | 14.44 | 14.50 | 14.56 | 14.61 | 14.67 | 14.72 | 14.78 | 14.83 | 14.89 | 14.94 |
| 57 | 13.89 | 13.94 | 14.00 | 14.06 | 14.11 | 14.17 | 14.22 | 14.28 | 14.33 | 14.39 |
| 56 | 13.33 | 13.39 | 13.44 | 13.50 | 13.56 | 13.61 | 13.67 | 13.72 | 13.78 | 13.83 |
| 55 | 12.78 | 12.83 | 12.89 | 12.94 | 13.00 | 13.06 | 13.11 | 13.17 | 13.22 | 13.28 |
| 54 | 12.22 | 12.28 | 12.33 | 12.39 | 12.44 | 12.50 | 12.56 | 12.61 | 12.67 | 12.72 |
| 53 | 11.67 | 11.72 | 11.78 | 11.83 | 11.89 | 11.94 | 12.00 | 12.06 | 12.11 | 12.17 |
| 52 | 11.11 | 11.17 | 11.22 | 11.28 | 11.33 | 11.39 | 11.44 | 11.50 | 11.56 | 11.61 |
| 51 | 10.56 | 10.61 | 10.67 | 10.72 | 10.78 | 10.83 | 10.89 | 10.94 | 11.00 | 11.06 |
| 50 | 10.00 | 10.06 | 10.11 | 10.17 | 10.22 | 10.28 | 10.33 | 10.39 | 10.44 | 10.50 |
| 49 | 9.44 | 9.50 | 9.56 | 9.61 | 9.67 | 9.72 | 9.78 | 9.83 | 9.89 | 9.94 |
| 48 | 8.89 | 8.94 | 9.00 | 9.06 | 9.11 | 9.17 | 9.22 | 9.28 | 9.33 | 9.39 |
| 47 | 8.33 | 8.39 | 8.44 | 8.50 | 8.56 | 8.61 | 8.67 | 8.72 | 8.78 | 8.83 |
| 46 | 7.78 | 7.83 | 7.89 | 7.94 | 8.00 | 8.06 | 8.11 | 8.17 | 8.22 | 8.28 |
| 45 | 7.22 | 7.28 | 7.33 | 7.39 | 7.44 | 7.50 | 7.56 | 7.61 | 7.67 | 7.72 |
| 44 | 6.67 | 6.72 | 6.78 | 6.83 | 6.89 | 6.94 | 7.00 | 7.06 | 7.11 | 7.17 |
| 43 | 6.11 | 6.17 | 6.22 | 6.28 | 6.33 | 6.39 | 6.44 | 6.50 | 6.56 | 6.61 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

| Degrees of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| +42 | +5.56 | +5.61 | +5.67 | +5.72 | +5.78 | +5.83 | +5.89 | +5.94 | +6.00 | +6.06 |
| 41 | 5.00 | 5.06 | 5.11 | 5.17 | 5.22 | 5.28 | 5.33 | 5.39 | 5.44 | 5.50 |
| 40 | 4.44 | 4.50 | 4.56 | 4.61 | 4.67 | 4.72 | 4.78 | 4.83 | 4.89 | 4.94 |
| 39 | 3.89 | 3.94 | 4.00 | 4.06 | 4.11 | 4.17 | 4.22 | 4.28 | 4.33 | 4.39 |
| 38 | 3.33 | 3.39 | 3.44 | 3.50 | 3.56 | 3.61 | 3.67 | 3.72 | 3.78 | 3.83 |
| 37 | 2.78 | 2.83 | 2.89 | 2.94 | 3.00 | 3.06 | 3.11 | 3.17 | 3.22 | 3.28 |
| 36 | 2.22 | 2.28 | 2.33 | 2.39 | 2.44 | 2.50 | 2.56 | 2.61 | 2.67 | 2.72 |
| 35 | 1.67 | 1.72 | 1.78 | 1.83 | 1.89 | 1.94 | 2.00 | 2.06 | 2.11 | 2.17 |
| 34 | 1.11 | 1.17 | 1.22 | 1.28 | 1.33 | 1.39 | 1.44 | 1.50 | 1.56 | 1.61 |
| 33 | 0.56 | 0.61 | 0.67 | 0.72 | 0.78 | 0.83 | 0.89 | 0.94 | 1.00 | 1.06 |
| 32 | 0.00 | 0.06 | 0.11 | 0.17 | 0.22 | 0.28 | 0.33 | 0.39 | 0.44 | 0.50 |
| 31 | − 0.56 | − 0.50 | − 0.44 | − 0.39 | − 0.33 | − 0.28 | − 0.22 | − 0.17 | − 0.11 | − 0.06 |
| 30 | − 1.11 | − 1.06 | − 1.00 | − 0.94 | − 0.89 | − 0.83 | − 0.78 | − 0.72 | − 0.67 | − 0.61 |
| 29 | − 1.67 | − 1.61 | − 1.56 | − 1.50 | − 1.44 | − 1.39 | − 1.33 | − 1.28 | − 1.22 | − 1.17 |
| 28 | − 2.22 | − 2.17 | − 2.11 | − 2.06 | − 2.00 | − 1.94 | − 1.89 | − 1.83 | − 1.78 | − 1.72 |
| 27 | − 2.78 | − 2.72 | − 2.67 | − 2.61 | − 2.56 | − 2.50 | − 2.44 | − 2.39 | − 2.33 | − 2.28 |
| 26 | − 3.33 | − 3.28 | − 3.22 | − 3.17 | − 3.11 | − 3.06 | − 3.00 | − 2.94 | − 2.89 | − 2.83 |
| 25 | − 3.89 | − 3.83 | − 3.78 | − 3.72 | − 3.67 | − 3.61 | − 3.56 | − 3.50 | − 3.44 | − 3.39 |
| 24 | − 4.44 | − 4.39 | − 4.33 | − 4.28 | − 4.22 | − 4.17 | − 4.11 | − 4.06 | − 4.00 | − 3.94 |
| 23 | − 5.00 | − 4.94 | − 4.89 | − 4.83 | − 4.78 | − 4.72 | − 4.67 | − 4.61 | − 4.56 | − 4.50 |
| 22 | − 5.56 | − 5.50 | − 5.44 | − 5.39 | − 5.33 | − 5.28 | − 5.22 | − 5.17 | − 5.11 | − 5.06 |
| 21 | − 6.11 | − 6.06 | − 6.00 | − 5.94 | − 5.89 | − 5.83 | − 5.78 | − 5.72 | − 5.67 | − 5.61 |
| 20 | − 6.67 | − 6.61 | − 6.56 | − 6.50 | − 6.44 | − 6.39 | − 6.33 | − 6.28 | − 6.22 | − 6.17 |
| 19 | − 7.22 | − 7.17 | − 7.11 | − 7.06 | − 7.00 | − 6.94 | − 6.89 | − 6.83 | − 6.78 | − 6.72 |
| 18 | − 7.78 | − 7.72 | − 7.67 | − 7.61 | − 7.56 | − 7.50 | − 7.44 | − 7.39 | − 7.33 | − 7.28 |
| 17 | − 8.33 | − 8.28 | − 8.22 | − 8.17 | − 8.11 | − 8.06 | − 8.00 | − 7.94 | − 7.89 | − 7.83 |
| 16 | − 8.89 | − 8.83 | − 8.78 | − 8.72 | − 8.67 | − 8.61 | − 8.56 | − 8.50 | − 8.44 | − 8.39 |
| 15 | − 9.44 | − 9.39 | − 9.33 | − 9.28 | − 9.22 | − 9.17 | − 9.11 | − 9.06 | − 9.00 | − 8.94 |
| 14 | −10.00 | − 9.94 | − 9.89 | − 9.83 | − 9.78 | − 9.72 | − 9.67 | − 9.61 | − 9.56 | − 9.50 |
| 13 | −10.56 | −11.50 | −10.44 | −10.39 | −10.33 | −10.28 | −10.22 | −10.17 | −10.11 | −10.06 |
| 12 | −11.11 | −11.06 | −11.00 | −10.94 | −10.89 | −10.83 | −10.78 | −10.72 | −10.67 | −10.61 |
| 11 | −11.67 | −11.61 | −11.56 | −11.50 | −11.44 | −11.39 | −11.33 | −11.28 | −11.22 | −11.17 |
| 10 | −12.22 | −12.17 | −12.11 | −12.06 | −12.00 | −11.94 | −11.89 | −11.83 | −11.78 | −11.72 |
| 9 | −12.78 | −12.72 | −12.67 | −12.61 | −12.56 | −12.50 | −12.44 | −12.39 | −12.33 | −12.28 |
| 8 | −13.33 | −13.28 | −13.22 | −13.17 | −13.11 | −13.06 | −13.00 | −12.94 | −12.89 | −12.83 |
| 7 | −13.89 | −13.83 | −13.78 | −13.72 | −13.67 | −13.61 | −13.56 | −13.50 | −13.44 | −13.39 |
| 6 | −14.44 | −14.39 | −14.33 | −14.28 | −14.22 | −14.17 | −14.11 | −14.06 | −14.00 | −13.94 |
| 5 | −15.00 | −14.94 | −14.89 | −14.83 | −14.78 | −14.72 | −14.67 | −14.61 | −14.56 | −14.50 |
| 4 | −15.56 | −15.50 | −15.44 | −15.39 | −15.33 | −15.28 | −15.22 | −15.17 | −15.11 | −15.06 |
| 3 | −16.11 | −16.06 | −16.00 | −15.94 | −15.89 | −15.83 | −15.78 | −15.72 | −15.67 | −15.61 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

| Degrees of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| + 2 | −16.67 | −16.61 | −16.56 | −16.50 | −16.44 | −16.39 | −16.33 | −16.28 | −16.22 | −16.17 |
| 1 | −17.22 | −17.17 | −17.11 | −17.06 | −17.00 | −16.94 | −16.89 | −16.83 | −16.78 | −16.72 |
| 0 | −17.78 | −17.72 | −17.67 | −17.61 | −17.56 | −17.50 | −17.44 | −17.39 | −17.33 | −17.28 |
| − 0 | −17.78 | −17.83 | −17.89 | −17.94 | −18.00 | −18.06 | −18.11 | −18.17 | −18.22 | −18.28 |
| − 1 | −18.33 | −18.39 | −18.44 | −18.50 | −18.56 | −18.61 | −18.67 | −18.72 | −18.78 | −18.83 |
| − 2 | −18.89 | −18.94 | −19.00 | −19.06 | −19.11 | −19.17 | −19.22 | −19.28 | −19.33 | −19.39 |
| − 3 | −19.44 | −19.50 | −19.56 | −19.61 | −19.67 | −19.72 | −19.78 | −19.83 | −19.89 | −19.94 |
| − 4 | −20.00 | −20.06 | −20.11 | −20.17 | −20.22 | −20.28 | −20.33 | −20.39 | −20.44 | −20.50 |
| − 5 | −20.56 | −20.61 | −20.67 | −20.72 | −20.78 | −20.83 | −20.89 | −20.94 | −21.00 | −21.06 |
| − 6 | −21.11 | −21.17 | −21.22 | −21.28 | −21.33 | −21.39 | −21.44 | −21.50 | −21.56 | −21.61 |
| − 7 | −21.67 | −21.72 | −21.78 | −21.83 | −21.89 | −21.94 | −22.00 | −22.06 | −22.11 | −22.17 |
| − 8 | −22.22 | −22.28 | −22.33 | −22.39 | −22.44 | −22.50 | −22.56 | −22.61 | −22.67 | −22.72 |
| − 9 | −22.78 | −22.83 | −22.89 | −22.94 | −23.00 | −23.06 | −23.11 | −23.17 | −23.22 | −23.28 |
| −10 | −23.33 | −23.39 | −23.44 | −23.50 | −23.56 | −23.61 | −23.67 | −23.72 | −23.78 | −23.83 |
| −11 | −23.89 | −23.94 | −24.00 | −24.06 | −24.11 | −24.17 | −24.22 | −24.28 | −24.33 | −24.39 |
| −12 | −24.44 | −24.50 | −24.56 | −24.61 | −24.67 | −24.72 | −24.78 | −24.83 | −24.89 | −24.94 |
| −13 | −25.00 | −25.06 | −25.11 | −25.17 | −25.22 | −25.28 | −25.33 | −25.39 | −25.44 | −25.50 |
| −14 | −25.56 | −25.61 | −25.67 | −25.72 | −25.78 | −25.83 | −25.89 | −25.94 | −26.00 | −26.06 |
| −15 | −26.11 | −26.17 | −26.22 | −26.28 | −26.33 | −26.39 | −26.44 | −26.50 | −26.56 | −26.61 |
| −16 | −26.67 | −26.72 | −26.78 | −26.83 | −26.89 | −26.94 | −27.00 | −27.06 | −27.11 | −27.17 |
| −17 | −27.22 | −27.28 | −27.33 | −27.39 | −27.44 | −27.50 | −27.56 | −27.61 | −27.67 | −27.72 |
| −18 | −27.78 | −27.83 | −27.89 | −27.94 | −28.00 | −28.06 | −28.11 | −28.17 | −28.22 | −28.28 |
| −19 | −28.33 | −28.39 | −28.44 | −28.50 | −28.56 | −28.61 | −28.67 | −28.72 | −28.78 | −28.83 |
| −20 | −28.89 | −28.94 | −29.00 | −29.06 | −29.11 | −29.17 | −29.22 | −29.28 | −29.33 | −29.39 |
| −21 | −29.44 | −29.50 | −29.56 | −29.61 | −29.67 | −29.72 | −29.78 | −29.83 | −29.89 | −29.94 |
| −22 | −30.00 | −30.06 | −30.11 | −30.17 | −30.22 | −30.28 | −30.33 | −30.39 | −30.44 | −30.50 |
| −23 | −30.56 | −30.61 | −30.67 | −30.72 | −30.78 | −30.83 | −30.89 | −30.94 | −31.00 | −31.06 |
| −24 | −31.11 | −31.17 | −31.22 | −31.28 | −31.33 | −31.39 | −31.44 | −31.50 | −31.56 | −31.61 |
| −25 | −31.67 | −31.72 | −31.78 | −31.83 | −31.89 | −31.94 | −32.00 | −32.06 | −32.11 | −32.17 |
| −26 | −32.22 | −32.28 | −32.33 | −32.39 | −32.44 | −32.50 | −32.56 | −32.61 | −32.67 | −32.72 |
| −27 | −32.78 | −32.83 | −32.89 | −32.94 | −33.00 | −33.06 | −33.11 | −33.17 | −33.22 | −33.28 |
| −28 | −33.33 | −33.39 | −33.44 | −33.50 | −33.56 | −33.61 | −33.67 | −33.72 | −33.78 | −33.83 |
| −29 | −33.89 | −33.94 | −34.00 | −34.06 | −34.11 | −34.17 | −34.22 | −34.28 | −34.33 | −34.39 |
| −30 | −34.44 | −34.50 | −34.56 | −34.61 | −34.67 | −34.72 | −34.78 | −34.83 | −34.89 | −34.94 |
| −31 | −35.00 | −35.06 | −35.11 | −35.17 | −35.22 | −35.28 | −35.33 | −35.39 | −35.44 | −35.50 |
| −32 | −35.56 | −35.61 | −35.67 | −35.72 | −35.78 | −35.83 | −35.89 | −35.94 | −36.00 | −36.06 |
| −33 | −36.11 | −36.17 | −36.22 | −36.28 | −36.33 | −36.39 | −36.44 | −36.50 | −36.56 | −36.61 |
| −34 | −36.67 | −36.72 | −36.78 | −36.83 | −36.89 | −36.94 | −37.00 | −37.06 | −37.11 | −37.17 |
| −35 | −37.22 | −37.28 | −37.33 | −37.39 | −37.44 | −37.50 | −37.56 | −37.61 | −37.67 | −37.72 |
| −36 | −37.78 | −37.83 | −37.89 | −37.94 | −38.00 | −38.06 | −38.11 | −38.17 | −38.22 | −38.28 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| −37 | −38.33 | −38.39 | −38.44 | −38.50 | −38.56 | −38.61 | −38.67 | −38.72 | −38.78 | −38.83 |
| −38 | −38.89 | −38.94 | −39.00 | −39.06 | −39.11 | −39.17 | −39.22 | −39.28 | −39.33 | −39.39 |
| −39 | −39.44 | −39.50 | −39.56 | −39.61 | −39.67 | −39.72 | −39.78 | −39.83 | −39.89 | −39.94 |
| −40 | −40.00 | −40.06 | −40.11 | −40.17 | −40.22 | −40.28 | −40.33 | −40.39 | −40.44 | −40.50 |
| −41 | −40.56 | −40.61 | −40.67 | −40.72 | −40.78 | −40.83 | −40.89 | −40.94 | −41.00 | −41.06 |
| −42 | −41.11 | −41.17 | −41.22 | −41.28 | −41.33 | −41.39 | −41.44 | −41.50 | −41.56 | −41.61 |
| −43 | −41.67 | −41.72 | −41.78 | −41.83 | −41.89 | −41.94 | −42.00 | −42.06 | −42.11 | −42.17 |
| −44 | −42.22 | −42.28 | −42.33 | −42.39 | −42.44 | −42.50 | −42.56 | −42.61 | −42.67 | −42.72 |
| −45 | −42.78 | −42.83 | −42.89 | −42.94 | −43.00 | −43.06 | −43.11 | −43.17 | −43.22 | −43.28 |
| −46 | −43.33 | −43.39 | −43.44 | −43.50 | −43.56 | −43.61 | −43.67 | −43.72 | −43.78 | −43.83 |
| −47 | −43.89 | −43.94 | −44.00 | −44.06 | −44.11 | −44.17 | −44.22 | −44.28 | −44.33 | −44.39 |
| −48 | −44.44 | −44.50 | −44.56 | −44.61 | −44.67 | −44.72 | −44.78 | −44.83 | −44.89 | −44.94 |
| −49 | −45.00 | −45.06 | −45.11 | −45.17 | −45.22 | −45.28 | −45.33 | −45.39 | −45.44 | −45.50 |
| −50 | −45.56 | −45.61 | −45.67 | −45.72 | −45.78 | −45.83 | −45.89 | −45.94 | −46.00 | −46.06 |
| −51 | −46.11 | −46.17 | −46.22 | −46.28 | −46.33 | −46.39 | −46.44 | −46.50 | −46.56 | −46.61 |
| −52 | −46.67 | −46.72 | −46.78 | −46.83 | −46.89 | −46.94 | −47.00 | −47.06 | −47.11 | −47.17 |
| −53 | −47.22 | −47.28 | −47.33 | −47.39 | −47.44 | −47.50 | −47.56 | −47.61 | −47.67 | −47.72 |
| −54 | −47.78 | −47.83 | −47.89 | −47.94 | −48.00 | −48.06 | −48.11 | −48.17 | −48.22 | −48.28 |
| −55 | −48.33 | −48.39 | −48.44 | −48.50 | −48.56 | −48.61 | −48.67 | −48.72 | −48.78 | −48.83 |
| −56 | −48.89 | −48.94 | −49.00 | −49.06 | −49.11 | −49.17 | −49.22 | −49.28 | −49.33 | −49.39 |
| −57 | −49.44 | −49.50 | −49.56 | −49.61 | −49.67 | −49.72 | −49.78 | −49.83 | −49.89 | −49.94 |
| −58 | −50.00 | −50.06 | −50.11 | −50.17 | −50.22 | −50.28 | −50.33 | −50.39 | −50.44 | −50.50 |
| −59 | −50.56 | −50.61 | −50.67 | −50.72 | −50.78 | −50.83 | −50.89 | −50.94 | −51.00 | −51.06 |
| −60 | −51.11 | −51.17 | −51.22 | −51.28 | −51.33 | −51.39 | −51.44 | −51.50 | −51.56 | −51.61 |
| −61 | −51.67 | −51.72 | −51.78 | −51.83 | −51.89 | −51.94 | −52.00 | −52.06 | −52.11 | −52.17 |
| −62 | −52.22 | −52.28 | −52.33 | −52.39 | −52.44 | −52.50 | −52.56 | −52.61 | −52.67 | −52.72 |
| −63 | −52.78 | −52.83 | −52.89 | −52.94 | −53.00 | −53.06 | −53.11 | −53.17 | −53.22 | −53.28 |
| −64 | −53.33 | −53.39 | −53.44 | −53.50 | −53.56 | −53.61 | −53.67 | −53.72 | −53.78 | −53.83 |
| −65 | −53.89 | −53.94 | −54.00 | −54.06 | −54.11 | −54.17 | −54.22 | −54.28 | −54.33 | −54.39 |
| −66 | −54.44 | −54.50 | −54.56 | −54.61 | −54.67 | −54.72 | −54.78 | −54.83 | −54.89 | −54.94 |
| −67 | −55.00 | −55.06 | −55.11 | −55.17 | −55.22 | −55.28 | −55.33 | −55.39 | −55.44 | −55.50 |
| −68 | −55.56 | −55.61 | −55.67 | −55.72 | −55.78 | −55.83 | −55.89 | −55.94 | −56.00 | −56.06 |
| −69 | −56.11 | −56.17 | −56.22 | −56.28 | −56.33 | −56.39 | −56.44 | −56.50 | −56.56 | −56.61 |
| −70 | −56.67 | −56.72 | −56.78 | −56.83 | −56.89 | −56.94 | −57.00 | −57.06 | −57.11 | −57.17 |
| −71 | −57.22 | −57.28 | −57.33 | −57.39 | −57.44 | −57.50 | −57.56 | −57.61 | −57.67 | −57.72 |
| −72 | −57.78 | −57.83 | −57.89 | −57.94 | −58.00 | −58.06 | −58.11 | −58.16 | −58.22 | −58.28 |
| −73 | −58.33 | −58.39 | −58.44 | −58.50 | −58.56 | −58.61 | −58.67 | −58.72 | −58.78 | −58.83 |
| −74 | −58.89 | −58.94 | −59.00 | −59.06 | −59.11 | −59.17 | −59.22 | −59.28 | −59.33 | −59.39 |
| −75 | −59.44 | −59.50 | −59.56 | −59.61 | −59.67 | −59.72 | −59.78 | −59.83 | −59.89 | −59.94 |
| −76 | −60.00 | −60.06 | −60.11 | −60.17 | −60.22 | −60.28 | −60.33 | −60.39 | −60.44 | −60.50 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| +122 | +40.00 | +40.04 | +40.09 | +40.13 | +40.18 | +40.22 | +40.27 | +40.31 | +40.36 | +40.40 |
| 121 | 39.56 | 39.60 | 39.64 | 39.69 | 39.73 | 39.78 | 39.82 | 39.87 | 39.91 | 39.96 |
| 120 | 39.11 | 39.16 | 39.20 | 39.24 | 39.29 | 39.33 | 39.38 | 39.42 | 39.47 | 39.51 |
| 119 | 38.67 | 38.71 | 38.76 | 38.80 | 38.84 | 38.89 | 38.93 | 38.98 | 39.02 | 39.07 |
| 118 | 38.22 | 38.27 | 38.31 | 38.36 | 38.40 | 38.44 | 38.49 | 38.53 | 38.58 | 38.62 |
| 117 | 37.78 | 37.82 | 37.87 | 37.91 | 37.96 | 38.00 | 38.04 | 38.09 | 38.13 | 38.18 |
| 116 | 37.33 | 37.38 | 37.42 | 37.47 | 37.51 | 37.56 | 37.60 | 37.64 | 37.69 | 37.73 |
| 115 | 36.89 | 36.93 | 36.98 | 37.02 | 37.07 | 37.11 | 37.16 | 37.20 | 37.24 | 37.29 |
| 114 | 36.44 | 36.49 | 36.53 | 36.58 | 36.62 | 36.67 | 36.71 | 36.76 | 36.80 | 36.84 |
| 113 | 36.00 | 36.04 | 36.09 | 36.13 | 36.18 | 36.22 | 36.27 | 36.31 | 36.36 | 36.40 |
| 112 | 35.56 | 35.60 | 35.64 | 35.69 | 35.73 | 35.78 | 35.82 | 35.87 | 35.91 | 35.96 |
| 111 | 35.11 | 35.16 | 35.20 | 35.24 | 35.29 | 35.33 | 35.38 | 35.42 | 35.47 | 35.51 |
| 110 | 34.67 | 34.71 | 34.76 | 34.80 | 34.84 | 34.89 | 34.93 | 34.98 | 35.02 | 35.07 |
| 109 | 34.22 | 34.27 | 34.31 | 34.36 | 34.40 | 34.44 | 34.49 | 34.53 | 34.58 | 34.62 |
| 108 | 33.78 | 33.82 | 33.87 | 33.91 | 33.96 | 34.00 | 34.04 | 34.09 | 34.13 | 34.18 |
| 107 | 33.33 | 33.38 | 33.42 | 33.47 | 33.51 | 33.56 | 33.60 | 33.64 | 33.69 | 33.73 |
| 106 | 32.89 | 32.93 | 32.98 | 33.02 | 33.07 | 33.11 | 33.16 | 33.20 | 33.24 | 33.29 |
| 105 | 32.44 | 32.49 | 32.53 | 32.58 | 32.62 | 32.67 | 32.71 | 32.76 | 32.80 | 32.84 |
| 104 | 32.00 | 32.04 | 32.09 | 32.13 | 32.18 | 32.22 | 32.27 | 32.31 | 32.36 | 32.40 |
| 103 | 31.56 | 31.60 | 31.64 | 31.69 | 31.73 | 31.78 | 31.82 | 31.87 | 31.91 | 31.96 |
| 102 | 31.11 | 31.16 | 31.20 | 31.24 | 31.29 | 31.33 | 31.38 | 31.42 | 31.47 | 31.51 |
| 101 | 30.67 | 30.71 | 30.76 | 30.80 | 30.84 | 30.89 | 30.93 | 30.98 | 31.02 | 31.07 |
| 100 | 30.22 | 30.27 | 30.31 | 30.36 | 30.40 | 30.44 | 30.49 | 30.53 | 30.58 | 30.62 |
| 99 | 29.78 | 29.82 | 29.87 | 29.91 | 29.96 | 30.00 | 30.04 | 30.09 | 30.13 | 30.18 |
| 98 | 29.33 | 29.38 | 29.42 | 29.47 | 29.51 | 29.56 | 29.60 | 29.64 | 29.69 | 29.73 |
| 97 | 28.89 | 28.93 | 28.98 | 29.02 | 29.07 | 29.11 | 29.16 | 29.20 | 29.24 | 29.29 |
| 96 | 28.44 | 28.49 | 28.53 | 28.58 | 28.62 | 28.67 | 28.71 | 28.76 | 28.80 | 28.84 |
| 95 | 28.00 | 28.04 | 28.09 | 28.13 | 28.18 | 28.22 | 28.27 | 28.31 | 28.36 | 28.40 |
| 94 | 27.56 | 27.60 | 27.64 | 27.69 | 27.73 | 27.78 | 27.82 | 27.87 | 27.91 | 27.96 |
| 93 | 27.11 | 27.16 | 27.20 | 27.24 | 27.29 | 27.33 | 27.38 | 27.42 | 27.47 | 27.51 |
| 92 | 26.67 | 26.71 | 26.76 | 26.80 | 26.84 | 26.89 | 26.93 | 26.98 | 27.02 | 27.07 |
| 91 | 26.22 | 26.27 | 26.31 | 26.36 | 26.40 | 26.44 | 26.49 | 26.53 | 26.58 | 26.62 |
| 90 | 25.78 | 25.82 | 25.87 | 25.91 | 25.96 | 26.00 | 26.04 | 26.09 | 26.13 | 26.18 |
| 89 | 25.33 | 25.38 | 25.42 | 25.47 | 25.51 | 25.56 | 25.60 | 25.64 | 25.69 | 25.73 |
| 88 | 24.89 | 24.93 | 24.98 | 25.02 | 25.07 | 25.11 | 25.16 | 25.20 | 25.24 | 25.29 |
| 87 | 24.44 | 24.49 | 24.53 | 24.58 | 24.62 | 24.67 | 24.71 | 24.76 | 24.80 | 24.84 |
| 86 | 24.00 | 24.04 | 24.09 | 24.13 | 24.18 | 24.22 | 24.27 | 24.31 | 24.36 | 24.40 |
| 85 | 23.56 | 23.60 | 23.64 | 23.69 | 23.73 | 23.78 | 23.82 | 23.87 | 23.91 | 23.96 |
| 84 | 23.11 | 23.16 | 23.20 | 23.24 | 23.29 | 23.33 | 23.38 | 23.42 | 23.47 | 23.51 |
| 83 | 22.67 | 22.71 | 22.76 | 22.80 | 22.84 | 22.89 | 22.93 | 22.98 | 23.02 | 23.07 |
| 82 | 22.22 | 22.27 | 22.31 | 22.36 | 22.40 | 22.44 | 22.49 | 22.53 | 22.58 | 22.62 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| +81 | +21.78 | +21.82 | +21.87 | +21.91 | +21.96 | +22.00 | +22.04 | +22.09 | +22.13 | +22.18 |
| 80 | 21.33 | 21.38 | 21.42 | 21.47 | 21.51 | 21.56 | 21.60 | 21.64 | 21.69 | 21.73 |
| 79 | 20.89 | 20.93 | 20.98 | 21.02 | 21.07 | 21.11 | 21.16 | 21.20 | 21.24 | 21.29 |
| 78 | 20.44 | 20.49 | 20.53 | 20.58 | 20.62 | 20.67 | 20.71 | 20.76 | 20.80 | 20.84 |
| 77 | 20.00 | 20.04 | 20.09 | 20.13 | 20.18 | 20.22 | 20.27 | 20.31 | 20.36 | 20.40 |
| 76 | 19.56 | 19.60 | 19.64 | 19.69 | 19.73 | 19.78 | 19.82 | 19.87 | 19.91 | 19.96 |
| 75 | 19.11 | 19.16 | 19.20 | 19.24 | 19.29 | 19.33 | 19.38 | 19.42 | 19.47 | 19.51 |
| 74 | 18.67 | 18.71 | 18.76 | 18.80 | 18 84 | 18.89 | 18.93 | 18.98 | 19.02 | 19.07 |
| 73 | 18.22 | 18.27 | 18.31 | 18.36 | 18.40 | 18.44 | 18.49 | 18.53 | 18.58 | 18.62 |
| 72 | 17.78 | 17.82 | 17.87 | 17.91 | 17.96 | 18.00 | 18.04 | 18.09 | 18.13 | 18.18 |
| 71 | 17.33 | 17.38 | 17.42 | 17.47 | 17.51 | 17.56 | 17.60 | 17.64 | 17.69 | 17.73 |
| 70 | 16.89 | 16.93 | 16.98 | 17.02 | 17.07 | 17.11 | 17.16 | 17.20 | 17.24 | 17.29 |
| 69 | 16.44 | 16.49 | 16.53 | 16.58 | 16.62 | 16.67 | 16.71 | 16.76 | 16.80 | 16.84 |
| 68 | 16.00 | 16.04 | 16.09 | 16.13 | 16.18 | 16.22 | 16.27 | 16.31 | 16.36 | 16.40 |
| 67 | 15.56 | 15.60 | 15.64 | 15.69 | 15.73 | 15.78 | 15.82 | 15.87 | 15.91 | 15.96 |
| 66 | 15.11 | 15.16 | 15.20 | 15.24 | 15.29 | 15.33 | 15.38 | 15.42 | 15.47 | 15.51 |
| 65 | 14.67 | 14.71 | 14.76 | 14.80 | 14.84 | 14.89 | 14.93 | 14.98 | 15.02 | 15.07 |
| 64 | 14.22 | 14.27 | 14.31 | 14.36 | 14.40 | 14.44 | 14.49 | 14.53 | 14.58 | 14.62 |
| 63 | 13.78 | 13.82 | 13.87 | 13.91 | 13 96 | 14.00 | 14.04 | 14.09 | 14.13 | 14.18 |
| 62 | 13.33 | 13.38 | 13.42 | 13.47 | 13.51 | 13.56 | 13.60 | 13.64 | 13.69 | 13.73 |
| 61 | 12.89 | 12.93 | 12.98 | 13.02 | 13.07 | 13.11 | 13.16 | 13.20 | 13.24 | 13.29 |
| 60 | 12.44 | 12.49 | 12.53 | 12.58 | 12.62 | 12.67 | 12.71 | 12.76 | 12.80 | 12.84 |
| 59 | 12.00 | 12.04 | 12.09 | 12.13 | 12.18 | 12.22 | 12.27 | 12.31 | 12.36 | 12.40 |
| 58 | 11.56 | 11.60 | 11.64 | 11.69 | 11.73 | 11.78 | 11.82 | 11.87 | 11.91 | 11.96 |
| 57 | 11.11 | 11.16 | 11.20 | 11.24 | 11.29 | 11.33 | 11.38 | 11.42 | 11.47 | 11.51 |
| 56 | 10.67 | 10.71 | 10.76 | 10.80 | 10.84 | 10.89 | 10.93 | 10.98 | 11.02 | 11.07 |
| 55 | 10.22 | 10.27 | 10.31 | 10.36 | 10.40 | 10.44 | 10.49 | 10.53 | 10.58 | 10.62 |
| 54 | 9.78 | 9.82 | 9.87 | 9.91 | 9.96 | 10.00 | 10.04 | 10.09 | 10.13 | 10.18 |
| 53 | 9.33 | 9.38 | 9.42 | 9.47 | 9.51 | 9.56 | 9.60 | 9.64 | 9.69 | 9.73 |
| 52 | 8.89 | 8.93 | 8.98 | 9.02 | 9.07 | 9.11 | 9.16 | 9.20 | 9.24 | 9.29 |
| 51 | 8.44 | 8.49 | 8.53 | 8.58 | 8.62 | 8.67 | 8.71 | 8.76 | 8.80 | 8.84 |
| 50 | 8.00 | 8.04 | 8.09 | 8.13 | 8.18 | 8.22 | 8.27 | 8.31 | 8.36 | 8.40 |
| 49 | 7.56 | 7.60 | 7.64 | 7.69 | 7.73 | 7.78 | 7.82 | 7.87 | 7.91 | 7.96 |
| 48 | 7.11 | 7.16 | 7.20 | 7.24 | 7.29 | 7.33 | 7.38 | 7.42 | 7.47 | 7.51 |
| 47 | 6.67 | 6.71 | 6.76 | 6.80 | 6.84 | 6.89 | 6.93 | 6.98 | 7.02 | 7.07 |
| 46 | 6.22 | 6.27 | 6.31 | 6.36 | 6.40 | 6.44 | 6.49 | 6.53 | 6.58 | 6.62 |
| 45 | 5.78 | 5.82 | 5.87 | 5.91 | 5.96 | 6.00 | 6.04 | 6.09 | 6.13 | 6.18 |
| 44 | 5 33 | 5.38 | 5.42 | 5.47 | 5.51 | 5.56 | 5.60 | 5.64 | 5.69 | 5.73 |
| 43 | 4.89 | 4.93 | 4.98 | 5.02 | 5.07 | 5.11 | 5.16 | 5.20 | 5.24 | 5.29 |
| 42 | 4.44 | 4.49 | 4.53 | 4.58 | 4.62 | 4.67 | 4.71 | 4.76 | 4.80 | 4.84 |
| 41 | 4.00 | 4.04 | 4.09 | 4.13 | 4.18 | 4.22 | 4.27 | 4.31 | 4.36 | 4.40 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| +40 | + 3.56 | + 3.60 | + 3.64 | + 3.69 | + 3.73 | + 3.78 | + 3.82 | + 3.87 | + 3.91 | + 3.96 |
| 39 | 3.11 | 3.16 | 3.20 | 3.24 | 3.29 | 3.33 | 3.38 | 3.42 | 3.47 | 3.51 |
| 38 | 2.67 | 2.71 | 2.76 | 2.80 | 2.84 | 2.89 | 2.93 | 2.98 | 3.02 | 3.07 |
| 37 | 2.22 | 2.27 | 2.31 | 2.36 | 2.40 | 2.44 | 2.49 | 2.53 | 2.58 | 2.62 |
| 36 | 1.78 | 1.82 | 1.87 | 1.91 | 1.96 | 2.00 | 2.04 | 2.09 | 2.13 | 2.18 |
| 35 | 1.33 | 1.38 | 1.42 | 1.47 | 1.51 | 1.56 | 1.60 | 1.64 | 1.69 | 1.73 |
| 34 | 0.89 | 0.93 | 0.98 | 1.02 | 1.07 | 1.11 | 1.16 | 1.20 | 1.24 | 1.29 |
| 33 | 0.44 | 0.49 | 0.53 | 0.58 | 0.62 | 0.67 | 0.71 | 0.76 | 0.80 | 0.84 |
| 32 | 0.00 | 0.04 | 0.09 | 0.13 | 0.18 | 0.22 | 0.27 | 0.31 | 0.36 | 0.40 |
| 31 | − 0.44 | − 0.40 | − 0.36 | − 0.31 | − 0.27 | − 0.22 | − 0.18 | − 0.13 | − 0.09 | − 0.04 |
| 30 | − 0.89 | − 0.84 | − 0.80 | − 0.76 | − 0.71 | − 0.67 | − 0.62 | − 0.58 | − 0.53 | − 0.49 |
| 29 | − 1.33 | − 1.29 | − 1.24 | − 1.20 | − 1.16 | − 1.11 | − 1.07 | − 1.02 | − 0.98 | − 0.93 |
| 28 | − 1.78 | − 1.73 | − 1.69 | − 1.64 | − 1.60 | − 1.56 | − 1.51 | − 1.47 | − 1.42 | − 1.38 |
| 27 | − 2.22 | − 2.18 | − 2.13 | − 2.09 | − 2.04 | − 2.00 | − 1.96 | − 1.91 | − 1.87 | − 1.82 |
| 26 | − 2.67 | − 2.62 | − 2.58 | − 2.53 | − 2.49 | − 2.44 | − 2.40 | − 2.36 | − 2.31 | − 2.27 |
| 25 | − 3.11 | − 3.07 | − 3.02 | − 2.98 | − 2.93 | − 2.89 | − 2.84 | − 2.80 | − 2.76 | − 2.71 |
| 24 | − 3.56 | − 3.51 | − 3.47 | − 3.42 | − 3.38 | − 3.33 | − 3.29 | − 3.24 | − 3.20 | − 3.16 |
| 23 | − 4.00 | − 3.96 | − 3.91 | − 3.87 | − 3.82 | − 3.78 | − 3.73 | − 3.69 | − 3.64 | − 3.60 |
| 22 | − 4.44 | − 4.40 | − 4.36 | − 4.31 | − 4.27 | − 4.22 | − 4.18 | − 4.13 | − 4.09 | − 4.04 |
| 21 | − 4.89 | − 4.84 | − 4.80 | − 4.76 | − 4.71 | − 4.67 | − 4.62 | − 4.58 | − 4.53 | − 4.49 |
| 20 | − 5.33 | − 5.29 | − 5.24 | − 5.20 | − 5.16 | − 5.11 | − 5.07 | − 5.02 | − 4.98 | − 4.93 |
| 19 | − 5.78 | − 5.73 | − 5.69 | − 5.64 | − 5.60 | − 5.56 | − 5.51 | − 5.47 | − 5.42 | − 5.38 |
| 18 | − 6.22 | − 6.18 | − 6.13 | − 6.09 | − 6.04 | − 6.00 | − 5.96 | − 5.91 | − 5.87 | − 5.82 |
| 17 | − 6.67 | − 6.62 | − 6.58 | − 6.53 | − 6.49 | − 6.44 | − 6.40 | − 6.36 | − 6.31 | − 6.27 |
| 16 | − 7.11 | − 7.07 | − 7.02 | − 6.98 | − 6.93 | − 6.89 | − 6.84 | − 6.80 | − 6.76 | − 6.71 |
| 15 | − 7.56 | − 7.51 | − 7.47 | − 7.42 | − 7.38 | − 7.33 | − 7.29 | − 7.24 | − 7.20 | − 7.16 |
| 14 | − 8.00 | − 7.96 | − 7.91 | − 7.87 | − 7.82 | − 7.78 | − 7.73 | − 7.69 | − 7.64 | − 7.60 |
| 13 | − 8.44 | − 8.40 | − 8.36 | − 8.31 | − 8.27 | − 8.22 | − 8.18 | − 8.13 | − 8.09 | − 8.04 |
| 12 | − 8.89 | − 8.84 | − 8.80 | − 8.76 | − 8.71 | − 8.67 | − 8.62 | − 8.58 | − 8.53 | − 8.49 |
| 11 | − 9.33 | − 9.29 | − 9.24 | − 9.20 | − 9.16 | − 9.11 | − 9.07 | − 9.02 | − 8.98 | − 8.93 |
| 10 | − 9.78 | − 9.73 | − 9.69 | − 9.64 | − 9.60 | − 9.56 | − 9.51 | − 9.47 | − 9.42 | − 9.38 |
| 9 | −10.22 | −10.18 | −10.13 | −10.09 | −10.04 | −10.00 | − 9.96 | − 9.91 | − 9.87 | − 9.82 |
| 8 | −10.67 | −10.62 | −10.58 | −10.53 | −10.49 | −10.44 | −10.40 | −10.36 | −10.31 | −10.27 |
| 7 | −11.11 | −11.07 | −11.02 | −10.98 | −10.93 | −10.89 | −10.84 | −10.80 | −10.76 | −10.71 |
| 6 | −11.56 | −11.51 | −11.47 | −11.42 | −11.38 | −11.33 | −11.29 | −11.24 | −11.20 | −11.16 |
| 5 | −12.00 | −11.96 | −11.91 | −11.87 | −11.82 | −11.78 | −11.73 | −11.69 | −11.64 | −11.60 |
| 4 | −12.44 | −12.40 | −12.36 | −12.31 | −12.27 | −12.22 | −12.18 | −12.13 | −12.09 | −12.04 |
| 3 | −12.89 | −12.84 | −12.80 | −12.76 | −12.71 | −12.67 | −12.62 | −12.58 | −12.53 | −12.49 |
| 2 | −13.33 | −13.29 | −13.24 | −13.20 | −13.16 | −13.11 | −13.07 | −12.02 | −12.98 | −12.93 |
| 1 | −13.78 | −13.73 | −13.69 | −13.64 | −13.60 | −13.56 | −13.51 | −13.47 | −13.42 | −13.38 |
| + 0 | −14.22 | −14.18 | −14.13 | −14.09 | −14.04 | −14.00 | −13.96 | −13.91 | −13.87 | −13.82 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| − 0 | −14.22 | −14.27 | −14.31 | −14.36 | −14.40 | −14.44 | −14.49 | −14.53 | −14.58 | −14.62 |
| − 1 | −14.67 | −14.71 | −14.76 | −14.80 | −14.84 | −14.89 | −14.93 | −14.98 | −15.02 | −15.07 |
| − 2 | −15.11 | −15.16 | −15.20 | −15.24 | −15.29 | −15.33 | −15.38 | −15.42 | −15.47 | −15.51 |
| − 3 | −15.56 | −15.60 | −15.64 | −15.69 | −15.73 | −15.78 | −15.82 | −15.87 | −15.91 | −15.96 |
| − 4 | −16.00 | −16.04 | −16.09 | −16.13 | −16.18 | −16.22 | −16.27 | −16.31 | −16.36 | −16.40 |
| − 5 | −16.44 | −16.49 | −16.53 | −16.58 | −16.62 | −16.67 | −16.71 | −16.76 | −16.80 | −16.84 |
| − 6 | −16.89 | −17.93 | −16.98 | −17.02 | −17.07 | −17.11 | −17.16 | −17.20 | −17.24 | −17.29 |
| − 7 | −17.33 | −17.38 | −17.42 | −17.47 | −17.51 | −17.56 | −17.60 | −17.64 | −17.69 | −17.73 |
| − 8 | −17.78 | −18.82 | −17.87 | −17.91 | −17.96 | −18.00 | −18.04 | −18.09 | −18.13 | −18.18 |
| − 9 | −18.22 | −18.27 | −18.31 | −18.36 | −18.40 | −18.44 | −18.49 | −18.53 | −18.58 | −18.62 |
| −10 | −18.67 | −18.71 | −18.76 | −18.80 | −18.84 | −18.89 | −18.93 | −18.98 | −19.02 | −19.07 |
| −11 | −19.11 | −19.16 | −19.20 | −19.24 | −19.29 | −19.33 | −19.38 | −19.42 | −19.47 | −19.51 |
| −12 | −19.56 | −19.60 | −19.64 | −19.69 | −19.73 | −19.78 | −19.82 | −19.87 | −19.91 | −19.96 |
| −13 | −20.00 | −20.04 | −20.09 | −20.13 | −20.18 | −20.22 | −20.27 | −20.31 | −20.36 | −20.40 |
| −14 | −20.44 | −20.49 | −20.53 | −20.58 | −20.62 | −20.67 | −20.71 | −20.76 | −20.80 | −20.84 |
| −15 | −20.89 | −20.93 | −20.98 | −21.02 | −21.07 | −21.11 | −21.16 | −21.20 | −21.24 | −21.29 |
| −16 | −21.33 | −21.38 | −21.42 | −21.47 | −21.51 | −21.56 | −21.60 | −21.64 | −21.69 | −21.73 |
| −17 | −21.78 | −21.82 | −21.87 | −21.91 | −21.96 | −22.00 | −22.04 | −22.09 | −22.13 | −22.18 |
| −18 | −22.22 | −22.27 | −22.31 | −22.36 | −22.40 | −22.44 | −22.49 | −22.53 | −22.58 | −22.62 |
| −19 | −22.67 | −22.71 | −22.76 | −22.80 | −22.84 | −22.89 | −22.93 | −22.98 | −23.02 | −23.07 |
| −20 | −23.11 | −23.16 | −23.20 | −23.24 | −23.29 | −23.33 | −23.38 | −23.42 | −23.47 | −23.51 |
| −21 | −23.56 | −23.60 | −23.64 | −23.69 | −23.73 | −23.78 | −23.82 | −23.87 | −23.91 | −23.96 |
| −22 | −24.00 | −24.04 | −24.09 | −24.13 | −24.18 | −24.22 | −24.27 | −24.31 | −24.36 | −24.40 |
| −23 | −24.44 | −24.49 | −24.53 | −24.58 | −24.62 | −24.67 | −24.71 | −24.76 | −24.80 | −24.84 |
| −24 | −24.89 | −24.93 | −24.98 | −25.02 | −25.07 | −25.11 | −25.16 | −25.20 | −25.24 | −25.29 |
| −25 | −25.33 | −25.38 | −25.42 | −25.47 | −25.51 | −25.56 | −25.60 | −25.64 | −25.69 | −25.73 |
| −26 | −25.78 | −25.82 | −25.87 | −25.91 | −25.96 | −26.00 | −26.04 | −26.09 | −26.13 | −26.18 |
| −27 | −26.22 | −26.27 | −26.31 | −26.36 | −26.40 | −26.44 | −26.49 | −26.53 | −26.58 | −26.62 |
| −28 | −26.67 | −26.71 | −26.76 | −26.80 | −26.84 | −26.89 | −26.93 | −26.98 | −27.02 | −27.07 |
| −29 | −27.11 | −27.16 | −27.20 | −27.24 | −27.29 | −27.33 | −27.38 | −27.42 | −27.47 | −27.51 |
| −30 | −27.56 | −27.60 | −27.64 | −27.69 | −27.73 | −27.78 | −27.82 | −27.87 | −27.91 | −27.96 |
| −31 | −28.00 | −28.04 | −28.09 | −28.13 | −28.18 | −28.22 | −28.27 | −28.31 | −28.36 | −28.40 |
| −32 | −28.44 | −28.49 | −28.53 | −28.58 | −28.62 | −28.67 | −28.71 | −28.76 | −28.80 | −28.84 |
| −33 | −28.89 | −28.93 | −28.98 | −29.02 | −29.07 | −29.11 | −29.16 | −29.20 | −29.24 | −29.29 |
| −34 | −29.33 | −29.38 | −29.42 | −29.47 | −29.51 | −29.56 | −29.60 | −29.64 | −29.69 | −29.73 |
| −35 | −29.78 | −29.82 | −29.87 | −29.91 | −29.96 | −30.00 | −30.04 | −30.09 | −30.13 | −30·18 |
| −36 | −30.22 | −30.27 | −30.31 | −30.36 | −30.40 | −30.44 | −30.49 | −30.53 | −30.58 | −30.62 |
| −37 | −30.67 | −30.71 | −30.76 | −30.80 | −30.84 | −30.89 | −30.93 | −30.98 | −31.02 | −31.07 |
| −38 | −31.11 | −31.16 | −31.20 | −31.24 | −31.29 | −31.33 | −31.38 | −31.42 | −31.47 | −31.51 |
| -39 | −31.56 | −31.60 | −31.64 | −31.69 | −31.73 | −31.78 | −31.82 | −31.87 | −31.91 | −31.96 |
| -40 | −32.00 | −30.04 | −30.09 | −30.13 | −30.18 | −30.22 | −30.27 | −30.31 | −30.36 | −30.40 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# VI.–VII.

# COMPARISON

OF

# THE CENTIGRADE THERMOMETER

WITH

# THE THERMOMETERS OF FAHRENHEIT AND OF REAUMUR,

OR

# TABLES

FOR CONVERTING CENTIGRADE DEGREES INTO DEGREES OF FAHRENHEIT AND OF REAUMUR;

GIVING THE CORRESPONDING VALUES FOR EACH TENTH OF A DEGREE, FROM +50° TO —54° CENTIGRADE.

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| +50 | +122.00 | +122.18 | +122.36 | +122.54 | +122.72 | +122.90 | +123.08 | +123.26 | +123.44 | +123.62 |
| 49 | 120.20 | 120.38 | 120.56 | 120.74 | 120.92 | 121.10 | 121.28 | 121.46 | 121.64 | 121.82 |
| 48 | 118.40 | 118.58 | 118.76 | 118.94 | 119.12 | 119.30 | 119.48 | 119.66 | 119.84 | 120.02 |
| 47 | 116.60 | 116.78 | 116.96 | 117.14 | 117.32 | 117.50 | 117.68 | 117.86 | 118.04 | 118.22 |
| 46 | 114.80 | 114.98 | 115.16 | 115.34 | 115.52 | 115.70 | 115.88 | 116.06 | 116.24 | 116.42 |
| 45 | 113.00 | 113.18 | 113.36 | 113.54 | 113.72 | 113.90 | 114.08 | 114.26 | 114.44 | 114.62 |
| 44 | 111.20 | 111.38 | 111.56 | 111.74 | 111.92 | 112.10 | 112.28 | 112.46 | 112.64 | 112.82 |
| 43 | 109.40 | 109.58 | 109.76 | 109.94 | 110.12 | 110.30 | 110.48 | 110.66 | 110.84 | 111.02 |
| 42 | 107.60 | 107.78 | 107.96 | 108.14 | 108.32 | 108.50 | 108.68 | 108.86 | 109.04 | 109.22 |
| 41 | 105.80 | 105.98 | 106.16 | 106.34 | 106.52 | 106.70 | 106.88 | 107.06 | 107.24 | 107.42 |
| 40 | 104.00 | 104.18 | 104.36 | 104.54 | 104.72 | 104.90 | 105.08 | 105.26 | 105.44 | 105.62 |
| 39 | 102.20 | 102.38 | 102.56 | 102.74 | 102.92 | 103.10 | 103.28 | 103.46 | 103.64 | 103.82 |
| 38 | 100.40 | 100.58 | 100.76 | 100.94 | 101.12 | 101.30 | 101.48 | 101.66 | 101.84 | 102.02 |
| 37 | 98.60 | 98.78 | 98.96 | 99.14 | 99.32 | 99.50 | 99.68 | 99.86 | 100.04 | 100.22 |
| 36 | 96.80 | 96.98 | 97.16 | 97.34 | 97.52 | 97.70 | 97.88 | 98.06 | 98.24 | 98.42 |
| 35 | 95.00 | 95.18 | 95.36 | 95.54 | 95.72 | 95.90 | 96.08 | 96.26 | 96.44 | 96.62 |
| 34 | 93.20 | 93.38 | 93.56 | 93.74 | 93.92 | 94.10 | 94.28 | 94.46 | 94.64 | 94.82 |
| 33 | 91.40 | 91.58 | 91.76 | 91.94 | 92.12 | 92.30 | 92.48 | 92.66 | 92.84 | 93.02 |
| 32 | 89.60 | 89.78 | 89.96 | 90.14 | 90.32 | 90.50 | 90.68 | 90.86 | 91.04 | 91.22 |
| 31 | 87.80 | 87.98 | 88.16 | 88.34 | 88.52 | 88.70 | 88.88 | 89.06 | 89.24 | 89.42 |
| 30 | 86.00 | 86.18 | 86.36 | 86.54 | 86.72 | 86.90 | 87.08 | 87.26 | 87.44 | 87.62 |
| 29 | 84.20 | 84.38 | 84.56 | 84.74 | 84.92 | 85.10 | 85.28 | 85.46 | 85.64 | 85.82 |
| 28 | 82.40 | 82.58 | 82.76 | 82.94 | 83.12 | 83.30 | 83.48 | 83.66 | 83.84 | 84.02 |
| 27 | 80.60 | 80.78 | 80.96 | 81.14 | 81.32 | 81.50 | 81.68 | 81.86 | 82.04 | 82.22 |
| 26 | 78.80 | 78.98 | 79.16 | 79.34 | 79.52 | 79.70 | 79.88 | 80.06 | 80.24 | 80.42 |
| 25 | 77.00 | 77.18 | 77.36 | 77.54 | 77.72 | 77.90 | 78.08 | 78.26 | 78.44 | 78.62 |
| 24 | 75.20 | 75.38 | 75.56 | 75.74 | 75.92 | 76.10 | 76.28 | 76.46 | 76.64 | 76.82 |
| 23 | 73.40 | 73.58 | 73.76 | 73.94 | 74.12 | 74.30 | 74.48 | 74.66 | 74.84 | 75.02 |
| 22 | 71.60 | 71.78 | 71.96 | 72.14 | 72.32 | 72.50 | 72.68 | 72.86 | 73.04 | 73.22 |
| 21 | 69.80 | 69.98 | 70.16 | 70.34 | 70.52 | 70.70 | 70.88 | 71.06 | 71.24 | 71.42 |
| 20 | 68.00 | 68.18 | 68.36 | 68.54 | 68.72 | 68.90 | 69.08 | 69.26 | 69.44 | 69.62 |
| 19 | 66.20 | 66.38 | 66.56 | 66.74 | 66.92 | 67.10 | 67.28 | 67.46 | 67.64 | 67.82 |
| 18 | 64.40 | 64.58 | 64.76 | 64.94 | 65.12 | 65.30 | 65.48 | 65.66 | 65.84 | 66.02 |
| 17 | 62.60 | 62.78 | 62.96 | 63.14 | 63.32 | 63.50 | 63.68 | 63.86 | 64.04 | 64.22 |
| 16 | 60.80 | 60.98 | 61.16 | 61.34 | 61.52 | 61.70 | 61.88 | 62.06 | 62.24 | 62.42 |
| 15 | 59.00 | 59.18 | 59.36 | 59.54 | 59.72 | 59.90 | 60.08 | 60.26 | 60.44 | 60.62 |
| 14 | 57.20 | 57.38 | 57.56 | 57.74 | 57.92 | 58.10 | 58.28 | 58.46 | 58.64 | 58.82 |
| 13 | 55.40 | 55.58 | 55.76 | 55.94 | 56.12 | 56.30 | 56.48 | 56.66 | 56.84 | 57.02 |
| 12 | 53.60 | 53.78 | 53.96 | 54.14 | 54.32 | 54.50 | 54.68 | 54.86 | 55.04 | 55.22 |
| 11 | 51.80 | 51.98 | 52.16 | 52.34 | 52.52 | 52.70 | 52.88 | 53.06 | 53.24 | 53.42 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| +10 | +50.00 | +50.18 | +50.36 | +50.54 | +50.72 | +50.90 | +51.08 | +51.26 | +51.44 | +51.62 |
| 9 | 48.20 | 48.38 | 48.56 | 48.74 | 48.92 | 49.10 | 49.28 | 49.46 | 49.64 | 49.82 |
| 8 | 46.40 | 46.58 | 46.76 | 46.94 | 47.12 | 47.30 | 47.48 | 47.66 | 47.84 | 48.02 |
| 7 | 44.60 | 44.78 | 44.96 | 45.14 | 45.32 | 45.50 | 45.68 | 45.86 | 46.04 | 46.22 |
| 6 | 42.80 | 42.98 | 43.16 | 43.34 | 43.52 | 43.70 | 43.88 | 44.06 | 44.24 | 44.42 |
| 5 | 41.00 | 41.18 | 41.36 | 41.54 | 41.72 | 41.90 | 42.08 | 42.26 | 42.44 | 42.62 |
| 4 | 39.20 | 39.38 | 39.56 | 39.74 | 39.92 | 40.10 | 40.28 | 40.46 | 40.64 | 40.82 |
| 3 | 37.40 | 37.58 | 37.76 | 37.94 | 38.12 | 38.30 | 38.48 | 38.66 | 38.84 | 39.02 |
| 2 | 35.60 | 35.78 | 35.96 | 36.14 | 36.32 | 36.50 | 36.68 | 36.86 | 37.04 | 37.22 |
| 1 | 33.80 | 33.98 | 34.16 | 34.34 | 34.52 | 34.70 | 34.88 | 35.06 | 35.24 | 35.42 |
| 0 | 32.00 | 32.18 | 32.36 | 32.54 | 32.72 | 32.90 | 33.08 | 33.26 | 33.44 | 33.62 |
| − 0 | 32.00 | 31.82 | 31.64 | 31.46 | 31.28 | 31.10 | 30.92 | 30.74 | 30.56 | 30.38 |
| − 1 | 30.20 | 30.02 | 29.84 | 29.66 | 29.48 | 29.30 | 29.12 | 28.94 | 28.76 | 28.58 |
| − 2 | 28.40 | 28.22 | 28.04 | 27.86 | 27.68 | 27.50 | 27.32 | 27.14 | 26.96 | 26.78 |
| − 3 | 26.60 | 26.42 | 26.24 | 26.06 | 25.88 | 25.70 | 25.52 | 25.34 | 25.16 | 24.98 |
| − 4 | 24.80 | 24.62 | 24.44 | 24.26 | 24.08 | 23.90 | 23.72 | 23.54 | 23.36 | 23.18 |
| − 5 | 23.00 | 22.82 | 22.64 | 22.46 | 22.28 | 22.10 | 21.92 | 21.74 | 21.56 | 21.38 |
| − 6 | 21.20 | 21.02 | 20.84 | 20.66 | 20.48 | 20.30 | 20.12 | 19.94 | 19.76 | 19.58 |
| − 7 | 19.40 | 19.22 | 19.04 | 18.86 | 18.68 | 18.50 | 18.32 | 18.14 | 17.96 | 17.78 |
| − 8 | 17.60 | 17.42 | 17.24 | 17.06 | 16.88 | 16.70 | 16.52 | 16.34 | 16.16 | 15.98 |
| − 9 | 15.80 | 15.62 | 15.44 | 15.26 | 15.08 | 14.90 | 14.72 | 14.54 | 14.36 | 14.18 |
| −10 | 14.00 | 13.82 | 13.64 | 13.46 | 13.28 | 13.10 | 12.92 | 12.74 | 12.56 | 12.38 |
| −11 | 12.20 | 12.02 | 11.84 | 11.66 | 11.48 | 11.30 | 11.12 | 10.94 | 10.76 | 10.58 |
| −12 | 10.40 | 10.22 | 10.04 | 9.86 | 9.68 | 9.50 | 9.32 | 9.14 | 8.96 | 8.78 |
| −13 | 8.60 | 8.42 | 8.24 | 8.06 | 7.88 | 7.70 | 7.52 | 7.34 | 7.16 | 6.98 |
| −14 | 6.80 | 6.62 | 6.44 | 6.26 | 6.08 | 5.90 | 5.72 | 5.54 | 5.36 | 5.18 |
| −15 | 5.00 | 4.82 | 4.64 | 4.46 | 4.28 | 4.10 | 3.92 | 3.74 | 3.56 | 3.38 |
| −16 | 3.20 | 3.02 | 2.84 | 2.66 | 2.48 | 2.30 | 2.12 | 1.94 | 1.76 | 1.58 |
| −17 | 1.40 | 1.22 | 1.04 | 0.86 | 0.68 | 0.50 | 0.32 | 0.14 | − 0.04 | − 0.22 |
| −18 | − 0.40 | − 0.58 | − 0.76 | − 0.94 | − 1.12 | − 1.30 | − 1.48 | − 1.66 | − 1.84 | − 2.02 |
| −19 | − 2.20 | − 2.38 | − 2.56 | − 2.74 | − 2.92 | − 3.10 | − 3.28 | − 3.46 | − 3.64 | − 3.82 |
| −20 | − 4.00 | − 4.18 | − 4.36 | − 4.54 | − 4.72 | − 4.90 | − 5.08 | − 5.26 | − 5.44 | − 5.62 |
| −21 | − 5.80 | − 5.98 | − 6.16 | − 6.34 | − 6.52 | − 6.70 | − 6.88 | − 7.06 | − 7.24 | − 7.42 |
| −22 | − 7.60 | − 7.78 | − 7.96 | − 8.14 | − 8.32 | − 8.50 | − 8.68 | − 8.86 | − 9.04 | − 9.22 |
| −23 | − 9.40 | − 9.58 | − 9.76 | − 9.94 | −10.12 | −10.30 | −10.48 | −10.66 | −10.84 | −11.02 |
| −24 | −11.20 | −11.38 | −11.56 | −11.74 | −11.92 | −12.10 | −12.28 | −12.46 | −12.64 | −12.82 |
| −25 | −13.00 | −13.18 | −13.36 | −13.54 | −13.72 | −13.90 | −14.08 | −14.26 | −14.44 | −14.62 |
| −26 | −14.80 | −14.98 | −15.16 | −15.34 | −15.52 | −15.70 | −15.88 | −16.06 | −16.24 | −16.42 |
| −27 | −16.60 | −16.78 | −16.96 | −17.14 | −17.32 | −17.50 | −17.68 | −17.86 | −18.04 | −18.22 |
| −28 | −18.40 | −18.58 | −18.76 | −18.94 | −19.12 | −19.30 | −19.48 | −19.66 | −19.84 | −20.02 |
| −29 | −20.20 | −20.38 | −20.56 | −20.74 | −20.92 | −21.10 | −21.28 | −21.46 | −21.64 | −21.82 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| −30 | −22.00 | −22.18 | −22.36 | −22.54 | −22.72 | −22.90 | −23.08 | −23.26 | −23.44 | −23.62 |
| −31 | −23.80 | −23.98 | −24.16 | −24.34 | −24.52 | −24.70 | −24.88 | −25.06 | −25.24 | −25.42 |
| −32 | −25.60 | −25.78 | −25.96 | −26.14 | −26.32 | −26.50 | −26.68 | −26.86 | −27.04 | −27.22 |
| −33 | −27.40 | −27.58 | −27.76 | −27.94 | −28.12 | −28.30 | −28.48 | −28.66 | −28.84 | −29.02 |
| −34 | −29.20 | −29.38 | −29.56 | −29.74 | −29.92 | −30.10 | −30.28 | −30.46 | −30.64 | −30.82 |
| −35 | −31.00 | −31.18 | −31.36 | −31.54 | −31.72 | −31.90 | −32.08 | −32.26 | −32.44 | −32.62 |
| −36 | −32.80 | −32.98 | −33.16 | −33.34 | −33.52 | −33.70 | −33.88 | −34.06 | −34.24 | −34.42 |
| −37 | −34.60 | −34.78 | −34.96 | −35.14 | −35.32 | −35.50 | −35.68 | −35.86 | −36.04 | −36.22 |
| −38 | −36.40 | −36.58 | −36.76 | −36.94 | −37.12 | −37.30 | −37.48 | −37.66 | −37.84 | −38.02 |
| −39 | −38.20 | −38.38 | −38.56 | −38.74 | −38.92 | −39.10 | −39.28 | −39.46 | −39.64 | −39.82 |
| −40 | −40.00 | −40.18 | −40.36 | −40.54 | −40.72 | −40.90 | −41.08 | −41.26 | −41.44 | −41.62 |
| −41 | −41.80 | −41.98 | −42.16 | −42.34 | −42.52 | −42.70 | −42.88 | −43.06 | −43.24 | −43.42 |
| −42 | −43.60 | −43.78 | −43.96 | −44.14 | −44.32 | −44.50 | −44.68 | −44.86 | −45.04 | −45.22 |
| −43 | −45.40 | −45.58 | −45.76 | −45.94 | −46.12 | −46.30 | −46.48 | −46.66 | −46.84 | −47.02 |
| −44 | −47.20 | −47.38 | −47.56 | −47.74 | −47.92 | −48.10 | −48.28 | −48.46 | −48.64 | −48.82 |
| −45 | −49.00 | −49.18 | −49.36 | −49.54 | −49.72 | −49.90 | −50.08 | −50.26 | −50.44 | −50.62 |
| −46 | −50.80 | −50.98 | −51.16 | −51.34 | −51.52 | −51.70 | −51.88 | −52.06 | −52.24 | −52.42 |
| −47 | −52.60 | −52.78 | −52.96 | −53.14 | −53.32 | −53.50 | −53.68 | −53.86 | −54.04 | −54.22 |
| −48 | −54.40 | −54.58 | −54.76 | −54.94 | −55.12 | −55.30 | −55.48 | −55.66 | −55.84 | −56.02 |
| −49 | −56.20 | −56.38 | −56.56 | −56.74 | −56.92 | −57.10 | −57.28 | −57.46 | −57.64 | −57.82 |
| −50 | −58.00 | −58.18 | −58.36 | −58.54 | −58.72 | −58.90 | −59.08 | −59.26 | −59.44 | −59.62 |
| −51 | −59.80 | −59.98 | −60.16 | −60.34 | −60.52 | −60.70 | −60.88 | −61.06 | −61.24 | −61.42 |
| −52 | −61.60 | −61.78 | −61.96 | −62.14 | −62.32 | −62.50 | −62.68 | −62.86 | −63.04 | −63.22 |
| −53 | −63.40 | −63.58 | −63.76 | −63.94 | −64.12 | −64.30 | −64.48 | −64.66 | −64.84 | −65.02 |
| −54 | −65.20 | −65.38 | −65.56 | −65.74 | −65.92 | −66.10 | −66.28 | −66.46 | −66.64 | −66.82 |

TABLE FOR COMPARING THE CENTIGRADE AND FAHRENHEIT'S THERMOMETERS NEAR THE BOILING POINT.

| Centigrade Degrees. | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| 100 | 212.00 | 212.18 | 212.36 | 212.54 | 212.72 | 212.90 | 213.08 | 213.26 | 213.44 | 213.62 |
| 99 | 210.20 | 210.38 | 210.56 | 210.74 | 210.92 | 211.10 | 211.28 | 211.46 | 211.64 | 211.82 |
| 98 | 208.40 | 208.58 | 208.76 | 208.94 | 209.12 | 209.30 | 209.48 | 209.66 | 209.84 | 210.02 |
| 97 | 206.60 | 206.78 | 206.96 | 207.14 | 207.32 | 207.50 | 207.68 | 207.86 | 208.04 | 208.22 |
| 96 | 204.80 | 204.98 | 205.16 | 205.34 | 205.52 | 205.70 | 205.88 | 206.06 | 206.24 | 206.42 |
| 95 | 203.00 | 203.18 | 203.36 | 203.54 | 203.72 | 203.90 | 204.08 | 204.26 | 204.44 | 204.62 |
| 94 | 201.20 | 201.38 | 201.56 | 201.74 | 201.92 | 202.10 | 202.28 | 202.46 | 202.64 | 202.82 |
| 93 | 199.40 | 199.58 | 199.76 | 199.94 | 200.12 | 200.30 | 200.48 | 200 66 | 200.84 | 201.02 |
| 92 | 197.60 | 197.78 | 197.96 | 198.14 | 198.32 | 198.50 | 198.68 | 198.86 | 199.04 | 199.22 |
| 91 | 195.80 | 195.98 | 196.16 | 196.34 | 196.52 | 196.70 | 196.88 | 197.06 | 197.24 | 197.42 |
| 90 | 194.00 | 194.18 | 194.36 | 194.54 | 194.72 | 194.90 | 195.08 | 195.26 | 195.44 | 195.62 |
| 89 | 192.20 | 192.38 | 192.56 | 192.74 | 192.92 | 193.10 | 193.28 | 193.46 | 193.64 | 193.82 |

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. | Reaum. |
| +40 | +32.00 | +32.08 | +32.16 | +32.24 | +32.32 | +32.40 | +32.48 | +32.56 | +32.64 | +32.72 |
| 39 | 31.20 | 31.28 | 31.36 | 31.44 | 31.52 | 31.60 | 31.68 | 31.76 | 31.84 | 31.92 |
| 38 | 30.40 | 30.48 | 30.56 | 30.64 | 30.72 | 30.80 | 30.88 | 30.96 | 31.04 | 31.12 |
| 37 | 29.60 | 29.68 | 29.76 | 29.84 | 29.92 | 30.00 | 30.08 | 30.16 | 30.24 | 30.32 |
| 36 | 28.80 | 28.88 | 28.96 | 29.04 | 29.12 | 29.20 | 29.28 | 29.36 | 29.44 | 29.52 |
| 35 | 28.00 | 28.08 | 28.16 | 28.24 | 28.32 | 28.40 | 28.48 | 28.56 | 28.64 | 28.72 |
| 34 | 27.20 | 27.28 | 27.36 | 27.44 | 27.52 | 27.60 | 27.68 | 27.76 | 27.84 | 27.92 |
| 33 | 26.40 | 26.48 | 26.56 | 26.64 | 26.72 | 26.80 | 26.88 | 26.96 | 27.04 | 27.12 |
| 32 | 25.60 | 25.68 | 25.76 | 25.84 | 25.92 | 26.00 | 26.08 | 26.16 | 26.24 | 26.32 |
| 31 | 24.80 | 24.88 | 24.96 | 25.04 | 25.12 | 25.20 | 25.28 | 25.36 | 25.44 | 25.52 |
| 30 | 24.00 | 24.08 | 24.16 | 24.24 | 25.32 | 24.40 | 24.48 | 24.56 | 24.64 | 24.72 |
| 29 | 23.20 | 23.28 | 23.36 | 23.44 | 23.52 | 23.60 | 23.68 | 23.76 | 23.84 | 23.92 |
| 28 | 22.40 | 22.48 | 22.56 | 22.64 | 22.72 | 22.80 | 22.88 | 22.96 | 23.04 | 23.12 |
| 27 | 21.60 | 21.68 | 21.76 | 21.84 | 21.92 | 22.00 | 22.08 | 22.16 | 22.24 | 22.32 |
| 26 | 20.80 | 20.88 | 20.96 | 21.04 | 21.12 | 21.20 | 21.28 | 21.36 | 21.44 | 21.52 |
| 25 | 20.00 | 20.08 | 20.16 | 20.24 | 20.32 | 20.40 | 20.48 | 20.56 | 20.64 | 20.72 |
| 24 | 19.20 | 19.28 | 19.36 | 19.44 | 19.52 | 19.60 | 19.68 | 19.76 | 19.84 | 19.92 |
| 23 | 18.40 | 18.48 | 18.56 | 18.64 | 18.72 | 18.80 | 18.88 | 18.96 | 19.04 | 19.12 |
| 22 | 17.60 | 17.68 | 17.76 | 17.84 | 17.92 | 18.00 | 18.08 | 18.16 | 18.24 | 18.32 |
| 21 | 16.80 | 16.88 | 16.96 | 17.04 | 17.12 | 17.20 | 17.28 | 17.36 | 17.44 | 17.52 |
| 20 | 16.00 | 16.08 | 16.16 | 16.24 | 16.32 | 16.40 | 16.48 | 16.56 | 16.64 | 16.72 |
| 19 | 15.20 | 15.28 | 15.36 | 15.44 | 15.52 | 15.60 | 15.68 | 15.76 | 15.84 | 15.92 |
| 18 | 14.40 | 14.48 | 14.56 | 14.64 | 14.72 | 14.80 | 14.88 | 14.96 | 15.04 | 15.12 |
| 17 | 13.60 | 13.68 | 13.76 | 13.84 | 13.92 | 14.00 | 14.08 | 14.16 | 14.24 | 14.32 |
| 16 | 12.80 | 12.88 | 12.96 | 13.04 | 13.12 | 13.20 | 13.28 | 13.36 | 13.44 | 13.52 |
| 15 | 12.00 | 12.08 | 12.16 | 12.24 | 12.32 | 12.40 | 12.48 | 12.56 | 12.64 | 12.72 |
| 14 | 11.20 | 11.28 | 11.36 | 11.44 | 11.52 | 11.60 | 11.68 | 11.76 | 11.84 | 11.92 |
| 13 | 10.40 | 10.48 | 10.56 | 10.64 | 10.72 | 10.80 | 10.88 | 10.96 | 11.04 | 11.12 |
| 12 | 9.60 | 9.68 | 9.76 | 9.84 | 9.92 | 10.00 | 10.08 | 10.16 | 10.24 | 10.32 |
| 11 | 8.80 | 8.88 | 8.96 | 9.04 | 9.12 | 9.20 | 9.28 | 9.36 | 9.44 | 9.52 |
| 10 | 8.00 | 8.08 | 8.16 | 8.24 | 8.32 | 8.40 | 8.48 | 8.56 | 8.64 | 8.72 |
| 9 | 7.20 | 7.28 | 7.36 | 7.44 | 7.52 | 7.60 | 7.68 | 7.76 | 7.84 | 7.92 |
| 8 | 6.40 | 6.48 | 6.56 | 6.64 | 6.72 | 6.80 | 6.88 | 6.96 | 7.04 | 7.12 |
| 7 | 5.60 | 5.68 | 5.76 | 5.84 | 5.92 | 6.00 | 6.08 | 6.16 | 6.24 | 6.32 |
| 6 | 4.80 | 4.88 | 4.96 | 5.04 | 5.12 | 5.20 | 5.28 | 5.36 | 5.44 | 5.52 |
| 5 | 4.00 | 4.08 | 4.16 | 4.24 | 4.32 | 4.40 | 4.48 | 4.56 | 4.64 | 4.72 |
| 4 | 3.20 | 3.28 | 3.36 | 3.44 | 3.52 | 3.60 | 3.68 | 3.76 | 3.84 | 3.92 |
| 3 | 2.40 | 2.48 | 2.56 | 2.64 | 2.72 | 2.80 | 2.88 | 2.96 | 3.04 | 3.12 |
| 2 | 1.60 | 1.68 | 1.76 | 1.84 | 1.92 | 2.00 | 2.08 | 2.16 | 2.24 | 2.32 |
| 1 | 0.80 | 0.88 | 0.96 | 1.04 | 1.12 | 1.20 | 1.28 | 1.36 | 1.44 | 1.52 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 0 | 0.00 | 0.08 | 0.16 | 0.24 | 0.32 | 0.40 | 0.48 | 0.56 | 0.64 | 0.72 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

# VIII.–IX.

# COMPARISON

OF

# REAUMUR'S THERMOMETER

WITH

## THE THERMOMETER OF FAHRENHEIT AND THE CENTIGRADE THERMOMETER,

OR

# TABLES

FOR CONVERTING DEGREES OF REAUMUR INTO DEGREES OF FAHRENHEIT AND INTO CENTIGRADE DEGREES;

GIVING THE CORRESPONDING VALUES FOR EACH TENTH OF A DEGREE, FROM +40° TO —40° REAUMUR.

## VIII. CONVERSION OF DEGREES OF REAUMUR INTO DEGREES OF FAHRENHEIT.

| Degrees of Reaumur. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| +40 | +122.00 | +122.22 | +122.45 | +122.67 | +122.90 | +123.12 | +123.35 | +123.57 | +123.80 | +124.02 |
| 39 | 119.75 | 119.97 | 120.20 | 120.42 | 120.65 | 120.87 | 121.10 | 121.32 | 121.55 | 121.77 |
| 38 | 117.50 | 117.72 | 117.95 | 118.17 | 118.40 | 118.62 | 118.85 | 119.07 | 119.30 | 119.52 |
| 37 | 115.25 | 115.47 | 115.70 | 115.92 | 116.15 | 116.37 | 116.60 | 116.82 | 117.05 | 117.27 |
| 36 | 113.00 | 113.22 | 113.45 | 113.67 | 113.90 | 114.12 | 114.35 | 114.57 | 114.80 | 115.02 |
| 35 | 110.75 | 110.97 | 111.20 | 111.42 | 111.65 | 111.87 | 112.10 | 112.32 | 112.55 | 112.77 |
| 34 | 108.50 | 108.72 | 108.95 | 109.17 | 109.40 | 109.62 | 109.85 | 110.07 | 110.30 | 110.52 |
| 33 | 106.25 | 106.47 | 106.70 | 106.92 | 107.15 | 107.37 | 107.60 | 107.82 | 108.05 | 108.27 |
| 32 | 104.00 | 104.22 | 104.45 | 104.67 | 104.90 | 105.12 | 105.35 | 105.57 | 105.80 | 106.02 |
| 31 | 101.75 | 101.97 | 102.20 | 102.42 | 102.65 | 102.87 | 103.10 | 103.32 | 103.55 | 103.77 |
| 30 | 99.50 | 99.72 | 99.95 | 100.17 | 100.40 | 100.62 | 100.85 | 101.07 | 101.30 | 101.52 |
| 29 | 97.25 | 97.47 | 97.70 | 97.92 | 98.15 | 98.37 | 98.60 | 98.82 | 99.05 | 99.27 |
| 28 | 95.00 | 95.22 | 95.45 | 95.67 | 95.90 | 96.12 | 96.35 | 96.57 | 96.80 | 97.02 |
| 27 | 92.75 | 92.97 | 93.20 | 93.42 | 93.65 | 93.87 | 94.10 | 94.32 | 94.55 | 94.77 |
| 26 | 90.50 | 90.72 | 90.95 | 91.17 | 91.40 | 91.62 | 91.85 | 92.07 | 92.30 | 92.52 |
| 25 | 88.25 | 88.47 | 88.70 | 88.92 | 89.15 | 89.37 | 89.60 | 89.82 | 90.05 | 90.27 |
| 24 | 86.00 | 86.22 | 86.45 | 86.67 | 86.90 | 87.12 | 87.35 | 87.57 | 87.80 | 88.02 |
| 23 | 83.75 | 83.97 | 84.20 | 84.42 | 84.65 | 84.87 | 85.10 | 85.32 | 85.55 | 85.77 |
| 22 | 81.50 | 81.72 | 81.95 | 82.17 | 82.40 | 82.62 | 82.85 | 83.07 | 83.30 | 83.52 |
| 21 | 79.25 | 79.47 | 79.70 | 79.92 | 80.15 | 80.37 | 80.60 | 80.82 | 81.05 | 81.27 |
| 20 | 77.00 | 77.22 | 77.45 | 77.67 | 77.90 | 78.12 | 78.35 | 78.57 | 78.80 | 79.02 |
| 19 | 74.75 | 74.97 | 75.20 | 75.42 | 75.65 | 75.87 | 76.10 | 76.32 | 76.55 | 76.77 |
| 18 | 72.50 | 72.72 | 72.95 | 73.17 | 73.40 | 73.62 | 73.85 | 74.07 | 74.30 | 74.52 |
| 17 | 70.25 | 70.47 | 70.70 | 70.92 | 71.15 | 71.37 | 71.60 | 71.82 | 72.05 | 72.27 |
| 16 | 68.00 | 68.22 | 68.45 | 68.67 | 68.90 | 69.12 | 69.35 | 69.57 | 69.80 | 70.02 |
| 15 | 65.75 | 65.97 | 66.20 | 66.42 | 66.65 | 66.87 | 67.10 | 67.32 | 67.55 | 67.77 |
| 14 | 63.50 | 63.72 | 63.95 | 64.17 | 64.40 | 64.62 | 64.85 | 65.07 | 65.30 | 65.52 |
| 13 | 61.25 | 61.47 | 61.70 | 61.92 | 62.15 | 62.37 | 62.60 | 62.82 | 63.05 | 63.27 |
| 12 | 59.00 | 59.22 | 59.45 | 59.67 | 59.90 | 60.12 | 60.35 | 60.57 | 60.80 | 61.02 |
| 11 | 56.75 | 56.97 | 57.20 | 57.42 | 57.65 | 57.87 | 58.10 | 58.32 | 58.55 | 58.77 |
| 10 | 54.50 | 54.72 | 54.95 | 55.17 | 55.40 | 55.62 | 55.85 | 56.07 | 56.30 | 56.52 |
| 9 | 52.25 | 52.47 | 52.70 | 52.92 | 53.15 | 53.37 | 53.60 | 53.82 | 54.05 | 54.27 |
| 8 | 50.00 | 50.22 | 50.45 | 50.67 | 50.90 | 51.12 | 51.35 | 51.57 | 51.80 | 52.02 |
| 7 | 47.75 | 47.97 | 48.20 | 48.42 | 48.65 | 48.87 | 49.10 | 49.32 | 49.55 | 49.77 |
| 6 | 45.50 | 45.72 | 45.95 | 46.17 | 46.40 | 46.62 | 46.85 | 47.07 | 47.30 | 47.52 |
| 5 | 43.25 | 43.47 | 43.70 | 43.92 | 44.15 | 44.37 | 44.60 | 44.82 | 45.05 | 45.27 |
| 4 | 41.00 | 41.22 | 41.45 | 41.67 | 41.90 | 42.12 | 42.35 | 42.57 | 42.80 | 43.02 |
| 3 | 38.75 | 38.97 | 39.20 | 39.42 | 39.65 | 39.87 | 40.10 | 40.32 | 40.55 | 40.77 |
| 2 | 36.50 | 36.72 | 36.95 | 37.17 | 37.40 | 37.62 | 37.85 | 38.07 | 38.30 | 38.52 |
| 1 | 34.25 | 34.47 | 34.70 | 34.92 | 35.15 | 35.37 | 35.60 | 35.82 | 36.05 | 36.27 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Reaumur. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. | Fahren. |
| + 0 | +32.00 | +32.22 | +32.45 | +32.67 | +32.90 | +33.12 | +33.35 | +33.57 | +33.80 | +34.02 |
| − 0 | 32.00 | 31.77 | 31.55 | 31.32 | 31.10 | 30.87 | 30.65 | 30.42 | 30.20 | 29.97 |
| − 1 | 29.75 | 29.52 | 29.30 | 29.07 | 28.85 | 28.62 | 28.40 | 28.17 | 27.95 | 27.72 |
| − 2 | 27.50 | 27.27 | 27.05 | 26.82 | 26.60 | 26.37 | 26.15 | 25.92 | 25.70 | 25.47 |
| − 3 | 25.25 | 25.02 | 24.80 | 24.57 | 24.35 | 24.12 | 23.90 | 23.67 | 23.45 | 23.22 |
| − 4 | 23.00 | 22.77 | 22.55 | 22.32 | 22.10 | 21.87 | 21.65 | 21.42 | 21.20 | 20.97 |
| − 5 | 20.75 | 20.52 | 20.30 | 20.07 | 19.85 | 19.62 | 19.40 | 19.17 | 18.95 | 18.72 |
| − 6 | 18.50 | 18.27 | 18.05 | 17.82 | 17.60 | 17.37 | 17.15 | 16.92 | 16.70 | 16.47 |
| − 7 | 16.25 | 16.02 | 15.80 | 15.57 | 15.35 | 15.12 | 14.90 | 14.67 | 14.45 | 14.22 |
| − 8 | 14.00 | 13.77 | 13.55 | 13.32 | 13.10 | 12.87 | 12.65 | 12.42 | 12.20 | 11.97 |
| − 9 | 11.75 | 11.52 | 11.30 | 11.07 | 10.85 | 10.62 | 10.40 | 10.17 | 9.95 | 9.72 |
| −10 | 9.50 | 9.27 | 9.05 | 8.82 | 8.60 | 8.37 | 8.15 | 7.92 | 7.70 | 7.47 |
| −11 | 7.25 | 7.02 | 6.80 | 6.57 | 6.35 | 6.12 | 5.90 | 5.67 | 5.45 | 5.22 |
| −12 | 5.00 | 4.77 | 4.55 | 4.32 | 4.10 | 3.87 | 3.65 | 3.42 | 3.20 | 2.97 |
| −13 | 2.75 | 2.52 | 2.30 | 2.07 | 1.85 | 1.62 | 1.40 | 1.17 | 0.95 | 0.72 |
| −14 | 0.50 | 0.27 | 0.05 | − 0.17 | − 0.40 | − 0.62 | − 0.85 | − 1.07 | − 1.30 | − 1.52 |
| −15 | − 1.75 | − 1.97 | − 2.20 | − 2.42 | − 2.65 | − 2.87 | − 3.10 | − 3.32 | − 3.55 | − 3.77 |
| −16 | − 4.00 | − 4.22 | − 4.45 | − 4.67 | − 4.90 | − 5.12 | − 5.35 | − 5.57 | − 5.80 | − 6.02 |
| −17 | − 6.25 | − 6.47 | − 6.70 | − 6.92 | − 7.15 | − 7.37 | − 7.60 | − 7.82 | − 8.05 | − 8.27 |
| −18 | − 8.50 | − 8.72 | − 8.95 | − 9.17 | − 9.40 | − 9.62 | − 9.85 | −10.07 | −10.30 | −10.52 |
| −19 | −10.75 | −10.97 | −11.20 | −11.42 | −11.65 | −11.87 | −12.10 | −12.32 | −12.55 | −12.77 |
| −20 | −13.00 | −13.22 | −13.45 | −13.67 | −13.90 | −14.12 | −14.35 | −14.57 | −14.80 | −15.02 |
| −21 | −15.25 | −15.47 | −15.70 | −15.92 | −16.15 | −16.37 | −16.60 | −16.82 | −17.05 | −17.27 |
| −22 | −17.50 | −17.72 | −17.95 | −18.17 | −18.40 | −18.62 | −18.85 | −19.07 | −19.30 | −19.52 |
| −23 | −19.75 | −19.97 | −20.20 | −20.42 | −20.65 | −20.87 | −21.10 | −21.32 | −21.55 | −21.77 |
| −24 | −22.00 | −22.22 | −22.45 | −22.67 | −22.90 | −23.12 | −23.35 | −23.57 | −23.80 | −24.02 |
| −25 | −24.25 | −24.47 | −24.70 | −24.92 | −25.15 | −25.37 | −25.60 | −25.82 | −26.05 | −26.27 |
| −26 | −26.50 | −26.72 | −26.95 | −27.17 | −27.40 | −27.62 | −27.85 | −28.07 | −28.30 | −28.52 |
| −27 | −28.75 | −28.97 | −29.20 | −29.42 | −29.65 | −29.87 | −30.10 | −30.32 | −30.55 | −30.77 |
| −28 | −31.00 | −31.22 | −31.45 | −31.67 | −31.90 | −32.12 | −32.35 | −32.57 | −32.80 | −33.02 |
| −29 | −33.25 | −33.47 | −33.70 | −33.92 | −34.15 | −34.37 | −34.60 | −34.82 | −35.05 | −35.27 |
| −30 | −35.50 | −35.72 | −35.95 | −36.17 | −36.40 | −36.62 | −36.85 | −37.07 | −37.30 | −37.52 |
| −31 | −37.75 | −37.97 | −38.20 | −38.42 | −38.65 | −38.87 | −39.10 | −39.32 | −39.55 | −39.77 |
| −32 | −40.00 | −40.22 | −40.45 | −40.67 | −40.90 | −41.12 | −41.35 | −41.57 | −41.80 | −42.02 |
| −33 | −42.25 | −42.47 | −42.70 | −42.92 | −43.15 | −43.37 | −43.60 | −43.82 | −44.05 | −44.27 |
| −34 | −44.50 | −44.72 | −44.95 | −45.17 | −45.40 | −45.62 | −45.85 | −46.07 | −46.30 | −46.52 |
| −35 | −46.75 | −46.97 | −47.20 | −47.42 | −47.65 | −47.87 | −48.10 | −48.32 | −48.55 | −48.77 |
| −36 | −49.00 | −49.22 | −49.45 | −49.67 | −49.90 | −50.12 | −50.35 | −50.57 | −50.80 | −51.02 |
| −37 | −51.25 | −51.47 | −51.70 | −51.92 | −52.15 | −52.37 | −52.60 | −52.82 | −53.05 | −53.27 |
| −38 | −53.50 | −53.72 | −53.95 | −54.17 | −54.40 | −54.62 | −54.85 | −55.07 | −55.30 | −55.52 |
| −39 | −55.75 | −55.97 | −56.20 | −56.42 | −56.65 | −56.87 | −57.10 | −57.32 | −57.55 | −57.77 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Degrees of Reaumur. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| +40 | +50.00 | +50.13 | +50.25 | +50.38 | +50.50 | +50.63 | +50.75 | +50.88 | +51.00 | +51.13 |
| 39 | 48.75 | 48.88 | 49.00 | 49.13 | 49.25 | 49.38 | 49.50 | 49.63 | 49.75 | 49.88 |
| 38 | 47.50 | 47.63 | 47.75 | 47.88 | 48.00 | 48.13 | 48.25 | 48.38 | 48.50 | 48.63 |
| 37 | 46.25 | 46.38 | 46.50 | 46.63 | 46.75 | 46.88 | 47.00 | 47.13 | 47.25 | 47.38 |
| 36 | 45.00 | 45.13 | 45.25 | 45.38 | 45.50 | 45.63 | 45.75 | 45.88 | 46.00 | 46.13 |
| 35 | 43.75 | 43.88 | 44.00 | 44.13 | 44.25 | 44.38 | 44.50 | 44.63 | 44.75 | 44.88 |
| 34 | 42.50 | 42.63 | 42.75 | 42.88 | 43.00 | 43.13 | 43.25 | 43.38 | 43.50 | 43.63 |
| 33 | 41.25 | 41.38 | 41.50 | 41.63 | 41.75 | 41.88 | 42.00 | 42.13 | 42.25 | 42.38 |
| 32 | 40.00 | 40.13 | 40.25 | 40.38 | 40.50 | 40.63 | 40.75 | 40.88 | 41.00 | 41.13 |
| 31 | 38.75 | 38.88 | 39.00 | 39.13 | 39.25 | 39.38 | 39.50 | 39.63 | 39.75 | 39.88 |
| 30 | 37.50 | 37.63 | 37.75 | 37.88 | 38.00 | 38.13 | 38.25 | 38.38 | 38.50 | 38.63 |
| 29 | 36.25 | 36.38 | 36.50 | 36.63 | 36.75 | 36.88 | 37.00 | 37.13 | 37.25 | 37.38 |
| 28 | 35.00 | 35.13 | 35.25 | 35.38 | 35.50 | 35.63 | 35.75 | 35.88 | 36.00 | 36.13 |
| 27 | 33.75 | 33.88 | 34.00 | 34.13 | 34.25 | 34.38 | 34.50 | 34.63 | 34.75 | 34.88 |
| 26 | 32.50 | 32.63 | 32.75 | 32.88 | 33.00 | 33.13 | 33.25 | 33.38 | 33.50 | 33.63 |
| 25 | 31.25 | 31.38 | 31.50 | 31.63 | 31.75 | 31.88 | 32.00 | 32.13 | 32.25 | 32.38 |
| 24 | 30.00 | 30.13 | 30.25 | 30.38 | 30.50 | 30.63 | 30.75 | 30.88 | 31.00 | 31.13 |
| 23 | 28.75 | 28.88 | 29.00 | 29.13 | 29.25 | 29.38 | 29.50 | 29.63 | 29.75 | 29.88 |
| 22 | 27.50 | 27.63 | 27.75 | 27.88 | 28.00 | 28.13 | 28.25 | 28.38 | 28.50 | 28.63 |
| 21 | 26.25 | 26.38 | 26.50 | 26.63 | 26.75 | 26.88 | 27.00 | 27.13 | 27.25 | 27.38 |
| 20 | 25.00 | 25.13 | 25.25 | 25.38 | 25.50 | 25.63 | 25.75 | 25.88 | 26.00 | 26.13 |
| 19 | 23.75 | 23.88 | 24.00 | 24.13 | 24.25 | 24.38 | 24.50 | 24.63 | 24.75 | 24.88 |
| 18 | 22.50 | 22.63 | 22.75 | 22.88 | 23.00 | 23.13 | 23.25 | 23.38 | 23.50 | 23.63 |
| 17 | 21.25 | 21.38 | 21.50 | 21.63 | 21.75 | 21.88 | 22.00 | 22.13 | 22.25 | 22.38 |
| 16 | 20.00 | 20.13 | 20.25 | 20.38 | 20.50 | 20.63 | 20.75 | 20.88 | 21.00 | 21.13 |
| 15 | 18.75 | 18.88 | 19.00 | 19.13 | 19.25 | 19.38 | 19.50 | 19.63 | 19.75 | 19.88 |
| 14 | 17.50 | 17.63 | 17.75 | 17.88 | 18.00 | 18.13 | 18.25 | 18.38 | 18.50 | 18.63 |
| 13 | 16.25 | 16.38 | 16.50 | 16.63 | 16.75 | 16.88 | 17.00 | 17.13 | 17.25 | 17.38 |
| 12 | 15.00 | 15.13 | 15.25 | 15.38 | 15.50 | 15.63 | 15.75 | 15.88 | 16.00 | 16.13 |
| 11 | 13.75 | 13.88 | 14.00 | 14.13 | 14.25 | 14.38 | 14.50 | 14.63 | 14.75 | 14.88 |
| 10 | 12.50 | 12.63 | 12.75 | 12.88 | 13.00 | 13.13 | 13.25 | 13.38 | 13.50 | 13.63 |
| 9 | 11.25 | 11.38 | 11.50 | 11.63 | 11.75 | 11.88 | 12.00 | 12.13 | 12.25 | 12.38 |
| 8 | 10.00 | 10.13 | 10.25 | 10.38 | 10.50 | 10.63 | 10.75 | 10.88 | 11.00 | 11.13 |
| 7 | 8.75 | 8.88 | 9.00 | 9.13 | 9.25 | 9.38 | 9.50 | 9.63 | 9.75 | 9.88 |
| 6 | 7.50 | 7.63 | 7.75 | 7.88 | 8.00 | 8.13 | 8.25 | 8.38 | 8.50 | 8.63 |
| 5 | 6.25 | 6.38 | 6.50 | 6.63 | 6.75 | 6.88 | 7.00 | 7.13 | 7.25 | 7.38 |
| 4 | 5.00 | 5.13 | 5.25 | 5.38 | 5.50 | 5.63 | 5.75 | 5.88 | 6.00 | 6.13 |
| 3 | 3.75 | 3.88 | 4.00 | 4.13 | 4.25 | 4.38 | 4.50 | 4.63 | 4.75 | 4.88 |
| 2 | 2.50 | 2.63 | 2.75 | 2.88 | 3.00 | 3.13 | 3.25 | 3.38 | 3.50 | 3.63 |
| 1 | 1.25 | 1.38 | 1.50 | 1.63 | 1.75 | 1.88 | 2.00 | 2.13 | 2.25 | 2.38 |
| 0 | 0.00 | 0.13 | 0.25 | 0.38 | 0.50 | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

# X.–XV.

# TABLES

FOR

# COMPARING THERMOMETRICAL DIFFERENCES

EXPRESSED IN DEGREES OF DIFFERENT SCALES,

IRRESPECTIVE OF THEIR ZERO POINT.

## X. NUMBER OF DEGREES OF FAHRENHEIT = NUMBER OF CENTIGRADE DEGREES.

4° Reaumur = 5° Centigrade = 9° Fahrenheit.

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| 0 | 0.00 | 0.06 | 0.11 | 0.17 | 0.22 | 0.28 | 0.33 | 0.39 | 0.44 | 0.50 |
| 1 | 0.56 | 0.61 | 0.67 | 0.72 | 0.78 | 0.83 | 0.89 | 0.94 | 1.00 | 1.06 |
| 2 | 1.11 | 1.17 | 1.22 | 1.28 | 1.33 | 1.39 | 1.44 | 1.50 | 1.56 | 1.61 |
| 3 | 1.67 | 1.72 | 1.78 | 1.83 | 1.89 | 1.94 | 2.00 | 2.06 | 2.11 | 2.22 |
| 4 | 2.22 | 2.28 | 2.33 | 2.39 | 2.44 | 2.50 | 2.56 | 2.61 | 2.67 | 2.72 |
| 5 | 2.78 | 2.83 | 2.89 | 2.94 | 3.00 | 3.06 | 3.11 | 3.17 | 3.22 | 3.28 |
| 6 | 3.33 | 3.39 | 3.44 | 3.50 | 3.56 | 3.61 | 3.67 | 4.72 | 3.78 | 3.83 |
| 7 | 3.89 | 3.94 | 4.00 | 4.06 | 4.11 | 4.17 | 4.22 | 4.28 | 4.33 | 4.39 |
| 8 | 4.44 | 4.50 | 4.56 | 4.61 | 4.67 | 4.72 | 4.78 | 4.83 | 4.89 | 4.94 |
| 9 | 5.00 | 5.06 | 5.11 | 5.17 | 5.22 | 5.28 | 5.32 | 5.39 | 5.44 | 5.50 |

## XI. NUMBER OF DEGREES OF FAHRENHEIT = NUMBER OF DEGREES OF REAUMUR.

| Degrees of Fahrenheit. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| 0 | 0.00 | 0.04 | 0.09 | 0.13 | 0.18 | 0.22 | 0.27 | 0.31 | 0.36 | 0 40 |
| 1 | 0.44 | 0.49 | 0.53 | 0.58 | 0.62 | 0.67 | 0.71 | 0.76 | 0.80 | 0.84 |
| 2 | 0.89 | 0.93 | 0.98 | 1.02 | 1.07 | 1.11 | 1.16 | 1.20 | 1.24 | 1.29 |
| 3 | 1.33 | 1.38 | 1.42 | 1.47 | 1.51 | 1.56 | 1.60 | 1.64 | 1.69 | 1.73 |
| 4 | 1.78 | 1.82 | 1.87 | 1.91 | 1.96 | 2.00 | 2.04 | 2.09 | 2.13 | 2.18 |
| 5 | 2.22 | 2.27 | 2.31 | 2.36 | 2.40 | 2.44 | 2.49 | 2.53 | 2.58 | 2.62 |
| 6 | 2.67 | 2.71 | 2.76 | 2.80 | 2.84 | 2.89 | 2.93 | 2.98 | 3.02 | 3.07 |
| 7 | 3.11 | 3.16 | 3.20 | 3.24 | 3.29 | 3.33 | 3.38 | 3.42 | 3.47 | 3.51 |
| 8 | 3.56 | 3.60 | 3.64 | 3.69 | 3.73 | 3.78 | 3.82 | 3.87 | 3.91 | 3.96 |
| 9 | 4.00 | 4.04 | 4.09 | 4.13 | 4.18 | 4.22 | 4.27 | 4.31 | 4.36 | 4.40 |

## XII. NUMBER OF CENTIGRADE DEGREES = NUMBER OF DEGREES OF REAUMUR.

| Centig. Degrees. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Reaumur. | Reaumur | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. | Reaumur. |
| 0 | 0.00 | 0.08 | 0.16 | 0.24 | 0.32 | 0.40 | 0.48 | 0.56 | 0.64 | 0.72 |
| 1 | 0.80 | 0.88 | 0.96 | 1.04 | 1.12 | 1.20 | 1.28 | 1.36 | 1.44 | 1.52 |
| 2 | 1.60 | 1.68 | 1.76 | 1.84 | 1.92 | 2.00 | 2.08 | 2.16 | 2.24 | 2.32 |
| 3 | 2.40 | 2.48 | 2.56 | 2.64 | 2.72 | 2.80 | 2.88 | 2.96 | 3.04 | 3.12 |
| 4 | 3.20 | 3.28 | 3.36 | 3.44 | 3.52 | 3.60 | 3.68 | 3.76 | 3.84 | 3.92 |
| 5 | 4.00 | 4.08 | 4.16 | 4.24 | 4.32 | 4.40 | 4.48 | 4.56 | 4.64 | 4.72 |
| 6 | 4.80 | 4.88 | 4.96 | 5.04 | 5.12 | 5.20 | 5.28 | 5.36 | 5.44 | 5.52 |
| 7 | 5.60 | 5.68 | 5.76 | 5.84 | 5.92 | 6.00 | 6.08 | 6.16 | 6.24 | 6.32 |
| 8 | 6.40 | 6.48 | 6.56 | 6.64 | 6.72 | 6.80 | 6.88 | 6.96 | 7.04 | 7.12 |
| 9 | 7.20 | 7.28 | 7.36 | 7.44 | 7.52 | 7.60 | 7.68 | 7.76 | 7.84 | 7.92 |

## XIII. NUMBER OF CENTIGRADE DEGREES = NUMBER OF DEGREES OF FAHRENHEIT.

4° Reaumur = 5° Centigrade = 9° Fahrenheit.

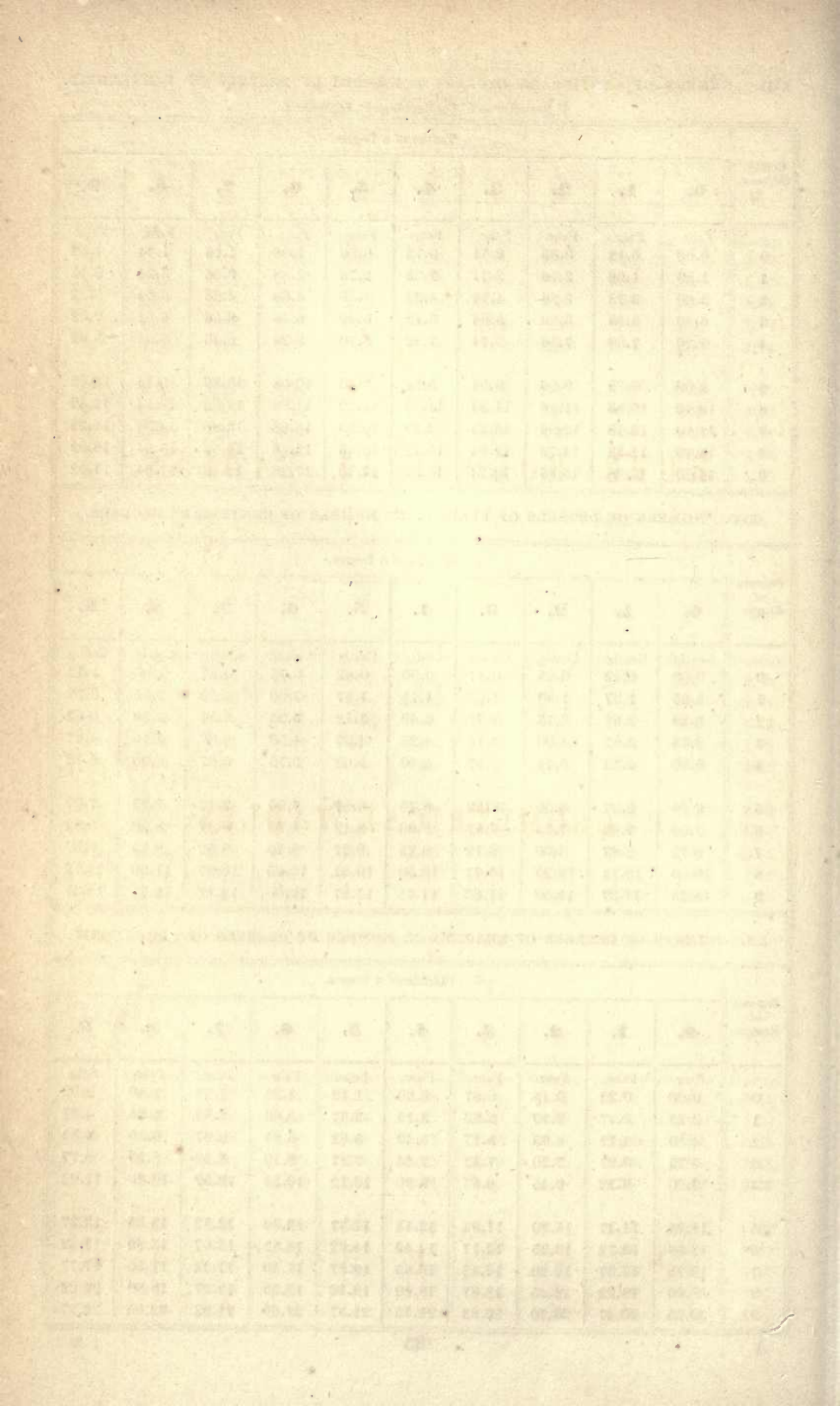
| Centig. Degrees. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. |
| 0 | 0.00 | 0.18 | 0.36 | 0.54 | 0.72 | 0.90 | 1.08 | 1.26 | 1.44 | 1.62 |
| 1 | 1.80 | 1.98 | 2.16 | 2.34 | 2.52 | 2.70 | 2.88 | 3.06 | 3.24 | 3.42 |
| 2 | 3.60 | 3.78 | 3.96 | 4.14 | 4.32 | 4.50 | 4.68 | 4.86 | 5.04 | 5.22 |
| 3 | 5.40 | 5.58 | 5.76 | 5.94 | 6.12 | 6.30 | 6.48 | 6.66 | 6.84 | 7.02 |
| 4 | 7.20 | 7.38 | 7.56 | 7.74 | 7.92 | 8.10 | 8.28 | 8.46 | 8.64 | 8.82 |
| 5 | 9.00 | 9.18 | 9.36 | 9.54 | 9.72 | 9.90 | 10.08 | 10.26 | 10.44 | 10.62 |
| 6 | 10.80 | 10.98 | 11.16 | 11.34 | 11.52 | 11.70 | 11.88 | 12.06 | 12.24 | 12.42 |
| 7 | 12.60 | 12.78 | 12.96 | 13.14 | 13.32 | 13.50 | 13.68 | 13.86 | 14.04 | 14.22 |
| 8 | 14.40 | 14.58 | 14.76 | 14.94 | 15.12 | 15.30 | 15.48 | 15.66 | 15.84 | 16.02 |
| 9 | 16.20 | 16.38 | 16.56 | 16.74 | 16.92 | 17.10 | 17.28 | 17.46 | 17.64 | 17.82 |

## XIV. NUMBER OF DEGREES OF REAUMUR = NUMBER OF CENTIGRADE DEGREES.

| Degrees of Reaum. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. | Centig. |
| 0 | 0.00 | 0.12 | 0.25 | 0.37 | 0.50 | 0.62 | 0.75 | 0.87 | 1.00 | 1.12 |
| 1 | 1.25 | 1.37 | 1.50 | 1.62 | 1.75 | 1.87 | 2.00 | 2.12 | 2.25 | 2.37 |
| 2 | 2.50 | 2.62 | 2.75 | 2.87 | 3.00 | 3.12 | 3.25 | 3.37 | 3.50 | 3.62 |
| 3 | 3.75 | 3.87 | 4.00 | 4.12 | 4.25 | 4.37 | 4.50 | 4.62 | 4.75 | 4.87 |
| 4 | 5.00 | 5.12 | 5.25 | 5.37 | 5.50 | 5.62 | 5.75 | 5.87 | 6.00 | 6.12 |
| 5 | 6.25 | 6.37 | 6.50 | 6.62 | 6.75 | 6.87 | 7.00 | 7.12 | 7.25 | 7.37 |
| 6 | 7.50 | 7.62 | 7.75 | 7.87 | 8.00 | 8.12 | 8.25 | 8.37 | 8.50 | 8.62 |
| 7 | 8.75 | 8.87 | 9.00 | 9.12 | 9.25 | 9.37 | 9.50 | 9.62 | 9.75 | 9.87 |
| 8 | 10.00 | 10.12 | 10.25 | 10.37 | 10.50 | 10.62 | 10.75 | 10.87 | 11.00 | 11.12 |
| 9 | 11.25 | 11.37 | 11.50 | 11.62 | 11.75 | 11.87 | 12.00 | 12.12 | 12.25 | 12.37 |

## XV. NUMBER OF DEGREES OF REAUMUR = NUMBER OF DEGREES OF FAHRENHEIT.

| Degrees of Reaum. | Tenths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. | Fahr. |
| 0 | 0.00 | 0.22 | 0.45 | 0.67 | 0.90 | 1.12 | 1.35 | 1.57 | 1.80 | 2.02 |
| 1 | 2.25 | 2.47 | 2.70 | 2.92 | 3.15 | 3.37 | 3.60 | 3.82 | 4.05 | 4.27 |
| 2 | 4.50 | 4.72 | 4.95 | 5.17 | 5.40 | 5.62 | 5.85 | 6.07 | 6.30 | 6.52 |
| 3 | 6.75 | 6.97 | 7.20 | 7.42 | 7.65 | 7.87 | 8.10 | 8.32 | 8.55 | 8.77 |
| 4 | 9.00 | 9.22 | 9.45 | 9.67 | 9.90 | 10.12 | 10.35 | 10.57 | 10.80 | 11.02 |
| 5 | 11.25 | 11.47 | 11.70 | 11.92 | 12.15 | 12.37 | 12.60 | 12.82 | 13.05 | 13.27 |
| 6 | 13.50 | 13.72 | 13.95 | 14.17 | 14.40 | 14.62 | 14.85 | 15.07 | 15.30 | 15.52 |
| 7 | 15.75 | 15.97 | 16.20 | 16.42 | 16.65 | 16.87 | 17.10 | 17.32 | 17.55 | 17.77 |
| 8 | 18.00 | 18.22 | 18.45 | 18.67 | 18.90 | 19.12 | 19.35 | 19.57 | 19.80 | 20.02 |
| 9 | 20.25 | 20.47 | 20.70 | 20.92 | 21.15 | 21.37 | 21.60 | 21.82 | 22.05 | 22.27 |



# METEOROLOGICAL TABLES.

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# HYGROMETRICAL TABLES.

HYGROMETERS, or instruments used for determining the amount of aqueous vapor present in the air, are of three classes. In the first, we find the hygrometers based on the absorption of moisture by hygroscopic substances, the best of which is Saussure's Hair-Hygrometer; in the second class, the Psychrometer, or wet-bulb thermometer, which gives the temperature of evaporation; in the third, the various instruments designed for ascertaining the temperature of the dew-point. From the data furnished by each of these instruments, and a table of the elastic forces of vapor at different temperatures, the humidity of the air can be deduced with more or less accuracy.

The use of the hygroscopic substances as hygrometers having been nearly given up on account of the inaccuracy of the results, the variability of the instruments, and the difficulty, if not impossibility, of making them comparable, the psychrometer and the dew-point instruments represent the two methods now usually employed in Meteorology. The following set, therefore, contains extensive tables, in French and English measures, for deducing the hygrometrical condition of the atmosphere from the indications of the Psychrometer and of the dew-point instruments, to which have been added tables of the weight of vapor, in a given space, at different temperatures, — an element often needed in Meteorology.

As, however, the results deduced from the same data furnished by the observations may considerably differ, according to the values of the elastic force of vapor, and the formulæ used in the computation, the tables have been arranged in two series.

The first series contains Regnault's table of the elastic forces of vapor, with tables of the three kinds above mentioned, together with a corresponding set in English measures. Tables V. to X. have been computed for this volume.

The second series gives the table of elastic forces of vapor deduced from Dalton's experiments, and adopted in the Greenwich Observations, together with the various tables based on it.

A third series of miscellaneous tables furnishes the means of comparing the different values of the elastic force and weight of vapor determined by various physicists, as well as the results of Saussure's Hair-Hygrometer, with those obtained by other methods.

An Appendix, containing tables for comparing the quantity of rain-water indicated in different measures, closes the set.

Though the first series of tables, based on Regnault's table of tensions, is recommended for ordinary use, as being derived from the determinations which seem to deserve the greatest degree of confidence, it was thought expedient to give also the Greenwich tables, which have been, and still are, so extensively used in England, in order to enable meteorologists to judge of the differences which exist between the results obtained by them and those deduced from the constants of Regnault and others.

# PRACTICAL TABLES,

IN

# FRENCH MEASURES,

BASED ON REGNAULT'S HYGROMETRICAL CONSTANTS.

# TABLE

OF

## THE ELASTIC FORCE OF AQUEOUS VAPOR,

EXPRESSED IN MILLIMETRES OF MERCURY FOR CENTIGRADE TEMPERATURES, BY REGNAULT.

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This table contains the elastic forces of vapor corresponding to every tenth of a degree of temperature between $-35°$ and $+40°$ Centigrade, as determined by the experiments of V. Regnault, made by order of the French government, for the purpose of establishing the numerical value of the elements which enter into the computations concerning the steam-engine. These results are generally considered as the most accurate science possesses at present. They are published in the *Mémoires de l'Institut*, Tom. XXI.; and more correctly in Regnault's *Etudes sur l'Hygrométrie*, in the *Annales de Chimie et de Physique.* In Vol. XV. Regnault gives the table of elastic forces for every tenth of a degree from $-10°$ to $+35°$ Centigrade, which is reprinted in Table I. The numbers below $-10°$ and above $+35°$, in the same table, have been taken from another table for every full degree, previously published in Vol. XI. p. 333 of the same periodical, and in the same volume of the *Mémoires de l'Institut*, extending from $-32°$ to $+230°$.

It should be remarked, however, that the numbers below zero, in the two tables just mentioned, having been computed from different formulas of interpolation, slightly disagree. In order to establish a continuity, therefore, the numbers in Table I. corresponding to full degrees from $-10°$ to $-35°$ have been formed by starting from the value due to $-10°$ in the larger table of Regnault, and subtracting from it the difference between $-10°$ and $-11°$ in the other table, in order to find the value of $-11°$, and so on, by subtracting successively the corresponding differences to $-35°$. For the fractions of degrees below $-10°$, the mean values have been adopted as sufficiently accurate for meteorological purposes.

# I. ELASTIC FORCE OF AQUEOUS VAPOR,

## EXPRESSED IN MILLIMETRES OF MERCURY FOR CENTIGRADE TEMPERATURES.

By REGNAULT.

| Temperature Centigrade. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| −35 | 0.221 | 0.219 | 0.216 | 0.214 | 0.211 | 0.209 | 0.207 | 0.204 | 0.202 | 0.199 |
| −34 | 0.247 | 0.244 | 0.242 | 0.249 | 0.237 | 0.234 | 0.231 | 0.229 | 0.226 | 0.224 |
| −33 | 0.275 | 0.272 | 0.269 | 0.267 | 0.264 | 0.261 | 0.258 | 0.255 | 0.253 | 0.250 |
| −32 | 0.305 | 0.302 | 0.299 | 0.296 | 0.293 | 0.290 | 0.287 | 0.284 | 0.281 | 0.278 |
| −31 | 0.337 | 0.334 | 0.331 | 0.327 | 0.324 | 0.321 | 0.318 | 0.315 | 0.311 | 0.308 |
| −30 | 0.371 | 0.368 | 0.364 | 0.361 | 0.357 | 0.354 | 0.351 | 0.347 | 0.344 | 0.340 |
| −29 | 0.409 | 0.405 | 0.401 | 0.398 | 0.394 | 0.390 | 0.386 | 0.382 | 0.379 | 0.375 |
| −28 | 0.449 | 0.445 | 0.441 | 0.437 | 0.433 | 0.429 | 0.425 | 0.421 | 0.417 | 0.413 |
| −27 | 0.493 | 0.489 | 0.484 | 0.480 | 0.475 | 0.471 | 0.467 | 0.462 | 0.458 | 0.453 |
| −26 | 0.540 | 0.535 | 0.531 | 0.526 | 0.521 | 0.516 | 0.512 | 0.507 | 0.502 | 0.498 |
| −25 | 0.590 | 0.585 | 0.580 | 0.575 | 0.570 | 0.565 | 0.560 | 0.555 | 0.550 | 0.545 |
| −24 | 0.645 | 0.639 | 0.634 | 0.628 | 0.623 | 0.617 | 0.612 | 0.606 | 0.601 | 0.595 |
| −23 | 0.704 | 0.698 | 0.692 | 0.686 | 0.680 | 0.674 | 0.669 | 0.663 | 0.657 | 0.651 |
| −22 | 0.768 | 0.762 | 0.755 | 0.749 | 0.742 | 0.736 | 0.730 | 0.723 | 0.717 | 0.710 |
| −21 | 0.838 | 0.831 | 0.824 | 0.817 | 0.810 | 0.803 | 0.796 | 0.789 | 0.782 | 0.775 |
| −20 | 0.912 | 0.905 | 0.897 | 0.890 | 0.882 | 0.875 | 0.868 | 0.860 | 0.853 | 0.845 |
| −19 | 0.993 | 0.985 | 0.977 | 0.969 | 0.961 | 0.952 | 0.944 | 0.936 | 0.928 | 0.920 |
| −18 | 1.080 | 1.071 | 1.063 | 1.054 | 1.045 | 1.036 | 1.028 | 1.019 | 1.010 | 1.002 |
| −17 | 1.174 | 1.165 | 1.155 | 1.146 | 1.136 | 1.127 | 1.118 | 1.108 | 1.099 | 1.089 |
| −16 | 1.275 | 1.265 | 1.255 | 1.245 | 1.235 | 1.224 | 1.214 | 1.204 | 1.194 | 1.184 |
| −15 | 1.385 | 1.374 | 1.363 | 1.352 | 1.341 | 1.330 | 1.319 | 1.308 | 1.297 | 1.286 |
| −14 | 1.503 | 1.491 | 1.479 | 1.468 | 1.456 | 1.444 | 1.432 | 1.420 | 1.409 | 1.397 |
| −13 | 1.631 | 1.618 | 1.605 | 1.593 | 1.580 | 1.567 | 1.554 | 1.541 | 1.529 | 1.516 |
| −12 | 1.768 | 1.754 | 1.741 | 1.727 | 1.713 | 1.699 | 1.686 | 1.672 | 1.658 | 1.645 |
| −11 | 1.918 | 1.903 | 1.888 | 1.873 | 1.858 | 1.843 | 1.828 | 1.813 | 1.798 | 1.783 |
| −10 | 2.078 | 2.062 | 2.046 | 2.030 | 2.014 | 1.998 | 1.982 | 1.966 | 1.950 | 1.934 |
| − 9 | 2.261 | 2.242 | 2.223 | 2.204 | 2.186 | 2.168 | 2.150 | 2.132 | 2.114 | 2.096 |
| − 8 | 2.456 | 2.436 | 2.416 | 2.396 | 2.376 | 2.356 | 2.337 | 2.318 | 2.299 | 2.280 |
| − 7 | 2.666 | 2.645 | 2.624 | 2.603 | 2.582 | 2.561 | 2.540 | 2.519 | 2.498 | 2.477 |
| − 6 | 2.890 | 2.867 | 2.844 | 2.821 | 2.798 | 2.776 | 2.754 | 2.732 | 2.710 | 2.688 |
| − 5 | 3.131 | 3.106 | 3.082 | 3.058 | 3.034 | 3.010 | 2.986 | 2.962 | 2.938 | 2.914 |
| − 4 | 3.387 | 3.361 | 3.335 | 3.309 | 3.283 | 3.257 | 3.231 | 3.206 | 3.181 | 3.156 |
| − 3 | 3.662 | 3.634 | 3.606 | 3.578 | 3.550 | 3.522 | 3.495 | 3.468 | 3.441 | 3.414 |
| − 2 | 3.955 | 3.925 | 3.895 | 3.865 | 3.836 | 3.807 | 3.778 | 3.749 | 3.720 | 3.691 |
| − 1 | 4.267 | 4.235 | 4.203 | 4.171 | 4.140 | 4.109 | 4.078 | 4.047 | 4.016 | 3.985 |
| − 0 | 4.600 | 4.565 | 4.531 | 4.497 | 4 463 | 4.430 | 4.397 | 4.364 | 4.331 | 4.299 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 4.600 | 4.633 | 4.667 | 4.700 | 4.733 | 4.767 | 4.801 | 4.836 | 4.871 | 4.905 |
| 1 | 4.940 | 4.975 | 5.011 | 5.047 | 5.082 | 5.118 | 5.155 | 5.191 | 5.228 | 5.265 |
| 2 | 5.302 | 5.340 | 5.378 | 5.416 | 5.454 | 5.491 | 5.530 | 5.569 | 5.608 | 5.647 |
| 3 | 5.687 | 5.727 | 5.767 | 5.807 | 5.848 | 5.889 | 5.930 | 5.972 | 6.014 | 6.055 |
| 4 | 6.097 | 6.140 | 6.183 | 6.226 | 6.270 | 6.313 | 6.357 | 6.401 | 6.445 | 6.490 |
| 5 | 6.534 | 6.580 | 6.625 | 6.671 | 6.717 | 6.763 | 6.810 | 6.857 | 6.904 | 6.951 |
| 6 | 6.998 | 7.047 | 7.095 | 7.144 | 7.193 | 7.242 | 7.292 | 7.342 | 7.392 | 7.442 |
| 7 | 7.492 | 7.544 | 7.595 | 7.647 | 7.699 | 7.751 | 7.804 | 7.857 | 7.910 | 7.964 |
| 8 | 8.017 | 8.072 | 8.126 | 8.181 | 8.236 | 8.291 | 8.347 | 8.404 | 8.461 | 8.517 |
| 9 | 8.574 | 8.632 | 8.690 | 8.748 | 8.807 | 8.865 | 8.925 | 8.985 | 9.045 | 9.105 |
| 10 | 9.165 | 9.227 | 9.288 | 9.350 | 9.412 | 9.474 | 9.537 | 9.601 | 9.665 | 9.728 |
| 11 | 9.792 | 9.857 | 9.923 | 9.989 | 10.054 | 10.120 | 10.187 | 10.255 | 10.322 | 10.389 |
| 12 | 10.457 | 10.526 | 10.596 | 10.665 | 10.734 | 10.804 | 10.875 | 10.947 | 11.019 | 11.090 |
| 13 | 11.162 | 11.235 | 11.309 | 11.383 | 11.456 | 11.530 | 11.605 | 11.681 | 11.757 | 11.832 |
| 14 | 11.908 | 11.986 | 12.064 | 12.142 | 12.220 | 12.298 | 12.378 | 12.458 | 12.538 | 12.619 |
| 15 | 12.699 | 12.781 | 12.864 | 12.947 | 13.029 | 13.112 | 13.197 | 13.281 | 13.366 | 13.451 |
| 16 | 13.536 | 13.623 | 13.710 | 13.797 | 13.885 | 13.972 | 14.062 | 14.151 | 14.241 | 14.331 |
| 17 | 14.421 | 14.513 | 14.605 | 14.697 | 14.790 | 14.882 | 14.977 | 15.072 | 15.167 | 15.262 |
| 18 | 15.357 | 15.454 | 15.552 | 15.650 | 15.747 | 15.845 | 15.945 | 16.045 | 16.145 | 16.246 |
| 19 | 16.346 | 16.449 | 16.552 | 16.655 | 16.758 | 16.861 | 16.967 | 17.073 | 17.179 | 17.285 |
| 20 | 17.391 | 17.500 | 17.608 | 17.717 | 17.826 | 17.935 | 18.047 | 18.159 | 18.271 | 18.383 |
| 21 | 18.495 | 18.610 | 18.724 | 18.839 | 18.954 | 19.069 | 19.187 | 19.305 | 19.423 | 19.541 |
| 22 | 19.659 | 19.780 | 19.901 | 20.022 | 20.143 | 20.265 | 20.389 | 20.514 | 20.639 | 20.763 |
| 23 | 20.888 | 21.016 | 21.144 | 21.272 | 21.400 | 21.528 | 21.659 | 21.790 | 21.921 | 22.053 |
| 24 | 22.184 | 22.319 | 22.453 | 22.588 | 22.723 | 22.858 | 22.996 | 23.135 | 23.273 | 23.411 |
| 25 | 23.550 | 23.692 | 23.834 | 23.976 | 24.119 | 24.261 | 24.406 | 24.552 | 24.697 | 24.842 |
| 26 | 24.988 | 25.138 | 25.288 | 25.438 | 25.588 | 25.738 | 25.891 | 26.045 | 26.198 | 26.351 |
| 27 | 26.505 | 26.663 | 26.820 | 26.978 | 27.136 | 27.294 | 27.455 | 27.617 | 27.778 | 27.939 |
| 28 | 28.101 | 28.267 | 28.433 | 28.599 | 28.765 | 28.931 | 29.101 | 29.271 | 29.441 | 29.612 |
| 29 | 29.782 | 29.956 | 30.131 | 30.305 | 30.479 | 30.654 | 30.833 | 31.011 | 31.190 | 31.369 |
| 30 | 31.548 | 31.729 | 31.911 | 32.094 | 32.278 | 32.463 | 32.650 | 32.837 | 33.026 | 33.215 |
| 31 | 33.406 | 33.596 | 33.787 | 33.980 | 34.174 | 34.368 | 34.564 | 34.761 | 34.959 | 35.159 |
| 32 | 35.359 | 35.559 | 35.760 | 35.962 | 36.165 | 36.370 | 36.576 | 36.783 | 36.991 | 37.200 |
| 33 | 37.410 | 37.621 | 37.832 | 38.045 | 38.258 | 38.473 | 38.689 | 38.906 | 39.124 | 39.344 |
| 34 | 39.565 | 39.786 | 40.007 | 40.230 | 40.455 | 40.680 | 40.907 | 41.135 | 41.364 | 41.595 |
| 35 | 41.827 | 42.059 | 42.293 | 42.527 | 42.763 | 43.000 | 43.238 | 43.477 | 43.717 | 43.959 |
| 36 | 44.201 | 44.445 | 44.690 | 44.936 | 45.183 | 45.431 | 45.681 | 45.932 | 46.184 | 46.437 |
| 37 | 46.691 | 46.947 | 47.203 | 47.462 | 47.721 | 47.981 | 48.243 | 48.506 | 48.770 | 49.035 |
| 38 | 49.302 | 49.570 | 49.839 | 50.110 | 50.382 | 50.655 | 50.929 | 51.205 | 51.481 | 51.759 |
| 39 | 52.039 | 52.320 | 52.602 | 52.885 | 53.170 | 53.456 | 53.743 | 54.032 | 54.322 | 54.613 |
| 40 | 54.906 | 55.200 | 55.496 | 55.793 | 56.091 | 56.391 | 56.692 | 56.994 | 57.298 | 57.603 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

II.

# PSYCHROMETRICAL TABLES.

GIVING IMMEDIATELY THE FORCE OF AQUEOUS VAPOR AND THE RELATIVE HUMIDITY FROM THE INDICATIONS OF THE PSYCHROMETER.

CALCULATED BY M. T. HAEGHENS.

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IN his *Etudes sur l'Hygrométrie*,* M. V. Regnault discusses the theoretical bases of the formula of the Psychrometer, given by M. August, which was,

$$x = f' - \frac{0.568\,(t-t')}{640-t'}\,h,$$

in which $h$ represents the height of the barometer; $t$ the temperature of the air given by the dry-bulb thermometer; $t'$ the temperature of the wet-bulb thermometer; $f'$ the force of aqueous vapor in the saturated air at a temperature equal to $t'$; $x$ the elastic force of aqueous vapor which exists in the air at the time of the observation.

After having modified some of the numerical values, which form the coefficients, M. Regnault adopted this formula,

$$x = f' - \frac{0.429\,(t-t')}{610-t'}\,h.$$

But comparative experiments, made by himself, showed that by substituting the coefficient 0.480 for that of 0.429, the calculated results, and those obtained by direct observation, agree perfectly in the fractions of saturation, which are greater than 0.40. This formula thus modified, or

$$x = f' - \frac{0.480\,(t-t')}{610-t'}\,h,$$

has been used for calculating the following tables. In that part of the tables which supposes the wet-bulb to be covered with a film of ice, or below the freezing point, the value $610 - t'$, which represents the latent heat of aqueous vapor, has been changed into this: $610 + 79 - t' = 689 - t'$.

The only hypothesis made, is that of a mean barometric pressure $h$, equal to 755 millimetres. If we take into account the causes of errors inherent to the psychrometer, and to the tables of the force of vapor, by means of which the absolute force of vapor is calculated, as well as to the differences of these tensions, taken at temperatures differing only by *one* tenth of a degree, it will be obvious that the correction due to the variations of barometric pressure can almost always be neglected. Nevertheless, a separate table has been calculated, giving the *correction* to be applied to the numbers in the Psychrometrical Tables for the heights of the barometer between 650 and 800 millimetres. It will be found at the end of the tables.

The disposition of the tables is the following: —

The temperatures are noted in centigrade degrees; the elastic force of vapor in the air, or its pressure on the barometer, is expressed in millimetres of mercury; the rel-

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* *Etudes sur l'Hygrométrie*, par M. V. Regnault. *Annales de Chimie et de Physique*, 3me Série, Tom XV., 1845.

ative humidity is indicated in per cent. of the full saturation of the air at the corresponding temperature of the dry-bulb thermometer $t$.

The first vertical column contains the indications of the wet-bulb thermometer $t'$, beginning with the temperatures below the freezing point, when the bulb is covered with ice, from —35°, and continuing from the freezing point up to +35° centigrade, the bulb being simply wet.

The second column gives the differences of the force of vapor for each tenth (0°.1) of a degree, between each full degree of the first column. It enables the observer to find out the correction for any fraction of a degree of the wet-bulb thermometer.

The following double columns give immediately the force of vapor and the relative humidity, corresponding to each degree of the wet-bulb, placed in the first column, on the same horizontal line, and to differences of the two thermometers, or to $t - t'$, taken at every two tenths of a degree.

The horizontal column at the bottom indicates the mean difference, for each tenth of a degree, of the force of vapor contained in the same horizontal line. It gives the correction for the intermediate differences of the thermometers; 0.1, 0.3, 0.5, 0.7, 0.9, &c., &c.

To meet the wants arising from the extreme climate of North America, the tables of Mr. Haeghens have been extended from —15° to —35° centigrade, and from +30° to +35° of temperature of the wet-bulb, and to +40° of temperature of the dry-bulb thermometer. The forces of aqueous vapor of Regnault, as given in Table I., have been used for the calculations.

### *Use of the Tables.*

Enter the tables with the difference of the two thermometers, or $t - t'$, and with the temperature of the wet-bulb thermometer $t'$, taking the first three pages, when the temperature of the wet-bulb is below the freezing point; and the following ones when it is above the freezing point.

Seek first the column at the head of which you find the difference of the thermometers; go down as far as the horizontal line, at the beginning of which you see the temperature of the wet-bulb thermometer; there you find the force of vapor, and the relative humidity corresponding to your observation.

Two corrections for fractions may be required for a complete calculation of the force of vapor; one for the fractions of degrees of the wet-bulb thermometer; another for the intermediate differences of the two thermometers, viz. for 0.1, 0.3, 0.5, 0.7, &c.

The first correction for fractions of degrees of the wet-bulb thermometer is found by multiplying the decimal fraction by the number placed in the second vertical column next to the whole degree, which number is the value of a tenth of a degree. The product must be *added* to the value of the full degree given in the table, when the temperature of the wet-bulb is above the freezing point: it must be *subtracted* when the temperature is below the freezing point, and receives the sign —. This correction is too important to be neglected.

The second correction, less important, for the intermediate differences of the ther-

mometers, which are greater by one tenth than those indicated in the tables, is given in the horizontal column at the bottom of the page. It is *constant* and always *subtractive.*

*Examples of Calculation.*

Difference of thermometers, or $t - t'$ = 0°.8.
Temperature of the wet-bulb thermometer, $t'$ = 11°.0.
We find, page 18, for $t - t'$, fifth double column; and for $t'$, first column,
The force of vapor in the air = 9$^{mm}$.31.
Relative humidity, = 90.

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Difference of thermometers, or $t - t'$, = 7°.2.
Wet-bulb thermometer, or $t'$, = 17°.9.
We find, page 24, for $t - t'$, = 7°.2, and $t'$ = 17°.0, force of vapor 10$^{mm}$.02.
*Additive* correction for fraction 0°.9, or 9 × 0.09 = 0 .81.

Force of vapor in the air = 10 .83.
Relative humidity, 46

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Difference of thermometers, $t - t'$ = 6°.5.
Wet-bulb thermometer, $t'$ = 23°.6.
We find, page 23, for $t'$ = 23°.0, and $t - t'$, or difference, = 6°.4, force of vapor 16$^{mm}$.94; applying immediately the correction found at the bottom of the page for one tenth more difference, or 6°.4 + 0.1 = 6°.5, we have,
Force of vapor = 16$^{mm}$.94 — 0.06, or 16$^{mm}$.88.
*Additive* correction for fraction 0.6 of the wet-bulb, 6 × 0.13 = 0 .78.

Force of vapor in the air = 17 .66.
Relative humidity, 56.

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The wet-bulb thermometer covered with ice.

Difference of thermometers, $t - t'$ = 2°.8.
Wet-bulb thermometer (ice), $t'$ = —8°.5.
Page 17 gives for $t - t'$ = 2°.8, and $t'$ = —8°.0, force of vapor = 1$^{mm}$.0.
*Subtractive* correction for fraction 0.5 of wet-bulb, 5 × 0.019 = —0 .1.

Force of vapor in the air = 0 .9.
Relative humidity, 30.

Below the Freezing-Point; the Bulb covered with a Film of Ice.

| Wet-Bulb Thermometer t′ Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t′, Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.2 | | 0°.4 | | 0°.6 | | 0°.8 | | 1°.0 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | Millim. | Millim. | | Millim. | | Millim. | | Millim | | Millim. | | Millim. | |
| −35 | 0.003 | 0.22 | 100 | 0.12 | 53 | | | | | | | | |
| −34 | 0.003 | 0.25 | 100 | 0.15 | 58 | 0.05 | 18 | | | | | | |
| −33 | 0.003 | 0.27 | 100 | 0.17 | 62 | 0.07 | 26 | | | | | | |
| −32 | 0.003 | 0.30 | 100 | 0.20 | 66 | 0.10 | 33 | | | | | | |
| −31 | 0.004 | 0.34 | 100 | 0.24 | 69 | 0.14 | 39 | 0.03 | 10 | | | | |
| −30 | 0.004 | 0.37 | 100 | 0.27 | 71 | 0.17 | 44 | 0.07 | 17 | | | | |
| −29 | 0.004 | 0.41 | 100 | 0.31 | 74 | 0.21 | 46 | 0.11 | 25 | | | | |
| −28 | 0.004 | 0.45 | 100 | 0.35 | 76 | 0.25 | 53 | 0.15 | 31 | 0.04 | 9 | | |
| −27 | 0.005 | 0.49 | 100 | 0.39 | 78 | 0.29 | 57 | 0.19 | 36 | 0.09 | 17 | | |
| −26 | 0.005 | 0.54 | 100 | 0.44 | 80 | 0.34 | 60 | 0.24 | 41 | 0.13 | 23 | 0.03 | 6 |
| −25 | 0.005 | 0.59 | 100 | 0.49 | 81 | 0.39 | 63 | 0.29 | 46 | 0.18 | 29 | 0.08 | 12 |
| −24 | 0.006 | 0.64 | 100 | 0.54 | 82 | 0.44 | 66 | 0.34 | 50 | 0.24 | 34 | 0.14 | 19 |
| −23 | 0.006 | 0.70 | 100 | 0.60 | 84 | 0.50 | 69 | 0.40 | 53 | 0.30 | 39 | 0.19 | 25 |
| −22 | 0.007 | 0.77 | 100 | 0.67 | 85 | 0.56 | 71 | 0.46 | 57 | 0.36 | 44 | 0.26 | 31 |
| −21 | 0.008 | 0.84 | 100 | 0.74 | 86 | 0.63 | 73 | 0.53 | 60 | 0.43 | 48 | 0.33 | 36 |
| −20 | 0.008 | 0.91 | 100 | 0.81 | 87 | 0.71 | 75 | 0.61 | 63 | 0.50 | 51 | 0.40 | 40 |
| −19 | 0.008 | 0.99 | 100 | 0.89 | 88 | 0.79 | 77 | 0.69 | 66 | 0.58 | 55 | 0.48 | 45 |
| −18 | 0.009 | 1.08 | 100 | 0.98 | 89 | 0.87 | 78 | 0.77 | 68 | 0.67 | 58 | 0.57 | 48 |
| −17 | 0.010 | 1.17 | 100 | 1.07 | 90 | 0.97 | 80 | 0.87 | 70 | 0.76 | 61 | 0.66 | 52 |
| −16 | 0.011 | 1.27 | 100 | 1.17 | 90 | 1.07 | 81 | 1.97 | 72 | 0.86 | 63 | 0.76 | 55 |
| −15 | 0.012 | 1.38 | 100 | 1.28 | 91 | 1.18 | 82 | 1.08 | 74 | 0.97 | 66 | 0.87 | 58 |
| −14 | 0.013 | 1.50 | 100 | 1.40 | 92 | 1.30 | 83 | 1.19 | 76 | 1.09 | 68 | 0.99 | 61 |
| −13 | 0.014 | 1.63 | 100 | 1.53 | 92 | 1.42 | 84 | 1.32 | 77 | 1.22 | 70 | 1.11 | 63 |
| −12 | 0.015 | 1.77 | 100 | 1.66 | 93 | 1.56 | 85 | 1.46 | 78 | 1.35 | 71 | 1.25 | 65 |
| −11 | 0.016 | 1.92 | 100 | 1.81 | 93 | 1.71 | 86 | 1.61 | 80 | 1.50 | 73 | 1.40 | 67 |
| −10 | 0.019 | 2.08 | 100 | 1.97 | 94 | 1.87 | 87 | 1.77 | 81 | 1.66 | 75 | 1.56 | 69 |
| − 9 | 0.021 | 2.26 | 100 | 2.16 | 94 | 2.05 | 88 | 1.95 | 82 | 1.85 | 76 | 1.74 | 71 |
| − 8 | 0.023 | 2.46 | 100 | 2.35 | 94 | 2.25 | 89 | 2.14 | 83 | 2.04 | 78 | 1.94 | 73 |
| − 7 | 0.024 | 2.67 | 100 | 2.56 | 94 | 2.46 | 89 | 2.35 | 84 | 2.25 | 79 | 2.15 | 74 |
| − 6 | 0.025 | 2.89 | 100 | 2.79 | 95 | 2.68 | 90 | 2.58 | 85 | 2.47 | 80 | 2.37 | 76 |
| − 5 | 0.026 | 3.13 | 100 | 3.03 | 95 | 2.92 | 90 | 2.82 | 86 | 2.71 | 81 | 2.61 | 77 |
| − 4 | 0.029 | 3.39 | 100 | 3.28 | 95 | 3.18 | 91 | 3.07 | 87 | 2.97 | 82 | 2.86 | 78 |
| − 3 | 0.031 | 3.66 | 100 | 3.56 | 96 | 3.45 | 92 | 3.35 | 87 | 3.24 | 83 | 3.14 | 79 |
| − 2 | 0.033 | 3.96 | 100 | 3.85 | 96 | 3.75 | 92 | 3.64 | 88 | 3.54 | 84 | 3.43 | 80 |
| − 1 | 0.034 | 4.27 | 100 | 4.16 | 96 | 4.06 | 92 | 3.95 | 89 | 3.85 | 85 | 3.74 | 81 |
| − 0 | | 4.60 | 100 | 4.50 | 96 | 4.40 | 93 | 4.29 | 89 | 4.19 | 86 | 4.08 | 82 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.05 mm.

Below the Freezing-Point; the Bulb covered with a Film of Ice.

| Wet-Bulb Thermometer, t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t', Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1°.2 | | 1°.4 | | 1°.6 | | 1°.8 | | 2°.0 | | 2°.2 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| −35 | | | | | | | | | | | | | |
| −34 | | | | | | | | | | | | | |
| −33 | | | | | | | | | | | | | |
| −32 | | | | | | | | | | | | | |
| −31 | | | | | | | | | | | | | |
| −30 | | | | | | | | | | | | | |
| −29 | | | | | | | | | | | | | |
| −28 | | | | | | | | | | | | | |
| −27 | | | | | | | | | | | | | |
| −26 | | | | | | | | | | | | | |
| −25 | | | | | | | | | | | | | |
| −24 | | 0.04 | 5 | | | | | | | | | | |
| −23 | 0.006 | 0.09 | 12 | | | | | | | | | | |
| −22 | 0.006 | 0.16 | 18 | 0.05 | 6 | | | | | | | | |
| −21 | 0.007 | 0.23 | 24 | 0.12 | 13 | | | | | | | | |
| −20 | 0.007 | 0.30 | 30 | 0.20 | 18 | 0.09 | 9 | | | | | | |
| −19 | 0.008 | 0.38 | 34 | 0.28 | 25 | 0.17 | 15 | 0.07 | 6 | | | | |
| −18 | 0.008 | 0.46 | 39 | 0.36 | 30 | 0.26 | 21 | 0.16 | 13 | 0.05 | 4 | | |
| −17 | 0.009 | 0.56 | 43 | 0.46 | 35 | 0.35 | 26 | 0.25 | 18 | 0.15 | 11 | 0.04 | 3 |
| −16 | 0.010 | 0.66 | 47 | 0.56 | 39 | 0.45 | 31 | 0.35 | 24 | 0.25 | 16 | 0.14 | 9 |
| −15 | 0.011 | 0.77 | 50 | 0.66 | 43 | 0.56 | 36 | 0.46 | 29 | 0.36 | 22 | 0.25 | 15 |
| −14 | 0.013 | 0.88 | 53 | 0.78 | 46 | 0.68 | 40 | 0.58 | 33 | 0.47 | 27 | 0.37 | 21 |
| −13 | 0.013 | 1.01 | 56 | 0.91 | 50 | 0.80 | 43 | 0.70 | 37 | 0.60 | 31 | 0.50 | 25 |
| −12 | 0.015 | 1.15 | 59 | 1.04 | 53 | 0.94 | 47 | 0.84 | 41 | 0.73 | 35 | 0.63 | 30 |
| −11 | 0.017 | 1.30 | 61 | 1.19 | 55 | 1.09 | 50 | 0.99 | 44 | 0.88 | 39 | 0.78 | 34 |
| −10 | 0.018 | 1.46 | 63 | 1.35 | 58 | 1.25 | 52 | 1.15 | 47 | 1.04 | 42 | 0.94 | 38 |
| − 9 | 0.019 | 1.64 | 66 | 1.53 | 61 | 1.43 | 56 | 1.33 | 51 | 1.22 | 46 | 1.12 | 41 |
| − 8 | 0.021 | 1.83 | 68 | 1.73 | 63 | 1.62 | 58 | 1.52 | 54 | 1.42 | 49 | 1.31 | 45 |
| − 7 | 0.023 | 2.04 | 69 | 1.94 | 65 | 1.83 | 61 | 1.73 | 56 | 1.63 | 52 | 1.52 | 48 |
| − 6 | 0.024 | 2.26 | 71 | 2.16 | 67 | 2.06 | 63 | 1.95 | 59 | 1.85 | 55 | 1.74 | 51 |
| − 5 | 0.025 | 2.50 | 73 | 2.40 | 69 | 2.30 | 65 | 2.19 | 61 | 2.09 | 57 | 1.98 | 53 |
| − 4 | 0.028 | 2.76 | 74 | 2.65 | 70 | 2.55 | 67 | 2.45 | 63 | 2.34 | 59 | 2.24 | 55 |
| − 3 | 0.029 | 3.03 | 75 | 2.93 | 72 | 2.82 | 68 | 2.72 | 65 | 2.61 | 61 | 2.51 | 58 |
| − 2 | 0.030 | 3.33 | 77 | 3.22 | 73 | 3.12 | 70 | 3.01 | 66 | 2.91 | 63 | 2.80 | 60 |
| − 1 | 0.031 | 3.64 | 78 | 3.53 | 75 | 3.43 | 71 | 3.32 | 68 | 3.22 | 65 | 3.11 | 62 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.05 mm.

Below the Freezing-Point; the Bulb covered with a Film of Ice.

| Wet-Bulb Thermometer t Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t', Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2°.4 | | 2°.6 | | 2°.8 | | 3°.0 | | 3°.2 | | 3°.4 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| −15 | | 0.15 | 9 | 0.05 | 3 | | | | | | | | |
| | 0.011 | | | | | | | | | | | | |
| −14 | | 0.27 | 15 | 0.16 | 9 | 0.06 | 4 | | | | | | |
| | 0.013 | | | | | | | | | | | | |
| −13 | | 0.39 | 20 | 0.29 | 14 | 0.19 | 9 | 0.08 | 4 | | | | |
| | 0.013 | | | | | | | | | | | | |
| −12 | | 0.53 | 25 | 0.42 | 19 | 0.32 | 14 | 0.22 | 10 | 0.11 | 5 | | |
| | 0.015 | | | | | | | | | | | | |
| −11 | | 0.68 | 29 | 0.57 | 24 | 0.47 | 19 | 0.36 | 15 | 0.26 | 10 | 0.16 | 6 |
| | 0.016 | | | | | | | | | | | | |
| −10 | | 0.83 | 33 | 0.73 | 28 | 0.63 | 24 | 0.52 | 20 | 0.42 | 16 | 0.32 | 12 |
| | 0.018 | | | | | | | | | | | | |
| − 9 | | 1.02 | 37 | 0.91 | 33 | 0.81 | 28 | 0.70 | 24 | 0.60 | 20 | 0.50 | 17 |
| | 0.019 | | | | | | | | | | | | |
| − 8 | | 1.21 | 40 | 1.10 | 36 | 1.00 | 32 | 0.90 | 28 | 0.79 | 25 | 0.69 | 21 |
| | 0.021 | | | | | | | | | | | | |
| − 7 | | 1.42 | 44 | 1.31 | 40 | 1.21 | 36 | 1.11 | 32 | 1.00 | 29 | 0.90 | 26 |
| | 0.022 | | | | | | | | | | | | |
| − 6 | | 1.64 | 47 | 1.54 | 43 | 1.43 | 40 | 1.33 | 36 | 1.22 | 33 | 1.12 | 30 |
| | 0.024 | | | | | | | | | | | | |
| − 5 | | 1.88 | 50 | 1.77 | 46 | 1.67 | 43 | 1.57 | 40 | 1.46 | 36 | 1.36 | 33 |
| | 0.025 | | | | | | | | | | | | |
| − 4 | | 2.13 | 52 | 2.03 | 49 | 1.92 | 46 | 1.82 | 43 | 1.71 | 40 | 1.61 | 37 |
| | 0.027 | | | | | | | | | | | | |
| − 3 | | 2.40 | 55 | 2.30 | 52 | 2.19 | 48 | 2.09 | 45 | 1.99 | 43 | 1.88 | 40 |
| | 0.029 | | | | | | | | | | | | |
| − 2 | | 2.70 | 57 | 2.59 | 54 | 2.49 | 51 | 2.38 | 48 | 2.28 | 46 | 2.17 | 43 |
| | 0.031 | | | | | | | | | | | | |
| − 1 | | 3.01 | 59 | 2.90 | 56 | 2.80 | 54 | 2.69 | 51 | 2.59 | 48 | 2.48 | 46 |

| | | 3°.6 | | 3°.8 | | 4°.0 | | 4°.2 | | 4°.4 | | 4°.6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| −15 | | | | | | | | | | | | | |
| −14 | | | | | | | | | | | | | |
| −13 | | | | | | | | | | | | | |
| −12 | | | | | | | | | | | | | |
| −11 | | 0.05 | 2 | | | | | | | | | | |
| | 0.016 | | | | | | | | | | | | |
| −10 | | 0.21 | 8 | 0.11 | 4 | | | | | | | | |
| | 0.018 | | | | | | | | | | | | |
| − 9 | | 0.39 | 13 | 0.29 | 9 | 0.19 | 6 | 0.08 | 3 | | | | |
| | 0.019 | | | | | | | | | | | | |
| − 8 | | 0.58 | 18 | 0.48 | 14 | 0.38 | 11 | 0.27 | 8 | 0.17 | 5 | 0.06 | 2 |
| | 0.021 | | | | | | | | | | | | |
| − 7 | | 0.79 | 22 | 0.69 | 19 | 0.59 | 16 | 0.48 | 13 | 0.38 | 10 | 0.27 | 7 |
| | 0.022 | | | | | | | | | | | | |
| − 6 | | 1.01 | 26 | 0.91 | 23 | 0.81 | 20 | 0.70 | 17 | 0.60 | 15 | 0.49 | 12 |
| | 0.024 | | | | | | | | | | | | |
| − 5 | | 1.25 | 30 | 1.15 | 27 | 1.04 | 24 | 0.94 | 22 | 0.83 | 19 | 0.73 | 16 |
| | 0.025 | | | | | | | | | | | | |
| − 4 | | 1.50 | 34 | 1.40 | 31 | 1.30 | 28 | 1.19 | 26 | 1.09 | 23 | 0.98 | 20 |
| | 0.027 | | | | | | | | | | | | |
| − 3 | | 1.78 | 37 | 1.67 | 34 | 1.57 | 32 | 1.46 | 29 | 1.36 | 27 | 1.25 | 24 |
| | 0.029 | | | | | | | | | | | | |
| − 2 | | 2.07 | 40 | 1.96 | 37 | 1.86 | 35 | 1.75 | 33 | 1.65 | 30 | 1.54 | 28 |
| | 0.031 | | | | | | | | | | | | |
| − 1 | | 2.38 | 43 | 2.27 | 40 | 2.17 | 38 | 2.06 | 36 | 1.96 | 34 | 1.85 | 31 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.05 mm.

| Wet-Bulb Thermometer. t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t − t', Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.2 | | 0°.4 | | 0°.6 | | 0°.8 | | 1°.0 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim | | Millim. | | Millim. | | Millim. | |
| 0 | | 4.60 | 100 | 4.48 | 96 | 4.36 | 92 | 4.24 | 88 | 4.12 | 85 | 4.01 | 81 |
| 1 | 0.03 | 4.94 | 100 | 4.82 | 96 | 4.70 | 93 | 4.58 | 89 | 4.46 | 85 | 4.35 | 82 |
| 2 | 0.04 | 5.30 | 100 | 5.18 | 96 | 5.06 | 93 | 4.94 | 89 | 4.83 | 86 | 4.71 | 83 |
| 3 | 0.04 | 5.69 | 100 | 5.57 | 97 | 5.45 | 93 | 5.33 | 90 | 5.21 | 87 | 5.09 | 83 |
| 4 | 0.04 | 6.10 | 100 | 5.98 | 97 | 5.86 | 93 | 5.74 | 90 | 5.62 | 87 | 5.50 | 84 |
| 5 | 0.04 | 6.53 | 100 | 6.41 | 97 | 6.29 | 94 | 6.17 | 91 | 6.05 | 88 | 5.94 | 85 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 7.00 | 100 | 6.88 | 97 | 6.76 | 94 | 6.64 | 91 | 6.52 | 88 | 6.40 | 85 |
| 7 | 0.05 | 7.49 | 100 | 7.37 | 97 | 7.25 | 94 | 7.13 | 91 | 7.01 | 89 | 6.89 | 86 |
| 8 | 0.05 | 8.02 | 100 | 7.90 | 97 | 7.78 | 94 | 7.66 | 92 | 7.54 | 89 | 7.42 | 86 |
| 9 | 0.06 | 8.57 | 100 | 8.45 | 97 | 8.33 | 95 | 8.21 | 92 | 8.09 | 89 | 7.97 | 86 |
| 10 | 0.06 | 9.17 | 100 | 9.04 | 97 | 8.92 | 95 | 8.80 | 93 | 8.68 | 90 | 8.56 | 87 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 9.79 | 100 | 9.67 | 97 | 9.55 | 95 | 9.43 | 93 | 9.31 | 90 | 9.19 | 88 |
| 12 | 0.07 | 10.46 | 100 | 10.34 | 98 | 10.21 | 95 | 10.09 | 93 | 9.97 | 90 | 9.85 | 88 |
| 13 | 0.07 | 11.16 | 100 | 11.04 | 98 | 10.92 | 95 | 10.80 | 93 | 10.68 | 91 | 10.56 | 89 |
| 14 | 0.07 | 11.91 | 100 | 11.79 | 98 | 11.66 | 95 | 11.54 | 93 | 11.42 | 91 | 11.30 | 89 |
| 15 | 0.08 | 12.70 | 100 | 12.58 | 98 | 12.46 | 96 | 12.33 | 93 | 12.21 | 91 | 12.09 | 89 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 13.54 | 100 | 13.41 | 98 | 13.29 | 96 | 13.17 | 94 | 13.05 | 92 | 12.93 | 90 |
| 17 | 0.09 | 14.42 | 100 | 14.30 | 98 | 14.18 | 96 | 14.05 | 94 | 13.93 | 92 | 13.81 | 90 |
| 18 | 0.09 | 15.36 | 100 | 15.23 | 98 | 15.11 | 96 | 14.99 | 94 | 14.87 | 92 | 14.75 | 90 |
| 19 | 0.10 | 16.35 | 100 | 16.22 | 98 | 16.10 | 96 | 15.98 | 94 | 15.86 | 92 | 15.73 | 91 |
| 20 | 0.10 | 17.39 | 100 | 17.27 | 98 | 17.15 | 96 | 17.02 | 94 | 16.90 | 92 | 16.78 | 91 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 18.50 | 100 | 18.37 | 98 | 18.25 | 96 | 18.13 | 94 | 18.00 | 92 | 17.88 | 91 |
| 22 | 0.12 | 19.66 | 100 | 19.54 | 98 | 19.41 | 96 | 19.29 | 95 | 19.17 | 93 | 19.04 | 91 |
| 23 | 0.12 | 20.89 | 100 | 20.76 | 98 | 20.64 | 96 | 20.52 | 95 | 20.39 | 93 | 20.27 | 91 |
| 24 | 0.13 | 22.18 | 100 | 22.06 | 98 | 21.94 | 97 | 21.81 | 95 | 21.69 | 93 | 21.57 | 92 |
| 25 | 0.14 | 23.55 | 100 | 23.43 | 98 | 23.30 | 97 | 23.18 | 95 | 23.05 | 93 | 22.93 | 92 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 24.99 | 100 | 24.86 | 98 | 24.74 | 97 | 24.62 | 95 | 24.49 | 93 | 24.37 | 92 |
| 27 | 0.15 | 26.51 | 100 | 26.38 | 98 | 26.26 | 97 | 26.13 | 95 | 26.01 | 93 | 25.88 | 92 |
| 28 | 0.16 | 28.10 | 100 | 27.98 | 98 | 27.85 | 97 | 27.73 | 95 | 27.60 | 93 | 27.48 | 92 |
| 29 | 0.17 | 29.78 | 100 | 29.66 | 98 | 29.53 | 97 | 29.41 | 95 | 29.28 | 94 | 29.16 | 92 |
| 30 | 0.18 | 31.55 | 100 | 31.42 | 98 | 31.30 | 97 | 31.17 | 95 | 30.05 | 94 | 30.92 | 93 |
| | 0.19 | | | | | | | | | | | | |
| 31 | | 33.40 | 100 | 33.28 | 98 | 33.15 | 97 | 33.03 | 96 | 32.90 | 94 | 32.78 | 93 |
| 32 | 0.20 | 35.36 | 100 | 35.23 | 99 | 35.11 | 97 | 34.98 | 96 | 34.86 | 94 | 34.73 | 93 |
| 33 | 0.21 | 37.41 | 100 | 37.28 | 99 | 37.16 | 98 | 37.03 | 96 | 36.91 | 94 | 36.78 | 93 |
| 34 | 0.22 | 39.56 | 100 | 39.43 | 99 | 39.31 | 98 | 39.18 | 96 | 39.06 | 94 | 38.93 | 93 |
| 35 | 0.23 | 41.83 | 100 | 41.70 | 99 | 41.58 | 98 | 41.45 | 96 | 41.33 | 95 | 41.20 | 93 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t′ Centigrade Degrees | Mean Vertical Difference for each 0°.1. | t − t, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1°.2 | | 1°.4 | | 1°.6 | | 1°.8 | | 2°.0 | | 2°.2 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | 3.89 | 78 | 3.77 | 74 | 3.65 | 71 | 3.53 | 67 | 3.41 | 64 | 3.29 | 61 |
| | 0.03 | | | | | | | | | | | | |
| 1 | | 4.23 | 79 | 4.11 | 75 | 3.99 | 72 | 3.87 | 69 | 3.75 | 66 | 3.63 | 63 |
| | 0.04 | | | | | | | | | | | | |
| 2 | | 4.59 | 80 | 4.47 | 76 | 4.35 | 73 | 4.23 | 70 | 4.11 | 67 | 3.99 | 65 |
| | 0.04 | | | | | | | | | | | | |
| 3 | | 4.97 | 80 | 4.85 | 77 | 4.73 | 74 | 4.61 | 71 | 4.49 | 69 | 4.37 | 66 |
| | 0.04 | | | | | | | | | | | | |
| 4 | | 5.38 | 81 | 5.26 | 78 | 5.14 | 75 | 5.02 | 73 | 4.90 | 70 | 4.78 | 67 |
| | 0.04 | | | | | | | | | | | | |
| 5 | | 5.82 | 82 | 5.70 | 79 | 5.58 | 77 | 5.46 | 74 | 5.34 | 71 | 5.22 | 69 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 6.28 | 83 | 6.16 | 80 | 6.04 | 77 | 5.92 | 75 | 5.80 | 72 | 5.68 | 70 |
| | 0.05 | | | | | | | | | | | | |
| 7 | | 6.77 | 83 | 6.65 | 81 | 6.53 | 78 | 6.41 | 76 | 6.29 | 73 | 6.17 | 71 |
| | 0.05 | | | | | | | | | | | | |
| 8 | | 7.29 | 84 | 7.17 | 81 | 7.05 | 79 | 6.93 | 76 | 6.81 | 74 | 6.69 | 72 |
| | 0.06 | | | | | | | | | | | | |
| 9 | | 7.85 | 84 | 7.73 | 82 | 7.61 | 80 | 7.49 | 77 | 7.37 | 75 | 7.25 | 73 |
| | 0.06 | | | | | | | | | | | | |
| 10 | | 8.44 | 85 | 8.32 | 83 | 8.20 | 80 | 8.08 | 78 | 7.96 | 76 | 7.84 | 74 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 9.07 | 86 | 8.95 | 83 | 8.82 | 81 | 8.70 | 79 | 8.58 | 77 | 8.46 | 75 |
| | 0.07 | | | | | | | | | | | | |
| 12 | | 9.73 | 86 | 9.61 | 84 | 9.49 | 82 | 9.37 | 80 | 9.25 | 78 | 9.12 | 76 |
| | 0.07 | | | | | | | | | | | | |
| 13 | | 10.43 | 86 | 10.31 | 84 | 10.19 | 82 | 10.07 | 80 | 9.95 | 78 | 9.83 | 76 |
| | 0.08 | | | | | | | | | | | | |
| 14 | | 11.18 | 87 | 11.06 | 85 | 10.94 | 83 | 10.81 | 81 | 10.69 | 79 | 10.57 | 77 |
| | 0.08 | | | | | | | | | | | | |
| 15 | | 11.97 | 87 | 11.85 | 85 | 11.73 | 83 | 11.60 | 81 | 11.48 | 80 | 11.36 | 78 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 12.80 | 88 | 12.68 | 86 | 12.56 | 84 | 12.44 | 82 | 12.32 | 80 | 12.19 | 78 |
| | 0.09 | | | | | | | | | | | | |
| 17 | | 13.69 | 88 | 13.57 | 86 | 13.44 | 84 | 13.32 | 83 | 13.20 | 81 | 13.08 | 79 |
| | 0.09 | | | | | | | | | | | | |
| 18 | | 14.62 | 88 | 14.50 | 87 | 14.38 | 85 | 14.26 | 83 | 14.13 | 81 | 14.01 | 80 |
| | 0.10 | | | | | | | | | | | | |
| 19 | | 15.61 | 89 | 15.49 | 87 | 15.37 | 85 | 15.24 | 83 | 15.12 | 82 | 15.00 | 80 |
| | 0.11 | | | | | | | | | | | | |
| 20 | | 16.65 | 89 | 16.53 | 87 | 16.41 | 86 | 16.29 | 84 | 16.16 | 82 | 16.04 | 81 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 17.76 | 89 | 17.63 | 88 | 17.51 | 86 | 17.39 | 84 | 17.27 | 83 | 17.14 | 81 |
| | 0.12 | | | | | | | | | | | | |
| 22 | | 18.92 | 90 | 18.80 | 88 | 18.67 | 86 | 18.55 | 85 | 18.43 | 83 | 18.30 | 82 |
| | 0.12 | | | | | | | | | | | | |
| 23 | | 20.15 | 90 | 20.02 | 88 | 19.90 | 87 | 19.78 | 85 | 19.65 | 83 | 19.53 | 82 |
| | 0.13 | | | | | | | | | | | | |
| 24 | | 21.44 | 90 | 21.32 | 88 | 21.20 | 87 | 21.07 | 85 | 20.95 | 84 | 20.82 | 82 |
| | 0.14 | | | | | | | | | | | | |
| 25 | | 22.81 | 90 | 22.68 | 89 | 22.56 | 87 | 22.44 | 86 | 22.31 | 84 | 22.19 | 83 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 24.24 | 90 | 24.12 | 89 | 23.99 | 87 | 23.87 | 86 | 23.75 | 85 | 23.62 | 83 |
| | 0.15 | | | | | | | | | | | | |
| 27 | | 25.76 | 91 | 25.63 | 89 | 25.51 | 88 | 25.39 | 86 | 25.26 | 85 | 25.14 | 83 |
| | 0.16 | | | | | | | | | | | | |
| 28 | | 27.35 | 91 | 27.23 | 89 | 27.10 | 88 | 26.98 | 87 | 26.86 | 85 | 26.73 | 84 |
| | 0.17 | | | | | | | | | | | | |
| 29 | | 29.03 | 91 | 28.91 | 90 | 28.78 | 88 | 28.66 | 87 | 28.53 | 85 | 28.41 | 84 |
| | 0.18 | | | | | | | | | | | | |
| 30 | | 30.80 | 91 | 30.67 | 90 | 30.55 | 89 | 30.42 | 87 | 30.30 | 86 | 30.17 | 84 |
| | 0.19 | | | | | | | | | | | | |
| 31 | | 32.65 | 91 | 32.53 | 90 | 32.40 | 89 | 32.28 | 87 | 32.15 | 86 | 32.03 | 85 |
| | 0.20 | | | | | | | | | | | | |
| 32 | | 34.61 | 91 | 34.48 | 90 | 34.36 | 89 | 34.23 | 88 | 34.11 | 86 | 33.98 | 85 |
| | 0.21 | | | | | | | | | | | | |
| 33 | | 36.66 | 92 | 36.53 | 90 | 36.41 | 89 | 36.28 | 88 | 36.16 | 86 | 36.03 | 85 |
| | 0.22 | | | | | | | | | | | | |
| 34 | | 38.81 | 92 | 38.68 | 90 | 38.56 | 89 | 38.43 | 88 | 38.31 | 87 | 38.18 | 85 |
| | 0.23 | | | | | | | | | | | | |
| 35 | | 41.07 | 92 | 40.94 | 91 | 40.82 | 89 | 40.69 | 88 | 40.57 | 87 | 40.44 | 86 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t′ Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t − t′, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2°.4 | | 2°.6 | | 2°.8 | | 3°.0 | | 3°.2 | | 3°.4 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | 3.17 | 58 | 3.06 | 55 | 2.94 | 52 | 2.82 | 50 | 2.70 | 47 | 2.58 | 44 |
| | 0.03 | | | | | | | | | | | | |
| 1 | | 3.51 | 60 | 3.39 | 57 | 3.27 | 54 | 3.16 | 52 | 3.04 | 49 | 2.92 | 47 |
| | 0.04 | | | | | | | | | | | | |
| 2 | | 3.87 | 62 | 3.75 | 59 | 3.63 | 56 | 3.51 | 54 | 3.39 | 51 | 3.28 | 49 |
| | 0.04 | | | | | | | | | | | | |
| 3 | | 4.25 | 63 | 4.13 | 61 | 4.02 | 58 | 3.90 | 56 | 3.78 | 53 | 3.66 | 51 |
| | 0.04 | | | | | | | | | | | | |
| 4 | | 4.66 | 65 | 4.54 | 62 | 4.42 | 60 | 4.30 | 57 | 4.18 | 55 | 4.06 | 53 |
| | 0.04 | | | | | | | | | | | | |
| 5 | | 5.10 | 66 | 4.98 | 64 | 4.86 | 61 | 4.74 | 59 | 4.62 | 57 | 4.50 | 55 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 5.56 | 67 | 5.44 | 65 | 5.32 | 63 | 5.20 | 61 | 5.08 | 58 | 4.96 | 56 |
| | 0.05 | | | | | | | | | | | | |
| 7 | | 6.05 | 69 | 5.93 | 66 | 5.81 | 64 | 5.69 | 62 | 5.57 | 60 | 5.45 | 58 |
| | 0.05 | | | | | | | | | | | | |
| 8 | | 6.57 | 70 | 6.45 | 68 | 6.33 | 65 | 6.21 | 63 | 6.09 | 61 | 5.97 | 59 |
| | 0.06 | | | | | | | | | | | | |
| 9 | | 7.13 | 71 | 7.01 | 69 | 6.89 | 67 | 6.77 | 65 | 6.64 | 63 | 6.52 | 61 |
| | 0.06 | | | | | | | | | | | | |
| 10 | | 7.72 | 72 | 7.59 | 70 | 7.47 | 68 | 7.35 | 66 | 7.23 | 64 | 7.11 | 62 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 8.34 | 73 | 8.22 | 71 | 8.10 | 69 | 7.98 | 67 | 7.86 | 65 | 7.74 | 63 |
| | 0.07 | | | | | | | | | | | | |
| 12 | | 9.00 | 74 | 8.88 | 72 | 8.76 | 70 | 8.64 | 68 | 8.52 | 66 | 8.40 | 64 |
| | 0.07 | | | | | | | | | | | | |
| 13 | | 9.71 | 75 | 9.58 | 73 | 9.46 | 71 | 9.34 | 69 | 9.22 | 67 | 9.10 | 66 |
| | 0.07 | | | | | | | | | | | | |
| 14 | | 10.45 | 75 | 10.33 | 73 | 10.21 | 72 | 10.08 | 70 | 9.96 | 68 | 9.84 | 67 |
| | 0.08 | | | | | | | | | | | | |
| 15 | | 11.24 | 76 | 11.12 | 74 | 10.99 | 72 | 10.87 | 71 | 10.75 | 69 | 10.63 | 67 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 12.07 | 77 | 11.95 | 75 | 11.83 | 73 | 11.71 | 72 | 11.58 | 70 | 11.46 | 68 |
| | 0.09 | | | | | | | | | | | | |
| 17 | | 12.95 | 77 | 12.83 | 76 | 12.71 | 74 | 12.59 | 72 | 12.47 | 71 | 12.34 | 69 |
| | 0.09 | | | | | | | | | | | | |
| 18 | | 13.89 | 78 | 13.77 | 76 | 13.64 | 75 | 13.52 | 73 | 13.40 | 72 | 13.28 | 70 |
| | 0.10 | | | | | | | | | | | | |
| 19 | | 14.87 | 78 | 14.75 | 77 | 14.63 | 75 | 14.51 | 74 | 14.38 | 72 | 14.26 | 71 |
| | 0.10 | | | | | | | | | | | | |
| 20 | | 15.92 | 79 | 15.79 | 77 | 15.67 | 76 | 15.55 | 74 | 15.43 | 73 | 15.30 | 72 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 17.02 | 80 | 16.90 | 78 | 16.77 | 77 | 16.65 | 75 | 16.53 | 74 | 16.40 | 72 |
| | 0.12 | | | | | | | | | | | | |
| 22 | | 18.18 | 80 | 18.06 | 79 | 17.93 | 77 | 17.81 | 76 | 17.69 | 74 | 17.56 | 73 |
| | 0.12 | | | | | | | | | | | | |
| 23 | | 19.41 | 80 | 19.28 | 79 | 19.16 | 78 | 19.04 | 76 | 18.91 | 75 | 18.79 | 73 |
| | 0.13 | | | | | | | | | | | | |
| 24 | | 20.70 | 81 | 20.58 | 79 | 20.45 | 78 | 20.33 | 77 | 20.21 | 75 | 20.08 | 74 |
| | 0.14 | | | | | | | | | | | | |
| 25 | | 22.06 | 81 | 21.94 | 80 | 21.82 | 79 | 21.69 | 77 | 21.57 | 76 | 21.45 | 75 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 23.50 | 82 | 23.37 | 80 | 23.25 | 79 | 23.13 | 78 | 23.00 | 77 | 22.88 | 75 |
| | 0.15 | | | | | | | | | | | | |
| 27 | | 25.01 | 82 | 24.89 | 81 | 24.76 | 79 | 24.64 | 78 | 24.51 | 77 | 24.39 | 76 |
| | 0.16 | | | | | | | | | | | | |
| 28 | | 26.61 | 83 | 26.48 | 81 | 26.36 | 80 | 26.23 | 79 | 26.11 | 77 | 25.98 | 76 |
| | 0.17 | | | | | | | | | | | | |
| 29 | | 28.28 | 83 | 28.16 | 81 | 28.03 | 80 | 27.91 | 79 | 27.69 | 77 | 27.76 | 76 |
| | 0.18 | | | | | | | | | | | | |
| 30 | | 30.05 | 83 | 29.92 | 82 | 29.80 | 81 | 29.67 | 79 | 29.55 | 78 | 29.42 | 77 |
| | 0.19 | | | | | | | | | | | | |
| 31 | | 31.90 | 83 | 31.78 | 82 | 31.65 | 81 | 31.53 | 80 | 31.40 | 78 | 31.28 | 77 |
| | 0.20 | | | | | | | | | | | | |
| 32 | | 33.86 | 84 | 33.73 | 82 | 33.61 | 81 | 33.48 | 80 | 33.36 | 79 | 33.23 | 78 |
| | 0.21 | | | | | | | | | | | | |
| 33 | | 35.90 | 84 | 35.77 | 83 | 35.65 | 81 | 35.52 | 80 | 35.40 | 79 | 35.27 | 78 |
| | 0.22 | | | | | | | | | | | | |
| 34 | | 38.06 | 84 | 37.93 | 83 | 37.81 | 82 | 37.68 | 81 | 37.56 | 80 | 37.43 | 78 |
| | 0.23 | | | | | | | | | | | | |
| 35 | | 40.31 | 84 | 40.18 | 83 | 40.06 | 82 | 39.93 | 81 | 39.81 | 80 | 39.68 | 79 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t − t', Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3°.6 | | 3°.8 | | 4°.0 | | 4°.2 | | 4°.4 | | 4°.6 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | 0.03 | 2.46 | 41 | 2.34 | 39 | 2.22 | 36 | 2.11 | 34 | 1.99 | 32 | 1.87 | 29 |
| 1 | 0.04 | 2.80 | 44 | 2.68 | 42 | 2.56 | 39 | 2.44 | 37 | 2.32 | 35 | 2.20 | 32 |
| 2 | 0.04 | 3.16 | 46 | 3.04 | 44 | 2.92 | 42 | 2.80 | 39 | 2.68 | 37 | 2.56 | 35 |
| 3 | 0.04 | 3.54 | 49 | 3.42 | 46 | 3.30 | 44 | 3.18 | 42 | 3.06 | 40 | 2.94 | 38 |
| 4 | 0.04 | 3.94 | 51 | 3.82 | 48 | 3.71 | 46 | 3.59 | 44 | 3.47 | 42 | 3.35 | 40 |
| 5 | 0.05 | 4.38 | 52 | 4.26 | 50 | 4.14 | 48 | 4.02 | 46 | 3.90 | 44 | 3.78 | 42 |
| 6 | 0.05 | 4.84 | 54 | 4.72 | 52 | 4.60 | 50 | 4.48 | 48 | 4.36 | 46 | 4.24 | 44 |
| 7 | 0.05 | 5.33 | 56 | 5.21 | 54 | 5.09 | 52 | 4.97 | 50 | 4.85 | 48 | 4.73 | 46 |
| 8 | 0.06 | 5.85 | 57 | 5.73 | 56 | 5.61 | 54 | 5.49 | 52 | 5.37 | 50 | 5.25 | 48 |
| 9 | 0.06 | 6.40 | 59 | 6.28 | 57 | 6.16 | 55 | 6.04 | 53 | 5.92 | 52 | 5.80 | 50 |
| 10 | 0.06 | 6.99 | 60 | 6.87 | 58 | 6.75 | 57 | 6.63 | 55 | 6.51 | 53 | 6.39 | 52 |
| 11 | 0.07 | 7.61 | 61 | 7.49 | 60 | 7.37 | 58 | 7.25 | 56 | 7.13 | 55 | 7.01 | 53 |
| 12 | 0.07 | 8.28 | 62 | 8.15 | 61 | 8.03 | 59 | 7.91 | 58 | 7.79 | 56 | 7.67 | 55 |
| 13 | 0.07 | 8.98 | 64 | 8.85 | 63 | 8.73 | 61 | 8.61 | 59 | 8.49 | 57 | 8.37 | 56 |
| 14 | 0.08 | 9.72 | 65 | 9.60 | 63 | 9.48 | 62 | 9.35 | 60 | 9.23 | 59 | 9.11 | 57 |
| 15 | 0.08 | 10.51 | 66 | 10.38 | 64 | 10.26 | 63 | 10.14 | 61 | 10.02 | 60 | 9.90 | 58 |
| 16 | 0.09 | 11.34 | 67 | 11.22 | 65 | 11.10 | 64 | 10.97 | 62 | 10.85 | 61 | 10.73 | 59 |
| 17 | 0.09 | 12.22 | 68 | 12.10 | 67 | 11.98 | 65 | 11.85 | 63 | 11.73 | 62 | 11.61 | 61 |
| 18 | 0.10 | 13.15 | 69 | 13.03 | 67 | 12.91 | 66 | 12.79 | 64 | 12.66 | 63 | 12.54 | 62 |
| 19 | 0.11 | 14.14 | 69 | 14.02 | 68 | 13.89 | 66 | 13.77 | 65 | 13.65 | 64 | 13.53 | 62 |
| 20 | 0.11 | 15.18 | 70 | 15.06 | 69 | 14.94 | 67 | 14.81 | 66 | 14.69 | 65 | 14.57 | 63 |
| 21 | 0.12 | 16.28 | 71 | 16.16 | 69 | 16.04 | 68 | 15.91 | 67 | 15.79 | 65 | 15.67 | 64 |
| 22 | 0.12 | 17.44 | 71 | 17.32 | 70 | 17.20 | 69 | 17.07 | 67 | 16.95 | 66 | 16.83 | 65 |
| 23 | 0.13 | 18.67 | 72 | 18.54 | 71 | 18.42 | 69 | 18.30 | 68 | 18.17 | 67 | 18.05 | 66 |
| 24 | 0.14 | 19.96 | 73 | 19.84 | 71 | 19.71 | 70 | 19.59 | 69 | 19.46 | 68 | 19.34 | 66 |
| 25 | 0.14 | 21.32 | 73 | 21.20 | 72 | 21.07 | 71 | 20.95 | 70 | 20.83 | 68 | 20.70 | 67 |
| 26 | 0.15 | 22.75 | 74 | 22.63 | 73 | 22.50 | 71 | 22.38 | 70 | 22.26 | 69 | 22.13 | 68 |
| 27 | 0.16 | 24.27 | 74 | 24.14 | 73 | 24.02 | 72 | 23.89 | 71 | 23.77 | 70 | 23.64 | 68 |
| 28 | 0.17 | 25.86 | 75 | 25.73 | 74 | 25.61 | 72 | 25.48 | 71 | 25.36 | 70 | 25.24 | 69 |
| 29 | 0.18 | 27.44 | 75 | 27.31 | 74 | 27.29 | 73 | 27.16 | 72 | 27.04 | 71 | 26.91 | 70 |
| 30 | 0.19 | 29.30 | 76 | 29.17 | 75 | 29.05 | 73 | 28.92 | 72 | 28.80 | 71 | 28.67 | 70 |
| 31 | 0.20 | 31.15 | 76 | 31.03 | 75 | 30.90 | 74 | 30.78 | 73 | 30.65 | 72 | 30.53 | 71 |
| 32 | 0.21 | 33.10 | 77 | 32.97 | 76 | 32.85 | 75 | 32.72 | 73 | 32.60 | 72 | 32.47 | 71 |
| 33 | 0.22 | 35.15 | 77 | 35.02 | 76 | 34.90 | 75 | 34.77 | 74 | 34.65 | 73 | 34.52 | 72 |
| 34 | 0.23 | 37.30 | 77 | 37.17 | 76 | 37.05 | 75 | 36.92 | 74 | 36.80 | 73 | 36.67 | 72 |
| 35 | | 39.56 | 78 | 39.43 | 77 | 39.31 | 76 | 39.18 | 74 | 39.06 | 73 | 38.93 | 72 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t', Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 4°.8 | | 5°.0 | | 5°.2 | | 5°.4 | | 5°.6 | | 5°.8 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | 1.75 | 27 | 1.63 | 25 | 1.51 | 23 | 1.39 | 21 | 1.27 | 19 | 1.15 | 17 |
| | 0.03 | | | | | | | | | | | | |
| 1 | | 2.08 | 30 | 1.97 | 28 | 1.85 | 26 | 1.73 | 24 | 1.61 | 22 | 1.49 | 20 |
| | 0.04 | | | | | | | | | | | | |
| 2 | | 2.44 | 33 | 2.32 | 31 | 2.20 | 29 | 2.08 | 27 | 1.96 | 25 | 1.85 | 23 |
| | 0.04 | | | | | | | | | | | | |
| 3 | | 2.82 | 36 | 2.70 | 34 | 2.58 | 32 | 2.46 | 30 | 2.34 | 28 | 2.22 | 26 |
| | 0.04 | | | | | | | | | | | | |
| 4 | | 3.23 | 38 | 3.11 | 36 | 2.99 | 34 | 2.87 | 33 | 2.75 | 31 | 2.63 | 29 |
| | 0.04 | | | | | | | | | | | | |
| 5 | | 3.66 | 40 | 3.54 | 39 | 3.42 | 37 | 3.30 | 35 | 3.18 | 33 | 3.06 | 32 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 4.12 | 43 | 4.00 | 41 | 3.88 | 39 | 3.76 | 37 | 3.64 | 36 | 3.52 | 34 |
| | 0.05 | | | | | | | | | | | | |
| 7 | | 4.61 | 45 | 4.49 | 43 | 4.37 | 41 | 4.25 | 40 | 4.13 | 38 | 4.01 | 36 |
| | 0.05 | | | | | | | | | | | | |
| 8 | | 5.13 | 47 | 5.01 | 45 | 4.89 | 43 | 4.77 | 42 | 4.65 | 40 | 4.53 | 39 |
| | 0.06 | | | | | | | | | | | | |
| 9 | | 5.68 | 48 | 5.56 | 47 | 5.44 | 45 | 5.32 | 44 | 5.20 | 42 | 5.08 | 41 |
| | 0.06 | | | | | | | | | | | | |
| 10 | | 6.27 | 50 | 6.15 | 48 | 6.02 | 47 | 5.90 | 45 | 5.78 | 44 | 5.66 | 42 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 6.89 | 52 | 6.77 | 50 | 6.65 | 49 | 6.53 | 47 | 6.40 | 46 | 6.28 | 44 |
| | 0.07 | | | | | | | | | | | | |
| 12 | | 7.55 | 53 | 7.43 | 52 | 7.31 | 50 | 7.18 | 49 | 7.06 | 47 | 6.94 | 46 |
| | 0.07 | | | | | | | | | | | | |
| 13 | | 8.25 | 55 | 8.13 | 53 | 8.01 | 52 | 7.88 | 50 | 7.76 | 49 | 7.64 | 47 |
| | 0.07 | | | | | | | | | | | | |
| 14 | | 8.99 | 56 | 8.87 | 54 | 8.75 | 53 | 8.62 | 51 | 8.50 | 50 | 8.38 | 49 |
| | 0.08 | | | | | | | | | | | | |
| 15 | | 9.78 | 57 | 9.65 | 55 | 9.53 | 54 | 9.41 | 53 | 9.29 | 51 | 9.17 | 50 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 10.61 | 58 | 10.49 | 57 | 10.36 | 55 | 10.24 | 54 | 10.12 | 53 | 10.00 | 51 |
| | 0.09 | | | | | | | | | | | | |
| 17 | | 11.49 | 59 | 11.37 | 58 | 11.24 | 56 | 11.12 | 55 | 11.00 | 54 | 10.88 | 53 |
| | 0.09 | | | | | | | | | | | | |
| 18 | | 12.42 | 60 | 12.30 | 59 | 12.17 | 58 | 12.05 | 56 | 11.93 | 55 | 11.81 | 54 |
| | 0.10 | | | | | | | | | | | | |
| 19 | | 13.40 | 61 | 13.28 | 60 | 13.16 | 59 | 13.04 | 57 | 12.91 | 56 | 12.79 | 55 |
| | 0.11 | | | | | | | | | | | | |
| 20 | | 14.44 | 62 | 14.32 | 61 | 14.20 | 60 | 14.08 | 58 | 13.95 | 57 | 13.83 | 56 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 15.54 | 63 | 15.42 | 62 | 15.30 | 60 | 15.17 | 59 | 15.05 | 58 | 14.93 | 57 |
| | 0.12 | | | | | | | | | | | | |
| 22 | | 16.70 | 64 | 16.58 | 63 | 16.46 | 61 | 16.33 | 60 | 16.21 | 59 | 16.09 | 58 |
| | 0.12 | | | | | | | | | | | | |
| 23 | | 17.93 | 65 | 17.80 | 63 | 17.68 | 62 | 17.56 | 61 | 17.43 | 60 | 17.31 | 59 |
| | 0.13 | | | | | | | | | | | | |
| 24 | | 19.22 | 65 | 19.09 | 64 | 18.97 | 63 | 18.85 | 62 | 18.72 | 61 | 18.60 | 60 |
| | 0.14 | | | | | | | | | | | | |
| 25 | | 20.58 | 66 | 20.46 | 65 | 20.33 | 64 | 20.21 | 63 | 20.08 | 62 | 19.96 | 60 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 22.01 | 67 | 21.88 | 65 | 21.76 | 64 | 21.63 | 63 | 21.51 | 62 | 21.39 | 61 |
| | 0.15 | | | | | | | | | | | | |
| 27 | | 23.52 | 67 | 23.40 | 66 | 23.27 | 65 | 23.15 | 64 | 23.02 | 63 | 22.90 | 62 |
| | 0.16 | | | | | | | | | | | | |
| 28 | | 25.11 | 68 | 24.99 | 67 | 24.86 | 66 | 24.74 | 65 | 24.61 | 64 | 24.49 | 63 |
| | 0.17 | | | | | | | | | | | | |
| 29 | | 26.79 | 68 | 26.66 | 67 | 26.54 | 66 | 26.41 | 65 | 26.29 | 64 | 26.16 | 63 |
| | 0.18 | | | | | | | | | | | | |
| 30 | | 28.55 | 69 | 28.42 | 68 | 28.30 | 67 | 28.17 | 66 | 28.05 | 65 | 27.92 | 64 |
| | 0.19 | | | | | | | | | | | | |
| 31 | | 30.40 | 70 | 30.28 | 69 | 30.15 | 68 | 30.03 | 67 | 29.90 | 66 | 29.78 | 65 |
| | 0.20 | | | | | | | | | | | | |
| 32 | | 32.35 | 70 | 32.22 | 69 | 32.10 | 68 | 31.97 | 67 | 31.85 | 66 | 31.72 | 65 |
| | 0.21 | | | | | | | | | | | | |
| 33 | | 34.40 | 71 | 34.27 | 70 | 34.15 | 69 | 34.02 | 68 | 33.90 | 67 | 33.77 | 66 |
| | 0.22 | | | | | | | | | | | | |
| 34 | | 36.55 | 71 | 36.42 | 70 | 36.30 | 69 | 36.17 | 68 | 36.05 | 67 | 35.92 | 66 |
| | 0.23 | | | | | | | | | | | | |
| 35 | | 38.80 | 71 | 38.68 | 70 | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t′ Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t − t′, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6°.0 | | 6°.2 | | 6°.4 | | 6°.6 | | 6°.8 | | 7°.0 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | 0.03 | 1.04 | 15 | 0.92 | 13 | 0.80 | 11 | 0.68 | 9 | 0.56 | 8 | 0.44 | 6 |
| 1 | 0.04 | 1.37 | 18 | 1.25 | 16 | 1.13 | 15 | 1.01 | 13 | 0.89 | 11 | 0.78 | 10 |
| 2 | 0.04 | 1.73 | 22 | 1.61 | 20 | 1.49 | 18 | 1.37 | 16 | 1.25 | 15 | 1.13 | 13 |
| 3 | 0.04 | 2.11 | 25 | 1.99 | 23 | 1.87 | 21 | 1.75 | 19 | 1.63 | 18 | 1.51 | 16 |
| 4 | 0.04 | 2.51 | 28 | 2.39 | 26 | 2.27 | 24 | 2.15 | 23 | 2.03 | 21 | 1.91 | 19 |
| 5 | 0.05 | 2.94 | 30 | 2.82 | 28 | 2.70 | 27 | 2.58 | 25 | 2.46 | 24 | 2.34 | 22 |
| 6 | 0.05 | 3.40 | 33 | 3.28 | 31 | 3.16 | 29 | 3.04 | 28 | 2.92 | 26 | 2.80 | 25 |
| 7 | 0.05 | 3.89 | 35 | 3.77 | 33 | 3.65 | 32 | 3.53 | 30 | 3.41 | 29 | 3.29 | 28 |
| 8 | 0.06 | 4.41 | 37 | 4.28 | 35 | 4.16 | 34 | 4.04 | 33 | 3.92 | 31 | 3.80 | 30 |
| 9 | 0.06 | 4.96 | 39 | 4.84 | 38 | 4.71 | 36 | 4.59 | 35 | 4.47 | 33 | 4.35 | 32 |
| 10 | 0.06 | 5.54 | 41 | 5.42 | 40 | 5.30 | 38 | 5.18 | 37 | 5.06 | 35 | 4.94 | 34 |
| 11 | 0.07 | 6.16 | 43 | 6.04 | 41 | 5.92 | 40 | 5.80 | 39 | 5.68 | 37 | 5.56 | 36 |
| 12 | 0.07 | 6.82 | 44 | 6.70 | 43 | 6.58 | 42 | 6.46 | 41 | 6.34 | 39 | 6.22 | 38 |
| 13 | 0.07 | 7.52 | 46 | 7.40 | 45 | 7.28 | 43 | 7.16 | 42 | 7.03 | 41 | 6.91 | 40 |
| 14 | 0.08 | 8.26 | 47 | 8.14 | 46 | 8.02 | 45 | 7.90 | 44 | 7.77 | 43 | 7.65 | 41 |
| 15 | 0.08 | 9.05 | 49 | 8.92 | 48 | 8.80 | 46 | 8.68 | 45 | 8.56 | 44 | 8.44 | 43 |
| 16 | 0.09 | 9.88 | 50 | 9.75 | 49 | 9.63 | 48 | 9.51 | 47 | 9.39 | 45 | 9.27 | 44 |
| 17 | 0.09 | 10.76 | 52 | 10.63 | 50 | 10.51 | 49 | 10.39 | 48 | 10.27 | 47 | 10.14 | 46 |
| 18 | 0.10 | 11.69 | 53 | 11.56 | 51 | 11.44 | 50 | 11.32 | 49 | 11.20 | 48 | 11.07 | 47 |
| 19 | 0.11 | 12.67 | 54 | 12.55 | 53 | 12.42 | 51 | 12.30 | 50 | 12.18 | 49 | 12.06 | 48 |
| 20 | 0.11 | 13.71 | 55 | 13.58 | 54 | 13.46 | 53 | 13.34 | 52 | 13.22 | 50 | 13.09 | 49 |
| 21 | 0.12 | 14.81 | 56 | 14.68 | 55 | 14.56 | 54 | 14.44 | 53 | 14.31 | 52 | 14.19 | 51 |
| 22 | 0.12 | 15.96 | 57 | 15.84 | 56 | 15.72 | 55 | 15.59 | 54 | 15.47 | 53 | 15.35 | 52 |
| 23 | 0.13 | 17.19 | 58 | 17.06 | 57 | 16.94 | 56 | 16.82 | 55 | 16.69 | 54 | 16.57 | 53 |
| 24 | 0.14 | 18.48 | 59 | 18.35 | 58 | 18.23 | 56 | 18.11 | 55 | 17.98 | 54 | 17.86 | 53 |
| 25 | 0.14 | 19.84 | 59 | 19.71 | 58 | 19.59 | 57 | 19.46 | 56 | 19.34 | 55 | 19.22 | 54 |
| 26 | 0.15 | 21.26 | 60 | 21.14 | 59 | 21.01 | 58 | 20.89 | 57 | 20.77 | 56 | 20.64 | 55 |
| 27 | 0.16 | 22.77 | 61 | 22.65 | 60 | 22.52 | 59 | 22.40 | 58 | 22.28 | 57 | 22.15 | 56 |
| 28 | 0.17 | 24.36 | 62 | 24.24 | 61 | 24.11 | 60 | 23.99 | 59 | 23.86 | 58 | 23.74 | 57 |
| 29 | 0.18 | 26.04 | 62 | 25.91 | 61 | 25.79 | 60 | 25.66 | 59 | 25.54 | 58 | 25.41 | 57 |
| 30 | 0.19 | 27.80 | 63 | 27.67 | 62 | 27.55 | 61 | 27.42 | 60 | 27.30 | 59 | 27.17 | 58 |
| 31 | 0.20 | 29.65 | 64 | 29.53 | 63 | 29.40 | 62 | 29.28 | 61 | 29.15 | 60 | 29.03 | 59 |
| 32 | 0.21 | 31.59 | 64 | 31.47 | 63 | 31.34 | 62 | 31.22 | 61 | 31.09 | 60 | 30.97 | 59 |
| 33 | | 33.64 | 65 | 33.51 | 64 | 33.39 | 63 | 33.26 | 62 | 33.14 | 61 | 33.01 | 60 |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t', Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 7°.2 | | 7°.4 | | 7°.6 | | 7°.8 | | 8°.0 | | 8°.2 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | Millim. | Millim. | | Millim. | | Millim | | Millim. | | Millim. | | Millim. | |
| 0 | | 0.32 | 4 | 0.20 | 3 | 0.09 | 1 | | | | | | |
| 1 | 0.03 | 0.66 | 8 | 0.54 | 7 | 0.42 | 5 | 0.30 | 4 | 0.18 | 2 | 0.06 | 1 |
| 2 | 0.04 | 1.01 | 12 | 0.89 | 10 | 0.77 | 9 | 0.65 | 7 | 0.53 | 6 | 0.41 | 4 |
| 3 | 0.04 | 1.39 | 15 | 1.27 | 13 | 1.15 | 12 | 1.03 | 11 | 0.91 | 9 | 0.79 | 8 |
| 4 | 0.04 | 1.79 | 18 | 1.67 | 16 | 1.55 | 15 | 1.43 | 14 | 1.31 | 13 | 1.19 | 11 |
| 5 | 0.04 | 2.22 | 21 | 2.10 | 19 | 1.98 | 18 | 1.86 | 17 | 1.74 | 16 | 1.62 | 14 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 2.78 | 24 | 2.66 | 23 | 2.44 | 21 | 2.32 | 20 | 2.20 | 18 | 2.08 | 17 |
| 7 | 0.05 | 3.16 | 26 | 3.04 | 25 | 2.92 | 24 | 2.80 | 22 | 2.68 | 21 | 2.56 | 20 |
| 8 | 0.05 | 3.68 | 29 | 3.56 | 27 | 3.44 | 26 | 3.32 | 25 | 3.20 | 24 | 3.08 | 22 |
| 9 | 0.06 | 4.23 | 31 | 4.11 | 30 | 3.99 | 28 | 3.87 | 27 | 3.75 | 26 | 3.63 | 25 |
| 10 | 0.06 | 4.82 | 33 | 4.70 | 32 | 4.57 | 30 | 4.45 | 29 | 4.33 | 28 | 4.21 | 27 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 5.44 | 35 | 5.32 | 34 | 5.19 | 32 | 5.07 | 31 | 4.95 | 30 | 4.83 | 29 |
| 12 | 0.07 | 6.09 | 37 | 5.97 | 36 | 5.85 | 34 | 5.73 | 33 | 5.61 | 32 | 5.49 | 31 |
| 13 | 0.07 | 6.79 | 39 | 6.67 | 37 | 6.55 | 36 | 6.43 | 35 | 6.31 | 34 | 6.18 | 33 |
| 14 | 0.07 | 7.53 | 40 | 7.41 | 39 | 7.29 | 38 | 7.17 | 37 | 7.04 | 36 | 6.92 | 35 |
| 15 | 0.08 | 8.31 | 42 | 8.19 | 41 | 8.07 | 40 | 7.95 | 39 | 7.83 | 37 | 7.71 | 36 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 9.14 | 43 | 9.02 | 42 | 8.90 | 41 | 8.78 | 40 | 8.66 | 39 | 8.53 | 38 |
| 17 | 0.09 | 10.02 | 45 | 9.90 | 44 | 9.78 | 43 | 9.66 | 42 | 9.53 | 40 | 9.41 | 39 |
| 18 | 0.09 | 10.95 | 46 | 10.83 | 45 | 10.71 | 44 | 10.58 | 43 | 10.46 | 42 | 10.34 | 41 |
| 19 | 0.10 | 11.93 | 47 | 11.81 | 46 | 11.69 | 45 | 11.56 | 44 | 11.44 | 43 | 11.32 | 42 |
| 20 | 0.10 | 12.97 | 48 | 12.85 | 47 | 12.72 | 46 | 12.60 | 45 | 12.48 | 44 | 12.36 | 43 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 14.07 | 50 | 13.94 | 49 | 13.82 | 48 | 13.70 | 47 | 13.58 | 46 | 13.45 | 45 |
| 22 | 0.12 | 15.22 | 51 | 15.10 | 50 | 14.98 | 49 | 14.85 | 48 | 14.73 | 47 | 14.61 | 46 |
| 23 | 0.12 | 16.45 | 52 | 16.32 | 51 | 16.20 | 50 | 16.08 | 49 | 15.95 | 48 | 15.83 | 47 |
| 24 | 0.13 | 17.73 | 52 | 17.61 | 52 | 17.49 | 51 | 17.36 | 50 | 17.24 | 49 | 17.12 | 48 |
| 25 | 0.14 | 19.09 | 53 | 18.97 | 52 | 18.85 | 52 | 18.72 | 51 | 18.60 | 50 | 18.47 | 49 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 20.52 | 54 | 20.39 | 53 | 20.27 | 52 | 20.14 | 51 | 20.02 | 51 | 19.90 | 50 |
| 27 | 0.15 | 22.03 | 55 | 21.90 | 54 | 21.78 | 53 | 21.65 | 52 | 21.53 | 51 | 21.41 | 51 |
| 28 | 0.16 | 23.61 | 55 | 23.49 | 54 | 23.36 | 53 | 23.24 | 53 | 23.11 | 52 | 22.99 | 51 |
| 29 | 0.17 | 25.29 | 56 | 25.16 | 55 | 25.04 | 54 | 24.91 | 54 | 24.79 | 53 | 24.66 | 52 |
| 30 | 0.18 | 27.05 | 57 | 26.92 | 56 | 26.80 | 55 | 26.67 | 55 | 26.55 | 54 | 26.42 | 53 |
| | 0.19 | | | | | | | | | | | | |
| 31 | 0.20 | 28.90 | 58 | 28.78 | 57 | 28.65 | 56 | 28.53 | 55 | 28.40 | 55 | 28.27 | 54 |
| 32 | | 30.85 | 59 | 30.72 | 58 | 30.60 | 57 | 30.47 | 56 | 30.35 | 56 | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t' Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t — t', Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 8°.4 | | 8°.6 | | 8°.8 | | 9°.0 | | 9°.2 | | 9°.4 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | |
| 2 | 0.04 | 0.30 | 3 | 0.18 | 2 | 0.06 | 1 | | | | | | |
| 3 | 0.04 | 0.67 | 7 | 0.55 | 5 | 0.43 | 4 | 0.31 | 3 | 0.19 | 2 | 0.08 | 1 |
| 4 | 0.04 | 1.07 | 10 | 0.95 | 9 | 0.83 | 8 | 0.72 | 6 | 0.60 | 5 | 0.48 | 4 |
| 5 | 0.05 | 1.50 | 13 | 1.38 | 12 | 1.26 | 11 | 1.14 | 10 | 1.02 | 8 | 0.90 | 7 |
| 6 | 0.05 | 1.96 | 16 | 1.84 | 15 | 1.72 | 14 | 1.60 | 13 | 1.48 | 12 | 1.36 | 10 |
| 7 | 0.05 | 2.44 | 19 | 2.32 | 17 | 2.20 | 16 | 2.08 | 15 | 1.96 | 14 | 1.84 | 13 |
| 8 | 0.06 | 2.96 | 21 | 2.84 | 20 | 2.72 | 19 | 2.60 | 18 | 2.48 | 17 | 2.36 | 16 |
| 9 | 0.06 | 3.51 | 24 | 3.39 | 23 | 3.27 | 21 | 3.15 | 20 | 3.03 | 19 | 2.91 | 18 |
| 10 | 0.06 | 4.09 | 26 | 3.97 | 25 | 3.85 | 24 | 3.73 | 23 | 3.61 | 22 | 3.49 | 21 |
| 11 | 0.07 | 4.71 | 28 | 4.59 | 27 | 4.47 | 26 | 4.35 | 25 | 4.23 | 24 | 4.11 | 23 |
| 12 | 0.07 | 5.37 | 30 | 5.25 | 29 | 5.12 | 28 | 5.00 | 27 | 4.88 | 26 | 4.76 | 25 |
| 13 | 0.07 | 6.06 | 32 | 5.94 | 31 | 5.82 | 30 | 5.70 | 29 | 5.58 | 28 | 5.46 | 27 |
| 14 | 0.08 | 6.80 | 34 | 6.68 | 33 | 6.56 | 32 | 6.44 | 31 | 6.31 | 30 | 6.19 | 29 |
| 15 | 0.08 | 7.58 | 35 | 7.46 | 34 | 7.34 | 33 | 7.22 | 33 | 7.10 | 32 | 6.97 | 31 |
| 16 | 0.09 | 8.41 | 37 | 8.29 | 36 | 8.17 | 35 | 8.05 | 34 | 7.92 | 33 | 7.80 | 32 |
| 17 | 0.09 | 9.29 | 39 | 9.17 | 38 | 9.04 | 37 | 8.92 | 36 | 8.80 | 35 | 8.68 | 34 |
| 18 | 0.10 | 10.22 | 40 | 10.09 | 39 | 9.97 | 38 | 9.85 | 37 | 9.73 | 36 | 9.60 | 35 |
| 19 | 0.11 | 11.20 | 41 | 11.07 | 40 | 10.95 | 39 | 10.83 | 39 | 10.71 | 38 | 10.58 | 37 |
| 20 | 0.11 | 12.23 | 43 | 12.11 | 42 | 11.99 | 41 | 11.87 | 40 | 11.74 | 39 | 11.62 | 38 |
| 21 | 0.12 | 13.33 | 44 | 13.21 | 43 | 13.08 | 42 | 12.96 | 41 | 12.84 | 40 | 12.71 | 40 |
| 22 | 0.12 | 14.48 | 45 | 14.36 | 44 | 14.24 | 43 | 14.12 | 42 | 13.99 | 41 | 13.87 | 41 |
| 23 | 0.13 | 15.71 | 46 | 15.58 | 45 | 15.46 | 44 | 15.34 | 43 | 15.21 | 42 | 15.09 | 42 |
| 24 | 0.14 | 16.99 | 47 | 16.87 | 46 | 16.75 | 45 | 16.62 | 44 | 16.50 | 44 | 16.37 | 43 |
| 25 | 0.14 | 18.35 | 48 | 18.22 | 47 | 18.10 | 46 | 17.98 | 45 | 17.86 | 45 | 17.73 | 44 |
| 26 | 0.15 | 19.77 | 49 | 19.65 | 48 | 19.52 | 47 | 19.40 | 46 | 19.27 | 46 | 19.15 | 45 |
| 27 | 0.16 | 21.28 | 50 | 21.16 | 49 | 21.03 | 48 | 20.91 | 47 | 20.78 | 47 | 20.66 | 46 |
| 28 | 0.17 | 22.86 | 51 | 22.74 | 50 | 22.61 | 49 | 22.49 | 48 | 22.36 | 47 | 22.24 | 47 |
| 29 | 0.18 | 24.54 | 51 | 24.41 | 51 | 24.29 | 50 | 24.16 | 49 | 24.04 | 48 | 23.91 | 47 |
| 30 | 0.19 | 26.30 | 52 | 26.17 | 51 | 26.05 | 51 | 25.92 | 50 | 25.80 | 49 | 25.67 | 48 |
| 31 | | 28.16 | 53 | 28.03 | 52 | 27.91 | 51 | 27.78 | 51 | | | | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0 06 mm.

| Wet-Bulb Thermometer. $t'$ Centigrade Degrees. | Mean Vertical Difference for each 0° 1. | $t - t'$, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 9°.6 | | 9°.8 | | 10°.0 | | 10°.2 | | 10°.4 | | 10°.6 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | 0.36 | 3 | 0.24 | 2 | 0.12 | 1 | | | | | | |
| 5 | 0.04 | 0.78 | 6 | 0.66 | 5 | 0.54 | 4 | 0.42 | 3 | 0.30 | 2 | 0.18 | 1 |
| | 0.05 | | | | | | | | | | | | |
| 6 | | 1.24 | 9 | 1.12 | 8 | 1.00 | 7 | 0.88 | 6 | 0.76 | 5 | 0.64 | 5 |
| 7 | 0.05 | 1.72 | 12 | 1.60 | 11 | 1.48 | 10 | 1.36 | 9 | 1.24 | 8 | 1.12 | 7 |
| 8 | 0.05 | 2.24 | 15 | 2.12 | 14 | 2.00 | 13 | 1.88 | 12 | 1.76 | 11 | 1.64 | 10 |
| 9 | 0.06 | 2.79 | 17 | 2.66 | 16 | 2.54 | 16 | 2.42 | 15 | 2.30 | 14 | 2.18 | 13 |
| 10 | 0.06 | 3.37 | 20 | 3.25 | 19 | 3.13 | 18 | 3.00 | 17 | 2.88 | 16 | 2.76 | 15 |
| | 0.06 | | | | | | | | | | | | |
| 11 | | 3.98 | 22 | 3.86 | 21 | 3.74 | 20 | 3.62 | 19 | 3.50 | 18 | 3.38 | 18 |
| 12 | 0.07 | 4.64 | 24 | 4.52 | 23 | 4.40 | 22 | 4.28 | 22 | 4.15 | 21 | 4.03 | 20 |
| 13 | 0.07 | 5.33 | 26 | 5.21 | 25 | 5.09 | 25 | 4.97 | 24 | 4.85 | 23 | 4.73 | 22 |
| 14 | 0.07 | 6.07 | 28 | 5.95 | 27 | 5.83 | 26 | 5.71 | 25 | 5.58 | 25 | 5.46 | 24 |
| 15 | 0.08 | 6.85 | 30 | 6.73 | 29 | 6.61 | 28 | 6.49 | 27 | 6.37 | 26 | 6.24 | 26 |
| | 0.08 | | | | | | | | | | | | |
| 16 | | 7.68 | 31 | 7.56 | 31 | 7.44 | 30 | 7.31 | 29 | 7.19 | 28 | 7.07 | 27 |
| 17 | 0.09 | 8.56 | 33 | 8.43 | 32 | 8.31 | 31 | 8.19 | 31 | 8.07 | 30 | 7.94 | 29 |
| 18 | 0.09 | 9.48 | 35 | 9.36 | 34 | 9.24 | 33 | 9.11 | 32 | 8.99 | 31 | 8.87 | 30 |
| 19 | 0.10 | 10.46 | 36 | 10.34 | 35 | 10.22 | 34 | 10.09 | 33 | 9.97 | 33 | 9.85 | 32 |
| 20 | 0.11 | 11.50 | 37 | 11.37 | 36 | 11.25 | 36 | 11.13 | 35 | 11.01 | 34 | 10.88 | 33 |
| | 0.11 | | | | | | | | | | | | |
| 21 | | 12.59 | 39 | 12.47 | 38 | 12.35 | 37 | 12.22 | 36 | 12.10 | 35 | 11.98 | 35 |
| 22 | 0.12 | 13.75 | 40 | 13.62 | 39 | 13.50 | 38 | 13.38 | 37 | 13.25 | 37 | 13.13 | 36 |
| 23 | 0.12 | 14.96 | 41 | 14.84 | 40 | 14.72 | 39 | 14.59 | 39 | 14.47 | 38 | 14.35 | 37 |
| 24 | 0.13 | 16.25 | 42 | 16.13 | 41 | 16.00 | 40 | 15.88 | 40 | 15.76 | 39 | 15.63 | 38 |
| 25 | 0.14 | 17.61 | 43 | 17.48 | 42 | 17.36 | 42 | 17.24 | 41 | 17.12 | 40 | 16.99 | 39 |
| | 0.14 | | | | | | | | | | | | |
| 26 | | 19.02 | 44 | 18.90 | 43 | 18.78 | 42 | 18.65 | 42 | 18.53 | 41 | 18.40 | 40 |
| 27 | 0.15 | 20.54 | 45 | 20.41 | 44 | 20.29 | 43 | 20.16 | 43 | 20.04 | 42 | 19.91 | 41 |
| 28 | 0.16 | 22.12 | 46 | 22.00 | 45 | 21.87 | 44 | 21.75 | 44 | 21.62 | 43 | 21.50 | 42 |
| 29 | 0.17 | 23.79 | 47 | 23.66 | 46 | 23.54 | 45 | 23.41 | 45 | 23.29 | 44 | 23.16 | 43 |
| 30 | 0.18 | 25.55 | 48 | 25.42 | 47 | 25.30 | 46 | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. $t'$ Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | $t - t'$, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10°.8 | | 11°.0 | | 11°.2 | | 11°.4 | | 11°.6 | | 11°.8 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 0 | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | 0.05 | 0.52 | 4 | 0.40 | 3 | 0.28 | 2 | 0.16 | 1 | | | | |
| 7 | 0.05 | 1.00 | 7 | 0.88 | 6 | 0.76 | 5 | 0.64 | 4 | 0.52 | 3 | 0.40 | 2 |
| 8 | 0.06 | 1.52 | 9 | 1.40 | 9 | 1.27 | 8 | 1.15 | 7 | 1.03 | 6 | 0.91 | 5 |
| 9 | 0.06 | 2.06 | 12 | 1.94 | 11 | 1.82 | 10 | 1.70 | 10 | 1.58 | 9 | 1.46 | 8 |
| 10 | 0.06 | 2.64 | 14 | 2.52 | 14 | 2.40 | 13 | 2.28 | 12 | 2.16 | 11 | 2.04 | 11 |
| 11 | 0.07 | 3.26 | 17 | 3.14 | 16 | 3.02 | 15 | 2.90 | 14 | 2.77 | 14 | 2.65 | 13 |
| 12 | 0.07 | 3.91 | 19 | 3.79 | 18 | 3.67 | 17 | 3.55 | 17 | 3.43 | 16 | 3.31 | 15 |
| 13 | 0.07 | 4.61 | 21 | 4.49 | 20 | 4.36 | 19 | 4.24 | 19 | 4.12 | 18 | 4.00 | 17 |
| 14 | 0.08 | 5.34 | 23 | 5.22 | 22 | 5.10 | 21 | 4.98 | 21 | 4.86 | 20 | 4.73 | 19 |
| 15 | 0.08 | 6.12 | 25 | 6.00 | 24 | 5.88 | 23 | 5.76 | 22 | 5.63 | 22 | 5.51 | 21 |
| 16 | 0.09 | 6.95 | 27 | 6.83 | 26 | 6.70 | 25 | 6.58 | 24 | 6.46 | 23 | 6.34 | 22 |
| 17 | 0.09 | 7.82 | 28 | 7.70 | 27 | 7.58 | 27 | 7.46 | 26 | 7.33 | 25 | 7.21 | 24 |
| 18 | 0.10 | 8.75 | 29 | 8.63 | 29 | 8.50 | 28 | 8.38 | 27 | 8.26 | 27 | 8.14 | 26 |
| 19 | 0.10 | 9.73 | 31 | 9.60 | 30 | 9.48 | 30 | 9.36 | 29 | 9.24 | 28 | 9.11 | 28 |
| 20 | 0.11 | 10.76 | 33 | 10.64 | 32 | 10.51 | 31 | 10.39 | 30 | 10.27 | 30 | 10.15 | 29 |
| 21 | 0.12 | 11.85 | 34 | 11.73 | 33 | 11.61 | 32 | 11.48 | 32 | 11.36 | 31 | 11.24 | 30 |
| 22 | 0.12 | 13.01 | 35 | 12.88 | 34 | 12.76 | 34 | 12.64 | 33 | 12.51 | 32 | 12.39 | 32 |
| 23 | 0.13 | 14.22 | 36 | 14.10 | 36 | 13.98 | 35 | 13.85 | 34 | 13.73 | 34 | 13.61 | 33 |
| 24 | 0.14 | 15.51 | 38 | 15.39 | 37 | 15.27 | 36 | 15.15 | 35 | 15.02 | 35 | 14.90 | 34 |
| 25 | 0.14 | 16.87 | 39 | 16.74 | 38 | 16.62 | 37 | 16.49 | 36 | 16.37 | 36 | 16.24 | 35 |
| 26 | 0.15 | 18.28 | 39 | 18.16 | 39 | 18.03 | 38 | 17.91 | 37 | 17.78 | 37 | 17.66 | 36 |
| 27 | 0.16 | 19.79 | 40 | 19.67 | 40 | 19.54 | 39 | 19.42 | 38 | 19.29 | 38 | 19.17 | 37 |
| 28 | 0.17 | 21.37 | 41 | 21.25 | 41 | 21.12 | 40 | 21.00 | 39 | 20.87 | 39 | 20.75 | 38 |
| 29 | | 23.04 | 42 | 22.91 | 42 | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

| Wet-Bulb Thermometer. t′ Centigrade Degrees. | Mean Vertical Difference for each 0°.1. | t − t′, Difference of Wet and Dry-Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12°.0 | | 12°.2 | | 12°.4 | | 12°.6 | | 12°.8 | | 13°.0 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | Millim. | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 12 | 0.07 | 3.19 | 14 | 3.06 | 14 | 2.94 | 13 | 2.82 | 12 | 2.70 | 12 | 2.58 | 11 |
| 13 | 0.07 | 3.88 | 16 | 3.76 | 16 | 3.64 | 15 | 3.51 | 14 | 3.39 | 14 | 3.27 | 13 |
| 14 | 0.08 | 4.61 | 18 | 4.49 | 18 | 4.37 | 17 | 4.25 | 16 | 4.13 | 16 | 4.00 | 15 |
| 15 | 0.08 | 5.39 | 20 | 5.27 | 20 | 5.15 | 19 | 5.03 | 18 | 4.90 | 18 | 4.78 | 17 |
| 16 | 0.09 | 6.22 | 22 | 6.09 | 21 | 5.97 | 21 | 5.85 | 20 | 5.73 | 19 | 5.61 | 19 |
| 17 | 0.09 | 7.09 | 24 | 6.97 | 23 | 6.84 | 22 | 6.72 | 22 | 6.60 | 21 | 6.48 | 21 |
| 18 | 0.10 | 8.01 | 25 | 7.89 | 25 | 7.77 | 24 | 7.65 | 23 | 7.52 | 23 | 7.40 | 22 |
| 19 | 0.10 | 8.99 | 27 | 8.87 | 26 | 8.74 | 26 | 8.62 | 25 | 8.50 | 25 | 8.38 | 24 |
| 20 | 0.11 | 10.02 | 28 | 10.90 | 28 | 9.78 | 27 | 9.65 | 26 | 9.53 | 26 | 9.41 | 25 |
| 21 | 0.12 | 11.12 | 30 | 10.99 | 29 | 10.87 | 28 | 10.75 | 28 | 10.62 | 27 | 10.50 | 27 |
| 22 | 0.12 | 12.27 | 31 | 12.14 | 30 | 12.02 | 30 | 11.90 | 29 | 11.77 | 28 | 11.65 | 28 |
| 23 | 0.13 | 13.48 | 32 | 13.36 | 31 | 13.23 | 31 | 13.11 | 30 | 12.99 | 29 | 12.86 | 29 |
| 24 | 0.14 | 14.78 | 33 | 14.65 | 33 | 14.53 | 32 | 14.40 | 31 | 14.28 | 31 | 14.16 | 30 |
| 25 | 0.14 | 16.11 | 35 | 15.99 | 34 | 15.87 | 33 | 15.74 | 33 | 15.62 | 32 | 15.50 | 31 |
| 26 | 0.15 | 17.54 | 36 | 17.42 | 35 | 17.29 | 34 | 17.17 | 34 | 17.04 | 33 | 16.92 | 33 |
| 27 | 0.16 | 19.04 | 37 | 18.92 | 36 | 18.80 | 35 | 18.67 | 35 | 18.55 | 34 | 18.42 | 34 |
| 28 | | 20.63 | 38 | | | | | | | | | | |

| | | 13.°2 | | 13°.4 | | 13°.6 | | 13°.8 | | 14°.0 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | | Millim. | |
| 12 | 0.07 | 2.46 | 10 | 2.34 | 10 | 2.22 | 9 | 2.09 | 8 | 1.97 | 8 | | |
| 13 | 0.07 | 3.15 | 12 | 3.03 | 12 | 2.91 | 11 | 2.79 | 11 | 2.66 | 10 | | |
| 14 | 0.08 | 3.88 | 14 | 3.76 | 14 | 3.64 | 13 | 3.52 | 13 | 3.40 | 12 | | |
| 15 | 0.08 | 4.66 | 16 | 4.54 | 16 | 4.42 | 15 | 4.29 | 15 | 4.17 | 14 | | |
| 16 | 0.09 | 5.48 | 18 | 5.36 | 18 | 5.24 | 17 | 5.12 | 16 | 5.00 | 16 | | |
| 17 | 0.09 | 6.36 | 20 | 6.23 | 19 | 6.11 | 19 | 5.99 | 18 | 5.87 | 17 | | |
| 18 | 0.10 | 7.28 | 22 | 7.16 | 21 | 7.03 | 20 | 6.91 | 20 | 6.79 | 19 | | |
| 19 | 0.10 | 8.25 | 23 | 8.13 | 22 | 8.01 | 22 | 7.89 | 21 | 7.76 | 21 | | |
| 20 | 0.11 | 9.29 | 25 | 9.16 | 24 | 9.04 | 23 | 8.92 | 23 | 8.80 | 22 | | |
| 21 | 0.12 | 10.38 | 26 | 10.25 | 25 | 10.13 | 25 | 10.01 | 24 | 9.89 | 24 | | |
| 22 | 0.12 | 11.53 | 27 | 11.40 | 27 | 11.28 | 26 | 11.16 | 26 | 11.03 | 25 | | |
| 23 | 0.13 | 12.74 | 28 | 12.62 | 28 | 12.49 | 27 | 12.37 | 27 | 12.25 | 26 | | |
| 24 | 0.14 | 14.02 | 30 | 13.90 | 29 | 13.77 | 29 | 13.65 | 28 | 13.53 | 27 | | |
| 25 | 0.14 | 15.37 | 31 | 15.25 | 30 | 15.12 | 30 | 15.00 | 29 | 14.88 | 29 | | |
| 26 | | 16.80 | 32 | 16.67 | 31 | 16.55 | 31 | 16.42 | 30 | 16.30 | 30 | | |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.06 mm.

Correction for the Barometrical Height.

| For the Barometrical Height below. | | Difference of Thermometers $t - t'$. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Add. | Subtr'ct. | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° |
| | | Wet-Bulb above the Freezing Point. | | | | | | | | | | | | | |
| Millim. | Millim. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. | Milli. |
| 755 | 755 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 750 | 760 | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.06 |
| 745 | 765 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 | 0.10 | 0.11 |
| 740 | 770 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 |
| 735 | 775 | 0.02 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.16 | 0.18 | 0.19 | 0.21 | 0.22 |
| 730 | 780 | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.18 | 0.20 | 0.22 | 0.24 | 0.26 | 0.28 |
| 725 | 785 | 0.02 | 0.05 | 0.07 | 0.10 | 0.12 | 0.14 | 0.17 | 0.19 | 0.22 | 0.24 | 0.26 | 0.29 | 0.31 | 0.34 |
| 720 | 790 | 0.03 | 0.06 | 0.08 | 0.11 | 0.14 | 0.17 | 0.20 | 0.22 | 0.25 | 0.28 | 0.31 | 0.34 | 0.36 | 0.39 |
| 715 | 795 | 0.03 | 0.06 | 0.10 | 0.13 | 0.16 | 0.19 | 0.22 | 0.26 | 0.29 | 0.32 | 0.35 | 0.38 | 0.42 | 0.45 |
| 710 | 800 | 0.04 | 0.07 | 0.11 | 0.14 | 0.18 | 0.22 | 0.25 | 0.29 | 0.32 | 0.36 | 0.40 | 0.43 | 0.47 | 0.50 |
| 700 | " | 0.04 | 0.09 | 0.13 | 0.18 | 0.22 | 0.26 | 0.31 | 0.35 | 0.40 | 0.44 | 0.48 | 0.53 | 0.57 | 0.62 |
| 690 | " | 0.05 | 0.10 | 0.16 | 0.21 | 0.26 | 0.31 | 0.36 | 0.42 | 0.47 | 0.52 | 0.57 | 0.62 | 0.68 | 0.73 |
| 680 | " | 0.06 | 0.12 | 0.18 | 0.24 | 0.30 | 0.36 | 0.42 | 0.48 | 0.54 | 0.60 | 0.66 | 0.72 | 0.78 | 0.84 |
| 670 | " | 0.07 | 0.14 | 0.20 | 0.27 | 0.34 | 0.41 | 0.48 | 0.54 | 0.61 | 0.68 | 0.75 | 0.82 | 0.88 | 0.95 |
| 660 | " | 0.08 | 0.15 | 0.23 | 0.30 | 0.38 | 0.46 | 0.53 | 0.61 | 0.68 | 0.76 | 0.84 | 0.91 | 0.99 | 1.06 |
| 650 | " | 0.08 | 0.17 | 0.25 | 0.34 | 0.42 | 0.50 | 0.59 | 0.67 | 0.76 | 0.84 | 0.92 | 1.01 | 1.09 | 1.18 |

| | | Wet-bulb below the Freezing Point. | | | | |
|---|---|---|---|---|---|---|
| 755 | 755 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 750 | 760 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| 745 | 765 | 0.01 | 0.01 | 0.02 | 0.03 | 0.04 |
| 740 | 770 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 |
| 735 | 775 | 0.01 | 0.03 | 0.04 | 0.06 | 0.07 |
| 730 | 780 | 0.02 | 0.04 | 0.05 | 0.07 | 0.09 |
| 725 | 785 | 0.02 | 0.04 | 0.06 | 0.08 | 0.11 |
| 720 | 790 | 0.02 | 0.05 | 0.07 | 0.10 | 0.12 |
| 715 | 795 | 0.03 | 0.06 | 0.08 | 0.11 | 0.14 |
| 710 | 800 | 0.03 | 0.06 | 0.09 | 0.13 | 0.16 |
| 700 | " | 0.04 | 0.08 | 0.12 | 0.15 | 0.19 |
| 690 | " | 0.05 | 0.09 | 0.14 | 0.18 | 0.23 |
| 680 | " | 0.05 | 0.11 | 0.16 | 0.21 | 0.26 |
| 670 | " | 0.06 | 0.12 | 0.18 | 0.24 | 0.30 |
| 660 | " | 0.07 | 0.13 | 0.20 | 0.27 | 0.33 |
| 650 | " | 0.07 | 0.15 | 0.22 | 0.29 | 0.36 |

## EXAMPLE OF CALCULATION.

Wet-bulb above the Freezing Point.

$t' = 17°.0$. $t - t' = 8°.2$. $h = 710^{mm.}$

The tables give for mean barometrical height $755^{mm.}$ Force of vapor . . = 9.41 mm.

*Additive* correction for $710^{mm.}$ and $8°.2$ = 0.30

Force of vapor . . = 9.71

The mean barometrical pressure, at a given place, being known, it is easy to make the above Psychrometrical Tables fitted for that place, by determining, by means of this last table, a *constant correction*, to be applied to the numbers in the tables, giving the force of vapor. This correction will be found by taking for $t - t'$, or the difference of thermometers, a mean value, the deviations of which will have little influence upon the accuracy of the results.

# III.

## TABLE

GIVING AT SIGHT THE RELATIVE HUMIDITY DEDUCED FROM THE INDICATIONS OF THE DEW POINT INSTRUMENTS.

By M. T. Haeghens.

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This table, which has been published in the *Annuaire Météorologique de France* for 1850, page 86, and following, has been calculated by Mr. Haeghens, using Regnault's Tables of Elastic Forces of Vapor. It gives directly the *relative humidity*, when the hygrometrical observations have been made by means of dew point instruments like those of Daniell, Regnault, Bache, and others.

These hygrometers are destined to find out the temperature of *the dew point*, that is the temperature to which it would be necessary to lower the temperature of the air, in order that this air be completely saturated by the aqueous vapor which it contained at the time of the observation.

The force of vapor contained in the air, or its *absolute humidity*, is thus the maximum of force of vapor which corresponds to the temperature of the dew point; it is given directly in the Table I. of the Elastic Forces of Vapor, by Regnault.

The ratio of that maximum of force of vapor at the temperature of the dew point to the force of vapor which corresponds, in the same table, to the temperature of the surrounding air at the time of the observation, is the *relative humidity*. This ratio is given in hundredths in the following table, which relieves the observer of the trouble of calculating it.

Let $t$ = temperature of the air surrounding the instrument.

$t'$ = temperature of the dew point.

$t - t'$ = the difference between these two temperatures.

The first column, on the left, contains the temperature of the air $t$, in centigrade degrees. The following ones, headed with the differences, $t - t'$, between the temperatures of the air and of the dew point, give the *relative humidity* corresponding to the two elements.

| | Temp. of the Air $= t$. | Dew point $= t'$. | Difference $t - t'$. | Relative Humidity. |
|---|---|---|---|---|
| Example: | 10°.0 | 4°.4 | 5°.6 | 68 |

Should the temperature of the air $t'$, or the difference $t - t'$, fall between the numbers found in the columns, it is obvious, by glancing at the table, that an interpolation at sight will always be easy.

| Temperature of the air. t = | t − t′ = Difference of Temperatures of the Dew Point and of the Air. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0°.0 | 0°.2 | 0°.4 | 0°.6 | 0°.8 | 1°.0 | 1°.2 | 1°.4 | 1°.6 | 1°.8 | 2°.0 | 2°.2 | 2°.4 | 2°.6 | 2°.8 |
| Centig. | | | | | | | | | | | | | | | |
| −8 | 100 | 98 | 97 | 95 | 94 | 92 | 90 | 89 | 88 | 86 | 85 | 83 | 82 | 80 | 79 |
| −7 | 100 | 98 | 97 | 95 | 94 | 92 | 91 | 89 | 88 | 86 | 85 | 83 | 82 | 81 | 79 |
| −6 | 100 | 98 | 97 | 95 | 94 | 92 | 91 | 89 | 88 | 87 | 85 | 84 | 82 | 81 | 80 |
| −5 | 100 | 98 | 97 | 95 | 94 | 92 | 91 | 89 | 88 | 87 | 85 | 84 | 82 | 81 | 80 |
| −4 | 100 | 98 | 97 | 95 | 94 | 92 | 91 | 89 | 88 | 87 | 85 | 84 | 83 | 81 | 80 |
| −3 | 100 | 98 | 97 | 95 | 94 | 92 | 91 | 90 | 88 | 87 | 85 | 84 | 83 | 81 | 80 |
| −2 | 100 | 98 | 97 | 95 | 94 | 93 | 91 | 90 | 88 | 87 | 86 | 84 | 83 | 82 | 80 |
| −1 | 100 | 98 | 97 | 95 | 94 | 93 | 91 | 90 | 89 | 87 | 86 | 85 | 83 | 82 | 81 |
| 0 | 100 | 98 | 97 | 96 | 94 | 93 | 91 | 90 | 89 | 87 | 86 | 85 | 83 | 82 | 81 |
| +1 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 90 | 89 | 88 | 86 | 85 | 84 | 83 | 81 |
| 2 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 89 | 88 | 87 | 85 | 84 | 83 | 82 |
| 3 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 89 | 88 | 87 | 86 | 84 | 83 | 82 |
| 4 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 89 | 88 | 87 | 86 | 85 | 83 | 82 |
| 5 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 88 | 87 | 86 | 85 | 83 | 82 |
| 6 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 88 | 87 | 86 | 85 | 84 | 82 |
| 7 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 | 83 |
| 8 | 100 | 99 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 | 83 |
| 9 | 100 | 99 | 97 | 96 | 95 | 94 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 | 83 |
| 10 | 100 | 99 | 97 | 96 | 95 | 94 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 | 83 |
| 11 | 100 | 99 | 97 | 96 | 95 | 94 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 | 83 |
| 12 | 100 | 99 | 97 | 96 | 95 | 94 | 92 | 91 | 90 | 89 | 88 | 87 | 85 | 84 | 83 |
| 13 | 100 | 99 | 97 | 96 | 95 | 94 | 92 | 91 | 90 | 89 | 88 | 87 | 85 | 84 | 83 |
| 14 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 91 | 90 | 89 | 88 | 87 | 86 | 84 | 83 |
| 15 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 91 | 90 | 89 | 88 | 87 | 86 | 84 | 83 |
| 16 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 91 | 90 | 89 | 88 | 87 | 86 | 85 | 84 |
| 17 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 91 | 90 | 89 | 88 | 87 | 86 | 85 | 84 |
| 18 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 90 | 89 | 88 | 87 | 86 | 85 | 84 |
| 19 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 91 | 89 | 88 | 87 | 86 | 85 | 84 |
| 20 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 91 | 89 | 88 | 87 | 86 | 85 | 84 |
| 21 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 88 | 87 | 86 | 85 | 84 |
| 22 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | 84 |
| 23 | 100 | 99 | 98 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 86 | 85 | 84 |
| 24 | 100 | 99 | 98 | 97 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 85 | 84 |
| 25 | 100 | 99 | 98 | 97 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 26 | 100 | 99 | 98 | 97 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 27 | 100 | 99 | 98 | 97 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 28 | 100 | 99 | 98 | 97 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 29 | 100 | 99 | 98 | 97 | 96 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 30 | 100 | 99 | 98 | 97 | 96 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 31 | 100 | 99 | 98 | 97 | 96 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 32 | 100 | 99 | 98 | 97 | 96 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 33 | 100 | 99 | 98 | 97 | 96 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 34 | 100 | 99 | 98 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |
| 35 | 100 | 99 | 98 | 97 | 96 | 95 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 |

| Temperature of the air. t = | t − t′ = Difference of Temperatures of the Dew Point and of the Air. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3°.0 | 3°.2 | 3.°4 | 3°.6 | 3°.8 | 4°.0 | 4°.2 | 4°.4 | 4°.6 | 4°.8 | 5°.0 | 5°.2 | 5°.4 | 5°.6 | 5°.8 |
| Centig. | | | | | | | | | | | | | | | |
| −8 | 78 | 77 | 75 | 74 | 73 | 72 | 71 | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 |
| −7 | 78 | 77 | 75 | 74 | 73 | 72 | 71 | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 |
| −6 | 78 | 77 | 76 | 74 | 73 | 72 | 71 | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 |
| −5 | 79 | 77 | 76 | 75 | 73 | 72 | 71 | 70 | 68 | 67 | 66 | 65 | 64 | 63 | 62 |
| −4 | 79 | 77 | 76 | 75 | 74 | 73 | 71 | 70 | 69 | 68 | 67 | 66 | 64 | 63 | 62 |
| −3 | 79 | 77 | 76 | 75 | 74 | 73 | 72 | 70 | 69 | 68 | 67 | 66 | 65 | 64 | 63 |
| −2 | 79 | 78 | 77 | 76 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 66 | 65 | 64 | 63 |
| −1 | 79 | 78 | 77 | 76 | 75 | 73 | 72 | 71 | 70 | 69 | 68 | 67 | 66 | 65 | 64 |
| 0 | 80 | 78 | 77 | 76 | 75 | 74 | 73 | 71 | 70 | 69 | 68 | 67 | 66 | 65 | 64 |
| +1 | 80 | 79 | 78 | 77 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 66 | 65 | 64 |
| 2 | 81 | 79 | 78 | 77 | 76 | 75 | 74 | 72 | 71 | 70 | 69 | 68 | 67 | 66 | 65 |
| 3 | 81 | 80 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 66 | 65 |
| 4 | 81 | 80 | 79 | 78 | 77 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 | 66 |
| 5 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 73 | 72 | 71 | 70 | 69 | 68 | 67 | 66 |
| 6 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| 7 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| 8 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| 8 | 82 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| 10 | 82 | 81 | 80 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| 11 | 82 | 81 | 80 | 79 | 78 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 70 | 69 | 68 |
| 12 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 |
| 13 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 |
| 14 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 |
| 15 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 |
| 16 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 71 | 70 | 69 |
| 17 | 83 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 73 | 72 | 71 | 70 | 69 |
| 18 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |
| 19 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |
| 20 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 |
| 21 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 70 |
| 22 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 73 | 72 | 71 | 70 |
| 23 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 74 | 73 | 72 | 71 | 70 |
| 24 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 |
| 25 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 |
| 26 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 |
| 27 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 |
| 28 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 |
| 29 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 75 | 74 | 73 | 72 | 71 |
| 30 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 76 | 75 | 74 | 73 | 72 | 71 |
| 31 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 77 | 76 | 75 | 74 | 73 | 72 | 71 |
| 32 | 84 | 83 | 82 | 81 | 80 | 79 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 72 |
| 33 | 84 | 83 | 82 | 81 | 80 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 72 |
| 34 | 85 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 74 | 73 | 72 |
| 35 | 85 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 75 | 74 | 73 | 72 |

| Temperature of the air. t = | t − t′ = Difference of Temperatures of the Dew Point and of the Air. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6°.0 | 6°.2 | 6°.4 | 6°.6 | 6°.8 | 7°.0 | 7°.2 | 7°.4 | 7°.6 | 7°.8 | 8°.0 | 8°.2 | 8°.4 | 8°.6 | 8°.8 |
| Centig. | | | | | | | | | | | | | | | |
| −8 | | | | | | | | | | | | | | | |
| −7 | | | | | | | | | | | | | | | |
| −6 | 61 | 60 | 59 | 58 | 57 | 56 | | | | | | | | | |
| −5 | 61 | 60 | 59 | 58 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | | | | |
| −4 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | | | | |
| −3 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 50 | 49 |
| −2 | 62 | 61 | 60 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |
| −1 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |
| 0 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 50 |
| +1 | 63 | 62 | 61 | 61 | 60 | 58 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 51 |
| 2 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 55 | 54 | 53 | 52 | 51 |
| 3 | 64 | 63 | 62 | 62 | 60 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 53 | 52 |
| 4 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 56 | 55 | 54 | 53 | 52 |
| 5 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 54 | 53 |
| 6 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 57 | 56 | 55 | 54 | 53 |
| 7 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 60 | 59 | 58 | 57 | 56 | 55 | 55 | 54 |
| 8 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 56 | 55 | 54 |
| 9 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 58 | 57 | 56 | 55 | 54 |
| 10 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 59 | 58 | 57 | 56 | 55 | 55 |
| 11 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 61 | 60 | 59 | 58 | 57 | 56 | 56 | 55 |
| 12 | 67 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 58 | 57 | 57 | 56 | 55 |
| 13 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 60 | 59 | 59 | 58 | 57 | 56 | 55 |
| 14 | 67 | 66 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 60 | 59 | 58 | 57 | 56 | 56 |
| 15 | 67 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 61 | 60 | 59 | 58 | 57 | 57 | 56 |
| 16 | 68 | 67 | 66 | 65 | 64 | 63 | 63 | 62 | 61 | 60 | 59 | 58 | 58 | 57 | 56 |
| 17 | 68 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 60 | 59 | 59 | 58 | 57 | 56 |
| 18 | 68 | 67 | 66 | 65 | 65 | 64 | 63 | 62 | 61 | 60 | 60 | 59 | 58 | 57 | 57 |
| 19 | 68 | 67 | 67 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 58 | 58 | 57 |
| 20 | 68 | 68 | 67 | 66 | 65 | 64 | 63 | 63 | 62 | 61 | 60 | 59 | 59 | 58 | 57 |
| 21 | 69 | 68 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 60 | 60 | 59 | 58 | 57 |
| 22 | 69 | 68 | 67 | 66 | 65 | 65 | 64 | 63 | 62 | 61 | 61 | 60 | 59 | 58 | 58 |
| 23 | 69 | 68 | 67 | 67 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 59 | 58 |
| 24 | 69 | 68 | 68 | 67 | 66 | 65 | 64 | 63 | 63 | 62 | 61 | 60 | 60 | 59 | 58 |
| 25 | 69 | 69 | 68 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 61 | 60 | 59 | 58 |
| 26 | 70 | 69 | 68 | 67 | 66 | 65 | 65 | 64 | 63 | 62 | 61 | 61 | 60 | 59 | 58 |
| 27 | 70 | 69 | 68 | 67 | 66 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 | 59 |
| 28 | 70 | 69 | 68 | 67 | 67 | 66 | 65 | 64 | 63 | 63 | 62 | 61 | 60 | 60 | 59 |
| 29 | 70 | 69 | 69 | 68 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 61 | 60 | 59 |
| 30 | 70 | 69 | 69 | 68 | 67 | 66 | 65 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 59 |
| 31 | 70 | 70 | 69 | 68 | 67 | 66 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 | 60 |
| 32 | 71 | 70 | 69 | 68 | 67 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 61 | 60 |
| 33 | 71 | 70 | 69 | 68 | 68 | 67 | 66 | 65 | 64 | 64 | 63 | 62 | 61 | 61 | 60 |
| 34 | 71 | 70 | 69 | 69 | 68 | 67 | 66 | 66 | 65 | 64 | 63 | 62 | 62 | 61 | 60 |
| 35 | 71 | 70 | 70 | 69 | 68 | 67 | 66 | 66 | 65 | 64 | 63 | 63 | 62 | 61 | 60 |

| Temperature of the air. $t =$ | $t - t' =$ Difference of Temperatures of the Dew Point and of the Air. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9°.0 | 9°.2 | 9°.4 | 9°.6 | 9°.8 | 10°.0 | 10°.2 | 10°.4 | 10°.6 | 10°.8 | 11°.0 | 11°.2 | 11°.4 | 11°.6 | 11°.8 |
| Centig. | | | | | | | | | | | | | | | |
| −8 | | | | | | | | | | | | | | | |
| −7 | | | | | | | | | | | | | | | |
| −6 | | | | | | | | | | | | | | | |
| −5 | | | | | | | | | | | | | | | |
| −4 | | | | | | | | | | | | | | | |
| −3 | | | | | | | | | | | | | | | |
| −2 | | | | | | | | | | | | | | | |
| −1 | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | |
| +1 | 50 | | | | | | | | | | | | | | |
| 2 | 50 | 49 | 49 | 48 | 47 | 46 | | | | | | | | | |
| 3 | 51 | 50 | 49 | 48 | 48 | 47 | 46 | 45 | 45 | 44 | 43 | | | | |
| 4 | 51 | 51 | 50 | 49 | 48 | 47 | 47 | 46 | 45 | 44 | 44 | 43 | 42 | 42 | 41 |
| 5 | 52 | 51 | 50 | 49 | 49 | 48 | 47 | 46 | 46 | 45 | 44 | 43 | 43 | 42 | 41 |
| 6 | 52 | 52 | 51 | 50 | 49 | 48 | 48 | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 |
| 7 | 53 | 52 | 51 | 51 | 50 | 49 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 43 | 42 |
| 8 | 53 | 52 | 52 | 51 | 50 | 49 | 49 | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 43 |
| 9 | 54 | 53 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 45 | 45 | 44 | 43 |
| 10 | 54 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 45 | 44 | 44 |
| 11 | 54 | 53 | 53 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 44 |
| 12 | 54 | 54 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 45 | 45 |
| 13 | 55 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 47 | 47 | 46 | 46 | 45 |
| 14 | 55 | 54 | 53 | 53 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 | 45 |
| 15 | 55 | 54 | 54 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 45 |
| 16 | 55 | 55 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 |
| 17 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 |
| 18 | 56 | 55 | 54 | 54 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 |
| 19 | 56 | 55 | 55 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 |
| 20 | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 |
| 21 | 57 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 |
| 22 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 50 | 50 | 49 | 49 | 48 | 47 |
| 23 | 57 | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 48 |
| 24 | 57 | 57 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 |
| 25 | 58 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 |
| 26 | 58 | 57 | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 50 | 49 | 48 |
| 27 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 |
| 28 | 58 | 57 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 |
| 29 | 58 | 58 | 57 | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 52 | 51 | 50 | 50 | 49 |
| 30 | 59 | 58 | 57 | 57 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 51 | 50 | 49 |
| 31 | 59 | 58 | 57 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 |
| 32 | 59 | 58 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 |
| 33 | 59 | 59 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 51 | 50 |
| 34 | 60 | 59 | 58 | 57 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 52 | 51 | 50 |
| 35 | 60 | 59 | 58 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 |

| Temperature of the air. $t =$ | $t - t' =$ Difference of Temperatures of the Dew Point and of the Air. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12°.0 | 12°.2 | 12°.4 | 12°.6 | 12°.8 | 13°.0 | 13°.2 | 13°.4 | 13°.6 | 13°.8 | 14°.0 | 14°.2 | 14°.4 | 14°.6 | 14°.8 |
| Centig. | | | | | | | | | | | | | | | |
| −8 | | | | | | | | | | | | | | | |
| −7 | | | | | | | | | | | | | | | |
| −6 | | | | | | | | | | | | | | | |
| −5 | | | | | | | | | | | | | | | |
| −4 | | | | | | | | | | | | | | | |
| −3 | | | | | | | | | | | | | | | |
| −2 | | | | | | | | | | | | | | | |
| −1 | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | |
| +1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | 40 | 40 | 39 | 38 | 38 | 37 | | | | | | | | | |
| 5 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 | | | | |
| 6 | 41 | 41 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 33 | 33 |
| 7 | 42 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 | 34 | 34 | 33 |
| 8 | 42 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 34 |
| 9 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 |
| 10 | 43 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 |
| 11 | 44 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 |
| 12 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 36 |
| 13 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 36 |
| 14 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 | 36 |
| 15 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 37 |
| 16 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 37 |
| 17 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 |
| 18 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 |
| 19 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 |
| 20 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 |
| 21 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 |
| 22 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 39 |
| 23 | 47 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 |
| 24 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 |
| 25 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 |
| 26 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 40 |
| 27 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 40 | 40 |
| 28 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 |
| 29 | 48 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 41 |
| 30 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 |
| 31 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 |
| 32 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 |
| 33 | 49 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 42 |
| 34 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 42 |
| 35 | 50 | 49 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 44 | 43 | 43 | 42 |

# TABLE IV.

FACTOR $\frac{100}{F}$, FOR COMPUTING THE RELATIVE HUMIDITY, OR THE DEGREE OF MOISTURE OF THE AIR FROM ITS ABSOLUTE HUMIDITY, GIVEN IN MILLIMETRES.

BY HAEGHENS.

THE Relative Humidity, or the degree of moisture of the air, is the ratio of the quantity of vapor contained in the air to the quantity it could contain at the temperature observed, if fully saturated.

If we call

The force of vapor contained in the air $= f$,

The maximum of the force of vapor at the temperature of the air $=$ F,

The point of saturation $= 100$,

we have the proportion,

$$\text{Relative Humidity} : 100 :: f : \text{F},$$

and

$$\frac{f \times 100}{\text{F}} = \text{Relative Humidity in Hundredths.}$$

But as $\frac{f \times 100}{\text{F}} = f \times \frac{100}{\text{F}}$, it is obvious that the operation indicated by the former expression, viz. $\frac{f \times 100}{\text{F}}$, would be reduced to a simple multiplication, if we had a table of the factors $\frac{100}{\text{F}}$. Such a table is obtained by dividing the constant number 100 by each number in the Table of Elastic Forces of Vapor, and substituting the quotients to the tensions.

The following Table, taken from the *Annuaire Météorologique de la France*, for 1850, p. 79, gives the factor $\frac{100}{\text{F}}$ for every tenth of a degree from $-10$ to $+35°$ Centigrade, corresponding to the Forces of Vapor in Table I.

## USE OF THE TABLE.

The force of vapor contained in the air being given in millimetres, multiply the number expressing it by the factor in the table corresponding to the temperature of the air at the time of the observation; the result will be the *Relative Humidity in Hundredths*.

### *Examples.*

1. Suppose the temperature of the air to be $= 24°$ Centigrade.
   " " force of vapor in the air to be $= 10.76$ millimetres.

Opposite 24° is found in the table the factor 4.51.

Then $10.76 \times 4.51 = 48.5$, Relative Humidity in Hundredths.

---

2. Suppose the temperature of the air to be $= 16.7$.
   " " force of vapor in the air to be $= 12.07$.

Table gives for 16.7 the factor 7.07.

Then $12.07 \times 7.07 = 85.3$, Relative Humidity.

## FACTOR $\frac{100}{F}$, TO COMPUTE THE RELATIVE HUMIDITY.

| t = Temp. of Air, Centig. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | | | | | | | | | | |
| −10 | 48.1 | 48.5 | 48.9 | 49.3 | 49.7 | 50.1 | 50.5 | 50.9 | 51.4 | 51.8 |
| 9 | 44.2 | 44.6 | 45.0 | 45.4 | 45.7 | 46.1 | 46.5 | 46.9 | 47.3 | 47.7 |
| 8 | 40.7 | 41.1 | 41.4 | 41.7 | 42.1 | 42.4 | 42.8 | 43.1 | 43.5 | 43.9 |
| 7 | 37.5 | 37.8 | 38.1 | 38.4 | 38.7 | 39.0 | 39.4 | 39.7 | 40.0 | 40.4 |
| 6 | 34.6 | 34.9 | 35.2 | 35.4 | 35.7 | 36.0 | 36.3 | 36.6 | 36.9 | 37.2 |
| 5 | 31.9 | 32.2 | 32.4 | 32.7 | 33.0 | 33.2 | 33.5 | 33.8 | 34.0 | 34.3 |
| 4 | 29.5 | 29.8 | 30.0 | 30.2 | 30.5 | 30.7 | 31.0 | 31.2 | 31.4 | 31.7 |
| 3 | 27.3 | 27.5 | 27.7 | 27.9 | 28.2 | 28.4 | 28.6 | 28.8 | 29.1 | 29.3 |
| 2 | 25.3 | 25.5 | 25.7 | 25.9 | 26.1 | 26.3 | 26.5 | 26.7 | 26.9 | 27.1 |
| 1 | 23.4 | 23.6 | 23.8 | 24.2 | 24.0 | 24.3 | 24.5 | 24.7 | 24.9 | 25.1 |
| −0 | 21.7 | 21.9 | 22.1 | 22.2 | 22.4 | 22.6 | 22.8 | 22.9 | 23.1 | 23.3 |
| +0 | 21.7 | 21.6 | 21.4 | 21.3 | 21.1 | 21.0 | 20.8 | 20.7 | 20.5 | 20.4 |
| 1 | 20.2 | 20.1 | 20.0 | 19.8 | 19.7 | 19.5 | 19.4 | 19.3 | 19.1 | 19.0 |
| 2 | 18.9 | 18.7 | 18.6 | 18.5 | 18.3 | 18.2 | 18.1 | 18.0 | 17.8 | 17.7 |
| 3 | 17.6 | 17.5 | 17.3 | 17.2 | 17.1 | 17.0 | 16.9 | 16.7 | 16.6 | 16.5 |
| 4 | 16.4 | 16.3 | 16.2 | 16.1 | 15.9 | 15.8 | 15.7 | 15.6 | 15.5 | 15.4 |
| 5 | 15.3 | 15.2 | 15.1 | 15.0 | 14.9 | 14.8 | 14.7 | 14.6 | 14.5 | 14.4 |
| 6 | 14.3 | 14.2 | 14.1 | 14.0 | 13.9 | 13.8 | 13.7 | 13.6 | 13.5 | 13.4 |
| 7 | 13.4 | 13.3 | 13.2 | 13.1 | 13.0 | 12.9 | 12.8 | 12.7 | 12.6 | 12.6 |
| 8 | 12.5 | 12.4 | 12.3 | 12.2 | 12.1 | 12.1 | 12.0 | 11.9 | 11.8 | 11.7 |
| 9 | 11.7 | 11.6 | 11.5 | 11.4 | 11.4 | 11.3 | 11.2 | 11.1 | 11.1 | 11.0 |
| 10 | 10.9 | 10.8 | 10.8 | 10.7 | 10.6 | 10.6 | 10.5 | 10.4 | 10.3 | 10.3 |
| 11 | 10.2 | 10.1 | 10.1 | 10.0 | 9.95 | 9.88 | 9.82 | 9.75 | 9.69 | 9.63 |
| 12 | 9.56 | 9.50 | 9.44 | 9.38 | 9.32 | 9.26 | 9.20 | 9.13 | 9.08 | 9.02 |
| 13 | 8.96 | 8.90 | 8.84 | 8.79 | 8.73 | 8.67 | 8.62 | 8.56 | 8.51 | 8.45 |
| 14 | 8.40 | 8.34 | 8.29 | 8.24 | 8.18 | 8.15 | 8.08 | 8.03 | 7.98 | 7.92 |
| 15 | 7.87 | 7.82 | 7.77 | 7.72 | 7.68 | 7.63 | 7.58 | 7.53 | 7.48 | 7.43 |
| 16 | 7.39 | 7.34 | 7.29 | 7.25 | 7.20 | 7.16 | 7.11 | 7.07 | 7.02 | 6.98 |
| 17 | 6.93 | 6.89 | 6.85 | 6.80 | 6.76 | 6.72 | 6.68 | 6.63 | 6.59 | 6.55 |
| 18 | 6.51 | 6.47 | 6.43 | 6.39 | 6.35 | 6.31 | 6.27 | 6.23 | 6.19 | 6.16 |
| 19 | 6.12 | 6.08 | 6.04 | 6.00 | 5.97 | 5.93 | 5.89 | 5.86 | 5.82 | 5.79 |
| 20 | 5.75 | 5.71 | 5.68 | 5.64 | 5.61 | 5.58 | 5.54 | 5.51 | 5.47 | 5.44 |
| 21 | 5.41 | 5.37 | 5.34 | 5.31 | 5.27 | 5.24 | 5.21 | 5.18 | 5.15 | 5.12 |
| 22 | 5.09 | 5.06 | 5.02 | 4.99 | 4.96 | 4.93 | 4.90 | 4.87 | 4.85 | 4.82 |
| 23 | 4.79 | 4.76 | 4.73 | 4.70 | 4.67 | 4.65 | 4.62 | 4.59 | 4.56 | 4.53 |
| 24 | 4.51 | 4.48 | 4.45 | 4.43 | 4.40 | 4.37 | 4.35 | 4.32 | 4.30 | 4.27 |
| 25 | 4.25 | 4.22 | 4.20 | 4.17 | 4.15 | 4.12 | 4.10 | 4.07 | 4.05 | 4.03 |
| 26 | 4.00 | 3.98 | 3.95 | 3.93 | 3.91 | 3.89 | 3.86 | 3.84 | 3.82 | 3.79 |
| 27 | 3.77 | 3.75 | 3.73 | 3.71 | 3.69 | 3.66 | 3.64 | 3.62 | 3.60 | 3.58 |
| 28 | 3.56 | 3.54 | 3.52 | 3.50 | 3.48 | 3.46 | 3.44 | 3.42 | 3.40 | 3.38 |
| 29 | 3.36 | 3.34 | 3.32 | 3.30 | 3.28 | 3.26 | 3.24 | 3.22 | 3.21 | 3.19 |
| 30 | 3.17 | 3.15 | 3.13 | 3.12 | 3.10 | 3.08 | 3.06 | 3.05 | 3.03 | 3.01 |
| 31 | 2.99 | 2.98 | 2.96 | 2.94 | 2.93 | 2.91 | 2.89 | 2.88 | 2.86 | 2.84 |
| 32 | 2.83 | 2.81 | 2.80 | 2.78 | 2.77 | 2.75 | 2.73 | 2.72 | 2.70 | 2.69 |
| 33 | 2.67 | 2.66 | 2.64 | 2.63 | 2.61 | 2.60 | 2.58 | 2.57 | 2.56 | 2.54 |
| 34 | 2.53 | 2.51 | 2.50 | 2.49 | 2.47 | 2.46 | 2.44 | 2.43 | 2.42 | 2.40 |
| 35 | 2.39 | 2.38 | 2.36 | 2.35 | 2.34 | 2.33 | 2.31 | 2.30 | 2.29 | 2.28 |

# TABLE V.

## WEIGHT OF VAPOR, IN GRAMMES,

### CONTAINED IN A CUBIC METRE OF SATURATED AIR UNDER A BAROMETRIC PRESSURE OF 760 MILLIMETRES, AND AT TEMPERATURES BETWEEN —20° AND +40° CENTIGRADE.

THE theoretic density of aqueous vapor is very nearly 0.622, or $\frac{5}{8}$, of the density of the air at the same temperature and pressure. Regnault's experiments gave similar results. From this ratio the weight of the vapor contained in a given volume of air, the temperature and humidity of which are known, can be computed.

If we call

$t$ = the temperature of the air;

$f$ = the elastic force of the vapor contained in the air at the time of the observation;

$F$ = the maximum elastic force of vapor due to the temperature $t$, as given in the table;

$p$ = the weight of the vapor contained in a litre of air at the temperature $t$, and with a force of vapor $f$;

$P$ = the weight of vapor in a litre of air at the temperature $t$, and at full saturation, or $F$.

Then,
$$p = 0.622 \frac{1.293223^{gr.}}{1+0.00367\,t} \cdot \frac{f}{760^{mm.}}.$$

In which 1.293223 grammes is the weight of a litre of dry air, at the temperature of zero Centigrade, and under a barometric pressure of 760 millimetres, according to the determination of Regnault; 0.00367, the coefficient of the expansion of the air as found by the same; 760 millimetres, the assumed normal barometric pressure.

The weight of a litre of air given by Regnault in the *Mémoires de l'Institut*, Tom. XXI. p. 157, is 1.293187 grammes; but by correcting a slight error of computation (see E. Ritter, *Mémoires de la Société Physique de Genève*, Tom. XIII. p. 361), it becomes, as given above, 1.293223 grammes.

In order to obtain the weight of vapor in a cubic metre, or 1000 litres, of saturated air, the formula becomes,

$$P = 0.622 \frac{1293.223^{gr.}}{1+0.00367\,t} \cdot \frac{F}{760^{mm.}}.$$

From this formula Table V. has been computed. The tensions due to the temperatures in the first column are placed opposite the weights of vapor; they are taken from Table I. It will be seen that, throughout the table, the number of grammes of vapor nearly corresponds to the number of millimetres of pressure expressing the tension.

The table of the weights of vapor given in Pouillet's *Eléments des Physique*, Tom. II. p. 707, being based on older values, gives results somewhat different. In that published by Becquerel, *Eléments de Physique Terrestre*, p. 354, Regnault's tensions and coefficient of expansion of the air have been used, but the value of the weight of vapor in a litre of air formerly determined by Biot and Arago, viz. 1.29954 grammes, has been retained.

## V. WEIGHT OF VAPOR, IN GRAMMES,

### CONTAINED IN A CUBIC METRE OF SATURATED AIR,

At Temperatures between —20° and +40° Centigrade.

| Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Difference. | Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Difference. |
|---|---|---|---|---|---|---|---|
| Centigrade. | Millimetres. | Grammes. | Grammes. | Centigrade. | Millimetres. | Grammes. | Grammes. |
| −20° | 0.912 | 1.042 | | +10° | 9.165 | 9.357 | |
| | | | 0.088 | | | | 0.605 |
| −19 | 0.993 | 1.130 | | 11 | 9.792 | 9.962 | |
| | | | 0.094 | | | | 0.639 |
| −18 | 1.080 | 1.224 | | 12 | 10.457 | 10.601 | |
| | | | 0.101 | | | | 0.675 |
| −17 | 1.174 | 1.325 | | 13 | 11.162 | 11.276 | |
| | | | 0.109 | | | | 0.712 |
| −16 | 1.275 | 1.434 | | 14 | 11.908 | 11.988 | |
| | | | 0.118 | | | | 0.751 |
| −15 | 1.385 | 1.551 | | 15 | 12.699 | 12.739 | |
| | | | 0.127 | | | | 0.793 |
| −14 | 1.503 | 1.678 | | 16 | 13.536 | 13.532 | |
| | | | 0.134 | | | | 0.835 |
| −13 | 1.631 | 1.813 | | 17 | 14.421 | 14.367 | |
| | | | 0.145 | | | | 0.880 |
| −12 | 1.768 | 1.957 | | 18 | 15.357 | 15.247 | |
| | | | 0.157 | | | | 0.926 |
| −11 | 1.918 | 2.114 | | 19 | 16.346 | 16.173 | |
| | | | 0.169 | | | | 0.975 |
| −10 | 2.078 | 2.283 | | 20 | 17.391 | 17.148 | |
| | | | 0.192 | | | | 1.026 |
| − 9 | 2.261 | 2.475 | | 21 | 18.495 | 18.174 | |
| | | | 0.203 | | | | 1.078 |
| − 8 | 2.456 | 2.678 | | 22 | 19.659 | 19.253 | |
| | | | 0.218 | | | | 1.134 |
| − 7 | 2.666 | 2.896 | | 23 | 20.888 | 20.387 | |
| | | | 0.232 | | | | 1.192 |
| − 6 | 2.890 | 3.128 | | 24 | 22.184 | 21.579 | |
| | | | 0.248 | | | | 1.252 |
| − 5 | 3.131 | 3.376 | | 25 | 23.550 | 22.831 | |
| | | | 0.262 | | | | 1.313 |
| − 4 | 3.387 | 3.638 | | 26 | 24.988 | 24.144 | |
| | | | 0.281 | | | | 1.380 |
| − 3 | 3.662 | 3.919 | | 27 | 26.505 | 25.524 | |
| | | | 0.298 | | | | 1.447 |
| − 2 | 3.955 | 4.217 | | 28 | 28.101 | 26.971 | |
| | | | 0.317 | | | | 1.519 |
| − 1 | 4.267 | 4.534 | | 29 | 29.782 | 28.489 | |
| | | | 0.334 | | | | 1.589 |
| 0 | 4.600 | 4.869 | | 30 | 31.548 | 30.079 | |
| | | | 0.341 | | | | 1.666 |
| + 1 | 4.940 | 5.209 | | 31 | 33.405 | 31.744 | |
| | | | 0.361 | | | | 1.747 |
| 2 | 5.302 | 5.571 | | 32 | 35.359 | 33.491 | |
| | | | 0.383 | | | | 1.827 |
| 3 | 5.687 | 5.953 | | 33 | 37.410 | 35.317 | |
| | | | 0.406 | | | | 1.913 |
| 4 | 6.097 | 6.360 | | 34 | 39.565 | 37.230 | |
| | | | 0.431 | | | | 2.001 |
| 5 | 6.534 | 6.791 | | 35 | 41.827 | 39.231 | |
| | | | 0.456 | | | | 2.092 |
| 6 | 6.998 | 7.247 | | 36 | 44.201 | 41.323 | |
| | | | 0.484 | | | | 2.187 |
| 7 | 7.492 | 7.731 | | 37 | 46.691 | 43.510 | |
| | | | 0.512 | | | | 2.285 |
| 8 | 8.017 | 8.243 | | 38 | 49.302 | 45.795 | |
| | | | 0.541 | | | | 2.387 |
| 9 | 8.574 | 8.785 | | 39 | 52.039 | 48.182 | |
| | | | 0.572 | | | | 2.492 |
| +10 | 9.165 | 9.357 | | +40 | 54.906 | 50.674 | |

# PRACTICAL TABLES,

IN

# ENGLISH MEASURES,

BASED ON REGNAULT'S HYGROMETRICAL CONSTANTS.

# VI.

## TABLE OF THE ELASTIC FORCE OF AQUEOUS VAPOR,

### EXPRESSED IN ENGLISH INCHES OF MERCURY FOR TEMPERATURES OF FAHRENHEIT, REDUCED FROM REGNAULT'S TABLE.

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The values of the elastic force of vapor furnished by V. Regnault, which are found in Table I. of this Hygrometrical set, are derived from a series of experiments conducted, during several years, with great care, consummate skill, and all the means of precision which are at the disposal of modern science. The methods of investigation, and all the steps in each experiment, were minutely described and submitted to the judgment of the scientific, successively in separate papers in several volumes of the *Annales de Chimie et de Physique*, and collectively in his final Report to the Minister of Public Works, (see above, p. 9,) which fills Volume XXI. of the *Mémoires de l'Institut de France.* The confidence which has been deservedly granted to these determinations by nearly all scientific men, is increased by the fact that one of the best physicists and experimenters in Germany, Professor Magnus, came, about the same time, to results so little different, that both tables, for most purposes, may be considered identical. (Compare below, Table XXII.) It seems, therefore, that these values ought to be used in our hygrometrical tables, as has been done in France, in preference to the older and less reliable determinations on which they are based.

Though Regnault's table of the elastic force of vapor is considered, even, it is believed, by a majority of scientific men in England, as the most reliable which science now possesses, the author is not aware that any extensive reduction of it to English measures, such as is wanted for meteorological purposes, has been as yet published; still less a series of tables based on these values. Such a set of hygrometrical tables in English measures, corresponding to the preceding one in French measures, is offered here, which, it is hoped, supplies a real want felt by a large number of meteorologists.

Table VI. is Regnault's Table of the Elastic Force of Vapor as given in Table I., reduced to English measures, in which the fourth decimal is given in order to secure the third, and otherwise to facilitate the computations. From these values Tables VII. to X. have been computed.

## VI. ELASTIC FORCE OF AQUEOUS VAPOR,

### Expressed in English Inches of Mercury for Temperatures of Fahrenheit.

### Reduced from Regnault's Table.

| Temperature Fahrenheit. | Force of Vapor. Tenths of Degrees. 0 | 0.5 | Temperature Fahrenheit. | Force of Vapor. Tenths of Degrees. 0 | 0.5 | Temperature Fahrenheit. | Force of Vapor. Tenths of Degrees. 0 | 0.5 | Temperature Fahrenheit. | Force of Vapor. Tenths of Degrees. 0 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eng. In. | Eng. In. | | Eng. In. | Eng. In. | | Eng. In. | Eng. In. | | Eng. In. | Eng. In. |
| −31 | 0.0087 | 0.0085 | −19 | 0.0171 | 0.0167 | − 8 | 0.0297 | 0.0290 | + 2 | 0.0476 | 0.0485 |
| −30 | 0.0092 | 0.0090 | −18 | 0.0181 | 0.0176 | − 7 | 0.0312 | 0.0304 | 3 | 0.0498 | 0.0510 |
| −29 | 0.0098 | 0.0095 | −17 | 0.0190 | 0.0185 | − 6 | 0.0327 | 0.0319 | 4 | 0.0521 | 0.0533 |
| −28 | 0.0104 | 0.0101 | −16 | 0.0200 | 0.0195 | − 5 | 0.0343 | 0.0335 | 5 | 0.0545 | 0.0558 |
| −27 | 0.0110 | 0.0107 | −15 | 0.0210 | 0.0205 | − 4 | 0.0359 | 0.0351 | 6 | 0.0570 | 0.0584 |
| −26 | 0.0117 | 0.0114 | −14 | 0.0221 | 0.0216 | − 3 | 0.0376 | 0.0368 | 7 | 0.0597 | 0.0611 |
| −25 | 0.0124 | 0.0120 | −13 | 0.0232 | 0.0227 | − 2 | 0.0395 | 0.0386 | 8 | 0.0625 | 0.0639 |
| −24 | 0.0131 | 0.0127 | −12 | 0.0244 | 0.0238 | − 1 | 0.0414 | 0.0404 | 9 | 0.0654 | 0.0669 |
| −23 | 0.0138 | 0.0135 | −11 | 0.0257 | 0.0250 | − 0 | 0.0434 | 0.0424 | 10 | 0.0684 | 0.0700 |
| −22 | 0.0146 | 0.0142 | −10 | 0.0270 | 0.0263 | + 0 | 0.0434 | 0.0444 | 11 | 0.0716 | 0.0732 |
| −21 | 0.0154 | 0.0150 | − 9 | 0.0283 | 0.0276 | + 1 | 0.0454 | 0.0465 | 12 | 0.0749 | 0.0766 |
| −20 | 0.0163 | 0.0158 | − 8 | 0.0297 | 0.0290 | + 2 | 0.0476 | 0.0487 | +13 | 0.0783 | 0.0800 |

| Temperature Fahrenheit. | Tenths of Degrees. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 0 | | | | | | | | | | |
| 14 | 0.0818 | 0.0822 | 0.0826 | 0.0830 | 0.0834 | 0.0837 | 0.0841 | 0.0845 | 0.0849 | 0.0853 |
| 15 | 0.0857 | 0.0861 | 0.0865 | 0.0869 | 0.0873 | 0.0877 | 0.0881 | 0.0885 | 0.0889 | 0.0893 |
| 16 | 0.0898 | 0.0902 | 0.0906 | 0.0910 | 0.0914 | 0.0918 | 0.0923 | 0.0927 | 0.0931 | 0.0936 |
| 17 | 0.0940 | 0.0944 | 0.0949 | 0.0953 | 0.0958 | 0.0962 | 0.0967 | 0.0971 | 0.0975 | 0.0980 |
| 18 | 0.0984 | 0.0989 | 0.0993 | 0.0998 | 0.1002 | 0.1007 | 0.1012 | 0.1016 | 0.1021 | 0.1025 |
| 19 | 0.1030 | 0.1035 | 0.1040 | 0.1044 | 0.1049 | 0.1054 | 0.1059 | 0.1064 | 0.1068 | 0.1073 |
| 20 | 0.1078 | 0.1083 | 0.1088 | 0.1093 | 0.1098 | 0.1103 | 0.1108 | 0.1113 | 0.1118 | 0.1123 |
| 21 | 0.1128 | 0.1133 | 0.1138 | 0.1143 | 0.1148 | 0.1153 | 0.1159 | 0.1164 | 0.1169 | 0.1174 |
| 22 | 0.1179 | 0.1185 | 0.1190 | 0.1195 | 0.1200 | 0.1206 | 0.1211 | 0.1217 | 0.1222 | 0.1227 |
| 23 | 0.1233 | 0.1238 | 0.1244 | 0.1249 | 0.1255 | 0.1260 | 0.1266 | 0.1272 | 0.1277 | 0.1283 |
| 24 | 0.1289 | 0.1295 | 0.1300 | 0.1306 | 0.1312 | 0.1318 | 0.1324 | 0.1329 | 0.1335 | 0.1341 |
| 25 | 0.1347 | 0.1353 | 0.1359 | 0.1365 | 0.1371 | 0.1377 | 0.1383 | 0.1389 | 0.1395 | 0.1401 |
| 26 | 0.1407 | 0.1413 | 0.1419 | 0.1426 | 0.1432 | 0.1438 | 0.1444 | 0.1450 | 0.1457 | 0.1463 |
| 27 | 0.1469 | 0.1476 | 0.1482 | 0.1488 | 0.1495 | 0.1501 | 0.1508 | 0.1514 | 0.1521 | 0.1527 |
| 28 | 0.1534 | 0.1540 | 0.1547 | 0.1553 | 0.1560 | 0.1567 | 0.1573 | 0.1580 | 0.1587 | 0.1593 |
| 29 | 0.1600 | 0.1607 | 0.1613 | 0.1620 | 0.1627 | 0.1634 | 0.1641 | 0.1647 | 0.1654 | 0.1661 |
| 30 | 0.1668 | 0.1675 | 0.1682 | 0.1689 | 0.1696 | 0.1703 | 0.1710 | 0.1717 | 0.1724 | 0.1732 |
| 31 | 0.1739 | 0.1746 | 0.1753 | 0.1760 | 0.1767 | 0.1775 | 0.1782 | 0.1789 | 0.1796 | 0.1804 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

EXPRESSED IN ENGLISH INCHES OF MERCURY FOR TEMPERATURES OF FAHRENHEIT.

| Temperature of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 32 | 0.1811 | 0.1818 | 0.1825 | 0.1833 | 0.1840 | 0.1847 | 0.1854 | 0.1861 | 0.1869 | 0.1876 |
| 33 | 0.1883 | 0.1891 | 0.1898 | 0.1906 | 0.1913 | 0.1921 | 0.1928 | 0.1936 | 0.1944 | 0.1951 |
| 34 | 0.1959 | 0.1967 | 0.1974 | 0.1982 | 0.1990 | 0.1998 | 0.2006 | 0.2013 | 0.2021 | 0.2029 |
| 35 | 0.2037 | 0.2045 | 0.2053 | 0.2061 | 0.2070 | 0.2077 | 0.2086 | 0.2094 | 0.2102 | 0.2111 |
| 36 | 0.2119 | 0.2127 | 0.2135 | 0.2144 | 0.2152 | 0.2161 | 0.2169 | 0.2178 | 0.2186 | 0.2195 |
| 37 | 0.2204 | 0.2212 | 0.2221 | 0.2230 | 0.2238 | 0.2247 | 0.2256 | 0.2265 | 0.2273 | 0.2282 |
| 38 | 0.2291 | 0.2300 | 0.2309 | 0.2318 | 0.2327 | 0.2336 | 0.2345 | 0.2354 | 0.2364 | 0.2373 |
| 39 | 0.2382 | 0.2391 | 0.2400 | 0.2410 | 0.2419 | 0.2428 | 0.2438 | 0.2447 | 0.2457 | 0.2466 |
| 40 | 0.2476 | 0.2485 | 0.2495 | 0.2504 | 0.2514 | 0.2524 | 0.2533 | 0.2543 | 0.2553 | 0.2563 |
| 41 | 0.2572 | 0.2582 | 0.2592 | 0.2602 | 0.2612 | 0.2622 | 0.2632 | 0.2642 | 0.2652 | 0.2662 |
| 42 | 0.2672 | 0.2682 | 0.2692 | 0.2702 | 0.2713 | 0.2723 | 0.2733 | 0.2744 | 0.2754 | 0.2764 |
| 43 | 0.2775 | 0.2785 | 0.2796 | 0.2807 | 0.2817 | 0.2828 | 0.2839 | 0.2850 | 0.2860 | 0.2871 |
| 44 | 0.2882 | 0.2893 | 0.2904 | 0.2915 | 0.2926 | 0.2937 | 0.2948 | 0.2960 | 0.2971 | 0.2982 |
| 45 | 0.2993 | 0.3005 | 0.3016 | 0.3028 | 0.3039 | 0.3050 | 0.3062 | 0.3074 | 0.3085 | 0.3097 |
| 46 | 0.3108 | 0.3120 | 0.3132 | 0.3144 | 0.3156 | 0.3168 | 0.3179 | 0.3191 | 0.3203 | 0.3215 |
| 47 | 0.3228 | 0.3240 | 0.3252 | 0.3264 | 0.3276 | 0.3289 | 0.3301 | 0.3313 | 0.3326 | 0.3338 |
| 48 | 0.3351 | 0.3363 | 0.3376 | 0.3388 | 0.3401 | 0.3414 | 0.3426 | 0.3439 | 0.3452 | 0.3465 |
| 49 | 0.3477 | 0.3490 | 0.3503 | 0.3516 | 0.3529 | 0.3542 | 0.3556 | 0.3569 | 0.3582 | 0.3595 |
| 50 | 0.3608 | 0.3622 | 0.3635 | 0.3648 | 0.3661 | 0.3675 | 0.3688 | 0.3702 | 0.3715 | 0.3729 |
| 51 | 0.3743 | 0.3756 | 0.3770 | 0.3784 | 0.3798 | 0.3812 | 0.3826 | 0.3840 | 0.3854 | 0.3868 |
| 52 | 0.3882 | 0.3896 | 0.3911 | 0.3925 | 0.3939 | 0.3954 | 0.3968 | 0.3983 | 0.3997 | 0.4012 |
| 53 | 0.4027 | 0.4041 | 0.4056 | 0.4071 | 0.4086 | 0.4101 | 0.4116 | 0.4131 | 0.4146 | 0.4161 |
| 54 | 0.4176 | 0.4191 | 0.4207 | 0.4222 | 0.4237 | 0.4253 | 0.4268 | 0.4284 | 0.4299 | 0.4315 |
| 55 | 0.4331 | 0.4346 | 0.4362 | 0.4378 | 0.4394 | 0.4410 | 0.4426 | 0.4442 | 0.4458 | 0.4474 |
| 56 | 0.4490 | 0.4507 | 0.4523 | 0.4539 | 0.4556 | 0.4572 | 0.4589 | 0.4605 | 0.4622 | 0.4638 |
| 57 | 0.4655 | 0.4672 | 0.4689 | 0.4705 | 0.4722 | 0.4739 | 0.4756 | 0.4773 | 0.4791 | 0.4808 |
| 58 | 0.4825 | 0.4842 | 0.4859 | 0.4876 | 0.4894 | 0.4912 | 0.4929 | 0.4947 | 0.4964 | 0.4982 |
| 59 | 0.5000 | 0.5017 | 0.5035 | 0.5053 | 0.5071 | 0.5089 | 0.5107 | 0.5125 | 0.5143 | 0.5161 |
| 60 | 0.5179 | 0.5198 | 0.5216 | 0.5234 | 0.5253 | 0.5271 | 0.5290 | 0.5301 | 0.5328 | 0.5346 |
| 61 | 0.5365 | 0.5384 | 0.5403 | 0.5422 | 0.5441 | 0.5461 | 0.5480 | 0.5499 | 0.5519 | 0.5538 |
| 62 | 0.5558 | 0.5577 | 0.5597 | 0.5617 | 0.5636 | 0.5656 | 0.5676 | 0.5696 | 0.5716 | 0.5736 |
| 63 | 0.5756 | 0.5777 | 0.5797 | 0.5817 | 0.5838 | 0.5858 | 0.5879 | 0.5899 | 0.5920 | 0.5941 |
| 64 | 0.5962 | 0.5983 | 0.6004 | 0.6025 | 0.6046 | 0.6067 | 0.6088 | 0.6109 | 0.6131 | 0.6152 |
| 65 | 0.6173 | 0.6195 | 0.6217 | 0.6238 | 0.6260 | 0.6282 | 0.6304 | 0.6325 | 0.6347 | 0.6369 |
| 66 | 0.6392 | 0.6414 | 0.6436 | 0.6458 | 0.6481 | 0.6503 | 0.6525 | 0.6548 | 0.6571 | 0.6593 |
| 67 | 0.6616 | 0.6639 | 0.6662 | 0.6685 | 0.6708 | 0.6731 | 0.6754 | 0.6777 | 0.6800 | 0.6824 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

EXPRESSED IN ENGLISH INCHES OF MERCURY FOR TEMPERATURES OF FAHRENHEIT.

| Temperature of Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 68 | 0.6847 | 0.6870 | 0.6894 | 0.6917 | 0.6941 | 0.6965 | 0.6989 | 0.7012 | 0.7036 | 0.7060 |
| 69 | 0.7084 | 0.7108 | 0.7133 | 0.7157 | 0.7181 | 0.7206 | 0.7230 | 0.7255 | 0.7280 | 0.7305 |
| 70 | 0.7329 | 0.7354 | 0.7379 | 0.7405 | 0.7430 | 0.7455 | 0.7480 | 0.7506 | 0.7531 | 0.7557 |
| 71 | 0.7583 | 0.7609 | 0.7634 | 0.7660 | 0.7686 | 0.7712 | 0.7739 | 0.7765 | 0.7791 | 0.7818 |
| 72 | 0.7844 | 0.7871 | 0.7897 | 0.7924 | 0.7951 | 0.7978 | 0.8005 | 0.8032 | 0.8059 | 0.8086 |
| 73 | 0.8113 | 0.8141 | 0.8168 | 0.8196 | 0.8223 | 0.8251 | 0.8279 | 0.8307 | 0.8335 | 0.8363 |
| 74 | 0.8391 | 0.8419 | 0.8447 | 0.8476 | 0.8504 | 0.8533 | 0.8561 | 0.8590 | 0.8619 | 0.8648 |
| 75 | 0.8676 | 0.8705 | 0.8735 | 0.8764 | 0.8793 | 0.8822 | 0.8852 | 0.8881 | 0.8911 | 0.8940 |
| 76 | 0.8970 | 0.9000 | 0.9030 | 0.9060 | 0.9090 | 0.9120 | 0.9150 | 0.9180 | 0.9211 | 0.9241 |
| 77 | 0.9272 | 0.9302 | 0.9333 | 0.9364 | 0.9395 | 0.9426 | 0.9457 | 0.9488 | 0.9519 | 0.9550 |
| 78 | 0.9582 | 0.9613 | 0.9645 | 0.9677 | 0.9709 | 0.9740 | 0.9773 | 0.9805 | 0.9837 | 0.9869 |
| 79 | 0.9902 | 0.9934 | 0.9967 | 1.0000 | 1.0033 | 1.0065 | 1.0099 | 1.0132 | 1.0165 | 1.0198 |
| 80 | 1.0232 | 1.0265 | 1.0299 | 1.0332 | 1.0366 | 1.0400 | 1.0434 | 1.0468 | 1.0503 | 1.0537 |
| 81 | 1.0572 | 1.0606 | 1.0641 | 1.0675 | 1.0710 | 1.0745 | 1.0780 | 1.0815 | 1.0851 | 1.0886 |
| 82 | 1.0922 | 1.0957 | 1.0993 | 1.1028 | 1.1064 | 1.1100 | 1.1136 | 1.1172 | 1.1209 | 1.1245 |
| 83 | 1.1281 | 1.1318 | 1.1354 | 1.1391 | 1.1428 | 1.1465 | 1.1502 | 1.1539 | 1.1576 | 1.1614 |
| 84 | 1.1651 | 1.1689 | 1.1726 | 1.1764 | 1.1802 | 1.1840 | 1.1878 | 1.1916 | 1.1954 | 1.1993 |
| 85 | 1.2031 | 1.2070 | 1.2108 | 1.2147 | 1.2186 | 1.2225 | 1.2264 | 1.2303 | 1.2342 | 1.2381 |
| 86 | 1.2421 | 1.2460 | 1.2500 | 1.2540 | 1.2580 | 1.2620 | 1.2660 | 1.2700 | 1.2740 | 1.2781 |
| 87 | 1.2821 | 1.2862 | 1.2903 | 1.2944 | 1.2985 | 1.3026 | 1.3068 | 1.3109 | 1.3151 | 1.3192 |
| 88 | 1.3234 | 1.3276 | 1.3318 | 1.3361 | 1.3403 | 1.3445 | 1.3488 | 1.3531 | 1.3573 | 1.3616 |
| 89 | 1.3659 | 1.3703 | 1.3746 | 1.3789 | 1.3833 | 1.3877 | 1.3920 | 1.3964 | 1.4008 | 1.4053 |
| 90 | 1.4097 | 1.4141 | 1.4186 | 1.4230 | 1.4275 | 1.4320 | 1.4365 | 1.4410 | 1.4456 | 1.4501 |
| 91 | 1.4546 | 1.4592 | 1.4638 | 1.4684 | 1.4730 | 1.4776 | 1.4822 | 1.4869 | 1.4915 | 1.4962 |
| 92 | 1.5008 | 1.5055 | 1.5102 | 1.5149 | 1.5197 | 1.5244 | 1.5291 | 1.5339 | 1.5387 | 1.5435 |
| 93 | 1.5482 | 1.5531 | 1.5579 | 1.5627 | 1.5676 | 1.5724 | 1.5773 | 1.5822 | 1.5871 | 1.5920 |
| 94 | 1.5969 | 1.6018 | 1.6068 | 1.6117 | 1.6167 | 1.6217 | 1.6267 | 1.6317 | 1.6367 | 1.6417 |
| 95 | 1.6468 | 1.6518 | 1.6569 | 1.6620 | 1.6671 | 1.6722 | 1.6773 | 1.6825 | 1.6876 | 1.6928 |
| 96 | 1.6980 | 1.7032 | 1.7084 | 1.7137 | 1.7189 | 1.7242 | 1.7295 | 1.7348 | 1.7401 | 1.7454 |
| 97 | 1.7508 | 1.7561 | 1.7615 | 1.7669 | 1.7723 | 1.7777 | 1.7831 | 1.7886 | 1.7940 | 1.7995 |
| 98 | 1.8050 | 1.8105 | 1.8160 | 1.8215 | 1.8271 | 1.8327 | 1.8382 | 1.8438 | 1.8494 | 1.8551 |
| 99 | 1.8607 | 1.8664 | 1.8720 | 1.8777 | 1.8834 | 1.8891 | 1.8949 | 1.9006 | 1.9064 | 1.9121 |
| 100 | 1.9179 | 1.9237 | 1.9295 | 1.9354 | 1.9412 | 1.9471 | 1.9530 | 1.9589 | 1.9648 | 1.9707 |
| 101 | 1.9766 | 1.9826 | 1.9885 | 1.9945 | 2.0005 | 2.0065 | 2.0126 | 2.0186 | 2.0247 | 2.0307 |
| 102 | 2.0368 | 2.0429 | 2.0490 | 2.0552 | 2.0613 | 2.0675 | 2.0737 | 2.0798 | 2.0861 | 2.0923 |
| 103 | 2.0985 | 2.1048 | 2.1110 | 2.1173 | 2.1236 | 2.1299 | 2.1362 | 2.1426 | 2.1489 | 2.1553 |
| 104 | 2.1617 | 2.1681 | 2.1745 | 2.1810 | 2.1874 | 2.1939 | 2.2004 | 2.2069 | 2.2135 | 2.2200 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# VII.

## PSYCHROMETRICAL TABLES,

GIVING, IN ENGLISH INCHES OF MERCURY, THE ELASTIC FORCE OF VAPOR CONTAINED IN THE AIR, AND ITS RELATIVE HUMIDITY IN HUNDREDTHS;

DERIVED FROM THE INDICATIONS OF THE WET AND DRY BULB THERMOMETERS, IN DEGREES OF FAHRENHEIT.

By A. Guyot.*

M. V. Regnault, in his *Etudes sur l'Hygrométrie Annales de Chimie et de Physique*, 3me série, Tom. XV. p. 129, after having discussed the theoretical bases of the psychrometric formula given by August, and modified the numerical values of some of its coefficients, adopts the formula

$$x = f - \frac{0.480\ (t - t')}{610 - t'}\ h$$

for temperatures above the freezing-point; and when the temperature of the wet thermometer is below the freezing-point, the bulb being covered with a film of ice,

$$x = f - \frac{0.480\ (t - t')}{689 - t'}\ h,$$

* While this table was going through the press, a similar one, prepared by Prof. T. H. Coffin for his private use, was published by the Smithsonian Institution, in order to meet an urgent demand from many quarters. Being based on the same formula, it gives the same results, except, perhaps, in degrees below 14° Fahrenheit, where the tables show slight discrepancies. These unimportant differences arise from the fact that Prof. Coffin's table was computed from Regnault's tensions, as given in the first edition of this collection, while the author's table is based on the table of tensions as given in this second edition, in which the values below 14° Fahrenheit have been somewhat modified, for reasons given above. The following table gives also the relative humidity with one more decimal, which makes the interpolations more easy; and a column of differences for finding the values for fractions of $t'$. A table for reducing the results to another barometric height is added at the end of the table.

in which

$x$ represents the force of vapor in the air at the time of the observation;

$t$, the temperature of the air in Centigrade degrees, indicated by the dry thermometer;

$t'$, the temperature of evaporation given by the wet thermometer;

$f$, the force of vapor in a saturated air at the temperature $t'$;

$h$, the height of the barometer.

Substituting the Fahrenheit scale for the Centigrade, the formula, for temperatures above the freezing-point, reads

$$x = f - \frac{0.480 \times \frac{5}{9}(t - t')}{610 - \frac{5}{9}(t' - 32°)} h = f - \frac{0.480\ (t - t')}{1130 - t'} h;$$

and below the freezing-point,

$$x = f - \frac{0.480 \times \frac{5}{9}(t - t')}{689 - \frac{5}{9}(t' - 32°)} h = f - \frac{0.480\ (t - t')}{1240.2 - t'} h.$$

Making, further, $h = 29.7$ English inches, these formulæ become

$$x = f - \frac{0.480\ (t - t')}{1130 - t'} 29.7 = f - \frac{14.256\ (t - t')}{1130 - t'},$$

and

$$x = f - \frac{0.480\ (t - t')}{1240.2 - t'} 29.7 = f - \frac{14.256\ (t - t')}{1240.2 - t'}.$$

The mean barometric pressure for which the table has been computed, viz. 29.7 inches, is, within a small fraction, the same as that adopted in Haeghens's Tables, No. II., which is 755 millimetres = 29.725 Eng. inches. As that slight difference in the barometric pressure cannot cause, in the most extreme cases, a difference exceeding two thousandths of an inch in the elastic forces, the results in the two tables may be considered identical.

That barometric pressure, corresponding, in our latitudes, to a mean altitude of 250 to 300 feet above the sea, is likely to suit, without correction, the largest number of meteorological stations. Should the mean height of the barometer, in consequence of the elevation of the station, much differ from that adopted in the table, a constant correction can be determined, to be applied to the numbers in the table. At the end, page 72, will be found a table which furnishes that correction for barometric heights between 20 and 31 inches, and for values of $t - t'$ between 2° and 26° Fahrenheit.

The effect of the irregular variations of the barometer at the same station can, in most cases, be neglected; for the error due to that cause will scarcely ever exceed those which may arise from the uncertainty of the very elements on which the tables are based.

## Arrangement of the Tables.

The same arrangement as is found in the Psychrometrical for the Centigrade scale has been adopted.

The first column at the left contains the indications of the wet-bulb thermometer, from —31° to 105° Fahrenheit.

The second column gives the differences of the force of vapor for each tenth of a degree, between each two consecutive full degrees in the first column. It enables the observer easily to find the values for the fractions of degrees of the wet thermometer.

The following double columns furnish the forces of vapor and the relative humidity corresponding to each full degree of the wet-bulb thermometer given in the first column in the same horizontal line, and to the difference of the two thermometers, or $t - t'$, found at the head of each column, for every half-degree from 0° to 26°.5. The relative humidity, or the fraction of saturation, is given in hundredths, which is near enough for meteorological purposes; but one decimal more has been added, though separated by a point, in order to facilitate the interpolations.

At the bottom of each page is found the mean difference, for each tenth of a degree, between the forces of vapor on the same line. It gives the means of finding the values for the intermediate differences of $t - t'$, not found in the tables.

## Use of the Tables.

Enter the tables with the difference of the two thermometers, or $t - t'$, and the temperature of the wet-bulb thermometer, given by observation.

In the column headed by the observed difference of the thermometer, $t - t'$, and on the horizontal line headed by the observed temperature of the wet thermometer, $t'$, are found the force of vapor, and the relative humidity corresponding to these temperatures.

For the fractions of degrees of the wet thermometer, multiply the decimal fraction by the number placed in the second column between the full degree and the next, and *add* the product if the temperature is above, and *subtract* it if it is below zero Fahrenheit.

The intermediate values of $t - t'$ not given in the table are found by *subtracting* the number in the line at the bottom of the page, multiplied by the number of additional tenths, from the value given in the table. This correction, being always very small, can usually be neglected.

For the relative humidity, interpolations at sight will generally suffice.

*Examples.*

1. Dry thermometer, $t = 50°$ F.
   Wet thermometer, $t' = 43°$ F.
   Difference, or $t - t' = 7°$ F.

Page 58, we find for $t - t' = 7°$ in the third double column, and for $t' = 43°$ in the first column

Force of vapor in the air = 0.186 inch.
Relative humidity in hundredths = 51

2. Dry thermometer, $t = 88°.5$ F.
Wet thermometer, $t' = 76°.3$ F.
Difference, $t - t' = 12°.2$ F.

Page 63, Table gives for $t - t' = 12$ and $t' = 76°$ = 0.735 inch.
Add for fraction of $t' = 0.3$, $0.003 \times 3$ = 0.009
Subtract for fraction of $t - t' = 0°.2$, $.0013 \times 2$ = —0.003
Force of vapor in the air = 0.741
Relative humidity = 55

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3. Dry thermometer, $t = -4°.5$ F.
Wet thermometer, $t' = 6°.0$ F.
Difference, $t - t' = 1°.5$ F.

Page 50, Table gives for $t - t' = 1°.5$ and $t' = -6°$ = 0.016 inch.
Subtract for fraction of $t' = 0.5$, $0.0002 \times 5$ = — 0.001
Force of vapor in the air = 0.015
Relative humidity = 45

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t′, or Difference of Wet and Dry Bulb Thermometers. t′, below the Freezing-Point; the Bulb covered with a Film of Ice. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.5 | | 1°.0 | | 1°.5 | | 2°.0 | | 2°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| −31 | | 0.009 | 100 | 0.003 | 36.0 | | | | | | | | |
| | .00005 | | | | | | | | | | | | |
| −30 | | 0.009 | 100 | 0.004 | 39.6 | | | | | | | | |
| | .00006 | | | | | | | | | | | | |
| −29 | | 0.010 | 100 | 0.004 | 42.9 | | | | | | | | |
| | .00006 | | | | | | | | | | | | |
| −28 | | 0.010 | 100 | 0.005 | 46.1 | | | | | | | | |
| | .00006 | | | | | | | | | | | | |
| −27 | | 0.011 | 100 | 0.006 | 49.0 | | | | | | | | |
| | .00006 | | | | | | | | | | | | |
| −26 | | 0.012 | 100 | 0.006 | 51.8 | | | | | | | | |
| | .00007 | | | | | | | | | | | | |
| −25 | | 0.012 | 100 | 0.007 | 54.4 | | | | | | | | |
| | .00007 | | | | | | | | | | | | |
| −24 | | 0.013 | 100 | 0.008 | 56.8 | | | | | | | | |
| | .00008 | | | | | | | | | | | | |
| −23 | | 0.014 | 100 | 0.008 | 59.0 | | | | | | | | |
| | .00008 | | | | | | | | | | | | |
| −22 | | 0.015 | 100 | 0.009 | 61.0 | | | | | | | | |
| | .00008 | | | | | | | | | | | | |
| −21 | | 0.015 | 100 | 0.010 | 62.6 | 0.004 | 26.9 | | | | | | |
| | .00008 | | | | | | | | | | | | |
| −20 | | 0.016 | 100 | 0.011 | 64.2 | 0.005 | 30.3 | | | | | | |
| | .00008 | | | | | | | | | | | | |
| −19 | | 0.017 | 100 | 0.012 | 65.9 | 0.006 | 33.5 | | | | | | |
| | .00009 | | | | | | | | | | | | |
| −18 | | 0.018 | 100 | 0.012 | 67.5 | 0.007 | 36.6 | | | | | | |
| | .0001 | | | | | | | | | | | | |
| −17 | | 0.019 | 100 | 0.013 | 69.0 | 0.008 | 39.5 | | | | | | |
| | .0001 | | | | | | | | | | | | |
| −16 | | 0.020 | 100 | 0.014 | 70.4 | 0.009 | 42.3 | | | | | | |
| | .0001 | | | | | | | | | | | | |
| −15 | | 0.021 | 100 | 0.015 | 71.8 | 0.010 | 44.9 | 0.004 | 19.4 | | | | |
| | .0001 | | | | | | | | | | | | |
| −14 | | 0.022 | 100 | 0.017 | 73.0 | 0.011 | 47.4 | 0.005 | 23.0 | | | | |
| | .0001 | | | | | | | | | | | | |
| −13 | | 0.023 | 100 | 0.018 | 74.3 | 0.012 | 49.8 | 0.007 | 26.4 | | | | |
| | .0001 | | | | | | | | | | | | |
| −12 | | 0.024 | 100 | 0.019 | 75.4 | 0.013 | 51.9 | 0.008 | 29.5 | | | | |
| | .0001 | | | | | | | | | | | | |
| −11 | | 0.026 | 100 | 0.020 | 76.5 | 0.014 | 53.9 | 0.009 | 32.5 | | | | |
| | .0001 | | | | | | | | | | | | |
| −10 | | 0.027 | 100 | 0.021 | 77.5 | 0.016 | 55.7 | 0.010 | 35.3 | 0.005 | 15.6 | | |
| | .0001 | | | | | | | | | | | | |
| − 9 | | 0.028 | 100 | 0.023 | 78.5 | 0.017 | 57.7 | 0.012 | 38.3 | 0.006 | 19.1 | | |
| | .0001 | | | | | | | | | | | | |
| − 8 | | 0.030 | 100 | 0.024 | 79.4 | 0.018 | 59.4 | 0.013 | 40.6 | 0.007 | 22.5 | | |
| | .0001 | | | | | | | | | | | | |
| − 7 | | 0.031 | 100 | 0.026 | 80.3 | 0.020 | 61.1 | 0.014 | 43.0 | 0.009 | 25.7 | | |
| | .0001 | | | | | | | | | | | | |
| − 6 | | 0.033 | 100 | 0.027 | 81.1 | 0.021 | 62.7 | 0.016 | 45.4 | 0.010 | 28.4 | 0.005 | 12.9 |
| | .0002 | | | | | | | | | | | | |
| − 5 | | 0.034 | 100 | 0.029 | 81.8 | 0.023 | 64.5 | 0.017 | 47.6 | 0.012 | 31.7 | 0.006 | 16.4 |
| | .0002 | | | | | | | | | | | | |
| − 4 | | 0.036 | 100 | 0.030 | 82.5 | 0.025 | 65.8 | 0.019 | 49.8 | 0.014 | 34.5 | 0.008 | 19.8 |
| | .0002 | | | | | | | | | | | | |
| − 3 | | 0.038 | 100 | 0.032 | 83.2 | 0.026 | 67.1 | 0.021 | 51.7 | 0.015 | 36.9 | 0.010 | 22.8 |
| | .0002 | | | | | | | | | | | | |
| − 2 | | 0.039 | 100 | 0.034 | 83.9 | 0.028 | 68.3 | 0.023 | 53.5 | 0.017 | 39.3 | 0.011 | 25.8 |
| | .0002 | | | | | | | | | | | | |
| − 1 | | 0.041 | 100 | 0.036 | 84.5 | 0.030 | 69.5 | 0.024 | 55.3 | 0.019 | 41.6 | 0.013 | 28.6 |
| | .0002 | | | | | | | | | | | | |
| − 0 | | 0.043 | 100 | 0.038 | 85.0 | 0.032 | 71.0 | 0.026 | 57.0 | 0.021 | 43.8 | 0.015 | 31.3 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0012.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t′, or Difference of Wet and Dry Bulb Thermometers. t′, below the Freezing-Point, the Bulb covered with a Film of Ice. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.5 | | 1°.0 | | 1°.5 | | 2°.0 | | 2°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In | |
| 0 | | 0.043 | 100 | 0.038 | 85.0 | 0.032 | 70.7 | 0.026 | 57.0 | 0.021 | 43.8 | 0.015 | 31.3 |
| | 0.0002 | | | | | | | | | | | | |
| 1 | | 0.045 | 100 | 0.040 | 85.6 | 0.034 | 71.8 | 0.028 | 58.6 | 0.023 | 46.0 | 0.017 | 33.9 |
| | .0002 | | | | | | | | | | | | |
| 2 | | 0.047 | 100 | 0.042 | 86.2 | 0.036 | 73.0 | 0.031 | 60.2 | 0.025 | 48.0 | 0.019 | 36.4 |
| | .0002 | | | | | | | | | | | | |
| 3 | | 0.050 | 100 | 0.044 | 86.7 | 0.038 | 74.0 | 0.033 | 61.8 | 0.027 | 50.0 | 0.022 | 38.8 |
| | .0002 | | | | | | | | | | | | |
| 4 | | 0.052 | 100 | 0.046 | 87.2 | 0.041 | 75.0 | 0.035 | 63.3 | 0.030 | 52.0 | 0.024 | 41.2 |
| | .0002 | | | | | | | | | | | | |
| 5 | | 0.055 | 100 | 0.049 | 87.7 | 0.043 | 76.0 | 0.038 | 64.7 | 0.032 | 53.8 | 0.026 | 43.4 |
| | .0002 | | | | | | | | | | | | |
| 6 | | 0.057 | 100 | 0.051 | 88.2 | 0.046 | 76.9 | 0.040 | 66.0 | 0.034 | 55.3 | 0.029 | 45.2 |
| | .0003 | | | | | | | | | | | | |
| 7 | | 0.059 | 100 | 0.054 | 88.6 | 0.048 | 77.7 | 0.043 | 67.1 | 0.037 | 56.8 | 0.031 | 47.0 |
| | .0003 | | | | | | | | | | | | |
| 8 | | 0.062 | 100 | 0.057 | 89.0 | 0.051 | 78.4 | 0.045 | 68.2 | 0.040 | 58.2 | 0.034 | 48.8 |
| | .0003 | | | | | | | | | | | | |
| 9 | | 0.065 | 100 | 0.059 | 89.4 | 0.054 | 79.1 | 0.048 | 69.2 | 0.043 | 59.6 | 0.037 | 50.5 |
| | .0003 | | | | | | | | | | | | |
| 10 | | 0.068 | 100 | 0.062 | 89.8 | 0.057 | 79.7 | 0.051 | 70.1 | 0.046 | 61.0 | 0.040 | 52.2 |
| | .0003 | | | | | | | | | | | | |
| 11 | | 0.071 | 100 | 0.066 | 90.1 | 0.061 | 80.4 | 0.054 | 71.1 | 0.049 | 62.3 | 0.043 | 53.8 |
| | .0003 | | | | | | | | | | | | |
| 12 | | 0.075 | 100 | 0.069 | 90.4 | 0.063 | 81.0 | 0.058 | 72.1 | 0.052 | 63.5 | 0.046 | 55.3 |
| | .0003 | | | | | | | | | | | | |
| 13 | | 0.078 | 100 | 0.072 | 90.7 | 0.067 | 81.6 | 0.061 | 73.0 | 0.056 | 64.8 | 0.050 | 56.8 |
| | .0004 | | | | | | | | | | | | |
| 14 | | 0.082 | 100 | 0.076 | 91.0 | 0.071 | 82.3 | 0.065 | 73.9 | 0.059 | 65.9 | 0.054 | 58.2 |
| | .0004 | | | | | | | | | | | | |
| 15 | | 0.086 | 100 | 0.080 | 91.3 | 0.074 | 82.9 | 0.069 | 74.8 | 0.063 | 67.1 | 0.057 | 59.7 |
| | .0004 | | | | | | | | | | | | |
| 16 | | 0.090 | 100 | 0.084 | 91.6 | 0.078 | 83.4 | 0.073 | 75.7 | 0.067 | 68.2 | 0.061 | 61.0 |
| | .0004 | | | | | | | | | | | | |
| 17 | | 0.094 | 100 | 0.088 | 91.9 | 0.083 | 84.0 | 0.077 | 76.5 | 0.071 | 69.2 | 0.066 | 62.3 |
| | .0004 | | | | | | | | | | | | |
| 18 | | 0.098 | 100 | 0.093 | 92.1 | 0.087 | 84.5 | 0.081 | 77.2 | 0.076 | 70.2 | 0.070 | 63.5 |
| | .0005 | | | | | | | | | | | | |
| 19 | | 0.103 | 100 | 0.097 | 92.4 | 0.092 | 85.0 | 0.086 | 78.0 | 0.080 | 71.2 | 0.075 | 64.7 |
| | .0005 | | | | | | | | | | | | |
| 20 | | 0.108 | 100 | 0.102 | 92.6 | 0.096 | 85.5 | 0.091 | 78.7 | 0.085 | 72.1 | 0.079 | 65.8 |
| | .0005 | | | | | | | | | | | | |
| 21 | | 0.113 | 100 | 0.107 | 92.9 | 0.101 | 86.0 | 0.096 | 79.4 | 0.090 | 73.0 | 0.084 | 66.9 |
| | .0005 | | | | | | | | | | | | |
| 22 | | 0.118 | 100 | 0.112 | 93.1 | 0.107 | 86.4 | 0.101 | 80.0 | 0.095 | 73.8 | 0.089 | 68.0 |
| | .0005 | | | | | | | | | | | | |
| 23 | | 0.123 | 100 | 0.118 | 93.3 | 0.112 | 86.8 | 0.106 | 80.7 | 0.100 | 74.6 | 0.095 | 68.9 |
| | .0006 | | | | | | | | | | | | |
| 24 | | 0.129 | 100 | 0.123 | 93.6 | 0.117 | 87.2 | 0.112 | 81.2 | 0.106 | 75.4 | 0.100 | 69.9 |
| | .0006 | | | | | | | | | | | | |
| 25 | | 0.135 | 100 | 0.129 | 93.8 | 0.123 | 87.6 | 0.118 | 81.8 | 0.112 | 76.1 | 0.106 | 70.7 |
| | .0006 | | | | | | | | | | | | |
| 26 | | 0.141 | 100 | 0.135 | 94.0 | 0.129 | 88.0 | 0.123 | 82.4 | 0.117 | 76.8 | 0.112 | 71.6 |
| | .0006 | | | | | | | | | | | | |
| 27 | | 0.147 | 100 | 0.141 | 94.1 | 0.136 | 88.3 | 0.130 | 82.9 | 0.124 | 77.5 | 0.118 | 72.5 |
| | .0006 | | | | | | | | | | | | |
| 28 | | 0.153 | 100 | 0.148 | 94.3 | 0.142 | 88.7 | 0.136 | 83.4 | 0.130 | 78.2 | 0.125 | 73.3 |
| | .0007 | | | | | | | | | | | | |
| 29 | | 0.160 | 100 | 0.154 | 94.5 | 0.149 | 89.0 | 0.143 | 83.9 | 0.137 | 78.8 | 0.131 | 74.0 |
| | .0007 | | | | | | | | | | | | |
| 30 | | 0.167 | 100 | 0.161 | 94.7 | 0.155 | 89.3 | 0.150 | 84.3 | 0.144 | 79.4 | 0.138 | 74.8 |
| | .0007 | | | | | | | | | | | | |
| 31 | | 0.174 | 100 | 0.168 | 94.8 | 0.162 | 89.6 | 0.157 | 84.8 | 0.151 | 80.0 | 0.145 | 75.6 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0012.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t′ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t − t′, or Difference of Wet and Dry Bulb Thermometers. t′, below the Freezing-Point; the Bulb covered with a Film of Ice. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3°.0 | | 3°.5 | | 4°.0 | | 4°.5 | | 5°.0 | | 5°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 0 | | 0.010 | 19.3 | 0.004 | 7.9 | | | | | | | | |
| | 0.0002 | | | | | | | | | | | | |
| 1 | | 0.012 | 22.3 | 0.006 | 11.3 | | | | | | | | |
| | .0002 | | | | | | | | | | | | |
| 2 | | 0.014 | 25.3 | 0.008 | 14.7 | | | | | | | | |
| | .0002 | | | | | | | | | | | | |
| 3 | | 0.016 | 28.1 | 0.010 | 17.8 | | | | | | | | |
| | .0002 | | | | | | | | | | | | |
| 4 | | 0.018 | 30.8 | 0.013 | 20.9 | 0.007 | 11.4 | | | | | | |
| | .0002 | | | | | | | | | | | | |
| 5 | | 0.021 | 33.4 | 0.015 | 23.8 | 0.010 | 14.6 | | | | | | |
| | .0002 | | | | | | | | | | | | |
| 6 | | 0.023 | 35.6 | 0.018 | 26.3 | 0.012 | 17.5 | 0.006 | 9.0 | | | | |
| | .0002 | | | | | | | | | | | | |
| 7 | | 0.026 | 37.7 | 0.020 | 28.8 | 0.014 | 20.2 | 0.009 | 12.0 | | | | |
| | .0003 | | | | | | | | | | | | |
| 8 | | 0.028 | 39.8 | 0.023 | 31.2 | 0.017 | 22.9 | 0.011 | 15.0 | | | | |
| | .0003 | | | | | | | | | | | | |
| 9 | | 0.031 | 41.8 | 0.026 | 33.5 | 0.020 | 25.5 | 0.014 | 17.9 | 0.009 | 10.6 | | |
| | .0003 | | | | | | | | | | | | |
| 10 | | 0.034 | 43.8 | 0.029 | 35.7 | 0.023 | 28.0 | 0.017 | 20.6 | 0.012 | 13.6 | | |
| | .0003 | | | | | | | | | | | | |
| 11 | | 0.037 | 45.7 | 0.032 | 37.9 | 0.026 | 30.4 | 0.020 | 23.3 | 0.014 | 16.4 | 0.009 | 9.9 |
| | .0003 | | | | | | | | | | | | |
| 12 | | 0.041 | 47.5 | 0.035 | 40.0 | 0.029 | 32.7 | 0.024 | 25.8 | 0.018 | 19.2 | 0.012 | 12.9 |
| | .0003 | | | | | | | | | | | | |
| 13 | | 0.044 | 49.2 | 0.039 | 42.0 | 0.033 | 35.0 | 0.027 | 28.3 | 0.022 | 21.9 | 0.016 | 15.8 |
| | .0004 | | | | | | | | | | | | |
| 14 | | 0.048 | 50.9 | 0.042 | 43.9 | 0.037 | 37.1 | 0.031 | 30.7 | 0.025 | 24.5 | 0.020 | 18.5 |
| | .0004 | | | | | | | | | | | | |
| 15 | | 0.052 | 52.5 | 0.046 | 45.7 | 0.040 | 39.2 | 0.035 | 32.9 | 0.029 | 26.9 | 0.023 | 21.2 |
| | .0004 | | | | | | | | | | | | |
| 16 | | 0.056 | 54.1 | 0.050 | 47.5 | 0.044 | 41.2 | 0.039 | 35.1 | 0.033 | 29.3 | 0.027 | 23.7 |
| | .0004 | | | | | | | | | | | | |
| 17 | | 0.060 | 55.6 | 0.054 | 49.2 | 0.049 | 43.1 | 0.043 | 37.2 | 0.037 | 31.6 | 0.032 | 26.2 |
| | .0004 | | | | | | | | | | | | |
| 18 | | 0.065 | 57.0 | 0.059 | 50.9 | 0.053 | 44.9 | 0.047 | 39.2 | 0.042 | 33.7 | 0.036 | 28.5 |
| | .0004 | | | | | | | | | | | | |
| 19 | | 0.069 | 58.4 | 0.063 | 52.5 | 0.058 | 46.7 | 0.052 | 41.2 | 0.046 | 35.8 | 0.040 | 30.7 |
| | .0005 | | | | | | | | | | | | |
| 20 | | 0.074 | 59.8 | 0.068 | 54.0 | 0.062 | 48.3 | 0.057 | 43.0 | 0.050 | 37.8 | 0.045 | 32.9 |
| | .0005 | | | | | | | | | | | | |
| 21 | | 0.079 | 61.0 | 0.073 | 55.4 | 0.067 | 50.0 | 0.062 | 44.7 | 0.056 | 39.7 | 0.050 | 34.9 |
| | .0005 | | | | | | | | | | | | |
| 22 | | 0.084 | 62.2 | 0.078 | 56.8 | 0.072 | 51.5 | 0.067 | 46.4 | 0.061 | 41.5 | 0.055 | 36.8 |
| | .0005 | | | | | | | | | | | | |
| 23 | | 0.089 | 63.4 | 0.083 | 58.1 | 0.078 | 52.9 | 0.072 | 48.0 | 0.066 | 43.3 | 0.061 | 38.6 |
| | .0006 | | | | | | | | | | | | |
| 24 | | 0.095 | 64.4 | 0.089 | 59.3 | 0.083 | 54.3 | 0.077 | 49.6 | 0.072 | 44.9 | 0.066 | 40.5 |
| | .0006 | | | | | | | | | | | | |
| 25 | | 0.100 | 65.5 | 0.095 | 60.5 | 0.089 | 55.6 | 0.083 | 51.0 | 0.078 | 46.5 | 0.072 | 42.2 |
| | .0006 | | | | | | | | | | | | |
| 26 | | 0.106 | 66.5 | 0.101 | 61.7 | 0.095 | 56.9 | 0.089 | 52.4 | 0.083 | 48.0 | 0.078 | 43.9 |
| | .0006 | | | | | | | | | | | | |
| 27 | | 0.113 | 67.5 | 0.107 | 62.8 | 0.101 | 58.2 | 0.095 | 53.8 | 0.090 | 49.6 | 0.084 | 45.5 |
| | .0006 | | | | | | | | | | | | |
| 28 | | 0.119 | 68.5 | 0.113 | 63.9 | 0.108 | 59.4 | 0.102 | 55.2 | 0.096 | 51.0 | 0.090 | 47.0 |
| | .0007 | | | | | | | | | | | | |
| 29 | | 0.126 | 69.4 | 0.120 | 64.9 | 0.114 | 60.6 | 0.108 | 56.4 | 0.103 | 52.4 | 0.097 | 48.5 |
| | .0007 | | | | | | | | | | | | |
| 30 | | 0.132 | 70.3 | 0.127 | 65.9 | 0.121 | 61.7 | 0.115 | 57.7 | 0.109 | 53.7 | 0.104 | 49.9 |
| | .0007 | | | | | | | | | | | | |
| 31 | | 0.139 | 71.2 | 0.134 | 66.9 | 0.128 | 62.8 | 0.122 | 58.8 | 0.116 | 55.0 | 0.111 | 51.2 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0012.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer $t'$ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | $t - t'$, or Difference of Wet and Dry Bulb Thermometers. $t'$, below the Freezing-Point; the Bulb covered with a Film of Ice. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6°.0 | | 6°.5 | | 7°.0 | | 7°.5 | | 8°.0 | | 8°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng In. | |
| 0 | | | | | | | | | | | | | |
| 12 | 0.0003 | 0.007 | 6.8 | | | | | | | | | | |
| 13 | .0004 | 0.010 | 9.9 | | | | | | | | | | |
| 14 | .0004 | 0.014 | 12.8 | 0.008 | 7.5 | | | | | | | | |
| 15 | .0004 | 0.018 | 15.7 | 0.012 | 10.4 | 0.006 | 5.4 | | | | | | |
| 16 | .0004 | 0.022 | 18.4 | 0.016 | 13.3 | 0.010 | 8.4 | | | | | | |
| 17 | .0004 | 0.026 | 21.0 | 0.020 | 16.0 | 0.015 | 11.3 | 0.009 | 6.7 | | | | |
| 18 | .0005 | 0.030 | 23.5 | 0.025 | 18.6 | 0.019 | 14.0 | 0.013 | 9.6 | 0.008 | 5.3 | | |
| 19 | .0005 | 0.035 | 25.8 | 0.029 | 21.2 | 0.023 | 16.6 | 0.018 | 12.3 | 0.012 | 8.2 | 0.006 | 4.2 |
| 20 | .0005 | 0.040 | 28.1 | 0.034 | 23.5 | 0.028 | 19.0 | 0.022 | 15.0 | 0.017 | 11.0 | 0.011 | 7.1 |
| 21 | .0005 | 0.044 | 30.3 | 0.039 | 25.8 | 0.033 | 21.5 | 0.027 | 17.5 | 0.022 | 13.5 | 0.016 | 9.8 |
| 22 | .0005 | 0.050 | 32.3 | 0.044 | 28.0 | 0.038 | 23.8 | 0.032 | 19.8 | 0.027 | 16.0 | 0.021 | 12.3 |
| 23 | .0005 | 0.055 | 34.2 | 0.049 | 30.1 | 0.043 | 26.0 | 0.038 | 22.1 | 0.032 | 18.4 | 0.026 | 14.8 |
| 24 | .0006 | 0.060 | 36.1 | 0.055 | 32.1 | 0.049 | 28.1 | 0.043 | 24.4 | 0.038 | 20.7 | 0.032 | 17.2 |
| 25 | .0006 | 0.066 | 38.0 | 0.060 | 34.0 | 0.055 | 30.2 | 0.049 | 26.5 | 0.043 | 23.0 | 0.038 | 19.5 |
| 26 | .0006 | 0.072 | 39.8 | 0.066 | 35.9 | 0.061 | 32.2 | 0.055 | 28.6 | 0.049 | 25.1 | 0.043 | 21.8 |
| 27 | .0006 | 0.078 | 41.5 | 0.073 | 37.8 | 0.067 | 34.0 | 0.061 | 30.6 | 0.055 | 27.2 | 0.050 | 23.9 |
| 28 | .0007 | 0.085 | 43.2 | 0.079 | 39.5 | 0.073 | 35.9 | 0.067 | 32.5 | 0.062 | 29.1 | 0.056 | 25.9 |
| 29 | .0007 | 0.091 | 44.8 | 0.085 | 41.1 | 0.080 | 37.6 | 0.074 | 34.2 | 0.068 | 31.0 | 0.063 | 27.9 |
| 30 | .0007 | 0.098 | 46.2 | 0.092 | 42.7 | 0.086 | 39.2 | 0.081 | 35.9 | 0.075 | 32.8 | 0.069 | 29.7 |
| 31 | | 0.105 | 47.6 | 0.099 | 44.2 | 0.093 | 40.8 | 0.088 | 37.5 | 0.082 | 34.4 | 0.076 | 31.4 |

| | | 9°.0 | | 9°.5 | | 10°.0 | | 10°.5 | | 11°.0 | | 11°.5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 20 | 0.0005 | 0.005 | 3.4 | | | | | | | | | | |
| 21 | .0005 | 0.010 | 6.1 | 0.005 | 2.7 | | | | | | | | |
| 22 | .0005 | 0.015 | 8.8 | 0.010 | 5.4 | 0.004 | 2.2 | | | | | | |
| 23 | .0005 | 0.021 | 11.4 | 0.015 | 8.0 | 0.009 | 4.9 | | | | | | |
| 24 | .0006 | 0.026 | 13.9 | 0.020 | 10.6 | 0.015 | 7.5 | 0.009 | 4.5 | | | | |
| 25 | .0006 | 0.032 | 16.2 | 0.026 | 13.1 | 0.020 | 10.0 | 0.015 | 7.1 | 0.009 | 4.2 | | |
| 26 | .0006 | 0.038 | 18.5 | 0.032 | 15.4 | 0.026 | 12.4 | 0.021 | 9.5 | 0.015 | 6.8 | 0.009 | 4.1 |
| 27 | .0006 | 0.044 | 20.7 | 0.038 | 17.7 | 0.032 | 14.7 | 0.027 | 11.9 | 0.021 | 9.2 | 0.015 | 6.5 |
| 28 | .0006 | 0.050 | 22.8 | 0.045 | 19.9 | 0.039 | 16.9 | 0.033 | 14.2 | 0.027 | 11.5 | 0.022 | 8.9 |
| 29 | .0007 | 0.057 | 24.9 | 0.051 | 21.9 | 0.045 | 19.0 | 0.040 | 16.3 | 0.034 | 13.7 | 0.028 | 11.1 |
| 30 | .0007 | 0.064 | 26.7 | 0.058 | 23.8 | 0.052 | 21.0 | 0.046 | 18.4 | 0.041 | 15.8 | 0.035 | 13.3 |
| 31 | .0007 | 0.071 | 28.5 | 0.065 | 25.7 | 0.059 | 22.9 | 0.053 | 20.3 | 0.048 | 17.8 | 0.042 | 15.3 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0012.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.5 | | 1°.0 | | 1°.5 | | 2°.0 | | 2°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | 0.0007 | 0.181 | 100 | 0.175 | 94.5 | 0.168 | 89.3 | 0.162 | 84.1 | 0.155 | 79.2 | 0.149 | 74.4 |
| 33 | .0008 | 0.188 | 100 | 0.182 | 94.7 | 0.175 | 89.5 | 0.169 | 84.5 | 0.162 | 79.7 | 0.156 | 75.0 |
| 34 | .0008 | 0.196 | 100 | 0.189 | 94.8 | 0.183 | 89.8 | 0.176 | 84.9 | 0.170 | 80.2 | 0.163 | 75.6 |
| 35 | .0008 | 0.204 | 100 | 0.197 | 94.9 | 0.191 | 90.0 | 0.184 | 85.3 | 0.178 | 80.7 | 0.171 | 76.2 |
| 36 | .0009 | 0.212 | 100 | 0.205 | 95.0 | 0.199 | 90.3 | 0.192 | 85.6 | 0.186 | 81.1 | 0.179 | 76.8 |
| 37 | .0009 | 0.220 | 100 | 0.214 | 95.2 | 0.207 | 90.5 | 0.201 | 86.0 | 0.194 | 81.6 | 0.188 | 77.3 |
| 38 | .0009 | 0.229 | 100 | 0.223 | 95.3 | 0.216 | 90.7 | 0.210 | 86.3 | 0.203 | 82.0 | 0.196 | 77.9 |
| 39 | .0009 | 0.238 | 100 | 0.232 | 95.4 | 0.225 | 91.0 | 0.219 | 86.6 | 0.212 | 82.4 | 0.206 | 78.4 |
| 40 | .0010 | 0.248 | 100 | 0.241 | 95.5 | 0.235 | 91.2 | 0.228 | 86.9 | 0.221 | 82.9 | 0.215 | 78.9 |
| 41 | .0010 | 0.257 | 100 | 0.251 | 95.6 | 0.244 | 91.4 | 0.238 | 87.3 | 0.231 | 83.3 | 0.224 | 79.4 |
| 42 | .0010 | 0.267 | 100 | 0.260 | 95.7 | 0.254 | 91.6 | 0.247 | 87.5 | 0.241 | 83.6 | 0.234 | 79.8 |
| 43 | .0011 | 0.278 | 100 | 0.271 | 95.8 | 0.264 | 91.8 | 0.258 | 87.8 | 0.251 | 84.0 | 0.245 | 80.3 |
| 44 | .0011 | 0.288 | 100 | 0.282 | 95.9 | 0.275 | 92.0 | 0.268 | 88.1 | 0.262 | 84.3 | 0.255 | 80.7 |
| 45 | .0011 | 0.299 | 100 | 0.293 | 96.0 | 0.286 | 92.1 | 0.280 | 88.3 | 0.273 | 84.7 | 0.266 | 81.1 |
| 46 | .0012 | 0.311 | 100 | 0.304 | 96.1 | 0.297 | 92.3 | 0.291 | 88.6 | 0.284 | 85.0 | 0.278 | 81.5 |
| 47 | .0012 | 0.323 | 100 | 0.316 | 96.2 | 0.310 | 92.5 | 0.303 | 88.8 | 0.297 | 85.3 | 0.290 | 81.9 |
| 48 | .0013 | 0.335 | 100 | 0.329 | 96.2 | 0.322 | 92.6 | 0.315 | 89.0 | 0.309 | 85.6 | 0.302 | 82.2 |
| 49 | .0013 | 0.348 | 100 | 0.341 | 96.3 | 0.335 | 92.7 | 0.328 | 89.3 | 0.321 | 85.9 | 0.315 | 82.6 |
| 50 | .0013 | 0.361 | 100 | 0.354 | 96.4 | 0.348 | 92.9 | 0.341 | 89.5 | 0.334 | 86.1 | 0.328 | 82.9 |
| 51 | .0014 | 0.374 | 100 | 0.368 | 96.5 | 0.361 | 93.0 | 0.354 | 89.7 | 0.348 | 86.4 | 0.341 | 83.2 |
| 52 | .0014 | 0.388 | 100 | 0.382 | 96.5 | 0.375 | 93.2 | 0.368 | 89.9 | 0.362 | 86.7 | 0.355 | 83.6 |
| 53 | .0015 | 0.403 | 100 | 0.396 | 96.6 | 0.389 | 93.3 | 0.383 | 90.1 | 0.376 | 86.9 | 0.370 | 83.9 |
| 54 | .0015 | 0.418 | 100 | 0.411 | 96.7 | 0.404 | 93.4 | 0.398 | 90.2 | 0.391 | 87.2 | 0.385 | 84.2 |
| 55 | .0016 | 0.433 | 100 | 0.426 | 96.7 | 0.420 | 93.5 | 0.413 | 90.4 | 0.407 | 87.4 | 0.400 | 84.4 |
| 56 | .0016 | 0.449 | 100 | 0.442 | 96.8 | 0.436 | 93.6 | 0.429 | 90.6 | 0.422 | 87.6 | 0.416 | 84.7 |
| 57 | .0017 | 0.466 | 100 | 0.459 | 96.8 | 0.452 | 93.7 | 0.446 | 90.7 | 0.439 | 87.8 | 0.432 | 85.0 |
| 58 | .0017 | 0.482 | 100 | 0.476 | 96.9 | 0.469 | 93.9 | 0.463 | 90.9 | 0.456 | 88.0 | 0.449 | 85.2 |
| 59 | .0018 | 0.500 | 100 | 0.493 | 96.9 | 0.487 | 94.0 | 0.480 | 91.0 | 0.473 | 88.2 | 0.467 | 85.5 |
| 60 | .0019 | 0.518 | 100 | 0.511 | 97.0 | 0.505 | 94.1 | 0.498 | 91.2 | 0.491 | 88.4 | 0.485 | 85.7 |
| 61 | .0019 | 0.537 | 100 | 0.530 | 97.0 | 0.523 | 94.2 | 0.517 | 91.3 | 0.510 | 88.6 | 0.503 | 85.9 |
| 62 | .0020 | 0.556 | 100 | 0.549 | 97.1 | 0.542 | 94.2 | 0.536 | 91.5 | 0.529 | 88.8 | 0.522 | 86.2 |
| 63 | .0020 | 0.576 | 100 | 0.569 | 97.1 | 0.562 | 94.3 | 0.556 | 91.6 | 0.549 | 89.0 | 0.542 | 86.4 |
| 64 | .0021 | 0.596 | 100 | 0.589 | 97.2 | 0.583 | 94.4 | 0.576 | 91.7 | 0.569 | 89.1 | 0.563 | 86.6 |
| 65 | .0022 | 0.617 | 100 | 0.611 | 97.2 | 0.604 | 94.5 | 0.597 | 91.9 | 0.591 | 89.3 | 0.584 | 86.8 |
| 66 | .0023 | 0.639 | 100 | 0.633 | 97.3 | 0.626 | 94.6 | 0.619 | 92.0 | 0.612 | 89.5 | 0.606 | 87.0 |
| 67 | | 0.662 | 100 | 0.655 | 97.3 | 0.648 | 94.7 | 0.642 | 92.1 | 0.635 | 89.6 | 0.628 | 87.2 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t − t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0°.0 | | 0°.5 | | 1°.0 | | 1°.5 | | 2°.0 | | 2°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng In. | |
| 68 | 0.0023 | 0.685 | 100 | 0.678 | 97.3 | 0.671 | 94.7 | 0.665 | 92.2 | 0.658 | 89.8 | 0.651 | 87.3 |
| 69 | .0024 | 0.708 | 100 | 0.702 | 97.4 | 0.695 | 94.8 | 0.688 | 92.3 | 0.682 | 89.9 | 0.675 | 87.5 |
| 70 | .0025 | 0.733 | 100 | 0.726 | 97.4 | 0.720 | 94.9 | 0.713 | 92.4 | 0.706 | 90.0 | 0.699 | 87.7 |
| 71 | .0026 | 0.758 | 100 | 0.752 | 97.5 | 0.745 | 95.0 | 0.738 | 92.5 | 0.731 | 90.2 | 0.725 | 87.9 |
| 72 | .0027 | 0.784 | 100 | 0.778 | 97.5 | 0.771 | 95.0 | 0.764 | 92.7 | 0.757 | 90.3 | 0.751 | 88.0 |
| 73 | .0028 | 0.811 | 100 | 0.805 | 97.5 | 0.798 | 95.1 | 0.791 | 92.7 | 0.784 | 90.4 | 0.778 | 88.2 |
| 74 | .0028 | 0.839 | 100 | 0.832 | 97.6 | 0.826 | 95.2 | 0.819 | 92.8 | 0.812 | 90.6 | 0.805 | 88.3 |
| 75 | .0029 | 0.868 | 100 | 0.861 | 97.6 | 0.854 | 95.2 | 0.847 | 92.9 | 0.841 | 90.7 | 0.834 | 88.5 |
| 76 | .0030 | 0.897 | 100 | 0.890 | 97.6 | 0.883 | 95.3 | 0.877 | 93.0 | 0.870 | 90.8 | 0.863 | 88.6 |
| 77 | .0031 | 0.927 | 100 | 0.920 | 97.7 | 0.914 | 95.4 | 0.907 | 93.1 | 0.900 | 90.9 | 0.893 | 88.8 |
| 78 | .0032 | 0.958 | 100 | 0.951 | 97.7 | 0.945 | 95.4 | 0.938 | 93.2 | 0.931 | 91.0 | 0.924 | 88.9 |
| 79 | .0033 | 0.990 | 100 | 0.983 | 97.7 | 0.977 | 95.5 | 0.970 | 93.3 | 0.963 | 91.1 | 0.956 | 89.0 |
| 80 | .0034 | 1.023 | 100 | 1.016 | 97.7 | 1.010 | 95.5 | 1.003 | 93.4 | 0.996 | 91.2 | 0.989 | 89.2 |
| 81 | .0035 | 1.057 | 100 | 1.050 | 97.8 | 1.044 | 95.6 | 1.037 | 93.4 | 1.030 | 91.3 | 1.023 | 89.3 |
| 82 | .0036 | 1.092 | 100 | 1.085 | 97.8 | 1.079 | 95.6 | 1.072 | 93.5 | 1.065 | 91.4 | 1.058 | 89.4 |
| 83 | .0037 | 1.128 | 100 | 1.121 | 97.8 | 1.115 | 95.7 | 1.108 | 93.6 | 1.101 | 91.5 | 1.094 | 89.5 |
| 84 | .0038 | 1.165 | 100 | 1.158 | 97.8 | 1.152 | 95.7 | 1.145 | 93.6 | 1.138 | 91.6 | 1.131 | 89.6 |
| 85 | .0039 | 1.203 | 100 | 1.196 | 97.9 | 1.189 | 95.8 | 1.183 | 93.7 | 1.176 | 91.7 | 1.169 | 89.7 |
| 86 | .0040 | 1.242 | 100 | 1.235 | 97.9 | 1.228 | 95.8 | 1.222 | 93.8 | 1.215 | 91.8 | 1.208 | 89.8 |
| 87 | .0041 | 1.282 | 100 | 1.275 | 97.9 | 1.268 | 95.9 | 1.263 | 93.8 | 1.256 | 91.9 | 1.249 | 90.0 |
| 88 | .0042 | 1.323 | 100 | 1.317 | 97.9 | 1.310 | 95.9 | 1.303 | 93.9 | 1.296 | 92.0 | 1.289 | 90.1 |
| 89 | .0044 | 1.366 | 100 | 1.359 | 97.9 | 1.352 | 95.9 | 1.345 | 94.0 | 1.339 | 92.0 | 1.332 | 90.2 |
| 90 | .0045 | 1.410 | 100 | 1.403 | 98.0 | 1.396 | 96.0 | 1.389 | 94.0 | 1.382 | 92.1 | 1.375 | 90.3 |
| 91 | .0046 | 1.455 | 100 | 1.448 | 98.0 | 1.441 | 96.0 | 1.434 | 94.1 | 1.427 | 92.2 | 1.420 | 90.3 |
| 92 | .0048 | 1.501 | 100 | 1.494 | 98.0 | 1.487 | 96.1 | 1.480 | 94.1 | 1.473 | 92.3 | 1.466 | 90.4 |
| 93 | .0049 | 1.548 | 100 | 1.541 | 98.0 | 1.535 | 96.1 | 1.528 | 94.2 | 1.521 | 92.4 | 1.514 | 90.5 |
| 94 | .0050 | 1.597 | 100 | 1.590 | 98.1 | 1.583 | 96.1 | 1.576 | 94.3 | 1.569 | 92.4 | 1.562 | 90.6 |
| 95 | .0051 | 1.647 | 100 | 1.640 | 98.1 | 1.633 | 96.2 | 1.626 | 94.3 | 1.619 | 92.5 | 1.612 | 90.7 |
| 96 | .0053 | 1.698 | 100 | 1.691 | 98.1 | 1.684 | 96.2 | 1.677 | 94.4 | 1.670 | 92.6 | 1.664 | 90.8 |
| 97 | .0054 | 1.751 | 100 | 1.744 | 98.1 | 1.739 | 96.2 | 1.730 | 94.4 | 1.723 | 92.6 | 1.716 | 90.9 |
| 98 | .0056 | 1.805 | 100 | 1.798 | 98.1 | 1.791 | 96.3 | 1.784 | 94.5 | 1.777 | 92.7 | 1.770 | 90.9 |
| 99 | .0057 | 1.861 | 100 | 1.854 | 98.1 | 1.847 | 96.3 | 1.840 | 94.5 | 1.833 | 92.8 | 1.826 | 91.0 |
| 100 | .0059 | 1.918 | 100 | 1.911 | 98.2 | 1.904 | 96.3 | 1.897 | 94.6 | 1.890 | 92.8 | 1.883 | 91.1 |
| 101 | .0060 | 1.977 | 100 | 1.970 | 98.2 | 1.963 | 96.4 | 1.956 | 94.6 | 1.949 | 92.9 | 1.942 | 91.2 |
| 102 | .0062 | 2.037 | 100 | 2.030 | 98.2 | 2.023 | 96.4 | 2.016 | 94.7 | 2.009 | 92.9 | 2.002 | 91.2 |
| 103 | .0063 | 2.098 | 100 | 2.092 | 98.2 | 2.085 | 96.4 | 2.078 | 94.7 | 2.071 | 93.0 | 2.064 | 91.3 |
| 104 | | 2.162 | 100 | 2.155 | 98.2 | 2.148 | 96.5 | 2.141 | 94.7 | 2.134 | 93.1 | 2.127 | 91.4 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer $t'$ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | $t - t'$, or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3°.0 | | 3°.5 | | 4°.0 | | 4°.5 | | 5°.0 | | 5°.5 | |
| | | Force of Vapor. | Relative Humidity | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | | 0.142 | 69.8 | 0.136 | 65.3 | 0.129 | 61.0 | 0.123 | 56.8 | 0.116 | 52.7 | 0.110 | 48.8 |
| | 0.0007 | | | | | | | | | | | | |
| 33 | | 0.149 | 70.5 | 0.143 | 66.1 | 0.136 | 61.9 | 0.130 | 57.7 | 0.123 | 53.7 | 0.117 | 50.0 |
| | .0007 | | | | | | | | | | | | |
| 34 | | 0.157 | 71.2 | 0.150 | 66.9 | 0.144 | 62.8 | 0.137 | 58.6 | 0.131 | 54.7 | 0.124 | 51.2 |
| | .0008 | | | | | | | | | | | | |
| 35 | | 0.165 | 71.9 | 0.158 | 67.7 | 0.152 | 63.6 | 0.145 | 59.5 | 0.139 | 55.7 | 0.132 | 52.3 |
| | .0008 | | | | | | | | | | | | |
| 36 | | 0.173 | 72.6 | 0.166 | 68.5 | 0.160 | 64.5 | 0.153 | 60.5 | 0.147 | 56.7 | 0.140 | 53.4 |
| | .0008 | | | | | | | | | | | | |
| 37 | | 0.181 | 73.2 | 0.175 | 69.2 | 0.168 | 65.3 | 0.162 | 61.4 | 0.155 | 57.7 | 0.149 | 54.5 |
| | .0009 | | | | | | | | | | | | |
| 38 | | 0.190 | 73.8 | 0.183 | 69.9 | 0.177 | 66.1 | 0.170 | 62.3 | 0.164 | 58.7 | 0.157 | 55.5 |
| | .0009 | | | | | | | | | | | | |
| 39 | | 0.199 | 74.4 | 0.192 | 70.6 | 0.186 | 66.9 | 0.179 | 63.2 | 0.173 | 59.7 | 0.166 | 56.5 |
| | .0010 | | | | | | | | | | | | |
| 40 | | 0.208 | 75.0 | 0.202 | 71.3 | 0.195 | 67.7 | 0.189 | 64.1 | 0.182 | 60.7 | 0.176 | 57.5 |
| | .0010 | | | | | | | | | | | | |
| 41 | | 0.218 | 75.6 | 0.211 | 72.0 | 0.205 | 68.4 | 0.198 | 65.0 | 0.192 | 61.7 | 0.185 | 58.5 |
| | .0010 | | | | | | | | | | | | |
| 42 | | 0.228 | 76.2 | 0.221 | 72.6 | 0.215 | 69.1 | 0.208 | 65.7 | 0.202 | 62.4 | 0.195 | 59.4 |
| | .0010 | | | | | | | | | | | | |
| 43 | | 0.238 | 76.7 | 0.232 | 73.2 | 0.225 | 69.8 | 0.219 | 66.3 | 0.212 | 63.1 | 0.205 | 60.2 |
| | .0011 | | | | | | | | | | | | |
| 44 | | 0.249 | 77.2 | 0.242 | 73.7 | 0.236 | 70.4 | 0.229 | 67.0 | 0.223 | 63.8 | 0.216 | 61.1 |
| | .0011 | | | | | | | | | | | | |
| 45 | | 0.260 | 77.7 | 0.253 | 74.3 | 0.247 | 71.0 | 0.240 | 67.6 | 0.234 | 64.6 | 0.227 | 61.8 |
| | .0011 | | | | | | | | | | | | |
| 46 | | 0.271 | 78.1 | 0.265 | 74.8 | 0.258 | 71.6 | 0.252 | 68.3 | 0.245 | 65.3 | 0.238 | 62.6 |
| | .0012 | | | | | | | | | | | | |
| 47 | | 0.283 | 78.6 | 0.277 | 75.3 | 0.270 | 72.2 | 0.264 | 68.9 | 0.257 | 66.0 | 0.250 | 63.3 |
| | .0012 | | | | | | | | | | | | |
| 48 | | 0.296 | 79.0 | 0.289 | 75.8 | 0.282 | 72.7 | 0.276 | 69.6 | 0.269 | 66.7 | 0.263 | 64.0 |
| | .0013 | | | | | | | | | | | | |
| 49 | | 0.308 | 79.4 | 0.302 | 76.3 | 0.295 | 73.3 | 0.288 | 70.2 | 0.282 | 67.4 | 0.275 | 64.7 |
| | .0013 | | | | | | | | | | | | |
| 50 | | 0.321 | 79.8 | 0.315 | 76.7 | 0.308 | 73.8 | 0.301 | 70.9 | 0.295 | 68.1 | 0.288 | 65.4 |
| | .0013 | | | | | | | | | | | | |
| 51 | | 0.335 | 80.2 | 0.328 | 77.2 | 0.321 | 74.3 | 0.315 | 71.4 | 0.308 | 68.7 | 0.302 | 66.0 |
| | .0014 | | | | | | | | | | | | |
| 52 | | 0.349 | 80.5 | 0.342 | 77.6 | 0.335 | 74.7 | 0.329 | 71.9 | 0.322 | 69.2 | 0.315 | 66.6 |
| | .0014 | | | | | | | | | | | | |
| 53 | | 0.363 | 80.9 | 0.356 | 78.0 | 0.350 | 75.2 | 0.343 | 72.5 | 0.336 | 69.8 | 0.330 | 67.2 |
| | .0015 | | | | | | | | | | | | |
| 54 | | 0.378 | 81.2 | 0.371 | 78.4 | 0.365 | 75.6 | 0.358 | 72.9 | 0.351 | 70.3 | 0.345 | 67.8 |
| | .0015 | | | | | | | | | | | | |
| 55 | | 0.393 | 81.6 | 0.387 | 78.8 | 0.380 | 76.1 | 0.373 | 73.4 | 0.367 | 70.8 | 0.360 | 68.3 |
| | .0016 | | | | | | | | | | | | |
| 56 | | 0.409 | 81.9 | 0.403 | 79.1 | 0.396 | 76.5 | 0.389 | 73.9 | 0.383 | 71.3 | 0.376 | 68.9 |
| | .0016 | | | | | | | | | | | | |
| 57 | | 0.426 | 82.2 | 0.419 | 79.5 | 0.412 | 76.9 | 0.406 | 74.3 | 0.399 | 71.8 | 0.392 | 69.4 |
| | .0017 | | | | | | | | | | | | |
| 58 | | 0.443 | 82.5 | 0.436 | 79.8 | 0.429 | 77.2 | 0.423 | 74.8 | 0.416 | 72.3 | 0.409 | 69.9 |
| | .0017 | | | | | | | | | | | | |
| 59 | | 0.460 | 82.8 | 0.453 | 80.2 | 0.447 | 77.6 | 0.440 | 75.1 | 0.433 | 72.7 | 0.427 | 70.3 |
| | .0018 | | | | | | | | | | | | |
| 60 | | 0.478 | 83.1 | 0.471 | 80.5 | 0.465 | 78.0 | 0.458 | 75.5 | 0.451 | 73.1 | 0.445 | 70.8 |
| | .0019 | | | | | | | | | | | | |
| 61 | | 0.497 | 83.3 | 0.490 | 80.8 | 0.483 | 78.3 | 0.477 | 75.9 | 0.470 | 73.5 | 0.463 | 71.3 |
| | .0019 | | | | | | | | | | | | |
| 62 | | 0.516 | 83.6 | 0.509 | 81.1 | 0.502 | 78.6 | 0.496 | 76.3 | 0.489 | 74.0 | 0.482 | 71.7 |
| | .0020 | | | | | | | | | | | | |
| 63 | | 0.536 | 83.8 | 0.529 | 81.4 | 0.522 | 79.0 | 0.516 | 76.6 | 0.509 | 74.3 | 0.502 | 72.1 |
| | .0020 | | | | | | | | | | | | |
| 64 | | 0.556 | 84.1 | 0.549 | 81.7 | 0.543 | 79.3 | 0.536 | 77.0 | 0.529 | 74.7 | 0.523 | 72.5 |
| | .0021 | | | | | | | | | | | | |
| 65 | | 0.577 | 84.3 | 0.570 | 81.9 | 0.564 | 79.6 | 0.557 | 77.3 | 0.550 | 75.1 | 0.544 | 72.9 |
| | .0022 | | | | | | | | | | | | |
| 66 | | 0.599 | 84.6 | 0.592 | 82.2 | 0.586 | 79.9 | 0.579 | 77.6 | 0.572 | 75.4 | 0.566 | 73.3 |
| | .0023 | | | | | | | | | | | | |
| 67 | | 0.622 | 84.8 | 0.615 | 82.4 | 0.608 | 80.2 | 0.601 | 78.0 | 0.595 | 75.8 | 0.588 | 73.7 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3°.0 | | 3°.5 | | 4°.0 | | 4°.5 | | 5°.0 | | 5°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 68 | 0.0024 | 0.644 | 85.0 | 0.638 | 82.7 | 0.631 | 80.4 | 0.624 | 78.3 | 0.618 | 76.1 | 0.611 | 74.0 |
| 69 | .0024 | 0.668 | 85.2 | 0.661 | 82.9 | 0.655 | 80.7 | 0.648 | 78.6 | 0.641 | 76.4 | 0.635 | 74.4 |
| 70 | .0025 | 0.693 | 85.4 | 0.686 | 83.2 | 0.679 | 81.0 | 0.672 | 78.8 | 0.666 | 76.8 | 0.659 | 74.7 |
| 71 | .0026 | 0.718 | 85.6 | 0.711 | 83.4 | 0.704 | 81.2 | 0.698 | 79.1 | 0.691 | 77.1 | 0.684 | 75.1 |
| 72 | .0027 | 0.744 | 85.8 | 0.737 | 83.6 | 0.731 | 81.5 | 0.724 | 79.4 | 0.718 | 77.4 | 0.710 | 75.4 |
| 73 | .0028 | 0.771 | 86.0 | 0.764 | 83.8 | 0.757 | 81.7 | 0.751 | 79.7 | 0.744 | 77.6 | 0.737 | 75.7 |
| 74 | .0028 | 0.799 | 86.2 | 0.792 | 84.0 | 0.785 | 81.9 | 0.778 | 79.9 | 0.772 | 77.9 | 0.765 | 76.0 |
| 75 | .0029 | 0.827 | 86.3 | 0.820 | 84.2 | 0.814 | 82.2 | 0.807 | 80.2 | 0.800 | 78.2 | 0.793 | 76.3 |
| 76 | .0030 | 0.856 | 86.5 | 0.850 | 84.4 | 0.843 | 82.4 | 0.836 | 80.4 | 0.829 | 78.4 | 0.823 | 76.6 |
| 77 | .0031 | 0.887 | 86.7 | 0.880 | 84.6 | 0.873 | 82.6 | 0.866 | 80.6 | 0.860 | 78.7 | 0.853 | 76.8 |
| 78 | .0032 | 0.918 | 86.8 | 0.911 | 84.8 | 0.904 | 82.8 | 0.897 | 80.8 | 0.890 | 78.9 | 0.884 | 77.1 |
| 79 | .0033 | 0.949 | 87.0 | 0.943 | 85.0 | 0.936 | 83.0 | 0.929 | 81.1 | 0.922 | 79.2 | 0.916 | 77.4 |
| 80 | .0034 | 0.982 | 87.1 | 0.976 | 85.1 | 0.969 | 83.2 | 0.962 | 81.3 | 0.955 | 79.4 | 0.949 | 77.6 |
| 81 | .0035 | 1.016 | 87.3 | 1.010 | 85.3 | 1.003 | 83.4 | 0.996 | 81.5 | 0.989 | 79.7 | 0.982 | 77.9 |
| 82 | .0036 | 1.051 | 87.4 | 1.045 | 85.5 | 1.038 | 83.6 | 1.031 | 81.7 | 1.024 | 79.9 | 1.017 | 78.1 |
| 83 | .0037 | 1.087 | 87.5 | 1.080 | 85.6 | 1.074 | 83.7 | 1.067 | 81.9 | 1.060 | 80.1 | 1.053 | 78.3 |
| 84 | .0038 | 1.124 | 87.7 | 1.117 | 85.8 | 1.111 | 83.9 | 1.104 | 82.1 | 1.096 | 80.3 | 1.090 | 78.5 |
| 85 | .0039 | 1.162 | 87.8 | 1.155 | 85.9 | 1.148 | 84.1 | 1.142 | 82.3 | 1.135 | 80.5 | 1.128 | 78.8 |
| 86 | .0040 | 1.201 | 87.9 | 1.194 | 86.1 | 1.187 | 84.2 | 1.181 | 82.4 | 1.174 | 80.7 | 1.167 | 79.0 |
| 87 | .0041 | 1.242 | 88.1 | 1.235 | 86.2 | 1.228 | 84.4 | 1.222 | 82.6 | 1.215 | 80.9 | 1.208 | 79.2 |
| 88 | .0042 | 1.282 | 88.2 | 1.276 | 86.3 | 1.269 | 84.6 | 1.262 | 82.8 | 1.255 | 81.1 | 1.248 | 79.4 |
| 89 | .0044 | 1.325 | 88.3 | 1.318 | 86.5 | 1.311 | 84.7 | 1.304 | 83.0 | 1.297 | 81.3 | 1.291 | 79.6 |
| 90 | .0045 | 1.369 | 88.4 | 1.362 | 86.6 | 1.355 | 84.9 | 1.348 | 83.1 | 1.341 | 81.4 | 1.334 | 79.8 |
| 91 | .0046 | 1.413 | 88.5 | 1.407 | 86.7 | 1.400 | 85.0 | 1.393 | 83.3 | 1.386 | 81.6 | 1.379 | 80.0 |
| 92 | .0047 | 1.460 | 88.6 | 1.453 | 86.9 | 1.446 | 85.1 | 1.439 | 83.4 | 1.432 | 81.8 | 1.425 | 80.2 |
| 93 | .0049 | 1.507 | 88.7 | 1.500 | 87.0 | 1.493 | 85.3 | 1.486 | 83.6 | 1.480 | 82.0 | 1.473 | 80.3 |
| 94 | .0050 | 1.556 | 88.8 | 1.549 | 87.1 | 1.542 | 85.4 | 1.535 | 83.8 | 1.528 | 82.1 | 1.521 | 80.5 |
| 95 | .0051 | 1.606 | 88.9 | 1.599 | 87.2 | 1.592 | 85.5 | 1.585 | 83.9 | 1.578 | 82.3 | 1.571 | 80.7 |
| 96 | .0052 | 1.657 | 89.0 | 1.650 | 87.3 | 1.643 | 85.7 | 1.636 | 84.0 | 1.629 | 82.4 | 1.622 | 80.9 |
| 97 | .0054 | 1.709 | 89.1 | 1.702 | 87.5 | 1.696 | 85.8 | 1.688 | 84.2 | 1.682 | 82.6 | 1.675 | 81.0 |
| 98 | .0055 | 1.764 | 89.2 | 1.757 | 87.6 | 1.750 | 85.9 | 1.743 | 84.3 | 1.736 | 82.7 | 1.729 | 81.2 |
| 99 | .0057 | 1.819 | 89.3 | 1.812 | 87.7 | 1.805 | 86.0 | 1.798 | 84.4 | 1.792 | 82.9 | 1.785 | 81.3 |
| 100 | .0058 | 1.876 | 89.4 | 1.869 | 87.8 | 1.863 | 86.2 | 1.856 | 84.6 | 1.849 | 83.0 | 1.842 | 81.5 |
| 101 | .0060 | 1.935 | 89.5 | 1.928 | 87.9 | 1.921 | 86.3 | 1.914 | 84.7 | 1.907 | 83.2 | 1.900 | 81.6 |
| 102 | .0062 | 1.995 | 89.6 | 1.988 | 88.0 | 1.981 | 86.4 | 1.974 | 84.8 | 1.967 | 83.3 | 1.961 | 81.8 |
| 103 | .0063 | 2.057 | 89.7 | 2.050 | 88.1 | 2.043 | 86.5 | 2.036 | 84.9 | 2.029 | 83.4 | 2.022 | 81.9 |
| 104 | | 2.120 | 89.8 | 2.113 | 88.2 | 2.106 | 86.6 | 2.099 | 85.1 | 2.092 | 83.5 | 2.085 | 82.1 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6°.0 | | 6°.5 | | 7°.0 | | 7°.5 | | 8°.0 | | 8°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | | 0.103 | 45.0 | 0.097 | 41.4 | 0.090 | 37.9 | 0.084 | 34.5 | 0.077 | 31.2 | 0.071 | 28.0 |
| | 0.0007 | | | | | | | | | | | | |
| 33 | | 0.110 | 46.3 | 0.104 | 42.7 | 0.097 | 39.3 | 0.091 | 36.0 | 0.084 | 32.8 | 0.078 | 29.6 |
| | .0007 | | | | | | | | | | | | |
| 34 | | 0.118 | 47.6 | 0.111 | 44.1 | 0.105 | 40.7 | 0.098 | 37.4 | 0.092 | 34.3 | 0.085 | 31.2 |
| | .0008 | | | | | | | | | | | | |
| 35 | | 0.126 | 48.8 | 0.119 | 45.3 | 0.113 | 42.0 | 0.106 | 38.8 | 0.100 | 35.7 | 0.093 | 32.8 |
| | .0008 | | | | | | | | | | | | |
| 36 | | 0.134 | 50.0 | 0.127 | 46.6 | 0.121 | 43.3 | 0.114 | 40.2 | 0.108 | 37.2 | 0.101 | 34.3 |
| | .0009 | | | | | | | | | | | | |
| 37 | | 0.142 | 51.1 | 0.136 | 47.8 | 0.129 | 44.6 | 0.123 | 41.6 | 0.116 | 38.6 | 0.109 | 35.7 |
| | .0009 | | | | | | | | | | | | |
| 38 | | 0.151 | 52.2 | 0.144 | 49.0 | 0.138 | 45.9 | 0.131 | 42.9 | 0.125 | 40.0 | 0.118 | 37.2 |
| | .0009 | | | | | | | | | | | | |
| 39 | | 0.160 | 53.3 | 0.153 | 50.1 | 0.147 | 47.1 | 0.140 | 44.1 | 0.134 | 41.3 | 0.127 | 38.5 |
| | .0009 | | | | | | | | | | | | |
| 40 | | 0.169 | 54.3 | 0.163 | 51.3 | 0.156 | 48.3 | 0.149 | 45.4 | 0.143 | 42.6 | 0.136 | 39.9 |
| | .0010 | | | | | | | | | | | | |
| 41 | | 0.179 | 55.4 | 0.172 | 52.3 | 0.166 | 49.4 | 0.159 | 46.6 | 0.153 | 43.9 | 0.146 | 41.2 |
| | .0010 | | | | | | | | | | | | |
| 42 | | 0.189 | 56.3 | 0.182 | 53.4 | 0.175 | 50.5 | 0.169 | 47.7 | 0.162 | 45.0 | 0.156 | 42.4 |
| | .0010 | | | | | | | | | | | | |
| 43 | | 0.199 | 57.2 | 0.192 | 54.3 | 0.186 | 51.5 | 0.179 | 48.8 | 0.173 | 46.1 | 0.166 | 43.6 |
| | .0011 | | | | | | | | | | | | |
| 44 | | 0.209 | 58.1 | 0.203 | 55.3 | 0.196 | 52.5 | 0.190 | 49.8 | 0.183 | 47.2 | 0.177 | 44.7 |
| | .0011 | | | | | | | | | | | | |
| 45 | | 0.220 | 59.0 | 0.214 | 56.2 | 0.207 | 53.5 | 0.201 | 50.8 | 0.194 | 48.3 | 0.188 | 45.8 |
| | .0011 | | | | | | | | | | | | |
| 46 | | 0.232 | 59.8 | 0.225 | 57.0 | 0.219 | 54.4 | 0.212 | 51.8 | 0.206 | 49.3 | 0.198 | 46.9 |
| | .0012 | | | | | | | | | | | | |
| 47 | | 0.244 | 60.6 | 0.237 | 57.9 | 0.231 | 55.2 | 0.224 | 52.7 | 0.217 | 50.2 | 0.211 | 47.9 |
| | .0012 | | | | | | | | | | | | |
| 48 | | 0.256 | 61.3 | 0.249 | 58.7 | 0.243 | 56.1 | 0.236 | 53.6 | 0.230 | 51.2 | 0.223 | 48.8 |
| | .0013 | | | | | | | | | | | | |
| 49 | | 0.269 | 62.0 | 0.262 | 59.4 | 0.255 | 56.9 | 0.249 | 54.5 | 0.242 | 52.1 | 0.236 | 49.7 |
| | .0013 | | | | | | | | | | | | |
| 50 | | 0.282 | 62.7 | 0.275 | 60.2 | 0.268 | 57.7 | 0.262 | 55.3 | 0.255 | 52.9 | 0.249 | 50.6 |
| | .0013 | | | | | | | | | | | | |
| 51 | | 0.295 | 63.4 | 0.288 | 60.9 | 0.282 | 58.4 | 0.275 | 56.1 | 0.269 | 53.7 | 0.262 | 51.5 |
| | .0014 | | | | | | | | | | | | |
| 52 | | 0.309 | 64.1 | 0.302 | 61.6 | 0.296 | 59.2 | 0.289 | 56.8 | 0.282 | 54.6 | 0.276 | 52.3 |
| | .0014 | | | | | | | | | | | | |
| 53 | | 0.323 | 64.7 | 0.317 | 62.3 | 0.310 | 59.9 | 0.303 | 57.6 | 0.297 | 55.3 | 0.290 | 53.2 |
| | .0015 | | | | | | | | | | | | |
| 54 | | 0.338 | 65.3 | 0.332 | 62.9 | 0.325 | 60.6 | 0.318 | 58.3 | 0.312 | 56.1 | 0.305 | 53.9 |
| | .0015 | | | | | | | | | | | | |
| 55 | | 0.354 | 65.9 | 0.347 | 63.5 | 0.340 | 61.2 | 0.334 | 59.0 | 0.327 | 56.8 | 0.320 | 54.9 |
| | .0016 | | | | | | | | | | | | |
| 56 | | 0.369 | 66.5 | 0.363 | 64.1 | 0.356 | 61.9 | 0.349 | 59.7 | 0.343 | 57.5 | 0.336 | 55.4 |
| | .0017 | | | | | | | | | | | | |
| 57 | | 0.386 | 67.0 | 0.379 | 64.7 | 0.373 | 62.5 | 0.366 | 60.3 | 0.359 | 58.2 | 0.353 | 56.1 |
| | .0017 | | | | | | | | | | | | |
| 58 | | 0.403 | 67.5 | 0.396 | 65.3 | 0.389 | 63.1 | 0.383 | 60.9 | 0.376 | 58.8 | 0.369 | 56.8 |
| | .0017 | | | | | | | | | | | | |
| 59 | | 0.420 | 68.0 | 0.413 | 65.8 | 0.407 | 63.6 | 0.400 | 61.5 | 0.393 | 59.5 | 0.387 | 57.5 |
| | .0018 | | | | | | | | | | | | |
| 60 | | 0.438 | 68.5 | 0.431 | 66.3 | 0.425 | 64.2 | 0.418 | 62.1 | 0.411 | 60.1 | 0.405 | 58.1 |
| | .0018 | | | | | | | | | | | | |
| 61 | | 0.457 | 69.0 | 0.450 | 66.9 | 0.443 | 64.7 | 0.436 | 62.7 | 0.430 | 60.7 | 0.423 | 58.7 |
| | .0019 | | | | | | | | | | | | |
| 62 | | 0.476 | 69.5 | 0.469 | 67.4 | 0.462 | 65.3 | 0.456 | 63.2 | 0.449 | 61.3 | 0.442 | 59.3 |
| 63 | .0020 | 0.495 | 70.0 | 0.489 | 67.8 | 0.482 | 65.8 | 0.475 | 63.8 | 0.469 | 61.8 | 0.462 | 59.9 |
| 64 | .0021 | 0.516 | 70.4 | 0.509 | 68.3 | 0.503 | 66.3 | 0.496 | 64.3 | 0.489 | 62.4 | 0.483 | 60.5 |
| 65 | .0021 | 0.537 | 70.8 | 0.530 | 68.8 | 0.524 | 66.8 | 0.517 | 64.8 | 0.510 | 62.9 | 0.504 | 61.0 |
| 66 | .0022 | 0.559 | 71.2 | 0.552 | 69.2 | 0.545 | 67.2 | 0.539 | 65.3 | 0.532 | 63.4 | 0.525 | 61.6 |
| 67 | .0023 | 0.581 | 71.6 | 0.575 | 69.6 | 0.568 | 67.7 | 0.561 | 65.7 | 0.554 | 63.9 | 0.549 | 62.1 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6°.0 | | 6°.5 | | 7°.0 | | 7°.5 | | 8°.0 | | 8°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng In. | |
| 68 | 0.0024 | 0.604 | 72.0 | 0.597 | 70.0 | 0.591 | 68.1 | 0.584 | 66.2 | 0.577 | 64.4 | 0.571 | 62.6 |
| 69 | .0024 | 0.628 | 72.4 | 0.621 | 70.4 | 0.614 | 68.5 | 0.608 | 66.6 | 0.601 | 64.8 | 0.594 | 63.0 |
| 70 | .0025 | 0.652 | 72.7 | 0.646 | 70.8 | 0.639 | 68.9 | 0.632 | 67.1 | 0.625 | 65.3 | 0.619 | 63.5 |
| 71 | .0026 | 0.678 | 73.1 | 0.671 | 71.2 | 0.664 | 69.3 | 0.657 | 67.5 | 0.651 | 65.7 | 0.644 | 64.0 |
| 72 | .0027 | 0.704 | 73.4 | 0.697 | 71.5 | 0.690 | 69.7 | 0.683 | 67.9 | 0.677 | 66.1 | 0.670 | 64.4 |
| 73 | .0028 | 0.730 | 73.8 | 0.724 | 71.9 | 0.717 | 70.1 | 0.710 | 68.3 | 0.703 | 66.5 | 0.697 | 64.8 |
| 74 | .0029 | 0.758 | 74.1 | 0.751 | 72.2 | 0.745 | 70.4 | 0.738 | 68.7 | 0.731 | 66.9 | 0.724 | 65.3 |
| 75 | .0030 | 0.787 | 74.4 | 0.780 | 72.6 | 0.773 | 70.8 | 0.766 | 69.0 | 0.760 | 67.3 | 0.753 | 65.7 |
| 76 | .0030 | 0.816 | 74.7 | 0.809 | 72.9 | 0.802 | 71.1 | 0.796 | 69.4 | 0.789 | 67.7 | 0.782 | 66.1 |
| 77 | .0031 | 0.846 | 75.0 | 0.839 | 73.2 | 0.832 | 71.4 | 0.826 | 69.7 | 0.819 | 68.1 | 0.812 | 66.4 |
| 78 | .0032 | 0.877 | 75.3 | 0.870 | 73.5 | 0.863 | 71.8 | 0.857 | 70.1 | 0.850 | 68.4 | 0.843 | 66.8 |
| 79 | .0033 | 0.909 | 75.6 | 0.902 | 73.8 | 0.895 | 72.1 | 0.888 | 70.4 | 0.882 | 68.8 | 0.875 | 67.2 |
| 80 | .0034 | 0.942 | 75.8 | 0.935 | 74.1 | 0.928 | 72.4 | 0.921 | 70.7 | 0.915 | 69.1 | 0.908 | 67.5 |
| 81 | .0035 | 0.976 | 76.1 | 0.969 | 74.4 | 0.962 | 72.7 | 0.955 | 71.0 | 0.948 | 69.4 | 0.942 | 67.9 |
| 82 | .0036 | 1.011 | 76.4 | 1.004 | 74.6 | 0.997 | 73.0 | 0.990 | 71.3 | 0.983 | 69.8 | 0.977 | 68.2 |
| 83 | .0037 | 1.046 | 76.6 | 1.040 | 74.9 | 1.033 | 73.3 | 1.026 | 71.6 | 1.019 | 70.1 | 1.012 | 68.5 |
| 84 | .0038 | 1.083 | 76.8 | 1.077 | 75.2 | 1.070 | 73.5 | 1.063 | 71.9 | 1.056 | 70.4 | 1.049 | 68.8 |
| 85 | .0038 | 1.121 | 77.1 | 1.114 | 75.4 | 1.108 | 73.8 | 1.101 | 72.2 | 1.094 | 70.7 | 1.087 | 69.1 |
| 86 | .0039 | 1.160 | 77.3 | 1.153 | 75.7 | 1.147 | 74.1 | 1.140 | 72.5 | 1.133 | 70.9 | 1.126 | 69.4 |
| 87 | .0040 | 1.201 | 77.5 | 1.194 | 75.9 | 1.187 | 74.3 | 1.181 | 72.7 | 1.174 | 71.2 | 1.167 | 69.7 |
| 88 | .0042 | 1.241 | 77.7 | 1.235 | 76.1 | 1.228 | 74.6 | 1.221 | 73.0 | 1.214 | 71.5 | 1.207 | 70.0 |
| 89 | .0044 | 1.284 | 78.0 | 1.277 | 76.4 | 1.270 | 74.8 | 1.263 | 73.3 | 1.256 | 71.8 | 1.250 | 70.3 |
| 90 | .0045 | 1.327 | 78.2 | 1.321 | 76.6 | 1.314 | 75.0 | 1.307 | 73.5 | 1.300 | 72.0 | 1.293 | 70.6 |
| 91 | .0046 | 1.372 | 78.4 | 1.365 | 76.8 | 1.359 | 75.3 | 1.352 | 73.7 | 1.345 | 72.3 | 1.338 | 70.8 |
| 92 | .0047 | 1.418 | 78.6 | 1.412 | 77.0 | 1.405 | 75.5 | 1.398 | 74.0 | 1.391 | 72.5 | 1.384 | 71.1 |
| 93 | .0049 | 1.466 | 78.8 | 1.459 | 77.2 | 1.452 | 75.7 | 1.445 | 74.2 | 1.438 | 72.8 | 1.431 | 71.3 |
| 94 | .0050 | 1.514 | 79.0 | 1.507 | 77.4 | 1.501 | 75.9 | 1.494 | 74.4 | 1.487 | 73.0 | 1.480 | 71.6 |
| 95 | .0051 | 1.564 | 79.1 | 1.557 | 77.6 | 1.550 | 76.1 | 1.544 | 74.7 | 1.537 | 73.2 | 1.530 | 71.8 |
| 96 | .0052 | 1.615 | 79.3 | 1.608 | 77.8 | 1.602 | 76.3 | 1.595 | 74.9 | 1.588 | 73.4 | 1.581 | 72.1 |
| 97 | .0054 | 1.668 | 79.5 | 1.661 | 78.0 | 1.654 | 76.5 | 1.647 | 75.1 | 1.640 | 73.7 | 1.633 | 72.3 |
| 98 | .0056 | 1.722 | 79.7 | 1.715 | 78.2 | 1.708 | 76.7 | 1.701 | 75.3 | 1.694 | 73.9 | 1.688 | 72.5 |
| 99 | .0057 | 1.778 | 79.8 | 1.771 | 78.4 | 1.764 | 76.9 | 1.757 | 75.5 | 1.750 | 74.1 | 1.743 | 72.7 |
| 100 | .0059 | 1.835 | 80.0 | 1.828 | 78.5 | 1.821 | 77.1 | 1.814 | 75.7 | 1.807 | 74.3 | 1.800 | 72.9 |
| 101 | .0060 | 1.893 | 80.2 | 1.887 | 78.7 | 1.880 | 77.3 | 1.873 | 75.9 | 1.866 | 74.5 | 1.859 | 73.2 |
| 102 | .0061 | 1.954 | 80.3 | 1.947 | 78.9 | 1.940 | 77.4 | 1.933 | 76.1 | 1.926 | 74.7 | 1.919 | 73.4 |
| 103 | .0063 | 2.015 | 80.5 | 2.008 | 79.0 | 2.001 | 77.6 | 1.994 | 76.2 | 1.987 | 74.9 | 1.980 | 73.6 |
| 104 | | 2.078 | 80.6 | 2.071 | 79.2 | 2.064 | 77.8 | 2.057 | 76.4 | 2.051 | 75.1 | 2.044 | 73.8 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t − t′, or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 9°.0 | | 9°.5 | | 10°.0 | | 10°.5 | | 11°.0 | | 11°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In | |
| 32 | 0.0007 | 0.064 | 25.0 | 0.058 | 22.0 | 0.051 | 19.2 | 0.045 | 16.4 | 0.038 | 13.8 | 0.032 | 11.2 |
| 33 | .0007 | 0.071 | 26.7 | 0.065 | 23.8 | 0.058 | 21.0 | 0.052 | 18.3 | 0.045 | 15.7 | 0.039 | 13.2 |
| 34 | .0008 | 0.079 | 28.3 | 0.072 | 25.5 | 0.066 | 22.7 | 0.059 | 20.1 | 0.053 | 17.5 | 0.046 | 15.1 |
| 35 | .0008 | 0.087 | 29.9 | 0.080 | 27.1 | 0.074 | 24.4 | 0.067 | 21.8 | 0.061 | 19.3 | 0.054 | 16.9 |
| 36 | .0008 | 0.095 | 31.4 | 0.088 | 28.7 | 0.082 | 26.0 | 0.075 | 23.5 | 0.069 | 21.1 | 0.062 | 18.7 |
| 37 | .0009 | 0.103 | 33.0 | 0.096 | 30.3 | 0.090 | 27.6 | 0.083 | 25.2 | 0.077 | 22.8 | 0.070 | 20.4 |
| 38 | .0009 | 0.112 | 34.4 | 0.105 | 31.8 | 0.099 | 29.2 | 0.092 | 26.8 | 0.086 | 24.4 | 0.079 | 22.1 |
| 39 | .0009 | 0.121 | 35.9 | 0.114 | 33.3 | 0.108 | 30.7 | 0.101 | 28.4 | 0.094 | 26.1 | 0.088 | 23.8 |
| 40 | .0010 | 0.130 | 37.3 | 0.123 | 34.8 | 0.117 | 32.2 | 0.110 | 29.9 | 0.104 | 27.6 | 0.097 | 25.4 |
| 41 | .0010 | 0.139 | 38.6 | 0.133 | 36.2 | 0.126 | 33.7 | 0.120 | 31.4 | 0.113 | 29.2 | 0.107 | 27.0 |
| 42 | .0010 | 0.149 | 39.9 | 0.143 | 37.5 | 0.136 | 35.0 | 0.130 | 32.8 | 0.123 | 30.6 | 0.116 | 28.4 |
| 43 | .0010 | 0.160 | 41.1 | 0.153 | 38.7 | 0.146 | 36.3 | 0.140 | 34.1 | 0.133 | 32.0 | 0.127 | 29.8 |
| 44 | .0011 | 0.170 | 42.3 | 0.163 | 39.9 | 0.157 | 37.6 | 0.150 | 35.4 | 0.144 | 33.3 | 0.137 | 31.2 |
| 45 | .0011 | 0.181 | 43.4 | 0.175 | 41.1 | 0.168 | 38.8 | 0.161 | 36.7 | 0.155 | 34.6 | 0.148 | 32.5 |
| 46 | .0012 | 0.192 | 44.5 | 0.186 | 42.2 | 0.179 | 39.9 | 0.173 | 37.9 | 0.166 | 35.8 | 0.160 | 33.8 |
| 47 | .0012 | 0.204 | 45.5 | 0.198 | 43.3 | 0.191 | 41.1 | 0.185 | 39.0 | 0.178 | 37.0 | 0.171 | 35.0 |
| 48 | .0012 | 0.217 | 46.5 | 0.210 | 44.3 | 0.203 | 42.1 | 0.197 | 40.1 | 0.190 | 38.1 | 0.184 | 36.1 |
| 49 | .0013 | 0.229 | 47.5 | 0.222 | 45.3 | 0.216 | 43.2 | 0.209 | 41.2 | 0.203 | 39.2 | 0.196 | 37.2 |
| 50 | .0013 | 0.242 | 48.4 | 0.235 | 46.3 | 0.229 | 44.2 | 0.222 | 42.2 | 0.216 | 40.2 | 0.209 | 38.3 |
| 51 | .0014 | 0.255 | 49.3 | 0.249 | 47.2 | 0.242 | 45.2 | 0.236 | 43.2 | 0.229 | 41.2 | 0.222 | 39.3 |
| 52 | .0015 | 0.269 | 50.2 | 0.263 | 48.1 | 0.256 | 46.1 | 0.249 | 44.1 | 0.243 | 42.2 | 0.236 | 40.3 |
| 53 | .0015 | 0.284 | 51.1 | 0.277 | 49.0 | 0.270 | 47.0 | 0.264 | 45.1 | 0.257 | 43.2 | 0.250 | 41.3 |
| 54 | .0015 | 0.298 | 51.9 | 0.292 | 49.8 | 0.285 | 47.9 | 0.279 | 46.0 | 0.272 | 44.1 | 0.265 | 42.3 |
| 55 | .0016 | 0.314 | 52.7 | 0.307 | 50.7 | 0.300 | 48.7 | 0.294 | 46.8 | 0.287 | 45.0 | 0.281 | 43.2 |
| 56 | .0016 | 0.330 | 53.5 | 0.323 | 51.4 | 0.316 | 49.5 | 0.310 | 47.7 | 0.303 | 45.9 | 0.296 | 44.1 |
| 57 | .0017 | 0.346 | 54.3 | 0.339 | 52.2 | 0.333 | 50.3 | 0.326 | 48.5 | 0.319 | 46.7 | 0.313 | 44.9 |
| 58 | .0017 | 0.363 | 55.0 | 0.356 | 52.9 | 0.350 | 51.1 | 0.343 | 49.2 | 0.336 | 47.5 | 0.330 | 45.7 |
| 59 | .0018 | 0.380 | 55.7 | 0.373 | 53.6 | 0.367 | 51.8 | 0.360 | 50.0 | 0.354 | 48.2 | 0.347 | 46.5 |
| 60 | .0018 | 0.398 | 56.4 | 0.391 | 54.3 | 0.385 | 52.5 | 0.378 | 50.7 | 0.371 | 49.0 | 0.365 | 47.3 |
| 61 | .0019 | 0.416 | 57.0 | 0.410 | 55.0 | 0.403 | 53.2 | 0.396 | 51.4 | 0.390 | 49.7 | 0.383 | 48.1 |
| 62 | .0020 | 0.436 | 57.6 | 0.429 | 55.6 | 0.422 | 53.9 | 0.416 | 52.1 | 0.409 | 50.4 | 0.402 | 48.8 |
| 63 | .0021 | 0.455 | 58.2 | 0.449 | 56.3 | 0.442 | 54.5 | 0.435 | 52.8 | 0.429 | 51.1 | 0.422 | 49.5 |
| 64 | .0021 | 0.476 | 58.8 | 0.469 | 56.9 | 0.462 | 55.1 | 0.456 | 53.4 | 0.449 | 51.8 | 0.442 | 50.2 |
| 65 | .0022 | 0.497 | 59.3 | 0.490 | 57.5 | 0.483 | 55.8 | 0.477 | 54.1 | 0.470 | 52.4 | 0.463 | 50.8 |
| 66 | .0023 | 0.519 | 59.9 | 0.512 | 58.0 | 0.505 | 56.3 | 0.498 | 54.7 | 0.492 | 53.1 | 0.485 | 51.5 |
| 67 | | 0.542 | 60.3 | 0.534 | 58.6 | 0.527 | 56.9 | 0.521 | 55.3 | 0.514 | 53.7 | 0.507 | 52.1 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer $t'$ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | $t - t'$, or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 9°.0 | | 9°.5 | | 10°.0 | | 10°.5 | | 11°.0 | | 11°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 68 | 0.0024 | 0.564 | 60.8 | 0.557 | 59.1 | 0.550 | 57.4 | 0.544 | 55.8 | 0.537 | 54.2 | 0.530 | 52.7 |
| 69 | .0025 | 0.588 | 61.3 | 0.581 | 59.6 | 0.574 | 58.0 | 0.567 | 56.4 | 0.561 | 54.8 | 0.554 | 53.3 |
| 70 | .0025 | 0.612 | 61.8 | 0.605 | 60.1 | 0.598 | 58.5 | 0.592 | 56.9 | 0.585 | 55.4 | 0.578 | 53.8 |
| 71 | .0026 | 0.637 | 62.3 | 0.630 | 60.6 | 0.624 | 59.0 | 0.617 | 57.4 | 0.610 | 55.9 | 0.603 | 54.4 |
| 72 | .0027 | 0.663 | 62.7 | 0.656 | 61.1 | 0.650 | 59.5 | 0.643 | 58.0 | 0.636 | 56.4 | 0.629 | 54.9 |
| 73 | .0027 | 0.390 | 63.2 | 0.683 | 61.6 | 0.677 | 60.0 | 0.670 | 58.4 | 0.663 | 56.9 | 0.656 | 55.5 |
| 74 | .0028 | 0.718 | 63.6 | 0.711 | 62.0 | 0.704 | 60.5 | 0.697 | 58.9 | 0.691 | 57.4 | 0.684 | 56.0 |
| 75 | .0029 | 0.746 | 64.0 | 0.739 | 62.5 | 0.733 | 60.9 | 0.726 | 59.4 | 0.719 | 57.9 | 0.712 | 56.5 |
| 76 | .0030 | 0.775 | 64.4 | 0.769 | 62.9 | 0.762 | 61.3 | 0.755 | 59.8 | 0.748 | 58.4 | 0.741 | 56.9 |
| 77 | .0031 | 0.805 | 64.8 | 0.799 | 63.3 | 0.792 | 61.8 | 0.785 | 60.3 | 0.778 | 58.8 | 0.772 | 57.4 |
| 78 | .0032 | 0.836 | 65.2 | 0.829 | 63.7 | 0.823 | 62.2 | 0.816 | 60.7 | 0.809 | 59.2 | 0.802 | 57.8 |
| 79 | .0033 | 0.868 | 65.6 | 0.861 | 64.1 | 0.855 | 62.6 | 0.848 | 61.1 | 0.841 | 59.7 | 0.834 | 58.3 |
| 80 | .0034 | 0.901 | 66.0 | 0.894 | 64.5 | 0.897 | 63.0 | 0.881 | 61.5 | 0.874 | 60.1 | 0.867 | 58.7 |
| 81 | .0035 | 0.935 | 66.3 | 0.928 | 64.8 | 0.921 | 63.4 | 0.914 | 61.9 | 0.908 | 60.5 | 0.901 | 59.1 |
| 82 | .0036 | 0.970 | 66.7 | 0.963 | 65.2 | 0.956 | 63.7 | 0.949 | 62.3 | 0.943 | 60.9 | 0.936 | 59.5 |
| 83 | .0037 | 1.006 | 67.0 | 0.999 | 65.5 | 0.992 | 64.1 | 0.985 | 62.7 | 0.978 | 61.3 | 0.972 | 59.9 |
| 84 | .0038 | 1.042 | 67.3 | 1.036 | 65.9 | 1.029 | 64.4 | 1.022 | 63.0 | 1.015 | 61.7 | 1.008 | 60.3 |
| 85 | .0039 | 1.080 | 67.7 | 1.073 | 66.2 | 1.067 | 64.8 | 1.060 | 63.4 | 1.053 | 62.0 | 1.046 | 60.7 |
| 86 | .0040 | 1.119 | 68.0 | 1.112 | 66.5 | 1.106 | 65.1 | 1.099 | 63.7 | 1.092 | 62.4 | 1.085 | 61.0 |
| 87 | .0041 | 1.160 | 68.3 | 1.153 | 66.8 | 1.146 | 65.4 | 1.140 | 64.1 | 1.133 | 62.7 | 1.126 | 61.4 |
| 88 | .0042 | 1.200 | 68.6 | 1.194 | 67.1 | 1.187 | 65.8 | 1.180 | 64.4 | 1.173 | 63.1 | 1.166 | 61.7 |
| 89 | .0044 | 1.243 | 68.9 | 1.236 | 67.4 | 1.229 | 66.1 | 1.222 | 64.7 | 1.215 | 63.4 | 1.208 | 62.1 |
| 90 | .0045 | 1.286 | 69.1 | 1.279 | 67.7 | 1.273 | 66.4 | 1.266 | 65.0 | 1.259 | 63.7 | 1.252 | 62.4 |
| 91 | .0046 | 1.331 | 69.4 | 1.324 | 68.0 | 1.317 | 66.7 | 1.311 | 65.3 | 1.304 | 64.0 | 1.297 | 62.7 |
| 92 | .0047 | 1.377 | 69.7 | 1.370 | 68.3 | 1.363 | 67.0 | 1.357 | 65.6 | 1.350 | 64.3 | 1.343 | 63.1 |
| 93 | .0048 | 1.425 | 69.9 | 1.418 | 68.6 | 1.411 | 67.2 | 1.404 | 65.9 | 1.397 | 64.6 | 1.390 | 63.4 |
| 94 | .0050 | 1.473 | 70.2 | 1.466 | 68.8 | 1.459 | 67.5 | 1.452 | 66.2 | 1.446 | 64.9 | 1.439 | 63.7 |
| 95 | .0051 | 1.523 | 70.4 | 1.516 | 69.1 | 1.509 | 67.8 | 1.502 | 66.5 | 1.495 | 65.2 | 1.488 | 64.0 |
| 96 | .0053 | 1.574 | 70.7 | 1.567 | 69.4 | 1.560 | 68.0 | 1.553 | 66.7 | 1.546 | 65.5 | 1.539 | 64.2 |
| 97 | .0054 | 1.627 | 70.9 | 1.620 | 69.6 | 1.613 | 68.3 | 1.606 | 67.0 | 1.599 | 65.8 | 1.592 | 64.5 |
| 98 | .0056 | 1.681 | 71.2 | 1.674 | 69.8 | 1.667 | 68.5 | 1.660 | 67.3 | 1.653 | 66.0 | 1.646 | 64.8 |
| 99 | .0057 | 1.736 | 71.4 | 1.729 | 70.1 | 1.722 | 68.8 | 1.716 | 67.5 | 1.709 | 66.3 | 1.702 | 65.1 |
| 100 | .0058 | 1.793 | 71.6 | 1.786 | 70.3 | 1.780 | 69.0 | 1.773 | 67.8 | 1.766 | 66.5 | 1.759 | 65.3 |
| 101 | .0060 | 1.852 | 71.8 | 1.845 | 70.5 | 1.838 | 69.3 | 1.831 | 68.0 | 1.824 | 66.8 | 1.817 | 65.6 |
| 102 | .0062 | 1.912 | 72.0 | 1.905 | 70.8 | 1.898 | 69.5 | 1.891 | 68.2 | 1.884 | 67.0 | 1.877 | 65.8 |
| 103 | .0063 | 1.974 | 72.3 | 1.967 | 71.0 | 1.960 | 69.7 | 1.953 | 68.5 | 1.946 | 67.3 | 1.939 | 66.1 |
| 104 | | 2.037 | 72.5 | 2.030 | 71.2 | 2.023 | 69.9 | 2.016 | 68.7 | 2.009 | 67.5 | 2.002 | 66.3 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t − t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12°.0 | | 12°.5 | | 13°.0 | | 13°.5 | | 14°.0 | | 14°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | 0.0007 | 0.025 | 8.8 | 0.019 | 6.4 | 0.012 | 4.1 | | | | | | |
| 33 | .0007 | 0.032 | 10.8 | 0.026 | 8.4 | 0.019 | 6.2 | 0.013 | 4.0 | | | | |
| 34 | .0007 | 0.040 | 12.7 | 0.033 | 10.4 | 0.027 | 8.2 | 0.020 | 6.0 | 0.014 | 4.1 | | |
| 35 | .0008 | 0.048 | 14.6 | 0.041 | 12.3 | 0.034 | 10.1 | 0.028 | 8.0 | 0.021 | 6.1 | 0.015 | 4.2 |
| 36 | .0008 | 0.056 | 16.4 | 0.049 | 14.2 | 0.042 | 12.0 | 0.036 | 10.0 | 0.029 | 8.1 | 0.023 | 6.2 |
| 37 | .0009 | 0.064 | 18.2 | 0.057 | 16.0 | 0.051 | 13.9 | 0.044 | 11.9 | 0.038 | 10.0 | 0.031 | 8.2 |
| 38 | .0009 | 0.072 | 19.9 | 0.066 | 17.8 | 0.059 | 15.7 | 0.053 | 13.7 | 0.046 | 11.9 | 0.040 | 10.1 |
| 39 | .0009 | 0.081 | 21.6 | 0.075 | 19.5 | 0.068 | 17.5 | 0.062 | 15.5 | 0.055 | 13.7 | 0.049 | 11.9 |
| 40 | .0010 | 0.091 | 23.3 | 0.084 | 21.2 | 0.078 | 19.2 | 0.071 | 17.2 | 0.064 | 15.4 | 0.058 | 13.6 |
| 41 | .0010 | 0.100 | 24.9 | 0.094 | 22.8 | 0.087 | 20.8 | 0.081 | 18.9 | 0.074 | 17.1 | 0.067 | 15.3 |
| 42 | .0010 | 0.110 | 26.4 | 0.103 | 24.3 | 0.097 | 22.4 | 0.090 | 20.5 | 0.084 | 18.6 | 0.077 | 16.8 |
| 43 | .0011 | 0.120 | 27.8 | 0.114 | 25.8 | 0.107 | 23.9 | 0.100 | 22.0 | 0.095 | 20.1 | 0.087 | 18.3 |
| 44 | .0011 | 0.131 | 29.2 | 0.124 | 27.2 | 0.118 | 25.3 | 0.111 | 23.5 | 0.104 | 21.5 | 0.098 | 19.8 |
| 45 | .0011 | 0.142 | 30.5 | 0.135 | 28.6 | 0.129 | 26.7 | 0.122 | 24.9 | 0.115 | 22.9 | 0.109 | 21.2 |
| 46 | .0012 | 0.153 | 31.8 | 0.146 | 30.0 | 0.140 | 28.1 | 0.133 | 26.3 | 0.127 | 24.3 | 0.119 | 22.7 |
| 47 | .0012 | 0.165 | 33.0 | 0.158 | 31.2 | 0.152 | 29.3 | 0.145 | 27.6 | 0.138 | 25 7 | 0.132 | 24.0 |
| 48 | .0013 | 0.177 | 34.2 | 0.170 | 32.4 | 0.164 | 30.6 | 0.157 | 28.8 | 0.151 | 27.0 | 0.144 | 25.4 |
| 49 | .0013 | 0.190 | 35.3 | 0.183 | 33.5 | 0.176 | 31.7 | 0.170 | 30.0 | 0.163 | 28.3 | 0.157 | 26.7 |
| 50 | .0014 | 0.202 | 36.4 | 0.196 | 34.6 | 0.189 | 32.9 | 0.183 | 31.2 | 0.176 | 29.5 | 0.169 | 27.9 |
| 51 | .0014 | 0.216 | 37.5 | 0.209 | 35.7 | 0.202 | 34.0 | 0.196 | 32.3 | 0.189 | 30.7 | 0.183 | 29.1 |
| 52 | .0014 | 0.229 | 38.5 | 0.223 | 36.8 | 0.216 | 35.1 | 0.210 | 33.4 | 0.203 | 31.8 | 0.196 | 30.2 |
| 53 | .0015 | 0.244 | 39.5 | 0.237 | 37.8 | 0.231 | 36.1 | 0.224 | 34.5 | 0.217 | 32.9 | 0.211 | 31.4 |
| 54 | .0015 | 0.259 | 40.5 | 0.252 | 38.8 | 0.245 | 37.1 | 0.239 | 35.5 | 0.232 | 34.0 | 0.226 | 32.4 |
| 55 | .0016 | 0.274 | 41.5 | 0.267 | 39.8 | 0.261 | 38.1 | 0.254 | 36.5 | 0.247 | 35.0 | 0.241 | 33.5 |
| 56 | .0016 | 0.290 | 42.4 | 0.283 | 40.7 | 0.276 | 39.1 | 0.270 | 37.5 | 0.263 | 35.9 | 0.257 | 34.4 |
| 57 | .0017 | 0.306 | 43.2 | 0.299 | 41.6 | 0.293 | 40.0 | 0.286 | 38.4 | 0.280 | 36.9 | 0.273 | 35.4 |
| 58 | .0017 | 0.323 | 44.1 | 0.316 | 42.4 | 0.310 | 40.8 | 0.303 | 39.3 | 0.296 | 37.8 | 0.290 | 36.3 |
| 59 | .0018 | 0.340 | 44.9 | 0.334 | 43.3 | 0.327 | 41.7 | 0.320 | 40.1 | 0.314 | 38.7 | 0.307 | 37.2 |
| 60 | .0018 | 0.358 | 45.7 | 0.351 | 44.1 | 0.345 | 42.5 | 0.338 | 41.0 | 0.331 | 39.5 | 0.325 | 38.1 |
| 61 | .0019 | 0.376 | 46.4 | 0.370 | 44.9 | 0.363 | 43.3 | 0.356 | 41.8 | 0.350 | 40.3 | 0.343 | 38.9 |
| 62 | .0020 | 0.396 | 47.2 | 0.389 | 45.6 | 0.382 | 44.1 | 0.376 | 42.6 | 0.369 | 41.2 | 0.362 | 39.8 |
| 63 | .0021 | 0.415 | 47.9 | 0.409 | 46.4 | 0.402 | 44.8 | 0.395 | 43.4 | 0.389 | 41.9 | 0.382 | 40.6 |
| 64 | .0021 | 0.436 | 48.6 | 0.429 | 47.1 | 0.422 | 45.6 | 0.416 | 44.1 | 0.409 | 42.7 | 0.402 | 41.3 |
| 65 | .0022 | 0.457 | 49.3 | 0.450 | 47.8 | 0.443 | 46.3 | 0.437 | 44.8 | 0.431 | 43.4 | 0.423 | 42.1 |
| 66 | .0023 | 0.478 | 49.9 | 0.472 | 48.4 | 0.465 | 47.0 | 0.458 | 45.5 | 0.452 | 44.1 | 0.445 | 42.8 |
| 67 | | 0.501 | 50.6 | 0.494 | 49.1 | 0.487 | 47.6 | 0.481 | 46.2 | 0.474 | 44.8 | 0.467 | 43.5 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0018.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12°.0 | | 12°.5 | | 13°.0 | | 13°.5 | | 14°.0 | | 14°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng In. | |
| 68 | 0.0024 | 0.524 | 51.2 | 0.517 | 49.7 | 0.510 | 48.3 | 0.503 | 46.9 | 0.497 | 45.5 | 0.490 | 44.1 |
| 69 | .0024 | 0.547 | 51.8 | 0.541 | 50.3 | 0.534 | 48.9 | 0.527 | 47.5 | 0.520 | 46.1 | 0.514 | 44.8 |
| 70 | .0025 | 0.572 | 52.4 | 0.565 | 50.9 | 0.558 | 49.5 | 0.551 | 48.1 | 0.545 | 46.8 | 0.538 | 45.5 |
| 71 | .0026 | 0.597 | 52.9 | 0.590 | 51.5 | 0.583 | 50.1 | 0.577 | 48.7 | 0.570 | 47.4 | 0.563 | 46.1 |
| 72 | .0026 | 0.623 | 53.5 | 0.616 | 52.1 | 0.609 | 50.7 | 0.603 | 49.3 | 0.596 | 48.0 | 0.589 | 46.7 |
| 73 | .0027 | 0.650 | 54.0 | 0.643 | 52.6 | 0.636 | 51.3 | 0.629 | 49.9 | 0.623 | 48.6 | 0.616 | 47.3 |
| 74 | .0028 | 0.677 | 54.5 | 0.670 | 53.2 | 0.664 | 51.8 | 0.657 | 50.5 | 0.650 | 49.2 | 0.643 | 47.9 |
| 75 | .0029 | 0.705 | 55.0 | 0.699 | 53.7 | 0.692 | 52.3 | 0.685 | 51.0 | 0.678 | 49.7 | 0.672 | 48.4 |
| 76 | .0030 | 0.735 | 55.5 | 0.728 | 54.2 | 0.721 | 52.9 | 0.714 | 51.5 | 0.708 | 50.3 | 0.701 | 48.9 |
| 77 | .0031 | 0.765 | 56.0 | 0.759 | 54.7 | 0.752 | 53.4 | 0.745 | 52.1 | 0.739 | 50.8 | 0.731 | 49.5 |
| 78 | .0032 | 0.796 | 56.5 | 0.782 | 55.2 | 0.782 | 53.8 | 0.775 | 52.5 | 0.768 | 51.3 | 0.762 | 50.0 |
| 79 | .0033 | 0.827 | 56.9 | 0.821 | 55.6 | 0.814 | 54.3 | 0.807 | 53.0 | 0.800 | 51.8 | 0.794 | 50.5 |
| 80 | .0034 | 0.860 | 57.3 | 0.853 | 56.1 | 0.847 | 54.8 | 0.840 | 53.5 | 0.833 | 52.2 | 0.826 | 51.0 |
| 81 | .0035 | 0.894 | 57.8 | 0.887 | 56.5 | 0.880 | 55.2 | 0.874 | 53.9 | 0.867 | 52.7 | 0.860 | 51.4 |
| 82 | .0036 | 0.929 | 58.2 | 0.922 | 56.9 | 0.915 | 55.6 | 0.909 | 54.4 | 0.902 | 53.2 | 0.895 | 51.9 |
| 83 | .0037 | 0.965 | 58.6 | 0.958 | 57.3 | 0.951 | 56.1 | 0.944 | 54.8 | 0.937 | 53.6 | 0.931 | 52.4 |
| 84 | .0038 | 1.002 | 59.0 | 0.995 | 57.7 | 0.988 | 56.5 | 0.981 | 55.2 | 0.974 | 54.0 | 0.968 | 52.8 |
| 85 | .0039 | 1.039 | 59.4 | 1.033 | 58.1 | 1.026 | 56.8 | 1.019 | 55.6 | 1.012 | 54.4 | 1.005 | 53.2 |
| 86 | .0040 | 1.078 | 59.7 | 1.071 | 58.5 | 1.065 | 57.2 | 1.058 | 56.0 | 1.051 | 54.8 | 1.044 | 53.6 |
| 87 | .0041 | 1.119 | 60.1 | 1.112 | 58.8 | 1.105 | 57.6 | 1.099 | 56.4 | 1.092 | 55.2 | 1.085 | 54.0 |
| 88 | .0042 | 1.159 | 60.5 | 1.152 | 59.2 | 1.146 | 58.0 | 1.139 | 56.8 | 1.132 | 55.6 | 1.125 | 54.4 |
| 89 | .0044 | 1.202 | 60.9 | 1.195 | 59.6 | 1.188 | 58.3 | 1.181 | 57.1 | 1.174 | 56.0 | 1.167 | 54.8 |
| 90 | .0045 | 1.245 | 61.3 | 1.238 | 59.9 | 1.231 | 58.7 | 1.225 | 57.5 | 1.218 | 56.3 | 1.211 | 55.2 |
| 91 | .0046 | 1.290 | 61.6 | 1.283 | 60.2 | 1.276 | 59.0 | 1.269 | 57.9 | 1.263 | 66.7 | 1.256 | 55.6 |
| 92 | .0047 | 1.336 | 61.9 | 1.329 | 60.6 | 1.322 | 59.4 | 1.315 | 58.2 | 1.309 | 57.0 | 1.302 | 55.9 |
| 93 | .0049 | 1.383 | 62.2 | 1.376 | 60.9 | 1.370 | 59.7 | 1.363 | 58.5 | 1.356 | 57.4 | 1.349 | 56.3 |
| 94 | .0050 | 1.432 | 62.5 | 1.425 | 61.2 | 1.418 | 60.0 | 1.411 | 58.9 | 1.404 | 57.7 | 1.397 | 56.6 |
| 95 | .0051 | 1.482 | 62.7 | 1.475 | 61.5 | 1.468 | 60.4 | 1.461 | 59.2 | 1.454 | 58.1 | 1.447 | 57.0 |
| 96 | .0052 | 1.533 | 63.0 | 1.526 | 61.8 | 1.519 | 60.7 | 1.512 | 59.5 | 1.505 | 58.4 | 1.498 | 57.3 |
| 97 | .0054 | 1.585 | 63.3 | 1.578 | 62.1 | 1.571 | 61.0 | 1.564 | 59.8 | 1.558 | 58.7 | 1.551 | 57.6 |
| 98 | .0056 | 1.639 | 63.6 | 1.632 | 62.4 | 1.625 | 61.3 | 1.618 | 60.1 | 1.612 | 59.0 | 1.605 | 57.9 |
| 99 | .0057 | 1.695 | 63.9 | 1.688 | 62.7 | 1.681 | 61.6 | 1.674 | 60.4 | 1.667 | 59.3 | 1.660 | 58.2 |
| 100 | .0059 | 1.752 | 64.2 | 1.745 | 63.0 | 1.738 | 62.0 | 1.731 | 60.7 | 1.724 | 59.6 | 1.717 | 58.5 |
| 101 | .0060 | 1.810 | 64.4 | 1.803 | 63.2 | 1.797 | 62.3 | 1.790 | 61.0 | 1.783 | 59.9 | 1.776 | 58.8 |
| 102 | .0062 | 1.870 | 64.7 | 1.863 | 63.5 | 1.857 | 62.6 | 1.850 | 61.3 | 1.843 | 60.2 | 1.836 | 59.1 |
| 103 | .0063 | 1.932 | 64.9 | 1.925 | 63.8 | 1.918 | 62.9 | 1.911 | 61.5 | 1.904 | 60.4 | 1.897 | 59.4 |
| 104 | | 1.995 | 65.2 | 1.988 | 64.0 | 1.981 | 63.2 | 1.974 | 61.8 | 1.967 | 60.7 | 1.960 | 59.6 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15°.0 | | 15°.5 | | 16°.0 | | 16°.5 | | 17°.0 | | 17°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | 0.016 | 4.4 | | | | | | | | | | |
| | 0.0009 | | | | | | | | | | | | |
| 37 | | 0.025 | 6.4 | 0.018 | 4.6 | | | | | | | | |
| 38 | .0009 | 0.033 | 8.3 | 0.027 | 6.5 | 0.020 | 4.8 | 0.014 | 3.2 | | | | |
| 39 | .0009 | 0.042 | 10.1 | 0.036 | 8.4 | 0.029 | 6.7 | 0.023 | 5.1 | 0.016 | 3.6 | 0.010 | 2.1 |
| 40 | .0009 | 0.051 | 11.9 | 0.045 | 10.1 | 0.038 | 8.5 | 0.032 | 6.9 | 0.025 | 5.4 | 0.019 | 3.9 |
| 41 | .0010 | 0.061 | 13.6 | 0.054 | 11.8 | 0.048 | 10.3 | 0.041 | 8.7 | 0.035 | 7.2 | 0.028 | 5.7 |
| | .0010 | | | | | | | | | | | | |
| 42 | | 0.071 | 15.1 | 0.064 | 13.4 | 0.058 | 11.9 | 0.051 | 10.3 | 0.044 | 8.8 | 0.038 | 7.4 |
| 43 | .0010 | 0.081 | 16.6 | 0.074 | 15.0 | 0.068 | 13.4 | 0.061 | 11.9 | 0.055 | 10.4 | 0.048 | 9.0 |
| 44 | .0011 | 0.091 | 18.1 | 0.085 | 16.5 | 0.078 | 15.0 | 0.072 | 13.5 | 0.065 | 12.0 | 0.058 | 10.6 |
| 45 | .0011 | 0.102 | 19.6 | 0.096 | 18.0 | 0.089 | 16.5 | 0.083 | 15.0 | 0.076 | 13.5 | 0.069 | 12.1 |
| 46 | .0011 | 0.114 | 21.0 | 0.107 | 19.4 | 0.100 | 17.9 | 0.094 | 16.4 | 0.087 | 15.0 | 0.081 | 13.6 |
| | .0012 | | | | | | | | | | | | |
| 47 | | 0.125 | 22.4 | 0.119 | 20.8 | 0.112 | 19.3 | 0.106 | 17.9 | 0.099 | 16.5 | 0.092 | 15.1 |
| 48 | .0012 | 0.137 | 23.8 | 0.131 | 22.2 | 0.124 | 20.7 | 0.118 | 19.3 | 0.111 | 17.9 | 0.104 | 16.5 |
| 49 | .0013 | 0.150 | 25.1 | 0.143 | 23.6 | 0.137 | 22.1 | 0.130 | 20.7 | 0.124 | 19.3 | 0.117 | 17.9 |
| 50 | .0013 | 0.163 | 26.4 | 0.156 | 24.9 | 0.150 | 23.4 | 0.143 | 22.0 | 0.136 | 20.6 | 0.130 | 19.3 |
| 51 | .0013 | 0.176 | 27.6 | 0.169 | 26.1 | 0.163 | 24.6 | 0.156 | 23.2 | 0.150 | 21.9 | 0.143 | 20.6 |
| | .0014 | | | | | | | | | | | | |
| 52 | | 0.190 | 28.7 | 0.183 | 27.3 | 0.177 | 25.8 | 0.170 | 24.4 | 0.163 | 23.1 | 0.157 | 21.8 |
| 53 | .0014 | 0.204 | 29.9 | 0.197 | 28.4 | 0.191 | 27.0 | 0.184 | 25.6 | 0.178 | 24.3 | 0.171 | 23.0 |
| 54 | .0015 | 0.219 | 30.9 | 0.212 | 29.5 | 0.206 | 28.1 | 0.199 | 26.7 | 0.192 | 25.4 | 0.186 | 24.1 |
| 55 | .0015 | 0.234 | 32.0 | 0.228 | 30.6 | 0.221 | 29.2 | 0.214 | 27.8 | 0.208 | 26.5 | 0.201 | 25.2 |
| 56 | .0016 | 0.250 | 33.0 | 0.243 | 31.6 | 0.237 | 30.2 | 0.230 | 28.9 | 0.223 | 27.6 | 0.217 | 26.3 |
| | .0016 | | | | | | | | | | | | |
| 57 | | 0.266 | 34.0 | 0.260 | 32.6 | 0.253 | 31.2 | 0.246 | 29.9 | 0.240 | 28.6 | 0.233 | 27.3 |
| 58 | .0017 | 0.283 | 34.9 | 0.276 | 33.5 | 0.270 | 32.2 | 0.268 | 30.8 | 0.256 | 29.6 | 0.249 | 28.3 |
| 59 | .0017 | 0.300 | 35.8 | 0.294 | 34.4 | 0.287 | 33.1 | 0.280 | 31.8 | 0.274 | 30.5 | 0.267 | 29.3 |
| 60 | .0018 | 0.318 | 36.7 | 0.311 | 35.3 | 0.305 | 34.0 | 0.298 | 32.7 | 0.291 | 31.4 | 0.285 | 30.2 |
| 61 | .0019 | 0.336 | 37.5 | 0.330 | 36.2 | 0.323 | 34.9 | 0.316 | 33.6 | 0.310 | 32.4 | 0.303 | 31.2 |
| | .0019 | | | | | | | | | | | | |
| 62 | | 0.356 | 38.4 | 0.349 | 37.0 | 0.342 | 35.7 | 0.336 | 34.5 | 0.329 | 33.2 | 0.322 | 32.0 |
| 63 | .0020 | 0.375 | 39.2 | 0.369 | 37.9 | 0.362 | 36.6 | 0.355 | 35.3 | 0.349 | 34.1 | 0.342 | 32.9 |
| 64 | .0020 | 0.396 | 40.0 | 0.389 | 38.7 | 0.382 | 37.4 | 0.376 | 36.1 | 0.369 | 34.9 | 0.362 | 33.7 |
| 65 | .0021 | 0.417 | 40.7 | 0.410 | 39.4 | 0.403 | 38.2 | 0.396 | 36.9 | 0.390 | 35.7 | 0.383 | 34.5 |
| 66 | .0022 | 0.438 | 41.5 | 0.431 | 40.2 | 0.425 | 38.9 | 0.418 | 37.7 | 0.411 | 36.5 | 0.405 | 35.3 |
| 67 | .0023 | 0.460 | 42.2 | 0.454 | 40.9 | 0.447 | 39.6 | 0.440 | 38.4 | 0.434 | 37.2 | 0.427 | 36.1 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15°.0 | | 15°.5 | | 16°.0 | | 16°.5 | | 17°.0 | | 17°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 68 | 0.0024 | 0.483 | 42.8 | 0.477 | 41.6 | 0.470 | 40.3 | 0.463 | 39.1 | 0.456 | 37.9 | 0.450 | 36.8 |
| 69 | .0024 | 0.507 | 43.5 | 0.500 | 42.3 | 0.594 | 41.0 | 0.487 | 39.8 | 0.480 | 38.7 | 0.473 | 37.5 |
| 70 | .0025 | 0.531 | 44.2 | 0.524 | 42.9 | 0.518 | 41.7 | 0.511 | 40.5 | 0.504 | 39.3 | 0.498 | 38.2 |
| 71 | .0026 | 0.556 | 44.8 | 0.550 | 43.6 | 0.543 | 42.4 | 0.536 | 41.2 | 0.529 | 40.0 | 0.523 | 38.9 |
| 72 | .0027 | 0.582 | 45.4 | 0.576 | 44.2 | 0.569 | 43.0 | 0.562 | 41.8 | 0.555 | 40.7 | 0.549 | 39.5 |
| 73 | .0028 | 0.609 | 46.0 | 0.602 | 44.8 | 0.596 | 43.6 | 0.589 | 42.4 | 0.582 | 41.3 | 0.575 | 40.2 |
| 74 | .0028 | 0.637 | 46.6 | 0.630 | 45.4 | 0.623 | 44.2 | 0.616 | 43.0 | 0.610 | 41.9 | 0.603 | 40.8 |
| 75 | .0029 | 0.665 | 47.2 | 0.658 | 46.0 | 0.651 | 44.8 | 0.645 | 43.6 | 0.638 | 42.5 | 0.631 | 41.4 |
| 76 | .0030 | 0.694 | 47.7 | 0.687 | 46.5 | 0.681 | 45.4 | 0.674 | 44.2 | 0.667 | 43.1 | 0.660 | 42.0 |
| 77 | .0031 | 0.724 | 48.2 | 0.717 | 47.1 | 0.711 | 45.9 | 0.704 | 44.8 | 0.697 | 43.6 | 0.690 | 42.6 |
| 78 | .0032 | 0.755 | 48.8 | 0.748 | 47.6 | 0.741 | 46.4 | 0.735 | 45.3 | 0.728 | 44.2 | 0.721 | 43.1 |
| 79 | .0033 | 0.787 | 49.3 | 0.780 | 48.1 | 0.773 | 47.0 | 0.766 | 45.8 | 0.760 | 44.7 | 0.753 | 43.7 |
| 80 | .0034 | 0.820 | 49.8 | 0.813 | 48.6 | 0.806 | 47.5 | 0.799 | 46.4 | 0.792 | 45.3 | 0.786 | 44.2 |
| 81 | .0035 | 0.853 | 50.3 | 0.847 | 49.1 | 0.840 | 48.0 | 0.833 | 46.9 | 0.826 | 45.8 | 0.819 | 44.6 |
| 82 | .0036 | 0.888 | 50.7 | 0.881 | 49.6 | 0.875 | 48.5 | 0.868 | 47.4 | 0.861 | 46.3 | 0.854 | 45.1 |
| 83 | .0037 | 0.924 | 51.2 | 0.917 | 50.0 | 0.910 | 48.9 | 0.903 | 47.8 | 0.897 | 46.8 | 0.890 | 45.6 |
| 84 | .0038 | 0.961 | 51.6 | 0.954 | 50.5 | 0.947 | 49.4 | 0.940 | 48.3 | 0.933 | 47.2 | 0.927 | 46.2 |
| 85 | .0039 | 0.998 | 52.1 | 0.992 | 50.9 | 0.985 | 49.8 | 0.978 | 48.7 | 0.971 | 47.7 | 0.964 | 46.6 |
| 86 | .0040 | 1.037 | 52.5 | 1.030 | 51.3 | 1.024 | 50.3 | 1.017 | 49.2 | 1.010 | 48.1 | 1.003 | 47.1 |
| 87 | .0041 | 1.078 | 52.9 | 1.071 | 51.8 | 1.064 | 50.7 | 1.058 | 49.6 | 1.051 | 48.6 | 1.044 | 47.5 |
| 88 | .0042 | 1.118 | 53.3 | 1.111 | 52.2 | 1.105 | 51.1 | 1.098 | 50.0 | 1.091 | 49.0 | 1.084 | 48.0 |
| 89 | .0044 | 1.161 | 53.7 | 1.154 | 52.6 | 1.147 | 51.5 | 1.140 | 50.4 | 1.133 | 49.4 | 1.126 | 48.4 |
| 90 | .0045 | 1.204 | 54.1 | 1.197 | 53.0 | 1.190 | 51.9 | 1.183 | 50.9 | 1.177 | 49.8 | 1.170 | 48.8 |
| 91 | .0046 | 1.249 | 54.5 | 1.242 | 53.4 | 1.235 | 52.3 | 1.228 | 51.2 | 1.221 | 50.2 | 1.215 | 49.2 |
| 92 | .0048 | 1.295 | 54.8 | 1.288 | 53.7 | 1.281 | 52.7 | 1.274 | 51.6 | 1.267 | 50.6 | 1.260 | 49.6 |
| 93 | .0049 | 1.342 | 55.2 | 1.335 | 54.1 | 1.328 | 53.0 | 1.321 | 52.0 | 1.315 | 51.0 | 1.308 | 50.0 |
| 94 | .0050 | 1.390 | 55.5 | 1.384 | 54.4 | 1.377 | 53.4 | 1.370 | 52.4 | 1.363 | 51.4 | 1.356 | 50.4 |
| 95 | .0051 | 1.440 | 55.9 | 1.433 | 54.8 | 1.426 | 53.7 | 1.420 | 52.7 | 1.413 | 51.7 | 1.406 | 50.7 |
| 96 | .0053 | 1.491 | 56.2 | 1.484 | 55.1 | 1.477 | 54.1 | 1.471 | 53.1 | 1.464 | 52.1 | 1.457 | 51.1 |
| 97 | .0054 | 1.544 | 56.5 | 1.537 | 55.5 | 1.530 | 54.4 | 1.523 | 53.4 | 1.516 | 52.4 | 1.509 | 51.5 |
| 98 | .0056 | 1.598 | 56.8 | 1.591 | 55.8 | 1.584 | 54.8 | 1.577 | 53.8 | 1.570 | 52.8 | 1.563 | 51.8 |
| 99 | .0057 | 1.653 | 57.2 | 1.646 | 56.1 | 1.639 | 55.1 | 1.633 | 54.1 | 1.626 | 53.1 | 1.619 | 52.1 |
| 100 | .0059 | 1.710 | 57.5 | 1.703 | 56.4 | 1.696 | 55.4 | 1.690 | 54.4 | 1.683 | 53.4 | 1.676 | 52.5 |
| 101 | .0060 | 1.769 | 57.8 | 1.762 | 56.7 | 1.755 | 55.7 | 1.748 | 54.7 | 1.741 | 53.7 | 1.734 | 52.8 |
| 102 | .0062 | 1.829 | 58.0 | 1.822 | 57.0 | 1.815 | 56.0 | 1.809 | 55.0 | 1.802 | 54.0 | 1.794 | 53.1 |
| 103 | .0063 | 1.890 | 58.3 | 1.883 | 57.3 | 1.876 | 56.3 | 1.869 | 55.3 | 1.863 | 54.3 | 1.856 | 53.4 |
| 104 | | 1.953 | 58.6 | 1.946 | 57.6 | 1.939 | 56.6 | 1.932 | 55.6 | 1.925 | 54.6 | 1.919 | 53.7 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 18°.0 | | 18°.5 | | 19°.0 | | 19°.5 | | 20°.0 | | 20°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | |
| 40 | | 0.012 | 2.5 | | | | | | | | | | |
| 41 | .0010 | 0.022 | 4.3 | 0.015 | 3.0 | 0.009 | 1.6 | | | | | | |
| 42 | .0010 | 0.031 | 6.0 | 0.025 | 4.6 | 0.018 | 3.3 | 0.012 | 2.1 | | | | |
| 43 | .0010 | 0.041 | 7.6 | 0.035 | 6.3 | 0.028 | 5.0 | 0.022 | 3.7 | 0.015 | 2.6 | | |
| 44 | .0011 | 0.052 | 9.2 | 0.045 | 7.9 | 0.039 | 6.6 | 0.032 | 5.4 | 0.026 | 4.3 | 0.019 | 3.2 |
| 45 | .0011 | 0.063 | 10.8 | 0.056 | 9.5 | 0.050 | 8.2 | 0.043 | 7.0 | 0.037 | 5.9 | 0.030 | 4.8 |
| 46 | .0011 | 0.074 | 12.3 | 0.068 | 11.0 | 0.061 | 9.7 | 0.054 | 8.5 | 0.048 | 7.5 | 0.041 | 6.3 |
| 47 | .0012 | 0.086 | 13.8 | 0.079 | 12.5 | 0.073 | 11.2 | 0.066 | 10.0 | 0.059 | 9.0 | 0.053 | 7.9 |
| 48 | .0012 | 0.098 | 15.2 | 0.091 | 13.9 | 0.085 | 12.7 | 0.078 | 11.5 | 0.072 | 10.4 | 0.065 | 9.3 |
| 49 | .0013 | 0.110 | 16.6 | 0.104 | 15.4 | 0.097 | 14.1 | 0.091 | 12.9 | 0.084 | 11.9 | 0.077 | 10.7 |
| 50 | .0013 | 0.123 | 18.0 | 0.117 | 16.7 | 0.110 | 15.5 | 0.103 | 14.4 | 0.097 | 13.2 | 0.090 | 12.1 |
| 51 | .0013 | 0.136 | 19.3 | 0.130 | 18.0 | 0.123 | 16.8 | 0.117 | 15.7 | 0.110 | 14.5 | 0.103 | 13.4 |
| 52 | .0014 | 0.150 | 20.5 | 0.144 | 19.3 | 0.137 | 18.1 | 0.130 | 16.9 | 0.124 | 15.7 | 0.117 | 14.6 |
| 53 | .0014 | 0.164 | 21.7 | 0.158 | 20.5 | 0.151 | 19.3 | 0.145 | 18.2 | 0.138 | 16.9 | 0.131 | 15.8 |
| 54 | .0015 | 0.179 | 22.9 | 0.173 | 21.7 | 0.166 | 20.5 | 0.159 | 19.3 | 0.152 | 18.1 | 0.146 | 17.0 |
| 55 | .0015 | 0.194 | 24.0 | 0.188 | 22.8 | 0.181 | 21.6 | 0.174 | 20.5 | 0.168 | 19.2 | 0.161 | 18.2 |
| 56 | .0016 | 0.210 | 25.1 | 0.203 | 23.9 | 0.197 | 22.7 | 0.190 | 21.6 | 0.184 | 20.4 | 0.177 | 19.3 |
| 57 | .0016 | 0.226 | 26.1 | 0.220 | 24.9 | 0.213 | 23.8 | 0.206 | 22.7 | 0.200 | 21.5 | 0.193 | 20.4 |
| 58 | .0017 | 0.243 | 27.1 | 0.236 | 25.9 | 0.230 | 24.8 | 0.223 | 23.7 | 0.217 | 22.6 | 0.210 | 21.5 |
| 59 | .0017 | 0.260 | 28.1 | 0.254 | 26.9 | 0.247 | 25.8 | 0.240 | 24.7 | 0.234 | 23.6 | 0.227 | 22.6 |
| 60 | .0018 | 0.278 | 29.0 | 0.271 | 27.9 | 0.265 | 26.8 | 0.258 | 25.7 | 0.251 | 24.6 | 0.245 | 23.6 |
| 61 | .0019 | 0.296 | 30.0 | 0.290 | 28.8 | 0.283 | 27.7 | 0.276 | 26.6 | 0.270 | 25.5 | 0.263 | 24.5 |
| 62 | .0019 | 0.316 | 30.9 | 0.309 | 29.7 | 0.302 | 28.6 | 0.295 | 27.5 | 0.289 | 26.5 | 0.282 | 25.4 |
| 63 | .0020 | 0.335 | 31.7 | 0.328 | 30.6 | 0.322 | 29.5 | 0.315 | 28.4 | 0.308 | 27.4 | 0.302 | 26.4 |
| 64 | .0020 | 0.355 | 32.6 | 0.349 | 31.5 | 0.342 | 30.4 | 0.335 | 29.3 | 0.329 | 28.2 | 0.322 | 27.2 |
| 65 | .0021 | 0.376 | 33.4 | 0.370 | 32.3 | 0.363 | 31.2 | 0.356 | 30.1 | 0.350 | 29.1 | 0.343 | 28.1 |
| 66 | .0022 | 0.398 | 34.2 | 0.391 | 33.1 | 0.385 | 32.0 | 0.378 | 30.9 | 0.371 | 29.9 | 0.364 | 28.9 |
| 67 | .0023 | 0.420 | 34.9 | 0.414 | 33.8 | 0.407 | 32.8 | 0.400 | 31.7 | 0.393 | 30.7 | 0.387 | 29.7 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer $t'$ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | $t - t'$, or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 18°.0 | | 18°.5 | | 19°.0 | | 19°.5 | | 20°.0 | | 20°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 68 | 0.0024 | 0.443 | 35.7 | 0.436 | 34.6 | 0.430 | 33.5 | 0.423 | 32.5 | 0.416 | 31.4 | 0.409 | 30.4 |
| 69 | .0025 | 0.467 | 36.4 | 0.460 | 35.3 | 0.453 | 34.2 | 0.446 | 33.2 | 0.440 | 32.2 | 0.433 | 31.2 |
| 70 | .0025 | 0.491 | 37.1 | 0.484 | 36.0 | 0.477 | 35.0 | 0.471 | 33.9 | 0.464 | 32.9 | 0.457 | 31.9 |
| 71 | .0026 | 0.516 | 37.8 | 0.509 | 36.7 | 0.502 | 35.7 | 0.496 | 34.6 | 0.489 | 33.6 | 0.482 | 32.7 |
| 72 | .0026 | 0.542 | 38.5 | 0.535 | 37.4 | 0.528 | 36.3 | 0.522 | 35.3 | 0.515 | 34.3 | 0.508 | 33.4 |
| 73 | .0027 | 0.569 | 39.1 | 0.562 | 38.0 | 0.555 | 37.0 | 0.548 | 36.0 | 0.542 | 35.0 | 0.535 | 34.0 |
| 74 | .0028 | 0.596 | 39.7 | 0.589 | 38.7 | 0.583 | 37.7 | 0.576 | 36.6 | 0.569 | 35.7 | 0.562 | 34.7 |
| 75 | .0029 | 0.624 | 40.3 | 0.618 | 39.3 | 0.611 | 38.3 | 0.604 | 37.3 | 0.597 | 36.3 | 0.591 | 35.3 |
| 76 | .0030 | 0.654 | 40.9 | 0.647 | 39.9 | 0.640 | 38.9 | 0.633 | 37.9 | 0.627 | 36.9 | 0.620 | 35.9 |
| 77 | .0031 | 0.683 | 41.5 | 0.677 | 40.5 | 0.670 | 39.5 | 0.663 | 38.5 | 0.656 | 37.5 | 0.650 | 36.5 |
| 78 | .0032 | 0.714 | 42.1 | 0.707 | 41.0 | 0.701 | 40.0 | 0.694 | 39.0 | 0.687 | 38.1 | 0.680 | 37.1 |
| 79 | .0033 | 0.746 | 42.6 | 0.739 | 41.6 | 0.732 | 40.6 | 0.726 | 39.6 | 0.719 | 38.6 | 0.712 | 37.7 |
| 80 | .0034 | 0.779 | 43.2 | 0.772 | 42.1 | 0.765 | 41.1 | 0.758 | 40.2 | 0.752 | 39.2 | 0.745 | 38.3 |
| 81 | .0035 | 0.813 | 43.7 | 0.806 | 42.7 | 0.799 | 41.7 | 0.792 | 40.7 | 0.785 | 39.7 | 0.779 | 38.8 |
| 82 | .0036 | 0.847 | 44.2 | 0.840 | 43.2 | 0.834 | 42.2 | 0.827 | 41.2 | 0.820 | 40.2 | 0.813 | 39.4 |
| 83 | .0036 | 0.883 | 44.7 | 0.876 | 43.7 | 0.869 | 42.7 | 0.863 | 41.7 | 0.856 | 40.7 | 0.849 | 39.9 |
| 84 | .0038 | 0.920 | 45.2 | 0.913 | 44.2 | 0.906 | 43.2 | 0.899 | 42.2 | 0.893 | 41.3 | 0.886 | 40.4 |
| 85 | .0039 | 0.958 | 45.6 | 0.951 | 44.6 | 0.944 | 43.7 | 0.937 | 42.7 | 0.930 | 41.8 | 0.923 | 40.9 |
| 86 | .0040 | 0.996 | 46.1 | 0.989 | 45.1 | 0.983 | 44.1 | 0.976 | 43.2 | 0.969 | 42.3 | 0.962 | 41.3 |
| 87 | .0041 | 1.037 | 46.5 | 1.030 | 45.6 | 1.023 | 44.6 | 1.017 | 43.6 | 1.010 | 42.7 | 1.003 | 41.8 |
| 88 | .0042 | 1.077 | 47.0 | 1.070 | 46.0 | 1.064 | 45.0 | 1.057 | 44.1 | 1.050 | 43.2 | 1.043 | 42.3 |
| 89 | .0043 | 1.119 | 47.4 | 1.113 | 46.4 | 1.106 | 45.5 | 1.099 | 44.5 | 1.092 | 43.6 | 1.085 | 42.7 |
| 90 | .0045 | 1.163 | 47.8 | 1.156 | 46.9 | 1.149 | 45.9 | 1.142 | 45.0 | 1.136 | 44.1 | 1.129 | 43.2 |
| 91 | .0047 | 1.208 | 48.2 | 1.201 | 47.3 | 1.194 | 46.3 | 1.187 | 45.4 | 1.180 | 44.5 | 1.173 | 43.6 |
| 92 | .0048 | 1.254 | 48.6 | 1.247 | 47.7 | 1.240 | 46.7 | 1.233 | 45.8 | 1.226 | 44.9 | 1.219 | 44.0 |
| 93 | .0049 | 1.301 | 49.0 | 1.294 | 48.1 | 1.287 | 47.1 | 1.280 | 46.2 | 1.273 | 45.3 | 1.266 | 44.4 |
| 94 | .0050 | 1.349 | 49.4 | 1.342 | 48.4 | 1.335 | 47.5 | 1.329 | 46.6 | 1.322 | 45.7 | 1.315 | 44.8 |
| 95 | .0051 | 1.399 | 49.8 | 1.392 | 48.8 | 1.385 | 47.9 | 1.378 | 47.0 | 1.371 | 46.1 | 1.364 | 45.2 |
| 96 | .0053 | 1.450 | 50.1 | 1.443 | 49.2 | 1.436 | 48.3 | 1.429 | 47.3 | 1.422 | 46.5 | 1.415 | 45.6 |
| 97 | .0054 | 1.502 | 50.5 | 1.495 | 49.5 | 1.489 | 48.6 | 1.482 | 47.7 | 1.475 | 46.8 | 1.468 | 46.0 |
| 98 | .0055 | 1.556 | 50.8 | 1.549 | 49.9 | 1.543 | 49.0 | 1.536 | 48.1 | 1.529 | 47.2 | 1.522 | 46.3 |
| 99 | .0057 | 1.612 | 51.2 | 1.605 | 50.2 | 1.598 | 49.3 | 1.591 | 48.4 | 1.584 | 47.5 | 1.577 | 46.7 |
| 100 | .0058 | 1.669 | 51.5 | 1.662 | 50.6 | 1.655 | 49.7 | 1.648 | 48.8 | 1.641 | 47.9 | 1.634 | 47.0 |
| 101 | .0060 | 1.727 | 51.8 | 1.720 | 50.9 | 1.713 | 50.0 | 1.706 | 49.1 | 1.700 | 48.2 | 1.693 | 47.4 |
| 102 | .0062 | 1.787 | 52.2 | 1.780 | 51.2 | 1.773 | 50.3 | 1.766 | 49.4 | 1.759 | 48.6 | 1.753 | 47.7 |
| 103 | .0063 | 1.849 | 52.5 | 1.842 | 51.5 | 1.835 | 50.7 | 1.828 | 49.8 | 1.821 | 48.9 | 1.814 | 48.0 |
| 104 | | 1.912 | 52.8 | 1.905 | 51.9 | 1.898 | 51.0 | 1.891 | 50.1 | 1.884 | 49.2 | 1.877 | 48.4 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 21°.0 | | 21°.5 | | 22°.0 | | 22°.5 | | 23°.0 | | 23°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In | | Eng. In. | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | |
| 44 | | 0.013 | 2.0 | | | | | | | | | | |
| 45 | 0.0011 | 0.023 | 3.7 | 0.017 | 2.6 | 0.010 | 1.6 | | | | | | |
| 46 | .0011 | 0.035 | 5.2 | 0.028 | 4.2 | 0.022 | 3.1 | 0.015 | 2.1 | | | | |
| 47 | .0012 | 0.046 | 6.8 | 0.040 | 5.7 | 0.033 | 4.7 | 0.027 | 3.7 | 0.020 | 2.7 | 0.013 | 1.8 |
| 48 | .0012 | 0.058 | 8.2 | 0.052 | 7.2 | 0.045 | 6.2 | 0.039 | 5.2 | 0.032 | 4.2 | 0.025 | 3.3 |
| 49 | .0013 | 0.071 | 9.7 | 0.064 | 8.6 | 0.058 | 7.6 | 0.051 | 6.6 | 0.044 | 5.7 | 0.038 | 4.7 |
| 50 | .0013 | 0.084 | 11.0 | 0.077 | 10.0 | 0.070 | 9.0 | 0.064 | 8.0 | 0.057 | 7.1 | 0.051 | 6.1 |
| 51 | .0013 | 0.097 | 12.3 | 0.090 | 11.3 | 0.084 | 10.3 | 0.077 | 9.3 | 0.070 | 8.3 | 0.064 | 7.4 |
| 52 | .0014 | 0.110 | 13.5 | 0.104 | 12.5 | 0.097 | 11.5 | 0.091 | 10.6 | 0.084 | 9.6 | 0.077 | 8.7 |
| 53 | .0014 | 0.125 | 14.8 | 0.118 | 13.7 | 0.111 | 12.8 | 0.105 | 11.8 | 0.098 | 10.9 | 0.092 | 9.9 |
| 54 | .0015 | 0.139 | 16.0 | 0.133 | 14.9 | 0.126 | 14.0 | 0.120 | 13.0 | 0.113 | 12.1 | 0.106 | 11.2 |
| 55 | .0015 | 0.155 | 17.1 | 0.148 | 16.1 | 0.141 | 15.1 | 0.135 | 14.2 | 0.128 | 13.3 | 0.121 | 12.4 |
| 56 | .0016 | 0.170 | 18.2 | 0.164 | 17.2 | 0.157 | 16.3 | 0.150 | 15.3 | 0.144 | 14.4 | 0.137 | 13.5 |
| 57 | .0016 | 0.186 | 19.4 | 0.180 | 18.4 | 0.173 | 17.4 | 0.167 | 16.5 | 0.160 | 15.6 | 0.153 | 14.7 |
| 58 | .0017 | 0.203 | 20.5 | 0.197 | 19.5 | 0.190 | 18.5 | 0.183 | 17.6 | 0.177 | 16.7 | 0.170 | 15.8 |
| 59 | .0017 | 0.220 | 21.5 | 0.214 | 20.6 | 0.207 | 19.6 | 0.200 | 18.7 | 0.194 | 17.7 | 0.187 | 16.9 |
| 60 | .0018 | 0.238 | 22.5 | 0.231 | 21.6 | 0.225 | 20.6 | 0.218 | 19.6 | 0.211 | 18.7 | 0.205 | 17.8 |
| 61 | .0019 | 0.256 | 23.4 | 0.250 | 22.5 | 0.243 | 21.5 | 0.236 | 20.6 | 0.230 | 19.7 | 0.223 | 18.8 |
| 62 | .0019 | 0.275 | 24.4 | 0.269 | 23.5 | 0.262 | 22.4 | 0.255 | 21.5 | 0.249 | 20.6 | 0.242 | 19.7 |
| 63 | .0020 | 0.295 | 25.3 | 0.288 | 24.4 | 0.282 | 23.3 | 0.275 | 22.4 | 0.268 | 21.5 | 0.262 | 20.7 |
| 64 | .0020 | 0.315 | 26.1 | 0.309 | 25.3 | 0.302 | 24.2 | 0.295 | 23.3 | 0.289 | 22.4 | 0.282 | 21.6 |
| 65 | .0021 | 0.336 | 27.0 | 0.330 | 26.1 | 0.323 | 25.1 | 0.316 | 24.2 | 0.309 | 23.3 | 0.303 | 22.4 |
| 66 | .0022 | 0.358 | 27.9 | 0.351 | 27.0 | 0.344 | 26.0 | 0.338 | 25.1 | 0.331 | 24.2 | 0.324 | 23.3 |
| 67 | .0023 | 0.380 | 28.7 | 0.373 | 27.8 | 0.367 | 26.8 | 0.360 | 25.9 | 0.353 | 25.0 | 0.346 | 24.2 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 21°.0 | | 21°.5 | | 22°.0 | | 22°.5 | | 23°.0 | | 23°.5 | |
| | | Force of Vapor. | Relative Humidity | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 68 | 0.0024 | 0.403 | 29.5 | 0.396 | 28.5 | 0.389 | 27.6 | 0.383 | 26.7 | 0.376 | 25.8 | 0.369 | 25.0 |
| 69 | .0024 | 0.426 | 30.2 | 0.420 | 29.3 | 0.413 | 28.4 | 0.406 | 27.5 | 0.399 | 26.6 | 0.393 | 25.8 |
| 70 | .0025 | 0.451 | 31.0 | 0.444 | 30.1 | 0.437 | 29.1 | 0.430 | 28.2 | 0.424 | 27.4 | 0.417 | 26.5 |
| 71 | .0026 | 0.476 | 31.7 | 0.469 | 30.8 | 0.462 | 29.9 | 0.455 | 29.0 | 0.449 | 28.1 | 0.442 | 27.3 |
| 72 | .0027 | 0.501 | 32.4 | 0.495 | 31.5 | 0.488 | 30.6 | 0.481 | 29.7 | 0.475 | 28.8 | 0.468 | 28.0 |
| 73 | .0028 | 0.528 | 33.1 | 0.521 | 32.2 | 0.515 | 31.3 | 0.508 | 30.4 | 0.501 | 29.5 | 0.494 | 28.7 |
| 74 | .0028 | 0.556 | 33.8 | 0.549 | 32.8 | 0.542 | 31.9 | 0.535 | 31.1 | 0.529 | 30.2 | 0.522 | 29.4 |
| 75 | .0029 | 0.584 | 34.4 | 0.577 | 33.5 | 0.570 | 32.6 | 0.564 | 31.7 | 0.557 | 30.9 | 0.550 | 30.0 |
| 76 | .0030 | 0.613 | 35.0 | 0.606 | 34.1 | 0.599 | 33.2 | 0.593 | 32.3 | 0.586 | 31.5 | 0.579 | 30.7 |
| 77 | .0031 | 0.643 | 35.6 | 0.636 | 34.7 | 0.629 | 33.8 | 0.623 | 33.0 | 0.616 | 32.1 | 0.609 | 31.3 |
| 78 | .0032 | 0.674 | 36.2 | 0.667 | 35.3 | 0.660 | 34.4 | 0.653 | 33.6 | 0.647 | 32.7 | 0.640 | 31.9 |
| 79 | .0033 | 0.705 | 36.8 | 0.699 | 35.9 | 0.692 | 35.0 | 0.685 | 34.2 | 0.678 | 33.3 | 0.671 | 32.5 |
| 80 | .0034 | 0.738 | 37.4 | 0.731 | 36.5 | 0.724 | 35.6 | 0.718 | 34.7 | 0.711 | 33.9 | 0.704 | 33.1 |
| 81 | .0035 | 0.772 | 37.9 | 0.765 | 37.0 | 0.758 | 36.1 | 0.751 | 35.3 | 0.745 | 34.5 | 0.738 | 33.5 |
| 82 | .0036 | 0.806 | 38.4 | 0.800 | 37.6 | 0.793 | 36.7 | 0.786 | 35.8 | 0.779 | 35.0 | 0.772 | 34.2 |
| 83 | .0037 | 0.842 | 39.0 | 0.835 | 38.1 | 0.829 | 37.2 | 0.822 | 36.4 | 0.815 | 35.5 | 0.808 | 34.7 |
| 84 | .0038 | 0.879 | 39.5 | 0.872 | 38.6 | 0.865 | 37.7 | 0.858 | 36.9 | 0.852 | 36.1 | 0.845 | 35.2 |
| 85 | .0039 | 0.917 | 40.0 | 0.910 | 39.1 | 0.903 | 38.2 | 0.896 | 37.4 | 0.889 | 36.6 | 0.882 | 35.8 |
| 86 | .0040 | 0.955 | 40.4 | 0.948 | 39.6 | 0.942 | 38.7 | 0.935 | 37.9 | 0.928 | 37.1 | 0.921 | 36.3 |
| 87 | .0041 | 0.995 | 40.9 | 0.988 | 40.1 | 0.981 | 39.2 | 0.975 | 38.4 | 0.968 | 37.5 | 0.961 | 36.7 |
| 88 | .0042 | 1.036 | 41.4 | 1.029 | 40.5 | 1.022 | 39.7 | 1.016 | 38.8 | 1.009 | 38.0 | 1.002 | 37.2 |
| 89 | .0044 | 1.078 | 41.8 | 1.071 | 41.0 | 1.065 | 40.1 | 1.058 | 39.3 | 1.051 | 38.5 | 1.044 | 37.7 |
| 90 | .0045 | 1.122 | 42.3 | 1.115 | 41.4 | 1.108 | 40.6 | 1.101 | 39.7 | 1.094 | 38.9 | 1.088 | 38.1 |
| 91 | .0046 | 1.166 | 42.7 | 1.160 | 41.9 | 1.153 | 41.0 | 1.146 | 40.2 | 1.139 | 39.4 | 1.132 | 38.6 |
| 92 | .0048 | 1.212 | 43.1 | 1.206 | 42.3 | 1.199 | 41.4 | 1.192 | 40.6 | 1.185 | 39.8 | 1.178 | 39.0 |
| 93 | .0049 | 1.260 | 43.5 | 1.253 | 42.7 | 1.246 | 41.9 | 1.239 | 41.0 | 1.232 | 40.2 | 1.225 | 39.4 |
| 94 | .0050 | 1.308 | 43.9 | 1.301 | 43.1 | 1.294 | 42.3 | 1.287 | 41.4 | 1.280 | 40.6 | 1.274 | 39.9 |
| 95 | .0051 | 1.358 | 44.3 | 1.351 | 43.5 | 1.344 | 42.7 | 1.337 | 41.8 | 1.330 | 41.0 | 1.323 | 40.3 |
| 96 | .0053 | 1.408 | 44.7 | 1.402 | 43.9 | 1.395 | 43.0 | 1.388 | 42.2 | 1.381 | 41.4 | 1.374 | 40.7 |
| 97 | .0054 | 1.461 | 45.1 | 1.454 | 44.3 | 1.447 | 43.4 | 1.440 | 42.6 | 1.433 | 41.8 | 1.426 | 41.1 |
| 98 | .0056 | 1.515 | 45.5 | 1.508 | 44.6 | 1.501 | 43.8 | 1.494 | 43.0 | 1.487 | 42.2 | 1.480 | 41.4 |
| 99 | .0057 | 1.570 | 45.8 | 1.563 | 45.0 | 1.556 | 44.2 | 1.550 | 43.4 | 1.543 | 42.6 | 1.536 | 41.8 |
| 100 | .0059 | 1.627 | 46.2 | 1.620 | 45.4 | 1.613 | 44.5 | 1.607 | 43.7 | 1.600 | 43.0 | 1.593 | 42.2 |
| 101 | .0060 | 1.686 | 46.5 | 1.679 | 45.7 | 1.672 | 44.9 | 1.665 | 44.1 | 1.658 | 43.3 | 1.651 | 42.5 |
| 102 | .0062 | 1.746 | 46.8 | 1.739 | 46.0 | 1.732 | 45.2 | 1.725 | 44.4 | 1.718 | 43.7 | 1.711 | 42.9 |
| 103 | .0063 | 1.807 | 47.2 | 1.800 | 46.4 | 1.793 | 45.6 | 1.786 | 44.8 | 1.779 | 44.0 | 1.772 | 43.2 |
| 104 | | 1.870 | 47.5 | 1.863 | 46.7 | 1.856 | 45.9 | 1.849 | 45.1 | 1.842 | 44.3 | 1.835 | 43.6 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t' Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t — t', or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 24°.0 | | 24°.5 | | 25°.0 | | 25°.5 | | 26°.0 | | 26°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| o | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | |
| 48 | 0.0013 | 0.019 | 2.4 | 0.012 | 1.5 | | | | | | | | |
| 49 | .0013 | 0.031 | 3.9 | 0.025 | 3.0 | 0.018 | 2.2 | 0.011 | 1.3 | | | | |
| 50 | .0013 | 0.044 | 5.2 | 0.037 | 4.4 | 0.031 | 3.6 | 0.024 | 2.7 | 0.018 | 2.0 | 0.011 | 1.2 |
| 51 | .0014 | 0.057 | 6.5 | 0.051 | 5.7 | 0.044 | 4.9 | 0.037 | 4.1 | 0.031 | 3.3 | 0.024 | 2.5 |
| 52 | .0014 | 0.071 | 7.8 | 0.064 | 7.0 | 0.058 | 6.1 | 0.051 | 5.3 | 0.044 | 4.6 | 0.038 | 3.8 |
| 53 | .0015 | 0.085 | 9.1 | 0.078 | 8.2 | 0.072 | 7.4 | 0.065 | 6.6 | 0.058 | 5.8 | 0.052 | 5.1 |
| 54 | .0015 | 0.100 | 10.3 | 0.093 | 9.4 | 0.086 | 8.6 | 0.080 | 7.8 | 0.073 | 7.0 | 0.067 | 6.3 |
| 55 | .0016 | 0.115 | 11.5 | 0.108 | 10.6 | 0.102 | 9.8 | 0.095 | 9.0 | 0.088 | 8.2 | 0.082 | 7.5 |
| 56 | .0016 | 0.130 | 12.7 | 0.124 | 11.8 | 0.117 | 11.0 | 0.111 | 10.2 | 0.104 | 9.4 | 0.097 | 8.7 |
| 57 | .0017 | 0.147 | 13.8 | 0.140 | 13.0 | 0.133 | 12.1 | 0.127 | 11.3 | 0.120 | 10.6 | 0.113 | 9.8 |
| 58 | .0017 | 0.163 | 14.9 | 0.157 | 14.1 | 0.150 | 13.2 | 0.143 | 12.5 | 0.137 | 11.7 | 0.130 | 10.9 |
| 59 | .0018 | 0.180 | 16.0 | 0.174 | 15.2 | 0.167 | 14.3 | 0.161 | 13.6 | 0.154 | 12.8 | 0.147 | 12.0 |
| 60 | .0019 | 0.198 | 17.0 | 0.191 | 16.1 | 0.185 | 15.3 | 0.178 | 14.6 | 0.172 | 13.8 | 0.165 | 13.0 |
| 61 | .0019 | 0.216 | 17.9 | 0.210 | 17.1 | 0.203 | 16.3 | 0.196 | 15.5 | 0.190 | 14.7 | 0.183 | 14.0 |
| 62 | .0020 | 0.235 | 18.9 | 0.229 | 18.1 | 0.222 | 17.2 | 0.215 | 16.5 | 0.209 | 15.7 | 0.202 | 15.0 |
| 63 | .0020 | 0.255 | 19.8 | 0.248 | 19.0 | 0.242 | 18.2 | 0.235 | 17.4 | 0.228 | 16.6 | 0.222 | 15.9 |
| 64 | .0021 | 0.275 | 20.7 | 0.269 | 19.9 | 0.262 | 19.1 | 0.255 | 18.3 | 0.248 | 17.5 | 0.242 | 16.8 |
| 65 | .0022 | 0.296 | 21.6 | 0.289 | 20.8 | 0.283 | 20.0 | 0.276 | 19.2 | 0.269 | 18.4 | 0.263 | 17.7 |
| 66 | .0023 | 0.318 | 22.5 | 0.311 | 21.7 | 0.304 | 20.9 | 0.297 | 20.1 | 0.291 | 19.3 | 0.284 | 18.6 |
| 67 | | 0.340 | 23.3 | 0.333 | 22.5 | 0.326 | 21.7 | 0.320 | 20.9 | 0.313 | 20.2 | 0.306 | 19.4 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Temperature, Fahrenheit. — Force of Vapor in English Inches. — Relative Humidity in Hundredths.

| Wet-Bulb Thermometer t′ Fahrenheit. | Mean Vertical Difference of Force of Vapor for each 0°.1. | t − t′, or Difference of Wet and Dry Bulb Thermometers. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 24°.0 | | 24°.5 | | 25°.0 | | 25°.5 | | 26°.0 | | 26°.5 | |
| | | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. | Force of Vapor. | Relative Humidity. |
| ° | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng. In. | | Eng In. | |
| 68 | 0.0024 | 0.363 | 24.2 | 0.356 | 23.3 | 0.349 | 22.5 | 0.342 | 21.8 | 0.336 | 21.8 | 0.329 | 20.3 |
| 69 | .0024 | 0.386 | 24.9 | 0.379 | 24.1 | 0.373 | 23.3 | 0.366 | 22.6 | 0.359 | 21.8 | 0.352 | 21.1 |
| 70 | .0025 | 0.410 | 25.7 | 0.403 | 24.9 | 0.397 | 24.1 | 0.390 | 23.3 | 0.383 | 22.6 | 0.377 | 21.9 |
| 71 | .0026 | 0.435 | 26.4 | 0.428 | 25.6 | 0.422 | 24.9 | 0.415 | 24.1 | 0.408 | 23.3 | 0.402 | 22.6 |
| 72 | .0027 | 0.461 | 27.2 | 0.454 | 26.4 | 0.448 | 25.6 | 0.441 | 24.8 | 0.434 | 24.1 | 0.427 | 23.3 |
| 73 | .0028 | 0.488 | 27.9 | 0.481 | 27.1 | 0.474 | 26.3 | 0.467 | 25.5 | 0.461 | 24.8 | 0.454 | 24.0 |
| 74 | .0028 | 0.515 | 28.5 | 0.508 | 27.7 | 0.502 | 27.0 | 0.495 | 26.2 | 0.488 | 25.5 | 0.481 | 24.7 |
| 75 | .0029 | 0.543 | 29.2 | 0.537 | 28.4 | 0.530 | 27.6 | 0.523 | 26.8 | 0.516 | 26.1 | 0.510 | 25.4 |
| 76 | .0030 | 0.572 | 29.8 | 0.566 | 29.1 | 0.559 | 28.3 | 0.552 | 27.4 | 0.545 | 26.8 | 0.539 | 26.1 |
| 77 | .0031 | 0.602 | 30.5 | 0.595 | 29.7 | 0.589 | 28.9 | 0.582 | 28.0 | 0.575 | 27.4 | 0.568 | 26.7 |
| 78 | .0032 | 0.633 | 31.1 | 0.626 | 30.3 | 0.619 | 29.5 | 0.613 | 28.7 | 0.606 | 28.0 | 0.599 | 27.3 |
| 79 | .0033 | 0.665 | 31.7 | 0.658 | 30.9 | 0.651 | 30.1 | 0.644 | 29.3 | 0.638 | 28.6 | 0.631 | 27.9 |
| 80 | .0034 | 0.697 | 32.3 | 0.691 | 31.5 | 0.684 | 30.7 | 0.677 | 29.9 | 0.670 | 29.2 | 0.663 | 28.5 |
| 81 | .0035 | 0.731 | 32.8 | 0.724 | 32.1 | 0.717 | 31.3 | 0.711 | 30.5 | 0.704 | 29.8 | 0.697 | 29.1 |
| 82 | .0036 | 0.766 | 33.4 | 0.759 | 32.6 | 0.752 | 31.8 | 0.745 | 31.0 | 0.738 | 30.4 | 0.732 | 29.7 |
| 83 | .0037 | 0.801 | 33.9 | 0.795 | 33.2 | 0.788 | 32.4 | 0.781 | 31.6 | 0.774 | 30.9 | 0.767 | 30.2 |
| 84 | .0038 | 0.838 | 34.5 | 0.831 | 33.7 | 0.824 | 32.9 | 0.818 | 32.1 | 0.811 | 31.5 | 0.804 | 30.7 |
| 85 | .0039 | 0.876 | 35.0 | 0.869 | 34.2 | 0.862 | 33.4 | 0.855 | 32.7 | 0.848 | 32.0 | 0.842 | 31.3 |
| 86 | .0040 | 0.914 | 35.5 | 0.908 | 34.7 | 0.901 | 33.9 | 0.894 | 33.2 | 0.887 | 32.5 | 0.880 | 31.8 |
| 87 | .0041 | 0.954 | 36.0 | 0.947 | 35.2 | 0.940 | 34.4 | 0.934 | 33.7 | 0.927 | 33.0 | 0.920 | 32.3 |
| 88 | .0042 | 0.995 | 36.4 | 0.988 | 35.7 | 0.981 | 34.9 | 0.975 | 34.2 | 0.968 | 33.5 | 0.961 | 32.8 |
| 89 | .0044 | 1.037 | 36.9 | 1.030 | 36.1 | 1.024 | 35.4 | 1.017 | 34.7 | 1.010 | 33.9 | 1.003 | 33.2 |
| 90 | .0045 | 1.081 | 37.4 | 1.074 | 36.6 | 1.067 | 35.8 | 1.060 | 35.1 | 1.053 | 34.4 | 1.046 | 33.7 |
| 91 | .0046 | 1.125 | 37.8 | 1.118 | 37.1 | 1.112 | 36.3 | 1.105 | 35.6 | 1.098 | 34.9 | 1.091 | 34.2 |
| 92 | .0048 | 1.171 | 38.2 | 1.164 | 37.5 | 1.157 | 36.7 | 1.151 | 36.0 | 1.144 | 35.3 | 1.137 | 34.6 |
| 93 | .0049 | 1.218 | 38.7 | 1.211 | 37.9 | 1.205 | 37.1 | 1.198 | 36.5 | 1.191 | 35.7 | 1.184 | 35.0 |
| 94 | .0050 | 1.267 | 39.1 | 1.260 | 38.3 | 1.253 | 37.5 | 1.246 | 36.9 | 1.239 | 36.2 | 1.232 | 35.5 |
| 95 | .0051 | 1.316 | 39.5 | 1.309 | 38.7 | 1.302 | 37.9 | 1.296 | 37.3 | 1.289 | 36.6 | 1.282 | 35.9 |
| 96 | .0053 | 1.367 | 39.9 | 1.360 | 39.1 | 1.353 | 38.3 | 1.346 | 37.7 | 1.340 | 37.0 | 1.333 | 36.3 |
| 97 | .0054 | 1.420 | 40.3 | 1.413 | 39.5 | 1.406 | 38.7 | 1.399 | 38.1 | 1.392 | 37.4 | 1.385 | 36.7 |
| 98 | .0056 | 1.473 | 40.7 | 1.467 | 39.9 | 1.460 | 39.1 | 1.453 | 38.5 | 1.446 | 37.8 | 1.439 | 37.1 |
| 99 | .0057 | 1.529 | 41.1 | 1.522 | 40.3 | 1.515 | 39.5 | 1.508 | 38.9 | 1.501 | 38.2 | 1.494 | 37.5 |
| 100 | .0059 | 1.586 | 41.4 | 1.579 | 40.7 | 1.572 | 39.9 | 1.565 | 39.2 | 1.558 | 38.5 | 1.551 | 37.9 |
| 101 | .0060 | 1.644 | 41.8 | 1.637 | 41.0 | 1.630 | 40.3 | 1.623 | 39.6 | 1.616 | 38.9 | 1.609 | 38.2 |
| 102 | .0062 | 1.704 | 42.2 | 1.697 | 41.4 | 1.690 | 40.7 | 1.683 | 40.0 | 1.676 | 39.3 | 1.669 | 38.6 |
| 103 | .0063 | 1.765 | 42.5 | 1.758 | 41.8 | 1.751 | 41.0 | 1.745 | 40.3 | 1.738 | 39.6 | 1.731 | 38.9 |
| 104 | | 1.828 | 42.8 | 1.821 | 42.1 | 1.814 | 41.4 | 1.807 | 40.7 | 1.800 | 40.0 | 1.793 | 39.3 |

Mean Horizontal Difference of Force of Vapor for each 0°.1 = 0.0013.

Correction for Barometrical Height above or below the Normal Height of 29.7 inches.

| For Barometrical Height. | Difference of Thermometers, or $t - t'$ Fahrenheit. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° |
| | Wet Bulb above the Freezing-Point. | | | | | | | | | | | | |
| Eng. In. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. |
| 31.0 | −.001 | −.002 | −.003 | −.005 | −.006 | −.007 | −.008 | −.009 | −.010 | −.012 | −.013 | −.014 | −.015 |
| 30.5 | .001 | .001 | .002 | .003 | .004 | .004 | .005 | .006 | .006 | .007 | .008 | .009 | .009 |
| 30.0 | −.000 | −.000 | −.001 | −.001 | −.001 | −.002 | −.002 | −.002 | −.002 | −.003 | −.003 | −.003 | −.004 |
| 29.5 | +.000 | +.000 | +.001 | +.001 | +.001 | +.001 | +.001 | +.001 | +.002 | +.002 | +.002 | +.002 | +.002 |
| 29.0 | .001 | .001 | .002 | .003 | .003 | .004 | .004 | .005 | .006 | .006 | .007 | .008 | .008 |
| 28.5 | .001 | .002 | .003 | .004 | .005 | .006 | .007 | .009 | .010 | .011 | .012 | .013 | .014 |
| 28.0 | .001 | .003 | .005 | .006 | .008 | .009 | .011 | .012 | .014 | .015 | .017 | .018 | .020 |
| 27.5 | .002 | .004 | .006 | .007 | .010 | .012 | .014 | .016 | .018 | .020 | .022 | .024 | .026 |
| 27.0 | .002 | .005 | .007 | .009 | 012 | .014 | .017 | .019 | .022 | .024 | .027 | .029 | .031 |
| 26.5 | .003 | .006 | .008 | .011 | .014 | .017 | .020 | .023 | .026 | .029 | .031 | .034 | .037 |
| 26.0 | .003 | .006 | .010 | .013 | .016 | .020 | .023 | .026 | .030 | .033 | .036 | .040 | .043 |
| 25.5 | .004 | .007 | .011 | .014 | .019 | .022 | .025 | .030 | .034 | .037 | .041 | .045 | .049 |
| 25.0 | .004 | .008 | .012 | .016 | .021 | .025 | .028 | .033 | .038 | .042 | .046 | .050 | .055 |
| 24.0 | .005 | .010 | .015 | .020 | .025 | .030 | .034 | .040 | .046 | .051 | .056 | .061 | .066 |
| 23.0 | .006 | .012 | .018 | .023 | .030 | .035 | .041 | .047 | .054 | .060 | .066 | .072 | .078 |
| 22.0 | .007 | .013 | .020 | .027 | .034 | .041 | .047 | .054 | .062 | .069 | .076 | .083 | .090 |
| 21.0 | .008 | .015 | .023 | .030 | .038 | .046 | .053 | .062 | .070 | .077 | .085 | .093 | .101 |
| 20.0 | +.008 | +.017 | +.026 | +.034 | +.043 | +.051 | +.059 | +.069 | +.078 | +.086 | +.095 | +.104 | +.113 |

| | Wet Bulb below the Freezing-Point. | | | | |
|---|---|---|---|---|---|
| 31.0 | −.001 | −.002 | −.003 | −.004 | −.006 |
| 30.5 | .001 | .001 | .002 | .003 | .003 |
| 30.0 | −.000 | −.000 | −.001 | −.001 | −.001 |
| 29.5 | +.000 | +.000 | +.000 | +.001 | +.001 |
| 29.0 | .001 | .001 | .002 | .002 | .003 |
| 28.5 | .001 | .002 | .003 | .004 | .005 |
| 28.0 | .001 | .003 | .004 | .005 | .007 |
| 27.5 | .002 | .003 | .005 | .007 | .009 |
| 27.0 | .002 | .004 | .006 | .008 | .011 |
| 26.5 | .002 | .005 | .007 | .010 | .013 |
| 26.0 | .003 | .006 | .009 | .012 | .014 |
| 25.5 | .003 | .007 | .010 | .013 | .016 |
| 25.0 | .003 | .007 | .011 | .015 | .018 |
| 24.0 | .004 | .009 | .013 | .018 | .022 |
| 23.0 | .005 | .010 | .016 | .021 | .026 |
| 22.0 | .006 | .012 | .018 | .024 | .030 |
| 21.0 | .006 | .014 | .020 | .027 | .034 |
| 20.0 | +.007 | +.015 | +.023 | +.030 | +.038 |

## EXAMPLE OF CALCULATION.

Wet Bulb above the Freezing-Point.

$t' = 62°$ F. $t - t' = 10°$. Barom. = 26.5 in.

The large tables give for a mean barometrical height of 27.9 inches. Force of Vapor . . . . . = 0.403 Inch.

*Additive* correction, in this table, for B = 26.5 inches, and 10° . . = 0.014

Corrected Force of Vapor . = 0.417

The mean barometrical pressure, at a given place of observation, being known, the above Psychrometrical Tables may be fitted for that place, by determining, by means of this table, a *constant correction*, to be applied to the numbers in the tables, expressing the force of vapor. This correction will be found by taking for $t - t'$, or the difference of thermometers, a *mean value*, representing the mean moisture of the air. The errors arising from the deviations from that mean will little impair the accuracy of the results.

# TABLE VIII.

## FOR DEDUCING THE RELATIVE HUMIDITY OF THE AIR FROM THE INDICATIONS, IN ENGLISH MEASURES, OF THE DEW-POINT INSTRUMENTS.

THE object of every Dew-Point instrument is to ascertain, by causing a part of the apparatus to cool, the temperature at which the vapor contained in the air begins to condense, in the shape of light dew, on the cooled portion of the instrument. It is obvious that this is the temperature at which the atmosphere itself, if cooled likewise, would be fully saturated by the amount of vapor present in the air at the time of the observation.

The temperature of the dew-point being known, all the hygrometrical conditions of the air can be easily deduced from it.

The *Absolute Humidity*, or the total amount of vapor in the atmosphere, is expressed by the number, in the Tables of Elastic Forces of Vapor, due to that temperature.

The *Relative Humidity*, or the degree of moisture, being the ratio of the quantity of vapor actually contained in the air to the quantity it could contain if fully saturated, is expressed by the proportion

Relative Humidity : 1 : : Force of Vapor at Dew-Point : Maximum Force of Vapor.

Calling the

Force of Vapor at the Temperature of the Dew-Point, $f$;

Force of Vapor at the Temperature of the Air, F;

then

$$\text{Relative Humidity} = \frac{f}{F}.$$

It is thus found by dividing the force of vapor due, in the Table of Elastic Forces, to the temperature of the dew-point, by the maximum of the force of vapor due, in the same table, to the temperature of the air at the time of the observation. F being always greater than $f$, when the air is not saturated, the Relative Humidity is expressed by a fraction, which is termed the *fraction of saturation*. Making the point of saturation = 100, in order to obtain this fraction in hundredths, we have

$$\text{Relative Humidity} = \frac{f \times 100}{F}.$$

*Example.*

Suppose the

| | |
|---|---|
| Temperature of the Air, or t, to be | = 43° F. |
| Temperature of the Dew-Point, or t′, to be | = 35° F. |
| Difference between the two, or t — t′, to be | = 8° F. |

Taking in Table VI. the Elastic Forces due to t and t′, we have

$$\frac{\text{Force of Vapor at } t'}{\text{Force of Vapor at } t} = \frac{.2037 \times 100}{.2775} = 73.4, \text{ Relative Humidity in Hundredths.}$$

The following Table VIII. gives, in hundredths, the fraction of saturation, or Relative Humidity, corresponding to each degree of t′, or of the temperature of the air, from 0° to 104°; and for every half degree of t — t′, or of the difference between the temperature of the air and of the dew-point, from 0.°5 to 24.°5. Regnault's Table of Elastic Forces of Vapor, reduced to English measures, has been used in the computation.

Though the fraction of saturation expressed in hundredths indicates the Relative Humidity with sufficient accuracy, the thousandths have been added to facilitate, as remarked above in the preface to the Psychrometrical Tables, the interpolations for any number falling between those given in the table.

USE OF THE TABLE.

*Example.*

| | |
|---|---|
| Temperature of Air, or t, being | = 62° F. |
| Temperature of the Dew-Point, or t′, | = 53° F. |
| Difference, or t — t′, | = 9° F. |

Find out the Relative Humidity.

In the column of temperatures, the first on the left, find 62°; on the same horizontal line, in the column headed 9°, is found 72.4, which is the Relative Humidity required.

Should it seem desirable to compute the Relative Humidity for values of t — t′ not contained in the table, the factors given below in Table IX. may be used. It may be seen, however, that an interpolation at sight will always suffice for meteorological purposes.

# VIII.

## FOR DEDUCING THE RELATIVE HUMIDITY OF THE AIR,

### FROM THE INDICATIONS OF DEW-POINT INSTRUMENTS.

Relative Humidity expressed in Hundredths, full Saturation being = 100.

| Temperature of Air, Fahrenheit. | $t - t'$ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |
| 0° | 100. | 97.7 | 95.4 | 93.2 | 91.0 | 88.9 | 86.8 | 84.8 | 82.8 | 80.9 |
| 1 | 100. | 97.7 | 95.5 | 93.3 | 91.1 | 89.0 | 86.9 | 84.9 | 82.9 | 81.0 |
| 2 | 100. | 97.7 | 95.5 | 93.3 | 91.2 | 89.1 | 87.0 | 85.0 | 83.0 | 81.1 |
| 3 | 100. | 97.8 | 95.5 | 93.4 | 91.2 | 89.2 | 87.1 | 85.1 | 83.1 | 81.2 |
| 4 | 100. | 97.8 | 95.6 | 93.4 | 91.3 | 89.2 | 87.2 | 85.2 | 83.2 | 81.3 |
| 5 | 100. | 97.8 | 95.6 | 93.5 | 91.4 | 89.3 | 87.3 | 85.3 | 83.3 | 81.4 |
| 6 | 100. | 97.8 | 95.6 | 93.5 | 91.4 | 89.3 | 87.3 | 85.3 | 83.3 | 81.5 |
| 7 | 100. | 97.8 | 95.6 | 93.5 | 91.4 | 89.3 | 87.3 | 85.3 | 83.4 | 81.5 |
| 8 | 100. | 97.8 | 95.6 | 93.5 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.5 |
| 9 | 100. | 97.8 | 95.6 | 93.5 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.5 |
| 10 | 100. | 97.8 | 95.6 | 93.4 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.5 |
| 11 | 100. | 97.8 | 95.6 | 93.4 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.6 |
| 12 | 100. | 97.8 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.4 | 83.4 | 81.6 |
| 13 | 100. | 97.8 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.4 | 83.5 | 81.6 |
| 14 | 100. | 97.7 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.4 | 83.5 | 81.7 |
| 15 | 100. | 97.7 | 95.5 | 93.4 | 91.3 | 89.4 | 87.4 | 85.5 | 83.5 | 81.7 |
| 16 | 100. | 97.7 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.4 | 83.5 | 81.6 |
| 17 | 100. | 97.7 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.6 |
| 18 | 100. | 97.7 | 95.5 | 93.4 | 91.3 | 89.3 | 87.3 | 85.3 | 83.4 | 81.5 |
| 19 | 100. | 97.8 | 95.5 | 93.4 | 91.3 | 89.3 | 87.2 | 85.2 | 83.3 | 81.4 |
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |

| Temperature of Air, Fahrenheit. | t — t' = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **5.0** | **5.5** | **6.0** | **6.5** | **7.0** | **7.5** | **8.0** | **8.5** | **9.0** | **9.5** |
| 0° | 79.0 | 77.2 | 75.4 | 73.6 | 71.9 | 70.1 | 68.5 | 66.9 | 65.3 | 63.7 |
| 1 | 79.1 | 77.3 | 75.5 | 73.7 | 72.0 | 70.2 | 68.6 | 67.0 | 65.4 | 63.8 |
| 2 | 79.2 | 77.4 | 75.6 | 73.8 | 72.1 | 70.3 | 68.7 | 67.1 | 65.5 | 64.0 |
| 3 | 79.3 | 77.5 | 75.7 | 73.9 | 72.2 | 70.5 | 68.8 | 67.2 | 65.6 | 64.1 |
| 4 | 79.4 | 77.6 | 75.8 | 74.0 | 72.3 | 70.6 | 68.9 | 67.3 | 65.7 | 64.2 |
| 5 | 79.5 | 77.7 | 75.9 | 74.1 | 72.4 | 70.7 | 69.1 | 67.4 | 65.8 | 64.4 |
| 6 | 79.6 | 77.8 | 76.0 | 74.2 | 72.5 | 70.8 | 69.2 | 67.6 | 66.0 | 64.5 |
| 7 | 79.6 | 77.8 | 76.0 | 74.3 | 72.6 | 70.9 | 69.3 | 67.7 | 66.1 | 64.6 |
| 8 | 79.6 | 77.9 | 76.1 | 74.4 | 72.7 | 71.0 | 69.4 | 67.8 | 66.2 | 64.7 |
| 9 | 79.7 | 77.9 | 76.1 | 74.4 | 72.7 | 71.1 | 69.5 | 67.9 | 66.3 | 64.8 |
| 10 | 79.7 | 77.9 | 76.2 | 74.5 | 72.8 | 71.2 | 69.6 | 68.0 | 66.4 | 64.9 |
| 11 | 79.7 | 78.0 | 76.2 | 74.5 | 72.8 | 71.2 | 69.6 | 68.0 | 66.5 | 64.9 |
| 12 | 79.8 | 78.0 | 76.2 | 74.5 | 72.9 | 71.2 | 69.6 | 68.0 | 66.5 | 65.0 |
| 13 | 79.8 | 78.0 | 76.3 | 74.6 | 72.9 | 71.3 | 69.6 | 68.1 | 66.5 | 65.0 |
| 14 | 79.8 | 78.1 | 76.3 | 74.6 | 72.9 | 71.3 | 69.6 | 68.1 | 66.5 | 65.1 |
| 15 | 79.8 | 78.1 | 76.3 | 74.6 | 72.9 | 71.3 | 69.7 | 68.1 | 66.6 | 65.1 |
| 16 | 79.8 | 78.0 | 76.2 | 74.5 | 72.9 | 71.2 | 69.6 | 68.1 | 66.5 | 65.1 |
| 17 | 79.7 | 77.9 | 76.1 | 74.5 | 72.8 | 71.2 | 69.6 | 68.0 | 66.5 | 65.0 |
| 18 | 79.6 | 77.8 | 76.1 | 74.4 | 72.7 | 71.1 | 69.5 | 68.0 | 66.5 | 65.0 |
| 19 | 79.6 | 77.8 | 76.0 | 74.3 | 72.7 | 71.1 | 69.5 | 68.0 | 66.4 | 65.0 |
| | **10.0** | **10.5** | **11.0** | **11.5** | **12.0** | **12.5** | **13.0** | **13.5** | **14.0** | **14.5** |
| 0° | 62.1 | 60.7 | 59.2 | 57.7 | 56.3 | 54.9 | 53.6 | 52.3 | 51.0 | 49.8 |
| 1 | 62.3 | 60.8 | 59.3 | 57.9 | 56.5 | 55.1 | 53.7 | 52.5 | 51.2 | 50.0 |
| 2 | 62.4 | 61.0 | 59.5 | 58.1 | 56.6 | 55.3 | 53.9 | 52.7 | 51.4 | 50.1 |
| 3 | 62.6 | 61.1 | 59.6 | 58.2 | 56.8 | 55.5 | 54.1 | 52.8 | 51.5 | 50.3 |
| 4 | 62.7 | 61.3 | 59.8 | 58.4 | 57.0 | 55.7 | 54.3 | 53.0 | 51.7 | 50.5 |
| 5 | 62.9 | 61.4 | 60.0 | 58.6 | 57.2 | 55.8 | 54.5 | 53.2 | 51.9 | 50.7 |
| 6 | 63.0 | 61.5 | 60.1 | 58.7 | 57.3 | 55.9 | 54.6 | 53.3 | 52.0 | 50.8 |
| 7 | 63.1 | 61.7 | 60.2 | 58.8 | 57.4 | 56.0 | 54.7 | 53.4 | 52.1 | 50.9 |
| 8 | 63.2 | 61.8 | 60.3 | 58.9 | 57.5 | 56.2 | 54.8 | 53.5 | 52.3 | 51.0 |
| 9 | 63.3 | 61.9 | 60.4 | 59.0 | 57.6 | 56.3 | 54.9 | 53.6 | 52.4 | 51.2 |
| 10 | 63.4 | 62.1 | 60.5 | 59.1 | 57.7 | 56.4 | 55.0 | 53.8 | 52.5 | 51.3 |
| 11 | 63.5 | 62.1 | 60.6 | 59.2 | 57.8 | 56.5 | 55.1 | 53.9 | 52.6 | 51.4 |
| 12 | 63.5 | 62.1 | 60.6 | 59.3 | 57.9 | 56.6 | 55.2 | 54.0 | 52.7 | 51.5 |
| 13 | 63.5 | 62 2 | 60.7 | 59.3 | 58.0 | 56.6 | 55.3 | 54.1 | 52.8 | 51.6 |
| 14 | 63.6 | 62.3 | 60.8 | 59.4 | 58.1 | 56.7 | 55.4 | 54.2 | 52.9 | 51.7 |
| 15 | 63.6 | 62.3 | 60.8 | 59.5 | 58.1 | 56.8 | 55.5 | 54.3 | 53.0 | 51.8 |
| 16 | 63.6 | 62.3 | 60.8 | 59.5 | 58.1 | 56.8 | 55.5 | 54.3 | 53.0 | 51.8 |
| 17 | 63.6 | 62.2 | 60.8 | 59.4 | 58.1 | 56.7 | 55.5 | 54.2 | 53.0 | 51.8 |
| 18 | 63.5 | 62.2 | 60.7 | 59.4 | 58.0 | 56.7 | 55.4 | 54.2 | 53.0 | 51.8 |
| 19 | 63.5 | 62.1 | 60.7 | 59.3 | 58.0 | 56.6 | 55.4 | 54.2 | 52.9 | 51.8 |

| Temperature of Air, Fahrenheit. | $t - t'$ = Difference of Temperatures of the Air and of the Dew-Point.—Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **15.0** | **15.5** | **16.0** | **16.5** | **17.0** | **17.5** | **18.0** | **18.5** | **19.0** | **19.5** |
| 0° | 48.5 | 47.3 | 46.1 | 45.0 | 43.9 | 42.8 | 41.6 | 40.6 | 39.5 | 38.5 |
| 1 | 48.7 | 47.5 | 46.3 | 45.2 | 44.0 | 42.9 | 41.8 | 40.8 | 39.7 | 38.7 |
| 2 | 48.9 | 47.7 | 46.5 | 45.4 | 44.2 | 43.1 | 42.0 | 41.0 | 39.9 | 38.9 |
| 3 | 49.1 | 47.9 | 46.7 | 45.5 | 44.4 | 43.3 | 42.2 | 41.2 | 40.2 | 39.2 |
| 4 | 49.3 | 48.1 | 46.9 | 45.7 | 44.6 | 43.5 | 42.4 | 41.4 | 40.4 | 39.4 |
| 5 | 49.4 | 48.2 | 47.1 | 45.9 | 44.8 | 43.7 | 42.6 | 41.6 | 40.6 | 39.6 |
| 6 | 49.6 | 48.4 | 47.2 | 46.1 | 44.9 | 43.9 | 42.8 | 41.8 | 40.7 | 39.8 |
| 7 | 49.7 | 48.5 | 47.3 | 46.2 | 45.1 | 44.0 | 42.9 | 41.9 | 40.9 | 39.9 |
| 8 | 49.8 | 48.7 | 47.5 | 46.4 | 45.3 | 44.2 | 43.1 | 42.1 | 41.1 | 40.1 |
| 9 | 50.0 | 48.8 | 47.6 | 46.5 | 45.4 | 44.3 | 43.3 | 42.2 | 41.2 | 40.2 |
| 10 | 50.1 | 48.9 | 47.8 | 46.7 | 45.6 | 44.5 | 43.4 | 42.4 | 41.4 | 40.4 |
| 11 | 50.2 | 49.0 | 47.9 | 46.8 | 45.7 | 44.6 | 43.5 | 42.5 | 41.5 | 40.5 |
| 12 | 50.3 | 49.1 | 48.0 | 46.9 | 45.8 | 44.7 | 43.6 | 42.6 | 41.6 | 40.6 |
| 13 | 50.4 | 49.2 | 48.1 | 47.0 | 45.9 | 44.8 | 43.7 | 42.7 | 41.7 | 40.7 |
| 14 | 50.5 | 49.3 | 48.2 | 47.1 | 46.0 | 44.9 | 43.8 | 42.8 | 41.8 | 40.8 |
| 15 | 50.6 | 49.4 | 48.3 | 47.2 | 46.1 | 45.0 | 43.9 | 42.9 | 41.9 | 40.9 |
| 16 | 50.6 | 49.5 | 48.3 | 47.2 | 46.1 | 45.0 | 44.0 | 43.0 | 41.9 | 41.0 |
| 17 | 50.6 | 49.5 | 48.3 | 47.2 | 46.1 | 45.0 | 44.0 | 43.0 | 42.0 | 41.0 |
| 18 | 50.6 | 49.5 | 48.3 | 47.2 | 46.2 | 45.0 | 44.1 | 43.1 | 42.0 | 41.1 |
| 19 | 50.6 | 49.5 | 48.3 | 47.3 | 46.2 | 45.1 | 44.1 | 43.1 | 42.1 | 41.1 |
| | **20.0** | **20.5** | **21.0** | **21.5** | **22.0** | **22.5** | **23.0** | **23.5** | **24.0** | **24.5** |
| 0° | 37.5 | 36.5 | 35.5 | 34.6 | 33.7 | 32.8 | 31.9 | 31.0 | 30.2 | 29.3 |
| 1 | 37.7 | 36.8 | 35.8 | 34.8 | 33.9 | 33.0 | 32.1 | 31.3 | 30.4 | 29.6 |
| 2 | 37.9 | 37.0 | 36.0 | 35.1 | 34.2 | 33.3 | 32.4 | 31.5 | 30.7 | 29.9 |
| 3 | 38.2 | 37.2 | 36.2 | 35.3 | 34.4 | 33.5 | 32.6 | 31.8 | 30.9 | 30.1 |
| 4 | 38.4 | 37.4 | 36.5 | 35.6 | 34.6 | 33.8 | 32.9 | 32.0 | 31.2 | 30.4 |
| 5 | 38.6 | 37.7 | 36.7 | 35.8 | 34.9 | 34.0 | 33.1 | 32.3 | 31.4 | 30.6 |
| 6 | 38.8 | 37.8 | 36.9 | 36.0 | 35.0 | 34.2 | 33.3 | 32.5 | 31.6 | 30.8 |
| 7 | 38.9 | 38.0 | 37.0 | 36.1 | 35.2 | 34.3 | 33.5 | 32.6 | 31.8 | 31.0 |
| 8 | 39.1 | 38.1 | 37.2 | 36.3 | 35.4 | 34.5 | 33.6 | 32.8 | 32.1 | 31.2 |
| 9 | 39.2 | 38.3 | 37.3 | 36.4 | 35.5 | 34.7 | 33.8 | 33.0 | 32.3 | 31.4 |
| 10 | 39.4 | 38.4 | 37.5 | 36.6 | 35.7 | 34.8 | 34.0 | 33.1 | 32.5 | 31.6 |
| 11 | 39.5 | 38.6 | 37.6 | 36.7 | 35.8 | 35.0 | 34.1 | 33.3 | 32.6 | 31.7 |
| 12 | 39.6 | 38.7 | 37.8 | 36.9 | 36.0 | 35.1 | 34.2 | 33.4 | 32.7 | 31.8 |
| 13 | 39.8 | 38.8 | 37.9 | 37.0 | 36.1 | 35.2 | 34.4 | 33.6 | 32.8 | 32.0 |
| 14 | 39.9 | 39.0 | 38.0 | 37.1 | 36.2 | 35.4 | 34.5 | 33.7 | 32.9 | 32.1 |
| 15 | 40.0 | 39.1 | 38.2 | 37.3 | 36.4 | 35.5 | 34.7 | 33.9 | 33.0 | 32.2 |
| 16 | 40.0 | 39.1 | 38.2 | 37.3 | 36.4 | 35.6 | 34.7 | 33.9 | 33.1 | 32.3 |
| 17 | 40.1 | 39.2 | 38.2 | 37.4 | 36.5 | 35.6 | 34.8 | 34.0 | 33.1 | 32.4 |
| 18 | 40.1 | 39.2 | 38.3 | 37.4 | 36.5 | 35.7 | 34.8 | 34.0 | 33.2 | 32.4 |
| 19 | 40.2 | 39.3 | 38.3 | 37.5 | 36.6 | 35.7 | 34.9 | 34.1 | 33.2 | 32.5 |

| Temperature of Air, Fahrenheit. | t — t′ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |
| 20° | 100. | 97.8 | 95.6 | 93.4 | 91.3 | 89.2 | 87.2 | 85.2 | 83.2 | 81.3 |
| 21 | 100. | 97.8 | 95.6 | 93.4 | 91.3 | 89.3 | 87.3 | 85.3 | 83.3 | 81.5 |
| 22 | 100. | 97.8 | 95.6 | 93.5 | 91.4 | 89.3 | 87.3 | 85.4 | 83.4 | 81.6 |
| 23 | 100. | 97.8 | 95.6 | 93.5 | 91.4 | 89.4 | 87.4 | 85.5 | 83.5 | 81.7 |
| 24 | 100. | 97.8 | 95.7 | 93.5 | 91.5 | 89.5 | 87.5 | 85.5 | 83.6 | 81.8 |
| 25 | 100. | 97.8 | 95.7 | 93.6 | 91.5 | 89.5 | 87.6 | 85.6 | 83.7 | 81.9 |
| 26 | 100. | 97.8 | 95.7 | 93.6 | 91.6 | 89.6 | 87.7 | 85.7 | 83.8 | 82.0 |
| 27 | 100. | 97.9 | 95.8 | 93.7 | 91.7 | 89.7 | 87.8 | 85.9 | 84.0 | 82.1 |
| 28 | 100. | 97.9 | 95.8 | 93.8 | 91.8 | 89.8 | 87.9 | 86.0 | 84.1 | 82.3 |
| 29 | 100. | 97.9 | 95.9 | 93.8 | 91.8 | 89.9 | 88.0 | 86.1 | 84.2 | 82.4 |
| 30 | 100. | 97.9 | 95.9 | 93.9 | 91.9 | 90.0 | 88.1 | 86.2 | 84.3 | 82.5 |
| 31 | 100. | 98.0 | 96.0 | 94.0 | 92.0 | 90.1 | 88.2 | 86.4 | 84.5 | 82.7 |
| 32 | 100. | 98.0 | 96.0 | 94.0 | 92.1 | 90.2 | 88.4 | 86.6 | 84.7 | 83.0 |
| 33 | 100. | 98.0 | 96.1 | 94.1 | 92.2 | 90.4 | 88.6 | 86.7 | 84.9 | 83.2 |
| 34 | 100. | 98.0 | 96.1 | 94.2 | 92.3 | 90.5 | 88.7 | 86.9 | 85.1 | 83.4 |
| 35 | 100. | 98.0 | 96.1 | 94.3 | 92.4 | 90.6 | 88.9 | 87.1 | 85.3 | 83.6 |
| 36 | 100. | 98.1 | 96.2 | 94.3 | 92.5 | 90.7 | 88.9 | 87.1 | 85.4 | 83.7 |
| 37 | 100. | 98.1 | 96.2 | 94.3 | 92.5 | 90.7 | 88.9 | 87.2 | 85.4 | 83.7 |
| 38 | 100. | 98.1 | 96.2 | 94.3 | 92.5 | 90.7 | 89.0 | 87.2 | 85.5 | 83.8 |
| 39 | 100. | 98.1 | 96.2 | 94.3 | 92.5 | 90.7 | 89.0 | 87.2 | 85.5 | 83.9 |
| 40 | 100. | 98.1 | 96.2 | 94.4 | 92.5 | 90.8 | 89.0 | 87.3 | 85.6 | 83.9 |
| 41 | 100. | 98.1 | 96.2 | 94.4 | 92.6 | 90.8 | 89.1 | 87.3 | 85.7 | 84.0 |
| 42 | 100. | 98.1 | 96.2 | 94.4 | 92.6 | 90.8 | 89.1 | 87.4 | 85.7 | 84.1 |
| 43 | 100. | 98.1 | 96.3 | 94.4 | 92.6 | 90.9 | 89.2 | 87.5 | 85.8 | 84.2 |
| 44 | 100. | 98.1 | 96.3 | 94.5 | 92.7 | 90.9 | 89.2 | 87.5 | 85.9 | 84.2 |
| 45 | 100. | 98.1 | 96.3 | 94.5 | 92.7 | 91.0 | 89.3 | 87.6 | 85.9 | 84.3 |
| 46 | 100. | 98.1 | 96.3 | 94.5 | 92.7 | 91.0 | 89.3 | 87.6 | 86.0 | 84.4 |
| 47 | 100. | 98.1 | 96.3 | 94.5 | 92.8 | 91.0 | 89.3 | 87.7 | 86.0 | 84.4 |
| 48 | 100. | 98.2 | 96.3 | 94.6 | 92.8 | 91.1 | 89.4 | 87.7 | 86.1 | 84.4 |
| 49 | 100. | 98.2 | 96.4 | 94.6 | 92.8 | 91.1 | 89.4 | 87.7 | 86.1 | 84.5 |
| 50 | 100. | 98.2 | 96.4 | 94.6 | 92.9 | 91.1 | 89.4 | 87.8 | 86.2 | 84.5 |
| 51 | 100. | 98.2 | 96.4 | 94.6 | 92.9 | 91.2 | 89.5 | 87.8 | 86.2 | 84.6 |
| 52 | 100. | 98.2 | 96.4 | 94.6 | 92.9 | 91.2 | 89.5 | 87.9 | 86.3 | 84.7 |
| 53 | 100. | 98.2 | 96.4 | 94.7 | 92.9 | 91.2 | 89.6 | 87.9 | 86.3 | 84.7 |
| 54 | 100. | 98.2 | 96.4 | 94.7 | 93.0 | 91.3 | 89.6 | 88.0 | 86.4 | 84.8 |
| 55 | 100. | 98.2 | 96.5 | 94.7 | 93.0 | 91.3 | 89.7 | 88.0 | 86.4 | 84.8 |
| 56 | 100. | 98.2 | 96.5 | 94.7 | 93.0 | 91.4 | 89.7 | 88.1 | 86.5 | 84.9 |
| 57 | 100. | 98.2 | 96.5 | 94.8 | 93.1 | 91.4 | 89.7 | 88.1 | 86.5 | 85.0 |
| 58 | 100. | 98.2 | 96.5 | 94.8 | 93.1 | 91.4 | 89.8 | 88.2 | 86.6 | 85.0 |
| 59 | 100. | 98.2 | 96.5 | 94.8 | 93.1 | 91.5 | 89.8 | 88.2 | 86.6 | 85.1 |
| 60 | 100. | 98.2 | 96.5 | 94.8 | 93.2 | 91.5 | 89.9 | 88.3 | 86.7 | 85.1 |
| 61 | 100. | 98.3 | 96.5 | 94.9 | 93.2 | 91.5 | 89.9 | 88.3 | 86.7 | 85.2 |
| 62 | 100. | 98.3 | 96.6 | 94.9 | 93.2 | 91.6 | 90.0 | 88.4 | 86.8 | 85.3 |
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |

| Temperature of Air, Fahrenheit. | t — t′ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |
| 62° | 100. | 98.3 | 96.6 | 94.9 | 93.2 | 91.6 | 90.0 | 88.4 | 86.8 | 85.3 |
| 63 | 100. | 98.3 | 96.6 | 94.9 | 93.2 | 91.6 | 90.0 | 88.4 | 86.8 | 85.3 |
| 64 | 100. | 98.3 | 96.6 | 94.9 | 93.3 | 91.6 | 90.0 | 88.5 | 86.9 | 85.3 |
| 65 | 100. | 98.3 | 96.6 | 94.9 | 93.3 | 91.7 | 90.1 | 88.5 | 86.9 | 85.4 |
| 66 | 100. | 98.3 | 96.6 | 94.9 | 93.3 | 91.7 | 90.1 | 88.5 | 87.0 | 85.4 |
| 67 | 100. | 98.3 | 96.6 | 95.0 | 93.3 | 91.7 | 90.1 | 88.6 | 87.0 | 85.5 |
| 68 | 100. | 98.3 | 96.6 | 95.0 | 93.4 | 91.8 | 90.2 | 88.6 | 87.1 | 85.5 |
| 69 | 100. | 98.3 | 96.6 | 95.0 | 93.4 | 91.8 | 90.2 | 88.7 | 87.2 | 85.6 |
| 70 | 100. | 98.3 | 96.7 | 95.0 | 93.4 | 91.8 | 90.3 | 88.7 | 87.2 | 85.7 |
| 71 | 100. | 98.3 | 96.7 | 95.0 | 93.4 | 91.9 | 90.3 | 88.8 | 87.2 | 85.8 |
| 72 | 100. | 98.3 | 96.7 | 95.1 | 93.5 | 91.9 | 90.3 | 88.8 | 87.3 | 85.8 |
| 73 | 100. | 98.3 | 96.7 | 95.1 | 93.5 | 91.9 | 90.4 | 88.8 | 87.3 | 85.9 |
| 74 | 100. | 98.3 | 96.7 | 95.1 | 93.5 | 91.9 | 90.4 | 88.9 | 87.4 | 85.9 |
| 75 | 100. | 98.3 | 96.7 | 95.1 | 93.5 | 92.0 | 90.4 | 88.9 | 87.4 | 86.0 |
| 76 | 100. | 98.3 | 96.7 | 95.1 | 93.6 | 92.0 | 90.5 | 89.0 | 87.5 | 86.0 |
| 77 | 100. | 98.4 | 96.7 | 95.2 | 93.6 | 92.0 | 90.5 | 89.0 | 87.5 | 86.1 |
| 78 | 100. | 98.4 | 96.7 | 95.2 | 93.6 | 92.1 | 90.5 | 89.1 | 87.6 | 86.1 |
| 79 | 100. | 98.4 | 96.8 | 95.2 | 93.6 | 92.1 | 90.6 | 89.1 | 87.6 | 86.2 |
| 80 | 100. | 98.4 | 96.8 | 95.2 | 93.6 | 92.1 | 90.6 | 89.1 | 87.7 | 86 2 |
| 81 | 100. | 98.4 | 96.8 | 95.2 | 93.7 | 92.1 | 90.6 | 89.2 | 87.7 | 86.3 |
| 82 | 100. | 98.4 | 96.8 | 95.2 | 93.7 | 92.2 | 90.7 | 89.2 | 87.8 | 86.3 |
| 83 | 100. | 98.4 | 96.8 | 95.3 | 93.7 | 92.2 | 90.7 | 89.3 | 87.8 | 86.4 |
| 84 | 100. | 98.4 | 96.8 | 95.3 | 93.7 | 92.2 | 90.8 | 89.3 | 87.8 | 86.4 |
| 85 | 100. | 98.4 | 96.8 | 95.3 | 93.8 | 92.3 | 90.8 | 89.3 | 87.9 | 86.5 |
| 86 | 100. | 98.4 | 96.8 | 95.3 | 93.8 | 92.3 | 90.8 | 89.4 | 87.9 | 86.5 |
| 87 | 100. | 98.4 | 96.9 | 95.3 | 93.8 | 92.3 | 90.9 | 89.4 | 88.0 | 86.6 |
| 88 | 100. | 98.4 | 96.9 | 95.3 | 93.8 | 92.3 | 90.9 | 89.4 | 88.0 | 86.6 |
| 89 | 100. | 98.4 | 96.9 | 95.4 | 93.9 | 92.4 | 90.9 | 89.5 | 88.1 | 86.7 |
| 90 | 100. | 98.4 | 96.9 | 95.4 | 93.9 | 92.4 | 91.0 | 89.5 | 88.1 | 86.7 |
| 91 | 100. | 98.4 | 96.9 | 95.4 | 93.9 | 92.4 | 91.0 | 89.6 | 88.2 | 86.8 |
| 92 | 100. | 98.5 | 96.9 | 95.4 | 93.9 | 92.5 | 91.0 | 89.6 | 88.2 | 86.8 |
| 93 | 100. | 98.5 | 96.9 | 95.4 | 93.9 | 92.5 | 91.1 | 89.6 | 88.2 | 86.9 |
| 94 | 100. | 98.5 | 96.9 | 95.4 | 94.0 | 92.5 | 91.1 | 89.7 | 88.3 | 86.9 |
| 95 | 100. | 98.5 | 97.0 | 95.5 | 94.0 | 92.5 | 91.1 | 89.7 | 88.3 | 87.0 |
| 96 | 100. | 98.5 | 97.0 | 95.5 | 94.0 | 92.6 | 91.2 | 89.7 | 88.4 | 87.0 |
| 97 | 100. | 98.5 | 97.0 | 95.5 | 94.0 | 92.6 | 91.2 | 89.8 | 88.4 | 87.0 |
| 98 | 100. | 98.5 | 97.0 | 95.5 | 94.1 | 92.6 | 91.2 | 89.8 | 88.4 | 87.1 |
| 99 | 100. | 98.5 | 97.0 | 95.5 | 94.1 | 92.7 | 91.3 | 89.9 | 88.5 | 87.1 |
| 100 | 100. | 98.5 | 97.0 | 95.6 | 94.1 | 92.7 | 91.3 | 89.9 | 88.5 | 87.2 |
| 101 | 100. | 98.5 | 97.0 | 95.6 | 94.1 | 92.7 | 91.3 | 89.9 | 88.6 | 87.2 |
| 102 | 100. | 98.5 | 97.0 | 95.6 | 94.2 | 92.7 | 91.4 | 90.0 | 88.6 | 87.3 |
| 103 | 100. | 98.5 | 97.0 | 95.6 | 94.2 | 92.8 | 91.4 | 90.0 | 88.7 | 87.3 |
| 104 | 100. | 98.5 | 97.0 | 95.6 | 94.2 | 92.8 | 91.4 | 90.0 | 88.7 | 87.4 |
| | **0.0** | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | **3.0** | **3.5** | **4.0** | **4.5** |

| Temperature of Air, Fahrenheit. | t — t′ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 |
| 20° | 79.5 | 77.7 | 75.9 | 74.2 | 72.6 | 71.0 | 69.4 | 67.9 | 66.4 | 64.9 |
| 21 | 79.6 | 77.8 | 76.0 | 74.3 | 72.7 | 71.1 | 69.5 | 68.0 | 66.4 | 65.0 |
| 22 | 79.7 | 77.9 | 76.1 | 74.4 | 72.8 | 71.2 | 69.6 | 68.0 | 66.5 | 65.0 |
| 23 | 79.8 | 78.0 | 76.2 | 74.6 | 72.9 | 71.3 | 69.6 | 68.1 | 66.5 | 65.0 |
| 24 | 79.9 | 78.1 | 76.4 | 74.7 | 73.0 | 71.4 | 69.7 | 68.1 | 66.6 | 65.1 |
| 25 | 80.0 | 78.2 | 76.5 | 74.8 | 73.1 | 71.5 | 69.8 | 68.2 | 66.6 | 65.1 |
| 26 | 80.2 | 78.4 | 76.6 | 74.9 | 73.2 | 71.7 | 70.0 | 68.4 | 66.8 | 65.3 |
| 27 | 80.3 | 78.5 | 76.8 | 75.1 | 73.4 | 71.8 | 70.1 | 68.6 | 67.0 | 65.5 |
| 28 | 80.5 | 78.7 | 76.9 | 75.2 | 73.6 | 72.0 | 70.3 | 68.8 | 67.2 | 65.7 |
| 29 | 80.6 | 78.8 | 77.1 | 75.4 | 73.7 | 72.1 | 70.5 | 68.9 | 67.4 | 65.9 |
| 30 | 80.7 | 78.9 | 77.2 | 75.6 | 73.9 | 72.3 | 70.7 | 69.1 | 67.6 | 66.1 |
| 31 | 81.0 | 79.2 | 77.5 | 75.8 | 74.2 | 72.6 | 71.0 | 69.4 | 67.9 | 66.4 |
| 32 | 81.2 | 79.4 | 77.7 | 76.1 | 74.4 | 72.8 | 71.3 | 69.7 | 68.2 | 66.7 |
| 33 | 81.4 | 79.7 | 78.0 | 76.4 | 74.7 | 73.1 | 71.5 | 70.0 | 68.5 | 67.0 |
| 34 | 81.7 | 79.9 | 78.3 | 76.6 | 75.0 | 73.4 | 71.8 | 70.3 | 68.8 | 67.3 |
| 35 | 81.9 | 80.2 | 78.5 | 76.9 | 75.3 | 73.7 | 72.1 | 70.6 | 69.1 | 67.6 |
| 36 | 82.0 | 80.3 | 78.6 | 77.0 | 75.4 | 73.9 | 72.3 | 70.8 | 69.3 | 67.8 |
| 37 | 82.0 | 80.4 | 78.8 | 77.2 | 75.6 | 74.0 | 72.5 | 71.0 | 69.5 | 68.1 |
| 38 | 82.1 | 80.5 | 78.9 | 77.3 | 75.8 | 74.2 | 72.7 | 71.2 | 69.8 | 68.3 |
| 39 | 82.2 | 80.6 | 79.0 | 77.4 | 75.9 | 74.4 | 72.9 | 71.5 | 70.0 | 68.6 |
| 40 | 82.3 | 80.7 | 79.1 | 77.6 | 76.1 | 74.6 | 73.2 | 71.7 | 70.2 | 68.8 |
| 41 | 82.4 | 80.8 | 79.2 | 77.7 | 76.2 | 74.7 | 73.2 | 71.8 | 70.3 | 68.9 |
| 42 | 82.5 | 80.9 | 79.3 | 77.8 | 76.3 | 74.8 | 73.3 | 71.9 | 70.5 | 69.0 |
| 43 | 82.5 | 80.9 | 79.4 | 77.9 | 76.4 | 74.9 | 73.4 | 72.0 | 70.6 | 69.2 |
| 44 | 82.6 | 81.0 | 79.5 | 78.0 | 76.5 | 75.0 | 73.5 | 72.1 | 70.7 | 69.3 |
| 45 | 82.7 | 81.1 | 79.6 | 78.0 | 76.5 | 75.1 | 73.6 | 72.2 | 70.8 | 69.4 |
| 46 | 82.8 | 81.2 | 79.6 | 78.1 | 76.6 | 75.1 | 73.7 | 72.3 | 70.9 | 69.5 |
| 47 | 82.8 | 81.2 | 79.7 | 78.2 | 76.7 | 75.2 | 73.8 | 72.4 | 71.0 | 69.6 |
| 48 | 82.9 | 81.3 | 79.8 | 78.2 | 76.8 | 75.3 | 73.9 | 72.5 | 71.1 | 69.7 |
| 49 | 82.9 | 81.3 | 79.8 | 78.3 | 76.8 | 75.4 | 74.0 | 72.6 | 71.2 | 69.8 |
| 50 | 83.0 | 81.4 | 79.9 | 78.4 | 76.9 | 75.5 | 74.0 | 72.7 | 71.3 | 69.9 |
| 51 | 83.0 | 81.5 | 80.0 | 78.5 | 77.0 | 75.5 | 74.1 | 72.8 | 71.4 | 70.0 |
| 52 | 83.1 | 81.5 | 80.0 | 78.5 | 77.1 | 75.6 | 74.2 | 72.8 | 71.5 | 70.1 |
| 53 | 83.2 | 81.6 | 80.1 | 78.6 | 77.2 | 75.7 | 74.3 | 72.9 | 71.6 | 70.2 |
| 54 | 83.2 | 81.7 | 80.2 | 78.7 | 77.2 | 75.8 | 74.4 | 73.0 | 71.7 | 70.3 |
| 55 | 83.3 | 81.8 | 80.3 | 78.8 | 77.3 | 75.9 | 74.5 | 73.1 | 71.8 | 70.4 |
| 56 | 83.4 | 81.8 | 80.3 | 78.9 | 77.4 | 76.0 | 74.6 | 73.2 | 71.9 | 70.5 |
| 57 | 83.4 | 81.9 | 80.4 | 78.9 | 77.5 | 76.1 | 74.7 | 73.3 | 72.0 | 70.6 |
| 58 | 83.5 | 82.0 | 80.5 | 79.0 | 77.6 | 76.2 | 74.8 | 73.4 | 72.1 | 70.7 |
| 59 | 83.6 | 82.0 | 80.6 | 79.1 | 77.7 | 76.2 | 74.9 | 73.5 | 72.2 | 70.9 |
| 60 | 83.6 | 82.1 | 80.6 | 79.2 | 77.7 | 76.3 | 75.0 | 73.6 | 72.3 | 71.0 |
| 61 | 83.7 | 82.2 | 80.7 | 79.2 | 77.8 | 76.4 | 75.0 | 73.7 | 72.4 | 71.0 |
| 62 | 83.7 | 82.2 | 80.8 | 79.3 | 77.9 | 76.5 | 75.1 | 73.8 | 72.4 | 71.1 |
| | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 |

| Temperature of Air, Fahrenheit. | t — t′ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 |
| 62° | 83.7 | 82.2 | 80.8 | 79.3 | 77.9 | 76.5 | 75.1 | 73.8 | 72.4 | 71.1 |
| 63 | 83.8 | 82.3 | 80.8 | 79.4 | 78.0 | 76.6 | 75.2 | 73.9 | 72.5 | 71.2 |
| 64 | 83.9 | 82.4 | 80.9 | 79.5 | 78.1 | 76.7 | 75.3 | 74.0 | 72.6 | 71.3 |
| 65 | 83.9 | 82.4 | 81.0 | 79.6 | 78.1 | 76.8 | 75.4 | 74.0 | 72.7 | 71.4 |
| 66 | 84.0 | 82.5 | 81.1 | 79.6 | 78.2 | 76.8 | 75.5 | 74.1 | 72.8 | 71.5 |
| 67 | 84.0 | 82.6 | 81.1 | 79.7 | 78.3 | 76.9 | 75.6 | 74.2 | 72.9 | 71.6 |
| 68 | 84.1 | 82.6 | 81.2 | 79.8 | 78.4 | 77.0 | 75.7 | 74.3 | 73.0 | 71.7 |
| 69 | 84.2 | 82.7 | 81.3 | 79.9 | 78.5 | 77.1 | 75.7 | 74.4 | 73.1 | 71.8 |
| 70 | 84.2 | 82.8 | 81.3 | 79.9 | 78.5 | 77.2 | 75.8 | 74.5 | 73.2 | 71.9 |
| 71 | 84.3 | 82.8 | 81.4 | 80.0 | 78.6 | 77.3 | 75.9 | 74.6 | 73.3 | 72.0 |
| 72 | 84.3 | 82.9 | 81.5 | 80.1 | 78.7 | 77.3 | 76.0 | 74.7 | 73.4 | 72.1 |
| 73 | 84.4 | 83.0 | 81.5 | 80.1 | 78.7 | 77.4 | 76.1 | 74.8 | 73.5 | 72.2 |
| 74 | 84.5 | 83.0 | 81.6 | 80.2 | 78.8 | 77.5 | 76.2 | 74.9 | 73.6 | 72.3 |
| 75 | 84.5 | 83.1 | 81.7 | 80.3 | 78.9 | 77.6 | 76.2 | 74.9 | 73.7 | 72.4 |
| 76 | 84.6 | 83.1 | 81.7 | 80.4 | 78.9 | 77.7 | 76.3 | 75.0 | 73.7 | 72.5 |
| 77 | 84.6 | 83.2 | 81.8 | 80.4 | 79.0 | 77.7 | 76.4 | 75.1 | 73.8 | 72.6 |
| 78 | 84.7 | 83.3 | 81.9 | 80.5 | 79.1 | 77.8 | 76.5 | 75.2 | 73.9 | 72.7 |
| 79 | 84.7 | 83.3 | 81.9 | 80.6 | 79.1 | 77.9 | 76.6 | 75.3 | 74.0 | 72.8 |
| 80 | 84.8 | 83.4 | 82.0 | 80.6 | 79.2 | 78.0 | 76.7 | 75.4 | 74.1 | 72.9 |
| 81 | 84.9 | 83.5 | 82.1 | 80.7 | 79.3 | 78.0 | 76.7 | 75.5 | 74.2 | 73.0 |
| 82 | 84.9 | 83.5 | 82.1 | 80.8 | 79.4 | 78.1 | 76.8 | 75.5 | 74.3 | 73.0 |
| 83 | 85.0 | 83.6 | 82.2 | 80.8 | 79.4 | 78.2 | 76.9 | 75.6 | 74.4 | 73.1 |
| 84 | 85.0 | 83.6 | 82.3 | 80.9 | 79.5 | 78.3 | 77.0 | 75.7 | 74.5 | 73.2 |
| 85 | 85.1 | 83.7 | 82.3 | 81.0 | 79.6 | 78.4 | 77.1 | 75.8 | 74.6 | 73.3 |
| 86 | 85.1 | 83.7 | 82.4 | 81.1 | 79.7 | 78.4 | 77.1 | 75.9 | 74.6 | 73.4 |
| 87 | 85.2 | 83.8 | 82.5 | 81.1 | 79.8 | 78.5 | 77.2 | 76.0 | 74.7 | 73.5 |
| 88 | 85.2 | 83.9 | 82.5 | 81.2 | 79.9 | 78.6 | 77.3 | 76.1 | 74.8 | 73.6 |
| 89 | 85.3 | 83.9 | 82.6 | 81.3 | 79.9 | 78.7 | 77.4 | 76.1 | 74.9 | 73.7 |
| 90 | 85.3 | 84.0 | 82.6 | 81.3 | 80.0 | 78.7 | 77.5 | 76.2 | 75.0 | 73.8 |
| 91 | 85.4 | 84.0 | 82.7 | 81.4 | 80.1 | 78.8 | 77.5 | 76.3 | 75.1 | 73.9 |
| 92 | 85.4 | 84.1 | 82.8 | 81.5 | 80.2 | 78.9 | 77.6 | 76.4 | 75.2 | 74.0 |
| 93 | 85.5 | 84.2 | 82.8 | 81.5 | 80.2 | 79.0 | 77.7 | 76.5 | 75.2 | 74.0 |
| 94 | 85.6 | 84.2 | 82.9 | 81.6 | 80.3 | 79.0 | 77.8 | 76.6 | 75.3 | 74.1 |
| 95 | 85.6 | 84.3 | 83.0 | 81.7 | 80.4 | 79.1 | 77.9 | 76.6 | 75.4 | 74.2 |
| 96 | 85.7 | 84.3 | 83.0 | 81.7 | 80.4 | 79.2 | 77.9 | 76.7 | 75.5 | 74.3 |
| 97 | 85.7 | 84.4 | 83.1 | 81.8 | 80.5 | 79.3 | 78.0 | 76.8 | 75.6 | 74.4 |
| 98 | 85.8 | 84.4 | 83.1 | 81.9 | 80.6 | 79.3 | 78.1 | 76.9 | 75.7 | 74.5 |
| 99 | 85.8 | 84.5 | 83.2 | 81.9 | 80.7 | 79.4 | 78.2 | 77.0 | 75.8 | 74.6 |
| 100 | 85.9 | 84.6 | 83.3 | 82.0 | 80.7 | 79.5 | 78.3 | 77.0 | 75.8 | 74.7 |
| 101 | 85.9 | 84.6 | 83.3 | 82.0 | 80.8 | 79.6 | 78.3 | 77.1 | 75.9 | 74.8 |
| 102 | 86.0 | 84.7 | 83.4 | 82.1 | 80.9 | 79.6 | 78.4 | 77.2 | 76.0 | 74.9 |
| 103 | 86.0 | 84.7 | 83.4 | 82.2 | 80.9 | 79.7 | 78.5 | 77.3 | 76.1 | 74.9 |
| 104 | 86.1 | 84.8 | 83.5 | 82.2 | 81.0 | 79.8 | 78.6 | 77.4 | 76.2 | 75.0 |
| | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.5 |

| Temperature of Air, Fahrenheit. | t — t' = Difference of Temperatures of the Air and of the Dew-Point.—Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **10.0** | **10.5** | **11.0** | **11.5** | **12.0** | **12.5** | **13.0** | **13.5** | **14.0** | **14.5** |
| 20° | 63.5 | 62.1 | 60.6 | 59.3 | 58.0 | 56.6 | 55.4 | 54.1 | 52.9 | 51.7 |
| 21 | 63.5 | 62.1 | 60.7 | 59.3 | 58.0 | 56.6 | 55.4 | 54.2 | 53.0 | 51.8 |
| 22 | 63.5 | 62.1 | 60.7 | 59.4 | 58.0 | 56.7 | 55.5 | 54.2 | 53.0 | 51.8 |
| 23 | 63.6 | 62.1 | 60.7 | 59.4 | 58.0 | 56.7 | 55.5 | 54.3 | 53.0 | 51.9 |
| 24 | 63.6 | 62.1 | 60.7 | 59.4 | 58.1 | 56.8 | 55.5 | 54.3 | 53.1 | 51.9 |
| 25 | 63.6 | 62.1 | 60.7 | 59.4 | 58.1 | 56.8 | 55.6 | 54.4 | 53.1 | 52.0 |
| 26 | 63.8 | 62.3 | 60.9 | 59.6 | 58.3 | 57.0 | 55.7 | 54.5 | 53.3 | 52.1 |
| 27 | 64.0 | 62.5 | 61.1 | 59.8 | 58.5 | 57.2 | 55.9 | 54.6 | 53.4 | 52.2 |
| 28 | 64.2 | 62.7 | 61.3 | 60.0 | 58.6 | 57.3 | 56.0 | 54.8 | 53.5 | 52.3 |
| 29 | 64.4 | 63.0 | 61.5 | 60.2 | 58.8 | 57.5 | 56.2 | 54.9 | 53.7 | 52.4 |
| 30 | 64.6 | 63.2 | 61.8 | 60.4 | 59.0 | 57.7 | 56.3 | 55.1 | 53.8 | 52.6 |
| 31 | 64.9 | 63.5 | 62.1 | 60.7 | 59.3 | 58.0 | 56.6 | 55.4 | 54.1 | 52.9 |
| 32 | 65.2 | 63.8 | 62.4 | 61.0 | 59.6 | 58.3 | 57.0 | 55.7 | 54.4 | 53.2 |
| 33 | 65.5 | 64.1 | 62.7 | 61.3 | 59.9 | 58.6 | 57.3 | 56.0 | 54.7 | 53.5 |
| 34 | 65.8 | 64.4 | 63.0 | 61.6 | 60.2 | 58.9 | 57.6 | 56.3 | 55.0 | 53.8 |
| 35 | 66.1 | 64.7 | 63.3 | 61.9 | 60.5 | 59.2 | 57.9 | 56.6 | 55.4 | 54.1 |
| 36 | 66.4 | 64.9 | 63.5 | 62.1 | 60.8 | 59.5 | 58.2 | 56.9 | 55.6 | 54.4 |
| 37 | 66.6 | 65.2 | 63.8 | 62.4 | 61.1 | 59.8 | 58.5 | 57.2 | 55.9 | 54.7 |
| 38 | 66.9 | 65.5 | 64.1 | 62.7 | 61.4 | 60.1 | 58.8 | 57.5 | 56.2 | 55.0 |
| 39 | 67.1 | 65.7 | 64.4 | 63.0 | 61.7 | 60.3 | 59.1 | 57.8 | 56.5 | 55.3 |
| 40 | 67.4 | 66.0 | 64.6 | 63.3 | 62.0 | 60.6 | 59.4 | 58.1 | 56.8 | 55.6 |
| 41 | 67.5 | 66.1 | 64.8 | 63.5 | 62.1 | 60.9 | 59.6 | 58.3 | 57.1 | 55.9 |
| 42 | 67.7 | 66.3 | 65.0 | 63.6 | 62.3 | 61.1 | 59.8 | 58.6 | 57.3 | 56.1 |
| 43 | 67.8 | 66.4 | 65.1 | 63.8 | 62.5 | 61.3 | 60.0 | 58.8 | 57.6 | 56.4 |
| 44 | 67.9 | 66.6 | 65.3 | 64.0 | 62.7 | 61.5 | 60.3 | 59.0 | 57.8 | 56.6 |
| 45 | 68.1 | 66.7 | 65.4 | 64.2 | 62.9 | 61.7 | 60.5 | 59.3 | 58.1 | 56.9 |
| 46 | 68.2 | 66.9 | 65.6 | 64.3 | 63.0 | 61.8 | 60.6 | 59.4 | 58.2 | 57.0 |
| 47 | 68.3 | 67.0 | 65.7 | 64.4 | 63.2 | 61.9 | 60.7 | 59.5 | 58.3 | 57.2 |
| 48 | 68.4 | 67.1 | 65.8 | 64.5 | 63.3 | 62.0 | 60.8 | 59.6 | 58.5 | 57.3 |
| 49 | 68.5 | 67.2 | 65.9 | 64.6 | 63.4 | 62.1 | 61.0 | 59.8 | 58.6 | 57.4 |
| 50 | 68.6 | 67.3 | 66.0 | 64.7 | 63.5 | 62.2 | 61.1 | 59.9 | 58.7 | 57.6 |
| 51 | 68.7 | 67.4 | 66.1 | 64.9 | 63.6 | 62.4 | 61.2 | 60.0 | 58.9 | 57.7 |
| 52 | 68.8 | 67.5 | 66.2 | 65.0 | 63.7 | 62.5 | 61.3 | 60.1 | 59.0 | 57.8 |
| 53 | 68.9 | 67.6 | 66.4 | 65.1 | 63.9 | 62.6 | 61.4 | 60.3 | 59.1 | 58.0 |
| 54 | 69.0 | 67.7 | 66.5 | 65.2 | 64.0 | 62.7 | 61.6 | 60.4 | 59.2 | 58.1 |
| 55 | 69.1 | 67.8 | 66.6 | 65.3 | 64.1 | 62.9 | 61.7 | 60.5 | 59.4 | 58.2 |
| 56 | 69.2 | 67.9 | 66.7 | 65.4 | 64.2 | 63.0 | 61.8 | 60.6 | 59.5 | 58.4 |
| 57 | 69.3 | 68.1 | 66.8 | 65.6 | 64.3 | 63.1 | 61.9 | 60.8 | 59.6 | 58.5 |
| 58 | 69.5 | 68.2 | 66.9 | 65.7 | 64.4 | 63.2 | 62.1 | 60.9 | 59.8 | 58.6 |
| 59 | 69.6 | 68.3 | 67.0 | 65.8 | 64.6 | 63.4 | 62.2 | 61.0 | 59.9 | 58 8 |
| 60 | 69.7 | 68.4 | 67.1 | 65.9 | 64.7 | 63.5 | 62.3 | 61.2 | 60.0 | 58.9 |
| 61 | 69.8 | 68.5 | 67.2 | 66.0 | 64.8 | 63.6 | 62.4 | 61.3 | 60.1 | 59.0 |
| 62 | 69.9 | 68.6 | 67.4 | 66.1 | 64.9 | 63.7 | 62.6 | 61.4 | 60.3 | 59.1 |
| | **10.0** | **10.5** | **11.0** | **11.5** | **12.0** | **12.5** | **13.0** | **13.5** | **14.0** | **14.5** |

| Temperature of Air, Fahrenheit. | t — t' = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **10.0** | **10.5** | **11.0** | **11.5** | **12.0** | **12.5** | **13.0** | **13.5** | **14.0** | **14.5** |
| 62° | 69.9 | 68.6 | 67.4 | 66.1 | 64.9 | 63.7 | 62.6 | 61.4 | 60.3 | 59.1 |
| 63 | 70.0 | 68.7 | 67.5 | 66.2 | 65.0 | 63.8 | 62.7 | 61.5 | 60.4 | 59.3 |
| 64 | 70.1 | 68.8 | 67.6 | 66.3 | 65.1 | 64.0 | 62.8 | 61.6 | 60.5 | 59.4 |
| 65 | 70.2 | 68.9 | 67.7 | 66.5 | 65.3 | 64.1 | 62.9 | 61.8 | 60.6 | 59.5 |
| 66 | 70.3 | 69.0 | 67.8 | 66.6 | 65.4 | 64.2 | 63.0 | 61.9 | 60.8 | 59.7 |
| 67 | 70.4 | 69.1 | 67.9 | 66.7 | 65.5 | 64.3 | 63.2 | 62.0 | 60.9 | 59.8 |
| 68 | 70.5 | 69.2 | 68.0 | 66.8 | 65.6 | 64.4 | 63.3 | 62.1 | 61.0 | 59.9 |
| 69 | 70.6 | 69.3 | 68.1 | 66.9 | 65.7 | 64.5 | 63.4 | 62.3 | 61.1 | 60.0 |
| 70 | 70.7 | 69.4 | 68.2 | 67.0 | 65.8 | 64.7 | 63.5 | 62.4 | 61.3 | 60.2 |
| 71 | 70.8 | 69.5 | 68.3 | 67.1 | 65.9 | 64.8 | 63.6 | 62.5 | 61.4 | 60.3 |
| 72 | 70.9 | 69.6 | 68.4 | 67.2 | 66.0 | 64.9 | 63.7 | 62.6 | 61.5 | 60.4 |
| 73 | 71.0 | 69.7 | 68.5 | 67.3 | 66.2 | 65.0 | 63.9 | 62.7 | 61.6 | 60.5 |
| 74 | 71.1 | 69.8 | 68.6 | 67.4 | 66.3 | 65.1 | 64.0 | 62.8 | 61.7 | 60.7 |
| 75 | 71.1 | 69.9 | 68.7 | 67.5 | 66.4 | 65.2 | 64.1 | 63.0 | 61.9 | 60.8 |
| 76 | 71.2 | 70.0 | 68.8 | 67.6 | 66.5 | 65.3 | 64.2 | 63.1 | 62.0 | 60.9 |
| 77 | 71.3 | 70.1 | 68.9 | 67.8 | 66.6 | 65.5 | 64.3 | 63.2 | 62.1 | 61.0 |
| 78 | 71.4 | 70.2 | 69.0 | 67.9 | 66.7 | 65.6 | 64.4 | 63.3 | 62.2 | 61.1 |
| 79 | 71.5 | 70.3 | 69.1 | 68.0 | 66.8 | 65.7 | 64.5 | 63.4 | 62.3 | 61.3 |
| 80 | 71.6 | 70.4 | 69.2 | 68.1 | 66.9 | 65.8 | 64.7 | 63.6 | 62.5 | 61.4 |
| 81 | 71.7 | 70.5 | 69.3 | 68.2 | 67.0 | 65.9 | 64.8 | 63.7 | 62.6 | 61.5 |
| 82 | 71.8 | 70.6 | 69.4 | 68.3 | 67.1 | 66.0 | 64.9 | 63.8 | 62.7 | 61.6 |
| 83 | 71.9 | 70.7 | 69.5 | 68.4 | 67.2 | 66.1 | 65.0 | 63.9 | 62.8 | 61.8 |
| 84 | 72.0 | 70.8 | 69.6 | 68.5 | 67.3 | 66.2 | 65.1 | 64.0 | 62.9 | 61.9 |
| 85 | 72.1 | 70.9 | 69.7 | 68.6 | 67.4 | 66.3 | 65.2 | 64.1 | 63.0 | 62.0 |
| 86 | 72.2 | 71.0 | 69.8 | 68.7 | 67.5 | 66.4 | 65.3 | 64.2 | 63.2 | 62.1 |
| 87 | 72.3 | 71.1 | 69.9 | 68.8 | 67.7 | 66.5 | 65.4 | 64.4 | 63.3 | 62.2 |
| 88 | 72.4 | 71.2 | 70.0 | 68.9 | 67.8 | 66.6 | 65.5 | 64.5 | 63.4 | 62.3 |
| 89 | 72.5 | 71.3 | 70.1 | 69.0 | 67.9 | 66.8 | 65.7 | 64.6 | 63.5 | 62.5 |
| 90 | 72.6 | 71.4 | 70.2 | 69.1 | 68.0 | 66.9 | 65.8 | 64.7 | 63.6 | 62.6 |
| 91 | 72.7 | 71.4 | 70.3 | 69.2 | 68.1 | 67.0 | 65.9 | 64.8 | 63.7 | 62.7 |
| 92 | 72.8 | 71.5 | 70.4 | 69.3 | 68.2 | 67.1 | 66.0 | 64.9 | 63.9 | 62.8 |
| 93 | 72.9 | 71.6 | 70.5 | 69.4 | 68.3 | 67.2 | 66.1 | 65.0 | 64.0 | 62.9 |
| 94 | 72.9 | 71.7 | 70.6 | 69.5 | 68.4 | 67.3 | 66.2 | 65.1 | 64.1 | 63.0 |
| 95 | 73.0 | 71.8 | 70.7 | 69.6 | 68.5 | 67.4 | 66.3 | 65.2 | 64.2 | 63.2 |
| 96 | 73.1 | 71.9 | 70.8 | 69.7 | 68.6 | 67.5 | 66.4 | 65.4 | 64.3 | 63.3 |
| 97 | 73.2 | 72.0 | 70.9 | 69.8 | 68.7 | 67.6 | 66.5 | 65.5 | 64.4 | 63.4 |
| 98 | 73.3 | 72.1 | 71.0 | 69.9 | 68.8 | 67.7 | 66.6 | 65.6 | 64.5 | 63.5 |
| 99 | 73.4 | 72.3 | 71.1 | 70.0 | 68.9 | 67.8 | 66.7 | 65.7 | 64.6 | 63.6 |
| 100 | 73.5 | 72.4 | 71.2 | 70.1 | 69.0 | 67.9 | 66.8 | 65.8 | 64.8 | 63.7 |
| 101 | 73.6 | 72.5 | 71.3 | 70.2 | 69.1 | 68.0 | 67.0 | 65.9 | 64.9 | 63.9 |
| 102 | 73.7 | 72.6 | 71.4 | 70.3 | 69.2 | 68.1 | 67.1 | 66.0 | 65.0 | 64.0 |
| 103 | 73.8 | 72.7 | 71.5 | 70.4 | 69.3 | 68.2 | 67.2 | 66.1 | 65.1 | 64.1 |
| 104 | 73.9 | 72.8 | 71.6 | 70.5 | 69.4 | 68.3 | 67.3 | 66.2 | 65.2 | 64.2 |
| | **10.0** | **10.5** | **11.0** | **11.5** | **12.0** | **12.5** | **13.0** | **13.5** | **14.0** | **14.5** |

| Temperature of Air, Fahrenheit. | $t - t'$ = Difference of Temperatures of the Air and of the Dew-Point.—Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **15.0** | **15.5** | **16.0** | **16.5** | **17.0** | **17.5** | **18.0** | **18.5** | **19.0** | **19.5** |
| 20° | 50.6 | 49.5 | 48.4 | 47.3 | 46.2 | 45.1 | 44.1 | 43.1 | 42.1 | 41.2 |
| 21 | 50.6 | 49.5 | 48.4 | 47.3 | 46.2 | 45.1 | 44.2 | 43.2 | 42.2 | 41.2 |
| 22 | 50.7 | 49.5 | 48.4 | 47.4 | 46.3 | 45.2 | 44.2 | 43.2 | 42.2 | 41.3 |
| 23 | 50.7 | 49.6 | 48.5 | 47.4 | 46.3 | 45.2 | 44.2 | 43.3 | 42.3 | 41.3 |
| 24 | 50.7 | 49.6 | 48.5 | 47.4 | 46.4 | 45.3 | 44.3 | 43.3 | 42.3 | 41.4 |
| 25 | 50.8 | 49.7 | 48.5 | 47.5 | 46.4 | 45.4 | 44.3 | 43.3 | 42.4 | 41.4 |
| 26 | 50.9 | 49.8 | 48.6 | 47.6 | 46.5 | 45.4 | 44.4 | 43.4 | 42.4 | 41.5 |
| 27 | 51.0 | 49.9 | 48.7 | 47.7 | 46.6 | 45.5 | 44.5 | 43.5 | 42.5 | 41.6 |
| 28 | 51.1 | 50.0 | 48.8 | 47.7 | 46.7 | 45.6 | 44.6 | 43.6 | 42.6 | 41.6 |
| 29 | 51.2 | 50.1 | 48.9 | 47.8 | 46.8 | 45.7 | 44.7 | 43.7 | 42.7 | 41.7 |
| 30 | 51.4 | 50.2 | 49.0 | 47.9 | 46.8 | 45.8 | 44.7 | 43.7 | 42.7 | 41.8 |
| 31 | 51.7 | 50.5 | 49.4 | 48.2 | 47.1 | 46.1 | 45.0 | 44.0 | 43.0 | 42.0 |
| 32 | 52.0 | 50.8 | 49.7 | 48.5 | 47.4 | 46.4 | 45.3 | 44.3 | 43.3 | 42.3 |
| 33 | 52.3 | 51.1 | 50.0 | 48.8 | 47.7 | 46.6 | 45.6 | 44.5 | 43.5 | 42.5 |
| 34 | 52.6 | 51.4 | 50.3 | 49.1 | 48.0 | 46.9 | 45.9 | 44.8 | 43.8 | 42.8 |
| 35 | 52.9 | 51.7 | 50.6 | 49.4 | 48.3 | 47.2 | 46.1 | 45.1 | 44.1 | 43.0 |
| 36 | 53.2 | 52.0 | 50.9 | 49.7 | 48.6 | 47.5 | 46.4 | 45.4 | 44.4 | 43.3 |
| 37 | 53.5 | 52.3 | 51.2 | 50.0 | 48.9 | 47.8 | 46.7 | 45.7 | 44.7 | 43.6 |
| 38 | 53.8 | 52.6 | 51.5 | 50.3 | 49.2 | 48.1 | 47.0 | 46.0 | 45.0 | 43.9 |
| 39 | 54.1 | 52.9 | 51.8 | 50.6 | 49.5 | 48.4 | 47.3 | 46.3 | 45.3 | 44.2 |
| 40 | 54.4 | 53.2 | 52.1 | 50.9 | 49.8 | 48.7 | 47.6 | 46.6 | 45.6 | 44.5 |
| 41 | 54.7 | 53.5 | 52.3 | 51.2 | 50.1 | 49.0 | 47.9 | 46.9 | 45.8 | 44.8 |
| 42 | 54.9 | 53.8 | 52.6 | 51.5 | 50.4 | 49.3 | 48.2 | 47.2 | 46.1 | 45.1 |
| 43 | 55.2 | 54.0 | 52.9 | 51.8 | 50.7 | 49.6 | 48.5 | 47.5 | 46.4 | 45.4 |
| 44 | 55.5 | 54.3 | 53.2 | 52.1 | 50.9 | 49.9 | 48.8 | 47.7 | 46.7 | 45.7 |
| 45 | 55.7 | 54.6 | 53.4 | 52.3 | 51.2 | 50.2 | 49.1 | 48.0 | 47.0 | 46.0 |
| 46 | 55.9 | 54.7 | 53.6 | 52.5 | 51.4 | 50.4 | 49.3 | 48.3 | 47.2 | 46.2 |
| 47 | 56.0 | 54.9 | 53.8 | 52.7 | 51.6 | 50.6 | 49.5 | 48.5 | 47.5 | 46.5 |
| 48 | 56.2 | 55.0 | 54.0 | 52.9 | 51.8 | 50.8 | 49.8 | 48.7 | 47.7 | 46.7 |
| 49 | 56.3 | 55.2 | 54.1 | 53.1 | 52.0 | 51.0 | 50.0 | 49.0 | 47.9 | 47.0 |
| 50 | 56.5 | 55.4 | 54.3 | 53.2 | 52.2 | 51.2 | 50.2 | 49.2 | 48.2 | 47.2 |
| 51 | 56.6 | 55.5 | 54.4 | 53.4 | 52.3 | 51.3 | 50.3 | 49.3 | 48.3 | 47.4 |
| 52 | 56.7 | 55.6 | 54.6 | 53.5 | 52.5 | 51.5 | 50.5 | 49.5 | 48.5 | 47.5 |
| 53 | 56.9 | 55.8 | 54.7 | 53.6 | 52.6 | 51.6 | 50.6 | 49.6 | 48.6 | 47.7 |
| 54 | 57.0 | 55.9 | 54.8 | 53.8 | 52.7 | 51.7 | 50.7 | 49.8 | 48.8 | 47.8 |
| 55 | 57.1 | 56.0 | 55.0 | 53.9 | 52.9 | 51.9 | 50.9 | 49.9 | 48.9 | 48.0 |
| 56 | 57.3 | 56.2 | 55.1 | 54.1 | 53.0 | 52.0 | 51.0 | 50.0 | 49.1 | 48.1 |
| 57 | 57.4 | 56.3 | 55.2 | 54.2 | 53.2 | 52.2 | 51.2 | 50.2 | 49.2 | 48.3 |
| 58 | 57.5 | 56.4 | 55.4 | 54.3 | 53.3 | 52.3 | 51.3 | 50.3 | 49.4 | 48.4 |
| 59 | 57.7 | 56.6 | 55.5 | 54.5 | 53.4 | 52.4 | 51.4 | 50.5 | 49.5 | 48.6 |
| 60 | 57.8 | 56.7 | 55.6 | 54.6 | 53.6 | 52.6 | 51.6 | 50.6 | 49.7 | 48.7 |
| 61 | 57.9 | 56.8 | 55.8 | 54.7 | 53.7 | 52.7 | 51.7 | 50.8 | 49.8 | 48.9 |
| 62 | 58.0 | 57.0 | 55.9 | 54.9 | 53.8 | 52.8 | 51.9 | 50.9 | 49.9 | 49.0 |
| | **15.0** | **15.5** | **16.0** | **16.5** | **17.0** | **17.5** | **18.0** | **18.5** | **19.0** | **19.5** |

| Temperature of Air, Fahrenheit. | t — t′ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **15.0** | **15.5** | **16.0** | **16.5** | **17.0** | **17.5** | **18.0** | **18.5** | **19.0** | **19.5** |
| 62° | 58.0 | 57.0 | 55.9 | 54.9 | 53.8 | 52.8 | 51.9 | 50.9 | 49.9 | 49.0 |
| 63 | 58.2 | 57.1 | 56.0 | 55.0 | 54.0 | 53.0 | 52.0 | 51.0 | 50.1 | 49.1 |
| 64 | 58.3 | 57.2 | 56.2 | 55.1 | 54.1 | 53.1 | 52.1 | 51.2 | 50.2 | 49.3 |
| 65 | 58.4 | 57.4 | 56.3 | 55.3 | 54.3 | 53.3 | 52.3 | 51.3 | 50.4 | 49.4 |
| 66 | 58.6 | 57.5 | 56.4 | 55.4 | 54.4 | 53.4 | 52.4 | 51.5 | 50.5 | 49.6 |
| 67 | 58.7 | 57.6 | 56.6 | 55.5 | 54.5 | 53.5 | 52.6 | 51.6 | 50.6 | 49.7 |
| 68 | 58.8 | 57.8 | 56.7 | 55.7 | 54.7 | 53.7 | 52.7 | 51.7 | 50.8 | 49.9 |
| 69 | 59.0 | 57.9 | 56.8 | 55.8 | 54.8 | 53.8 | 52.8 | 51.9 | 50.9 | 50.0 |
| 70 | 59.1 | 58.0 | 57.0 | 55.9 | 54.9 | 53.9 | 53.0 | 52.0 | 51.1 | 50.1 |
| 71 | 59.2 | 58.2 | 57.1 | 56.1 | 55.1 | 54.1 | 53.1 | 52.1 | 51.2 | 50.3 |
| 72 | 59.3 | 58.3 | 57.2 | 56.2 | 55.2 | 54.2 | 53.2 | 52.3 | 51.3 | 50.4 |
| 73 | 59.5 | 58.4 | 57.4 | 56.3 | 55.3 | 54.3 | 53.4 | 52.4 | 51.5 | 50.6 |
| 74 | 59.6 | 58.5 | 57.5 | 56.5 | 55.5 | 54.5 | 53.5 | 52.6 | 51.6 | 50.7 |
| 75 | 59.7 | 58.7 | 57.6 | 56.6 | 55.6 | 54.6 | 53.6 | 52.7 | 51.7 | 50.8 |
| 76 | 59.8 | 58.8 | 57.8 | 56.7 | 55.7 | 54.7 | 53.8 | 52.8 | 51.9 | 51.0 |
| 77 | 60.0 | 58.9 | 57.9 | 56.9 | 55.9 | 54.9 | 53.9 | 53.0 | 52.0 | 51.1 |
| 78 | 60.1 | 59.1 | 58.0 | 57.0 | 56.0 | 55.0 | 54.0 | 53.1 | 52.2 | 51.2 |
| 79 | 60.2 | 59.2 | 58.1 | 57.1 | 56.1 | 55.1 | 54.2 | 53.2 | 52.3 | 51.4 |
| 80 | 60.3 | 59.3 | 58.3 | 57.3 | 56.3 | 55.3 | 54.3 | 53.4 | 52.4 | 51.5 |
| 81 | 60.5 | 59.4 | 58.4 | 57.4 | 56.4 | 55.4 | 54.5 | 53.5 | 52.6 | 51.7 |
| 82 | 60.6 | 59.6 | 58.5 | 57.5 | 56.5 | 55.5 | 54.6 | 53.6 | 52.7 | 51.8 |
| 83 | 60.7 | 59.7 | 58.6 | 57.6 | 56.6 | 55.7 | 54.7 | 53.8 | 52.8 | 51.9 |
| 84 | 60.8 | 59.8 | 58.8 | 57.8 | 56.8 | 55.8 | 54.8 | 53.9 | 53.0 | 52.1 |
| 85 | 60.9 | 59.9 | 58.9 | 57.9 | 56.9 | 55.9 | 55.0 | 54.0 | 53.1 | 52.2 |
| 86 | 61.1 | 60.0 | 59.0 | 58.0 | 57.0 | 56.1 | 55.1 | 54.2 | 53.2 | 52.3 |
| 87 | 61.2 | 60.2 | 59.1 | 58.1 | 57.2 | 56.2 | 55.2 | 54.3 | 53.4 | 52.5 |
| 88 | 61.3 | 60.3 | 59.3 | 58.3 | 57.3 | 56.3 | 55.4 | 54.4 | 53.5 | 52.6 |
| 89 | 61.4 | 60.4 | 59.4 | 58.4 | 57.4 | 56.5 | 55.5 | 54.6 | 53.7 | 52.7 |
| 90 | 61.6 | 60.5 | 59.5 | 58.5 | 57.6 | 56.6 | 55.6 | 54.7 | 53.8 | 52.9 |
| 91 | 61.7 | 60.7 | 59.6 | 58.7 | 57.7 | 56.7 | 55.8 | 54.8 | 53.9 | 53.0 |
| 92 | 61.8 | 60.8 | 59.8 | 58.8 | 57.8 | 56.9 | 55.9 | 55.0 | 54.1 | 53.2 |
| 93 | 61.9 | 60.9 | 59.9 | 58.9 | 57.9 | 57.0 | 56.0 | 55.1 | 54.2 | 53.3 |
| 94 | 62.0 | 61.0 | 60.0 | 59.0 | 58.1 | 57.1 | 56.2 | 55.2 | 54.3 | 53.4 |
| 95 | 62.1 | 61.1 | 60.1 | 59.2 | 58.2 | 57.2 | 56.3 | 55.4 | 54.5 | 53.6 |
| 96 | 62.3 | 61.3 | 60.3 | 59.3 | 58.3 | 57.4 | 56.4 | 55.5 | 54.6 | 53.7 |
| 97 | 62.4 | 61.4 | 60.4 | 59.4 | 58.4 | 57.5 | 56.5 | 55.6 | 54.7 | 53.8 |
| 98 | 62.5 | 61.5 | 60.5 | 59.5 | 58.6 | 57.6 | 56.7 | 55.8 | 54.9 | 54.0 |
| 99 | 62.6 | 61.6 | 60.6 | 59.6 | 58.7 | 57.7 | 56.8 | 55.9 | 55.0 | 54.1 |
| 100 | 62.7 | 61.7 | 60.7 | 59.8 | 58.8 | 57.9 | 56.9 | 56.0 | 55.1 | 54.2 |
| 101 | 62.8 | 61.9 | 60.9 | 59.9 | 58.9 | 58.0 | 57.1 | 56.2 | 55.3 | 54.4 |
| 102 | 63.0 | 62.0 | 61.0 | 60.0 | 59.1 | 58.1 | 57.2 | 56.3 | 55.4 | 54.5 |
| 103 | 63.1 | 62.1 | 61.1 | 60.1 | 59.2 | 58.3 | 57.3 | 56.4 | 55.5 | 54.6 |
| 104 | 63.2 | 62.2 | 61.2 | 60.3 | 59.3 | 58.4 | 57.5 | 56.6 | 55.7 | 54.8 |
| | **15.0** | **15.5** | **16.0** | **16.5** | **17.0** | **17.5** | **18.0** | **18.5** | **19.0** | **19.5** |

| Temperature of Air, Fahrenheit. | t — t' = Difference of Temperatures of the Air and of the Dew-Point.—Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **20.0** | **20.5** | **21.0** | **21.5** | **22.0** | **22.5** | **23.0** | **23.5** | **24.0** | **24.5** |
| 20° | 40.2 | 39.3 | 38.4 | 37.5 | 36.6 | 35.8 | 34.9 | 34.1 | 33.3 | 32.5 |
| 21 | 40.3 | 39.4 | 38.4 | 37.6 | 36.7 | 35.8 | 35.0 | 34.2 | 33.4 | 32.6 |
| 22 | 40.3 | 39.4 | 38.5 | 37.6 | 36.8 | 35.9 | 35.1 | 34.3 | 33.5 | 32.7 |
| 23 | 40.4 | 39.5 | 38.6 | 37.7 | 36.8 | 36.0 | 35.2 | 34.4 | 33.6 | 32.8 |
| 24 | 40.4 | 39.6 | 38.6 | 37.8 | 36.9 | 36.1 | 35.2 | 34.4 | 33.6 | 32.9 |
| 25 | 40.5 | 39.6 | 38.7 | 37.8 | 37.0 | 36.2 | 35.3 | 34.5 | 33.7 | 33.0 |
| 26 | 40.5 | 39.7 | 38.8 | 37.9 | 37.0 | 36.2 | 35.4 | 34.6 | 33.8 | 33.1 |
| 27 | 40.6 | 39.7 | 38.8 | 38.0 | 37.1 | 36.3 | 35.5 | 34.7 | 33.9 | 33.1 |
| 28 | 40.7 | 39.8 | 38.9 | 38.0 | 37.2 | 36.3 | 35.5 | 34.7 | 34.0 | 33.2 |
| 29 | 40.8 | 39.9 | 38.9 | 38.1 | 37.2 | 36.4 | 35.6 | 34.8 | 34.0 | 33.3 |
| 30 | 40.8 | 39.9 | 39.0 | 38.1 | 37.3 | 36.5 | 35.7 | 34.9 | 34.1 | 33.4 |
| 31 | 41.1 | 40.2 | 39.2 | 38.4 | 37.5 | 36.7 | 35.9 | 35.1 | 34.3 | 33.6 |
| 32 | 41.3 | 40.4 | 39.5 | 38.6 | 37.7 | 37.0 | 36.1 | 35.3 | 34.5 | 33.8 |
| 33 | 41.6 | 40.6 | 39.7 | 38.8 | 38.0 | 37.2 | 36.3 | 35.5 | 34.7 | 34.0 |
| 34 | 41.8 | 40.9 | 39.9 | 39.1 | 38.2 | 37.4 | 36.5 | 35.7 | 34.9 | 34.2 |
| 35 | 42.1 | 41.1 | 40.2 | 39.3 | 38.4 | 37.7 | 36.7 | 35.9 | 35.1 | 34.4 |
| 36 | 42.3 | 41.4 | 40.4 | 39.6 | 38.7 | 37.9 | 37.0 | 36.2 | 35.4 | 34.6 |
| 37 | 42.6 | 41.7 | 40.7 | 39.8 | 38.9 | 38.2 | 37.2 | 36.4 | 35.6 | 34.8 |
| 38 | 42.8 | 42.0 | 41.0 | 40.1 | 39.2 | 38.4 | 37.5 | 36.6 | 35.8 | 35.0 |
| 39 | 43.1 | 42.3 | 41.3 | 40.4 | 39.5 | 38.6 | 37.7 | 36.9 | 36.0 | 35.2 |
| 40 | 43.3 | 42.6 | 41.6 | 40.7 | 39.8 | 38.9 | 38.0 | 37.1 | 36.3 | 35.4 |
| 41 | 43.7 | 42.9 | 41.9 | 41.0 | 40.0 | 39.1 | 38.3 | 37.4 | 36.5 | 35.7 |
| 42 | 44.0 | 43.2 | 42.2 | 41.2 | 40.3 | 39.4 | 38.5 | 37.7 | 36.8 | 36.0 |
| 43 | 44.3 | 43.4 | 42.5 | 41.5 | 40.6 | 39.7 | 38.8 | 38.0 | 37.1 | 36.3 |
| 44 | 44.7 | 43.7 | 42.8 | 41.8 | 40.9 | 40.0 | 39.1 | 38.2 | 37.4 | 36.6 |
| 45 | 45.0 | 44.0 | 43.1 | 42.1 | 41.2 | 40.3 | 39.4 | 38.5 | 37.7 | 36.8 |
| 46 | 45.2 | 44.3 | 43.3 | 42.4 | 41.4 | 40.5 | 39.7 | 38.8 | 37.9 | 37.1 |
| 47 | 45.5 | 44.5 | 43.6 | 42.6 | 41.7 | 40.8 | 39.9 | 39.1 | 38.2 | 37.4 |
| 48 | 45.7 | 44.8 | 43.8 | 42.9 | 42.0 | 41.1 | 40.2 | 39.3 | 38.5 | 37.6 |
| 49 | 46.0 | 45.0 | 44.1 | 43.2 | 42.2 | 41.3 | 40.5 | 39.6 | 38.7 | 37.9 |
| 50 | 46.2 | 45.3 | 44.3 | 43.4 | 42.5 | 41.6 | 40.7 | 39.9 | 39.0 | 37.2 |
| 51 | 46.4 | 45.4 | 44.5 | 43.6 | 42.7 | 41.8 | 40.9 | 40.1 | 39.2 | 38.4 |
| 52 | 46.6 | 45.5 | 44.7 | 43.8 | 42.9 | 42.0 | 41.2 | 40.3 | 39.5 | 38.6 |
| 53 | 46.7 | 45.8 | 44.9 | 44.0 | 43.1 | 42.2 | 41.4 | 40.5 | 39.7 | 38.9 |
| 54 | 46.9 | 46.0 | 45.1 | 44.2 | 43.3 | 42.4 | 41.6 | 40.8 | 39.9 | 39.1 |
| 55 | 47.0 | 46.1 | 45.2 | 44.4 | 43.5 | 42.6 | 41.8 | 41.0 | 40.1 | 39.3 |
| 56 | 47.2 | 46.3 | 45.4 | 44.5 | 43.6 | 42.8 | 42.0 | 41.1 | 40.3 | 39.5 |
| 57 | 47.3 | 46.4 | 45.5 | 44.7 | 43.8 | 42.9 | 42.1 | 41.3 | 40.5 | 39.6 |
| 58 | 47.5 | 46.6 | 45.7 | 44.8 | 43.9 | 43.1 | 42.3 | 41.4 | 40.6 | 39.8 |
| 59 | 47.6 | 46.7 | 45.8 | 45.0 | 44.1 | 43.2 | 42.4 | 41.6 | 40.8 | 40.0 |
| 60 | 47.8 | 46.9 | 46.0 | 45.1 | 44.2 | 43.4 | 42.5 | 41.7 | 40.9 | 40.1 |
| 61 | 47.9 | 47.0 | 46.1 | 45.3 | 44.4 | 43.5 | 42.7 | 41.9 | 41.1 | 40.3 |
| 62 | 48.1 | 47.2 | 46.3 | 45.4 | 44.5 | 43.7 | 42.8 | 42.0 | 41.2 | 40.4 |
| | **20.0** | **20.5** | **21.0** | **21.5** | **22.0** | **22.5** | **23.0** | **23.5** | **24.0** | **24.5** |

| Temperature of Air, Fahrenheit. | $t - t'$ = Difference of Temperatures of the Air and of the Dew-Point. — Fahrenheit. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **20.0** | **20.5** | **21.0** | **21.5** | **22.0** | **22.5** | **23.0** | **23.5** | **24.0** | **24.5** |
| 62° | 48.1 | 47.2 | 46.3 | 45.4 | 44.5 | 43.7 | 42.8 | 42.0 | 41.2 | 40.4 |
| 63 | 48.2 | 47.3 | 46.4 | 45.5 | 44.7 | 43.8 | 43.0 | 42.2 | 41.4 | 40.6 |
| 64 | 48.4 | 47.5 | 46.6 | 45.7 | 44.8 | 44.0 | 43.1 | 42.3 | 41.5 | 40.7 |
| 65 | 48.6 | 47.6 | 46.7 | 45.8 | 45.0 | 44.1 | 43.3 | 42.5 | 41.7 | 40.9 |
| 66 | 48.7 | 47.8 | 46.9 | 46.0 | 45.1 | 44.3 | 43.4 | 42.6 | 41.8 | 41.0 |
| 67 | 48.8 | 47.9 | 47.0 | 46.1 | 45.3 | 44.4 | 43.6 | 42.8 | 42.0 | 41.2 |
| 68 | 48.9 | 48.0 | 47.2 | 46.3 | 45.4 | 44.6 | 43.7 | 42.9 | 42.1 | 41.3 |
| 69 | 49.1 | 48.2 | 47.3 | 46.4 | 45.6 | 44.7 | 43.9 | 43.1 | 42.3 | 41.5 |
| 70 | 49.2 | 48.3 | 47.4 | 46.6 | 45.7 | 44.9 | 44.0 | 43.2 | 42.4 | 41.6 |
| 71 | 49.4 | 48.5 | 47.6 | 46.7 | 45.9 | 45.0 | 44.2 | 43.4 | 42.6 | 41.8 |
| 72 | 49.5 | 48.6 | 47.7 | 46.9 | 46.0 | 45.2 | 44.3 | 43.5 | 42.7 | 41.9 |
| 73 | 49.6 | 48.8 | 47.9 | 47.0 | 46.1 | 45.3 | 44.5 | 43.7 | 42.9 | 42.1 |
| 74 | 49.8 | 48.9 | 48.0 | 47.1 | 46.3 | 45.4 | 44.6 | 43.8 | 43.0 | 42.2 |
| 75 | 49.9 | 49.0 | 48.2 | 47.3 | 46.4 | 45.6 | 44.8 | 44.0 | 43.1 | 42.4 |
| 76 | 50.1 | 49.2 | 48.3 | 47.4 | 46.6 | 45.7 | 44.9 | 44.1 | 43.3 | 42.5 |
| 77 | 50.2 | 49.3 | 48.5 | 47.6 | 46.7 | 45.9 | 45.1 | 44.2 | 43.4 | 42.6 |
| 78 | 50.3 | 49.5 | 48.6 | 47.7 | 46.9 | 46.0 | 45.2 | 44.4 | 43.6 | 42.8 |
| 79 | 50.5 | 49.6 | 48.7 | 47.8 | 47.0 | 46.2 | 45.3 | 44.5 | 43.7 | 43.0 |
| 80 | 50.6 | 49.7 | 48.9 | 48.0 | 47.2 | 46.3 | 45.5 | 44.7 | 43.9 | 43.1 |
| 81 | 50.8 | 49.9 | 49.0 | 48.1 | 47.3 | 46.5 | 45.6 | 44.8 | 44.0 | 43.2 |
| 82 | 50.9 | 50.0 | 49.2 | 48.3 | 47.4 | 46.6 | 45.8 | 45.0 | 44.2 | 43.4 |
| 83 | 51.0 | 50.1 | 49.3 | 48.4 | 47.6 | 46.8 | 45.9 | 45.1 | 44.3 | 43.5 |
| 84 | 51.2 | 50.3 | 49.4 | 48.6 | 47.7 | 46.9 | 46.1 | 45.3 | 44.5 | 43.7 |
| 85 | 51.3 | 50.4 | 49.6 | 48.7 | 47.9 | 47.0 | 46.2 | 45.4 | 44.6 | 43.8 |
| 86 | 51.4 | 50.6 | 49.7 | 48.8 | 48.0 | 47.2 | 46.4 | 45.6 | 44.8 | 44.0 |
| 87 | 51.6 | 50.7 | 49.8 | 49.0 | 48.1 | 47.3 | 46.5 | 45.7 | 44.9 | 44.1 |
| 88 | 51.7 | 50.8 | 50.0 | 49.1 | 48.3 | 47.5 | 46.6 | 45.8 | 45.0 | 44.3 |
| 89 | 51.9 | 51.0 | 50.1 | 49.3 | 48.4 | 47.6 | 46.8 | 46.0 | 45.2 | 44.4 |
| 90 | 52.0 | 51.1 | 50.3 | 49.4 | 48.6 | 47.7 | 46.9 | 46.1 | 45.3 | 44.6 |
| 91 | 52.1 | 51.3 | 50.4 | 49.5 | 48.7 | 47.9 | 47.1 | 46.3 | 45.5 | 44.7 |
| 92 | 52.3 | 51.4 | 50.5 | 49.7 | 48.8 | 48.0 | 47.2 | 46.4 | 45.6 | 44.8 |
| 93 | 52.4 | 51.5 | 50.7 | 49.8 | 49.0 | 48.2 | 47.4 | 46.6 | 45.8 | 45.0 |
| 94 | 52.5 | 51.7 | 50.8 | 50.0 | 49.1 | 48.3 | 47.5 | 46.7 | 45.9 | 45.1 |
| 95 | 52.7 | 51.8 | 50.9 | 50.1 | 49.3 | 48.4 | 47.6 | 46.8 | 46.1 | 45.3 |
| 96 | 52.8 | 51.9 | 51.1 | 50.2 | 49.4 | 48.6 | 47.8 | 47.0 | 46.2 | 45.4 |
| 97 | 52.9 | 52.1 | 51.2 | 50.4 | 49.5 | 48.7 | 47.9 | 47.1 | 46.3 | 45.6 |
| 98 | 53.1 | 52.2 | 51.4 | 50.5 | 49.7 | 48.9 | 48.1 | 47.3 | 46.5 | 45.7 |
| 99 | 53.2 | 52.3 | 51.5 | 50.6 | 49.8 | 49.0 | 48.2 | 47.4 | 46.6 | 45.9 |
| 100 | 53.4 | 52.5 | 51.6 | 50.8 | 50.0 | 49.1 | 48.3 | 47.5 | 46.8 | 46.0 |
| 101 | 53.5 | 52.6 | 51.8 | 50.9 | 50.1 | 49.3 | 48.5 | 47.7 | 46.9 | 46.2 |
| 102 | 53.6 | 52.8 | 51.9 | 51.1 | 50.2 | 49.4 | 48.6 | 47.8 | 47.1 | 46.3 |
| 103 | 53.8 | 52.9 | 52.0 | 51.2 | 50.4 | 49.6 | 48.8 | 48.0 | 47.2 | 46.4 |
| 104 | 53.9 | 53.0 | 52.2 | 51.3 | 50.5 | 49.7 | 48.9 | 48.1 | 47.3 | 46.6 |
| | **20.0** | **20.5** | **21.0** | **21.5** | **22.0** | **22.5** | **23.0** | **23.5** | **24.0** | **24.5** |

# TABLE IX.

FACTOR $\frac{100}{F}$, FOR COMPUTING THE RELATIVE HUMIDITY, OR THE DEGREE OF MOISTURE OF THE AIR, EXPRESSED IN HUNDREDTHS, FROM ITS ABSOLUTE HUMIDITY GIVEN IN ENGLISH MEASURES.

THE Relative Humidity, or the degree of moisture of the air, is, as explained above, the ratio of the quantity of vapor contained in the air to the quantity it could contain at the temperature observed, if fully saturated.

If we call

The force of vapor contained in the air $= f$,

The maximum of the force of vapor at the temperature of the air $= F$,

The point of saturation $= 100$,

we have the proportion,

$$\text{Relative Humidity} : 100 :: f : F,$$

and

$$\frac{f \times 100}{F} = \text{Relative Humidity in Hundredths.}$$

But as $\frac{f \times 100}{F} = f \times \frac{100}{F}$, it is obvious that the operation indicated by the former expression, viz. $\frac{f \times 100}{F}$, would be reduced to a simple multiplication, if we had a table of the factors $\frac{100}{F}$. Such a table is obtained by dividing the constant number 100 by each number in the Table of Elastic Forces of Vapor, and substituting the quotients for the tensions, or forces of vapor.

The following Table gives the factor $\frac{100}{F}$ for every tenth of a degree from 0° to 104° Fahrenheit, corresponding to the Forces of Vapor in Table VI., or Regnault's table reduced to English measures.

## USE OF THE TABLE.

The force of vapor contained in the air, or its absolute humidity, being given in English measures, multiply the number expressing it by the factor in the table corresponding to the temperature of the air at the time of the observation; the result will be the *Relative Humidity in Hundredths.*

### *Examples.*

1. Suppose the temperature of the air to be $= 60°$ Fahrenheit.
" " force of vapor in the air to be $= .388$ English inch.

Opposite 60° is found in the table the factor 193.1.

Then $0.388 \times 193.1 = 74.9$, Relative Humidity in Hundredths.

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2. Suppose the temperature of the air to be $= 74°.5$ Fahrenheit.
" " force of vapor in the air to be $= .650$ English inch.

Table gives for 74°.5 the factor 117.2.

Then $0.650 \times 117.2 = 76.2$, Relative Humidity required.

## IX. FACTOR $\frac{100}{F}$, FOR COMPUTING THE RELATIVE HUMIDITY, OR THE DEGREE OF MOISTURE OF THE AIR,

EXPRESSED IN HUNDREDTHS, FROM ITS ABSOLUTE HUMIDITY GIVEN IN ENGLISH INCHES.

| Temperature of Air, Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0° | 2306 | 2295 | 2285 | 2275 | 2264 | 2254 | 2243 | 2233 | 2222 | 2211 |
| 1 | 2201 | 2191 | 2181 | 2171 | 2162 | 2152 | 2142 | 2132 | 2122 | 2111 |
| 2 | 2101 | 2092 | 2083 | 2074 | 2064 | 2055 | 2045 | 2036 | 2026 | 2017 |
| 3 | 2007 | 1998 | 1990 | 1981 | 1972 | 1963 | 1954 | 1945 | 1936 | 1927 |
| 4 | 1918 | 1910 | 1901 | 1893 | 1885 | 1876 | 1868 | 1859 | 1851 | 1842 |
| 5 | 1834 | 1826 | 1818 | 1810 | 1802 | 1794 | 1786 | 1777 | 1769 | 1761 |
| 6 | 1753 | 1745 | 1738 | 1730 | 1722 | 1714 | 1707 | 1699 | 1691 | 1683 |
| 7 | 1675 | 1668 | 1660 | 1653 | 1646 | 1638 | 1631 | 1623 | 1616 | 1608 |
| 8 | 1600 | 1594 | 1587 | 1580 | 1572 | 1565 | 1558 | 1551 | 1544 | 1537 |
| 9 | 1529 | 1523 | 1516 | 1509 | 1503 | 1496 | 1489 | 1482 | 1475 | 1469 |
| 10 | 1462 | 1455 | 1449 | 1443 | 1436 | 1430 | 1423 | 1417 | 1410 | 1404 |
| 11 | 1397 | 1391 | 1385 | 1379 | 1373 | 1367 | 1361 | 1355 | 1348 | 1342 |
| 12 | 1336 | 1330 | 1324 | 1319 | 1313 | 1307 | 1301 | 1295 | 1289 | 1284 |
| 13 | 1278 | 1272 | 1267 | 1261 | 1255 | 1250 | 1244 | 1239 | 1233 | 1228 |
| 14 | 1222 | 1217 | 1211 | 1206 | 1200 | 1195 | 1189 | 1184 | 1178 | 1173 |
| 15 | 1167 | 1162 | 1157 | 1151 | 1146 | 1141 | 1136 | 1130 | 1125 | 1120 |
| 16 | 1114 | 1109 | 1104 | 1099 | 1094 | 1089 | 1084 | 1079 | 1074 | 1069 |
| 17 | 1064 | 1059 | 1055 | 1050 | 1045 | 1040 | 1035 | 1031 | 1026 | 1021 |
| 18 | 1016 | 1012 | 1007 | 1003 | 998.2 | 993.6 | 989.1 | 984.5 | 979.9 | 975.3 |
| 19 | 970.6 | 966.4 | 962.2 | 957.9 | 953.7 | 949.4 | 945.0 | 940.7 | 936.3 | 931.9 |
| 20 | 927.5 | 923.5 | 919.5 | 915.5 | 911.4 | 907.4 | 903.3 | 899.1 | 895.0 | 890.8 |
| 21 | 886.7 | 882.9 | 879.1 | 875.3 | 871.4 | 867.6 | 863.7 | 859.8 | 855.8 | 851.9 |
| 22 | 847.9 | 844.3 | 840.7 | 837.1 | 833.4 | 829.8 | 826.1 | 822.4 | 818.7 | 815.0 |
| 23 | 811.2 | 807.8 | 804.3 | 800.8 | 797.3 | 793.8 | 790.2 | 786.7 | 783.1 | 779.5 |
| 24 | 775.9 | 772.6 | 769.3 | 766.0 | 762.7 | 759.3 | 756.0 | 752.6 | 749.2 | 745.8 |
| 25 | 742.4 | 739.3 | 736.2 | 733.0 | 729.9 | 726.7 | 723.5 | 720.3 | 717.1 | 713.9 |
| 26 | 710.6 | 707.7 | 704.7 | 701.8 | 698.8 | 695.8 | 692.8 | 689.7 | 686.7 | 683.6 |
| 27 | 680.5 | 677.8 | 675.0 | 672.1 | 669.3 | 666.5 | 663.6 | 660.7 | 657.8 | 654.9 |
| 28 | 652.0 | 649.4 | 646.7 | 644.1 | 641.4 | 638.7 | 636.0 | 633.3 | 630.5 | 627.8 |
| 29 | 625.0 | 622.5 | 620.0 | 617.5 | 614.9 | 612.4 | 609.8 | 607.2 | 604.6 | 602.0 |
| 30 | 599.4 | 597.1 | 594.7 | 592.3 | 589.9 | 587.4 | 585.0 | 582.6 | 580.1 | 577.6 |
| 31 | 575.1 | 572.9 | 570.7 | 568.4 | 566.2 | 563.9 | 561.6 | 559.2 | 556.9 | 554.5 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Temperature of Air, Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 32° | 552.2 | 550.0 | 547.8 | 545.7 | 543.6 | 541.4 | 539.3 | 537.2 | 535.1 | 533.0 |
| 33 | 530.9 | 528.8 | 526.8 | 524.7 | 522.7 | 520.6 | 518.6 | 516.5 | 514.5 | 512.5 |
| 34 | 510.5 | 508.5 | 506.5 | 504.5 | 502.5 | 500.5 | 498.6 | 496.6 | 494.7 | 492.7 |
| 35 | 490.8 | 488.9 | 487.0 | 485.1 | 483.2 | 481.3 | 479.4 | 477.5 | 475.6 | 473.8 |
| 36 | 471.9 | 470.1 | 468.2 | 466.4 | 464.6 | 462.8 | 461.0 | 459.2 | 457.4 | 455.6 |
| 37 | 453.8 | 452.0 | 450.3 | 448.5 | 446.8 | 445.0 | 443.3 | 441.6 | 439.9 | 438.1 |
| 38 | 436.4 | 434.7 | 433.1 | 431.4 | 429.7 | 428.0 | 426.4 | 424.7 | 423.1 | 421.4 |
| 39 | 419.8 | 418.2 | 416.6 | 415.0 | 413.4 | 411.8 | 410.2 | 408.6 | 407.0 | 405.5 |
| 40 | 403.9 | 402.4 | 400.8 | 399.3 | 397.8 | 396.2 | 394.7 | 393.2 | 391.7 | 290.2 |
| 41 | 388.7 | 387.2 | 385.8 | 384.3 | 382.9 | 381.4 | 380.0 | 378.5 | 377.1 | 375.7 |
| 42 | 374.3 | 372.9 | 371.5 | 370.0 | 368.6 | 367.3 | 365.9 | 364.5 | 363.1 | 361.7 |
| 43 | 360.4 | 359.0 | 357.6 | 356.3 | 354.9 | 353.6 | 352.3 | 350.9 | 349.6 | 348.3 |
| 44 | 347.0 | 345.6 | 344.3 | 343.0 | 341.7 | 340.4 | 339.2 | 337.9 | 336.6 | 335.3 |
| 45 | 334.1 | 332.8 | 331.6 | 330.3 | 328.1 | 327.8 | 326.6 | 325.4 | 324.1 | 322.9 |
| 46 | 321.7 | 320.5 | 319.3 | 318.1 | 316.9 | 315.7 | 314.5 | 313.3 | 312.2 | 311.0 |
| 47 | 309.8 | 308.7 | 307.5 | 306.4 | 305.2 | 304.1 | 302.9 | 301.8 | 300.7 | 299.6 |
| 48 | 298.5 | 297.3 | 296.2 | 295.1 | 294.0 | 292.9 | 291.9 | 290.8 | 289.7 | 288.6 |
| 49 | 287.6 | 286.5 | 285.4 | 284.4 | 283.3 | 282.3 | 281.3 | 280.2 | 279.2 | 278.2 |
| 50 | 277.1 | 276.1 | 275.1 | 274.1 | 273.1 | 272.1 | 271.1 | 270.1 | 269.1 | 268.2 |
| 51 | 267.2 | 266.2 | 265.2 | 264.3 | 263.3 | 262.3 | 261.4 | 260.4 | 259.5 | 258.5 |
| 52 | 257.6 | 256.6 | 255.7 | 254.8 | 253.8 | 252.9 | 252.0 | 251.1 | 250.2 | 249.3 |
| 53 | 248.3 | 247.4 | 246.5 | 245.6 | 244.7 | 243.9 | 243.0 | 242.1 | 241.2 | 240.3 |
| 54 | 239.5 | 238.6 | 237.7 | 236.9 | 236.0 | 235.1 | 234.3 | 233.4 | 232.6 | 231.7 |
| 55 | 230.9 | 230.1 | 229.2 | 228.4 | 227.6 | 226.8 | 225.9 | 225.1 | 224.3 | 223.5 |
| 56 | 222.7 | 221.9 | 221.1 | 220.3 | 219.5 | 218.7 | 217.9 | 217.1 | 216.4 | 215.6 |
| 57 | 214.8 | 214.0 | 213.3 | 212.5 | 211.8 | 211.0 | 210.2 | 209.5 | 208.7 | 208.0 |
| 58 | 207.3 | 206.5 | 205.8 | 205.0 | 204.3 | 203.6 | 202.9 | 202.2 | 201.4 | 200.7 |
| 59 | 200.0 | 199.3 | 198.6 | 197.9 | 197.2 | 196.5 | 195.8 | 195.1 | 194.4 | 193.8 |
| 60 | 193.1 | 192.4 | 191.7 | 191.0 | 190.4 | 189.7 | 189.0 | 188.4 | 187.7 | 187.0 |
| 61 | 186.4 | 185.7 | 185.1 | 184.4 | 183.8 | 183.1 | 182.5 | 181.8 | 181.2 | 180.6 |
| 62 | 179.9 | 179.3 | 178.7 | 178.0 | 177.4 | 176.8 | 176.2 | 175.6 | 174.9 | 174.3 |
| 63 | 173.7 | 173.1 | 172.5 | 171.9 | 171.3 | 170.7 | 170.1 | 169.5 | 168.9 | 168.3 |
| 64 | 167.7 | 167.1 | 166.6 | 166.0 | 165.4 | 164.8 | 164.3 | 163.7 | 163.1 | 162.5 |
| 65 | 162.0 | 161.4 | 160.9 | 160.3 | 159.7 | 159.2 | 158.6 | 158.1 | 157.5 | 157.0 |
| 66 | 156.5 | 155.9 | 155.4 | 154.8 | 154.3 | 153.8 | 153.2 | 152.7 | 152.2 | 151.7 |
| 67 | 151.1 | 150.6 | 150.1 | 149.6 | 149.1 | 148.6 | 148.1 | 147.6 | 147.1 | 146.6 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Temperature of Air, Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 68° | 146.0 | 145.6 | 145.1 | 144.6 | 144.1 | 143.6 | 143.1 | 142.6 | 142.1 | 141.6 |
| 69 | 141.2 | 140.7 | 140.2 | 139.7 | 139.2 | 138.8 | 138.3 | 137.8 | 137.4 | 136.9 |
| 70 | 136.4 | 136.0 | 135.5 | 135.1 | 134.6 | 134.1 | 133.7 | 133.2 | 132.8 | 132.3 |
| 71 | 131.9 | 131.4 | 131.0 | 130.5 | 130.1 | 129.7 | 129.2 | 128.8 | 128.3 | 127.9 |
| 72 | 127.5 | 127.1 | 126.6 | 126.2 | 125.8 | 125.3 | 124.9 | 124.5 | 124.1 | 123.7 |
| 73 | 123.3 | 122.8 | 122.4 | 122.0 | 121.6 | 121.2 | 120.8 | 120.4 | 120.0 | 119.6 |
| 74 | 119.2 | 118.8 | 118.4 | 118.0 | 117.6 | 117.2 | 116.8 | 116.4 | 116.0 | 115.6 |
| 75 | 115.3 | 114.9 | 114.5 | 114.1 | 113.7 | 113.3 | 113.0 | 112.6 | 112.2 | 111.9 |
| 76 | 111.5 | 111.1 | 110.7 | 110.4 | 110.0 | 109.6 | 109.3 | 108.9 | 108.6 | 108.2 |
| 77 | 107.9 | 107.5 | 107.1 | 106.8 | 106.4 | 106.1 | 105.7 | 105.4 | 105.1 | 104.7 |
| 78 | 104.4 | 104.0 | 103.7 | 103.3 | 103.0 | 102.7 | 102.3 | 102.0 | 101.7 | 101.3 |
| 79 | 101.0 | 100.7 | 100.3 | 100.0 | 99.68 | 99.35 | 99.02 | 98.70 | 98.38 | 98.06 |
| 80 | 97.73 | 97.42 | 97.10 | 96.78 | 96.47 | 96.15 | 95.84 | 95.52 | 95.21 | 94.90 |
| 81 | 94.59 | 94.29 | 93.98 | 93.67 | 93.37 | 93.06 | 92.76 | 92.46 | 92.16 | 91.86 |
| 82 | 91.56 | 91.26 | 90.97 | 90.67 | 90.38 | 90.09 | 89.80 | 89.51 | 89.22 | 88.93 |
| 83 | 88.64 | 88.36 | 88.07 | 87.79 | 87.50 | 87.22 | 86.94 | 86.66 | 86.38 | 86.10 |
| 84 | 85.83 | 85.55 | 85.27 | 85.00 | 84.73 | 84.46 | 84.19 | 83.92 | 83.65 | 83.38 |
| 85 | 83.12 | 82.85 | 82.59 | 82.32 | 82.06 | 81.80 | 81.54 | 81.28 | 81.02 | 80.77 |
| 86 | 80.51 | 80.25 | 80.00 | 79.74 | 79.49 | 79.24 | 78.99 | 78.74 | 78.49 | 78.24 |
| 87 | 77.99 | 77.75 | 77.50 | 77.26 | 77.01 | 76.77 | 76.52 | 76.28 | 76.04 | 75.80 |
| 88 | 75.56 | 75.32 | 75.08 | 74.85 | 74.61 | 74.37 | 74.14 | 73.91 | 73.67 | 73.44 |
| 89 | 73.21 | 72.98 | 72.75 | 72.52 | 72.29 | 72.06 | 71.84 | 71.61 | 71.39 | 71.16 |
| 90 | 70.94 | 70.72 | 70.49 | 70.27 | 70.05 | 69.83 | 69.61 | 69.39 | 69.18 | 68.96 |
| 91 | 68.74 | 68.53 | 68.32 | 68.10 | 67.89 | 67.68 | 67.47 | 67.26 | 67.05 | 66.84 |
| 92 | 66.63 | 66.42 | 66.22 | 66.01 | 65.81 | 65.60 | 65.40 | 65.19 | 64.99 | 64.79 |
| 93 | 64.59 | 64.39 | 64.19 | 63.99 | 63.79 | 63.59 | 63.40 | 63.20 | 63.01 | 62.81 |
| 94 | 62.62 | 62.43 | 62.24 | 62.04 | 61.85 | 61.66 | 61.47 | 61.29 | 61.10 | 60.91 |
| 95 | 60.72 | 60.54 | 60.35 | 60.17 | 59.98 | 59.80 | 59.62 | 59.43 | 59.25 | 59.07 |
| 96 | 58.89 | 58.71 | 58.53 | 58.35 | 58.17 | 58.00 | 57.82 | 57.64 | 57.47 | 57.29 |
| 97 | 57.12 | 56.94 | 56.77 | 56.60 | 56.42 | 56.25 | 56.08 | 55.91 | 55.74 | 55.57 |
| 98 | 55.40 | 55.23 | 55.06 | 54.90 | 54.73 | 54.56 | 54.40 | 54.23 | 54.07 | 53.91 |
| 99 | 53.74 | 53.58 | 53.42 | 53.26 | 53.09 | 52.93 | 52.77 | 52.61 | 52.45 | 52.30 |
| 100 | 52.14 | 51.98 | 51.82 | 51.67 | 51.51 | 51.36 | 51.20 | 51.05 | 50.90 | 50.74 |
| 101 | 50.59 | 50.44 | 50.29 | 50.14 | 49.99 | 49.84 | 49.69 | 49.54 | 49.39 | 49.24 |
| 102 | 49.10 | 48.95 | 48.80 | 48.66 | 48.51 | 48.37 | 48.22 | 48.08 | 47.94 | 47.79 |
| 103 | 47.65 | 47.51 | 47.37 | 47.23 | 47.09 | 46.95 | 46.81 | 46.67 | 46.53 | 46.40 |
| 104 | 46.26 | 46.12 | 45.99 | 45.85 | 45.72 | 45.58 | 45.45 | 45.31 | 45.18 | 45.04 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# TABLE X.

## WEIGHT OF VAPOR, IN GRAINS TROY,

### CONTAINED IN A CUBIC FOOT OF SATURATED AIR, UNDER A BAROMETRIC PRESSURE OF 30 ENGLISH INCHES, AT TEMPERATURES BETWEEN 0° AND 105° FAHRENHEIT.

THE weight of a litre of dry air at the temperature of zero Centigrade, or 32° Fahrenheit, and under a barometric pressure of 760 millimetres, as determined by the experiments of Regnault (*Mémoires de l'Institut*, Tom. XXI. p. 157), and corrected for a slight error of computation (see above, p. 38), is 1.293223 grammes. The coefficient of expansion of the air, according to the same physicist, is 0.00367 for 1° Centigrade; and the theoretic density of vapor is nearly 0.622, or $\frac{5}{8}$, of that of the air at the same temperature and pressure. From these elements the weight of the vapor contained in a determined volume of air, the temperature and humidity of which are known, can be deduced.

Reducing these values to English measures, 1 litre being = 61.02705 cubic inches, and 1 gramme = 15.43208 grains Troy, we have

$$1.293223 \text{ grammes} = 19.9571208 \text{ grains},$$

and

$$61.027051 \text{ cubic inches} : 19.9571208 \text{ grains} : : 1 \text{ cubic inch} : 0.32702 \text{ grain}.$$

Therefore, the weight of a cubic foot of dry air, at 32° Fahrenheit, under a pressure of 760 millimetres, or 29.922 English inches, is = 0.32702 grain × 1728 = 565.0923 grains Troy. Under a barometric pressure of 30 inches, it becomes

$$\frac{30}{29.922} \times 565.0923 = 566.5654 \text{ grains}.$$

The coefficient for the expansion of the air becomes 0.0020361 of its bulk for 1° Fahrenheit.

Now, if we call

$t$ = the temperature of the air;
W = the weight of vapor in a saturated air at the temperature $t$;
F = the maximum of the force of vapor due to the temperature $t$, as given in the tables;

then the weight of the vapor contained in a cubic foot of saturated air is given by the formula

$$W = 0.622 \frac{566.5654 \text{ grains}}{1 + 0.002036 \times (t - 32°)} \cdot \frac{F}{30};$$

from which the values in Table X. have been computed. The forces of vapor due to the temperatures in the first column are those of Regnault, as given in Table VI.

It is evident, that, in order to find the weight of the vapor contained in the air at any state of humidity and pressure, it suffices to substitute for the normal values of $\frac{F}{30}$ the force of vapor and the barometric pressure given by the observation.

## X. WEIGHT OF VAPOR, IN GRAINS TROY,

### CONTAINED IN A CUBIC FOOT OF SATURATED AIR, AT TEMPERATURES BETWEEN 0° AND 105° FAHRENHEIT.

| Temperature of Air, Fahren. | Force of Vapor in Eng. Inches. | Weight of Vapor in Grains. | Difference. | Temperature of Air, Fahren. | Force of Vapor in Eng. Inches. | Weight of Vapor in Grains. | Difference. | Temperature of Air, Fahren. | Force of Vapor in Eng. Inches. | Weight of Vapor in Grains. | Difference. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 0.043 | 0.545 | 0.024 | 35° | 0.204 | 2.379 | 0.090 | 70° | 0.733 | 7.992 | 0.261 |
| 1 | 0.045 | 0.569 | 0.025 | 36 | 0.212 | 2.469 | 0.093 | 71 | 0.758 | 8.252 | 0.268 |
| 2 | 0.048 | 0.595 | 0.027 | 37 | 0.220 | 2.563 | 0.097 | 72 | 0.784 | 8.521 | 0.276 |
| 3 | 0.050 | 0.621 | 0.028 | 38 | 0.229 | 2.659 | 0.100 | 73 | 0.811 | 8.797 | 0.284 |
| 4 | 0.052 | 0.649 | 0.029 | 39 | 0.238 | 2.759 | 0.103 | 74 | 0.839 | 9.081 | 0.291 |
| 5 | 0.055 | 0.678 | 0.030 | 40 | 0.248 | 2.862 | 0.106 | 75 | 0.868 | 9.372 | 0.298 |
| 6 | 0.057 | 0.708 | 0.031 | 41 | 0.257 | 2.967 | 0.109 | 76 | 0.897 | 9.670 | 0.307 |
| 7 | 0.060 | 0.739 | 0.033 | 42 | 0.267 | 3.076 | 0.113 | 77 | 0.927 | 9.977 | 0.315 |
| 8 | 0.062 | 0.772 | 0.034 | 43 | 0.277 | 3.189 | 0.116 | 78 | 0.958 | 10.292 | 0.324 |
| 9 | 0.065 | 0.806 | 0.035 | 44 | 0.288 | 3.306 | 0.120 | 79 | 0.990 | 10.616 | 0.332 |
| 10 | 0.068 | 0.841 | 0.037 | 45 | 0.299 | 3.426 | 0.124 | 80 | 1.023 | 10.949 | 0.342 |
| 11 | 0.072 | 0.878 | 0.038 | 46 | 0.311 | 3.550 | 0.129 | 81 | 1.057 | 11.291 | 0.352 |
| 12 | 0.075 | 0.916 | 0.040 | 47 | 0.323 | 3.679 | 0.133 | 82 | 1.092 | 11.643 | 0.361 |
| 13 | 0.078 | 0.957 | 0.042 | 48 | 0.335 | 3.811 | 0.137 | 83 | 1.128 | 12.005 | 0.371 |
| 14 | 0.082 | 0.999 | 0.044 | 49 | 0.348 | 3.948 | 0.141 | 84 | 1.165 | 12.376 | 0.380 |
| 15 | 0.086 | 1.043 | 0.046 | 50 | 0.361 | 4.089 | 0.145 | 85 | 1.203 | 12.756 | 0.390 |
| 16 | 0.090 | 1.090 | 0.049 | 51 | 0.374 | 4.234 | 0.149 | 86 | 1.242 | 13.146 | 0.400 |
| 17 | 0.094 | 1.138 | 0.051 | 52 | 0.388 | 4.383 | 0.154 | 87 | 1.282 | 13.546 | 0.411 |
| 18 | 0.098 | 1.190 | 0.053 | 53 | 0.403 | 4.537 | 0.159 | 88 | 1.323 | 13.957 | 0.421 |
| 19 | 0.103 | 1.243 | 0.055 | 54 | 0.418 | 4.696 | 0.163 | 89 | 1.366 | 14.378 | 0.432 |
| 20 | 0.108 | 1.298 | 0.057 | 55 | 0.433 | 4.860 | 0.168 | 90 | 1.410 | 14.810 | 0.443 |
| 21 | 0.113 | 1.355 | 0.059 | 56 | 0.449 | 5.028 | 0.174 | 91 | 1.455 | 15.254 | 0.455 |
| 22 | 0.118 | 1.415 | 0.062 | 57 | 0.466 | 5.202 | 0.179 | 92 | 1.501 | 15.709 | 0.467 |
| 23 | 0.123 | 1.476 | 0.064 | 58 | 0.482 | 5.381 | 0.185 | 93 | 1.548 | 16.176 | 0.479 |
| 24 | 0.129 | 1.540 | 0.066 | 59 | 0.500 | 5.566 | 0.190 | 94 | 1.597 | 16.654 | 0.491 |
| 25 | 0.135 | 1.606 | 0.068 | 60 | 0.518 | 5.756 | 0.196 | 95 | 1.647 | 17.145 | 0.503 |
| 26 | 0.141 | 1.674 | 0.070 | 61 | 0.537 | 5.952 | 0.202 | 96 | 1.698 | 17.648 | 0.516 |
| 27 | 0.147 | 1.745 | 0.073 | 62 | 0.556 | 6.154 | 0.208 | 97 | 1.751 | 18.164 | 0.529 |
| 28 | 0.153 | 1.817 | 0.075 | 63 | 0.576 | 6.361 | 0.214 | 98 | 1.805 | 18.693 | 0.542 |
| 29 | 0.160 | 1.892 | 0.077 | 64 | 0.596 | 6.575 | 0.220 | 99 | 1.861 | 19.235 | 0.555 |
| 30 | 0.167 | 1.969 | 0.077 | 65 | 0.617 | 6.795 | 0.226 | 100 | 1.918 | 19.790 | 0.567 |
| 31 | 0.174 | 2.046 | 0.080 | 66 | 0.639 | 7.021 | 0.232 | 101 | 1.977 | 20.357 | 0.582 |
| 32 | 0.181 | 2.126 | 0.082 | 67 | 0.662 | 7.253 | 0.239 | 102 | 2.037 | 20.938 | 0.596 |
| 33 | 0.188 | 2.208 | 0.084 | 68 | 0.685 | 7.493 | 0.246 | 103 | 2.099 | 21.535 | 0.611 |
| 34 | 0.196 | 2.292 | 0.087 | 69 | 0.708 | 7.739 | 0.253 | 104 | 2.162 | 22.146 | 0.625 |
| 35 | 0.204 | 2.379 | | 70 | 0.733 | 7.992 | | 105 | 2.227 | 22.771 | |

# PRACTICAL TABLES,

IN

# ENGLISH MEASURES,

BASED ON THE HYGROMETRICAL CONSTANTS ADOPTED IN THE GREENWICH OBSERVATIONS.

# TABLE

OF

## THE ELASTIC FORCES OF AQUEOUS VAPOR,

UNDER A PRESSURE OF 30 INCHES, EXPRESSED IN ENGLISH INCHES OF MERCURY FOR TEMPERATURES OF FAHRENHEIT, ADOPTED IN THE GREENWICH OBSERVATIONS.

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This table contains the values of the elastic force of vapor for temperatures from 0° to 90° Fahrenheit, derived from Dalton's experiments by Biot's formula, by Anderson, and published in *Edinburgh Encyclopædia*, Art. *Hygrometry*. It is republished, without the last decimal, in the volumes of the *Greenwich Magnetic and Meteorological Observations*, and on it are based the various hygrometrical tables published by Mr. Glaisher, either in the Greenwich volumes, or separately, most of which will be found below, Tables XII. to XVII.

Since Dalton published his experiments, numerous attempts have been made by various skilful physicists to determine with greater accuracy the elastic force of vapor. Dr. Ure in England, Regnault in France, and Magnus in Germany, deserve in this respect a special notice.

The last two experimenters having arrived simultaneously at results nearly identical, and their experiments having been conducted with all the care that modern science requires, and the means that it can secure, their determinations seem to command an especial confidence, and to deserve the preference over all others. It is, therefore, much to be regretted that the usefulness of the following otherwise so valuable tables, the formation of which involved so much labor, is in a measure impaired by the fact that they were computed from elements which cannot be regarded as the most reliable we now possess.

# XI.

## TABLE

OF THE

## ELASTIC FORCE OF AQUEOUS VAPOR,

UNDER A BAROMETRIC PRESSURE OF 30 INCHES, EXPRESSED IN ENGLISH INCHES OF MERCURY FOR TEMPERATURES OF FAHRENHEIT.

FROM THE GREENWICH OBSERVATIONS.

| Temperature Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 0 | 0.061 | 0.061 | 0.062 | 0.062 | 0.062 | 0.062 | 0.063 | 0.063 | 0.063 | 0.063 |
| 1 | 0.064 | 0.064 | 0.064 | 0.064 | 0.065 | 0.065 | 0.065 | 0.065 | 0.066 | 0.066 |
| 2 | 0.066 | 0.066 | 0.067 | 0.067 | 0.067 | 0.067 | 0.068 | 0.068 | 0.068 | 0.068 |
| 3 | 0.069 | 0.069 | 0.069 | 0.069 | 0.070 | 0.070 | 0.070 | 0.071 | 0.071 | 0.071 |
| 4 | 0.071 | 0.072 | 0.072 | 0.072 | 0.072 | 0.073 | 0.073 | 0.073 | 0.073 | 0.074 |
| 5 | 0.074 | 0.074 | 0.075 | 0.075 | 0.075 | 0.075 | 0.076 | 0.076 | 0.076 | 0.077 |
| 6 | 0.077 | 0.077 | 0.077 | 0.078 | 0.078 | 0.078 | 0.079 | 0.079 | 0.079 | 0.080 |
| 7 | 0.080 | 0.080 | 0.080 | 0.081 | 0.081 | 0.081 | 0.082 | 0.082 | 0.082 | 0.083 |
| 8 | 0.083 | 0.083 | 0.083 | 0.084 | 0.084 | 0.084 | 0.085 | 0.085 | 0.085 | 0.086 |
| 9 | 0.086 | 0.086 | 0.087 | 0.087 | 0.087 | 0.088 | 0.088 | 0.088 | 0.089 | 0.089 |
| 10 | 0.089 | 0.090 | 0.090 | 0.090 | 0.091 | 0.091 | 0.091 | 0.092 | 0.092 | 0.092 |
| 11 | 0.093 | 0.093 | 0.093 | 0.094 | 0.094 | 0.094 | 0.095 | 0.095 | 0.096 | 0.096 |
| 12 | 0.096 | 0.097 | 0.097 | 0.097 | 0.098 | 0.098 | 0.098 | 0.099 | 0.099 | 0.099 |
| 13 | 0.100 | 0.100 | 0.101 | 0.101 | 0.101 | 0.102 | 0.102 | 0.102 | 0.103 | 0.103 |
| 14 | 0.104 | 0.104 | 0.104 | 0.105 | 0.105 | 0.106 | 0.106 | 0.106 | 0.107 | 0.107 |
| 15 | 0.108 | 0.108 | 0.108 | 0.109 | 0.109 | 0.110 | 0.110 | 0.110 | 0.111 | 0.111 |
| 16 | 0.112 | 0.112 | 0.112 | 0.113 | 0.113 | 0.114 | 0.114 | 0.115 | 0.115 | 0.115 |
| 17 | 0.116 | 0.116 | 0.117 | 0.117 | 0.118 | 0.118 | 0.118 | 0.119 | 0.119 | 0.120 |
| 18 | 0.120 | 0.121 | 0.121 | 0.121 | 0.122 | 0.122 | 0.123 | 0.123 | 0.124 | 0.124 |
| 19 | 0.125 | 0.125 | 0.126 | 0.126 | 0.126 | 0.127 | 0.127 | 0.128 | 0.128 | 0.129 |
| 20 | 0.129 | 0.130 | 0.130 | 0.131 | 0.132 | 0.132 | 0.132 | 0.133 | 0.133 | 0.134 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

From the Greenwich Observations.

| Temperature Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 21 | 0.134 | 0.135 | 0.135 | 0.136 | 0.136 | 0.137 | 0.137 | 0.138 | 0.138 | 0.139 |
| 22 | 0.139 | 0.140 | 0.140 | 0.141 | 0.141 | 0.142 | 0.142 | 0.143 | 0.143 | 0.144 |
| 23 | 0.144 | 0.145 | 0.145 | 0.146 | 0.146 | 0.147 | 0.147 | 0.148 | 0.148 | 0.149 |
| 24 | 0.150 | 0.150 | 0.151 | 0.152 | 0.152 | 0.152 | 0.153 | 0.153 | 0.154 | 0.155 |
| 25 | 0.155 | 0.156 | 0.156 | 0.157 | 0.157 | 0.158 | 0.158 | 0.159 | 0.160 | 0.160 |
| 26 | 0.161 | 0.161 | 0.162 | 0.163 | 0.163 | 0.164 | 0.164 | 0.165 | 0.165 | 0.166 |
| 27 | 0.167 | 0.167 | 0.168 | 0.168 | 0.169 | 0.170 | 0.170 | 0.171 | 0.172 | 0.172 |
| 28 | 0.173 | 0.173 | 0.174 | 0.175 | 0.175 | 0.176 | 0.177 | 0.177 | 0.178 | 0.178 |
| 29 | 0.179 | 0.180 | 0.180 | 0.181 | 0.182 | 0.182 | 0.183 | 0.184 | 0.184 | 0.185 |
| 30 | 0.186 | 0.186 | 0.187 | 0.188 | 0.188 | 0.189 | 0.190 | 0.190 | 0.191 | 0.192 |
| 31 | 0.192 | 0.193 | 0.194 | 0.194 | 0.195 | 0.196 | 0.197 | 0.197 | 0.198 | 0.198 |
| 32 | 0.199 | 0.200 | 0.201 | 0.201 | 0.202 | 0.203 | 0.204 | 0.204 | 0.205 | 0.206 |
| 33 | 0.207 | 0.207 | 0.208 | 0.209 | 0.210 | 0.210 | 0.211 | 0.212 | 0.213 | 0.213 |
| 34 | 0.214 | 0.215 | 0.216 | 0.216 | 0.217 | 0.218 | 0.219 | 0.219 | 0.220 | 0.221 |
| 35 | 0.222 | 0.223 | 0.223 | 0.224 | 0.225 | 0.226 | 0.227 | 0.227 | 0.228 | 0.229 |
| 36 | 0.230 | 0.231 | 0.231 | 0.232 | 0.233 | 0.234 | 0.235 | 0.235 | 0.236 | 0.237 |
| 37 | 0.238 | 0.239 | 0.240 | 0.240 | 0.241 | 0.242 | 0.243 | 0.244 | 0.245 | 0.246 |
| 38 | 0.246 | 0.247 | 0.248 | 0.249 | 0.250 | 0.251 | 0.252 | 0.253 | 0.253 | 0.254 |
| 39 | 0.255 | 0.256 | 0.257 | 0.258 | 0.259 | 0.260 | 0.261 | 0.262 | 0.263 | 0.263 |
| 40 | 0.264 | 0.265 | 0.266 | 0.267 | 0.268 | 0.269 | 0.270 | 0.271 | 0.272 | 0.273 |
| 41 | 0.274 | 0.275 | 0.276 | 0.277 | 0.278 | 0.279 | 0.280 | 0.281 | 0.282 | 0.282 |
| 42 | 0.283 | 0.284 | 0.285 | 0.286 | 0.287 | 0.288 | 0.289 | 0.290 | 0.291 | 0.292 |
| 43 | 0.293 | 0.295 | 0.296 | 0.297 | 0.298 | 0.299 | 0.300 | 0.301 | 0.302 | 0.303 |
| 44 | 0.304 | 0.305 | 0.306 | 0.307 | 0.308 | 0.309 | 0.310 | 0.311 | 0.312 | 0.313 |
| 45 | 0.315 | 0.316 | 0.317 | 0.318 | 0.319 | 0.320 | 0.321 | 0.322 | 0.323 | 0.324 |
| 46 | 0.326 | 0.327 | 0.328 | 0.329 | 0.330 | 0.331 | 0.332 | 0.333 | 0.335 | 0.336 |
| 47 | 0.337 | 0.338 | 0.339 | 0.340 | 0.342 | 0.343 | 0.344 | 0.345 | 0.346 | 0.348 |
| 48 | 0.349 | 0.350 | 0.351 | 0.352 | 0.354 | 0.355 | 0.356 | 0.357 | 0.358 | 0.360 |
| 49 | 0.361 | 0.362 | 0.363 | 0.365 | 0.366 | 0.367 | 0.368 | 0.370 | 0.371 | 0.372 |
| 50 | 0.373 | 0.375 | 0.376 | 0.377 | 0.379 | 0.380 | 0.381 | 0.382 | 0.383 | 0.385 |
| 51 | 0.386 | 0.388 | 0.389 | 0.390 | 0.392 | 0.393 | 0.394 | 0.396 | 0.397 | 0.398 |
| 52 | 0.400 | 0.401 | 0.402 | 0.404 | 0.405 | 0.407 | 0.408 | 0.409 | 0.411 | 0.412 |
| 53 | 0.414 | 0.415 | 0.416 | 0.418 | 0.419 | 0.421 | 0.422 | 0.423 | 0.425 | 0.426 |
| 54 | 0.428 | 0.429 | 0.431 | 0.432 | 0.434 | 0.435 | 0.437 | 0.438 | 0.440 | 0.441 |
| 55 | 0.442 | 0.444 | 0.445 | 0.447 | 0.449 | 0.450 | 0.452 | 0.453 | 0.455 | 0.456 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

From the Greenwich Observations.

| Temperature Fahrenheit. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 56 | 0.458 | 0.459 | 0.461 | 0.462 | 0.464 | 0.465 | 0.467 | 0.469 | 0.470 | 0.472 |
| 57 | 0.473 | 0.475 | 0.476 | 0.478 | 0.480 | 0.481 | 0.483 | 0.485 | 0.486 | 0.488 |
| 58 | 0.489 | 0.491 | 0.493 | 0.494 | 0.496 | 0.498 | 0.499 | 0.501 | 0.503 | 0.504 |
| 59 | 0.506 | 0.508 | 0.509 | 0.511 | 0.513 | 0.515 | 0.516 | 0.518 | 0.520 | 0.521 |
| 60 | 0.523 | 0.525 | 0.527 | 0.528 | 0.530 | 0.532 | 0.534 | 0.536 | 0.537 | 0.539 |
| 61 | 0.541 | 0.543 | 0.544 | 0.546 | 0.548 | 0.550 | 0.552 | 0.554 | 0.555 | 0.557 |
| 62 | 0.559 | 0.561 | 0.563 | 0.565 | 0.567 | 0.568 | 0.570 | 0.572 | 0.574 | 0.576 |
| 63 | 0.578 | 0.580 | 0.582 | 0.584 | 0.586 | 0.588 | 0.590 | 0.591 | 0.593 | 0.595 |
| 64 | 0.597 | 0.599 | 0.601 | 0.603 | 0.605 | 0.607 | 0.609 | 0.611 | 0.613 | 0.615 |
| 65 | 0.617 | 0.619 | 0.621 | 0.623 | 0.626 | 0.628 | 0.630 | 0.632 | 0.634 | 0.636 |
| 66 | 0.638 | 0.640 | 0.642 | 0.644 | 0.646 | 0.648 | 0.651 | 0.653 | 0.655 | 0.657 |
| 67 | 0.659 | 0.661 | 0.664 | 0.666 | 0.668 | 0.670 | 0.672 | 0.674 | 0.677 | 0.679 |
| 68 | 0.681 | 0.684 | 0.686 | 0.688 | 0.690 | 0.692 | 0.695 | 0.697 | 0.699 | 0.701 |
| 69 | 0.704 | 0.706 | 0.708 | 0.711 | 0.713 | 0.715 | 0.717 | 0.720 | 0.722 | 0.725 |
| 70 | 0.727 | 0.729 | 0.732 | 0.734 | 0.736 | 0.739 | 0.741 | 0.744 | 0.746 | 0.748 |
| 71 | 0.751 | 0.753 | 0.756 | 0.758 | 0.761 | 0.763 | 0.766 | 0.768 | 0.771 | 0.773 |
| 72 | 0.776 | 0.778 | 0.781 | 0.783 | 0.785 | 0.787 | 0.790 | 0.792 | 0.795 | 0.797 |
| 73 | 0.801 | 0.803 | 0.806 | 0.809 | 0.811 | 0.814 | 0.817 | 0.819 | 0.822 | 0.824 |
| 74 | 0.827 | 0.830 | 0.832 | 0.835 | 0.838 | 0.840 | 0.843 | 0.846 | 0.849 | 0.851 |
| 75 | 0.854 | 0.857 | 0.860 | 0.862 | 0.865 | 0.868 | 0.871 | 0.873 | 0.876 | 0.879 |
| 76 | 0.882 | 0.885 | 0.887 | 0.890 | 0.893 | 0.896 | 0.899 | 0.902 | 0.905 | 0.908 |
| 77 | 0.910 | 0.913 | 0.916 | 0.919 | 0.922 | 0.925 | 0.928 | 0.931 | 0.934 | 0.937 |
| 78 | 0.940 | 0.943 | 0.946 | 0.949 | 0.952 | 0.955 | 0.958 | 0.961 | 0.964 | 0.967 |
| 79 | 0.970 | 0.973 | 0.976 | 0.979 | 0.983 | 0.986 | 0.989 | 0.992 | 0.995 | 0.998 |
| 80 | 1.001 | 1.005 | 1.008 | 1.011 | 1.014 | 1.017 | 1.021 | 1.024 | 1.027 | 1.030 |
| 81 | 1.034 | 1.037 | 1.040 | 1.043 | 1.047 | 1.050 | 1.053 | 1.057 | 1.060 | 1.063 |
| 82 | 1.067 | 1.069 | 1.073 | 1.077 | 1.080 | 1.083 | 1.087 | 1.090 | 1.094 | 1.097 |
| 83 | 1.101 | 1.104 | 1.108 | 1.111 | 1.114 | 1.118 | 1.121 | 1.125 | 1.129 | 1.132 |
| 84 | 1.136 | 1.139 | 1.143 | 1.146 | 1.150 | 1.153 | 1.157 | 1.160 | 1.164 | 1.167 |
| 85 | 1.171 | 1.175 | 1.178 | 1.182 | 1.186 | 1.190 | 1.193 | 1.197 | 1.201 | 1.205 |
| 86 | 1.209 | 1.212 | 1.216 | 1.220 | 1.224 | 1.228 | 1.232 | 1.235 | 1.239 | 1.243 |
| 87 | 1.247 | 1.251 | 1.255 | 1.258 | 1.262 | 1.266 | 1.270 | 1.274 | 1.278 | 1.282 |
| 88 | 1.286 | 1.290 | 1.294 | 1.298 | 1.302 | 1.306 | 1.310 | 1.314 | 1.318 | 1.322 |
| 89 | 1.326 | 1.330 | 1.335 | 1.339 | 1.343 | 1.347 | 1.351 | 1.355 | 1.359 | 1.364 |
| 90 | 1.368 | 1.372 | 1.376 | 1.381 | 1.385 | 1.389 | 1.393 | 1.397 | 1.402 | 1.406 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# XII.

## PSYCHROMETRICAL TABLE,

GIVING THE TEMPERATURE OF THE DEW-POINT, THE FORCE AND THE WEIGHT OF VAPOR IN THE ATMOSPHERE, AND ITS RELATIVE HUMIDITY, DEDUCED FROM THE INDICATIONS OF THE PSYCHROMETER, OR DRY AND WET BULB THERMOMETERS.

By James Glaisher.

This elaborate table, first published in London, in 1847, in pamphlet form, by J. Glaisher, of the Royal Observatory at Greenwich, is based on the tables of elastic forces of vapor deduced from Dalton's experiments, and given above, Table XI.

The weight of a cubic foot of dry air at 32° Fahrenheit, and under the barometric pressure of 30 inches, which has been adopted by Glaisher, and from which the weight of vapor in a cubic foot of air is derived, is the mean of the determinations obtained by Shuckburgh and by Biot and Arago, which is 563.2154 grains Troy; 563 being the number actually used in the calculations. See Preface to the Table, p. 13, and also the *Greenwich Meteorological Observations* for 1842, p. xlvi.

The coefficient of the expansion of air which has been employed is that determined by the experiments of Gay-Lussac, according to which the air expands 0.00375 of its bulk for 1° Centigrade, or $\frac{1}{480}$ for 1° Fahrenheit.

All these values, as may be seen by comparing Tables VI. and XI. of the elastic forces, and also page 92, materially differ from those more recently determined with great care by Regnault, and on which are based the Psychrometrical Tables given above, page 50 *et seq.* This will account for the no inconsiderable differences often found between the results in the two tables derived from the same data. A few examples, taken from various parts of the tables, may be given here, in order to enable the meteorologist to judge of the amount of the discrepancies which may occur in the results when computed from different hygrometrical constants.

1. Suppose the temperature of the air indicated by the dry thermometer to be = 10° F.
The temperature of evaporation indicated by the wet thermometer = 9° F.
Difference 1° F.

Then, Glaisher's table gives,
The Force of Vapor = 0.065 inch.
The Relative Humidity = 0.730

Guyot's table gives,
The Force of Vapor = 0.054 inch.
The Relative Humidity = 0.791

2. By observation we have,

| | |
|---|---|
| Dry Thermometer | = 50° F. |
| Wet Thermometer | = 40° F. |
| Difference | = 10° F. |

Then, by Glaisher's table, we find,

| | |
|---|---|
| Force of Vapor | = 0.186 inch. |
| Relative Humidity | = 0.495 |

And by Guyot's table, we find,

| | |
|---|---|
| Force of Vapor | = 0.117 inch. |
| Relative Humidity | = 0.322 |

3. The reading of the

| | |
|---|---|
| Dry Thermometer is | = 90° F. |
| Wet Thermometer is | = 70° F. |
| Difference | = 20° F. |

By Glaisher's table we have,

| | |
|---|---|
| Force of Vapor | = 0.523 inch. |
| Relative Humidity | = 0.381 |

And by Guyot's table,

| | |
|---|---|
| Force of Vapor | = 0.464 inch. |
| Relative Humidity | = 0.329 |

The temperatures of the Dew-Point, given in Glaisher's tables, have been computed by means of the empirical factors given below, page 140, and in the manner there described. See Preface to the Table, page 11.

## Arrangement of the Table.

In the first two columns, at the left, are found the indications, in degrees of Fahrenheit, of the dry and wet bulb thermometers. In the following columns, in their order, and opposite to each of the temperatures of the wet thermometer, are given the temperature of the dew-point; the force of vapor, in English inches; the weight of vapor, in grains, contained in a cubic foot of air; the amount of the same required for saturation; and the relative humidity in thousandths, corresponding to the difference of temperature between the two thermometers. The second half of the page, at the right, furnishes, in seven columns, the weight, in grains, of a cubic foot of air, under various barometric pressures from 28 to 31 inches, and in the different hygrometric conditions indicated by the differences of the two thermometers. These numbers have been computed in the manner described below, page 142.

The range of the table extends from 10° to 90° of the dry thermometer, or of the temperature of the air. From 10° to 34° Fahrenheit the results are calculated for every second, third, and fifth of a degree of the wet thermometer, and for extreme differences of the temperature of evaporation ranging from 2° to 5° below the temperature of the air. From 34° to 90° the results are given only for every full degree of the wet thermometer, and for extreme differences gradually increasing

from 5° to 27°. This range falls short of the wants of the extreme climate of North America, where temperatures above 90° and far below 10° are of usual occurrence over a great portion of the continent. The same may be said of the range of the differences between the two thermometers in the first part of the table. The double interpolation for the fractions of degrees of both thermometers being rather too large to be neglected, its application becomes inconvenient.

## Use of the Table.

Enter the table with the observed temperatures of the dry and wet bulb thermometers. On the same line as the last, and in their appropriate columns, the results deduced from these data will be found.

### *Example.*

The observation has given,

Temperature of the air by the dry thermometer = 62° F.
Temperature of evaporation by the wet-bulb thermometer = 53° F.

Page 129, find in the first column, headed Reading of the Dry Thermometer, the temperature of 62°, and in the second, that of the wet, 53°. On the line beginning with 53° are found, in their respective columns, the results deduced from these data, viz.: —

| | |
|---|---|
| The temperature of the Dew-point | = 46°.7 F. |
| The force of vapor in the air | = 0.333 inch. |
| The weight of vapor in a cubic foot of air | = 3.72 grains. |
| The amount of vapor required for saturation | = 2.53 grains. |
| The relative humidity in thousandths | = 0.595 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 10 | 10.0 | 10.0 | 0.089 | 1.11 | 0.00 | 1.000 | 550.1 | 560.0 | 569.8 | 579.6 | 589.4 | 599.2 | 609.0 |
| | 9.8 | 8.3 | 0.084 | 1.05 | 0.06 | 0.946 | 550.2 | 560.1 | 569.9 | 579.7 | 589.5 | 599.3 | 609.1 |
| | 9.6 | 6.6 | 0.079 | 0.98 | 0.13 | 0.883 | 550.2 | 560.1 | 569.9 | 579.7 | 589.5 | 599.3 | 609.1 |
| | 9.4 | 4.9 | 0.074 | 0.92 | 0.19 | 0.829 | 550.2 | 560.1 | 569.9 | 579.7 | 589.5 | 599.3 | 609.1 |
| | 9.2 | 3.2 | 0.069 | 0.86 | 0.25 | 0.775 | 550.3 | 560.2 | 570.0 | 579.8 | 589.6 | 599.4 | 609.2 |
| | 9.0 | 1.5 | 0.065 | 0.81 | 0.30 | 0.730 | 550.3 | 560.3 | 570.0 | 579.8 | 589.6 | 599.4 | 609.3 |
| 11 | 11.0 | 11.0 | 0.093 | 1.15 | 0.00 | 1.000 | 548.9 | 558.7 | 568.5 | 578.3 | 588.1 | 597.9 | 607.7 |
| | 10.8 | 9.3 | 0.087 | 1.08 | 0.07 | 0.939 | 548.9 | 558.7 | 568.5 | 578.3 | 588.1 | 597.9 | 607.7 |
| | 10.6 | 7.6 | 0.082 | 1.02 | 0.13 | 0.887 | 549.0 | 558.8 | 568.6 | 578.4 | 588.2 | 598.0 | 607.8 |
| | 10.4 | 5.9 | 0.077 | 0.96 | 0.19 | 0.835 | 549.0 | 558.8 | 568.6 | 578.4 | 588.2 | 598.0 | 607.8 |
| | 10.2 | 4.2 | 0.072 | 0.90 | 0.25 | 0.783 | 549.0 | 558.8 | 568.6 | 578.4 | 588.2 | 598.0 | 607.8 |
| | 10.0 | 2.5 | 0.067 | 0.84 | 0.31 | 0.731 | 549.1 | 558.9 | 568.7 | 578.6 | 588.3 | 598.1 | 607.9 |
| | 9.8 | 0.8 | 0.063 | 0.78 | 0.37 | 0.679 | 549.1 | 558.9 | 568.7 | 578.6 | 588.3 | 598.1 | 607.9 |
| 12 | 12.0 | 12.0 | 0.096 | 1.19 | 0.00 | 1.000 | 547.7 | 557.5 | 567.2 | 577.0 | 586.8 | 596.6 | 606.4 |
| | 11.8 | 10.3 | 0.090 | 1.12 | 0.07 | 0.942 | 547.7 | 557.5 | 567.2 | 577.0 | 586.8 | 596.6 | 606.4 |
| | 11.6 | 8.6 | 0.085 | 1.05 | 0.14 | 0.883 | 547.8 | 557.6 | 567.3 | 577.1 | 586.9 | 596.7 | 606.5 |
| | 11.4 | 6.9 | 0.080 | 0.99 | 0.20 | 0.832 | 547.8 | 557.6 | 567.3 | 577.1 | 586.9 | 596.7 | 606.5 |
| | 11.2 | 5.2 | 0.075 | 0.93 | 0.26 | 0.782 | 547.8 | 557.6 | 567.3 | 577.1 | 586.9 | 596.7 | 606.5 |
| | 11.0 | 3.5 | 0.070 | 0.87 | 0.32 | 0.731 | 547.9 | 557.7 | 567.4 | 577.2 | 587.0 | 596.8 | 606.6 |
| | 10.8 | 1.8 | 0.066 | 0.81 | 0.38 | 0.681 | 547.9 | 557.7 | 567.4 | 577.2 | 587.0 | 596.8 | 606.6 |
| | 10.6 | 0.1 | 0.061 | 0.76 | 0.43 | 0.639 | 547.9 | 557.7 | 567.4 | 577.2 | 587.0 | 596.8 | 606.6 |
| 13 | 13.0 | 13.0 | 0.100 | 1.24 | 0.00 | 1.000 | 546.5 | 556.3 | 566.0 | 575.8 | 585.5 | 595.3 | 605.0 |
| | 12.8 | 11.3 | 0.094 | 1.16 | 0.08 | 0.936 | 546.5 | 556.3 | 566.0 | 575.8 | 585.5 | 595.3 | 605.0 |
| | 12.6 | 9.6 | 0.088 | 1.08 | 0.16 | 0.871 | 546.6 | 556.4 | 566.1 | 575.9 | 585.6 | 595.4 | 605.1 |
| | 12.4 | 7.9 | 0.083 | 1.02 | 0.22 | 0.823 | 546.7 | 556.5 | 566.2 | 576.0 | 585.7 | 595.5 | 605.2 |
| | 12.2 | 6.2 | 0.077 | 0.97 | 0.27 | 0.783 | 546.7 | 556.5 | 566.2 | 576.0 | 585.7 | 595.5 | 605.2 |
| | 12.0 | 4.5 | 0.073 | 0.91 | 0.33 | 0.734 | 546.7 | 556.5 | 566.2 | 576.0 | 585.7 | 595.5 | 605.2 |
| | 11.8 | 2.8 | 0.068 | 0.84 | 0.40 | 0.678 | 546.8 | 556.6 | 566.3 | 576.1 | 585.8 | 595.6 | 605.3 |
| | 11.6 | 1.1 | 0.064 | 0.79 | 0.45 | 0.637 | 546.8 | 556.6 | 566.3 | 576.1 | 585.8 | 595.6 | 605.3 |
| 14 | 14.0 | 14.0 | 0.104 | 1.28 | 0.00 | 1.000 | 545.3 | 555.0 | 564.7 | 574.4 | 584.2 | 594.0 | 603.7 |
| | 13.8 | 12.3 | 0.097 | 1.20 | 0.08 | 0.938 | 545.3 | 555.0 | 564.7 | 574.4 | 584.2 | 594.0 | 603.7 |
| | 13.6 | 10.6 | 0.091 | 1.12 | 0.16 | 0.875 | 545.4 | 555.1 | 564.8 | 574.5 | 584.3 | 594.1 | 603.8 |
| | 13.4 | 8.9 | 0.086 | 1.06 | 0.22 | 0.828 | 545.4 | 555.1 | 564.8 | 574.5 | 584.3 | 594.1 | 603.8 |
| | 13.2 | 7.2 | 0.080 | 1.00 | 0.28 | 0.782 | 545.4 | 555.1 | 564.8 | 574.5 | 584.3 | 594.1 | 603.8 |
| | 13.0 | 5.5 | 0.075 | 0.93 | 0.35 | 0.727 | 545.5 | 555.2 | 564.9 | 574.6 | 584.4 | 594.2 | 603.9 |
| | 12.8 | 3.8 | 0.071 | 0.87 | 0.41 | 0.680 | 545.5 | 555.2 | 564.9 | 574.6 | 584.4 | 594.2 | 603.9 |
| | 12.6 | 2.1 | 0.066 | 0.82 | 0.46 | 0.641 | 545.6 | 555.3 | 565.0 | 574.7 | 584.5 | 594.2 | 603.9 |
| 15 | 15.0 | 15.0 | 0.108 | 1.32 | 0.00 | 1.000 | 544.0 | 553.8 | 563.5 | 573.2 | 582.9 | 592.6 | 602.3 |
| | 14.8 | 13.3 | 0.101 | 1.24 | 0.08 | 0.940 | 544.0 | 553.8 | 563.5 | 573.2 | 582.9 | 592.6 | 602.3 |
| | 14.6 | 11.6 | 0.095 | 1.16 | 0.16 | 0.879 | 544.1 | 553.9 | 563.6 | 573.3 | 583.0 | 592.7 | 602.4 |
| | 14.4 | 9.9 | 0.089 | 1.10 | 0.22 | 0.833 | 544.1 | 553.9 | 563.6 | 573.3 | 583.0 | 592.7 | 602.4 |
| | 14.2 | 8.2 | 0.083 | 1.04 | 0.28 | 0.788 | 544.2 | 554.0 | 563.7 | 573.4 | 583.1 | 592.8 | 602.5 |
| | 14.0 | 6.5 | 0.078 | 0.97 | 0.35 | 0.735 | 544.2 | 554.0 | 563.7 | 573.4 | 583.1 | 592.8 | 602.5 |
| | 13.8 | 4.8 | 0.073 | 0.90 | 0.42 | 0.682 | 544.2 | 554.0 | 563.7 | 573.4 | 583.1 | 592.8 | 602.5 |
| | 13.6 | 3.1 | 0.069 | 0.85 | 0.47 | 0.644 | 544.3 | 554.1 | 563.8 | 573.5 | 583.2 | 592.9 | 602.6 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 16 | 16.0 | 16.0 | 0.112 | 1.37 | 0.00 | 1.000 | 542.8 | 552.5 | 562.2 | 571.9 | 581.6 | 591.3 | 601.0 |
| | 15.8 | 14.3 | 0.105 | 1.29 | 0.08 | 0.942 | 542.9 | 552.6 | 562.3 | 572.0 | 581.7 | 591.4 | 601.1 |
| | 15.6 | 12.6 | 0.098 | 1.21 | 0.16 | 0.883 | 542.9 | 552.6 | 562.3 | 572.0 | 581.7 | 591.4 | 601.1 |
| | 15.4 | 10.9 | 0.092 | 1.14 | 0.23 | 0.832 | 543.0 | 552.7 | 562.4 | 572.1 | 581.8 | 591.5 | 601.2 |
| | 15.2 | 9.2 | 0.087 | 1.07 | 0.30 | 0.781 | 543.0 | 552.7 | 562.4 | 572.1 | 581.8 | 591.5 | 601.2 |
| | 15.0 | 7.5 | 0.081 | 1.00 | 0.37 | 0.730 | 543.0 | 552.7 | 562.4 | 572.1 | 581.8 | 591.5 | 601.2 |
| | 14.8 | 5.8 | 0.076 | 0.94 | 0.43 | 0.686 | 543.1 | 552.8 | 562.5 | 572.1 | 581.9 | 591.6 | 601.3 |
| | 14.6 | 4.1 | 0.072 | 0.88 | 0.49 | 0.643 | 543.1 | 552.8 | 562.5 | 572.1 | 581.9 | 591.6 | 601.3 |
| 17 | 17.0 | 17.0 | 0.116 | 1.41 | 0.00 | 1.000 | 541.3 | 551.0 | 560.8 | 570.5 | 580.1 | 589.8 | 599.4 |
| | 16.8 | 15.3 | 0.109 | 1.33 | 0.08 | 0.943 | 541.3 | 551.0 | 560.8 | 570.5 | 580.1 | 589.8 | 599.4 |
| | 16.6 | 13.6 | 0.102 | 1.25 | 0.16 | 0.887 | 541.4 | 551.1 | 560.9 | 570.6 | 580.2 | 589.9 | 599.5 |
| | 16.4 | 11.9 | 0.096 | 1.17 | 0.24 | 0.830 | 541.4 | 551.1 | 560.9 | 570.6 | 580.2 | 589.9 | 599.5 |
| | 16.2 | 10.2 | 0.090 | 1.10 | 0.31 | 0.780 | 541.5 | 551.2 | 561.0 | 570.7 | 580.3 | 590.0 | 599.6 |
| | 16.0 | 8.5 | 0.084 | 1.03 | 0.38 | 0.730 | 541.5 | 551.2 | 561.0 | 570.7 | 580.3 | 590.0 | 599.6 |
| | 15.8 | 6.8 | 0.079 | 0.97 | 0.44 | 0.688 | 541.5 | 551.2 | 561.0 | 570.7 | 580.3 | 590.0 | 599.6 |
| | 15.6 | 5.1 | 0.074 | 0.91 | 0.50 | 0.646 | 541.6 | 551.3 | 561.1 | 570.8 | 580.4 | 590.1 | 599.7 |
| 18 | 18.0 | 18.0 | 0.120 | 1.47 | 0.00 | 1.000 | 540.5 | 550.2 | 559.8 | 569.5 | 579.1 | 588.8 | 598.4 |
| | 17.8 | 16.3 | 0.113 | 1.38 | 0.09 | 0.939 | 540.5 | 550.2 | 559.8 | 569.5 | 579.1 | 588.8 | 598.4 |
| | 17.6 | 14.6 | 0.106 | 1.29 | 0.18 | 0.878 | 540.6 | 550.3 | 559.9 | 569.6 | 579.2 | 588.9 | 598.5 |
| | 17.4 | 12.9 | 0.099 | 1.21 | 0.26 | 0.824 | 540.6 | 550.3 | 559.9 | 569.6 | 579.2 | 588.9 | 598.5 |
| | 17.2 | 11.2 | 0.093 | 1.14 | 0.33 | 0.776 | 540.7 | 550.4 | 560.0 | 569.7 | 579.3 | 589.0 | 598.6 |
| | 17.0 | 9.5 | 0.088 | 1.07 | 0.40 | 0.728 | 540.7 | 550.4 | 560.0 | 569.7 | 579.3 | 589.0 | 598.6 |
| | 16.8 | 7.8 | 0.082 | 1.01 | 0.46 | 0.688 | 540.7 | 550.5 | 560.1 | 569.8 | 579.3 | 589.0 | 598.6 |
| | 16.6 | 6.1 | 0.077 | 0.95 | 0.52 | 0.647 | 540.8 | 550.6 | 560.2 | 569.9 | 579.4 | 589.1 | 598.7 |
| 19 | 19.0 | 19.0 | 0.125 | 1.52 | 0.00 | 1.000 | 539.3 | 548.9 | 558.5 | 568.2 | 577.8 | 587.5 | 597.1 |
| | 18.8 | 17.3 | 0.117 | 1.43 | 0.09 | 0.941 | 539.3 | 548.9 | 558.5 | 568.2 | 577.8 | 587.5 | 597.1 |
| | 18.6 | 15.6 | 0.110 | 1.34 | 0.18 | 0.882 | 539.4 | 549.0 | 558.6 | 568.3 | 577.9 | 587.6 | 597.2 |
| | 18.4 | 13.9 | 0.103 | 1.26 | 0.26 | 0.829 | 539.4 | 549.0 | 558.6 | 568.3 | 577.9 | 587.6 | 597.2 |
| | 18.2 | 12.2 | 0.097 | 1.18 | 0.34 | 0.776 | 539.5 | 549.1 | 558.7 | 568.4 | 578.0 | 587.7 | 597.3 |
| | 18.0 | 10.5 | 0.091 | 1.11 | 0.41 | 0.730 | 539.5 | 549.1 | 558.7 | 568.4 | 578.0 | 587.7 | 597.3 |
| | 17.8 | 8.8 | 0.085 | 1.04 | 0.48 | 0.684 | 539.6 | 549.2 | 558.8 | 568.5 | 578.1 | 587.8 | 597.4 |
| | 17.6 | 7.1 | 0.080 | 0.98 | 0.54 | 0.645 | 539.6 | 549.2 | 558.8 | 568.5 | 578.1 | 587.8 | 597.4 |
| 20 | 20.0 | 20.0 | 0.129 | 1.58 | 0.00 | 1.000 | 538.1 | 547.7 | 557.3 | 566.9 | 576.5 | 586.1 | 595.7 |
| | 19.8 | 18.3 | 0.121 | 1.48 | 0.10 | 0.937 | 538.2 | 547.8 | 557.4 | 567.0 | 576.6 | 586.2 | 595.8 |
| | 19.6 | 16.6 | 0.114 | 1.38 | 0.20 | 0.874 | 538.3 | 547.9 | 557.5 | 567.1 | 576.7 | 586.3 | 595.9 |
| | 19.4 | 14.9 | 0.107 | 1.30 | 0.28 | 0.823 | 538.3 | 547.9 | 557.5 | 567.1 | 576.7 | 586.3 | 595.9 |
| | 19.2 | 13.2 | 0.101 | 1.23 | 0.35 | 0.779 | 538.3 | 547.9 | 557.5 | 567.1 | 576.7 | 586.3 | 595.9 |
| | 19.0 | 11.5 | 0.094 | 1.15 | 0.43 | 0.728 | 538.4 | 548.0 | 557.6 | 567.2 | 576.8 | 586.4 | 596.0 |
| | 18.8 | 9.8 | 0.089 | 1.08 | 0.50 | 0.684 | 538.4 | 548.0 | 557.6 | 567.2 | 576.8 | 586.4 | 596.0 |
| | 18.6 | 8.1 | 0.083 | 1.01 | 0.57 | 0.639 | 538.5 | 548.1 | 557.7 | 567.3 | 576.9 | 586.5 | 596.1 |
| | 18.4 | 6.4 | 0.078 | 0.95 | 0.63 | 0.601 | 538.5 | 548.1 | 557.7 | 567.3 | 576.9 | 586.5 | 596.1 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 21 | 21.0 | 21.0 | 0.134 | 1.63 | 0.00 | 1.000 | 537.0 | 546.6 | 556.1 | 565.7 | 575.3 | 584.9 | 594.5 |
| | 20.8 | 19.3 | 0.126 | 1.53 | 0.10 | 0.939 | 537.0 | 546.6 | 556.1 | 565.7 | 575.3 | 584.9 | 594.5 |
| | 20.6 | 17.6 | 0.118 | 1.44 | 0.19 | 0.884 | 537.1 | 546.7 | 556.2 | 565.8 | 575.4 | 585.0 | 594.6 |
| | 20.4 | 15.9 | 0.111 | 1.36 | 0.27 | 0.835 | 537.1 | 546.7 | 556.2 | 565.8 | 575.4 | 585.0 | 594.6 |
| | 20.2 | 14.2 | 0.104 | 1.28 | 0.35 | 0.785 | 537.2 | 546.8 | 556.3 | 565.9 | 575.5 | 585.1 | 594.7 |
| | 20.0 | 12.5 | 0.098 | 1.20 | 0.43 | 0.736 | 537.2 | 546.8 | 556.3 | 565.9 | 575.5 | 585.1 | 594.7 |
| | 19.8 | 10.8 | 0.092 | 1.12 | 0.51 | 0.687 | 537.3 | 546.9 | 556.4 | 566.0 | 575.6 | 585.2 | 594.8 |
| | 19.6 | 9.1 | 0.086 | 1.05 | 0.58 | 0.644 | 537.3 | 546.9 | 556.4 | 566.0 | 575.6 | 585.2 | 594.8 |
| | 19.4 | 7.4 | 0.081 | 0.99 | 0.64 | 0.607 | 537.3 | 546.9 | 556.4 | 566.0 | 575.6 | 585.2 | 594.8 |
| 22 | 22.0 | 22.0 | 0.139 | 1.69 | 0.00 | 1.000 | 535.7 | 545.3 | 554.9 | 564.5 | 574.0 | 583.6 | 593.1 |
| | 21.8 | 20.3 | 0.131 | 1.59 | 0.10 | 0.941 | 535.8 | 545.4 | 555.0 | 564.6 | 574.1 | 583.7 | 593.2 |
| | 21.6 | 18.6 | 0.123 | 1.49 | 0.20 | 0.882 | 535.8 | 545.4 | 555.0 | 564.6 | 574.1 | 583.7 | 593.2 |
| | 21.4 | 16.9 | 0.115 | 1.40 | 0.29 | 0.828 | 535.9 | 545.5 | 555.1 | 564.7 | 574.2 | 583.8 | 593.3 |
| | 21.2 | 15.2 | 0.108 | 1.31 | 0.38 | 0.775 | 535.9 | 545.5 | 555.1 | 564.7 | 574.2 | 583.8 | 593.3 |
| | 21.0 | 13.5 | 0.102 | 1.23 | 0.46 | 0.728 | 536.0 | 545.6 | 555.2 | 564.8 | 574.3 | 583.9 | 593.4 |
| | 20.8 | 11.8 | 0.096 | 1.16 | 0.53 | 0.686 | 536.0 | 545.6 | 555.2 | 564.8 | 574.3 | 583.9 | 593.4 |
| | 20.6 | 10.1 | 0.090 | 1.09 | 0.60 | 0.645 | 536.1 | 545.7 | 555.3 | 564.9 | 574.4 | 584.0 | 593.5 |
| | 20.4 | 8.4 | 0.084 | 1.02 | 0.67 | 0.604 | 536.1 | 545.7 | 555.3 | 564.9 | 574.4 | 584.0 | 593.5 |
| | 20.2 | 6.7 | 0.079 | 0.96 | 0.73 | 0.568 | 536.1 | 545.7 | 555.3 | 564.9 | 574.4 | 584.0 | 593.5 |
| 23 | 23.0 | 23.0 | 0.144 | 1.75 | 0.00 | 1.000 | 534.6 | 544.2 | 553.7 | 563.3 | 572.8 | 582.4 | 591.9 |
| | 22.8 | 21.3 | 0.136 | 1.65 | 0.10 | 0.943 | 534.6 | 544.2 | 553.7 | 563.3 | 572.8 | 582.4 | 591.9 |
| | 22.6 | 19.6 | 0.127 | 1.55 | 0.20 | 0.886 | 534.7 | 544.3 | 553.8 | 563.4 | 572.9 | 582.5 | 592.0 |
| | 22.4 | 17.9 | 0.120 | 1.45 | 0.30 | 0.829 | 534.7 | 544.3 | 553.8 | 563.4 | 572.9 | 582.5 | 592.0 |
| | 22.2 | 16.2 | 0.112 | 1.36 | 0.39 | 0.777 | 534.8 | 544.4 | 553.9 | 563.5 | 573.0 | 582.6 | 592.1 |
| | 22.0 | 14.5 | 0.106 | 1.28 | 0.47 | 0.731 | 534.8 | 544.4 | 553.9 | 563.5 | 573.0 | 582.6 | 592.1 |
| | 21.8 | 12.8 | 0.099 | 1.21 | 0.54 | 0.691 | 534.9 | 544.5 | 554.0 | 563.6 | 573.1 | 582.7 | 592.2 |
| | 21.6 | 11.1 | 0.093 | 1.13 | 0.62 | 0.646 | 534.9 | 544.5 | 554.0 | 563.6 | 573.1 | 582.7 | 592.2 |
| | 21.4 | 9.4 | 0.087 | 1.06 | 0.69 | 0.606 | 535.0 | 544.6 | 554.1 | 563.7 | 573.2 | 582.8 | 592.3 |
| | 21.2 | 7.7 | 0.082 | 1.00 | 0.75 | 0.571 | 535.0 | 544.6 | 554.1 | 563.7 | 573.2 | 582.8 | 592.3 |
| 24 | 24.0 | 24.0 | 0.150 | 1.81 | 0.00 | 1.000 | 533.4 | 542.9 | 552.4 | 562.0 | 571.5 | 581.1 | 590.6 |
| | 23.8 | 22.5 | 0.142 | 1.72 | 0.09 | 0.951 | 533.5 | 543.0 | 552.5 | 562.1 | 571.6 | 581.2 | 590.7 |
| | 23.6 | 21.1 | 0.135 | 1.63 | 0.18 | 0.901 | 533.5 | 543.1 | 552.5 | 562.1 | 571.6 | 581.2 | 590.7 |
| | 23.4 | 19.6 | 0.127 | 1.55 | 0.26 | 0.856 | 533.6 | 543.2 | 552.6 | 562.2 | 571.7 | 581.3 | 590.8 |
| | 23.2 | 18.2 | 0.121 | 1.46 | 0.35 | 0.807 | 533.6 | 543.2 | 552.6 | 562.2 | 571.7 | 581.3 | 590.8 |
| | 23.0 | 16.7 | 0.115 | 1.38 | 0.43 | 0.762 | 533.7 | 543.3 | 552.7 | 562.3 | 571.8 | 581.4 | 590.9 |
| | 22.8 | 15.2 | 0.108 | 1.31 | 0.50 | 0.724 | 533.7 | 543.3 | 552.7 | 562.3 | 571.8 | 581.4 | 590.9 |
| | 22.6 | 13.8 | 0.103 | 1.24 | 0.57 | 0.685 | 533.7 | 543.3 | 552.7 | 562.3 | 571.8 | 581.4 | 590.9 |
| | 22.4 | 12.3 | 0.097 | 1.18 | 0.63 | 0.652 | 533.8 | 543.4 | 552.8 | 562.4 | 571.9 | 581.5 | 591.0 |
| | 22.2 | 10.8 | 0.091 | 1.12 | 0.69 | 0.634 | 533.8 | 543.4 | 552.8 | 562.4 | 571.9 | 581.5 | 591.0 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 25 | 25.0 | 25.0 | 0.155 | 1.87 | 0.00 | 1.000 | 532.3 | 541.8 | 551.3 | 560.8 | 570.3 | 579.8 | 589.3 |
| | 24.8 | 23.7 | 0.148 | 1.78 | 0.09 | 0.952 | 532.3 | 541.8 | 551.3 | 560.8 | 570.3 | 579.8 | 589.3 |
| | 24.6 | 22.4 | 0.141 | 1.70 | 0.17 | 0.909 | 532.4 | 541.9 | 551.4 | 560.9 | 570.4 | 579.9 | 589.4 |
| | 24.4 | 21.2 | 0.135 | 1.62 | 0.25 | 0.867 | 532.4 | 541.9 | 551.4 | 560.9 | 570.4 | 579.9 | 589.4 |
| | 24.2 | 19.9 | 0.129 | 1.55 | 0.32 | 0.829 | 532.4 | 541.9 | 551.4 | 560.9 | 570.4 | 579.9 | 589.4 |
| | 24.0 | 18.6 | 0.123 | 1.48 | 0.49 | 0.791 | 532.5 | 542.0 | 551.5 | 561.0 | 570.5 | 580.0 | 589.5 |
| | 23.8 | 17.3 | 0.117 | 1.41 | 0.46 | 0.754 | 532.5 | 542.0 | 551.5 | 561.0 | 570.5 | 580.0 | 589.5 |
| | 23.6 | 16.0 | 0.112 | 1.34 | 0.53 | 0.717 | 532.6 | 542.1 | 551.6 | 561.1 | 570.6 | 580.1 | 589.6 |
| | 23.4 | 14.8 | 0.107 | 1.28 | 0.59 | 0.685 | 532.6 | 542.1 | 551.6 | 561.1 | 570.6 | 580.1 | 589.6 |
| | 23.2 | 13.5 | 0.102 | 1.22 | 0.65 | 0.653 | 532.6 | 542.1 | 551.6 | 561.1 | 570.6 | 580.1 | 589.6 |
| 26 | 26.0 | 26.0 | 0.161 | 1.93 | 0.00 | 1.000 | 531.1 | 540.6 | 550.0 | 559.5 | 569.0 | 578.5 | 588.0 |
| | 25.8 | 24.8 | 0.154 | 1.85 | 0.08 | 0.959 | 531.2 | 540.7 | 550.1 | 559.6 | 569.1 | 578.6 | 588.1 |
| | 25.6 | 23.6 | 0.147 | 1.78 | 0.15 | 0.923 | 531.2 | 540.7 | 550.1 | 559.6 | 569.1 | 578.6 | 588.1 |
| | 25.4 | 22.3 | 0.141 | 1.70 | 0.23 | 0.881 | 531.2 | 540.7 | 550.1 | 559.6 | 569.1 | 578.6 | 588.1 |
| | 25.2 | 21.2 | 0.135 | 1.62 | 0.31 | 0.839 | 531.3 | 540.8 | 550.2 | 559.7 | 569.2 | 578.7 | 588.2 |
| | 25.0 | 19.9 | 0.129 | 1.55 | 0.38 | 0.804 | 531.3 | 540.8 | 550.2 | 559.7 | 569.2 | 578.7 | 588.2 |
| | 24.8 | 18.7 | 0.123 | 1.48 | 0.45 | 0.767 | 531.4 | 540.9 | 550.3 | 559.8 | 569.3 | 578.8 | 588.3 |
| | 24.6 | 17.5 | 0.118 | 1.41 | 0.52 | 0.731 | 531.4 | 540.9 | 550.3 | 559.8 | 569.3 | 578.8 | 588.3 |
| | 24.4 | 16.2 | 0.112 | 1.35 | 0.58 | 0.700 | 531.4 | 540.9 | 550.3 | 559.8 | 569.3 | 578.8 | 588.3 |
| | 24.2 | 15.0 | 0.108 | 1.29 | 0.64 | 0.668 | 531.5 | 541.0 | 550.4 | 559.9 | 569.4 | 578.9 | 588.4 |
| 27 | 27.0 | 27.0 | 0.167 | 2.00 | 0.00 | 1.000 | 529.9 | 539.4 | 548.9 | 558.4 | 567.8 | 577.3 | 586.7 |
| | 26.7 | 25.2 | 0.156 | 1.88 | 0.12 | 0.940 | 529.9 | 539.4 | 548.9 | 558.4 | 567.8 | 577.4 | 586.8 |
| | 26.4 | 23.3 | 0.146 | 1.76 | 0.24 | 0.880 | 530.0 | 539.5 | 549.0 | 558.5 | 567.9 | 577.5 | 586.9 |
| | 26.1 | 21.5 | 0.137 | 1.64 | 0.36 | 0.820 | 530.1 | 539.6 | 549.1 | 558.6 | 568.0 | 577.6 | 587.0 |
| | 25.8 | 19.7 | 0.128 | 1.53 | 0.47 | 0.765 | 530.1 | 539.6 | 549.1 | 558.6 | 568.0 | 577.6 | 587.0 |
| | 25.5 | 17.8 | 0.119 | 1.43 | 0.57 | 0.715 | 530.2 | 539.7 | 549.2 | 558.7 | 568.1 | 577.7 | 587.1 |
| | 25.2 | 16.0 | 0.112 | 1.34 | 0.66 | 0.670 | 530.3 | 539.8 | 549.3 | 558.8 | 568.2 | 577.8 | 587.2 |
| | 24.9 | 14.2 | 0.104 | 1.26 | 0.74 | 0.630 | 530.3 | 539.8 | 549.3 | 558.8 | 568.2 | 577.8 | 587.2 |
| | 24.6 | 12.4 | 0.098 | 1.17 | 0.83 | 0.585 | 530.4 | 539.9 | 549.4 | 558.9 | 568.3 | 577.9 | 587.3 |
| | 24.3 | 10.5 | 0.091 | 1.09 | 0.91 | 0.545 | 530.5 | 540.0 | 549.5 | 559.0 | 568.3 | 577.9 | 587.3 |
| 28 | 28.0 | 28.0 | 0.173 | 2.07 | 0.00 | 1.000 | 528.7 | 538.1 | 547.6 | 557.0 | 566.5 | 575.9 | 585.4 |
| | 27.7 | 26.3 | 0.163 | 1.95 | 0.12 | 0.942 | 528.8 | 538.2 | 547.7 | 557.1 | 566.6 | 576.0 | 585.5 |
| | 27.4 | 24.6 | 0.153 | 1.84 | 0.23 | 0.889 | 528.9 | 538.3 | 547.8 | 557.2 | 566.7 | 576.1 | 585.6 |
| | 27.1 | 22.9 | 0.144 | 1.73 | 0.34 | 0.836 | 528.9 | 538.3 | 547.8 | 557.2 | 566.7 | 576.1 | 585.6 |
| | 26.8 | 21.2 | 0.135 | 1.62 | 0.45 | 0.783 | 529.0 | 538.4 | 547.9 | 557.3 | 566.8 | 576.2 | 585.7 |
| | 26.5 | 19.4 | 0.126 | 1.52 | 0.55 | 0.734 | 529.1 | 538.5 | 548.0 | 557.4 | 566.9 | 576.3 | 585.8 |
| | 26.2 | 17.7 | 0.119 | 1.42 | 0.65 | 0.686 | 529.1 | 538.5 | 548.0 | 557.4 | 566.9 | 576.3 | 585.8 |
| | 25.9 | 16.0 | 0.112 | 1.34 | 0.73 | 0.648 | 529.2 | 538.6 | 548.1 | 557.5 | 567.0 | 576.4 | 585.9 |
| | 25.6 | 14.3 | 0.105 | 1.26 | 0.82 | 0.604 | 529.2 | 538.6 | 548.1 | 557.5 | 567.0 | 576.4 | 585.9 |
| | 25.3 | 12.6 | 0.098 | 1.18 | 0.89 | 0.571 | 529.2 | 538.6 | 548.1 | 557.5 | 567.0 | 576.4 | 585.9 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 29 | 29.0 | 29.0 | 0.179 | 2.14 | 0.00 | 1.000 | 527.6 | 537.0 | 546.5 | 555.9 | 565.3 | 574.7 | 584.1 |
| | 28.7 | 27.5 | 0.170 | 2.03 | 0.11 | 0.949 | 527.7 | 537.1 | 546.6 | 556.0 | 565.4 | 574.8 | 584.2 |
| | 28.4 | 26.0 | 0.161 | 1.92 | 0.22 | 0.898 | 527.7 | 537.1 | 546.6 | 556.0 | 565.4 | 574.8 | 584.2 |
| | 28.1 | 24.5 | 0.152 | 1.82 | 0.32 | 0.851 | 527.8 | 537.2 | 546.7 | 556.1 | 565.5 | 574.9 | 584.3 |
| | 27.8 | 23.0 | 0.144 | 1.73 | 0.41 | 0.809 | 527.8 | 537.2 | 546.7 | 556.1 | 565.5 | 574.9 | 584.3 |
| | 27.5 | 21.5 | 0.137 | 1.64 | 0.50 | 0.766 | 527.9 | 537.3 | 546.7 | 556.2 | 565.6 | 575.0 | 584.5 |
| | 27.2 | 20.0 | 0.129 | 1.55 | 0.59 | 0.725 | 528.0 | 537.4 | 546.8 | 556.2 | 565.7 | 575.1 | 584.6 |
| | 26.9 | 18.5 | 0.122 | 1.47 | 0.67 | 0.687 | 528.0 | 537.4 | 546.8 | 556.3 | 565.7 | 575.2 | 584.6 |
| | 26.6 | 17.0 | 0.116 | 1.38 | 0.76 | 0.645 | 528.1 | 537.5 | 546.9 | 556.4 | 565.8 | 575.3 | 584.7 |
| | 26.3 | 15.5 | 0.110 | 1.30 | 0.84 | 0.617 | 528.1 | 537.5 | 546.9 | 556.4 | 565.8 | 575.3 | 584.7 |
| 30 | 30.0 | 30.0 | 0.186 | 2.21 | 0.00 | 1.000 | 526.5 | 535.9 | 545.3 | 554.7 | 564.1 | 573.5 | 582.9 |
| | 29.7 | 28.6 | 0.177 | 2.10 | 0.11 | 0.951 | 526.5 | 535.9 | 545.3 | 554.7 | 564.1 | 573.5 | 582.9 |
| | 29.4 | 27.2 | 0.168 | 2.00 | 0.21 | 0.905 | 526.6 | 536.0 | 545.4 | 554.8 | 564.2 | 573.6 | 583.0 |
| | 29.1 | 25.9 | 0.160 | 1.91 | 0.30 | 0.864 | 526.7 | 536.1 | 545.5 | 554.9 | 564.3 | 573.7 | 583.1 |
| | 28.8 | 24.5 | 0.152 | 1.82 | 0.39 | 0.824 | 526.7 | 536.1 | 545.5 | 554.9 | 564.3 | 573.7 | 583.1 |
| | 28.5 | 23.1 | 0.145 | 1.73 | 0.48 | 0.783 | 526.8 | 536.2 | 545.6 | 555.0 | 564.4 | 573.8 | 583.2 |
| | 28.2 | 21.7 | 0.138 | 1.64 | 0.57 | 0.742 | 526.8 | 536.2 | 545.6 | 555.0 | 564.4 | 573.8 | 583.2 |
| | 27.9 | 20.3 | 0.131 | 1.56 | 0.65 | 0.706 | 526.9 | 536.3 | 545.7 | 555.1 | 564.5 | 573.9 | 583.3 |
| | 27.6 | 19.0 | 0.125 | 1.49 | 0.72 | 0.674 | 526.9 | 536.3 | 545.7 | 555.1 | 564.5 | 573.9 | 583.3 |
| | 27.3 | 17.6 | 0.118 | 1.42 | 0.79 | 0.643 | 527.0 | 536.4 | 545.8 | 555.2 | 564.6 | 574.0 | 583.4 |
| 31 | 31.0 | 31.0 | 0.192 | 2.29 | 0.00 | 1.000 | 525.4 | 534.7 | 544.1 | 553.5 | 562.9 | 572.3 | 581.7 |
| | 30.7 | 29.9 | 0.185 | 2.20 | 0.09 | 0.961 | 525.4 | 534.7 | 544.1 | 553.5 | 562.9 | 572.3 | 581.7 |
| | 30.4 | 28.8 | 0.178 | 2.12 | 0.17 | 0.926 | 525.5 | 534.8 | 544.2 | 553.6 | 563.0 | 572.4 | 581.8 |
| | 30.1 | 27.7 | 0.171 | 2.04 | 0.25 | 0.891 | 525.5 | 534.8 | 544.2 | 553.6 | 563.0 | 572.4 | 581.8 |
| | 29.8 | 26.6 | 0.164 | 1.95 | 0.34 | 0.852 | 525.6 | 534.9 | 544.3 | 553.7 | 563.1 | 572.5 | 581.9 |
| | 29.5 | 25.5 | 0.158 | 1.87 | 0.42 | 0.817 | 525.6 | 534.9 | 544.3 | 553.7 | 563.1 | 572.5 | 581.9 |
| | 29.2 | 24.4 | 0.152 | 1.80 | 0.49 | 0.786 | 525.6 | 534.9 | 544.3 | 553.7 | 563.1 | 572.5 | 581.9 |
| | 28.9 | 23.4 | 0.146 | 1.73 | 0.56 | 0.756 | 525.7 | 535.0 | 544.4 | 553.8 | 563.2 | 572.6 | 582.0 |
| | 28.6 | 22.3 | 0.141 | 1.67 | 0.62 | 0.729 | 525.7 | 535.0 | 544.4 | 553.8 | 563.2 | 572.6 | 582.0 |
| | 28.3 | 21.2 | 0.135 | 1.60 | 0.69 | 0.699 | 525.7 | 535.0 | 544.4 | 553.8 | 563.2 | 572.6 | 582.0 |
| 32 | 32.0 | 32.0 | 0.199 | 2.37 | 0.00 | 1.000 | 524.2 | 533.5 | 542.9 | 552.3 | 561.6 | 570.9 | 580.3 |
| | 31.6 | 30.8 | 0.191 | 2.27 | 0.10 | 0.958 | 524.3 | 533.6 | 543.0 | 552.4 | 561.7 | 571.0 | 580.4 |
| | 31.2 | 29.5 | 0.182 | 2.17 | 0.20 | 0.916 | 524.4 | 533.7 | 543.1 | 552.5 | 561.8 | 571.1 | 580.5 |
| | 30.8 | 28.3 | 0.175 | 2.07 | 0.30 | 0.874 | 524.4 | 533.7 | 543.1 | 552.5 | 561.8 | 571.1 | 580.6 |
| | 30.4 | 27.0 | 0.167 | 1.98 | 0.39 | 0.836 | 524.5 | 533.8 | 543.2 | 552.6 | 561.9 | 571.2 | 580.6 |
| | 30.0 | 25.8 | 0.160 | 1.90 | 0.47 | 0.802 | 524.5 | 533.8 | 543.2 | 552.6 | 561.9 | 571.2 | 580.6 |
| | 29.6 | 24.6 | 0.153 | 1.82 | 0.55 | 0.768 | 524.6 | 533.9 | 543.3 | 552.7 | 562.0 | 571.3 | 580.7 |
| | 29.2 | 23.3 | 0.146 | 1.74 | 0.63 | 0.735 | 524.6 | 533.9 | 543.3 | 552.7 | 562.0 | 571.3 | 580.7 |
| | 28.8 | 22.1 | 0.140 | 1.67 | 0.70 | 0.705 | 524.6 | 533.9 | 543.3 | 552.7 | 562.0 | 571.3 | 580.7 |
| | 28.4 | 20.8 | 0.133 | 1.60 | 0.77 | 0.675 | 524.7 | 534.0 | 543.4 | 552.8 | 562.1 | 571.4 | 580.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 33 | 33.0 | 33.0 | 0.207 | 2.45 | 0.00 | 1.000 | 523.0 | 532.3 | 541.7 | 551.1 | 560.4 | 569.7 | 579.1 |
| | 32.5 | 31.6 | 0.197 | 2.33 | 0.12 | 0.951 | 523.1 | 532.5 | 541.8 | 551.2 | 560.5 | 569.8 | 579.2 |
| | 32.0 | 30.2 | 0.187 | 2.22 | 0.23 | 0.906 | 523.2 | 532.6 | 541.9 | 551.3 | 560.6 | 569.9 | 579.3 |
| | 31.5 | 28.8 | 0.178 | 2.11 | 0.34 | 0.862 | 523.3 | 532.7 | 542.0 | 551.4 | 560.7 | 570.0 | 579.4 |
| | 31.0 | 27.4 | 0.169 | 2.01 | 0.44 | 0.821 | 523.3 | 532.7 | 542.0 | 551.4 | 560.7 | 570.0 | 579.4 |
| | 30.5 | 26.0 | 0.161 | 1.91 | 0.54 | 0.780 | 523.4 | 532.8 | 542.1 | 551.5 | 560.8 | 570.1 | 579.5 |
| | 30.0 | 24.6 | 0.153 | 1.82 | 0.63 | 0.743 | 523.4 | 532.8 | 542.1 | 551.5 | 560.8 | 570.1 | 579.5 |
| | 29.5 | 23.2 | 0.145 | 1.74 | 0.71 | 0.711 | 523.5 | 532.9 | 542.2 | 551.6 | 560.9 | 570.2 | 579.6 |
| | 29.0 | 21.8 | 0.138 | 1.65 | 0.80 | 0.674 | 523.5 | 532.9 | 542.2 | 551.6 | 560.9 | 570.2 | 579.6 |
| | 28.5 | 20.4 | 0.131 | 1.57 | 0.88 | 0.641 | 523.6 | 533.0 | 542.3 | 551.7 | 561.0 | 570.3 | 579.7 |
| 34 | 34.0 | 34.0 | 0.214 | 2.53 | 0.00 | 1.000 | 521.9 | 531.2 | 540.6 | 549.9 | 559.2 | 568.5 | 577.8 |
| | 33.5 | 32.7 | 0.204 | 2.42 | 0.11 | 0.957 | 522.0 | 531.4 | 540.7 | 550.0 | 559.3 | 568.6 | 577.9 |
| | 33.0 | 31.4 | 0.195 | 2.31 | 0.22 | 0.913 | 522.0 | 531.4 | 540.7 | 550.0 | 559.3 | 568.6 | 577.9 |
| | 32.5 | 30.1 | 0.186 | 2.21 | 0.32 | 0.874 | 522.1 | 531.5 | 540.8 | 550.1 | 559.4 | 568.7 | 578.0 |
| | 32.0 | 28.8 | 0.178 | 2.11 | 0.42 | 0.834 | 522.1 | 531.5 | 540.8 | 550.1 | 559.4 | 568.7 | 578.0 |
| | 31.5 | 27.5 | 0.170 | 2.01 | 0.52 | 0.795 | 522.2 | 531.6 | 540.9 | 550.2 | 559.5 | 568.8 | 578.1 |
| | 31.0 | 26.2 | 0.162 | 1.91 | 0.62 | 0.755 | 522.3 | 531.7 | 541.0 | 550.3 | 559.6 | 568.9 | 578.2 |
| | 30.5 | 24.9 | 0.155 | 1.83 | 0.70 | 0.724 | 522.3 | 531.7 | 541.0 | 550.3 | 559.6 | 568.9 | 578.2 |
| | 30.0 | 23.6 | 0.147 | 1.75 | 0.78 | 0.692 | 522.4 | 531.8 | 541.1 | 550.4 | 559.7 | 569.0 | 578.3 |
| | 29.5 | 22.3 | 0.141 | 1.67 | 0.86 | 0.660 | 522.4 | 531.8 | 541.1 | 550.4 | 559.7 | 569.0 | 578.3 |
| | 29.0 | 21.0 | 0.134 | 1.59 | 0.94 | 0.629 | 522.5 | 531.9 | 541.2 | 550.5 | 559.8 | 569.1 | 578.4 |
| 35 | 35 | 35.0 | 0.222 | 2.62 | 0.00 | 1.000 | 520.8 | 530.1 | 539.4 | 548.7 | 558.0 | 567.3 | 576.6 |
| | 34 | 32.5 | 0.203 | 2.40 | 0.22 | 0.916 | 520.9 | 530.2 | 539.5 | 548.8 | 558.1 | 567.4 | 576.7 |
| | 33 | 30.0 | 0.186 | 2.19 | 0.43 | 0.836 | 521.0 | 530.3 | 539.6 | 548.9 | 558.3 | 567.5 | 576.8 |
| | 32 | 27.5 | 0.170 | 2.00 | 0.62 | 0.764 | 521.1 | 530.4 | 539.7 | 549.0 | 558.4 | 567.6 | 576.9 |
| | 31 | 25.0 | 0.155 | 1.83 | 0.79 | 0.698 | 521.2 | 530.5 | 539.8 | 549.1 | 558.5 | 567.7 | 577.0 |
| | 30 | 22.5 | 0.142 | 1.68 | 0.94 | 0.641 | 521.3 | 530.6 | 539.9 | 549.2 | 558.6 | 567.8 | 577.1 |
| | 29 | 20.0 | 0.129 | 1.53 | 1.09 | 0.584 | 521.3 | 530.7 | 540.0 | 549.3 | 558.6 | 567.9 | 577.2 |
| | 28 | 17.5 | 0.117 | 1.39 | 1.23 | 0.531 | 521.4 | 530.8 | 540.1 | 549.4 | 558.7 | 568.0 | 577.3 |
| | 27 | 15.0 | 0.108 | 1.27 | 1.35 | 0.485 | 521.5 | 530.9 | 540.2 | 549.5 | 558.7 | 568.1 | 577.4 |
| 36 | 36 | 36.0 | 0.230 | 2.71 | 0.00 | 1.000 | 519.7 | 529.0 | 538.3 | 547.5 | 556.8 | 566.1 | 575.4 |
| | 35 | 33.5 | 0.210 | 2.48 | 0.23 | 0.915 | 519.8 | 529.1 | 538.4 | 547.6 | 556.9 | 566.2 | 575.5 |
| | 34 | 31.0 | 0.192 | 2.27 | 0.44 | 0.838 | 519.9 | 529.2 | 538.5 | 547.7 | 557.0 | 566.3 | 575.6 |
| | 33 | 28.5 | 0.176 | 2.07 | 0.64 | 0.764 | 520.0 | 529.3 | 538.6 | 547.8 | 557.1 | 566.4 | 575.7 |
| | 32 | 26.0 | 0.161 | 1.89 | 0.82 | 0.698 | 520.1 | 529.4 | 538.7 | 547.9 | 557.2 | 566.5 | 575.8 |
| | 31 | 23.5 | 0.147 | 1.74 | 0.97 | 0.642 | 520.2 | 529.5 | 538.8 | 548.0 | 557.3 | 566.6 | 575.9 |
| | 30 | 21.0 | 0.134 | 1.58 | 1.13 | 0.583 | 520.3 | 529.6 | 538.9 | 548.1 | 557.4 | 566.7 | 576.0 |
| | 29 | 18.5 | 0.122 | 1.45 | 1.26 | 0.535 | 520.4 | 529.7 | 539.0 | 548.2 | 557.5 | 566.8 | 576.1 |
| | 28 | 16.0 | 0.112 | 1.32 | 1.39 | 0.487 | 520.5 | 529.8 | 539.1 | 548.3 | 557.6 | 566.9 | 576.2 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 37 | 37 | 37.0 | 0.238 | 2.80 | 0.00 | 1.000 | 518.6 | 527.8 | 537.1 | 546.3 | 555.6 | 564.8 | 574.1 |
| | 36 | 34.5 | 0.218 | 2.56 | 0.24 | 0.914 | 518.7 | 527.9 | 537.2 | 546.4 | 555.7 | 564.9 | 574.2 |
| | 35 | 32.0 | 0.199 | 2.35 | 0.45 | 0.839 | 518.8 | 528.0 | 537.3 | 546.5 | 555.8 | 565.0 | 574.3 |
| | 34 | 29.5 | 0.182 | 2.14 | 0.66 | 0.764 | 518.9 | 528.1 | 537.4 | 546.6 | 555.9 | 565.1 | 574.4 |
| | 33 | 27.0 | 0.167 | 1.96 | 0.84 | 0.700 | 519.0 | 528.2 | 537.5 | 546.7 | 556.0 | 565.2 | 574.5 |
| | 32 | 24.5 | 0.152 | 1.79 | 1.01 | 0.640 | 519.1 | 528.3 | 537.6 | 546.8 | 556.1 | 565.3 | 574.6 |
| | 31 | 22.0 | 0.139 | 1.64 | 1.16 | 0.586 | 519.2 | 528.4 | 537.7 | 546.9 | 556.2 | 565.4 | 574.7 |
| | 30 | 19.5 | 0.127 | 1.50 | 1.30 | 0.536 | 519.3 | 528.5 | 537.8 | 547.1 | 556.3 | 565.5 | 574.8 |
| | 29 | 17.0 | 0.116 | 1.37 | 1.43 | 0.489 | 519.4 | 528.6 | 537.9 | 547.2 | 556.4 | 565.6 | 574.9 |
| 38 | 38 | 38.0 | 0.246 | 2.89 | 0.00 | 1.000 | 517.4 | 526.6 | 535.9 | 545.1 | 554.4 | 563.6 | 572.9 |
| | 37 | 35.5 | 0.226 | 2.65 | 0.24 | 0.917 | 517.5 | 526.7 | 536.0 | 545.2 | 554.5 | 563.7 | 573.0 |
| | 36 | 33.0 | 0.207 | 2.43 | 0.46 | 0.841 | 517.6 | 526.8 | 536.1 | 545.3 | 554.6 | 563.8 | 573.1 |
| | 35 | 30.5 | 0.189 | 2.22 | 0.67 | 0.768 | 517.7 | 526.9 | 536.2 | 545.4 | 554.7 | 563.9 | 573.2 |
| | 34 | 28.0 | 0.173 | 2.03 | 0.86 | 0.703 | 517.8 | 527.0 | 536.3 | 545.5 | 554.8 | 564.0 | 573.3 |
| | 33 | 25.5 | 0.158 | 1.85 | 1.04 | 0.640 | 517.9 | 527.1 | 536.4 | 545.6 | 554.9 | 564.1 | 573.4 |
| | 32 | 23.0 | 0.144 | 1.70 | 1.19 | 0.588 | 518.0 | 527.2 | 536.5 | 545.7 | 555.0 | 564.2 | 573.5 |
| | 31 | 20.5 | 0.132 | 1.54 | 1.35 | 0.533 | 518.1 | 527.3 | 536.6 | 545.8 | 555.1 | 564.3 | 573.6 |
| | 30 | 18.0 | 0.120 | 1.39 | 1.50 | 0.481 | 518.2 | 527.4 | 536.7 | 545.9 | 555.2 | 564.4 | 573.7 |
| 39 | 39 | 39.0 | 0.255 | 2.99 | 0.00 | 1.000 | 516.3 | 525.5 | 534.7 | 543.9 | 553.2 | 562.4 | 571.6 |
| | 38 | 36.5 | 0.234 | 2.74 | 0.25 | 0.917 | 516.4 | 525.6 | 534.8 | 544.0 | 553.3 | 562.5 | 571.7 |
| | 37 | 34.0 | 0.214 | 2.51 | 0.48 | 0.840 | 516.5 | 525.7 | 534.9 | 544.1 | 553.4 | 562.6 | 571.8 |
| | 36 | 31.5 | 0.196 | 2.30 | 0.69 | 0.769 | 516.6 | 525.8 | 535.0 | 544.2 | 553.5 | 562.7 | 571.9 |
| | 35 | 29.0 | 0.179 | 2.10 | 0.89 | 0.703 | 516.7 | 525.9 | 535.1 | 544.3 | 553.6 | 562.8 | 572.1 |
| | 34 | 26.5 | 0.164 | 1.91 | 1.08 | 0.639 | 516.8 | 526.0 | 535.2 | 544.4 | 553.7 | 562.9 | 572.2 |
| | 33 | 24.0 | 0.150 | 1.76 | 1.23 | 0.589 | 516.9 | 526.1 | 535.3 | 544.5 | 553.8 | 563.0 | 572.3 |
| | 32 | 21.5 | 0.137 | 1.60 | 1.39 | 0.535 | 517.0 | 526.2 | 535.4 | 544.6 | 553.9 | 563.1 | 572.4 |
| | 31 | 19.0 | 0.125 | 1.46 | 1.53 | 0.488 | 517.1 | 526.3 | 535.6 | 544.8 | 554.1 | 563.3 | 572.6 |
| | 30 | 16.5 | 0.114 | 1.32 | 1.67 | 0.442 | 517.2 | 526.4 | 535.7 | 544.9 | 554.2 | 563.4 | 572.7 |
| 40 | 40 | 40.0 | 0.264 | 3.09 | 0.00 | 1.000 | 515.2 | 524.4 | 533.6 | 542.8 | 552.0 | 561.2 | 570.4 |
| | 39 | 37.8 | 0.245 | 2.86 | 0.23 | 0.926 | 515.3 | 524.5 | 533.7 | 542.9 | 552.1 | 561.3 | 570.5 |
| | 38 | 35.6 | 0.227 | 2.65 | 0.44 | 0.858 | 515.4 | 524.6 | 533.8 | 543.0 | 552.2 | 561.4 | 570.6 |
| | 37 | 33.4 | 0.210 | 2.45 | 0.64 | 0.793 | 515.5 | 524.7 | 533.9 | 543.1 | 552.3 | 561.5 | 570.7 |
| | 36 | 31.2 | 0.194 | 2.27 | 0.82 | 0.734 | 515.6 | 524.8 | 534.0 | 543.2 | 552.4 | 561.6 | 570.8 |
| | 35 | 29.0 | 0.179 | 2.09 | 1.00 | 0.676 | 515.7 | 524.9 | 534.1 | 543.3 | 552.5 | 561.7 | 570.9 |
| | 34 | 26.8 | 0.165 | 1.94 | 1.15 | 0.628 | 515.8 | 525.0 | 534.2 | 543.4 | 552.6 | 561.8 | 571.0 |
| | 33 | 24.6 | 0.153 | 1.79 | 1.30 | 0.579 | 515.9 | 525.1 | 534.3 | 543.5 | 552.7 | 561.9 | 571.1 |
| | 32 | 22.4 | 0.141 | 1.65 | 1.44 | 0.534 | 516.0 | 525.2 | 534.4 | 543.6 | 552.8 | 562.0 | 571.2 |
| | 31 | 20.2 | 0.130 | 1.53 | 1.56 | 0.495 | 516.1 | 525.3 | 534.5 | 543.7 | 552.9 | 562.1 | 571.3 |
| | 30 | 18.0 | 0.120 | 1.42 | 1.67 | 0.459 | 516.1 | 525.3 | 534.5 | 543.8 | 553.0 | 562.2 | 571.4 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 41 | 41 | 41.0 | 0.274 | 3.19 | 0.00 | 1.000 | 514.1 | 523.3 | 532.5 | 541.6 | 550.8 | 560.0 | 569.2 |
| | 40 | 38.8 | 0.253 | 2.96 | 0.23 | 0.928 | 514.2 | 523.4 | 532.6 | 541.7 | 550.9 | 560.1 | 569.3 |
| | 39 | 36.6 | 0.235 | 2.74 | 0.45 | 0.859 | 514.3 | 523.5 | 532.7 | 541.8 | 551.0 | 560.2 | 569.4 |
| | 38 | 34.4 | 0.217 | 2.54 | 0.65 | 0.796 | 514.4 | 523.6 | 532.8 | 541.9 | 551.1 | 560.3 | 569.5 |
| | 37 | 32.2 | 0.201 | 2.35 | 0.84 | 0.737 | 514.5 | 523.7 | 532.9 | 542.0 | 551.2 | 560.4 | 569.6 |
| | 36 | 30.0 | 0.186 | 2.16 | 1.03 | 0.677 | 514.6 | 523.8 | 533.0 | 542.1 | 551.3 | 560.5 | 569.7 |
| | 35 | 27.8 | 0.172 | 2.01 | 1.18 | 0.630 | 514.7 | 523.9 | 533.1 | 542.2 | 551.4 | 560.6 | 569.8 |
| | 34 | 25.6 | 0.158 | 1.85 | 1.34 | 0.580 | 514.8 | 524.0 | 533.2 | 542.3 | 551.5 | 560.7 | 569.9 |
| | 33 | 23.4 | 0.146 | 1.71 | 1.48 | 0.536 | 514.9 | 524.1 | 533.3 | 542.4 | 551.6 | 560.8 | 570.0 |
| | 32 | 21.2 | 0.135 | 1.58 | 1.61 | 0.495 | 514.9 | 524.1 | 533.3 | 542.5 | 551.7 | 560.9 | 570.1 |
| | 31 | 19.0 | 0.125 | 1.46 | 1.73 | 0.458 | 515.0 | 524.2 | 533.4 | 542.6 | 551.8 | 561.0 | 570.2 |
| 42 | 42 | 42.0 | 0.283 | 3.30 | 0.00 | 1.000 | 513.0 | 522.2 | 531.3 | 540.5 | 549.6 | 558.8 | 567 9 |
| | 41 | 39.8 | 0.263 | 3.06 | 0.24 | 0.927 | 513.1 | 522.3 | 531.4 | 540.6 | 549.7 | 558.9 | 568.0 |
| | 40 | 37.6 | 0.243 | 2.83 | 0.47 | 0.858 | 513.2 | 522.4 | 531.5 | 540.7 | 549.9 | 559.0 | 568.1 |
| | 39 | 35.4 | 0.225 | 2.63 | 0.67 | 0.797 | 513.3 | 522.5 | 531.6 | 540.8 | 550.0 | 559.1 | 568.2 |
| | 38 | 33.2 | 0.208 | 2.43 | 0.87 | 0.736 | 513.4 | 522.6 | 531.7 | 540.9 | 550.1 | 559.2 | 568.3 |
| | 37 | 31.0 | 0.192 | 2.24 | 1.06 | 0.679 | 513.5 | 522.7 | 531.8 | 541.0 | 550.2 | 559.3 | 568.4 |
| | 36 | 28.8 | 0.178 | 2.08 | 1.22 | 0.631 | 513.6 | 522.8 | 531.9 | 541.1 | 550.3 | 559.4 | 568.5 |
| | 35 | 26.6 | 0.164 | 1.91 | 1.39 | 0.579 | 513.7 | 522.9 | 532.0 | 541.2 | 550.4 | 559.5 | 568.6 |
| | 34 | 24.4 | 0.152 | 1.77 | 1.53 | 0.536 | 513.8 | 523.0 | 532.1 | 541.3 | 550.5 | 559.6 | 568.7 |
| | 33 | 22.2 | 0.140 | 1.63 | 1.67 | 0.494 | 513.9 | 523.1 | 532.2 | 541.4 | 550.6 | 559.7 | 568.8 |
| | 32 | 20.0 | 0.129 | 1.51 | 1.79 | 0.458 | 513.9 | 523.1 | 532.3 | 541.5 | 550.6 | 559.8 | 569.0 |
| 43 | 43 | 43.0 | 0.293 | 3.41 | 0.00 | 1.000 | 511.8 | 520.9 | 530.1 | 539.3 | 548.4 | 557.5 | 566.7 |
| | 42 | 40.8 | 0.272 | 3.16 | 0.25 | 0.927 | 511.9 | 521.0 | 530.2 | 539.4 | 548.6 | 557.7 | 566.9 |
| | 41 | 38.6 | 0.252 | 2.93 | 0.48 | 0.859 | 512.0 | 521.1 | 530.3 | 539.5 | 548.7 | 557.8 | 567.0 |
| | 40 | 36.4 | 0.233 | 2.71 | 0.70 | 0.795 | 512.1 | 521.2 | 530.4 | 539.6 | 548.8 | 557.9 | 567.1 |
| | 39 | 34.2 | 0.216 | 2.51 | 0.90 | 0.736 | 512.2 | 521.3 | 530.5 | 539.7 | 548.9 | 558.0 | 567.2 |
| | 38 | 32.0 | 0.199 | 2.32 | 1.09 | 0.680 | 512.3 | 521.4 | 530.7 | 539.8 | 549.0 | 558.1 | 567.3 |
| | 37 | 29.8 | 0.184 | 2.15 | 1.26 | 0.630 | 512.4 | 521.5 | 530.8 | 539.9 | 549.1 | 558.2 | 567.4 |
| | 36 | 27.6 | 0.170 | 1.98 | 1.43 | 0.581 | 512.5 | 521.6 | 530.9 | 540.0 | 549.2 | 558.3 | 567.5 |
| | 35 | 25.4 | 0.157 | 1.82 | 1.59 | 0.534 | 512.6 | 521.7 | 531.0 | 540.1 | 549.3 | 558.4 | 567.6 |
| | 34 | 23.2 | 0.145 | 1.69 | 1.72 | 0.495 | 512.7 | 521.8 | 531.1 | 540.2 | 549.4 | 558.5 | 567.7 |
| | 33 | 21.0 | 0.134 | 1.56 | 1.85 | 0.458 | 512.9 | 522.0 | 531.2 | 540.3 | 549.5 | 558.6 | 567.8 |
| 44 | 44 | 44.0 | 0.304 | 3.52 | 0.00 | 1.000 | 510.8 | 519.9 | 529.0 | 538.1 | 547.3 | 556.4 | 565.5 |
| | 43 | 41.8 | 0.282 | 3.27 | 0.25 | 0.929 | 510.9 | 520.0 | 529.1 | 538.2 | 547.5 | 556.5 | 565.7 |
| | 42 | 39.6 | 0.261 | 3.02 | 0.50 | 0.858 | 511.0 | 520.1 | 529.2 | 538.3 | 547.6 | 556.6 | 565.8 |
| | 41 | 37.4 | 0.241 | 2.80 | 0.72 | 0.796 | 511.1 | 520.2 | 529.3 | 538.4 | 547.7 | 556.7 | 565.9 |
| | 40 | 35.2 | 0.223 | 2.60 | 0.92 | 0.739 | 511.2 | 520.3 | 529.4 | 538.5 | 547.8 | 556.8 | 566.0 |
| | 39 | 33.0 | 0.207 | 2.40 | 1.12 | 0.682 | 511.3 | 520.4 | 529.5 | 538.6 | 547.9 | 556.9 | 566.1 |
| | 38 | 30.8 | 0.191 | 2.22 | 1.30 | 0.631 | 511.4 | 520.5 | 529.6 | 538.7 | 548.0 | 557.0 | 566.2 |
| | 37 | 28.6 | 0.177 | 2.05 | 1.47 | 0.582 | 511.5 | 520.6 | 529.7 | 538.8 | 548.1 | 557.1 | 566.3 |
| | 36 | 26.4 | 0.163 | 1.89 | 1.63 | 0.537 | 511.6 | 520.7 | 529.8 | 538.9 | 548.2 | 557.2 | 566.4 |
| | 35 | 24.2 | 0.151 | 1.75 | 1.77 | 0.497 | 511.7 | 520.8 | 529.9 | 539.0 | 548.3 | 557.3 | 566.5 |
| | 34 | 22.0 | 0.139 | 1.62 | 1.90 | 0.460 | 511.7 | 520.8 | 530.0 | 539.1 | 548.3 | 557.4 | 566.6 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 45 | 45 | 45.0 | 0.315 | 3.64 | 0.00 | 1.000 | 509.7 | 518.8 | 527.9 | 537.0 | 546.1 | 555.2 | 564.3 |
| | 44 | 42.9 | 0.292 | 3.39 | 0.25 | 0.931 | 509.8 | 518.9 | 528.0 | 537.1 | 546.3 | 555.3 | 564.5 |
| | 43 | 40.8 | 0.272 | 3.14 | 0.50 | 0.863 | 509.9 | 519.0 | 528.1 | 537.2 | 546.4 | 555.4 | 564.6 |
| | 42 | 38.7 | 0.253 | 2.92 | 0.72 | 0.802 | 510.0 | 519.1 | 528.2 | 537.3 | 546.5 | 555.5 | 564.7 |
| | 41 | 36.6 | 0.235 | 2.70 | 0.94 | 0.742 | 510.1 | 519.2 | 528.3 | 537.4 | 546.6 | 555.6 | 564.8 |
| | 40 | 34.5 | 0.218 | 2.52 | 1.12 | 0.692 | 510.2 | 519.3 | 528.4 | 537.5 | 546.7 | 555.7 | 564.9 |
| | 39 | 32.4 | 0.202 | 2.34 | 1.30 | 0.643 | 510.3 | 519.4 | 528.5 | 537.6 | 546.8 | 555.8 | 565.0 |
| | 38 | 30.3 | 0.188 | 2.16 | 1.48 | 0.593 | 510.4 | 519.5 | 528.6 | 537.7 | 546.9 | 555.9 | 565.1 |
| | 37 | 28.2 | 0.174 | 2.01 | 1.63 | 0.552 | 510.5 | 519.6 | 528.7 | 537.8 | 547.0 | 556.0 | 565.2 |
| | 36 | 26.1 | 0.161 | 1.87 | 1.77 | 0.514 | 510.6 | 519.7 | 528.8 | 537.9 | 547.1 | 556.1 | 565.3 |
| | 35 | 24.0 | 0.150 | 1.73 | 1.91 | 0.475 | 510.7 | 519.8 | 528.9 | 538.0 | 547.2 | 556.3 | 565.4 |
| 46 | 46 | 46.0 | 0.326 | 3.76 | 0.00 | 1.000 | 508.6 | 517.7 | 526.7 | 535.8 | 544.9 | 554.0 | 563.1 |
| | 45 | 43.9 | 0.303 | 3.50 | 0.26 | 0.931 | 508.7 | 517.8 | 526.8 | 535.9 | 545.0 | 554.1 | 563.2 |
| | 44 | 41.8 | 0.282 | 3.25 | 0.51 | 0.864 | 508.8 | 517.9 | 526.9 | 536.0 | 545.1 | 554.2 | 563.3 |
| | 43 | 39.7 | 0.262 | 3.02 | 0.74 | 0.803 | 508.9 | 518.0 | 527.0 | 536.1 | 545.2 | 554.3 | 563.4 |
| | 42 | 37.6 | 0.243 | 2.80 | 0.96 | 0.745 | 509.0 | 518.1 | 527.2 | 536.3 | 545.4 | 554.5 | 563.6 |
| | 41 | 35.5 | 0.226 | 2.61 | 1.15 | 0.694 | 509.1 | 518.2 | 527.3 | 536.4 | 545.5 | 554.6 | 563.7 |
| | 40 | 33.4 | 0.210 | 2.42 | 1.34 | 0.643 | 509.2 | 518.3 | 527.4 | 536.5 | 545.6 | 554.7 | 563.8 |
| | 39 | 31.3 | 0.194 | 2.24 | 1.52 | 0.596 | 509.3 | 518.4 | 527.5 | 536.6 | 545.7 | 554.8 | 563.9 |
| | 38 | 29.2 | 0.180 | 2.08 | 1.68 | 0.553 | 509.4 | 518.5 | 527.6 | 536.7 | 545.8 | 554.9 | 564.0 |
| | 37 | 27.1 | 0.167 | 1.93 | 1.83 | 0.514 | 509.5 | 518.6 | 527.7 | 536.8 | 545.9 | 555.0 | 564.1 |
| | 36 | 25.0 | 0.155 | 1.79 | 1.97 | 0.476 | 509.5 | 518.6 | 527.7 | 536.8 | 545.9 | 555.0 | 564.1 |
| 47 | 47 | 47.0 | 0.337 | 3.88 | 0.00 | 1.000 | 507.5 | 516.5 | 525.6 | 534.7 | 543.8 | 552.8 | 561.9 |
| | 46 | 44.9 | 0.313 | 3.62 | 0.26 | 0.933 | 507.6 | 516.6 | 525.7 | 534.8 | 543.9 | 552.9 | 562.0 |
| | 45 | 42.8 | 0.291 | 3.36 | 0.52 | 0.866 | 507.8 | 516.7 | 525.9 | 535.0 | 544.1 | 553.1 | 562.2 |
| | 44 | 40.7 | 0.271 | 3.12 | 0.76 | 0.804 | 507.9 | 516.8 | 526.0 | 535.1 | 544.2 | 553.2 | 562.3 |
| | 43 | 38.6 | 0.252 | 2.90 | 0.98 | 0.747 | 508.0 | 516.9 | 526.1 | 535.2 | 544.3 | 553.3 | 562.4 |
| | 42 | 36.5 | 0.234 | 2.70 | 1.18 | 0.696 | 508.1 | 517.0 | 526.2 | 535.3 | 544.4 | 553.4 | 562.5 |
| | 41 | 34.4 | 0.217 | 2.51 | 1.37 | 0.647 | 508.2 | 517.1 | 526.3 | 535.4 | 544.5 | 553.5 | 562.6 |
| | 40 | 32.3 | 0.201 | 2.32 | 1.56 | 0.598 | 508.3 | 517.2 | 526.4 | 535.5 | 544.6 | 553.6 | 562.7 |
| | 39 | 30.2 | 0.187 | 2.16 | 1.72 | 0.557 | 508.4 | 517.3 | 526.5 | 535.6 | 544.7 | 553.7 | 562.8 |
| | 38 | 28.1 | 0.173 | 2.00 | 1.88 | 0.515 | 508.5 | 517.4 | 526.6 | 535.7 | 544.8 | 553.8 | 562.9 |
| | 37 | 26.0 | 0.161 | 1.85 | 2.03 | 0.477 | 508.5 | 517.6 | 526.7 | 535.8 | 544.9 | 554.0 | 563.1 |
| 48 | 48 | 48.0 | 0.349 | 4.01 | 0.00 | 1.000 | 506.4 | 515.4 | 524.5 | 533.5 | 542.6 | 551.6 | 560.7 |
| | 47 | 45.9 | 0.324 | 3.73 | 0.28 | 0.930 | 506.5 | 515.5 | 524.6 | 533.7 | 542.8 | 551.8 | 560.9 |
| | 46 | 43.8 | 0.302 | 3.47 | 0.54 | 0.865 | 506.6 | 515.6 | 524.7 | 533.8 | 542.9 | 551.9 | 561.0 |
| | 45 | 41.7 | 0.281 | 3.23 | 0.78 | 0.805 | 506.7 | 515.7 | 524.8 | 533.9 | 543.0 | 552.0 | 561.1 |
| | 44 | 39.6 | 0.261 | 3.00 | 1.01 | 0.748 | 506.8 | 515.8 | 524.9 | 534.0 | 543.1 | 552.1 | 561.2 |
| | 43 | 37.5 | 0.242 | 2.79 | 1.22 | 0.696 | 506.9 | 515.9 | 525.0 | 534.1 | 543.2 | 552.2 | 561.3 |
| | 42 | 35.4 | 0.225 | 2.60 | 1.41 | 0.648 | 507.0 | 516.0 | 525.1 | 534.2 | 543.3 | 552.3 | 561.4 |
| | 41 | 33.3 | 0.209 | 2.40 | 1.61 | 0.598 | 507.1 | 516.1 | 525.2 | 534.4 | 543.5 | 552.5 | 561.5 |
| | 40 | 31.2 | 0.194 | 2.24 | 1.77 | 0.558 | 507.2 | 516.2 | 525.3 | 534.5 | 543.5 | 552.5 | 561.6 |
| | 39 | 29.1 | 0.180 | 2.07 | 1.94 | 0.516 | 507.3 | 516.3 | 525.4 | 5346 | 543.6 | 552.6 | 561.6 |
| | 38 | 27.0 | 0.167 | 1.92 | 2.09 | 0.479 | 507.4 | 516.4 | 525.5 | 534.7 | 543.6 | 552.7 | 561.7 |
| | 37 | 24.9 | 0.155 | 1.77 | 2.24 | 0.441 | 507.4 | 516.4 | 525.6 | 534.7 | 543.7 | 552.8 | 561.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 49 | 49 | 49.0 | 0.361 | 4.14 | 0.00 | 1.000 | 505.3 | 514.3 | 523.3 | 532.3 | 541.4 | 550.4 | 559.4 |
| | 48 | 46.9 | 0.336 | 3.85 | 0.29 | 0.930 | 505.4 | 514.4 | 523.4 | 532.4 | 541.5 | 550.5 | 559.5 |
| | 47 | 44.8 | 0.312 | 3.59 | 0.55 | 0.867 | 505.6 | 514.6 | 523.6 | 532.6 | 541.7 | 550.7 | 559.7 |
| | 46 | 42.7 | 0.290 | 3.34 | 0.80 | 0.807 | 505.7 | 514.7 | 523.7 | 532.7 | 541.8 | 550.8 | 559.8 |
| | 45 | 40.6 | 0.270 | 3.10 | 1.04 | 0.749 | 505.9 | 514.9 | 523.8 | 532.9 | 542.0 | 551.0 | 560.0 |
| | 44 | 38.5 | 0.251 | 2.88 | 1.26 | 0.696 | 506.0 | 515.0 | 523.9 | 533.0 | 542.1 | 551.1 | 560.1 |
| | 43 | 36.4 | 0.233 | 2.68 | 1.46 | 0.647 | 506.1 | 515.1 | 524.0 | 533.1 | 542.2 | 551.2 | 560.2 |
| | 42 | 34.3 | 0.216 | 2.49 | 1.65 | 0.601 | 506.2 | 515.2 | 524.1 | 533.2 | 542.3 | 551.3 | 560.3 |
| | 41 | 32.2 | 0.201 | 2.32 | 1.82 | 0.560 | 506.3 | 515.3 | 524.2 | 533.3 | 542.4 | 551.4 | 560.4 |
| | 40 | 30.1 | 0.186 | 2.14 | 2.00 | 0.517 | 506.3 | 515.3 | 524.3 | 533.4 | 542.5 | 551.5 | 560.5 |
| | 39 | 28.0 | 0.173 | 1.99 | 2.15 | 0.481 | 506.4 | 515.4 | 524.4 | 533.5 | 542.6 | 551.6 | 560.6 |
| | 38 | 25.9 | 0.160 | 1.84 | 2.30 | 0.444 | 506.4 | 515.4 | 524.4 | 533.5 | 542.6 | 551.6 | 560.6 |
| 50 | 50 | 50.0 | 0.373 | 4.28 | 0.00 | 1.000 | 504.1 | 513.1 | 522.1 | 531.1 | 540.2 | 549.2 | 558.2 |
| | 49 | 48.0 | 0.349 | 3.99 | 0.29 | 0.932 | 504.2 | 513.2 | 522.2 | 531.2 | 540.3 | 549.3 | 558.3 |
| | 48 | 46.0 | 0.326 | 3.73 | 0.55 | 0.871 | 504.4 | 513.4 | 522.4 | 531.4 | 540.5 | 549.5 | 558.5 |
| | 47 | 44.0 | 0.304 | 3.48 | 0.80 | 0.813 | 504.5 | 513.5 | 522.5 | 531.5 | 540.6 | 549.6 | 558.6 |
| | 46 | 42.0 | 0.283 | 3.25 | 1.03 | 0.759 | 504.6 | 513.6 | 522.6 | 531.6 | 540.7 | 549.7 | 558.7 |
| | 45 | 40.0 | 0.264 | 3.03 | 1.25 | 0.708 | 504.8 | 513.8 | 522.8 | 531.8 | 540.9 | 549.9 | 558.9 |
| | 44 | 38.0 | 0.246 | 2.82 | 1.46 | 0.659 | 504.9 | 513.9 | 522.9 | 532.0 | 541.0 | 550.0 | 559.0 |
| | 43 | 36.0 | 0.230 | 2.63 | 1.65 | 0.614 | 505.1 | 514.1 | 523.1 | 532.1 | 541.2 | 550.2 | 559.2 |
| | 42 | 34.0 | 0.214 | 2.45 | 1.83 | 0.572 | 505.2 | 514.2 | 523.2 | 532.2 | 541.3 | 550.3 | 559.3 |
| | 41 | 32.0 | 0.199 | 2.28 | 2.00 | 0.533 | 505.3 | 514.3 | 523.3 | 532.3 | 541.4 | 550.4 | 559.4 |
| | 40 | 30.0 | 0.186 | 2.12 | 2.16 | 0.495 | 505.4 | 514.4 | 523.4 | 532.4 | 541.5 | 550.5 | 559.5 |
| | 39 | 28.0 | 0.173 | 1.97 | 2.31 | 0.460 | 505.5 | 514.5 | 523.5 | 532.5 | 541.6 | 550.6 | 559.6 |
| 51 | 51 | 51.0 | 0.386 | 4.42 | 0.00 | 1.000 | 503.1 | 512.1 | 521.1 | 530.0 | 539.0 | 548.0 | 557.0 |
| | 50 | 49.0 | 0.361 | 4.12 | 0.30 | 0.932 | 503.2 | 512.2 | 521.2 | 530.1 | 539.1 | 548.1 | 557.1 |
| | 49 | 47.0 | 0.337 | 3.85 | 0.57 | 0.871 | 503.3 | 512.3 | 521.3 | 530.3 | 539.3 | 548.3 | 557.3 |
| | 48 | 45.0 | 0.315 | 3.60 | 0.82 | 0.814 | 503.4 | 512.4 | 521.4 | 530.4 | 539.4 | 548.4 | 557.4 |
| | 47 | 43.0 | 0.293 | 3.36 | 1.06 | 0.760 | 503.5 | 512.5 | 521.5 | 530.5 | 539.5 | 548.5 | 557.5 |
| | 46 | 41.0 | 0.274 | 3.13 | 1.29 | 0.708 | 503.7 | 512.7 | 521.7 | 530.7 | 539.7 | 548.7 | 557.7 |
| | 45 | 39.0 | 0.255 | 2.92 | 1.50 | 0.661 | 503.8 | 512.8 | 521.8 | 530.8 | 539.8 | 548.8 | 557.8 |
| | 44 | 37.0 | 0.238 | 2.72 | 1.70 | 0.615 | 503.9 | 512.9 | 521.9 | 530.9 | 539.9 | 548.9 | 557.9 |
| | 43 | 35.0 | 0.222 | 2.54 | 1.88 | 0.575 | 504.0 | 513.0 | 522.0 | 531.0 | 540.0 | 549.0 | 558.0 |
| | 42 | 33.0 | 0.207 | 2.36 | 2.06 | 0.534 | 504.1 | 513.1 | 522.1 | 531.1 | 540.1 | 549.1 | 558.1 |
| | 41 | 31.0 | 0.192 | 2.20 | 2.22 | 0.498 | 504.2 | 513.2 | 522.2 | 531.2 | 540.3 | 549.3 | 558.3 |
| | 40 | 29.0 | 0.179 | 2.05 | 2.37 | 0.464 | 504.3 | 513.3 | 522.3 | 531.3 | 540.4 | 549.4 | 558.4 |
| 52 | 52 | 52.0 | 0.400 | 4.56 | 0.00 | 1.000 | 502.1 | 511.0 | 520.0 | 528.9 | 537.9 | 546.8 | 555.8 |
| | 51 | 50.0 | 0.373 | 4.26 | 0.30 | 0.934 | 502.2 | 511.1 | 520.1 | 529.0 | 538.0 | 546.9 | 555.9 |
| | 50 | 48.0 | 0.349 | 3.98 | 0.58 | 0.873 | 502.4 | 511.3 | 520.3 | 529.2 | 538.2 | 547.1 | 556.1 |
| | 49 | 46.0 | 0.326 | 3.72 | 0.84 | 0.816 | 502.5 | 511.4 | 520.4 | 529.3 | 538.3 | 547.2 | 556.2 |
| | 48 | 44.0 | 0.304 | 3.47 | 1.09 | 0.761 | 502.6 | 511.5 | 520.5 | 529.4 | 538.4 | 547.3 | 556.3 |
| | 47 | 42.0 | 0.283 | 3.23 | 1.33 | 0.709 | 502.8 | 511.7 | 520.7 | 529.6 | 538.6 | 547.5 | 556.5 |
| | 46 | 40.0 | 0.264 | 3.02 | 1.54 | 0.662 | 502.9 | 511.8 | 520.8 | 529.7 | 538.7 | 547.6 | 556.6 |
| | 45 | 38.0 | 0.246 | 2.81 | 1.75 | 0.616 | 502.9 | 511.9 | 520.9 | 529.8 | 538.8 | 547.8 | 556.8 |
| | 44 | 36.0 | 0.230 | 2.63 | 1.93 | 0.577 | 503.1 | 512.0 | 521.0 | 529.9 | 539.0 | 548.0 | 557.0 |
| | 43 | 34.0 | 0.214 | 2.44 | 2.12 | 0.535 | 503.2 | 512.1 | 521.1 | 530.0 | 539.1 | 548.1 | 557.1 |
| | 42 | 32.0 | 0.199 | 2.28 | 2.28 | 0.500 | 503.3 | 512.3 | 521.3 | 530.2 | 539.2 | 548.2 | 557.2 |
| | 41 | 30.0 | 0.186 | 2.13 | 2.43 | 0.467 | 503.4 | 512.4 | 521.4 | 530.3 | 539.3 | 548.3 | 557.3 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 53 | 53 | 53.0 | 0.414 | 4.71 | 0.00 | 1.000 | 500.9 | 509.8 | 518.8 | 527.7 | 536.7 | 545.6 | 554.6 |
| | 52 | 51.0 | 0.386 | 4.40 | 0.31 | 0.934 | 501.1 | 510.0 | 519.0 | 527.9 | 536.9 | 545.8 | 554.8 |
| | 51 | 49.0 | 0.361 | 4.11 | 0.60 | 0.873 | 501.2 | 510.1 | 519.1 | 528.0 | 537.0 | 545.9 | 554.9 |
| | 50 | 47.0 | 0.337 | 3.84 | 0.87 | 0.815 | 501.4 | 510.3 | 519.3 | 528.2 | 537.2 | 546.1 | 555.1 |
| | 49 | 45.0 | 0.315 | 3.58 | 1.13 | 0.760 | 501.5 | 510.4 | 519.4 | 528.3 | 537.3 | 546.2 | 555.2 |
| | 48 | 43.0 | 0.293 | 3.34 | 1.37 | 0.709 | 501.6 | 510.5 | 519.5 | 528.4 | 537.4 | 546.3 | 555.3 |
| | 47 | 41.0 | 0.274 | 3.12 | 1.59 | 0.662 | 501.7 | 510.6 | 519.6 | 528.5 | 537.5 | 546.4 | 555.4 |
| | 46 | 39.0 | 0.255 | 2.91 | 1.80 | 0.618 | 501.8 | 510.7 | 519.7 | 528.6 | 537.6 | 546.5 | 555.5 |
| | 45 | 37.0 | 0.238 | 2.71 | 2.00 | 0.575 | 502.0 | 510.9 | 519.9 | 528.8 | 537.8 | 546.7 | 555.7 |
| | 44 | 35.0 | 0.222 | 2.53 | 2.18 | 0.537 | 502.1 | 511.0 | 520.0 | 528.9 | 537.9 | 546.8 | 555.8 |
| | 43 | 33.0 | 0.207 | 2.35 | 2.36 | 0.499 | 502.1 | 511.0 | 520.0 | 528.9 | 538.0 | 546.9 | 555.9 |
| | 42 | 31.0 | 0.192 | 2.18 | 2.53 | 0.463 | 502.2 | 511.1 | 520.1 | 529.0 | 538.1 | 547.0 | 556.0 |
| 54 | 54 | 54.0 | 0.428 | 4.86 | 0.00 | 1.000 | 499.9 | 508.8 | 517.8 | 526.7 | 535.6 | 544.5 | 553.5 |
| | 53 | 52.0 | 0.400 | 4.54 | 0.32 | 0.934 | 500.0 | 508.9 | 517.9 | 526.8 | 535.7 | 544.6 | 553.6 |
| | 52 | 50.0 | 0.373 | 4.25 | 0.61 | 0.875 | 500.2 | 509.1 | 518.1 | 527.0 | 535.9 | 544.8 | 553.8 |
| | 51 | 48.0 | 0.349 | 3.96 | 0.90 | 0.815 | 500.3 | 509.2 | 518.2 | 527.1 | 536.0 | 544.9 | 553.9 |
| | 50 | 46.0 | 0.326 | 3.70 | 1.16 | 0.761 | 500.4 | 509.3 | 518.3 | 527.2 | 536.1 | 545.0 | 554.0 |
| | 49 | 44.0 | 0.304 | 3.45 | 1.41 | 0.709 | 500.6 | 509.5 | 518.5 | 527.4 | 536.3 | 545.2 | 554.2 |
| | 48 | 42.0 | 0.283 | 3.23 | 1.63 | 0.665 | 500.7 | 509.6 | 518.6 | 527.5 | 536.4 | 545.3 | 554.3 |
| | 47 | 40.0 | 0.264 | 3.01 | 1.85 | 0.619 | 500.8 | 509.7 | 518.7 | 527.6 | 536.5 | 545.4 | 554.4 |
| | 46 | 38.0 | 0.246 | 2.80 | 2.06 | 0.576 | 500.9 | 509.8 | 518.8 | 527.7 | 536.7 | 545.6 | 554.6 |
| | 45 | 36.0 | 0.230 | 2.61 | 2.25 | 0.537 | 501.0 | 509.9 | 518.9 | 527.8 | 536.8 | 545.7 | 554.7 |
| | 44 | 34.0 | 0.214 | 2.43 | 2.43 | 0.500 | 501.1 | 510.0 | 519.0 | 527.9 | 536.9 | 545.8 | 554.8 |
| | 43 | 32.0 | 0.199 | 2.27 | 2.59 | 0.467 | 501.2 | 510.1 | 519.1 | 528.0 | 537.0 | 545.9 | 554.9 |
| | 42 | 30.0 | 0.186 | 2.10 | 2.76 | 0.432 | 501.3 | 510.2 | 519.2 | 528.1 | 537.1 | 546.0 | 555.0 |
| | 41 | 28.0 | 0.173 | 1.96 | 2.90 | 0.403 | 501.4 | 510.3 | 519.3 | 528.2 | 537.2 | 546.1 | 555.1 |
| | 40 | 26.0 | 0.161 | 1.82 | 3.04 | 0.375 | 501.5 | 510.4 | 519.4 | 528.3 | 537.3 | 546.2 | 555.2 |
| 55 | 55 | 55.0 | 0.442 | 5.02 | 0.00 | 1.000 | 498.8 | 507.7 | 516.6 | 525.5 | 534.4 | 543.3 | 552.2 |
| | 54 | 53.3 | 0.418 | 4.74 | 0.28 | 0.944 | 499.0 | 507.9 | 516.8 | 525.7 | 534.6 | 543.5 | 552.4 |
| | 53 | 51.6 | 0.394 | 4.46 | 0.56 | 0.888 | 499.1 | 508.0 | 516.9 | 525.8 | 534.7 | 543.6 | 552.5 |
| | 52 | 49.9 | 0.372 | 4.23 | 0.79 | 0.843 | 499.3 | 508.2 | 517.1 | 526.0 | 534.9 | 543.8 | 552.7 |
| | 51 | 48.2 | 0.351 | 3.98 | 1.04 | 0.793 | 499.4 | 508.3 | 517.2 | 526.1 | 535.0 | 543.9 | 552.8 |
| | 50 | 46.5 | 0.331 | 3.76 | 1.26 | 0.749 | 499.5 | 508.4 | 517.3 | 526.2 | 535.1 | 544.0 | 552.9 |
| | 49 | 44.8 | 0.312 | 3.55 | 1.47 | 0.707 | 499.7 | 508.6 | 517.5 | 526.3 | 535.3 | 544.2 | 553.1 |
| | 48 | 43.1 | 0.295 | 3.34 | 1.68 | 0.665 | 499.8 | 508.7 | 517.6 | 526.5 | 535.4 | 544.3 | 553.3 |
| | 47 | 41.4 | 0.278 | 3.14 | 1.88 | 0.626 | 499.8 | 508.7 | 517.6 | 526.6 | 535.5 | 544.4 | 553.4 |
| | 46 | 39.7 | 0.262 | 2.97 | 2.05 | 0.591 | 499.9 | 508.8 | 517.7 | 526.7 | 535.6 | 544.5 | 553.5 |
| | 45 | 38.0 | 0.246 | 2.79 | 2.23 | 0.556 | 500.0 | 508.9 | 517.9 | 526.8 | 535.7 | 544.6 | 553.6 |
| | 44 | 36.3 | 0.232 | 2.64 | 2.38 | 0.526 | 500.1 | 509.0 | 518.0 | 526.9 | 535.8 | 544.7 | 553.7 |
| | 43 | 34.6 | 0.219 | 2.47 | 2.55 | 0.492 | 500.2 | 509.1 | 518.1 | 527.0 | 535.9 | 544.8 | 553.8 |
| | 42 | 32.9 | 0.206 | 2.32 | 2.70 | 0.462 | 500.3 | 509.2 | 518.2 | 527.1 | 536.0 | 544.9 | 553.9 |
| | 41 | 31.2 | 0.194 | 2.20 | 2.82 | 0.438 | 500.4 | 509.3 | 518.3 | 527.1 | 536.0 | 544.9 | 554.0 |
| | 40 | 29.5 | 0.182 | 2.07 | 2.95 | 0.412 | 500.5 | 509.3 | 518.4 | 527.2 | 536.1 | 545.0 | 554.1 |
| | 39 | 27.8 | 0.172 | 1.95 | 3.07 | 0.388 | 500.6 | 509.4 | 518.5 | 527.3 | 536.2 | 545.1 | 554.2 |
| | 38 | 26.1 | 0.161 | 1.83 | 3.19 | 0.365 | 500.7 | 509.5 | 518.6 | 527.4 | 536.2 | 545.1 | 554.2 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 56 | 56 | 56.0 | 0.458 | 5.18 | 0.00 | 1.000 | 497.7 | 506.6 | 515.5 | 524.4 | 533.2 | 542.1 | 551.0 |
| | 55 | 54.3 | 0.432 | 4.89 | 0.29 | 0.944 | 497.9 | 506.8 | 515.7 | 524.6 | 533.4 | 542.3 | 551.2 |
| | 54 | 52.6 | 0.408 | 4.61 | 0.57 | 0.890 | 498.0 | 506.9 | 515.8 | 524.7 | 533.5 | 542.4 | 551.3 |
| | 53 | 50.9 | 0.385 | 4.37 | 0.81 | 0.844 | 498.2 | 507.1 | 516.0 | 524.9 | 533.7 | 542.6 | 551.5 |
| | 52 | 49.2 | 0.363 | 4.11 | 1.07 | 0.793 | 498.3 | 507.2 | 516.1 | 525.0 | 533.8 | 542.7 | 551.6 |
| | 51 | 47.5 | 0.343 | 3.87 | 1.31 | 0.747 | 498.4 | 507.3 | 516.2 | 525.1 | 533.9 | 542.8 | 551.7 |
| | 50 | 45.8 | 0.323 | 3.66 | 1.52 | 0.706 | 498.6 | 507.5 | 516.4 | 525.3 | 534.1 | 543.0 | 551.9 |
| | 49 | 44.1 | 0.305 | 3.45 | 1.73 | 0.666 | 498.6 | 507.5 | 516.4 | 525.3 | 534.2 | 543.1 | 552.0 |
| | 48 | 42.4 | 0.287 | 3.25 | 1.93 | 0.627 | 498.7 | 507.6 | 516.5 | 525.4 | 534.3 | 543.2 | 552.1 |
| | 47 | 40.7 | 0.271 | 3.07 | 2.11 | 0.593 | 498.8 | 507.7 | 516.6 | 525.5 | 534.4 | 543.3 | 552.2 |
| | 46 | 39.0 | 0.255 | 2.89 | 2.29 | 0.558 | 498.9 | 507.8 | 516.7 | 525.6 | 534.5 | 543.4 | 552.3 |
| | 45 | 37.3 | 0.240 | 2.73 | 2.45 | 0.527 | 499.0 | 507.9 | 516.8 | 525.7 | 534.6 | 543.5 | 552.4 |
| | 44 | 35.6 | 0.227 | 2.56 | 2.62 | 0.494 | 499.1 | 508.0 | 516.9 | 525.8 | 534.7 | 543.6 | 552.5 |
| | 43 | 33.9 | 0.213 | 2.41 | 2.77 | 0.465 | 499.2 | 508.1 | 517.0 | 525.9 | 534.8 | 543.7 | 552.6 |
| | 42 | 32.2 | 0.201 | 2.27 | 2.91 | 0.438 | 499.3 | 508.2 | 517.1 | 526.0 | 534.9 | 543.8 | 552.7 |
| | 41 | 30.5 | 0.189 | 2.14 | 3.04 | 0.413 | 499.4 | 508.3 | 517.2 | 526.1 | 535.0 | 543.9 | 552.8 |
| | 40 | 28.8 | 0.178 | 2.01 | 3.17 | 0.388 | 499.5 | 508.4 | 517.3 | 526.2 | 535.1 | 544.1 | 552.9 |
| | 39 | 27.1 | 0.167 | 1.89 | 3.29 | 0.365 | 499.5 | 508.4 | 517.3 | 526.2 | 535.1 | 544.1 | 552.9 |
| 57 | 57 | 57.0 | 0.473 | 5.34 | 0.00 | 1.000 | 496.6 | 505.5 | 514.4 | 523.2 | 532.1 | 540.9 | 549.8 |
| | 56 | 55.3 | 0.447 | 5.05 | 0.29 | 0.946 | 496.8 | 505.7 | 514.6 | 523.4 | 532.3 | 541.1 | 550.0 |
| | 55 | 53.6 | 0.422 | 4.76 | 0.58 | 0.891 | 496.9 | 505.8 | 514.7 | 523.5 | 532.4 | 541.2 | 550.1 |
| | 54 | 51.9 | 0.398 | 4.50 | 0.84 | 0.843 | 497.1 | 506.0 | 514.9 | 523.7 | 532.6 | 541.4 | 550.3 |
| | 53 | 50.2 | 0.376 | 4.25 | 1.09 | 0.796 | 497.2 | 506.1 | 515.0 | 523.8 | 532.7 | 541.5 | 550.4 |
| | 52 | 48.5 | 0.355 | 4.00 | 1.34 | 0.749 | 497.3 | 506.2 | 515.1 | 523.9 | 532.8 | 541.6 | 550.5 |
| | 51 | 46.8 | 0.335 | 3.78 | 1.56 | 0.709 | 497.5 | 506.4 | 515.3 | 524.1 | 533.0 | 541.8 | 550.7 |
| | 50 | 45.1 | 0.316 | 3.56 | 1.78 | 0.667 | 497.6 | 506.5 | 515.4 | 524.2 | 533.1 | 541.9 | 550.8 |
| | 49 | 43.4 | 0.298 | 3.36 | 1.98 | 0.629 | 497.7 | 506.6 | 515.5 | 524.3 | 533.2 | 542.0 | 550.9 |
| | 48 | 41.7 | 0.281 | 3.17 | 2.17 | 0.594 | 497.8 | 506.7 | 515.6 | 524.4 | 533.3 | 542.1 | 551.0 |
| | 47 | 40.0 | 0.264 | 2.99 | 2.35 | 0.560 | 497.9 | 506.8 | 515.7 | 524.5 | 533.4 | 542.2 | 551.2 |
| | 46 | 38.3 | 0.249 | 2.81 | 2.53 | 0.526 | 498.0 | 506.9 | 515.8 | 524.6 | 533.5 | 542.3 | 551.3 |
| | 45 | 36.6 | 0.235 | 2.65 | 2.69 | 0.496 | 498.1 | 507.0 | 515.9 | 524.7 | 533.6 | 542.4 | 551.4 |
| | 44 | 34.9 | 0.221 | 2.50 | 2.84 | 0.468 | 498.2 | 507.1 | 516.0 | 524.8 | 533.7 | 542.5 | 551.5 |
| | 43 | 33.2 | 0.208 | 2.35 | 2.99 | 0.440 | 498.3 | 507.2 | 516.1 | 524.9 | 533.8 | 542.6 | 551.6 |
| | 42 | 31.5 | 0.196 | 2.21 | 3.13 | 0.414 | 498.3 | 507.2 | 516.1 | 524.9 | 533.8 | 542.6 | 551.6 |
| | 41 | 29.8 | 0.184 | 2.08 | 3.26 | 0.390 | 498.4 | 507.3 | 516.2 | 525.1 | 533.9 | 542.7 | 551.7 |
| | 40 | 28.1 | 0.173 | 1.96 | 3.38 | 0.367 | 498.5 | 507.4 | 516.3 | 525.2 | 534.0 | 542.8 | 551.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 58 | 58 | 58.0 | 0.489 | 5.51 | 0.00 | 1.000 | 495.5 | 504.3 | 513.2 | 522.0 | 530.9 | 539.7 | 548.6 |
| | 57 | 56.3 | 0.462 | 5.21 | 0.30 | 0.946 | 495.7 | 504.5 | 513.4 | 522.2 | 531.1 | 539.9 | 548.8 |
| | 56 | 54.6 | 0.437 | 4.92 | 0.59 | 0.893 | 495.8 | 504.6 | 513.5 | 522.3 | 531.2 | 540.0 | 548.9 |
| | 55 | 52.9 | 0.412 | 4.64 | 0.87 | 0.842 | 496.0 | 504.8 | 513.7 | 522.5 | 531.4 | 540.2 | 549.1 |
| | 54 | 51.2 | 0.389 | 4.39 | 1.12 | 0.797 | 496.1 | 504.9 | 513.8 | 522.7 | 531.6 | 540.4 | 549.3 |
| | 53 | 49.5 | 0.367 | 4.14 | 1.37 | 0.751 | 496.2 | 505.0 | 513.9 | 522.8 | 531.7 | 540.5 | 549.4 |
| | 52 | 47.8 | 0.346 | 3.90 | 1.61 | 0.708 | 496.4 | 505.2 | 514.1 | 523.0 | 531.9 | 540.7 | 549.6 |
| | 51 | 46.1 | 0.327 | 3.68 | 1.83 | 0.668 | 496.5 | 505.3 | 514.2 | 523.1 | 532.0 | 540.8 | 549.7 |
| | 50 | 44.4 | 0.308 | 3.48 | 2.03 | 0.632 | 496.6 | 505.4 | 514.3 | 523.2 | 532.1 | 540.9 | 549.8 |
| | 49 | 42.7 | 0.290 | 3.28 | 2.23 | 0.595 | 496.7 | 505.5 | 514.4 | 523.3 | 532.2 | 541.0 | 549.9 |
| | 48 | 41.0 | 0.274 | 3.08 | 2.43 | 0.559 | 496.8 | 505.6 | 514.5 | 523.4 | 532.3 | 541.1 | 550.0 |
| | 47 | 39.3 | 0.258 | 2.91 | 2.60 | 0.528 | 496.9 | 505.7 | 514.6 | 523.5 | 532.4 | 541.2 | 550.1 |
| | 46 | 37.6 | 0.243 | 2.74 | 2.77 | 0.497 | 497.0 | 505.8 | 514.7 | 523.6 | 532.5 | 541.3 | 550.2 |
| | 45 | 35.9 | 0.229 | 2.58 | 2.93 | 0.469 | 497.1 | 505.9 | 514.8 | 523.7 | 532.6 | 541.4 | 550.3 |
| | 44 | 34.2 | 0.216 | 2.43 | 3.08 | 0.441 | 497.2 | 506.0 | 514.9 | 523.8 | 532.7 | 541.5 | 550.4 |
| | 43 | 32.5 | 0.203 | 2.29 | 3.22 | 0.416 | 497.3 | 506.1 | 515.1 | 523.9 | 532.8 | 541.6 | 550.5 |
| | 42 | 30.8 | 0.191 | 2.15 | 3.36 | 0.390 | 497.4 | 506.2 | 515.2 | 524.1 | 532.9 | 541.7 | 550.6 |
| | 41 | 29.1 | 0.180 | 2.03 | 3.48 | 0.368 | 497.5 | 506.3 | 515.3 | 524.2 | 533.0 | 541.8 | 550.7 |
| | 40 | 27.4 | 0.169 | 1.91 | 3.60 | 0.347 | 497.5 | 506.3 | 515.3 | 524.2 | 533.0 | 541.8 | 550.7 |
| 59 | 59 | 59.0 | 0.506 | 5.69 | 0.00 | 1.000 | 494.5 | 503.3 | 512.2 | 521.0 | 529.8 | 538.6 | 547.5 |
| | 58 | 57.3 | 0.478 | 5.37 | 0.32 | 0.944 | 494.6 | 503.4 | 512.3 | 521.1 | 529.9 | 538.7 | 547.6 |
| | 57 | 55.6 | 0.452 | 5.08 | 0.61 | 0.893 | 494.7 | 503.5 | 512.4 | 521.2 | 530.0 | 538.8 | 547.7 |
| | 56 | 53.9 | 0.426 | 4.79 | 0.90 | 0.842 | 494.8 | 503.6 | 512.5 | 521.3 | 530.1 | 538.9 | 547.8 |
| | 55 | 52.2 | 0.402 | 4.53 | 1.16 | 0.796 | 494.9 | 503.7 | 512.6 | 521.4 | 530.3 | 539.1 | 548.0 |
| | 54 | 50.5 | 0.380 | 4.28 | 1.41 | 0.752 | 495.1 | 503.9 | 512.8 | 521.6 | 530.5 | 539.3 | 548.2 |
| | 53 | 48.8 | 0.358 | 4.03 | 1.66 | 0.708 | 495.3 | 504.1 | 513.0 | 521.8 | 530.7 | 539.5 | 548.4 |
| | 52 | 47.1 | 0.338 | 3.80 | 1.89 | 0.668 | 495.4 | 504.2 | 513.1 | 521.9 | 530.8 | 539.6 | 548.5 |
| | 51 | 45.4 | 0.319 | 3.60 | 2.09 | 0.633 | 495.5 | 504.3 | 513.2 | 522.0 | 530.9 | 539.7 | 548.6 |
| | 50 | 43.7 | 0.301 | 3.39 | 2.30 | 0.596 | 495.7 | 504.5 | 513.4 | 522.2 | 531.1 | 539.9 | 548.8 |
| | 49 | 42.0 | 0.283 | 3.19 | 2.50 | 0.561 | 495.8 | 504.6 | 513.4 | 522.3 | 531.2 | 540.0 | 548.9 |
| | 48 | 40.3 | 0.267 | 3.01 | 2.68 | 0.529 | 495.9 | 504.7 | 513.5 | 522.4 | 531.3 | 540.1 | 549.0 |
| | 47 | 38.6 | 0.252 | 2.84 | 2.85 | 0.499 | 496.0 | 504.8 | 513.6 | 522.5 | 531.4 | 540.2 | 549.1 |
| | 46 | 36.9 | 0.237 | 2.67 | 3.02 | 0.469 | 496.1 | 504.9 | 513.7 | 522.6 | 531.5 | 540.3 | 549.2 |
| | 45 | 35.2 | 0.223 | 2.51 | 3.18 | 0.441 | 496.2 | 505.0 | 513.8 | 522.7 | 531.6 | 540.4 | 549.3 |
| | 44 | 33.5 | 0.210 | 2.37 | 3.32 | 0.417 | 496.3 | 505.1 | 513.9 | 522.8 | 531.7 | 540.5 | 549.4 |
| | 43 | 31.8 | 0.198 | 2.23 | 3.46 | 0.392 | 496.4 | 505.2 | 514.1 | 522.9 | 531.8 | 540.6 | 549.5 |
| | 42 | 30.1 | 0.186 | 2.09 | 3.60 | 0.367 | 496.5 | 505.3 | 514.2 | 523.0 | 531.9 | 540.7 | 549.6 |
| | 41 | 28.4 | 0.175 | 1.97 | 3.72 | 0.346 | 496.6 | 505.4 | 514.3 | 523.1 | 532.0 | 540.8 | 549.7 |
| | 40 | 26.7 | 0.165 | 1.85 | 3.84 | 0.325 | 496.6 | 505.4 | 514.3 | 523.1 | 532.0 | 540.8 | 549.7 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 60 | 60 | 60.0 | 0.523 | 5.87 | 0.00 | 1.000 | 493.4 | 502.2 | 511.0 | 519.8 | 528.6 | 537.4 | 546.2 |
| | 59 | 58.3 | 0.494 | 5.54 | 0.33 | 0.944 | 493.6 | 502.4 | 511.2 | 520.0 | 528.8 | 537.6 | 546.4 |
| | 58 | 56.6 | 0.467 | 5.24 | 0.63 | 0.893 | 493.7 | 502.5 | 511.3 | 520.1 | 528.9 | 537.7 | 546.5 |
| | 57 | 54.9 | 0.441 | 4.95 | 0.92 | 0.843 | 493.8 | 502.6 | 511.4 | 520.2 | 529.0 | 537.8 | 546.6 |
| | 56 | 53.2 | 0.416 | 4.68 | 1.19 | 0.797 | 494.0 | 502.8 | 511.6 | 520.4 | 529.2 | 538.0 | 546.8 |
| | 55 | 51.5 | 0.393 | 4.41 | 1.46 | 0.751 | 494.2 | 503.0 | 511.8 | 520.6 | 529.4 | 538.2 | 547.0 |
| | 54 | 49.8 | 0.371 | 4.17 | 1.70 | 0.710 | 494.4 | 503.2 | 512.0 | 520.8 | 529.6 | 538.4 | 547.2 |
| | 53 | 48.1 | 0.350 | 3.92 | 1.95 | 0.668 | 494.5 | 503.3 | 512.1 | 520.9 | 529.7 | 538.5 | 547.4 |
| | 52 | 46.4 | 0.330 | 3.70 | 2.17 | 0.630 | 494.7 | 503.4 | 512.3 | 521.1 | 529.9 | 538.7 | 547.6 |
| | 51 | 44.7 | 0.311 | 3.49 | 2.38 | 0.595 | 494.8 | 503.5 | 512.4 | 521.2 | 530.0 | 538.8 | 547.7 |
| | 50 | 43.0 | 0.293 | 3.29 | 2.58 | 0.561 | 494.8 | 503.6 | 512.5 | 521.3 | 530.1 | 538.9 | 547.8 |
| | 49 | 41.3 | 0.277 | 3.10 | 2.77 | 0.528 | 494.9 | 503.7 | 512.6 | 521.4 | 530.2 | 539.0 | 547.9 |
| | 48 | 39.6 | 0.261 | 2.93 | 2.94 | 0.499 | 495.0 | 503.8 | 512.7 | 521.5 | 530.3 | 539.1 | 548.0 |
| | 47 | 37.9 | 0.246 | 2.75 | 3.12 | 0.468 | 495.1 | 503.9 | 512.8 | 521.6 | 530.4 | 539.2 | 548.1 |
| | 46 | 36.2 | 0.231 | 2.60 | 3.27 | 0.443 | 495.2 | 504.0 | 512.9 | 521.7 | 530.5 | 539.3 | 548.2 |
| | 45 | 34.5 | 0.218 | 2.45 | 3.42 | 0.417 | 495.3 | 504.1 | 513.0 | 521.8 | 530.6 | 539.4 | 548.3 |
| | 44 | 32.8 | 0.205 | 2.31 | 3.56 | 0.394 | 495.4 | 504.2 | 513.1 | 521.9 | 530.7 | 539.5 | 548.4 |
| | 43 | 31.1 | 0.193 | 2.17 | 3.70 | 0.370 | 495.5 | 504.3 | 513.2 | 522.0 | 530.8 | 539.6 | 548.5 |
| | 42 | 29.4 | 0.182 | 2.04 | 3.83 | 0.348 | 495.6 | 504.4 | 513.3 | 522.1 | 530.9 | 539.7 | 548.6 |
| | 41 | 27.7 | 0.171 | 1.92 | 3.95 | 0.327 | 495.6 | 504.4 | 513.3 | 522.1 | 530.9 | 539.7 | 548.7 |
| 61 | 61 | 61.0 | 0.541 | 6.06 | 0.00 | 1.000 | 492.3 | 501.1 | 509.9 | 518.7 | 527.5 | 536.3 | 545.1 |
| | 60 | 59.3 | 0.511 | 5.72 | 0.34 | 0.944 | 492.5 | 501.3 | 510.1 | 518.9 | 527.7 | 536.5 | 545.3 |
| | 59 | 57.6 | 0.483 | 5.40 | 0.66 | 0.891 | 492.6 | 501.4 | 510.2 | 519.0 | 527.8 | 536.6 | 545.4 |
| | 58 | 55.9 | 0.456 | 5.11 | 0.95 | 0.843 | 492.8 | 501.6 | 510.4 | 519.2 | 528.0 | 536.8 | 545.6 |
| | 57 | 54.2 | 0.431 | 4.83 | 1.23 | 0.797 | 493.0 | 501.8 | 510.6 | 519.4 | 528.2 | 537.0 | 545.8 |
| | 56 | 52.5 | 0.407 | 4.55 | 1.51 | 0.751 | 493.1 | 501.9 | 510.7 | 519.5 | 528.3 | 537.1 | 545.9 |
| | 55 | 50.8 | 0.383 | 4.30 | 1.76 | 0.710 | 493.3 | 502.1 | 510.9 | 519.7 | 528.5 | 537.3 | 546.1 |
| | 54 | 49.1 | 0.362 | 4.05 | 2.01 | 0.668 | 493.4 | 502.2 | 511.0 | 519.8 | 528.6 | 537.4 | 546.2 |
| | 53 | 47.4 | 0.342 | 3.83 | 2.23 | 0.632 | 493.5 | 502.3 | 511.1 | 519.9 | 528.7 | 537.5 | 546.3 |
| | 52 | 45.7 | 0.322 | 3.61 | 2.45 | 0.596 | 493.6 | 502.4 | 511.2 | 520.0 | 528.8 | 537.6 | 546.4 |
| | 51 | 44.0 | 0.304 | 3.40 | 2.66 | 0.561 | 493.8 | 502.6 | 511.4 | 520.2 | 529.0 | 537.8 | 546.6 |
| | 50 | 42.3 | 0.286 | 3.21 | 2.85 | 0.530 | 493.9 | 502.7 | 511.5 | 520.3 | 529.1 | 537.9 | 546.7 |
| | 49 | 40.6 | 0.270 | 3.02 | 3.04 | 0.498 | 494.0 | 502.8 | 511.6 | 520.4 | 529.2 | 538.0 | 546.8 |
| | 48 | 38.9 | 0.254 | 2.85 | 3.21 | 0.470 | 494.1 | 502.9 | 511.7 | 520.5 | 529.3 | 538.1 | 546.9 |
| | 47 | 37.2 | 0.240 | 2.69 | 3.37 | 0.444 | 494.2 | 503.0 | 511.8 | 520.6 | 529.4 | 538.2 | 547.0 |
| | 46 | 35.5 | 0.226 | 2.53 | 3.53 | 0.417 | 494.3 | 503.1 | 511.9 | 520.7 | 529.5 | 538.3 | 547.1 |
| | 45 | 33.8 | 0.213 | 2.38 | 3.68 | 0.393 | 494.4 | 503.2 | 512.0 | 520.8 | 529.6 | 538.4 | 547.2 |
| | 44 | 32.1 | 0.200 | 2.24 | 3.82 | 0.370 | 494.5 | 503.3 | 512.1 | 520.9 | 529.7 | 538.5 | 547.3 |
| | 43 | 30.4 | 0.188 | 2.11 | 3.95 | 0.348 | 494.6 | 503.4 | 512.2 | 521.0 | 529.8 | 538.6 | 547.4 |
| | 42 | 28.7 | 0.177 | 1.99 | 4.07 | 0.328 | 494.7 | 503.5 | 512.3 | 521.1 | 529.9 | 538.7 | 547.5 |
| | 41 | 27.0 | 0.167 | 1.87 | 4.19 | 0.309 | 494.7 | 503.5 | 512.3 | 521.1 | 529.9 | 538.7 | 547.5 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor. | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 62 | 62 | 62.0 | 0.559 | 6.25 | 0.00 | 1.000 | 491.2 | 499.9 | 508.7 | 517.5 | 526.3 | 535.1 | 543.9 |
| | 61 | 60.3 | 0.528 | 5.91 | 0.34 | 0.946 | 491.4 | 500.1 | 508.9 | 517.7 | 526.5 | 535.3 | 544.1 |
| | 60 | 58.6 | 0.499 | 5.58 | 0.67 | 0.893 | 491.5 | 500.2 | 509.0 | 517.8 | 526.6 | 535.4 | 544.2 |
| | 59 | 56.9 | 0.472 | 5.27 | 0.98 | 0.843 | 491.7 | 500.4 | 509.2 | 518.0 | 526.8 | 535.6 | 544.4 |
| | 58 | 55.2 | 0.445 | 4.99 | 1.26 | 0.798 | 491.9 | 500.6 | 509.4 | 518.2 | 527.0 | 535.8 | 544.6 |
| | 57 | 53.5 | 0.421 | 4.70 | 1.55 | 0.752 | 492.0 | 500.7 | 509.5 | 518.3 | 527.1 | 535.9 | 544.7 |
| | 56 | 51.8 | 0.397 | 4.44 | 1.81 | 0.710 | 492.1 | 500.7 | 509.5 | 518.4 | 527.3 | 536.1 | 544.9 |
| | 55 | 50.1 | 0.375 | 4.19 | 2.06 | 0.670 | 492.2 | 500.9 | 509.7 | 518.5 | 527.4 | 536.2 | 545.0 |
| | 54 | 48.4 | 0.354 | 3.95 | 2.30 | 0.632 | 492.4 | 501.1 | 509.9 | 518.7 | 527.6 | 536.4 | 545.2 |
| | 53 | 46.7 | 0.333 | 3.72 | 2.53 | 0.595 | 492.5 | 501.3 | 510.1 | 518.9 | 527.7 | 536.5 | 545.3 |
| | 52 | 45.0 | 0.315 | 3.52 | 2.73 | 0.563 | 492.7 | 501.5 | 510.3 | 519.1 | 527.9 | 536.7 | 545.5 |
| | 51 | 43.3 | 0.297 | 3.31 | 2.94 | 0.530 | 492.8 | 501.6 | 510.4 | 519.2 | 528.0 | 536.8 | 545.6 |
| | 50 | 41.6 | 0.280 | 3.13 | 3.12 | 0.501 | 492.9 | 501.7 | 510.5 | 519.3 | 528.1 | 536.9 | 545.7 |
| | 49 | 39.9 | 0.263 | 2.95 | 3.30 | 0.472 | 493.0 | 501.8 | 510.6 | 519.4 | 528.2 | 537.0 | 545.8 |
| | 48 | 38.2 | 0.248 | 2.77 | 3.48 | 0.443 | 493.1 | 501.9 | 510.7 | 519.5 | 528.3 | 537.1 | 545.9 |
| | 47 | 36.5 | 0.234 | 2.61 | 3.64 | 0.418 | 493.2 | 502.0 | 510.8 | 519.6 | 528.4 | 537.2 | 546.0 |
| | 46 | 34.8 | 0.220 | 2.47 | 3.78 | 0.395 | 493.3 | 502.1 | 510.9 | 519.7 | 528.5 | 537.3 | 546.1 |
| | 45 | 33.1 | 0.207 | 2.32 | 3.93 | 0.371 | 493.3 | 502.1 | 511.0 | 519.7 | 528.6 | 537.3 | 546.1 |
| | 44 | 31.4 | 0.195 | 2.18 | 4.07 | 0.349 | 493.4 | 502.2 | 511.0 | 519.8 | 528.6 | 537.4 | 546.2 |
| | 43 | 29.7 | 0.184 | 2.06 | 4.19 | 0.330 | 493.4 | 502.2 | 511.1 | 519.8 | 528.6 | 537.4 | 546.2 |
| | 42 | 28.0 | 0.173 | 1.94 | 4.31 | 0.311 | 493.5 | 502.3 | 511.2 | 519.9 | 528.7 | 537.5 | 546.3 |
| | 41 | 26.3 | 0.163 | 1.83 | 4.42 | 0.293 | 493.6 | 502.4 | 511.3 | 520.0 | 528.8 | 537.6 | 546.4 |
| 63 | 63 | 63.0 | 0.578 | 6.45 | 0.00 | 1.000 | 490.2 | 498.9 | 507.7 | 516.4 | 525.2 | 533.9 | 542.7 |
| | 62 | 61.3 | 0.546 | 6.10 | 0.35 | 0.946 | 490.4 | 499.1 | 507.9 | 516.6 | 525.4 | 534.1 | 542.9 |
| | 61 | 59.6 | 0.516 | 5.76 | 0.69 | 0.893 | 490.5 | 499.2 | 508.0 | 516.7 | 525.5 | 534.2 | 543.0 |
| | 60 | 57.9 | 0.488 | 5.44 | 1.01 | 0.843 | 490.7 | 499.4 | 508.2 | 516.9 | 525.7 | 534.4 | 543.2 |
| | 59 | 56.2 | 0.461 | 5.15 | 1.30 | 0.798 | 490.9 | 499.6 | 508.4 | 517.1 | 525.9 | 534.6 | 543.4 |
| | 58 | 54.5 | 0.435 | 4.86 | 1.59 | 0.753 | 491.0 | 499.7 | 508.5 | 517.2 | 526.0 | 534.7 | 543.5 |
| | 57 | 52.8 | 0.411 | 4.59 | 1.86 | 0.712 | 491.1 | 499.8 | 508.6 | 517.3 | 526.2 | 534.9 | 543.7 |
| | 56 | 51.1 | 0.388 | 4.33 | 2.12 | 0.671 | 491.2 | 499.9 | 508.7 | 517.4 | 526.3 | 535.0 | 543.8 |
| | 55 | 49.4 | 0.366 | 4.09 | 2.36 | 0.634 | 491.3 | 500.0 | 508.8 | 517.5 | 526.4 | 535.1 | 543.9 |
| | 54 | 47.7 | 0.345 | 3.85 | 2.60 | 0.597 | 491.5 | 500.2 | 509.0 | 517.7 | 526.6 | 535.3 | 544.1 |
| | 53 | 46.0 | 0.326 | 3.63 | 2.82 | 0.563 | 491.7 | 500.4 | 509.2 | 518.0 | 526.8 | 535.5 | 544.3 |
| | 52 | 44.3 | 0.307 | 3.43 | 3.02 | 0.532 | 491.8 | 500.5 | 509.3 | 518.1 | 526.9 | 535.6 | 544.4 |
| | 51 | 42.6 | 0.289 | 3.24 | 3.21 | 0.502 | 491.9 | 500.6 | 509.4 | 518.2 | 527.0 | 535.7 | 544.5 |
| | 50 | 40.9 | 0.273 | 3.05 | 3.40 | 0.473 | 492.0 | 500.7 | 509.5 | 518.3 | 527.1 | 535.8 | 544.6 |
| | 49 | 39.2 | 0.257 | 2.07 | 3.58 | 0.445 | 492.1 | 500.8 | 509.6 | 518.4 | 527.2 | 535.9 | 544.7 |
| | 48 | 37.5 | 0.242 | 2.71 | 3.74 | 0.420 | 492.2 | 500.9 | 509.7 | 518.5 | 527.3 | 536.0 | 544.8 |
| | 47 | 35.8 | 0.228 | 2.56 | 3.89 | 0.397 | 492.3 | 501.0 | 509.8 | 518.6 | 527.4 | 536.1 | 544.9 |
| | 46 | 34.1 | 0.215 | 2.41 | 4.04 | 0.374 | 492.4 | 501.1 | 509.9 | 518.7 | 527.5 | 536.2 | 545.0 |
| | 45 | 32.4 | 0.202 | 2.26 | 4.19 | 0.351 | 492.5 | 501.2 | 510.0 | 518.8 | 527.6 | 536.3 | 545.1 |
| | 44 | 30.7 | 0.190 | 2.13 | 4.32 | 0.330 | 492.5 | 501.2 | 510.0 | 518.8 | 527.6 | 536.3 | 545.1 |
| | 43 | 29.0 | 0.179 | 2.00 | 4.45 | 0.310 | 492.6 | 501.3 | 510.1 | 518.9 | 527.7 | 536.4 | 545.2 |
| | 42 | 27.3 | 0.168 | 1.87 | 4.58 | 0.290 | 492.7 | 501.4 | 510.2 | 519.0 | 527.8 | 536.5 | 545.3 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor. | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 64 | 64 | 64.0 | 0.597 | 6.65 | 0.00 | 1.000 | 489.1 | 497.8 | 506.6 | 515.3 | 524.0 | 532.7 | 541.5 |
| | 63 | 62.3 | 0.565 | 6.29 | 0.36 | 0.946 | 489.3 | 498.0 | 506.8 | 515.5 | 524.2 | 532.9 | 541.7 |
| | 62 | 60.6 | 0.534 | 5.94 | 0.71 | 0.893 | 489.5 | 498.2 | 507.0 | 515.7 | 524.4 | 533.1 | 541.9 |
| | 61 | 58.9 | 0.504 | 5.61 | 1.04 | 0.843 | 489.7 | 498.4 | 507.2 | 515.9 | 524.6 | 533.3 | 542.1 |
| | 60 | 57.2 | 0.476 | 5.31 | 1.34 | 0.798 | 489.9 | 498.6 | 507.4 | 516.1 | 524.8 | 533.5 | 542.3 |
| | 59 | 55.5 | 0.450 | 5.01 | 1.64 | 0.753 | 490.0 | 498.7 | 507.5 | 516.2 | 524.9 | 533.6 | 542.4 |
| | 58 | 53.8 | 0.425 | 4.73 | 1.92 | 0.711 | 490.1 | 498.8 | 507.6 | 516.3 | 525.1 | 533.8 | 542.6 |
| | 57 | 52.1 | 0.401 | 4.47 | 2.18 | 0.672 | 490.2 | 498.9 | 507.7 | 516.4 | 525.2 | 533.9 | 542.7 |
| | 56 | 50.4 | 0.379 | 4.23 | 2.42 | 0.636 | 490.4 | 499.1 | 507.9 | 516.6 | 525.4 | 534.1 | 542.9 |
| | 55 | 48.7 | 0.357 | 3.98 | 2.67 | 0.598 | 490.5 | 499.2 | 508.0 | 516.7 | 525.5 | 534.2 | 543.0 |
| | 54 | 47.0 | 0.337 | 3.75 | 2.90 | 0.564 | 490.7 | 499.4 | 508.2 | 516.9 | 525.7 | 534.4 | 543.2 |
| | 53 | 45.3 | 0.318 | 3.55 | 3.10 | 0.534 | 490.8 | 499.5 | 508.3 | 517.0 | 525.8 | 534.5 | 543.3 |
| | 52 | 43.6 | 0.300 | 3.34 | 3.31 | 0.502 | 490.9 | 499.6 | 508.4 | 517.1 | 525.9 | 534.6 | 543.4 |
| | 51 | 41.9 | 0.282 | 3.15 | 3.50 | 0.473 | 491.0 | 499.7 | 508.5 | 517.2 | 526.0 | 534.7 | 543.5 |
| | 50 | 40.2 | 0.266 | 2.96 | 3.69 | 0.445 | 491.2 | 499.9 | 508.7 | 517.4 | 526.1 | 534.9 | 543.7 |
| | 49 | 38.5 | 0.251 | 2.79 | 3.86 | 0.419 | 491.3 | 500.0 | 508.8 | 517.5 | 526.2 | 535.0 | 543.8 |
| | 48 | 36.8 | 0.236 | 2.63 | 4.02 | 0.396 | 491.4 | 500.1 | 508.9 | 517.6 | 526.3 | 535.1 | 543.9 |
| | 47 | 35.1 | 0.223 | 2.47 | 4.18 | 0.372 | 491.5 | 500.2 | 509.0 | 517.7 | 526.4 | 535.2 | 544.0 |
| | 46 | 33.4 | 0.210 | 2.33 | 4.32 | 0.351 | 491.6 | 500.3 | 509.1 | 517.8 | 526.5 | 535.3 | 544.1 |
| | 45 | 31.7 | 0.197 | 2.19 | 4.46 | 0.330 | 491.7 | 500.4 | 509.2 | 517.9 | 526.6 | 535.4 | 544.2 |
| | 44 | 30.0 | 0.186 | 2.06 | 4.59 | 0.310 | 491.7 | 500.4 | 509.2 | 517.9 | 526.6 | 535.4 | 544.2 |
| | 43 | 28.3 | 0.175 | 1.94 | 4.71 | 0.292 | 491.8 | 500.5 | 509.3 | 518.0 | 526.7 | 535.5 | 544.3 |
| | 42 | 26.6 | 0.164 | 1.83 | 4.82 | 0.275 | 491.9 | 500.6 | 509.4 | 518.1 | 526.8 | 535.6 | 544.4 |
| 65 | 65 | 65.0 | 0.617 | 6.87 | 0.00 | 1.000 | 488.1 | 496.8 | 505.5 | 514.2 | 522.9 | 531.6 | 540.3 |
| | 64 | 63.4 | 0.586 | 6.51 | 0.36 | 0.947 | 488.3 | 497.0 | 505.7 | 514.4 | 523.1 | 531.8 | 540.5 |
| | 63 | 61.8 | 0.555 | 6.17 | 0.70 | 0.898 | 488.5 | 497.2 | 505.9 | 514.6 | 523.3 | 532.0 | 540.7 |
| | 62 | 60.2 | 0.527 | 5.85 | 1.02 | 0.851 | 488.7 | 497.4 | 506.1 | 514.8 | 523.5 | 532.2 | 540.9 |
| | 61 | 58.6 | 0.499 | 5.55 | 1.32 | 0.808 | 488.9 | 497.6 | 506.3 | 515.0 | 523.7 | 532.4 | 541.1 |
| | 60 | 57.0 | 0.473 | 5.25 | 1.62 | 0.765 | 489.0 | 497.7 | 506.5 | 515.2 | 523.9 | 532.6 | 541.3 |
| | 59 | 55.4 | 0.449 | 4.98 | 1.89 | 0.725 | 489.1 | 497.8 | 506.6 | 515.3 | 524.0 | 532.7 | 541.5 |
| | 58 | 53.8 | 0.425 | 4.72 | 2.15 | 0.687 | 489.3 | 498.0 | 506.8 | 515.5 | 524.2 | 532.9 | 541.7 |
| | 57 | 52.2 | 0.402 | 4.47 | 2.40 | 0.651 | 489.4 | 498.1 | 506.9 | 515.6 | 524.3 | 533.0 | 541.8 |
| | 56 | 50.6 | 0.381 | 4.23 | 2.64 | 0.616 | 489.6 | 498.3 | 507.1 | 515.8 | 524.5 | 533.2 | 542.0 |
| | 55 | 49.0 | 0.361 | 4.01 | 2.86 | 0.584 | 489.7 | 498.4 | 507.2 | 515.9 | 524.6 | 533.3 | 542.1 |
| | 54 | 47.4 | 0.342 | 3.79 | 3.08 | 0.552 | 489.8 | 498.5 | 507.3 | 516.0 | 524.7 | 533.4 | 542.2 |
| | 53 | 45.8 | 0.323 | 3.60 | 3.27 | 0.524 | 489.9 | 498.6 | 507.4 | 516.1 | 524.8 | 533.5 | 542.3 |
| | 52 | 44.2 | 0.306 | 3.39 | 3.48 | 0.493 | 490.0 | 498.7 | 507.5 | 516.2 | 524.9 | 533.6 | 542.4 |
| | 51 | 42.6 | 0.289 | 3.22 | 3.65 | 0.469 | 490.1 | 498.8 | 507.6 | 516.3 | 525.0 | 533.7 | 542.5 |
| | 50 | 41.0 | 0.274 | 3.04 | 3.83 | 0.442 | 490.2 | 498.9 | 507.7 | 516.4 | 525.1 | 533.8 | 542.6 |
| | 49 | 39.4 | 0.259 | 2.87 | 4.00 | 0.418 | 490.3 | 499.0 | 507.8 | 516.5 | 525.2 | 533.9 | 542.7 |
| | 48 | 37.8 | 0.245 | 2.72 | 4.15 | 0.396 | 490.3 | 499.0 | 507.8 | 516.5 | 525.2 | 533.9 | 542.7 |
| | 47 | 36.2 | 0.231 | 2.57 | 4.30 | 0.374 | 490.4 | 499.1 | 507.9 | 516.6 | 525.3 | 534.0 | 542.8 |
| | 46 | 34.6 | 0.219 | 2.43 | 4.44 | 0.354 | 490.5 | 499.2 | 508.0 | 516.7 | 525.4 | 534.1 | 542.9 |
| | 45 | 33.0 | 0.207 | 2.31 | 4.56 | 0.336 | 490.6 | 499.3 | 508.1 | 516.8 | 525.5 | 534.2 | 543.0 |
| | 44 | 31.4 | 0.195 | 2.17 | 4.70 | 0.316 | 490.7 | 499.4 | 508.2 | 516.9 | 525.6 | 534.3 | 543.1 |
| | 43 | 29.8 | 0.184 | 2.05 | 4.82 | 0.299 | 490.7 | 499.4 | 508.2 | 516.9 | 525.6 | 534.3 | 543.1 |
| | 42 | 28.2 | 0.174 | 1.94 | 4.93 | 0.283 | 490.8 | 499.5 | 508.3 | 517.0 | 525.7 | 534.4 | 543.2 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 66 | 66 | 66.0 | 0.638 | 7.08 | 0.00 | 1.000 | 487.0 | 495.7 | 504.4 | 513.1 | 521.8 | 530.5 | 539.2 |
| | 65 | 64.4 | 0.605 | 6.72 | 0.36 | 0.949 | 487.2 | 495.9 | 504.6 | 513.3 | 522.0 | 530.7 | 539.4 |
| | 64 | 62.8 | 0.574 | 6.35 | 0.73 | 0.897 | 487.3 | 496.0 | 504.7 | 513.4 | 522.1 | 530.8 | 539.5 |
| | 63 | 61.2 | 0.544 | 6.04 | 1.04 | 0.853 | 487.5 | 496.2 | 504.9 | 513.6 | 522.3 | 531.0 | 539.7 |
| | 62 | 59.6 | 0.516 | 5.72 | 1.36 | 0.808 | 487.7 | 496.4 | 505.1 | 513.8 | 522.5 | 531.2 | 539.9 |
| | 61 | 58.0 | 0.489 | 5.42 | 1.66 | 0.766 | 487.9 | 496.6 | 505.3 | 514.0 | 522.7 | 531.4 | 540.1 |
| | 60 | 56.4 | 0.464 | 5.14 | 1.94 | 0.726 | 488.0 | 496.7 | 505.4 | 514.1 | 522.8 | 531.5 | 540.2 |
| | 59 | 54.8 | 0.440 | 4.88 | 2.20 | 0.689 | 488.1 | 496.8 | 505.5 | 514.2 | 523.0 | 531.7 | 540.4 |
| | 58 | 53.2 | 0.416 | 4.62 | 2.46 | 0.652 | 488.2 | 496.9 | 505.6 | 514.3 | 523.1 | 531.8 | 540.5 |
| | 57 | 51.6 | 0.394 | 4.37 | 2.71 | 0.619 | 488.4 | 497.1 | 505.8 | 514.5 | 523.3 | 532.0 | 540.7 |
| | 56 | 50.0 | 0.373 | 4.15 | 2.93 | 0.586 | 488.5 | 497.2 | 505.9 | 514.6 | 523.4 | 532.1 | 540.8 |
| | 55 | 48.4 | 0.354 | 3.92 | 3.16 | 0.553 | 488.6 | 497.3 | 506.1 | 514.8 | 523.5 | 532.2 | 541.0 |
| | 54 | 46.8 | 0.335 | 3.72 | 3.36 | 0.525 | 488.8 | 497.5 | 506.3 | 515.0 | 523.7 | 532.4 | 541.2 |
| | 53 | 45.2 | 0.317 | 3.51 | 3.57 | 0.496 | 488.9 | 497.6 | 506.4 | 515.1 | 523.8 | 532.5 | 541.3 |
| | 52 | 43.6 | 0.300 | 3.33 | 3.75 | 0.470 | 489.0 | 497.7 | 506.5 | 515.2 | 523.9 | 532.6 | 541.4 |
| | 51 | 42.0 | 0.283 | 3.14 | 3.94 | 0.443 | 489.1 | 497.8 | 506.6 | 515.3 | 524.0 | 532.7 | 541.5 |
| | 50 | 40.4 | 0.268 | 2.97 | 4.11 | 0.419 | 489.2 | 497.9 | 506.7 | 515.4 | 524.1 | 532.8 | 541.6 |
| | 49 | 38.8 | 0.253 | 2.81 | 4.27 | 0.397 | 489.3 | 498.0 | 506.8 | 515.5 | 524.2 | 532.9 | 541.7 |
| | 48 | 37.2 | 0.240 | 2.66 | 4.42 | 0.376 | 489.4 | 498.1 | 506.9 | 515.6 | 524.3 | 533.0 | 541.8 |
| | 47 | 35.6 | 0.227 | 2.51 | 4.57 | 0.355 | 489.4 | 498.1 | 506.9 | 515.6 | 524.3 | 533.0 | 541.8 |
| | 46 | 34.0 | 0.214 | 2.37 | 4.71 | 0.335 | 489.5 | 498.2 | 507.0 | 515.7 | 524.4 | 533.1 | 541.9 |
| | 45 | 32.4 | 0.202 | 2.24 | 4.84 | 0.316 | 489.6 | 498.3 | 507.1 | 515.8 | 524.5 | 533.2 | 542.0 |
| | 44 | 30.8 | 0.191 | 2.12 | 4.96 | 0.299 | 489.7 | 498.4 | 507.2 | 515.9 | 524.6 | 533.3 | 542.1 |
| | 43 | 29.2 | 0.180 | 2.00 | 5.08 | 0.283 | 489.7 | 498.4 | 507.2 | 515.9 | 524.6 | 533.3 | 542.1 |
| 67 | 67 | 67.0 | 0.659 | 7.30 | 0.00 | 1.000 | 485.9 | 494.6 | 503.3 | 512.0 | 520.6 | 529.3 | 538.0 |
| | 66 | 65.4 | 0.626 | 6.93 | 0.37 | 0.949 | 486.1 | 494.8 | 503.5 | 512.2 | 520.8 | 529.5 | 538.2 |
| | 65 | 63.8 | 0.593 | 6.55 | 0.75 | 0.897 | 486.3 | 495.0 | 503.7 | 512.4 | 521.0 | 529.7 | 538.4 |
| | 64 | 62.2 | 0.563 | 6.23 | 1.07 | 0.853 | 486.5 | 495.2 | 503.9 | 512.6 | 521.2 | 529.9 | 538.6 |
| | 63 | 60.6 | 0.534 | 5.91 | 1.39 | 0.810 | 486.7 | 495.4 | 504.1 | 512.8 | 521.4 | 530.1 | 538.8 |
| | 62 | 59.0 | 0.506 | 5.60 | 1.70 | 0.767 | 486.8 | 495.5 | 504.2 | 512.9 | 521.6 | 530.3 | 539.0 |
| | 61 | 57.4 | 0.480 | 5.31 | 1.99 | 0.728 | 486.9 | 495.6 | 504.3 | 513.0 | 521.7 | 530.4 | 539.1 |
| | 60 | 55.8 | 0.455 | 5.04 | 2.26 | 0.691 | 487.1 | 495.8 | 504.5 | 513.2 | 521.9 | 530.6 | 539.3 |
| | 59 | 54.2 | 0.431 | 4.77 | 2.53 | 0.653 | 487.2 | 495.9 | 504.6 | 513.3 | 522.0 | 530.7 | 539.4 |
| | 58 | 52.6 | 0.408 | 4.52 | 2.78 | 0.619 | 487.3 | 496.0 | 504.7 | 513.4 | 522.1 | 530.8 | 539.5 |
| | 57 | 51.0 | 0.386 | 4.28 | 3.02 | 0.586 | 487.5 | 496.2 | 504.9 | 513.6 | 522.3 | 531.0 | 539.7 |
| | 56 | 49.4 | 0.366 | 4.05 | 3.25 | 0.555 | 487.6 | 496.3 | 505.0 | 513.7 | 522.4 | 531.1 | 539.8 |
| | 55 | 47.8 | 0.346 | 3.83 | 3.47 | 0.524 | 487.8 | 496.5 | 505.1 | 513.8 | 522.6 | 531.2 | 549.9 |
| | 54 | 46.2 | 0.328 | 3.62 | 3.68 | 0.496 | 487.9 | 496.6 | 505.2 | 513.9 | 522.7 | 531.3 | 540.0 |
| | 53 | 44.6 | 0.310 | 3.43 | 3.87 | 0.470 | 488.0 | 496.7 | 505.3 | 514.0 | 522.8 | 531.4 | 540.1 |
| | 52 | 43.0 | 0.293 | 3.25 | 4.05 | 0.445 | 488.1 | 496.8 | 504.4 | 514.1 | 522.9 | 531.5 | 540.2 |
| | 51 | 41.4 | 0.278 | 3.08 | 4.22 | 0.422 | 488.2 | 496.9 | 505.5 | 514.2 | 523.0 | 531.6 | 540.3 |
| | 50 | 39.8 | 0.263 | 2.91 | 4.39 | 0.399 | 488.4 | 497.1 | 505.7 | 514.4 | 523.1 | 531.8 | 540.5 |
| | 49 | 38.2 | 0.248 | 2.75 | 4.55 | 0.377 | 488.5 | 497.2 | 505.8 | 514.5 | 523.2 | 531.9 | 540.6 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 67 | 49 | 38.2 | 0.248 | 2.75 | 4.55 | 0.377 | 488.5 | 497.2 | 505.8 | 514.5 | 523.2 | 531.9 | 540.6 |
| | 48 | 36.6 | 0.235 | 2.60 | 4.70 | 0.356 | 488.6 | 497.3 | 505.9 | 514.6 | 523.3 | 532.0 | 540.7 |
| | 47 | 35.0 | 0.222 | 2.46 | 4.84 | 0.337 | 488.7 | 497.4 | 505.9 | 514.7 | 523.4 | 532.1 | 540.8 |
| | 46 | 33.4 | 0.210 | 2.32 | 4.98 | 0.318 | 488.7 | 497.4 | 506.0 | 514.7 | 523.4 | 532.1 | 540.8 |
| | 45 | 31.8 | 0.198 | 2.19 | 5.11 | 0.301 | 488.8 | 497.5 | 506.1 | 514.8 | 523.5 | 532.2 | 540.9 |
| | 44 | 30.2 | 0.187 | 2.07 | 5.23 | 0.284 | 488.9 | 497.6 | 506.2 | 514.9 | 523.6 | 532.3 | 541.0 |
| 68 | 68 | 68.0 | 0.681 | 7.53 | 0.00 | 1.000 | 484.9 | 493.5 | 502.2 | 510.8 | 519.5 | 528.1 | 536.8 |
| | 67 | 66.4 | 0.646 | 7.15 | 0.38 | 0.949 | 485.1 | 493.8 | 502.5 | 511.1 | 519.7 | 528.4 | 537.1 |
| | 66 | 64.8 | 0.613 | 6.77 | 0.76 | 0.899 | 485.3 | 494.0 | 502.6 | 511.2 | 519.9 | 528.6 | 537.3 |
| | 65 | 63.2 | 0.582 | 6.43 | 1.10 | 0.854 | 485.5 | 494.2 | 502.8 | 511.4 | 520.1 | 528.8 | 537.5 |
| | 64 | 61.6 | 0.552 | 6.10 | 1.43 | 0.810 | 485.7 | 494.4 | 503.0 | 511.6 | 520.3 | 529.0 | 537.7 |
| | 63 | 60.0 | 0.523 | 5.78 | 1.75 | 0.768 | 485.8 | 494.5 | 503.1 | 511.8 | 520.5 | 529.2 | 537.9 |
| | 62 | 58.4 | 0.496 | 5.47 | 2.06 | 0.726 | 485.9 | 494.6 | 503.3 | 512.0 | 520.7 | 529.4 | 538.1 |
| | 61 | 56.8 | 0.470 | 5.20 | 2.33 | 0.691 | 486.0 | 494.7 | 503.4 | 512.1 | 520.8 | 529.5 | 538.3 |
| | 60 | 55.2 | 0.445 | 4.93 | 2.60 | 0.655 | 486.2 | 494.9 | 503.6 | 512.3 | 521.0 | 529.7 | 538.5 |
| | 59 | 53.6 | 0.422 | 4.67 | 2.86 | 0.620 | 486.3 | 495.0 | 503.7 | 512.4 | 521.1 | 529.8 | 538.6 |
| | 58 | 52.0 | 0.400 | 4.42 | 3.11 | 0.587 | 486.4 | 495.1 | 503.8 | 512.5 | 521.2 | 529.9 | 538.6 |
| | 57 | 50.4 | 0.379 | 4.19 | 3.34 | 0.556 | 486.6 | 495.3 | 504.0 | 512.7 | 521.4 | 530.1 | 538.8 |
| | 56 | 48.8 | 0.358 | 3.96 | 3.57 | 0.526 | 486.7 | 495.4 | 504.1 | 512.8 | 521.5 | 530.2 | 538.9 |
| | 55 | 47.2 | 0.339 | 3.75 | 3.78 | 0.498 | 486.8 | 495.5 | 504.2 | 512.9 | 521.6 | 530.3 | 539.0 |
| | 54 | 45.6 | 0.321 | 3.54 | 3.99 | 0.470 | 486.9 | 495.6 | 504.3 | 513.0 | 521.7 | 530.4 | 539.1 |
| | 53 | 44.0 | 0.304 | 3.35 | 4.18 | 0.445 | 487.0 | 495.7 | 504.4 | 513.1 | 521.8 | 530.5 | 539.2 |
| | 52 | 42.4 | 0.287 | 3.17 | 4.36 | 0.421 | 487.1 | 495.8 | 504.5 | 513.2 | 521.9 | 530.6 | 539.3 |
| | 51 | 40.8 | 0.272 | 3.00 | 4.53 | 0.399 | 487.2 | 495.9 | 504.6 | 513.3 | 522.0 | 530.7 | 539.4 |
| | 50 | 39.2 | 0.257 | 2.84 | 4.69 | 0.377 | 487.3 | 496.0 | 504.7 | 513.4 | 522.1 | 530.8 | 539.5 |
| | 49 | 37.6 | 0.243 | 2.68 | 4.85 | 0.356 | 487.4 | 496.1 | 504.8 | 513.5 | 522.2 | 530.9 | 539.6 |
| | 48 | 36.0 | 0.230 | 2.54 | 4.99 | 0.337 | 487.5 | 496.2 | 504.9 | 513.6 | 522.3 | 531.0 | 539.7 |
| | 47 | 34.4 | 0.217 | 2.40 | 5.13 | 0.319 | 487.6 | 496.3 | 505.0 | 513.7 | 522.4 | 531.1 | 539.8 |
| | 46 | 32.8 | 0.205 | 2.27 | 5.26 | 0.302 | 487.6 | 496.3 | 505.0 | 513.7 | 522.4 | 531.1 | 539.8 |
| | 45 | 31.2 | 0.194 | 2.15 | 5.38 | 0.286 | 487.7 | 496.4 | 505.1 | 513.8 | 522.5 | 531.2 | 539.9 |
| | 44 | 29.6 | 0.183 | 2.04 | 5.49 | 0.271 | 487.8 | 496.5 | 505.2 | 513.9 | 522.6 | 531.3 | 540.0 |
| 69 | 69 | 69.0 | 0.704 | 7.76 | 0.00 | 1.000 | 483.8 | 492.4 | 501.1 | 509.7 | 518.3 | 527.0 | 535.6 |
| | 68 | 67.4 | 0.668 | 7.37 | 0.39 | 0.950 | 484.0 | 492.6 | 501.3 | 509.9 | 518.5 | 527.2 | 535.8 |
| | 67 | 65.8 | 0.634 | 7.00 | 0.76 | 0.902 | 484.2 | 492.8 | 501.5 | 510.1 | 518.7 | 527.4 | 536.0 |
| | 66 | 64.2 | 0.601 | 6.63 | 1.13 | 0.854 | 484.4 | 493.0 | 501.7 | 510.3 | 518.9 | 527.6 | 536.2 |
| | 65 | 62.6 | 0.570 | 6.29 | 1.47 | 0.810 | 484.6 | 493.2 | 501.9 | 510.5 | 519.1 | 527.8 | 536.4 |
| | 64 | 61.0 | 0.541 | 5.97 | 1.79 | 0.769 | 484.8 | 493.4 | 502.1 | 510.7 | 519.3 | 528.0 | 536.6 |
| | 63 | 59.4 | 0.513 | 5.65 | 2.11 | 0.728 | 485.0 | 493.6 | 502.3 | 510.9 | 519.5 | 528.2 | 536.8 |
| | 62 | 57.8 | 0.486 | 5.37 | 2.39 | 0.693 | 485.1 | 493.7 | 502.4 | 511.0 | 519.6 | 528.3 | 536.9 |
| | 61 | 56.2 | 0.461 | 5.09 | 2.67 | 0.657 | 485.1 | 493.7 | 502.6 | 511.2 | 519.8 | 528.5 | 537.1 |
| | 60 | 54.6 | 0.437 | 4.82 | 2.94 | 0.621 | 485.2 | 493.9 | 502.7 | 511.3 | 519.9 | 528.6 | 537.3 |
| | 59 | 53.0 | 0.414 | 4.57 | 3.19 | 0.589 | 485.4 | 494.1 | 502.8 | 511.5 | 520.1 | 528.8 | 537.5 |
| | 58 | 51.4 | 0.392 | 4.33 | 3.43 | 0.558 | 485.5 | 494.2 | 502.9 | 511.6 | 520.2 | 528.9 | 537.6 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 69 | 58 | 51.4 | 0.392 | 4.33 | 3.43 | 0.558 | 485.5 | 494.2 | 502.9 | 511.6 | 520.2 | 528.9 | 537.6 |
| | 57 | 49.8 | 0.371 | 4.09 | 3.67 | 0.527 | 485.7 | 494.4 | 503.1 | 511.8 | 520.4 | 529.1 | 537.8 |
| | 56 | 48.2 | 0.351 | 3.87 | 3.89 | 0.499 | 485.8 | 494.5 | 503.2 | 511.9 | 520.5 | 529.2 | 537.9 |
| | 55 | 46.6 | 0.332 | 3.66 | 4.10 | 0.472 | 485.9 | 494.6 | 503.3 | 512.0 | 520.6 | 529.3 | 538.0 |
| | 54 | 45.0 | 0.315 | 3.47 | 4.29 | 0.447 | 486.0 | 494.7 | 503.4 | 512.1 | 520.7 | 529.4 | 538.1 |
| | 53 | 43.4 | 0.298 | 3.29 | 4.47 | 0.424 | 486.1 | 494.8 | 503.5 | 512.2 | 520.8 | 529.5 | 538.2 |
| | 52 | 41.8 | 0.282 | 3.11 | 4.65 | 0.401 | 486.2 | 494.9 | 503.6 | 512.3 | 520.9 | 529.6 | 538.3 |
| | 51 | 40.2 | 0.266 | 2.94 | 4.82 | 0.379 | 486.3 | 495.0 | 503.7 | 512.4 | 521.0 | 529.7 | 538.4 |
| | 50 | 38.6 | 0.252 | 2.78 | 4.98 | 0.358 | 486.4 | 495.1 | 503.8 | 512.5 | 521.1 | 529.8 | 538.5 |
| | 49 | 37.0 | 0.238 | 2.63 | 5.13 | 0.339 | 486.5 | 495.2 | 503.9 | 512.6 | 521.2 | 529.9 | 538.6 |
| | 48 | 35.4 | 0.225 | 2.49 | 5.27 | 0.321 | 486.6 | 495.3 | 504.0 | 512.7 | 521.3 | 530.0 | 538.7 |
| | 47 | 33.8 | 0.213 | 2.34 | 5.42 | 0.302 | 486.7 | 495.4 | 504.1 | 512.8 | 521.4 | 530.1 | 538.8 |
| | 46 | 32.2 | 0.201 | 2.20 | 5.56 | 0.284 | 486.8 | 495.5 | 504.2 | 512.9 | 521.5 | 530.2 | 538.9 |
| | 45 | 30.6 | 0.190 | 2.06 | 5.70 | 0.266 | 486.8 | 495.5 | 504.2 | 512.9 | 521.5 | 530.2 | 538.9 |
| 70 | 70 | 70.0 | 0.727 | 8.00 | 0.00 | 1.000 | 482.8 | 491.4 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |
| | 69 | 68.5 | 0.692 | 7.62 | 0.38 | 0.953 | 483.0 | 491.6 | 500.2 | 508.8 | 517.4 | 526.0 | 534.6 |
| | 68 | 67.0 | 0.659 | 7.26 | 0.74 | 0.907 | 483.2 | 491.8 | 500.4 | 509.0 | 517.6 | 526.2 | 534.8 |
| | 67 | 65.5 | 0.628 | 6.91 | 1.09 | 0.865 | 483.3 | 491.9 | 500.5 | 509.1 | 517.7 | 526.3 | 534.9 |
| | 66 | 64.0 | 0.597 | 6.57 | 1.43 | 0.822 | 483.5 | 492.1 | 500.7 | 509.3 | 517.9 | 526.5 | 535.1 |
| | 65 | 62.5 | 0.568 | 6.25 | 1.75 | 0.781 | 483.7 | 492.3 | 500.9 | 509.5 | 518.1 | 526.7 | 535.3 |
| | 64 | 61.0 | 0.541 | 5.95 | 2.05 | 0.744 | 483.8 | 492.4 | 501.0 | 509.6 | 518.3 | 526.9 | 535.5 |
| | 63 | 59.5 | 0.515 | 5.66 | 2.34 | 0.708 | 484.0 | 492.6 | 501.2 | 509.8 | 518.5 | 527.1 | 535.7 |
| | 62 | 58.0 | 0.489 | 5.38 | 2.62 | 0.672 | 484.2 | 492.8 | 501.4 | 510.0 | 518.7 | 527.3 | 535.9 |
| | 61 | 56.5 | 0.465 | 5.12 | 2.88 | 0.640 | 484.3 | 492.9 | 501.5 | 510.1 | 518.8 | 527.4 | 536.0 |
| | 60 | 55.0 | 0.442 | 4.87 | 3.13 | 0.609 | 484.4 | 493.0 | 501.6 | 510.2 | 518.9 | 527.5 | 536.1 |
| | 59 | 53.5 | 0.421 | 4.62 | 3.38 | 0.578 | 484.6 | 493.2 | 501.8 | 510.4 | 519.1 | 527.7 | 536.3 |
| | 58 | 52.0 | 0.400 | 4.40 | 3.60 | 0.550 | 484.7 | 493.3 | 501.9 | 510.5 | 519.2 | 527.8 | 536.4 |
| | 57 | 50.5 | 0.380 | 4.18 | 3.82 | 0.522 | 484.8 | 493.4 | 502.0 | 510.6 | 519.3 | 527.9 | 536.5 |
| | 56 | 49.0 | 0.361 | 3.96 | 4.04 | 0.495 | 484.9 | 493.5 | 502.1 | 510.7 | 519.4 | 528.0 | 536.6 |
| | 55 | 47.5 | 0.343 | 3.76 | 4.24 | 0.470 | 485.1 | 493.7 | 502.3 | 510.9 | 519.6 | 528.2 | 536.8 |
| | 54 | 46.0 | 0.326 | 3.57 | 4.43 | 0.446 | 485.2 | 493.8 | 502.4 | 511.0 | 519.7 | 528.3 | 536.9 |
| | 53 | 44.5 | 0.309 | 3.40 | 4.60 | 0.425 | 485.3 | 493.9 | 502.5 | 511.1 | 519.8 | 528.4 | 537.0 |
| | 52 | 43.0 | 0.292 | 3.23 | 4.77 | 0.404 | 485.4 | 494.0 | 502.6 | 511.2 | 519.9 | 528.5 | 537.1 |
| | 51 | 41.5 | 0.279 | 3.07 | 4.93 | 0.384 | 485.5 | 494.1 | 502.7 | 511.3 | 520.0 | 528.6 | 537.2 |
| | 50 | 40.0 | 0.264 | 2.81 | 5.19 | 0.351 | 485.5 | 494.1 | 502.7 | 511.3 | 520.0 | 528.6 | 537.2 |
| | 49 | 38.5 | 0.251 | 2.76 | 5.24 | 0.345 | 485.6 | 494.2 | 502.8 | 511.4 | 520.1 | 528.7 | 537.3 |
| | 48 | 37.0 | 0.238 | 2.63 | 5.37 | 0.329 | 485.7 | 494.3 | 502.9 | 511.5 | 520.2 | 528.8 | 537.4 |
| | 47 | 35.5 | 0.226 | 2.50 | 5.50 | 0.313 | 485.8 | 494.4 | 503.0 | 511.6 | 520.3 | 528.9 | 537.5 |
| | 46 | 34.0 | 0.214 | 2.37 | 5.63 | 0.296 | 485.8 | 494.4 | 503.0 | 511.6 | 520.3 | 528.9 | 537.5 |
| | 45 | 32.5 | 0.203 | 2.24 | 5.76 | 0.280 | 485.9 | 494.5 | 503.1 | 511.7 | 520.4 | 529.0 | 537.6 |
| | 44 | 31.0 | 0.192 | 2.12 | 5.88 | 0.265 | 486.0 | 494.6 | 503.2 | 511.8 | 520.5 | 529.1 | 537.7 |
| | 43 | 29.5 | 0.182 | 2.01 | 5.99 | 0.251 | 486.1 | 494.7 | 503.3 | 511.9 | 520.6 | 529.2 | 537.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr | gr. |
| 71 | 71 | 71.0 | 0.751 | 8.25 | 0.00 | 1.000 | 481.6 | 490.2 | 498.8 | 507.4 | 516.0 | 524.6 | 533.2 |
| | 70 | 69.5 | 0.715 | 7.86 | 0.39 | 0.953 | 481.8 | 490.4 | 499.0 | 507.6 | 516.2 | 524.8 | 533.4 |
| | 69 | 68.0 | 0.681 | 7.48 | 0.77 | 0.907 | 482.0 | 490.6 | 499.2 | 507.8 | 516.4 | 525.0 | 533.6 |
| | 68 | 66.5 | 0.648 | 7.13 | 1.12 | 0.865 | 482.2 | 490.8 | 499.4 | 508.0 | 516.6 | 525.2 | 533.8 |
| | 67 | 65.0 | 0.617 | 6.79 | 1.46 | 0.823 | 482.4 | 491.0 | 499.6 | 508.2 | 516.8 | 525.4 | 534.0 |
| | 66 | 63.5 | 0.588 | 6.45 | 1.80 | 0.782 | 482.6 | 491.2 | 499.8 | 508.4 | 517.0 | 525.6 | 534.2 |
| | 65 | 62.0 | 0.559 | 6.14 | 2.11 | 0.744 | 482.8 | 491.4 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |
| | 64 | 60.5 | 0.532 | 5.85 | 2.40 | 0.709 | 483.0 | 491.6 | 500.2 | 508.8 | 517.4 | 526.0 | 534.6 |
| | 63 | 59.0 | 0.506 | 5.56 | 2.69 | 0.674 | 483.1 | 491.7 | 500.3 | 508.9 | 517.5 | 526.1 | 534.7 |
| | 62 | 57.5 | 0.481 | 5.28 | 2.97 | 0.640 | 483.2 | 491.8 | 500.4 | 509.0 | 517.7 | 526.3 | 534.9 |
| | 61 | 56.0 | 0.458 | 5.03 | 3.22 | 0.609 | 483.3 | 491.9 | 500.5 | 509.1 | 517.8 | 526.4 | 535.0 |
| | 60 | 54.5 | 0.435 | 4.78 | 3.47 | 0.579 | 483.5 | 492.1 | 500.7 | 509.3 | 518.0 | 526.6 | 535.1 |
| | 59 | 53.0 | 0.414 | 4.54 | 3.71 | 0.550 | 483.6 | 492.2 | 500.8 | 509.4 | 518.1 | 526.7 | 535.2 |
| | 58 | 51.5 | 0.393 | 4.31 | 3.94 | 0.522 | 483.8 | 492.4 | 501.0 | 509.6 | 518.3 | 526.9 | 535.4 |
| | 57 | 50.0 | 0.373 | 4.10 | 4.15 | 0.497 | 483.9 | 492.5 | 501.1 | 509.7 | 518.4 | 527.0 | 535.5 |
| | 56 | 48.5 | 0.355 | 3.89 | 4.36 | 0.471 | 484.0 | 492.6 | 501.2 | 509.9 | 518.5 | 527.1 | 535.6 |
| | 55 | 47.0 | 0.337 | 3.69 | 4.56 | 0.447 | 484.1 | 492.7 | 501.3 | 510.0 | 518.6 | 527.2 | 535.7 |
| | 54 | 45.5 | 0.320 | 3.51 | 4.74 | 0.425 | 484.2 | 492.8 | 501.4 | 510.1 | 518.7 | 527.3 | 535.8 |
| | 53 | 44.0 | 0.304 | 3.33 | 4.92 | 0.404 | 484.3 | 492.9 | 501.5 | 510.2 | 518.8 | 527.4 | 535.9 |
| | 52 | 42.5 | 0.288 | 3.16 | 5.09 | 0.383 | 484.4 | 493.0 | 501.6 | 510.3 | 518.9 | 527.5 | 536.0 |
| | 51 | 41.0 | 0.274 | 3.00 | 5.25 | 0.364 | 484.5 | 493.1 | 501.7 | 510.4 | 519.0 | 527.6 | 536.1 |
| | 50 | 39.5 | 0.260 | 2.85 | 5.40 | 0.345 | 484.6 | 493.2 | 501.8 | 510.5 | 519.1 | 527.7 | 536.2 |
| | 49 | 38.0 | 0.246 | 2.70 | 5.55 | 0.327 | 484.7 | 493.3 | 501.9 | 510.6 | 519.2 | 527.8 | 536.3 |
| | 48 | 36.5 | 0.234 | 2.57 | 5.68 | 0.312 | 484.7 | 493.3 | 501.9 | 510.6 | 519.2 | 527.8 | 536.3 |
| | 47 | 35.0 | 0.222 | 2.44 | 5.81 | 0.296 | 484.8 | 493.4 | 502.0 | 510.7 | 519.3 | 527.9 | 536.4 |
| | 46 | 33.5 | 0.210 | 2.31 | 5.94 | 0.280 | 484.9 | 493.5 | 502.1 | 510.8 | 519.4 | 528.0 | 536.5 |
| | 45 | 32.0 | 0.199 | 2.19 | 6.06 | 0.265 | 485.0 | 493.6 | 502.2 | 510.9 | 519.5 | 528.1 | 536.6 |
| | 44 | 30.5 | 0.189 | 2.08 | 6.17 | 0.252 | 485.0 | 493.6 | 502.2 | 510.9 | 519.5 | 528.1 | 536.6 |
| 72 | 72 | 72.0 | 0.776 | 8.50 | 0.00 | 1.000 | 480.6 | 489.2 | 497.8 | 506.4 | 514.9 | 523.5 | 532.1 |
| | 71 | 70.5 | 0.739 | 8.10 | 0.40 | 0.953 | 480.8 | 489.4 | 498.0 | 506.5 | 515.1 | 523.7 | 532.3 |
| | 70 | 69.0 | 0.704 | 7.71 | 0.79 | 0.907 | 481.0 | 489.6 | 498.2 | 506.7 | 515.3 | 523.9 | 532.5 |
| | 69 | 67.5 | 0.670 | 7.35 | 1.15 | 0.865 | 481.2 | 489.8 | 498.4 | 506.9 | 515.5 | 524.1 | 532.7 |
| | 68 | 66.0 | 0.638 | 7.00 | 1.50 | 0.824 | 481.4 | 490.0 | 498.5 | 507.1 | 515.7 | 524.3 | 532.9 |
| | 67 | 64.5 | 0.607 | 6.66 | 1.84 | 0.784 | 481.6 | 490.2 | 498.7 | 507.3 | 515.9 | 524.5 | 533.1 |
| | 66 | 63.0 | 0.578 | 6.33 | 2.17 | 0.745 | 481.7 | 490.3 | 498.8 | 507.4 | 516.1 | 524.7 | 533.3 |
| | 65 | 61.5 | 0.550 | 6.03 | 2.47 | 0.710 | 481.8 | 490.4 | 499.0 | 507.6 | 516.2 | 524.8 | 533.4 |
| | 64 | 60.0 | 0.523 | 5.73 | 2.77 | 0.674 | 482.0 | 490.6 | 499.2 | 507.8 | 516.4 | 525.0 | 533.6 |
| | 63 | 58.5 | 0.498 | 5.45 | 3.05 | 0.641 | 482.1 | 490.7 | 499.3 | 507.9 | 516.5 | 525.1 | 533.7 |
| | 62 | 57.0 | 0.473 | 5.18 | 3.32 | 0.610 | 482.3 | 490.9 | 499.5 | 508.1 | 516.7 | 525.3 | 533.9 |
| | 61 | 55.5 | 0.450 | 4.93 | 3.57 | 0.580 | 482.5 | 491.1 | 499.7 | 508.3 | 516.9 | 525.5 | 534.1 |
| | 60 | 54.0 | 0.428 | 4.68 | 3.82 | 0.551 | 482.6 | 491.2 | 499.8 | 508.4 | 517.0 | 525.6 | 534.2 |
| | 59 | 52.5 | 0.407 | 4.45 | 4.05 | 0.523 | 482.8 | 491.4 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 72 | 59 | 52.5 | 0.407 | 4.45 | 4.05 | 0.523 | 482.8 | 491.4 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |
| | 58 | 51.0 | 0.386 | 4.23 | 4.27 | 0.498 | 482.9 | 491.5 | 500.1 | 508.7 | 517.3 | 525.9 | 534.5 |
| | 57 | 49.5 | 0.367 | 4.02 | 4.48 | 0.473 | 483.0 | 491.6 | 500.2 | 508.8 | 517.4 | 526.0 | 534.6 |
| | 56 | 48.0 | 0.349 | 3.82 | 4.68 | 0.449 | 483.1 | 491.7 | 500.3 | 508.9 | 517.5 | 526.1 | 534.7 |
| | 55 | 46.5 | 0.331 | 3.63 | 4.87 | 0.427 | 483.2 | 491.8 | 500.4 | 509.0 | 517.6 | 526.2 | 534.8 |
| | 54 | 45.0 | 0.315 | 3.45 | 5.05 | 0.406 | 483.3 | 491.9 | 500.5 | 509.1 | 517.7 | 526.2 | 534.9 |
| | 53 | 43.5 | 0.299 | 3.28 | 5.22 | 0.386 | 483.3 | 492.0 | 500.6 | 509.2 | 517.8 | 526.3 | 535.0 |
| | 52 | 42.0 | 0.283 | 3.11 | 5.39 | 0.366 | 483.5 | 492.1 | 500.7 | 509.3 | 517.9 | 526.4 | 535.1 |
| | 51 | 40.5 | 0.269 | 2.95 | 5.55 | 0.347 | 483.6 | 492.2 | 500.8 | 509.4 | 518.0 | 526.5 | 535.2 |
| | 50 | 39.0 | 0.255 | 2.80 | 5.70 | 0.329 | 483.7 | 492.3 | 500.9 | 509.5 | 518.1 | 526.6 | 535.3 |
| | 49 | 37.5 | 0.242 | 2.66 | 5.84 | 0.313 | 483.8 | 492.4 | 501.0 | 509.6 | 518.2 | 526.7 | 535.4 |
| | 48 | 36.0 | 0.230 | 2.52 | 5.98 | 0.296 | 483.8 | 492.4 | 501.0 | 509.6 | 518.2 | 526.7 | 535.4 |
| | 47 | 34.5 | 0.218 | 2.39 | 6.11 | 0.281 | 483.9 | 492.5 | 501.2 | 509.7 | 518.3 | 526.8 | 535.5 |
| | 46 | 33.0 | 0.207 | 2.27 | 6.23 | 0.267 | 484.0 | 492.6 | 501.3 | 509.8 | 518.4 | 526.9 | 535.6 |
| | 45 | 31.5 | 0.196 | 2.16 | 6.34 | 0.254 | 484.1 | 492.7 | 501.3 | 509.9 | 518.5 | 527.1 | 535.7 |
| 73 | 73 | 73.0 | 0.801 | 8.76 | 0.00 | 1.000 | 479.6 | 488.1 | 496.7 | 505.2 | 513.8 | 522.3 | 530.9 |
| | 72 | 71.5 | 0.736 | 8.35 | 0.41 | 0.953 | 479.8 | 488.3 | 496.9 | 505.4 | 514.0 | 522.5 | 531.1 |
| | 71 | 70.0 | 0.727 | 7.95 | 0.81 | 0.908 | 480.0 | 488.5 | 497.1 | 505.6 | 514.2 | 522.7 | 531.3 |
| | 70 | 68.5 | 0.692 | 7.57 | 1.19 | 0.864 | 480.2 | 488.7 | 497.3 | 505.8 | 514.4 | 522.9 | 531.5 |
| | 69 | 67.0 | 0.659 | 7.21 | 1.55 | 0.823 | 480.4 | 488.9 | 497.5 | 506.0 | 514.6 | 523.1 | 531.7 |
| | 68 | 65.5 | 0.628 | 6.87 | 1.89 | 0.784 | 480.5 | 489.0 | 497.6 | 506.1 | 514.8 | 523.3 | 531.9 |
| | 67 | 64.0 | 0.597 | 6.53 | 2.23 | 0.745 | 480.7 | 489.2 | 497.8 | 506.3 | 515.0 | 523.5 | 532.1 |
| | 66 | 62.5 | 0.568 | 6.22 | 2.54 | 0.710 | 480.8 | 489.3 | 497.9 | 506.4 | 515.1 | 523.6 | 532.2 |
| | 65 | 61.0 | 0.541 | 5.92 | 2.84 | 0.676 | 481.0 | 489.5 | 498.1 | 506.6 | 515.3 | 523.8 | 532.4 |
| | 64 | 59.5 | 0.515 | 5.63 | 3.13 | 0.643 | 481.1 | 489.6 | 498.2 | 506.8 | 515.4 | 524.0 | 532.6 |
| | 63 | 58.0 | 0.489 | 5.34 | 3.42 | 0.610 | 481.2 | 489.8 | 498.4 | 507.0 | 515.6 | 524.2 | 532.8 |
| | 62 | 56.5 | 0.465 | 5.09 | 3.67 | 0.581 | 481.4 | 490.0 | 498.6 | 507.2 | 515.8 | 524.4 | 533.0 |
| | 61 | 55.0 | 0.442 | 4.84 | 3.92 | 0.553 | 481.6 | 490.2 | 498.8 | 507.4 | 516.0 | 524.6 | 533.2 |
| | 60 | 53.5 | 0.421 | 4.59 | 4.17 | 0.524 | 481.7 | 490.3 | 498.9 | 507.5 | 516.1 | 524.7 | 533.3 |
| | 59 | 52.0 | 0.400 | 4.37 | 4.39 | 0.499 | 481.8 | 490.4 | 499.0 | 507.6 | 516.2 | 524.8 | 533.4 |
| | 58 | 50.5 | 0.380 | 4.16 | 4.60 | 0.475 | 482.0 | 490.6 | 499.2 | 507.8 | 516.4 | 525.0 | 533.6 |
| | 57 | 49.0 | 0.361 | 3.94 | 4.82 | 0.450 | 482.1 | 490.7 | 499.3 | 507.9 | 516.5 | 525.1 | 533.7 |
| | 56 | 47.5 | 0.343 | 3.74 | 5.02 | 0.427 | 482.2 | 490.8 | 499.4 | 508.0 | 516.6 | 525.2 | 533.8 |
| | 55 | 46.0 | 0.326 | 3.56 | 5.20 | 0.406 | 482.3 | 490.9 | 499.5 | 508.1 | 516.7 | 525.3 | 533.9 |
| | 54 | 44.5 | 0.309 | 3.38 | 5.38 | 0.386 | 482.4 | 491.0 | 499.6 | 508.2 | 516.8 | 525.4 | 534.0 |
| | 53 | 43.0 | 0.293 | 3.21 | 5.55 | 0.366 | 482.5 | 491.1 | 499.7 | 508.3 | 516.9 | 525.5 | 534.1 |
| | 52 | 41.5 | 0.279 | 3.05 | 5.71 | 0.348 | 482.6 | 491.2 | 499.8 | 508.4 | 517.0 | 525.6 | 534.2 |
| | 51 | 40.0 | 0.264 | 2.89 | 5.87 | 0.330 | 482.7 | 491.3 | 499.9 | 508.5 | 517.1 | 525.7 | 534.3 |
| | 50 | 38.5 | 0.251 | 2.74 | 6.02 | 0.313 | 482.8 | 491.4 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |
| | 49 | 37.0 | 0.238 | 2.60 | 6.16 | 0.297 | 482.9 | 491.5 | 500.0 | 508.6 | 517.2 | 525.8 | 534.4 |
| | 48 | 35.5 | 0.226 | 2.47 | 6.29 | 0.282 | 483.0 | 491.6 | 500.1 | 508.7 | 517.3 | 525.9 | 534.5 |
| | 47 | 34.0 | 0.214 | 2.34 | 6.42 | 0.267 | 483.1 | 491.7 | 500.2 | 508.8 | 517.4 | 526.0 | 534.6 |
| | 46 | 32.5 | 0.203 | 2.22 | 6.54 | 0.253 | 433.3 | 491.9 | 500.4 | 509.1 | 517.6 | 526.2 | 534.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 74 | 74 | 74.0 | 0.827 | 9.04 | 0.00 | 1.000 | 478.4 | 486.9 | 495.5 | 504.0 | 512.6 | 521.1 | 529.7 |
| | 73 | 72.5 | 0.787 | 8.60 | 0.44 | 0.951 | 478.6 | 487.1 | 495.7 | 504.2 | 512.8 | 521.3 | 529.9 |
| | 72 | 71.0 | 0.751 | 8.20 | 0.84 | 0.907 | 478.8 | 487.3 | 495.9 | 504.4 | 513.0 | 521.5 | 530.1 |
| | 71 | 69.5 | 0.715 | 7.81 | 1.23 | 0.864 | 479.0 | 487.5 | 496.1 | 504.6 | 513.2 | 521.7 | 530.3 |
| | 70 | 68.0 | 0.681 | 7.44 | 1.60 | 0.823 | 479.2 | 487.7 | 496.3 | 504.8 | 513.4 | 521.9 | 530.5 |
| | 69 | 66.5 | 0.648 | 7.08 | 1.96 | 0.783 | 479.4 | 487.9 | 496.5 | 505.0 | 513.6 | 522.1 | 530.7 |
| | 68 | 65.0 | 0.617 | 6.75 | 2.29 | 0.747 | 479.6 | 488.1 | 496.7 | 505.2 | 513.8 | 522.3 | 530.9 |
| | 67 | 63.5 | 0.588 | 6.41 | 2.63 | 0.709 | 479.8 | 488.3 | 496.9 | 505.4 | 514.0 | 522.5 | 531.1 |
| | 66 | 62.0 | 0.559 | 6.10 | 2.94 | 0.675 | 480.0 | 488.5 | 497.1 | 505.6 | 514.2 | 522.7 | 531.3 |
| | 65 | 60.5 | 0.532 | 5.81 | 3.23 | 0.643 | 480.1 | 488.7 | 497.3 | 505.9 | 514.4 | 522.9 | 531.5 |
| | 64 | 59.0 | 0.506 | 5.52 | 3.52 | 0.611 | 480.3 | 488.9 | 497.5 | 506.1 | 514.6 | 523.2 | 531.8 |
| | 63 | 57.5 | 0.481 | 5.24 | 3.80 | 0.580 | 480.5 | 489.1 | 497.7 | 506.3 | 514.8 | 523.4 | 532.0 |
| | 62 | 56.0 | 0.458 | 4.99 | 4.05 | 0.552 | 480.6 | 489.2 | 497.8 | 506.4 | 514.9 | 523.5 | 532.1 |
| | 61 | 54.5 | 0.435 | 4.75 | 4.29 | 0.525 | 480.7 | 489.3 | 497.9 | 506.5 | 515.0 | 523.6 | 532.2 |
| | 60 | 53.0 | 0.414 | 4.52 | 4.52 | 0.500 | 480.9 | 489.5 | 498.1 | 506.7 | 515.2 | 523.8 | 532.4 |
| | 59 | 51.5 | 0.393 | 4.29 | 4.75 | 0.475 | 481.0 | 489.6 | 498.2 | 506.8 | 515.3 | 523.9 | 532.5 |
| | 58 | 50.0 | 0.373 | 4.08 | 4.96 | 0.451 | 481.1 | 489.7 | 498.3 | 506.9 | 515.4 | 524.0 | 532.6 |
| | 57 | 48.5 | 0.355 | 3.86 | 5.18 | 0.427 | 481.2 | 489.8 | 498.4 | 507.0 | 515.5 | 524.1 | 532.7 |
| | 56 | 47.0 | 0.337 | 3.66 | 5.38 | 0.405 | 481.3 | 489.9 | 498.5 | 507.1 | 515.6 | 524.2 | 532.8 |
| | 55 | 45.5 | 0.320 | 3.48 | 5.56 | 0.385 | 481.4 | 490.0 | 498.6 | 507.2 | 515.7 | 524.3 | 532.9 |
| | 54 | 44.0 | 0.304 | 3.32 | 5.72 | 0.367 | 481.5 | 490.1 | 498.7 | 507.3 | 515.8 | 524.4 | 533.0 |
| | 53 | 42.5 | 0.288 | 3.15 | 5.89 | 0.348 | 481.6 | 490.2 | 498.8 | 507.4 | 515.9 | 524.5 | 533.1 |
| | 52 | 41.0 | 0.274 | 2.99 | 6.05 | 0.331 | 481.7 | 490.3 | 498.9 | 507.5 | 516.0 | 524.6 | 533.2 |
| | 51 | 39.5 | 0.260 | 2.83 | 6.21 | 0.313 | 481.8 | 490.4 | 499.0 | 507.6 | 516.1 | 524.7 | 533.3 |
| | 50 | 38.0 | 0.246 | 2.69 | 6.35 | 0.298 | 481.9 | 490.5 | 499.1 | 507.7 | 516.2 | 524.8 | 533.4 |
| | 49 | 36.5 | 0.234 | 2.55 | 6.49 | 0.282 | 481.9 | 490.5 | 499.1 | 507.7 | 516.2 | 524.8 | 533.4 |
| | 48 | 35.0 | 0.222 | 2.42 | 6.62 | 0.268 | 482.0 | 490.6 | 499.2 | 507.8 | 516.3 | 524.9 | 533.5 |
| | 47 | 33.5 | 0.210 | 2.30 | 6.74 | 0.254 | 482.1 | 490.7 | 499.2 | 507.9 | 516.4 | 525.0 | 533.6 |
| 75 | 75 | 75.0 | 0.854 | 9.31 | 0.00 | 1.000 | 477.4 | 485.9 | 494.4 | 502.9 | 511.5 | 520.0 | 528.5 |
| | 74 | 73.5 | 0.814 | 8.87 | 0.44 | 0.953 | 477.6 | 486.1 | 494.6 | 503.1 | 511.7 | 520.2 | 528.7 |
| | 73 | 72.0 | 0.776 | 8.45 | 0.86 | 0.908 | 477.8 | 486.3 | 494.8 | 503.3 | 511.9 | 520.4 | 528.9 |
| | 72 | 70.5 | 0.739 | 8.05 | 1.26 | 0.865 | 478.0 | 486.5 | 495.0 | 503.5 | 512.1 | 520.6 | 529.1 |
| | 71 | 69.0 | 0.704 | 7.67 | 1.64 | 0.824 | 478.2 | 486.7 | 495.2 | 503.7 | 512.3 | 520.8 | 529.3 |
| | 70 | 67.5 | 0.670 | 7.30 | 2.01 | 0.784 | 478.3 | 486.8 | 495.3 | 503.8 | 512.5 | 521.0 | 529.5 |
| | 69 | 66.0 | 0.638 | 6.95 | 2.36 | 0.746 | 478.5 | 487.0 | 495.5 | 504.0 | 512.7 | 521.2 | 529.7 |
| | 68 | 64.5 | 0.607 | 6.62 | 2.69 | 0.711 | 478.7 | 487.2 | 495.7 | 504.2 | 512.9 | 521.4 | 529.9 |
| | 67 | 63.0 | 0.578 | 6.30 | 3.01 | 0.677 | 478.9 | 487.4 | 495.9 | 504.4 | 513.1 | 521.6 | 530.1 |
| | 66 | 61.5 | 0.550 | 5.99 | 3.32 | 0.643 | 479.1 | 487.6 | 496.1 | 504.6 | 513.3 | 521.8 | 530.3 |
| | 65 | 60.0 | 0.523 | 5.69 | 3.62 | 0.611 | 479.3 | 487.8 | 496.4 | 504.9 | 513.5 | 522.0 | 530.6 |
| | 64 | 58.5 | 0.498 | 5.42 | 3.89 | 0.582 | 479.5 | 488.0 | 496.6 | 505.1 | 513.7 | 522.2 | 530.8 |
| | 63 | 57.0 | 0.473 | 5.15 | 4.16 | 0.553 | 479.6 | 488.1 | 496.7 | 505.2 | 513.8 | 522.3 | 530.9 |
| | 62 | 55.5 | 0.450 | 4.90 | 4.41 | 0.526 | 479.7 | 484.2 | 496.8 | 505.3 | 513.9 | 522.4 | 531.0 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 75 | 62 | 55.5 | 0.450 | 4.90 | 4.41 | 0.526 | 479.7 | 488.2 | 496.8 | 505.3 | 513.9 | 522.4 | 531.0 |
| | 61 | 54.0 | 0.428 | 4.66 | 4.65 | 0.501 | 479.9 | 488.4 | 497.0 | 505.5 | 514.1 | 522.6 | 531.2 |
| | 60 | 52.5 | 0.407 | 4.43 | 4.88 | 0.476 | 480.0 | 488.5 | 497.1 | 505.6 | 514.2 | 522.7 | 531.3 |
| | 59 | 51.0 | 0.386 | 4.21 | 5.10 | 0.452 | 480.1 | 488.6 | 497.2 | 505.7 | 514.3 | 522.8 | 531.4 |
| | 58 | 49.5 | 0.367 | 4.00 | 5.31 | 0.429 | 480.3 | 488.8 | 497.4 | 505.9 | 514.5 | 523.0 | 531.6 |
| | 57 | 48.0 | 0.349 | 3.79 | 5.52 | 0.407 | 480.4 | 488.9 | 497.5 | 506.0 | 514.6 | 523.1 | 531.7 |
| | 56 | 46.5 | 0.331 | 3.60 | 5.71 | 0.387 | 480.5 | 489.0 | 497.6 | 506.1 | 514.7 | 523.2 | 531.8 |
| | 55 | 45.0 | 0.315 | 3.42 | 5.89 | 0.367 | 480.6 | 489.1 | 497.7 | 506.2 | 514.8 | 523.3 | 531.9 |
| | 54 | 43.5 | 0.299 | 3.25 | 6.06 | 0.349 | 480.7 | 489.2 | 497.8 | 506.3 | 514.9 | 523.4 | 532.0 |
| | 53 | 42.0 | 0.283 | 3.09 | 6.22 | 0.332 | 480.8 | 489.3 | 497.9 | 506.4 | 515.0 | 523.5 | 532.1 |
| | 52 | 40.5 | 0.269 | 2.93 | 6.38 | 0.315 | 480.8 | 489.3 | 497.9 | 506.4 | 515.0 | 523.5 | 532.1 |
| | 51 | 39.0 | 0.255 | 2.78 | 6.53 | 0.299 | 480.9 | 489.4 | 498.0 | 506.5 | 515.1 | 523.6 | 532.2 |
| | 50 | 37.5 | 0.242 | 2.64 | 6.67 | 0.284 | 481.0 | 489.5 | 498.1 | 506.6 | 515.2 | 523.7 | 532.3 |
| | 49 | 36.0 | 0.230 | 2.51 | 6.80 | 0.270 | 481.1 | 489.6 | 498.2 | 506.7 | 515.3 | 523.8 | 532.4 |
| | 48 | 34.5 | 0.218 | 2.39 | 6.92 | 0.257 | 481.2 | 489.7 | 498.3 | 506.8 | 515.4 | 523.9 | 532.5 |
| 76 | 76 | 76.0 | 0.882 | 9.60 | 0.00 | 1.000 | 476.3 | 484.8 | 493.3 | 501.8 | 510.3 | 518.8 | 527.3 |
| | 75 | 74.5 | 0.840 | 9.14 | 0.46 | 0.952 | 476.6 | 485.1 | 493.6 | 502.1 | 510.6 | 519.1 | 527.6 |
| | 74 | 73.0 | 0.801 | 8.71 | 0.89 | 0.907 | 476.8 | 485.3 | 493.8 | 502.3 | 510.8 | 519.3 | 527.8 |
| | 73 | 71.5 | 0.763 | 8.30 | 1.30 | 0.865 | 477.0 | 485.5 | 494.0 | 502.6 | 511.1 | 519.6 | 528.1 |
| | 72 | 70.0 | 0.727 | 7.90 | 1.70 | 0.823 | 477.2 | 485.7 | 494.3 | 502.8 | 511.3 | 519.8 | 528.3 |
| | 71 | 68.5 | 0.692 | 7.53 | 2.07 | 0.784 | 477.4 | 485.9 | 494.5 | 503.0 | 511.5 | 520.0 | 528.5 |
| | 70 | 67.0 | 0.659 | 7.17 | 2.43 | 0.747 | 477.6 | 486.1 | 494.7 | 503.2 | 511.7 | 520.2 | 528.7 |
| | 69 | 65.5 | 0.628 | 6.83 | 2.77 | 0.711 | 477.8 | 486.3 | 494.9 | 503.4 | 511.9 | 520.4 | 528.9 |
| | 68 | 64.0 | 0.597 | 6.49 | 3.11 | 0.676 | 477.9 | 486.4 | 495.0 | 503.6 | 512.1 | 520.6 | 529.2 |
| | 67 | 62.5 | 0.568 | 6.16 | 3.44 | 0.642 | 478.1 | 486.6 | 465.2 | 503.8 | 512.3 | 520.8 | 529.4 |
| | 66 | 61.0 | 0.541 | 5.88 | 3.72 | 0.613 | 478.2 | 486.7 | 495.3 | 503.9 | 512.4 | 520.9 | 529.5 |
| | 65 | 59.5 | 0.515 | 5.59 | 4.01 | 0.582 | 478.3 | 486.8 | 495.4 | 504.0 | 512.5 | 521.0 | 529.6 |
| | 64 | 58.0 | 0.489 | 5.31 | 4.29 | 0.553 | 478.5 | 487.0 | 495.6 | 504.2 | 512.7 | 521.2 | 529.8 |
| | 63 | 56.5 | 0.465 | 5.06 | 4.54 | 0.527 | 478.6 | 487.1 | 495.7 | 504.3 | 512.8 | 521.3 | 529.9 |
| | 62 | 55.0 | 0.442 | 4.81 | 4.79 | 0.501 | 478.8 | 487.3 | 495.9 | 504.5 | 513.0 | 521.5 | 530.1 |
| | 61 | 53.5 | 0.421 | 4.57 | 5.03 | 0.476 | 479.0 | 487.5 | 496.1 | 504.7 | 513.2 | 521.7 | 530.3 |
| | 60 | 52.0 | 0.400 | 4.34 | 5.26 | 0.452 | 479.1 | 487.6 | 496.2 | 504.8 | 513.3 | 521.8 | 530.4 |
| | 59 | 50.5 | 0.380 | 4.13 | 5.47 | 0.430 | 499.2 | 487.7 | 496.3 | 504.9 | 513.4 | 521.9 | 530.5 |
| | 58 | 49.0 | 0.361 | 3.92 | 5.68 | 0.408 | 499.3 | 487.8 | 496.4 | 505.0 | 513.5 | 522.0 | 530.6 |
| | 57 | 47.5 | 0.343 | 3.73 | 5.87 | 0.389 | 499.4 | 487.9 | 496.5 | 505.1 | 513.6 | 522.1 | 530.7 |
| | 56 | 46.0 | 0.326 | 3.54 | 6.06 | 0.369 | 499.5 | 488.0 | 496.6 | 505.2 | 513.7 | 522.2 | 530.8 |
| | 55 | 44.5 | 0.309 | 3.36 | 6.24 | 0.351 | 499.6 | 488.1 | 496.7 | 505.3 | 513.8 | 522.3 | 530.9 |
| | 54 | 43.0 | 0.293 | 3.19 | 6.41 | 0.332 | 499.7 | 488.2 | 496.8 | 505.4 | 513.9 | 522.4 | 531.0 |
| | 53 | 41.5 | 0.279 | 3.03 | 6.57 | 0.316 | 499.8 | 488.3 | 496.9 | 505.5 | 514.0 | 522.5 | 531.1 |
| | 52 | 40.0 | 0.264 | 2.88 | 6.72 | 0.301 | 499.9 | 488.4 | 497.0 | 505.6 | 514.1 | 522.6 | 531.2 |
| | 51 | 38.5 | 0.251 | 2.73 | 6.87 | 0.284 | 500.0 | 488.5 | 497.1 | 505.7 | 514.2 | 522.7 | 531.3 |
| | 50 | 37.0 | 0.238 | 2.59 | 7.01 | 0.269 | 500.1 | 488.6 | 497.2 | 505.8 | 514.3 | 522.8 | 531.4 |
| | 49 | 35.5 | 0.226 | 2.46 | 7.14 | 0.256 | 500.2 | 488.7 | 497.3 | 505.9 | 514.4 | 522.9 | 531.5 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 77 | 77 | 77.0 | 0.910 | 9.89 | 0.00 | 1.000 | 475.3 | 483.8 | 492.3 | 500.8 | 509.2 | 517.7 | 526.2 |
| | 76 | 75.5 | 0.868 | 9.42 | 0.47 | 0.953 | 475.5 | 484.0 | 492.5 | 501.0 | 509.4 | 517.9 | 526.4 |
| | 75 | 74.0 | 0.827 | 8.99 | 0.90 | 0.909 | 475.7 | 484.2 | 492.7 | 501.2 | 509.6 | 518.1 | 526.6 |
| | 74 | 72.5 | 0.787 | 8.57 | 1.32 | 0.867 | 475.9 | 484.4 | 492.9 | 501.4 | 509.9 | 518.4 | 526.9 |
| | 73 | 71.0 | 0.751 | 8.15 | 1.74 | 0.824 | 476.1 | 484.6 | 493.1 | 501.6 | 510.1 | 518.6 | 527.1 |
| | 72 | 69.5 | 0.715 | 7.77 | 2.12 | 0.786 | 476.3 | 484.8 | 493.3 | 501.8 | 510.3 | 518.8 | 527.3 |
| | 71 | 68.0 | 0.681 | 7.40 | 2.49 | 0.748 | 476.5 | 485.0 | 493.5 | 502.0 | 510.5 | 519.0 | 527.5 |
| | 70 | 66.5 | 0.648 | 7.04 | 2.85 | 0.712 | 476.7 | 485.2 | 493.7 | 502.2 | 510.7 | 519.2 | 527.7 |
| | 69 | 65.0 | 0.617 | 6.71 | 3.18 | 0.678 | 476.9 | 485.4 | 493.9 | 502.4 | 510.9 | 519.4 | 527.9 |
| | 68 | 63.5 | 0.588 | 6.37 | 3.52 | 0.644 | 477.0 | 485.6 | 494.1 | 502.6 | 511.1 | 519.6 | 528.1 |
| | 67 | 62.0 | 0.559 | 6.06 | 3.83 | 0.613 | 477.2 | 485.8 | 494.3 | 502.8 | 511.3 | 519.8 | 528.3 |
| | 66 | 60.5 | 0.532 | 5.77 | 4.12 | 0.583 | 477.4 | 486.0 | 494.5 | 503.0 | 511.5 | 520.0 | 528.5 |
| | 65 | 59.0 | 0.506 | 5.49 | 4.40 | 0.556 | 477.5 | 486.1 | 494.6 | 503.1 | 511.6 | 520.1 | 528.6 |
| | 64 | 57.5 | 0.481 | 5.21 | 4.68 | 0.527 | 477.7 | 486.3 | 494.8 | 503.3 | 511.8 | 520.3 | 528.8 |
| | 63 | 56.0 | 0.458 | 4.96 | 4.93 | 0.501 | 477.9 | 486.5 | 495.0 | 503.5 | 512.0 | 520.5 | 529.0 |
| | 62 | 54.5 | 0.435 | 4.70 | 5.19 | 0.476 | 478.0 | 486.6 | 495.1 | 503.7 | 512.1 | 520.6 | 529.1 |
| | 61 | 53.0 | 0.414 | 4.49 | 5.40 | 0.454 | 478.0 | 486.6 | 495.1 | 503.7 | 512.2 | 520.7 | 529.3 |
| | 60 | 51.5 | 0.393 | 4.26 | 5.63 | 0.431 | 478.1 | 486.7 | 495.2 | 503.8 | 512.3 | 520.8 | 529.4 |
| | 59 | 50.0 | 0.373 | 4.05 | 5.84 | 0.410 | 478.2 | 486.8 | 495.3 | 503.9 | 512.4 | 520.9 | 529.5 |
| | 58 | 48.5 | 0.355 | 3.85 | 6.04 | 0.389 | 478.3 | 486.9 | 495.4 | 504.0 | 512.5 | 521.0 | 529.6 |
| | 57 | 47.0 | 0.337 | 3.65 | 6.24 | 0.369 | 478.5 | 487.1 | 495.6 | 504.1 | 512.7 | 521.2 | 529.8 |
| | 56 | 45.5 | 0.320 | 3.47 | 6.42 | 0.351 | 478.6 | 487.2 | 495.7 | 504.2 | 512.8 | 521.3 | 529.9 |
| | 55 | 44.0 | 0.304 | 3.29 | 6.60 | 0.333 | 478.7 | 487.3 | 495.8 | 504.3 | 512.9 | 521.4 | 530.0 |
| | 54 | 42.5 | 0.288 | 3.13 | 6.76 | 0.317 | 478.8 | 487.4 | 495.9 | 504.4 | 513.0 | 521.5 | 530.1 |
| | 53 | 41.0 | 0.274 | 2.97 | 6.92 | 0.301 | 478.9 | 487.5 | 496.0 | 504.5 | 513.1 | 521.6 | 530.2 |
| | 52 | 39.5 | 0.260 | 2.82 | 7.07 | 0.285 | 479.0 | 487.6 | 496.1 | 504.6 | 513.2 | 521.7 | 530.3 |
| | 51 | 38.0 | 0.246 | 2.67 | 7.22 | 0.270 | 479.1 | 487.7 | 496.2 | 504.7 | 513.3 | 521.8 | 530.4 |
| | 50 | 36.5 | 0.234 | 2.53 | 7.36 | 0.256 | 479.1 | 487.7 | 496.2 | 504.7 | 513.3 | 521.8 | 530.4 |
| 78 | 78 | 78.0 | 0.940 | 10.19 | 0.00 | 1.000 | 474.1 | 482.5 | 491.0 | 499.4 | 508.0 | 516.4 | 524.9 |
| | 77 | 76.5 | 0.896 | 9.72 | 0.47 | 0.954 | 474.4 | 482.9 | 491.4 | 499.9 | 508.3 | 516.7 | 525.2 |
| | 76 | 75.0 | 0.854 | 9.25 | 0.94 | 0.908 | 474.7 | 483.2 | 491.6 | 500.1 | 508.6 | 517.1 | 525.6 |
| | 75 | 73.5 | 0.814 | 8.82 | 1.37 | 0.865 | 474.9 | 483.4 | 491.8 | 500.3 | 508.8 | 517.3 | 525.8 |
| | 74 | 72.0 | 0.776 | 8.40 | 1.79 | 0.824 | 475.2 | 483.7 | 492.1 | 500.6 | 509.1 | 517.6 | 526.1 |
| | 73 | 70.5 | 0.739 | 8.00 | 2.19 | 0.785 | 475.4 | 483.9 | 492.3 | 500.8 | 500.3 | 517.8 | 526.3 |
| | 72 | 69.0 | 0.704 | 7.62 | 2.57 | 0.748 | 475.6 | 484.1 | 492.5 | 501.0 | 509.5 | 518.0 | 526.5 |
| | 71 | 67.5 | 0.670 | 7.25 | 2.94 | 0.711 | 475.8 | 484.3 | 492.7 | 501.2 | 509.7 | 518.2 | 526.7 |
| | 70 | 66.0 | 0.638 | 6.91 | 3.28 | 0.678 | 475.9 | 484.4 | 492.9 | 501.4 | 509.9 | 518.4 | 526.9 |
| | 69 | 64.5 | 0.607 | 6.58 | 3.61 | 0.646 | 476.1 | 484.6 | 493.1 | 501.6 | 510.1 | 518.6 | 527.1 |
| | 68 | 63.0 | 0.578 | 6.26 | 3.93 | 0.614 | 476.3 | 484.8 | 493.3 | 501.8 | 510.3 | 518.8 | 527.3 |
| | 67 | 61.5 | 0.550 | 5.96 | 4.23 | 0.585 | 476.4 | 484.9 | 493.4 | 501.9 | 510.4 | 518.9 | 527.4 |
| | 66 | 60.0 | 0.523 | 5.66 | 4.53 | 0.555 | 476.6 | 485.1 | 493.6 | 502.1 | 510.6 | 519.1 | 527.6 |
| | 65 | 58.5 | 0.498 | 5.38 | 4.81 | 0.528 | 476.8 | 485.3 | 493.8 | 502.3 | 510.8 | 519.3 | 527.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 78 | 65 | 58.5 | 0.498 | 5.38 | 4.81 | 0.528 | 476.8 | 485.3 | 493.8 | 502.3 | 510.8 | 519.3 | 527.8 |
| | 64 | 57.0 | 0.473 | 5.12 | 5.07 | 0.502 | 476.8 | 485.3 | 493.9 | 502.4 | 510.9 | 519.4 | 527.9 |
| | 63 | 55.5 | 0.450 | 4.88 | 5.31 | 0.479 | 476.9 | 485.4 | 494.0 | 502.5 | 511.0 | 519.5 | 528.0 |
| | 62 | 54.0 | 0.428 | 4.63 | 5.56 | 0.454 | 477.1 | 485.6 | 494.2 | 502.7 | 511.2 | 519.7 | 528.2 |
| | 61 | 52.5 | 0.407 | 4.40 | 5.79 | 0.432 | 477.2 | 485.7 | 494.3 | 502.8 | 511.3 | 519.8 | 528.3 |
| | 60 | 51.0 | 0.386 | 4.18 | 6.01 | 0.409 | 477.3 | 485.8 | 494.4 | 502.9 | 511.4 | 519.9 | 528.4 |
| | 59 | 49.5 | 0.367 | 3.98 | 6.21 | 0.391 | 477.4 | 485.9 | 494.5 | 503.0 | 511.5 | 520.0 | 528.5 |
| | 58 | 48.0 | 0.349 | 3.78 | 6.41 | 0.371 | 477.5 | 486.0 | 494.6 | 503.1 | 511.6 | 520.1 | 528.6 |
| | 57 | 46.5 | 0.331 | 3.59 | 6.60 | 0.352 | 477.6 | 486.1 | 494.7 | 503.2 | 511.7 | 520.2 | 528.7 |
| | 56 | 45.0 | 0.315 | 3.41 | 6.78 | 0.335 | 477.8 | 486.3 | 494.8 | 503.3 | 511.9 | 520.4 | 528.9 |
| | 55 | 43.5 | 0.299 | 3.24 | 6.95 | 0.318 | 477.9 | 486.4 | 494.9 | 503.4 | 512.0 | 520.5 | 529.0 |
| | 54 | 42.0 | 0.283 | 3.07 | 7.12 | 0.301 | 478.0 | 486.5 | 495.0 | 503.5 | 512.1 | 520.6 | 529.1 |
| | 53 | 40.5 | 0.269 | 2.92 | 7.27 | 0.287 | 478.1 | 486.5 | 495.0 | 503.5 | 512.1 | 520.6 | 529.1 |
| | 52 | 39.0 | 0.255 | 2.77 | 7.42 | 0.272 | 478.2 | 486.6 | 495.1 | 503.6 | 512.2 | 520.7 | 529.2 |
| | 51 | 37.5 | 0.242 | 2.63 | 7.56 | 0.258 | 478.3 | 486.7 | 495.2 | 503.7 | 512.3 | 520.8 | 529.3 |
| 79 | 79 | 79.0 | 0.970 | 10.50 | 0.00 | 1.000 | 473.1 | 481.5 | 490.0 | 498.4 | 506.9 | 515.3 | 523.8 |
| | 78 | 77.5 | 0.925 | 10.01 | 0.49 | 0.953 | 473.4 | 481.8 | 490.3 | 498.7 | 507.2 | 515.6 | 524.1 |
| | 77 | 76.0 | 0.882 | 9.54 | 0.96 | 0.909 | 473.7 | 482.1 | 490.6 | 499.0 | 507.5 | 515.9 | 524.4 |
| | 76 | 74.5 | 0.840 | 9.10 | 1.40 | 0.867 | 473.8 | 482.2 | 490.7 | 499.2 | 507.7 | 516.2 | 524.7 |
| | 75 | 73.0 | 0.801 | 8.66 | 1.84 | 0.825 | 474.0 | 482.4 | 490.9 | 499.4 | 507.9 | 516.4 | 524.9 |
| | 74 | 71.5 | 0.763 | 8.25 | 2.25 | 0.786 | 474.3 | 482.7 | 491.2 | 499.7 | 508.2 | 516.7 | 525.2 |
| | 73 | 70.0 | 0.727 | 7.86 | 2.64 | 0.749 | 474.5 | 482.9 | 491.4 | 499.9 | 508.4 | 516.9 | 525.4 |
| | 72 | 68.5 | 0.692 | 7.48 | 3.02 | 0.712 | 474.7 | 483.1 | 491.6 | 500.1 | 508.6 | 517.1 | 525.6 |
| | 71 | 67.0 | 0.659 | 7.12 | 3.38 | 0.678 | 474.9 | 483.4 | 491.9 | 500.4 | 508.8 | 517.3 | 525.8 |
| | 70 | 65.5 | 0.628 | 6.79 | 3.71 | 0.647 | 475.1 | 483.6 | 462.1 | 500.6 | 509.0 | 517.5 | 526.0 |
| | 69 | 64.0 | 0.597 | 6.45 | 4.05 | 0.614 | 475.3 | 483.8 | 492.3 | 500.8 | 509.2 | 517.7 | 526.2 |
| | 68 | 62.5 | 0.568 | 6.14 | 4.36 | 0.585 | 475.4 | 483.9 | 492.4 | 500.9 | 509.3 | 517.8 | 526.3 |
| | 67 | 61.0 | 0.541 | 5.84 | 4.66 | 0.556 | 475.6 | 484.1 | 492.6 | 501.1 | 509.5 | 518.0 | 526.5 |
| | 66 | 59.5 | 0.515 | 5.55 | 4.95 | 0.529 | 475.7 | 484.2 | 492.7 | 501.2 | 509.6 | 518.1 | 526.6 |
| | 65 | 58.0 | 0.489 | 5.28 | 5.22 | 0.503 | 475.8 | 484.3 | 492.8 | 501.3 | 509.8 | 518.3 | 526.8 |
| | 64 | 56.5 | 0.465 | 5.02 | 5.48 | 0.478 | 476.0 | 484.5 | 493.0 | 501.5 | 510.0 | 518.5 | 527.0 |
| | 63 | 55.0 | 0.442 | 4.78 | 5.72 | 0.455 | 476.1 | 484.6 | 493.1 | 501.6 | 510.1 | 518.6 | 527.1 |
| | 62 | 53.5 | 0.421 | 4.54 | 5.96 | 0.432 | 476.3 | 484.8 | 493.3 | 501.8 | 510.3 | 518.8 | 527.3 |
| | 61 | 52.0 | 0.400 | 4.31 | 6.19 | 0.410 | 476.4 | 484.9 | 493.4 | 501.9 | 510.4 | 518.9 | 527.4 |
| | 60 | 50.5 | 0.380 | 4.10 | 6.40 | 0.390 | 476.5 | 485.0 | 493.5 | 502.0 | 510.5 | 519.0 | 527.5 |
| | 59 | 49.0 | 0.361 | 3.90 | 6.60 | 0.371 | 476.6 | 485.1 | 493.6 | 502.1 | 510.6 | 519.1 | 527.6 |
| | 58 | 47.5 | 0.343 | 3.71 | 6.79 | 0.353 | 476.7 | 485.2 | 493.7 | 502.2 | 510.7 | 519.2 | 527.7 |
| | 57 | 46.0 | 0.326 | 3.52 | 6.98 | 0.335 | 476.8 | 485.3 | 493.8 | 502.3 | 510.8 | 519.3 | 527.8 |
| | 56 | 44.5 | 0.309 | 3.34 | 7.16 | 0.318 | 476.9 | 485.4 | 493.9 | 502.4 | 510.9 | 519.4 | 527.9 |
| | 55 | 43.0 | 0.293 | 3.17 | 7.33 | 0.301 | 477.0 | 485.5 | 494.0 | 502.5 | 511.0 | 519.5 | 528.0 |
| | 54 | 41.5 | 0.279 | 3.01 | 7.49 | 0.287 | 477.1 | 485.6 | 494.1 | 502.6 | 511.1 | 519.6 | 528.1 |
| | 53 | 40.0 | 0.264 | 2.86 | 7.64 | 0.272 | 477.2 | 485.7 | 494.2 | 502.7 | 511.2 | 519.7 | 528.2 |
| | 52 | 38.5 | 0.251 | 2.72 | 7.78 | 0.260 | 477.3 | 485.8 | 494.3 | 502.8 | 511.3 | 519.8 | 528.3 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr |
| 80 | 80 | 80.0 | 1.001 | 10.81 | 0.00 | 1.000 | 472.0 | 480.4 | 488.9 | 497.3 | 505.7 | 514.1 | 522.6 |
| | 79 | 78.5 | 0.955 | 10.31 | 0.50 | 0.954 | 472.3 | 480.7 | 489.1 | 497.5 | 506.0 | 514.4 | 522.9 |
| | 78 | 77.0 | 0.910 | 9.83 | 0.98 | 0.909 | 472.5 | 480.9 | 489.4 | 497.9 | 506.3 | 514.7 | 523.2 |
| | 77 | 75.5 | 0.868 | 9.37 | 1.44 | 0.867 | 472.7 | 481.1 | 489.6 | 498.1 | 506.5 | 514.9 | 523.4 |
| | 76 | 74.0 | 0.827 | 8.93 | 1.88 | 0.826 | 473.0 | 481.4 | 489.9 | 498.4 | 506.8 | 515.2 | 523.7 |
| | 75 | 72.5 | 0.787 | 8.50 | 2.31 | 0.786 | 473.2 | 481.6 | 490.1 | 498.6 | 507.0 | 515.4 | 523.9 |
| | 74 | 71.0 | 0.751 | 8.11 | 2.70 | 0.750 | 473.4 | 481.8 | 490.3 | 498.8 | 507.2 | 515.6 | 524.1 |
| | 73 | 69.5 | 0.715 | 7.71 | 3.10 | 0.713 | 473.6 | 482.1 | 490.6 | 499.1 | 507.5 | 515.9 | 524.4 |
| | 72 | 68.0 | 0.681 | 7.35 | 3.46 | 0.680 | 473.8 | 482.3 | 490.8 | 499.3 | 507.7 | 516.1 | 524.6 |
| | 71 | 66.5 | 0.648 | 6.99 | 3.82 | 0.647 | 474.0 | 482.5 | 491.0 | 499.5 | 507.9 | 516.3 | 524.8 |
| | 70 | 65.0 | 0.617 | 6.66 | 4.15 | 0.616 | 474.2 | 482.7 | 491.2 | 499.7 | 508.1 | 516.5 | 525.0 |
| | 69 | 63.5 | 0.588 | 6.33 | 4.48 | 0.586 | 474.4 | 482.9 | 491.4 | 499.9 | 508.3 | 516.7 | 525.2 |
| | 68 | 62.0 | 0.559 | 6.03 | 4.78 | 0.558 | 474.5 | 483.0 | 491.5 | 500.0 | 508.4 | 516.8 | 525.3 |
| | 67 | 60.5 | 0.532 | 5.74 | 5.07 | 0.531 | 474.7 | 483.2 | 491.7 | 500.2 | 508.6 | 517.0 | 525.5 |
| | 66 | 59.0 | 0.506 | 5.45 | 5.36 | 0.504 | 474.9 | 483.4 | 491.9 | 500.4 | 508.8 | 517.2 | 525.7 |
| | 65 | 57.5 | 0.481 | 5.18 | 5.63 | 0.479 | 475.0 | 483.5 | 492.0 | 500.5 | 508.9 | 517.3 | 525.8 |
| | 64 | 56.0 | 0.458 | 4.93 | 5.96 | 0.456 | 475.2 | 483.7 | 492.2 | 500.7 | 509.1 | 517.5 | 526.0 |
| | 63 | 54.5 | 0.435 | 4.69 | 6.12 | 0.434 | 475.3 | 483.8 | 492.3 | 500.8 | 509.2 | 517.6 | 526.1 |
| | 62 | 53.0 | 0.414 | 4.46 | 6.35 | 0.413 | 475.4 | 483.9 | 492.4 | 500.9 | 509.3 | 517.7 | 526.2 |
| | 61 | 51.5 | 0.393 | 4.23 | 6.58 | 0.391 | 475.5 | 484.0 | 492.5 | 501.0 | 509.4 | 517.8 | 526.3 |
| | 60 | 50.0 | 0.373 | 4.02 | 6.79 | 0.372 | 475.6 | 484.1 | 492.6 | 501.1 | 509.5 | 517.9 | 526.4 |
| | 59 | 48.5 | 0.355 | 3.82 | 6.99 | 0.353 | 475.7 | 484.2 | 492.7 | 501.2 | 509.6 | 518.0 | 526.5 |
| | 58 | 47.0 | 0.337 | 3.63 | 7.18 | 0.336 | 475.9 | 484.4 | 492.9 | 501.4 | 509.8 | 518.2 | 526.7 |
| | 57 | 45.5 | 0.320 | 3.45 | 7.36 | 0.319 | 476.0 | 484.5 | 493.1 | 501.5 | 509.9 | 518.3 | 526.8 |
| | 56 | 44.0 | 0.304 | 3.27 | 7.54 | 0.302 | 476.1 | 484.6 | 493.2 | 501.6 | 510.0 | 518.4 | 526.9 |
| | 55 | 42.5 | 0.288 | 3.11 | 7.70 | 0.288 | 476.2 | 484.7 | 493.3 | 501.7 | 510.1 | 518.5 | 527.0 |
| | 54 | 41.0 | 0.274 | 2.96 | 7.85 | 0.274 | 476.3 | 484.8 | 493.4 | 501.8 | 510.2 | 518.6 | 527.1 |
| | 53 | 39.5 | 0.260 | 2.82 | 7.99 | 0.261 | 476.3 | 484.8 | 493.4 | 501.8 | 510.2 | 518.6 | 527.1 |
| 81 | 81 | 81.0 | 1.034 | 11.14 | 0.00 | 1.000 | 471.0 | 479.4 | 487.8 | 496.2 | 504.6 | 513.0 | 521.4 |
| | 80 | 79.5 | 0.986 | 10.62 | 0.52 | 0.953 | 471.3 | 479.7 | 488.1 | 496.5 | 504.9 | 513.3 | 521.7 |
| | 79 | 78.0 | 0.940 | 10.13 | 1.01 | 0.910 | 471.5 | 479.9 | 488.4 | 496.8 | 505.2 | 513.6 | 522.1 |
| | 78 | 76.5 | 0.896 | 9.65 | 1.49 | 0.866 | 471.7 | 480.1 | 488.6 | 497.0 | 505.4 | 513.8 | 522.3 |
| | 77 | 75.0 | 0.854 | 9.20 | 1.94 | 0.826 | 472.0 | 480.4 | 488.9 | 497.3 | 505.7 | 514.1 | 522.6 |
| | 76 | 73.5 | 0.814 | 8.77 | 2.37 | 0.787 | 472.2 | 480.6 | 489.1 | 497.5 | 505.9 | 514.3 | 522.8 |
| | 75 | 72.0 | 0.776 | 8.35 | 2.79 | 0.750 | 472.5 | 480.9 | 489.4 | 497.8 | 506.2 | 514.6 | 523.1 |
| | 74 | 70.5 | 0.739 | 7.95 | 3.19 | 0.713 | 472.6 | 481.0 | 489.5 | 497.9 | 506.4 | 514.8 | 523.3 |
| | 73 | 69.0 | 0.704 | 7.57 | 3.57 | 0.680 | 472.8 | 481.2 | 489.7 | 498.1 | 506.6 | 515.0 | 523.5 |
| | 72 | 67.5 | 0.670 | 7.21 | 3.93 | 0.647 | 473.0 | 481.4 | 489.9 | 498.3 | 506.8 | 515.2 | 523.7 |
| | 71 | 66.0 | 0.638 | 6.87 | 4.27 | 0.617 | 473.2 | 481.6 | 490.1 | 498.5 | 507.0 | 515.4 | 523.9 |
| | 70 | 64.5 | 0.607 | 6.54 | 4.60 | 0.587 | 473.4 | 481.8 | 490.3 | 498.7 | 507.2 | 515.6 | 524.1 |
| | 69 | 63.0 | 0.578 | 6.22 | 4.92 | 0.558 | 473.6 | 482.0 | 490.5 | 498.9 | 507.4 | 515.8 | 524.3 |
| | 68 | 61.5 | 0.550 | 5.92 | 5.22 | 0.531 | 473.7 | 482.2 | 490.7 | 499.1 | 507.6 | 516.0 | 524.5 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 81 | 68 | 61.5 | 0.550 | 5.92 | 5.22 | 0.531 | 473.7 | 482.2 | 490.7 | 499.1 | 507.6 | 516.0 | 524.5 |
| | 67 | 60.0 | 0.523 | 5.62 | 5.52 | 0.505 | 473.8 | 482.3 | 490.8 | 499.2 | 507.7 | 516.1 | 524.6 |
| | 66 | 58.5 | 0.498 | 5.31 | 5.83 | 0.477 | 474.0 | 482.5 | 491.0 | 499.4 | 507.9 | 516.3 | 524.8 |
| | 65 | 57.0 | 0.473 | 5.08 | 6.06 | 0.456 | 474.1 | 482.6 | 491.1 | 499.5 | 508.0 | 516.4 | 524.9 |
| | 64 | 55.5 | 0.450 | 4.84 | 6.30 | 0.434 | 474.3 | 482.8 | 491.3 | 499.7 | 508.2 | 516.6 | 525.1 |
| | 63 | 54.0 | 0.428 | 4.60 | 6.54 | 0.413 | 474.4 | 482.9 | 491.4 | 499.8 | 508.3 | 516.7 | 525.2 |
| | 62 | 52.5 | 0.407 | 4.37 | 6.77 | 0.392 | 474.5 | 483.0 | 491.5 | 499.9 | 508.4 | 516.8 | 525.3 |
| | 61 | 51.0 | 0.386 | 4.15 | 6.99 | 0.373 | 474.6 | 483.1 | 491.6 | 500.0 | 508.5 | 516.9 | 525.4 |
| | 60 | 49.5 | 0.367 | 3.95 | 7.19 | 0.355 | 474.7 | 483.2 | 491.7 | 500.1 | 508.6 | 517.0 | 525.5 |
| | 59 | 48.0 | 0.349 | 3.75 | 7.39 | 0.337 | 474.9 | 483.4 | 491.9 | 500.3 | 508.8 | 517.2 | 525.7 |
| | 58 | 46.5 | 0.331 | 3.56 | 7.58 | 0.320 | 475.0 | 483.5 | 492.0 | 500.4 | 508.9 | 517.3 | 525.8 |
| | 57 | 45.0 | 0.315 | 3.38 | 7.76 | 0.303 | 475.1 | 483.6 | 492.1 | 500.5 | 509.0 | 517.4 | 525.9 |
| | 56 | 43.5 | 0.299 | 3.21 | 7.93 | 0.289 | 475.2 | 483.7 | 492.2 | 500.6 | 509.1 | 517.5 | 526.0 |
| | 55 | 42.0 | 0.283 | 3.05 | 8.09 | 0.274 | 475.3 | 483.8 | 492.3 | 500.7 | 509.2 | 517.6 | 526.1 |
| | 54 | 40.5 | 0.269 | 2.90 | 8.24 | 0.260 | 475.3 | 483.8 | 492.3 | 500.7 | 509.2 | 517.6 | 526.1 |
| 82 | 82 | 82.0 | 1.067 | 11.47 | 0.00 | 1.000 | 470.0 | 478.4 | 486.8 | 495.2 | 503.5 | 511.9 | 520.3 |
| | 81 | 80.5 | 1.017 | 10.94 | 0.53 | 0.954 | 470.3 | 478.7 | 487.0 | 495.4 | 503.8 | 512.2 | 520.6 |
| | 80 | 79.0 | 0.970 | 10.44 | 1.03 | 0.910 | 470.6 | 479.0 | 487.3 | 495.7 | 504.1 | 512.5 | 520.9 |
| | 79 | 77.5 | 0.925 | 9.95 | 1.52 | 0.868 | 470.7 | 479.1 | 487.5 | 495.9 | 504.3 | 512.7 | 521.1 |
| | 78 | 76.0 | 0.882 | 9.49 | 1.98 | 0.827 | 471.0 | 479.4 | 487.8 | 496.2 | 504.6 | 513.0 | 521.4 |
| | 77 | 74.5 | 0.840 | 9.03 | 2.44 | 0.787 | 471.2 | 479.6 | 488.0 | 496.4 | 504.8 | 513.2 | 521.6 |
| | 76 | 73.0 | 0.801 | 8.60 | 2.87 | 0.750 | 471.5 | 479.9 | 488.3 | 496.7 | 505.1 | 513.5 | 521.9 |
| | 75 | 71.5 | 0.763 | 8.19 | 3.28 | 0.714 | 471.6 | 480.0 | 488.5 | 496.9 | 505.3 | 513.7 | 522.1 |
| | 74 | 70.0 | 0.727 | 7.81 | 3.66 | 0.681 | 471.8 | 480.2 | 488.6 | 497.1 | 505.5 | 513.9 | 522.4 |
| | 73 | 68.5 | 0.692 | 7.43 | 4.04 | 0.648 | 472.0 | 480.4 | 488.8 | 497.3 | 505.7 | 514.1 | 522.6 |
| | 72 | 67.0 | 0.659 | 7.08 | 4.39 | 0.618 | 472.2 | 480.6 | 489.0 | 497.5 | 505.9 | 514.3 | 522.8 |
| | 71 | 65.5 | 0.628 | 6.75 | 4.72 | 0.588 | 472.4 | 480.8 | 489.2 | 497.7 | 506.1 | 514.5 | 523.0 |
| | 70 | 64.0 | 0.597 | 6.41 | 5.06 | 0.559 | 472.5 | 480.8 | 489.4 | 497.9 | 506.3 | 514.7 | 523.2 |
| | 69 | 62.5 | 0.568 | 6.10 | 5.37 | 0.532 | 472.6 | 481.0 | 489.5 | 498.0 | 506.4 | 514.8 | 523.3 |
| | 68 | 61.0 | 0.541 | 5.81 | 5.66 | 0.507 | 472.8 | 481.2 | 489.7 | 498.2 | 506.6 | 515.0 | 523.5 |
| | 67 | 59.5 | 0.515 | 5.52 | 5.95 | 0.481 | 473.0 | 481.4 | 489.9 | 498.4 | 506.8 | 515.2 | 523.7 |
| | 66 | 58.0 | 0.489 | 5.25 | 6.22 | 0.458 | 473.1 | 481.5 | 490.0 | 498.5 | 506.9 | 515.3 | 523.8 |
| | 65 | 56.5 | 0.465 | 4.99 | 6.48 | 0.435 | 473.2 | 481.6 | 490.1 | 498.6 | 507.0 | 515.4 | 523.9 |
| | 64 | 55.0 | 0.442 | 4.75 | 6.72 | 0.414 | 473.4 | 481.8 | 490.3 | 498.8 | 507.2 | 515.6 | 524.1 |
| | 63 | 53.5 | 0.421 | 4.51 | 6.96 | 0.393 | 473.5 | 482.0 | 490.5 | 499.0 | 507.4 | 515.8 | 524.3 |
| | 62 | 52.0 | 0.400 | 4.29 | 7.18 | 0.374 | 473.6 | 482.1 | 490.6 | 499.1 | 507.5 | 515.9 | 524.4 |
| | 61 | 50.5 | 0.380 | 4.08 | 7.39 | 0.356 | 473.7 | 482.2 | 490.7 | 499.2 | 507.6 | 516.0 | 524.4 |
| | 60 | 49.0 | 0.361 | 3.87 | 7.60 | 0.337 | 473.8 | 482.3 | 490.8 | 499.3 | 507.7 | 516.1 | 524.5 |
| | 59 | 47.5 | 0.343 | 3.68 | 7.79 | 0.320 | 473.9 | 482.4 | 490.9 | 499.4 | 507.8 | 516.2 | 524.6 |
| | 58 | 46.0 | 0.326 | 3.50 | 7.97 | 0.305 | 474.0 | 482.5 | 491.0 | 499.5 | 507.9 | 516.3 | 524.7 |
| | 57 | 44.5 | 0.309 | 3.32 | 8.15 | 0.289 | 474.1 | 482.6 | 491.1 | 499.6 | 508.0 | 516.4 | 524.8 |
| | 56 | 43.0 | 0.293 | 3.15 | 8.32 | 0.274 | 474.2 | 482.7 | 491.2 | 499.7 | 508.1 | 516.5 | 524.9 |
| | 55 | 41.5 | 0.279 | 2.99 | 8.48 | 0.260 | 474.3 | 482.8 | 491.3 | 499.8 | 508.2 | 516.6 | 525.1 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 83 | 83 | 83.0 | 1.101 | 11.82 | 0.00 | 1.000 | 468.8 | 477.2 | 485.5 | 493.9 | 502.3 | 510.6 | 519.0 |
| | 82 | 81.5 | 1.050 | 11.27 | 0.55 | 0.953 | 469.1 | 477.5 | 485.8 | 494.2 | 502.6 | 511.0 | 519.4 |
| | 81 | 80.0 | 1.001 | 10.75 | 1.07 | 0.909 | 469.4 | 477.8 | 486.1 | 494.5 | 502.9 | 511.3 | 519.7 |
| | 80 | 78.5 | 0.955 | 10.25 | 1.57 | 0.868 | 469.7 | 478.1 | 486.4 | 494.8 | 503.2 | 511.6 | 520.0 |
| | 79 | 77.0 | 0.910 | 9.78 | 2.04 | 0.828 | 470.0 | 478.4 | 486.7 | 495.1 | 503.5 | 511.9 | 520.3 |
| | 78 | 75.5 | 0.868 | 9.31 | 2.51 | 0.786 | 470.3 | 478.7 | 487.0 | 495.4 | 503.8 | 512.2 | 520.6 |
| | 77 | 74.0 | 0.827 | 8.88 | 2.94 | 0.751 | 470.5 | 478.9 | 487.2 | 495.6 | 504.0 | 512.4 | 520.8 |
| | 76 | 72.5 | 0.787 | 8.45 | 3.37 | 0.715 | 470.6 | 479.0 | 487.4 | 495.8 | 504.2 | 512.6 | 521.0 |
| | 75 | 71.0 | 0.751 | 8.05 | 3.77 | 0.681 | 470.8 | 479.2 | 487.6 | 496.0 | 504.4 | 512.8 | 521.2 |
| | 74 | 69.5 | 0.715 | 7.66 | 4.16 | 0.647 | 471.0 | 479.4 | 487.8 | 496.2 | 504.6 | 513.0 | 521.4 |
| | 73 | 68.0 | 0.681 | 7.30 | 4.52 | 0.618 | 471.2 | 479.6 | 488.0 | 496.4 | 504.8 | 513.2 | 521.6 |
| | 72 | 66.5 | 0.648 | 6.95 | 4.87 | 0.588 | 471.4 | 479.8 | 488.2 | 496.6 | 505.0 | 513.4 | 521.8 |
| | 71 | 65.0 | 0.617 | 6.62 | 5.20 | 0.560 | 471.6 | 480.0 | 488.4 | 496.8 | 505.2 | 513.6 | 522.0 |
| | 70 | 63.5 | 0.588 | 6.29 | 5.53 | 0.533 | 471.7 | 480.1 | 488.5 | 497.0 | 505.4 | 513.8 | 522.3 |
| | 69 | 62.0 | 0.559 | 5.99 | 5.83 | 0.507 | 471.9 | 480.3 | 488.7 | 497.2 | 505.6 | 514.0 | 522.5 |
| | 68 | 60.5 | 0.532 | 5.70 | 6.12 | 0.482 | 472.0 | 480.4 | 488.8 | 497.3 | 505.7 | 514.1 | 522.6 |
| | 67 | 59.0 | 0.506 | 5.42 | 6.40 | 0.459 | 472.2 | 480.6 | 489.0 | 497.5 | 505.9 | 514.3 | 522.8 |
| | 66 | 57.5 | 0.481 | 5.15 | 6.67 | 0.435 | 472.4 | 480.8 | 489.2 | 497.7 | 506.1 | 514.5 | 523.0 |
| | 65 | 56.0 | 0.458 | 4.90 | 6.92 | 0.414 | 472.4 | 480.8 | 489.3 | 497.8 | 506.2 | 514.6 | 523.1 |
| | 64 | 54.5 | 0.435 | 4.66 | 7.18 | 0.394 | 472.5 | 480.9 | 489.4 | 497.9 | 506.3 | 514.7 | 523.2 |
| | 63 | 53.0 | 0.414 | 4.43 | 7.39 | 0.375 | 472.7 | 481.1 | 489.6 | 498.1 | 506.5 | 514.9 | 523.4 |
| | 62 | 51.5 | 0.393 | 4.21 | 7.61 | 0.356 | 472.8 | 481.2 | 489.7 | 498.2 | 506.6 | 515.0 | 523.5 |
| | 61 | 50.0 | 0.373 | 4.00 | 7.82 | 0.339 | 472.9 | 481.3 | 489.8 | 498.3 | 506.7 | 515.1 | 523.6 |
| | 60 | 48.5 | 0.355 | 3.80 | 8.02 | 0.322 | 473.1 | 481.4 | 489.9 | 498.4 | 506.8 | 515.2 | 523.7 |
| | 59 | 47.0 | 0.337 | 3.60 | 8.22 | 0.305 | 473.2 | 481.5 | 490.0 | 498.5 | 506.9 | 515.3 | 523.8 |
| | 58 | 45.5 | 0.320 | 3.42 | 8.40 | 0.289 | 473.3 | 481.6 | 490.1 | 498.6 | 507.0 | 515.4 | 523.9 |
| | 57 | 44.0 | 0.304 | 3.25 | 8.57 | 0.276 | 473.4 | 481.7 | 490.2 | 498.7 | 507.1 | 515.5 | 524.0 |
| | 56 | 42.5 | 0.288 | 3.09 | 8.73 | 0.261 | 473.5 | 481.8 | 490.3 | 498.8 | 507.2 | 515.6 | 524.1 |
| 84 | 84 | 84.0 | 1.136 | 12.17 | 0.00 | 1.000 | 467.8 | 476.2 | 484.5 | 492.7 | 501.2 | 509.6 | 517.9 |
| | 83 | 82.5 | 1.083 | 11.61 | 0.56 | 0.954 | 468.1 | 476.4 | 484.8 | 493.2 | 501.5 | 509.8 | 518.2 |
| | 82 | 81.0 | 1.034 | 11.07 | 1.10 | 0.910 | 468.4 | 476.7 | 485.1 | 493.5 | 501.8 | 510.1 | 518.5 |
| | 81 | 79.5 | 0.986 | 10.55 | 1.62 | 0.867 | 468.6 | 476.9 | 485.4 | 493.7 | 502.1 | 510.5 | 518.8 |
| | 80 | 78.0 | 0.940 | 10.07 | 2.10 | 0.827 | 468.9 | 477.3 | 485.7 | 494.0 | 502.4 | 510.8 | 519.1 |
| | 79 | 76.5 | 0.896 | 9.59 | 2.58 | 0.788 | 469.1 | 477.5 | 485.9 | 494.2 | 502.6 | 511.0 | 519.3 |
| | 78 | 75.0 | 0.854 | 9.14 | 3.03 | 0.751 | 469.4 | 477.8 | 486.1 | 494.5 | 502.9 | 511.3 | 519.7 |
| | 77 | 73.5 | 0.814 | 8.71 | 3.46 | 0.716 | 469.6 | 478.0 | 486.3 | 494.7 | 503.1 | 511.5 | 519.9 |
| | 76 | 72.0 | 0.776 | 8.30 | 3.87 | 0.682 | 469.8 | 478.2 | 486.5 | 494.9 | 503.3 | 511.7 | 520.1 |
| | 75 | 70.5 | 0.739 | 7.90 | 4.27 | 0.649 | 470.1 | 478.5 | 486.8 | 495.2 | 503.6 | 512.0 | 520.4 |
| | 74 | 69.0 | 0.704 | 7.53 | 4.64 | 0.619 | 470.3 | 478.7 | 487.0 | 495.4 | 503.8 | 512.2 | 520.6 |
| | 73 | 67.5 | 0.670 | 7.17 | 5.00 | 0.589 | 470.5 | 478.9 | 487.2 | 495.6 | 504.0 | 512.4 | 520.8 |
| | 72 | 66.0 | 0.638 | 6.83 | 5.34 | 0.561 | 470.6 | 479.0 | 487.4 | 495.8 | 504.2 | 512.6 | 521.0 |
| | 71 | 64.5 | 0.607 | 6.50 | 5.67 | 0.534 | 470.7 | 479.1 | 487.5 | 495.9 | 504.3 | 512.7 | 521.1 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 84 | 71 | 64.5 | 0.607 | 6.50 | 5.67 | 0.534 | 470.7 | 479.1 | 487.5 | 495.9 | 504.3 | 512.7 | 521.1 |
| | 70 | 63.0 | 0.578 | 6.18 | 5.99 | 0.508 | 470.9 | 479.3 | 487.7 | 496.1 | 504.5 | 512.9 | 521.3 |
| | 69 | 61.5 | 0.550 | 5.87 | 6.30 | 0.482 | 471.1 | 479.5 | 487.9 | 496.3 | 504.7 | 513.1 | 521.5 |
| | 68 | 60.0 | 0.523 | 5.59 | 6.58 | 0.459 | 471.2 | 479.6 | 488.0 | 496.4 | 504.8 | 513.2 | 521.6 |
| | 67 | 58.5 | 0.498 | 5.31 | 6.86 | 0.436 | 471.4 | 479.8 | 488.2 | 496.6 | 505.0 | 513.4 | 521.8 |
| | 66 | 57.0 | 0.473 | 5.05 | 7.12 | 0.415 | 471.6 | 480.0 | 488.3 | 496.7 | 505.2 | 513.6 | 522.1 |
| | 65 | 55.5 | 0.450 | 4.81 | 7.36 | 0.395 | 471.6 | 480.0 | 488.4 | 496.8 | 505.3 | 513.7 | 522.2 |
| | 64 | 54.0 | 0.428 | 4.57 | 7.60 | 0.375 | 471.7 | 480.1 | 488.5 | 496.9 | 505.4 | 513.8 | 522.3 |
| | 63 | 52.5 | 0.407 | 4.35 | 7.82 | 0.357 | 471.8 | 480.2 | 488.6 | 497.0 | 505.5 | 513.9 | 522.4 |
| | 62 | 51.0 | 0.386 | 4.13 | 8.04 | 0.339 | 471.9 | 480.4 | 488.8 | 497.2 | 505.7 | 514.0 | 522.5 |
| | 61 | 49.5 | 0.367 | 3.93 | 8.24 | 0.323 | 472.1 | 480.5 | 488.9 | 497.3 | 505.8 | 514.1 | 522.6 |
| | 60 | 48.0 | 0.349 | 3.73 | 8.44 | 0.306 | 472.2 | 480.6 | 489.0 | 497.4 | 505.9 | 514.2 | 522.7 |
| | 59 | 46.5 | 0.331 | 3.55 | 8.62 | 0.292 | 472.3 | 480.7 | 489.1 | 497.5 | 506.0 | 514.3 | 522.8 |
| | 58 | 45.0 | 0.315 | 3.37 | 8.80 | 0.277 | 472.4 | 480.8 | 489.2 | 497.6 | 506.1 | 514.4 | 522.9 |
| | 57 | 43.5 | 0.299 | 3.20 | 8.97 | 0.263 | 472.5 | 480.9 | 489.3 | 497.7 | 506.2 | 514.5 | 523.0 |
| 85 | 85 | 85.0 | 1.171 | 12.53 | 0.00 | 1.000 | 466.8 | 475.2 | 483.5 | 491.8 | 500.1 | 508.5 | 516.8 |
| | 84 | 83.5 | 1.118 | 11.95 | 0.58 | 0.954 | 467.1 | 475.4 | 483.7 | 492.1 | 500.4 | 508.7 | 517.1 |
| | 83 | 82.0 | 1.067 | 11.40 | 1.13 | 0.910 | 467.3 | 475.6 | 484.0 | 492.4 | 500.7 | 509.0 | 517.4 |
| | 82 | 80.5 | 1.017 | 10.87 | 1.66 | 0.868 | 467.6 | 475.9 | 484.3 | 492.7 | 501.0 | 509.3 | 517.7 |
| | 81 | 79.0 | 0.970 | 10.38 | 2.15 | 0.829 | 467.8 | 476.1 | 484.5 | 492.9 | 501.2 | 509.5 | 517.9 |
| | 80 | 77.5 | 0.925 | 9.89 | 2.64 | 0.789 | 468.1 | 476.4 | 484.8 | 493.2 | 501.5 | 509.8 | 518.2 |
| | 79 | 76.0 | 0.882 | 9.43 | 3.10 | 0.753 | 468.4 | 476.7 | 485.1 | 493.5 | 501.8 | 510.1 | 518.5 |
| | 78 | 74.5 | 0.840 | 8.98 | 3.55 | 0.717 | 468.6 | 476.9 | 485.3 | 493.7 | 502.0 | 510.3 | 518.7 |
| | 77 | 73.0 | 0.801 | 8.55 | 3.98 | 0.682 | 468.7 | 477.1 | 485.5 | 493.9 | 502.2 | 510.5 | 518.9 |
| | 76 | 71.5 | 0.763 | 8.15 | 4.38 | 0.650 | 469.0 | 477.4 | 485.8 | 494.2 | 502.5 | 510.8 | 519.2 |
| | 75 | 70.0 | 0.727 | 7.76 | 4.77 | 0.619 | 469.2 | 477.6 | 486.0 | 494.4 | 502.7 | 511.0 | 519.4 |
| | 74 | 68.5 | 0.692 | 7.39 | 5.14 | 0.589 | 469.4 | 477.8 | 486.2 | 494.6 | 502.9 | 511.2 | 519.6 |
| | 73 | 67.0 | 0.659 | 7.04 | 5.49 | 0.562 | 469.7 | 478.1 | 486.5 | 494.9 | 503.2 | 511.5 | 519.9 |
| | 72 | 65.5 | 0.628 | 6.71 | 5.82 | 0.536 | 469.9 | 478.3 | 486.7 | 495.1 | 503.4 | 511.7 | 520.1 |
| | 71 | 64.0 | 0.597 | 6.37 | 6.16 | 0.508 | 470.1 | 478.5 | 486.9 | 495.3 | 503.6 | 511.9 | 520.3 |
| | 70 | 62.5 | 0.568 | 6.07 | 6.46 | 0.484 | 470.3 | 478.7 | 487.1 | 495.5 | 503.8 | 512.1 | 520.5 |
| | 69 | 61.0 | 0.541 | 5.77 | 6.76 | 0.460 | 470.5 | 478.9 | 487.2 | 495.6 | 504.0 | 512.4 | 520.8 |
| | 68 | 59.5 | 0.515 | 5.48 | 7.05 | 0.437 | 470.6 | 479.0 | 487.3 | 495.7 | 504.1 | 513.5 | 520.9 |
| | 67 | 58.0 | 0.489 | 5.21 | 7.32 | 0.415 | 470.6 | 479.0 | 487.4 | 495.8 | 504.2 | 512.6 | 521.0 |
| | 66 | 56.5 | 0.465 | 4.96 | 7.57 | 0.396 | 470.7 | 479.1 | 487.5 | 495.9 | 504.3 | 512.7 | 521.1 |
| | 65 | 55.0 | 0.442 | 4.72 | 7.81 | 0.377 | 470.8 | 479.2 | 487.6 | 496.0 | 504.4 | 512.8 | 521.2 |
| | 64 | 53.5 | 0.421 | 4.49 | 8.04 | 0.359 | 470.9 | 479.3 | 487.7 | 496.1 | 504.5 | 512.9 | 521.3 |
| | 63 | 52.0 | 0.400 | 4.26 | 8.27 | 0.340 | 471.1 | 479.5 | 487.9 | 496.3 | 504.7 | 513.1 | 521.5 |
| | 62 | 50.5 | 0.380 | 4.05 | 8.48 | 0.323 | 471.2 | 479.6 | 488.1 | 496.4 | 504.8 | 513.2 | 521.6 |
| | 61 | 49.0 | 0.361 | 3.85 | 8.68 | 0.307 | 471.3 | 479.7 | 488.2 | 496.5 | 504.9 | 513.3 | 521.7 |
| | 60 | 47.5 | 0.343 | 3.66 | 8.87 | 0.292 | 471.4 | 479.8 | 488.3 | 496.6 | 505.0 | 513.4 | 521.8 |
| | 59 | 46.0 | 0.326 | 3.48 | 9.05 | 0.278 | 471.5 | 479.9 | 488.4 | 496.7 | 505.1 | 513.5 | 521.9 |
| | 58 | 44.5 | 0.309 | 3.31 | 9.22 | 0.264 | 471.6 | 480.1 | 488.5 | 496.8 | 505.2 | 513.6 | 522.1 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 86 | 86 | 86.0 | 1.209 | 12.91 | 0.00 | 1.000 | 465.7 | 474.0 | 482.3 | 490.6 | 498.9 | 507.2 | 515.5 |
| | 85 | 84.5 | 1.153 | 12.31 | 0.60 | 0.954 | 466.0 | 474.3 | 482.6 | 490.9 | 499.2 | 507.5 | 515.8 |
| | 84 | 83.0 | 1.101 | 11.75 | 1.16 | 0.910 | 466.3 | 474.6 | 482.9 | 491.2 | 499.5 | 507.8 | 516.1 |
| | 83 | 81.5 | 1.050 | 11.20 | 1.71 | 0.868 | 466.5 | 474.8 | 483.2 | 491.5 | 499.8 | 508.1 | 516.5 |
| | 82 | 80.0 | 1.001 | 10.69 | 2.22 | 0.828 | 466.8 | 475.1 | 483.5 | 491.8 | 500.1 | 508.4 | 516.8 |
| | 81 | 78.5 | 0.955 | 10.19 | 2.72 | 0.789 | 467.1 | 475.4 | 483.8 | 492.1 | 500.4 | 508.7 | 517.1 |
| | 80 | 77.0 | 0.910 | 9.71 | 3.20 | 0.752 | 467.3 | 475.6 | 484.0 | 492.3 | 500.7 | 509.0 | 517.4 |
| | 79 | 75.5 | 0.868 | 9.25 | 3.66 | 0.717 | 467.5 | 475.8 | 484.2 | 492.5 | 500.9 | 509.2 | 517.6 |
| | 78 | 74.0 | 0.827 | 8.82 | 4.09 | 0.683 | 467.8 | 476.1 | 484.5 | 492.8 | 501.2 | 509.5 | 517.9 |
| | 77 | 72.5 | 0.787 | 8.40 | 4.51 | 0.651 | 468.0 | 476.3 | 484.7 | 493.0 | 501.4 | 509.7 | 518.1 |
| | 76 | 71.0 | 0.751 | 8.00 | 4.91 | 0.619 | 468.2 | 476.5 | 484.9 | 493.2 | 501.6 | 509.9 | 518.3 |
| | 75 | 69.5 | 0.715 | 7.62 | 5.29 | 0.590 | 468.3 | 476.6 | 485.0 | 493.4 | 501.8 | 510.2 | 518.6 |
| | 74 | 68.0 | 0.681 | 7.26 | 5.65 | 0.562 | 468.5 | 476.8 | 485.2 | 493.6 | 502.0 | 510.4 | 518.8 |
| | 73 | 66.5 | 0.648 | 6.91 | 6.00 | 0.535 | 468.8 | 477.1 | 485.5 | 493.9 | 502.2 | 510.6 | 519.0 |
| | 72 | 65.0 | 0.617 | 6.58 | 6.33 | 0.509 | 468.9 | 477.2 | 485.6 | 494.0 | 502.4 | 510.8 | 519.2 |
| | 71 | 63.5 | 0.588 | 6.26 | 6.65 | 0.485 | 469.1 | 477.4 | 485.8 | 494.2 | 502.6 | 511.0 | 519.4 |
| | 70 | 62.0 | 0.559 | 5.95 | 6.96 | 0.461 | 469.2 | 477.5 | 485.9 | 494.3 | 502.7 | 511.1 | 519.5 |
| | 69 | 60.5 | 0.532 | 5.66 | 7.25 | 0.438 | 469.4 | 477.7 | 486.1 | 494.5 | 502.9 | 511.3 | 519.7 |
| | 68 | 59.0 | 0.506 | 5.38 | 7.53 | 0.417 | 469.6 | 477.9 | 486.3 | 494.7 | 503.1 | 511.5 | 519.9 |
| | 67 | 57.5 | 0.481 | 5.11 | 7.80 | 0.396 | 469.8 | 478.1 | 486.5 | 494.9 | 503.3 | 511.7 | 520.1 |
| | 66 | 56.0 | 0.458 | 4.87 | 8.04 | 0.377 | 469.9 | 478.2 | 486.6 | 495.0 | 503.4 | 511.8 | 520.2 |
| | 65 | 54.5 | 0.435 | 4.63 | 8.28 | 0.359 | 470.0 | 478.3 | 486.7 | 495.1 | 503.5 | 511.9 | 520.3 |
| | 64 | 53.0 | 0.414 | 4.40 | 8.51 | 0.341 | 470.1 | 478.4 | 486.8 | 495.1 | 503.6 | 512.0 | 520.4 |
| | 63 | 51.5 | 0.393 | 4.19 | 8.72 | 0.325 | 470.2 | 478.5 | 486.9 | 495.2 | 503.7 | 512.1 | 520.5 |
| | 62 | 50.0 | 0.373 | 3.98 | 8.93 | 0.308 | 470.4 | 478.7 | 487.1 | 495.4 | 503.9 | 512.2 | 520.7 |
| | 61 | 48.5 | 0.355 | 3.78 | 9.13 | 0.293 | 470.5 | 478.8 | 487.2 | 495.5 | 504.0 | 512.3 | 520.8 |
| | 60 | 47.0 | 0.337 | 3.59 | 9.32 | 0.278 | 470.6 | 478.9 | 487.3 | 495.6 | 504.1 | 512.4 | 520.9 |
| | 59 | 45.5 | 0.320 | 3.40 | 9.51 | 0.263 | 470.7 | 479.0 | 487.4 | 495.7 | 504.2 | 512.5 | 521.0 |
| 87 | 87 | 87.0 | 1.247 | 13.29 | 0.00 | 1.000 | 464.5 | 472.8 | 481.1 | 489.4 | 497.7 | 506.0 | 514.3 |
| | 86 | 85.5 | 1.190 | 12.68 | 0.61 | 0.954 | 464.8 | 473.1 | 481.4 | 489.7 | 498.0 | 506.3 | 514.6 |
| | 85 | 84.0 | 1.136 | 12.10 | 1.19 | 0.910 | 465.1 | 473.4 | 481.7 | 490.0 | 498.3 | 506.6 | 514.9 |
| | 84 | 82.5 | 1.083 | 11.54 | 1.75 | 0.868 | 465.4 | 473.7 | 482.0 | 490.3 | 498.6 | 506.9 | 515.2 |
| | 83 | 81.0 | 1.034 | 11.01 | 2.28 | 0.828 | 465.7 | 474.0 | 482.3 | 490.6 | 498.9 | 507.2 | 515.5 |
| | 82 | 79.5 | 0.986 | 10.49 | 2.80 | 0.789 | 466.0 | 474.3 | 482.6 | 490.9 | 499.2 | 507.5 | 515.8 |
| | 81 | 78.0 | 0.940 | 10.01 | 3.28 | 0.753 | 466.3 | 474.6 | 482.9 | 491.2 | 499.5 | 507.8 | 516.1 |
| | 80 | 76.5 | 0.896 | 9.54 | 3.75 | 0.718 | 466.5 | 474.8 | 483.1 | 491.4 | 499.8 | 508.1 | 516.5 |
| | 79 | 75.0 | 0.854 | 9.09 | 4.20 | 0.684 | 466.8 | 475.1 | 483.5 | 491.8 | 500.1 | 508.4 | 516.8 |
| | 78 | 73.5 | 0.814 | 8.66 | 4.63 | 0.652 | 467.0 | 475.3 | 483.7 | 492.0 | 500.3 | 508.6 | 517.0 |
| | 77 | 72.0 | 0.776 | 8.24 | 5.05 | 0.620 | 467.2 | 475.5 | 483.9 | 492.2 | 500.5 | 508.8 | 517.2 |
| | 76 | 70.5 | 0.739 | 7.85 | 5.44 | 0.591 | 467.3 | 475.6 | 484.0 | 492.3 | 500.7 | 509.0 | 517.4 |
| | 75 | 69.0 | 0.704 | 7.48 | 5.81 | 0.563 | 467.5 | 475.8 | 484.2 | 492.5 | 500.9 | 509.2 | 517.6 |
| | 74 | 67.5 | 0.670 | 7.12 | 6.17 | 0.536 | 467.7 | 476.0 | 484.4 | 492.7 | 501.1 | 509.4 | 517.8 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 87 | 74 | 67.5 | 0.670 | 7.12 | 6.17 | 0.536 | 467.7 | 476.0 | 484.4 | 492.7 | 501.1 | 509.4 | 517.8 |
| | 73 | 66.0 | 0.638 | 6.78 | 6.51 | 0.510 | 467.9 | 476.2 | 484.6 | 492.9 | 501.3 | 509.6 | 518.0 |
| | 72 | 64.5 | 0.607 | 6.46 | 6.83 | 0.486 | 468.1 | 476.4 | 484.8 | 493.1 | 501.5 | 509.8 | 518.2 |
| | 71 | 63.0 | 0.578 | 6.14 | 7.15 | 0.462 | 468.3 | 476.6 | 485.0 | 493.3 | 501.7 | 510.1 | 518.5 |
| | 70 | 61.5 | 0.550 | 5.85 | 7.44 | 0.440 | 468.4 | 476.7 | 485.1 | 493.5 | 501.9 | 510.3 | 518.7 |
| | 69 | 60.0 | 0.523 | 5.56 | 7.73 | 0.418 | 468.5 | 476.9 | 485.3 | 493.7 | 502.0 | 510.4 | 518.8 |
| | 68 | 58.5 | 0.498 | 5.28 | 8.01 | 0.397 | 468.7 | 477.1 | 485.5 | 493.9 | 502.2 | 510.6 | 519.0 |
| | 67 | 57.0 | 0.473 | 5.02 | 8.27 | 0.378 | 468.8 | 477.2 | 485.6 | 494.0 | 502.3 | 510.7 | 519.1 |
| | 66 | 55.5 | 0.450 | 4.77 | 8.52 | 0.359 | 468.9 | 477.3 | 485.7 | 494.1 | 502.4 | 510.7 | 519.2 |
| | 65 | 54.0 | 0.428 | 4.54 | 8.75 | 0.342 | 469.1 | 477.5 | 485.9 | 494.3 | 502.6 | 510.9 | 519.4 |
| | 64 | 52.5 | 0.407 | 4.33 | 8.96 | 0.326 | 469.2 | 477.6 | 486.1 | 494.4 | 502.7 | 511.0 | 519.5 |
| | 63 | 51.0 | 0.386 | 4.12 | 9.17 | 0.310 | 469.3 | 477.7 | 486.2 | 494.5 | 502.8 | 511.1 | 519.6 |
| | 62 | 49.5 | 0.367 | 3.91 | 9.38 | 0.294 | 469.4 | 477.8 | 486.3 | 494.6 | 502.9 | 511.2 | 519.7 |
| | 61 | 48.0 | 0.349 | 3.71 | 9.58 | 0.279 | 469.6 | 477.9 | 486.5 | 494.8 | 503.1 | 511.4 | 519.9 |
| | 60 | 46.5 | 0.331 | 3.51 | 9.78 | 0.264 | 469.7 | 478.1 | 486.6 | 494.9 | 503.2 | 511.5 | 520.0 |
| 88 | 88 | 88.0 | 1.286 | 13.68 | 0.00 | 1.000 | 463.5 | 471.7 | 480.0 | 488.3 | 496.6 | 504.8 | 513.1 |
| | 87 | 86.5 | 1.228 | 13.06 | 0.62 | 0.954 | 463.8 | 472.0 | 480.3 | 488.6 | 496.9 | 505.1 | 513.4 |
| | 86 | 85.0 | 1.171 | 12.46 | 1.22 | 0.911 | 464.2 | 472.4 | 480.7 | 489.0 | 497.3 | 505.6 | 513.9 |
| | 85 | 83.5 | 1.118 | 11.88 | 1.80 | 0.868 | 464.4 | 472.7 | 481.0 | 489.3 | 497.6 | 505.9 | 514.2 |
| | 84 | 82.0 | 1.067 | 11.34 | 2.34 | 0.829 | 464.7 | 473.0 | 481.3 | 489.6 | 497.9 | 506.2 | 514.5 |
| | 83 | 80.5 | 1.017 | 10.81 | 2.87 | 0.790 | 465.0 | 473.3 | 481.6 | 489.9 | 498.2 | 506.5 | 514.8 |
| | 82 | 79.0 | 0.970 | 10.31 | 3.37 | 0.754 | 465.2 | 473.5 | 481.8 | 490.1 | 498.4 | 506.7 | 515.0 |
| | 81 | 77.5 | 0.925 | 9.83 | 3.85 | 0.718 | 465.5 | 473.8 | 482.1 | 490.4 | 498.7 | 507.0 | 515.3 |
| | 80 | 76.0 | 0.882 | 9.37 | 4.31 | 0.685 | 465.8 | 474.1 | 482.4 | 490.7 | 499.0 | 507.3 | 515.6 |
| | 79 | 74.5 | 0.840 | 8.93 | 4.75 | 0.653 | 466.1 | 474.4 | 482.7 | 491.0 | 499.3 | 507.6 | 515.9 |
| | 78 | 73.0 | 0.801 | 8.50 | 5.18 | 0.621 | 466.3 | 474.6 | 482.9 | 491.2 | 499.5 | 507.8 | 516.2 |
| | 77 | 71.5 | 0.763 | 8.09 | 5.59 | 0.591 | 466.4 | 474.7 | 483.0 | 491.3 | 499.7 | 508.0 | 516.4 |
| | 76 | 70.0 | 0.727 | 7.71 | 5.97 | 0.563 | 466.6 | 474.9 | 483.2 | 491.5 | 499.9 | 508.2 | 516.6 |
| | 75 | 68.5 | 0.692 | 7.34 | 6.34 | 0.537 | 466.8 | 475.1 | 483.4 | 491.7 | 500.1 | 508.4 | 516.8 |
| | 74 | 67.0 | 0.659 | 6.99 | 6.69 | 0.511 | 467.0 | 475.3 | 483.6 | 491.9 | 500.3 | 508.6 | 517.0 |
| | 73 | 65.5 | 0.628 | 6.66 | 7.02 | 0.487 | 467.2 | 475.5 | 483.8 | 492.1 | 500.5 | 508.8 | 517.2 |
| | 72 | 64.0 | 0.597 | 6.33 | 7.35 | 0.463 | 467.4 | 475.7 | 484.0 | 492.3 | 500.7 | 509.0 | 517.4 |
| | 71 | 62.5 | 0.568 | 6.03 | 7.65 | 0.441 | 467.4 | 475.7 | 484.0 | 492.4 | 500.8 | 509.1 | 517.5 |
| | 70 | 61.0 | 0.541 | 5.74 | 7.94 | 0.420 | 467.6 | 475.9 | 484.2 | 492.6 | 501.0 | 509.3 | 517.7 |
| | 69 | 59.5 | 0.515 | 5.45 | 8.23 | 0.398 | 467.7 | 476.0 | 484.3 | 492.7 | 501.2 | 509.4 | 517.8 |
| | 68 | 58.0 | 0.489 | 5.18 | 8.50 | 0.378 | 467.9 | 476.2 | 484.5 | 492.9 | 501.3 | 509.6 | 518.0 |
| | 67 | 56.5 | 0.465 | 4.93 | 8.75 | 0.359 | 468.1 | 476.4 | 484.7 | 493.1 | 501.5 | 509.8 | 518.2 |
| | 66 | 55.0 | 0.442 | 4.69 | 8.99 | 0.342 | 468.2 | 476.5 | 484.8 | 493.2 | 501.6 | 509.9 | 518.3 |
| | 65 | 53.5 | 0.421 | 4.47 | 9.21 | 0.326 | 468.3 | 476.6 | 484.9 | 493.3 | 501.7 | 510.0 | 518.4 |
| | 64 | 52.0 | 0.400 | 4.25 | 9.43 | 0.310 | 468.4 | 476.7 | 485.1 | 493.4 | 501.8 | 510.1 | 518.5 |
| | 63 | 50.5 | 0.380 | 4.04 | 9.64 | 0.295 | 468.6 | 476.9 | 485.3 | 493.6 | 502.0 | 510.3 | 518.7 |
| | 62 | 49.0 | 0.361 | 3.83 | 9.85 | 0.280 | 468.7 | 477.1 | 485.4 | 493.7 | 502.1 | 510.4 | 518.8 |
| | 61 | 47.5 | 0.343 | 3.62 | 10.06 | 0.265 | 468.8 | 477.2 | 485.5 | 493.8 | 502.2 | 510.5 | 518.9 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| o | o | o | in. | gr. | gr | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 89 | 89 | 89.0 | 1.326 | 14.08 | 0.00 | 1.000 | 462.4 | 470.6 | 478.9 | 487.1 | 495.4 | 503.6 | 511.9 |
| | 88 | 87.5 | 1.266 | 13.44 | 0.64 | 0.954 | 462.7 | 470.9 | 479.2 | 487.4 | 495.7 | 503.9 | 512.2 |
| | 87 | 86.0 | 1.209 | 12.84 | 1.24 | 0.912 | 463.0 | 471.2 | 479.5 | 487.8 | 496.1 | 504.4 | 512.7 |
| | 86 | 84.5 | 1.153 | 12.24 | 1.84 | 0.869 | 463.3 | 471.5 | 479.8 | 488.1 | 496.4 | 504.7 | 513.0 |
| | 85 | 83.0 | 1.101 | 11.68 | 2.40 | 0.830 | 463.6 | 471.8 | 480.1 | 488.4 | 496.7 | 505.0 | 513.3 |
| | 84 | 81.5 | 1.050 | 11.13 | 2.95 | 0.791 | 464.0 | 472.2 | 480.5 | 488.8 | 497.1 | 505.4 | 513.7 |
| | 83 | 80.0 | 1.001 | 10.62 | 3.46 | 0.754 | 464.2 | 472.5 | 480.8 | 489.1 | 497.4 | 505.7 | 514.0 |
| | 82 | 78.5 | 0.955 | 10.13 | 3.95 | 0.719 | 464.4 | 472.7 | 481.0 | 489.3 | 497.6 | 505.9 | 514.2 |
| | 81 | 77.0 | 0.910 | 9.66 | 4.42 | 0.686 | 464.7 | 473.0 | 481.3 | 489.6 | 497.9 | 506.2 | 514.5 |
| | 80 | 75.5 | 0.868 | 9.20 | 4.88 | 0.653 | 464.9 | 473.2 | 481.5 | 489.8 | 498.1 | 506.4 | 514.7 |
| | 79 | 74.0 | 0.827 | 8.77 | 5.31 | 0.623 | 465.2 | 473.5 | 481.8 | 490.1 | 498.4 | 506.7 | 515.0 |
| | 78 | 72.5 | 0.787 | 8.35 | 5.73 | 0.593 | 465.4 | 473.7 | 482.0 | 490.3 | 498.6 | 506.9 | 515.2 |
| | 77 | 71.0 | 0.751 | 7.96 | 6.12 | 0.565 | 465.6 | 473.9 | 482.2 | 490.5 | 498.8 | 507.1 | 515.4 |
| | 76 | 69.5 | 0.715 | 7.57 | 6.51 | 0.537 | 465.8 | 474.1 | 482.4 | 490.7 | 499.0 | 507.3 | 515.7 |
| | 75 | 68.0 | 0.681 | 7.21 | 6.87 | 0.512 | 466.0 | 474.3 | 482.6 | 490.9 | 499.2 | 507.5 | 515.8 |
| | 74 | 66.5 | 0.648 | 6.87 | 7.21 | 0.488 | 466.2 | 474.5 | 482.8 | 491.1 | 499.4 | 507.7 | 516.0 |
| | 73 | 65.0 | 0.617 | 6.54 | 7.54 | 0.465 | 466.3 | 474.6 | 482.9 | 491.2 | 499.6 | 507.9 | 516.3 |
| | 72 | 63.5 | 0.588 | 6.22 | 7.86 | 0.442 | 466.5 | 474.8 | 483.1 | 491.4 | 499.8 | 508.1 | 516.5 |
| | 71 | 62.0 | 0.559 | 5.91 | 8.17 | 0.420 | 466.7 | 475.0 | 483.3 | 491.7 | 500.0 | 508.3 | 516.7 |
| | 70 | 60.5 | 0.532 | 5.62 | 8.46 | 0.399 | 466.8 | 475.1 | 483.4 | 491.8 | 500.1 | 508.4 | 516.8 |
| | 69 | 59.0 | 0.506 | 5.35 | 8.73 | 0.380 | 467.0 | 475.3 | 483.6 | 492.0 | 500.3 | 508.6 | 517.0 |
| | 68 | 57.5 | 0.481 | 5.08 | 9.00 | 0.361 | 467.1 | 475.4 | 483.7 | 492.1 | 500.4 | 508.7 | 517.1 |
| | 67 | 56.0 | 0.458 | 4.84 | 9.24 | 0.343 | 467.2 | 475.5 | 483.8 | 492.2 | 500.5 | 508.8 | 517.2 |
| | 66 | 54.5 | 0.435 | 4.61 | 9.47 | 0.327 | 467.4 | 475.7 | 483.9 | 492.4 | 500.7 | 509.1 | 517.4 |
| | 65 | 53.0 | 0.414 | 4.39 | 9.69 | 0.312 | 467.5 | 475.8 | 484.1 | 492.5 | 500.8 | 509.2 | 517.5 |
| | 64 | 51.5 | 0.393 | 4.17 | 9.91 | 0.296 | 467.6 | 475.9 | 484.2 | 492.6 | 500.9 | 509.3 | 517.6 |
| | 63 | 50.0 | 0.373 | 3.96 | 10.12 | 0.281 | 467.7 | 476.1 | 484.3 | 492.7 | 501.0 | 509.4 | 517.7 |
| | 62 | 48.5 | 0.355 | 3.76 | 10.32 | 0.267 | 467.8 | 476.2 | 484.4 | 492.8 | 501.1 | 509.5 | 517.8 |
| 90 | 90 | 90.0 | 1.368 | 14.50 | 0.00 | 1.000 | 461.3 | 469.5 | 477.8 | 486.0 | 494.3 | 502.5 | 510.8 |
| | 89 | 88.5 | 1.306 | 13.84 | 0.66 | 0.954 | 461.6 | 469.8 | 478.1 | 486.3 | 494.6 | 502.8 | 511.1 |
| | 88 | 87.0 | 1.247 | 13.22 | 1.28 | 0.910 | 462.0 | 470.2 | 478.5 | 486.7 | 495.0 | 503.2 | 511.5 |
| | 87 | 85.5 | 1.190 | 12.61 | 1.89 | 0.870 | 462.3 | 470.5 | 478.8 | 487.0 | 495.3 | 503.5 | 511.8 |
| | 86 | 84.0 | 1.136 | 12.03 | 2.47 | 0.830 | 462.7 | 470.9 | 479.2 | 487.4 | 495.7 | 503.9 | 512.1 |
| | 85 | 82.5 | 1.083 | 11.47 | 3.03 | 0.791 | 463.0 | 471.2 | 479.5 | 487.7 | 496.0 | 504.2 | 512.5 |
| | 84 | 81.0 | 1.034 | 10.94 | 3.56 | 0.755 | 463.2 | 471.5 | 479.8 | 488.0 | 496.3 | 504.5 | 512.8 |
| | 83 | 79.5 | 0.986 | 10.43 | 4.07 | 0.719 | 463.4 | 471.7 | 480.0 | 488.2 | 496.5 | 504.7 | 513.0 |
| | 82 | 78.0 | 0.940 | 9.95 | 4.55 | 0.686 | 463.7 | 472.0 | 480.3 | 488.5 | 496.8 | 505.0 | 513.3 |
| | 81 | 76.5 | 0.896 | 9.48 | 5.02 | 0.653 | 464.0 | 472.3 | 480.6 | 488.8 | 497.1 | 505.3 | 513.6 |
| | 80 | 75.0 | 0.854 | 9.03 | 5.47 | 0.622 | 464.2 | 472.5 | 480.7 | 488.9 | 497.3 | 505.5 | 513.9 |
| | 79 | 73.5 | 0.814 | 8.61 | 5.89 | 0.594 | 464.3 | 472.6 | 480.9 | 489.1 | 497.5 | 505.7 | 514.1 |
| | 78 | 72.0 | 0.776 | 8.20 | 6.30 | 0.565 | 464.5 | 472.8 | 481.1 | 489.3 | 497.7 | 505.9 | 514.3 |
| | 77 | 70.5 | 0.739 | 7.80 | 6.70 | 0.538 | 464.7 | 473.0 | 481.3 | 489.5 | 497.9 | 506.1 | 514.5 |

| Reading of Thermometer, Fahr. | | Temp. of Dew-Point, Fahr. | Force of Vapor in English Inches. | Weight of Vapor | | Humidity, Saturation = 1.000. | Weight in Grains of a Cubic Foot of Air. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height of the Barometer in English Inches. | | | | | | |
| Dry. | Wet. | | | In a Cubic Foot of Air. | Reqd. for Sat'n. of a Cubic Ft. of Air. | | in. 28.0 | in. 28.5 | in. 29.0 | in. 29.5 | in. 30.0 | in. 30.5 | in. 31.0 |
| ° | ° | ° | in. | gr. | gr. | | gr. | gr. | gr. | gr. | gr. | gr. | gr. |
| 90 | 77 | 70.5 | 0.739 | 7.80 | 6.70 | 0.538 | 464.7 | 473.0 | 481.3 | 489.5 | 497.9 | 506.1 | 514.5 |
| | 76 | 69.0 | 0.704 | 7.43 | 7.07 | 0.512 | 465.0 | 473.3 | 481.6 | 489.8 | 498.2 | 506.4 | 514.8 |
| | 75 | 67.5 | 0.670 | 7.08 | 7.42 | 0.488 | 465.2 | 473.5 | 481.8 | 490.0 | 498.4 | 506.6 | 515.0 |
| | 74 | 66.0 | 0.638 | 6.74 | 7.76 | 0.465 | 465.4 | 473.7 | 482.0 | 490.2 | 498.6 | 506.8 | 515.2 |
| | 73 | 64.5 | 0.607 | 6.42 | 8.08 | 0.443 | 465.6 | 473.9 | 482.2 | 490.4 | 498.8 | 507.0 | 515.4 |
| | 72 | 63.0 | 0.578 | 6.10 | 8.40 | 0.421 | 465.7 | 474.0 | 482.3 | 490.5 | 498.9 | 507.1 | 515.5 |
| | 71 | 61.5 | 0.550 | 5.81 | 8.69 | 0.400 | 465.9 | 474.2 | 482.5 | 490.7 | 499.1 | 507.3 | 515.7 |
| | 70 | 60.0 | 0.523 | 5.52 | 8.98 | 0.381 | 466.1 | 474.4 | 482.8 | 491.0 | 499.3 | 507.5 | 515.9 |
| | 69 | 58.5 | 0.498 | 5.25 | 9.25 | 0.362 | 466.2 | 474.5 | 482.9 | 491.1 | 499.4 | 507.6 | 516.0 |
| | 68 | 57.0 | 0.473 | 4.99 | 9.51 | 0.344 | 466.4 | 474.7 | 483.1 | 491.3 | 499.6 | 507.8 | 516.2 |
| | 67 | 55.5 | 0.450 | 4.74 | 9.76 | 0.327 | 466.5 | 474.8 | 483.2 | 491.4 | 499.7 | 507.9 | 516.3 |
| | 66 | 54.0 | 0.428 | 4.52 | 9.98 | 0.312 | 466.6 | 474.9 | 483.3 | 491.5 | 499.8 | 508.0 | 516.4 |
| | 65 | 52.5 | 0.407 | 4.30 | 10.20 | 0.297 | 466.7 | 475.0 | 483.4 | 491.6 | 499.9 | 508.1 | 516.5 |
| | 64 | 51.0 | 0.386 | 4.09 | 10.41 | 0.282 | 466.9 | 475.2 | 483.6 | 491.8 | 500.1 | 508.3 | 516.6 |
| | 63 | 49.5 | 0.367 | 3.90 | 10.60 | 0.269 | 467.0 | 475.3 | 483.7 | 491.9 | 500.2 | 508.4 | 516.7 |

## TABLE XIII.

FACTORS FOR COMPUTING THE FORCE OF VAPOR, FROM THE READINGS OF THE PSYCHROMETER, BY APJOHN'S FORMULA.

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Dr. Apjohn's formula for deducing the force of vapor, and the temperature of the dew-point, from the readings of the Psychrometer, as given in the Proceedings of the Royal Irish Academy for 1840, is

$$f'' = f' - \tfrac{d}{88} \times \tfrac{h}{30},$$

when the readings of the wet-bulb thermometer are *above* 32° Fahr., in which formula

$f''$ = the force of vapor at the temperature of the dew-point in degrees of Fahr.,

$f'$ = the force of vapor at the temperature of evaporation given by the wet-bulb thermometer,

$d$ = the difference between the readings of the dry and wet thermometers,

$h$ = the height of the barometer in English inches at the time of the observation.

When the readings of the wet-bulb thermometer are *below* 32° Fahr., and the bulb is covered with ice, the formula becomes

$$f'' = f' - \tfrac{d}{96} \times \tfrac{h}{30}.$$

The factors in the following table, which is taken from the Greenwich Observations for 1843, represent $\frac{d}{88} \times \frac{1}{30}$ and $\frac{d}{96} \times \frac{1}{30}$, computed for all differences between the wet and dry bulb thermometers, or values of $d$, from 0° to 21°.

### Use of the Table.

To find out the force of vapor in the air, and the temperature of the dew-point, by means of these factors, let the factor corresponding to $d$, or the difference between the wet and dry thermometer in the first column, be multiplied into the observed height of the barometer, and subtract the result from the force of vapor, in Table XI., due to the temperature of evaporation, indicated by the wet-bulb thermometer; the rest is the force of vapor in the air at the time of the observation; and the temperature of the dew-point is that which is due to it in Table XI.

### Example.

The observation gives,

| | | |
|---|---|---|
| Dry-bulb thermometer | = 79° Fahr., | or the temperature of the air. |
| Wet-bulb " | = 69° " | or temperature of evaporation. |
| Difference | 10° | |
| Height of barometer | 29.7 English inches. | |

In the Table, 2d part, is found, — factor for a difference of 10° = 0.00379 × 29.7, or height of barometer = 0.113, which, subtracted from the force of vapor due to 69°, in Table XI., = 0.704 — 0.113, gives force of vapor in the air = 0.591 inches, and temperature of the dew-point 62°.5.

When the temperature of the wet bulb is *below* 32° Fahrenheit, the factors in the first part of the Table must be used.

## XIII. FACTOR $\frac{d}{96} \times \frac{1}{30}$, FOR COMPUTING THE FORCE OF VAPOR BY APJOHN'S FORMULA.

Below 32° Fahrenheit; the Wet Bulb covered with a Film of Ice.

| *d*, or Difference of Wet and Dry Bulb Therm. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | | | | | | | | | | |
| 0 | 0.00000 | 0.00003 | 0.00007 | 0.00010 | 0.00014 | 0.00017 | 0.00020 | 0.00024 | 0.00027 | 0.00030 |
| 1 | .00034 | .00037 | .00041 | .00044 | .00047 | .00051 | .00054 | .00058 | .00061 | .00064 |
| 2 | .00068 | .00071 | .00075 | .00078 | .00081 | .00085 | .00088 | .00092 | .00095 | .00099 |
| 3 | .00102 | .00105 | .00109 | .00112 | .00116 | .00119 | .00122 | .00126 | .00129 | .00133 |
| 4 | .00136 | .00139 | .00143 | .00146 | .00150 | .00153 | .00156 | .00160 | .00163 | .00167 |
| 5 | .00170 | .00173 | .00177 | .00180 | .00184 | .00187 | .00190 | .00194 | .00198 | .00201 |
| 6 | .00204 | .00207 | .00211 | .00214 | .00218 | .00221 | .00224 | .00228 | .00231 | .00235 |
| 7 | .00238 | .00241 | .00245 | .00248 | .00252 | .00255 | .00258 | .00262 | .00265 | .00269 |
| 8 | .00272 | .00275 | .00279 | .00282 | .00285 | .00289 | .00292 | .00296 | .00299 | .00302 |
| 9 | .00306 | .00309 | .00313 | .00316 | .00319 | .00323 | .00326 | .00330 | .00333 | .00337 |
| 10 | .00340 | .00343 | .00347 | .00350 | .00354 | .00357 | .00360 | .00364 | .00367 | .00370 |

## FACTOR $\frac{d}{88} \times \frac{1}{30}$.

Reading of Wet-Bulb Thermometer above 32° Fahrenheit.

| *d*, or Difference of Wet and Dry Bulb Therm. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | | | | | | | | | | |
| 0 | 0.00000 | 0.00004 | 0.00008 | 0.00011 | 0.00015 | 0.00019 | 0.00023 | 0.00027 | 0.00030 | 0.00034 |
| 1 | .00038 | .00042 | .00046 | .00049 | .00053 | .00057 | .00061 | .00064 | .00068 | .00072 |
| 2 | .00076 | .00080 | .00083 | .00087 | .00091 | .00095 | .00098 | .00102 | .00106 | .00110 |
| 3 | .00114 | .00118 | .00121 | .00125 | .00129 | .00132 | .00137 | .00140 | .00144 | .00148 |
| 4 | .00151 | .00135 | .00159 | .00163 | .00167 | .00171 | .00174 | .00178 | .00182 | .00186 |
| 5 | .00189 | .00193 | .00197 | .00201 | .00205 | .00209 | .00212 | .00216 | .00220 | .00224 |
| 6 | .00228 | .00231 | .00235 | .00239 | .00242 | .00246 | .00250 | .00254 | .00258 | .00261 |
| 7 | .00265 | .00269 | .00273 | .00277 | .00280 | .00284 | .00288 | .00292 | .00295 | .00299 |
| 8 | .00303 | .00307 | .00311 | .00315 | .00318 | .00322 | .00326 | .00330 | .00333 | .00337 |
| 9 | .00341 | .00345 | .00349 | .00352 | .00356 | .00360 | .00364 | .00368 | .00371 | .00375 |
| 10 | .00379 | .00383 | .00386 | .00390 | .00394 | .00398 | .00401 | .00405 | .00409 | .00412 |
| 11 | .00416 | .00420 | .00424 | .00428 | .00432 | .00436 | .00439 | .00443 | .00447 | .00451 |
| 12 | .00454 | .00458 | .00462 | .00466 | .00470 | .00474 | .00477 | .00481 | .00485 | .00489 |
| 13 | .00493 | .00496 | .00500 | .00504 | .00508 | .00511 | .00515 | .00519 | .00522 | .00526 |
| 14 | .00530 | .00534 | .00538 | .00541 | .00545 | .00549 | .00553 | .00556 | .00560 | .00564 |
| 15 | .00568 | .00572 | .00576 | .00580 | .00584 | .00587 | .00591 | .00595 | .00598 | .00602 |
| 16 | .00606 | .00610 | .00614 | .00618 | .00622 | .00625 | .00629 | .00633 | .00636 | .00640 |
| 17 | .00644 | .00648 | .00652 | .00655 | .00659 | .00663 | .00666 | .00670 | .00674 | .00678 |
| 18 | .00682 | .00686 | .00690 | .00693 | .00697 | .00701 | .00704 | .00708 | .00712 | .00716 |
| 19 | .00720 | .00724 | .00728 | .00731 | .00735 | .00739 | .00742 | .00746 | .00750 | .00754 |
| 20 | .00758 | .00761 | .00765 | .00769 | .00773 | .00777 | .00780 | .00784 | .00788 | .00792 |

# TABLE XIV.

In the *Greenwich Magnetic and Meteorological Observations* for 1842 and 1843, Mr. Glaisher discussed the relation between the temperature of evaporation given by the Wet-bulb Thermometer and the temperature of the Dew-Point as given by Daniell's Hygrometer. Comparing the observations taken simultaneously every six hours with the Psychrometer, and with Daniell's Dew-Point Hygrometer, and dividing the average difference between the temperatures of the Wet and Dry bulb by the average difference of the temperature of the Dew-Point and of the Air, he obtained the empirical factors given in the following Table.

The observations from which they are deduced are those taken at the Observatory in the years 1841 to 1845, for the temperatures below 35° F., and in the years 1841 to 1843, for the temperatures above 35° F.

The observations made at Toronto Observatory, Canada West, in similar circumstances, in the years 1840 to 1842, were also compared in the same manner, and the factors derived from them showed a very close accordance for temperatures above 30° F., but were found smaller at temperatures below 30° F.

The errors in the temperature of the Dew-Point, which may result by using the Greenwich factors, though frequently within half a degree, often amount, however, to ± 2 or 3 degrees, and, in extreme cases, to ± 4 or 5 degrees, as shown in the volume of the *Greenwich Observations* for 1842, p. 60 of the *Abstracts*.

## *Use of the Table.*

Multiply the difference between the Wet-bulb and Dry-bulb Thermometers by the factor standing in the Table opposite the reading of the Dry-bulb, and subtract the product from the reading of the Dry-bulb; the remainder will be the temperature of the Dew-Point.

*Example.* — Dry-bulb = 62° F.; Wet-bulb = 55°; Difference = 7°.

Opposite 62°, in the first column, stands the factor 1.7, which multiplied by 7°, the difference, gives 11°.9, to be subtracted from the Dry-bulb; or 62° — 11°.9 = 50°.1, temperature of the Dew-Point.

XIV. FACTORS TO FIND OUT THE TEMPERATURE OF THE DEW-POINT FROM THE READINGS OF THE PSYCHROMETER. — GLAISHER.

| Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. |
|---|---|---|---|---|---|---|---|---|---|
| 21° | 8.5 | 35° | 2.6 | 49° | 2.2 | 63° | 1.7 | 77° | 1.5 |
| 22 | 8.5 | 36 | 2.6 | 50 | 2.1 | 64 | 1.7 | 78 | 1.5 |
| 23 | 8.5 | 37 | 2.5 | 51 | 2.1 | 65 | 1.7 | 79 | 1.5 |
| 24 | 7.3 | 38 | 2.5 | 52 | 2.0 | 66 | 1.6 | 80 | 1.5 |
| 25 | 6.4 | 39 | 2.5 | 53 | 2.0 | 67 | 1.6 | 81 | 1.5 |
| 26 | 6.1 | 40 | 2.4 | 54 | 2.0 | 68 | 1.6 | 82 | 1.5 |
| 27 | 5.9 | 41 | 2.4 | 55 | 2.0 | 69 | 1.5 | 83 | 1.5 |
| 28 | 5.7 | 42 | 2.4 | 56 | 1.9 | 70 | 1.5 | 84 | 1.5 |
| 29 | 5.0 | 43 | 2.4 | 57 | 1.9 | 71 | 1.5 | 85 | 1.5 |
| 30 | 4.6 | 44 | 2.3 | 58 | 1.9 | 72 | 1.5 | 86 | 1.5 |
| 31 | 3.6 | 45 | 2.3 | 59 | 1.8 | 73 | 1.5 | 87 | 1.5 |
| 32 | 3.1 | 46 | 2.3 | 60 | 1.8 | 74 | 1.5 | 88 | 1.5 |
| 33 | 2.8 | 47 | 2.2 | 61 | 1.8 | 75 | 1.5 | 89 | 1.5 |
| 34 | 2.6 | 48 | 2.2 | 62 | 1.7 | 76 | 1.5 | 90 | 1.5 |

## XV. WEIGHT OF VAPOR, IN GRAINS TROY, CONTAINED IN A CUBIC FOOT OF SATURATED AIR, AT TEMPERATURES BETWEEN 0° AND 94° FAHRENHEIT.

From the Greenwich Observations.

| Temperature of Air, Fahren. | Weight of Vapor, in Grains. | Temperature of Air, Fahren. | Weight of Vapor, in Grains. | Temperature of Air, Fahren. | Weight of Vapor, in Grains. | Temperature of Air, Fahren. | Weight of Vapor, in Grains. | Temperature of Air, Fahren. | Weight of Vapor, in Grains. |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 0.78 | 19° | 1.52 | 38° | 2.89 | 57° | 5.34 | 76° | 9.60 |
| 1 | 0.81 | 20 | 1.58 | 39 | 2.99 | 58 | 5.51 | 77 | 9.89 |
| 2 | 0.84 | 21 | 1.63 | 40 | 3.09 | 59 | 5.69 | 78 | 10.19 |
| 3 | 0.87 | 22 | 1.69 | 41 | 3.19 | 60 | 5.87 | 79 | 10.50 |
| 4 | 0.90 | 23 | 1.75 | 42 | 3.30 | 61 | 6.06 | 80 | 10.81 |
| 5 | 0.93 | 24 | 1.81 | 43 | 3.41 | 62 | 6.25 | 81 | 11.14 |
| 6 | 0.97 | 25 | 1.87 | 44 | 3.52 | 63 | 6.45 | 82 | 11.47 |
| 7 | 1.00 | 26 | 1.93 | 45 | 3.64 | 64 | 6.65 | 83 | 11.82 |
| 8 | 1.04 | 27 | 2.00 | 46 | 3.76 | 65 | 6.87 | 84 | 12.17 |
| 9 | 1.07 | 28 | 2.07 | 47 | 3.88 | 66 | 7.08 | 85 | 12.53 |
| 10 | 1.11 | 29 | 2.14 | 48 | 4.01 | 67 | 7.30 | 86 | 12.91 |
| 11 | 1.15 | 30 | 2.21 | 49 | 4.14 | 68 | 7.53 | 87 | 13.29 |
| 12 | 1.19 | 31 | 2.29 | 50 | 4.28 | 69 | 7.76 | 88 | 13.68 |
| 13 | 1.24 | 32 | 2.37 | 51 | 4.42 | 70 | 8.00 | 89 | 14.08 |
| 14 | 1.28 | 33 | 2.45 | 52 | 4.56 | 71 | 8.25 | 90 | 14.50 |
| 15 | 1.32 | 34 | 2.53 | 53 | 4.71 | 72 | 8.50 | 91 | 14.91 |
| 16 | 1.37 | 35 | 2.62 | 54 | 4.86 | 73 | 8.76 | 92 | 15.33 |
| 17 | 1.41 | 36 | 2.71 | 55 | 5.02 | 74 | 9.04 | 93 | 15.76 |
| 18 | 1.47 | 37 | 2.80 | 56 | 5.18 | 75 | 9.31 | 94 | 16.22 |

## XVI. FACTORS TO DEDUCE THE WEIGHT OF VAPOR CONTAINED IN A CUBIC FOOT OF AIR, AT THE TIME OF A GIVEN OBSERVATION, FROM THE INDICATIONS OF DEW-POINT INSTRUMENTS. — GREENW. OBS.

$t$ = Temperature of Air; $t''$ = Temperature of Dew-Point.

| Difference or $t - t''$. | Factors. | Difference or $t - t''$. | Factors. | Difference or $t - t''$. | Factors. | Difference or $t - t''$. | Factors. | Difference or $t - t''$. | Factors. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.999 | 9 | 0.982 | 17 | 0.966 | 25 | 0.951 | 33 | 0.935 |
| 2 | 0.996 | 10 | 0.980 | 18 | 0.964 | 26 | 0.949 | 34 | 0.934 |
| 3 | 0.994 | 11 | 0.978 | 19 | 0.962 | 27 | 0.947 | 35 | 0.932 |
| 4 | 0.992 | 12 | 0.976 | 20 | 0.960 | 28 | 0.945 | 36 | 0.930 |
| 5 | 0.990 | 13 | 0.974 | 21 | 0.958 | 29 | 0.943 | 37 | 0.929 |
| 6 | 0.988 | 14 | 0.972 | 22 | 0.956 | 30 | 0.942 | 38 | 0.927 |
| 7 | 0.986 | 15 | 0.970 | 23 | 0.954 | 31 | 0.939 | 39 | 0.925 |
| 8 | 0.984 | 16 | 0.968 | 24 | 0.952 | 32 | 0.937 | 40 | 0.923 |

USE OF TABLE XVI. — The difference between the temperatures of the air and of the Dew-Point being known, multiply the factor in the Table corresponding to that difference into the weight of a cubic foot of vapor at the temperature of the Dew-Point, as given in Table XV., and the product will be the weight of vapor in a cubic foot of air at the time of the observation.

*Example.* — Temperature of air = 60° F.; Dew-Point = 52°; Diff. = 8°.

Table gives for a difference of 8°, factor 0.984; Table XV. gives weight of a cubic foot of vapor at temperature 52° = 4.$^{gr.}$56.

Hence, 0.984 × 4.56 = 4$^{gr.}$.49, the weight of vapor required.

# TABLE XVII.

## FOR COMPARING THE WEIGHT OF A CUBIC FOOT OF DRY AND OF SATURATED AIR.

This table is composed of two tables found in the *Greenwich Meteorological Observations* for 1842, pages xlvi. and li.; the first containing the weight of a cubic foot of dry air, under a barometric pressure of 30 inches, at temperatures between 0° and 90° F.; the other giving the weight of a cubic foot of saturated air under the same barometric pressure and temperature, together with the excess of the first above the last.

The weight of a cubic foot of dry air, on which the tables are based, is assumed to be 563 grains Troy, being a mean value, in round numbers, between the determinations of Shuckburgh, which is 557.7295 grains, and that of Biot and Arago, 568.7013. The true mean is 563.2154, but 563 is the number used in the calculations.

The coefficient of the expansion of the air is that of Gay-Lussac, viz. 0.00375 for 1° Centigrade, or 0.002083 of its bulk for 1° Fahrenheit.

### *Use of the Table.*

This table shows the amount of buoyancy imparted to the air by the addition of moisture; and from it, the temperature and the relative humidity of the air being known, the weight of a cubic foot of air, in the actual condition of the atmosphere at the time of an observation, can be deduced.

It suffices to take in the fourth column, headed "Excess," the quantity corresponding to the temperature of the air in the first, multiply it into the given Relative Humidity, and subtract the product from the number in the second column. The result will be the weight of a cubic foot of air at the existing temperature and moisture, under a barometric pressure of 30 inches.

This result will be reduced to its true value, under the barometric pressure given by the observation, by multiplying it by $\frac{\text{Height of Barometer}}{30}$.

### *Example.*

The temperature of the air is 60° F.; the relative humidity, 0.852; the barometer reads 29 inches.

The table gives, for temperature of air, 60°; excess, $3.35 \times 0.852 = 2.85$, which, subtracted from 531.91 in the second column, $= 529.12$, weight of a cubic foot of air under 30 inches of pressure; and $529.12 \times \frac{29 \text{ inch}}{30} = 511.48$, the weight of a cubic foot of air in the given conditions of temperature, moisture, and barometric pressure.

## XVII. FOR COMPARING THE WEIGHT OF A CUBIC FOOT OF DRY AND OF SATURATED AIR,

### AT TEMPERATURES BETWEEN 0° AND 90° FAHRENHEIT.

From the Greenwich Observations.

| Temperature Fahren. | Weight of a cubic foot of Dry Air. | Weight of a cubic foot of Saturated Air. | Excess of Dry Air. | Temperature Fahren. | Weight of a cubic foot of Dry Air. | Weight of a cubic foot of Saturated Air. | Excess of Dry Air. | Temperature Fahren. | Weight of a cubic foot of Dry Air | Weight of a cubic foot of Saturated Air. | Excess of Dry Air. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| o | Grains. | Grains. | Grains | o | Grains. | Grains. | Grains. | o | Grains. | Grains. | Grains. |
| 0 | 603.21 | 602.77 | 0.44 | 30 | 565.35 | 564.08 | 1.27 | 60 | 531.97 | 528.62 | 3.35 |
| 1 | 601.87 | 601.40 | 0.47 | 31 | 564.17 | 562.86 | 1.31 | 61 | 530.93 | 527.48 | 3.45 |
| 2 | 600.52 | 600.03 | 0.49 | 32 | 563.00 | 561.64 | 1.36 | 62 | 529.88 | 526.32 | 3.56 |
| 3 | 599.20 | 598.69 | 0.51 | 33 | 561.84 | 560.42 | 1.42 | 63 | 528.84 | 525.17 | 3.67 |
| 4 | 597.87 | 597.34 | 0.53 | 34 | 560.67 | 559.20 | 1.47 | 64 | 527.81 | 524.03 | 3.78 |
| 5 | 596.55 | 596.01 | 0.54 | 35 | 559.51 | 558.01 | 1.50 | 65 | 526.88 | 522.90 | 3.88 |
| 6 | 595.24 | 594.69 | 0.55 | 36 | 558.35 | 556.79 | 1.56 | 66 | 525.76 | 521.75 | 4.01 |
| 7 | 593.94 | 593.36 | 0.58 | 37 | 557.21 | 555.61 | 1.60 | 67 | 524.75 | 520.61 | 4.14 |
| 8 | 592.63 | 592.04 | 0.59 | 38 | 556.05 | 554.40 | 1.65 | 68 | 523.72 | 519.46 | 4.26 |
| 9 | 591.33 | 590.72 | 0.61 | 39 | 554.91 | 553.20 | 1.71 | 69 | 522.70 | 518.29 | 4.41 |
| 10 | 590.04 | 589.40 | 0.64 | 40 | 553.77 | 552.00 | 1.77 | 70 | 521.70 | 517.17 | 4.53 |
| 11 | 588.75 | 588.07 | 0.68 | 41 | 552.65 | 550.80 | 1.84 | 71 | 520.70 | 516.02 | 4.68 |
| 12 | 587.48 | 586.78 | 0.70 | 42 | 551.52 | 549.63 | 1.89 | 72 | 519.69 | 514.87 | 4.82 |
| 13 | 586.21 | 585.49 | 0.72 | 43 | 550.39 | 548.44 | 1.95 | 73 | 518.70 | 513.75 | 4.95 |
| 14 | 584.94 | 584.18 | 0.75 | 44 | 549.27 | 547.26 | 2.01 | 74 | 517.70 | 512.61 | 5.09 |
| 15 | 583.67 | 582.89 | 0.78 | 45 | 548.16 | 546.06 | 2.10 | 75 | 516.71 | 511.46 | 5.25 |
| 16 | 582.41 | 581.61 | 0.80 | 46 | 547.05 | 544.88 | 2.17 | 76 | 515.73 | 510.32 | 5.41 |
| 17 | 581.15 | 580.33 | 0.82 | 47 | 545.97 | 543.75 | 2.22 | 77 | 514.74 | 509.18 | 5.56 |
| 18 | 579.91 | 579.06 | 0.85 | 48 | 544.85 | 542.55 | 2.30 | 78 | 513.77 | 508.04 | 5.73 |
| 19 | 578.67 | 577.79 | 0.88 | 49 | 543.75 | 541.36 | 2.39 | 79 | 512.80 | 506.91 | 5.89 |
| 20 | 577.44 | 576.54 | 0.90 | 50 | 542.65 | 540.21 | 2.44 | 80 | 511.82 | 505.74 | 6.08 |
| 21 | 576.21 | 575.27 | 0.94 | 51 | 541.55 | 539.04 | 2.51 | 81 | 510.87 | 504.61 | 6.26 |
| 22 | 574.98 | 574.01 | 0.97 | 52 | 540.48 | 537.87 | 2.61 | 82 | 509.89 | 503.45 | 6.44 |
| 23 | 573.76 | 572.76 | 1.00 | 53 | 539.41 | 536.71 | 2.70 | 83 | 508.93 | 502.32 | 6.61 |
| 24 | 572.55 | 571.50 | 1.05 | 54 | 538.33 | 535.55 | 2.78 | 84 | 507.97 | 501.16 | 6.81 |
| 25 | 571.33 | 570.26 | 1.07 | 55 | 537.27 | 534.39 | 2.88 | 85 | 507.03 | 500.05 | 6.98 |
| 26 | 570.13 | 569.01 | 1.12 | 56 | 536.19 | 533.22 | 2.97 | 86 | 506.07 | 498.87 | 7.20 |
| 27 | 568.92 | 567.77 | 1.15 | 57 | 535.12 | 532.06 | 3.06 | 87 | 505.11 | 497.71 | 7.40 |
| 28 | 567.73 | 566.53 | 1.20 | 58 | 534.07 | 530.92 | 3.15 | 88 | 504.19 | 496.58 | 7.61 |
| 29 | 566.54 | 565.31 | 1.23 | 59 | 533.03 | 529.77 | 3.26 | 89 | 503.25 | 495.44 | 7.81 |
| 30 | 565.35 | 564.08 | 1.27 | 60 | 531.97 | 528.62 | 3.35 | 90 | 502.32 | 494.28 | 8.04 |

# TABLE XIV′.

Mr. Glaisher published in London, in 1856, another series of Hygrometrical Tables, which were unknown to the writer when the Second Edition of this volume was issued. They are based on Regnault's Table of Elastic Forces of Vapor, and on the coefficient of the expansion of the air as determined by the same physicist. The Psychrometrical Table, however, is not computed from Regnault's formula, but by first finding out, in the manner described on page 140, the temperatures of the dew-point from the readings of the Psychrometer, by means of the empirical factors given below, in Table XIV′., and then taking the corresponding values of the force of vapor from Regnault's table. These factors have been derived from the combination of all simultaneous observations of the dry and wet bulb thermometers with those of Daniell's hygrometer, taken at the Royal Observatory, Greenwich, from the year 1841 to 1854, with some observations taken at high temperatures in India, and others at low and medium temperatures at Toronto; they are, therefore, more correct than those given in Table XIV. page 140. The results in this new Psychrometrical Table, nevertheless, by no means entirely coincide with those given by the formula, as a comparison with those in Table VII. will show.

XIV′. FACTORS TO FIND OUT THE TEMPERATURE OF THE DEW-POINT FROM THE READINGS OF THE PSYCHROMETER. — GLAISHER.

| Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. | Dry-Bulb Therm. Fahren. | Factors. |
|---|---|---|---|---|---|---|---|---|---|
| ° | | ° | | ° | | ° | | ° | |
| 10 | 8.78 | 28 | 5.12 | 46 | 2.14 | 64 | 1.83 | 82 | 1.67 |
| 11 | 8.78 | 29 | 4.63 | 47 | 2.12 | 65 | 1.82 | 83 | 1.67 |
| 12 | 8.78 | 30 | 4.15 | 48 | 2.10 | 66 | 1.81 | 84 | 1.66 |
| 13 | 8.77 | 31 | 3.70 | 49 | 2.08 | 67 | 1.80 | 85 | 1.65 |
| 14 | 8.76 | 32 | 3.32 | 50 | 2.06 | 68 | 1.79 | 86 | 1.65 |
| 15 | 8.75 | 33 | 3.01 | 51 | 2.04 | 69 | 1.78 | 87 | 1.64 |
| 16 | 8.70 | 34 | 2.77 | 52 | 2.02 | 70 | 1.77 | 88 | 1.64 |
| 17 | 8.62 | 35 | 2.60 | 53 | 2.00 | 71 | 1.76 | 89 | 1.63 |
| 18 | 8.50 | 36 | 2.50 | 54 | 1.98 | 72 | 1.75 | 90 | 1.63 |
| 19 | 8.34 | 37 | 2.42 | 55 | 1.96 | 73 | 1.74 | 91 | 1.62 |
| 20 | 8.14 | 38 | 2.36 | 56 | 1.94 | 74 | 1.73 | 92 | 1.62 |
| 21 | 7.88 | 39 | 2.32 | 57 | 1.92 | 75 | 1.72 | 93 | 1.61 |
| 22 | 7.60 | 40 | 2.29 | 58 | 1.90 | 76 | 1.71 | 94 | 1.60 |
| 23 | 7.28 | 41 | 2.26 | 59 | 1.89 | 77 | 1.70 | 95 | 1.60 |
| 24 | 6.92 | 42 | 2.23 | 60 | 1.88 | 78 | 1.69 | 96 | 1.59 |
| 25 | 6.53 | 43 | 2.20 | 61 | 1.87 | 79 | 1.69 | 97 | 1.59 |
| 26 | 6.08 | 44 | 2.18 | 62 | 1.86 | 80 | 1.68 | 98 | 1.58 |
| 27 | 5.61 | 45 | 2.16 | 63 | 1.85 | 81 | 1.68 | 99 | 1.58 |
| 28 | 5.12 | 46 | 2.14 | 64 | 1.83 | 82 | 1.67 | 100 | 1.57 |

# MISCELLANEOUS TABLES,

FOR

COMPARING THE HYGROMETRICAL RESULTS OBTAINED BY DIFFERENT AUTHORITIES.

# MISCELLANEOUS TABLES.

THE object of these Tables is to afford the means of comparing the different determinations of the hygrometrical elements which have been obtained, or adopted, by various physicists, especially the values of the elastic forces of vapor given in other tables than those contained in the preceding pages.

Table XVIII., giving the elastic forces of vapor, expressed in millimetres of mercury, for Centigrade temperatures, was calculated by August from Dalton's experiments, and reduced to French measures in the translation of Kaemtz's *Meteorology*, by Chas. Martins, page 70, from which it has been taken. On these values are based the first psychrometrical tables published by August, in Berlin, 1825.

Table XIX. is the table computed by Kaemtz from his own experiments. It is found, reduced to French measures, in the same volume, page 68.

Table XX. furnishes the results of the experiments made by Professor Magnus, in Berlin, and published in Poggendorf's *Annalen*, Tom. LXI. p. 226, and also in the *Annales de Chimie et de Physique*, 3$^{me}$ série, Tom. XII. p. 88, from which this table was copied.

Table XXI. has been published by the Committee of Physics and Meteorology of the Royal Society, in their *Report on the Objects of Scientific Inquiry in these Sciences*, London, 1840, p. 89. The values which it contains are not derived from new experiments, but are probably computed from those existing at that time.

Table XXII. furnishes a synoptic view of the differences in the values of the force of vapor adopted by various authorities, prepared with the view of facilitating their comparison. A reference to their respective origin will be found below, page 152.

Table XXIII., showing the weight, in grammes, of the vapor contained in a cubic metre of saturated air, at different temperatures, is taken from Pouillet's *Eléments de Physique*, Tom. II. p. 707.

Table XXIV. gives the weights as derived from August's experiments, in Kaemtz's *Vorlesungen über Meteorologie*. The table is copied from the French translation, by Martins, page 73. The tensions have been added, opposite the weights, and are extracted from August's table.

Table XXV. is found in Biot's *Traité de Physique*, Tom. I. p. 533.

# XVIII. ELASTIC FORCE OF AQUEOUS VAPOR,

EXPRESSED IN MILLIMETRES OF MERCURY FOR EVERY TENTH OF A CENTIGRADE DEGREE.

CALCULATED BY AUGUST.

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| −31 | 0.45 | 0.45 | 0.45 | 0.44 | 0.44 | 0.43 | 0.43 | 0.42 | 0.42 | 0.41 |
| −30 | 0.50 | 0.49 | 0.49 | 0.48 | 0.48 | 0.47 | 0.47 | 0.46 | 0.46 | 0.45 |
| −29 | 0.54 | 0.54 | 0.54 | 0.53 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.50 |
| −28 | 0.59 | 0.58 | 0.58 | 0.57 | 0.57 | 0.56 | 0.56 | 0.55 | 0.55 | 0.54 |
| −27 | 0.63 | 0.63 | 0.63 | 0.62 | 0.62 | 0.61 | 0.61 | 0.60 | 0.60 | 0.59 |
| −26 | 0.70 | 0.69 | 0.68 | 0.68 | 0.67 | 0.66 | 0.66 | 0.65 | 0.64 | 0.64 |
| −25 | 0.77 | 0.76 | 0.75 | 0.75 | 0.74 | 0.73 | 0.73 | 0.72 | 0.71 | 0.71 |
| −24 | 0.83 | 0.83 | 0.82 | 0.82 | 0.81 | 0.80 | 0.80 | 0.79 | 0.78 | 0.78 |
| −23 | 0.90 | 0.89 | 0.88 | 0.88 | 0.87 | 0.86 | 0.86 | 0.85 | 0.84 | 0.84 |
| −22 | 0.99 | 0.98 | 0.97 | 0.96 | 0.95 | 0.95 | 0.94 | 0.93 | 0.92 | 0.91 |
| −21 | 1.06 | 1.05 | 1.04 | 1.04 | 1.03 | 1.02 | 1.02 | 1.01 | 1.00 | 1.00 |
| −20 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.11 | 1.10 | 1.09 | 1.08 | 1.07 |
| −19 | 1.26 | 1.25 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.18 | 1.17 | 1.16 |
| −18 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.27 |
| −17 | 1.44 | 1.43 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.36 | 1.35 | 1.34 |
| −16 | 1.56 | 1.54 | 1.53 | 1.52 | 1.51 | 1.50 | 1.49 | 1.47 | 1.46 | 1.45 |
| −15 | 1.69 | 1.68 | 1.67 | 1.65 | 1.64 | 1.63 | 1.61 | 1.60 | 1.59 | 1.57 |
| −14 | 1.80 | 1.79 | 1.78 | 1.77 | 1.76 | 1.75 | 1.74 | 1.72 | 1.71 | 1.70 |
| −13 | 1.96 | 1.94 | 1.93 | 1.91 | 1.89 | 1.88 | 1.86 | 1.85 | 1.83 | 1.82 |
| −12 | 2.12 | 2.10 | 2.09 | 2.07 | 2.05 | 2.04 | 2.02 | 2.01 | 1.99 | 1.98 |
| −11 | 2.30 | 2.28 | 2.26 | 2.25 | 2.23 | 2.21 | 2.19 | 2.17 | 2.16 | 2.14 |
| −10 | 2.48 | 2.46 | 2.44 | 2.43 | 2.41 | 2.39 | 2.37 | 2.35 | 2.34 | 2.32 |
| − 9 | 2.66 | 2.64 | 2.62 | 2.61 | 2.59 | 2.57 | 2.55 | 2.53 | 2.52 | 2.50 |
| − 8 | 2.86 | 2.84 | 2.82 | 2.80 | 2.78 | 2.76 | 2.74 | 2.72 | 2.70 | 2.68 |
| − 7 | 3.09 | 3.06 | 3.04 | 3.02 | 3.00 | 2.97 | 2.95 | 2.93 | 2.91 | 2.88 |
| − 6 | 3.32 | 3.29 | 3.27 | 3.25 | 3.23 | 3.20 | 3.18 | 3.16 | 3.14 | 3.11 |
| − 5 | 3.56 | 3.56 | 3.54 | 3.51 | 3.48 | 3.46 | 3.43 | 3.40 | 3.37 | 3.35 |
| − 4 | 3.83 | 3.80 | 3.78 | 3.75 | 3.72 | 3.70 | 3.67 | 3.64 | 3.61 | 3.59 |
| − 3 | 4.11 | 4.07 | 4.05 | 4.02 | 3.99 | 3.97 | 3.94 | 3.91 | 3.88 | 3.86 |
| − 2 | 4.40 | 4.37 | 4.34 | 4.32 | 4.29 | 4.26 | 4.23 | 4.20 | 4.17 | 4.14 |
| − 1 | 4.71 | 4.68 | 4.65 | 4.62 | 4.59 | 4.56 | 4.53 | 4.49 | 4.46 | 4.43 |
| − 0 | 5.05 | 5.01 | 4.98 | 4.95 | 4.91 | 4.88 | 4.85 | 4.81 | 4.78 | 4.74 |
| + 0 | 5.05 | 5.09 | 5.12 | 5.16 | 5.19 | 5.23 | 5.27 | 5.30 | 5.34 | 5.37 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| ° | | | | | | | | | | |
| 1 | 5.41 | 5.45 | 5.49 | 5.52 | 5.56 | 5.60 | 5.64 | 5.68 | 5.72 | 5.75 |
| 2 | 5.80 | 5.84 | 5.88 | 5.92 | 5.96 | 6.00 | 6.04 | 6.08 | 6.13 | 6.17 |
| 3 | 6.20 | 6.24 | 6.29 | 6.33 | 6.37 | 6.41 | 6.46 | 6.50 | 6.54 | 6.59 |
| 4 | 6.63 | 6.68 | 6.72 | 6.77 | 6.81 | 6.86 | 6.90 | 6.95 | 6.99 | 7.04 |
| 5 | 7.08 | 7.13 | 7.18 | 7.23 | 7.28 | 7.33 | 7.38 | 7.43 | 7.48 | 7.53 |
| 6 | 7.58 | 7.63 | 7.68 | 7.74 | 7.79 | 7.84 | 7.89 | 7.94 | 7.99 | 8.05 |
| 7 | 8.10 | 8.15 | 8.21 | 8.26 | 8.32 | 8.37 | 8.43 | 8.48 | 8.53 | 8.59 |
| 8 | 8.64 | 8.70 | 8.76 | 8.82 | 8.87 | 8.93 | 8.99 | 9.05 | 9.11 | 9.17 |
| 9 | 9.23 | 9.30 | 9.36 | 9.43 | 9.50 | 9.57 | 9.63 | 9.70 | 9.77 | 9.84 |
| 10 | 9.90 | 9.96 | 10.02 | 10.08 | 10.14 | 10.20 | 10.25 | 10.31 | 10.37 | 10.43 |
| 11 | 10.49 | 10.56 | 10.63 | 10.69 | 10.76 | 10.83 | 10.90 | 10.96 | 11.03 | 11.10 |
| 12 | 11.17 | 11.24 | 11.31 | 11.38 | 11.45 | 11.52 | 11.59 | 11.66 | 11.73 | 11.80 |
| 13 | 11.86 | 11.94 | 12.02 | 12.10 | 12.18 | 12.26 | 12.34 | 12.42 | 12.50 | 12.58 |
| 14 | 12.66 | 12.74 | 12.82 | 12.90 | 12.98 | 13.05 | 13.13 | 13.21 | 13.29 | 13.37 |
| 15 | 13.44 | 13.52 | 13.61 | 13.69 | 13.77 | 13.86 | 13.94 | 14.02 | 14.11 | 14.19 |
| 16 | 14.28 | 14.37 | 14.47 | 14.56 | 14.65 | 14.74 | 14.84 | 14.93 | 15.02 | 15.11 |
| 17 | 15.20 | 15.29 | 15.38 | 15.46 | 15.55 | 15.64 | 15.73 | 15.82 | 15.90 | 15.99 |
| 18 | 16.08 | 16.17 | 16.27 | 16.36 | 16.45 | 16.54 | 16.64 | 16.73 | 16.82 | 16.91 |
| 19 | 17.01 | 17.13 | 17.25 | 17.37 | 17.49 | 17.61 | 17.73 | 17.85 | 17.97 | 18.09 |
| 20 | 18.20 | 18.31 | 18.43 | 18.54 | 18.65 | 18.76 | 18.88 | 18.99 | 19.10 | 19.21 |
| 21 | 19.33 | 19.45 | 19.56 | 19.68 | 19.80 | 19.92 | 20.03 | 20.15 | 20.27 | 20.39 |
| 22 | 20.51 | 20.63 | 20.76 | 20.88 | 21.01 | 21.13 | 21.25 | 21.38 | 21.50 | 21.63 |
| 23 | 21.75 | 21.88 | 22.00 | 22.13 | 22.26 | 22.38 | 22.51 | 22.63 | 22.76 | 22.89 |
| 24 | 23.01 | 23.13 | 23.24 | 23.36 | 23.48 | 23.60 | 23.71 | 23.83 | 23.95 | 24.07 |
| 25 | 24.18 | 24.34 | 24.50 | 24.67 | 24.83 | 24.99 | 25.15 | 25.32 | 25.48 | 25.64 |
| 26 | 25.81 | 25.97 | 26.13 | 26.28 | 26.44 | 26.60 | 26.76 | 26.92 | 27.07 | 27.23 |
| 27 | 27.39 | 27.55 | 27.71 | 27.86 | 28.02 | 28.18 | 28.34 | 28.50 | 28.65 | 28.81 |
| 28 | 28.96 | 29.13 | 29.29 | 29.46 | 29.63 | 29.79 | 29.96 | 30.13 | 30.30 | 30.46 |
| 29 | 30.63 | 30.81 | 30.98 | 31.16 | 31.33 | 31.51 | 31.69 | 31.86 | 32.04 | 32.21 |
| 30 | 32.39 | 32.57 | 32.76 | 32.94 | 33.13 | 33.31 | 33.50 | 33.68 | 33.87 | 34.05 |
| 31 | 34.24 | 34.43 | 34.63 | 34.82 | 35.02 | 35.21 | 35.40 | 35.60 | 35.79 | 35.99 |
| 32 | 36.18 | 36.38 | 36.59 | 36.79 | 36.99 | 37.20 | 37.40 | 37.60 | 37.80 | 38.01 |
| 33 | 38.21 | 38.43 | 38.64 | 38.86 | 39.08 | 39.29 | 39.51 | 39.73 | 39.94 | 40.16 |
| 34 | 40.38 | 40.60 | 40.82 | 41.04 | 41.26 | 41.49 | 41.71 | 41.93 | 42.15 | 42.37 |
| 35 | 42.59 | 42.82 | 43.05 | 43.28 | 43.51 | 43.74 | 43.97 | 44.20 | 44.43 | 44.66 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## XIX. ELASTIC FORCE OF AQUEOUS VAPOR,

EXPRESSED IN MILLIMETRES OF MERCURY, FOR CENTIGRADE TEMPERATURES.

By KAEMTZ.

| Temperature Centi-Grade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. |
|---|---|---|---|---|---|---|---|---|---|
| o | Millim. | o | Millim. | o | Millim. | o | Millim. | o | Millim. |
| −25 | 0.68 | −12 | 1.92 | 0 | 4.58 | 12 | 10.24 | 24 | 21.43 |
| −24 | 0.72 | −11 | 2.05 | 1 | 4.92 | 13 | 10.91 | 25 | 22.74 |
| −23 | 0.79 | −10 | 2.21 | 2 | 5.26 | 14 | 11.62 | 26 | 24.16 |
| −22 | 0.86 | − 9 | 2.39 | 3 | 5.64 | 15 | 12.38 | 27 | 25.56 |
| −21 | 0.92 | − 8 | 2.57 | 4 | 6.01 | 16 | 13.17 | 28 | 27.07 |
| −20 | 1.01 | − 7 | 2.78 | 5 | 6.45 | 17 | 14.03 | 29 | 28.67 |
| −19 | 1.10 | − 6 | 2.98 | 6 | 6.90 | 18 | 14.93 | 30 | 30.36 |
| −18 | 1.20 | − 5 | 3.20 | 7 | 7.38 | 19 | 15.86 | 31 | 32.17 |
| −17 | 1.29 | − 4 | 3.45 | 8 | 7.89 | 20 | 16.87 | 32 | 33.95 |
| −16 | 1.40 | − 3 | 3.70 | 9 | 8.41 | 21 | 17.91 | 33 | 35.95 |
| −15 | 1.51 | − 2 | 3.97 | 10 | 9.00 | 22 | 19.04 | 34 | 37.99 |
| −14 | 1.62 | − 1 | 4.26 | 11 | 9.58 | 23 | 20.21 | 35 | 40.15 |
| −13 | 1.76 | 0 | 4.58 | 12 | 10.24 | 24 | 21.43 | 36 | 42.40 |

## XX. ELASTIC FORCE OF AQUEOUS VAPOR,

EXPRESSED IN MILLIMETRES OF MERCURY, FOR CENTIGRADE TEMPERATURES.

By MAGNUS.

| Temperature Centi-grade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. | Temperature Centigrade. | Force of Vapor. | Temperature Centigrade | Force of Vapor. | Temperature Centigrade. | Force of Vapor. |
|---|---|---|---|---|---|---|---|---|---|
| o | Millim. | o | Millim. | o | Millim. | o | Millim. | o | Millim. |
| −20 | 0.916 | −7 | 2.671 | 6 | 6.939 | 19 | 16.345 | 32 | 35.419 |
| −19 | 0.999 | −6 | 2.886 | 7 | 7.436 | 20 | 17.396 | 33 | 37.473 |
| −18 | 1.089 | −5 | 3.115 | 8 | 7.964 | 21 | 18.505 | 34 | 39.630 |
| −17 | 1.186 | −4 | 3.361 | 9 | 8.525 | 22 | 19.675 | 35 | 41.893 |
| −16 | 1.290 | −3 | 3.624 | 10 | 9.126 | 23 | 20.909 | 36 | 44.268 |
| −15 | 1.403 | −2 | 3.905 | 11 | 9.751 | 24 | 22.211 | 37 | 46.758 |
| −14 | 1.525 | −1 | 4.205 | 12 | 10.421 | 25 | 23.582 | 38 | 49.368 |
| −13 | 1.655 | 0 | 4.525 | 13 | 11.130 | 26 | 25.026 | 39 | 52.103 |
| −12 | 1.796 | +1 | 4.867 | 14 | 11.882 | 27 | 26.547 | 40 | 54.964 |
| −11 | 1.947 | 2 | 5.231 | 15 | 12.677 | 28 | 28.148 | 41 | 57.969 |
| −10 | 2.109 | 3 | 5.619 | 16 | 13.519 | 29 | 29.832 | 42 | 61.109 |
| − 9 | 2.284 | 4 | 6.032 | 17 | 14.409 | 30 | 31.602 | 43 | 64.396 |
| − 8 | 2.471 | 5 | 6.471 | 18 | 15.351 | 31 | 33.464 | 44 | 67.833 |

## XXI. ELASTIC FORCE OF AQUEOUS VAPOR,

EXPRESSED IN ENGLISH INCHES OF MERCURY, FOR TEMPERATURES OF FAHRENHEIT.

From the Royal Society's Report.

| Temperature of Air. | Force of Vapor. | Temperature of Air. | Force of Vapor. | Temperature of Air. | Force of Vapor. | Temperature of Air. | Force of Vapor. |
|---|---|---|---|---|---|---|---|
| Fahrenheit. | Eng. Inches. | Fahrenheit. | Eng Inches. | Fahrenheit. | Eng. Inches. | Fahrenheit. | Eng. Inches. |
| 0° | 0.051 | 31° | 0.179 | 62° | 0.551 | 93° | 1.514 |
| 1 | 0.053 | 32 | 0.186 | 63 | 0.570 | 94 | 1.562 |
| 2 | 0.056 | 33 | 0.193 | 64 | 0.590 | 95 | 1 610 |
| 3 | 0.058 | 34 | 0.200 | 65 | 0.611 | 96 | 1.660 |
| 4 | 0.060 | 35 | 0.208 | 66 | 0.632 | 97 | 1.712 |
| 5 | 0.063 | 36 | 0.216 | 37 | 0.654 | 98 | 1.764 |
| 6 | 0.066 | 37 | 0.224 | 68 | 0.676 | 99 | 1.819 |
| 7 | 0.069 | 38 | 0.233 | 69 | 0.699 | 100 | 1.874 |
| 8 | 0.071 | 39 | 0.242 | 70 | 0.723 | 101 | 1.931 |
| 9 | 0.074 | 40 | 0.251 | 71 | 0.748 | 102 | 1.990 |
| 10 | 0.078 | 41 | 0.260 | 72 | 0.773 | 103 | 2.050 |
| 11 | 0.081 | 42 | 0.270 | 73 | 0.799 | 104 | 2.112 |
| 12 | 0.084 | 43 | 0.280 | 74 | 0.826 | 105 | 2.176 |
| 13 | 0.088 | 44 | 0.291 | 75 | 0.854 | 106 | 2.241 |
| 14 | 0.092 | 45 | 0.302 | 76 | 0.882 | 107 | 2.307 |
| 15 | 0.095 | 46 | 0.313 | 77 | 0.911 | 108 | 2.376 |
| 16 | 0.099 | 47 | 0.324 | 78 | 0.942 | 109 | 2.447 |
| 17 | 0.103 | 48 | 0.336 | 79 | 0.973 | 110 | 2.519 |
| 18 | 0.107 | 49 | 0.349 | 80 | 1.005 | 111 | 2.593 |
| 19 | 0.112 | 50 | 0.361 | 81 | 1.036 | 112 | 2.669 |
| 20 | 0.116 | 51 | 0.375 | 82 | 1.072 | 113 | 2.747 |
| 21 | 0.121 | 52 | 0.389 | 83 | 1.106 | 114 | 2.826 |
| 22 | 0.126 | 53 | 0.402 | 84 | 1.142 | 115 | 2.908 |
| 23 | 0.131 | 54 | 0.417 | 85 | 1.179 | 116 | 2.992 |
| 24 | 0.136 | 55 | 0.432 | 86 | 1.217 | 117 | 3.078 |
| 25 | 0.142 | 56 | 0.447 | 87 | 1.256 | 118 | 3.166 |
| 26 | 0.147 | 57 | 0.463 | 88 | 1.296 | 119 | 3.257 |
| 27 | 0.153 | 58 | 0.480 | 89 | 1.337 | 120 | 3.349 |
| 28 | 0.159 | 59 | 0.497 | 90 | 1.380 | 121 | 3.444 |
| 29 | 0.165 | 60 | 0.514 | 91 | 1.423 | 122 | 3.542 |
| 30 | 0.172 | 61 | 0.532 | 92 | 1.468 | 123 | 3.641 |
| 31 | 0.179 | 62 | 0.551 | 93 | 1.514 | 124 | 3.743 |

# TABLE XXII.

FOR SHOWING THE DIFFERENCES IN THE VALUES OF THE ELASTIC FORCE OF AQUEOUS VAPOR ADOPTED BY DIFFERENT AUTHORITIES.

THE following synoptic view of the values of the elastic force of vapor adopted by various authorities, furnishes the means of readily comparing them, and of appreciating the amount of the differences which they exhibit. The values are given both in English and in French measures.

Dalton's values are copied from the *Edinburgh Encyclopædia*, Art. *Hygrometry*. Those adopted in the *Greenwich Observations* are found in the same article, and also in the volumes published annually by that Observatory. Biot's table of tensions is, in fact, the same, computed by Pouillet from Dalton's results, by Biot's formula, and published in Biot's *Traité de Physique*, Tom. I. p. 531. Dr. Ure's results are taken from his Memoir in the *Philosophical Transactions* for 1818, p. 347. In the column headed "Daniell" are given the forces of vapor as found in the table published in his *Meteorological Essays*, 2d edition, p. 596, a table computed by Galbraith, from Dr. Ure's experiments, by the formula of Ivory.

For the columns headed Royal Society, August, Kaemtz, Magnus, and Regnault, see above, p. 147.

## XXII. FOR SHOWING THE DIFFERENCES IN THE VALUES OF THE ELASTIC FORCE OF AQUEOUS VAPOR, ADOPTED BY DIFFERENT AUTHORITIES.

### FORCE OF VAPOR EXPRESSED IN ENGLISH INCHES FOR TEMPERATURES OF FAHRENHEIT.

| Temperature of Air, Fahrenheit. | Force of Vapor according to | | | | | | | | | Temperature of Air, Fahrenheit. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dalton. | Greenwich Observations. | Ure. | Daniell. | Royal Society. | August. | Kaemtz. | Magnus. | Regnault. | |
| ° | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | ° |
| 0 | 0.064 | 0.061 | .... | 0.068 | 0.051 | 0.053 | 0.048 | 0.044 | 0.043 | 0 |
| 10 | 0.090 | 0.089 | .... | 0.098 | 0.078 | 0.082 | 0.074 | 0.070 | 0.068 | 10 |
| 20 | 0.129 | 0.129 | .... | 0.140 | 0.116 | 0.124 | 0.112 | 0.108 | 0.108 | 20 |
| 30 | 0.186 | 0.186 | .... | 0.200 | 0.172 | 0.184 | 0.166 | 0.164 | 0.167 | 30 |
| 32 | 0.200 | 0.199 | 0.200 | 0.216 | 0.186 | 0.199 | 0.180 | 0.178 | 0.181 | 32 |
| 40 | 0.263 | 0.264 | 0.250 | 0.280 | 0.251 | 0.269 | 0.244 | 0.245 | 0.248 | 40 |
| 50 | 0.375 | 0.373 | 0.360 | 0.400 | 0.361 | 0.390 | 0.354 | 0.359 | 0.361 | 50 |
| 60 | 0.524 | 0.523 | 0.516 | 0.560 | 0.516 | 0.547 | 0.505 | 0.517 | 0.518 | 60 |
| 70 | 0.721 | 0.727 | 0.726 | 0.770 | 0.723 | 0.766 | 0.710 | 0.733 | 0.733 | 70 |
| 80 | 1.000 | 1.001 | 1.010 | 1.060 | 1.005 | 1.058 | 0.988 | 1.025 | 1.023 | 80 |
| 90 | 1.360 | 1.368 | 1.360 | 1.430 | 1.380 | 1.442 | 1.354 | 1.412 | 1.410 | 90 |
| 95 | 1.580 | 1.594 | 1.640 | 1.636 | 1.562 | 1.677 | 1.581 | 1.649 | 1.647 | 95 |
| 100 | 1.860 | 1.852 | 1.860 | .... | 1.874 | .... | .... | 1.921 | 1.918 | 100 |

### FORCE OF VAPOR EXPRESSED IN MILLIMETRES FOR CENTIGRADE TEMPERATURES.

| Temperature of Air, Centigrade. | Force of Vapor according to | | | | | | | | Temperature of Air, Centigrade. |
|---|---|---|---|---|---|---|---|---|---|
| | Dalton. | Greenwich Observations. | Biot. | Daniell. | Royal Society. | August. | Kaemtz. | Magnus. | Regnault. | |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | ° |
| −20 | .... | .... | 1.33 | .... | .... | 1.15 | 1.01 | 0.91 | 0.91 | −20 |
| −15 | 1.93 | 1.88 | 1.88 | 2.11 | 1.60 | 1.69 | 1.51 | 1.40 | 1.38 | −15 |
| −10 | 2.64 | 2.62 | 2.63 | 2.92 | 2.34 | 2.48 | 2.21 | 2.11 | 2.08 | −10 |
| − 5 | 3.66 | 3.66 | 3.66 | 4.01 | 3.33 | 3.56 | 3.20 | 3.11 | 3.13 | − 5 |
| 0 | 5.08 | 5.06 | 5.06 | 5.49 | 4.72 | 5.05 | 4.58 | 4.52 | 4.60 | 0 |
| + 5 | 6.93 | 6.95 | 6.95 | 7.42 | 6.60 | 7.08 | 6.45 | 6.47 | 6.53 | + 5 |
| 10 | 9.52 | 9.48 | 9.47 | 10.16 | 9.17 | 9.90 | 9.00 | 9.13 | 9.16 | 10 |
| 15 | 12.88 | 12.85 | 12.84 | 13.79 | 12.62 | 13.44 | 12.38 | 12.68 | 12.70 | 15 |
| 20 | 17.17 | 17.30 | 17.31 | 18.34 | 17.17 | 18.20 | 16.87 | 17.40 | 17.39 | 20 |
| 25 | 23.11 | 23.12 | 23.09 | 24.54 | 23.14 | 24.18 | 22.74 | 23.58 | 23.55 | 25 |
| 30 | 30.73 | 30.70 | 30.64 | 32.33 | 30.91 | 32.39 | 30.36 | 31.60 | 31.55 | 30 |
| 35 | 40.13 | 40.47 | 40.40 | 41.55 | 40.89 | 42.59 | 40.15 | 41.89 | 41.83 | 35 |
| 40 | .... | .... | 53.00 | .... | 53.64 | .... | .... | 54.96 | 54.91 | 40 |

XXIII. WEIGHT OF VAPOR, IN GRAMMES, CONTAINED IN A CUBIC METRE OF SATURATED AIR, AT TEMPERATURES BETWEEN —20° AND +40° CENTIGRADE. — POUILLET.

| Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. |
|---|---|---|---|---|---|---|---|---|
| Centigrade. | Millim. | Grammes. | Centigrade. | Millim. | Grammes. | Centigrade. | Millim | Grammes. |
| −20° | 1.3 | 1.5 | 11° | 10.1 | 10.3 | 26° | 24.4 | 23.8 |
| −15 | 1.9 | 2.1 | 12 | 10.7 | 10.9 | 27 | 25.9 | 25.1 |
| −10 | 2.6 | 2.9 | 13 | 11.4 | 11.6 | 28 | 27.4 | 26.4 |
| − 5 | 3.7 | 4.0 | 14 | 12.1 | 12.2 | 29 | 29.0 | 27.9 |
| 0 | 5.0 | 5.4 | 15 | 12.8 | 13.0 | 30 | 30.6 | 29.4 |
| + 1 | 5.4 | 5.7 | 16 | 13.6 | 13.7 | 31 | 32.4 | 31.0 |
| 2 | 5.7 | 6.1 | 17 | 14.5 | 14.5 | 32 | 34.3 | 32.6 |
| 3 | 6.1 | 6.5 | 18 | 15.4 | 15.3 | 33 | 36.2 | 34.3 |
| 4 | 6.5 | 6.9 | 19 | 16.3 | 16.2 | 34 | 38.3 | 36.2 |
| 5 | 6.9 | 7.3 | 20 | 17.3 | 17.1 | 35 | 40.4 | 38.1 |
| 6 | 7.4 | 7.7 | 21 | 18.3 | 18.1 | 36 | 42.7 | 40.2 |
| 7 | 7.9 | 8.2 | 22 | 19.4 | 19.1 | 37 | 45.0 | 42.2 |
| 8 | 8.4 | 8.7 | 23 | 20.6 | 20.2 | 38 | 47.6 | 44.4 |
| 9 | 8.9 | 9.2 | 24 | 21.8 | 21.3 | 39 | 50.1 | 46.7 |
| 10 | 9.5 | 9.7 | 25 | 23.1 | 22.5 | 40 | 53.0 | 49.2 |

XXIV. WEIGHT OF VAPOR, IN GRAMMES, CONTAINED IN A CUBIC METRE OF SATURATED AIR, AT TEMPERATURES BETWEEN —25° AND +36° CENTIGR. — KAEMTZ.

| Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. | Temperature of Dew-Point. | Force of Vapor. | Weight of Vapor. |
|---|---|---|---|---|---|---|---|---|
| Centigrade. | Millim. | Grammes. | Centigrade. | Millim. | Grammes. | Centigrade. | Millim. | Grammes. |
| −25° | 0.77 | 0.93 | −4° | 3.83 | 4.37 | 16° | 14.28 | 14.97 |
| −24 | 0.83 | 1.01 | −3 | 4.11 | 4.70 | 17 | 15.20 | 15.84 |
| −23 | 0.90 | 1.10 | −2 | 4.40 | 5.01 | 18 | 16.08 | 16.76 |
| −22 | 0.99 | 1.19 | −1 | 4.71 | 5.32 | 19 | 17.01 | 17.75 |
| −21 | 1.06 | 1.26 | 0 | 5.05 | 5.66 | 20 | 18.20 | 18.77 |
| −20 | 1.15 | 1.38 | +1 | 5.41 | 6.00 | 21 | 19.33 | 19.82 |
| −19 | 1.26 | 1.47 | 2 | 5.80 | 6.42 | 22 | 20.51 | 20.91 |
| −18 | 1.33 | 1.60 | 3 | 6.20 | 6.84 | 23 | 21.75 | 22.09 |
| −17 | 1.44 | 1.74 | 4 | 6.63 | 7.32 | 24 | 23.01 | 23.36 |
| −16 | 1.56 | 1.84 | 5 | 7.08 | 7.77 | 25 | 24.18 | 24.61 |
| −15 | 1.69 | 2.00 | 6 | 7.58 | 8.25 | 26 | 25.81 | 25.96 |
| −14 | 1.80 | 2.14 | 7 | 8.10 | 8.79 | 26 | 27.39 | 27.34 |
| −13 | 1.96 | 2.33 | 8 | 8.64 | 9.30 | 28 | 28.96 | 28.81 |
| −12 | 2.12 | 2.48 | 9 | 9.23 | 9.86 | 29 | 30.63 | 30.35 |
| −11 | 2.30 | 2.63 | 10 | 9.90 | 10.57 | 30 | 32.39 | 31.93 |
| −10 | 2.48 | 2.87 | 11 | 10.49 | 11.18 | 31 | 34.24 | 33.65 |
| − 9 | 2.66 | 3.08 | 12 | 11.17 | 11.83 | 32 | 36.18 | 35.45 |
| − 8 | 2.86 | 3.30 | 13 | 11.86 | 12.57 | 33 | 38.21 | 37.20 |
| − 7 | 3.09 | 3.53 | 14 | 12.66 | 13.33 | 34 | 40.38 | 39.12 |
| − 6 | 3.32 | 3.80 | 15 | 13.44 | 14.17 | 35 | 42.59 | 41.13 |
| − 5 | 3.56 | 4.08 | 16 | 14.28 | 14.97 | 36 | 44.96 | 43.17 |

## XXV. FORCES OF VAPOR AND RELATIVE HUMIDITY,

### CORRESPONDING TO THE DEGREES OF SAUSSURE'S HAIR-HYGROMETER, AT THE TEMPERATURE OF 10° CENTIGRADE.

From the Experiments of Gay-Lussac.

The force of vapor is expressed in hundredths, the tension at full saturation being represented by 100.

| Degrees of Hair-Hygrometer. | Force of Vapor. | Relative Humidity in Thousandths. | Degrees of Hair-Hygrometer. | Force of Vapor. | Relative Humidity in Thousandths. | Degrees of Hair-Hygrometer. | Force of Vapor. | Relative Humidity in Thousandths. |
|---|---|---|---|---|---|---|---|---|
| o | | | o | | | o | | |
| 0 | 0.00 | 0.000 | 34 | 17.10 | | 67 | 43.73 | |
| 1 | 0.45 | | 35 | 17.68 | 0.177 | 68 | 44.89 | |
| 2 | 0.90 | | 36 | 18.30 | | 69 | 46.04 | |
| 3 | 1.35 | | 37 | 18.92 | | 70 | 47.19 | 0.472 |
| 4 | 1.80 | | 38 | 19.54 | | 71 | 48.51 | |
| 5 | 2.25 | 0.022 | 39 | 20.16 | | 72 | 49.82 | 0.500 |
| 6 | 2.71 | | 40 | 20.78 | 0.208 | 73 | 51.14 | |
| 7 | 3.18 | | 41 | 21.45 | | 74 | 52.45 | |
| 8 | 3.64 | | 42 | 22.12 | | 75 | 53.76 | 0.538 |
| 9 | 4.10 | | 43 | 22.79 | | 76 | 55.25 | |
| 10 | 4.57 | 0.046 | 44 | 23.46 | | 77 | 56.74 | |
| 11 | 5.05 | | 45 | 24.13 | 0.241 | 78 | 58.24 | |
| 12 | 5.52 | | 46 | 24.86 | | 79 | 59.73 | |
| 13 | 6.00 | | 47 | 25.59 | | 80 | 61.22 | 0.612 |
| 14 | 6.48 | | 48 | 26.32 | | 81 | 62.89 | |
| 15 | 6.96 | 0.070 | 49 | 27.06 | | 82 | 64.57 | |
| 16 | 7.46 | | 50 | 27.79 | 0.278 | 83 | 66.24 | |
| 17 | 7.95 | | 51 | 28.58 | | 84 | 67.92 | |
| 18 | 8.45 | | 52 | 29.38 | | 85 | 69.59 | 0.696 |
| 19 | 8.95 | | 53 | 30.17 | | 86 | 71.49 | |
| 20 | 9.45 | 0.094 | 54 | 30.97 | | 87 | 73.39 | |
| 21 | 9.97 | | 55 | 31.76 | 0.318 | 88 | 75.29 | |
| 22 | 10.49 | | 56 | 32.66 | | 89 | 77.19 | |
| 23 | 11.01 | | 57 | 33.57 | | 90 | 79.09 | 0.791 |
| 24 | 11.53 | | 58 | 34.47 | | 91 | 81.09 | |
| 25 | 12.05 | 0.120 | 59 | 35.37 | | 92 | 83.08 | |
| 26 | 12.59 | | 60 | 36.28 | 0.363 | 93 | 85.08 | |
| 27 | 13.14 | | 61 | 37.31 | | 94 | 87.07 | |
| 28 | 13.69 | | 62 | 38.34 | | 95 | 89.06 | 0.891 |
| 29 | 14.23 | | 63 | 39.36 | | 96 | 91.25 | |
| 30 | 14.78 | 0.148 | 64 | 40.39 | | 97 | 93.44 | |
| 31 | 15.36 | | 65 | 41.42 | 0.414 | 98 | 95.63 | |
| 32 | 15.94 | | 66 | 42.58 | | 99 | 97.81 | |
| 33 | 16.52 | | 67 | 43.73 | | 100 | 100.00 | 1.000 |

# XXVI.

## TABLE

FOR

DEDUCING THE RELATIVE HUMIDITY IN HUNDREDTHS, FROM THE INDICATIONS OF SAUSSURE'S HAIR-HYGROMETER;

Calculated from the Experiments of Melloni.

By M. T. HAEGHENS.

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THE Hair-Hygrometer of Saussure having been formerly used for long series of observations, and being still employed by some meteorologists, notwithstanding the imperfection of this instrument, on account of its giving directly the relative humidity without calculation, it was desirable to ascertain the correspondence of the degrees of that hygrometer with the relative humidity expressed in hundredths, as in the preceding table. Though these instruments compared with each other, show very often great discrepancies in their indications, yet a large number of them agree sufficiently well with the experiments of Melloni, August, and others, to allow the following table of comparison to be constructed, which table may be considered as giving good approximations. For the calculation of it, Mr. Haeghens used the results of Melloni, which agree also satisfactorily with a series of observations very carefully made by M. Delcros. See *Annuaire Météorologique de la France, pour* 1850.

RELATIVE HUMIDITY IN HUNDREDTHS.

| Degrees of Saussure's Hygrometer. Tens. | Degrees of Saussure's Hygrometer. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Humidity | Humidity | Humidity | Humidity | Humidity | Humidity | Humidity | Humidity | Humidity | Humidity |
| 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 5 |
| 1 | 5 | 6 | 6 | 7 | 8 | 8 | 9 | 10 | 11 | 11 |
| 2 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 |
| 3 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | 25 | 26 | 26 |
| 4 | 27 | 27 | 28 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 5 | 35 | 36 | 37 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
| 6 | 44 | 45 | 46 | 47 | 49 | 50 | 51 | 52 | 53 | 55 |
| 7 | 56 | 57 | 58 | 59 | 61 | 62 | 63 | 65 | 66 | 68 |
| 8 | 69 | 70 | 72 | 73 | 75 | 77 | 78 | 79 | 81 | 82 |
| 9 | 83 | 85 | 87 | 88 | 90 | 91 | 93 | 95 | 97 | 98 |
| 10 | 100 | . | . | . | . | . | . | . | . | . |

# TABLE XXVII.

THE following Table shows the Relative Humidity, in hundredths, corresponding to the degrees of Saussure's Hair-Hygrometer, as determined by various physicists. It is found in Kaemtz, *Vorlesungen über Meteorologie*, page 100; also in the French translation by Martins, *Cours de Météorologie*, page 80.

XXVI. RELATIVE HUMIDITY, CORRESPONDING TO THE DEGREES OF SAUSSURE'S HAIR-HYGROMETER.

Saturation = 100.

| Degrees of Hair-Hygrometer. | Relative Humidity according to | | | | Degrees of Hair-Hygrometer. |
|---|---|---|---|---|---|
| | Gay-Lussac. | Prinsep. | August. | Melloni. | |
| 100° | 100.0 | 100.0 | 100.0 | 100.0 | 100° |
| 95 | 89.1 | 88.7 | 94.0 | 90.8 | 95 |
| 90 | 79.1 | 78.2 | 86.0 | 83.1 | 90 |
| 85 | 69.6 | 68.3 | 79.0 | 76.5 | 85 |
| 80 | 61.2 | 59.2 | 71.0 | 68.9 | 80 |
| 75 | 53.8 | 50.6 | 64.0 | 62.0 | 75 |
| 70 | 47.2 | 43.6 | 56.0 | 55.6 | 70 |
| 65 | 41.4 | 37.2 | 48.0 | 49.6 | 65 |
| 60 | 36.3 | 31.5 | 41.0 | 44.0 | 60 |
| 55 | 31.8 | 26.3 | 36.0 | 39.1 | 55 |
| 50 | 27.8 | 21.8 | 31.0 | 34.6 | 50 |
| 45 | 24.1 | 17.7 | 27.0 | 29.8 | 45 |
| 40 | 20.8 | 14.3 | 23.0 | 27.0 | 40 |
| 35 | 17.7 | 11.4 | 19.0 | 23.8 | 35 |
| 30 | 14.8 | 9.1 | 16.0 | 19.0 | 30 |
| 25 | 12.0 | 7.1 | 13.0 | 16.4 | 25 |
| 20 | 9.4 | 4.9 | 10.0 | 11.7 | 20 |
| 15 | 7.0 | 3.0 | 7.0 | 8.3 | 15 |
| 10 | 4.6 | 1.6 | 4.0 | 5.0 | 10 |
| 5 | 2.2 | 0.6 | 2.0 | 2.6 | 5 |
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

# APPENDIX

TO

# THE HYGROMETRICAL TABLES.

# TABLES

FOR

# COMPARING THE QUANTITIES OF RAIN-WATER.

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The three kinds of measures which are most in use for noting the quantities of rain and melted snow, are the Centimetres and Millimetres in France, the Paris or French inches and lines in Germany, and the English inches and decimals in England, America, and also in Russia, the Russian foot being the same as the English foot. The following tables will facilitate the comparison of these various measures with each other.

A glance at the tables will show that the first column on the left contains the numbers to be converted, and the heads of the following columns the fractions of these numbers, or units, each of which is one tenth of those in the first column. Shorter tables, at the bottom, give, when necessary, the value of proportional parts still smaller than those found in the larger tables.

*Example.*

Let 13 Centimetres be converted into French inches and lines.

Take, in Table II., the line beginning with 10 Centimetres in the first column, follow that line as far as the column headed 3 Centimetres, and there will be found the number of 4 inches 9.63 lines, which is the corresponding value in French inches of 10 + 3, or 13 Centimetres.

If the number is followed by a fraction, as for instance, 13.5 Centimetres, or 135 Millimetres, we find, —

| | | | French Inches. | Lines. |
|---|---|---|---|---|
| In the larger table | 13 | Centimetres = | 4 | .9,63 |
| In the smaller table at the bottom | 5 | Millimetres = | | .2,216 |
| Or | 13.5 | Centimetres = | | 4.11,846 |

When the measures which are to be compared are both subdivided into decimal parts, the equivalents of the numbers greater than 9.9 may be found by moving the decimal point.

*Example.*

Let 346.7 Centimetres be converted into English inches.

In Table I., in the column headed 4, on the fourth line, we find 3.4 Centimetres = 1.3386 English inches.

Moving the decimal point by two places we have 340 Centimetres = 133.86 English inches.

Then, in the column headed 7, on the line beginning with 6, we find 6.7 Centimetres = 2.64

Making together 346.7 Centimetres = 136.50 English inches.

## I. CONVERSION OF CENTIMETRES INTO ENGLISH INCHES AND DECIMALS.

1 Centimetre = 0.3937079 English Inch.

| Centimetres. | Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch | Eng.Inch. |
| 0 | 0.0000 | 0.0394 | 0.0787 | 0.1181 | 0.1575 | 0.1969 | 0.2362 | 0.2756 | 0.3150 | 0.3543 |
| 1 | 0.3937 | 0.4331 | 0.4724 | 0.5118 | 0.5512 | 0.5906 | 0.6299 | 0.6693 | 0.7087 | 0.7480 |
| 2 | 0.7874 | 0.8268 | 0.8662 | 0.9055 | 0.9449 | 0.9843 | 1.0236 | 1.0630 | 1.1024 | 1.1418 |
| 3 | 1.1811 | 1.2205 | 1.2599 | 1.2992 | 1.3386 | 1.3780 | 1.4173 | 1.4567 | 1.4961 | 1.5355 |
| 4 | 1.5748 | 1.6142 | 1.6536 | 1.6929 | 1.7323 | 1.7717 | 1.8111 | 1.8504 | 1.8898 | 1.9292 |
| 5 | 1.9685 | 2.0079 | 2.0473 | 2.0867 | 2.1260 | 2.1654 | 2.2048 | 2.2441 | 2.2835 | 2.3229 |
| 6 | 2.3622 | 2.4016 | 2.4410 | 2.4804 | 2.5197 | 2.5591 | 2.5985 | 2.6378 | 2.6772 | 2.7166 |
| 7 | 2.7560 | 2.7953 | 2.8347 | 2.8741 | 2.9134 | 2.9528 | 2.9922 | 3.0316 | 3.0709 | 3.1103 |
| 8 | 3.1497 | 3.1890 | 3.2284 | 3.2678 | 3.3071 | 3.3465 | 3.3859 | 3.4253 | 3.4646 | 3.5040 |
| 9 | 3.5434 | 3.5827 | 3.6221 | 3.6615 | 3.7009 | 3.7402 | 3.7796 | 3.8190 | 3.8583 | 3.8977 |

## II. CONVERSION OF CENTIMETRES INTO FRENCH INCHES, LINES, AND DECIMALS.

1 Centimetre = 0. inches 4.43296 Paris lines.

| Centimetres. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. |
| 0 | 0. 0,00 | 0. 4,43 | 0. 8,87 | 1. 1,30 | 1. 5,73 | 1.10,16 | 2. 2,60 | 2. 7,03 | 2.11,46 | 3. 3,90 |
| 10 | 3. 8,33 | 4. 0,76 | 4. 5,20 | 4. 9,63 | 5. 2,06 | 5. 6,49 | 5.10,93 | 6. 3,36 | 6. 7,79 | 7. 0,23 |
| 20 | 7. 4,66 | 7. 9,09 | 8. 1,53 | 8. 5,96 | 8.10,39 | 9. 2,82 | 9. 7,26 | 9.11,69 | 10. 4,12 | 10. 8,56 |
| 30 | 11. 0,99 | 11. 5,42 | 11. 9,85 | 12. 2,29 | 12. 6,72 | 12.11,15 | 13. 3,59 | 13. 8,02 | 14. 0,45 | 14. 4,89 |
| 40 | 14. 9,32 | 15. 1,75 | 15. 6,18 | 15.10,62 | 16. 3,05 | 16. 7,48 | 16.11,92 | 17. 4,35 | 17. 8,78 | 18. 1,22 |
| 50 | 18. 5,65 | 18.10,08 | 19. 2,51 | 19. 6,95 | 19.11,38 | 20. 3,81 | 20. 8,25 | 21. 0,68 | 21. 5,11 | 21. 9,54 |
| 60 | 22. 1,98 | 22. 6,41 | 22.10,84 | 23. 3,28 | 23. 7,71 | 24. 0,14 | 24. 4,58 | 24. 9,01 | 25. 1,44 | 25. 5,87 |
| 70 | 25.10,31 | 26. 2,74 | 26. 7,17 | 26.11,61 | 27. 4,04 | 27. 8,47 | 28. 0,90 | 28. 5,34 | 28. 9,77 | 29. 2,20 |
| 80 | 29. 6,64 | 29.11,07 | 30. 3,50 | 30. 7,93 | 31. 0,37 | 31. 4,80 | 31. 9,23 | 32. 1,67 | 32. 6,10 | 32.10,53 |
| 90 | 33. 2,97 | 33. 7,40 | 33.11,83 | 34. 4,26 | 34. 8,70 | 35. 1,13 | 35. 5,56 | 35.10,00 | 36. 2,43 | 36. 6,86 |

| Centim. | Fr.In. Lin. | Centim. | Fr.In. Lin. | Centim. | Fr.In. Lin. | Centim. | Fr.In. Lin. | Centim. | Fr.In. Lin. |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 36.11,30 | 200 | 73.10.59 | 300 | 110.9,89 | 400 | 147.9,18 | 500 | 184.8,48 |

## CONVERSION OF CENTIMETRES INTO FRENCH LINES AND DECIMALS.

| Centimetres. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. |
| 0 | 0.00 | 4.43 | 8.87 | 13.30 | 17.73 | 22.16 | 26.60 | 31.03 | 35.46 | 39.90 |
| 10 | 44.33 | 48.76 | 53.20 | 57.63 | 62.06 | 66.49 | 70.93 | 75.36 | 79.79 | 84.23 |
| 20 | 88.66 | 93.09 | 97.53 | 101.96 | 106.39 | 110.82 | 115.26 | 119.69 | 124.12 | 128.56 |
| 30 | 132.99 | 137.42 | 141.85 | 146.29 | 150.72 | 155.15 | 159.59 | 164.02 | 168.45 | 172.89 |
| 40 | 177.32 | 181.75 | 186.18 | 190.62 | 195.05 | 199.48 | 203.92 | 208.35 | 212.78 | 217.22 |
| 50 | 221.65 | 226.08 | 230.51 | 234.95 | 239.38 | 243.81 | 248.25 | 252.68 | 257.11 | 261.54 |
| 60 | 265.98 | 270.41 | 274.84 | 279.28 | 283.71 | 288.14 | 292.58 | 297.01 | 301.44 | 305.87 |
| 70 | 310.31 | 314.74 | 319.17 | 323.61 | 328.04 | 332.47 | 336.90 | 341.34 | 345.77 | 350.20 |
| 80 | 354.64 | 359.07 | 363.50 | 367.93 | 372.37 | 376.80 | 381.23 | 385.67 | 390.10 | 394.53 |
| 90 | 398.97 | 403.40 | 407.83 | 412.26 | 416.70 | 421.13 | 425.56 | 430.00 | 434.43 | 438.86 |

## CONVERSION OF MILLIMETRES INTO FRENCH LINES AND DECIMALS.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. | Fr. Lines. |
| 0.0 | 0.443 | 0.887 | 1.330 | 1.773 | 2.216 | 2.660 | 3.103 | 3.546 | 3.990 |

## III. CONVERSION OF ENGLISH INCHES INTO CENTIMETRES.

1 English Inch = 2.53995 Centimetres.

| English Inches. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. |
| 0 | 0.00 | 2.54 | 5.08 | 7.62 | 10.16 | 12.70 | 15.24 | 17.78 | 20.32 | 22.86 |
| 10 | 25.40 | 27.94 | 30.48 | 33.02 | 35.56 | 38.10 | 40.64 | 43.18 | 45.72 | 48.26 |
| 20 | 50.80 | 53.34 | 55.88 | 58.42 | 60.96 | 63.50 | 66.04 | 68.58 | 71.12 | 73.66 |
| 30 | 76.20 | 78.74 | 81.28 | 83.82 | 86.36 | 88.90 | 91.44 | 93.98 | 96.52 | 99.06 |
| 40 | 101.60 | 104.14 | 106.68 | 109.22 | 111.76 | 114.30 | 116.84 | 119.38 | 121.92 | 124.46 |
| 50 | 127.00 | 129.54 | 132.08 | 134.62 | 137.16 | 139.70 | 142.24 | 144.78 | 147.32 | 149.86 |
| 60 | 152.40 | 154.94 | 157.48 | 160.02 | 162.56 | 165.10 | 167.64 | 170.18 | 172.72 | 175.26 |
| 70 | 177.80 | 180.34 | 182.88 | 185.42 | 187.96 | 190.50 | 193.04 | 195.58 | 198.12 | 200.66 |
| 80 | 203.20 | 205.74 | 208.28 | 210.82 | 213.36 | 215.90 | 218.44 | 220.98 | 223.52 | 226.06 |
| 90 | 228.60 | 231.14 | 233.68 | 236.22 | 238.76 | 241.30 | 243.84 | 246.38 | 248.92 | 251.46 |
| 100 | 254.00 | 256.54 | 259.08 | 261.62 | 264.16 | 266.70 | 269.24 | 271.78 | 274.32 | 276.85 |
| 110 | 279.39 | 281.93 | 284.47 | 287.01 | 289.55 | 292.09 | 294.63 | 297.17 | 299.71 | 302.25 |
| 120 | 304.79 | 307.33 | 309.87 | 312.41 | 314.95 | 317.49 | 320.03 | 322.57 | 325.11 | 327.65 |
| 130 | 330.19 | 332.73 | 335.27 | 337.81 | 340.35 | 342.89 | 345.43 | 347.97 | 350.51 | 353.05 |
| 140 | 355.59 | 358.13 | 360.67 | 363.21 | 365.75 | 368.29 | 370.83 | 373.37 | 375.91 | 378.45 |
| 150 | 380.99 | 383.53 | 386.07 | 388.61 | 391.15 | 393.69 | 396.23 | 398.77 | 401.31 | 403.85 |
| 160 | 406.39 | 408.93 | 411.47 | 414.01 | 416.55 | 419.09 | 421.63 | 424.17 | 426.71 | 429.25 |
| 170 | 431.79 | 434.33 | 436.87 | 439.41 | 441.95 | 444.49 | 447.03 | 449.57 | 452.11 | 454.65 |
| 180 | 457.19 | 459.73 | 462.27 | 464.81 | 467.35 | 469.89 | 472.43 | 474.97 | 477.51 | 480.05 |
| 190 | 482.59 | 485.13 | 487.67 | 490.21 | 492.75 | 495.29 | 497.83 | 500.37 | 502.91 | 505.45 |
| 200 | 507.99 | 510.53 | 513.07 | 515.61 | 518.15 | 520.69 | 523.23 | 525.77 | 528.31 | 530.85 |

| Tenths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. |
| 0.000 | 0.254 | 0.508 | 0.762 | 1.016 | 1.270 | 1.524 | 1.778 | 2.032 | 2.286 |

## IV. CONVERSION OF ENGLISH INCHES INTO FRENCH INCHES AND LINES.

1 English Inch = 0. inches 11.2595 Paris lines.

| Eng. Inches. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. |
| 0 | 0. 0,00 | 0.11,26 | 1.10,52 | 2. 9,78 | 3. 9,04 | 4. 8,30 | 5. 7,56 | 6. 6,82 | 7. 6,08 | 8. 5,34 |
| 10 | 9. 4,59 | 10. 3,85 | 11. 3,11 | 12. 2,37 | 13. 1,63 | 14. 0,89 | 15. 0,15 | 15.11,41 | 16.10,67 | 17. 9,93 |
| 20 | 18. 9,19 | 19. 8,45 | 20. 7,71 | 21. 6,97 | 22. 6,23 | 23. 5,49 | 24. 4,75 | 25. 4,01 | 26. 3,27 | 27. 2,53 |
| 30 | 28. 1,78 | 29. 1,04 | 30. 0,30 | 30.11,56 | 31.10,82 | 32.10,08 | 33. 9,34 | 34. 8,60 | 35. 7,86 | 36. 7,12 |
| 40 | 37. 6,38 | 38. 5,64 | 39. 4,90 | 40. 4,16 | 41. 3,42 | 42. 2,68 | 43. 1,94 | 44. 1,20 | 45. 0,46 | 45.11,72 |
| 50 | 46.10,97 | 47.10,23 | 48. 9,49 | 49. 8,75 | 50. 8,01 | 51. 7,27 | 52. 6,53 | 53. 5,79 | 54. 5,05 | 55. 4,31 |
| 60 | 56. 3,57 | 57. 2,83 | 58. 2,09 | 59. 1,35 | 60. 0,61 | 60.11,87 | 61.11,13 | 62.10,39 | 63. 9,65 | 64. 8,91 |
| 70 | 65. 8,16 | 66. 7,42 | 67. 6,68 | 68. 5,94 | 69. 5,20 | 70. 4,46 | 71. 3,72 | 72. 2,98 | 73. 2,24 | 74. 1,50 |
| 80 | 75. 0,76 | 76. 0,02 | 76.11,28 | 77.10,54 | 78. 9,80 | 79. 9,06 | 80. 8,32 | 81. 7,58 | 82. 6,84 | 83. 6,10 |
| 90 | 84. 5,35 | 85. 4,61 | 86. 3,87 | 87. 3,13 | 88. 2,39 | 89. 1,65 | 90. 0,91 | 91. 0,17 | 91.11,43 | 92.10,69 |
| | Eng. Inch. | Fr.In. Lin. | Eng.Inch. | Fr.In. Lin. | Eng.Inch. | Fr.In. Lin. | Eng.Inch. | Fr.In. Lin. | Eng.Inch. | Fr.In. Lin. |
| | 100 | 93.9,95 | 200 | 187.7,90 | 300 | 281.5,85 | 400 | 375.3,80 | 500 | 469.1,75 |

| Tenths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. | Fr.In. Lin. |
| 0.0,00 | 0.1,13 | 0.2,25 | 0.3,38 | 0.4,50 | 0.5,63 | 0.6,76 | 0.7,88 | 0.9,01 | 0.10,13 |

## V. CONVERSION OF FRENCH INCHES INTO CENTIMETRES.

1 French Inch = 2.7070 Centimetres.

| French Inches. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. |
| 0 | 0.00 | 2.71 | 5.41 | 8.12 | 10.83 | 13.53 | 16.24 | 18.95 | 21.66 | 24.36 |
| 10 | 27.07 | 29.78 | 32.48 | 35.19 | 37.90 | 40.60 | 43.31 | 46.02 | 48.73 | 51.43 |
| 20 | 54.14 | 56.85 | 59.55 | 62.26 | 64.97 | 67.67 | 70.38 | 73.09 | 75.80 | 78.50 |
| 30 | 81.21 | 83.92 | 86.62 | 89.33 | 92.04 | 94.74 | 97.45 | 100.16 | 102.87 | 105.57 |
| 40 | 108.28 | 110.99 | 113.69 | 116.40 | 119.11 | 121.81 | 124.52 | 127.23 | 129.94 | 132.64 |
| 50 | 135.35 | 138.06 | 140.76 | 143.47 | 146.18 | 148.88 | 151.59 | 154.30 | 157.01 | 159.71 |
| 60 | 162.42 | 165.13 | 167.83 | 170.54 | 172.25 | 175.95 | 178.66 | 181.37 | 184.08 | 186.78 |
| 70 | 189.49 | 192.20 | 194.90 | 197.61 | 200.32 | 203.02 | 205.73 | 208.44 | 211.15 | 213.85 |
| 80 | 216.56 | 219.27 | 221.97 | 224.68 | 227.39 | 230.09 | 232.80 | 235.51 | 238.22 | 240.92 |
| 90 | 243.63 | 246.34 | 249.04 | 251.75 | 254.46 | 257.16 | 259.87 | 262.58 | 265.29 | 267.99 |
| 100 | 270.70 | 273.41 | 276.11 | 278.82 | 281.53 | 284.23 | 286.94 | 289.65 | 292.36 | 295.06 |
| 110 | 297.77 | 300.48 | 303.18 | 305.89 | 308.60 | 311.30 | 314.01 | 316.72 | 319.42 | 322.13 |
| 120 | 324.84 | 327.55 | 330.25 | 332.96 | 335.67 | 338.37 | 341.08 | 343.79 | 346.49 | 349.20 |
| 130 | 351.91 | 354.62 | 357.32 | 360.03 | 362.74 | 365.44 | 368.15 | 370.86 | 373.56 | 376.27 |
| 140 | 378.98 | 381.69 | 384.39 | 387.10 | 389.81 | 392.51 | 395.22 | 397.93 | 400.63 | 403.34 |
| 150 | 406.05 | 408.76 | 411.46 | 414.17 | 416.88 | 419.58 | 422.29 | 425.00 | 427.70 | 430.41 |
| 160 | 433.12 | 435.83 | 438.53 | 441.24 | 443.95 | 446.65 | 449.36 | 452.07 | 454.77 | 457.48 |
| 170 | 460.19 | 462.90 | 465.60 | 468.31 | 471.02 | 473.72 | 476.43 | 479.14 | 481.84 | 484.55 |
| 180 | 487.26 | 489.97 | 492.67 | 495.38 | 498.09 | 500.79 | 503.50 | 506.21 | 508.91 | 511.62 |
| 190 | 514.33 | 517.04 | 519.74 | 522.45 | 525.16 | 527.86 | 530.57 | 533.28 | 535.98 | 538.69 |
| 200 | 541.40 | 544.11 | 546.81 | 549.52 | 552.23 | 554.93 | 557.64 | 560.35 | 563.05 | 565.76 |

## CONVERSION OF FRENCH LINES INTO CENTIMETRES.

1 French Line = 0.22558 Centimetre.

| French Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. | Centim. |
| 0 | 0.000 | 0.023 | 0.045 | 0.068 | 0.090 | 0.113 | 0.135 | 0.158 | 0.180 | 0.203 |
| 1 | 0.226 | 0.248 | 0.271 | 0.293 | 0.316 | 0.338 | 0.361 | 0.383 | 0.406 | 0.429 |
| 2 | 0.451 | 0.474 | 0.496 | 0.519 | 0.541 | 0.564 | 0.587 | 0.609 | 0.632 | 0.654 |
| 3 | 0.677 | 0.699 | 0.722 | 0.744 | 0.767 | 0.790 | 0.812 | 0.835 | 0.857 | 0.880 |
| 4 | 0.902 | 0.925 | 0.947 | 0.970 | 0.993 | 1.015 | 1.038 | 1.060 | 1.083 | 1.105 |
| 5 | 1.128 | 1.150 | 1.173 | 1.196 | 1.218 | 1.241 | 1.263 | 1.286 | 1.308 | 1.331 |
| 6 | 1.353 | 1.376 | 1.399 | 1.421 | 1.444 | 1.466 | 1.489 | 1.511 | 1.534 | 1.557 |
| 7 | 1.579 | 1.602 | 1.624 | 1.647 | 1.669 | 1.692 | 1.714 | 1.737 | 1.760 | 1.782 |
| 8 | 1.805 | 1.827 | 1.850 | 1.872 | 1.895 | 1.917 | 1.940 | 1.963 | 1.985 | 2.008 |
| 9 | 2.030 | 2.053 | 2.075 | 2.098 | 2.120 | 2.143 | 2.166 | 2.188 | 2.211 | 2.233 |
| 10 | 2.256 | 2.278 | 2.301 | 2.324 | 2.346 | 2.369 | 2.391 | 2.414 | 2.436 | 2.459 |
| 11 | 2.481 | 2.504 | 2.527 | 2.549 | 2.572 | 2.594 | 2.617 | 2.639 | 2.662 | 2.684 |
| 12 | 2.707 | 2.730 | 2.752 | 2.775 | 2.797 | 2.820 | 2.842 | 2.865 | 2.887 | 2.910 |

## VI. CONVERSION OF FRENCH INCHES INTO ENGLISH INCHES AND DECIMALS.

1 French Inch = 1.065765 English Inch.

| French Inches. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. |
| 0 | 0.000 | 1.066 | 2.132 | 3.197 | 4.263 | 5.329 | 6.395 | 7.460 | 8.526 | 9.592 |
| 10 | 10.658 | 11.723 | 12.789 | 13.855 | 14.921 | 15.986 | 17.052 | 18.118 | 19.184 | 20.250 |
| 20 | 21.315 | 22.381 | 23.447 | 24.513 | 25.578 | 26.644 | 27.710 | 28.776 | 29.841 | 30.907 |
| 30 | 31.973 | 33.039 | 34.104 | 35.170 | 36.236 | 37.302 | 38.368 | 39.433 | 40.499 | 41.565 |
| 40 | 42.631 | 43.696 | 44.762 | 45.828 | 46.894 | 47.959 | 49.025 | 50.091 | 51.157 | 52.222 |
| 50 | 53.288 | 54.354 | 55.420 | 56.486 | 57.551 | 58.617 | 59.683 | 60.749 | 61.814 | 62.880 |
| 60 | 63.946 | 65.012 | 66.077 | 67.143 | 68.209 | 69.275 | 70.340 | 71.407 | 72.472 | 73.538 |
| 70 | 74.604 | 75.669 | 76.735 | 77.801 | 78.867 | 79.932 | 80.998 | 82.064 | 83.130 | 84.195 |
| 80 | 85.261 | 86.327 | 87.393 | 88.458 | 89.524 | 90.590 | 91.656 | 92.722 | 93.787 | 94.853 |
| 90 | 95.919 | 96.985 | 98.050 | 99.116 | 100.182 | 101.248 | 102.314 | 103.379 | 104.445 | 105.511 |
| 100 | 106.576 | 107.642 | 108.708 | 109.774 | 110.840 | 111.905 | 112.971 | 114.037 | 115.103 | 116.168 |
| 110 | 117.234 | 118.300 | 119.366 | 120.431 | 121.497 | 122.563 | 123.629 | 124.695 | 125.760 | 126.826 |
| 120 | 127.892 | 128.958 | 130.023 | 131.089 | 132.155 | 133.221 | 134.286 | 135.352 | 136.418 | 137.484 |
| 130 | 138.549 | 139.615 | 140.681 | 141.747 | 142.813 | 143.878 | 144.944 | 146.010 | 147.076 | 148.141 |
| 140 | 149.207 | 150.273 | 151.339 | 152.404 | 153.470 | 154.536 | 155.602 | 156.667 | 157.733 | 158.799 |
| 150 | 159.865 | 160.931 | 161.996 | 163.062 | 164.128 | 165.194 | 166.259 | 167.325 | 168.391 | 169.457 |
| 160 | 170.522 | 171.588 | 172.654 | 173.720 | 174.785 | 175.851 | 176.917 | 177.983 | 179.049 | 180.114 |
| 170 | 181.180 | 182.246 | 183.312 | 184.377 | 185.443 | 186.509 | 187.575 | 188.640 | 189.706 | 190.772 |
| 180 | 191.838 | 192.903 | 193.969 | 195.035 | 196.101 | 197.167 | 198.232 | 199.298 | 200.364 | 201.430 |
| 190 | 202.495 | 203.561 | 204.627 | 205.693 | 206.758 | 207.824 | 208.890 | 209.956 | 211.021 | 212.087 |
| 200 | 213.153 | 214.219 | 215.285 | 216.350 | 217.416 | 218.482 | 219.548 | 220.613 | 221.679 | 222.745 |

## CONVERSION OF FRENCH LINES INTO ENGLISH INCHES.

1 French Line = 0.088814 English Inch.

| French Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. | Eng.Inch. |
| 0 | 0.0000 | 0.0089 | 0.0178 | 0.0266 | 0.0355 | 0.0444 | 0.0533 | 0.0622 | 0.0711 | 0.0799 |
| 1 | 0.0888 | 0.0977 | 0.1066 | 0.1155 | 0.1243 | 0.1332 | 0.1421 | 0.1510 | 0.1599 | 0.1687 |
| 2 | 0.1776 | 0.1865 | 0.1954 | 0.2043 | 0.2132 | 0.2220 | 0.2309 | 0.2398 | 0.2487 | 0.2576 |
| 3 | 0.2664 | 0.2753 | 0.2842 | 0.2931 | 0.3020 | 0.3108 | 0.3197 | 0.3286 | 0.3375 | 0.3464 |
| 4 | 0.3553 | 0.3641 | 0.3730 | 0.3819 | 0.3908 | 0.3997 | 0.4085 | 0.4174 | 0.4263 | 0.4352 |
| 5 | 0.4441 | 0.4530 | 0.4618 | 0.4707 | 0.4796 | 0.4885 | 0.4974 | 0.5062 | 0.5151 | 0.5240 |
| 6 | 0.5329 | 0.5418 | 0.5506 | 0.5595 | 0.5684 | 0.5773 | 0.5862 | 0.5951 | 0.6039 | 0.6128 |
| 7 | 0.6217 | 0.6306 | 0.6395 | 0.6483 | 0.6572 | 0.6661 | 0.6750 | 0.6839 | 0.6927 | 0.7016 |
| 8 | 0.7105 | 0.7194 | 0.7283 | 0.7372 | 0.7460 | 0.7549 | 0.7638 | 0.7727 | 0.7816 | 0.7904 |
| 9 | 0.7993 | 0.8082 | 0.8171 | 0.8260 | 0.8349 | 0.8437 | 0.8526 | 0.8615 | 0.8704 | 0.8793 |
| 10 | 0.8881 | 0.8970 | 0.9059 | 0.9148 | 0.9237 | 0.9325 | 0.9414 | 0.9503 | 0.9592 | 0.9681 |
| 11 | 0.9770 | 0.9858 | 0.9947 | 1.0036 | 1.0125 | 1.0214 | 1.0302 | 1.0391 | 1.0480 | 1.0569 |
| 12 | 1.0658 | 1.0746 | 1.0835 | 1.0924 | 1.1013 | 1.1102 | 1.1191 | 1.1279 | 1.1368 | 1.1457 |

# METEOROLOGICAL TABLES.

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## BAROMETRICAL TABLES.

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*For Reducing Barometrical Observations to the Freezing Point.*


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*For Correcting Barometrical Observations for Capillary Action.*


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# COMPARISON

OF

# THE BAROMETRICAL SCALES,

OR

# TABLES

FOR CONVERTING THE INDICATIONS OF THE ENGLISH, METRICAL, OLD FRENCH, AND RUSSIAN BAROMETERS INTO EACH OTHER.

# COMPARISON

OF

# THE BAROMETRICAL SCALES.

---

THE following tables are intended for converting into each other the four most important Barometrical Scales. They are sufficiently detailed to save the labor of any calculation or even of interpolation for the ordinary wants of Meteorology. But before making use of them, for comparing the observations taken with barometers of different scales, it is necessary *to reduce the observed heights to the temperature of the freezing point*, or to any other temperature, provided it be the same for all, by means of the tables calculated for this purpose, and which will be found below. The reason of it may be readily understood.

The length of the bars of metal, or of other substances, which represent the standard measures of length which obtain among different nations, varying with the temperature, it was necessary to determine a fixed point of temperature at which they really ought to have the length adopted as the standard unit of measure. This temperature is the *normal* temperature of the standard, and the length of the standard-bar, at this temperature, is the *true* length of it.

If the normal temperature of the various standards used for dividing Barometrical Scales were the same, the heights of the barometrical column, taken with these scales, could be compared directly, provided the scales be made of the same substance, brass, for instance, because their variations above or below this normal temperature would remain parallel with each other. But unfortunately it is not so. The English Yard is a standard at the temperature of 62° Fahrenheit; the Old French Toise, at 13° Reaumur; the Metre, at the freezing point, or zero Centigrade. Thus metallic rods intended to represent these various units of measure give the true or standard length only when at these respective temperatures; at any other temperature they are longer or shorter than the standard, and their subdivisions, inches, lines, or millimetres, partake of the error.

It is obvious, therefore, that the barometrical heights, taken with different scales, cannot be compared *directly* by means of the following tables, which give the relation between these scales at their respective *normal* temperatures. For suppose the temperature of the three barometers to be the freezing point, or 32° Fahrenheit,

the scale of the Metrical Barometer alone will actually represent the standard length, and the millimeters will have the true length; while the inches and lines of the Old French and of the English Barometers will be too short, causing thus the barometrical column to appear too high. If the temperature of the instruments be 62° Fahrenheit, the divisions of the English Barometer will have the true standard length, and those of the Old French Barometer nearly so; but the millimeters of the Metrical Barometer will be too long, causing the barometrical column to appear too low. It is to neutralize the effect of those inequalities arising from the expansion of the scale that it is necessary, *before* comparing the observations taken with the three barometers, to reduce them to the same temperature. This is done by means of the tables above mentioned, for reducing the barometer to the freezing point, which suppose the scales to be of brass from top to bottom, and which take into account the expansion or contraction they undergo by the variations of temperature.

But in doing so, we must be aware that the accuracy of the comparison depends in part upon the correctness of the indications of the attached thermometers, which determine the amount of the correction to be applied for reducing the barometers to the freezing point. If the thermometers do not agree, an error is introduced which will affect the height of the reduced columns, and the final comparison. Therefore the correction of the attached thermometers ought to be ascertained and applied to them *before* the reduction is made; or if this correction is unknown, it will be well to place the instruments to be compared in the most favorable conditions for taking the same temperature, and then to take the temperature given by *one* of the thermometers to reduce both barometers. If the correction of the attached thermometer has not been applied before the reduction, it will be contained, *after* the reduction, in the total correction of the instrument. If it be so, this circumstance must be indicated.

In computing the following tables, the value of the Metre, as determined by Capt. Kater, (Philosoph. Transact. for 1818, p. 109, and Baily's Astronomical Tables, p. 192,) has been adopted, viz. 1 Metre, at 0° Centigrade = 39.37079 English inches, at 62° Fahrenheit. The relation of the Metre (legal) to the Old French system of measures is known to be 1 Metre = 443.296 French or Paris lines. From these equations are derived the elements used in the computations, which are found at the head of each table.

Besides the larger Tables I.–VIII., a set of smaller ones, Tables IX.–XVI., has been added, which will be found useful for comparing Barometrical differences, such as ranges, amount of variation in a given time, &c., expressed in measures of different scales, in which only small quantities occur that are not found in the large tables.

# I. – II.

# COMPARISON

OF

# THE ENGLISH BAROMETER

WITH

# THE METRICAL AND THE OLD FRENCH BAROMETERS,

OR

# TABLES

FOR CONVERTING ENGLISH INCHES INTO MILLIMETRES, AND INTO FRENCH OR PARIS LINES AND DECIMALS;

GIVING THE VALUES CORRESPONDING TO EVERY TENTH OF AN INCH, FROM 9 TO 19 INCHES; AND TO EVERY HUNDREDTH, FROM 19 TO 31.5 ENGLISH INCHES.

## USE OF TABLE I.

### *Example.*

The English Barometer reads 20.657 inches. What would be the corresponding height in the Metrical Barometer?

In Table I., first column on the left, look out the line of 20 inches 6 tenths; on that line, in the sixth column, headed 5 hundredths, is found the value in millimetres for

| | | | | |
|---|---|---|---|---|
| | 20.65 | inches = | 524.50 | millimetres. |
| At the bottom of the page, for | 0.007 | " = | 0.18 | " |
| Or for | 20.657 | " = | 524.68 | " |

which would be the reading of the Metrical Barometer.

This example may serve for all tables, throughout the volume, which are constructed on the same plan.

1 English Inch = 25.39954 Millimetres.

| English Inches. | Tenths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 9 | 228.60 | 231.14 | 233.68 | 236.22 | 238.76 | 241.30 | 243.84 | 246.38 | 248.92 | 251.46 |
| 10 | 254.00 | 256.54 | 259.08 | 261.62 | 264.16 | 266.70 | 269.24 | 271.78 | 274.32 | 276.85 |
| 11 | 279.39 | 281.93 | 284.47 | 287.01 | 289.55 | 292.09 | 294.63 | 297.17 | 299.71 | 302.25 |
| 12 | 304.79 | 307.33 | 309.87 | 312.41 | 314.95 | 317.49 | 320.03 | 322.57 | 325.11 | 327.65 |
| 13 | 330.19 | 332.73 | 335.27 | 337.81 | 340.35 | 342.89 | 345.43 | 347.97 | 350.51 | 353.05 |
| 14 | 355.59 | 358.13 | 360.67 | 363.21 | 365.75 | 368.29 | 370.83 | 373.37 | 375.91 | 378.45 |
| 15 | 380.99 | 383.53 | 386.07 | 388.61 | 391.15 | 393.69 | 396.23 | 398.77 | 401.31 | 403.85 |
| 16 | 406.39 | 408.93 | 411.47 | 414.01 | 416.55 | 419.09 | 421.63 | 424.17 | 426.71 | 429.25 |
| 17 | 431.79 | 434.33 | 436.87 | 439.41 | 441.95 | 444.49 | 447.03 | 449.57 | 452.11 | 454.65 |
| 18 | 457.19 | 459.73 | 462.27 | 464.81 | 467.35 | 469.89 | 472.43 | 474.97 | 477.51 | 480.05 |

| English Inches and tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim | Millim. | Millim. |
| **19.**0 | 482.59 | 482.85 | 483.10 | 483.35 | 483.61 | 483.86 | 484.12 | 484.37 | 484.62 | 484.88 |
| 1 | 485.13 | 485.39 | 485.64 | 485.89 | 486.15 | 486.40 | 486.66 | 486.91 | 487.16 | 487.42 |
| 2 | 487.67 | 487.93 | 488.18 | 488.43 | 488.69 | 488.94 | 489.20 | 489.45 | 489.70 | 489.96 |
| 3 | 490.21 | 490.47 | 490.72 | 490.97 | 491.23 | 491.48 | 491.74 | 491.99 | 492.24 | 492.50 |
| 4 | 492.75 | 493.01 | 493.26 | 493.51 | 493.77 | 494.02 | 494.28 | 494.53 | 494.78 | 495.04 |
| 5 | 495.29 | 495.55 | 495.80 | 496.05 | 496.31 | 496.56 | 496.81 | 497.07 | 497.32 | 497.58 |
| 6 | 497.83 | 498.08 | 498.34 | 498.59 | 498.85 | 499.10 | 499.35 | 499.61 | 499.86 | 500.12 |
| 7 | 500.37 | 500.62 | 500.88 | 501.13 | 501.39 | 501.64 | 501.89 | 502.15 | 502.40 | 502.66 |
| 8 | 502.91 | 503.16 | 503.42 | 503.67 | 503.93 | 504.18 | 504.43 | 504.69 | 504.94 | 505.20 |
| 9 | 505.45 | 505.70 | 505.96 | 506.21 | 506.47 | 506.72 | 506.97 | 507.23 | 507.48 | 507.74 |
| **20.**0 | 507.99 | 508.24 | 508.50 | 508.75 | 509.01 | 509.26 | 509.51 | 509.77 | 510.02 | 510.28 |
| 1 | 510.53 | 510.78 | 511.04 | 511.29 | 511.55 | 511.80 | 512.05 | 512.31 | 512.56 | 512.82 |
| 2 | 513.07 | 513.32 | 513.58 | 513.83 | 514.09 | 514.34 | 514.59 | 514.85 | 515.10 | 515.36 |
| 3 | 515.61 | 515.86 | 516.12 | 516.37 | 516.63 | 516.88 | 517.13 | 517.39 | 517.64 | 517.90 |
| 4 | 518.15 | 518.40 | 518.66 | 518.91 | 519.17 | 519.42 | 519.67 | 519.93 | 520.18 | 520.44 |
| 5 | 520.69 | 520.94 | 521.20 | 521.45 | 521.71 | 521.96 | 522.21 | 522.47 | 522.72 | 522.98 |
| 6 | 523.23 | 523.48 | 523.74 | 523.99 | 524.25 | 524.50 | 524.75 | 525.01 | 525.26 | 525.52 |
| 7 | 525.77 | 526.02 | 526.28 | 526.53 | 526.79 | 527.04 | 527.29 | 527.55 | 527.80 | 528.06 |
| 8 | 528.31 | 528.56 | 528.82 | 529.07 | 529.33 | 529.58 | 529.83 | 530.09 | 530.34 | 530.60 |
| 9 | 530.85 | 531.10 | 531.36 | 531.61 | 531.87 | 532.12 | 532.37 | 532.63 | 532.88 | 533.14 |

Thousandths of an Inch.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.03 | 0.05 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.20 | 0.23 |

| English Inches and tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 21.0 | 533.39 | 533.64 | 533.90 | 534.15 | 534.41 | 534.66 | 534.91 | 535.17 | 535.42 | 535.68 |
| 1 | 535.93 | 536.18 | 536.44 | 536.69 | 536.95 | 537.20 | 537.45 | 537.71 | 537.96 | 538.22 |
| 2 | 538.47 | 538.72 | 538.98 | 539.23 | 539.49 | 539.74 | 539.99 | 540.25 | 540.50 | 540.76 |
| 3 | 541.01 | 541.26 | 541.52 | 541.77 | 542.03 | 542.28 | 542.53 | 542.79 | 543.04 | 543.30 |
| 4 | 543.55 | 543.80 | 544.06 | 544.31 | 544.57 | 544.82 | 545.07 | 545.33 | 545.58 | 545.84 |
| 5 | 546.09 | 546.34 | 546.60 | 546.85 | 547.11 | 547.36 | 547.61 | 547.87 | 548.12 | 548.38 |
| 6 | 548.63 | 548.88 | 549.14 | 549.39 | 549.65 | 549.90 | 550.15 | 550.41 | 550.66 | 550.92 |
| 7 | 551.17 | 551.42 | 551.68 | 551.93 | 552.19 | 552.44 | 552.69 | 552.95 | 553.20 | 553.46 |
| 8 | 553.71 | 553.96 | 554.22 | 554.47 | 554.73 | 554.98 | 555.23 | 555.49 | 555.74 | 556.00 |
| 9 | 556.25 | 556.50 | 556.76 | 557.01 | 557.27 | 557.52 | 557.77 | 558.03 | 558.28 | 558.54 |
| 22.0 | 558.79 | 559.04 | 559.30 | 559.55 | 559.81 | 560.06 | 560.31 | 560.57 | 560.82 | 561.08 |
| 1 | 561.33 | 561.58 | 561.84 | 562.09 | 562.35 | 562.60 | 562.85 | 563.11 | 563.36 | 563.62 |
| 2 | 563.87 | 564.12 | 564.38 | 564.63 | 564.89 | 565.14 | 565.39 | 565.65 | 565.90 | 566.16 |
| 3 | 566.41 | 566.66 | 566.92 | 567.17 | 567.43 | 567.68 | 567.93 | 568.19 | 568.44 | 568.70 |
| 4 | 568.95 | 569.20 | 569.46 | 569.71 | 569.97 | 570.22 | 570.47 | 570.73 | 570.98 | 571.24 |
| 5 | 571.49 | 571.74 | 572.00 | 572.25 | 572.51 | 572.76 | 573.01 | 573.27 | 573.52 | 573.78 |
| 6 | 574.03 | 574.28 | 574.54 | 574.79 | 575.05 | 575.30 | 575.55 | 575.81 | 576.06 | 576.32 |
| 7 | 576.57 | 576.82 | 577.08 | 577.33 | 577.59 | 577.84 | 578.09 | 578.35 | 578.60 | 578.86 |
| 8 | 579.11 | 579.36 | 579.62 | 579.87 | 580.13 | 580.38 | 580.63 | 580.89 | 581.14 | 581.40 |
| 9 | 581.65 | 581.90 | 582.16 | 582.41 | 582.67 | 582.92 | 583.17 | 583.43 | 583.68 | 583.94 |
| 23.0 | 584.19 | 584.44 | 584.70 | 584.95 | 585.21 | 585.46 | 585.71 | 585.97 | 586.22 | 586.48 |
| 1 | 586.73 | 586.98 | 587.24 | 587.49 | 587.75 | 588.00 | 588.25 | 588.51 | 588.76 | 589.02 |
| 2 | 589.27 | 589.52 | 589.78 | 590.03 | 590.29 | 590.54 | 590.79 | 591.05 | 591.30 | 591.56 |
| 3 | 591.81 | 592.06 | 592.32 | 592.57 | 592.83 | 593.08 | 593.33 | 593.59 | 593.84 | 594.10 |
| 4 | 594.35 | 594.60 | 594.86 | 595.11 | 595.37 | 595.62 | 595.87 | 596.13 | 596.38 | 596.64 |
| 5 | 596.89 | 597.14 | 597.40 | 597.65 | 597.91 | 598.16 | 598.41 | 598.67 | 598.92 | 599.18 |
| 6 | 599.43 | 599.68 | 599.94 | 600.19 | 600.45 | 600.70 | 600.95 | 601.21 | 601.46 | 601.72 |
| 7 | 601.97 | 602.22 | 602.48 | 602.73 | 602.99 | 603.24 | 603.49 | 603.75 | 604.00 | 604.26 |
| 8 | 604.51 | 604.76 | 605.02 | 605.27 | 605.53 | 605.78 | 606.03 | 606.29 | 606.54 | 606.79 |
| 9 | 607.05 | 607.30 | 607.56 | 607.81 | 608.06 | 608.32 | 608.57 | 608.83 | 609.08 | 609.33 |
| 24.0 | 609.59 | 609.84 | 610.10 | 610.35 | 610.60 | 610.86 | 611.11 | 611.37 | 611.62 | 611.87 |
| 1 | 612.13 | 612.38 | 612.64 | 612.89 | 613.14 | 613.40 | 613.65 | 613.91 | 614.16 | 614.41 |
| 2 | 614.67 | 614.92 | 615.18 | 615.43 | 615.68 | 615.94 | 616.19 | 616.45 | 616.70 | 616.95 |
| 3 | 617.21 | 617.46 | 617.72 | 617.97 | 618.22 | 618.48 | 618.73 | 618.99 | 619.24 | 619.49 |
| 4 | 619.75 | 620.00 | 620.26 | 620.51 | 620.76 | 621.02 | 621.27 | 621.53 | 621.78 | 622.03 |

| Thousandths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0.0 | 0.03 | 0.05 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.20 | 0.23 |

| English Inches and tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| **24**.5 | 622.29 | 622.54 | 622.80 | 623.05 | 623.30 | 623.56 | 623.81 | 624.07 | 624.32 | 624.57 |
| 6 | 624.83 | 625.08 | 625.34 | 625.59 | 625.84 | 626.10 | 626.35 | 626.61 | 626.86 | 627.11 |
| 7 | 627.37 | 627.62 | 627.88 | 628.13 | 628.38 | 628.64 | 628.89 | 629.15 | 629.40 | 629.65 |
| 8 | 629.91 | 630.16 | 630.42 | 630.67 | 630.92 | 631.18 | 631.43 | 631.69 | 631.94 | 632.19 |
| 9 | 632.45 | 632.70 | 632.96 | 633.21 | 633.46 | 633.72 | 633.97 | 634.23 | 634.48 | 634.73 |
| **25**.0 | 634.99 | 635.24 | 635.50 | 637.75 | 636.00 | 636.26 | 636.51 | 636.77 | 637.02 | 637.27 |
| 1 | 637.53 | 637.78 | 638.04 | 638.29 | 638.54 | 638.80 | 639.05 | 639.31 | 639.56 | 639.81 |
| 2 | 640.07 | 640.32 | 640.58 | 640.83 | 641.08 | 641.34 | 641.59 | 641.85 | 642.10 | 642.35 |
| 3 | 642.61 | 642.86 | 643.12 | 643.37 | 643.62 | 643.88 | 644.13 | 644.39 | 644.64 | 644.89 |
| 4 | 645.15 | 645.40 | 645.66 | 645.91 | 646.16 | 646.42 | 646.67 | 646.93 | 647.18 | 647.43 |
| 5 | 647.69 | 647.94 | 648.20 | 648.45 | 648.70 | 648.96 | 649.21 | 649.47 | 649.72 | 649.97 |
| 6 | 650.23 | 650.48 | 650.74 | 650.99 | 651.24 | 651.50 | 651.75 | 652.01 | 652.26 | 652.51 |
| 7 | 652.77 | 653.02 | 653.28 | 653.53 | 653.78 | 654.04 | 654.29 | 654.55 | 654.80 | 655.05 |
| 8 | 655.31 | 655.56 | 655.82 | 656.07 | 656.32 | 656.58 | 656.83 | 657.09 | 657.34 | 657.59 |
| 9 | 657.85 | 658.10 | 658.36 | 658.61 | 658.86 | 659.12 | 659.37 | 659.63 | 659.88 | 660.13 |
| **26**.0 | 660.39 | 660.64 | 660.90 | 661.15 | 661.40 | 661.66 | 661.91 | 662.17 | 662.42 | 662.67 |
| 1 | 662.93 | 663.18 | 663.44 | 663.69 | 663.94 | 664.20 | 664.45 | 664.71 | 664.96 | 665.21 |
| 2 | 665.47 | 665.72 | 665.98 | 666.23 | 666.48 | 666.74 | 666.99 | 667.25 | 667.50 | 667.75 |
| 3 | 668.01 | 668.26 | 668.52 | 668.77 | 669.02 | 669.28 | 669.53 | 669.79 | 670.04 | 670.29 |
| 4 | 670.55 | 670·80 | 671.06 | 671.31 | 671.56 | 671.82 | 672.07 | 672.33 | 672.58 | 672.83 |
| 5 | 673.09 | 673.34 | 673.60 | 673.85 | 674.10 | 674.36 | 674.61 | 674.87 | 675·12 | 675.37 |
| 6 | 675.63 | 675.88 | 676.14 | 676.39 | 676.64 | 676.90 | 677.15 | 677.41 | 677.66 | 677.91 |
| 7 | 678.17 | 678.42 | 678.68 | 678.93 | 679.18 | 679.44 | 679.69 | 679.95 | 680.20 | 680.45 |
| 8 | 680.71 | 680.96 | 681.22 | 681.47 | 681.72 | 681.98 | 682.23 | 682.49 | 682.74 | 682.99 |
| 9 | 683.25 | 683.50 | 683.76 | 684.01 | 684.26 | 684.52 | 684.77 | 685.03 | 685.28 | 685.53 |
| **27**.0 | 685.79 | 686.04 | 686.30 | 686.55 | 686.80 | 687.06 | 687.31 | 687.57 | 687.82 | 688.07 |
| 1 | 688.33 | 688.58 | 688.84 | 689.09 | 689.34 | 689.60 | 689.85 | 690.11 | 690.36 | 690.61 |
| 2 | 690.87 | 691.12 | 691.38 | 691.63 | 691.88 | 692.14 | 692.39 | 692.65 | 692.90 | 693.15 |
| 3 | 693.41 | 693.66 | 693.92 | 694.17 | 694.42 | 694.68 | 694.93 | 695.19 | 695.44 | 695.69 |
| 4 | 695.95 | 696.20 | 696.46 | 696.71 | 696.96 | 697.22 | 697.47 | 697.73 | 697.98 | 698.23 |
| 5 | 698.49 | 698.74 | 699.00 | 699.25 | 699.50 | 699.76 | 700.01 | 700.27 | 700.52 | 700.77 |
| 6 | 701.03 | 701.28 | 701.54 | 701.79 | 702.04 | 702.30 | 702.55 | 702.81 | 703.06 | 703.31 |
| 7 | 703.57 | 703.82 | 704.08 | 704.33 | 704.58 | 704.84 | 705.09 | 705.35 | 705.60 | 705.85 |
| 8 | 706.11 | 706.36 | 706.62 | 706.87 | 707.12 | 707.38 | 707.63 | 707.89 | 708.14 | 708.39 |
| 9 | 708.65 | 708.90 | 709.16 | 709.41 | 709.66 | 709.92 | 710.17 | 710.43 | 710.68 | 710.93 |

Thousandths of an Inch.

| **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.03 | 0.05 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.20 | 0.23 |

| English Inches and tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| **28**.0 | 711.19 | 711.44 | 711.70 | 711.95 | 712.20 | 712.46 | 712.71 | 712.97 | 713.22 | 713.47 |
| 1 | 713.73 | 713.98 | 714.24 | 714.49 | 714.74 | 715.00 | 715.25 | 715 51 | 715.76 | 716.01 |
| 2 | 716.27 | 716.52 | 716.78 | 717.03 | 717.28 | 717.54 | 717.79 | 718.04 | 718.30 | 718.55 |
| 3 | 718.81 | 719.06 | 719.31 | 719.57 | 719.82 | 720.08 | 720.33 | 720.58 | 720.84 | 721.09 |
| 4 | 721.35 | 721.60 | 721.85 | 722.11 | 722.36 | 722.62 | 722.87 | 723.12 | 723.38 | 723.63 |
| 5 | 723.89 | 724.14 | 724.39 | 724.65 | 724.90 | 725.16 | 725.41 | 725.66 | 725.92 | 726.17 |
| 6 | 726.43 | 726.68 | 726.93 | 727.19 | 727.44 | 727.70 | 727.95 | 728.20 | 728.46 | 728.71 |
| 7 | 728.97 | 729.22 | 729.47 | 729.73 | 729.98 | 730.24 | 730.49 | 730.74 | 731.00 | 731.25 |
| 8 | 731.51 | 731.76 | 732.01 | 732.27 | 732.52 | 732.78 | 733.03 | 733.28 | 733.54 | 732.79 |
| 9 | 734.05 | 734.30 | 734.55 | 734.81 | 735.06 | 735.32 | 735.57 | 735.82 | 736.08 | 736.33 |
| **29**.0 | 736.59 | 736.84 | 737.09 | 737.35 | 737.60 | 737.86 | 738.11 | 738.36 | 738.62 | 738.87 |
| 1 | 739.13 | 739.38 | 739.63 | 739.89 | 740.14 | 740.40 | 740.65 | 740.90 | 741.16 | 741.41 |
| 2 | 741.67 | 741.92 | 742.17 | 742.43 | 742.68 | 742.94 | 743.19 | 743.44 | 743.70 | 743.95 |
| 3 | 744.21 | 744.46 | 744.71 | 744.97 | 745.22 | 745.48 | 745.73 | 745.98 | 746.24 | 746.49 |
| 4 | 746.75 | 747.00 | 747.25 | 747.51 | 747.76 | 748.02 | 748.27 | 748.52 | 748.78 | 749.03 |
| 5 | 749.29 | 749.54 | 749 79 | 750.05 | 750.30 | 750.56 | 750.81 | 751.06 | 751.32 | 751.57 |
| 6 | 751.83 | 752.08 | 752.33 | 752.59 | 752.84 | 753.10 | 753.35 | 753.60 | 753.86 | 754.11 |
| 7 | 754.37 | 754.62 | 754.87 | 755.13 | 755.38 | 755.64 | 755.89 | 756.14 | 756.40 | 756.65 |
| 8 | 756.91 | 757.16 | 757.41 | 757.67 | 757.92 | 758.18 | 758.43 | 758.68 | 758.94 | 759.19 |
| 9 | 759.45 | 759.70 | 759.95 | 760.21 | 760.46 | 760.72 | 760.97 | 761.22 | 761.48 | 761.73 |
| **30**.0 | 761.99 | 762.24 | 762.49 | 762.75 | 763.00 | 763.26 | 763.51 | 763.76 | 764.02 | 764.27 |
| 1 | 764.53 | 764.78 | 765.03 | 765.29 | 765.54 | 765.80 | 766.05 | 766.30 | 766.56 | 766.81 |
| 2 | 767.07 | 767.32 | 767.57 | 767.83 | 768.08 | 768.34 | 768.59 | 768.84 | 769.10 | 769.35 |
| 3 | 769.61 | 769.86 | 770.11 | 770.37 | 770.62 | 770.88 | 771.13 | 771.38 | 771.64 | 771.89 |
| 4 | 772.15 | 772.40 | 772.65 | 772.91 | 773.16 | 773.42 | 773.67 | 773.92 | 774.18 | 774.43 |
| 5 | 774.69 | 774.94 | 775.19 | 775.45 | 775.70 | 775.96 | 776.21 | 776.46 | 776.72 | 776.97 |
| 6 | 777.23 | 777.48 | 777.73 | 777.99 | 778.24 | 778.50 | 778.75 | 779.00 | 779.26 | 779.51 |
| 7 | 779.77 | 780.02 | 780.27 | 780.53 | 780.78 | 781.04 | 781.29 | 781.54 | 781.80 | 782.05 |
| 8 | 782.31 | 782.56 | 782.81 | 783.07 | 783.32 | 783.58 | 783.83 | 784.08 | 784.34 | 784.59 |
| 9 | 784.85 | 785.10 | 785.35 | 785.61 | 785.86 | 786.12 | 786.37 | 786.62 | 786.88 | 787.13 |
| **31**.0 | 787.39 | 787.64 | 787.89 | 788.15 | 788.40 | 788.66 | 788.91 | 789.16 | 789.42 | 789.67 |
| 1 | 789.93 | 790.18 | 790.43 | 790.69 | 790.94 | 791.20 | 791.45 | 791.70 | 791.96 | 792.21 |
| 2 | 792.47 | 792.72 | 792.97 | 793.23 | 793.48 | 793.74 | 793.99 | 794.24 | 794.50 | 794.75 |
| 3 | 795.01 | 795.26 | 795.51 | 795.77 | 796.02 | 796.28 | 796.53 | 796.78 | 797.04 | 797.29 |
| 4 | 797.55 | 797.80 | 798.05 | 798.31 | 798.56 | 798.82 | 799.07 | 799.32 | 799.58 | 799.83 |

Thousandths of an Inch.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.03 | 0.05 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.20 | 0.23 |

1 English Inch = 11.2595 French or Paris Lines.

| English Inches. | Tenths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 11 | 123.85 | 124.98 | 126.11 | 127.23 | 128.36 | 129.48 | 130.61 | 131.74 | 132.86 | 133.99 |
| 12 | 135.11 | 136.24 | 137.37 | 138.49 | 139.62 | 140.74 | 141.87 | 143.00 | 144.12 | 145.25 |
| 13 | 146.37 | 147.50 | 148.63 | 149.75 | 150.88 | 152.00 | 153.13 | 154.26 | 155.38 | 156.51 |
| 14 | 157.63 | 158.76 | 159.88 | 161.01 | 162.14 | 163.26 | 164.39 | 165.51 | 166.64 | 167.77 |
| 15 | 168.89 | 170.02 | 171.14 | 172.27 | 173.40 | 174.52 | 175.65 | 176.77 | 177.90 | 179.03 |
| 16 | 180.15 | 181.28 | 182.40 | 183.53 | 184.66 | 185.78 | 186.91 | 188.03 | 189.16 | 190.29 |

| Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0.000 | 0.113 | 0.225 | 0.338 | 0.450 | 0.563 | 0.676 | 0.788 | 0.901 | 1.013 |

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| **17.**0 | 191.41 | 191.52 | 191.64 | 191.75 | 191.86 | 191.97 | 192.09 | 192.20 | 192.31 | 192.42 |
| 1 | 192.54 | 192.65 | 192.76 | 192.88 | 192.99 | 193.10 | 193.21 | 193.33 | 193.44 | 193.55 |
| 2 | 193.66 | 193.78 | 193.89 | 194.00 | 194.11 | 194.23 | 194.34 | 194.45 | 194.56 | 194.68 |
| 3 | 194.79 | 194.90 | 195.01 | 195.13 | 195.24 | 195.35 | 195.46 | 195.58 | 195.69 | 195.80 |
| 4 | 195.92 | 196.03 | 196.14 | 196.25 | 196.37 | 196.48 | 196.59 | 196.70 | 196.82 | 196.93 |
| 5 | 197.04 | 197.15 | 197.27 | 197.38 | 197.49 | 197.60 | 197.72 | 197.83 | 197.94 | 198.05 |
| 6 | 198.17 | 198.28 | 198.39 | 198.50 | 198.62 | 198.73 | 198.84 | 198.96 | 199.07 | 199.18 |
| 7 | 199.29 | 199.41 | 199.52 | 199.63 | 199.74 | 199.86 | 199.97 | 200.08 | 200.19 | 200.31 |
| 8 | 200.42 | 200.53 | 200.64 | 200.76 | 200.87 | 200.98 | 201.09 | 201.21 | 201.32 | 201.43 |
| 9 | 201.55 | 201.66 | 201.77 | 201.88 | 202.00 | 202.11 | 202.22 | 202.33 | 202.45 | 202.56 |
| **18.**0 | 202.67 | 202.78 | 202.90 | 203.01 | 203.12 | 203.23 | 203.35 | 203.46 | 203.57 | 203.68 |
| 1 | 203.80 | 203.91 | 204.02 | 204.13 | 204.25 | 204.36 | 204.47 | 204.59 | 204.70 | 204.81 |
| 2 | 204.92 | 205.04 | 205.15 | 205.26 | 205.37 | 205.49 | 205.60 | 205.71 | 205.82 | 205.94 |
| 3 | 206.05 | 206.16 | 206.27 | 206.39 | 206.50 | 206.61 | 206.72 | 206.84 | 206.95 | 207.06 |
| 4 | 207.17 | 207.29 | 207.40 | 207.51 | 207.63 | 207.74 | 207.85 | 207.96 | 208.08 | 208.19 |
| 5 | 208.30 | 208.41 | 208.53 | 208.64 | 208.75 | 208.86 | 208.98 | 209.09 | 209.20 | 209.31 |
| 6 | 209.43 | 209.54 | 209.65 | 209.76 | 209.88 | 209.99 | 210.10 | 210.21 | 210.33 | 210.44 |
| 7 | 210.55 | 210.67 | 210.78 | 210.89 | 211.00 | 211.12 | 211.23 | 211.34 | 211.45 | 211.57 |
| 8 | 211.68 | 211.79 | 211.90 | 212.02 | 212.13 | 212.24 | 212.35 | 212.47 | 212.58 | 212.69 |
| 9 | 212.80 | 212.92 | 213.03 | 213.14 | 213.25 | 213.37 | 213.48 | 213.59 | 213.71 | 213.82 |
| **19.**0 | 213.93 | 214.04 | 214.16 | 214.27 | 214.38 | 214.49 | 214.61 | 214.72 | 214.83 | 214.94 |
| 1 | 215.06 | 215.17 | 215.28 | 215.39 | 215.51 | 215.62 | 215.73 | 215.84 | 215.96 | 216.07 |
| 2 | 216.18 | 216.29 | 216.41 | 216.52 | 216.63 | 216.75 | 216.86 | 216.97 | 217.08 | 217.20 |
| 3 | 217.31 | 217.42 | 217.53 | 217.65 | 217.76 | 217.87 | 217.98 | 218.10 | 218.21 | 218.32 |
| 4 | 218.43 | 218.55 | 218.66 | 218.77 | 218.88 | 219.00 | 219.11 | 219.22 | 219.34 | 219.45 |
| 5 | 219.56 | 219.67 | 219.79 | 219.90 | 220.01 | 220.12 | 220.24 | 220.35 | 220.46 | 220.57 |
| 6 | 220.69 | 220.80 | 220.91 | 221.02 | 221.14 | 221.25 | 221.36 | 221.47 | 221.59 | 221.70 |
| 7 | 221.81 | 221.92 | 222.04 | 222.15 | 222.26 | 222.38 | 222.49 | 222.60 | 222.71 | 222.83 |
| 8 | 222.94 | 223.05 | 223.16 | 223.28 | 223.39 | 223.50 | 223.61 | 223.73 | 223.84 | 223.95 |
| 9 | 224.06 | 224.18 | 224.29 | 224.40 | 224.51 | 224.63 | 224.74 | 224.85 | 224.96 | 225.08 |

1 English Inch = 11.2595 French or Paris Lines.

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 20.0 | 225.19 | 225.30 | 225.42 | 225.53 | 225.64 | 225.75 | 225.87 | 225.98 | 226.09 | 226.20 |
| 1 | 226.32 | 226.43 | 226.54 | 226.65 | 226.77 | 226.88 | 226.99 | 227.10 | 227.22 | 227.33 |
| 2 | 227.44 | 227.55 | 227.67 | 227.78 | 227.89 | 228.00 | 228.12 | 228.23 | 228.34 | 228.46 |
| 3 | 228.57 | 228.68 | 228.79 | 228.91 | 229.02 | 229.13 | 229.24 | 229.36 | 229.47 | 229.58 |
| 4 | 229.69 | 229.81 | 229.92 | 230.03 | 230.14 | 230.26 | 230.37 | 230.48 | 230.59 | 230.71 |
| 5 | 230.82 | 230.93 | 231.04 | 231.16 | 231.27 | 231.38 | 231.50 | 231.61 | 231.72 | 231.83 |
| 6 | 231.95 | 232.06 | 232.17 | 232.28 | 232.40 | 232.51 | 232.62 | 232.73 | 232.85 | 232.96 |
| 7 | 233.07 | 233.18 | 233.30 | 233.41 | 233.52 | 233.63 | 233.75 | 233.86 | 233.97 | 234.09 |
| 8 | 234.20 | 234.31 | 234.42 | 234.54 | 234.65 | 234.76 | 234.87 | 234.99 | 235.10 | 235.21 |
| 9 | 235.32 | 235.44 | 235.55 | 235.66 | 235.77 | 235.89 | 236.00 | 236.11 | 236.22 | 236.34 |
| 21.0 | 236.45 | 236.56 | 236.67 | 236.79 | 236.90 | 237.01 | 237.13 | 237.24 | 237.35 | 237.46 |
| 1 | 237.58 | 237.69 | 237.80 | 237.91 | 238.03 | 238.14 | 238.25 | 238.36 | 238.48 | 238.59 |
| 2 | 238.70 | 238.81 | 238.93 | 239.04 | 239.15 | 239.26 | 239.38 | 239.49 | 239.60 | 239.71 |
| 3 | 239.83 | 239.94 | 240.05 | 240.17 | 240.28 | 240.39 | 240.50 | 240.62 | 240.73 | 240.84 |
| 4 | 240.95 | 241.07 | 241.18 | 241.29 | 241.40 | 241.52 | 241.63 | 241.74 | 241.85 | 241.97 |
| 5 | 242.08 | 242.19 | 242.30 | 242.42 | 242.53 | 242.64 | 242.75 | 242.87 | 242.98 | 243.09 |
| 6 | 243.21 | 243.32 | 243.43 | 243.54 | 243.66 | 243.77 | 243.88 | 243.99 | 244.11 | 244.22 |
| 7 | 244.33 | 244.44 | 244.56 | 244.67 | 244.78 | 244.89 | 245.01 | 245.12 | 245.23 | 245.34 |
| 8 | 245.46 | 245.57 | 245.68 | 245.79 | 245.91 | 246.02 | 246.13 | 246.25 | 246.36 | 246.47 |
| 9 | 246.58 | 246.70 | 246.81 | 246.92 | 247.03 | 247.15 | 247.26 | 247.37 | 247.48 | 247.60 |
| 22.0 | 247.71 | 247.82 | 247.93 | 248.05 | 248.16 | 248.27 | 248.38 | 248.50 | 248.61 | 248.72 |
| 1 | 248.83 | 248.95 | 249.06 | 249.17 | 249.29 | 249.40 | 249.51 | 249.62 | 249.74 | 249.85 |
| 2 | 249.96 | 250.07 | 250.19 | 250.30 | 250.41 | 250.52 | 250.64 | 250.75 | 250.86 | 250.97 |
| 3 | 251.09 | 251.20 | 251.31 | 251.42 | 251.54 | 251.65 | 251.76 | 251.88 | 251.99 | 252.10 |
| 4 | 252.21 | 252.33 | 252.44 | 252.55 | 252.66 | 252.78 | 252.89 | 253.00 | 253.11 | 253.23 |
| 5 | 253.34 | 253.45 | 253.56 | 253.68 | 253.79 | 253.90 | 254.01 | 254.13 | 254.24 | 254.35 |
| 6 | 254.46 | 254.58 | 254.69 | 254.80 | 254.92 | 255.03 | 255.14 | 255.25 | 255.37 | 255.48 |
| 7 | 255.59 | 255.70 | 255.82 | 255.93 | 256.04 | 256.15 | 256.27 | 256.38 | 256.49 | 256.60 |
| 8 | 256.72 | 256.83 | 256.94 | 257.05 | 257.17 | 257.28 | 257.39 | 257.50 | 257.62 | 257.73 |
| 9 | 257.84 | 257.96 | 258.07 | 258.18 | 258.29 | 258.41 | 258.52 | 258.63 | 258.74 | 258.86 |
| 23.0 | 258.97 | 259.08 | 259.19 | 259.31 | 259.42 | 259.53 | 259.64 | 259.76 | 259.87 | 259.98 |
| 1 | 260.09 | 260.21 | 260.32 | 260.43 | 260.54 | 260.66 | 260.77 | 260.88 | 261.00 | 261.11 |
| 2 | 261.22 | 261.33 | 261.45 | 261.56 | 261.67 | 261.78 | 261.90 | 262.01 | 262.12 | 262.23 |
| 3 | 262.35 | 262.46 | 262.57 | 262.68 | 262.80 | 262.91 | 263.02 | 263.13 | 263.25 | 263.36 |
| 4 | 263.47 | 263.58 | 263.70 | 263.81 | 263.92 | 264.04 | 264.15 | 264.26 | 264.37 | 264.49 |
| 5 | 264.60 | 264.71 | 264.82 | 264.94 | 265.05 | 265.16 | 265.27 | 265.39 | 265.50 | 265.61 |
| 6 | 265.72 | 265.84 | 265.95 | 266.06 | 266.17 | 266.29 | 266.40 | 266.51 | 266.62 | 266.74 |
| 7 | 266.85 | 266.96 | 267.08 | 267.19 | 267.30 | 267.41 | 267.53 | 267.64 | 267.75 | 267.86 |
| 8 | 267.98 | 268.09 | 268.20 | 268.31 | 268.43 | 268.54 | 268.65 | 268.76 | 268.88 | 268.99 |
| 9 | 269.10 | 269.21 | 269.33 | 269.44 | 269.55 | 269.67 | 269.78 | 269.89 | 270.00 | 270.12 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 English Inch = 11.2595 French or Paris Lines.

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| **24.**0 | 270.23 | 270.34 | 270.45 | 270.57 | 270.68 | 270.79 | 270.90 | 271.02 | 271.13 | 271.24 |
| 1 | 271.35 | 271.47 | 271.58 | 271.69 | 271.80 | 271.92 | 272.03 | 272.14 | 272.25 | 272.37 |
| 2 | 272.48 | 272.59 | 272.71 | 272.82 | 272.93 | 273.04 | 273.16 | 273.27 | 273.38 | 273.49 |
| 3 | 273.61 | 273.72 | 273.83 | 273.94 | 274.06 | 274.17 | 274.28 | 274.39 | 274.51 | 274.62 |
| 4 | 274.73 | 274.84 | 274.96 | 275.07 | 275.18 | 275.29 | 275.41 | 275.52 | 275.63 | 275.75 |
| 5 | 275.86 | 275.97 | 276.08 | 276.20 | 276.31 | 276.42 | 276.53 | 276.65 | 276.76 | 276.87 |
| 6 | 276.98 | 277.10 | 277.21 | 277.32 | 277.43 | 277.55 | 277.66 | 277.77 | 277.88 | 278.00 |
| 7 | 278.11 | 278.22 | 278.33 | 278.45 | 278.56 | 278.67 | 278.79 | 278.90 | 279.01 | 279.12 |
| 8 | 279.24 | 279.35 | 279.46 | 279.57 | 279.69 | 279.80 | 279.91 | 280.02 | 280.14 | 280.25 |
| 9 | 280.36 | 280.47 | 280.59 | 280.70 | 280.81 | 280.92 | 281.04 | 281.15 | 281.26 | 281.38 |
| **25.**0 | 281.49 | 281.60 | 281.71 | 281.83 | 281.94 | 282.05 | 282.16 | 282.28 | 282.39 | 282.50 |
| 1 | 282.61 | 282.73 | 282.84 | 282.95 | 283.06 | 283.18 | 283.29 | 283.40 | 283.51 | 283.63 |
| 2 | 283.74 | 283.85 | 283.96 | 284.08 | 284.19 | 284.30 | 284.41 | 284.53 | 284.64 | 284.75 |
| 3 | 284.87 | 284.98 | 285.09 | 285.20 | 285.32 | 285.43 | 285.54 | 285.65 | 285.77 | 285.88 |
| 4 | 285.99 | 286.10 | 286.22 | 286.33 | 286.44 | 286.55 | 286.67 | 286.78 | 286.89 | 287.00 |
| 5 | 287.12 | 287.23 | 287.34 | 287.46 | 287.57 | 287.68 | 287.79 | 287.91 | 288.02 | 288.13 |
| 6 | 288.24 | 288.36 | 288.47 | 288.58 | 288.69 | 288.81 | 288.92 | 289.03 | 289.14 | 289.26 |
| 7 | 289.37 | 289.48 | 289.59 | 289.71 | 289.82 | 289.93 | 290.04 | 290.16 | 290.27 | 290.38 |
| 8 | 290.50 | 290.61 | 290.72 | 290.83 | 290.95 | 291.06 | 291.17 | 291.28 | 291.40 | 291.51 |
| 9 | 291.62 | 291.73 | 291.85 | 291.96 | 292.07 | 292.18 | 292.30 | 292.41 | 292.52 | 292.63 |
| **26.**0 | 292.75 | 292.86 | 292.97 | 293.08 | 293.20 | 293.31 | 293.42 | 293.54 | 293.65 | 293.76 |
| 1 | 293.87 | 293.99 | 294.10 | 294.21 | 294.32 | 294.44 | 294.55 | 294.66 | 294.77 | 294.89 |
| 2 | 295.00 | 295.11 | 295.22 | 295.34 | 295.45 | 295.56 | 295.67 | 295.79 | 295.90 | 296.01 |
| 3 | 296.12 | 296.24 | 296.35 | 296.46 | 296.58 | 296.69 | 296.80 | 296.91 | 297.03 | 297.14 |
| 4 | 297.25 | 297.36 | 297.48 | 297.59 | 297.70 | 297.81 | 297.93 | 298.04 | 298.15 | 298.26 |
| 5 | 298.38 | 298.49 | 298.60 | 298.71 | 298.83 | 298.94 | 299.05 | 299.17 | 299.28 | 299.39 |
| 6 | 299.50 | 299.62 | 299.73 | 299.84 | 299.95 | 300.07 | 300.18 | 300.29 | 300.40 | 300.52 |
| 7 | 300.63 | 300.74 | 300.85 | 300.97 | 301.08 | 301.19 | 301.30 | 301.42 | 301.53 | 301.64 |
| 8 | 301.75 | 301.87 | 301.98 | 302.09 | 302.20 | 302.32 | 302.43 | 302.54 | 302.66 | 302.77 |
| 9 | 302.88 | 302.99 | 303.11 | 303.22 | 303.33 | 303.44 | 303.56 | 303.67 | 303.78 | 303.89 |
| **27.**0 | 304.01 | 304.12 | 304.23 | 304.34 | 304.46 | 304.57 | 304.68 | 304.79 | 304.91 | 305.02 |
| 1 | 305.13 | 305.25 | 305.36 | 305.47 | 305.58 | 305.70 | 305.81 | 305.92 | 306.03 | 306.15 |
| 2 | 306.26 | 306.37 | 306.48 | 306.60 | 306.71 | 306.82 | 306.93 | 307.05 | 307.16 | 307.27 |
| 3 | 307.38 | 307.50 | 307.61 | 307.72 | 307.83 | 307.95 | 308.06 | 308.17 | 308.29 | 308.40 |
| 4 | 308.51 | 308.62 | 308.74 | 308.85 | 308.96 | 309.07 | 309.19 | 309.30 | 309.41 | 309.52 |
| 5 | 309.64 | 309.75 | 309.86 | 309.97 | 310.09 | 310.20 | 310.31 | 310.42 | 310.54 | 310.65 |
| 6 | 310.76 | 310.87 | 310.99 | 311.10 | 311.21 | 311.33 | 311.44 | 311.55 | 311.66 | 311.78 |
| 7 | 311.89 | 312.00 | 312.11 | 312.23 | 312.34 | 312.45 | 312.56 | 312.68 | 312.79 | 312.90 |
| 8 | 313.01 | 313.13 | 313.24 | 313.35 | 313.46 | 313.58 | 313.69 | 313.80 | 313.91 | 314.03 |
| 9 | 314.14 | 314.25 | 314.37 | 314.48 | 314.59 | 314.70 | 314.82 | 314.93 | 315.04 | 315.15 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 English Inch = 11.2595 French or Paris Lines.

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| **28.**0 | 315.27 | 315.38 | 315.49 | 315.60 | 315.72 | 315.83 | 315.94 | 316.05 | 316.17 | 316.28 |
| 1 | 316.39 | 316.50 | 316.62 | 316.73 | 316.84 | 316.95 | 317.07 | 317.18 | 317.29 | 317.41 |
| 2 | 317.52 | 317.63 | 317.74 | 317.86 | 317.97 | 318.08 | 318.19 | 318.31 | 318.42 | 318.53 |
| 3 | 318.64 | 318.76 | 318.87 | 318.98 | 319.09 | 319.21 | 319.32 | 319.43 | 319.54 | 319.66 |
| 4 | 319.77 | 319.88 | 319.99 | 320.11 | 320.22 | 320.33 | 320.45 | 320.56 | 320.67 | 320.78 |
| 5 | 320.90 | 321.01 | 321.12 | 321.23 | 321.35 | 321.46 | 321.57 | 321.68 | 321.80 | 321.91 |
| 6 | 322.02 | 322.13 | 322.25 | 322.36 | 322.47 | 322.58 | 322.70 | 322.81 | 322.92 | 323.04 |
| 7 | 323.15 | 323.26 | 323.37 | 323.49 | 323.60 | 323.71 | 323.82 | 323.94 | 324.05 | 324.16 |
| 8 | 324.27 | 324.39 | 324.50 | 324.61 | 324.72 | 324.84 | 324.95 | 325.06 | 325.17 | 325.29 |
| 9 | 325.40 | 325.51 | 325.62 | 325.74 | 325.85 | 325.96 | 326.08 | 326.19 | 326.30 | 326.41 |
| **29.**0 | 326.53 | 326.64 | 326.75 | 326.86 | 326.98 | 327.09 | 327.20 | 327.31 | 327.43 | 327.54 |
| 1 | 327.65 | 327.76 | 327.88 | 327.99 | 328.10 | 328.21 | 328.33 | 328.44 | 328.55 | 328.66 |
| 2 | 328.78 | 328.89 | 329.00 | 329.12 | 329.23 | 329.34 | 329.45 | 329.57 | 329.68 | 329.79 |
| 3 | 329.90 | 330.02 | 330.13 | 330.24 | 330.35 | 330.47 | 330.58 | 330.69 | 330.80 | 330.92 |
| 4 | 331.03 | 331.14 | 331.25 | 331.37 | 331.48 | 331.59 | 331.70 | 331.82 | 331.93 | 332.04 |
| 5 | 332.16 | 332.27 | 332.38 | 332.49 | 332.61 | 332.72 | 332.83 | 332.94 | 333.06 | 333.17 |
| 6 | 333.28 | 333.39 | 333.51 | 333.62 | 333.73 | 333.84 | 333.96 | 334.07 | 334.18 | 334.29 |
| 7 | 334.41 | 334.52 | 334.63 | 334.74 | 334.86 | 334.97 | 335.08 | 335.20 | 335.31 | 335.42 |
| 8 | 335.53 | 335.65 | 335.76 | 335.87 | 335.98 | 336.10 | 336.21 | 336.32 | 336.43 | 336.55 |
| 9 | 336.66 | 336.77 | 336.88 | 337.00 | 337.11 | 337.22 | 337.33 | 337.45 | 337.56 | 337.67 |
| **30.**0 | 337.78 | 337.90 | 338.01 | 338.12 | 338.24 | 338.35 | 338.46 | 338.57 | 338.69 | 338.80 |
| 1 | 338.91 | 339.02 | 339.14 | 339.25 | 339.36 | 339.47 | 339.59 | 339.70 | 339.81 | 339.92 |
| 2 | 340.04 | 340.15 | 340.26 | 340.37 | 340.49 | 340.60 | 340.71 | 340.83 | 340.94 | 341.05 |
| 3 | 341.16 | 341.28 | 341.39 | 341.50 | 341.61 | 341.73 | 341.84 | 341.95 | 342.06 | 342.18 |
| 4 | 342.29 | 342.40 | 342.51 | 342.63 | 342.74 | 342.85 | 342.96 | 343.08 | 343.19 | 343.30 |
| 5 | 343.41 | 343.53 | 343.64 | 343.75 | 343.87 | 343.98 | 344.09 | 344.20 | 344.32 | 344.43 |
| 6 | 344.54 | 344.65 | 344.77 | 344.88 | 344.99 | 345.10 | 345.22 | 345.33 | 345.44 | 345.55 |
| 7 | 345.67 | 345.78 | 345.89 | 346.00 | 346.12 | 346.23 | 346.34 | 346.45 | 346.57 | 346.68 |
| 8 | 346.79 | 346.91 | 347.02 | 347.13 | 347.24 | 347.36 | 347.47 | 347.58 | 347.69 | 347.81 |
| 9 | 347.92 | 348.03 | 348.14 | 348.26 | 348.37 | 348.48 | 348.59 | 348.71 | 348.82 | 348.93 |
| **31.**0 | 349.04 | 349.16 | 349.27 | 349.38 | 349.49 | 349.61 | 349.72 | 349.83 | 349.95 | 350.06 |
| 1 | 350.17 | 350.28 | 350.40 | 350.51 | 350.62 | 350.73 | 350.85 | 350.96 | 351.07 | 351.18 |
| 2 | 351.30 | 351.41 | 351.52 | 351.63 | 351.75 | 351.86 | 351.97 | 352.08 | 352.20 | 352.31 |
| 3 | 352.42 | 352.53 | 352.65 | 352.76 | 352.87 | 352.99 | 353.10 | 353.21 | 353.32 | 353.44 |
| 4 | 353.55 | 353.66 | 353.77 | 353.89 | 354.00 | 354.11 | 354.22 | 354.34 | 354.45 | 354.56 |
| 5 | 354.67 | 354.79 | 354.90 | 355.01 | 355.12 | 355.24 | 355.35 | 355.46 | 355.57 | 355.69 |
| 6 | 355.80 | 355.91 | 356.03 | 356.14 | 356.25 | 356.36 | 356.48 | 356.59 | 356.70 | 356.81 |

Thousandths of an Inch.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.011 | 0.023 | 0.034 | 0.045 | 0.056 | 0.068 | 0.079 | 0.090 | 0.101 |

# III. - IV.

## COMPARISON

OF

# THE METRICAL BAROMETER

WITH

## THE ENGLISH AND THE OLD FRENCH BAROMETERS,

OR

# TABLES

FOR CONVERTING MILLIMETRES INTO ENGLISH INCHES AND DECIMALS,
AND INTO FRENCH OR PARIS LINES;

GIVING THE VALUES CORRESPONDING TO EVERY MILLIMETRE FROM 250 TO 600;
AND TO EVERY TENTH OF A MILLIMETRE FROM 600 TO 800 MILLIMETRES.

1 Metre = 39.37079 English Inches.

| Millimetres. Tens. | Millimetres. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In | Eng. In. | Eng. In. |
| 250 | 9.843 | 9.882 | 9.921 | 9.961 | 10.000 | 10.040 | 10.079 | 10.118 | 10.158 | 10.197 |
| 260 | 10.236 | 10.276 | 10.315 | 10.355 | 10.394 | 10.433 | 10.473 | 10.512 | 10.551 | 10.591 |
| 270 | 10.630 | 10.669 | 10.709 | 10.748 | 10.788 | 10.827 | 10.866 | 10.906 | 10.945 | 10.984 |
| 280 | 11.024 | 11.063 | 11.103 | 11.142 | 11.181 | 11.221 | 11.260 | 11.299 | 11.339 | 11.378 |
| 290 | 11.418 | 11.457 | 11.496 | 11.536 | 11.575 | 11.614 | 11.654 | 11.693 | 11.732 | 11.772 |
| 300 | 11.811 | 11.851 | 11.890 | 11.929 | 11.969 | 12.008 | 12.047 | 12.087 | 12.126 | 12.166 |
| 310 | 12.205 | 12.244 | 12.284 | 12.323 | 12.362 | 12.402 | 12.441 | 12.481 | 12.520 | 12.559 |
| 320 | 12.599 | 12.638 | 12.677 | 12.717 | 12.756 | 12.795 | 12.835 | 12.874 | 12.914 | 12.953 |
| 330 | 12.992 | 13.032 | 13.071 | 13.110 | 13.150 | 13.189 | 13.229 | 13.268 | 13.307 | 13.347 |
| 340 | 13.386 | 13.425 | 13.465 | 13.504 | 13.544 | 13.583 | 13.622 | 13.662 | 13.701 | 13.740 |
| 350 | 13.780 | 13.819 | 13.859 | 13.898 | 13.937 | 13.977 | 14.016 | 14.055 | 14.095 | 14.134 |
| 360 | 14.173 | 14.213 | 14.252 | 14.292 | 14.331 | 14.370 | 14.410 | 14.449 | 14.488 | 14.528 |
| 370 | 14.567 | 14.607 | 14.646 | 14.685 | 14.725 | 14.764 | 14.803 | 14.843 | 14.882 | 14.922 |
| 380 | 14.961 | 15.000 | 15.040 | 15.079 | 15.118 | 15.158 | 15.197 | 15.236 | 15.276 | 15.315 |
| 390 | 15.355 | 15.494 | 15.433 | 15.473 | 15.512 | 15.551 | 15.591 | 15.630 | 15.670 | 15.709 |
| 400 | 15.748 | 15.788 | 15.827 | 15.866 | 15.906 | 15.945 | 15.985 | 16.024 | 16.063 | 16.103 |
| 410 | 16.142 | 16.181 | 16.221 | 16.260 | 16.300 | 16.339 | 16.378 | 16.418 | 16.458 | 16.496 |
| 420 | 16.536 | 16.575 | 16.614 | 16.654 | 16.693 | 16.733 | 16.772 | 16.811 | 16.851 | 16.890 |
| 430 | 16.929 | 16.969 | 17.008 | 17.048 | 17.087 | 17.126 | 17.166 | 17.205 | 17.244 | 17.284 |
| 440 | 17.323 | 17.362 | 17.402 | 17.441 | 17.481 | 17.520 | 17.559 | 17.599 | 17.638 | 17.677 |
| 450 | 17.717 | 17.756 | 17.796 | 17.835 | 17.874 | 17.914 | 17.953 | 17.992 | 18.032 | 18.071 |
| 460 | 18.111 | 18.150 | 18.189 | 18.229 | 18.268 | 18.307 | 18.347 | 18.386 | 18.426 | 18.465 |
| 470 | 18.504 | 18.544 | 18.583 | 18.622 | 18.662 | 18.701 | 18.740 | 18.780 | 18.819 | 18.859 |
| 480 | 18.898 | 18.937 | 18.977 | 19.016 | 19.055 | 19.095 | 19.134 | 19.174 | 19.213 | 19.252 |
| 490 | 19.292 | 19.331 | 19.370 | 19.410 | 19.449 | 19.489 | 19.528 | 19.567 | 19.607 | 19.646 |
| 500 | 19.685 | 19.725 | 19.764 | 19.804 | 19.843 | 19.882 | 19.922 | 19.961 | 20.000 | 20.040 |
| 510 | 20.079 | 20.118 | 20.158 | 20.197 | 20.237 | 20.276 | 20.315 | 20.355 | 20.394 | 20.433 |
| 520 | 20.473 | 20.512 | 20.552 | 20.591 | 20.630 | 20.670 | 20.709 | 20.748 | 20.788 | 20.827 |
| 530 | 20.867 | 20.906 | 20.945 | 20.985 | 21.024 | 21.063 | 21.103 | 21.142 | 21.181 | 21.221 |
| 540 | 21.260 | 21.300 | 21.339 | 21.378 | 21.418 | 21.457 | 21.496 | 21.536 | 21.575 | 21.615 |
| 550 | 21.654 | 21.693 | 21.733 | 21.772 | 21.811 | 21.851 | 21.890 | 21.930 | 21.969 | 22.008 |
| 560 | 22.048 | 22.087 | 22.126 | 22.166 | 22.205 | 22.244 | 22.284 | 22.323 | 22.363 | 22.402 |
| 570 | 22.441 | 22.481 | 22.520 | 22.559 | 22.599 | 22.638 | 22.678 | 22.717 | 22.756 | 22.796 |
| 580 | 22.835 | 22.874 | 22.914 | 22.953 | 22.993 | 23.032 | 23.071 | 23.111 | 23.150 | 23.189 |
| 590 | 23.229 | 23.268 | 23.308 | 23.347 | 23.386 | 23.426 | 23.465 | 23.504 | 23.544 | 23.583 |

Tenths of Millimetres.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.004 | 0.008 | 0.012 | 0.016 | 0.020 | 0.024 | 0.028 | 0.031 | 0.035 |

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 600 | 23.622 | 23.626 | 23.630 | 23.634 | 23.638 | 23.642 | 23.646 | 23.650 | 23.654 | 23.658 |
| 601 | 23.662 | 23.666 | 23.670 | 23.674 | 23.678 | 23.682 | 23.685 | 23.689 | 23.693 | 23.697 |
| 602 | 23.701 | 23.705 | 23.709 | 23.713 | 23.717 | 23.721 | 23.725 | 23.729 | 23.733 | 23.737 |
| 603 | 23.741 | 23.745 | 23.748 | 23.752 | 23.756 | 23.760 | 23.764 | 23.768 | 23.772 | 23.776 |
| 604 | 23.780 | 23.784 | 23.788 | 23.792 | 23.796 | 23.800 | 23.804 | 23.808 | 23.811 | 23.815 |
| 605 | 23.819 | 23.823 | 23.827 | 23.831 | 23.835 | 23.839 | 23.843 | 23.847 | 23.851 | 23.855 |
| 606 | 23.859 | 23.863 | 23.867 | 23.871 | 23.874 | 23.878 | 23.882 | 23.886 | 23.890 | 23.894 |
| 607 | 23.898 | 23.902 | 23.906 | 23.910 | 23.914 | 23.918 | 23.922 | 23.926 | 23.930 | 23.934 |
| 608 | 23.937 | 23.941 | 23.945 | 23.949 | 23.953 | 23.957 | 23.961 | 23.965 | 23.969 | 23.973 |
| 609 | 23.977 | 23.981 | 23.985 | 23.989 | 23.993 | 23.996 | 24.000 | 24.004 | 24.008 | 24.012 |
| 610 | 24.016 | 24.020 | 24.024 | 24.028 | 24.032 | 24.036 | 24.040 | 24.044 | 24.048 | 24.052 |
| 611 | 24.056 | 24.059 | 24.063 | 24.067 | 24.071 | 24.075 | 24.079 | 24.083 | 24.087 | 24.091 |
| 612 | 24.095 | 24.099 | 24.103 | 24.107 | 24.111 | 24.115 | 24.119 | 24.122 | 24.126 | 24.130 |
| 613 | 24.134 | 24.138 | 24.142 | 24.146 | 24.150 | 24.154 | 24.158 | 24.162 | 24.166 | 24.170 |
| 614 | 24.174 | 24.178 | 24.182 | 24.185 | 24.189 | 24.193 | 24.197 | 24.201 | 24.205 | 24.209 |
| 615 | 24.213 | 24.217 | 24.221 | 24.225 | 24.229 | 24.233 | 24.237 | 24.241 | 24.245 | 24.248 |
| 616 | 24.252 | 24.256 | 24.260 | 24.264 | 24.268 | 24.272 | 24.276 | 24.280 | 24.284 | 24.288 |
| 617 | 24.292 | 24.296 | 24.300 | 24.304 | 24.308 | 24.311 | 24.315 | 24.319 | 24.323 | 24.327 |
| 618 | 24.331 | 24.335 | 24.339 | 24.343 | 24.347 | 24.351 | 24.355 | 24.359 | 24.363 | 24.367 |
| 619 | 24.371 | 24.374 | 24.378 | 24.382 | 24.386 | 24.390 | 24.394 | 24.398 | 24.402 | 24.406 |
| 620 | 24.410 | 24.414 | 24.418 | 24.422 | 24.426 | 24.430 | 24.434 | 24.437 | 24.441 | 24.445 |
| 621 | 24.449 | 24.453 | 24.457 | 24.461 | 24.465 | 24.469 | 24.473 | 24.477 | 24.481 | 24.485 |
| 622 | 24.489 | 24.493 | 24.497 | 24.500 | 24.504 | 24.508 | 24.512 | 24.516 | 24.520 | 24.524 |
| 623 | 24.528 | 24.532 | 24.536 | 24.540 | 24.544 | 24.548 | 24.552 | 24.556 | 24.559 | 24.563 |
| 624 | 24.567 | 24.571 | 24.575 | 24.579 | 24.583 | 24.587 | 24.591 | 24.595 | 24.599 | 24.603 |
| 625 | 24.607 | 24.611 | 24.615 | 24.619 | 24.622 | 24.626 | 24.630 | 24.634 | 24.638 | 24.642 |
| 626 | 24.646 | 24.650 | 24.654 | 24.658 | 24.662 | 24.666 | 24.670 | 24.674 | 24.678 | 24.682 |
| 627 | 24.685 | 24.689 | 24.693 | 24.697 | 24.701 | 24.705 | 24.709 | 24.713 | 24.717 | 24.721 |
| 628 | 24.725 | 24.729 | 24.733 | 24.737 | 24.741 | 24.745 | 24.748 | 24.752 | 24.756 | 24.760 |
| 629 | 24.764 | 24.768 | 24.772 | 24.776 | 24.780 | 24.784 | 24.788 | 24.792 | 24.796 | 24.800 |
| 630 | 24.804 | 24.808 | 24.811 | 24.815 | 24.819 | 24.823 | 24.827 | 24.831 | 24.835 | 24.839 |
| 631 | 24.843 | 24.847 | 24.851 | 24.855 | 24.859 | 24.863 | 24.867 | 24.871 | 24.874 | 24.878 |
| 632 | 24.882 | 24.886 | 24.890 | 24.894 | 24.898 | 24.902 | 24.906 | 24.910 | 24.914 | 24.918 |
| 633 | 24.922 | 24.926 | 24.930 | 24.934 | 24.937 | 24.941 | 24.945 | 24.949 | 24.953 | 24.957 |
| 634 | 24.961 | 24.965 | 24.969 | 24.973 | 24.977 | 24.981 | 24.985 | 24.989 | 24.993 | 24.997 |
| 635 | 25.000 | 25.004 | 25.008 | 25.012 | 25.016 | 25.020 | 25.024 | 25.028 | 25.032 | 25.036 |
| 636 | 25.040 | 25.044 | 25.048 | 25.052 | 25.056 | 25.060 | 25.063 | 25.067 | 25.071 | 25.075 |
| 637 | 25.079 | 25.083 | 25.087 | 25.091 | 25.095 | 25.099 | 25.103 | 25.107 | 25.111 | 25.115 |
| 638 | 25.119 | 25.123 | 25.126 | 25.130 | 25.134 | 25.138 | 25.142 | 25.146 | 25.150 | 25.154 |
| 639 | 25.158 | 25.162 | 25.166 | 25.170 | 25.174 | 25.178 | 25.182 | 25.185 | 25.189 | 25.193 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 640 | 25.197 | 25.201 | 25.205 | 25.209 | 25.213 | 25.217 | 25.221 | 25.225 | 25.229 | 25.233 |
| 641 | 25.237 | 25.241 | 25.245 | 25.248 | 25.252 | 25 256 | 25.260 | 25.264 | 25.268 | 25.272 |
| 642 | 25.276 | 25.280 | 25.284 | 25.288 | 25.292 | 25.296 | 25.300 | 25.304 | 25.308 | 25.311 |
| 643 | 25.315 | 25.319 | 25.323 | 25.327 | 25.331 | 25.335 | 25.339 | 25.343 | 25.347 | 25.351 |
| 644 | 25.355 | 25.359 | 25.363 | 25.367 | 25.371 | 25.374 | 25.378 | 25.382 | 25.386 | 25.390 |
| 645 | 25.394 | 25.398 | 25.402 | 25.406 | 25.410 | 25.414 | 25.418 | 25.422 | 25.426 | 25.430 |
| 646 | 25.434 | 25.437 | 25.441 | 25.445 | 25.449 | 25.453 | 25.457 | 25.461 | 25.465 | 25.469 |
| 647 | 25.473 | 25.477 | 25.481 | 25.485 | 25.489 | 25.493 | 25.497 | 25.500 | 25.504 | 25.508 |
| 648 | 25.512 | 25.516 | 25.520 | 25.524 | 25.528 | 25.532 | 25.536 | 25.540 | 25.544 | 25.548 |
| 649 | 25.552 | 25.556 | 25.560 | 25.563 | 25.567 | 25.571 | 25.575 | 25.579 | 25.583 | 25.587 |
| 650 | 25.591 | 25.595 | 25.599 | 25.603 | 25.607 | 25.611 | 25.615 | 25.619 | 25.623 | 25.626 |
| 651 | 25.630 | 25.634 | 25.638 | 25.642 | 25.646 | 25.650 | 25.654 | 25.658 | 25.662 | 25.666 |
| 652 | 25.670 | 25.674 | 25.678 | 25.682 | 25.686 | 25.689 | 25.693 | 25.697 | 25.701 | 25.705 |
| 653 | 25.709 | 25.713 | 25.717 | 25.721 | 25.725 | 25.729 | 25.733 | 25.737 | 25.741 | 25.745 |
| 654 | 25.748 | 25.752 | 25.756 | 25.760 | 25.764 | 25.768 | 25.772 | 25.776 | 25.780 | 25.784 |
| 655 | 25.788 | 25.792 | 25.796 | 25.800 | 25.804 | 25.808 | 25.811 | 25.815 | 25.819 | 25.823 |
| 656 | 25.827 | 25.831 | 25.835 | 25.839 | 25.843 | 25.847 | 25.851 | 25.855 | 25.859 | 25.863 |
| 657 | 25.867 | 25.871 | 25.874 | 25.878 | 25.882 | 25.886 | 25.890 | 25.894 | 25.898 | 25.902 |
| 658 | 25.906 | 25.910 | 25.914 | 25.918 | 25.922 | 25.926 | 25.930 | 25.934 | 25.937 | 25.941 |
| 659 | 25.945 | 25.949 | 25.953 | 25.957 | 25.961 | 25.965 | 25.969 | 25.973 | 25.977 | 25.981 |
| 660 | 25.985 | 25.989 | 25.993 | 25.997 | 26.000 | 26.004 | 26.008 | 26.012 | 26.016 | 26.020 |
| 661 | 26.024 | 26.028 | 26.032 | 26.036 | 26.040 | 26.044 | 26.048 | 26.052 | 26.056 | 26.060 |
| 662 | 26.063 | 26.067 | 26.071 | 26.075 | 26.079 | 26.083 | 26.087 | 26.091 | 26.095 | 26.099 |
| 663 | 26.103 | 26.107 | 26.111 | 26.115 | 26.119 | 26.123 | 26.126 | 26.130 | 26.134 | 26.138 |
| 664 | 26.142 | 26.146 | 26.150 | 26.154 | 26.158 | 26.162 | 26.166 | 26.170 | 26.174 | 26.178 |
| 665 | 26.182 | 26.186 | 26.189 | 26.193 | 26.197 | 26.201 | 26.205 | 26.209 | 26.213 | 26.217 |
| 666 | 26 221 | 26.225 | 26.229 | 26.233 | 26.237 | 26.241 | 26.245 | 26.249 | 26.252 | 26.256 |
| 667 | 26.260 | 26.264 | 26.268 | 26.272 | 26.276 | 26.280 | 26.284 | 26.288 | 26.292 | 26.296 |
| 668 | 26.300 | 26.304 | 26.308 | 26.311 | 26.315 | 26.319 | 26.323 | 26.327 | 26.331 | 26.335 |
| 669 | 26.339 | 26.343 | 26.347 | 26.351 | 26.355 | 26.359 | 26.363 | 26.367 | 26.371 | 26.374 |
| 670 | 26.378 | 26.382 | 26.386 | 26.390 | 26.394 | 26.398 | 26.402 | 26.406 | 26.410 | 26.414 |
| 671 | 26.418 | 26.422 | 26.426 | 26.430 | 26.434 | 26.437 | 26.441 | 26.445 | 26.449 | 26.453 |
| 672 | 26.457 | 26.461 | 26.465 | 26.469 | 26.473 | 26.477 | 26.481 | 26.485 | 26.489 | 26.493 |
| 673 | 26.497 | 26.500 | 26.504 | 26.508 | 26.512 | 26.516 | 26.520 | 26.524 | 26.528 | 26.532 |
| 674 | 26.536 | 26.540 | 26.544 | 26.548 | 26.552 | 26.556 | 26.560 | 26.563 | 26.567 | 26.571 |
| 675 | 26.575 | 26.579 | 26.583 | 26.587 | 26.591 | 26.595 | 26.599 | 26.603 | 26.607 | 26.611 |
| 676 | 26.615 | 26.619 | 26.623 | 26.626 | 26.630 | 26.634 | 26.638 | 26.642 | 26.646 | 26.650 |
| 677 | 26.654 | 26.658 | 26.662 | 26.666 | 26.670 | 26.674 | 26.678 | 26.682 | 26.686 | 26.689 |
| 678 | 26.693 | 26.697 | 26.701 | 26.705 | 26.709 | 26.713 | 26.717 | 26.721 | 26.725 | 26.729 |
| 679 | 26.733 | 26.737 | 26.741 | 26.745 | 26.749 | 26.752 | 26.756 | 26.760 | 26.764 | 26.768 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 680 | 26.772 | 26.776 | 26.780 | 26.784 | 26.788 | 26.792 | 26.796 | 26.800 | 26.804 | 26.808 |
| 681 | 26.812 | 26.815 | 26.819 | 26.823 | 26.827 | 26.831 | 26.835 | 26.839 | 26.843 | 26.847 |
| 682 | 26.851 | 26.855 | 26.859 | 26.863 | 26.867 | 26.871 | 26.875 | 26.878 | 26.882 | 26.886 |
| 683 | 26.890 | 26.894 | 26.898 | 26.902 | 26.906 | 26.910 | 26.914 | 26.918 | 26.922 | 26.926 |
| 684 | 26.930 | 26.934 | 26.937 | 26.941 | 26.945 | 26.949 | 26.953 | 26.957 | 26.961 | 26.965 |
| 685 | 26.969 | 26.973 | 26.977 | 26.981 | 26.985 | 26.989 | 26.993 | 26.997 | 27.000 | 27.004 |
| 686 | 27.008 | 27.012 | 27.016 | 27.020 | 27.024 | 27.028 | 27.032 | 27.036 | 27.040 | 27.044 |
| 687 | 27.048 | 27.052 | 27.056 | 27.060 | 27.063 | 27.067 | 27.071 | 27.075 | 27.079 | 27.083 |
| 688 | 27.087 | 27.091 | 27.095 | 27.099 | 27.103 | 27.107 | 27.111 | 27.115 | 27.119 | 27.123 |
| 689 | 27.126 | 27.130 | 27.134 | 27.138 | 27.142 | 27.146 | 27.150 | 27.154 | 27.158 | 27.162 |
| 690 | 27.166 | 27.170 | 27.174 | 27.178 | 27.182 | 27.186 | 27.189 | 27.193 | 27.197 | 27.201 |
| 691 | 27.205 | 27.209 | 27.213 | 27.217 | 27.221 | 27.225 | 27.229 | 27.233 | 27.237 | 27.241 |
| 692 | 27.245 | 27.249 | 27.252 | 27.256 | 27.260 | 27.264 | 27.268 | 27.272 | 27.276 | 27.280 |
| 693 | 27.284 | 27.288 | 27.292 | 27.296 | 27.300 | 27.304 | 27.308 | 27.312 | 27.315 | 27.319 |
| 694 | 27.323 | 27.327 | 27.331 | 27.335 | 27.339 | 27.343 | 27.347 | 27.351 | 27.355 | 27.359 |
| 695 | 27.363 | 27.367 | 27.371 | 27.375 | 27.378 | 27.382 | 27.386 | 27.390 | 27.394 | 27.398 |
| 696 | 27.402 | 27.406 | 27.410 | 27.414 | 27.418 | 27.422 | 27.426 | 27.430 | 27.434 | 27.438 |
| 697 | 27.441 | 27.445 | 27.449 | 27.453 | 27.457 | 27.461 | 27.465 | 27.469 | 27.473 | 27.477 |
| 698 | 27.481 | 27.485 | 27.489 | 27.493 | 27.497 | 27.500 | 27.504 | 27.508 | 27.512 | 27.516 |
| 699 | 27.520 | 27.524 | 27.528 | 27.532 | 27.536 | 27.540 | 27.544 | 27.548 | 27.552 | 27.556 |
| 700 | 27.560 | 27.563 | 27.567 | 27.571 | 27.575 | 27.579 | 27.583 | 27.587 | 27.591 | 27.595 |
| 701 | 27.599 | 27.603 | 27.607 | 27.611 | 27.615 | 27.619 | 27.623 | 27.626 | 27.630 | 27.634 |
| 702 | 27.638 | 27.642 | 27.646 | 27.650 | 27.654 | 27.658 | 27.662 | 27.666 | 27.670 | 27.674 |
| 703 | 27.678 | 27.682 | 27.686 | 27.689 | 27.693 | 27.697 | 27.701 | 27.705 | 27.709 | 27.713 |
| 704 | 27.717 | 27.721 | 27.725 | 27.729 | 27.733 | 27.737 | 27.741 | 27.745 | 27.749 | 27.752 |
| 705 | 27.756 | 27.760 | 27.764 | 27.768 | 27.772 | 27.776 | 27.780 | 27.784 | 27.788 | 27.792 |
| 706 | 27.796 | 27.800 | 27.804 | 27.808 | 27.812 | 27.815 | 27.819 | 27.823 | 27.827 | 27.831 |
| 707 | 27.835 | 27.839 | 27.843 | 27.847 | 27.851 | 27.855 | 27.859 | 27.863 | 27.867 | 27.871 |
| 708 | 27.875 | 27.878 | 27.882 | 27.886 | 27.890 | 27.894 | 27.898 | 27.902 | 27.906 | 27.910 |
| 709 | 27.914 | 27.918 | 27.922 | 27.926 | 27.930 | 27.934 | 27.938 | 27.941 | 27.945 | 27.949 |
| 710 | 27.953 | 27.957 | 27.961 | 27.965 | 27.969 | 27.973 | 27.977 | 27.981 | 27.985 | 27.989 |
| 711 | 27.993 | 27.997 | 28.001 | 28.004 | 28.008 | 28.012 | 28.016 | 28.020 | 28.024 | 28.028 |
| 712 | 28.032 | 28.036 | 28.040 | 28.044 | 28.048 | 28.052 | 28.056 | 28.060 | 28.063 | 28.067 |
| 713 | 28.071 | 28.075 | 28.079 | 28.083 | 28.087 | 28.091 | 28.095 | 28.099 | 28.103 | 28.107 |
| 714 | 28.111 | 28.115 | 28.119 | 28.123 | 28.126 | 28.130 | 28.134 | 28.138 | 28.142 | 28.146 |
| 715 | 28.150 | 28.154 | 28.158 | 28.162 | 28.166 | 28.170 | 28.174 | 28.178 | 28.182 | 28.186 |
| 716 | 28.189 | 28.193 | 28.197 | 28.201 | 28.205 | 28.209 | 28.213 | 28.217 | 28.221 | 28.225 |
| 717 | 28.229 | 28.233 | 28.237 | 28.241 | 28.245 | 28.249 | 28.252 | 28.256 | 28.260 | 28.264 |
| 718 | 28.268 | 28.272 | 28.276 | 28.280 | 28.284 | 28.288 | 28.292 | 28.296 | 28.300 | 28.304 |
| 719 | 28.308 | 28.312 | 28.315 | 28.319 | 28.323 | 28.327 | 28.331 | 28.335 | 28.339 | 28.343 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 720 | 28.347 | 28.351 | 28.355 | 28.359 | 28.363 | 28.367 | 28.371 | 28.375 | 28.378 | 28.382 |
| 721 | 28.386 | 28.390 | 28.394 | 28.398 | 28.402 | 28.406 | 28.410 | 28.414 | 28.418 | 28.422 |
| 722 | 28.426 | 28.430 | 28.434 | 28.438 | 28.441 | 28.445 | 28.449 | 28.453 | 28.457 | 28.461 |
| 723 | 28.465 | 28.469 | 28.473 | 28.477 | 28.481 | 28.485 | 28.489 | 28.493 | 28.497 | 28.501 |
| 724 | 28.504 | 28.508 | 28.512 | 28.516 | 28.520 | 28.524 | 28.528 | 28.532 | 28.536 | 28.540 |
| 725 | 28.544 | 28.548 | 28.552 | 28.556 | 28.560 | 28.564 | 28.567 | 28.571 | 28.575 | 28.579 |
| 726 | 28.583 | 28.587 | 28.591 | 28.595 | 28.599 | 28.603 | 28.607 | 28.611 | 28.615 | 28.619 |
| 727 | 28.623 | 28.627 | 28.630 | 28.634 | 28.638 | 28.642 | 28.646 | 28.650 | 28.654 | 28.658 |
| 728 | 28.662 | 28.666 | 28.670 | 28.674 | 28.678 | 28.682 | 28.686 | 28.689 | 28.693 | 28.697 |
| 729 | 28.701 | 28.705 | 28.709 | 28.713 | 28.717 | 28.721 | 28.725 | 28.729 | 28.733 | 28.737 |
| 730 | 28.741 | 28.745 | 28.749 | 28.752 | 28.756 | 28.760 | 28.764 | 28.768 | 28.772 | 28.776 |
| 731 | 28.780 | 28.784 | 28.788 | 28.792 | 28.796 | 28.800 | 28.804 | 28.808 | 28.812 | 28.815 |
| 732 | 28.819 | 28.823 | 28.827 | 28.831 | 28.835 | 28.839 | 28.843 | 28.847 | 28.851 | 28.855 |
| 733 | 28.859 | 28.863 | 28.867 | 28.871 | 28.875 | 28.878 | 28.882 | 28.886 | 28.890 | 28.894 |
| 734 | 28.898 | 28.902 | 28.906 | 28.910 | 28.914 | 28.918 | 28.922 | 28.926 | 28.930 | 28.934 |
| 735 | 28.938 | 28.941 | 28.945 | 28.949 | 28.953 | 28.957 | 28.961 | 28.965 | 28.969 | 28.973 |
| 736 | 28.977 | 28.981 | 28.985 | 28.989 | 28.993 | 28.997 | 29.001 | 29.004 | 29.008 | 29.012 |
| 737 | 29.016 | 29.020 | 29.024 | 29.028 | 29.032 | 29.036 | 29.040 | 29.044 | 29.048 | 29.052 |
| 738 | 29.056 | 29.060 | 29.064 | 29.067 | 29.071 | 29.075 | 29.079 | 29.083 | 29.087 | 29.091 |
| 739 | 29.095 | 29.099 | 29.103 | 29.107 | 29.111 | 29.115 | 29.119 | 29.123 | 29.127 | 29.130 |
| 740 | 29.134 | 29.138 | 29.142 | 29.146 | 29.150 | 29.154 | 29.158 | 29.162 | 29.166 | 29.170 |
| 741 | 29.174 | 29.178 | 29.182 | 29.186 | 29.190 | 29.193 | 29.197 | 29.201 | 29.205 | 29.209 |
| 742 | 29.213 | 29.217 | 29.221 | 29.225 | 29.229 | 29.233 | 29.237 | 29.241 | 29.245 | 29.249 |
| 743 | 29.252 | 29.256 | 29.260 | 29.264 | 29.268 | 29.272 | 29.276 | 29.280 | 29.284 | 29.288 |
| 744 | 29.292 | 29.296 | 29.300 | 29.304 | 29.308 | 29.312 | 29.315 | 29.319 | 29.323 | 29.327 |
| 745 | 29.331 | 29.335 | 29.339 | 29.343 | 29.347 | 29.351 | 29.355 | 29.359 | 29.363 | 29.367 |
| 746 | 29.371 | 29.375 | 29.378 | 29.382 | 29.386 | 29.390 | 29.394 | 29.398 | 29.402 | 29.406 |
| 747 | 29.410 | 29.414 | 29.418 | 29.422 | 29.426 | 29.430 | 29.434 | 29.438 | 29.441 | 29.445 |
| 748 | 29.449 | 29.453 | 29.457 | 29.461 | 29.465 | 29.469 | 29.473 | 29.477 | 29.481 | 29.485 |
| 749 | 29.489 | 29.493 | 29.497 | 29.501 | 29.504 | 29.508 | 29.512 | 29.516 | 29.520 | 29.524 |
| 750 | 29.528 | 29.532 | 29.536 | 29.540 | 29.544 | 29.548 | 29.552 | 29.556 | 29.560 | 29.564 |
| 751 | 29.567 | 29.571 | 29.575 | 29.579 | 29.583 | 29.587 | 29.591 | 29.595 | 29.599 | 29.603 |
| 752 | 29.607 | 29.611 | 29.615 | 29.619 | 29.623 | 29.627 | 29.630 | 29.634 | 29.638 | 29.642 |
| 753 | 29.646 | 29.650 | 29.654 | 29.658 | 29.662 | 29.666 | 29.670 | 29.674 | 29.678 | 29.682 |
| 754 | 29.686 | 29.690 | 29.693 | 29.697 | 29.701 | 29.705 | 29.709 | 29.713 | 29.717 | 29.721 |
| 755 | 29.725 | 29.729 | 29.733 | 29.737 | 29.741 | 29.745 | 29.749 | 29.753 | 29.756 | 29.760 |
| 756 | 29.764 | 29.768 | 29.772 | 29.776 | 29.780 | 29.784 | 29.788 | 29.792 | 29.796 | 29.800 |
| 757 | 29.804 | 29.808 | 29.812 | 29.815 | 29.819 | 29.823 | 29.827 | 29.831 | 29.835 | 29.839 |
| 758 | 29.843 | 29.847 | 29.851 | 29.855 | 29.859 | 29.863 | 29.867 | 29.871 | 29.875 | 29.878 |
| 759 | 29.882 | 29.886 | 29.890 | 29.894 | 29.898 | 29.902 | 29.906 | 29.910 | 29.914 | 29.918 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 760 | 29.922 | 29.926 | 29.930 | 29.934 | 29.938 | 29.941 | 29.945 | 29.949 | 29.953 | 29.957 |
| 761 | 29.961 | 29.965 | 29.969 | 29.973 | 29.977 | 29.981 | 29.985 | 29.989 | 29.993 | 29.997 |
| 762 | 30.001 | 30.004 | 30.008 | 30.012 | 30.016 | 30.020 | 30.024 | 30.028 | 30.032 | 30.036 |
| 763 | 30.040 | 30.044 | 30.048 | 30.052 | 30.056 | 30.060 | 30.064 | 30.067 | 30.071 | 30 075 |
| 764 | 30.079 | 30.083 | 30.087 | 30.091 | 30.095 | 30.099 | 30.103 | 30.107 | 30.111 | 30.115 |
| 765 | 30.119 | 30.123 | 30.127 | 30.130 | 30.134 | 30.138 | 30.142 | 30.146 | 30.150 | 30.154 |
| 766 | 30.158 | 30.162 | 30.166 | 30.170 | 30.174 | 30.178 | 30.182 | 30.186 | 30.190 | 30.193 |
| 767 | 30.197 | 30.201 | 30.205 | 30.209 | 30.213 | 30.217 | 30.221 | 30.225 | 30.229 | 30.233 |
| 768 | 30.237 | 30.241 | 30.245 | 30.249 | 30.253 | 30.256 | 30.260 | 30.264 | 30.268 | 30.272 |
| 769 | 30.276 | 30.280 | 30.284 | 30.288 | 30.292 | 30.296 | 30.300 | 30.304 | 30.308 | 30.312 |
| 770 | 30.316 | 30.319 | 30.323 | 30.327 | 30.331 | 30.335 | 30.339 | 30.343 | 30.347 | 30.351 |
| 771 | 30.355 | 30.359 | 30.363 | 30.367 | 30.371 | 30.375 | 30.379 | 30.382 | 30.386 | 30.390 |
| 772 | 30.394 | 30.398 | 30.402 | 30.406 | 30.410 | 30.414 | 30.418 | 30.422 | 30.426 | 30.430 |
| 773 | 30.434 | 30.438 | 30.441 | 30.445 | 30.449 | 30.453 | 30.457 | 30.461 | 30.465 | 30.469 |
| 774 | 30.473 | 30.477 | 30.481 | 30.485 | 30.489 | 30.493 | 30.497 | 30.501 | 30.504 | 30.508 |
| 775 | 30.512 | 30.516 | 30.520 | 30.524 | 30.528 | 30.532 | 30.536 | 30.540 | 30.544 | 30.548 |
| 776 | 30.552 | 30.556 | 30.560 | 30.564 | 30.567 | 30.571 | 30.575 | 30.579 | 30.583 | 30.587 |
| 777 | 30.591 | 30.595 | 30.599 | 30.603 | 30.607 | 30.611 | 30.615 | 30.619 | 30.623 | 30.627 |
| 778 | 30.630 | 30.634 | 30.638 | 30.642 | 30.646 | 30.650 | 30.654 | 30.658 | 30.662 | 30.666 |
| 779 | 30.670 | 30.674 | 30.678 | 30.682 | 30.686 | 30.690 | 30.693 | 30.697 | 30.701 | 30.705 |
| 780 | 30.709 | 30.713 | 30.717 | 30.721 | 30.725 | 30.729 | 30.733 | 30.737 | 30.741 | 30.745 |
| 781 | 30.749 | 30.753 | 30.756 | 30.760 | 30.764 | 30.768 | 30.772 | 30.776 | 30.780 | 30.784 |
| 782 | 30.788 | 30.792 | 30.796 | 30.800 | 30.804 | 30.808 | 30.812 | 30.816 | 30.819 | 30.823 |
| 783 | 30.827 | 30.831 | 30.835 | 30.839 | 30.843 | 30.847 | 30.851 | 30.855 | 30.859 | 30.863 |
| 784 | 30.867 | 30.871 | 30.875 | 30.879 | 30.882 | 30.886 | 30.890 | 30.894 | 30.898 | 30.902 |
| 785 | 30.906 | 30.910 | 30.914 | 30.918 | 30.922 | 30.926 | 30.930 | 30.934 | 30.938 | 30.942 |
| 786 | 30.945 | 30.949 | 30.953 | 30.957 | 30.961 | 30.965 | 30.969 | 30.973 | 30.977 | 30.981 |
| 787 | 30.985 | 30.989 | 30.993 | 30.997 | 31.001 | 31.004 | 31.008 | 31.012 | 31.016 | 31.020 |
| 788 | 31.024 | 31.028 | 31.032 | 31.036 | 31.040 | 31.044 | 31.048 | 31.052 | 31.056 | 31.060 |
| 789 | 31.064 | 31.067 | 31.071 | 31.075 | 31.079 | 31.083 | 31.087 | 31.091 | 31.095 | 31.099 |
| 790 | 31.103 | 31.107 | 31.111 | 31.115 | 31.119 | 31.123 | 31.127 | 31.130 | 31.134 | 31.138 |
| 791 | 31.142 | 31.146 | 31.150 | 31.154 | 31.158 | 31.162 | 31.166 | 31.170 | 31.174 | 31.178 |
| 792 | 31.182 | 31.186 | 31.190 | 31.193 | 31.197 | 31.201 | 31.205 | 31.209 | 31.213 | 31.217 |
| 793 | 31.221 | 31.225 | 31.229 | 31.233 | 31.237 | 31.241 | 31.245 | 31.249 | 31.253 | 31.256 |
| 994 | 31.260 | 31.264 | 31.268 | 31.272 | 31.276 | 31.280 | 31.284 | 31.288 | 31.292 | 31.296 |
| 795 | 31.300 | 31.304 | 31.308 | 31.312 | 31.316 | 31.319 | 31.323 | 31.327 | 31.331 | 31.335 |
| 796 | 31.339 | 31.343 | 31.347 | 31.351 | 31.355 | 31.359 | 31.363 | 31.367 | 31.371 | 31.375 |
| 797 | 31.379 | 31.382 | 31.386 | 31.390 | 31.394 | 31.398 | 31.402 | 31.406 | 31.410 | 31.414 |
| 798 | 31.418 | 31.422 | 31.426 | 31.430 | 31.434 | 31.438 | 31.442 | 31.445 | 31.449 | 31.453 |
| 799 | 31.457 | 31.461 | 31.465 | 31.469 | 31.473 | 31.477 | 31.481 | 31.485 | 31.489 | 31.493 |
| 800 | 31.497 | 31.501 | 31.505 | 31.508 | 31.512 | 31.516 | 31.520 | 31.524 | 31.528 | 31.532 |

| Hundredths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| .0000 | .0004 | .0008 | .0012 | .0016 | .0020 | .0024 | .0028 | .0031 | .0035 |

1 Millimetre = 0.443296 French or Paris Line.

| Millimetres. Tens. | Millimetres. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 300 | 132.99 | 133.43 | 133.88 | 134.32 | 134.76 | 135.21 | 135.65 | 136.09 | 136.54 | 136.98 |
| 310 | 137.42 | 137.87 | 138.31 | 138.75 | 139.19 | 139.64 | 140.08 | 140.52 | 140.97 | 141.41 |
| 320 | 141.85 | 142.30 | 142.74 | 143.18 | 143.63 | 144.07 | 144.51 | 144.96 | 145.40 | 145.84 |
| 330 | 146.29 | 146.73 | 147.17 | 147.62 | 148.06 | 148.50 | 148.95 | 149.39 | 149.83 | 150.28 |
| 340 | 150.72 | 151.16 | 151.61 | 152.05 | 152.49 | 152.94 | 153.38 | 153.82 | 154.27 | 154.71 |
| 350 | 155.15 | 155.60 | 156.04 | 156.48 | 156.93 | 157.37 | 157.81 | 158.26 | 158.70 | 159.14 |
| 360 | 159.59 | 160.03 | 160.47 | 160.92 | 161.36 | 161.80 | 162.25 | 162.69 | 163.13 | 163.58 |
| 370 | 164.02 | 164.46 | 164.91 | 165.35 | 165.79 | 166.24 | 166.68 | 167.12 | 167.57 | 168.01 |
| 380 | 168.45 | 168.90 | 169.34 | 169.78 | 170.23 | 170.67 | 171.11 | 171.56 | 172.00 | 172.44 |
| 390 | 172.89 | 173.33 | 173.77 | 174.22 | 174.66 | 175.10 | 175.55 | 175.99 | 176.43 | 176.88 |
| 400 | 177.32 | 177.76 | 178.20 | 178.65 | 179.09 | 179.53 | 179.98 | 180.42 | 180.86 | 181.31 |
| 410 | 181.75 | 182.19 | 182.64 | 183.08 | 183.52 | 183.97 | 184.41 | 184.85 | 185.30 | 185.74 |
| 420 | 186.18 | 186.63 | 187.07 | 187.51 | 187.96 | 188.40 | 188.84 | 189.29 | 189.73 | 190.17 |
| 430 | 190.62 | 191.06 | 191.50 | 191.95 | 192.39 | 192.83 | 193.28 | 193.72 | 194.16 | 194.61 |
| 440 | 195.05 | 195.49 | 195.94 | 196.38 | 196.82 | 197.27 | 197.71 | 198.15 | 198.60 | 199.04 |
| 450 | 199.48 | 199.93 | 200.37 | 200.81 | 201.26 | 201.70 | 202.14 | 202.59 | 203.03 | 203.47 |
| 460 | 203.92 | 204.36 | 204.80 | 205.25 | 205.69 | 206.13 | 206.58 | 207.02 | 207.46 | 207.91 |
| 470 | 208.35 | 208.79 | 209.24 | 209.68 | 210.12 | 210.57 | 211.01 | 211.45 | 211.90 | 212.34 |
| 480 | 212.78 | 213.23 | 213.67 | 214.11 | 214.56 | 215.00 | 215.44 | 215.88 | 216.33 | 216.77 |
| 490 | 217.22 | 217.66 | 218.10 | 218.54 | 218.99 | 219.43 | 219.87 | 220.32 | 220.76 | 221.20 |
| 500 | 221.65 | 222.09 | 222.53 | 222.98 | 223.42 | 223.86 | 224.31 | 224.75 | 225.19 | 225.64 |
| 510 | 226.08 | 226.52 | 226.97 | 227.41 | 227.85 | 228.30 | 228.74 | 229.18 | 229.63 | 230.07 |
| 520 | 230.51 | 230.96 | 231.40 | 231.84 | 232.29 | 232.73 | 233.17 | 233.62 | 234.06 | 234.50 |
| 530 | 234.95 | 235.39 | 235.83 | 236.28 | 236.72 | 237.16 | 237.61 | 238.05 | 238.49 | 238.94 |
| 540 | 239.38 | 239.82 | 240.27 | 240.71 | 241.15 | 241.60 | 242.04 | 242.48 | 242.93 | 243.37 |
| 550 | 243.81 | 244.26 | 244.70 | 245.14 | 245.59 | 246.03 | 246.47 | 246.92 | 247.36 | 247.80 |
| 560 | 248.25 | 248.69 | 249.13 | 249.57 | 250.01 | 250.46 | 250.91 | 251.35 | 251.79 | 252.24 |
| 570 | 252.68 | 253.12 | 253.57 | 254.01 | 254.45 | 254.90 | 255.34 | 255.78 | 256.23 | 256.67 |
| 580 | 257.11 | 257.55 | 258.00 | 258.44 | 258.88 | 259.32 | 259.77 | 260.21 | 260.66 | 261.10 |
| 590 | 261.54 | 261.99 | 262.43 | 262.87 | 263.32 | 263.76 | 264.20 | 264.65 | 265.09 | 265.53 |

| Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0.000 | 0.044 | 0.089 | 0.133 | 0.177 | 0.222 | 0.266 | 0.310 | 0.355 | 0.399 |

| Hundredths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.004 | 0.009 | 0.013 | 0.018 | 0.022 | 0.027 | 0.031 | 0.035 | 0.040 |

1 Millimetre = 0.443296 French Line.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 600 | 265.98 | 266.02 | 266.07 | 266.11 | 266.15 | 266.20 | 266.24 | 266.29 | 266.33 | 266.38 |
| 601 | 266.42 | 266.47 | 266.51 | 266.55 | 266.60 | 266.64 | 266.69 | 266.73 | 266.78 | 266.82 |
| 602 | 266.86 | 266.91 | 266.95 | 267.00 | 267.04 | 267.09 | 267.13 | 267.17 | 267.22 | 267.26 |
| 603 | 267.31 | 267.35 | 267.40 | 267.44 | 267.48 | 267.53 | 267.57 | 267.62 | 267.66 | 267.71 |
| 604 | 267.75 | 267.80 | 267.84 | 267.88 | 267.93 | 267.97 | 268.02 | 268.06 | 268.11 | 268.15 |
| 605 | 268.19 | 268.24 | 268.28 | 268.33 | 268.37 | 268.42 | 268.46 | 268.50 | 268.55 | 268.59 |
| 606 | 268.64 | 268.68 | 268.73 | 268.77 | 268.81 | 268.86 | 268.90 | 268.95 | 268.99 | 269.04 |
| 607 | 269.08 | 269.13 | 269.17 | 269.21 | 269.26 | 269.30 | 269.35 | 269.39 | 269.44 | 269.48 |
| 608 | 269.52 | 269.57 | 269.61 | 269.66 | 269.70 | 269.75 | 269.79 | 269.83 | 269.88 | 269.92 |
| 609 | 269.97 | 270.01 | 270.06 | 270.10 | 270.14 | 270.19 | 270.23 | 270.28 | 270.32 | 270.37 |
| 610 | 270.41 | 270.45 | 270.50 | 270.54 | 270.59 | 270.63 | 270.68 | 270.72 | 270.77 | 270.81 |
| 611 | 270.85 | 270.90 | 270.94 | 270.99 | 271.03 | 271.08 | 271.12 | 271.16 | 271.21 | 271.25 |
| 612 | 271.30 | 271.34 | 271.39 | 271.43 | 271.47 | 271.52 | 271.56 | 271.61 | 271.65 | 271.70 |
| 613 | 271.74 | 271.78 | 271.83 | 271.87 | 271.92 | 271.96 | 272.01 | 272.05 | 272.10 | 272.14 |
| 614 | 272.18 | 272.23 | 272.27 | 272.32 | 272.36 | 272.41 | 272.45 | 272.49 | 272.54 | 272.58 |
| 615 | 272.63 | 272.67 | 272.72 | 272.76 | 272.80 | 272.85 | 272.89 | 272.94 | 272.98 | 273.03 |
| 616 | 273.07 | 273.11 | 273.16 | 273.20 | 273.25 | 273.29 | 273.34 | 273.38 | 273.42 | 273.47 |
| 617 | 273.51 | 273.56 | 273.60 | 273.65 | 273.69 | 273.74 | 273.78 | 273.82 | 273.87 | 273.91 |
| 618 | 273.96 | 274.00 | 274.05 | 274.09 | 274.13 | 274.18 | 274.22 | 274.27 | 274.31 | 274.36 |
| 619 | 274.40 | 274.44 | 274.49 | 274.53 | 274.58 | 274.62 | 274.67 | 274.71 | 274.75 | 274.80 |
| 620 | 274.84 | 274.89 | 274.93 | 274.98 | 275.02 | 275.07 | 275.11 | 275.15 | 275.20 | 275.24 |
| 621 | 275.29 | 275.33 | 275.38 | 275.42 | 275.46 | 275.51 | 275.55 | 275.60 | 275.64 | 275.69 |
| 622 | 275.73 | 275.77 | 275.82 | 275.86 | 275.91 | 275.95 | 276.00 | 276.04 | 276.08 | 276.13 |
| 623 | 276.17 | 276.22 | 276.26 | 276.31 | 276.35 | 276.38 | 276.44 | 276.48 | 276.53 | 276.57 |
| 624 | 276.62 | 276.66 | 276.71 | 276.75 | 276.79 | 276.84 | 276.88 | 276.93 | 276.97 | 277.02 |
| 625 | 277.06 | 277.10 | 277.15 | 277.19 | 277.24 | 277.28 | 277.33 | 277.37 | 277.41 | 277.46 |
| 626 | 277.50 | 277.55 | 277.59 | 277.64 | 277.58 | 277.72 | 277.77 | 277.81 | 277.86 | 277.90 |
| 627 | 277.95 | 277.99 | 278.04 | 278.08 | 278.12 | 278.17 | 278.21 | 278.26 | 278.30 | 278.35 |
| 628 | 278.39 | 278.43 | 278.48 | 278.52 | 278.57 | 278.61 | 278.66 | 278.70 | 278.74 | 278.79 |
| 629 | 278.83 | 278.88 | 278.92 | 278.97 | 279.01 | 279.05 | 279.10 | 279.14 | 279.19 | 279.23 |
| 630 | 279.28 | 279.32 | 279.37 | 279.41 | 279.45 | 279.50 | 279.54 | 279.59 | 279.63 | 279.68 |
| 631 | 279.72 | 279.76 | 279.81 | 279.85 | 279.90 | 279.94 | 279.99 | 280.03 | 280.07 | 280.12 |
| 632 | 280.16 | 280.21 | 280.25 | 280.30 | 280.34 | 280.38 | 280.43 | 280.47 | 280.52 | 280.56 |
| 633 | 280.61 | 280.65 | 280.70 | 280.74 | 280.78 | 280.83 | 280.87 | 280.92 | 280.96 | 281.01 |
| 634 | 281.05 | 281.09 | 281.14 | 281.18 | 281.23 | 281.27 | 281.32 | 281.36 | 281.40 | 281.45 |
| 635 | 281.49 | 281.54 | 281.58 | 281.63 | 281.67 | 281.71 | 281.76 | 281.80 | 281.85 | 281.89 |
| 636 | 281.94 | 281.98 | 282.02 | 282.07 | 282.11 | 282.16 | 282.20 | 282.25 | 282.29 | 282.34 |
| 637 | 282.38 | 282.42 | 282.47 | 282.51 | 282.56 | 282.60 | 282.65 | 282.69 | 282.73 | 282.78 |
| 638 | 282.82 | 282.87 | 282.91 | 282.96 | 283.00 | 283.04 | 283.09 | 283.13 | 283.18 | 283.22 |
| 639 | 283.27 | 283.31 | 283.35 | 283.40 | 283.44 | 283.49 | 283.53 | 283.58 | 283.62 | 283.67 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Millimetre = 0.443296 French Line.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 640 | 283.71 | 283.75 | 283.80 | 283.84 | 283.89 | 283.93 | 283.98 | 284.02 | 284.06 | 284.11 |
| 641 | 284.15 | 284.20 | 284.24 | 284.29 | 284.33 | 284.37 | 284.42 | 284.46 | 284.51 | 284.55 |
| 642 | 284.60 | 284.64 | 284.68 | 284.73 | 284.77 | 284.82 | 284.86 | 284.91 | 284.95 | 284.99 |
| 643 | 285.04 | 285.08 | 285.13 | 285.17 | 285.22 | 285.26 | 285.31 | 285.35 | 285.39 | 285.44 |
| 644 | 285.48 | 285.53 | 285.57 | 285.62 | 285.66 | 285.70 | 285.75 | 285.79 | 285.84 | 285.88 |
| 645 | 285.93 | 285.97 | 286.01 | 286.06 | 286.10 | 286.15 | 286.19 | 286.24 | 286.28 | 286.32 |
| 646 | 286.37 | 286.41 | 286.46 | 286.50 | 286.55 | 286.59 | 286.64 | 286.68 | 286.72 | 286.77 |
| 647 | 286.81 | 286.86 | 286.90 | 286.95 | 286.99 | 287.03 | 287.08 | 287.12 | 287.17 | 287.21 |
| 648 | 287.26 | 287.30 | 287.34 | 287.39 | 287.43 | 287.48 | 287.52 | 287.57 | 287.61 | 287.65 |
| 649 | 287.70 | 287.74 | 287.79 | 287.83 | 287.88 | 287.92 | 287.96 | 288.01 | 288.05 | 288.10 |
| 650 | 288.14 | 288.19 | 288.23 | 288.28 | 288.32 | 288.36 | 288.41 | 288.45 | 288.50 | 288.54 |
| 651 | 288.59 | 288.63 | 288.67 | 288.72 | 288.76 | 288.81 | 288.85 | 288.90 | 288.94 | 288.98 |
| 652 | 289.03 | 289.07 | 289.12 | 289.16 | 289.21 | 289.25 | 289.29 | 289.34 | 289.38 | 289.43 |
| 653 | 289.47 | 289.52 | 289.56 | 289.61 | 289.65 | 289.69 | 289.74 | 289.78 | 289.83 | 289.87 |
| 654 | 289.92 | 289.96 | 290.00 | 290.05 | 290.09 | 290.14 | 290.18 | 290.23 | 290.27 | 290.31 |
| 655 | 290.36 | 290.40 | 290.45 | 290.49 | 290.54 | 290.58 | 290.62 | 290.67 | 290.71 | 290.76 |
| 656 | 290.80 | 290.85 | 290.89 | 290.94 | 290.98 | 291.02 | 291.07 | 291.11 | 291.16 | 291.20 |
| 657 | 291.25 | 291.29 | 291.33 | 291.38 | 291.42 | 291.47 | 291.51 | 291.56 | 291.60 | 291.64 |
| 658 | 291.69 | 291.73 | 291.78 | 291.82 | 291.87 | 291.91 | 291.95 | 292.00 | 292.04 | 292.09 |
| 659 | 292.13 | 292.18 | 292.22 | 292.26 | 292.31 | 292.35 | 292.40 | 292.44 | 292.49 | 292.53 |
| 660 | 292.58 | 292.62 | 292.66 | 292.71 | 292.75 | 292.80 | 292.84 | 292.89 | 292.93 | 292.97 |
| 661 | 293.02 | 293.06 | 293.11 | 293.15 | 293.20 | 293.24 | 293.28 | 293.33 | 293.37 | 293.42 |
| 662 | 293.46 | 293.51 | 293.55 | 293.59 | 293.64 | 293.68 | 293.73 | 293.77 | 293.82 | 293.86 |
| 663 | 293.91 | 293.95 | 293.99 | 294.04 | 294.08 | 294.13 | 294.17 | 294.22 | 294.26 | 294.30 |
| 664 | 294.35 | 294.39 | 294.44 | 294.48 | 294.53 | 294.57 | 294.61 | 294.66 | 294.70 | 294.75 |
| 665 | 294.79 | 294.84 | 294.88 | 294.92 | 294.97 | 295.01 | 295.06 | 295.10 | 295.15 | 295.19 |
| 666 | 295.24 | 295.28 | 295.32 | 295.37 | 295.41 | 295.46 | 295.50 | 295.55 | 295.59 | 295.63 |
| 667 | 295.68 | 295.72 | 295.77 | 295.81 | 295.86 | 295.90 | 295.94 | 295.99 | 296.03 | 296.08 |
| 668 | 296.12 | 296.17 | 296.21 | 296.25 | 296.30 | 296.34 | 296.39 | 296.43 | 296.48 | 296.52 |
| 669 | 296.56 | 296.61 | 296.65 | 296.70 | 296.74 | 296.79 | 296.83 | 296.88 | 296.92 | 296.96 |
| 670 | 297.01 | 297.05 | 297.10 | 297.14 | 297.19 | 297.23 | 297.27 | 297.32 | 297.36 | 297.41 |
| 671 | 297.45 | 297.50 | 297.54 | 297.58 | 297.63 | 297.67 | 297.72 | 297.76 | 297.81 | 297.85 |
| 672 | 297.89 | 297.94 | 297.98 | 298.03 | 298.07 | 298.12 | 298.16 | 298.21 | 298.25 | 298.29 |
| 673 | 298.34 | 298.38 | 298.43 | 298.47 | 298.52 | 298.56 | 298.60 | 298.65 | 298.69 | 298.74 |
| 674 | 298.78 | 298.83 | 298.87 | 298.91 | 298.96 | 299.00 | 299.05 | 299.09 | 299.14 | 299.18 |
| 675 | 299.22 | 299.27 | 299.31 | 299.36 | 299.40 | 299.45 | 299.49 | 299.54 | 299.58 | 299.62 |
| 676 | 299.67 | 299.71 | 299.76 | 299.80 | 299.85 | 299.89 | 299.93 | 299.98 | 300.02 | 300.07 |
| 677 | 300.11 | 300.16 | 300.20 | 300.24 | 300.29 | 300.33 | 300.38 | 300.42 | 300.47 | 300.51 |
| 678 | 300.55 | 300.60 | 300.64 | 300.69 | 300.73 | 300.78 | 300.82 | 300.86 | 300.91 | 300.95 |
| 679 | 301.00 | 301.04 | 301.09 | 301.13 | 301.18 | 301.22 | 301.26 | 301.31 | 301.35 | 301.40 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Millimetre = 0.443296 French 1 line.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 680 | 301.44 | 301.49 | 301.53 | 301.57 | 301.62 | 301.66 | 301.71 | 301.75 | 301.80 | 301.84 |
| 681 | 301.88 | 301.93 | 301.97 | 302.02 | 302.06 | 302.11 | 302.15 | 302.19 | 302.24 | 302.28 |
| 682 | 302.33 | 302.37 | 302.42 | 302.46 | 302.51 | 302.55 | 302.59 | 302.64 | 302.68 | 302.73 |
| 683 | 302.77 | 302.82 | 302.86 | 302.90 | 302.95 | 302.99 | 303.04 | 303.08 | 303.13 | 303.17 |
| 684 | 303.21 | 303.26 | 303.30 | 303.35 | 303.39 | 303.44 | 303.48 | 303.52 | 303.57 | 303.61 |
| 685 | 303.66 | 303.70 | 303.75 | 303.79 | 303.83 | 303.88 | 303.92 | 303.97 | 304.01 | 304.06 |
| 686 | 304.10 | 304.15 | 304.19 | 304.23 | 304.28 | 304.32 | 304.37 | 304.41 | 304.46 | 304.50 |
| 687 | 304.54 | 304.59 | 304.63 | 304.68 | 304.72 | 304.77 | 304.81 | 304.85 | 304.90 | 304.94 |
| 688 | 304.99 | 305.03 | 305.08 | 305.12 | 305.16 | 305.21 | 305.25 | 305.30 | 305.34 | 305.39 |
| 689 | 305.43 | 305.48 | 305.52 | 305.56 | 305.61 | 305.65 | 305.70 | 305.74 | 305.79 | 305.83 |
| 690 | 305.87 | 305.92 | 305.96 | 306.01 | 306.05 | 306.10 | 306.14 | 306.18 | 306.23 | 306.27 |
| 691 | 306.32 | 306.36 | 306.41 | 306.45 | 306.49 | 306.54 | 306.58 | 306.63 | 306.67 | 306.72 |
| 692 | 306.76 | 306.81 | 306.85 | 306.89 | 306.94 | 306.98 | 307.03 | 307.07 | 307.12 | 307.16 |
| 693 | 307.20 | 307.25 | 307.29 | 307.34 | 307.38 | 307.43 | 307.47 | 307.51 | 307.56 | 307.60 |
| 694 | 307.65 | 307.69 | 307.74 | 307.78 | 307.82 | 307.87 | 307.91 | 307.96 | 308.00 | 308.05 |
| 695 | 308.09 | 308.13 | 308.18 | 308.22 | 308.27 | 308.31 | 308.36 | 308.40 | 308.45 | 308.49 |
| 696 | 308.53 | 308.58 | 308.62 | 308.67 | 308.71 | 308.76 | 308.80 | 308.84 | 308.89 | 308.93 |
| 697 | 308.98 | 309.02 | 309.07 | 309.11 | 309.15 | 309.20 | 309.24 | 309.29 | 309.33 | 309.38 |
| 698 | 309.42 | 309.46 | 309.51 | 309.55 | 309.60 | 309.64 | 309.69 | 309.73 | 309.78 | 309.82 |
| 699 | 309.86 | 309.91 | 309.95 | 310.00 | 310.04 | 310.09 | 310.13 | 310.17 | 310.22 | 310.26 |
| 700 | 310.31 | 310.35 | 310.40 | 310.44 | 310.48 | 310.53 | 310.57 | 310.62 | 310.66 | 310.71 |
| 701 | 310.75 | 310.79 | 310.84 | 310.88 | 310.93 | 310.97 | 311.02 | 311.06 | 311.11 | 311.15 |
| 702 | 311.19 | 311.24 | 311.28 | 311.33 | 311.37 | 311.42 | 311.46 | 311.50 | 311.55 | 311.59 |
| 703 | 311.64 | 311.68 | 311.73 | 311.77 | 311.81 | 311.86 | 311.90 | 311.95 | 311.99 | 312.04 |
| 704 | 312.08 | 312.12 | 312.17 | 312.21 | 312.26 | 312.30 | 312.35 | 312.39 | 312.43 | 312.48 |
| 705 | 312.52 | 312.57 | 312.61 | 312.66 | 312.70 | 312.75 | 312.79 | 312.83 | 312.88 | 312.92 |
| 706 | 312.97 | 313.01 | 313.06 | 313.10 | 313.14 | 313.19 | 313.23 | 313.28 | 313.32 | 313.37 |
| 707 | 313.41 | 313.45 | 313.50 | 313.54 | 313.59 | 313.63 | 313.68 | 313.72 | 313.76 | 313.81 |
| 708 | 313.85 | 313.90 | 313.94 | 313.99 | 314.03 | 314.08 | 314.12 | 314.16 | 314.21 | 314.25 |
| 709 | 314.30 | 314.34 | 314.39 | 314.43 | 314.47 | 314.52 | 314.56 | 314.61 | 314.65 | 314.70 |
| 710 | 314.74 | 314.78 | 314.83 | 314.87 | 314.92 | 314.96 | 315.01 | 315.05 | 315.09 | 315.14 |
| 711 | 315.18 | 315.23 | 315.27 | 315.32 | 315.36 | 315.41 | 315.45 | 315.49 | 315.54 | 315.58 |
| 712 | 315.63 | 315.67 | 315.72 | 315.76 | 315.80 | 315.85 | 315.89 | 315.94 | 315.98 | 316.03 |
| 713 | 316.07 | 316.11 | 316.16 | 316.20 | 316.25 | 316.29 | 316.34 | 316.38 | 316.42 | 316.47 |
| 714 | 316.51 | 316.56 | 316.60 | 316.65 | 316.69 | 316.73 | 316.78 | 316.82 | 316.87 | 316.91 |
| 715 | 316.96 | 317.00 | 317.05 | 317.09 | 317.13 | 317.18 | 317.22 | 317.27 | 317.31 | 317.36 |
| 716 | 317.40 | 317.44 | 317.49 | 317.53 | 317.58 | 317.62 | 317.67 | 317.71 | 317.75 | 317.80 |
| 717 | 317.84 | 317.89 | 317.93 | 317.98 | 318.02 | 318.06 | 318.11 | 318.15 | 318.20 | 318.24 |
| 718 | 318.29 | 318.33 | 318.38 | 318.42 | 318.46 | 318.51 | 318.55 | 318.60 | 318.64 | 318.69 |
| 719 | 318.73 | 318.77 | 318.82 | 318.86 | 318.91 | 318.95 | 319.00 | 319.04 | 319.08 | 319.13 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Millimetre = 0.443296 French Line.

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 720 | 319.17 | 319.22 | 319.26 | 319.31 | 319.35 | 319.39 | 319.44 | 319.48 | 319.53 | 319.57 |
| 721 | 319.62 | 319.66 | 319.70 | 319.75 | 319.79 | 319.84 | 319.88 | 319.93 | 319.97 | 320.02 |
| 722 | 320.06 | 320.10 | 320.15 | 320.19 | 320.24 | 320.28 | 320.33 | 320.37 | 320.41 | 320.46 |
| 723 | 320.50 | 320.55 | 320.59 | 320.64 | 320.68 | 320.72 | 320.77 | 320.81 | 320.86 | 320.90 |
| 724 | 320.95 | 320.99 | 321.03 | 321.08 | 321.12 | 321.17 | 321.21 | 321.26 | 321.30 | 321.35 |
| 725 | 321.39 | 321.43 | 321.48 | 321.52 | 321.57 | 321.61 | 321.66 | 321.70 | 321.74 | 321.79 |
| 726 | 321.83 | 321.88 | 321.92 | 321.97 | 322.01 | 322.05 | 322.10 | 322.14 | 322.19 | 322.23 |
| 727 | 322.28 | 322.32 | 322.36 | 322.41 | 322.45 | 322.50 | 322.54 | 322.59 | 322.63 | 322.68 |
| 728 | 322.72 | 322.76 | 322.81 | 322.85 | 322.90 | 322.94 | 322.99 | 323.03 | 323.07 | 323.12 |
| 729 | 323.16 | 323.21 | 323.25 | 323.30 | 323.34 | 323.38 | 323.43 | 323.47 | 323.52 | 323.56 |
| 730 | 323.61 | 323.65 | 323.69 | 323.74 | 323.78 | 323.83 | 323.87 | 323.92 | 323.96 | 324.00 |
| 731 | 324.05 | 324.09 | 324.14 | 324.18 | 324.23 | 324.27 | 324.32 | 324.36 | 324.40 | 324.45 |
| 732 | 324.49 | 324.54 | 324.58 | 324.63 | 324.67 | 324.71 | 324.76 | 324.80 | 324.85 | 324.89 |
| 733 | 324.94 | 324.98 | 325.02 | 325.07 | 325.11 | 325.16 | 325.20 | 325.25 | 325.29 | 325.33 |
| 734 | 325.38 | 325.42 | 325.47 | 325.51 | 325.56 | 325.60 | 325.65 | 325.69 | 325.73 | 325.78 |
| 735 | 325.82 | 325.87 | 325.91 | 325.96 | 326.00 | 326.04 | 326.09 | 326.13 | 326.18 | 326.22 |
| 736 | 326.27 | 326.31 | 326.35 | 326.40 | 326.44 | 326.49 | 326.53 | 326.58 | 326.62 | 326.66 |
| 737 | 326.71 | 326.75 | 326.80 | 326.84 | 326.89 | 326.93 | 326.98 | 327.02 | 327.06 | 327.11 |
| 738 | 327.15 | 327.20 | 327.24 | 327.29 | 327.33 | 327.37 | 327.42 | 327.46 | 327.51 | 327.55 |
| 739 | 327.60 | 327.64 | 327.68 | 327.73 | 327.77 | 327.82 | 327.86 | 327.91 | 327.95 | 327.99 |
| 740 | 328.04 | 328.08 | 328.13 | 328.17 | 328.22 | 328.26 | 328.30 | 328.35 | 328.39 | 328.44 |
| 741 | 328.48 | 328.53 | 328.57 | 328.62 | 328.66 | 328.70 | 328.75 | 328.79 | 328.84 | 328.88 |
| 742 | 328.93 | 328.97 | 329.01 | 329.06 | 329.10 | 329.15 | 329.19 | 329.24 | 329.28 | 329.32 |
| 743 | 329.37 | 329.41 | 329.46 | 329.50 | 329.55 | 329.59 | 329.63 | 329.68 | 329.72 | 329.77 |
| 744 | 329.81 | 329.86 | 329.90 | 329.95 | 329.99 | 330.03 | 330.08 | 330.12 | 330.17 | 330.21 |
| 745 | 330.26 | 330.30 | 330.34 | 330.39 | 330.43 | 330.48 | 330.52 | 330.57 | 330.61 | 330.65 |
| 746 | 330.70 | 330.74 | 330.79 | 330.83 | 330.88 | 330.92 | 330.96 | 331.01 | 331.05 | 331.10 |
| 747 | 331.14 | 331.19 | 331.23 | 331.28 | 331.32 | 331.36 | 331.41 | 331.45 | 331.50 | 331.54 |
| 748 | 331.59 | 331.63 | 331.67 | 331.72 | 331.76 | 331.81 | 331.85 | 331.90 | 331.94 | 331.98 |
| 749 | 332.03 | 332.07 | 332.12 | 332.16 | 332.21 | 332.25 | 332.29 | 332.34 | 332.38 | 332.43 |
| 750 | 332.47 | 332.52 | 332.56 | 332.60 | 332.65 | 332.69 | 332.74 | 332.78 | 332.83 | 332.87 |
| 751 | 332.92 | 332.96 | 333.00 | 333.05 | 333.09 | 333.14 | 333.18 | 333.23 | 333.27 | 333.31 |
| 752 | 333.36 | 333.40 | 333.45 | 333.49 | 333.54 | 333.58 | 333.62 | 333.67 | 333.71 | 333.76 |
| 753 | 333.80 | 333.85 | 333.89 | 333.93 | 333.98 | 334.02 | 334.07 | 334.11 | 334.16 | 334.20 |
| 754 | 334.25 | 334.29 | 334.33 | 334.38 | 334.42 | 334.47 | 334.51 | 334.56 | 334.60 | 334.64 |
| 755 | 334.69 | 334.73 | 334.78 | 334.82 | 334.87 | 334.91 | 334.95 | 335.00 | 335.04 | 335.09 |
| 756 | 335.13 | 335.18 | 335.22 | 335.26 | 335.31 | 335.35 | 335.40 | 335.44 | 335.49 | 335.53 |
| 757 | 335.58 | 335.62 | 335.66 | 335.71 | 335.75 | 335.80 | 335.84 | 335.89 | 335.93 | 335.97 |
| 758 | 336.02 | 336.06 | 336.11 | 336.15 | 336.20 | 336.24 | 336.28 | 336.33 | 336.37 | 336.42 |
| 759 | 336.46 | 336.51 | 336.55 | 336.59 | 336.64 | 336.68 | 336.73 | 336.77 | 336.82 | 336.86 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Millimetre = 0.443296 French Line

| Millimetres. | Tenths of Millimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. | Par.lines. |
| 760 | 336.90 | 336.95 | 336.99 | 337.04 | 337.08 | 337.13 | 337.17 | 337.22 | 337.26 | 337.30 |
| 761 | 337.35 | 337.39 | 337.44 | 337.48 | 337.53 | 337.57 | 337.61 | 337.66 | 337.70 | 337.75 |
| 762 | 337.79 | 337.84 | 337.88 | 337.92 | 337.97 | 338.01 | 338.06 | 338.10 | 338.15 | 338.19 |
| 763 | 338.23 | 338.28 | 338.32 | 338.37 | 338.41 | 338.46 | 338.50 | 338.55 | 338.59 | 338.63 |
| 764 | 338.68 | 338.72 | 338.77 | 338.81 | 338.86 | 338.90 | 338.94 | 338.99 | 339.03 | 339.08 |
| 765 | 339.12 | 339.17 | 339.21 | 339.25 | 339.30 | 339.34 | 339.39 | 339.43 | 339.48 | 339.52 |
| 766 | 339.56 | 339.61 | 339.65 | 339.70 | 339.74 | 339.79 | 339.83 | 339.87 | 339.92 | 339.96 |
| 767 | 340.01 | 340.05 | 340.10 | 340.14 | 340.19 | 340.23 | 340.27 | 340.32 | 340.36 | 340.41 |
| 768 | 340.45 | 340.50 | 340.54 | 340.58 | 340.63 | 340.67 | 340.72 | 340.76 | 340.81 | 340.85 |
| 769 | 340.89 | 340.94 | 340.98 | 341.03 | 341.07 | 341.12 | 341.16 | 341.20 | 341.25 | 341.29 |
| 770 | 341.34 | 341.38 | 341.43 | 341.47 | 341.52 | 341.56 | 341.60 | 341.65 | 341.69 | 341.74 |
| 771 | 341.78 | 341.83 | 341.87 | 341.91 | 341.96 | 342.00 | 342.05 | 342.09 | 342.14 | 342.18 |
| 772 | 342.22 | 342.27 | 342.31 | 342.36 | 342.40 | 342.45 | 342.49 | 342.53 | 342.58 | 342.62 |
| 773 | 342.67 | 342.71 | 342.76 | 342.80 | 342.85 | 342.89 | 342.93 | 342.98 | 343.02 | 343.07 |
| 774 | 343.11 | 343.16 | 343.20 | 343.24 | 343.29 | 343.33 | 343.38 | 343.42 | 343.47 | 343.51 |
| 775 | 343.55 | 343.60 | 343.64 | 343.69 | 343.73 | 343.78 | 343.82 | 343.86 | 343.91 | 343.95 |
| 776 | 344.00 | 344.04 | 344.09 | 344.13 | 344.17 | 344.22 | 344.26 | 344.31 | 344.35 | 344.40 |
| 777 | 344.44 | 344.49 | 344.53 | 344.57 | 344.62 | 344.66 | 344.71 | 344.75 | 344.80 | 344.84 |
| 778 | 344.88 | 344.93 | 344.97 | 345.02 | 345.06 | 345.11 | 345.15 | 345.19 | 345.24 | 345.28 |
| 779 | 345.33 | 345.37 | 345.42 | 345.46 | 345.50 | 345.55 | 345.59 | 345.64 | 345.68 | 345.73 |
| 780 | 345.77 | 345.82 | 345.86 | 345.90 | 345.95 | 345.99 | 346.04 | 346.08 | 346.13 | 346.17 |
| 781 | 346.21 | 346.26 | 346.30 | 346.35 | 346.39 | 346.44 | 346.48 | 346.52 | 346.57 | 346.61 |
| 782 | 346.66 | 346.70 | 346.75 | 346.79 | 346.83 | 346.88 | 346.92 | 346.97 | 347.01 | 347.06 |
| 783 | 347.10 | 347.15 | 347.19 | 347.23 | 347.28 | 347.32 | 347.37 | 347.41 | 347.46 | 347.50 |
| 784 | 347.54 | 347.59 | 347.63 | 347.68 | 347.72 | 347.77 | 347.81 | 347.85 | 347.90 | 347.94 |
| 785 | 347.99 | 348.03 | 348.08 | 348.12 | 348.16 | 348.21 | 348.25 | 348.30 | 348.34 | 348.39 |
| 786 | 348.43 | 348.47 | 348.52 | 348.56 | 348.61 | 348.65 | 348.70 | 348.74 | 348.79 | 348.83 |
| 787 | 348.87 | 348.92 | 348.96 | 349.01 | 349.05 | 349.10 | 349.14 | 349.18 | 349.23 | 349.27 |
| 788 | 349.32 | 349.36 | 349.41 | 349.45 | 349.49 | 349.54 | 349.58 | 349.63 | 349.67 | 349.72 |
| 789 | 349.76 | 349.80 | 349.85 | 349.89 | 349.94 | 349.98 | 350.03 | 350.07 | 350.12 | 350.16 |
| 790 | 350.20 | 350.25 | 350.29 | 350.34 | 350.38 | 350.43 | 350.47 | 350.51 | 350.56 | 350.60 |
| 791 | 350.65 | 350.69 | 350.74 | 350.78 | 350.82 | 350.87 | 350.91 | 350.96 | 351.00 | 351.05 |
| 792 | 351.09 | 351.13 | 351.18 | 351.22 | 351.27 | 351.31 | 351.36 | 351.40 | 351.44 | 351.49 |
| 793 | 351.53 | 351.58 | 351.62 | 351.67 | 351.71 | 351.76 | 351.80 | 351.84 | 351.89 | 351.93 |
| 794 | 351.98 | 352.02 | 352.07 | 352.11 | 352.15 | 352.20 | 352.24 | 352.29 | 352.33 | 352.38 |
| 795 | 352.42 | 352.46 | 352.51 | 352.55 | 352.60 | 352.64 | 352.69 | 352.73 | 352.77 | 352.82 |
| 796 | 352.86 | 352.91 | 352.95 | 353.00 | 353.04 | 353.09 | 353.13 | 353.17 | 353.22 | 353.26 |
| 797 | 353.31 | 353.35 | 353.40 | 353.44 | 353.48 | 353.53 | 353.57 | 353.62 | 353.66 | 353.71 |
| 798 | 353.75 | 353.79 | 353.84 | 353.88 | 353.93 | 353.97 | 354.02 | 354.06 | 354.10 | 354.15 |
| 799 | 354.19 | 354.24 | 354.28 | 354.33 | 354.37 | 354.42 | 354.46 | 354.50 | 354.55 | 354.59 |
| 800 | 354.64 | 354.68 | 354.73 | 354.77 | 354.81 | 354.86 | 354.90 | 354.95 | 354.99 | 355.04 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# V.–VI.

## COMPARISON

OF

# THE OLD FRENCH BAROMETER

WITH

## THE ENGLISH AND THE METRICAL BAROMETERS,

OR

# TABLES

FOR CONVERTING FRENCH OR PARIS LINES INTO ENGLISH INCHES AND DECIMALS, AND INTO MILLIMETRES;

GIVING THE VALUES CORRESPONDING TO EVERY PARIS LINE FROM 120 TO 216 LINES, OR FROM 10 TO 18 INCHES; AND TO EVERY TENTH OF A LINE FROM 216 TO 348 LINES, OR FROM 18 TO 29 FRENCH INCHES.

## TABLE V.

MM. J. J. Pohl and J. Schabus have published, in the number for March, 1852, of the *Proceedings of the Imperial Academy of Vienna, Class of Mathematics and Natural Philosophy*, a set of short Thermometrical and Barometrical Reduction Tables, among which is found a table for the reduction of the Old French Barometrical Scale into the English. As this table shows slight discrepancies from the one given in the following pages, it may not be out of place to state that they arise from an accidental error in the equation used by MM. Pohl and Schabus in computing their table. Adopting, as they do, Bird's value of the metre, viz.

1 metre = 39.37062 English inches,

the value of the Paris line is

1 Paris line = 0.088813 English inches.

But the table seems to have been computed by using the equation

1 Paris line = 0.088823 English inches,

which gives, at the end of the table,

348 lines × .088823 = 30.9104 English inches,

instead of

348 " × .088813 = 30.9069 " "

thus causing an error = 0.0035 " "

which, of course, gradually diminishes in lower numbers.

1 Paris Line = 0.088814 English Inch.

| French or Paris Lines. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Inch. | Eng. In. | Eng In. | Eng. In. | Eng. In. | Eng In | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 120 | 10.658 | 10.746 | 10.835 | 10.924 | 11.013 | 11.102 | 11.191 | 11.279 | 11.368 | 11.457 |
| 130 | 11.546 | 11.635 | 11.723 | 11.812 | 11.901 | 11.990 | 12.079 | 12.168 | 12.256 | 12.345 |
| 140 | 12.434 | 12.523 | 12.612 | 12.700 | 12.789 | 12.878 | 12.967 | 13.056 | 13.144 | 13.233 |
| 150 | 13.322 | 13.411 | 13.500 | 13.589 | 13.677 | 13.766 | 13.855 | 13.944 | 14.033 | 14.121 |
| 160 | 14.210 | 14.299 | 14.388 | 14.477 | 14.565 | 14.654 | 14.743 | 14.832 | 14.921 | 15.010 |
| 170 | 15.098 | 15.187 | 15.276 | 15.365 | 15.454 | 15.542 | 15.631 | 15.720 | 15.809 | 15.898 |
| 180 | 15.987 | 16.075 | 16.164 | 16.253 | 16.342 | 16.431 | 16.519 | 16.608 | 16.697 | 16.786 |
| 190 | 16.875 | 16.963 | 17.052 | 17.141 | 17.230 | 17.319 | 17.408 | 17.496 | 17.585 | 17.674 |
| 200 | 17.763 | 17.852 | 17.940 | 18.029 | 18.118 | 18.207 | 18.296 | 18.384 | 18.473 | 18.562 |
| 210 | 18.651 | 18.740 | 18.829 | 18.917 | 19.006 | 19.095 | 19.184 | 19.273 | 19.361 | 19.450 |

| Paris Lines. | Tenths. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Inch. | Eng. In. | Eng. In. | Eng. In. | Eng In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In |
| 216 | 19.184 | 19.193 | 19.202 | 19.210 | 19.219 | 19.228 | 19.237 | 19.246 | 19.255 | 19.264 |
| 217 | 19.273 | 19.282 | 19.290 | 19.299 | 19.308 | 19.317 | 19.326 | 19.335 | 19.344 | 19.353 |
| 218 | 19.361 | 19.370 | 19.379 | 19.388 | 19.397 | 19.406 | 19.415 | 19.424 | 19.433 | 19.441 |
| 219 | 19.450 | 19.459 | 19.468 | 19.477 | 19.486 | 19.495 | 19.504 | 19.512 | 19.521 | 19.530 |
| 220 | 19.539 | 19.548 | 19.557 | 19.566 | 19.575 | 19.583 | 19.592 | 19.601 | 19.610 | 19.619 |
| 221 | 19.628 | 19.637 | 19.646 | 19.655 | 19.663 | 19.672 | 19.681 | 19.690 | 19.699 | 19.708 |
| 222 | 19.717 | 19.726 | 19.734 | 19.743 | 19.752 | 19.761 | 19.770 | 19.779 | 19.788 | 19.797 |
| 223 | 19.806 | 19.814 | 19.823 | 19.832 | 19.840 | 19.850 | 19.859 | 19.868 | 19.877 | 19.885 |
| 224 | 19.894 | 19.903 | 19.912 | 19.921 | 19.930 | 19.939 | 19.948 | 19.957 | 19.965 | 19.974 |
| 225 | 19.983 | 19.992 | 20.001 | 20.010 | 20.019 | 20.028 | 20.036 | 20.045 | 20.054 | 20.063 |
| 226 | 20.072 | 20.081 | 20.090 | 20.099 | 20.107 | 20.116 | 20.125 | 20.134 | 20.143 | 20.152 |
| 227 | 20.161 | 20.170 | 20.179 | 20.187 | 20.196 | 20.205 | 20.214 | 20.223 | 20.232 | 20.241 |
| 19 Inch. | | | | | | | | | | |
| 228 | 20.250 | 20.258 | 20.267 | 20.276 | 20.285 | 20.294 | 20.303 | 20.312 | 20.321 | 20.330 |
| 229 | 20.338 | 20.347 | 20.356 | 20.365 | 20.374 | 20.383 | 20.392 | 20.401 | 20.409 | 20.418 |
| 230 | 20.427 | 20.436 | 20.445 | 20.454 | 20.463 | 20.472 | 20.481 | 20.489 | 20.498 | 20.507 |
| 231 | 20.516 | 20.525 | 20.534 | 20.543 | 20.552 | 20.560 | 20.569 | 20.578 | 20.587 | 20.596 |
| 232 | 20.605 | 20.614 | 20.623 | 20.631 | 20.640 | 20.649 | 20.658 | 20.667 | 20.676 | 20.685 |
| 233 | 20.694 | 20.703 | 20.711 | 20.720 | 20.729 | 20.738 | 20.747 | 20.756 | 20.765 | 20.774 |
| 234 | 20.782 | 20.791 | 20.800 | 20.809 | 20.818 | 20.827 | 20.836 | 20.845 | 20.854 | 20.862 |
| 235 | 20.871 | 20.880 | 20.889 | 20.898 | 20.907 | 20.916 | 20.925 | 20.933 | 20.942 | 20.951 |
| 236 | 20.960 | 20.969 | 20.978 | 20.987 | 20.996 | 21.005 | 21.013 | 21.022 | 21.031 | 21.040 |
| 237 | 21.049 | 21.058 | 21.067 | 21.076 | 21.084 | 21.093 | 21.102 | 21.111 | 21.120 | 21.129 |
| 238 | 21.138 | 21.147 | 21.155 | 21.164 | 21.173 | 21.182 | 21.191 | 21.200 | 21.209 | 21.218 |
| 239 | 21.227 | 21.235 | 21.244 | 21.253 | 21.262 | 21.271 | 21.280 | 21.289 | 21.298 | 21.306 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .001 | .002 | .003 | .004 | .004 | .005 | .006 | .007 | .008 |

1 Paris Line = 0.088814 English Inch.

| French or Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 20 Inches. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 240 | 21.315 | 21.324 | 21.333 | 21.342 | 21.351 | 21.360 | 21.369 | 21.378 | 21.386 | 21.395 |
| 241 | 21.404 | 21.413 | 21.422 | 21.431 | 21.440 | 21.449 | 21.457 | 21.466 | 21.475 | 21.484 |
| 242 | 21.493 | 21.502 | 21.511 | 21.520 | 21.529 | 21.537 | 21.546 | 21.555 | 21.564 | 21.573 |
| 243 | 21.582 | 21.591 | 21.600 | 21.608 | 21.617 | 21.626 | 21.635 | 21.644 | 21.653 | 21.662 |
| 244 | 21.671 | 21.679 | 21.688 | 21.697 | 21.706 | 21.715 | 21.724 | 21.733 | 21.742 | 21.751 |
| 245 | 21.759 | 21.768 | 21.777 | 21.786 | 21.795 | 21.804 | 21.813 | 21.822 | 21.830 | 21.839 |
| 246 | 21.848 | 21.857 | 21.866 | 21.875 | 21.884 | 21.893 | 21.902 | 21.910 | 21.919 | 21.928 |
| 247 | 21.937 | 21.946 | 21.955 | 21.964 | 21.973 | 21.981 | 21.990 | 21.999 | 22.008 | 22.017 |
| 248 | 22.026 | 22.035 | 22.044 | 22.053 | 22.061 | 22.070 | 22.079 | 22.088 | 22.097 | 22.106 |
| 249 | 22.115 | 22.124 | 22.132 | 22.141 | 22.150 | 22.159 | 22.168 | 22.177 | 22 186 | 22.195 |
| 250 | 22.203 | 22.212 | 22.221 | 22.230 | 22.239 | 22.248 | 22.257 | 22.266 | 22.275 | 22.283 |
| 251 | 22.292 | 22.301 | 22.310 | 22.319 | 22.328 | 22.337 | 22.346 | 22.354 | 22.363 | 22.372 |
| 21 In. = | | | | | | | | | | |
| 252 | 22.381 | 22.390 | 22.399 | 22.408 | 22.417 | 22.426 | 22.434 | 22.443 | 22.452 | 22.461 |
| 253 | 22.470 | 22.479 | 22.488 | 22.497 | 22.505 | 22.514 | 22.523 | 22.532 | 22.541 | 22.550 |
| 254 | 22.559 | 22.568 | 22.577 | 22.585 | 22.594 | 22.603 | 22.612 | 22.621 | 22.630 | 22.639 |
| 255 | 22.648 | 22.656 | 22.665 | 22.674 | 22.683 | 22.692 | 22.701 | 22.710 | 22.719 | 22.728 |
| 256 | 22.736 | 22.745 | 22.754 | 22.763 | 22.772 | 22.781 | 22.790 | 22.799 | 22.807 | 22.816 |
| 257 | 22.825 | 22.834 | 22.843 | 22.852 | 22.861 | 22.870 | 22.878 | 22.887 | 22.896 | 22.905 |
| 258 | 22.914 | 22.923 | 22.932 | 22.941 | 22.950 | 22.958 | 22.967 | 22.976 | 22.985 | 22.994 |
| 259 | 23.003 | 23.012 | 23.021 | 23.029 | 23.038 | 23.047 | 23.056 | 23.065 | 23.074 | 23.083 |
| 260 | 23.092 | 23.101 | 23.109 | 23.118 | 23.127 | 23.136 | 23.145 | 23.154 | 23.163 | 23.172 |
| 261 | 23.180 | 23.189 | 23.198 | 23.207 | 23.216 | 23.225 | 23.234 | 23.243 | 23.252 | 23.260 |
| 262 | 23.269 | 23.278 | 23.287 | 23.296 | 23.305 | 23.314 | 23.323 | 23.331 | 23.340 | 23.349 |
| 263 | 23.358 | 23.367 | 23.376 | 23.385 | 23.394 | 23.402 | 23.411 | 23.420 | 23.429 | 23.438 |
| 22 In. = | | | | | | | | | | |
| 264 | 23.447 | 23.456 | 23.465 | 23.474 | 23.482 | 23.491 | 23.500 | 23.509 | 23.518 | 23.527 |
| 265 | 23.536 | 23.545 | 23.553 | 23.562 | 23.571 | 23.580 | 23.589 | 23.598 | 23.607 | 23.616 |
| 266 | 23.625 | 23.633 | 23.642 | 23.651 | 23.660 | 23.669 | 23.678 | 23.687 | 23.696 | 23.704 |
| 267 | 23.713 | 23.722 | 23.731 | 23.740 | 23.749 | 23.758 | 23.767 | 23.776 | 23.784 | 23.793 |
| 268 | 23.802 | 23.811 | 23.820 | 23.829 | 23.838 | 23.847 | 23.855 | 23.864 | 23.873 | 23.882 |
| 269 | 23.891 | 23.900 | 23.909 | 23.918 | 23.926 | 23.935 | 23.944 | 23.953 | 23.962 | 23.971 |
| 270 | 23.980 | 23.989 | 23.998 | 24.006 | 24.015 | 24.024 | 24.033 | 24.042 | 24.051 | 24.060 |
| 271 | 24.069 | 24.077 | 24.086 | 24.095 | 24.104 | 24.113 | 24.122 | 24.131 | 24.140 | 24.149 |
| 272 | 24.157 | 24.166 | 24.175 | 24.184 | 24.193 | 24.202 | 24.211 | 24.220 | 24.228 | 24.237 |
| 273 | 24.246 | 24.255 | 24.264 | 24.273 | 24.282 | 24.291 | 24.300 | 24.308 | 24.317 | 24.326 |
| 274 | 24.335 | 24.344 | 24.353 | 24.362 | 24.371 | 24.379 | 24.388 | 24.397 | 24.406 | 24.415 |
| 275 | 24.424 | 24.433 | 24.442 | 24.450 | 24.459 | 24.468 | 24.477 | 24.486 | 24.495 | 24.504 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| .0000 | .0009 | .0018 | .0027 | .0036 | .0044 | .0053 | .0062 | .0071 | .0080 |

1 Paris Line = 0.088814 English Inch.

| French or Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 23 Inches. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 276 | 24.513 | 24.522 | 24.530 | 24.539 | 24.548 | 24.557 | 24.566 | 24.575 | 24.584 | 24.593 |
| 277 | 24.601 | 24.610 | 24.619 | 24.628 | 24.637 | 24.646 | 24.655 | 24.664 | 24.673 | 24.681 |
| 278 | 24.690 | 24.699 | 24.708 | 24.717 | 24.726 | 24.735 | 24.744 | 24.752 | 24.761 | 24.770 |
| 279 | 24.779 | 24.788 | 24.797 | 24.806 | 24.815 | 24.824 | 24.832 | 24.841 | 24.850 | 24.859 |
| 280 | 24.868 | 24.877 | 24.886 | 24.895 | 24.903 | 24.912 | 24.921 | 24.930 | 24.939 | 24.948 |
| 281 | 24.957 | 24.966 | 24.974 | 24.983 | 24.992 | 25.001 | 25.010 | 25.019 | 25.028 | 25.037 |
| 282 | 25.046 | 25.054 | 25.063 | 25.072 | 25.081 | 25.090 | 25.099 | 25.108 | 25.117 | 25.125 |
| 283 | 25.134 | 25.143 | 25.152 | 25.161 | 25.170 | 25.179 | 25.188 | 25.197 | 25.205 | 25.214 |
| 284 | 25.223 | 25.232 | 25.241 | 25.250 | 25.259 | 25.268 | 25.276 | 25.285 | 25.294 | 25.303 |
| 285 | 25.312 | 25.321 | 25.330 | 25.339 | 25.348 | 25.356 | 25.365 | 25.374 | 25.383 | 25.392 |
| 286 | 25.401 | 25.410 | 25.419 | 25.427 | 25.436 | 25.445 | 25.454 | 25.463 | 25.472 | 25.481 |
| 287 | 25.490 | 25.498 | 25.507 | 25.516 | 25.525 | 25.534 | 25.543 | 25.552 | 25.561 | 25.570 |
| 24 In. = | | | | | | | | | | |
| 288 | 25.578 | 25.587 | 25.596 | 25.605 | 25.614 | 25.623 | 25.632 | 25.641 | 25.649 | 25.658 |
| 289 | 25.667 | 25.676 | 25.685 | 25.694 | 25.703 | 25.712 | 25.721 | 25.729 | 25.738 | 25.747 |
| 290 | 25.756 | 25.765 | 25.774 | 25.783 | 25.792 | 25.800 | 25.809 | 25.818 | 25.827 | 25.836 |
| 291 | 25.845 | 25.854 | 25.863 | 25.872 | 25.880 | 25.889 | 25.898 | 25.907 | 25.916 | 25.925 |
| 292 | 25.934 | 25.943 | 25.951 | 25.960 | 25.969 | 25.978 | 25.987 | 25.996 | 26.005 | 26.014 |
| 293 | 26.023 | 26.031 | 26.040 | 26.049 | 26.058 | 26.067 | 26.076 | 26.085 | 26.094 | 26.102 |
| 294 | 26.111 | 26.120 | 26.129 | 26.138 | 26.147 | 26.156 | 26.165 | 26.173 | 26.182 | 26.191 |
| 295 | 26.200 | 26.209 | 26.218 | 26.227 | 26.236 | 26.245 | 26.253 | 26.262 | 26.271 | 26.280 |
| 296 | 26.289 | 26.298 | 26.307 | 26.316 | 26.324 | 26.333 | 26.342 | 26.351 | 26.360 | 26.369 |
| 297 | 26.378 | 26.387 | 26.396 | 26.404 | 26.413 | 26.422 | 26.431 | 26.440 | 26.449 | 26.458 |
| 298 | 26.467 | 26.475 | 26.484 | 26.493 | 26.502 | 26.511 | 26.520 | 26.529 | 26.538 | 26.547 |
| 299 | 26.555 | 26.564 | 26.573 | 26.582 | 26.591 | 26.600 | 26.609 | 26.618 | 26.626 | 26.635 |
| 25 In. = | | | | | | | | | | |
| 300 | 26.644 | 26.653 | 26.662 | 26.671 | 26.680 | 26.689 | 26.697 | 26.706 | 26.715 | 26.724 |
| 301 | 26.733 | 26.742 | 26.751 | 26.760 | 26.769 | 26.777 | 26.786 | 26.795 | 26.804 | 26.813 |
| 302 | 26.822 | 26.831 | 26.840 | 26.848 | 26.857 | 26.866 | 26.875 | 26.884 | 26.893 | 26.902 |
| 303 | 26.911 | 26.920 | 26.928 | 26.937 | 26.946 | 26.955 | 26.964 | 26.973 | 26.982 | 26.991 |
| 304 | 26.999 | 27.008 | 27.017 | 27.026 | 27.035 | 27.044 | 27.053 | 27.062 | 27.071 | 27.079 |
| 305 | 27.088 | 27.097 | 27.106 | 27.115 | 27.124 | 27.133 | 27.142 | 27.150 | 27.159 | 27.168 |
| 306 | 27.177 | 27.186 | 27.195 | 27.204 | 27.213 | 27.221 | 27.230 | 27.239 | 27.248 | 27.257 |
| 307 | 27.266 | 27.275 | 27.284 | 27.293 | 27.301 | 27.310 | 27.319 | 27.328 | 27.337 | 27.346 |
| 308 | 27.355 | 27.364 | 27.372 | 27.381 | 27.390 | 27.399 | 27.408 | 27.417 | 27.426 | 27.435 |
| 309 | 27.444 | 27.452 | 27.461 | 27.470 | 27.479 | 27.488 | 27.497 | 27.506 | 27.515 | 27.523 |
| 310 | 27.532 | 27.541 | 27.550 | 27.559 | 27.568 | 27.577 | 27.586 | 27.595 | 27.603 | 27.612 |
| 311 | 27.621 | 27.630 | 27.639 | 27.648 | 27.657 | 27.666 | 27.674 | 27.683 | 27.692 | 27.701 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| .0000 | .0009 | .0018 | .0027 | .0036 | .0044 | .0053 | .0062 | .0071 | .0080 |

1 Paris Line = 0.088814 English Inch.

| French or Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 26 Inches. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 312 | 27.710 | 27.719 | 27.728 | 27.737 | 27.745 | 27.754 | 27.763 | 27.772 | 27.781 | 27.790 |
| 313 | 27.799 | 27.808 | 27.817 | 27.825 | 27.834 | 27.843 | 27.852 | 27.861 | 27.870 | 27.879 |
| 314 | 27.888 | 27.896 | 27.905 | 27.914 | 27.923 | 27.932 | 27.941 | 27.950 | 27.959 | 27.968 |
| 315 | 27.976 | 27.985 | 27.994 | 28.003 | 28.012 | 28.021 | 28.030 | 28.039 | 28.047 | 28.056 |
| 316 | 28.065 | 28.074 | 28.083 | 28.092 | 28.101 | 28.110 | 28.119 | 28.127 | 28.136 | 28.145 |
| 317 | 28.154 | 28.163 | 28.172 | 28.181 | 28.190 | 28.198 | 28.207 | 28.216 | 28.225 | 28.234 |
| 318 | 28.243 | 28.252 | 28.261 | 28.269 | 28.278 | 28.287 | 28.296 | 28.305 | 28.314 | 28.323 |
| 319 | 28.332 | 28.341 | 28.349 | 28.358 | 28.367 | 28.376 | 28.385 | 28.394 | 28.403 | 28.412 |
| 320 | 28.420 | 28.429 | 28.438 | 28.447 | 28.456 | 28.465 | 28.474 | 28.483 | 28.492 | 28.500 |
| 321 | 28.509 | 28.518 | 28.527 | 28.536 | 28.545 | 28.554 | 28.563 | 28.571 | 28.580 | 28.589 |
| 322 | 28.598 | 28.607 | 28.616 | 28.625 | 28.634 | 28.643 | 28.651 | 28.660 | 28.669 | 28.678 |
| 323 | 28.687 | 28.696 | 28.705 | 28.714 | 28.722 | 28.731 | 28.740 | 28.749 | 28.758 | 28.767 |
| 27 In. = | | | | | | | | | | |
| 324 | 28.776 | 28.785 | 28.793 | 28.802 | 28.811 | 28.820 | 28.829 | 28.838 | 28.847 | 28.856 |
| 325 | 28.865 | 28.873 | 28.882 | 28.891 | 28.900 | 28.909 | 28.918 | 28.927 | 28.936 | 28.944 |
| 326 | 28.953 | 28.962 | 28.971 | 28.980 | 28.989 | 28.998 | 29.007 | 29.016 | 29.024 | 29.033 |
| 327 | 29.042 | 29.051 | 29.060 | 29.069 | 29.078 | 29.087 | 29.095 | 29.104 | 29.113 | 29.122 |
| 328 | 29.131 | 29.140 | 29.149 | 29.158 | 29.167 | 29.175 | 29.184 | 29.193 | 29.202 | 29.211 |
| 329 | 29.220 | 29.229 | 29.238 | 29.246 | 29.255 | 29.264 | 29.273 | 29.282 | 29.291 | 29.300 |
| 330 | 29.309 | 29.318 | 29.326 | 29.335 | 29.344 | 29.353 | 29.362 | 29.371 | 29.380 | 29.389 |
| 331 | 29.397 | 29.406 | 29.415 | 29.424 | 29.433 | 29.442 | 29.451 | 29.460 | 29.468 | 29.477 |
| 332 | 29.486 | 29.495 | 29.504 | 29.513 | 29.522 | 29.531 | 29.540 | 29.548 | 29.557 | 29.566 |
| 333 | 29.575 | 29.584 | 29.593 | 29.602 | 29.611 | 29.619 | 29.628 | 29.637 | 29.646 | 29.655 |
| 334 | 29.664 | 29.673 | 29.682 | 29.691 | 29.699 | 29.708 | 29.717 | 29.726 | 29.735 | 29.744 |
| 335 | 29.753 | 29.762 | 29.770 | 29.779 | 29.788 | 29.797 | 29.806 | 29.815 | 29.824 | 29.833 |
| 28 In. = | | | | | | | | | | |
| 336 | 29.842 | 29.850 | 29.859 | 29.868 | 29.877 | 29.886 | 29.895 | 29.904 | 29.913 | 29.921 |
| 337 | 29.930 | 29.939 | 29.948 | 29.957 | 29.966 | 29.975 | 29.984 | 29.992 | 30.001 | 30.010 |
| 338 | 30.019 | 30.028 | 30.037 | 30.046 | 30.055 | 30.064 | 30.072 | 30.081 | 30.090 | 30.099 |
| 339 | 30.108 | 30.117 | 30.126 | 30.135 | 30.143 | 30.152 | 30.161 | 30.170 | 30.179 | 30.188 |
| 340 | 30.197 | 30.206 | 30.215 | 30.223 | 30.232 | 30.241 | 30.250 | 30.259 | 30.268 | 30.277 |
| 341 | 30.286 | 30.294 | 30.303 | 30.312 | 30.321 | 30.330 | 30.339 | 30.348 | 30.357 | 30.366 |
| 342 | 30.374 | 30.383 | 30.392 | 30.401 | 30.410 | 30.419 | 30.428 | 30.437 | 30.445 | 30.454 |
| 343 | 30.463 | 30.472 | 30.481 | 30.490 | 30.499 | 30.508 | 30.516 | 30.525 | 30.534 | 30.543 |
| 344 | 30.552 | 30.561 | 30.570 | 30.579 | 30.588 | 30.596 | 30.605 | 30.614 | 30.623 | 30.632 |
| 345 | 30.641 | 30.650 | 30.659 | 30.667 | 30.676 | 30.685 | 30.694 | 30.703 | 30.712 | 30.721 |
| 346 | 30.730 | 30.739 | 30.747 | 30.756 | 30.765 | 30.774 | 30.783 | 30.792 | 30.801 | 39.810 |
| 347 | 30.818 | 30.827 | 30.836 | 30.845 | 30.854 | 30.863 | 30.872 | 30.881 | 30.890 | 30.898 |
| 29 In. = | | | | | | | | | | |
| 348 | 30.907 | 30.916 | 30.925 | 30.934 | 30.943 | 30.952 | 30.961 | 30.969 | 30.978 | 30.987 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| .0000 | .0009 | .0018 | .0027 | .0036 | .0044 | .0053 | .0062 | .0071 | .0080 |

1 Paris Line = 2.255829 Millimetres.

| French or Paris Lines. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Inch. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 120 | 270.70 | 272.96 | 275.21 | 277.47 | 279.72 | 281.98 | 284.23 | 286.49 | 288.75 | 291.00 |
| 130 | 293.26 | 295.51 | 297.77 | 300.03 | 302.28 | 304.54 | 306.79 | 309.05 | 311.30 | 313.56 |
| 140 | 315.82 | 318.07 | 320.33 | 322.58 | 324.84 | 327.10 | 329.35 | 331.61 | 333.86 | 336.12 |
| 150 | 338.37 | 340.63 | 342.89 | 345.14 | 347.40 | 349.65 | 351.91 | 354.17 | 356.42 | 358.68 |
| 160 | 360.93 | 363.19 | 365.44 | 367.70 | 369.96 | 372.21 | 374.47 | 376.72 | 378.98 | 381.24 |
| 170 | 383.49 | 385.75 | 388.00 | 390.26 | 392.51 | 394.77 | 397.03 | 399.28 | 401.54 | 403.79 |
| 180 | 406.05 | 408.30 | 410.56 | 412.82 | 415.07 | 417.33 | 419.58 | 421.84 | 424.10 | 426.35 |
| 190 | 428.61 | 430.86 | 433.12 | 435.37 | 437.63 | 439.89 | 442.14 | 444.40 | 446.65 | 448.91 |
| 200 | 451.17 | 453.42 | 455.68 | 457.93 | 460.19 | 462.44 | 464.70 | 466.96 | 469.21 | 471.47 |
| 210 | 473.72 | 475.98 | 478.24 | 480.49 | 482.75 | 485.00 | 487.26 | 489.51 | 491.77 | 494.03 |

| Paris Lines. | Tenths of a Line. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Inch. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 216 | 487.26 | 487.48 | 487.71 | 487.94 | 488.16 | 488.39 | 488.61 | 488.84 | 489.06 | 489.29 |
| 217 | 489.51 | 489.74 | 489.97 | 490.19 | 490.42 | 490.64 | 490.87 | 491.09 | 491.32 | 491.55 |
| 218 | 491.77 | 492.00 | 492.22 | 492.45 | 492.67 | 492.90 | 493.12 | 493.35 | 493.58 | 493.80 |
| 219 | 494.03 | 494.25 | 494.48 | 494.70 | 494.93 | 495.15 | 495.38 | 495.61 | 495.83 | 496.06 |
| 220 | 496.28 | 496.51 | 496.73 | 496.96 | 497.18 | 497.41 | 497.64 | 497.86 | 498.09 | 498.31 |
| 221 | 498.54 | 498.76 | 498.99 | 499.21 | 499.44 | 499.67 | 499.89 | 500.12 | 500.34 | 500.57 |
| 222 | 500.79 | 501.02 | 501.25 | 501.47 | 501.70 | 501.92 | 502.15 | 502.37 | 502.60 | 502.82 |
| 223 | 503.05 | 503.28 | 503.50 | 503.73 | 503.95 | 504.18 | 504.40 | 504.63 | 504.85 | 505.08 |
| 224 | 505.31 | 505.53 | 505.76 | 505.98 | 506.21 | 506.43 | 506.66 | 506.88 | 507.11 | 507.34 |
| 225 | 507.56 | 507.79 | 508.01 | 508.24 | 508.46 | 508.69 | 508.91 | 509.14 | 509.37 | 509.59 |
| 226 | 509.82 | 510.04 | 510.27 | 510.49 | 510.72 | 510.95 | 511.17 | 511.40 | 511.62 | 511.85 |
| 227 | 512.07 | 512.30 | 512.52 | 512.75 | 512.98 | 513.20 | 513.43 | 513.65 | 513.88 | 514.10 |
| 19 Inch. | | | | | | | | | | |
| 228 | 514.33 | 514.55 | 514.78 | 515.01 | 515.23 | 515.46 | 515.68 | 515.91 | 516.13 | 516.36 |
| 229 | 516.58 | 516.81 | 517.04 | 517.26 | 517.49 | 517.71 | 517.94 | 518.16 | 518.39 | 518.61 |
| 230 | 518.84 | 519.07 | 519.29 | 519.52 | 519.74 | 519.97 | 520.19 | 520.42 | 520.65 | 520.87 |
| 231 | 521.10 | 521.32 | 521.55 | 521.77 | 522.00 | 522.22 | 522.45 | 522.68 | 522.90 | 523.13 |
| 232 | 523.35 | 523.58 | 523.80 | 524.03 | 524.25 | 524.48 | 524.71 | 524.93 | 525.16 | 525.38 |
| 233 | 525.61 | 525.83 | 526.06 | 526.28 | 526.51 | 526.74 | 526.96 | 527.19 | 527.41 | 527.64 |
| 234 | 527.86 | 528.09 | 528.32 | 528.54 | 528.77 | 528.99 | 529.22 | 529.44 | 529.67 | 529.89 |
| 235 | 530.12 | 530.35 | 530.57 | 530.80 | 531.02 | 531.25 | 531.47 | 531.70 | 531.92 | 532.15 |
| 236 | 532.38 | 532.60 | 532.83 | 533.05 | 533.28 | 533.50 | 533.73 | 533.95 | 534.18 | 534.41 |
| 237 | 534.63 | 534.86 | 535.08 | 535.31 | 535.53 | 535.76 | 535.98 | 536.21 | 536.44 | 536.66 |
| 238 | 536.89 | 537.11 | 537.34 | 537.56 | 537.79 | 538.02 | 538.24 | 538.47 | 538.69 | 538.92 |
| 239 | 539.14 | 539.37 | 539.59 | 539.82 | 540.05 | 540.27 | 540.50 | 540.72 | 540.95 | 541.17 |

Tenths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.23 | 0.45 | 0.68 | 0.90 | 1.13 | 1.35 | 1.58 | 1.80 | 2.03 |

1 Paris Line = 2.255829 Millimetres.

| Paris or French Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 20 Inches. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 240 | 541.40 | 541.62 | 541.85 | 542.08 | 542.30 | 542.53 | 542.75 | 542.98 | 543.20 | 543.43 |
| 241 | 543.65 | 543.88 | 544.11 | 544.33 | 544.56 | 544.78 | 545.01 | 545.23 | 545.46 | 545.69 |
| 242 | 545.91 | 546.14 | 546.36 | 546.59 | 546.81 | 547.04 | 547.26 | 547.49 | 547.72 | 547.94 |
| 243 | 548.17 | 548.39 | 548.62 | 548.84 | 549.07 | 549.29 | 549.52 | 549.75 | 549.97 | 550.20 |
| 244 | 550.42 | 550.65 | 550.87 | 551.10 | 551.32 | 551.55 | 551.78 | 552.00 | 552.23 | 552.45 |
| 245 | 552.68 | 552.90 | 553.13 | 553.35 | 553.58 | 553.81 | 554.03 | 554.26 | 554.48 | 554.71 |
| 246 | 554.93 | 555.16 | 555.39 | 555.61 | 555.84 | 556.06 | 556.29 | 556.51 | 556.74 | 556.96 |
| 247 | 557.19 | 557.42 | 557.64 | 557.87 | 558.09 | 558.32 | 558.54 | 558.77 | 558.99 | 559.22 |
| 248 | 559.45 | 559.67 | 559.90 | 560.12 | 560.35 | 560.57 | 560.80 | 561.02 | 561.25 | 561.48 |
| 249 | 561.70 | 561.93 | 562.15 | 562.38 | 562.60 | 562.83 | 563.05 | 563.28 | 563.51 | 563.73 |
| 250 | 563.96 | 564.18 | 564.41 | 564.63 | 564.86 | 565.09 | 565.31 | 565.54 | 565.76 | 565.99 |
| 251 | 566.21 | 566.44 | 566.66 | 566.89 | 567.12 | 567.34 | 567.57 | 567.79 | 568.02 | 568.24 |
| 21 Inches. | | | | | | | | | | |
| 252 | 568.47 | 568.69 | 568.92 | 569.15 | 569.37 | 569.60 | 569.82 | 570.05 | 570.27 | 570.50 |
| 253 | 570.72 | 570.95 | 571.18 | 571.40 | 571.63 | 571.85 | 572.08 | 572.30 | 572.53 | 572.75 |
| 254 | 572.98 | 573.21 | 573.43 | 573.66 | 573.88 | 574.11 | 574.33 | 574.56 | 574.79 | 575.01 |
| 255 | 575.24 | 575.46 | 575.69 | 575.91 | 576.14 | 576.36 | 576.59 | 576.82 | 577.04 | 577.27 |
| 256 | 577.49 | 577.72 | 577.94 | 578.17 | 578.39 | 578.62 | 578.85 | 579.07 | 579.30 | 579.52 |
| 257 | 579.75 | 579.97 | 580.20 | 580.42 | 580.65 | 580.88 | 581.10 | 581.33 | 581.55 | 581.78 |
| 258 | 582.00 | 582.23 | 582.46 | 582.68 | 582.91 | 583.13 | 583.36 | 583.58 | 583.81 | 584.03 |
| 259 | 584.26 | 584.49 | 584.71 | 584.94 | 585.16 | 585.39 | 585.61 | 585.84 | 586.06 | 586.29 |
| 260 | 586.52 | 586.74 | 586.97 | 587.19 | 587.42 | 587.64 | 587.87 | 588.09 | 588.32 | 588.55 |
| 261 | 588.77 | 589.00 | 589.22 | 589.45 | 589.67 | 589.90 | 590.12 | 590.35 | 590.58 | 590.80 |
| 262 | 591.03 | 591.25 | 591.48 | 591.70 | 591.93 | 592.16 | 592.38 | 592.61 | 592.83 | 593.06 |
| 263 | 593.28 | 593.51 | 593.73 | 593.96 | 594.19 | 594.41 | 594.64 | 594.86 | 595.09 | 595.31 |
| 22 Inches. | | | | | | | | | | |
| 264 | 595.54 | 595.76 | 595.99 | 596.22 | 596.44 | 596.67 | 596.89 | 597.12 | 597.34 | 597.57 |
| 265 | 597.79 | 598.02 | 598.25 | 598.47 | 598.70 | 598.92 | 599.15 | 599.37 | 599.60 | 599.82 |
| 266 | 600.05 | 600.28 | 600.50 | 600.73 | 600.95 | 601.18 | 601.40 | 601.63 | 601.86 | 602.08 |
| 267 | 602.31 | 602.53 | 602.76 | 602.98 | 603.21 | 603.43 | 603.66 | 603.89 | 604.11 | 604.34 |
| 268 | 604.56 | 604.79 | 605.01 | 605.24 | 605.46 | 605.69 | 605.92 | 606.14 | 606.37 | 606.59 |
| 269 | 606.82 | 607.04 | 607.27 | 607.49 | 607.72 | 607.95 | 608.17 | 608.40 | 608.62 | 608.85 |
| 270 | 609.07 | 609.30 | 609.52 | 609.75 | 609.98 | 610.20 | 610.43 | 610.65 | 610.88 | 611.10 |
| 271 | 611.33 | 611.56 | 611.78 | 612.01 | 612.23 | 612.46 | 612.68 | 612.91 | 613.13 | 613.36 |
| 272 | 613.59 | 613.81 | 614.04 | 614.26 | 614.49 | 614.71 | 614.94 | 615.16 | 615.39 | 615.62 |
| 273 | 615.84 | 616.07 | 616.29 | 616.52 | 616.74 | 616.97 | 617.19 | 617.42 | 617.65 | 617.87 |
| 274 | 618.10 | 618.32 | 618.55 | 618.77 | 619.00 | 619.23 | 619.45 | 619.68 | 619.90 | 620.13 |
| 275 | 620.35 | 620.58 | 620.80 | 621.03 | 621.26 | 621.48 | 621.71 | 621.93 | 622.16 | 622.38 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.023 | 0.045 | 0.068 | 0.090 | 0.113 | 0.135 | 0.158 | 0.180 | 0.203 |

1 Paris Line = 2.255829 Millimetres.

| Paris or French Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 23 Inches. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 276 | 622.61 | 622.83 | 623.06 | 623.29 | 623.51 | 623.74 | 623.96 | 624.19 | 624.41 | 624.64 |
| 277 | 624.86 | 625.09 | 625.32 | 625.54 | 625.77 | 625.99 | 626.22 | 626.44 | 626.67 | 626.89 |
| 278 | 627.12 | 627.35 | 627.57 | 627.80 | 628.02 | 628.25 | 628.47 | 628.70 | 628.93 | 629.15 |
| 279 | 629.38 | 629.60 | 629.83 | 630.05 | 630.28 | 630.50 | 630.73 | 630.96 | 631.18 | 631.41 |
| 280 | 631.63 | 631.86 | 632.08 | 632.31 | 632.53 | 632.76 | 632.99 | 633.21 | 633.44 | 633.66 |
| 281 | 633.89 | 634.11 | 634.34 | 634.56 | 634.79 | 635.02 | 635.24 | 635.47 | 635.69 | 635.92 |
| 282 | 636.14 | 636.37 | 636.59 | 636.82 | 637.05 | 637.27 | 637.50 | 637.72 | 637.95 | 638.17 |
| 283 | 638.40 | 638.63 | 638.85 | 639.08 | 639.30 | 639.53 | 639.75 | 639.98 | 640.20 | 640.43 |
| 284 | 640.66 | 640.88 | 641.11 | 641.33 | 641.56 | 641.78 | 642.01 | 642.23 | 643.46 | 642.69 |
| 285 | 642.91 | 643.14 | 643.36 | 643.59 | 643.81 | 644.04 | 644.26 | 644.49 | 644.72 | 644.94 |
| 286 | 645.17 | 645.39 | 645.62 | 645.84 | 646.07 | 646.30 | 646.52 | 646.75 | 646.97 | 647.20 |
| 287 | 647.42 | 647.65 | 647.87 | 648.10 | 648.33 | 648.55 | 648.78 | 649.00 | 649.23 | 649.45 |
| 24 Inches. | | | | | | | | | | |
| 288 | 649.68 | 649.90 | 650.13 | 650.36 | 650.58 | 650.81 | 651.03 | 651.26 | 651.48 | 651.71 |
| 289 | 651.93 | 652.16 | 652.39 | 652.61 | 652.84 | 653.06 | 653.29 | 653.51 | 653.74 | 653.96 |
| 290 | 654.19 | 654.42 | 654.64 | 654.87 | 655.09 | 655.32 | 655.54 | 655.77 | 656.00 | 656.22 |
| 291 | 656.45 | 656.67 | 656.90 | 657.12 | 657.35 | 657.57 | 657.80 | 658.03 | 658.25 | 658.48 |
| 292 | 658.70 | 658.93 | 659.15 | 659.38 | 659.60 | 659.83 | 660.06 | 660.28 | 660.51 | 660.73 |
| 293 | 660.96 | 661.18 | 661.41 | 661.63 | 661.86 | 662.09 | 662.31 | 662.54 | 662.76 | 662.99 |
| 294 | 663.21 | 663.44 | 663.66 | 663.89 | 664.12 | 664.34 | 664.57 | 664.79 | 665.02 | 665.24 |
| 295 | 665.47 | 665.70 | 665.92 | 666.15 | 666.37 | 666.60 | 666.82 | 667.05 | 667.27 | 667.50 |
| 296 | 667.73 | 667.95 | 668.18 | 668.40 | 668.63 | 668.85 | 669.08 | 669.30 | 669.53 | 669.76 |
| 297 | 669.98 | 670.21 | 670.43 | 670.66 | 670.88 | 671.11 | 671.33 | 671.56 | 671.79 | 672.01 |
| 298 | 672.24 | 672.46 | 672.69 | 672.91 | 673.14 | 673.36 | 673.59 | 673.82 | 674.04 | 674.27 |
| 299 | 674.49 | 674.72 | 674.94 | 675.17 | 675.40 | 675.62 | 675.85 | 676.07 | 676.30 | 676.52 |
| 25 Inches. | | | | | | | | | | |
| 300 | 676.75 | 676.97 | 677.20 | 677.43 | 677.65 | 677.88 | 678.10 | 678.33 | 678.55 | 678.78 |
| 301 | 679.00 | 679.23 | 679.46 | 679.68 | 679.91 | 680.13 | 680.36 | 680.58 | 680.81 | 681.03 |
| 302 | 681.26 | 681.49 | 681.71 | 681.94 | 682.16 | 682.39 | 682.61 | 682.84 | 683.07 | 683.29 |
| 303 | 683.52 | 683.74 | 683.97 | 684.19 | 684.42 | 684.64 | 684.87 | 685.10 | 685.32 | 685.55 |
| 304 | 685.77 | 686.00 | 686.22 | 686.45 | 686.67 | 686.90 | 687.13 | 687.35 | 687.58 | 687.80 |
| 305 | 688.03 | 688.25 | 688.48 | 688.70 | 688.93 | 689.16 | 689.38 | 689.61 | 689.83 | 690.06 |
| 306 | 690.28 | 690.51 | 690.73 | 690.96 | 691.19 | 691.41 | 691.64 | 691.86 | 692.09 | 692.31 |
| 307 | 692.54 | 692.77 | 692.99 | 693.22 | 693.44 | 693.67 | 693.89 | 694.12 | 694.34 | 694.57 |
| 308 | 694.80 | 695.02 | 695.25 | 695.47 | 695.70 | 695.92 | 696.15 | 696.37 | 696.60 | 696.83 |
| 309 | 697.05 | 697.28 | 697.50 | 697.73 | 697.95 | 698.18 | 698.40 | 698.63 | 698.86 | 699.08 |
| 310 | 699.31 | 699.53 | 699.76 | 699.98 | 700.21 | 700.43 | 700.66 | 700.89 | 701.11 | 701.34 |
| 311 | 701.56 | 701.79 | 702.01 | 702.24 | 702.47 | 702.69 | 702.92 | 703.14 | 703.37 | 703.59 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.023 | 0.045 | 0.068 | 0.090 | 0.113 | 0.135 | 0.158 | 0.180 | 0.203 |

1 Paris Line = 2.255829 Millimetres.

| Paris or French Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 26 Inches. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 312 | 703.82 | 704.04 | 704.27 | 704.50 | 704.72 | 704.95 | 705.17 | 705.40 | 705.62 | 705.85 |
| 313 | 706.07 | 706.30 | 706.53 | 706.75 | 706.98 | 707.20 | 707.43 | 707.65 | 707.88 | 708.10 |
| 314 | 708.33 | 708.56 | 708.78 | 709.01 | 709.23 | 709.46 | 709.68 | 709.91 | 710.13 | 710.36 |
| 315 | 710.59 | 710.81 | 711.04 | 711.26 | 711.49 | 711.71 | 711.94 | 712.17 | 712.39 | 712.62 |
| 316 | 712.84 | 713.07 | 713.29 | 713.52 | 713.74 | 713.97 | 714.20 | 714.42 | 714.65 | 714.87 |
| 317 | 715.10 | 715.32 | 715.55 | 715.77 | 716.00 | 716.23 | 716.45 | 716.68 | 716.90 | 717.13 |
| 318 | 717.35 | 717.58 | 717.80 | 718.03 | 718.26 | 718.48 | 718.71 | 718.93 | 719.16 | 719.38 |
| 319 | 719.61 | 719.84 | 720.06 | 720.29 | 720.51 | 720.74 | 720.96 | 721.19 | 721.41 | 721.64 |
| 320 | 721.87 | 722.09 | 722.32 | 722.54 | 722.77 | 722.99 | 723.22 | 723.44 | 723.67 | 723.90 |
| 321 | 724.12 | 724.35 | 724.57 | 724.80 | 725.02 | 725.25 | 725.47 | 725.70 | 725.93 | 726.15 |
| 322 | 726.38 | 726.60 | 726.83 | 727.05 | 727.28 | 727.50 | 727.73 | 727.96 | 728.18 | 728.41 |
| 323 | 728.63 | 728.86 | 729.08 | 729.31 | 729.54 | 729.76 | 729.99 | 730.21 | 730.44 | 730.66 |
| 27 Inches. | | | | | | | | | | |
| 324 | 730.89 | 731.11 | 731.34 | 731.57 | 731.79 | 732.02 | 732.24 | 732.47 | 732.69 | 732.92 |
| 325 | 733.14 | 733.37 | 733.60 | 733.82 | 734.05 | 734.27 | 734.50 | 734.72 | 734.95 | 735.17 |
| 326 | 735.40 | 735.63 | 735.85 | 736.08 | 736.30 | 736.53 | 736.75 | 736.98 | 737.20 | 737.43 |
| 327 | 737.66 | 737.88 | 738.11 | 738.33 | 738.56 | 738.78 | 739.01 | 739.24 | 739.46 | 739.69 |
| 328 | 739.91 | 740.14 | 740.36 | 740.59 | 740.81 | 741.04 | 741.27 | 741.49 | 741.72 | 741.94 |
| 329 | 742.17 | 742.39 | 742.62 | 742.84 | 743.07 | 743.30 | 743.52 | 743.75 | 743.97 | 744.20 |
| 330 | 744.42 | 744.65 | 744.87 | 745.10 | 745.33 | 745.55 | 745.78 | 746.00 | 746.23 | 746.45 |
| 331 | 746.68 | 746.90 | 747.13 | 747.36 | 747.58 | 747.81 | 748.03 | 748.26 | 748.48 | 748.71 |
| 332 | 748.94 | 749.16 | 749.39 | 749.61 | 749.84 | 750.06 | 750.29 | 750.51 | 750.74 | 750.97 |
| 333 | 751.19 | 751.42 | 751.64 | 751.87 | 752.09 | 752.32 | 752.54 | 752.77 | 753.00 | 753.22 |
| 334 | 753.45 | 753.67 | 753.90 | 754.12 | 754.35 | 754.57 | 754.80 | 755.03 | 755.25 | 755.48 |
| 335 | 755.70 | 755.93 | 756.15 | 756.38 | 756.61 | 756.83 | 757.06 | 757.28 | 757.51 | 757.73 |
| 28 Inches. | | | | | | | | | | |
| 336 | 757.96 | 758.18 | 758.41 | 758.64 | 758.86 | 759.09 | 759.31 | 759.54 | 759.76 | 759.99 |
| 337 | 760.21 | 760.44 | 760.67 | 760.89 | 761.12 | 761.34 | 761.57 | 761.79 | 762.02 | 762.24 |
| 338 | 762.47 | 762.70 | 762.92 | 763.15 | 763.37 | 763.60 | 763.82 | 764.05 | 764.27 | 764.50 |
| 339 | 764.73 | 764.95 | 765.18 | 765.40 | 765.63 | 765.85 | 766.08 | 766.31 | 766.53 | 766.76 |
| 340 | 766.98 | 767.21 | 767.43 | 767.66 | 767.88 | 768.11 | 768.34 | 768.56 | 768.79 | 769.01 |
| 341 | 769.24 | 769.46 | 769.69 | 769.91 | 770.14 | 770.37 | 770.59 | 770.82 | 771.04 | 771.27 |
| 342 | 771.49 | 771.72 | 771.94 | 772.17 | 772.40 | 772.62 | 772.85 | 773.07 | 773.30 | 773.52 |
| 343 | 773.75 | 773.97 | 774.20 | 774.43 | 774.65 | 774.88 | 775.10 | 775.33 | 775.55 | 775.78 |
| 344 | 776.01 | 776.23 | 776.46 | 776.68 | 776.91 | 777.13 | 777.36 | 777.58 | 777.81 | 778.04 |
| 345 | 778.26 | 778.49 | 778.71 | 778.94 | 779.16 | 779.39 | 779.61 | 779.84 | 780.07 | 780.29 |
| 346 | 780.52 | 780.74 | 780.97 | 781.19 | 781.42 | 781.64 | 781.87 | 782.10 | 782.32 | 782.55 |
| 347 | 782.77 | 783.00 | 783.22 | 783.45 | 783.67 | 783.90 | 784.13 | 784.35 | 784.58 | 784.80 |
| 29 Inches. | | | | | | | | | | |
| 348 | 785.03 | 785.25 | 785.48 | 785.71 | 785.93 | 786.16 | 786.38 | 786.61 | 786.83 | 787.06 |

Hundredths of a Line.

| 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.023 | 0.045 | 0.068 | 0.090 | 0.113 | 0.135 | 0.158 | 0.180 | 0.203 |

# VII. - VIII.

# COMPARISON

OF

# THE RUSSIAN BAROMETER

WITH

# THE METRICAL AND THE OLD FRENCH BAROMETERS,

OR

# TABLES

FOR CONVERTING RUSSIAN HALF-LINES INTO MILLIMETRES,
AND INTO FRENCH OR PARIS LINES;

GIVING THE VALUES CORRESPONDING TO EVERY HALF-LINE FROM 440 TO 540,
OR FROM 22 TO 27 INCHES; AND TO EVERY TENTH, FROM 540 TO 610
HALF-LINES, OR FROM 27 TO 30.5 ENGLISH INCHES.

# RUSSIAN BAROMETER.

A REGULAR system of Meteorological Observations has been established by order of the Russian government throughout the extensive regions placed under its sway, and a vast amount of observations made in Europe, in Asia, and in North America have already been published. The scale of the barometer employed in this system is divided in units, each of which is equal to one half of a Russian, or English decimal line, that is, 1 = 0.05 of an inch, 600 half-lines of the Russian Barometer being = 30 inches of the English Barometer.

The conversion of this scale, which is the English scale, slightly modified in its form, is easy. It suffices to divide the Russian heights by two, and to put back, by one figure, the decimal point, in order to have them converted into English inches and decimals. This transformation is so easy to effect, that a peculiar table for it would seem superfluous.

The normal temperature of the standard being the same as that of the English, that is, 13°⅓ Reaumur, or 62° Fahrenheit, the reduction of the Russian Barometer to the freezing point can be made by means of the table for reducing the English Barometers. But the attached thermometer being that of Reaumur, its indications must be first converted into degrees of Fahrenheit.

Tables VII. and VIII., which follow, have been computed in order to render more easy the comparison and the use of the Barometrical Observations recorded in the large collection, published annually by order of the Emperor of Russia, under the name of *Annuaire Météorologique et Magnétique du Corps des Ingénieurs des Mines.*

1 Russian Half-Line = 1.269977 Millimetres.

| Russian Half-Lines. | Units or Russian Half-Lines. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 22 Inch. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 440 | 558.79 | 560.06 | 561.33 | 562.60 | 563.87 | 565.14 | 566.41 | 567.68 | 568.95 | 570.22 |
| 450 | 571.49 | 572.76 | 574.03 | 575.30 | 576.57 | 577.84 | 579.11 | 580.38 | 581.65 | 582.92 |
| 460 | 584.19 | 585.46 | 586.73 | 588.00 | 589.27 | 590.54 | 591.81 | 593.08 | 594.35 | 595.62 |
| 470 | 596.89 | 598.16 | 599.43 | 600.70 | 601.97 | 603.24 | 604.51 | 605.78 | 607.05 | 608.32 |
| 480 | 609.59 | 610.86 | 612.13 | 613.40 | 614.67 | 615.94 | 617.21 | 618.48 | 619.75 | 621.02 |
| 24.5 In. | | | | | | | | | | |
| 490 | 622.29 | 623.56 | 624.83 | 626.10 | 627.37 | 628.64 | 629.91 | 631.18 | 632.45 | 633.72 |
| 500 | 634.99 | 636.26 | 637.53 | 638.80 | 640.07 | 641.34 | 642.61 | 643.88 | 645.15 | 646.42 |
| 510 | 647.69 | 648.96 | 650.23 | 651.50 | 652.77 | 654.04 | 655.31 | 656.58 | 657.85 | 659.12 |
| 520 | 660.39 | 661.66 | 662.93 | 664.20 | 665.47 | 666.74 | 668.01 | 669.28 | 670.55 | 671.82 |
| 530 | 673.09 | 674.36 | 675.63 | 676.90 | 678.17 | 679.44 | 680.71 | 681.98 | 683.25 | 684.52 |

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 27 Inch. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 540 | 685.79 | 685.91 | 686.04 | 686.17 | 686.30 | 686.42 | 686.55 | 686.68 | 686.80 | 686.93 |
| 541 | 687.06 | 687.18 | 687.31 | 687.44 | 687.57 | 687.69 | 687.82 | 687.95 | 688.07 | 688.20 |
| 542 | 688.33 | 688.45 | 688.58 | 688.71 | 688.84 | 688.96 | 689.09 | 689.22 | 689.34 | 689.47 |
| 543 | 689.60 | 689.72 | 689.85 | 689.98 | 690.11 | 690.23 | 690.36 | 690.49 | 690.61 | 690.74 |
| 544 | 690.87 | 690.99 | 691.12 | 691.25 | 691.38 | 691.50 | 691.63 | 691.76 | 691.88 | 692.01 |
| 545 | 692.14 | 692.26 | 692.39 | 692.52 | 692.65 | 692.77 | 692.90 | 693.03 | 693.15 | 693.28 |
| 546 | 693.41 | 693.53 | 693.66 | 693.79 | 693.91 | 694.04 | 694.17 | 694.30 | 694.42 | 694.55 |
| 547 | 694.68 | 694.80 | 694.93 | 695.06 | 695.19 | 695.31 | 695.44 | 695.57 | 695.69 | 695.82 |
| 548 | 695.95 | 696.07 | 696.20 | 696.33 | 696.46 | 696.58 | 696.71 | 696.84 | 696.96 | 697.09 |
| 549 | 697.22 | 697.34 | 697.47 | 697.60 | 697.73 | 697.85 | 697.98 | 698.11 | 698.23 | 698.36 |
| 27.5 In. | | | | | | | | | | |
| 550 | 698.49 | 698.61 | 698.74 | 698.87 | 699.00 | 699.12 | 699.25 | 699.38 | 699.50 | 699.63 |
| 551 | 699.76 | 699.88 | 700.01 | 700.14 | 700.27 | 700.39 | 700.52 | 700.65 | 700.77 | 700.90 |
| 552 | 701.03 | 701.15 | 701.28 | 701.41 | 701.54 | 701.66 | 701.79 | 701.92 | 702.04 | 702.17 |
| 553 | 702.30 | 702.42 | 702.55 | 702.68 | 702.81 | 702.93 | 703.06 | 703.19 | 703.31 | 703.44 |
| 554 | 703.57 | 703.69 | 703.82 | 703.95 | 704.08 | 704.20 | 704.33 | 704.46 | 704.58 | 704.71 |
| 555 | 704.84 | 704.96 | 705.09 | 705.22 | 705.35 | 705.47 | 705.60 | 705.73 | 705.85 | 705.98 |
| 556 | 706.11 | 706.23 | 706.36 | 706.49 | 706.62 | 706.74 | 706.87 | 707.00 | 707.12 | 707.25 |
| 557 | 707.38 | 707.50 | 707.63 | 707.76 | 707.89 | 708.01 | 708.14 | 708.27 | 708.39 | 708.52 |
| 558 | 708.65 | 708.77 | 708.90 | 709.03 | 709.16 | 709.28 | 709.41 | 709.54 | 709.66 | 709.79 |
| 559 | 709.92 | 710.14 | 710.27 | 710.40 | 710.53 | 710.65 | 710.78 | 710.81 | 710.93 | 711.06 |
| 28 Inch. | | | | | | | | | | |
| 560 | 711.19 | 711.31 | 711.44 | 711.57 | 711.70 | 711.82 | 711.95 | 712.08 | 712.20 | 712.33 |
| 561 | 712.46 | 712.58 | 712.71 | 712.84 | 712.97 | 713.09 | 713.22 | 713.35 | 713.47 | 713.60 |
| 562 | 713.73 | 713.85 | 713.98 | 714.11 | 714.24 | 714.36 | 714.49 | 714.62 | 714.74 | 714.87 |
| 563 | 715.00 | 715.12 | 715.25 | 715.38 | 715.51 | 715.63 | 715.76 | 715.89 | 716.01 | 716.14 |
| 564 | 716.27 | 716.39 | 716.52 | 716.65 | 716.78 | 716.90 | 717.03 | 717.16 | 717.28 | 717.41 |
| 565 | 717.54 | 717.66 | 717.79 | 717.92 | 718.04 | 718.17 | 718.30 | 718.43 | 718.55 | 718.68 |
| 566 | 718.81 | 718.93 | 719.06 | 719.19 | 719.31 | 719.44 | 719.57 | 719.70 | 719.82 | 719.95 |
| 567 | 720.08 | 720.20 | 720.33 | 720.46 | 720.58 | 720.71 | 720.84 | 720.97 | 721.09 | 721.22 |
| 568 | 721.35 | 721.47 | 721.60 | 721.73 | 721.85 | 721.98 | 722.11 | 722.24 | 722.36 | 722.49 |
| 569 | 722.62 | 722.74 | 722.87 | 723.00 | 723.12 | 723.25 | 723.38 | 723.51 | 723.63 | 723.76 |

1 Russian Half-Line = 1.269977 Millimetre.

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 28.5 Inch. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 570 | 723.89 | 724.01 | 724.14 | 724.27 | 724.39 | 724.52 | 724.65 | 724.78 | 724.90 | 725.03 |
| 571 | 725.16 | 725.28 | 725.41 | 725.54 | 725.66 | 725.79 | 725.92 | 726.05 | 726.17 | 726.30 |
| 572 | 726.43 | 726.55 | 726.68 | 726.81 | 726.93 | 727.06 | 727.19 | 727.32 | 727.44 | 727.57 |
| 573 | 727.70 | 727.82 | 727.95 | 728.08 | 728.20 | 728.33 | 728.46 | 728.59 | 728.71 | 728.84 |
| 574 | 728.97 | 729.08 | 729.21 | 729.34 | 729.46 | 729.59 | 729.73 | 729.85 | 729.97 | 730.11 |
| 575 | 730.24 | 730.36 | 730.49 | 730.62 | 730.74 | 730.87 | 731.00 | 731.13 | 731.25 | 731.38 |
| 576 | 731.51 | 731.63 | 731.76 | 731.89 | 732.01 | 732.14 | 732.27 | 732.40 | 732.52 | 732.65 |
| 577 | 732.78 | 732.90 | 733.03 | 733.16 | 733.28 | 733.41 | 733.54 | 733.67 | 733.79 | 733.92 |
| 578 | 734.05 | 734.17 | 734.30 | 734.43 | 734.55 | 734.68 | 734.81 | 734.94 | 735.06 | 735.19 |
| 579 | 735.32 | 735.44 | 735.57 | 735.70 | 735.82 | 735.95 | 736.08 | 736.21 | 736.33 | 736.46 |
| 29 Inch. | | | | | | | | | | |
| 580 | 736.59 | 736.71 | 736.84 | 736.97 | 737.09 | 737.22 | 737.35 | 737.48 | 737.60 | 737.73 |
| 581 | 737.86 | 737.98 | 738.11 | 738.24 | 738.36 | 738.49 | 738.62 | 738.75 | 738.87 | 739.00 |
| 582 | 739.13 | 739.25 | 739.38 | 739.51 | 739.63 | 739.76 | 739.89 | 740.02 | 740.14 | 740.27 |
| 583 | 740.40 | 740.52 | 740.65 | 740.78 | 740.90 | 741.03 | 741.16 | 741.29 | 741.41 | 741.54 |
| 584 | 741.67 | 741.79 | 741.92 | 742.05 | 742.17 | 742.30 | 742.43 | 742.56 | 742.68 | 742.81 |
| 585 | 742.94 | 743.06 | 743.19 | 743.32 | 743.44 | 743.57 | 743.70 | 743.83 | 743.95 | 744.08 |
| 586 | 744.21 | 744.33 | 744.46 | 744.59 | 744.71 | 744.84 | 744.97 | 745.10 | 745.22 | 745.35 |
| 587 | 745.48 | 745.60 | 745.73 | 745.86 | 745.98 | 746.11 | 746.24 | 746.37 | 746.49 | 746.62 |
| 588 | 746.75 | 746.87 | 747.00 | 747.13 | 747.25 | 747.38 | 747.51 | 747.64 | 747.76 | 747.89 |
| 589 | 748.02 | 748.14 | 748.27 | 748.40 | 748.52 | 748.65 | 748.78 | 748.91 | 749.03 | 749.16 |
| 29.5 In. | | | | | | | | | | |
| 590 | 749.29 | 749.41 | 749.54 | 749.67 | 749.79 | 749.92 | 750.05 | 750.18 | 750.30 | 750.43 |
| 591 | 750.56 | 750.68 | 750.81 | 750.94 | 751.06 | 751.19 | 751.32 | 751.45 | 751.57 | 751.70 |
| 592 | 751.83 | 751.95 | 752.08 | 752.21 | 752.33 | 752.46 | 752.59 | 752.72 | 752.84 | 752.97 |
| 593 | 753.10 | 753.22 | 753.35 | 753.48 | 753.60 | 753.73 | 753.86 | 753.99 | 754.11 | 754.24 |
| 594 | 754.37 | 754.49 | 754.62 | 754.75 | 754.87 | 755.00 | 755.13 | 755.26 | 755.38 | 755.51 |
| 595 | 755.64 | 755.76 | 755.89 | 756.02 | 756.14 | 756.27 | 756.40 | 756.53 | 756.65 | 756.78 |
| 596 | 756.91 | 757.03 | 757.16 | 757.29 | 757.41 | 757.54 | 757.67 | 757.80 | 757.92 | 758.05 |
| 597 | 758.18 | 758.30 | 758.43 | 758.56 | 758.68 | 758.81 | 758.94 | 759.07 | 759.19 | 759.32 |
| 598 | 759.45 | 759.57 | 759.70 | 759.84 | 759.96 | 760.09 | 760.21 | 760.34 | 760.46 | 760.59 |
| 599 | 760.72 | 760.84 | 760.97 | 761.10 | 761.22 | 761.35 | 761.48 | 761.61 | 761.73 | 761.86 |
| 30 Inch. | | | | | | | | | | |
| 600 | 761.99 | 762.11 | 762.24 | 762.37 | 762.49 | 762.62 | 762.75 | 762.88 | 763.00 | 763.13 |
| 601 | 763.26 | 763.38 | 763.51 | 763.64 | 763.76 | 763.89 | 764.02 | 764.15 | 764.27 | 764.40 |
| 602 | 764.53 | 764.65 | 764.78 | 764.91 | 765.03 | 765.16 | 765.29 | 765.42 | 765.54 | 765.67 |
| 603 | 765.80 | 765.92 | 766.05 | 766.18 | 766.30 | 766.43 | 766.56 | 766.69 | 766.81 | 766.95 |
| 604 | 767.07 | 767.19 | 767.32 | 767.45 | 767.57 | 767.70 | 767.83 | 767.96 | 768.08 | 768.21 |
| 605 | 768.34 | 768.46 | 768.59 | 768.72 | 768.84 | 768.97 | 769.10 | 769.23 | 769.35 | 769.48 |
| 606 | 769.61 | 769.73 | 769.85 | 769.99 | 770.11 | 770.24 | 770.37 | 770.50 | 770.62 | 770.75 |
| 607 | 770.88 | 771.00 | 771.13 | 771.26 | 771.38 | 771.51 | 771.64 | 771.77 | 771.89 | 772.02 |
| 608 | 772.15 | 772.27 | 772.40 | 772.53 | 772.65 | 772.78 | 772.91 | 773.03 | 773.16 | 773.29 |
| 609 | 773.42 | 773.54 | 773.67 | 773.80 | 773.92 | 774.05 | 774.18 | 774.30 | 774.43 | 774.56 |

| Hundredths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.013 | 0.025 | 0.038 | 0.051 | 0.063 | 0.076 | 0.089 | 0.102 | 0.114 |

1 Russian Half-Line = 0.562976 Paris Line.

| Russian Half-Lines. | Units or Russian Half-Lines. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 22 Inch. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 440 | 247.71 | 248.27 | 248.84 | 249.40 | 249.96 | 250.52 | 251.09 | 251.65 | 252.21 | 252.78 |
| 450 | 253.34 | 253.90 | 254.47 | 255.03 | 255.59 | 256.15 | 256.72 | 257.28 | 257.84 | 258.41 |
| 460 | 258.97 | 259.53 | 260.09 | 260.66 | 261.22 | 261.78 | 262.35 | 262.91 | 263.47 | 264.04 |
| 470 | 264.60 | 265.16 | 265.72 | 266.29 | 266.85 | 267.41 | 267.98 | 268.54 | 269.10 | 269.67 |
| 480 | 270.23 | 270.79 | 271.35 | 271.92 | 272.48 | 273.04 | 273.61 | 274.17 | 274.73 | 275.30 |
| 24.5 In. | | | | | | | | | | |
| 490 | 275.86 | 276.42 | 276.98 | 277.55 | 278.11 | 278.67 | 279.24 | 279.80 | 280.36 | 280.93 |
| 500 | 281.49 | 282.05 | 282.61 | 283.18 | 283.74 | 284.30 | 284.87 | 285.43 | 285.99 | 286.55 |
| 510 | 287.12 | 287.68 | 288.24 | 288.81 | 289.37 | 289.93 | 290.50 | 291.06 | 291.62 | 292.18 |
| 520 | 292.75 | 293.31 | 293.87 | 294.44 | 295.00 | 295.56 | 296.13 | 296.69 | 297.25 | 297.81 |
| 530 | 298.38 | 298.94 | 299.50 | 300.07 | 300.63 | 301.19 | 301.76 | 302.32 | 302.88 | 303.44 |

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 27 Inch. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 540 | 304.01 | 304.06 | 304.12 | 304.18 | 304.23 | 304.29 | 304.34 | 304.40 | 304.46 | 304.51 |
| 541 | 304.57 | 304.63 | 304.68 | 304.74 | 304.80 | 304.85 | 304.91 | 304.96 | 305.02 | 305.08 |
| 542 | 305.13 | 305.19 | 305.25 | 305.30 | 305.36 | 305.41 | 305.47 | 305.53 | 305.58 | 305.64 |
| 543 | 305.70 | 305.75 | 305.81 | 305.86 | 305.92 | 305.98 | 306.03 | 306.09 | 306.15 | 306.20 |
| 544 | 306.26 | 306.32 | 306.37 | 306.43 | 306.48 | 306.54 | 306.60 | 306.65 | 306.71 | 306.77 |
| 545 | 306.82 | 306.88 | 306.93 | 306.99 | 307.05 | 307.10 | 307.16 | 307.22 | 307.27 | 307.33 |
| 546 | 307.38 | 307.44 | 307.50 | 307.55 | 307.61 | 307.67 | 307.72 | 307.78 | 307.84 | 307.89 |
| 547 | 307.95 | 308.00 | 308.06 | 308.12 | 308.17 | 308.23 | 308.29 | 308.34 | 308.40 | 308.45 |
| 548 | 308.51 | 308.57 | 308.62 | 308.68 | 308.74 | 308.79 | 308.85 | 308.90 | 308.96 | 309.02 |
| 549 | 309.07 | 309.13 | 309.19 | 309.24 | 309.30 | 309.36 | 309.41 | 309.47 | 309.52 | 309.58 |
| 27.5 In. | | | | | | | | | | |
| 550 | 309.64 | 309.69 | 309.75 | 309.81 | 309.86 | 309.92 | 309.97 | 310.03 | 310.09 | 310.14 |
| 551 | 310.20 | 310.26 | 310.31 | 310.37 | 310.42 | 310.48 | 310.54 | 310.59 | 310.65 | 310.71 |
| 552 | 310.76 | 310.82 | 310.88 | 310.93 | 310.99 | 311.04 | 311.10 | 311.16 | 311.21 | 311.27 |
| 553 | 311.33 | 311.38 | 311.44 | 311.49 | 311.55 | 311.61 | 311.66 | 311.72 | 311.78 | 311.83 |
| 554 | 311.89 | 311.95 | 312.00 | 312.06 | 312.11 | 312.17 | 312.23 | 312.28 | 312.34 | 312.40 |
| 555 | 312.45 | 312.51 | 312.56 | 312.62 | 312.68 | 312.73 | 312.79 | 312.85 | 312.90 | 312.96 |
| 556 | 313.01 | 313.07 | 313.13 | 313.18 | 313.24 | 313.30 | 313.35 | 313.41 | 313.47 | 313.52 |
| 557 | 313.56 | 313.63 | 313.69 | 313.75 | 313.80 | 313.86 | 313.92 | 313.97 | 314.03 | 314.08 |
| 558 | 314.14 | 314.20 | 314.25 | 314.31 | 314.37 | 314.42 | 314.48 | 314.53 | 314.59 | 314.65 |
| 559 | 314.70 | 314.76 | 314.82 | 314.87 | 314.93 | 314.99 | 315.04 | 315.10 | 315.15 | 315.21 |
| 28 Inch. | | | | | | | | | | |
| 560 | 315.27 | 315.32 | 315.38 | 315.44 | 315.49 | 315.55 | 315.60 | 315.66 | 315.72 | 315.77 |
| 561 | 315.83 | 315.89 | 315.94 | 316.00 | 316.05 | 316.11 | 316.17 | 316.22 | 316.28 | 316.34 |
| 562 | 316.39 | 316.45 | 316.51 | 316.56 | 316.62 | 316.67 | 316.73 | 316.79 | 316.84 | 316.90 |
| 563 | 316.96 | 317.01 | 317.07 | 317.12 | 317.18 | 317.24 | 317.29 | 317.35 | 317.41 | 317.46 |
| 564 | 317.52 | 317.57 | 317.63 | 317.69 | 317.74 | 317.80 | 317.86 | 317.91 | 317.97 | 318.03 |
| 565 | 318.08 | 318.14 | 318.19 | 318.25 | 318.31 | 318.36 | 318.42 | 318.48 | 318.53 | 318.59 |
| 566 | 318.64 | 318.70 | 318.76 | 318.81 | 318.87 | 318.93 | 318.98 | 319.04 | 319.09 | 319.15 |
| 567 | 319.21 | 319.26 | 319.32 | 319.38 | 319.43 | 319.49 | 319.55 | 319.60 | 319.66 | 319.71 |
| 568 | 319.77 | 319.83 | 319.88 | 319.94 | 320.00 | 320.05 | 320.11 | 320.16 | 320.22 | 320.28 |
| 569 | 320.33 | 320.39 | 320.45 | 320.50 | 320.56 | 320.61 | 320.67 | 320.73 | 320.78 | 320.84 |

## COMPARISON OF THE RUSSIAN AND OLD FRENCH BAROMETERS.

1 Russian Half-Line = 0.562976 Paris Line.

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| **28.5** Inch. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 570 | 320.90 | 320.95 | 321.01 | 321.07 | 321.12 | 321.18 | 321.23 | 321.29 | 321.35 | 321.40 |
| 571 | 321.46 | 321.52 | 321.57 | 321.63 | 321.68 | 321.74 | 321.80 | 321.85 | 321.91 | 321.97 |
| 572 | 322.02 | 322.08 | 322.13 | 322.19 | 322.25 | 322.30 | 322.36 | 322.42 | 322.47 | 322.53 |
| 573 | 322.59 | 322.64 | 322.70 | 322.75 | 322.81 | 322.87 | 322.92 | 322.98 | 323.04 | 323.09 |
| 574 | 323.15 | 323.20 | 323.26 | 323.32 | 323.37 | 323.43 | 323.49 | 323.54 | 323.60 | 323.65 |
| 575 | 323.71 | 323.77 | 323.82 | 323.88 | 323.94 | 323.99 | 324.05 | 324.11 | 324.16 | 324.22 |
| 576 | 324.27 | 324.33 | 324.39 | 324.44 | 324.50 | 324.56 | 324.61 | 324.67 | 324.72 | 324.78 |
| 577 | 324.84 | 324.89 | 324.95 | 325.01 | 325.06 | 325.12 | 325.17 | 325.23 | 325.29 | 325.34 |
| 578 | 325.40 | 325.46 | 325.51 | 325.57 | 325.63 | 325.68 | 325.74 | 325.79 | 325.85 | 325.91 |
| 579 | 325.96 | 326.02 | 326.08 | 326.13 | 326.19 | 326.24 | 326.30 | 326.36 | 326.41 | 326.47 |
| **29** Inch. | | | | | | | | | | |
| 580 | 326.53 | 326.58 | 326.64 | 326.69 | 326.75 | 326.81 | 326.86 | 326.92 | 326.98 | 327.03 |
| 581 | 327.09 | 327.15 | 327.20 | 327.26 | 327.31 | 327.37 | 327.43 | 327.48 | 327.54 | 327.60 |
| 582 | 327.65 | 327.71 | 327.76 | 327.82 | 327.88 | 327.93 | 327.99 | 328.05 | 328.10 | 328.16 |
| 583 | 328.22 | 328.27 | 328.33 | 328.38 | 328.44 | 328.50 | 328.55 | 328.61 | 328.67 | 328.72 |
| 584 | 328.78 | 328.83 | 328.89 | 328.95 | 329.00 | 329.06 | 329.12 | 329.17 | 329.23 | 329.28 |
| 585 | 329.34 | 329.40 | 329.45 | 329.51 | 329.57 | 329.62 | 329.68 | 329.74 | 329.79 | 329.85 |
| 586 | 329.90 | 329.96 | 330.02 | 330.07 | 330.13 | 330.19 | 330.24 | 330.30 | 330.35 | 330.41 |
| 587 | 330.47 | 330.52 | 330.58 | 330.64 | 330.69 | 330.75 | 330.80 | 330.86 | 330.92 | 330.97 |
| 588 | 331.03 | 331.09 | 331.14 | 331.20 | 331.26 | 331.31 | 331.37 | 331.42 | 331.48 | 331.54 |
| 589 | 331.59 | 331.65 | 331.71 | 331.76 | 331.82 | 331.87 | 331.93 | 331.99 | 332.04 | 332.10 |
| **29.5** In. | | | | | | | | | | |
| 590 | 332.16 | 332.21 | 332.27 | 332.32 | 332.38 | 332.44 | 332.49 | 332.55 | 332.61 | 332.66 |
| 591 | 332.72 | 332.78 | 332.83 | 332.89 | 332.94 | 333.00 | 333.06 | 333.11 | 333.17 | 333.23 |
| 592 | 333.28 | 333.34 | 333.39 | 333.45 | 333.51 | 333.56 | 333.62 | 333.68 | 333.73 | 333.79 |
| 593 | 333.84 | 333.90 | 333.96 | 334.01 | 334.07 | 334.13 | 334.18 | 334.24 | 334.30 | 334.35 |
| 594 | 334.41 | 334.46 | 334.52 | 334.58 | 334.63 | 334.69 | 334.75 | 334.80 | 334.86 | 334.91 |
| 595 | 334.97 | 335.03 | 335.08 | 335.14 | 335.20 | 335.25 | 335.31 | 335.36 | 335.42 | 335.48 |
| 596 | 335.53 | 335.59 | 335.65 | 335.70 | 335.76 | 335.82 | 335.87 | 335.93 | 335.98 | 336.04 |
| 597 | 336.10 | 336.15 | 336.21 | 336.27 | 336.32 | 336.38 | 336.43 | 336.49 | 336.55 | 336.60 |
| 598 | 336.66 | 336.72 | 336.77 | 336.83 | 336.88 | 336.94 | 337.00 | 337.05 | 337.11 | 337.17 |
| 599 | 337.22 | 337.28 | 337.34 | 337.39 | 337.45 | 337.50 | 337.56 | 337.62 | 337.67 | 337.73 |
| **30** Inch. | | | | | | | | | | |
| 600 | 337.79 | 337.84 | 337.90 | 337.95 | 338.01 | 338.07 | 338.12 | 338.18 | 338.24 | 338.29 |
| 601 | 338.35 | 338.40 | 338.46 | 338.52 | 338.57 | 338.63 | 338.69 | 338.74 | 338.80 | 338.86 |
| 602 | 338.91 | 338.97 | 339.02 | 339.08 | 339.14 | 339.19 | 339.25 | 339.31 | 339.36 | 339.42 |
| 603 | 339.47 | 339.53 | 339.59 | 339.64 | 339.70 | 339.76 | 339.81 | 339.87 | 339.92 | 339.98 |
| 604 | 340.04 | 340.09 | 340.15 | 340.21 | 340.26 | 340.32 | 340.38 | 340.43 | 340.49 | 340.54 |
| 605 | 340.60 | 340.66 | 340.71 | 340.77 | 340.83 | 340.88 | 340.94 | 340.99 | 341.05 | 341.11 |
| 606 | 341.16 | 341.22 | 341.28 | 341.33 | 341.39 | 341.44 | 341.50 | 341.56 | 341.61 | 341.67 |
| 607 | 341.73 | 341.78 | 341.84 | 341.90 | 341.95 | 342.01 | 342.06 | 342.12 | 342.18 | 342.23 |
| 608 | 342.29 | 342.35 | 342.40 | 342.46 | 342.51 | 342.57 | 342.63 | 342.68 | 342.74 | 342.80 |
| 609 | 342.85 | 342.91 | 342.96 | 343.02 | 343.08 | 343.13 | 343.19 | 343.25 | 343.30 | 343.36 |

| Hundredths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.006 | 0.011 | 0.017 | 0.022 | 0.028 | 0.034 | 0.039 | 0.045 | 0.051 |

# IX. – XVI.

# COMPARISON

OF

# BAROMETRICAL DIFFERENCES

## EXPRESSED IN MEASURES OF DIFFERENT SCALES,

OR

# TABLES

FOR CONVERTING ENGLISH INCHES, MILLIMETRES, PARIS LINES, AND RUSSIAN HALF-LINES INTO EACH OTHER.

## IX. CONVERSION OF ENGLISH INCHES INTO MILLIMETRES.

1 English Inch = 25.39954 Millimetres.

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0.0 | 0.000 | 0.254 | 0.508 | 0.762 | 1.016 | 1.270 | 1.524 | 1.778 | 2.032 | 2.286 |
| 0.1 | 2.540 | 2.794 | 3.048 | 3.302 | 3.556 | 3.810 | 4.064 | 4.318 | 4.572 | 4.826 |
| 0.2 | 5.080 | 5.334 | 5.588 | 5.842 | 6.096 | 6.350 | 6.604 | 6.858 | 7.112 | 7.366 |
| 0.3 | 7.620 | 7.874 | 8.128 | 8.382 | 8.636 | 8.890 | 9.144 | 9.398 | 9.652 | 9.906 |
| 0.4 | 10.160 | 10.414 | 10.668 | 10.922 | 11.176 | 11.430 | 11.684 | 11.938 | 12.192 | 12.446 |
| 0.5 | 12.700 | 12.954 | 13.208 | 13.462 | 13.716 | 13.970 | 14.224 | 14.478 | 14.732 | 14.986 |
| 0.6 | 15.240 | 15.494 | 15.748 | 16.002 | 16.256 | 16.510 | 16.764 | 17.018 | 17.272 | 17.526 |
| 0.7 | 17.780 | 18.034 | 18.288 | 18.542 | 18.796 | 19.050 | 19.304 | 19.558 | 19.812 | 20.066 |
| 0.8 | 20.320 | 20.574 | 20.828 | 21.082 | 21.336 | 21.590 | 21.844 | 22.098 | 22.352 | 22.606 |
| 0.9 | 22.860 | 23.114 | 23.368 | 23.622 | 23.876 | 24.130 | 24.384 | 24.638 | 24.892 | 25.146 |
| 1.0 | 25.400 | 25.654 | 25.908 | 26.162 | 26.416 | 26.670 | 26.924 | 27.178 | 27.432 | 27.685 |
| 1.1 | 27.939 | 28.193 | 28.447 | 28.701 | 28.955 | 29.209 | 29.463 | 29.717 | 29.971 | 30.225 |
| 1.2 | 30.479 | 30.733 | 30.987 | 31.241 | 31.495 | 31.749 | 32.003 | 32.257 | 32.511 | 32.765 |
| 1.3 | 33.019 | 33.273 | 33.527 | 33.781 | 34.035 | 34.289 | 34.543 | 34.797 | 35.051 | 35.305 |
| 1.4 | 35.559 | 35.813 | 36.067 | 36.321 | 36.575 | 36.829 | 37.083 | 37.337 | 37.591 | 37.845 |
| 1.5 | 38.099 | 38.353 | 38.607 | 38.861 | 39.115 | 39.369 | 39.623 | 39.877 | 40.131 | 40.385 |
| 1.6 | 40.639 | 40.893 | 41.147 | 41.401 | 41.655 | 41.909 | 42.163 | 42.417 | 42.671 | 42.925 |
| 1.7 | 43.179 | 43.433 | 43.687 | 43.941 | 44.195 | 44.449 | 44.703 | 44.957 | 45.211 | 45.465 |
| 1.8 | 45.719 | 45.973 | 46.227 | 46.481 | 46.735 | 46.989 | 47.243 | 47.497 | 47.751 | 48.005 |

## X. CONVERSION OF ENGLISH INCHES INTO FRENCH OR PARIS LINES.

1 English Inch = 11.259515 Paris Lines.

| English Inches and Tenths. | Hundredths of an Inch. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 0.0 | 0.000 | 0.113 | 0.225 | 0.338 | 0.450 | 0.563 | 0.676 | 0.788 | 0.901 | 1.013 |
| 0.1 | 1.126 | 1.239 | 1.351 | 1.464 | 1.576 | 1.689 | 1.802 | 1.914 | 2.027 | 2.139 |
| 0.2 | 2.252 | 2.364 | 2.477 | 2.590 | 2.702 | 2.815 | 2.927 | 3.040 | 3.153 | 3.265 |
| 0.3 | 3.378 | 3.490 | 3.603 | 3.716 | 3.828 | 3.941 | 4.053 | 4.166 | 4.279 | 4.391 |
| 0.4 | 4.504 | 4.616 | 4.729 | 4.842 | 4.954 | 5.067 | 5.179 | 5.292 | 5.405 | 5.517 |
| 0.5 | 5.630 | 5.742 | 5.855 | 5.968 | 6.080 | 6.193 | 6.305 | 6.418 | 6.531 | 6.643 |
| 0.6 | 6.756 | 6.868 | 6.981 | 7.093 | 7.206 | 7.319 | 7.431 | 7.544 | 7.656 | 7.769 |
| 0.7 | 7.882 | 7.994 | 8.107 | 8.219 | 8.332 | 8.445 | 8.557 | 8.670 | 8.782 | 8.895 |
| 0.8 | 9.008 | 9.120 | 9.233 | 9.345 | 9.458 | 9.571 | 9.683 | 9.796 | 9.908 | 10.021 |
| 0.9 | 10.134 | 10.246 | 10.359 | 10.471 | 10.584 | 10.697 | 10.809 | 10.922 | 11.034 | 11.147 |
| 1.0 | 11.260 | 11.372 | 11.485 | 11.597 | 11.710 | 11.822 | 11.935 | 12.048 | 12.160 | 12.273 |
| 1.1 | 12.385 | 12.498 | 12.611 | 12.723 | 12.836 | 12.948 | 13.061 | 13.174 | 13.286 | 13.399 |
| 1.2 | 13.511 | 13.624 | 13.737 | 13.849 | 13.962 | 14.074 | 14.187 | 14.300 | 14.412 | 14.525 |
| 1.3 | 14.637 | 14.750 | 14.863 | 14.975 | 15.088 | 15.200 | 15.313 | 15.426 | 15.538 | 15.651 |
| 1.4 | 15.763 | 15.876 | 15.988 | 16.101 | 16.214 | 16.326 | 16.439 | 16.551 | 16.664 | 16.777 |
| 1.5 | 16.889 | 17.002 | 17.114 | 17.227 | 17.340 | 17.452 | 17.565 | 17.677 | 17.790 | 17.903 |
| 1.6 | 18.015 | 18.128 | 18.240 | 18.353 | 18.466 | 18.578 | 18.691 | 18.803 | 18.916 | 19.029 |
| 1.7 | 19.141 | 19.254 | 19.366 | 19.479 | 19.592 | 19.704 | 19.817 | 19.929 | 20.042 | 20.155 |
| 1.8 | 20.267 | 20.380 | 20.492 | 20.605 | 20.717 | 20.830 | 20.943 | 21.055 | 21.168 | 21.280 |

## XI. CONVERSION OF MILLIMETRES INTO ENGLISH INCHES.

1 Metre = 39.37079 English Inches.

| Millimetres. | Tenths of a Millimetre. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 0 | 0.0000 | 0.0039 | 0.0079 | 0.0118 | 0.0157 | 0.0197 | 0.0236 | 0.0276 | 0.0315 | 0.0354 |
| 1 | 0.0394 | 0.0433 | 0.0472 | 0.0512 | 0.0551 | 0.0591 | 0.0630 | 0.0669 | 0.0709 | 0.0748 |
| 2 | 0.0787 | 0.0827 | 0.0866 | 0.0906 | 0.0945 | 0.0984 | 0.1024 | 0.1063 | 0.1102 | 0.1142 |
| 3 | 0.1181 | 0.1220 | 0.1260 | 0.1299 | 0.1339 | 0.1378 | 0.1417 | 0.1457 | 0.1496 | 0.1535 |
| 4 | 0.1575 | 0.1614 | 0.1654 | 0.1693 | 0.1732 | 0.1772 | 0.1811 | 0.1850 | 0.1890 | 0.1929 |
| 5 | 0.1969 | 0.2008 | 0.2047 | 0.2087 | 0.2126 | 0.2165 | 0.2205 | 0.2244 | 0.2283 | 0.2323 |
| 6 | 0.2362 | 0.2402 | 0.2441 | 0.2480 | 0.2520 | 0.2559 | 0.2598 | 0.2638 | 0.2677 | 0,2717 |
| 7 | 0.2756 | 0.2795 | 0.2835 | 0.2874 | 0.2913 | 0.2953 | 0.2992 | 0.3032 | 0.3071 | 0.3110 |
| 8 | 0.3150 | 0.3189 | 0.3228 | 0.3268 | 0.3307 | 0.3347 | 0,3386 | 0.3425 | 0.3465 | 0.3504 |
| 9 | 0.3543 | 0.3583 | 0.3622 | 0.3661 | 0.3701 | 0.3740 | 0.3780 | 0.3819 | 0.3858 | 0.3898 |
| 10 | 0.3937 | 0.3976 | 0.4016 | 0.4055 | 0.4095 | 0.4134 | 0.4173 | 0.4213 | 0.4252 | 0.4291 |
| 11 | 0.4331 | 0.4370 | 0.4410 | 0.4449 | 0.4488 | 0.4528 | 0.4567 | 0.4606 | 0.4646 | 0.4685 |
| 12 | 0.4724 | 0.4764 | 0.4803 | 0.4843 | 0.4882 | 0.4921 | 0.4961 | 0.5000 | 0.5039 | 0.5079 |
| 13 | 0.5118 | 0.5158 | 0.5197 | 0.5236 | 0.5276 | 0.5315 | 0.5354 | 0.5394 | 0.5433 | 0.5473 |
| 14 | 0.5512 | 0.5551 | 0.5591 | 0.5630 | 0.5669 | 0.5709 | 0.5748 | 0.5788 | 0.5827 | 0.5866 |
| 15 | 0.5906 | 0.5945 | 0.5984 | 0.6024 | 0.6063 | 0.6102 | 0.6142 | 0.6181 | 0.6221 | 0.6260 |
| 16 | 0.6299 | 0.6339 | 0.6378 | 0.6417 | 0.6457 | 0.6496 | 0.6536 | 0.6575 | 0.6614 | 0.6654 |
| 17 | 0.6693 | 0.6732 | 0.6772 | 0.6811 | 0.6851 | 0.6890 | 0.6929 | 0.6969 | 0.7008 | 0.7047 |
| 18 | 0.7087 | 0.7126 | 0.7165 | 0.7205 | 0.7244 | 0.7284 | 0.7323 | 0.7362 | 0.7402 | 0.7441 |
| 19 | 0.7480 | 0.7520 | 0.7559 | 0.7599 | 0.7638 | 0.7677 | 0.7717 | 0.7756 | 0.7795 | 0.7835 |
| 20 | 0.7874 | 0.7914 | 0.7953 | 0.7992 | 0.8032 | 0.8071 | 0.8110 | 0.8150 | 0.8189 | 0.8228 |
| 21 | 0.8268 | 0.8307 | 0.8347 | 0.8386 | 0.8425 | 0.8465 | 0.8504 | 0.8543 | 0.8583 | 0.8622 |
| 22 | 0.8662 | 0.8701 | 0.8740 | 0.8780 | 0.8819 | 0.8858 | 0.8898 | 0.8937 | 0.8977 | 0.9016 |
| 23 | 0.9055 | 0.9095 | 0.9134 | 0.9173 | 0.9213 | 0.9252 | 0.9292 | 0.9331 | 0.9370 | 0.9410 |
| 24 | 0.9449 | 0.9488 | 0.9528 | 0.9567 | 0.9606 | 0.9646 | 0.9685 | 0.9725 | 0.9764 | 0.9803 |
| 25 | 0.9843 | 0.9882 | 0.9921 | 0.9961 | 1.0000 | 1.0040 | 1.0079 | 1.0118 | 1.0158 | 1.0197 |
| 26 | 1.0236 | 1.0276 | 1.0315 | 1.0355 | 1.0394 | 1.0433 | 1.0473 | 1.0512 | 1.0551 | 1.0591 |
| 27 | 1.0630 | 1.0669 | 1.0709 | 1.0748 | 1.0788 | 1.0827 | 1.0866 | 1.0906 | 1.0945 | 1.0984 |
| 28 | 1.1024 | 1.1063 | 1.1103 | 1.1142 | 1.1181 | 1.1221 | 1.1260 | 1.1299 | 1.1339 | 1.1378 |
| 29 | 1.1418 | 1.1457 | 1.1496 | 1.1536 | 1.1575 | 1.1614 | 1.1654 | 1.1693 | 1.1732 | 1.1772 |
| 30 | 1.1811 | 1.1851 | 1.1890 | 1.1929 | 1.1969 | 1.2008 | 1.2047 | 1.2087 | 1.2126 | 1.2166 |
| 31 | 1.2205 | 1.2244 | 1.2284 | 1.2323 | 1.2362 | 1.2402 | 1.2441 | 1.2481 | 1.2520 | 1.2559 |
| 32 | 1.2599 | 1.2638 | 1.2677 | 1.2717 | 1.2756 | 1.2796 | 1.2835 | 1.2874 | 1.2914 | 1.2953 |
| 33 | 1.2992 | 1.3032 | 1.3071 | 1.3110 | 1.3150 | 1.3189 | 1.3229 | 1.3268 | 1.3307 | 1.3347 |
| 34 | 1.3386 | 1.3425 | 1.3465 | 1.3504 | 1.3544 | 1.3583 | 1.3622 | 1.3662 | 1.3701 | 1.3740 |
| 35 | 1.3780 | 1.3819 | 1.3859 | 1.3898 | 1.3937 | 1.3977 | 1.4016 | 1.4055 | 1.4095 | 1.4134 |
| 36 | 1.4173 | 1.4213 | 1.4252 | 1.4292 | 1.4331 | 1.4370 | 1.4410 | 1.4449 | 1.4488 | 1.4528 |
| 37 | 1.4567 | 1.4607 | 1.4646 | 1.4685 | 1.4725 | 1.4764 | 1.4803 | 1.4843 | 1.4882 | 1.4922 |
| 38 | 1.4961 | 1.5000 | 1.5040 | 1.5079 | 1.5118 | 1.5158 | 1.5197 | 1.5236 | 1.5276 | 1.5315 |
| 39 | 1.5355 | 1.5394 | 1.5433 | 1.5473 | 1.5512 | 1.5551 | 1.5591 | 1.5630 | 1.5670 | 1.5709 |
| 40 | 1.5748 | 1.5788 | 1.5827 | 1.5866 | 1.5906 | 1.5945 | 1.5985 | 1.6024 | 1.6063 | 1.6103 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## XII. CONVERSION OF MILLIMETRES INTO FRENCH OR PARIS LINES.

1 Millimetre = 0.443296 Paris Line.

| Millimetres. | Tenths of a Millimetre. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 0 | 0.000 | 0.044 | 0.089 | 0.133 | 0.177 | 0.222 | 0.266 | 0.310 | 0.355 | 0.399 |
| 1 | 0.443 | 0.488 | 0.532 | 0.576 | 0.621 | 0.665 | 0.709 | 0.754 | 0.798 | 0.842 |
| 2 | 0.887 | 0.931 | 0.975 | 1.020 | 1.064 | 1.108 | 1.153 | 1.197 | 1.241 | 1.286 |
| 3 | 1.330 | 1.374 | 1.419 | 1.463 | 1.507 | 1.552 | 1.596 | 1.640 | 1.685 | 1.729 |
| 4 | 1.773 | 1.818 | 1.862 | 1.906 | 1.950 | 1.995 | 2.039 | 2.083 | 2.128 | 2.172 |
| 5 | 2.216 | 2.261 | 2.305 | 2.349 | 2.394 | 2.438 | 2.482 | 2.527 | 2.571 | 2.615 |
| 6 | 2.660 | 2.704 | 2.748 | 2.793 | 2.837 | 2.881 | 2.926 | 2.970 | 3.014 | 3.059 |
| 7 | 3.103 | 3.147 | 3.192 | 3.236 | 3.280 | 3.325 | 3.369 | 3.413 | 3.458 | 3.502 |
| 8 | 3.546 | 3.591 | 3.635 | 3.679 | 3.724 | 3.768 | 3.812 | 3.857 | 3.901 | 3.945 |
| 9 | 3.990 | 4.034 | 4.078 | 4.123 | 4.167 | 4.211 | 4.256 | 4.300 | 4.344 | 4.389 |
| 10 | 4.433 | 4.477 | 4.522 | 4.566 | 4.610 | 4.655 | 4.699 | 4.743 | 4.788 | 4.832 |
| 11 | 4.876 | 4.921 | 4.965 | 5.009 | 5.054 | 5.098 | 5.142 | 5.187 | 5.231 | 5.275 |
| 12 | 5.320 | 5.364 | 5.408 | 5.453 | 5.497 | 5.541 | 5.586 | 5.630 | 5.674 | 5.719 |
| 13 | 5.763 | 5.807 | 5.851 | 5.896 | 5.940 | 5.984 | 6.029 | 6.073 | 6.117 | 6.162 |
| 14 | 6.206 | 6.250 | 6.295 | 6.339 | 6.383 | 6.428 | 6.472 | 6.516 | 6.561 | 6.605 |
| 15 | 6.649 | 6.694 | 6.738 | 6.782 | 6.827 | 6.871 | 6.915 | 6.960 | 7.004 | 7.048 |
| 16 | 7.093 | 7.137 | 7.181 | 7.226 | 7.270 | 7.314 | 7.359 | 7.403 | 7.447 | 7.492 |
| 17 | 7.536 | 7.580 | 7.625 | 7.669 | 7.713 | 7.758 | 7.802 | 7.846 | 7.891 | 7.935 |
| 18 | 7.979 | 8.024 | 8.068 | 8.112 | 8.157 | 8.201 | 8.245 | 8.290 | 8.334 | 8.378 |
| 19 | 8.423 | 8.467 | 8.511 | 8.556 | 8.600 | 8.644 | 8.689 | 8.733 | 8.777 | 8.822 |
| 20 | 8.866 | 8.910 | 8.955 | 8.999 | 9.043 | 9.088 | 9.132 | 9.176 | 9.221 | 9.265 |
| 21 | 9.309 | 9.354 | 9.398 | 9.442 | 9.487 | 9.531 | 9.575 | 9.620 | 9.664 | 9.708 |
| 22 | 9.753 | 9.797 | 9.841 | 9.886 | 9.930 | 9.974 | 10.018 | 10.063 | 10.107 | 10.151 |
| 23 | 10.196 | 10.240 | 10.284 | 10.329 | 10.373 | 10.417 | 10.462 | 10.506 | 10.550 | 10.595 |
| 24 | 10.639 | 10.683 | 10.728 | 10.772 | 10.816 | 10.861 | 10.905 | 10.949 | 10.994 | 11.038 |
| 25 | 11.082 | 11.127 | 11.171 | 11.215 | 11.260 | 11.304 | 11.348 | 11.393 | 11.437 | 11.481 |
| 26 | 11.526 | 11.570 | 11.614 | 11.659 | 11.703 | 11.747 | 11.792 | 11.836 | 11.880 | 11.925 |
| 27 | 11.969 | 12.013 | 12.058 | 12.102 | 12.146 | 12.191 | 12.235 | 12.279 | 12.324 | 12.368 |
| 28 | 12.412 | 12.457 | 12.501 | 12.545 | 12.590 | 12.634 | 12.678 | 12.723 | 12.767 | 12.811 |
| 29 | 12.856 | 12.900 | 12.944 | 12.989 | 13.033 | 13.077 | 13.122 | 13.166 | 13.210 | 13.255 |
| 30 | 13.299 | 13.343 | 13.388 | 13.432 | 13.476 | 13.521 | 13.565 | 13.609 | 13.654 | 13.698 |
| 31 | 13.742 | 13.786 | 13.831 | 13.875 | 13.919 | 13.964 | 14.008 | 14.052 | 14.097 | 14.141 |
| 32 | 14.185 | 14.230 | 14.274 | 14.318 | 14.363 | 14.407 | 14.451 | 14.496 | 14.540 | 14.584 |
| 33 | 14.629 | 14.673 | 14.717 | 14.762 | 14.806 | 14.850 | 14.895 | 14.939 | 14.983 | 15.028 |
| 34 | 15.072 | 15.116 | 15.161 | 15.205 | 15.249 | 15.294 | 15.338 | 15.382 | 15.427 | 15.471 |
| 35 | 15.515 | 15.560 | 15.604 | 15.648 | 15.693 | 15.737 | 15.781 | 15.826 | 15.870 | 15.914 |
| 36 | 15.959 | 16.003 | 16.047 | 16.092 | 16.136 | 16.180 | 16.225 | 16.269 | 16.313 | 16.358 |
| 37 | 16.402 | 16.446 | 16.491 | 16.535 | 16.579 | 16.624 | 16.668 | 16.712 | 16.757 | 16.801 |
| 38 | 16.845 | 16.890 | 16.934 | 16.978 | 17.023 | 17.067 | 17.111 | 17.156 | 17.200 | 17.244 |
| 39 | 17.289 | 17.333 | 17.377 | 17.422 | 17.466 | 17.510 | 17.555 | 17.599 | 17.643 | 17.688 |
| 40 | 17.732 | 17.776 | 17.820 | 17.865 | 17.909 | 17.953 | 17.998 | 18.042 | 18.086 | 18.131 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## XIII. CONVERSION OF THE FRENCH OR PARIS LINES INTO MILLIMETRES.

1 Paris Line = 2.255829 Millimetres.

| Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.000 | 0.226 | 0.451 | 0.677 | 0.902 | 1.128 | 1.353 | 1.579 | 1.805 | 2.030 |
| 1 | 2.256 | 2.481 | 2.707 | 2.933 | 3.158 | 3.384 | 3.609 | 3.835 | 4.060 | 4.286 |
| 2 | 4.512 | 4.737 | 4.963 | 5.188 | 5.414 | 5.640 | 5.865 | 6.091 | 6.316 | 6.542 |
| 3 | 6.767 | 6.993 | 7.219 | 7.444 | 7.670 | 7.895 | 8.121 | 8.347 | 8.572 | 8.798 |
| 4 | 9.023 | 9.249 | 9.474 | 9.700 | 9.926 | 10.151 | 10.377 | 10.602 | 10.828 | 11.054 |
| 5 | 11.279 | 11.505 | 11.730 | 11.956 | 12.181 | 12.407 | 12.633 | 12.858 | 13.084 | 13.309 |
| 6 | 13.535 | 13.761 | 13.986 | 14.212 | 14.437 | 14.663 | 14.888 | 15.114 | 15.340 | 15.565 |
| 7 | 15.791 | 16.016 | 16.242 | 16.468 | 16.693 | 16.919 | 17.144 | 17.370 | 17.595 | 17.821 |
| 8 | 18.047 | 18.272 | 18.498 | 18.723 | 18.949 | 19.175 | 19.400 | 19.626 | 19.851 | 20.077 |
| 9 | 20.302 | 20.528 | 20.754 | 20.979 | 21.205 | 21.430 | 21.656 | 21.882 | 22.107 | 22.333 |
| 10 | 22.558 | 22.784 | 23.009 | 23.235 | 23.461 | 23.686 | 23.912 | 24.137 | 24.363 | 24.589 |
| 11 | 24.814 | 25.040 | 25.265 | 25.491 | 25.716 | 25.942 | 26.168 | 26.393 | 26.619 | 26.844 |
| 12 | 27.070 | 27.296 | 27.521 | 27.747 | 27.972 | 28.198 | 28.423 | 28.649 | 28.875 | 29.100 |
| 13 | 29.326 | 29.551 | 29.777 | 30.003 | 30.228 | 30.454 | 30.679 | 30.905 | 31.130 | 31.356 |
| 14 | 31.582 | 31.807 | 32.033 | 32.258 | 32.485 | 32.711 | 32.936 | 33.162 | 33.387 | 33.613 |
| 15 | 33.837 | 34.063 | 34.289 | 34.514 | 34.740 | 34.965 | 35.191 | 35.417 | 35.642 | 35.868 |
| 16 | 36.093 | 36.319 | 36.544 | 36.770 | 36.996 | 37.221 | 37.447 | 37.672 | 37.898 | 38.124 |
| 17 | 38.349 | 38.575 | 38.800 | 39.026 | 39.251 | 39.477 | 39.703 | 39.928 | 40.154 | 40.379 |
| 18 | 40.605 | 40.831 | 41.056 | 41.282 | 41.507 | 41.733 | 41.958 | 42.184 | 42.410 | 42.635 |

## XIV. CONVERSION OF FRENCH OR PARIS LINES INTO ENGLISH INCHES.

1 Paris Line = 0.088814 English Inch.

| Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. In. | Eng In. | Eng. In. | Eng. In. | Eng. In | Eng. In. | Eng. In. | Eng. In. | Eng. In. | Eng. In. |
| 0 | 0.0000 | 0.0089 | 0.0178 | 0.0266 | 0.0355 | 0.0444 | 0.0533 | 0.0622 | 0.0711 | 0.0799 |
| 1 | 0.0888 | 0.0977 | 0.1066 | 0.1155 | 0.1243 | 0.1332 | 0.1421 | 0.1510 | 0.1599 | 0.1687 |
| 2 | 0.1776 | 0.1865 | 0.1954 | 0.2043 | 0.2132 | 0.2220 | 0.2309 | 0.2398 | 0.2487 | 0.2576 |
| 3 | 0.2664 | 0.2753 | 0.2842 | 0.2931 | 0.3020 | 0.3108 | 0.3197 | 0.3286 | 0.3375 | 0.3464 |
| 4 | 0.3553 | 0.3641 | 0.3730 | 0.3819 | 0.3908 | 0.3997 | 0.4085 | 0.4174 | 0.4263 | 0.4352 |
| 5 | 0.4441 | 0.4530 | 0.4618 | 0.4707 | 0.4796 | 0.4885 | 0.4974 | 0.5062 | 0.5151 | 0.5240 |
| 6 | 0.5329 | 0.5418 | 0.5506 | 0.5595 | 0.5684 | 0.5773 | 0.5862 | 0.5951 | 0.6039 | 0.6128 |
| 7 | 0.6217 | 0.6306 | 0.6395 | 0.6483 | 0.6572 | 0.6661 | 0.6750 | 0.6839 | 0.6927 | 0.7016 |
| 8 | 0.7105 | 0.7194 | 0.7283 | 0.7372 | 0.7460 | 0.7549 | 0.7638 | 0.7727 | 0.7816 | 0.7904 |
| 9 | 0.7993 | 0.8082 | 0.8171 | 0.8260 | 0.8349 | 0.8437 | 0.8526 | 0.8615 | 0.8704 | 0.8793 |
| 10 | 0.8881 | 0.8970 | 0.9059 | 0.9148 | 0.9237 | 0.9325 | 0.9414 | 0.9503 | 0.9592 | 0.9681 |
| 11 | 0.9770 | 0.9858 | 0.9947 | 1.0036 | 1.0125 | 1.0214 | 1.0302 | 1.0391 | 1.0480 | 1.0569 |
| 12 | 1.0658 | 1.0746 | 1.0835 | 1.0924 | 1.1013 | 1.1102 | 1.1191 | 1.1279 | 1.1368 | 1.1457 |
| 13 | 1.1546 | 1.1635 | 1.1723 | 1.1812 | 1.1901 | 1.1990 | 1.2079 | 1.2168 | 1.2256 | 1.2345 |
| 14 | 1.2434 | 1.2523 | 1.2612 | 1.2700 | 1.2789 | 1.2878 | 1.2967 | 1.3056 | 1.3144 | 1.3233 |
| 15 | 1.3322 | 1.3411 | 1.3500 | 1.3589 | 1.3677 | 1.3766 | 1.3855 | 1.3944 | 1.4033 | 1.4121 |
| 16 | 1.4210 | 1.4299 | 1.4388 | 1.4477 | 1.4565 | 1.4654 | 1.4743 | 1.4832 | 1.4921 | 1.5010 |
| 17 | 1.5098 | 1.5187 | 1.5276 | 1.5365 | 1.5454 | 1.5542 | 1.5631 | 1.5720 | 1.5809 | 1.5898 |
| 18 | 1.5987 | 1.6075 | 1.6164 | 1.6253 | 1.6342 | 1.6431 | 1.6519 | 1.6608 | 1.6697 | 1.6786 |

## XV. CONVERSION OF RUSSIAN HALF-LINES INTO MILLIMETRES.

1 Russian Half-Line = 1.269977 Millimetres.

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.000 | 0.127 | 0.254 | 0.381 | 0.508 | 0.635 | 0.762 | 0.889 | 1.016 | 1.143 |
| 1 | 1.270 | 1.397 | 1.524 | 1.651 | 1.778 | 1.905 | 2.032 | 2.159 | 2.286 | 2.413 |
| 2 | 2.540 | 2.667 | 2.794 | 2.921 | 3.048 | 3.175 | 3.302 | 3.429 | 3.556 | 3.683 |
| 3 | 3.810 | 3.937 | 4.064 | 4.191 | 4.318 | 4.445 | 4.572 | 4.699 | 4.826 | 4.953 |
| 4 | 5.080 | 5.207 | 5.334 | 5.461 | 5.588 | 5.715 | 5.842 | 5.969 | 6.096 | 6.223 |
| 5 | 6.350 | 6.477 | 6.604 | 6.731 | 6.858 | 6.985 | 7.112 | 7.239 | 7.366 | 7.493 |
| 6 | 7.620 | 7.747 | 7.874 | 8.001 | 8.128 | 8.255 | 8.382 | 8.509 | 8.636 | 8.763 |
| 7 | 8.890 | 9.017 | 9.144 | 9.271 | 9.398 | 9.525 | 9.652 | 9.779 | 9.906 | 10.033 |
| 8 | 10.160 | 10.287 | 10.414 | 10.541 | 10.668 | 10.795 | 10.922 | 11.049 | 11.176 | 11.303 |
| 9 | 11.430 | 11.557 | 11.684 | 11.811 | 11.938 | 12.065 | 12.192 | 12.319 | 12.446 | 12.573 |
| 10 | 12.700 | 12.827 | 12.954 | 13.081 | 13.208 | 13.335 | 13.462 | 13.589 | 13.716 | 13.843 |
| 11 | 13.970 | 14.097 | 14.224 | 14.351 | 14.478 | 14.605 | 14.732 | 14.859 | 14.986 | 15.113 |
| 12 | 15.240 | 15.367 | 15.494 | 15.621 | 15.748 | 15.875 | 16.002 | 16.129 | 16.256 | 16.383 |
| 13 | 16.510 | 16.637 | 16.764 | 16.891 | 17.018 | 17.145 | 17.272 | 17.399 | 17.526 | 17.653 |
| 14 | 17.780 | 17.907 | 18.034 | 18.161 | 18.288 | 18.415 | 18.542 | 18.669 | 18.796 | 18.923 |
| 15 | 19.050 | 19.177 | 19.304 | 19.431 | 19.558 | 19.685 | 19.812 | 19.939 | 20.066 | 20.193 |
| 16 | 20.320 | 20.447 | 20.574 | 20.701 | 20.828 | 20.955 | 21.082 | 21.209 | 21.336 | 21.463 |
| 17 | 21.590 | 21.717 | 21.844 | 21.971 | 22.098 | 22.225 | 22.352 | 22.479 | 22.606 | 22.733 |
| 18 | 22.860 | 22.987 | 23.114 | 23.241 | 23.368 | 23.495 | 23.622 | 23.749 | 23.876 | 24.003 |

## XVI. CONVERSION OF RUSSIAN HALF-LINES INTO PARIS LINES.

1 Russian Half-Line = 0.562976 Paris Line.

| Russian Half-Lines. | Tenths. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par. line | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. | Par. line. |
| 0 | 0.000 | 0.056 | 0.113 | 0.169 | 0.225 | 0.281 | 0.338 | 0.394 | 0.450 | 0.507 |
| 1 | 0.563 | 0.619 | 0.676 | 0.732 | 0.788 | 0.844 | 0.901 | 0.957 | 1.013 | 1.070 |
| 2 | 1.126 | 1.182 | 1.239 | 1.295 | 1.351 | 1.407 | 1.464 | 1.520 | 1.576 | 1.633 |
| 3 | 1.689 | 1.745 | 1.802 | 1.858 | 1.914 | 1.970 | 2.027 | 2.083 | 2.139 | 2.196 |
| 4 | 2.252 | 2.308 | 2.364 | 2.421 | 2.477 | 2.533 | 2.590 | 2.646 | 2.702 | 2.759 |
| 5 | 2.815 | 2.871 | 2.927 | 2.984 | 3.040 | 3.096 | 3.153 | 3.209 | 3.265 | 3.322 |
| 6 | 3.378 | 3.434 | 3.490 | 3.547 | 3.603 | 3.659 | 3.716 | 3.772 | 3.828 | 3.885 |
| 7 | 3.941 | 3.997 | 4.053 | 4.110 | 4.166 | 4.222 | 4.279 | 4.335 | 4.391 | 4.448 |
| 8 | 4.504 | 4.560 | 4.616 | 4.673 | 4.729 | 4.785 | 4.842 | 4.898 | 4.954 | 5.010 |
| 9 | 5.067 | 5.123 | 5.179 | 5.236 | 5.292 | 5.348 | 5.405 | 5.461 | 5.517 | 5.573 |
| 10 | 5.630 | 5.686 | 5.742 | 5.799 | 5.855 | 5.911 | 5.968 | 6.024 | 6.080 | 6.136 |
| 11 | 6.193 | 6.249 | 6.305 | 6.362 | 6.418 | 6.474 | 6.531 | 6.587 | 6.643 | 6.699 |
| 12 | 6.756 | 6.812 | 6.868 | 6.925 | 6.981 | 7.037 | 7.093 | 7.150 | 7.206 | 7.262 |
| 13 | 7.319 | 7.375 | 7.431 | 7.488 | 7.544 | 7.600 | 7.656 | 7.713 | 7.769 | 7.825 |
| 14 | 7.882 | 7.938 | 7.994 | 8.051 | 8.107 | 8.163 | 8.219 | 8.276 | 8.332 | 8.388 |
| 15 | 8.445 | 8.501 | 8.557 | 8.614 | 8.670 | 8.726 | 8.782 | 8.839 | 8.895 | 8.951 |
| 16 | 9.008 | 9.064 | 9.120 | 9.177 | 9.233 | 9.289 | 9.345 | 9.402 | 9.458 | 9.514 |
| 17 | 9.571 | 9.627 | 9.683 | 9.739 | 9.796 | 9.852 | 9.908 | 9.965 | 10.021 | 10.077 |
| 18 | 10.134 | 10.190 | 10.246 | 10.302 | 10.359 | 10.415 | 10.471 | 10.528 | 10.584 | 10.640 |

# TABLES

FOR

# REDUCING BAROMETRICAL OBSERVATIONS,

TAKEN AT ANY TEMPERATURE,

TO THE TEMPERATURE OF THE FREEZING POINT.

# TABLES

FOR

REDUCING THE BAROMETRICAL OBSERVATIONS TAKEN AT ANY TEMPERATURE TO THE TEMPERATURE OF THE FREEZING POINT.

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THE variations of the mercurial column in a stationary barometer are due to two causes, the changes of atmospheric pressure and the variations of temperature of the mercury, which affect the length of the column by changing its density. The variations of atmospheric pressure, which alone the barometer is destined to ascertain, are therefore hidden, and their observation falsified by the expansion or contraction of the mercury due to changes of temperature. For, supposing that, while the atmospheric pressure remains the same, the temperature of the instrument becomes lower, the mercurial column will become shorter, and the barometer will appear to fall; if the pressure becomes less, but the temperature increases, the expansion of the mercury will tend to compensate the diminution of pressure, and the barometer may remain stationary, or even may rise, while it ought to be falling; in other cases the action of temperature will tend to increase the amount of the changes of the barometrical height. It is therefore evident that successive observations, with the same barometer, do not give *directly* the actual changes of atmospheric pressure, unless they have been taken exactly at the same temperature, a case which, in practice, seldom occurs. Likewise simultaneous observations, taken with various barometers, do not give *directly* the actual differences of the absolute pressure of the atmosphere above the instruments. To obtain the true barometrical heights, that is, the action of the atmospheric pressure alone, the influence of the temperature must first be eliminated from the observed heights. This is done by reducing, by means of the following Tables, the various barometrical columns to the length they would have at a given temperature, which is the same for all. For the sake of convenient comparison, the freezing point has been almost universally adopted as the standard temperature to which all observations are to be reduced.

## CONSTRUCTION OF THE TABLES.

In all the following Tables the barometers are supposed to be furnished with brass scales, extending from the surface of the mercury in the cistern to the top of the mercurial column. The correction to be applied is therefore composed of two elements: the correction for the expansion of the mercury, and that for the expansion of the scale; both of which ought to be, and have been, taken into account.

Indeed, the correction for the expansion of mercury is not sufficient to reduce the readings to the height which the barometer would indicate, under the same pressure, at the temperature of the freezing point. For when the temperature rises the mercurial column expands; but then the scale also grows longer, and this will tend to lower the reading of the height. The correction for the expansion of the mercury

must thus be diminished by the amount of that of the scale, that is, by nearly $\frac{1}{10}$, this being the proportion between the expansion of brass and that of mercury.

It is also the expansion of the scale which causes an apparent anomaly in the Tables for the Reduction of the English and Old French Barometers. It can be seen, that, though the observations are to be reduced to the freezing point, or to 32° Fahrenheit and zero Reaumur, the Tables give still a correction for observations taken at that temperature. The reason of it is, that the normal length of the English and Old French standards has not been determined at the temperature of the freezing point, as is the case with the metre, but respectively at the temperatures of 62° Fahrenheit and 13° Reaumur. It is thus *only at these temperatures* that the scales graduated with these standards have their true length. Above and below, the inches of the scales are longer or shorter than the inches of the standards. At the freezing point, therefore, the correction for the expansion of the mercury is null, but that for the expansion of the scale is not. The scale being too short, the reading will be too high, and a *subtractive* correction must still be applied, which will be gradually compensated at lower temperatures by the now *additive* correction of the mercurial column. Thus the point of no correction will occur at 28°.5 Fahrenheit, instead of 32°, in the English Barometer, and at —1°.5 Reaumur, instead of zero, in the Old French.

Schumacher has calculated and published in his *Collection of Tables*, &c., and in his *Jahrbuch* for 1836, 1837, and 1838, extensive tables for the reduction of the English, Old French, and Metrical Barometers, using the following general formula: —

Let $h$ = observed height.
" $t$ = temperature of the attached thermometer.
" $T$ = temperature to which the observed height is to be reduced.
" $m$ = expansion, in volume, of mercury.
" $l$ = linear expansion of brass.
" $\vartheta$ = normal temperature of the standard scale.

The reduction to the freezing point will be given by the formula, —

$$h \cdot \frac{m(t-T) - l(t-\vartheta)}{1+m(t-T)}$$

The following tables, which may be found more convenient for ordinary use, have been calculated from the same formula. Table XVII., published in the Instructions of the Royal Society of London, is mostly abstracted from the table of Schumacher. It gives the reduction of the English Barometer, adopting the following values: —

Let $h$ = observed height in English inches.
" $t$ = temperature of attached thermometer in degrees of Fahrenheit.
" $m$ = expansion, in volume, of mercury for one degree Fahrenheit = 0.0001001.
" $l$ = linear expansion of brass for one degree Fahrenheit = 0.0000104344.

The normal temperature of standard being = 62°.

The reduction to 32° Fahrenheit will be given then by the formula,

$$-h \cdot \frac{m(t-32) - l(t-62)}{1+m(t-32)}.$$

The elements for the other tables are found at the head of each.

## XVII.

### ENGLISH BAROMETER.

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# TABLE

## GIVING THE CORRECTION TO BE APPLIED TO ENGLISH BAROMETERS,

WITH BRASS SCALES EXTENDING FROM THE CISTERN TO THE TOP OF THE MERCURIAL COLUMN, FOR REDUCING THE OBSERVATIONS TO THIRTY-TWO DEGREES FAHRENHEIT.

## Table XVII.

The following Table, calculated after that of Schumacher, has been adopted by the Committee of Physics and Meteorology of the Royal Society of London. It gives immediately the correction for every degree of Fahrenheit, and for every half-inch from 20 up to 31 inches. The scale of the barometer is supposed to be of brass, extending from the cistern to the top of the mercurial column. The difference of expansion of brass and mercury is taken into account. The standard temperature of the yard being 62° Fahr., and not 32° Fahr., the difference of expansion of the scale and of the mercurial column carries the point of no correction down to 29° Fahr. Therefore, from 29° up the correction must be *subtracted* from, from 29° down it must be *added* to, the observed height.

*Examples of Calculation.*

Barometer, observed height, . . . . . 30.231
Attached thermometer 82° Fahr.

See in the last page the column of 30 inches; go down as far as the horizontal line corresponding with 82° in the first vertical column, which contains the temperatures; you will find there the correction —.143. We have thus: —

| | |
|---|---|
| Barometer, observed height, . . . . . | 30.231 |
| *Subtractive* correction for 82° Fahr., . . . | —0.143 |
| Barometer at 32° Fahr., . . . | 30.088 |

Barometer, observed height, . . . . . 29.743
Attached thermometer 25° Fahr.
The column of 29.5 inches opposite to 25° Fahr. gives an

| | |
|---|---|
| *additive* correction of, . . . . . | +0.009 |
| Barometer at 32° Fahr., . . . | 29.752 |

It will be easy to apply also the correction for fractions of a degree Fahrenheit; for example: —

Barometer, observed height, . . . . . 28.358
Attached thermometer 71.3
In the column of 28.5 inches, we find that the difference between the correction for 71° and that for 72° is .003; dividing this difference proportionally to the fraction, we have for three tenths of a degree a correction of —.001, which added to —.108, the correction for 71°, makes a total correction of, . . . . —.109

| | |
|---|---|
| And barometer at 32° Fahr., . . . | 28.249 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|---|
| | 20 | 20.5 | 21 | 21.5 | 22 | 22.5 | 23 | 23.5 | |
| ° | | | | | | | | | ° |
| 0 | +.051 | +.053 | +.054 | +.055 | +.056 | +.058 | +.059 | +.060 | 0 |
| 1 | .049 | .051 | .052 | .053 | .054 | .056 | .057 | .058 | 1 |
| 2 | .048 | .049 | .050 | .051 | .052 | .054 | .055 | .056 | 2 |
| 3 | .046 | .047 | .048 | .049 | .050 | .052 | .053 | .054 | 3 |
| 4 | .044 | .045 | .046 | .047 | .048 | .050 | .051 | .052 | 4 |
| 5 | .042 | .043 | .044 | .045 | .046 | .048 | .049 | .050 | 5 |
| 6 | +.040 | +.042 | +.042 | +.044 | +.044 | +.046 | +.047 | +.048 | 6 |
| 7 | .039 | .040 | .041 | .042 | .042 | .044 | .044 | .046 | 7 |
| 8 | .037 | .038 | .039 | .040 | .041 | .041 | .042 | .043 | 8 |
| 9 | .035 | .036 | .037 | .038 | .039 | .039 | .040 | .041 | 9 |
| 10 | .033 | .034 | .035 | .036 | .037 | .037 | .038 | .039 | 10 |
| 11 | +.031 | +.032 | +.033 | +.034 | +.035 | +.035 | +.036 | +.037 | 11 |
| 12 | .030 | .030 | .031 | .032 | .033 | .033 | .034 | .035 | 12 |
| 13 | .028 | .029 | .029 | .030 | .031 | .031 | .032 | .033 | 13 |
| 14 | .026 | .027 | .027 | .028 | .029 | .029 | .030 | .031 | 14 |
| 15 | .024 | .025 | .026 | .026 | .027 | .027 | .028 | .029 | 15 |
| 16 | +.022 | +.023 | +.024 | +.024 | +.025 | +.025 | +.026 | +.026 | 16 |
| 17 | .021 | .021 | .022 | .022 | .023 | .023 | .024 | .024 | 17 |
| 18 | .019 | .019 | .020 | .020 | .021 | .021 | .022 | .022 | 18 |
| 19 | .017 | .018 | .018 | .018 | .019 | .019 | .020 | .020 | 19 |
| 20 | .015 | .016 | .016 | .016 | .017 | .017 | .018 | .018 | 20 |
| 21 | +.014 | +.014 | +.014 | +.015 | +.015 | +.015 | +.015 | +.016 | 21 |
| 22 | .012 | .012 | .012 | .013 | .013 | .013 | .013 | .014 | 22 |
| 23 | .010 | .010 | .010 | .011 | .011 | .011 | .011 | .012 | 23 |
| 24 | .008 | .008 | .009 | .009 | .009 | .009 | .009 | .010 | 24 |
| 25 | .006 | .007 | .007 | .007 | .007 | .007 | .007 | .007 | 25 |
| 26 | +.005 | +.005 | +.005 | +.005 | +.005 | +.005 | +.005 | +.005 | 26 |
| 27 | .003 | .003 | .003 | .003 | .003 | .003 | .003 | .003 | 27 |
| 28 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | 28 |
| 29 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | 29 |
| 30 | .003 | .003 | .003 | .003 | .003 | .003 | .003 | .003 | 30 |
| 31 | −.005 | −.005 | −.005 | −.005 | −.005 | −.005 | −.005 | −.005 | 31 |
| 32 | .006 | .006 | .007 | .007 | .007 | .007 | .007 | .007 | 32 |
| 33 | .008 | .008 | .008 | .009 | .009 | .009 | .009 | .010 | 33 |
| 34 | .010 | .010 | .010 | .011 | .011 | .011 | .011 | .012 | 34 |
| 35 | .012 | .012 | .012 | .013 | .013 | .013 | .013 | .014 | 35 |
| 36 | −.013 | −.014 | −.014 | −.014 | −.015 | −.015 | −.016 | −.016 | 36 |
| 37 | .015 | .016 | .016 | .016 | .017 | .017 | .018 | .018 | 37 |
| 38 | .017 | .017 | .018 | .018 | .019 | .019 | .020 | .020 | 38 |
| 39 | .019 | .019 | .020 | .020 | .021 | .021 | .022 | .022 | 39 |
| 40 | .021 | .021 | .022 | .022 | .023 | .023 | .024 | .024 | 40 |
| 41 | −.022 | −.023 | −.024 | −.024 | −.025 | −.025 | −.026 | −.026 | 41 |
| 42 | .024 | .025 | .025 | .026 | .027 | .027 | .028 | .028 | 42 |
| 43 | .026 | .027 | .027 | .028 | .029 | .029 | .030 | .031 | 43 |
| 44 | .028 | .029 | .029 | .030 | .031 | .031 | .032 | .033 | 44 |
| 45 | .030 | .030 | .031 | .032 | .033 | .033 | .034 | .035 | 45 |
| 46 | −.031 | −.032 | −.033 | −.034 | −.035 | −.035 | −.036 | −.037 | 46 |
| 47 | .033 | .034 | .035 | .036 | .036 | .037 | .038 | .039 | 47 |
| 48 | .035 | .036 | .037 | .038 | .038 | .039 | .040 | .041 | 48 |
| 49 | .037 | .038 | .039 | .040 | .040 | .041 | .042 | .043 | 49 |
| 50 | .038 | .039 | .040 | .041 | .042 | .043 | .044 | .045 | 50 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|---|
| | 20 | 20.5 | 21 | 21.5 | 22 | 22.5 | 23 | 23.5 | |
| ° | | | | | | | | | ° |
| 51 | −.040 | −.041 | −.042 | −.043 | −.044 | −.045 | −.046 | −.047 | 51 |
| 52 | .042 | .043 | .044 | .045 | .046 | .047 | .048 | .049 | 52 |
| 53 | .044 | .045 | .046 | .047 | .048 | .049 | .050 | .052 | 53 |
| 54 | .046 | .047 | .048 | .049 | .050 | .051 | .052 | .054 | 54 |
| 55 | .047 | .049 | .050 | .051 | .052 | .053 | .055 | .056 | 55 |
| 56 | −.049 | −.050 | −.052 | −.053 | −.054 | −.055 | −.057 | −.058 | 56 |
| 57 | .051 | .052 | .054 | .055 | .056 | .057 | .059 | .060 | 57 |
| 58 | .053 | .054 | .055 | .057 | .058 | .059 | .061 | .062 | 58 |
| 59 | .055 | .056 | .057 | .059 | .060 | .061 | .063 | .064 | 59 |
| 60 | .056 | .058 | .059 | .061 | .062 | .063 | .065 | .066 | 60 |
| 61 | −.058 | −.060 | −.061 | −.062 | −.064 | −.065 | −.067 | −.068 | 61 |
| 62 | .060 | .061 | .063 | .064 | .066 | .067 | .069 | .070 | 62 |
| 63 | .062 | .063 | .065 | .066 | .068 | .069 | .071 | .072 | 63 |
| 64 | .063 | .065 | .067 | .068 | .070 | .071 | .073 | .075 | 64 |
| 65 | .065 | .067 | .068 | .070 | .072 | .073 | .075 | .077 | 65 |
| 66 | −.067 | −.069 | −.070 | −.072 | −.074 | −.075 | −.077 | −.079 | 66 |
| 67 | .069 | .071 | .072 | .074 | .076 | .077 | .079 | .081 | 67 |
| 68 | .071 | .072 | .074 | .076 | .078 | .079 | .081 | .083 | 68 |
| 69 | .072 | .074 | .076 | .078 | .080 | .081 | .083 | .085 | 69 |
| 70 | .074 | .076 | .078 | .080 | .082 | .083 | .085 | .087 | 70 |
| 71 | −.076 | −.078 | −.080 | −.082 | −.083 | −.085 | −.087 | −.089 | 71 |
| 72 | .078 | .080 | .082 | .084 | .085 | .087 | .089 | .091 | 72 |
| 73 | .079 | .081 | .083 | .085 | .087 | .089 | .091 | .093 | 73 |
| 74 | .081 | .083 | .085 | .087 | .089 | .091 | .093 | .095 | 74 |
| 75 | .083 | .085 | .087 | .089 | .091 | .093 | .095 | .098 | 75 |
| 76 | −.085 | −.087 | −.089 | −.091 | −.093 | −.095 | −.097 | −.100 | 76 |
| 77 | .087 | .089 | .091 | .093 | .095 | .097 | .100 | .102 | 77 |
| 78 | .088 | .091 | .093 | .095 | .097 | .099 | .102 | .104 | 78 |
| 79 | .090 | .092 | .095 | .097 | .099 | .101 | .104 | .106 | 79 |
| 80 | .092 | .094 | .096 | .099 | .101 | .103 | .106 | .108 | 80 |
| 81 | −.094 | −.096 | −.098 | −.101 | −.103 | −.105 | −.108 | −.110 | 81 |
| 82 | .095 | .098 | .100 | .103 | .105 | .107 | .110 | .112 | 82 |
| 83 | .097 | .100 | .102 | .104 | .107 | .109 | .112 | .114 | 83 |
| 84 | .099 | .101 | .104 | .106 | .109 | .111 | .114 | .116 | 84 |
| 85 | .101 | .103 | .106 | .108 | .111 | .113 | 116 | .118 | 85 |
| 86 | −.103 | −.105 | −.108 | −.110 | −.113 | −.115 | −.118 | −.120 | 86 |
| 87 | .104 | .107 | .109 | .112 | .115 | .117 | .120 | .123 | 87 |
| 88 | .106 | .109 | .111 | .114 | .117 | .119 | .122 | .125 | 88 |
| 89 | .108 | .111 | .113 | .116 | .119 | .121 | .124 | .127 | 89 |
| 90 | .110 | .112 | .115 | .118 | .121 | .123 | .126 | .129 | 90 |
| 91 | −.111 | −.114 | −.117 | −.120 | −.122 | −.125 | −.128 | −.131 | 91 |
| 92 | .113 | .116 | .119 | .122 | .124 | .127 | .130 | .133 | 92 |
| 93 | .115 | .118 | .121 | .124 | .126 | .129 | .132 | .135 | 93 |
| 94 | .117 | .120 | .122 | .125 | .128 | .131 | .134 | .137 | 94 |
| 95 | .118 | .121 | .124 | .127 | .130 | .133 | .136 | .139 | 95 |
| 96 | −.120 | −.123 | −.126 | −.129 | −.132 | −.135 | −.138 | −.141 | 96 |
| 97 | .122 | .125 | .128 | .131 | .134 | .137 | .140 | .143 | 97 |
| 98 | .124 | .127 | .130 | .133 | .136 | .139 | .142 | .145 | 98 |
| 99 | .125 | .129 | .132 | .135 | .138 | .141 | .144 | .147 | 99 |
| 100 | .127 | .130 | .134 | .137 | 140 | .143 | .146 | .150 | 100 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 24.5 | 25 | 25.5 | 26 | 26.5 | 27 | 27.5 | |
| ° | | | | | | | | | ° |
| 0 | +.061 | +.063 | +.064 | +.065 | +.067 | +.068 | +.069 | +.071 | 0 |
| 1 | .059 | .061 | .062 | .063 | .064 | .065 | .067 | .068 | 1 |
| 2 | .057 | .058 | .060 | .061 | .062 | .063 | .064 | .066 | 2 |
| 3 | .055 | .056 | .057 | .059 | .060 | .061 | .062 | .063 | 3 |
| 4 | .053 | .054 | .055 | .056 | .057 | .058 | .059 | .061 | 4 |
| 5 | .051 | .052 | .053 | .054 | .055 | .056 | .057 | .058 | 5 |
| 6 | +.049 | +.050 | +.051 | +.052 | +.053 | +.054 | +.055 | +.056 | 6 |
| 7 | .046 | .047 | .048 | .049 | .050 | .051 | .052 | .053 | 7 |
| 8 | .044 | .045 | .046 | .047 | .048 | .049 | .050 | .051 | 8 |
| 9 | .042 | .043 | .044 | .045 | .046 | .046 | .047 | .048 | 9 |
| 10 | .040 | .041 | .042 | .042 | .043 | .044 | .045 | .046 | 10 |
| 11 | +.038 | +.039 | +.039 | +.040 | +.041 | +.042 | +.042 | +.043 | 11 |
| 12 | .036 | .036 | .037 | .038 | .039 | .039 | .040 | .041 | 12 |
| 13 | .033 | .034 | .035 | .036 | .036 | .037 | .038 | .038 | 13 |
| 14 | .031 | .032 | .033 | .033 | .034 | .035 | .035 | .036 | 14 |
| 15 | .029 | .030 | .030 | .031 | .032 | .032 | .033 | .033 | 15 |
| 16 | +.027 | +.028 | +.028 | +.029 | +.029 | +.030 | +.030 | +.031 | 16 |
| 17 | .025 | .025 | .026 | .026 | .027 | .027 | .028 | .028 | 17 |
| 18 | .023 | .023 | .024 | .024 | .025 | .025 | .025 | .026 | 18 |
| 19 | .021 | .021 | .021 | .022 | .022 | .023 | .023 | .024 | 19 |
| 20 | .018 | .019 | .019 | .020 | .020 | .020 | .021 | .021 | 20 |
| 21 | +.016 | +.017 | +.017 | +.017 | +.018 | +.018 | +.018 | +.019 | 21 |
| 22 | .014 | .014 | .015 | .015 | .015 | .016 | .016 | .016 | 22 |
| 23 | .012 | .012 | .012 | .013 | .013 | .013 | .013 | .014 | 23 |
| 24 | .010 | .010 | .010 | .010 | .011 | .011 | .011 | .011 | 24 |
| 25 | .008 | .008 | .008 | .008 | .008 | .008 | .009 | .009 | 25 |
| 26 | +.005 | +.006 | +.006 | +.006 | +.006 | +.006 | +.006 | +.006 | 26 |
| 27 | .003 | .003 | .003 | .003 | .004 | .004 | .004 | .004 | 27 |
| 28 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | 28 |
| 29 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | 29 |
| 30 | .003 | .003 | .003 | .004 | .004 | .004 | .004 | .004 | 30 |
| 31 | −.005 | −.006 | −.006 | −.006 | −.006 | −.006 | −.006 | −.006 | 31 |
| 32 | .008 | .008 | .008 | .008 | .008 | .008 | .008 | .009 | 32 |
| 33 | .010 | .010 | .010 | .010 | .011 | .011 | .011 | .011 | 33 |
| 34 | .012 | .012 | .012 | .013 | .013 | .013 | .013 | .014 | 34 |
| 35 | .014 | .014 | .015 | .015 | .015 | .015 | .016 | .016 | 35 |
| 36 | −.016 | −.017 | −.017 | −.017 | −.017 | −.018 | −.018 | −.019 | 36 |
| 37 | .018 | .019 | .019 | .019 | .020 | .020 | .021 | .021 | 37 |
| 38 | .020 | .021 | .021 | .022 | .022 | .023 | .023 | .023 | 38 |
| 39 | .023 | .023 | .024 | .024 | .024 | .025 | .025 | .026 | 39 |
| 40 | .025 | .025 | .026 | .026 | .027 | .027 | .028 | .028 | 40 |
| 41 | −.027 | −.027 | −.028 | −.029 | −.029 | −.030 | −.030 | −.031 | 41 |
| 42 | .029 | .030 | .030 | .031 | .031 | .032 | .033 | .033 | 42 |
| 43 | .031 | .032 | .032 | .033 | .034 | .034 | .035 | .036 | 43 |
| 44 | .033 | .034 | .035 | .035 | .036 | .037 | .037 | .038 | 44 |
| 45 | .035 | .036 | .037 | .038 | .038 | .039 | .040 | .041 | 45 |
| 46 | −.038 | −.038 | −.039 | −.040 | −.041 | −.042 | −.042 | −.043 | 46 |
| 47 | .040 | .041 | .041 | .042 | .043 | .044 | .045 | .046 | 47 |
| 48 | .042 | .043 | .044 | .045 | .045 | .046 | .047 | .048 | 48 |
| 49 | .044 | .045 | .046 | .047 | .048 | .049 | .050 | .050 | 49 |
| 50 | .046 | .047 | .048 | .049 | .050 | .051 | .052 | .053 | 50 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 24.5 | 25 | 25.5 | 26 | 26.5 | 27 | 27.5 | |
| ° | | | | | | | | | ° |
| 51 | −.048 | −.049 | −.050 | −.051 | −.052 | −.053 | −.054 | −.055 | 51 |
| 52 | .050 | .052 | .053 | .054 | .055 | .056 | .057 | .058 | 52 |
| 53 | .053 | .054 | .055 | .056 | .057 | .058 | .059 | .060 | 53 |
| 54 | .055 | .056 | .057 | .058 | .059 | .060 | .062 | .063 | 54 |
| 55 | .057 | .058 | .059 | .060 | .062 | .063 | .064 | .065 | 55 |
| 56 | −.059 | −.060 | −.061 | −.063 | −.064 | −.065 | −.066 | −.068 | 56 |
| 57 | .061 | .062 | .064 | .065 | .066 | .068 | .069 | .070 | 57 |
| 58 | .063 | .065 | .066 | .067 | .069 | .070 | .071 | .073 | 58 |
| 59 | .065 | .067 | .068 | .070 | .071 | .072 | .074 | .075 | 59 |
| 60 | .068 | .069 | .070 | .072 | .073 | .075 | .076 | .077 | 60 |
| 61 | −.070 | −.071 | −.073 | −.074 | −.075 | −.077 | −.078 | −.080 | 61 |
| 62 | .072 | .073 | .075 | .076 | .078 | .079 | .081 | .082 | 62 |
| 63 | .074 | .076 | .077 | .079 | .080 | .082 | .083 | .085 | 63 |
| 64 | .076 | .078 | .079 | .081 | .082 | .084 | .086 | .087 | 64 |
| 65 | .078 | .080 | .082 | .083 | .085 | .086 | .088 | .090 | 65 |
| 66 | −.080 | −.082 | −.084 | −.085 | −.087 | −.089 | −.090 | −.092 | 66 |
| 67 | .083 | .084 | .086 | .088 | .089 | .091 | .093 | .095 | 67 |
| 68 | .085 | .086 | .088 | .090 | .092 | .094 | .095 | .097 | 68 |
| 69 | .087 | .089 | .090 | .092 | .094 | .096 | .098 | .100 | 69 |
| 70 | .089 | .091 | .093 | .095 | .096 | .098 | .100 | .102 | 70 |
| 71 | −.091 | −.093 | −.095 | −.097 | −.099 | −.101 | −.102 | −.104 | 71 |
| 72 | .093 | .095 | .097 | .099 | .101 | .103 | .105 | .107 | 72 |
| 73 | .095 | .097 | .099 | .101 | .103 | .105 | .107 | .109 | 73 |
| 74 | .097 | .099 | .102 | .104 | .106 | .108 | .110 | .112 | 74 |
| 75 | .100 | .102 | .104 | .106 | .108 | .110 | .112 | .114 | 75 |
| 76 | −.102 | −.104 | −.106 | −.108 | −.110 | −.112 | −.114 | −.117 | 76 |
| 77 | .104 | .106 | .108 | .110 | .112 | .115 | 117 | .119 | 77 |
| 78 | .106 | .108 | .110 | .113 | .115 | .117 | .119 | .122 | 78 |
| 79 | .108 | .110 | .113 | .115 | .117 | .119 | .122 | .124 | 79 |
| 80 | .110 | .113 | .115 | .117 | .119 | .122 | .124 | .126 | 80 |
| 81 | −.112 | −.115 | −.117 | −.119 | −.122 | −.124 | −.126 | −.129 | 81 |
| 82 | .114 | .117 | .119 | .122 | .124 | .126 | .129 | .131 | 82 |
| 83 | .117 | .119 | .121 | .124 | .126 | .129 | .131 | .134 | 83 |
| 84 | .119 | .121 | .124 | .126 | .129 | .131 | .134 | .136 | 84 |
| 85 | .121 | .123 | .126 | .128 | .131 | .133 | .136 | .139 | 85 |
| 86 | −.123 | −.126 | −.128 | −.131 | −.133 | −.136 | −.138 | −.141 | 86 |
| 87 | .125 | .128 | .130 | .133 | .136 | .138 | .141 | .143 | 87 |
| 88 | .127 | .130 | .133 | .135 | .138 | .141 | .143 | .146 | 88 |
| 89 | .129 | .132 | .135 | .137 | .140 | .143 | .146 | .148 | 89 |
| 90 | .131 | .134 | .137 | .140 | .142 | .145 | .148 | .151 | 90 |
| 91 | −.134 | −.136 | −.139 | −.142 | −.145 | −.148 | −.150 | −.153 | 91 |
| 92 | .136 | .139 | .141 | .144 | .147 | .150 | .153 | .156 | 92 |
| 93 | .138 | .141 | .144 | .147 | .149 | .152 | .155 | .158 | 93 |
| 94 | .140 | .143 | .146 | .149 | .152 | .155 | .157 | .161 | 94 |
| 95 | .142 | .145 | .148 | .151 | .154 | .157 | .160 | .163 | 95 |
| 96 | −.144 | −.147 | −.150 | −.153 | −.156 | −.159 | −.162 | −.165 | 96 |
| 97 | .146 | .149 | .152 | .156 | .159 | .162 | .165 | .168 | 97 |
| 98 | .148 | .152 | .155 | .158 | .161 | .164 | .167 | .170 | 98 |
| 99 | .151 | .154 | .157 | .160 | .163 | .166 | .169 | .173 | 99 |
| 100 | .153 | .156 | .159 | .162 | .165 | .169 | .172 | .175 | 100 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|
| | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 | |
| ° | | | | | | | | ° |
| 0 | +.072 | +.073 | +.074 | +.076 | +.077 | +.078 | +.080 | 0 |
| 1 | .069 | .071 | .072 | .073 | .074 | .076 | .077 | 1 |
| 2 | .067 | .068 | .069 | .070 | .072 | .073 | .074 | 2 |
| 3 | .064 | .065 | .067 | .068 | .069 | .070 | .071 | 3 |
| 4 | .062 | .063 | .064 | .065 | .066 | .067 | .068 | 4 |
| 5 | .059 | .060 | .061 | .062 | .063 | .065 | .066 | 5 |
| 6 | +.057 | +.058 | +.059 | +.060 | +.061 | +.062 | +.063 | 6 |
| 7 | .054 | .055 | .056 | .057 | .058 | .059 | .060 | 7 |
| 8 | .052 | .053 | .054 | .054 | .055 | .056 | .057 | 8 |
| 9 | .049 | .050 | .051 | .052 | .053 | .054 | .054 | 9 |
| 10 | .047 | .047 | .048 | .049 | .050 | .051 | .052 | 10 |
| 11 | +.044 | +.045 | +.046 | +.046 | +.047 | +.048 | +.049 | 11 |
| 12 | .042 | .042 | .043 | .044 | .045 | .045 | .046 | 12 |
| 13 | .039 | .040 | .040 | .041 | .042 | .043 | .043 | 13 |
| 14 | .037 | .037 | .038 | .038 | .039 | .040 | .040 | 14 |
| 15 | .034 | .035 | .035 | .036 | .036 | .037 | .038 | 15 |
| 16 | +.032 | +.032 | +.033 | +.033 | +.034 | +.034 | +.035 | 16 |
| 17 | .029 | .030 | .030 | .031 | .031 | .032 | .032 | 17 |
| 18 | .026 | .027 | .027 | .028 | .028 | .029 | .029 | 18 |
| 19 | .024 | .024 | .025 | .025 | .026 | .026 | .027 | 19 |
| 20 | .021 | .022 | .022 | .023 | .023 | .023 | .024 | 20 |
| 21 | +.019 | +.019 | +.020 | +.020 | +.020 | +.021 | +.021 | 21 |
| 22 | .016 | .017 | .017 | .017 | .018 | .018 | .018 | 22 |
| 23 | .014 | .014 | .014 | .015 | .015 | .015 | .015 | 23 |
| 24 | .011 | .012 | .012 | .012 | .012 | .012 | .013 | 24 |
| 25 | .009 | .009 | .009 | .009 | .009 | .010 | .010 | 25 |
| 26 | +.006 | +.006 | +.007 | +.007 | +.007 | +.007 | +.007 | 26 |
| 27 | .004 | .004 | .004 | .004 | .004 | .004 | .004 | 27 |
| 28 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | 28 |
| 29 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | 29 |
| 30 | .004 | .004 | .004 | .004 | .004 | .004 | .004 | 30 |
| 31 | −.006 | −.006 | −.007 | −.007 | −.007 | −.007 | −.007 | 31 |
| 32 | .009 | .009 | .009 | .009 | .009 | .010 | .010 | 32 |
| 33 | .011 | .012 | .012 | .012 | .012 | .012 | .012 | 33 |
| 34 | .014 | .014 | .014 | .015 | .015 | .015 | .015 | 34 |
| 35 | .016 | .017 | .017 | .017 | .018 | .018 | .018 | 35 |
| 36 | −.019 | −.019 | −.020 | −.020 | −.020 | −.021 | −.021 | 36 |
| 37 | .021 | .022 | .022 | .022 | .023 | .023 | .024 | 37 |
| 48 | .024 | .024 | .025 | .025 | .026 | .026 | .026 | 38 |
| 39 | .026 | .027 | .027 | .028 | .028 | .029 | .029 | 39 |
| 40 | .029 | .029 | .030 | .030 | .031 | .031 | .032 | 40 |
| 41 | −.031 | −.032 | −.033 | −.033 | −.034 | −.034 | −.035 | 41 |
| 42 | .034 | .034 | .035 | .036 | .036 | .037 | .037 | 42 |
| 43 | .036 | .037 | .038 | .038 | .039 | .040 | .040 | 43 |
| 44 | .039 | .040 | .040 | .041 | .042 | .042 | .043 | 44 |
| 45 | .041 | .042 | .043 | .044 | .044 | .045 | .046 | 45 |
| 46 | −.044 | −.045 | −.045 | −.046 | −.047 | −.048 | −.049 | 46 |
| 47 | .046 | .047 | .048 | .049 | .050 | .051 | .051 | 47 |
| 48 | .049 | .050 | .051 | .052 | .052 | .053 | .054 | 48 |
| 49 | .051 | .052 | .053 | .054 | .055 | .056 | .057 | 49 |
| 50 | .054 | .055 | .056 | .057 | .058 | .059 | .060 | 50 |

| Degrees of Fahrenheit. | English Inches. | | | | | | | Degrees of Fahrenheit. |
|---|---|---|---|---|---|---|---|---|
| | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 | |
| ° | | | | | | | | ° |
| 51 | −.056 | −.057 | −.058 | −.059 | −.060 | −.061 | −.062 | 51 |
| 52 | .059 | .060 | .061 | .062 | .063 | .064 | .065 | 52 |
| 53 | .061 | .063 | .064 | .065 | .066 | .067 | .068 | 53 |
| 54 | .064 | .065 | .066 | .067 | .068 | .070 | .071 | 54 |
| 55 | .066 | .068 | .069 | .070 | .071 | .072 | .073 | 55 |
| 56 | −.069 | −.070 | −.071 | −.073 | −.074 | −.075 | −.076 | 56 |
| 57 | .071 | .073 | .074 | .075 | .076 | .078 | .079 | 57 |
| 58 | .074 | .075 | .077 | .078 | .079 | .081 | .082 | 58 |
| 59 | .076 | .078 | .079 | .080 | .082 | .083 | .085 | 59 |
| 60 | .079 | .080 | .082 | .083 | .085 | .086 | .087 | 60 |
| 61 | −.081 | −.083 | −.084 | −.086 | −.087 | −.089 | −.090 | 61 |
| 62 | .084 | .085 | .087 | .088 | .090 | .091 | .093 | 62 |
| 63 | .086 | .088 | .089 | .091 | .093 | .094 | .096 | 63 |
| 64 | .089 | .090 | .092 | .094 | .095 | .097 | .098 | 64 |
| 65 | .091 | .093 | .095 | .096 | .098 | .100 | .101 | 65 |
| 66 | −.094 | −.096 | −.097 | −.099 | −.101 | −.102 | −.104 | 66 |
| 67 | .096 | .098 | .100 | .102 | .103 | .105 | .107 | 67 |
| 68 | .099 | .101 | .102 | .104 | .106 | .108 | .109 | 68 |
| 69 | .101 | .103 | .105 | .107 | .109 | .110 | .112 | 69 |
| 70 | .104 | .106 | .108 | .109 | .111 | .113 | .115 | 70 |
| 71 | −.106 | −.108 | −.110 | −.112 | −.114 | −.116 | −.118 | 71 |
| 72 | .109 | .111 | .113 | .115 | .117 | .119 | .120 | 72 |
| 73 | .111 | .113 | .115 | .117 | .119 | .121 | .123 | 73 |
| 74 | .114 | .116 | .118 | .120 | .122 | .124 | .126 | 74 |
| 75 | .116 | .118 | .120 | .122 | .125 | .127 | .129 | 75 |
| 76 | −.119 | −.121 | −.123 | −.125 | −.127 | −.129 | −.131 | 76 |
| 77 | .121 | .123 | .126 | .128 | .130 | .132 | .134 | 77 |
| 78 | .124 | .126 | .128 | .130 | .133 | .135 | .137 | 78 |
| 79 | .126 | .128 | .131 | .133 | .135 | .137 | .140 | 79 |
| 80 | .129 | .131 | .133 | .136 | .138 | .140 | .143 | 80 |
| 81 | −.131 | −.134 | −.136 | −.138 | −.141 | −.143 | −.145 | 81 |
| 82 | .134 | .136 | .138 | .141 | .143 | .146 | .148 | 82 |
| 83 | .136 | .139 | .141 | .143 | .146 | .148 | .151 | 83 |
| 84 | .139 | .141 | .144 | .146 | .149 | .151 | .154 | 84 |
| 85 | .141 | .144 | .146 | .149 | .151 | .154 | .156 | 85 |
| 86 | −.144 | −.146 | −.149 | −.151 | −.154 | −.156 | −.159 | 86 |
| 87 | .146 | .149 | .151 | .154 | .157 | .159 | .162 | 87 |
| 88 | .149 | .151 | .154 | .157 | .159 | .162 | .165 | 88 |
| 89 | .151 | .154 | .156 | .159 | .162 | .165 | .167 | 89 |
| 90 | .153 | .156 | .159 | .162 | .164 | .167 | .170 | 90 |
| 91 | −.156 | −.159 | −.162 | −.165 | −.167 | −.170 | −.173 | 91 |
| 92 | .158 | .161 | .164 | .167 | .170 | .172 | .175 | 92 |
| 93 | .161 | .164 | .167 | .170 | .172 | .175 | .178 | 93 |
| 94 | .163 | .166 | .169 | .172 | .175 | .177 | .180 | 94 |
| 95 | .166 | .169 | .172 | .175 | .178 | .180 | .183 | 95 |
| 96 | −.168 | −.171 | −.174 | −.178 | −.181 | −.183 | −.186 | 96 |
| 97 | .171 | .174 | .177 | .180 | .183 | .186 | .189 | 97 |
| 98 | .173 | .176 | .179 | .183 | .186 | .188 | .191 | 98 |
| 99 | .176 | .179 | .182 | .185 | .188 | .191 | .194 | 99 |
| 100 | .178 | .181 | .184 | .188 | .191 | .194 | .197 | 100 |

# TABLE XVIII.

## FOR REDUCING THE INDICATIONS OF ENGLISH BAROMETERS, WITH WOODEN OR GLASS SCALES, TO THE FREEZING POINT.

In most of the common barometers the scale is engraved upon a short plate of brass, or of ivory, fixed upon the wooden frame of the instrument. In such a case, the compound expansion of the two substances can only be guessed at, and the correction to be applied to the observations for reducing them to the freezing point cannot be determined with precision. As a near approximation for such imperfect instruments, the following table may be used. In computing this table, the expansion of glass, which is less than that of brass and greater than that of wood, has been substituted for that of brass, as an approximate value for a scale composed of these last two substances. The table thus gives the true correction, in English inches, for the barometers, the graduation of which is engraved on the glass tube itself. It answers equally for any English barometer with wooden scale, whatever be the substance of which the short plate bearing the graduation is made.

### CORRECTIONS TO BE APPLIED TO ENGLISH BAROMETERS, WITH WOODEN OR GLASS SCALES, TO REDUCE THE OBSERVATIONS TO THE FREEZING POINT.

Expansion of Mercury for 1° Fahr. = 0.0001001; of Glass for 1° Fahr. = 0.00000444.

| Attached Thermometer, Fahrenheit. | Barometer in English Inches. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 26 | 26.5 | 27 | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 |
| ° | | | | | | | | | | | |
| 0 | +.076 | +.077 | +.079 | +.080 | +.082 | +.083 | +.085 | +.086 | +.088 | +.089 | +.090 |
| 1 | +.073 | +.075 | +.076 | +.078 | +.079 | +.080 | +.082 | +.083 | +.085 | +.086 | +.088 |
| 2 | +.071 | +.072 | +.074 | +.075 | +.076 | +.078 | +.079 | +.080 | +.082 | +.083 | +.085 |
| 3 | +.068 | +.070 | +.071 | +.072 | +.074 | +.075 | +.076 | +.078 | +.079 | +.080 | +.082 |
| 4 | +.066 | +.067 | +.069 | +.070 | +.071 | +.072 | +.074 | +.075 | +.076 | +.077 | +.079 |
| 5 | +.064 | +.065 | +.066 | +.067 | +.068 | +.070 | +.071 | +.072 | +.073 | +.074 | +.076 |
| 6 | +.061 | +.062 | +.063 | +.065 | +.066 | +.067 | +.068 | +.069 | +.070 | +.072 | +.073 |
| 7 | +.059 | +.060 | +.061 | +.062 | +.063 | +.064 | +.065 | +.067 | +.068 | +.069 | +.070 |
| 8 | +.056 | +.057 | +.058 | +.059 | +.060 | +.061 | +.063 | +.064 | +.065 | +.066 | +.067 |
| 9 | +.054 | +.055 | +.056 | +.057 | +.058 | +.059 | +.060 | +.061 | +.062 | +.063 | +.064 |
| 10 | +.051 | +.052 | +.053 | +.054 | +.055 | +.056 | +.057 | +.058 | +.059 | +.060 | +.061 |
| 11 | +.049 | +.050 | +.051 | +.051 | +.052 | +.053 | +.054 | +.055 | +.056 | +.057 | +.058 |
| 12 | +.046 | +.047 | +.048 | +.049 | +.050 | +.051 | +.052 | +.052 | +.053 | +.054 | +.055 |
| 13 | +.044 | +.045 | +.045 | +.046 | +.047 | +.048 | +.049 | +.050 | +.050 | +.051 | +.052 |
| 14 | +.041 | +.042 | +.043 | +.044 | +.044 | +.045 | +.046 | +.047 | +.048 | +.048 | +.049 |
| 15 | +.039 | +.039 | +.040 | +.041 | +.042 | +.042 | +.043 | +.044 | +.045 | +.045 | +.046 |
| 16 | +.036 | +.037 | +.038 | +.038 | +.039 | +.040 | +.040 | +.041 | +.042 | +.043 | +.043 |
| 17 | +.034 | +.034 | +.035 | +.036 | +.036 | +.037 | +.038 | +.038 | +.039 | +.040 | +.040 |
| 18 | +.031 | +.032 | +.032 | +.033 | +.034 | +.034 | +.035 | +.036 | +.036 | +.037 | +.037 |
| 19 | +.029 | +.029 | +.030 | +.030 | +.031 | +.032 | +.032 | +.033 | +.033 | +.034 | +.034 |
| 20 | +.026 | +.027 | +.027 | +.028 | +.028 | +.029 | +.029 | +.030 | +.030 | +.031 | +.031 |

Barometer with Glass or Wooden Scale.

| Attached Thermometer, Fahrenheit. | Barometer in English Inches. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 26 | 26.5 | 27 | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 |
| ° | | | | | | | | | | | |
| 21 | +.024 | +.024 | +.025 | +.025 | +.026 | +.026 | +.027 | +.027 | +.028 | +.028 | +.028 |
| 22 | +.021 | +.022 | +.022 | +.023 | +.022 | +.023 | +.024 | +.024 | +.025 | +.025 | +.025 |
| 23 | +.019 | +.019 | +.020 | +.020 | +.020 | +.021 | +.021 | +.021 | +.022 | +.022 | +.023 |
| 24 | +.016 | +.017 | +.017 | +.017 | +.018 | +.018 | +.018 | +.019 | +.019 | +.019 | +.020 |
| 25 | +.014 | +.014 | +.014 | +.015 | +.015 | +.015 | +.016 | +.016 | +.016 | +.016 | +.017 |
| 26 | +.011 | +.012 | +.012 | +.012 | +.012 | +.013 | +.013 | +.013 | +.013 | +.013 | +.014 |
| 27 | +.009 | +.009 | +.009 | +.009 | +.010 | +.010 | +.010 | +.010 | +.010 | +.011 | +.011 |
| 28 | +.006 | +.007 | +.007 | +.007 | +.007 | +.007 | +.007 | +.007 | +.007 | +.008 | +.008 |
| 29 | +.004 | +.004 | +.004 | +.004 | +.004 | +.004 | +.004 | +.005 | +.005 | +.005 | +.005 |
| 30 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 | +.002 |
| 31 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 | −.001 |
| 32 | −.003 | −.004 | −.004 | −.004 | −.004 | −.004 | −.004 | −.004 | −.004 | −.004 | −.004 |
| 33 | −.006 | −.006 | −.006 | −.006 | −.006 | −.007 | −.007 | −.007 | −.007 | −.007 | −.007 |
| 34 | −.008 | −.009 | −.009 | −.009 | −.009 | −.009 | −.009 | −.010 | −.010 | −.010 | −.010 |
| 35 | −.011 | −.011 | −.011 | −.012 | −.012 | −.012 | −.012 | −.012 | −.013 | −.013 | −.013 |
| 36 | −.013 | −.014 | −.014 | −.014 | −.014 | −.015 | −.015 | −.015 | −.015 | −.016 | −.016 |
| 37 | −.016 | −.016 | −.017 | −.017 | −.017 | −.017 | −.018 | −.018 | −.018 | −.019 | −.019 |
| 38 | −.018 | −.019 | −.019 | −.019 | −.020 | −.020 | −.020 | −.021 | −.021 | −.022 | −.022 |
| 39 | −.021 | −.021 | −.022 | −.022 | −.022 | −.023 | −.023 | −.024 | −.034 | −.024 | −.025 |
| 40 | −.023 | −.024 | −.024 | −.025 | −.025 | −.026 | −.026 | −.026 | −.027 | −.027 | −.028 |
| 41 | −.026 | −.026 | −.027 | −.027 | −.028 | −.028 | −.029 | −.029 | −.030 | −.030 | −.031 |
| 42 | −.028 | −.029 | −.029 | −.030 | −.030 | −.031 | −.032 | −.032 | −.033 | −.033 | −.034 |
| 43 | −.031 | −.031 | −.032 | −.033 | −.033 | −.034 | −.033 | −.035 | −.036 | −.036 | −.037 |
| 44 | −.033 | −.034 | −.035 | −.035 | −.036 | −.036 | −.036 | −.038 | −.038 | −.039 | −.040 |
| 45 | −.036 | −.036 | −.037 | −.038 | −.038 | −.039 | −.039 | −.041 | −.041 | −.042 | −.043 |
| 46 | −.038 | −.039 | −.040 | −.040 | −.041 | −.042 | −.042 | −.043 | −.044 | −.045 | −.046 |
| 47 | −.041 | −.041 | −.042 | −.043 | −.044 | −.045 | −.044 | −.046 | −.047 | −.048 | −.049 |
| 48 | −.043 | −.044 | −.045 | −.046 | −.047 | −.047 | −.047 | −.049 | −.050 | −.051 | −.051 |
| 49 | −.046 | −.046 | −.047 | −.048 | −.049 | −.050 | −.050 | −.052 | −.053 | −.054 | −.054 |
| 50 | −.048 | −.049 | −.050 | −.051 | −.052 | −.053 | −.054 | −.055 | −.056 | −.056 | −.057 |
| 51 | −.051 | −.052 | −.053 | −.054 | −.055 | −.055 | −.056 | −.057 | −.058 | −.059 | −.060 |
| 52 | −.053 | −.054 | −.055 | −.056 | −.057 | −.058 | −.059 | −.060 | −.061 | −.062 | −.063 |
| 53 | −.056 | −.057 | −.058 | −.059 | −.060 | −.061 | −.062 | −.063 | −.064 | −.065 | −.066 |
| 54 | −.058 | −.059 | −.060 | −.061 | −.063 | −.064 | −.065 | −.066 | −.067 | −.068 | −.069 |
| 55 | −.061 | −.062 | −.063 | −.064 | −.065 | −.066 | −.068 | −.069 | −.070 | −.071 | −.072 |
| 56 | −.063 | −.064 | −.065 | −.067 | −.068 | −.069 | −.070 | −.071 | −.073 | −.074 | −.075 |
| 57 | −.065 | −.067 | −.068 | −.069 | −.071 | −.072 | −.073 | −.074 | −.076 | −.077 | −.078 |
| 58 | −.068 | −.069 | −.071 | −.072 | −.073 | −.074 | −.076 | −.077 | −.078 | −.080 | −.081 |
| 59 | −.070 | −.072 | −.073 | −.074 | −.076 | −.077 | −.079 | −.080 | −.081 | −.083 | −.084 |
| 60 | −.073 | −.074 | −.076 | −.077 | −.079 | −.080 | −.081 | −.083 | −.084 | −.085 | −.087 |

Barometer with Glass or Wooden Scale.

| Attached Thermometer, Fahrenheit. | Barometer in English Inches. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 26 | 26.5 | 27 | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 |
| ° | | | | | | | | | | | |
| 61 | −.075 | −.077 | −.078 | −.080 | −.081 | −.083 | −.084 | −.086 | −.087 | −.088 | −.090 |
| 62 | −.078 | −.079 | −.081 | −.082 | −.084 | −.085 | −.087 | −.088 | −.090 | −.091 | −.093 |
| 63 | −.080 | −.082 | −.083 | −.085 | −.086 | −.088 | −.090 | −.091 | −.093 | −.094 | −.096 |
| 64 | −.083 | −.084 | −.086 | −.088 | −.089 | −.091 | −.092 | −.094 | −.096 | −.097 | −.099 |
| 65 | −.085 | −.087 | −.089 | −.090 | −.092 | −.093 | −.095 | −.097 | −.098 | −.100 | −.102 |
| 66 | −.088 | −.089 | −.091 | −.093 | −.094 | −.096 | −.098 | −.100 | −.101 | −.103 | −.104 |
| 67 | −.090 | −.092 | −.094 | −.095 | −.097 | −.099 | −.101 | −.102 | −.104 | −.106 | −.108 |
| 68 | −.093 | −.094 | −.096 | −.098 | −.100 | −.102 | −.103 | −.105 | −.107 | −.109 | −.110 |
| 69 | −.095 | −.097 | −.099 | −.101 | −.102 | −.104 | −.106 | −.108 | −.110 | −.112 | −.113 |
| 70 | −.098 | −.099 | −.101 | −.103 | −.105 | −.107 | −.109 | −.111 | −.113 | −.114 | −.116 |
| 71 | −.100 | −.102 | −.104 | −.106 | −.108 | −.110 | −.112 | −.114 | −.115 | −.117 | −.119 |
| 72 | −.103 | −.105 | −.106 | −.108 | −.110 | −.112 | −.114 | −.116 | −.118 | −.120 | −.122 |
| 73 | −.105 | −.107 | −.109 | −.111 | −.113 | −.115 | −.117 | −.119 | −.121 | −.123 | −.125 |
| 74 | −.107 | −.110 | −.112 | −.114 | −.116 | −.118 | −.120 | −.122 | −.124 | −.126 | −.128 |
| 75 | −.110 | −.112 | −.114 | −.116 | −.118 | −.121 | −.123 | −.125 | −.127 | −.129 | −.131 |
| 76 | −.112 | −.115 | −.117 | −.119 | −.121 | −.123 | −.125 | −.128 | −.130 | −.132 | −.134 |
| 77 | −.115 | −.117 | −.119 | −.121 | −.124 | −.126 | −.128 | −.130 | −.133 | −.135 | −.137 |
| 78 | −.117 | −.120 | −.122 | −.124 | −.126 | −.129 | −.131 | −.133 | −.135 | −.138 | −.140 |
| 79 | −.120 | −.122 | −.124 | −.127 | −.129 | −.131 | −.134 | −.136 | −.138 | −.141 | −.143 |
| 80 | −.122 | −.125 | −.127 | −.129 | −.132 | −.134 | −.136 | −.139 | −.141 | −.143 | −.146 |
| 81 | −.125 | −.127 | −.130 | −.132 | −.134 | −.137 | −.139 | −.142 | −.144 | −.146 | −.149 |
| 82 | −.127 | −.130 | −.132 | −.135 | −.137 | −.139 | −.142 | −.144 | −.147 | −.149 | −.152 |
| 83 | −.130 | −.132 | −.135 | −.137 | −.140 | −.142 | −.145 | −.147 | −.150 | −.152 | −.155 |
| 84 | −.132 | −.135 | −.137 | −.140 | −.142 | −.145 | −.147 | −.150 | −.152 | −.155 | −.158 |
| 85 | −.135 | −.137 | −.140 | −.142 | −.145 | −.147 | −.150 | −.153 | −.155 | −.158 | −.160 |
| 86 | −.137 | −.140 | −.142 | −.145 | −.148 | −.150 | −.153 | −.155 | −.158 | −.161 | −.163 |
| 87 | −.139 | −.142 | −.145 | −.148 | −.150 | −.153 | −.156 | −.158 | −.161 | −.164 | −.166 |
| 88 | −.142 | −.145 | −.147 | −.150 | −.153 | −.156 | −.158 | −.161 | −.164 | −.167 | −.169 |
| 89 | −.144 | −.147 | −.150 | −.153 | −.156 | −.158 | −.161 | −.164 | −.167 | −.169 | −.172 |
| 90 | −.147 | −.150 | −.153 | −.155 | −.158 | −.161 | −.164 | −.167 | −.169 | −.172 | −.175 |
| 91 | −.149 | −.152 | −.155 | −.158 | −.161 | −.164 | −.167 | −.169 | −.172 | −.175 | −.178 |
| 92 | −.152 | −.155 | −.158 | −.161 | −.163 | −.166 | −.169 | −.172 | −.175 | −.178 | −.181 |
| 93 | −.154 | −.157 | −.160 | −.163 | −.166 | −.169 | −.172 | −.175 | −.178 | −.181 | −.184 |
| 94 | −.157 | −.160 | −.163 | −.166 | −.169 | −.172 | −.175 | −.178 | −.181 | −.184 | −.187 |
| 95 | −.159 | −.162 | −.165 | −.168 | −.171 | −.174 | −.178 | −.181 | −.184 | −.187 | −.190 |
| 96 | −.162 | −.165 | −.168 | −.171 | −.174 | −.177 | −.180 | −.183 | −.186 | −.190 | −.193 |
| 97 | −.164 | −.167 | −.170 | −.174 | −.177 | −.180 | −.183 | −.186 | −.189 | −.192 | −.196 |
| 98 | −.167 | −.170 | −.173 | −.176 | −.179 | −.183 | −.186 | −.189 | −.192 | −.195 | −.199 |
| 99 | −.169 | −.172 | −.175 | −.179 | −.182 | −.185 | −.188 | −.192 | −.195 | −.198 | −.201 |
| 100 | −.171 | −.175 | −.178 | −.181 | −.185 | −.188 | −.191 | −.194 | −.198 | −.201 | −.204 |

# XIX.

## METRICAL BAROMETER.

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# TABLE

FOR

# REDUCING TO THE FREEZING POINT THE BAROMETRICAL COLUMN,

MEASURED BY BRASS SCALES, EXTENDING FROM THE CISTERN TO THE TOP; CALCULATED FROM 260 TO 865 MILLIMETRES, AND FOR EACH DEGREE CENTIGRADE.

By M. T. Delcros.

## Table XIX.

This table has been calculated by using the following coefficients of dilatation : —

Brass, linear dilatation, from Laplace and Lavoisier for 100° C. = 0.0018782.
Mercury, dilatation in volume, from Dulong and Petit for 100° C. = 0.0180180.
Dilatation of the mercurial column for 100° C. . . . = 0.0161398.
Dilatation of the mercurial column for 1° C. . . . = 0.0001614.

Observed height reduced to freezing point,

$$H = h - h\,(0.0001614). \quad T = h - h\left(\tfrac{T}{6196}\right).$$

The second term of this last formula is given by the table, when the temperature and the height $h$ of the barometer are known; this correction must be *subtracted* om the observed height $h$, when the temperature is above freezing point; it is to be *dded* when the temperature is below zero, or freezing point.

This table allows the barometrical heights taken at the highest summits, and in the eepest mines, to be corrected.

*Examples of Calculation.*

| | | mm. |
|---|---|---|
| Barometer, observed height, . . . . . | | 567.49 |
| Temperature of the barometer, +12°.7. | | |
| Second page, for 10°.0 | mm. 0.912 | |
| for 2.0 | 0.182 | |
| for 0.7 | 0.064 | |
| Total, | 1.158 | |
| *Subtractive* correction, . . . . . | | — 1.16 |
| Barometer at zero, | | 566.33 |

| | | mm. |
|---|---|---|
| Barometer, observed height, . . . . . | | 454.17 |
| Temperature of the barometer, —7°.8. | | |
| First page, for 7°.0 | mm. 0.514 | |
| for 0.8 | 0.059 | |
| Total, | 0.573 | |
| *Additive* correction, . . . . . | | +0.57 |
| Barometer at zero, | | 454.74 |

| Height of the Barometer. | TEMPERATURE CENTIGRADE. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |
| Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 260 | 0.042 | 0.084 | 0.126 | 0.168 | 0.210 | 0.252 | 0.294 | 0.336 | 0.378 |
| 265 | 0.043 | 0.086 | 0.128 | 0.171 | 0.214 | 0.257 | 0.299 | 0.342 | 0.385 |
| 270 | 0.044 | 0.087 | 0.131 | 0.174 | 0.218 | 0.261 | 0.305 | 0.349 | 0.392 |
| 275 | 0.044 | 0.089 | 0.133 | 0.178 | 0.222 | 0.266 | 0.311 | 0.355 | 0.399 |
| 280 | 0.045 | 0.090 | 0.136 | 0.181 | 0.226 | 0.271 | 0.316 | 0.362 | 0.407 |
| 285 | 0.046 | 0.092 | 0.138 | 0.184 | 0.230 | 0.276 | 0.322 | 0.368 | 0.414 |
| 290 | 0.047 | 0.094 | 0.140 | 0.187 | 0.234 | 0.281 | 0.328 | 0.374 | 0.421 |
| 295 | 0.048 | 0.095 | 0.143 | 0.190 | 0.238 | 0.286 | 0.333 | 0.381 | 0.428 |
| 300 | 0.048 | 0.097 | 0.145 | 0.194 | 0.242 | 0.291 | 0.339 | 0.387 | 0.436 |
| 305 | 0.049 | 0.098 | 0.148 | 0.197 | 0.246 | 0.295 | 0.345 | 0.394 | 0.443 |
| 310 | 0.050 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.400 | 0.450 |
| 315 | 0.051 | 0.102 | 0.152 | 0.203 | 0.254 | 0.305 | 0.356 | 0.407 | 0.458 |
| 320 | 0.052 | 0.103 | 0.155 | 0.207 | 0.258 | 0.310 | 0.361 | 0.413 | 0.465 |
| 325 | 0.052 | 0.105 | 0.157 | 0.210 | 0.262 | 0.315 | 0.367 | 0.420 | 0.472 |
| 330 | 0.053 | 0.106 | 0.160 | 0.213 | 0.266 | 0.320 | 0.374 | 0.426 | 0.479 |
| 335 | 0.054 | 0.108 | 0.162 | 0.216 | 0.270 | 0.324 | 0.379 | 0.432 | 0.487 |
| 340 | 0.055 | 0.110 | 0.165 | 0.219 | 0.274 | 0.329 | 0.384 | 0.439 | 0.494 |
| 345 | 0.056 | 0.111 | 0.167 | 0.223 | 0.278 | 0.334 | 0.390 | 0.445 | 0.501 |
| 350 | 0.056 | 0.113 | 0.169 | 0.226 | 0.282 | 0.339 | 0.395 | 0.452 | 0.508 |
| 355 | 0.057 | 0.115 | 0.172 | 0.229 | 0.286 | 0.344 | 0.401 | 0.458 | 0.516 |
| 360 | 0.058 | 0.116 | 0.174 | 0.232 | 0.290 | 0.349 | 0.407 | 0.465 | 0.523 |
| 365 | 0.059 | 0.118 | 0.177 | 0.236 | 0.294 | 0.353 | 0.412 | 0.471 | 0.530 |
| 370 | 0.060 | 0.119 | 0.179 | 0.239 | 0.299 | 0.358 | 0.418 | 0.478 | 0.537 |
| 375 | 0.060 | 0.121 | 0.182 | 0.242 | 0.303 | 0.363 | 0.424 | 0.484 | 0.545 |
| 380 | 0.061 | 0.123 | 0.184 | 0.245 | 0.307 | 0.368 | 0.429 | 0.491 | 0.552 |
| 385 | 0.062 | 0.124 | 0.186 | 0.249 | 0.311 | 0.373 | 0.435 | 0.497 | 0.559 |
| 390 | 0.063 | 0.126 | 0.189 | 0.252 | 0.315 | 0.378 | 0.441 | 0.504 | 0.566 |
| 395 | 0.064 | 0.127 | 0.191 | 0.255 | 0.319 | 0.382 | 0.446 | 0.510 | 0.574 |
| 400 | 0.065 | 0.129 | 0.194 | 0.258 | 0.323 | 0.387 | 0.452 | 0.516 | 0.581 |
| 405 | 0.065 | 0.131 | 0.196 | 0.261 | 0.327 | 0.392 | 0.457 | 0.523 | 0.588 |
| 410 | 0.066 | 0.132 | 0.198 | 0.265 | 0.331 | 0.397 | 0.463 | 0.529 | 0.596 |
| 415 | 0.067 | 0.134 | 0.201 | 0.268 | 0.335 | 0.402 | 0.469 | 0.536 | 0.603 |
| 420 | 0.068 | 0.136 | 0.203 | 0.271 | 0.339 | 0.407 | 0.474 | 0.542 | 0.610 |
| 425 | 0.068 | 0.137 | 0.206 | 0.274 | 0.343 | 0.411 | 0.480 | 0.549 | 0.617 |
| 430 | 0.069 | 0.139 | 0.208 | 0.278 | 0.347 | 0.416 | 0.486 | 0.555 | 0.625 |
| 435 | 0.070 | 0.140 | 0.211 | 0.281 | 0.351 | 0.421 | 0.491 | 0.562 | 0.632 |
| 440 | 0.071 | 0.142 | 0.213 | 0.284 | 0.355 | 0.426 | 0.497 | 0.568 | 0.639 |
| 445 | 0.072 | 0.144 | 0.215 | 0.287 | 0.359 | 0.431 | 0.503 | 0.574 | 0.646 |
| 450 | 0.073 | 0.145 | 0.218 | 0.290 | 0.363 | 0.436 | 0.508 | 0.581 | 0.654 |
| 455 | 0.073 | 0 147 | 0.220 | 0.294 | 0.367 | 0.441 | 0.514 | 0.587 | 0.661 |
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |

| Height of the Barometer. | TEMPERATURE CENTIGRADE. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |
| Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 460 | 0.0742 | 0.1485 | 0.2227 | 0.2970 | 0.371 | 0.445 | 0.520 | 0.594 | 0.668 |
| 465 | 0.0750 | 0.1501 | 0.2251 | 0.3002 | 0.375 | 0.450 | 0.525 | 0.600 | 0.675 |
| 470 | 0.0759 | 0.1517 | 0.2276 | 0.3034 | 0.379 | 0.455 | 0.531 | 0.607 | 0.683 |
| 475 | 0.0767 | 0.1533 | 0.2300 | 0.3066 | 0.383 | 0.460 | 0.537 | 0.613 | 0.690 |
| 480 | 0.0775 | 0.1549 | 0.2324 | 0.3099 | 0.387 | 0.465 | 0.542 | 0.620 | 0.697 |
| 485 | 0.0783 | 0.1565 | 0.2348 | 0.3131 | 0.391 | 0.470 | 0.548 | 0.626 | 0.704 |
| 490 | 0.0791 | 0.1582 | 0.2373 | 0.3163 | 0.395 | 0.474 | 0.554 | 0.633 | 0.712 |
| 495 | 0.0800 | 0.1598 | 0.2397 | 0.3195 | 0.399 | 0.479 | 0.559 | 0.639 | 0.719 |
| 500 | 0.0807 | 0.1614 | 0.2421 | 0.3228 | 0.403 | 0.484 | 0.565 | 0.646 | 0.726 |
| 505 | 0.0815 | 0.1630 | 0.2445 | 0.3260 | 0.407 | 0.489 | 0.570 | 0.652 | 0.734 |
| 510 | 0.0823 | 0.1646 | 0.2469 | 0.3293 | 0.412 | 0.494 | 0.576 | 0.658 | 0.741 |
| 515 | 0.0831 | 0.1662 | 0.2493 | 0.3325 | 0.416 | 0.499 | 0.582 | 0.665 | 0.748 |
| 520 | 0.0839 | 0.1679 | 0.2518 | 0.3357 | 0.420 | 0.504 | 0.587 | 0.671 | 0.755 |
| 525 | 0.0847 | 0.1695 | 0.2542 | 0.3389 | 0.424 | 0.508 | 0.593 | 0.678 | 0.763 |
| 530 | 0.0855 | 0.1711 | 0.2566 | 0.3422 | 0.428 | 0.513 | 0.599 | 0.684 | 0.770 |
| 535 | 0.0863 | 0.1727 | 0.2590 | 0.3454 | 0.432 | 0.518 | 0.604 | 0.691 | 0.777 |
| 540 | 0.0872 | 0.1743 | 0.2615 | 0.3486 | 0.436 | 0.523 | 0.610 | 0.697 | 0.784 |
| 545 | 0.0879 | 0.1759 | 0.2639 | 0.3518 | 0.440 | 0.528 | 0.616 | 0.704 | 0.792 |
| 550 | 0.0888 | 0.1775 | 0.2663 | 0.3551 | 0.444 | 0.533 | 0.621 | 0.710 | 0.799 |
| 555 | 0.0896 | 0.1791 | 0.2687 | 0.3583 | 0.448 | 0.537 | 0.627 | 0.717 | 0.806 |
| 560 | 0.0904 | 0.1808 | 0.2712 | 0.3615 | 0.452 | 0.542 | 0.633 | 0.723 | 0.813 |
| 565 | 0.0912 | 0.1824 | 0.2736 | 0.3647 | 0.456 | 0.547 | 0.638 | 0.730 | 0.821 |
| 570 | 0.0920 | 0.1840 | 0.2760 | 0.3680 | 0.460 | 0.552 | 0.644 | 0.736 | 0.828 |
| 575 | 0.0928 | 0.1856 | 0.2784 | 0.3712 | 0.464 | 0.557 | 0.650 | 0.742 | 0.835 |
| 580 | 0.0936 | 0.1872 | 0.2808 | 0.3744 | 0.468 | 0.562 | 0.655 | 0.749 | 0.842 |
| 585 | 0.0944 | 0.1888 | 0.2833 | 0.3777 | 0.472 | 0.566 | 0.661 | 0.755 | 0.850 |
| 590 | 0.0952 | 0.1904 | 0.2857 | 0.3809 | 0.476 | 0.571 | 0.667 | 0.762 | 0.857 |
| 595 | 0.0960 | 0.1921 | 0.2881 | 0.3841 | 0.480 | 0.576 | 0.672 | 0.768 | 0.864 |
| 600 | 0.0968 | 0.1937 | 0.2905 | 0.3874 | 0.484 | 0.581 | 0.678 | 0.775 | 0.872 |
| 605 | 0.0976 | 0.1953 | 0.2929 | 0.3906 | 0.488 | 0.586 | 0.683 | 0.781 | 0.879 |
| 610 | 0.0985 | 0.1969 | 0.2954 | 0.3938 | 0.492 | 0.591 | 0.689 | 0.788 | 0.886 |
| 615 | 0.0993 | 0.1985 | 0.2978 | 0.3970 | 0.496 | 0.595 | 0.695 | 0.794 | 0.893 |
| 620 | 0.1001 | 0.2001 | 0.3002 | 0.4003 | 0.500 | 0.600 | 0.700 | 0.800 | 0.901 |
| 625 | 0.1009 | 0.2017 | 0.3026 | 0.4035 | 0.504 | 0.605 | 0.706 | 0.807 | 0.908 |
| 630 | 0.1017 | 0.2034 | 0.3050 | 0.4067 | 0.508 | 0.610 | 0.712 | 0.813 | 0.915 |
| 635 | 0.1025 | 0.2050 | 0.3074 | 0.4099 | 0.512 | 0.615 | 0.717 | 0.820 | 0.922 |
| 640 | 0.1033 | 0.2066 | 0.3099 | 0.4132 | 0.516 | 0.620 | 0.723 | 0.826 | 0.930 |
| 645 | 0.1041 | 0.2082 | 0.3123 | 0.4164 | 0.520 | 0.625 | 0.729 | 0.833 | 0.937 |
| 650 | 0.1049 | 0.2098 | 0.3147 | 0.4196 | 0.524 | 0.629 | 0.734 | 0.839 | 0.944 |
| 655 | 0.1057 | 0.2114 | 0.3172 | 0.4229 | 0.529 | 0.634 | 0.740 | 0.846 | 0.951 |
| 660 | 0.1065 | 0.2130 | 0.3196 | 0.4261 | 0.533 | 0.639 | 0.746 | 0.852 | 0.959 |
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |

| Height of the Barometer. | TEMPERATURE CENTIGRADE. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |
| Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 665 | 0.1073 | 0.2146 | 0.3220 | 0.4293 | 0.537 | 0.644 | 0.751 | 0.859 | 0.966 |
| 670 | 0.1081 | 0.2163 | 0.3244 | 0.4326 | 0.541 | 0.649 | 0.757 | 0.865 | 0.973 |
| 675 | 0.1089 | 0.2179 | 0.3268 | 0.4358 | 0.545 | 0.654 | 0.763 | 0.871 | 0.980 |
| 680 | 0.1097 | 0.2195 | 0.3292 | 0.4390 | 0.549 | 0.658 | 0.768 | 0.878 | 0.988 |
| 685 | 0.1106 | 0.2211 | 0.3317 | 0.4423 | 0.553 | 0.663 | 0.774 | 0.884 | 0.995 |
| 690 | 0.1114 | 0.2227 | 0.3341 | 0.4455 | 0.557 | 0.668 | 0.780 | 0.891 | 1.002 |
| 695 | 0.1122 | 0.2233 | 0.3365 | 0.4487 | 0.561 | 0.673 | 0.785 | 0.897 | 1.010 |
| 700 | 0.1130 | 0.2260 | 0.3389 | 0.4520 | 0.565 | 0.678 | 0.791 | 0.904 | 1.017 |
| 705 | 0.1138 | 0.2276 | 0.3414 | 0.4552 | 0.569 | 0.683 | 0.797 | 0.910 | 1.024 |
| 710 | 0.1146 | 0.2292 | 0.3438 | 0.4584 | 0.573 | 0.688 | 0.802 | 0.917 | 1.031 |
| 715 | 0.1154 | 0.2308 | 0.3462 | 0.4616 | 0.577 | 0.691 | 0.808 | 0.923 | 1.039 |
| 720 | 0.1162 | 0.2324 | 0.3486 | 0.4648 | 0.581 | 0.697 | 0.813 | 0.930 | 1.046 |
| 725 | 0.1170 | 0.2340 | 0.3510 | 0.4680 | 0.585 | 0.702 | 0.819 | 0.936 | 1.053 |
| 730 | 0.1178 | 0.2356 | 0.3535 | 0.4713 | 0.589 | 0.707 | 0.825 | 0.943 | 1.060 |
| 735 | 0.1186 | 0.2372 | 0.3559 | 0.4745 | 0.593 | 0.712 | 0.830 | 0.949 | 1.068 |
| 740 | 0.1104 | 0.2389 | 0.3583 | 0.4777 | 0.597 | 0.717 | 0.836 | 0.955 | 1.075 |
| 745 | 0.1202 | 0.2405 | 0.3607 | 0.4809 | 0.601 | 0.721 | 0.842 | 0.962 | 1.082 |
| 750 | 0.1210 | 0.2421 | 0.3631 | 0.4842 | 0.605 | 0.726 | 0.847 | 0.968 | 1.089 |
| 755 | 0.1218 | 0.2437 | 0.3655 | 0.4874 | 0.609 | 0.731 | 0.853 | 0.975 | 1.097 |
| 760 | 0.1227 | 0.2453 | 0.3680 | 0.4906 | 0.613 | 0.736 | 0.859 | 0.981 | 1.104 |
| 765 | 0.1235 | 0.2469 | 0.3704 | 0.4939 | 0.617 | 0.741 | 0.864 | 0.988 | 1.111 |
| 770 | 0.1243 | 0.2486 | 0.3728 | 0.4971 | 0.621 | 0.746 | 0.870 | 0.994 | 1.118 |
| 775 | 0.1251 | 0.2502 | 0.3752 | 0.5003 | 0.625 | 0.750 | 0.876 | 1.001 | 1.126 |
| 780 | 0.1259 | 0.2518 | 0.3777 | 0.5036 | 0.629 | 0.755 | 0.881 | 1.007 | 1.133 |
| 785 | 0.1267 | 0.2534 | 0.3801 | 0.5068 | 0.633 | 0.760 | 0.888 | 1.014 | 1.140 |
| 790 | 0.1275 | 0.2550 | 0.3825 | 0.5100 | 0.637 | 0.765 | 0.893 | 1.020 | 1.148 |
| 795 | 0.1283 | 0.2566 | 0.3849 | 0.5132 | 0.641 | 0.770 | 0.898 | 1.026 | 1.155 |
| 800 | 0.1291 | 0.2582 | 0.3874 | 0.5165 | 0.646 | 0.775 | 0.904 | 1.033 | 1.162 |
| 805 | 0.1299 | 0.2598 | 0.3898 | 0.5197 | 0.650 | 0.780 | 0.909 | 1.039 | 1.169 |
| 810 | 0.1307 | 0.2615 | 0.3922 | 0.5230 | 0.654 | 0.784 | 0.915 | 1.046 | 1.177 |
| 815 | 0.1315 | 0.2621 | 0.3946 | 0.5262 | 0.658 | 0.789 | 0.921 | 1.052 | 1.184 |
| 820 | 0.1323 | 0.2647 | 0.3970 | 0.5294 | 0.662 | 0.794 | 0.926 | 1.059 | 1.191 |
| 825 | 0.1331 | 0.2653 | 0.3994 | 0.5326 | 0.666 | 0.799 | 0.932 | 1.065 | 1.198 |
| 830 | 0.1340 | 0.2679 | 0.4019 | 0.5358 | 0.670 | 0.804 | 0.938 | 1.072 | 1.206 |
| 835 | 0.1348 | 0.2695 | 0.4043 | 0.5391 | 0.674 | 0.809 | 0.943 | 1.078 | 1.213 |
| 840 | 0.1356 | 0.2712 | 0.4067 | 0.5423 | 0.678 | 0.813 | 0.949 | 1.085 | 1.220 |
| 845 | 0.1364 | 0.2728 | 0.4091 | 0.5455 | 0.682 | 0.818 | 0.955 | 1.091 | 1.227 |
| 850 | 0.1372 | 0.2744 | 0.4116 | 0.5488 | 0.686 | 0.823 | 0.960 | 1.097 | 1.235 |
| 855 | 0.1380 | 0.2760 | 0.4140 | 0.5520 | 0.690 | 0.828 | 0.966 | 1.104 | 1.242 |
| 860 | 0.1388 | 0.2776 | 0.4164 | 0.5552 | 0.694 | 0.833 | 0.972 | 1.110 | 1.249 |
| 865 | 0.1396 | 0.2792 | 0.4188 | 0.5584 | 0.698 | 0.838 | 0.977 | 1.117 | 1.256 |
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |

# XX.

## METRICAL BAROMETER.

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# TABLE

FOR

# REDUCING TO THE FREEZING POINT THE BAROMETRICAL COLUMN,

MEASURED BY BRASS SCALES, EXTENDING FROM THE CISTERN TO THE TOP; CALCULATED FOR THE HEIGHTS BETWEEN 605 AND 800 MILLIMETRES, AND FOR EVERY TENTH OF A DEGREE, FROM 0° TO + AND — 35° CENTIGRADE.

By M. T. Haeghens.

# TABLE XX.

This table has been calculated by using the same coefficients of dilatation as in the preceding table, viz.: —

Brass, linear dilatation, from Laplace and Lavoisier for 100° C. = 0.0018782.
Mercury, dilatation in volume, from Dulong and Petit for 100° C. = 0.0180180.
Dilatation of the mercurial column for 100° C. . . . = 0.0161398.
Dilatation of the mercurial column for 1° C. . . . = 0.0001614.

This table, calculated for the reduction of long series of meteorological observations, gives immediately the value of the correction for each tenth of a degree up to 35° C. above, and down to 35° C. below, the freezing point, and for mercurial columns extending from 605 to 800 millimetres.

*Examples of Calculation.*

| | mm. |
|---|---|
| Barometer, observed height, . . . . . | 754.17 |
| Temperature of the attached thermometer, +17°.8. | |

For finding the correction, seek in the horizontal column, headed *barometer*, at the head of the pages, the corresponding height of the barometer; it will be found, p. 31, barometer 755mm. (from 752.50 to 757.50); next seek in the first vertical column, containing the temperatures, 17°, follow then horizontally this line as far as the column of 8 tenths, and you find there 2.17 millimetres, which is the correction, or the quantity to be subtracted for reducing the observed height to zero. We have thus: —

| | mm. |
|---|---|
| Observed height, . . . . . | 754.17 |
| *Subtractive* correction for +17°.8 = . . . | — 2.17 |
| Barometer at zero, | 752.00 |

If the temperature is below zero, the correction will be additive.

| | mm. |
|---|---|
| Observed height, . . . . . | 729.72 |
| Temperature of the attached thermometer, —8°.4. | |
| *Additive* correction, . . . . . | +0.99 |
| Barometer at zero, | 730.71 |

| Centigrade Degrees. | BAROMETER: 605mm. (from 602.51 to 607.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 |
| 3 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 |
| 4 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 |
| 5 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 |
| 6 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 |
| 7 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 |
| 8 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 |
| 9 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 |
| 10 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.05 | 1.06 |
| 11 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 |
| 12 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 |
| 13 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 |
| 14 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 |
| 15 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 |
| 16 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 |
| 17 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 |
| 18 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 |
| 19 | 1.86 | 1.87 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 |
| 20 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 |
| 21 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 |
| 22 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 |
| 23 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 |
| 24 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 |
| 25 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 |
| 26 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 |
| 27 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.71 | 2.72 |
| 28 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 |
| 29 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 |
| 30 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 |
| 31 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 |
| 32 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 |
| 33 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 |
| 34 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 |
| 35 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 610mm. (from 607.51 to 612.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millm. | Millim. | Millim. | Millm. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 3 | 0.30 | 0.31 | 0.32 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 |
| 4 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 |
| 5 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 |
| 6 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 |
| 7 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 |
| 8 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 |
| 9 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.96 | 0.97 |
| 10 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 |
| 11 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 |
| 12 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 |
| 13 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 |
| 14 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 |
| 15 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 |
| 16 | 1.58 | 1.59 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 |
| 17 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 |
| 18 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 |
| 19 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 |
| 20 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 |
| 21 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 |
| 22 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.23 | 2.24 | 2.25 |
| 23 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 |
| 24 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 |
| 25 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 |
| 26 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 |
| 27 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 |
| 28 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 |
| 29 | 2.86 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 |
| 30 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 |
| 31 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 |
| 32 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 |
| 33 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 |
| 34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 |
| 35 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 615mm. (from 612.51 to 617.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 3 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
| 4 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 |
| 5 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 |
| 6 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.68 |
| 7 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 |
| 8 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 |
| 9 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 |
| 10 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 |
| 11 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 |
| 12 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 |
| 13 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 |
| 14 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 |
| 15 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 |
| 16 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 |
| 17 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 |
| 18 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 |
| 19 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 |
| 20 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 |
| 21 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 |
| 22 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 |
| 23 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 |
| 24 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 |
| 25 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 |
| 26 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 |
| 27 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 |
| 28 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 |
| 29 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 |
| 30 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 |
| 31 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 |
| 32 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 |
| 33 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.36 |
| 34 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 |
| 35 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 620mm. (from 617.51 to 622.50) Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 3 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
| 4 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 |
| 5 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 |
| 6 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 |
| 7 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 |
| 8 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 |
| 9 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 |
| 10 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 |
| 11 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 |
| 12 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 |
| 13 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 |
| 14 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 |
| 15 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 |
| 16 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 |
| 17 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 |
| 18 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 |
| 19 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 |
| 20 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 |
| 21 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 |
| 22 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 |
| 23 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 |
| 24 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 |
| 25 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 |
| 26 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 |
| 27 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 |
| 28 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 |
| 29 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 |
| 30 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 |
| 31 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 |
| 32 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 |
| 33 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 |
| 34 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 |
| 35 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 625mm. (from 622.51 to 627.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 3 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
| 4 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 |
| 5 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.58 | 0.59 | 0.60 |
| 6 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 |
| 7 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 |
| 8 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 |
| 9 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 |
| 10 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 |
| 11 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 |
| 12 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 |
| 13 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 |
| 14 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 |
| 15 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 |
| 16 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 |
| 17 | 1.71 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 |
| 18 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 |
| 19 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 |
| 20 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 |
| 21 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 |
| 22 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 |
| 23 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 |
| 24 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 |
| 25 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 |
| 26 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 |
| 27 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 |
| 28 | 2.82 | 2.83 | 2.84 | 2.85 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 |
| 29 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 |
| 30 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 |
| 31 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 |
| 32 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 |
| 33 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 |
| 34 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 |
| 35 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 630mm. (from 627.51 to 632.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 |
| 4 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 |
| 5 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 |
| 6 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 |
| 7 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 |
| 8 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 |
| 9 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 |
| 10 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 |
| 11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 |
| 12 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 |
| 13 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 |
| 14 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.52 |
| 15 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 |
| 16 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 |
| 17 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 |
| 18 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 |
| 19 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 |
| 20 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.13 |
| 21 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 |
| 22 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 |
| 23 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 |
| 24 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 |
| 25 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 |
| 26 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.73 | 2.74 |
| 27 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 |
| 28 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 |
| 29 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 |
| 30 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 |
| 31 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 |
| 32 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.34 | 3.35 |
| 33 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 |
| 34 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 |
| 35 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 635mm. (from 632.51 to 637.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 2 | 0.20 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 |
| 3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 |
| 4 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 |
| 5 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 |
| 6 | 0.61 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 |
| 7 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 |
| 8 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 |
| 9 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 |
| 10 | 1.02 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 |
| 11 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 |
| 12 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 |
| 13 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 |
| 14 | 1.43 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 |
| 15 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 |
| 16 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 |
| 17 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 |
| 18 | 1.84 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 |
| 19 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 |
| 20 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 |
| 21 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 |
| 22 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 |
| 23 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 |
| 24 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 |
| 25 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 |
| 26 | 2.66 | 2.67 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 |
| 27 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 |
| 28 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 |
| 29 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 |
| 30 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 |
| 31 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 |
| 32 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 |
| 33 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 |
| 34 | 3.48 | 3.49 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 |
| 35 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 640mm. (from 637.51 to 642.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 |
| 3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 |
| 4 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.48 | 0.49 | 0.50 | 0.51 |
| 5 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 |
| 6 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 |
| 7 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 |
| 8 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 |
| 9 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 |
| 10 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.11 | 1.12 | 1.13 |
| 11 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 |
| 12 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 |
| 13 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.42 | 1.43 | 1.44 |
| 14 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 |
| 15 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 |
| 16 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.74 | 1.75 |
| 17 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 |
| 18 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 |
| 19 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.05 | 2.06 |
| 20 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 |
| 21 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 |
| 22 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.36 | 2.37 |
| 23 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 |
| 24 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 |
| 25 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.68 |
| 26 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 |
| 27 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 |
| 28 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.99 |
| 29 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 |
| 30 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 |
| 31 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.30 |
| 32 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 |
| 33 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 |
| 34 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 |
| 35 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 645mm. (from 642.51 to 647.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.10 | 0.11 | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 |
| 3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.39 | 0.40 | 0.41 |
| 4 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 |
| 5 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 |
| 6 | 0.62 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 |
| 7 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 |
| 8 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 |
| 9 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 |
| 10 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 |
| 11 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 |
| 12 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 |
| 13 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 |
| 14 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 |
| 15 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.66 |
| 16 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 |
| 17 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 |
| 18 | 1.87 | 1.88 | 1.89 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 |
| 19 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 |
| 20 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.17 | 2.18 |
| 21 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 |
| 22 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 |
| 23 | 2.39 | 2.40 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 |
| 24 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 |
| 25 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.69 | 2.70 |
| 26 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 |
| 27 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 |
| 28 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 |
| 29 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 |
| 30 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 |
| 31 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 |
| 32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 |
| 33 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 |
| 34 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 |
| 35 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 650mm. (from 647.51 to 652.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 |
| 3 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 |
| 4 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 |
| 5 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 |
| 6 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 |
| 7 | 0.73 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 |
| 8 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 |
| 9 | 0.94 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 |
| 10 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 |
| 11 | 1.15 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 |
| 12 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 |
| 13 | 1.36 | 1.37 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 |
| 14 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 |
| 15 | 1.57 | 1.58 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 |
| 16 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 |
| 17 | 1.78 | 1.79 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 |
| 18 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 |
| 19 | 1.99 | 2.00 | 2.01 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 |
| 20 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 |
| 21 | 2.20 | 2.21 | 2.22 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 |
| 22 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 |
| 23 | 2.41 | 2.42 | 2.43 | 2.44 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 |
| 24 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 |
| 25 | 2.62 | 2.63 | 2.64 | 2.65 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 |
| 26 | 2.73 | 2.84 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 |
| 27 | 2.83 | 2.84 | 2.85 | 2.86 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 |
| 28 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 |
| 29 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 |
| 30 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 |
| 31 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 |
| 32 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 |
| 33 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 |
| 34 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 |
| 35 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.77 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

| Centigrade Degrees. | BAROMETER: 655mm. (from 652.51 to 657.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.28 | 0.29 | 0.30 | 0.31 |
| 3 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 |
| 4 | 0.42 | 0.43 | 0.44 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 |
| 5 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 |
| 6 | 0.63 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 |
| 7 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.83 | 0.84 |
| 8 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 |
| 9 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.02 | 1.03 | 1.04 | 1.05 |
| 10 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 |
| 11 | 1.16 | 1.17 | 1.18 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 |
| 12 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 |
| 13 | 1.37 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 |
| 14 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.57 | 1.58 |
| 15 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 |
| 16 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.78 | 1.79 |
| 17 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 |
| 18 | 1.90 | 1.91 | 1.92 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 |
| 19 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 |
| 20 | 2.11 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 |
| 21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.31 | 2.32 |
| 22 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 |
| 23 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.50 | 2.51 | 2.52 | 2.53 |
| 24 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 |
| 25 | 2.64 | 2.65 | 2.66 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 |
| 26 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 |
| 27 | 2.85 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 |
| 28 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.05 | 3.06 |
| 29 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 |
| 30 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.24 | 3.25 | 3.26 | 3.27 |
| 31 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 |
| 32 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 |
| 33 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 |
| 34 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 |
| 35 | 3.70 | 3.71 | 3.72 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.79 | 3.80 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 660mm. (from 657.51 to 662.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.21 | 0.22 | 0.23 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
| 3 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.41 | 0.42 |
| 4 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 |
| 5 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 |
| 6 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.74 |
| 7 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 |
| 8 | 0.85 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 |
| 9 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.06 |
| 10 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 |
| 11 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 |
| 12 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 |
| 13 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 |
| 14 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 |
| 15 | 1.60 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 |
| 16 | 1.70 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 |
| 17 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 |
| 18 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 |
| 19 | 2.02 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 |
| 20 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.21 | 2.22 | 2.23 |
| 21 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 |
| 22 | 2.34 | 2.35 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 |
| 23 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 |
| 24 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 |
| 25 | 2.66 | 2.67 | 2.68 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 |
| 26 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 |
| 27 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 |
| 28 | 2.98 | 2.99 | 3.00 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 |
| 29 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 |
| 30 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 |
| 31 | 3.30 | 3.31 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 |
| 32 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.51 |
| 33 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 |
| 34 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 |
| 35 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 665mm. (from 662.51 to 667.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| 2 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
| 3 | 0.32 | 0.33 | 0.34 | 0.35 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 |
| 4 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.51 | 0.52 | 0.53 |
| 5 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 |
| 6 | 0.64 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 |
| 7 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 |
| 8 | 0.86 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.95 | 0.96 |
| 9 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 |
| 10 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 |
| 11 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 |
| 12 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.39 |
| 13 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 |
| 14 | 1.50 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 |
| 15 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 |
| 16 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 |
| 17 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 |
| 18 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 |
| 19 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.13 | 2.14 |
| 20 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 |
| 21 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 |
| 22 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 |
| 23 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 |
| 24 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 |
| 25 | 2.68 | 2.69 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 |
| 26 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 |
| 27 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 |
| 28 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 |
| 29 | 3.11 | 3.12 | 3.13 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 |
| 30 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.30 | 3.31 | 3.32 |
| 31 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 |
| 32 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 |
| 33 | 3.54 | 3.55 | 3.56 | 3.57 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 |
| 34 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 |
| 35 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 | 3.83 | 3.84 | 3.85 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 670mm. (from 667.51 to 672.50.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tenths of Degrees. | | | | | | | | | |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| o | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 |
| 2 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
| 3 | 0.32 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 |
| 4 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 |
| 5 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 |
| 6 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.73 | 0.74 | 0.75 |
| 7 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 |
| 8 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 |
| 9 | 0.97 | 0.98 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 |
| 10 | 1.08 | 1.09 | 1.10 | 1.11 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 |
| 11 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.27 | 1.28 | 1.29 |
| 12 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.40 |
| 13 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 |
| 14 | 1.51 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 |
| 15 | 1.62 | 1.63 | 1.64 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 |
| 16 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.80 | 1.81 | 1.82 | 1.83 |
| 17 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.94 |
| 18 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 |
| 19 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 |
| 20 | 2.16 | 2.17 | 2.18 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 |
| 21 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 |
| 22 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.46 | 2.47 | 2.48 |
| 23 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.59 |
| 24 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 |
| 25 | 2.70 | 2.71 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 |
| 26 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 |
| 27 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.99 | 3.00 | 3.01 | 3.02 |
| 28 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.13 |
| 29 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 |
| 30 | 3.24 | 3.26 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 |
| 31 | 3.35 | 3.36 | 3.37 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 |
| 32 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 |
| 33 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.66 | 3.67 |
| 34 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 | 3.74 | 3.75 | 3.76 | 3 77 |
| 35 | 3.79 | 3.80 | 3.81 | 3.82 | 3.83 | 3.84 | 3.85 | 3.86 | 3.87 | 3.88 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 675mm. (from 672.51 to 677.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.21 |
| 2 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 |
| 3 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 |
| 4 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 |
| 5 | 0.54 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 |
| 6 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 |
| 7 | 0.76 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 |
| 8 | 0.87 | 0.88 | 0.89 | 0.90 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 |
| 9 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.05 | 1.06 | 1.07 | 1.08 |
| 10 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.17 | 1.18 | 1.19 |
| 11 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.29 | 1.30 |
| 12 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.41 |
| 13 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 |
| 14 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 |
| 15 | 1.63 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 |
| 16 | 1.74 | 1.75 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 |
| 17 | 1.85 | 1.86 | 1.87 | 1.88 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 |
| 18 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 |
| 19 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.14 | 2.15 | 2.16 | 2.17 |
| 20 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.26 | 2.27 | 2.28 |
| 21 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.38 | 2.39 |
| 22 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 |
| 23 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 |
| 24 | 2.61 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 |
| 25 | 2.72 | 2.73 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 |
| 26 | 2.83 | 2.84 | 2.85 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 |
| 27 | 2.94 | 2.95 | 2.96 | 2.97 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 |
| 28 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.12 | 3.13 | 3.14 | 3.15 |
| 29 | 3.16 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.24 | 3.25 | 3.26 |
| 30 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.36 | 3.37 |
| 31 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.48 |
| 32 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 |
| 33 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 |
| 34 | 3.70 | 3.72 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 |
| 35 | 3.81 | 3.82 | 3.83 | 3.85 | 3.86 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER : 680mm. (from 677.51 to 682.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 |
| 2 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 |
| 3 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 |
| 4 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.52 | 0.53 | 0.54 |
| 5 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.63 | 0.64 | 0.65 |
| 6 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.74 | 0.75 | 0.76 |
| 7 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.85 | 0.86 | 0.87 |
| 8 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.97 | 0.98 |
| 9 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.08 | 1.09 |
| 10 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.19 | 1.20 |
| 11 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.30 | 1.31 |
| 12 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.42 |
| 13 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 |
| 14 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.64 |
| 15 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.75 |
| 16 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 |
| 17 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 |
| 18 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 |
| 19 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 |
| 20 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 |
| 21 | 2.30 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 |
| 22 | 2.41 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 |
| 23 | 2.52 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 |
| 24 | 2.63 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 |
| 25 | 2.74 | 2.75 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 |
| 26 | 2.85 | 2.86 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 |
| 27 | 2.96 | 2.97 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 |
| 28 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 |
| 29 | 3.18 | 3.19 | 3.20 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 |
| 30 | 3.29 | 3.30 | 3.31 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 |
| 31 | 3.40 | 3.41 | 3.42 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 |
| 32 | 3.51 | 3.52 | 3.53 | 3.54 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.61 |
| 33 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 |
| 34 | 3.73 | 3.74 | 3.75 | 3.76 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 | 3.83 |
| 35 | 3.84 | 3.85 | 3.86 | 3.87 | 3.89 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 685mm. (from 682.51 to 687.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |
| 2 | 0.22 | 0.23 | 0.24 | 0.25 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 |
| 3 | 0.33 | 0.34 | 0.35 | 0.36 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 |
| 4 | 0.44 | 0.45 | 0.46 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 |
| 5 | 0.55 | 0.56 | 0.57 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 |
| 6 | 0.66 | 0.67 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 |
| 7 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 |
| 8 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 |
| 9 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 |
| 10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.21 |
| 11 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.32 |
| 12 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.42 | 1.43 |
| 13 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 | 1.54 |
| 14 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 | 1.65 |
| 15 | 1.66 | 1.67 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.74 | 1.75 | 1.76 |
| 16 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.84 | 1.85 | 1.86 | 1.87 |
| 17 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.95 | 1.96 | 1.97 | 1.98 |
| 18 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 |
| 19 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 |
| 20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 |
| 21 | 2.32 | 2.33 | 2.34 | 2.35 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 |
| 22 | 2.43 | 2.44 | 2.45 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 |
| 23 | 2.54 | 2.55 | 2.56 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 |
| 24 | 2.65 | 2.66 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 |
| 25 | 2.76 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 |
| 26 | 2.87 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 |
| 27 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 |
| 28 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.20 |
| 29 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.31 |
| 30 | 3.32 | 3.33 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.41 | 3.42 |
| 31 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.52 | 3.53 |
| 32 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.62 | 3.63 | 3.64 |
| 33 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.73 | 3.74 | 3.75 |
| 34 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 |
| 35 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 | 3.92 | 3.94 | 3.95 | 3.96 | 3.97 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 690mm. (from 687.51 to 692.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |
| 2 | 0.22 | 0.23 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 |
| 3 | 0.33 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 |
| 4 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 |
| 5 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.65 | 0.66 |
| 6 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.74 | 0.75 | 0.76 | 0.77 |
| 7 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 |
| 8 | 0.89 | 0.90 | 0.91 | 0.92 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 |
| 9 | 1.00 | 1.01 | 1.02 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 |
| 10 | 1.11 | 1.12 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 |
| 11 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.33 |
| 12 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.43 | 1.44 |
| 13 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 | 1.54 | 1.55 |
| 14 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 | 1.65 | 1.66 |
| 15 | 1.67 | 1.68 | 1.69 | 1.70 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 |
| 16 | 1.78 | 1.79 | 1.80 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 |
| 17 | 1.89 | 1.90 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 |
| 18 | 2.00 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 |
| 19 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.21 | 2.22 |
| 20 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.31 | 2.32 | 2.33 |
| 21 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.41 | 2.42 | 2.43 | 2.44 |
| 22 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 |
| 23 | 2.56 | 2.57 | 2.58 | 2.59 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 |
| 24 | 2.67 | 2.68 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 |
| 25 | 2.78 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 |
| 26 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 |
| 27 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 |
| 28 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 |
| 29 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 |
| 30 | 3.34 | 3.35 | 3.36 | 3.37 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 |
| 31 | 3.45 | 3.46 | 3.47 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 |
| 32 | 3.56 | 3.57 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 |
| 33 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 | 3.74 | 3.75 | 3.76 | 3.78 |
| 34 | 3.79 | 3.80 | 3.81 | 3.82 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 |
| 35 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 | 3.95 | 3.96 | 3.98 | 3.99 | 4.00 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centi-grade Degrees. | BAROMETER : 695mm. (from 692.51 to 697.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |
| 2 | 0.22 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.33 |
| 3 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 |
| 4 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.52 | 0.53 | 0.54 | 0.55 |
| 5 | 0.56 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 |
| 6 | 0.67 | 0.68 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 |
| 7 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.89 |
| 8 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.98 | 0.99 | 1.00 |
| 9 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 |
| 10 | 1.12 | 1.13 | 1.14 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 |
| 11 | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 |
| 12 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.44 | 1.45 |
| 13 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 |
| 14 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 |
| 15 | 1.68 | 1.69 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 |
| 16 | 1.79 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 | 1.90 |
| 17 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.99 | 2.00 | 2.01 |
| 18 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 |
| 19 | 2.13 | 2.14 | 2.15 | 2.16 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 |
| 20 | 2.24 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 |
| 21 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.45 | 2.46 |
| 22 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.55 | 2.56 | 2.57 |
| 23 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 |
| 24 | 2.69 | 2.70 | 2.71 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 |
| 25 | 2.80 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.91 |
| 26 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 | 3.01 | 3.02 |
| 27 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 |
| 28 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 |
| 29 | 3.25 | 3.26 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 |
| 30 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.47 |
| 31 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.56 | 3.57 | 3.58 |
| 32 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 |
| 33 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 |
| 34 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 |
| 35 | 3.93 | 3.94 | 3.95 | 3.96 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER : 700$^{mm.}$ (from 697.51 to 702.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |
| 2 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 | 0.33 |
| 3 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 |
| 4 | 0.45 | 0.46 | 0.47 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 |
| 5 | 0.56 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.66 | 0.67 |
| 6 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.75 | 0.76 | 0.77 | 0.78 |
| 7 | 0.79 | 0.80 | 0.81 | 0.82 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 |
| 8 | 0.90 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.01 |
| 9 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 |
| 10 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 |
| 11 | 1.24 | 1.25 | 1.27 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 |
| 12 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.45 | 1.46 |
| 13 | 1.47 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 |
| 14 | 1.58 | 1.59 | 1.60 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 |
| 15 | 1.69 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.79 | 1.80 |
| 16 | 1.81 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 |
| 17 | 1.92 | 1.93 | 1.94 | 1.95 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 |
| 18 | 2.03 | 2.04 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.14 |
| 19 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.21 | 2.23 | 2.24 | 2.25 |
| 20 | 2.26 | 2.27 | 2.28 | 2.29 | 2.30 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 |
| 21 | 2.37 | 2.38 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 |
| 22 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 | 2.58 | 2.59 |
| 23 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 |
| 24 | 2.71 | 2.72 | 2.73 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 |
| 25 | 2.82 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.93 |
| 26 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.01 | 3.02 | 3.03 | 3.04 |
| 27 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 |
| 28 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.27 |
| 29 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 | 3.36 | 3.37 | 3.38 |
| 30 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 |
| 31 | 3.50 | 3.51 | 3.52 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 |
| 32 | 3.62 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.69 | 3.71 | 3.72 |
| 33 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.78 | 3.80 | 3.81 | 3.82 | 3.83 |
| 34 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 |
| 35 | 3.95 | 3.97 | 3.98 | 3.99 | 4.00 | 4.01 | 4.02 | 4.03 | 4.04 | 4.06 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 705mm. (from 702.51 to 707.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 |
| 2 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0 33 |
| 3 | 0.34 | 0.35 | 0.36 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 |
| 4 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 |
| 5 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 |
| 6 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.79 |
| 7 | 0.80 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.88 | 0.89 | 0.90 |
| 8 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 |
| 9 | 1.02 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.12 | 1.13 |
| 10 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.21 | 1.22 | 1.23 | 1.24 |
| 11 | 1.25 | 1.26 | 1.27 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 |
| 12 | 1.37 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.45 | 1.46 | 1.47 |
| 13 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 |
| 14 | 1.59 | 1.60 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.70 |
| 15 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 |
| 16 | 1.82 | 1.83 | 1.84 | 1.85 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 |
| 17 | 1.93 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.03 | 2.04 |
| 18 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 |
| 19 | 2.16 | 2.17 | 2.18 | 2.20 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 |
| 20 | 2.28 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.36 | 2.37 | 2.38 |
| 21 | 2.39 | 2.40 | 2.41 | 2.42 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 |
| 22 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.59 | 2.61 |
| 23 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.69 | 2.70 | 2.71 | 2.72 |
| 24 | 2.73 | 2.74 | 2.75 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 |
| 25 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.94 | 2.95 |
| 26 | 2.96 | 2.97 | 2.98 | 2.99 | 3.00 | 3.02 | 3.03 | 3.04 | 3.05 | 3.06 |
| 27 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 |
| 28 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.27 | 3.28 | 3.29 |
| 29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 |
| 30 | 3.41 | 3.42 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.49 | 3.50 | 3.52 |
| 31 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.60 | 3.61 | 3.62 | 3.63 |
| 32 | 3.64 | 3.65 | 3.66 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 | 3.74 |
| 33 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 | 3.83 | 3.85 | 3.86 |
| 34 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 | 3.95 | 3.96 | 3.97 |
| 35 | 3.98 | 3.99 | 4.01 | 4.02 | 4.03 | 4.04 | 4.05 | 4.06 | 4.07 | 4.08 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 710mm. (from 707.51 to 712.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.11 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 |
| 2 | 0.23 | 0.24 | 0.25 | 0.26 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 |
| 3 | 0.34 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.44 | 0.45 |
| 4 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 |
| 5 | 0.57 | 0.58 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.68 |
| 6 | 0.69 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.76 | 0.77 | 0.78 | 0.79 |
| 7 | 0.80 | 0.81 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.91 |
| 8 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.99 | 1.00 | 1.01 | 1.02 |
| 9 | 1.03 | 1.04 | 1.05 | 1.07 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 |
| 10 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.23 | 1.24 | 1.25 |
| 11 | 1.26 | 1.27 | 1.28 | 1.29 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 |
| 12 | 1.38 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.46 | 1.47 | 1.48 |
| 13 | 1.49 | 1.50 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 |
| 14 | 1.60 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.70 | 1.71 |
| 15 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 |
| 16 | 1.83 | 1.84 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 |
| 17 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 |
| 18 | 2.06 | 2.07 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.17 |
| 19 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.25 | 2.26 | 2.27 | 2.28 |
| 20 | 2.29 | 2.30 | 2.31 | 2.33 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.40 |
| 21 | 2.41 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.48 | 2.49 | 2.50 | 2.51 |
| 22 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 |
| 23 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.72 | 2.73 | 2.74 |
| 24 | 2.75 | 2.76 | 2.77 | 2.78 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 |
| 25 | 2.86 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.95 | 2.96 | 2.97 |
| 26 | 2.98 | 2.99 | 3.00 | 3.01 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 |
| 27 | 3.09 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 |
| 28 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 |
| 29 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.43 |
| 30 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 |
| 31 | 3.55 | 3.56 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.66 |
| 32 | 3.67 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.77 |
| 33 | 3.78 | 3.79 | 3.80 | 3.82 | 3.83 | 3.84 | 3.85 | 3.86 | 3.87 | 3.88 |
| 34 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 | 3.95 | 3.96 | 3.98 | 3.99 | 4.00 |
| 35 | 4.01 | 4.02 | 4.03 | 4.05 | 4.06 | 4.07 | 4.08 | 4.09 | 4.10 | 4.11 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER : 715mm. (from 712.51 to 717.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 |
| 2 | 0.23 | 0.24 | 0.25 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 |
| 3 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 |
| 4 | 0.46 | 0.47 | 0.48 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.57 |
| 5 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.65 | 0.66 | 0.67 | 0.68 |
| 6 | 0.69 | 0.70 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.80 |
| 7 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 |
| 8 | 0.92 | 0.93 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.02 | 1.03 |
| 9 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 |
| 10 | 1.15 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.25 | 1.26 |
| 11 | 1.27 | 1.28 | 1.29 | 1.30 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 |
| 12 | 1.38 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.47 | 1.48 | 1.49 |
| 13 | 1.50 | 1.51 | 1.52 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 |
| 14 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.70 | 1.71 | 1.72 |
| 15 | 1.73 | 1.74 | 1.75 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 |
| 16 | 1.85 | 1.86 | 1.87 | 1.88 | 1.89 | 1.90 | 1.92 | 1.93 | 1.94 | 1.95 |
| 17 | 1.96 | 1.97 | 1.98 | 2.00 | 2.01 | 2.02 | 2.03 | 2.04 | 2.05 | 2.07 |
| 18 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.15 | 2.16 | 2.17 | 2.18 |
| 19 | 2.19 | 2.20 | 2.22 | 2.23 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.30 |
| 20 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.37 | 2.38 | 2.39 | 2.40 | 2.41 |
| 21 | 2.42 | 2.43 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.52 | 2.53 |
| 22 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 |
| 23 | 2.65 | 2.67 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.74 | 2.75 | 2.76 |
| 24 | 2.77 | 2.78 | 2.79 | 2.80 | 2.82 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 |
| 25 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.97 | 2.98 | 2.99 |
| 26 | 3.00 | 3.01 | 3.02 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 |
| 27 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 |
| 28 | 3.23 | 3.24 | 3.25 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.34 |
| 29 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 | 3.44 | 3.45 |
| 30 | 3.46 | 3.47 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.55 | 3.57 |
| 31 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 |
| 32 | 3.69 | 3.70 | 3.72 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.79 | 3.80 |
| 33 | 3.81 | 3.82 | 3.83 | 3.84 | 3.85 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 |
| 34 | 3.92 | 3.94 | 3.95 | 3.96 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 |
| 35 | 4.04 | 4.05 | 4.06 | 4.07 | 4.09 | 4.10 | 4.11 | 4.12 | 4.13 | 4.14 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 720$^{mm.}$ (from 717.51 to 722.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| 1 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.21 | 0.22 |
| 2 | 0.23 | 0.24 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.33 | 0.34 |
| 3 | 0.35 | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 |
| 4 | 0.46 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 |
| 5 | 0.58 | 0.59 | 0.60 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.69 |
| 6 | 0.70 | 0.71 | 0.72 | 0.73 | 0.74 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 |
| 7 | 0.81 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 | 0.91 | 0.92 |
| 8 | 0.93 | 0.94 | 0.95 | 0.96 | 0.98 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 |
| 9 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 | 1.10 | 1.12 | 1.13 | 1.14 | 1.15 |
| 10 | 1.16 | 1.17 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.24 | 1.26 | 1.27 |
| 11 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 |
| 12 | 1.39 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.48 | 1.49 | 1.50 |
| 13 | 1.51 | 1.52 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.62 |
| 14 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 |
| 15 | 1.74 | 1.75 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.84 | 1.85 |
| 16 | 1.86 | 1.87 | 1.88 | 1.89 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.96 |
| 17 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.05 | 2.06 | 2.07 | 2.08 |
| 18 | 2.09 | 2.10 | 2.11 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.20 |
| 19 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 |
| 20 | 2.32 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 | 2.41 | 2.42 | 2.43 |
| 21 | 2.44 | 2.45 | 2.46 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 |
| 22 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.63 | 2.64 | 2.65 | 2.66 |
| 23 | 2.67 | 2.68 | 2.70 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.77 | 2.78 |
| 24 | 2.79 | 2.80 | 2.81 | 2.82 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 |
| 25 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.99 | 3.00 | 3.01 |
| 26 | 3.02 | 3.03 | 3.04 | 3.06 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.13 |
| 27 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 |
| 28 | 3.25 | 3.27 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.34 | 3.35 | 3.36 |
| 29 | 3.37 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 |
| 30 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 | 3.56 | 3.57 | 3.58 | 3.59 |
| 31 | 3.60 | 3.61 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 | 3.70 | 3.71 |
| 32 | 3.72 | 3.73 | 3.74 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 |
| 33 | 3.83 | 3.85 | 3.86 | 3.87 | 3.88 | 3.89 | 3.90 | 3.92 | 3.93 | 3.94 |
| 34 | 3.95 | 3.96 | 3.97 | 3.99 | 4.00 | 4.01 | 4.02 | 4.03 | 4.04 | 4.06 |
| 35 | 4.07 | 4.08 | 4.09 | 4.10 | 4.11 | 4.13 | 4.14 | 4.15 | 4.16 | 4.17 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

| Centigrade Degrees. | BAROMETER : 725mm. (from 722.51 to 727.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 |
| 1 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 |
| 2 | 0.23 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.32 | 0.33 | 0.34 |
| 3 | 0.35 | 0.36 | 0.37 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.46 |
| 4 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 |
| 5 | 0.59 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.66 | 0.67 | 0.68 | 0.69 |
| 6 | 0.70 | 0.71 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.80 | 0.81 |
| 7 | 0.82 | 0.83 | 0.84 | 0.85 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.92 |
| 8 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 | 1.01 | 1.02 | 1.03 | 1.04 |
| 9 | 1.05 | 1.06 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.14 | 1.15 | 1.16 |
| 10 | 1.17 | 1.18 | 1.19 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.28 |
| 11 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 |
| 12 | 1.40 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.49 | 1.50 | 1.51 |
| 13 | 1.52 | 1.53 | 1.54 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 |
| 14 | 1.64 | 1.65 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 |
| 15 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.83 | 1.84 | 1.85 | 1.86 |
| 16 | 1.87 | 1.88 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.95 | 1.97 | 1.98 |
| 17 | 1.99 | 2.00 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.09 |
| 18 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.16 | 2.18 | 2.19 | 2.20 | 2.21 |
| 19 | 2.22 | 2.23 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 | 2.31 | 2.32 | 2.33 |
| 20 | 2.34 | 2.35 | 2.36 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.45 |
| 21 | 2.46 | 2.47 | 2.48 | 2.49 | 2.50 | 2.52 | 2.53 | 2.54 | 2.55 | 2.56 |
| 22 | 2.57 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.66 | 2.67 | 2.68 |
| 23 | 2.69 | 2.70 | 2.71 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.80 |
| 24 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 |
| 25 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 | 3.01 | 3.02 | 3.03 |
| 26 | 3.04 | 3.05 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.14 | 3.15 |
| 27 | 3.16 | 3.17 | 3.18 | 3.19 | 3.21 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 |
| 28 | 3.28 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 |
| 29 | 3.39 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.48 | 3.49 | 3.50 |
| 30 | 3.51 | 3.52 | 3.53 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.60 | 3.62 |
| 31 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 |
| 32 | 3.74 | 3.76 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 |
| 33 | 3.86 | 3.87 | 3.88 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 | 3.96 | 3.97 |
| 34 | 3.98 | 3.99 | 4.00 | 4.01 | 4.03 | 4.04 | 4.05 | 4.06 | 4.07 | 4.08 |
| 35 | 4.10 | 4.11 | 4.12 | 4.13 | 4.14 | 4.15 | 4.17 | 4.18 | 4.19 | 4.20 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 730mm. (from 727.51 to 732.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 |
| 1 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 |
| 2 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 | 0.33 | 0.34 |
| 3 | 0.35 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.44 | 0.45 | 0.46 |
| 4 | 0.47 | 0.48 | 0.49 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 |
| 5 | 0.59 | 0.60 | 0.61 | 0.62 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.70 |
| 6 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.77 | 0.78 | 0.79 | 0.80 | 0.81 |
| 7 | 0.82 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 |
| 8 | 0.94 | 0.95 | 0.97 | 0.98 | 0.99 | 1.00 | 1.01 | 1.03 | 1.04 | 1.05 |
| 9 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.17 |
| 10 | 1.18 | 1.19 | 1.20 | 1.21 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 |
| 11 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.37 | 1.38 | 1.39 | 1.40 |
| 12 | 1.41 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.50 | 1.51 | 1.52 |
| 13 | 1.53 | 1.54 | 1.56 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 |
| 14 | 1.65 | 1.66 | 1.67 | 1.68 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 |
| 15 | 1.77 | 1.78 | 1.79 | 1.80 | 1.81 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 |
| 16 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 | 1.94 | 1.96 | 1.97 | 1.98 | 1.99 |
| 17 | 2.00 | 2.01 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.09 | 2.10 | 2.11 |
| 18 | 2.12 | 2.13 | 2.14 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 | 2.22 | 2.23 |
| 19 | 2.24 | 2.25 | 2.26 | 2.27 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 |
| 20 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 |
| 21 | 2.47 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 | 2.58 |
| 22 | 2.59 | 2.60 | 2.62 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.69 | 2.70 |
| 23 | 2.71 | 2.72 | 2.73 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.80 | 2.82 |
| 24 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 |
| 25 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 |
| 26 | 3.06 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 | 3.15 | 3.16 | 3.17 |
| 27 | 3.18 | 3.19 | 3.20 | 3.22 | 3.23 | 3.24 | 3.25 | 3.26 | 3.28 | 3.29 |
| 28 | 3.30 | 3.31 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.41 |
| 29 | 3.42 | 3.43 | 3.44 | 3.45 | 3.46 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 |
| 30 | 3.53 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 |
| 31 | 3.65 | 3.66 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.73 | 3.75 | 3.76 |
| 32 | 3.77 | 3.78 | 3.79 | 3.81 | 3.82 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 |
| 33 | 3.89 | 3.90 | 3.91 | 3.92 | 3.94 | 3.95 | 3.96 | 3.97 | 3.98 | 3.99 |
| 34 | 4.01 | 4.02 | 4.03 | 4.04 | 4.05 | 4.06 | 4.07 | 4.09 | 4.10 | 4.11 |
| 35 | 4.12 | 4.14 | 4.15 | 4.16 | 4.17 | 4.18 | 4.19 | 4.21 | 4.22 | 4.23 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 735mm. (from 732.51 to 737.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 |
| 1 | 0.12 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.23 |
| 2 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 |
| 3 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 |
| 4 | 0.47 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 | 0.58 |
| 5 | 0.59 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 |
| 6 | 0.71 | 0.72 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.81 | 0.82 |
| 7 | 0.83 | 0.84 | 0.85 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.93 | 0.94 |
| 8 | 0.95 | 0.96 | 0.97 | 0.98 | 1.00 | 1.01 | 1.02 | 1.03 | 1.04 | 1.06 |
| 9 | 1.07 | 1.08 | 1.09 | 1.10 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 |
| 10 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 |
| 11 | 1.30 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.39 | 1.40 | 1.41 |
| 12 | 1.42 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.51 | 1.52 | 1.53 |
| 13 | 1.54 | 1.55 | 1.57 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 | 1.65 |
| 14 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 |
| 15 | 1.78 | 1.79 | 1.80 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.89 |
| 16 | 1.90 | 1.91 | 1.92 | 1.93 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.00 |
| 17 | 2.02 | 2.03 | 2.04 | 2.05 | 2.06 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 |
| 18 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 | 2.19 | 2.21 | 2.22 | 2.23 | 2.24 |
| 19 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 | 2.31 | 2.33 | 2.34 | 2.35 | 2.36 |
| 20 | 2.37 | 2.38 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.46 | 2.47 | 2.48 |
| 21 | 2.49 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.59 | 2.60 |
| 22 | 2.61 | 2.62 | 2.63 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.70 | 2.72 |
| 23 | 2.73 | 2.74 | 2.75 | 2.76 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.84 |
| 24 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 |
| 25 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 |
| 26 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.16 | 3.17 | 3.18 | 3.19 |
| 27 | 3.20 | 3.21 | 3.23 | 3.24 | 3.25 | 3.26 | 3.27 | 3.29 | 3.30 | 3.31 |
| 28 | 3.32 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 |
| 29 | 3.44 | 3.45 | 3.46 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.54 | 3.55 |
| 30 | 3.56 | 3.57 | 3.58 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 |
| 31 | 3.68 | 3.69 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.77 | 3.78 |
| 32 | 3.80 | 3.81 | 3.82 | 3.83 | 3.84 | 3.86 | 3.87 | 3.88 | 3.89 | 3.90 |
| 33 | 3.91 | 3.93 | 3.94 | 3.95 | 3.96 | 3.97 | 3.99 | 4.00 | 4.01 | 4.02 |
| 34 | 4.03 | 3.05 | 4.06 | 4.07 | 4.08 | 4.09 | 4.10 | 4.12 | 4.13 | 4.14 |
| 35 | 4.15 | 4.16 | 4.18 | 4.19 | 4.20 | 4.21 | 4.22 | 4.24 | 4.25 | 4.26 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER : 740$^{mm.}$ (from 737.51 to 742.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 |
| 1 | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.23 |
| 2 | 0.24 | 0.25 | 0.26 | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.35 |
| 3 | 0.36 | 0.37 | 0.38 | 0.39 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 |
| 4 | 0.48 | 0.49 | 0.50 | 0.51 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.59 |
| 5 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.66 | 0.67 | 0.68 | 0.69 | 0.70 |
| 6 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.78 | 0.79 | 0.80 | 0.81 | 0.82 |
| 7 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 |
| 8 | 0.96 | 0.97 | 0.98 | 0.99 | 1.00 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 |
| 9 | 1.07 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 | 1.15 | 1.16 | 1.17 | 1.18 |
| 10 | 1.19 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.27 | 1.28 | 1.29 | 1.30 |
| 11 | 1.31 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.39 | 1.40 | 1.41 | 1.42 |
| 12 | 1.43 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.50 | 1.52 | 1.53 | 1.54 |
| 13 | 1.55 | 1.56 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.64 | 1.65 | 1.66 |
| 14 | 1.67 | 1.68 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.78 |
| 15 | 1.79 | 1.80 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 |
| 16 | 1.91 | 1.92 | 1.93 | 1.95 | 1.96 | 1.97 | 1.98 | 1.99 | 2.01 | 2.02 |
| 17 | 2.03 | 2.04 | 2.05 | 2.07 | 2.08 | 2.09 | 2.10 | 2.11 | 2.13 | 2.14 |
| 18 | 2.15 | 2.16 | 2.17 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 | 2.25 | 2.26 |
| 19 | 2.27 | 2.28 | 2.29 | 2.31 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.38 |
| 20 | 2.39 | 2.40 | 2.41 | 2.42 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 | 2.50 |
| 21 | 2.51 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 | 2.58 | 2.59 | 2.60 | 2.62 |
| 22 | 2.63 | 2.64 | 2.65 | 2.66 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.74 |
| 23 | 2.75 | 2.76 | 2.77 | 2.78 | 2.79 | 2.81 | 2.82 | 2.83 | 2.84 | 2.85 |
| 24 | 2.87 | 2.88 | 2.89 | 2.90 | 2.91 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 |
| 25 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 | 3.05 | 3.06 | 3.07 | 3.08 | 3.09 |
| 26 | 3.11 | 3.12 | 3.13 | 3.14 | 3.15 | 3.17 | 3.18 | 3.19 | 3.20 | 3.21 |
| 27 | 3.22 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.30 | 3.31 | 3.32 | 3.33 |
| 28 | 3.34 | 3.36 | 3.37 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 | 3.44 | 3.45 |
| 29 | 3.46 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.54 | 3.55 | 3.56 | 3.57 |
| 30 | 3.58 | 3.60 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 | 3.68 | 3.69 |
| 31 | 3.70 | 3.71 | 3.73 | 3.74 | 3.75 | 3.76 | 3.77 | 3.79 | 3.80 | 3.81 |
| 32 | 3.82 | 3.83 | 3.85 | 3.86 | 3.87 | 3.88 | 3.89 | 3.91 | 3.92 | 3.93 |
| 33 | 3.94 | 3.95 | 3.97 | 3.98 | 3.99 | 4.00 | 4.01 | 4.02 | 4.04 | 4.05 |
| 34 | 4.06 | 4.07 | 4.08 | 4.10 | 4.11 | 4.12 | 4.13 | 4.14 | 4.16 | 4.17 |
| 35 | 4.18 | 4.19 | 4.20 | 4.22 | 4.23 | 4.24 | 4.25 | 4.26 | 4.28 | 4.29 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

BAROMETER : 745$^{mm.}$ (from 742.51 to 747.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 |
| 1 | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 |
| 2 | 0.24 | 0.25 | 0.26 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.34 | 0.35 |
| 3 | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.46 | 0.47 |
| 4 | 0.48 | 0.49 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 | 0.59 |
| 5 | 0.60 | 0.61 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.69 | 0.70 | 0.71 |
| 6 | 0.72 | 0.73 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.81 | 0.82 | 0.83 |
| 7 | 0.84 | 0.85 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.93 | 0.94 | 0.95 |
| 8 | 0.96 | 0.97 | 0.99 | 1.00 | 1.01 | 1.02 | 1.03 | 1.05 | 1.06 | 1.07 |
| 9 | 1.08 | 1.09 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.17 | 1.18 | 1.19 |
| 10 | 1.20 | 1.21 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.29 | 1.30 | 1.31 |
| 11 | 1.32 | 1.33 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.41 | 1.42 | 1.43 |
| 12 | 1.44 | 1.45 | 1.47 | 1.48 | 1.49 | 1.50 | 1.52 | 1.53 | 1.54 | 1.55 |
| 13 | 1.56 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.64 | 1.65 | 1.66 | 1.67 |
| 14 | 1.68 | 1.70 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.78 | 1.79 |
| 15 | 1.80 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 |
| 16 | 1.92 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 | 2.00 | 2.01 | 2.02 | 2.03 |
| 17 | 2.04 | 2.06 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.13 | 2.14 | 2.15 |
| 18 | 2.16 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.24 | 2.25 | 2.26 | 2.27 |
| 19 | 2.28 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 | 2.36 | 2.37 | 2.38 | 2.39 |
| 20 | 2.40 | 2.42 | 2.43 | 2.44 | 2.45 | 2.46 | 2.48 | 2.49 | 2.50 | 2.51 |
| 21 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 |
| 22 | 2.65 | 2.66 | 2.67 | 2.68 | 2.69 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 |
| 23 | 2.77 | 2.78 | 2.79 | 2.80 | 2.81 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 |
| 24 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 | 2.95 | 2.96 | 2.97 | 2.98 | 2.99 |
| 25 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 | 3.07 | 3.08 | 3.09 | 3.10 | 3.11 |
| 26 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 |
| 27 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 | 3.31 | 3.32 | 3.33 | 3.34 | 3.35 |
| 28 | 3.37 | 3.38 | 3.39 | 3.40 | 3.41 | 3.43 | 3.44 | 3.45 | 3.46 | 3.48 |
| 29 | 3.49 | 3.50 | 3.51 | 3.52 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.60 |
| 30 | 3.61 | 3.62 | 3.63 | 3.64 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.72 |
| 31 | 3.73 | 3.74 | 3.75 | 3.76 | 3.78 | 3.79 | 3.80 | 3.81 | 3.82 | 3.84 |
| 32 | 3.85 | 3.86 | 3.87 | 3.88 | 3.90 | 3.91 | 3.92 | 3.93 | 3.94 | 3.96 |
| 33 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 | 4.04 | 4.05 | 4.06 | 4.08 |
| 34 | 4.09 | 4.10 | 4.11 | 4.12 | 4.14 | 4.15 | 4.16 | 4.17 | 4.18 | 4.20 |
| 35 | 4.21 | 4.22 | 4.23 | 4.24 | 4.26 | 4.27 | 4.28 | 4.29 | 4.30 | 4.32 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 750mm. (from 747.51 to 752.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 |
| 1 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 |
| 2 | 0.24 | 0.25 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.33 | 0.34 | 0.35 |
| 3 | 0.36 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.44 | 0.45 | 0.46 | 0.47 |
| 4 | 0.48 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 |
| 5 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 |
| 6 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.79 | 0.80 | 0.81 | 0.82 | 0.84 |
| 7 | 0.85 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 |
| 8 | 0.97 | 0.98 | 0.99 | 1.00 | 1.02 | 1.03 | 1.04 | 1.05 | 1.07 | 1.08 |
| 9 | 1.09 | 1.10 | 1.11 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.19 | 1.20 |
| 10 | 1.21 | 1.22 | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 | 1.30 | 1.31 | 1.32 |
| 11 | 1.33 | 1.34 | 1.36 | 1.37 | 1.38 | 1.39 | 1.40 | 1.42 | 1.43 | 1.44 |
| 12 | 1.45 | 1.46 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 | 1.54 | 1.55 | 1.56 |
| 13 | 1.57 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 | 1.65 | 1.66 | 1.67 | 1.68 |
| 14 | 1.69 | 1.71 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.78 | 1.79 | 1.80 |
| 15 | 1.82 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 |
| 16 | 1.94 | 1.95 | 1.96 | 1.97 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.05 |
| 17 | 2.06 | 2.07 | 2.08 | 2.09 | 2.11 | 2.12 | 2.13 | 2.14 | 2.15 | 2.17 |
| 18 | 2.18 | 2.19 | 2.20 | 2.21 | 2.23 | 2.24 | 2.25 | 2.26 | 2.28 | 2.29 |
| 19 | 2.30 | 2.31 | 2.32 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.40 | 2.41 |
| 20 | 2.42 | 2.43 | 2.45 | 2.46 | 2.47 | 2.48 | 2.49 | 2.51 | 2.52 | 2.53 |
| 21 | 2.54 | 2.55 | 2.57 | 2.58 | 2.59 | 2.60 | 2.61 | 2.63 | 2.64 | 2.65 |
| 22 | 2.66 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 | 2.75 | 2.76 | 2.77 |
| 23 | 2.78 | 2.80 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 |
| 24 | 2.91 | 2.92 | 2.93 | 2.94 | 2.95 | 2.97 | 2.98 | 2.99 | 3.00 | 3.01 |
| 25 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.09 | 3.10 | 3.11 | 3.12 | 3.14 |
| 26 | 3.15 | 3.16 | 3.17 | 3.18 | 3.20 | 3.21 | 3.22 | 3.23 | 3.24 | 3.26 |
| 27 | 3.27 | 3.28 | 3.29 | 3.30 | 3.32 | 3.33 | 3.34 | 3.35 | 3.37 | 3.38 |
| 28 | 3.39 | 3.40 | 3.41 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.49 | 3.50 |
| 29 | 3.51 | 3.52 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 | 3.60 | 3.61 | 3.62 |
| 30 | 3.63 | 3.64 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.72 | 3.73 | 3.74 |
| 31 | 3.75 | 3.76 | 3.78 | 3.79 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 |
| 32 | 3.87 | 3.89 | 3.90 | 3.91 | 3.92 | 3.93 | 3.95 | 3.96 | 3.97 | 3.98 |
| 33 | 3.99 | 4.01 | 4.02 | 4.03 | 4.04 | 4.06 | 4.07 | 4.08 | 4.09 | 4.10 |
| 34 | 4.12 | 4.13 | 4.14 | 4.15 | 4.16 | 4.18 | 4.19 | 4.20 | 4.21 | 4.22 |
| 35 | 4.24 | 4.25 | 4.26 | 4.27 | 4.29 | 4.30 | 4.31 | 4.32 | 4.33 | 4.35 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 755mm. (from 752.51 to 757.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.11 |
| 1 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 |
| 2 | 0.24 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.32 | 0.33 | 0.34 | 0.35 |
| 3 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.43 | 0.44 | 0.45 | 0.46 | 0.48 |
| 4 | 0.49 | 0.50 | 0.51 | 0.52 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.60 |
| 5 | 0.61 | 0.62 | 0.63 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 |
| 6 | 0.73 | 0.74 | 0.76 | 0.77 | 0.78 | 0.79 | 0.80 | 0.82 | 0.83 | 0.84 |
| 7 | 0.85 | 0.87 | 0.88 | 0.89 | 0.90 | 0.91 | 0.93 | 0.94 | 0.95 | 0.96 |
| 8 | 0.97 | 0.99 | 1.00 | 1.01 | 1.02 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 |
| 9 | 1.10 | 1.11 | 1.12 | 1.13 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | 1.21 |
| 10 | 1.22 | 1.23 | 1.24 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.32 | 1.33 |
| 11 | 1.34 | 1.35 | 1.36 | 1.38 | 1.39 | 1.40 | 1.41 | 1.43 | 1.44 | 1.45 |
| 12 | 1.46 | 1.47 | 1.49 | 1.50 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 | 1.57 |
| 13 | 1.58 | 1.60 | 1.61 | 1.62 | 1.63 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 |
| 14 | 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.77 | 1.78 | 1.79 | 1.80 | 1.82 |
| 15 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 |
| 16 | 1.95 | 1.96 | 1.97 | 1.99 | 2.00 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 |
| 17 | 2.07 | 2.08 | 2.10 | 2.11 | 2.12 | 2.13 | 2.14 | 2.16 | 2.17 | 2.18 |
| 18 | 2.19 | 2.21 | 2.22 | 2.23 | 2.24 | 2.25 | 2.27 | 2.28 | 2.29 | 2.30 |
| 19 | 2.32 | 2.33 | 2.34 | 2.35 | 2.36 | 2.38 | 2.39 | 2.40 | 2.41 | 2.42 |
| 20 | 2.44 | 2.45 | 2.46 | 2.47 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 | 2.55 |
| 21 | 2.56 | 2.57 | 2.58 | 2.60 | 2.61 | 2.62 | 2.63 | 2.64 | 2.66 | 2.67 |
| 22 | 2.68 | 2.69 | 2.71 | 2.72 | 2.73 | 2.74 | 2.75 | 2.77 | 2.78 | 2.79 |
| 23 | 2.80 | 2.81 | 2.83 | 2.84 | 2.85 | 2.86 | 2.88 | 2.89 | 2.90 | 2.91 |
| 24 | 2.92 | 2.94 | 2.95 | 2.96 | 2.97 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 |
| 25 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.13 | 3.14 | 3.16 |
| 26 | 3.17 | 3.18 | 3.19 | 3.20 | 3.22 | 3.23 | 3.24 | 3.25 | 3.27 | 3.28 |
| 27 | 3.29 | 3.30 | 3.31 | 3.33 | 3.34 | 3.35 | 3.36 | 3.38 | 3.39 | 3.40 |
| 28 | 3.41 | 3.42 | 3.44 | 3.45 | 3.46 | 3.47 | 3.49 | 3.50 | 3.51 | 3.52 |
| 29 | 3.53 | 3.55 | 3.56 | 3.57 | 3.58 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 |
| 30 | 3.66 | 3.67 | 3.68 | 3.69 | 3.70 | 3.72 | 3.73 | 3.74 | 3.75 | 3.77 |
| 31 | 3.78 | 3.79 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 |
| 32 | 3.90 | 3.91 | 3.92 | 3.94 | 3.95 | 3.96 | 3.97 | 3.98 | 4.00 | 4.01 |
| 33 | 4.02 | 4.03 | 4.05 | 4.06 | 4.07 | 4.08 | 4.09 | 4.11 | 4.12 | 4.13 |
| 34 | 4.14 | 4.16 | 4.17 | 4.18 | 4.19 | 4.20 | 4.22 | 4.23 | 4.24 | 4.25 |
| 35 | 4.26 | 4.28 | 4.29 | 4.30 | 4.31 | 4.33 | 4.34 | 4.35 | 4.36 | 4.37 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 760mm. (from 757.51 to 762.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.11 |
| 1 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | 0.23 |
| 2 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 | 0.33 | 0.34 | 0.36 |
| 3 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 |
| 4 | 0.49 | 0.50 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.58 | 0.59 | 0.60 |
| 5 | 0.61 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.69 | 0.70 | 0.71 | 0.72 |
| 6 | 0.74 | 0.75 | 0.76 | 0.77 | 0.79 | 0.80 | 0.81 | 0.82 | 0.83 | 0.85 |
| 7 | 0.86 | 0.87 | 0.88 | 0.90 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 |
| 8 | 0.98 | 0.99 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.07 | 1.08 | 1.09 |
| 9 | 1.10 | 1.12 | 1.13 | 1.14 | 1.15 | 1.17 | 1.18 | 1.19 | 1.20 | 1.21 |
| 10 | 1.23 | 1.24 | 1.25 | 1.26 | 1.28 | 1.29 | 1.30 | 1.31 | 1.32 | 1.34 |
| 11 | 1.35 | 1.36 | 1.37 | 1.39 | 1.40 | 1.41 | 1.42 | 1.44 | 1.45 | 1.46 |
| 12 | 1.47 | 1.48 | 1.50 | 1.51 | 1.52 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 |
| 13 | 1.59 | 1.61 | 1.62 | 1.63 | 1.64 | 1.66 | 1.67 | 1.68 | 1.69 | 1.71 |
| 14 | 1.72 | 1.73 | 1.74 | 1.75 | 1.77 | 1.78 | 1.79 | 1.80 | 1.82 | 1.83 |
| 15 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 |
| 16 | 1.96 | 1.97 | 1.99 | 2.00 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 | 2.07 |
| 17 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 | 2.15 | 2.16 | 2.17 | 2.18 | 2.20 |
| 18 | 2.21 | 2.22 | 2.23 | 2.24 | 2.26 | 2.27 | 2.28 | 2.29 | 2.31 | 2.32 |
| 19 | 2.33 | 2.34 | 2.36 | 2.37 | 2.38 | 2.39 | 2.40 | 2.42 | 2.43 | 2.44 |
| 20 | 2.45 | 2.47 | 2.48 | 2.49 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 | 2.56 |
| 21 | 2.58 | 2.59 | 2.60 | 2.61 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.69 |
| 22 | 2.70 | 2.71 | 2.72 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 | 2.80 | 2.81 |
| 23 | 2.82 | 2.83 | 2.85 | 2.86 | 2.87 | 2.88 | 2.89 | 2.91 | 2.92 | 2.93 |
| 24 | 2.94 | 2.96 | 2.97 | 2.98 | 2.99 | 3.01 | 3.02 | 3.03 | 3.04 | 3.05 |
| 25 | 3.07 | 3.08 | 3.09 | 3.10 | 3.12 | 3.13 | 3.14 | 3.15 | 3.16 | 3.18 |
| 26 | 3.19 | 3.20 | 3.21 | 3.23 | 3.24 | 3.25 | 3.26 | 3.28 | 3.29 | 3.30 |
| 27 | 3.31 | 3.32 | 3.34 | 3.35 | 3.36 | 3.37 | 3.39 | 3.40 | 3.41 | 3.42 |
| 28 | 3.43 | 3.45 | 3.46 | 3.47 | 3.48 | 3.50 | 3.51 | 3.52 | 3.53 | 3.54 |
| 29 | 3.56 | 3.57 | 3.58 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 | 3.66 | 3.67 |
| 30 | 3.68 | 3.69 | 3.70 | 3.72 | 3.73 | 3.74 | 3.75 | 3.77 | 3.78 | 3.79 |
| 31 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 |
| 32 | 3.93 | 3.94 | 3.95 | 3.96 | 3.97 | 3.99 | 4.00 | 4.01 | 4.02 | 4.04 |
| 33 | 4.05 | 4.06 | 4.07 | 4.08 | 4.10 | 4.11 | 4.12 | 4.13 | 4.15 | 4.16 |
| 34 | 4.17 | 4.18 | 4.20 | 4.21 | 4.22 | 4.23 | 4.24 | 4.26 | 4.27 | 4.28 |
| 35 | 4.29 | 4.31 | 4.32 | 4.33 | 4.34 | 4.35 | 4.37 | 4.38 | 4.39 | 4.40 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 765mm. (from 762.51 to 767.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.11 |
| 1 | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.21 | 0.22 | 0.23 |
| 2 | 0.25 | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0.33 | 0.35 | 0.36 |
| 3 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.46 | 0.47 | 0.48 |
| 4 | 0.49 | 0.51 | 0.52 | 0.53 | 0.54 | 0.56 | 0.57 | 0.58 | 0.59 | 0.61 |
| 5 | 0.62 | 0.63 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.70 | 0.72 | 0.73 |
| 6 | 0.74 | 0.75 | 0.77 | 0.78 | 0.79 | 0.80 | 0.82 | 0.83 | 0.84 | 0.85 |
| 7 | 0.86 | 0.88 | 0.89 | 0.90 | 0.91 | 0.93 | 0.94 | 0.95 | 0.96 | 0.98 |
| 8 | 0.99 | 1.00 | 1.01 | 1.02 | 1.04 | 1.05 | 1.06 | 1.07 | 1.09 | 1.10 |
| 9 | 1.11 | 1.12 | 1.14 | 1.15 | 1.16 | 1.17 | 1.19 | 1.20 | 1.21 | 1.22 |
| 10 | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 | 1.30 | 1.31 | 1.32 | 1.33 | 1.35 |
| 11 | 1.36 | 1.37 | 1.38 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 | 1.46 | 1.47 |
| 12 | 1.48 | 1.49 | 1.51 | 1.52 | 1.53 | 1.54 | 1.56 | 1.57 | 1.58 | 1.59 |
| 13 | 1.61 | 1.62 | 1.63 | 1.64 | 1.65 | 1.67 | 1.68 | 1.69 | 1.70 | 1.72 |
| 14 | 1.73 | 1.74 | 1.75 | 1.77 | 1.78 | 1.79 | 1.80 | 1.82 | 1.83 | 1.84 |
| 15 | 1.85 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 |
| 16 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 | 2.07 | 2.09 |
| 17 | 2.10 | 2.11 | 2.12 | 2.14 | 2.15 | 2.16 | 2.17 | 2.19 | 2.20 | 2.21 |
| 18 | 2.22 | 2.23 | 2.25 | 2.26 | 2.27 | 2.28 | 2.30 | 2.31 | 2.32 | 2.33 |
| 19 | 2.35 | 2.36 | 2.37 | 2.38 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 | 2.46 |
| 20 | 2.47 | 2.48 | 2.49 | 2.51 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 | 2.58 |
| 21 | 2.59 | 2.61 | 2.62 | 2.63 | 2.64 | 2.65 | 2.67 | 2.68 | 2.69 | 2.70 |
| 22 | 2.72 | 2.73 | 2.74 | 2.75 | 2.77 | 2.78 | 2.79 | 2.80 | 2.82 | 2.83 |
| 23 | 2.84 | 2.85 | 2.86 | 2.88 | 2.89 | 2.90 | 2.91 | 2.93 | 2.94 | 2.95 |
| 24 | 2.96 | 2.98 | 2.99 | 3.00 | 3.01 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 |
| 25 | 3.09 | 3.10 | 3.11 | 3.12 | 3.14 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 |
| 26 | 3.21 | 3.22 | 3.23 | 3.25 | 3.26 | 3.27 | 3.28 | 3.30 | 3.31 | 3.32 |
| 27 | 3.33 | 3.35 | 3.36 | 3.37 | 3.38 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 |
| 28 | 3.46 | 3.47 | 3.48 | 3.49 | 3.51 | 3.52 | 3.53 | 3.54 | 3.56 | 3.57 |
| 29 | 3.58 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 | 3.68 | 3.69 |
| 30 | 3.70 | 3.72 | 3.73 | 3.74 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.82 |
| 31 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 |
| 32 | 3.95 | 3.96 | 3.98 | 3.99 | 4.00 | 4.01 | 4.03 | 4.04 | 4.05 | 4.06 |
| 33 | 4.07 | 4.09 | 4.10 | 4.11 | 4.12 | 4.14 | 4.15 | 4.16 | 4.17 | 4.19 |
| 34 | 4.20 | 4.21 | 4.22 | 4.24 | 4.25 | 4.26 | 4.27 | 4.28 | 4.30 | 4.31 |
| 35 | 4.32 | 4.33 | 4.35 | 4.36 | 4.37 | 4.38 | 4.40 | 4.41 | 4.42 | 4.43 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 770mm. (from 767.51 to 772.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.02 | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.11 |
| 1 | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.21 | 0.22 | 0.24 |
| 2 | 0.25 | 0.26 | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.34 | 0.35 | 0.36 |
| 3 | 0.37 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.46 | 0.47 | 0.48 |
| 4 | 0.50 | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 | 0.58 | 0.60 | 0.61 |
| 5 | 0.62 | 0.63 | 0.65 | 0.66 | 0.67 | 0.68 | 0.70 | 0.71 | 0.72 | 0.73 |
| 6 | 0.75 | 0.76 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 | 0.83 | 0.85 | 0.86 |
| 7 | 0.87 | 0.88 | 0.89 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.98 |
| 8 | 0.99 | 1.01 | 1.02 | 1.03 | 1.04 | 1.06 | 1.07 | 1.08 | 1.09 | 1.11 |
| 9 | 1.12 | 1.13 | 1.14 | 1.16 | 1.17 | 1.18 | 1.19 | 1.21 | 1.22 | 1.23 |
| 10 | 1.24 | 1.26 | 1.27 | 1.28 | 1.29 | 1.30 | 1.32 | 1.33 | 1.34 | 1.35 |
| 11 | 1.37 | 1.38 | 1.39 | 1.40 | 1.42 | 1.43 | 1.44 | 1.45 | 1.47 | 1.48 |
| 12 | 1.49 | 1.50 | 1.52 | 1.53 | 1.54 | 1.55 | 1.57 | 1.58 | 1.59 | 1.60 |
| 13 | 1.62 | 1.63 | 1.64 | 1.65 | 1.67 | 1.68 | 1.69 | 1.70 | 1.72 | 1.73 |
| 14 | 1.74 | 1.75 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 | 1.83 | 1.84 | 1.85 |
| 15 | 1.86 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 |
| 16 | 1.99 | 2.00 | 2.01 | 2.03 | 2.04 | 2.05 | 2.06 | 2.08 | 2.09 | 2.10 |
| 17 | 2.11 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.19 | 2.20 | 2.21 | 2.22 |
| 18 | 2.24 | 2.25 | 2.26 | 2.27 | 2.29 | 2.30 | 2.31 | 2.32 | 2.34 | 2.35 |
| 19 | 2.36 | 2.37 | 2.39 | 2.40 | 2.41 | 2.42 | 2.44 | 2.45 | 2.46 | 2.47 |
| 20 | 2.49 | 2.50 | 2.51 | 2.52 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 | 2.60 |
| 21 | 2.61 | 2.62 | 2.63 | 2.65 | 2.66 | 2.67 | 2.68 | 2.70 | 2.71 | 2.72 |
| 22 | 2.73 | 2.75 | 2.76 | 2.77 | 2.78 | 2.80 | 2.81 | 2.82 | 2.83 | 2.85 |
| 23 | 2.86 | 2.87 | 2.88 | 2.90 | 2.91 | 2.92 | 2.93 | 2.95 | 2.96 | 2.97 |
| 24 | 2.98 | 3.00 | 3.01 | 3.02 | 3.03 | 3.04 | 3.06 | 3.07 | 3.08 | 3.09 |
| 25 | 3.11 | 3.12 | 3.13 | 3.14 | 3.16 | 3.17 | 3.18 | 3.19 | 3.21 | 3.22 |
| 26 | 3.23 | 3.24 | 3.26 | 3.27 | 3.28 | 3.29 | 3.31 | 3.32 | 3.33 | 3.34 |
| 27 | 3.36 | 3.37 | 3.38 | 3.39 | 3.41 | 3.42 | 3.43 | 3.44 | 3.45 | 3.47 |
| 28 | 3.48 | 3.49 | 3.50 | 3.52 | 3.53 | 3.54 | 3.55 | 3.57 | 3.58 | 3.59 |
| 29 | 3.60 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 | 3.68 | 3.69 | 3.70 | 3.72 |
| 30 | 3.73 | 3.74 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.82 | 3.83 | 3.84 |
| 31 | 3.85 | 3.87 | 3.88 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 | 3.95 | 3.96 |
| 32 | 3.98 | 3.99 | 4.00 | 4.01 | 4.03 | 4.04 | 4.05 | 4.06 | 4.08 | 4.09 |
| 33 | 4.10 | 4.11 | 4.13 | 4.14 | 4.15 | 4.16 | 4.18 | 4.19 | 4.20 | 4.21 |
| 34 | 4.23 | 4.24 | 4.25 | 4.26 | 4.28 | 4.29 | 4.30 | 4.31 | 4.32 | 4.34 |
| 35 | 4.35 | 4.36 | 4.37 | 4.39 | 4.40 | 4.41 | 4.42 | 4.44 | 4.45 | 4.46 |
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |

BAROMETER: 775mm. (from 772.51 to 777.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.11 |
| 1 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.23 | 0.24 |
| 2 | 0.25 | 0.26 | 0.28 | 0.29 | 0.30 | 0.31 | 0.33 | 0.34 | 0.35 | 0.36 |
| 3 | 0.38 | 0.39 | 0.40 | 0.41 | 0.43 | 0.44 | 0.45 | 0.46 | 0.48 | 0.49 |
| 4 | 0.50 | 0.51 | 0.53 | 0.54 | 0.55 | 0.56 | 0.58 | 0.59 | 0.60 | 0.61 |
| 5 | 0.63 | 0.64 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 | 0.71 | 0.73 | 0.74 |
| 6 | 0.75 | 0.76 | 0.78 | 0.79 | 0.80 | 0.81 | 0.83 | 0.84 | 0.85 | 0.86 |
| 7 | 0.88 | 0.89 | 0.90 | 0.91 | 0.93 | 0.94 | 0.95 | 0.96 | 0.98 | 0.99 |
| 8 | 1.00 | 1.01 | 1.03 | 1.04 | 1.05 | 1.06 | 1.08 | 1.09 | 1.10 | 1.11 |
| 9 | 1.13 | 1.14 | 1.15 | 1.16 | 1.18 | 1.19 | 1.20 | 1.21 | 1.23 | 1.24 |
| 10 | 1.25 | 1.26 | 1.28 | 1.29 | 1.30 | 1.31 | 1.33 | 1.34 | 1.35 | 1.36 |
| 11 | 1.38 | 1.39 | 1.40 | 1.41 | 1.43 | 1.44 | 1.45 | 1.46 | 1.48 | 1.49 |
| 12 | 1.50 | 1.51 | 1.53 | 1.54 | 1.55 | 1.56 | 1.58 | 1.59 | 1.60 | 1.61 |
| 13 | 1.63 | 1.64 | 1.65 | 1.66 | 1.68 | 1.69 | 1.70 | 1.71 | 1.73 | 1.74 |
| 14 | 1.75 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 | 1.83 | 1.84 | 1.85 | 1.86 |
| 15 | 1.88 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 |
| 16 | 2.00 | 2.01 | 2.03 | 2.04 | 2.05 | 2.06 | 2.08 | 2.09 | 2.10 | 2.11 |
| 17 | 2.13 | 2.14 | 2.15 | 2.16 | 2.18 | 2.19 | 2.20 | 2.21 | 2.23 | 2.24 |
| 18 | 2.25 | 2.26 | 2.28 | 2.29 | 2.30 | 2.31 | 2.33 | 2.34 | 2.35 | 2.36 |
| 19 | 2.38 | 2.39 | 2.40 | 2.41 | 2.43 | 2.44 | 2.45 | 2.46 | 2.48 | 2.49 |
| 20 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 | 2.56 | 2.58 | 2.59 | 2.60 | 2.61 |
| 21 | 2.63 | 2.64 | 2.65 | 2.66 | 2.68 | 2.69 | 2.70 | 2.71 | 2.73 | 2.74 |
| 22 | 2.75 | 2.76 | 2.78 | 2.79 | 2.80 | 2.81 | 2.83 | 2.84 | 2.85 | 2.86 |
| 23 | 2.88 | 2.89 | 2.90 | 2.91 | 2.93 | 2.94 | 2.95 | 2.96 | 2.98 | 2.99 |
| 24 | 3.00 | 3.01 | 3.03 | 3.04 | 3.05 | 3.06 | 3.08 | 3.09 | 3.10 | 3.11 |
| 25 | 3.13 | 3.14 | 3.15 | 3.16 | 3.18 | 3.19 | 3.20 | 3.21 | 3.23 | 3.24 |
| 26 | 3.25 | 3.26 | 3.28 | 3.29 | 3.30 | 3.31 | 3.33 | 3.34 | 3.35 | 3.36 |
| 27 | 3.38 | 3.39 | 3.40 | 3.41 | 3.43 | 3.44 | 3.45 | 3.46 | 3.48 | 3.49 |
| 28 | 3.50 | 3.51 | 3.53 | 3.54 | 3.55 | 3.56 | 3.58 | 3.59 | 3.60 | 3.61 |
| 29 | 3.63 | 3.64 | 3.65 | 3.66 | 3.68 | 3.69 | 3.70 | 3.72 | 3.73 | 3.74 |
| 30 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.82 | 3.83 | 3.84 | 3.85 | 3.87 |
| 31 | 3.88 | 3.89 | 3.90 | 3.92 | 3.93 | 3.94 | 3.95 | 3.97 | 3.98 | 3.99 |
| 32 | 4.00 | 4.02 | 4.03 | 4.04 | 4.05 | 4.07 | 4.08 | 4.09 | 4.10 | 4.12 |
| 33 | 4.13 | 4.14 | 4.15 | 4.17 | 4.18 | 4.19 | 4.20 | 4.22 | 4.23 | 4.24 |
| 34 | 4.25 | 4.27 | 4.28 | 4.29 | 4.30 | 4.32 | 4.33 | 4.34 | 4.35 | 4.37 |
| 35 | 4.38 | 4.39 | 4.40 | 4.42 | 4.43 | 4.44 | 4.45 | 4.47 | 4.48 | 4.49 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 780mm. (from 777.51 to 782.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.11 |
| 1 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.23 | 0.24 |
| 2 | 0.25 | 0.26 | 0.28 | 0.29 | 0.30 | 0.31 | 0.33 | 0.34 | 0.35 | 0.37 |
| 3 | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 | 0.49 |
| 4 | 0.50 | 0.52 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 | 0.59 | 0.60 | 0.62 |
| 5 | 0.63 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.70 | 0.72 | 0.73 | 0.74 |
| 6 | 0.76 | 0.77 | 0.78 | 0.79 | 0.81 | 0.82 | 0.83 | 0.84 | 0.86 | 0.87 |
| 7 | 0.88 | 0.89 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.98 | 0.99 |
| 8 | 1.01 | 1.02 | 1.03 | 1.04 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 |
| 9 | 1.13 | 1.15 | 1.16 | 1.17 | 1.18 | 1.20 | 1.21 | 1.22 | 1.23 | 1.25 |
| 10 | 1.26 | 1.27 | 1.28 | 1.30 | 1.31 | 1.32 | 1.33 | 1.35 | 1.36 | 1.37 |
| 11 | 1.38 | 1.40 | 1.41 | 1.42 | 1.44 | 1.45 | 1.46 | 1.47 | 1.49 | 1.50 |
| 12 | 1.51 | 1.52 | 1.54 | 1.55 | 1.56 | 1.57 | 1.59 | 1.60 | 1.61 | 1.62 |
| 13 | 1.64 | 1.65 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 | 1.72 | 1.74 | 1.75 |
| 14 | 1.76 | 1.78 | 1.79 | 1.80 | 1.81 | 1.83 | 1.84 | 1.85 | 1.86 | 1.88 |
| 15 | 1.89 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 |
| 16 | 2.01 | 2.03 | 2.04 | 2.05 | 2.06 | 2.08 | 2.09 | 2.10 | 2.11 | 2.13 |
| 17 | 2.14 | 2.15 | 2.17 | 2.18 | 2.19 | 2.20 | 2.22 | 2.23 | 2.24 | 2.25 |
| 18 | 2.27 | 2.28 | 2.29 | 2.30 | 2.32 | 2.33 | 2.34 | 2.35 | 2.37 | 2.38 |
| 19 | 2.39 | 2.40 | 2.42 | 2.43 | 2.44 | 2.45 | 2.47 | 2.48 | 2.49 | 2.51 |
| 20 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 | 2.58 | 2.59 | 2.61 | 2.62 | 2.63 |
| 21 | 2.64 | 2.66 | 2.67 | 2.68 | 2.69 | 2.71 | 2.72 | 2.73 | 2.74 | 2.76 |
| 22 | 2.77 | 2.78 | 2.79 | 2.81 | 2.82 | 2.83 | 2.85 | 2.86 | 2.87 | 2.88 |
| 23 | 2.90 | 2.91 | 2.92 | 2.93 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 | 3.01 |
| 24 | 3.02 | 3.03 | 3.05 | 3.06 | 3.07 | 3.08 | 3.10 | 3.11 | 3.12 | 3.14 |
| 25 | 3.15 | 3.16 | 3.17 | 3.19 | 3.20 | 3.21 | 3.22 | 3.24 | 3.25 | 3.26 |
| 26 | 3.27 | 3.29 | 3.30 | 3.31 | 3.32 | 3.34 | 3.35 | 3.36 | 3.37 | 3.39 |
| 27 | 3.40 | 3.41 | 3.42 | 3.44 | 3.45 | 3.46 | 3.47 | 3.49 | 3.50 | 3.51 |
| 28 | 3.52 | 3.54 | 3.55 | 3.56 | 3.58 | 3.59 | 3.60 | 3.61 | 3.63 | 3.64 |
| 29 | 3.65 | 3.66 | 3.68 | 3.69 | 3.70 | 3.71 | 3.73 | 3.74 | 3.75 | 3.76 |
| 30 | 3.78 | 3.79 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 |
| 31 | 3.90 | 3.92 | 3.93 | 3.94 | 3.95 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 |
| 32 | 4.03 | 4.04 | 4.05 | 4.07 | 4.08 | 4.09 | 4.10 | 4.12 | 4.13 | 4.14 |
| 33 | 4.15 | 4.17 | 4.18 | 4.19 | 4.20 | 4.22 | 4.23 | 4.24 | 4.26 | 4.27 |
| 34 | 4.28 | 4.29 | 4.31 | 4.32 | 4.33 | 4.34 | 4.36 | 4.37 | 4.38 | 4.39 |
| 35 | 4.41 | 4.42 | 4.43 | 4.44 | 4.46 | 4.47 | 4.48 | 4.49 | 4.51 | 4.52 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 785mm. (from 782.51 to 787.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.11 |
| 1 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 | 0.24 |
| 2 | 0.25 | 0.27 | 0.28 | 0.29 | 0.30 | 0.32 | 0.33 | 0.34 | 0.35 | 0.37 |
| 3 | 0.38 | 0.39 | 0.41 | 0.42 | 0.43 | 0.44 | 0.46 | 0.47 | 0.48 | 0.49 |
| 4 | 0.51 | 0.52 | 0.53 | 0.54 | 0.56 | 0.57 | 0.58 | 0.60 | 0.61 | 0.62 |
| 5 | 0.63 | 0.65 | 0.66 | 0.67 | 0.68 | 0.70 | 0.71 | 0.72 | 0.73 | 0.75 |
| 6 | 0.76 | 0.77 | 0.79 | 0.80 | 0.81 | 0.82 | 0.84 | 0.85 | 0.86 | 0.87 |
| 7 | 0.89 | 0.90 | 0.91 | 0.92 | 0.94 | 0.95 | 0.96 | 0.98 | 0.99 | 1.00 |
| 8 | 1.01 | 1.03 | 1.04 | 1.05 | 1.06 | 1.08 | 1.09 | 1.10 | 1.11 | 1.13 |
| 9 | 1.14 | 1.15 | 1.17 | 1.18 | 1.19 | 1.20 | 1.22 | 1.23 | 1.24 | 1.25 |
| 10 | 1.27 | 1.28 | 1.29 | 1.30 | 1.32 | 1.33 | 1.34 | 1.36 | 1.37 | 1.38 |
| 11 | 1.39 | 1.41 | 1.42 | 1.43 | 1.44 | 1.46 | 1.47 | 1.48 | 1.50 | 1.51 |
| 12 | 1.52 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 | 1.60 | 1.61 | 1.62 | 1.63 |
| 13 | 1.65 | 1.66 | 1.67 | 1.69 | 1.70 | 1.71 | 1.72 | 1.74 | 1.75 | 1.76 |
| 14 | 1.77 | 1.79 | 1.80 | 1.81 | 1.82 | 1.84 | 1.85 | 1.86 | 1.88 | 1.89 |
| 15 | 1.90 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | 2.01 |
| 16 | 2.03 | 2.04 | 2.05 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.13 | 2.14 |
| 17 | 2.15 | 2.17 | 2.18 | 2.19 | 2.20 | 2.22 | 2.23 | 2.24 | 2.26 | 2.27 |
| 18 | 2.28 | 2.29 | 2.31 | 2.32 | 2.33 | 2.34 | 2.36 | 2.37 | 2.38 | 2.39 |
| 19 | 2.41 | 2.42 | 2.43 | 2.45 | 2.46 | 2.47 | 2.48 | 2.50 | 2.51 | 2.52 |
| 20 | 2.53 | 2.55 | 2.56 | 2.57 | 2.58 | 2.60 | 2.61 | 2.62 | 2.64 | 2.65 |
| 21 | 2.66 | 2.67 | 2.69 | 2.70 | 2.71 | 2.72 | 2.74 | 2.75 | 2.76 | 2.77 |
| 22 | 2.79 | 2.80 | 2.81 | 2.83 | 2.84 | 2.85 | 2.86 | 2.88 | 2.89 | 2.90 |
| 23 | 2.91 | 2.93 | 2.94 | 2.95 | 2.96 | 2.98 | 2.99 | 3.00 | 3.02 | 3.03 |
| 24 | 3.04 | 3.05 | 3.07 | 3.08 | 3.09 | 3.10 | 3.12 | 3.13 | 3.14 | 3.15 |
| 25 | 3.17 | 3.18 | 3.19 | 3.21 | 3.22 | 3.23 | 3.24 | 3.26 | 3.27 | 3.28 |
| 26 | 3.29 | 3.31 | 3.32 | 3.33 | 3.34 | 3.36 | 3.37 | 3.38 | 3.40 | 3.41 |
| 27 | 3.42 | 3.43 | 3.45 | 3.46 | 3.47 | 3.48 | 3.50 | 3.51 | 3.52 | 3.53 |
| 28 | 3.55 | 3.56 | 3.57 | 3.59 | 3.60 | 3.61 | 3.62 | 3.64 | 3.65 | 3.66 |
| 29 | 3.67 | 3.69 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.78 | 3.79 |
| 30 | 3.80 | 3.81 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 |
| 31 | 3.93 | 3.94 | 3.95 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 | 4.04 |
| 32 | 4.05 | 4.07 | 4.08 | 4.09 | 4.11 | 4.12 | 4.13 | 4.14 | 4.16 | 4.17 |
| 33 | 4.18 | 4.19 | 4.21 | 4.22 | 4.23 | 4.24 | 4.26 | 4.27 | 4.28 | 4.30 |
| 34 | 4.31 | 4.32 | 4.33 | 4.35 | 4.36 | 4.37 | 4.38 | 4.40 | 4.41 | 4.42 |
| 35 | 4.43 | 4.45 | 4.46 | 4.47 | 4.49 | 4.50 | 4.51 | 4.52 | 4.54 | 4.55 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

BAROMETER: 790mm. (from 787.51 to 792.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.11 |
| 1 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 | 0.24 |
| 2 | 0.26 | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 | 0.33 | 0.34 | 0.36 | 0.37 |
| 3 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.46 | 0.47 | 0.48 | 0.50 |
| 4 | 0.51 | 0.52 | 0.54 | 0.55 | 0.56 | 0.57 | 0.59 | 0.60 | 0.61 | 0.62 |
| 5 | 0.64 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 | 0.71 | 0.73 | 0.74 | 0.75 |
| 6 | 0.77 | 0.78 | 0.79 | 0.80 | 0.82 | 0.83 | 0.84 | 0.85 | 0.87 | 0.88 |
| 7 | 0.89 | 0.91 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.98 | 0.99 | 1.01 |
| 8 | 1.02 | 1.03 | 1.05 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 | 1.13 |
| 9 | 1.15 | 1.16 | 1.17 | 1.19 | 1.20 | 1.21 | 1.22 | 1.24 | 1.25 | 1.26 |
| 10 | 1.28 | 1.29 | 1.30 | 1.31 | 1.33 | 1.34 | 1.35 | 1.36 | 1.38 | 1.39 |
| 11 | 1.40 | 1.42 | 1.43 | 1.44 | 1.45 | 1.47 | 1.48 | 1.49 | 1.50 | 1.52 |
| 12 | 1.53 | 1.54 | 1.56 | 1.57 | 1.58 | 1.59 | 1.61 | 1.62 | 1.63 | 1.64 |
| 13 | 1.66 | 1.67 | 1.68 | 1.70 | 1.71 | 1.72 | 1.73 | 1.75 | 1.76 | 1.77 |
| 14 | 1.79 | 1.80 | 1.81 | 1.82 | 1.84 | 1.85 | 1.86 | 1.87 | 1.89 | 1.90 |
| 15 | 1.91 | 1.93 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | 2.01 | 2.03 |
| 16 | 2.04 | 2.05 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.13 | 2.14 | 2.15 |
| 17 | 2.17 | 2.18 | 2.19 | 2.21 | 2.22 | 2.23 | 2.24 | 2.26 | 2.27 | 2.28 |
| 18 | 2.30 | 2.31 | 2.32 | 2.33 | 2.35 | 2.36 | 2.37 | 2.38 | 2.40 | 2.41 |
| 19 | 2.42 | 2.44 | 2.45 | 2.46 | 2.47 | 2.49 | 2.50 | 2.51 | 2.52 | 2.54 |
| 20 | 2.55 | 2.56 | 2.58 | 2.59 | 2.60 | 2.61 | 2.63 | 2.64 | 2.65 | 2.66 |
| 21 | 2.68 | 2.69 | 2.70 | 2.72 | 2.73 | 2.74 | 2.75 | 2.77 | 2.78 | 2.79 |
| 22 | 2.81 | 2.82 | 2.83 | 2.84 | 2.86 | 2.87 | 2.88 | 2.89 | 2.91 | 2.92 |
| 23 | 2.93 | 2.95 | 2.96 | 2.97 | 2.98 | 3.00 | 3.01 | 3.02 | 3.03 | 3.05 |
| 24 | 3.06 | 3.07 | 3.09 | 3.10 | 3.11 | 3.12 | 3.14 | 3.15 | 3.16 | 3.17 |
| 25 | 3.19 | 3.20 | 3.21 | 3.23 | 3.24 | 3.25 | 3.26 | 3.28 | 3.29 | 3.30 |
| 26 | 3.32 | 3.33 | 3.34 | 3.35 | 3.37 | 3.38 | 3.39 | 3.40 | 3.42 | 3.43 |
| 27 | 3.44 | 3.46 | 3.47 | 3.48 | 3.49 | 3.51 | 3.52 | 3.53 | 3.54 | 3.56 |
| 28 | 3.57 | 3.58 | 3.60 | 3.61 | 3.62 | 3.63 | 3.65 | 3.66 | 3.67 | 3.68 |
| 29 | 3.70 | 3.71 | 3.72 | 3.74 | 3.75 | 3.76 | 3.77 | 3.79 | 3.80 | 3.81 |
| 30 | 3.83 | 3.84 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 |
| 31 | 3.95 | 3.97 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 | 4.04 | 4.05 | 4.07 |
| 32 | 4.08 | 4.09 | 4.11 | 4.12 | 4.13 | 4.14 | 4.16 | 4.17 | 4.18 | 4.19 |
| 33 | 4.21 | 4.22 | 4.23 | 4.25 | 4.26 | 4.27 | 4.28 | 4.30 | 4.31 | 4.32 |
| 34 | 4.34 | 4.35 | 4.36 | 4.37 | 4.39 | 4.40 | 4.41 | 4.42 | 4.44 | 4.45 |
| 35 | 4.46 | 4.48 | 4.49 | 4.50 | 4.51 | 4.53 | 4.54 | 4.55 | 4.56 | 4.58 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## BAROMETER: 795mm. (from 792.51 to 797.50).

| Centigrade Degrees. | Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.12 |
| 1 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 | 0.24 |
| 2 | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0.33 | 0.35 | 0.36 | 0.37 |
| 3 | 0.38 | 0.40 | 0.41 | 0.42 | 0.44 | 0.45 | 0.46 | 0.47 | 0.49 | 0.50 |
| 4 | 0.51 | 0.53 | 0.54 | 0.55 | 0.56 | 0.58 | 0.59 | 0.60 | 0.62 | 0.63 |
| 5 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.74 | 0.76 |
| 6 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 | 0.83 | 0.85 | 0.86 | 0.87 | 0.89 |
| 7 | 0.90 | 0.91 | 0.92 | 0.94 | 0.95 | 0.96 | 0.98 | 0.99 | 1.00 | 1.01 |
| 8 | 1.03 | 1.04 | 1.05 | 1.06 | 1.08 | 1.09 | 1.10 | 1.12 | 1.13 | 1.14 |
| 9 | 1.15 | 1.17 | 1.18 | 1.19 | 1.21 | 1.22 | 1.23 | 1.24 | 1.26 | 1.27 |
| 10 | 1.28 | 1.30 | 1.31 | 1.32 | 1.33 | 1.35 | 1.36 | 1.37 | 1.39 | 1.40 |
| 11 | 1.41 | 1.42 | 1.44 | 1.45 | 1.46 | 1.48 | 1.49 | 1.50 | 1.51 | 1.53 |
| 12 | 1.54 | 1.55 | 1.57 | 1.58 | 1.59 | 1.60 | 1.62 | 1.63 | 1.64 | 1.66 |
| 13 | 1.67 | 1.68 | 1.69 | 1.71 | 1.72 | 1.73 | 1.75 | 1.76 | 1.77 | 1.78 |
| 14 | 1.80 | 1.81 | 1.82 | 1.83 | 1.85 | 1.86 | 1.87 | 1.89 | 1.90 | 1.91 |
| 15 | 1.92 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | 2.01 | 2.03 | 2.04 |
| 16 | 2.05 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.13 | 2.14 | 2.16 | 2.17 |
| 17 | 2.18 | 2.19 | 2.21 | 2.22 | 2.23 | 2.25 | 2.26 | 2.27 | 2.28 | 2.30 |
| 18 | 2.31 | 2.32 | 2.34 | 2.35 | 2.36 | 2.37 | 2.39 | 2.40 | 2.41 | 2.43 |
| 19 | 2.44 | 2.45 | 2.46 | 2.48 | 2.49 | 2.50 | 2.51 | 2.53 | 2.54 | 2.55 |
| 20 | 2.57 | 2.58 | 2.59 | 2.60 | 2.62 | 2.63 | 2.64 | 2.66 | 2.67 | 2.68 |
| 21 | 2.69 | 2.71 | 2.72 | 2.73 | 2.75 | 2.76 | 2.77 | 2.78 | 2.80 | 2.81 |
| 22 | 2.82 | 2.84 | 2.85 | 2.86 | 2.87 | 2.89 | 2.90 | 2.91 | 2.93 | 2.94 |
| 23 | 2.95 | 2.96 | 2.98 | 2.99 | 3.00 | 3.02 | 3.03 | 3.04 | 3.05 | 3.07 |
| 24 | 3.08 | 3.09 | 3.11 | 3.12 | 3.13 | 3.14 | 3.16 | 3.17 | 3.18 | 3.19 |
| 25 | 3.21 | 3.22 | 3.23 | 3.25 | 3.26 | 3.27 | 3.28 | 3.30 | 3.31 | 3.32 |
| 26 | 3.34 | 3.35 | 3.36 | 3.37 | 3.39 | 3.40 | 3.41 | 3.43 | 3.44 | 3.45 |
| 27 | 3.46 | 3.48 | 3.49 | 3.50 | 3.52 | 3.53 | 3.54 | 3.55 | 3.57 | 3.58 |
| 28 | 3.59 | 3.61 | 3.62 | 3.63 | 3.64 | 3.66 | 3.67 | 3.68 | 3.70 | 3.71 |
| 29 | 3.72 | 3.73 | 3.75 | 3.76 | 3.77 | 3.79 | 3.80 | 3.81 | 3.82 | 3.84 |
| 30 | 3.85 | 3.86 | 3.88 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 | 3.95 | 3.96 |
| 31 | 3.98 | 3.99 | 4.00 | 4.02 | 4.03 | 4.04 | 4.05 | 4.07 | 4.08 | 4.09 |
| 32 | 4.11 | 4.12 | 4.13 | 4.14 | 4.16 | 4.17 | 4.18 | 4.20 | 4.21 | 4.22 |
| 33 | 4.23 | 4.25 | 4.26 | 4.27 | 4.29 | 4.30 | 4.31 | 4.32 | 4.34 | 4.35 |
| 34 | 4.36 | 4.38 | 4.39 | 4.40 | 4.41 | 4.43 | 4.44 | 4.45 | 4.47 | 4.48 |
| 35 | 4.49 | 4.50 | 4.52 | 4.53 | 4.54 | 4.56 | 4.57 | 4.58 | 4.59 | 4.61 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centigrade Degrees. | BAROMETER: 800mm. (from 797.51 to 802.50). Tenths of Degrees. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 0 | 0.00 | 0.01 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.12 |
| 1 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 | 0.25 |
| 2 | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0.34 | 0.35 | 0.36 | 0.37 |
| 3 | 0.39 | 0.40 | 0.41 | 0.43 | 0.44 | 0.45 | 0.46 | 0.48 | 0.49 | 0.50 |
| 4 | 0.52 | 0.53 | 0.54 | 0.56 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 | 0.63 |
| 5 | 0.65 | 0.66 | 0.67 | 0.68 | 0.70 | 0.71 | 0.72 | 0.74 | 0.75 | 0.76 |
| 6 | 0.77 | 0.79 | 0.80 | 0.81 | 0.83 | 0.84 | 0.85 | 0.87 | 0.88 | 0.89 |
| 7 | 0.90 | 0.92 | 0.93 | 0.94 | 0.96 | 0.97 | 0.98 | 0.99 | 1.01 | 1.02 |
| 8 | 1.03 | 1.05 | 1.06 | 1.07 | 1.08 | 1.10 | 1.11 | 1.12 | 1.14 | 1.15 |
| 9 | 1.16 | 1.17 | 1.19 | 1.20 | 1.21 | 1.23 | 1.24 | 1.25 | 1.27 | 1.28 |
| 10 | 1.29 | 1.30 | 1.32 | 1.33 | 1.34 | 1.36 | 1.37 | 1.38 | 1.39 | 1.41 |
| 11 | 1.42 | 1.43 | 1.45 | 1.46 | 1.47 | 1.48 | 1.50 | 1.51 | 1.52 | 1.54 |
| 12 | 1.55 | 1.56 | 1.58 | 1.59 | 1.60 | 1.61 | 1.63 | 1.64 | 1.65 | 1.67 |
| 13 | 1.68 | 1.69 | 1.70 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.78 | 1.79 |
| 14 | 1.81 | 1.82 | 1.83 | 1.85 | 1.86 | 1.87 | 1.89 | 1.90 | 1.91 | 1.92 |
| 15 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | 2.01 | 2.03 | 2.04 | 2.05 |
| 16 | 2.07 | 2.08 | 2.09 | 2.10 | 2.12 | 2.13 | 2.14 | 2.16 | 2.17 | 2.18 |
| 17 | 2.20 | 2.21 | 2.22 | 2.23 | 2.25 | 2.26 | 2.27 | 2.29 | 2.30 | 2.31 |
| 18 | 2.32 | 2.34 | 2.35 | 2.36 | 2.38 | 2.39 | 2.40 | 2.41 | 2.43 | 2.44 |
| 19 | 2.45 | 2.47 | 2.48 | 2.49 | 2.50 | 2.52 | 2.53 | 2.54 | 2.56 | 2.57 |
| 20 | 2.58 | 2.60 | 2.61 | 2.62 | 2.63 | 2.65 | 2.66 | 2.67 | 2.69 | 2.70 |
| 21 | 2.71 | 2.72 | 2.74 | 2.75 | 2.76 | 2.78 | 2.79 | 2.80 | 2.81 | 2.83 |
| 22 | 2.84 | 2.85 | 2.87 | 2.88 | 2.89 | 2.91 | 2.92 | 2.93 | 2.94 | 2.96 |
| 23 | 2.97 | 2.98 | 3.00 | 3.01 | 3.02 | 3.03 | 3.05 | 3.06 | 3.07 | 3.09 |
| 24 | 3.10 | 3.11 | 3.12 | 3.14 | 3.15 | 3.16 | 3.18 | 3.19 | 3.20 | 3.22 |
| 25 | 3.23 | 3.24 | 3.25 | 3.27 | 3.28 | 3.29 | 3.31 | 3.32 | 3.33 | 3.34 |
| 26 | 3.36 | 3.37 | 3.38 | 3.40 | 3.41 | 3.42 | 3.43 | 3.45 | 3.46 | 3.47 |
| 27 | 3.49 | 3.50 | 3.51 | 3.52 | 3.54 | 3.55 | 3.56 | 3.58 | 3.59 | 3.60 |
| 28 | 3.62 | 3.63 | 3.64 | 3.65 | 3.67 | 3.68 | 3.69 | 3.71 | 3.72 | 3.73 |
| 29 | 3.74 | 3.76 | 3.77 | 3.78 | 3.80 | 3.81 | 3.82 | 3.83 | 3.85 | 3.86 |
| 30 | 3.87 | 3.89 | 3.90 | 3.91 | 3.93 | 3.94 | 3.95 | 3.96 | 3.98 | 3.99 |
| 31 | 4.00 | 4.02 | 4.03 | 4.04 | 4.05 | 4.07 | 4.08 | 4.09 | 4.11 | 4.12 |
| 32 | 4.13 | 4.14 | 4.16 | 4.17 | 4.18 | 4.20 | 4.21 | 4.22 | 4.24 | 4.25 |
| 33 | 4.26 | 4.27 | 4.29 | 4.30 | 4.31 | 4.33 | 4.34 | 4.35 | 4.36 | 4.38 |
| 34 | 4.39 | 4.40 | 4.42 | 4.43 | 4.44 | 4.45 | 4.47 | 4.48 | 4.49 | 4.51 |
| 35 | 4.52 | 4.53 | 4.55 | 4.56 | 4.57 | 4.58 | 4.60 | 4.61 | 4.62 | 4.64 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# XXI.

## OLD FRENCH BAROMETER.

---

# TABLE

FOR

## REDUCING TO THE FREEZING POINT THE OBSERVATIONS TAKEN WITH OLD FRENCH BAROMETERS,

PROVIDED WITH BRASS SCALES, EXTENDING FROM THE CISTERN TO THE TOP OF THE MERCURIAL COLUMN; CALCULATED FROM 240 TO 345 LINES, OR FROM 23 INCHES 4 LINES TO 28 INCHES 9 LINES.

By Kaemtz.

## TABLE XXI.

This table is taken from KAEMTZ's *Lehrbuch der Meteorologie*, Vol. II. p. 2
To render it more useful, the first page, giving the corrections for Barometri
Heights between 240 and 280 Paris lines, has been added.

The values adopted by Kaemtz for reducing the Old French Barometer are
following: —

Let $h$ = observed height in French lines.

" $t$ = temperature of attached thermometer in degrees of Reaumur.

" $m$ = expansion of mercury between 0 and 80° Reaumur = 0.018018.

" $l$ = linear expansion of brass between 0 and 80° Reaumur = 0.0018782.

The normal temperature of standard being = 13° Reaumur.

And the formula becomes, —

$$-h \cdot \frac{m \times t - l\,(t-13)}{1 + m \times t}$$

The Table gives the corrections only for full degrees and for every fifth line; the intermediate values can easily be found by an interpolation at sight.

### *Example of Reduction.*

Observed height . . . . . = 325.32 lines.

Attached thermometer . . . . . = 12.5 Reaumur.

In the line beginning with 12°, and in the vertical column headed 325 lines, we find,

| | | |
|---|---|---|
| Correction for | 12° | = —0.89 lines. |
| Interpolation for | 0°.5 | = —0.03 " |
| Correction for | 12°.5 | = —0.92 " |

And we have,

| | | |
|---|---|---|
| Observed height, | | 325.32 " |
| Correction for 12°.5, | | —0.92 " |
| Height at the freezing point | = | 324.40 lines. |

Normal Temperature of the Scale = 13° Reaumur.

| Attached Thermometer. Degrees of Reaumur. | Barometer in Paris Lines. 240 | 245 | 250 | 255 | 260 | 265 | 270 | 275 | Attached Thermometer. Degrees of Reaumur. |
|---|---|---|---|---|---|---|---|---|---|
| ° | Par. Lines. | Par Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | ° |
| −15 | +0.65 | +0.66 | +0.68 | +0.69 | +0.70 | +0.72 | +0.73 | +0.75 | −15 |
| −14 | 0.60 | 0.61 | 0.63 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | −14 |
| −13 | 0.55 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.64 | −13 |
| −12 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | −12 |
| −11 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.52 | −11 |
| −10 | 0.41 | 0.42 | 0.43 | 0.44 | 0.44 | 0.45 | 0.46 | 0.47 | −10 |
| − 9 | +0.36 | +0.37 | +0.38 | +0.38 | +0.39 | +0.40 | +0.41 | +0.41 | − 9 |
| − 8 | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.35 | 0.36 | − 8 |
| − 7 | 0.27 | 0.27 | 0.28 | 0.28 | 0.29 | 0.29 | 0.30 | 0.30 | − 7 |
| − 6 | 0.22 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.24 | 0.25 | − 6 |
| − 5 | 0.17 | 0.17 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | − 5 |
| − 4 | +0.12 | +0.12 | +0.13 | +0.13 | +0.13 | +0.13 | +0.14 | +0.14 | − 4 |
| − 3 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | − 3 |
| − 2 | +0.02 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | − 2 |
| − 1 | −0.02 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | − 1 |
| 0 | −0.07 | −0.07 | −0.08 | −0.08 | −0.08 | −0.08 | −0.08 | −0.08 | 0 |
| + 1 | −0.12 | −0.12 | −0.13 | −0.13 | −0.13 | −0.13 | −0.14 | −0.14 | + 1 |
| 2 | 0.17 | 0.17 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 2 |
| 3 | 0.22 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.24 | 0.25 | 3 |
| 4 | 0.27 | 0.27 | 0.28 | 0.28 | 0.29 | 0.29 | 0.30 | 0.30 | 4 |
| 5 | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.35 | 0.36 | 5 |
| + 6 | −0.36 | −0.37 | −0.38 | −0.38 | −0.39 | −0.40 | −0.41 | −0.41 | + 6 |
| 7 | 0.41 | 0.42 | 0.43 | 0.44 | 0.44 | 0.45 | 0.46 | 0.47 | 7 |
| 8 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.52 | 8 |
| 9 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 9 |
| 10 | 0.55 | 0.57 | 0.58 | 0.59 | 0.60 | 0.61 | 0.62 | 0.64 | 10 |
| +11 | −0.60 | −0.61 | −0.63 | −0.64 | −0.65 | −0.67 | −0.68 | −0.69 | +11 |
| 12 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 | 0.72 | 0.73 | 0.75 | 12 |
| 13 | 0.70 | 0.71 | 0.73 | 0.74 | 0.76 | 0.77 | 0.79 | 0.80 | 13 |
| 14 | 0.75 | 0.76 | 0.78 | 0.79 | 0.81 | 0.82 | 0.84 | 0.86 | 14 |
| 15 | 0.80 | 0.81 | 0.83 | 0.84 | 0.86 | 0.88 | 0.89 | 0.91 | 15 |
| +16 | −0.84 | −0.86 | −0.88 | −0.90 | −0.91 | −0.93 | −0.95 | −0.97 | +16 |
| 17 | 0.89 | 0.91 | 0.93 | 0.95 | 0.97 | 0.98 | 1.00 | 1.02 | 17 |
| 18 | 0.94 | 0.96 | 0.98 | 1.00 | 1.02 | 1.04 | 1.06 | 1.08 | 18 |
| 19 | 0.99 | 1.01 | 1.03 | 1.05 | 1.07 | 1.09 | 1.11 | 1.13 | 19 |
| 20 | 1.04 | 1.06 | 1.08 | 1.10 | 1.12 | 1.14 | 1.17 | 1.19 | 20 |
| +21 | −1.08 | −1.11 | −1.13 | −1.15 | −1.17 | −1.20 | −1.22 | −1.24 | +21 |
| 22 | 1.13 | 1.16 | 1.18 | 1.20 | 1.23 | 1.25 | 1.27 | 1.30 | 22 |
| 23 | 1.18 | 1.20 | 1.23 | 1.25 | 1.28 | 1.30 | 1.33 | 1.35 | 23 |
| 24 | 1.23 | 1.25 | 1.28 | 1.31 | 1.33 | 1.36 | 1.38 | 1.41 | 24 |
| 25 | 1.28 | 1.30 | 1.33 | 1.36 | 1.38 | 1.41 | 1.44 | 1.46 | 25 |

Normal Temperature of the Scale = 13° Reaumur.

| Attached Thermometer. Degrees of Reaumur. | Barometer in Paris Lines. 280 | 285 | 290 | 295 | 300 | 305 | 310 | Attached Thermometer. Degrees of Reaumur. |
|---|---|---|---|---|---|---|---|---|
| ° | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | ° |
| −15 | +0.77 | +0.78 | +0.79 | +0.81 | +0.82 | +0.84 | +0.85 | −15 |
| −14 | 0.71 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.79 | −14 |
| −13 | 0.65 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | −13 |
| −12 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | −12 |
| −11 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | −11 |
| −10 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.54 | −10 |
| − 9 | +0.43 | +0.44 | +0.44 | +0.45 | +0.46 | +0.46 | +0.47 | − 9 |
| − 8 | 0.37 | 0.38 | 0.38 | 0.39 | 0.40 | 0.40 | 0.41 | − 8 |
| − 7 | 0.31 | 0.32 | 0.32 | 0.33 | 0.34 | 0.34 | 0.35 | − 7 |
| − 6 | 0.26 | 0.26 | 0.26 | 0.27 | 0.27 | 0.28 | 0.28 | − 6 |
| − 5 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.22 | 0.22 | − 5 |
| − 4 | +0.14 | +0.15 | +0.15 | +0.15 | +0.15 | +0.16 | +0.16 | − 4 |
| − 3 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | − 3 |
| − 2 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | − 2 |
| − 1 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | − 1 |
| 0 | −0.08 | −0.09 | −0.09 | −0.09 | −0.09 | −0.09 | −0.09 | 0 |
| + 1 | −0.14 | −0.14 | −0.15 | −0.15 | −0.15 | −0.15 | −0.16 | + 1 |
| 2 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.22 | 0.22 | 2 |
| 3 | 0.26 | 0.26 | 0.27 | 0.27 | 0.27 | 0.28 | 0.28 | 3 |
| 4 | 0.31 | 0.32 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 4 |
| 5 | 0.37 | 0.37 | 0.38 | 0.39 | 0.40 | 0.40 | 0.41 | 5 |
| + 6 | −0.43 | −0.43 | −0.44 | −0.45 | −0.46 | −0.46 | −0.47 | + 6 |
| 7 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.53 | 7 |
| 8 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 8 |
| 9 | 0.60 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 9 |
| 10 | 0.65 | 0.66 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 10 |
| +11 | −0.71 | −0.72 | −0.74 | −0.75 | −0.76 | −0.77 | −0.79 | +11 |
| 12 | 0.77 | 0.78 | 0.80 | 0.81 | 0.82 | 0.84 | 0.85 | 12 |
| 13 | 0.82 | 0.84 | 0.85 | 0.87 | 0.88 | 0.90 | 0.91 | 13 |
| 14 | 0.88 | 0.90 | 0.91 | 0.93 | 0.94 | 0.96 | 0.98 | 14 |
| 15 | 0.94 | 0.95 | 0.97 | 0.99 | 1.00 | 1.02 | 1.04 | 15 |
| +16 | −0.99 | −1.01 | −1.03 | −1.05 | −1.07 | −1.08 | −1.10 | +16 |
| 17 | 1.05 | 1.07 | 1.09 | 1.11 | 1.13 | 1.15 | 1.16 | 17 |
| 18 | 1.11 | 1.13 | 1.15 | 1.17 | 1.19 | 1.21 | 1.23 | 18 |
| 19 | 1.16 | 1.18 | 1.21 | 1.23 | 1.25 | 1.27 | 1.29 | 19 |
| 20 | 1.22 | 1.24 | 1.27 | 1.29 | 1.31 | 1.33 | 1.35 | 20 |
| +21 | −1.28 | −1.30 | −1.33 | −1.35 | −1.37 | −1.39 | −1.42 | +21 |
| 22 | 1.34 | 1.36 | 1.38 | 1.41 | 1.43 | 1.45 | 1.48 | 22 |
| 23 | 1.39 | 1.41 | 1.44 | 1.47 | 1.49 | 1.52 | 1.54 | 23 |
| 24 | 1.45 | 1.47 | 1.50 | 1.53 | 1.55 | 1.58 | 1.60 | 24 |
| 25 | 1.50 | 1.53 | 1.56 | 1.59 | 1.61 | 1.64 | 1.67 | 25 |

Normal Temperature of the Scale = 13° Reaumur.

| Attached Thermometer. Degrees of Reaumur. | Barometer in Paris Lines. 315 | 320 | 325 | 330 | 335 | 340 | 345 | Attached Thermometer. Degrees of Reaumur. |
|---|---|---|---|---|---|---|---|---|
| ° | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | Par. Lines. | ° |
| −15 | +0.86 | +0.88 | +0.89 | +0.90 | +0.92 | +0.93 | +0.95 | −15 |
| −14 | 0.80 | 0.81 | 0.83 | 0.84 | 0.85 | 0.86 | 0.88 | −14 |
| −13 | 0.74 | 0.75 | 0.76 | 0.78 | 0.78 | 0.79 | 0.81 | −13 |
| −12 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.73 | 0.74 | −12 |
| −11 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | −11 |
| −10 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | −10 |
| − 9 | +0.48 | +0.49 | +0.50 | +0.50 | +0.51 | +0.52 | +0.53 | − 9 |
| − 8 | 0.42 | 0.42 | 0.43 | 0.44 | 0.44 | 0.45 | 0.46 | − 8 |
| − 7 | 0.35 | 0.36 | 0.36 | 0.37 | 0.37 | 0.38 | 0.39 | − 7 |
| − 6 | 0.29 | 0.29 | 0.30 | 0.30 | 0.31 | 0.31 | 0.32 | − 6 |
| − 5 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.24 | 0.25 | − 5 |
| − 4 | +0.16 | +0.16 | +0.17 | +0.17 | +0.17 | +0.17 | +0.18 | − 4 |
| − 3 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.11 | − 3 |
| − 2 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.03 | +0.04 | − 2 |
| − 1 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | −0.03 | − 1 |
| 0 | −0.10 | −0.10 | −0.10 | −0.10 | −0.10 | −0.10 | −0.10 | 0 |
| + 1 | −0.16 | −0.16 | −0.16 | −0.17 | −0.17 | −0.17 | −0.17 | + 1 |
| 2 | 0.22 | 0.23 | 0.23 | 0.23 | 0.24 | 0.24 | 0.24 | 2 |
| 3 | 0.29 | 0.29 | 0.30 | 0.30 | 0.31 | 0.31 | 0.31 | 3 |
| 4 | 0.35 | 0.36 | 0.36 | 0.37 | 0.37 | 0.38 | 0.38 | 4 |
| 5 | 0.42 | 0.42 | 0.43 | 0.44 | 0.44 | 0.45 | 0.45 | 5 |
| + 6 | −0.48 | −0.49 | −0.49 | −0.50 | −0.51 | −0.52 | −0.53 | + 6 |
| 7 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.60 | 7 |
| 8 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 8 |
| 9 | 0.67 | 0.68 | 0.69 | 0.70 | 0.71 | 0.72 | 0.74 | 9 |
| 10 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 | 0.81 | 10 |
| +11 | −0.80 | −0.81 | −0.82 | −0.84 | −0.85 | −0.86 | −0.88 | +11 |
| 12 | 0.86 | 0.88 | 0.89 | 0.90 | 0.92 | 0.93 | 0.95 | 12 |
| 13 | 0.93 | 0.94 | 0.96 | 0.97 | 0.99 | 1.00 | 1.02 | 13 |
| 14 | 0.99 | 1.01 | 1.02 | 1.04 | 1.05 | 1.07 | 1.09 | 14 |
| 15 | 1.05 | 1.07 | 1.09 | 1.10 | 1.12 | 1.14 | 1.16 | 15 |
| +16 | −1.12 | −1.14 | −1.15 | −1.17 | −1.19 | −1.21 | −1.23 | +16 |
| 17 | 1.18 | 1.20 | 1.22 | 1.24 | 1.26 | 1.28 | 1.30 | 17 |
| 18 | 1.25 | 1.27 | 1.29 | 1.31 | 1.33 | 1.35 | 1.37 | 18 |
| 19 | 1.31 | 1.33 | 1.35 | 1.37 | 1.39 | 1.41 | 1.44 | 19 |
| 20 | 1.37 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.51 | 20 |
| +21 | −1.44 | −1.46 | −1.48 | −1.51 | −1.53 | −1.55 | −1.58 | +21 |
| 22 | 1.50 | 1.53 | 1.55 | 1.57 | 1.60 | 1.62 | 1.65 | 22 |
| 23 | 1.57 | 1.59 | 1.62 | 1.64 | 1.67 | 1.69 | 1.72 | 23 |
| 24 | 1.63 | 1.66 | 1.68 | 1.71 | 1.73 | 1.76 | 1.79 | 24 |
| 25 | 1.69 | 1.72 | 1.75 | 1.78 | 1.80 | 1.83 | 1.86 | 25 |

# TABLES

FOR CORRECTING THE

# DEPRESSION OF THE BAROMETRICAL COLUMN

## DUE TO CAPILLARY ACTION.

## CORRECTION FOR CAPILLARY ACTION.

It is known that the effects of capillary action are not the same in different liquids. In a tube plunged in water, the liquid in the tube rises *higher* than the level of the water in the vessel, and terminates by a concave surface, which is called a *concave meniscus*. In a tube plunged in mercury the liquid in the tube stands *lower* than the mercury in the vessel, and terminates by a convex surface, or a *convex meniscus*. It is thus evident that the mercurial column in the tube of a Barometer does not rise to its true height, and that it needs to be corrected for the depression due to capillarity, before it indicates the real pressure of the atmosphere.

La Place, in the *Mécanique Céleste*, Tom. IV., has shown that the value of that correction depends upon the form of the meniscus, and gave a formula to compute it. As this form varies in tubes of different bores, so does the depression, which diminishes as the diameter of the tube increases. The form of the meniscus, however, was supposed to be the same in tubes of the same diameter, and constant in the same tube; and on this supposition the tables generally used for correcting the capillary action have been computed. But more accurate observations have proved that, owing to various causes not yet all well understood, the form of the meniscus is often different in tubes of the same diameter, and that it is even variable in the tube of the same instrument.

It thus became necessary to construct new tables, taking into consideration, in a given case, both the diameter of the tube and the form of the meniscus. Such tables, with a double entry, have been given by Schleiermacher, in the *Bibliothèque Universelle de Genève*, Tom. VIII.; by Bravais, in the *Annales de Physique et de Chimie*, Tom. V. p. 508; and by Delcros. The numbers in these tables agree very closely; but as Delcros's table is more extended than that of Schleiermacher, and in a more convenient form than that of Bravais, it is given below, together with a reduction of it to English measures, for the ordinary use.

The other tables may serve for comparison.

Table XXII., from the *Report of the Committee of Physics and Meteorology* of the Royal Society of London, 1840, gives the correction to be applied to English barometers for capillary action in boiled and unboiled tubes. It takes into account the diameter of the tube, but not the variations of the height of the meniscus, or of the convexity which terminates the barometrical column. This last element is supposed to be in its *normal state*, and *constant*.

Tables XXIII. and XXIV., by Delcros, in the *Annuaire Météorologique de France*, for 1849, give the means of finding the true correction to be applied to metrical barometers for capillary action.

The first shows the normal height of the meniscus when in contact with the air (as is the case in the inferior branch of a siphon barometer), and in the barometric vacuum at the top of the column, in tubes of different bores. It enables the observer to judge better of its variations.

Table XXIV. has been calculated by Delcros after the formulas of Schleiermacher, making the constant $x$ equal to $6^{mm}.5278$, being the mean value between that of Gay-Lussac $= 6^{mm}.5262$, and that of Schleiermacher $= 6^{mm}.5295$. It gives the amount of the capillary action in millimetres of mercury, taking into account both the size of the bore, or the internal radius of the tube, which will be found in the vertical argument, and the height of the meniscus, given in the horizontal argument. The internal radius of the tube is supposed to be known; the height of the meniscus, or the vertical distance from the base, that is, from the sharp line where the mercury ceases to be in contact with the walls of the tube, to the very top of the convexity, can be ascertained by measuring it several times by means of the vernier.

*Example:* — Suppose the internal radius of the tube to be $3^{mm}.2$, and the height of the meniscus to be $0^{mm}.8$; seek in the first vertical column the number $3^{mm}.2$; follow then the horizontal line as far as the vertical column headed $0^{mm}.8$, you find there the number $0^{mm}.776$, which is the amount of the depression due to capillary action, or the value of the correction to be *added* to the observation.

Table XXV. is taken from Pouillet's *Eléments de Physique*, Vol. II. p. 698 (1853).

Table XXVI. is found in Gehler's *Physicalisches Wörterbuch*, and in Schubarth, *Physicalische Tabellen*, p. 21.

Table XXVII., which is Delcros's table reduced into English measures, gives the means of correcting with more accuracy the indications of the English barometers. For its use, see, above, the explanation to Table XXIV.

Table XXVIII. is from Baily's *Astronomical Tables*.

XXII. TABLE FOR THE CORRECTION TO BE ADDED TO ENGLISH BAROMETERS FOR CAPILLARY ACTION.

| Diameter of Tube. | Correction for | |
|---|---|---|
| | Unboiled Tubes. | Boiled Tubes. |
| Inch. | Inch. | Inch. |
| 0.60 | 0.004 | 0.002 |
| 0.50 | 0.007 | 0.003 |
| 0.45 | 0.010 | 0.005 |
| 0.40 | 0.014 | 0.007 |
| 0.35 | 0.020 | 0.010 |
| 0.30 | 0.028 | 0.014 |
| 0.25 | 0.040 | 0.020 |
| 0.20 | 0.060 | 0.029 |
| 0.15 | 0.088 | 0.044 |
| 0.10 | 0.142 | 0.070 |

XXIII. TABLE OF THE HEIGHT OF THE MENISCUS OF THE BAROMETRICAL COLUMN.

| Internal Radius of the Tube in Millimetres. | Normal Height of the Meniscus in Millimetres. | |
|---|---|---|
| | In the Air. | In the Vacuum. |
| 1 | 0.427 | 0.34 |
| 2 | 0.795 | 0.64 |
| 3 | 1.079 | 0.86 |
| 4 | 1.287 | 1.03 |
| 5 | 1.413 | 1.13 |
| 6 | 1.488 | 1.19 |
| 7 | 1.524 | 1.22 |

VERTICAL ARGUMENT = INTERNAL RADIUS OF TUBE. HORIZONTAL ARGUMENT = HEIGHT OF MENISCUS IN MILLIMETRES.

| Radius of the Tube in Millimetres. | Height of the Meniscus in Millimetres. | | | | | | | | | | | | | | | | | | Radius of the Tube in Millimetres. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | |
| 1.0 | 1.268 | 2.460 | 3.516 | 4.396 | 5.085 | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.0 |
| 1.2 | 0.876 | 1.715 | 2.484 | 3.162 | 3.728 | 4.190 | " | " | " | " | " | " | " | " | " | " | " | " | 1.2 |
| 1.4 | 0.638 | 1.256 | 1.836 | 2.363 | 2.825 | 3.218 | 3.542 | " | " | " | " | " | " | " | " | " | " | " | 1.4 |
| 1.6 | 0.484 | 0.955 | 1.404 | 1.820 | 2.196 | 2.528 | 2.812 | 3.050 | " | " | " | " | " | " | " | " | " | " | 1.6 |
| 1.8 | 0.378 | 0.747 | 1.103 | 1.437 | 1.746 | 2.024 | 2.270 | 2.483 | 2.662 | " | " | " | " | " | " | " | " | " | 1.8 |
| 2.0 | 0.302 | 0.598 | 0.885 | 1.158 | 1.413 | 1.648 | 1.859 | 2.046 | 2.209 | 2.348 | " | " | " | " | " | " | " | " | 2.0 |
| 2.2 | 0.245 | 0.487 | 0.723 | 0.948 | 1.161 | 1.360 | 1.541 | 1.705 | 1.851 | 1.978 | 2.087 | " | " | " | " | " | " | " | 2.2 |
| 2.4 | 0.203 | 0.403 | 0.599 | 0.787 | 0.966 | 1.135 | 1.292 | 1.436 | 1.565 | 1.680 | 1.780 | 1.866 | " | " | " | " | " | " | 2.4 |
| 2.6 | 0.170 | 0.337 | 0.502 | 0.661 | 0.813 | 0.958 | 1.093 | 1.218 | 1.332 | 1.436 | 1.528 | 1.608 | 1.676 | " | " | " | " | " | 2.6 |
| 2.8 | 0.143 | 0.285 | 0.425 | 0.560 | 0.691 | 0.815 | 0.932 | 1.041 | 1.142 | 1.235 | 1.318 | 1.392 | 1.456 | 1.511 | " | " | " | " | 2.8 |
| 3.0 | 0.122 | 0.243 | 0.362 | 0.478 | 0.591 | 0.698 | 0.800 | 0.896 | 0.985 | 1.068 | 1.143 | 1.210 | 1.270 | 1.322 | 1.368 | " | " | " | 3.0 |
| 3.2 | 0.105 | 0.209 | 0.312 | 0.412 | 0.509 | 0.602 | 0.691 | 0.776 | 0.855 | 0.928 | 0.995 | 1.057 | 1.112 | 1.161 | 1.203 | 1.238 | " | " | 3.2 |
| 3.4 | 0.091 | 0.181 | 0.269 | 0.356 | 0.441 | 0.523 | 0.601 | 0.675 | 0.745 | 0.810 | 0.871 | 0.926 | 0.976 | 1.021 | 1.061 | 1.095 | " | " | 3.4 |
| 3.6 | 0.079 | 0.157 | 0.234 | 0.310 | 0.384 | 0.455 | 0.524 | 0.590 | 0.652 | 0.710 | 0.764 | 0.814 | 0.860 | 0.901 | 0.938 | 0.970 | " | " | 3.6 |
| 3.8 | 0.069 | 0.137 | 0.205 | 0.271 | 0.336 | 0.399 | 0.459 | 0.517 | 0.572 | 0.624 | 0.673 | 0.718 | 0.760 | 0.797 | 0.831 | 0.861 | 0.887 | " | 3.8 |
| 4.0 | 0.060 | 0.120 | 0.180 | 0.238 | 0.295 | 0.350 | 0.404 | 0.455 | 0.504 | 0.551 | 0.594 | 0.635 | 0.673 | 0.707 | 0.738 | 0.766 | 0.790 | " | 4.0 |
| 4.2 | 0.053 | 0.106 | 0.158 | 0.210 | 0.260 | 0.309 | 0.356 | 0.402 | 0.446 | 0.487 | 0.526 | 0.563 | 0.597 | 0.628 | 0.657 | 0.682 | 0.705 | " | 4.2 |
| 4.4 | 0.047 | 0.094 | 0.140 | 0.185 | 0.230 | 0.273 | 0.315 | 0.356 | 0.395 | 0.432 | 0.467 | 0.500 | 0.531 | 0.559 | 0.585 | 0.609 | 0.630 | " | 4.4 |
| 4.6 | 0.042 | 0.083 | 0.124 | 0.164 | 0.204 | 0.242 | 0.280 | 0.316 | 0.351 | 0.384 | 0.416 | 0.445 | 0.473 | 0.499 | 0.522 | 0.544 | 0.563 | " | 4.6 |
| 4.8 | 0.037 | 0.074 | 0.110 | 0.146 | 0.181 | 0.215 | 0.249 | 0.281 | 0.312 | 0.342 | 0.370 | 0.397 | 0.422 | 0.445 | 0.467 | 0.486 | 0.504 | " | 4.8 |
| 5.0 | 0.033 | 0.065 | 0.098 | 0.130 | 0.161 | 0.192 | 0.221 | 0.250 | 0.278 | 0.305 | 0.330 | 0.354 | 0.377 | 0.398 | 0.418 | 0.436 | 0.452 | " | 5.0 |
| 5.2 | 0.029 | 0.058 | 0.087 | 0.116 | 0.144 | 0.171 | 0.198 | 0.224 | 0.248 | 0.272 | 0.295 | 0.317 | 0.337 | 0.356 | 0.374 | 0.390 | 0.405 | 0.418 | 5.2 |
| 5.4 | 0.026 | 0.052 | 0.078 | 0.103 | 0.128 | 0.153 | 0.177 | 0.200 | 0.222 | 0.244 | 0.264 | 0.284 | 0.302 | 0.319 | 0.336 | 0.350 | 0.364 | 0.376 | 5.4 |
| 5.6 | 0.023 | 0.047 | 0.070 | 0.092 | 0.115 | 0.137 | 0.158 | 0.179 | 0.199 | 0.218 | 0.237 | 0.255 | 0.271 | 0.287 | 0.301 | 0.315 | 0.327 | 0.338 | 5.6 |
| 5.8 | 0.021 | 0.042 | 0.062 | 0.083 | 0.103 | 0.122 | 0.142 | 0.160 | 0.178 | 0.196 | 0.213 | 0.228 | 0.243 | 0.257 | 0.271 | 0.283 | 0.294 | 0.304 | 5.8 |
| 6.0 | 0.019 | 0.037 | 0.056 | 0.074 | 0.092 | 0.110 | 0.127 | 0.144 | 0.160 | 0.176 | 0.191 | 0.205 | 0.219 | 0.231 | 0.243 | 0.254 | 0.264 | 0.273 | 6.0 |
| 6.2 | 0.017 | 0.034 | 0.050 | 0.067 | 0.083 | 0.099 | 0.114 | 0.129 | 0.144 | 0.158 | 0.172 | 0.185 | 0.197 | 0.208 | 0.219 | 0.229 | 0.238 | 0.246 | 6.2 |
| 6.4 | 0.015 | 0.030 | 0.045 | 0.060 | 0.074 | 0.089 | 0.103 | 0.116 | 0.130 | 0.142 | 0.154 | 0.166 | 0.177 | 0.187 | 0.197 | 0.206 | 0.214 | 0.221 | 6.4 |
| 6.6 | 0.014 | 0.027 | 0.041 | 0.054 | 0.067 | 0.080 | 0.093 | 0.105 | 0.117 | 0.128 | 0.139 | 0.150 | 0.160 | 0.169 | 0.178 | 0.186 | 0.193 | 0.200 | 6.6 |
| 6.8 | 0.012 | 0.024 | 0.037 | 0.049 | 0.061 | 0.072 | 0.084 | 0.095 | 0.105 | 0.116 | 0.126 | 0.135 | 0.144 | 0.153 | 0.160 | 0.168 | 0.174 | 0.180 | 6.8 |
| 7.0 | 0.011 | 0.022 | 0.033 | 0.044 | 0.055 | 0.065 | 0.075 | 0.085 | 0.095 | 0.105 | 0.114 | 0.122 | 0.130 | 0.138 | 0.145 | 0.152 | 0.158 | 0.163 | 7.0 |

## XXV. DEPRESSION OF THE BAROMETRICAL COLUMN DUE TO CAPILLARY ACTION.

From Pouillet.

| Internal Diameter of Tube. | Depression. | Differences. | Internal Diameter of Tube. | Depression. | Differences. | Internal Diameter of Tube. | Depression. | Differences |
|---|---|---|---|---|---|---|---|---|
| Millimetres. | Millimetres. | Millimet. | Millimetres. | Millimetres. | Millimet. | Millimetres. | Millimetres. | Millimet. |
| 2.00 | 4.579 | | 8.50 | 0.604 | | 15.00 | 0.127 | |
| | | 0.985 | | | 0.070 | | | 0.015 |
| 2.50 | 3.595 | | 9.00 | 0.534 | | 15.50 | 0.112 | |
| | | 0.692 | | | 0.061 | | | 0.013 |
| 3.00 | 2.902 | | 9.50 | 0.473 | | 16.00 | 0.099 | |
| | | 0.487 | | | 0.054 | | | 0.012 |
| 3.50 | 2.415 | | 10.00 | 0.419 | | 16.50 | 0.087 | |
| | | 0.362 | | | 0.047 | | | 0.010 |
| 4.00 | 2.053 | | 10.50 | 0.372 | | 17.00 | 0.077 | |
| | | 0.301 | | | 0.042 | | | 0.009 |
| 4.50 | 1.752 | | 11.00 | 0.330 | | 17.50 | 0.068 | |
| | | 0.245 | | | 0.037 | | | 0.008 |
| 5.00 | 1.507 | | 11.50 | 0.293 | | 18.00 | 0.060 | |
| | | 0.201 | | | 0.033 | | | 0.007 |
| 5.50 | 1.306 | | 12.00 | 0.260 | | 18.50 | 0.053 | |
| | | 0.170 | | | 0.030 | | | 0.006 |
| 6.00 | 1.136 | | 12.50 | 0.230 | | 19.00 | 0.047 | |
| | | 0.141 | | | 0.026 | | | 0.006 |
| 6.50 | 0.995 | | 13.00 | 0.204 | | 19.50 | 0.041 | |
| | | 0.118 | | | 0.023 | | | 0.005 |
| 7.00 | 0.877 | | 13.50 | 0.181 | | 20.00 | 0.036 | |
| | | 0.102 | | | 0.020 | | | 0.004 |
| 7.50 | 0.775 | | 14.00 | 0.161 | | 20.50 | 0.032 | |
| | | 0.091 | | | 0.018 | | | 0.004 |
| 8.00 | 0.684 | | 14.50 | 0.143 | | 21.00 | 0.028 | |
| | | 0.080 | | | 0.016 | | | |

## XXVI. DEPRESSION OF THE BAROMETRICAL COLUMN DUE TO CAPILLARY ACTION.

| Internal Diameter of Tube. | Depression according to | | | | Internal Diameter of Tube. | Depression according to | | | |
|---|---|---|---|---|---|---|---|---|---|
| | La Place. | Young. | Ivory. | Cavendish. | | La Place. | Young. | Ivory. | Cavendish. |
| Millimetres. | Millim. | Millim. | Millim. | Millim. | Millimetres. | Millim. | Millim. | Millim. | Millim. |
| 2.00 | 4.454 | 4.887 | 4.888 | 4.472 | 11.50 | 0.315 | | | |
| 2.50 | 3.568 | | | | 12.00 | 0.281 | 0.242 | 0.253 | 0.200 |
| 3.00 | 2.918 | 2.986 | 2.988 | 3.054 | 12.50 | 0.250 | | | |
| 3.50 | 2.442 | | | | 13.00 | 0.223 | 0.188 | 0.196 | 0.170 |
| 4.00 | 2.068 | 2.063 | 2.066 | 2.187 | 13.50 | 0.198 | | | |
| 4.50 | 1.774 | | | | 14.00 | 0.176 | 0.144 | 0.152 | 0.150 |
| 5.00 | 1.534 | 1.510 | 1.513 | 1.735 | 14.50 | 0.156 | | | |
| 5.50 | 1.337 | | | | 15.00 | 0.137 | 0.111 | 0.118 | 0.131 |
| 6.00 | 1.171 | 1.139 | 1.134 | 1.377 | 15.50 | 0.121 | | | |
| 6.50 | 1.030 | | | | 16.00 | 0.107 | 0.088 | 0.087 | |
| 7.00 | 0.909 | 0.869 | 0.868 | 1.073 | 16.50 | 0.094 | | | |
| 7.50 | 0.803 | | | | 17.00 | 0.083 | 0.068 | 0.071 | |
| 8.00 | 0.712 | 0.669 | 0.673 | 0.820 | 17.50 | 0.073 | | | |
| 8.50 | 0.632 | | | | 18.00 | 0.064 | 0.053 | 0.054 | |
| 9.00 | 0.562 | 0.517 | 0.521 | 0.608 | 18.50 | 0.056 | | | |
| 9.50 | 0.500 | | | | 19.00 | 0.049 | 0.041 | 0.042 | |
| 10.00 | 0.445 | 0.402 | 0.406 | 0.406 | 19.50 | 0.043 | | | |
| 10.50 | 0.397 | | | | 20.00 | 0.038 | 0.031 | 0.031 | |
| 11.00 | 0.354 | 0.311 | 0.316 | 0.270 | 20.50 | 0.034 | | | |
| 11.50 | 0.315 | | | | 21.00 | 0.030 | 0.024 | 0.024 | |

## XXVII. DEPRESSION OF THE BAROMETRICAL COLUMN DUE TO CAPILLARY ACTION, REDUCED INTO ENGLISH INCHES FROM DELCROS'S TABLE.

| Internal Diameter of Tube. | Height of Meniscus in Thousandths of an English Inch. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
| Eng. In. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. |
| 0.10 | 0.040 | 0.076 | 0.109 | 0.136 | 0.155 | | | | | | | | | |
| 0.12 | .027 | .053 | .076 | .097 | .114 | | | | | | | | | |
| 0.14 | .019 | .038 | .056 | .071 | .085 | 0.097 | | | | | | | | |
| 0.16 | .015 | .029 | .042 | .055 | .066 | .076 | 0.084 | | | | | | | |
| 0.18 | .011 | .022 | .033 | .043 | .052 | .060 | .067 | 0.073 | | | | | | |
| 0.20 | .009 | .018 | .026 | .034 | .042 | .049 | .055 | .060 | 0.064 | | | | | |
| 0.22 | .007 | .014 | .021 | .028 | .034 | .040 | .045 | .049 | .053 | 0.057 | | | | |
| 0.24 | .006 | .012 | .017 | .023 | .028 | .033 | .037 | .041 | .045 | .048 | 0.050 | | | |
| 0.26 | .005 | .010 | .014 | .019 | .023 | .027 | .031 | .035 | .038 | .040 | .043 | 0.045 | | |
| 0.28 | .004 | .008 | .012 | .016 | .019 | .023 | .026 | .029 | .032 | .034 | .036 | .038 | | |
| 0.30 | .003 | .007 | .010 | .013 | .016 | .019 | .022 | .025 | .027 | .029 | .031 | .033 | 0.034 | |
| 0.32 | .003 | .006 | .009 | .011 | .014 | .016 | .019 | .021 | .023 | .025 | .027 | .028 | .030 | |
| 0.34 | .002 | .005 | .007 | .010 | .012 | .014 | .016 | .018 | .020 | .022 | .023 | .024 | .026 | |
| 0.36 | .002 | .004 | .006 | .008 | .010 | .012 | .014 | .016 | .017 | .019 | .020 | .021 | .022 | |
| 0.38 | .002 | .004 | .005 | .007 | .009 | .010 | .012 | .013 | .015 | .016 | .017 | .018 | .019 | |
| 0.40 | .002 | .003 | .005 | .006 | .008 | .009 | .010 | .012 | .013 | .014 | .015 | .016 | .017 | |
| 0.42 | .001 | .003 | .004 | .005 | .007 | .008 | .009 | .010 | .011 | .012 | .013 | .014 | .015 | 0.015 |
| 0.44 | .001 | .002 | .004 | .005 | .006 | .007 | .008 | .009 | .010 | .011 | .011 | .012 | .013 | .013 |
| 0.46 | .001 | .002 | .003 | .004 | .005 | .006 | .007 | .008 | .008 | .009 | .010 | .011 | .011 | .012 |
| 0.48 | .001 | .002 | .003 | .004 | .004 | .005 | .006 | .007 | .007 | .008 | .009 | .009 | .010 | .010 |
| 0.50 | .001 | .002 | .002 | .003 | .004 | .004 | .005 | .006 | .006 | .007 | .008 | .008 | .008 | .009 |
| 0.52 | .001 | .001 | .002 | .003 | .003 | .004 | .005 | .005 | .006 | .006 | .007 | .007 | .007 | .008 |
| 0.54 | .001 | .001 | .002 | .002 | .003 | .003 | .004 | .004 | .005 | .005 | .006 | .006 | .006 | .007 |
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |

## XXVIII. DEPRESSION OF THE BAROMETRICAL COLUMN DUE TO CAPILLARY ACTION, EXPRESSED IN ENGLISH INCHES. — BAILY.

| Diameter of Tube. | Depression according to | | | Diameter of Tube. | Depression according to | | |
|---|---|---|---|---|---|---|---|
| | Ivory. | Young. | La Place. | | Ivory. | Young. | La Place. |
| Eng. Inch. | Eng. Inch. | Eng. Inch. | Eng. Inch. | Eng. Inch. | Eng. Inch. | Eng. Inch. | Eng. Inch. |
| 0.05 | 0.2949 | 0.2964 | 0. . . . | 0.35 | 0.0212 | 0.0196 | 0.0216 |
| 0.10 | .1404 | .1424 | .1394 | 0.40 | .0154 | .0139 | .0159 |
| 0.15 | .0865 | .0880 | .0854 | 0.45 | .0112 | .0100 | .0117 |
| 0.20 | .0583 | .0589 | .0580 | 0.50 | .0082 | .0074 | .0087 |
| 0.25 | .0409 | .0404 | .0412 | 0.60 | .0043 | .0045 | .0046 |
| 0.30 | .0293 | .0280 | .0296 | 0.70 | .0023 | . . . . | .0024 |
| 0.35 | 0.0212 | 0.0196 | 0.0216 | 0.80 | 0.0012 | 0. . . . | 0.0013 |

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# METEOROLOGICAL TABLES

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# BAROMETRICAL

# MEASUREMENT OF HEIGHTS,

OR

# TABLES

FOR COMPUTING DIFFERENCES OF ELEVATION FROM BAROMETRICAL OBSERVATIONS.

# HYPSOMETRICAL TABLES

FOR

## COMPUTING DIFFERENCES OF ELEVATION FROM BAROMETRICAL OBSERVATIONS.

---

Numerous determinations of altitude are one of the great desiderata of physical ience, and no more ready means for obtaining them is at the disposal of the scientific man than the Barometer. A traveller, furnished with the improved and convenient instruments we can now command, and with some experience in using them, an take a large number of barometric observations for determining heights, at the ost of little trouble or time. It is, however, quite otherwise with the computations y which the results are obtained. The prospect of that tedious and time-robbing bor not only too often cools the zeal of the observer, but a vast amount of data ctually collected remain of no avail from the want of having been computed.

The object of this much enlarged set of Hypsometrical Tables is to facilitate the sk of the computer. It contains practical tables adapted to the three usual barometrical scales, and, among them, No. I., II., and V. are so disposed as to dispense ith the use of logarithms, and to reduce the computation to the simplest arithmetical operations. The others suppose the use of logarithms, a method which may still e preferred by some observers.

As these various tables represent the development of the principal formulæ which ave been proposed, the computer is enabled to compare the results obtained by ach of them, and to select that which he most approves.

These formulæ may be referred to two classes, the respective types of which are aplace's and Bessel's formulæ.

Laplace, in the *Mécanique Céleste*, Tom. IV. p. 292, gave a complete solution of e problem, and proposed a formula which soon superseded the older and less accute formulæ of De Luc, Shuckburgh, and others. The coefficients which enter in it ere derived from the best determinations of the needed physical constants which ience could then furnish, the most important of which are the relative weight of e air and of the mercury, and the rate of expansion of air by heat. The first was sumed to be $\frac{1}{10467}$, according to the experiments of Biot and Arago; and the barometrical coefficient deduced from it, 18317 metres. This coefficient was, however, empirically increased to 18336 metres, in order to adjust the results of the rmula to those furnished by the careful trigonometrical measurements made by amond for the purpose of testing its correctness. It becomes 18393 metres when cluding the correction due to the effect of the decrease of gravity with the height the density of the mercurial column and of the air. The coefficient expressing e expansion of the air by heat, as determined by Gay-Lussac, viz. 0.00375 of its ılk for one Centigrade degree, was adopted, but Laplace increased it to 0.004, in der to take into the account the effect of the greater expansive power of the vapors ntained in the atmosphere.

These values have been retained in the different formulæ proposed later by Gauss in Schumacher's *Jahrbuch* for 1840, by Schmidt, *Mathem. und Physische Geographie* II. p. 205, and by Baily, *Astronomical Tables*, p. 183, which, therefore, only change the form without changing the results. D'Aubuisson, in his formula and tables, *Traité de Géognosie*, p. 488, only reduced the barometrical coefficient to its theoretical value, which he determined to be 18365 metres, leaving unchanged the other coefficients of Laplace's formula.

Bessel first introduced, in his formula, *Astronomische Nachrichten*, No. 356, a separate correction for the effect of moisture. The correction for the temperature of the air is computed in his tables for two values of the coefficient, that of Gay-Lussac 0.00375, and that of Rudberg, 0.00365. Laplace's barometrical coefficient is retained, but the correction for the decrease of gravity is considerably modified.

In Elie Ritter's formula, in the *Mémoires de la Societé de Physique de Genève* Tom. XIII. p. 343, the corrections for temperature and moisture are also separated but other values of the barometrical and thermometrical coefficients, derived from Regnault's determinations, are used, and a new method is proposed for applying the correction due to the expansion of air, which is made proportional to the square of the difference between the observed temperatures at each station.

Baeyer's formula, recently published in Poggendorf's *Annalen der Physik und Chemie*, Tom. XCVIII. p. 371, does not belong to either of the two classes just mentioned; for while it keeps Laplace's barometrical and thermometrical coefficients, it corrects the effect of temperature by a method analogous to that of Ritter, and it entirely neglects the effect of aqueous vapor.

In the following set the tables of Delcros, Guyot, and Loomis develop the formulæ of Laplace. The much larger tables of Delcros render unnecessary those of Oltmanns, which are yearly reprinted in the *Annuaire du Bureau des Longitudes*. Instead of Gauss's tables will be found the tables of Dippe, which are computed from the same formula, but are more extended. Baily's tables close the first series. The tables of Plantamour, computed from Bessel's formula, are given here in preference to Bessel's tables, because Plantamour substituted for Laplace's barometrical coefficient that derived from the probably more accurate determination of the relative weight of the air and mercury by Regnault, viz. 18404.8 metres. E. Ritter's tables, computed from his own formula, give perhaps, in extreme cases, better results; but as, in ordinary circumstances, the altitudes obtained do not much differ from those furnished by the less complicated tables of Plantamour, they were not reprinted here.

The miscellaneous tables which follow furnish useful materials for solving several questions connected with the barometrical measurements.

Regnault's table of Barometric Pressures corresponding to Temperatures of the Boiling Point of Water, revised by Moritz, and its reduction to English measures, will be found a valuable addition for thermometrical measurements of heights.

The Appendix to the Hypsometrical Tables now offers, in a new form, a complete series of tables for the comparison of the different measures of length generally used for indicating altitudes, the convenience of which will be fully appreciated by those who have attempted to collect and to use the abundant contributions furnished by all civilized nations to that branch of geographical science.

# I.

# TABLES

FOR

# DETERMINING DIFFERENCES OF LEVEL BY MEANS OF BAROMETRICAL OBSERVATIONS,

## COMPUTED FROM THE COMPLETE FORMULA OF LAPLACE,

By M. T. Delcros.

---

*Construction of the Tables.*

If we take $z$ = difference of level of the two barometers,
$a$ = earth's mean radius = 6366200 metres,
L = mean latitude between the two stations,

and further: —

At Station. — Lower. — $h$ = observed height of the barometer,
T = temperature of the barometer,
$t$ = temperature of the air,

At Station. — Upper. — $h'$ = observed height of the barometer,
T′ = temperature of the barometer,
$t'$ = temperature of the air,

and if we make finally $H = h + h' . \left(\frac{T - T'}{6196}\right)$,

we shall have, according to Laplace, the following general and complete equation: —

$$z = 18336 \text{ metres} \times \left\{ \begin{array}{l} \left(1 + \frac{2.(t+t')}{1000}\right) \\ (1 + 0.0028371 \cos. 2. L) \\ \left((1 + \frac{z}{a}). \text{ Log. } \left(\frac{h}{H}\right) + \frac{z}{a} 0.868589\right) \end{array} \right\}$$

after the proper transformations this equation becomes: —

$$z = \text{Log. } \left(\frac{h}{H}\right) 18336 \text{ metres} \times \left\{ \begin{array}{l} \left(1 + \frac{2.(t+t')}{1000}\right) \\ (1 + 0.0028371 \cos. 2. L) \\ \left(1 + \frac{\left(\log. \left(\frac{h}{H}\right) + 0.868589\right) . \frac{z}{a}}{\text{Log. } \left(\frac{h}{H}\right)}\right) \end{array} \right\}$$

introducing into this expression the value in metres of $a$, the earth's mean radius, making $z = \text{Log.}\left(\frac{h}{H}\right)$ 18336 and $\text{Log.}\left(\frac{h}{H}\right) = \left(\frac{z}{18336}\right)$, which can be done without sensible error, the above formula takes the following form, sufficiently accurate for practical purposes : —

$$z = \text{Log.}\left(\frac{h}{H}\right).\ 18336 \text{ metres} \times \left\{ \begin{array}{l} \left(1 + \frac{2\,(t+t')}{1000}\right) \\ (1 + 0.0028371\ \cos.\ 2.\ \text{L}) \\ \left(1 + \frac{z + 15926}{6366200}\right) \end{array} \right\}$$

the four factors of which can easily be developed in tables, as has been done by Mr. Oltmanns. But though this *savant* chose to develop also the second factor, I found it better not to do so, partly because the calculation of it is very easy, and also on account of the great extent it would have been necessary to give to this table, in order to avoid troublesome interpolations.

In the calculation of $h'.\left(\frac{T-T'}{6196}\right)$, Mr. Oltmanns used the constant coefficient of the absolute expansion of the mercurial column ; I took that of the relative expansion of the mercury and of the brass scale. It is obvious, therefore, that if the scale of the barometer employed was of wood, glass, iron, or of another substance, it would be necessary to make use of as many different coefficients, and the Table II. could not be used. Moreover, Oltmanns combined the last two factors of the general formula in one single table with double entry. This table I have calculated, extending it sufficiently to avoid a double interpolation ; but as it seemed to me much too extensive, I substituted for it Tables III. and IV., which are more condensed, without rendering any troublesome interpolation necessary.

I carried the calculation of these tables beyond the limits at which Oltmanns chose to stop, in order that they may answer for the most extreme cases.

At the head of each table will be found the factor of which it is the development; this makes any other explanation superfluous.

All these tables give, at sight, the numbers wanted ; only when very great precision is desired, a slight interpolation, at sight, and very easy to apply, may be required. My principal object was to relieve the computer of the troublesome and annoying labor of interpolations.

I added to these four tables the small Table V., taken from the *Annuaire du Bureau des Longitudes* of Paris. It will be seldom used.

When calculating differences of level, in the same order, with the tables, and by the complete formula of Laplace, the results thus obtained never differ by more than one decimetre in the most extreme cases. The following example will illustrate this statement. I take the observation made in a balloon, by Gay-Lussac, at Paris, as an extreme case, which is very well adapted to manifest the errors of the tables, if there were any, by comparing the results obtained by means of them with those of the direct calculation according to the complete formula of Laplace, from which they are derived.

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*Example of Calculation by the complete Formula of Laplace and by the Tables*
*Height of the Balloon of Gay-Lussac.*

The observation gave: —

| | | | |
|---|---|---|---|
| Balloon | $h' = 328.80$ mm. | $T' = -\ 9.5$ ° | $t' = -\ 9.5$ ° |
| Paris | $h = 765.68$ | $T = +\ 30.8$ | $t = +\ 30.8$ |

$T - T' = +\ 40.3$ $(t + t') = +\ 21.3$ et $2\,(t + t') = 42°.6$

With these data the formula of Laplace gives the following calculation: —

| | | |
|---|---|---|
| Log. $h'$. | $= 328.80$ | $= 2.5169318$ |
| Log. $(T - T')$ | $= +\ 40.3$ | $= 1.6053050$ |
| Log. dilat. coefficient | $= 0.0001614$ | $= 6.2079035$ |
| Corr. $a$ | $= +$ Milli. $2.14$ | log. $= 0.3301403$ |
| $h' =$ | $328.80$ | |
| $H =$ | $330.94$ | log. $= 2.5197480$ |
| | | log. $h = 765.68$ $= 2.8840473$ |
| $(\text{Log. } h - \text{Log. H}) =$ Difference of Log. | | $= 0.3642993$ |
| Log. of $(\text{Log. } h - \text{log. H}) =$ | | $9.5614583$ |
| Log. general coefficient $= 18336 =$ | | $4.2633046$ |
| Log. $\left(\left(\frac{h}{H}\right) 18336\right) = (A + a) =$ | | $3.8247629$ |
| Corresponding number $= 6679.79 = (A + a)$ | | |
| Log. cos. $2\ L = 97°\ 40'$ | $= -$ | $9.1251872$ |
| Log. constant $= 0.0028371$ | $= +$ | $7.4528746$ |
| Log. $(A + a) = 6679.79$. | $= +$ | $3.8247629$ |
| Log. $\left((0.0028371.\ \text{Cos. } 2\ L) \times (A + a)\right)$ | $= -$ | $0.4028247$ |
| Corresponding number | $= -$ Milli. $2.53$ | |
| | $6679.79$ | |
| $(A + a + \beta) =$ | $6677.26$ | |
| Corr. temp. air $= v =$ | $284.45$ | $=$ Metres. $(6.677 \times 42.6)$ |
| $(A + a + \beta + v) =$ | $6961.71$ | |
| Constant $=$ | $+\ 15926$ | |
| | $22887.71$ | ... Log. ... $= 4.3596022$ |
| Comp$^t$. log. $a$ $=$ | $6366200$ | ... Log. ... $= 3.1961197$ |
| $(A + a + \beta + v) =$ | $6961.71$ | ... Log. ... $= 3.8427153$ |
| $\delta = +$ | $25.03$ | Log. $= +\ 1.3984372$ |
| $(A + a + \beta + v + \delta) =$ | $6986.74$ | |
| Altitude barom. Paris $=$ | $48.70$ | |
| Altitude of balloon | $= 7035.44$ | by the formula of Laplace. |

Now let us calculate by the tables, placing side by side the corresponding results given by the formula of Laplace.

| | | | | |
|---|---|---|---|---|
| Balloon | $h' = 328.80$ Millim. | $T' = -\ 9°.5$ | $t' = -\ 9°.5$ | |
| Paris | $h = 765.68$ | $T = +\ 30.8$ | $t = +\ 30.8$ | |
| with $\left\{ \begin{matrix} h' = 328.80 \\ h = 765.68 \end{matrix} \right\}$ Table I. gives | | | $\left\{ \begin{matrix} 1478.4 \\ 8209.8 \end{matrix} \right.$ Metres. | By the formula of Laplace we found : |
| | | | $A = 6731.4$ | |
| with $(T' - T) = -\ 40°.3$, Table II. gives | | | $a = -52.0$ | |
| | | | $(A + a) = 6679.4$ | 6679.79 Metres. |
| with $L = 48°\ 50'$, Table III. gives | | | $a = -\ 2.3$ | $-\ 2.53$ |
| | | | $(A + a + \beta) = 6677.1$ | 6677.26 |
| with $2\,(t + t')$ direct calculation gives | | | $v = +\ 284.5$ | $+\ 284.45$ |
| | | | $(A + a + \beta + v) = 6961.6$ | 6961.71 |
| with 6960, Table IV. gives | | | $\delta = +\ 25.1$ | $+\ 25.03$ |
| | | | $(A + a + \beta + v + \delta) = 6986.7$ | 6986.74 |
| Altitude of barometer at Paris | | | $= +\ 48.7$ | $+\ 48.70$ |
| Therefore altitude of balloon | | | $= 7035.4$ | 7035.44 |

Two results which are sensibly identical. This ought not to astonish us; the tables being the exact development of the formula, they ought to give the same results, provided in both cases nothing has been neglected, and the four factors have been calculated in the same relative order.

DELCROS.

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*Disposition and Use of the Tables.*

The disposition of the tables is the following: —

In Table I., the first column on the left contains the height of the barometer in millimetres, corrected for the error of the instrument.

The second column headed N (number), gives in metres the first two figures of the number corresponding to each height of the barometer in the first column; the third column, headed 0.0, gives the remaining figures for the full number of millimetres; the following columns give the remaining figures for the same number of millimetres and each decimal fraction of a millimetre which may follow it. The value of the hundredths is to be found in the last column.

*Example:* — Height of Barometer = 761.00.

We look out in the first column for the number 761, and we find on the same line in the second column, 81; in the third column, headed 0.0, or full number, 61.1. The corresponding number is thus 8161.1 metres.

Height of barometer = 761.35.

The second column gives 81 ; the column headed 0.3 gives, on the same line, 64.2. The corresponding number is then 8164.2. Adding the value of five hundredths of millim., being $0^{m}.5$, as indicated in the last column, we have 8164.7 metres, corresponding to 761.35 millim.

The other four tables need no further explanation.

To calculate, by means of the tables, a difference of level from two barometrical observations, proceed in the following manner : —

1. Take the height of the barometer at the lower station, or $h$, and seek in Table I. the number corresponding to this height. Seek likewise the number corresponding to the height of the barometer at the upper station. Subtract the second from the first. The remainder is the approximate difference of level between the two stations. Then apply the following corrections.

2. Correction to be applied for the temperature of the barometers.

If $T'$ be the temperature of the attached thermometer at the upper station, and T that of the attached thermometer at the lower station, take the difference, or $T' - T$, and seek in Table II. the number corresponding to this difference.

When $T'$ is smaller than T, that is, when the temperature of the attached thermometer of the upper station is lower than that of the lower station, the correction is to be *subtracted* from the approximate height; when $T'$ is greater than T, it is to be *added*.

3. Correction for the temperature of the air.

The first correction having been applied, multiply the number obtained, or N, by the double sum of the temperatures of the air at both stations, and divide the product by 1000 ; the number thus found, or the quantity expressed by $\frac{N}{1000}$. 2 $(t + t')$ is the correction in metres which is to be *added* to the preceding number N.

4. Tables III. and IV. give two corrections ; the first due to the decrease of gravitation in latitude, which is to be *added* when the mean latitude of the places of observation is between the 45th parallel and the equator ; and to be *subtracted* when it is between the same parallel and the poles, as indicated at the head of the columns. The second correction, due to the decrease of gravitation on the vertical line, is always *additive*.

5. Table V. gives another small correction to be added in the case of the lower station being very elevated above the level of the ocean.

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## Examples of Calculation.

*Measurement of the Height of Guanaxuato. By M. de Humboldt.*

| | | | | |
|---|---|---|---|---|
| Barometer at the upper station, | $h' = 600.95$ mm. | $T' = 21.3$ | $t' = 21.3$ |
| Barometer at the level of the sea, | $h = 763.15$ | $T = 25.3$ | $t = 25.3$ |

| | | |
|---|---|---|
| Table I. gives the corresponding numbers, | $h$ = 8183.5<br>$h'$ = 6280.8 | |
| Difference, | | 1902.7 |
| Table II. gives for T′ — T, | | — 5.2 |
| Difference, | | 1897.5 = N |
| $\frac{N}{1000} \cdot 2\,(t + t') = 1.897 \times 93.2$, | | + 176.8 |
| Sum, | | 2074.3 |
| Table III. gives for mean latitude of 21°, | | + 4.3 |
| Table IV. gives for decrease of gravitation in the vertical line, | | + 6.0 |
| Hence altitude of Guanaxuato above the ocean, | | 2084.6 |

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*Measurement of the height of Mont Blanc, August* 29, 1844. *By MM. Bravais and Martins.*

Barometer at one metre below the summit, $h' = 424.05^{mm}$ T′ = — 4.2 $t'$ = — 7.6
Barometer of the Observatory of Geneva, $h$ = 729.65 T = 18.6 $t$ = 19.3

| | | |
|---|---|---|
| Table I. gives for numbers corresponding to | $h$ = 7826.0<br>$h'$ = 3504.4 | |
| Difference, | | 4321.6 |
| Table II. gives for T′ — T, | | — 29.3 |
| Difference, | | 4292.3 = N |
| $\frac{N}{1000} \cdot 2\,(t + t') = 4292 \times 23.4 =$ | | + 100.4 |
| Sum, | | 4392.7 |
| Table III. gives for the mean latitude of 46°, | | — 0.4 |
| Difference, | | 4392.3 |
| Table IV. for decrease of gravitation in the vertical line | | + 13.7 |
| Table V. for the elevation of the lower station, | | + 0.5 |
| Sum, | | 4406.5 |
| Elevation of the lower barometer above the ocean, | | 407.0 |
| Hence elevation of upper barometer above the ocean, | | 4813.5 |
| Finally, height of the summit of Mont Blanc above the ocean, | | 4814.5 |

TABLE I. — Giving A = 18336 × log. H or *h*...., argument H or *h* in Millimetres.

| Barometer *H* or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 288 | 4 | 23.4 | 26.2 | 28.9 | 31.7 | 34.4 | 37.2 | 40.0 | 42.7 | 45.5 | 48.2 | 1 \| 0.3 |
| 289 | 4 | 51.0 | 53.8 | 56.5 | 59.3 | 62.0 | 64.8 | 67.5 | 70.3 | 73.0 | 75.8 | 2 \| 0.5 |
| 290 | 4 | 78.5 | 81.3 | 84.0 | 86.7 | 89.5 | 92.2 | 95.0 | 97.7 | | | 3 \| 0.8 |
| 290 | 5 | | | | | | | | | 00.4 | 03.2 | 4 \| 1.1 |
| 291 | 5 | 05.9 | 08.7 | 11.4 | 14.1 | 16.8 | 19.6 | 22.3 | 25.0 | 27.8 | 30.5 | 5 \| 1.4 |
| 292 | 5 | 33.2 | 36.0 | 38.7 | 41.4 | 44.1 | 46.8 | 49.6 | 52.3 | 55.0 | 57.7 | 6 \| 1.6 |
| 293 | 5 | 60.5 | 63.2 | 65.9 | 68.6 | 71.3 | 74.0 | 76.7 | 79.5 | 82.2 | 84.9 | 7 \| 1.9 |
| 294 | 5 | 87.6 | 90.3 | 93.0 | 95.7 | 98.4 | | | | | | 8 \| 2.2 |
| 294 | 6 | | | | | | 01.1 | 03.8 | 06.5 | 09.2 | 11.9 | 9 \| 2.4 |
| 295 | 6 | 14.6 | 17.3 | 20.0 | 22.7 | 25.4 | 28.1 | 30.8 | 33.5 | 36.2 | 38.9 | |
| 296 | 6 | 41.6 | 44.3 | 47.0 | 49.6 | 52.3 | 55.0 | 57.7 | 60.4 | 63.1 | 65.8 | |
| 297 | 6 | 68.4 | 71.1 | 73.8 | 76.5 | 79.1 | 81.8 | 84.5 | 87.2 | 89.9 | 92.5 | |
| 298 | 6 | 95.2 | 97.9 | | | | | | | | | |
| 298 | 7 | | | 00.5 | 03.2 | 05.9 | 08.6 | 11.2 | 13.9 | 16.6 | 19.2 | |
| 299 | 7 | 21.9 | 24.5 | 27.2 | 29.9 | 32.5 | 35.2 | 37.8 | 40.5 | 43.2 | 45.8 | |
| 300 | 7 | 48.5 | 51.1 | 53.8 | 56.4 | 59.1 | 61.7 | 64.4 | 67.0 | 69.7 | 72.3 | |
| 301 | 7 | 75.0 | 77.6 | 80.3 | 82.9 | 85.5 | 88.2 | 90.8 | 93.5 | 96.1 | 98.7 | |
| 302 | 8 | 01.4 | 04.0 | 06.6 | 09.3 | 11.9 | 14.5 | 17.2 | 19.8 | 22.4 | 25.1 | |
| 303 | 8 | 27.7 | 30.3 | 33.0 | 35.6 | 38.2 | 40.8 | 43.5 | 46.1 | 48.6 | 51.3 | |
| 304 | 8 | 54.0 | 56.6 | 59.2 | 61.8 | 64.4 | 67.0 | 69.6 | 72.3 | 74.9 | 77.5 | |
| 305 | 8 | 80.1 | 82.7 | 85.3 | 87.9 | 90.5 | 93.1 | 95.7 | 98.3 | | | |
| 305 | 9 | | | | | | | | | 01.0 | 03.6 | |
| 306 | 9 | 06.2 | 08.8 | 11.4 | 14.0 | 16.6 | 19.2 | 21.8 | 24.4 | 27.0 | 29.6 | 1 \| 0.3 |
| 307 | 9 | 32.1 | 34.7 | 37.3 | 39.9 | 42.5 | 45.1 | 47.7 | 50.3 | 52.9 | 55.5 | 2 \| 0.5 |
| 308 | 9 | 58.0 | 60.6 | 63.2 | 65.8 | 68.4 | 70.9 | 73.5 | 76.1 | 78.7 | 81.3 | 3 \| 0.8 |
| 309 | 9 | 83.9 | 86.4 | 89.0 | 91.6 | 94.1 | 96.7 | 99.3 | | | | 4 \| 1.0 |
| 309 | 10 | | | | | | | | 01.9 | 04.4 | 07.0 | 5 \| 1.3 |
| 310 | 10 | 09.6 | 12.1 | 14.7 | 17.3 | 19.8 | 22.4 | 25.0 | 27.5 | 30.1 | 32.7 | 6 \| 1.5 |
| 311 | 10 | 35.2 | 37.8 | 40.3 | 42.9 | 45.5 | 48.0 | 50.6 | 53.1 | 55.7 | 58.2 | 7 \| 1.8 |
| 312 | 10 | 60.8 | 63.3 | 65.9 | 68.4 | 71.0 | 73.5 | 76.1 | 78.6 | 81.2 | 83.7 | 8 \| 2.1 |
| 313 | 10 | 86.3 | 88.8 | 91.4 | 93.9 | 96.4 | 99.0 | | | | | 9 \| 2.3 |
| 313 | 11 | | | | | | | 01.5 | 04.1 | 06.6 | 09.1 | |
| 314 | 11 | 11.7 | 14.2 | 16.7 | 19.3 | 21.8 | 24.3 | 26.9 | 29.4 | 31.9 | 34.5 | |
| 315 | 11 | 37.0 | 39.5 | 42.0 | 44.6 | 47.1 | 49.6 | 52.1 | 54.7 | 57.2 | 59.7 | |
| 316 | 11 | 62.2 | 64.8 | 67.3 | 69.8 | 72.3 | 74.8 | 77.3 | 79.9 | 82.4 | 84.9 | |
| 317 | 11 | 87.4 | 89.9 | 92.4 | 94.9 | 97.4 | 99.9 | | | | | |
| 317 | 12 | | | | | | | 02.4 | 05.0 | 07.5 | 10.0 | |
| 318 | 12 | 12.5 | 15.0 | 17.5 | 20.0 | 22.5 | 25.0 | 27.5 | 30.0 | 32.5 | 35.0 | |
| 319 | 12 | 37.5 | 40.0 | 42.5 | 45.0 | 47.5 | 50.0 | 52.4 | 54.9 | 57.4 | 59.9 | |
| 320 | 12 | 62.4 | 64.9 | 67.4 | 69.9 | 72.3 | 74.8 | 77.3 | 79.8 | 82.3 | 84.8 | |
| 321 | 12 | 87.2 | 89.7 | 92.2 | 94.7 | 92.1 | 99.6 | | | | | |
| 321 | 13 | | | | | | | 02.1 | 04.6 | 07.1 | 09.5 | |
| 322 | 13 | 12.0 | 14.5 | 17.0 | 19.4 | 21.9 | 24.4 | 26.8 | 29.3 | 31.8 | 34.2 | |
| 323 | 13 | 36.7 | 39.2 | 41.6 | 44.1 | 46.6 | 49.0 | 51.5 | 53.9 | 56.4 | 58.9 | |
| 324 | 13 | 61.3 | 63.8 | 66.2 | 68.7 | 71.1 | 73.6 | 76.1 | 78.5 | 81.0 | 83.4 | |
| 325 | 13 | 85.9 | 88.3 | 90.8 | 93.2 | 95.7 | 98.1 | | | | | |
| 325 | 14 | | | | | | | 00.5 | 03.0 | 05.4 | 07.9 | |
| Barometer *H* or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 326 to 364$^{mm}$.

| Barometer *H* or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 326 | 14 | 10.3 | 12.8 | 15.2 | 17.6 | 20.1 | 22.5 | 25.0 | 27.4 | 29.8 | 32.3 | 1 \| 0.2 |
| 327 | 14 | 34.7 | 37.2 | 39.6 | 42.0 | 44.5 | 46.9 | 49.3 | 51.7 | 54.2 | 56.6 | 2 \| 0.5 |
| 328 | 14 | 59.0 | 61.5 | 63.9 | 66.3 | 68.7 | 71.2 | 73.6 | 76.0 | 78.4 | 80.9 | 3 \| 0.7 |
| 329 | 14 | 83.3 | 85.7 | 88.1 | 90.5 | 92.9 | 95.4 | 97.8 | | | | 4 \| 1.0 |
| 329 | 15 | | | | | | | | 00.2 | 02.6 | 05.0 | 5 \| 1.2 |
| 330 | 15 | 07.4 | 09.9 | 12.3 | 14.7 | 17.1 | 19.5 | 21.9 | 24.3 | 26.7 | 29.1 | 6 \| 1.5 |
| 331 | 15 | 31.5 | 33.9 | 36.3 | 38.7 | 41.2 | 43.6 | 46.0 | 48.4 | 50.8 | 53.2 | 7 \| 1.7 |
| 332 | 15 | 55.6 | 58.0 | 60.4 | 62.8 | 65.1 | 67.5 | 69.9 | 72.3 | 74.7 | 77.1 | 8 \| 2.0 |
| 333 | 15 | 79.5 | 81.9 | 84.3 | 86.7 | 89.1 | 91.4 | 93.8 | 96.2 | 98.6 | | 9 \| 2.2 |
| 333 | 16 | | | | | | | | | | 01.0 | |
| 334 | 16 | 03.4 | 05.8 | 08.1 | 10.5 | 12.9 | 15.3 | 17.7 | 20.0 | 22.4 | 24.8 | |
| 335 | 16 | 27.2 | 29.6 | 31.9 | 34.3 | 36.7 | 39.1 | 41.4 | 43.8 | 46.2 | 48.8 | |
| 336 | 16 | 50.9 | 53.3 | 55.7 | 58.0 | 60.4 | 62.8 | 65.1 | 67.5 | 69.9 | 72.2 | 1 \| 0.2 |
| 337 | 16 | 74.6 | 77.0 | 79.3 | 81.7 | 84.0 | 86.4 | 88.8 | 91.1 | 93.5 | 95.8 | 2 \| 0.4 |
| 338 | 16 | 98.2 | | | | | | | | | | 3 \| 0.7 |
| 338 | 17 | | 00.5 | 02.9 | 05.2 | 07.6 | 10.0 | 12.3 | 14.7 | 17.0 | 19.4 | 4 \| 1.0 |
| 339 | 17 | 21.7 | 24.1 | 26.4 | 28.8 | 31.1 | 33.4 | 35.8 | 38.1 | 40.5 | 42.8 | 5 \| 1.2 |
| 340 | 17 | 45.2 | 47.5 | 49.8 | 52.2 | 54.5 | 56.9 | 59.2 | 61.5 | 63.9 | 66.2 | 6 \| 1.5 |
| 341 | 17 | 68.6 | 70.9 | 73.2 | 75.6 | 77.9 | 80.2 | 82.6 | 84.9 | 87.2 | 89.5 | 7 \| 1.7 |
| 342 | 17 | 91.9 | 94.2 | 96.5 | 98.9 | | | | | | | 8 \| 1.9 |
| 342 | 18 | | | | | 01.2 | 03.5 | 05.8 | 08.2 | 10.5 | 12.8 | 9 \| 2.2 |
| 343 | 18 | 15.1 | 17.4 | 19.8 | 22.1 | 24.4 | 26.7 | 29.0 | 31.4 | 33.7 | 36.0 | |
| 344 | 18 | 38.3 | 40.6 | 42.9 | 45.2 | 47.6 | 49.9 | 52.2 | 54.5 | 56.8 | 59.1 | |
| 345 | 18 | 61.4 | 63.7 | 66.0 | 68.3 | 70.6 | 73.0 | 75.3 | 77.6 | 79.9 | 82.2 | |
| 346 | 18 | 84.5 | 86.8 | 89.1 | 91.4 | 93.7 | 96.0 | 98.3 | | | | |
| 346 | 19 | | | | | | | | 00.6 | 02.9 | 05.2 | |
| 347 | 19 | 07.5 | 09.6 | 12.0 | 14.3 | 16.6 | 18.9 | 21.2 | 23.5 | 25.8 | 28.1 | |
| 348 | 19 | 30.4 | 32.7 | 34.9 | 37.2 | 39.5 | 41.8 | 44.1 | 46.4 | 48.6 | 50.9 | |
| 349 | 19 | 53.2 | 55.5 | 57.8 | 60.1 | 62.3 | 64.6 | 66.9 | 69.2 | 71.5 | 73.7 | |
| 350 | 19 | 76.0 | 78.3 | 80.6 | 82.8 | 85.1 | 87.4 | 89.6 | 91.9 | 94.2 | 96.5 | 1 \| 0.2 |
| 351 | 19 | 98.7 | | | | | | | | | | 2 \| 0.4 |
| 351 | 20 | | 01.0 | 03.3 | 05.5 | 07.8 | 10.1 | 12.3 | 14.6 | 16.8 | 19.1 | 3 \| 0·7 |
| 352 | 20 | 21.4 | 23.6 | 25.9 | 28.2 | 30.4 | 32.7 | 34.9 | 37.2 | 39.5 | 41.7 | 4 \| 0.9 |
| 353 | 20 | 44.0 | 46.2 | 48.5 | 50.7 | 53.0 | 55.2 | 57.5 | 59.7 | 62.0 | 64.2 | 5 \| 1.1 |
| 354 | 20 | 66.5 | 68.7 | 71.0 | 73.2 | 75.5 | 77.7 | 80.0 | 82.2 | 84.5 | 86.7 | 6 \| 1.3 |
| 355 | 20 | 89.0 | 91.2 | 93.4 | 95.7 | 97.9 | | | | | | 7 \| 1.6 |
| 355 | 21 | | | | | | 00.2 | 02.4 | 04.6 | 06.9 | 09.1 | 8 \| 1.8 |
| 356 | 21 | 11.4 | 13.6 | 15.8 | 18.1 | 20.3 | 22.5 | 24.8 | 27.0 | 29.2 | 31.5 | 9 \| 2.1 |
| 357 | 21 | 33.7 | 35.9 | 38.2 | 40.4 | 42.6 | 44.8 | 47.1 | 49.3 | 51.5 | 53.7 | |
| 358 | 21 | 56.0 | 58.2 | 60.4 | 62.6 | 64.9 | 67.1 | 69.3 | 71.5 | 73.7 | 76.0 | |
| 359 | 21 | 78.2 | 80.4 | 82.6 | 84.8 | 87.0 | 89.3 | 91.5 | 93.7 | 95.9 | 98.1 | |
| 360 | 22 | 00.3 | 02.5 | 04.8 | 07.0 | 09.2 | 11.4 | 13.6 | 15.8 | 18.0 | 20.2 | |
| 361 | 22 | 22.4 | 24.6 | 26.8 | 29.0 | 31.2 | 33.4 | 35.6 | 37.9 | 40.1 | 42.3 | |
| 362 | 22 | 44.5 | 46.7 | 48.9 | 51.0 | 53.2 | 55.4 | 57.6 | 59.8 | 62.0 | 64.2 | |
| 363 | 22 | 66.4 | 68.6 | 70.8 | 73.0 | 75.2 | 77.4 | 79.6 | 81.8 | 83.9 | 86.1 | |
| 364 | 22 | 88.3 | 90.5 | 92.7 | 94.9 | 97.1 | 99.3 | | | | | |
| 364 | 23 | | | | | | | 01.4 | 03.6 | 05.8 | 08.0 | |
| Barometer *H* or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 365 to 403mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 365 | 23 | 10.2 | 12.4 | 14.5 | 16.7 | 18.9 | 21.1 | 23.2 | 25.4 | 27.6 | 29.8 | 1 \| 0.2 |
| 366 | 23 | 32.0 | 34.1 | 36.3 | 38.5 | 40.7 | 42.8 | 45.0 | 47.2 | 49.3 | 51.5 | 2 \| 0.4 |
| 367 | 23 | 53.7 | 55.9 | 58.0 | 60.2 | 62.4 | 64.5 | 66.7 | 68.9 | 71.0 | 73.2 | 3 \| 0.6 |
| 368 | 23 | 75.4 | 77.5 | 79.7 | 81.8 | 84.0 | 86.2 | 88.3 | 90.5 | 92.6 | 94.8 | 4 \| 0.9 |
| 369 | 23 | 97.0 | 99.1 | | | | | | | | | 5 \| 1.1 |
| 369 | 24 | | | 01.3 | 03.4 | 05.6 | 07.7 | 09.9 | 12.1 | 14.2 | 16.4 | 6 \| 1.3 |
| 370 | 24 | 18.5 | 20.6 | 22.8 | 24.9 | 27.1 | 29.2 | 31.4 | 33.5 | 35.7 | 37.8 | 7 \| 1.5 |
| 371 | 24 | 40.0 | 42.1 | 44.3 | 46.4 | 48.6 | 50.7 | 52.9 | 55.0 | 57.2 | 59.3 | 8 \| 1.7 |
| 372 | 24 | 61.5 | 63.6 | 65.8 | 67.9 | 70.1 | 72.2 | 74.3 | 76.5 | 78.6 | 80.8 | 9 \| 1.9 |
| 373 | 24 | 82.9 | 85.0 | 87.2 | 89.3 | 91.4 | 93.6 | 95.7 | 97.8 | 99.9 | | |
| 373 | 25 | | | | | | | | | | 02.1 | |
| 374 | 25 | 04.2 | 06.3 | 08.4 | 10.6 | 12.7 | 14.8 | 16.9 | 19.0 | 21.2 | 23.3 | |
| 375 | 25 | 25.4 | 27.5 | 29.6 | 31.8 | 33.9 | 36.0 | 38.1 | 40.2 | 42.4 | 44.5 | |
| 376 | 25 | 46.6 | 48.7 | 50.8 | 53.0 | 55.1 | 57.2 | 59.3 | 61.4 | 63.6 | 65.7 | |
| 377 | 25 | 67.8 | 69.9 | 72.0 | 74.1 | 76.2 | 78.3 | 80.5 | 82.6 | 84.7 | 86.8 | |
| 378 | 25 | 88.9 | 91.0 | 93.1 | 95.2 | 97.3 | 99.4 | | | | | |
| 378 | 26 | | | | | | | 01.5 | 03.6 | 05.7 | 07.8 | |
| 379 | 26 | 09.9 | 12.0 | 14.1 | 16.2 | 18.3 | 20.4 | 22.5 | 24.6 | 26.7 | 28.8 | |
| 380 | 26 | 30.9 | 33.0 | 35.1 | 37.2 | 39.3 | 41.3 | 43.4 | 45.5 | 47.6 | 49.7 | |
| 381 | 26 | 51.8 | 53.9 | 56.0 | 58.1 | 60.2 | 62.2 | 64.3 | 66.4 | 68.5 | 70.6 | |
| 382 | 26 | 72.7 | 74.8 | 76.9 | 78.9 | 81.0 | 83.1 | 85.2 | 87.3 | 89.3 | 91.4 | |
| 383 | 26 | 93.5 | 95.6 | 97.7 | 99.7 | | | | | | | |
| 383 | 27 | | | | | 01.8 | 03.9 | 06.0 | 08.1 | 10.1 | 12.2 | 1 \| 0.2 |
| 384 | 27 | 14.3 | 16.4 | 18.4 | 20.5 | 22.6 | 24.6 | 26.7 | 28.8 | 30.9 | 32.9 | 2 \| 0.4 |
| 385 | 27 | 35.0 | 37.1 | 39.1 | 41.2 | 43.2 | 45.3 | 47.4 | 49.4 | 51.5 | 53.5 | 3 \| 0.6 |
| 386 | 27 | 55.6 | 57.7 | 59.7 | 61.8 | 63.8 | 65.9 | 68.0 | 70.0 | 72.1 | 74.1 | 4 \| 0.9 |
| 387 | 27 | 76.2 | 78.3 | 80.3 | 82.4 | 84.4 | 86.5 | 88.6 | 90.6 | 92.7 | 94.7 | 5 \| 1.1 |
| 388 | 27 | 96.8 | 98.8 | | | | | | | | | 6 \| 1.3 |
| 388 | 28 | | | 00.9 | 02.9 | 05.0 | 07.0 | 09.1 | 11.1 | 13.2 | 15.2 | 7 \| 1.5 |
| 389 | 28 | 17.3 | 19.3 | 21.4 | 23.4 | 25.5 | 27.5 | 29.6 | 31.6 | 33.7 | 35.7 | 8 \| 1.7 |
| 390 | 28 | 37.8 | 39.8 | 41.9 | 43.9 | 46.0 | 48.0 | 50.0 | 52.1 | 54.1 | 56.2 | 9 \| 1.9 |
| 391 | 28 | 58.2 | 60.2 | 62.3 | 64.3 | 66.3 | 68.3 | 70.4 | 72.4 | 74.4 | 76.5 | |
| 392 | 28 | 78.5 | 80.5 | 82.6 | 84.6 | 86.6 | 88.6 | 90.7 | 92.7 | 94.7 | 96.8 | |
| 393 | 28 | 98.8 | | | | | | | | | | |
| 393 | 29 | | 00.8 | 02.8 | 04.9 | 06.9 | 08.9 | 10.9 | 12.9 | 15.0 | 17.0 | |
| 394 | 29 | 19.0 | 21.0 | 23.0 | 25.1 | 27.1 | 29.1 | 31.1 | 33.1 | 35.2 | 37.2 | |
| 395 | 29 | 39.2 | 41.2 | 43.2 | 45.2 | 47.2 | 49.2 | 51.3 | 53.3 | 55.3 | 57.3 | |
| 396 | 29 | 59.3 | 61.3 | 63.3 | 65.3 | 67.3 | 69.3 | 71.4 | 73.4 | 75.4 | 77.4 | |
| 397 | 29 | 79.4 | 81.4 | 83.4 | 85.4 | 87.4 | 89.4 | 91.5 | 93.5 | 95.5 | 97.5 | |
| 398 | 29 | 99.5 | | | | | | | | | | |
| 398 | 30 | | 01.5 | 03.5 | 05.5 | 07.5 | 09.5 | 11.5 | 13.5 | 15.5 | 17.5 | |
| 399 | 30 | 19.5 | 21.5 | 23.5 | 25.5 | 27.5 | 29.4 | 31.4 | 33.4 | 35.4 | 37.4 | |
| 400 | 30 | 39.4 | 41.4 | 43.4 | 45.4 | 47.4 | 49.4 | 51.3 | 53.3 | 55.3 | 57.3 | |
| 401 | 30 | 59.3 | 61.3 | 63.3 | 65.2 | 67.2 | 69.2 | 71.2 | 73.2 | 75.1 | 77.1 | |
| 402 | 30 | 79.1 | 81.1 | 83.1 | 85.0 | 87.0 | 89.0 | 91.0 | 93.0 | 94.9 | 96.9 | |
| 403 | 30 | 98.9 | | | | | | | | | | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 403 to 442mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres | Metres. | Metres. | Metres. | Metres. | Metres. | | Metr. |
| 403 | 31 | | 00.9 | 02.8 | 04.8 | 06.8 | 08.7 | 10.7 | 12.7 | 14.7 | 16.6 | 1 | 0.2 |
| 404 | 31 | 18.6 | 20.6 | 22.5 | 24.5 | 26.5 | 28.4 | 30.4 | 32.4 | 34.4 | 36.3 | 2 | 0.4 |
| 405 | 31 | 38.3 | 40.3 | 42.2 | 44.2 | 46.1 | 48.1 | 50.1 | 52.0 | 54.0 | 55.9 | 3 | 0.6 |
| 406 | 31 | 57.9 | 59.9 | 61.8 | 63.8 | 65.7 | 67.7 | 69.7 | 71.6 | 73.6 | 75.5 | 4 | 0.8 |
| 407 | 31 | 77.5 | 79.5 | 81.4 | 83.4 | 85.3 | 87.3 | 89.3 | 91.2 | 93.2 | 95.1 | 5 | 1.0 |
| 408 | 31 | 97.1 | 99.0 | | | | | | | | | 6 | 1.2 |
| 408 | 32 | | | 01.0 | 02.9 | 04.9 | 06.8 | 08.8 | 10.7 | 12.7 | 14.6 | 7 | 1.4 |
| 409 | 32 | 16.6 | 18.5 | 20.5 | 22.4 | 24.4 | 26.3 | 28.2 | 30.2 | 32.1 | 34.1 | 8 | 1.6 |
| 410 | 32 | 36.0 | 37.9 | 39.9 | 41.8 | 43.8 | 45.7 | 47.6 | 49.6 | 51.5 | 53.5 | 9 | 1.8 |
| 411 | 32 | 55.4 | 57.3 | 59.3 | 61.2 | 63.2 | 65.1 | 67.0 | 69.0 | 70.9 | 72.9 | | |
| 412 | 32 | 74.8 | 76.7 | 78.7 | 80.6 | 82.5 | 84.4 | 86.4 | 88.3 | 90.2 | 92.2 | | |
| 413 | 32 | 94.1 | 96.0 | 97.9 | 99.9 | | | | | | | | |
| 413 | 33 | | | | | 01.8 | 03.7 | 05.6 | 07.5 | 09.5 | 11.4 | | |
| 414 | 33 | 13.3 | 15.2 | 17.1 | 19.1 | 21.0 | 22.9 | 24.8 | 26.7 | 28.7 | 30.6 | | |
| 415 | 33 | 32.5 | 34.4 | 36.3 | 38.3 | 40.2 | 42.1 | 44.0 | 45.9 | 47.9 | 49.8 | | |
| 416 | 33 | 51.7 | 53.6 | 55.5 | 57.4 | 59.3 | 61.2 | 63.2 | 65.1 | 67.0 | 68.9 | | |
| 417 | 33 | 70.8 | 72.7 | 74.6 | 76.5 | 78.4 | 80.3 | 82.3 | 84.2 | 86.1 | 88.0 | | |
| 418 | 33 | 89.9 | 91.8 | 93.7 | 95.6 | 97.5 | 99.4 | | | | | | |
| 418 | 34 | | | | | | | 01.3 | 03.2 | 05.1 | 07.0 | | |
| 419 | 34 | 08.9 | 10.8 | 12.7 | 14.6 | 16.5 | 18.4 | 20.3 | 22.2 | 24.1 | 26.0 | | |
| 420 | 34 | 27.9 | 29.8 | 31.7 | 33.6 | 35.5 | 37.3 | 39.2 | 41.1 | 43.0 | 44.9 | | |
| 421 | 34 | 46.8 | 48.7 | 50.6 | 52.5 | 54.4 | 56.2 | 58.1 | 60.0 | 61.9 | 63.8 | | |
| 422 | 34 | 65.7 | 67.6 | 69.5 | 71.4 | 73.3 | 75.1 | 77.0 | 78.9 | 80.8 | 82.7 | 1 | 0.2 |
| 423 | 34 | 84.6 | 86.5 | 88.4 | 90.2 | 92.1 | 94.0 | 95.9 | 97.8 | 99.6 | | 2 | 0.4 |
| 423 | 35 | | | | | | | | | | 01.5 | 3 | 0.6 |
| 424 | 35 | 03.4 | 05.3 | 07.2 | 09.0 | 10.9 | 12.8 | 14.7 | 16.6 | 18.4 | 20.3 | 4 | 0.8 |
| | | | | | | | | | | | | 5 | 1.0 |
| 425 | 35 | 22.2 | 24.1 | 25.9 | 27.8 | 29.6 | 31.5 | 33.4 | 35.2 | 37.1 | 38.9 | 6 | 1.2 |
| 426 | 35 | 40.8 | 42.7 | 44.5 | 46.4 | 48.3 | 50.1 | 52.0 | 53.9 | 55.8 | 57.6 | 7 | 1.4 |
| 427 | 35 | 59.5 | 61.4 | 63.2 | 65.1 | 67.0 | 68.8 | 70.7 | 72.6 | 74.5 | 76.3 | 8 | 1.6 |
| 428 | 35 | 78.2 | 80.1 | 81.9 | 83.8 | 85.6 | 87.5 | 89.4 | 91.2 | 93.1 | 94.9 | 9 | 1.8 |
| 429 | 35 | 96.8 | 98.6 | | | | | | | | | | |
| 429 | 36 | | | 00.5 | 02.3 | 04.2 | 06.0 | 07.9 | 09.7 | 11.6 | 13.4 | | |
| 430 | 36 | 15.3 | 17.1 | 19.0 | 20.8 | 22.7 | 24.6 | 26.4 | 28.2 | 30.1 | 31.9 | | |
| 431 | 36 | 33.8 | 35.6 | 37.5 | 39.3 | 41.2 | 43.0 | 44.8 | 46.7 | 48.5 | 50.4 | | |
| 432 | 36 | 52.2 | 54.0 | 55.9 | 57.7 | 59.6 | 61.4 | 63.2 | 65.1 | 66.9 | 68.8 | | |
| 433 | 36 | 70.6 | 72.4 | 74.3 | 76.1 | 78.0 | 79.8 | 81.6 | 83.5 | 85.3 | 87.2 | | |
| 434 | 36 | 89.0 | 90.8 | 92.7 | 94.5 | 96.3 | 98.1 | | | | | | |
| 434 | 37 | | | | | | | 00.0 | 01.8 | 03.6 | 05.5 | | |
| 435 | 37 | 07.3 | 09.1 | 11.0 | 12.8 | 14.6 | 16.4 | 18.3 | 20.1 | 21.9 | 23.8 | | |
| 436 | 37 | 25.6 | 27.4 | 29.2 | 31.1 | 32.9 | 34.7 | 36.5 | 38.3 | 40.2 | 42.0 | | |
| 437 | 37 | 43.8 | 45.6 | 47.5 | 49.3 | 51.1 | 52.9 | 54.8 | 56.6 | 58.4 | 60.3 | | |
| 438 | 37 | 62.1 | 63.9 | 65.7 | 67.6 | 69.4 | 71.2 | 73.0 | 74.8 | 76.7 | 78.5 | | |
| 439 | 37 | 80.3 | 82.1 | 83.9 | 85.7 | 87.5 | 89.3 | 91.2 | 93.0 | 94.8 | 96.6 | | |
| 440 | 37 | 98.4 | | | | | | | | | | | |
| 440 | 38 | | 00.2 | 02.0 | 03.8 | 05.6 | 07.5 | 09.3 | 11.1 | 12.9 | 14.7 | | |
| 441 | 38 | 16.5 | 18.3 | 20.1 | 21.9 | 23.7 | 25.5 | 27.3 | 29.1 | 30.9 | 32.7 | | |
| 442 | 38 | 34.5 | 36.3 | 38.1 | 39.9 | 41.7 | 43.5 | 45.3 | 47.1 | 48.9 | 50.7 | | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |

## 443 to 482mm.

| Barom-eter H or h. | N. | Tenth of Millimetre. | | | | | | | | | | Parts for each 0.01mm. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | | |
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | | Metr. |
| 443 | 38 | 52.5 | 54.3 | 56.1 | 57.9 | 59.7 | 61.4 | 63.2 | 65.0 | 66.8 | 68.6 | | |
| 444 | 38 | 70.4 | 72.2 | 74.0 | 75.8 | 77.6 | 79,3 | 81.1 | 82.9 | 84.7 | 86.5 | | |
| 445 | 38 | 88.3 | 90.1 | 91.9 | 93.7 | 95.5 | 97.2 | 99.0 | | | | | |
| 445 | 39 | | | | | | | | 00.8 | 02.6 | 04.4 | | |
| 446 | 39 | 06.2 | 08.0 | 09.8 | 11.5 | 13.3 | 15.1 | 16.9 | 18.7 | 20.4 | 22.2 | | |
| 447 | 39 | 24.0 | 25.8 | 27.6 | 29.3 | 31.1 | 32.9 | 34.7 | 36.5 | 38.2 | 40.0 | | |
| 448 | 39 | 41.8 | 43.6 | 45.4 | 47.1 | 48.9 | 50.7 | 52.5 | 54.3 | 56.0 | 57.8 | | |
| 449 | 39 | 59.6 | 61.4 | 63.1 | 64.9 | 66.7 | 68.4 | 70.2 | 72.0 | 73.8 | 75.5 | | |
| 450 | 39 | 77.3 | 79.1 | 80.8 | 82.6 | 84.3 | 86.1 | 87.9 | 89.6 | 91.4 | 93.1 | | |
| 451 | 39 | 94.9 | 96.7 | 98.4 | | | | | | | | | |
| 451 | 40 | | | | 00.2 | 02.0 | 03.7 | 05.5 | 07.3 | 09.1 | 10.8 | | |
| 452 | 40 | 12.6 | 14.4 | 16.1 | 17.9 | 19.6 | 21.4 | 23.2 | 24.9 | 26.7 | 28.4 | | |
| 453 | 40 | 30.2 | 32.0 | 33.7 | 35.5 | 37.2 | 39.0 | 40.8 | 42.5 | 44.3 | 46.0 | | |
| 454 | 40 | 47.8 | 49.5 | 51.3 | 53.0 | 54.8 | 56.5 | 58.3 | 60.0 | 61.8 | 63.5 | | |
| 455 | 40 | 65.3 | 67.0 | 68.8 | 70.5 | 72.3 | 74.0 | 75.8 | 77.5 | 79.3 | 81.0 | 1 | 0.2 |
| 456 | 40 | 82.8 | 84.5 | 86.3 | 88.0 | 89.8 | 91.5 | 93.2 | 95.0 | 96.7 | 98.5 | 2 | 0.3 |
| 457 | 41 | 00.2 | 01.9 | 03.7 | 05.4 | 07.2 | 08.9 | 10.6 | 12.4 | 14.1 | 15.9 | 3 | 0.5 |
| 458 | 41 | 17.6 | 19.3 | 21.1 | 22.8 | 24.6 | 26.3 | 28.0 | 29.8 | 31.5 | 33.3 | 4 | 0.7 |
| 459 | 41 | 35.0 | 36.7 | 38.5 | 40.2 | 41.9 | 43.6 | 45.4 | 47.1 | 48.8 | 50.6 | 5 | 0.9 |
| 460 | 41 | 52.3 | 54.0 | 55.8 | 57.5 | 59.2 | 60.9 | 62.7 | 64.4 | 66.1 | 67.9 | 6 | 1.0 |
| 461 | 41 | 69.6 | 71.3 | 73.1 | 74.8 | 76.5 | 78.2 | 80.0 | 81.7 | 83.4 | 85.2 | 7 | 1.2 |
| 462 | 41 | 86.9 | 88.6 | 90.3 | 92.1 | 93.8 | 95.5 | 97.2 | 98.9 | | | 8 | 1.4 |
| 462 | 42 | | | | | | | | | 00.7 | 02.3 | 9 | 1.6 |
| 463 | 42 | 04.1 | 05.8 | 07.5 | 09.3 | 11.0 | 12.7 | 14.4 | 16.1 | 17.9 | 19.6 | | |
| 464 | 42 | 21.3 | 23.0 | 24.7 | 26.4 | 28.1 | 29.8 | 31.6 | 33.3 | 35.0 | 36.7 | | |
| 465 | 42 | 38.4 | 40.1 | 41.8 | 43.5 | 45.2 | 46.9 | 48.7 | 50.4 | 52.1 | 53.8 | | |
| 466 | 42 | 55.5 | 57.2 | 58.9 | 60.6 | 62.3 | 64.0 | 65.8 | 67.5 | 69.2 | 70.9 | | |
| 467 | 42 | 72.6 | 74.3 | 76.0 | 77.7 | 79.4 | 81.1 | 82.8 | 84.5 | 86.2 | 87.9 | | |
| 468 | 42 | 89.6 | 91.3 | 93.0 | 94.7 | 96.4 | 98.1 | 99.8 | | | | | |
| 468 | 43 | | | | | | | | 01.5 | 03.2 | 04.9 | | |
| 469 | 43 | 06.6 | 08.3 | 10.0 | 11.7 | 13.4 | 15.1 | 16.8 | 18.5 | 20.2 | 21.9 | | |
| 470 | 43 | 23.6 | 25.3 | 27.0 | 28.7 | 30.4 | 32.0 | 33.7 | 35.4 | 37.1 | 38.8 | | |
| 471 | 43 | 40.5 | 42.2 | 43.9 | 45.6 | 47.3 | 48.9 | 50.6 | 52.3 | 54.0 | 55.7 | | |
| 472 | 43 | 57.4 | 59.1 | 60.8 | 62.5 | 64.2 | 65.8 | 67.5 | 69.2 | 70.9 | 72.6 | | |
| 473 | 43 | 74.3 | 76.0 | 77.7 | 79.3 | 81.0 | 82.7 | 84.4 | 86.1 | 87.7 | 89.4 | | |
| 474 | 43 | 91.1 | 92.8 | 94.5 | 96.1 | 97.8 | 99.5 | | | | | | |
| 474 | 44 | | | | | | | 01.2 | 02.9 | 04.5 | 06.2 | | |
| 475 | 44 | 07.9 | 09.6 | 11.2 | 12.9 | 14.6 | 16.2 | 17.9 | 19.6 | 21.3 | 22.9 | | |
| 476 | 44 | 24.6 | 26.3 | 27.9 | 29.6 | 31.3 | 33.9 | 35.6 | 37.3 | 39.0 | 40.6 | | |
| 477 | 44 | 41.3 | 43.0 | 44.6 | 46.3 | 48.0 | 49.6 | 51.3 | 53.0 | 54.7 | 56.3 | | |
| 478 | 44 | 58.0 | 59.7 | 61.3 | 63.0 | 64.7 | 66.3 | 68.0 | 69.7 | 71.4 | 73.0 | | |
| 479 | 44 | 74.7 | 76.4 | 78.0 | 79.7 | 81.3 | 83.0 | 84.7 | 86.3 | 88.0 | 89.6 | | |
| 480 | 44 | 91.3 | 93.0 | 94.6 | 96.3 | 97.9 | 99.6 | | | | | | |
| 480 | 45 | | | | | | | 01.3 | 02.9 | 04.6 | 06.2 | | |
| 481 | 45 | 07.9 | 09.5 | 11.2 | 12.8 | 14.5 | 16.1 | 17.7 | 19.4 | 21.0 | 22.7 | | |
| 482 | 45 | 24.3 | 25.9 | 27.6 | 29.2 | 30.9 | 32.5 | 34.2 | 35.8 | 37.5 | 39.1 | | |
| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |

## 483 to 524mm.

| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 483 | 45 | 40.8 | 42.4 | 44.1 | 45.7 | 47.4 | 49.0 | 50.7 | 52.3 | 54.0 | 55.6 | 1 0.2 |
| 484 | 45 | 57.3 | 58.9 | 60.6 | 62.2 | 63.9 | 65 5 | 67.1 | 68.8 | 70.4 | 72.1 | 2 0.3 |
| 485 | 45 | 73.7 | 75.3 | 77.0 | 78.6 | 80.3 | 81.9 | 83.6 | 85.2 | 86.9 | 88.5 | 3 0.5 |
| 486 | 45 | 90.2 | 91.8 | 93.5 | 95.1 | 96.8 | 98.4 | | | | | 4 0.6 |
| 486 | 46 | | | | | | | 00.0 | 01.7 | 03.3 | 05.0 | 5 0.8 |
| 487 | 46 | 06.6 | 08.2 | 09.9 | 11.5 | 13.1 | 14.7 | 16.4 | 18.0 | 19.6 | 21.3 | 6 1.0 |
| 488 | 46 | 22.9 | 24.5 | 26.2 | 27.8 | 29.4 | 31.0 | 32.7 | 34.3 | 35.9 | 37.6 | 7 1.1 |
| 489 | 46 | 39.2 | 40.8 | 42.4 | 44.1 | 45.7 | 47.3 | 48.9 | 50.5 | 52.2 | 53.8 | 8 1.3 |
| 490 | 46 | 55.4 | 57.0 | 58.6 | 60.3 | 61.9 | 63.5 | 65.1 | 66.7 | 68.4 | 70.0 | 9 1.4 |
| 491 | 46 | 71.6 | 73.2 | 74.9 | 76.5 | 78.1 | 79.7 | 81.4 | 83.0 | 84.6 | 86.3 | |
| 492 | 46 | 87.9 | 89.5 | 91.1 | 92.8 | 94.4 | 96.0 | 97.6 | 99.2 | | | |
| 492 | 47 | | | | | | | | | 00.9 | 02.5 | |
| 493 | 47 | 04.1 | 05.7 | 07.3 | 08.9 | 10.5 | 12.1 | 13.8 | 15.4 | 17.0 | 18.6 | |
| 494 | 47 | 20.2 | 21.8 | 23.4 | 25.0 | 26.6 | 28.2 | 29.9 | 31.5 | 33.1 | 34.7 | |
| 495 | 47 | 36.3 | 37.9 | 39.5 | 41.1 | 42.7 | 44.3 | 45.9 | 47.5 | 49.1 | 50.7 | |
| 496 | 47 | 52.3 | 53.9 | 55.5 | 57.1 | 58.7 | 60.3 | 61.9 | 63.5 | 65.1 | 66.7 | |
| 497 | 47 | 68.3 | 69.9 | 71.5 | 73.1 | 74.7 | 76.3 | 78.0 | 79.6 | 81.2 | 82.8 | |
| 498 | 47 | 84.4 | 86.0 | 87.6 | 89.2 | 90.8 | 92.4 | 94.0 | 95.6 | 97.2 | 98.8 | |
| 499 | 48 | 00.4 | 02.0 | 03.6 | 05.2 | 06.8 | 08.3 | 09.9 | 11.5 | 13.1 | 14.7 | |
| 500 | 48 | 16.3 | 17.9 | 19.5 | 21.1 | 22.7 | 24.2 | 25.8 | 27.4 | 89.0 | 30.6 | |
| 501 | 48 | 32.2 | 33.8 | 35.4 | 37.0 | 38.6 | 40.1 | 41.7 | 43.3 | 44.9 | 46.5 | |
| 502 | 48 | 48.1 | 49.7 | 51.3 | 52.9 | 54.5 | 56.0 | 57.6 | 59.2 | 60.8 | 62.4 | |
| 503 | 48 | 64.0 | 65.6 | 67.2 | 68.7 | 70.3 | 71.9 | 73.5 | 75.1 | 76.6 | 78.2 | |
| 504 | 48 | 79.8 | 81.4 | 83.0 | 84.5 | 86.1 | 87.7 | 89.3 | 90.9 | 92.4 | 94.0 | |
| 505 | 48 | 95.6 | 97.2 | 98.7 | | | | | | | | |
| 505 | 49 | | | | 00.3 | 01.9 | 03.4 | 05.0 | 06.6 | 08.2 | 09.7 | |
| 506 | 49 | 11.3 | 12.9 | 14.4 | 16.0 | 17.6 | 19.1 | 20.7 | 22.3 | 23.9 | 25.4 | |
| 507 | 49 | 27.0 | 28.6 | 30.1 | 31.7 | 33.3 | 34.8 | 36.4 | 38.0 | 39.6 | 41.1 | |
| 508 | 49 | 42.7 | 44.3 | 45.8 | 47.4 | 49.0 | 50.5 | 52.1 | 53.7 | 55.3 | 56.8 | |
| 509 | 49 | 58.4 | 60.0 | 61.5 | 63.1 | 64.6 | 66.2 | 67.8 | 69.3 | 70.9 | 72.4 | |
| 510 | 49 | 74.0 | 75.6 | 77.1 | 78.7 | 80.2 | 81.8 | 83.4 | 84.9 | 86.5 | 88.0 | |
| 511 | 49 | 89.6 | 91.2 | 92.7 | 94.3 | 95.8 | 97.4 | 99.0 | | | | |
| 511 | 50 | | | | | | | | 00.5 | 02.1 | 03.6 | |
| 512 | 50 | 05.2 | 06.7 | 08.3 | 09.8 | 11.4 | 12.9 | 14.5 | 16.0 | 17.6 | 19.1 | |
| 513 | 50 | 20.7 | 22.2 | 23.8 | 25.3 | 26.9 | 28.4 | 30.0 | 31.5 | 33.1 | 34.6 | |
| 514 | 50 | 36.2 | 37.7 | 39.3 | 40.8 | 42.4 | 43.9 | 45.5 | 46.0 | 48.6 | 50.1 | |
| 515 | 50 | 51.7 | 53.2 | 54.8 | 56.3 | 57.9 | 59.4 | 61.0 | 62.5 | 64.1 | 65.6 | |
| 516 | 50 | 67.2 | 68.7 | 70.3 | 71.8 | 73.4 | 74.9 | 76.4 | 78.0 | 79.5 | 81.1 | |
| 517 | 50 | 82.6 | 84.1 | 85.7 | 87.2 | 88.7 | 90.2 | 91.8 | 93.3 | 94.8 | 96.4 | |
| 518 | 50 | 97.9 | 99.4 | | | | | | | | | |
| 518 | 51 | | | 01.0 | 02.5 | 04.1 | 05.6 | 07.1 | 08.7 | 10.2 | 11.8 | |
| 519 | 51 | 13.3 | 14.8 | 16.4 | 17.9 | 19.4 | 20.9 | 22.5 | 24.0 | 25.5 | 27.1 | |
| 520 | 51 | 28.6 | 30.1 | 31.7 | 33.2 | 34.7 | 36.2 | 37.8 | 39.3 | 40.8 | 42.4 | |
| 521 | 51 | 43.9 | 45.4 | 47.0 | 48.5 | 50.0 | 51.5 | 53.1 | 54.6 | 56.1 | 57.7 | |
| 522 | 51 | 59.2 | 60.7 | 62.2 | 63.8 | 65.3 | 66.8 | 68.3 | 69.8 | 71.4 | 72.9 | |
| 523 | 51 | 74.4 | 75.9 | 77.5 | 79.0 | 80.5 | 82.0 | 83.6 | 85.1 | 86.6 | 88.2 | |
| 524 | 51 | 89.7 | 91.2 | 92.7 | 94.3 | 95.8 | 97.3 | 98.8 | | | | |
| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 524 to 565mm.

| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 524 | 52 | | | | | | | | 00.3 | 01.9 | 03.4 | |
| 525 | 52 | 04.9 | 06.4 | 07.9 | 09.4 | 10.9 | 12.4 | 14.0 | 15.5 | 17.0 | 18.5 | |
| 526 | 52 | 20.0 | 21.5 | 23.0 | 24.5 | 26.0 | 27.5 | 29.1 | 30.6 | 32.1 | 33.6 | |
| 527 | 52 | 35.1 | 36.6 | 38.1 | 39.6 | 41.1 | 42.6 | 44.2 | 45.7 | 47.2 | 48.7 | |
| 528 | 52 | 50.2 | 51.7 | 53.2 | 54.7 | 56.2 | 57.7 | 59.3 | 60.8 | 62.3 | 63.8 | |
| 529 | 52 | 65.3 | 66.8 | 68.3 | 69.8 | 71.3 | 72.8 | 74.3 | 75.8 | 77.3 | 78.8 | 1 \| 0.1 |
| 530 | 52 | 80.3 | 81.8 | 83.3 | 84.8 | 86.3 | 87.8 | 89.3 | 90.8 | 92.3 | 93.8 | 2 \| 0.3 |
| 531 | 52 | 95.3 | 96.8 | 98.3 | 99.8 | | | | | | | 3 \| 0.4 |
| 531 | 53 | | | | | 01.3 | 02.8 | 04.3 | 05.8 | 07.3 | 08.8 | 4 \| 0.6 |
| 532 | 53 | 10.3 | 11.8 | 13.3 | 14.8 | 16.3 | 17.8 | 19.3 | 20.8 | 22.3 | 23.8 | 5 \| 0.7 |
| 533 | 53 | 25.3 | 26.8 | 28.3 | 29.8 | 31.3 | 32.7 | 34.2 | 35.7 | 37.2 | 38.7 | 6 \| 0.9 |
| 534 | 53 | 40.2 | 41.7 | 43.2 | 44.7 | 46.2 | 47.6 | 49.1 | 50.6 | 52.1 | 53.6 | 7 \| 1.0 |
| 535 | 53 | 55.1 | 56.5 | 58.1 | 59.6 | 61.1 | 62.5 | 64.0 | 65.5 | 67.0 | 68.5 | 8 \| 1.2 |
| 536 | 53 | 70.0 | 71.5 | 73.0 | 74.4 | 75.9 | 77.4 | 78.9 | 80.4 | 81.8 | 83.3 | 9 \| 1.3 |
| 537 | 53 | 84.8 | 86.3 | 87.8 | 89.2 | 90.7 | 92.2 | 93.7 | 95.2 | 96.6 | 98.1 | |
| 538 | 53 | 99.6 | | | | | | | | | | |
| 538 | 54 | | 01.1 | 02.6 | 04.0 | 05.5 | 07.0 | 08.5 | 10.0 | 11.4 | 12.9 | |
| 539 | 54 | 14.4 | 15.9 | 17.4 | 18.8 | 20.3 | 21.8 | 23.3 | 24.8 | 26.2 | 27.7 | |
| 540 | 54 | 29.2 | 30.7 | 32.1 | 33.6 | 35.1 | 36.5 | 38.0 | 39.5 | 41.0 | 42.4 | |
| 541 | 54 | 43.9 | 45.4 | 46.8 | 48.3 | 49.8 | 51.2 | 52.7 | 54.2 | 55.7 | 57.1 | |
| 542 | 54 | 58.6 | 60.1 | 61.5 | 63.0 | 64.5 | 66.0 | 67.4 | 68.9 | 70.4 | 71.8 | |
| 543 | 54 | 73.3 | 74.8 | 76.2 | 77.7 | 79.1 | 80.6 | 82.1 | 83.5 | 85.0 | 86.4 | |
| 544 | 54 | 87.9 | 89.4 | 90.8 | 92.3 | 93.7 | 95.2 | 96.7 | 98.1 | 99.6 | | |
| 544 | 55 | | | | | | | | | | 01.0 | |
| 545 | 55 | 02.5 | 04.0 | 05.4 | 06.9 | 08.4 | 09.8 | 11.3 | 12.8 | 14.3 | 15.7 | |
| 546 | 55 | 17.2 | 18.7 | 20.1 | 21.6 | 23.0 | 24.5 | 26.0 | 27.4 | 28.9 | 30.3 | |
| 547 | 55 | 31.8 | 33.3 | 34.7 | 36.1 | 37.6 | 39.0 | 40.5 | 41.9 | 43.4 | 44.8 | |
| 548 | 55 | 46.3 | 47.7 | 49.2 | 50.6 | 52.1 | 53.5 | 55.0 | 56.4 | 57.9 | 59.3 | |
| 549 | 55 | 60.8 | 62.2 | 63.7 | 65.1 | 66.6 | 68.0 | 69.5 | 70.9 | 72.4 | 73.8 | |
| 550 | 55 | 75.3 | 76.7 | 78.2 | 79.6 | 81.1 | 82.5 | 84.0 | 85.4 | 86.9 | 88.3 | |
| 551 | 55 | 89.8 | 91.2 | 92.7 | 94.1 | 95.6 | 97.0 | 98.4 | 99.9 | | | |
| 551 | 56 | | | | | | | | | 01.3 | 02.8 | 1 \| 0.1 |
| 552 | 56 | 04.2 | 05.6 | 07.1 | 08.5 | 10.0 | 11.4 | 12.8 | 14.3 | 15.7 | 17.2 | 2 \| 0.3 |
| 553 | 56 | 18.6 | 20.0 | 21.5 | 22.9 | 24.4 | 25.8 | 27.2 | 28.7 | 30.1 | 31.6 | 3 \| 0.4 |
| 554 | 56 | 33.0 | 34.4 | 35.9 | 37.3 | 38.8 | 40.2 | 41.6 | 43.1 | 44.5 | 46.0 | 4 \| 0.6 |
| 555 | 56 | 47.4 | 48.8 | 50.3 | 51.7 | 53.1 | 54.5 | 56.0 | 57.4 | 58.8 | 60.3 | 5 \| 0.7 |
| 556 | 56 | 61.7 | 63.1 | 64.6 | 66.0 | 67.4 | 68.8 | 70.3 | 71.7 | 73.1 | 74.6 | 6 \| 0.9 |
| 557 | 56 | 76.0 | 77.4 | 78.9 | 80.3 | 81.7 | 83.1 | 84.6 | 86.0 | 87.4 | 88.9 | 7 \| 1.0 |
| 558 | 57 | 90.3 | 91.7 | 93.2 | 94.6 | 96.0 | 97.4 | 98.9 | | | | 8 \| 1.2 |
| 558 | 57 | | | | | | | | 00.3 | 01.7 | 03.2 | 9 \| 1.3 |
| 559 | 57 | 04.6 | 06.0 | 07.4 | 08.9 | 10.3 | 11.7 | 13.1 | 14.5 | 16.0 | 17.4 | |
| 560 | 57 | 18.8 | 20.2 | 21.6 | 23.1 | 24.5 | 25.9 | 27.3 | 28.7 | 30.2 | 31.6 | |
| 561 | 57 | 33.0 | 34.4 | 35.8 | 37.3 | 38.7 | 40.1 | 41.5 | 42.9 | 44.4 | 45.8 | |
| 562 | 57 | 47.2 | 48.6 | 50.0 | 51.4 | 52.8 | 54.2 | 55.7 | 57.1 | 58.5 | 59.9 | |
| 563 | 57 | 61.3 | 62.7 | 64.1 | 65.5 | 66.9 | 68.3 | 69.8 | 71.2 | 72.6 | 74.0 | |
| 564 | 57 | 75.4 | 76.8 | 78.2 | 79.6 | 81.0 | 82.4 | 83.9 | 85.3 | 86.7 | 88.1 | |
| 565 | 57 | 89.5 | 90.9 | 92.4 | 93.8 | 95.2 | 96.6 | 98.0 | 99.4 | | | |
| Barom-eter H or h | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 565 to 605mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 565 | 58 | | | | | | | | | 00.8 | 02.2 | |
| 566 | 58 | 03.6 | 05.0 | 06.4 | 07.8 | 09.2 | 10.6 | 12.1 | 13.5 | 14.9 | 16.3 | |
| 567 | 58 | 17.7 | 19.1 | 20.5 | 21.9 | 23.3 | 24.7 | 26.1 | 27.5 | 28.9 | 30.3 | |
| 568 | 58 | 31.7 | 33.1 | 34.5 | 35.9 | 37.3 | 38.7 | 40.1 | 41.5 | 42.9 | 44.3 | |
| 569 | 58 | 45.7 | 47.1 | 48.5 | 49.9 | 51.3 | 52.7 | 54.1 | 55.5 | 56.9 | 58.3 | |
| 570 | 58 | 59.7 | 61.1 | 62.5 | 63.9 | 65.3 | 66.7 | 68.1 | 69.5 | 70.9 | 72.3 | |
| 571 | 58 | 73.7 | 75.1 | 76.5 | 77.9 | 79.3 | 80.6 | 82.0 | 83.4 | 84.8 | 86.2 | |
| 572 | 58 | 87.6 | 89.0 | 90.4 | 91.8 | 93.2 | 94.5 | 95.9 | 97.3 | 98.7 | | |
| 572 | 59 | | | | | | | | | | 00.1 | |
| 573 | 59 | 01.5 | 02.9 | 04.3 | 05.7 | 07.1 | 08.4 | 09.8 | 11.2 | 12.6 | 14.0 | |
| 574 | 59 | 15.4 | 16.8 | 18.2 | 19.6 | 21.0 | 22.3 | 23.7 | 25.1 | 26.5 | 27.9 | |
| 575 | 59 | 29.3 | 30.7 | 32.1 | 33.4 | 34.8 | 36.2 | 37.6 | 39.0 | 40.3 | 41.7 | |
| 576 | 59 | 43.1 | 44.5 | 45.9 | 47.2 | 48.6 | 50.0 | 51.4 | 52.8 | 54.1 | 55.5 | 1 \| 0.1 |
| 577 | 59 | 56.9 | 58.3 | 59.7 | 61.0 | 62.4 | 63.8 | 65.2 | 66.6 | 67.9 | 69.3 | 2 \| 0.3 |
| 578 | 59 | 70.7 | 72.1 | 73.5 | 74.8 | 76.2 | 77.6 | 79.0 | 80.4 | 81.7 | 83.1 | 3 \| 0.4 |
| 579 | 59 | 84.5 | 85.9 | 87.2 | 88.6 | 90.0 | 91.3 | 92.7 | 94.1 | 95.5 | 96.8 | 4 \| 0.5 |
| 580 | 59 | 98.2 | 99.6 | | | | | | | | | 5 \| 0.7 |
| 580 | 60 | | | 00.9 | 02.3 | 03.7 | 05.0 | 06.4 | 07.8 | 09.2 | 10.5 | 6 \| 0.8 |
| 581 | 60 | 11.9 | 13.3 | 14.6 | 16.0 | 17.4 | 18.7 | 20.1 | 21.5 | 22.9 | 24.2 | 7 \| 1.0 |
| 582 | 60 | 25.6 | 27.0 | 28.3 | 29.7 | 31.1 | 32.4 | 33.8 | 35.2 | 36.6 | 37.9 | 8 \| 1.1 |
| 583 | 60 | 39.3 | 40.7 | 42.0 | 43.4 | 44.7 | 46.1 | 47.5 | 48.8 | 50.2 | 51.5 | 9 \| 1.2 |
| 584 | 60 | 52.9 | 54.3 | 55.6 | 57.0 | 58.4 | 59.7 | 61.1 | 62.5 | 63.9 | 65.2 | |
| 585 | 60 | 66.6 | 68.0 | 69.3 | 70.7 | 72.0 | 73.4 | 74.8 | 76.1 | 77.5 | 78.8 | |
| 586 | 60 | 80.2 | 81.6 | 82.9 | 84.3 | 85.6 | 87.0 | 88.4 | 89.7 | 91.1 | 92.4 | |
| 587 | 60 | 93.8 | 95.1 | 96.5 | 97.8 | 99.2 | | | | | | |
| 587 | 61 | | | | | | 00.5 | 01.9 | 03.2 | 04.6 | 05.9 | |
| 588 | 61 | 07.3 | 08.6 | 10.0 | 11.3 | 12.7 | 14.0 | 15.4 | 16.7 | 18.1 | 19.4 | |
| 589 | 61 | 20.8 | 22.1 | 23.5 | 24.8 | 26.2 | 27.5 | 28.9 | 30.2 | 31.6 | 32.9 | |
| 590 | 61 | 34.3 | 35.6 | 37.0 | 38.3 | 39.7 | 41.0 | 42.4 | 43.7 | 45.1 | 46.4 | |
| 591 | 61 | 47.8 | 49.1 | 50.5 | 51.8 | 53.2 | 54.5 | 55.9 | 57.2 | 58.6 | 59.9 | |
| 592 | 61 | 61.3 | 62.6 | 64.0 | 65.3 | 66.7 | 68.0 | 69.3 | 70.7 | 72.0 | 73.4 | |
| 593 | 61 | 74.7 | 76.0 | 77.4 | 78.7 | 80.1 | 81.4 | 82.7 | 84.1 | 85.4 | 86.8 | |
| 594 | 61 | 88.1 | 89.4 | 90.8 | 92.1 | 93.5 | 94.8 | 96.1 | 97.5 | 98.8 | | |
| 594 | 62 | | | | | | | | | | 00.2 | |
| 595 | 62 | 01.5 | 02.8 | 04.2 | 05.5 | 06.9 | 08.2 | 09.5 | 10.9 | 12.2 | 13.6 | |
| 596 | 62 | 14.9 | 16.2 | 17.6 | 18.9 | 20.2 | 21.5 | 22.9 | 24.2 | 25.5 | 26.9 | |
| 597 | 62 | 28.2 | 29.5 | 30.9 | 32.2 | 33.6 | 34.9 | 36.2 | 37.6 | 38.9 | 40.3 | |
| 598 | 62 | 41.6 | 42.9 | 44.3 | 45.6 | 46.9 | 48.2 | 49.6 | 50.9 | 52.2 | 53.6 | |
| 599 | 62 | 54.9 | 56.2 | 57.6 | 58.9 | 60.2 | 61.5 | 62.9 | 64.2 | 65.5 | 66.9 | |
| 600 | 62 | 68.2 | 69.5 | 70.8 | 72.2 | 73.5 | 74.8 | 76.1 | 77.4 | 78.8 | 80.1 | |
| 601 | 62 | 81.4 | 82.7 | 84.1 | 85.4 | 86.7 | 88.0 | 89.4 | 90.7 | 92.0 | 93.4 | |
| 602 | 62 | 94.7 | 96.0 | 97.3 | 98.7 | | | | | | | |
| 602 | 63 | | | | | 00.0 | 01.3 | 02.6 | 03.9 | 05.3 | 06.6 | |
| 603 | 63 | 07.9 | 09.2 | 10.5 | 11.9 | 13.2 | 14.5 | 15.8 | 17.1 | 18.5 | 19.8 | |
| 604 | 63 | 21.1 | 22.4 | 23.7 | 25.1 | 26.4 | 27.7 | 29.0 | 30.3 | 31.7 | 33.0 | |
| 605 | 63 | 34.3 | 35.6 | 36.9 | 38.2 | 39.5 | 40.8 | 42.2 | 43.5 | 44.8 | 46.1 | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 606 to 647mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 606 | 63 | 47.4 | 48.7 | 50.0 | 51.3 | 52.6 | 53.9 | 55.3 | 56.6 | 57.9 | 59.2 | |
| 607 | 63 | 60.5 | 61.8 | 63.1 | 64.5 | 65.8 | 67.1 | 68.4 | 69.7 | 71.1 | 72.4 | |
| 608 | 63 | 73.7 | 75.0 | 76.3 | 77.6 | 78.9 | 80.2 | 81.5 | 82.8 | 84.1 | 85.4 | |
| 609 | 63 | 86.7 | 88.0 | 89.3 | 90.6 | 91.9 | 93.2 | 94.6 | 95.9 | 97.2 | 98.5 | |
| 610 | 63 | 99.8 | | | | | | | | | | |
| 610 | 64 | | 01.1 | 02.4 | 03.7 | 05.0 | 06 3 | 07.6 | 08.9 | 10.2 | 11.5 | |
| 611 | 64 | 12.8 | 14.1 | 15.4 | 16.7 | 18.0 | 19.3 | 20.7 | 22.0 | 23.3 | 24.6 | |
| 612 | 64 | 25.9 | 27.2 | 28.5 | 29.8 | 31.1 | 32.4 | 33.7 | 35.0 | 36.3 | 37.6 | |
| 613 | 64 | 38.9 | 40.2 | 41.5 | 42.8 | 44.1 | 45.4 | 46.7 | 48.0 | 49.3 | 50.6 | |
| 614 | 64 | 51.9 | 53.2 | 54.5 | 55.8 | 57.1 | 58.3 | 59.6 | 60.9 | 62.2 | 63.5 | |
| 615 | 64 | 64.8 | 66.1 | 67.4 | 68.7 | 70.0 | 71.2 | 72.5 | 73.8 | 75.1 | 76.4 | |
| 616 | 64 | 77.7 | 79.0 | 80.3 | 81.6 | 82.9 | 84.2 | 85.5 | 86.8 | 88.1 | 89.4 | |
| 617 | 64 | 90.7 | 92.0 | 93.3 | 94.6 | 95.9 | 97.1 | 98.4 | 99.7 | | | |
| 617 | 65 | | | | | | | | | 01.0 | 02.3 | |
| 618 | 65 | 03.6 | 04.9 | 06.2 | 07.4 | 08.7 | 10.0 | 11.3 | 12.6 | 13.8 | 15.1 | |
| 619 | 65 | 16.4 | 17.7 | 19.0 | 20.3 | 21.6 | 22.8 | 24.1 | 25.4 | 26.7 | 28.0 | |
| 620 | 65 | 29.3 | 30.6 | 31.9 | 33.1 | 34.4 | 35.7 | 37.0 | 38.3 | 39.5 | 40.8 | |
| 621 | 65 | 42.1 | 43.4 | 44.7 | 45.9 | 47.2 | 48.5 | 49.8 | 51.1 | 52.3 | 53.6 | 1 \| 0.1 |
| 622 | 65 | 54.9 | 56.2 | 57.5 | 58.7 | 60.0 | 61.3 | 62.6 | 63.9 | 65.1 | 66.4 | 2 \| 0.2 |
| 623 | 65 | 67.7 | 69.0 | 70.3 | 71.5 | 72.8 | 74.1 | 75.4 | 76.7 | 77.9 | 79.2 | 3 \| 0.4 |
| 624 | 65 | 80.5 | 81.8 | 83.0 | 84.3 | 85.6 | 86.8 | 88.1 | 89.4 | 90.7 | 91.9 | 4 \| 0.5 |
| | | | | | | | | | | | | 5 \| 0.6 |
| 625 | 65 | 93.2 | 94.5 | 95.8 | 97.0 | 98.3 | 99.6 | | | | | 6 \| 0.8 |
| 625 | 66 | | | | | | | 00.9 | 02.2 | 03.4 | 04.7 | 7 \| 0.9 |
| 626 | 66 | 06.0 | 07.3 | 08.5 | 09.8 | 11.1 | 12.3 | 13.6 | 14.9 | 16.2 | 17.4 | 8 \| 1.0 |
| 627 | 66 | 18.7 | 20.0 | 21.2 | 22.5 | 23.8 | 25.0 | 26.3 | 27.6 | 28.9 | 30.1 | 9 \| 1.1 |
| 628 | 66 | 31.4 | 32.7 | 33.9 | 36.2 | 56.4 | 37.7 | 39.0 | 40.2 | 41.5 | 42.7 | |
| 629 | 66 | 44.0 | 45.3 | 46.5 | 47.8 | 49.1 | 50.3 | 51.6 | 52.9 | 54.2 | 55.4 | |
| 630 | 66 | 56.7 | 58.0 | 59.2 | 60.5 | 61.7 | 63.0 | 64.3 | 65.5 | 66.8 | 68.0 | |
| 631 | 66 | 69.3 | 70.6 | 71.8 | 73.1 | 74.4 | 75.6 | 76.9 | 78.2 | 79.5 | 80.7 | |
| 632 | 66 | 82.0 | 83.2 | 84.5 | 85.7 | 87.0 | 88.2 | 89.5 | 90.7 | 92.0 | 93.2 | |
| 633 | 66 | 94.5 | 95.8 | 97.0 | 98.3 | 99.5 | | | | | | |
| 633 | 67 | | | | | | 00.8 | 02.1 | 03.3 | 04.6 | 05.8 | |
| 634 | 67 | 07.1 | 08.4 | 09.6 | 10.9 | 12.1 | 13.4 | 14.7 | 15.9 | 17.2 | 18.4 | |
| 635 | 67 | 19.7 | 20.9 | 22.2 | 23.4 | 24.7 | 25.9 | 27.2 | 28.4 | 29.7 | 30.9 | |
| 636 | 67 | 32.2 | 33.4 | 34.7 | 35.9 | 37.2 | 38.4 | 39.7 | 40.9 | 42.2 | 43.4 | |
| 637 | 67 | 44.7 | 45.9 | 47.2 | 48.4 | 49.7 | 50.9 | 52.2 | 53.4 | 54.7 | 55.9 | |
| 638 | 67 | 57.2 | 58.4 | 59.7 | 60.9 | 62.2 | 63.4 | 64.7 | 65.9 | 67.2 | 68.4 | |
| 639 | 67 | 69.7 | 70.9 | 72.2 | 73.4 | 74.7 | 75.9 | 77.1 | 78.4 | 79.6 | 80.9 | |
| 640 | 67 | 82.1 | 83.3 | 84.6 | 85.8 | 87.1 | 88.3 | 89.6 | 90.8 | 92.1 | 93.3 | |
| 641 | 67 | 94.6 | 95.8 | 97.1 | 98.3 | 99.6 | | | | | | |
| 641 | 68 | | | | | | 00.8 | 02.0 | 03.3 | 04.5 | 05.8 | |
| 642 | 68 | 07.0 | 08.2 | 09.5 | 10.7 | 12.0 | 13.2 | 14.4 | 15.7 | 16.9 | 18.2 | |
| 643 | 68 | 19.4 | 20.6 | 21.9 | 23.1 | 24.3 | 25.5 | 26.8 | 28.0 | 29.2 | 30.5 | |
| 644 | 68 | 31.7 | 32.9 | 34.2 | 35.4 | 36.7 | 37.9 | 39.1 | 40.4 | 41.6 | 42.9 | |
| 645 | 68 | 44.1 | 45.3 | 46.6 | 47.8 | 49.0 | 50.2 | 51.5 | 52.7 | 53.9 | 55.2 | |
| 646 | 68 | 56.4 | 57.6 | 58.9 | 60.1 | 61.3 | 62.5 | 63.8 | 65.0 | 66.2 | 67.5 | |
| 647 | 68 | 68.7 | 69.9 | 71.2 | 72.4 | 73.6 | 74.8 | 76.1 | 77.3 | 78.5 | 79.8 | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm |

## 648 to 689mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. | |
| 648 | 68 | 81.0 | 82.2 | 83.5 | 84.7 | 85.9 | 87.1 | 88.4 | 89.6 | 90.8 | 92.1 | | |
| 649 | 68 | 93.3 | 94.5 | 95.8 | 97.0 | 98.2 | 99.4 | | | | | | |
| 649 | 69 | | | | | | | 00.7 | 01.9 | 03.1 | 04.4 | | |
| 650 | 69 | 05.6 | 06.8 | 08.0 | 09.3 | 10.5 | 11.7 | 12.9 | 14.1 | 15.4 | 16.6 | | |
| 651 | 69 | 17.8 | 19.0 | 20.2 | 21.5 | 22.7 | 23.9 | 25.1 | 26.3 | 27.6 | 28.8 | | |
| 652 | 69 | 30.0 | 31.2 | 32.4 | 33.7 | 34.9 | 36.1 | 37.3 | 38.5 | 39.8 | 41.0 | | |
| 653 | 69 | 42.2 | 43.4 | 44.6 | 45.9 | 47.1 | 48.3 | 49.5 | 50.7 | 52.0 | 53.2 | | |
| 654 | 69 | 54.4 | 55.6 | 56.8 | 58.1 | 59.3 | 60.5 | 61.7 | 62.9 | 64.2 | 65.4 | | |
| 655 | 69 | 66.6 | 67.8 | 69.0 | 70.2 | 71.4 | 72.6 | 73.9 | 75.1 | 76.3 | 77.5 | | |
| 656 | 69 | 78.7 | 79.9 | 81.1 | 82.4 | 83.6 | 84.8 | 86.0 | 87.2 | 88.5 | 89.7 | | |
| 657 | 69 | 90.9 | 92.1 | 93.3 | 94.5 | 95.7 | 96.9 | 98.2 | 99.4 | | | | |
| 657 | 70 | | | | | | | | | 00.6 | 01.8 | | |
| 658 | 70 | 03.0 | 04.2 | 05.4 | 06.6 | 07.8 | 09.0 | 10.3 | 11.5 | 12.7 | 13.9 | | |
| 659 | 70 | 15.1 | 16.3 | 17.5 | 18.7 | 19.9 | 21.1 | 22.4 | 23.6 | 24.8 | 26.0 | | |
| 660 | 70 | 27.2 | 28.4 | 29.6 | 30.8 | 32.0 | 33.2 | 34.4 | 35.6 | 36.8 | 38.0 | 1 | 0.1 |
| 661 | 70 | 39.2 | 40.4 | 41.6 | 42.8 | 44.0 | 45.2 | 46.4 | 47.6 | 48.8 | 50.0 | 2 | 0.2 |
| 662 | 70 | 51.2 | 52.4 | 53.6 | 54.8 | 56.0 | 57.2 | 58.5 | 59.7 | 60.9 | 62.1 | 3 | 0.4 |
| 663 | 70 | 63.3 | 64.5 | 65.7 | 66.9 | 68.1 | 69.3 | 70.5 | 71.7 | 72.9 | 74.1 | 4 | 0.5 |
| 664 | 70 | 75.3 | 76.5 | 77.7 | 78.9 | 80.1 | 81.2 | 82.4 | 83.6 | 84.8 | 86.0 | 5 | 0.6 |
| 665 | 70 | 87.2 | 88.4 | 89.6 | 90.8 | 92.0 | 93.2 | 94.4 | 95.6 | 96.8 | 98.0 | 6 | 0.7 |
| 666 | 70 | 99.2 | | | | | | | | | | 7 | 0.8 |
| 666 | 71 | | 00.4 | 01.6 | 02.8 | 04.0 | 05.2 | 06.4 | 07.6 | 08.8 | 10.0 | 8 | 1.0 |
| 667 | 71 | 11.2 | 12.4 | 13.6 | 14.8 | 16.0 | 17.1 | 18.3 | 19.5 | 20.7 | 21.9 | 9 | 1.1 |
| 668 | 71 | 23.1 | 24.3 | 25.5 | 26.7 | 27.9 | 29.0 | 30.2 | 31.4 | 32.6 | 33.8 | | |
| 669 | 71 | 35.0 | 36.2 | 37.4 | 38.6 | 39.8 | 40.9 | 42.1 | 43.3 | 44.5 | 45.7 | | |
| 670 | 71 | 46.9 | 48.1 | 49.3 | 50.5 | 51.7 | 52.8 | 54.0 | 55.2 | 56.4 | 57.6 | | |
| 671 | 71 | 58.8 | 60.0 | 61.2 | 62.3 | 63.5 | 64.7 | 65.9 | 67.1 | 68.2 | 69.4 | | |
| 672 | 71 | 70.6 | 71.8 | 73.0 | 74.2 | 75.4 | 76.5 | 77.7 | 78.9 | 80.1 | 81.3 | | |
| 673 | 71 | 82.5 | 83.7 | 84.9 | 86.0 | 87.2 | 88.4 | 89.6 | 90.8 | 91.9 | 93.1 | | |
| 674 | 71 | 94.3 | 95.5 | 96.7 | 97.8 | 99.0 | | | | | | | |
| 674 | 72 | | | | | | 00.2 | 01.4 | 02.6 | 03.7 | 04.9 | | |
| 675 | 72 | 06.1 | 07.3 | 08.5 | 09.6 | 10.8 | 12.0 | 13.2 | 14.4 | 15.5 | 16.7 | | |
| 676 | 72 | 17.9 | 19.1 | 20.3 | 21.4 | 22.6 | 23.8 | 25.0 | 26.2 | 27.3 | 28.5 | | |
| 677 | 72 | 29.7 | 30.9 | 32.0 | 33.2 | 34.4 | 35.5 | 36.7 | 37.9 | 39.1 | 40.2 | | |
| 678 | 72 | 41.4 | 42.6 | 43.8 | 44.9 | 46.1 | 47.3 | 48.5 | 49.7 | 50.8 | 52.0 | | |
| 679 | 72 | 53.2 | 54.4 | 55.5 | 56.7 | 57.9 | 59.0 | 60.2 | 61.4 | 62.6 | 63.7 | | |
| 680 | 72 | 64.9 | 66.1 | 67.2 | 68.4 | 69.6 | 70.7 | 71.9 | 73.1 | 74.3 | 75.4 | | |
| 681 | 72 | 76.6 | 77.8 | 78.9 | 80.1 | 81.3 | 82.4 | 83.6 | 84.8 | 86.0 | 87.1 | 1 | 0.1 |
| 682 | 72 | 88.3 | 89.5 | 90.6 | 91.8 | 93.0 | 94.1 | 95.3 | 96.5 | 97.7 | 98.8 | 2 | 0.2 |
| 683 | 73 | 00.0 | 01.2 | 02.3 | 03.5 | 04.6 | 05.8 | 07.0 | 08.1 | 09.3 | 10.4 | 3 | 0.3 |
| 684 | 73 | 11.6 | 12.8 | 13.9 | 15.1 | 16.2 | 17.4 | 18.6 | 19.7 | 20.9 | 22.0 | 4 | 0.5 |
| 685 | 73 | 23.2 | 24.4 | 25.5 | 26.7 | 27.8 | 29.0 | 30.2 | 31.3 | 32.5 | 33.6 | 5 | 0.6 |
| 686 | 73 | 34.8 | 36.0 | 37.1 | 38.3 | 39.4 | 40.6 | 41.8 | 42.9 | 44.1 | 45.2 | 6 | 0.7 |
| 687 | 73 | 46.4 | 47.6 | 48.7 | 49.9 | 51.0 | 52.2 | 53.4 | 54.5 | 55.7 | 56.8 | 7 | 0.8 |
| 688 | 73 | 58.0 | 59.2 | 60.3 | 61.5 | 62.6 | 63.8 | 65.0 | 66.1 | 67.3 | 68.4 | 8 | 0.9 |
| 689 | 73 | 69.6 | 70.7 | 71.9 | 73.0 | 74.2 | 75.3 | 76.5 | 77.6 | 78.8 | 79.9 | 9 | 1.1 |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |

## 690 to 730mm.

| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. | |
| 690 | 73 | 81.1 | 82.3 | 83.4 | 84.6 | 85.7 | 86.9 | 88.1 | 89.2 | 90.4 | 91.5 | | |
| 691 | 73 | 92.7 | 93.8 | 95.0 | 96.1 | 97.3 | 98.4 | 99.6 | | | | | |
| 691 | 74 | | | | | | | | 00.7 | 01.9 | 03.0 | | |
| 692 | 74 | 04.2 | 05.3 | 06.5 | 07.6 | 08.8 | 09.9 | 11.1 | 12.2 | 13.4 | 14.5 | | |
| 693 | 74 | 15.7 | 16.8 | 18.0 | 19.1 | 20.3 | 21.4 | 22.6 | 23.7 | 24.9 | 26.0 | | |
| 694 | 74 | 27.2 | 28.3 | 29.5 | 30.6 | 31.8 | 32.9 | 34.1 | 35.2 | 36.4 | 37.5 | | |
| 695 | 74 | 38.7 | 39.8 | 41.0 | 42.1 | 43.3 | 44.4 | 45.5 | 46.7 | 47.8 | 49.0 | | |
| 696 | 74 | 50.1 | 51.2 | 52.4 | 53.5 | 54.7 | 55.8 | 56.9 | 58.1 | 59.2 | 60.4 | | |
| 697 | 74 | 61.5 | 62.6 | 63.8 | 64.9 | 66.1 | 67.2 | 68.3 | 69.5 | 70.6 | 71.8 | | |
| 698 | 74 | 72.9 | 74.0 | 75.2 | 76.3 | 77.5 | 78.6 | 79.7 | 80.9 | 82.0 | 83.2 | | |
| 699 | 74 | 84.3 | 85.4 | 86.6 | 87.7 | 88.9 | 90.0 | 91.1 | 92.3 | 93.4 | 94.6 | | |
| 700 | 74 | 95.7 | 96.8 | 98.0 | 99.1 | | | | | | | | |
| 700 | 75 | | | | | 00.3 | 01.4 | 02.5 | 03.7 | 04.8 | 06.0 | | |
| 701 | 75 | 07.1 | 08.2 | 09.4 | 10.5 | 11.6 | 12.7 | 13.9 | 15.0 | 16.1 | 17.3 | | |
| 702 | 75 | 18.4 | 19.5 | 20.7 | 21.8 | 23.0 | 24.1 | 25.2 | 26.4 | 27.5 | 28.7 | | |
| 703 | 75 | 29.8 | 30.9 | 32.1 | 33.2 | 34.3 | 35.4 | 36.6 | 37.7 | 38.8 | 40.0 | | |
| 704 | 75 | 41.1 | 42.2 | 43.4 | 44.5 | 45.6 | 46.7 | 47.9 | 49.0 | 50.1 | 51.3 | | |
| 705 | 75 | 52.4 | 53.5 | 54.7 | 55.8 | 56.9 | 58.0 | 59.2 | 60.3 | 61.4 | 62.6 | | |
| 706 | 75 | 63.7 | 64.8 | 66.0 | 67.1 | 68.2 | 69.3 | 70.5 | 71.6 | 72.7 | 73.9 | | |
| 707 | 75 | 75.0 | 76.1 | 77.2 | 78.4 | 79.5 | 80.6 | 81.7 | 82.8 | 84.0 | 85.1 | | |
| 708 | 75 | 86.2 | 87.3 | 88.5 | 89.6 | 90.7 | 91.8 | 93.0 | 94.1 | 95.2 | 96.4 | | |
| 709 | 75 | 97.5 | 98.6 | 99.7 | | | | | | | | | |
| 709 | 76 | | | | 00.9 | 02.0 | 03.1 | 04.2 | 05.3 | 06.5 | 07.6 | | |
| 710 | 76 | 08.7 | 09.8 | 10.9 | 12.1 | 13.2 | 14.3 | 15.4 | 16.5 | 17.7 | 18.8 | | |
| 711 | 76 | 19.9 | 21.0 | 22.1 | 23.3 | 24.4 | 25.5 | 26.6 | 27.7 | 28.9 | 30.0 | | |
| 712 | 76 | 31.1 | 32.2 | 33.3 | 34.4 | 35.5 | 36.6 | 37.8 | 38.9 | 40.0 | 41.1 | 1 | 0.1 |
| 713 | 76 | 42.2 | 43.3 | 44.4 | 45.6 | 46.7 | 47.8 | 48.9 | 50.0 | 51.2 | 52.3 | 2 | 0.2 |
| 714 | 76 | 53.4 | 54.5 | 55.6 | 56.8 | 57.9 | 59.0 | 60.1 | 61.2 | 62.4 | 63.5 | 3 | 0.3 |
| 715 | 76 | 64.6 | 65.7 | 66.8 | 67.9 | 69.0 | 70.1 | 71.3 | 72.4 | 73.5 | 74.6 | 4 | 0.4 |
| 716 | 76 | 75.7 | 76.8 | 77.9 | 79.0 | 80.1 | 81.2 | 82.4 | 83.5 | 84.6 | 85.7 | 5 | 0.5 |
| 717 | 76 | 86.8 | 87.9 | 89.0 | 90.1 | 91.2 | 92.3 | 93.5 | 94.6 | 95.7 | 96.8 | 6 | 0.7 |
| 718 | 76 | 97.9 | 99.0 | | | | | | | | | 7 | 0.8 |
| 718 | 77 | | | 00.1 | 01.2 | 02.3 | 03.4 | 04.6 | 05.7 | 06.8 | 07.9 | 8 | 0.9 |
| 719 | 77 | 09.0 | 10.1 | 11.2 | 12.3 | 13.4 | 14.5 | 15.7 | 16.8 | 17.9 | 19.0 | 9 | 1.0 |
| 720 | 77 | 20.1 | 21.2 | 22.3 | 23.4 | 24.5 | 25.6 | 26.7 | 27.8 | 28.9 | 30.0 | | |
| 721 | 77 | 31.1 | 32.2 | 33.3 | 34.4 | 35.5 | 36.6 | 37.7 | 38.8 | 39.9 | 41.0 | | |
| 722 | 77 | 42.1 | 43.2 | 44.3 | 45.4 | 46.5 | 47.6 | 48.7 | 49.8 | 50.9 | 52.0 | | |
| 723 | 77 | 53.1 | 54.2 | 55.3 | 56.4 | 57.5 | 58.6 | 59.8 | 60.9 | 62.0 | 63.1 | | |
| 724 | 77 | 64.2 | 65.3 | 66.4 | 67.5 | 68.6 | 69.6 | 70.7 | 71.8 | 72.9 | 74.0 | | |
| 725 | 77 | 75.1 | 76.2 | 77.3 | 78.4 | 79.5 | 80.6 | 81.7 | 82.8 | 83.9 | 85.0 | | |
| 726 | 77 | 86.1 | 87.2 | 88.3 | 89.4 | 90.5 | 91.6 | 92.7 | 93.8 | 94.9 | 96.0 | | |
| 727 | 77 | 97.1 | 98.2 | 99.3 | | | | | | | | | |
| 727 | 78 | | | | 00.4 | 01.5 | 02.5 | 03.6 | 04.7 | 05.8 | 06.9 | | |
| 728 | 78 | 08.0 | 09.1 | 10.2 | 11.3 | 12.4 | 13.5 | 14.6 | 15.7 | 16.8 | 17.9 | | |
| 729 | 78 | 19.0 | 20.1 | 21.2 | 22.3 | 23.4 | 24.4 | 25.5 | 26.6 | 27.7 | 28.8 | | |
| 730 | 78 | 29.9 | 31.0 | 32.1 | 33.3 | 34.3 | 35.3 | 36.4 | 37.5 | 38.6 | 39.7 | | |
| Barom-eter H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |

## 731 to 770mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metr. |
| 731 | 78 | 40.8 | 41.9 | 43.0 | 44.1 | 45.2 | 46.2 | 47.3 | 48.4 | 49.5 | 50.6 | |
| 732 | 78 | 51.7 | 52.8 | 53.9 | 54.9 | 56.0 | 57.0 | 58.2 | 59.3 | 60.3 | 61.4 | |
| 733 | 78 | 62.5 | 63.6 | 64.7 | 65.8 | 66.9 | 67.9 | 69.0 | 70.1 | 71.2 | 72.3 | |
| 734 | 78 | 73.4 | 74.5 | 75.6 | 76.6 | 77.7 | 78.8 | 79.9 | 81.0 | 82.0 | 83.1 | |
| 735 | 78 | 84.2 | 85.3 | 86.4 | 87.5 | 88.6 | 89.6 | 90.7 | 91.8 | 92.9 | 94.0 | |
| 736 | 78 | 95.1 | 96.2 | 97.3 | 98.3 | 99.4 | | | | | | |
| 736 | 79 | | | | | | 00.5 | 01.6 | 02.7 | 03.7 | 04.8 | |
| 737 | 79 | 05.9 | 07.0 | 08.1 | 09.1 | 10.2 | 11.3 | 12.4 | 13.5 | 14.5 | 15.6 | |
| 738 | 79 | 16.7 | 17.8 | 18.9 | 19.9 | 21.0 | 22.1 | 23.2 | 24.3 | 25.3 | 26.4 | |
| 739 | 79 | 27.5 | 28.6 | 29.6 | 30.7 | 31.8 | 32.8 | 33.9 | 35.0 | 36.1 | 37.1 | |
| 740 | 79 | 38.2 | 39.3 | 40.4 | 41.4 | 42.5 | 43.6 | 44.7 | 45.8 | 46.8 | 47.9 | |
| 741 | 79 | 49.0 | 50.1 | 51.1 | 52.2 | 53.3 | 54.3 | 55.4 | 56.5 | 57.6 | 58.6 | |
| 742 | 79 | 59.7 | 60.8 | 61.8 | 62.9 | 64.0 | 65.0 | 66.1 | 67.2 | 68.3 | 69.3 | |
| 743 | 79 | 70.4 | 71.5 | 72.6 | 73.6 | 74.7 | 75.8 | 76.9 | 78.0 | 79.0 | 80.1 | |
| 744 | 79 | 81.2 | 82.3 | 83.3 | 84.4 | 85.5 | 86.5 | 87.6 | 88.7 | 89.8 | 90.8 | |
| 745 | 79 | 91.9 | 93.0 | 94.0 | 95.1 | 96.1 | 97.2 | 98.3 | 99.3 | | | |
| 745 | 80 | | | | | | | | | 00.4 | 01.4 | |
| 746 | 80 | 02.5 | 03.6 | 04.6 | 05.7 | 06.8 | 07.8 | 08.9 | 10.0 | 11.1 | 12.3 | |
| 747 | 80 | 13.2 | 14.3 | 15.3 | 16.4 | 17.4 | 18.5 | 19.6 | 20.6 | 21.7 | 22.7 | |
| 748 | 80 | 23.8 | 24.9 | 25.9 | 27.0 | 28.0 | 29.1 | 30.2 | 31.2 | 32.3 | 33.3 | |
| 749 | 80 | 34.4 | 35.5 | 36.5 | 37.6 | 38.7 | 39.7 | 40.8 | 41.9 | 43.0 | 44.0 | |
| 750 | 80 | 45.1 | 46.2 | 47.3 | 48.4 | 49.4 | 50.5 | 51.6 | 52.6 | 53.7 | 54.7 | |
| 751 | 80 | 55.7 | 56.8 | 57.8 | 58.9 | 59.9 | 61.0 | 62.1 | 63.1 | 64.2 | 65.2 | |
| 752 | 80 | 66.3 | 67.4 | 68.4 | 69.5 | 70.5 | 71.6 | 72.7 | 73.7 | 74.8 | 75.8 | |
| 753 | 80 | 76.9 | 78.0 | 79.0 | 80.1 | 81.1 | 82.2 | 83.3 | 84.3 | 85.4 | 86.4 | |
| 754 | 80 | 87.5 | 88.5 | 89.6 | 90.6 | 91.7 | 92.7 | 93.8 | 94.8 | 95.9 | 96.9 | 1 \| 0.1 |
| 755 | 80 | 98.0 | 99.1 | | | | | | | | | 2 \| 0.2 |
| 755 | 81 | | | 00.1 | 01.2 | 02.2 | 03.3 | 04.4 | 05.4 | 06.5 | 07.5 | 3 \| 0.3 |
| 756 | 81 | 08.6 | 09.6 | 10.7 | 11.7 | 12.8 | 13.8 | 14.9 | 15.9 | 17.0 | 18.0 | 4 \| 0.4 |
| 757 | 81 | 19.1 | 20.1 | 21.2 | 22.2 | 23.3 | 24.3 | 25.4 | 26.4 | 27.5 | 28.5 | 5 \| 0.5 |
| 758 | 81 | 29.6 | 30.6 | 31.7 | 32.7 | 33.8 | 34.8 | 35.9 | 36.9 | 38.0 | 39.0 | 6 \| 0.6 |
| 759 | 81 | 40.1 | 41.1 | 42.2 | 43.2 | 44.3 | 45.3 | 46.4 | 47.4 | 48.5 | 49.5 | 7 \| 0.7 |
| | | | | | | | | | | | | 8 \| 0.8 |
| 760 | 81 | 50.6 | 51.6 | 52.7 | 53.7 | 54.8 | 55.8 | 56.9 | 57.9 | 59.0 | 60.0 | 9 \| 0.9 |
| 761 | 81 | 61.1 | 62.1 | 63.2 | 64.2 | 65.3 | 66.3 | 67.3 | 68.4 | 69.4 | 70.5 | |
| 762 | 81 | 71.5 | 72.5 | 73.6 | 74.6 | 75.7 | 76.7 | 77.8 | 78.8 | 79.9 | 80.9 | |
| 763 | 81 | 82.0 | 83.0 | 84.1 | 85.1 | 86.2 | 87.2 | 88.2 | 89.3 | 90.3 | 91.4 | |
| 764 | 81 | 92.4 | 93.4 | 94.5 | 95.5 | 96.6 | 97.6 | 98.6 | 99.7 | | | |
| 764 | 82 | | | | | | | | | 00.7 | 01.8 | |
| 765 | 82 | 02.8 | 03.8 | 04.9 | 05.9 | 07.0 | 08.0 | 09.0 | 10.1 | 11.1 | 12.2 | |
| 766 | 82 | 13.2 | 14.2 | 15.3 | 16.3 | 17.4 | 18.4 | 19.4 | 20.5 | 21.5 | 22.6 | |
| 767 | 82 | 23.6 | 24.6 | 25.7 | 26.7 | 27.8 | 28.8 | 29.8 | 30.9 | 31.9 | 33.0 | |
| 768 | 82 | 34.0 | 35.0 | 36.1 | 37.1 | 38.2 | 39.2 | 40.2 | 41.3 | 42.3 | 43.4 | |
| 769 | 82 | 44.4 | 45.4 | 46.5 | 47.5 | 48.5 | 49.5 | 50.6 | 51.6 | 52.6 | 53.7 | |
| 770 | 82 | 54.7 | 55.7 | 56.8 | 57.8 | 58.8 | 59.8 | 60.9 | 61.9 | 62.9 | 64.0 | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. |

## 771 to 810mm.

| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Milli. | Metr. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | | Metr. |
| 771 | 82 | 65.0 | 66.0 | 67.1 | 68.1 | 69.2 | 70.2 | 71.2 | 72.3 | 73.3 | 74.4 | | |
| 772 | 82 | 75.4 | 76.4 | 77.5 | 78.5 | 79.5 | 80.5 | 81.6 | 82.6 | 83.6 | 84.7 | | |
| 773 | 82 | 85.7 | 86.7 | 87.8 | 88.8 | 89.8 | 90.8 | 91.9 | 92.9 | 93.9 | 95.0 | | |
| 774 | 82 | 96.0 | 97.0 | 98.0 | 99.1 | | | | | | | | |
| 774 | 83 | | | | | 00.1 | 01.1 | 02.1 | 03.1 | 04.2 | 05.2 | | |
| 775 | 83 | 06.2 | 07.2 | 08.3 | 09.3 | 10.3 | 11.3 | 12.4 | 13.4 | 14.4 | 15.5 | | |
| 776 | 83 | 16.5 | 17.5 | 18.5 | 19.6 | 20.6 | 21.6 | 22.6 | 23.6 | 24.7 | 25.7 | | |
| 777 | 83 | 26.7 | 27.7 | 28.8 | 29.8 | 30.8 | 31.8 | 32.9 | 33.9 | 34.9 | 36.0 | | |
| 778 | 83 | 37.0 | 38.0 | 39.0 | 40.1 | 41.1 | 42.1 | 43.1 | 44.1 | 45.2 | 46.2 | | |
| 779 | 83 | 47.2 | 48.2 | 49.2 | 50.3 | 51.3 | 52.3 | 53.3 | 54.3 | 55.4 | 56.4 | | |
| 780 | 83 | 57.4 | 58.4 | 59.4 | 60.5 | 61.5 | 62.5 | 63.5 | 64.5 | 65.6 | 66.6 | | |
| 781 | 83 | 67.6 | 68.6 | 69.6 | 70.7 | 71.7 | 72.7 | 73.7 | 74.7 | 75.8 | 76.8 | | |
| 782 | 83 | 77.8 | 78.8 | 79.8 | 80.9 | 81.9 | 82.9 | 83.9 | 84.9 | 86.0 | 87.0 | | |
| 783 | 83 | 88.0 | 89.0 | 90.0 | 91.1 | 92.1 | 93.1 | 94.1 | 95.1 | 96.2 | 97.2 | | |
| 784 | 83 | 98.2 | 99.2 | | | | | | | | | | |
| 784 | 84 | | | 00.2 | 01.2 | 02.2 | 03.2 | 04.3 | 05.3 | 06.3 | 07.3 | | |
| 785 | 84 | 08.3 | 09.3 | 10.3 | 11.4 | 12.4 | 13.4 | 14.4 | 15.4 | 16.5 | 17.5 | | |
| 786 | 84 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 23.5 | 24.6 | 25.6 | 26.6 | 27.6 | | |
| 787 | 84 | 28.6 | 29.6 | 30.6 | 31.6 | 32.6 | 33.6 | 34.7 | 35.7 | 36.7 | 37.7 | | |
| 788 | 84 | 38.7 | 39.7 | 40.7 | 41.7 | 42.7 | 43.7 | 44.8 | 45.8 | 46.8 | 47.8 | | |
| 789 | 84 | 48.8 | 49.8 | 50.8 | 51.8 | 52.8 | 53.8 | 54.9 | 55.9 | 56.9 | 57.9 | | |
| 790 | 84 | 58.9 | 59.9 | 60.9 | 61.9 | 62.9 | 63.9 | 65.0 | 66.0 | 67.0 | 68.0 | | |
| 791 | 84 | 68.9 | 69.9 | 70.9 | 71.9 | 72.9 | 73.9 | 75.0 | 76.0 | 77.0 | 78.0 | 1 | 0.1 |
| 792 | 84 | 79.0 | 80.0 | 81.0 | 82.0 | 83.0 | 84.0 | 85.0 | 86.0 | 87.0 | 88.0 | 2 | 0.2 |
| 793 | 84 | 89.0 | 90.0 | 91.0 | 92.0 | 93.0 | 94.0 | 95.1 | 96.1 | 97.1 | 98.1 | 3 | 0.3 |
| 794 | 84 | 99.1 | | | | | | | | | | 4 | 0.4 |
| 794 | 85 | | 00.1 | 01.1 | 02.1 | 03.1 | 04.1 | 05.1 | 06.1 | 07.1 | 08.1 | 5 | 0.5 |
| 795 | 85 | 09.1 | 10.1 | 11.1 | 12.1 | 13.1 | 14.1 | 15.1 | 16.1 | 17.1 | 18.1 | 6 | 0.6 |
| 796 | 85 | 19.1 | 20.1 | 21.1 | 22.1 | 23.1 | 24.1 | 25.1 | 26.1 | 27.1 | 28.1 | 7 | 0.7 |
| 797 | 85 | 29.1 | 30.1 | 31.1 | 32.1 | 33.1 | 34.1 | 35.1 | 36.1 | 37.1 | 38.1 | 8 | 0.8 |
| 798 | 85 | 39.1 | 40.1 | 41.1 | 42.1 | 43.1 | 44.1 | 45.1 | 46.1 | 47.1 | 48.1 | 9 | 0.9 |
| 799 | 85 | 49.1 | 50.1 | 51.1 | 52.0 | 53.0 | 54.1 | 55.0 | 56.0 | 57.0 | 58.0 | | |
| 800 | 85 | 59.0 | 60.0 | 61.0 | 62.0 | 63.0 | 64.0 | 65.0 | 66.0 | 67.0 | 68.0 | | |
| 801 | 85 | 69.0 | 70.0 | 70.9 | 71.9 | 72.9 | 73.9 | 74.9 | 75.9 | 76.9 | 77.9 | | |
| 802 | 85 | 78.9 | 79.9 | 80.9 | 81.9 | 82.9 | 83.9 | 84.9 | 85.8 | 86.8 | 87.8 | | |
| 803 | 85 | 88.8 | 89.8 | 90.8 | 91.8 | 92.8 | 93.8 | 94.8 | 95.8 | 96.7 | 97.7 | | |
| 804 | 85 | 98.7 | 99.7 | | | | | | | | | | |
| 804 | 86 | | | 00.7 | 01.7 | 02.7 | 03.7 | 04.7 | 05.7 | 06.6 | 07.6 | | |
| 805 | 86 | 08.6 | 09.6 | 10.6 | 11.6 | 12.6 | 13.6 | 14.6 | 15.5 | 16.5 | 17.5 | | |
| 806 | 86 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 23.4 | 24.4 | 25.4 | 26.4 | 27.4 | | |
| 807 | 86 | 28.4 | 29.4 | 30.4 | 31.3 | 32.3 | 33.3 | 34.3 | 35.3 | 36.3 | 37.3 | | |
| 808 | 86 | 38.3 | 39.2 | 40.2 | 41.2 | 42.2 | 43.2 | 44.2 | 45.1 | 46.1 | 47.1 | | |
| 809 | 86 | 48.1 | 49.1 | 50.1 | 51.1 | 52.0 | 53.0 | 54.0 | 55.0 | 56.0 | 57.0 | | |
| 810 | 86 | 57.9 | 58.9 | 59.9 | 60.9 | 61.9 | 62.8 | 63.8 | 64.8 | 65.8 | 66.8 | | |
| Barometer H or h. | N. | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | Parts for each 0.01mm. | |

TABLE II. Correction for Difference of Temperature of Attached Thermometers.

Temperature of Barometers at Station { Upper = T' / Lower = T.

| T' — T Centig. | Correct. Metres. | T' — T Centigrade. | Correct. Metres. | T' — T Centigrade. | Correct. Metres. | T' — T Centigrade. | Correct. Metres. | T' — T Centigrade. | Correct. Metres. |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 8.0 | 10.3 | 16.0 | 20.6 | 24.0 | 30.9 | 32.0 | 41.3 |
| 0.2 | 0.3 | 8.2 | 10.6 | 16.2 | 20.9 | 24.2 | 31.2 | 32.2 | 41.5 |
| 0.4 | 0.5 | 8.4 | 10.8 | 16.4 | 21.1 | 24.4 | 31.5 | 32.4 | 41.8 |
| 0.6 | 0.8 | 8.6 | 11.1 | 16.6 | 21.4 | 24.6 | 31.7 | 32.6 | 42.0 |
| 0.8 | 1.0 | 8.8 | 11.3 | 16.8 | 21.7 | 24.8 | 32.0 | 32.8 | 42.3 |
| 1.0 | 1.3 | 9.0 | 11.6 | 17.0 | 21.9 | 25.0 | 32.2 | 33.0 | 42.5 |
| 1.2 | 1.5 | 9.2 | 11.9 | 17.2 | 22.2 | 25.2 | 32.5 | 33.2 | 42.8 |
| 1.4 | 1.8 | 9.4 | 12.1 | 17.4 | 22.4 | 25.4 | 32.7 | 33.4 | 43.1 |
| 1.6 | 2.1 | 9.6 | 12.4 | 17.6 | 22.7 | 25.6 | 33.0 | 33.6 | 43.3 |
| 1.8 | 2.3 | 9.8 | 12.6 | 17.8 | 22.9 | 25.8 | 33.3 | 33.8 | 43.6 |
| 2.0 | 2.6 | 10.0 | 12.9 | 18.0 | 23.2 | 26.0 | 33.5 | 34.0 | 43.8 |
| 2.2 | 2.8 | 10.2 | 13.1 | 18.2 | 23.5 | 26.2 | 33.8 | 34.2 | 44.1 |
| 2.4 | 3.1 | 10.4 | 13.4 | 18.4 | 23.7 | 26.4 | 34.0 | 34.4 | 44.3 |
| 2.6 | 3.4 | 10.6 | 13.7 | 18.6 | 24.0 | 26.6 | 34.3 | 34.6 | 44.6 |
| 2.8 | 3.6 | 10.8 | 13.9 | 18.8 | 24.2 | 26.8 | 34.6 | 34.8 | 44.9 |
| 3.0 | 3.9 | 11.0 | 14.2 | 19.0 | 24.5 | 27.0 | 34.8 | 35.0 | 45.1 |
| 3.2 | 4.1 | 11.2 | 14.5 | 19.2 | 24.8 | 27.2 | 35.1 | 35.2 | 45.4 |
| 3.4 | 4.4 | 11.4 | 14.7 | 19.4 | 25.0 | 27.4 | 35.3 | 35.4 | 45.6 |
| 3.6 | 4.6 | 11.6 | 15.0 | 19.6 | 25.3 | 27.6 | 35.6 | 35.6 | 45.9 |
| 3.8 | 4.9 | 11.8 | 15.2 | 19.8 | 25.5 | 27.8 | 35.8 | 35.8 | 46.2 |
| 4 0 | 5.2 | 12.0 | 15.5 | 20.0 | 25.8 | 28.0 | 36.1 | 36.0 | 46.4 |
| 4.2 | 5.4 | 12.2 | 15.8 | 20.2 | 26.0 | 28.2 | 36.4 | 36.2 | 46.7 |
| 4.4 | 5.7 | 12.4 | 16.0 | 20.4 | 26.3 | 28.4 | 36.6 | 36.4 | 46.9 |
| 4.6 | 5.9 | 12.6 | 16.3 | 20.6 | 26.6 | 28.6 | 36.9 | 36.6 | 47.2 |
| 4.8 | 6.2 | 12.8 | 16.5 | 20.8 | 26.8 | 28.8 | 37.1 | 36.8 | 47.4 |
| 5.0 | 6.4 | 13.0 | 16.8 | 21.0 | 27.1 | 29.0 | 37.4 | 37.0 | 47.7 |
| 5.2 | 6.7 | 13.2 | 17.0 | 21.2 | 27.3 | 29.2 | 37.6 | 37.2 | 48.0 |
| 5.4 | 7.0 | 13.4 | 17.3 | 21.4 | 27.6 | 29.4 | 37.9 | 37.4 | 48.2 |
| 5.6 | 7.2 | 13.6 | 17.5 | 21.6 | 27.8 | 29.6 | 38.2 | 37.6 | 48.5 |
| 5 8 | 7.5 | 13.8 | 17.8 | 21.8 | 28.1 | 29.8 | 38.4 | 37.8 | 48.7 |
| 6.0 | 7.7 | 14.0 | 18.0 | 22.0 | 28.4 | 30.0 | 38.7 | 38.0 | 49.0 |
| 6.2 | 8.0 | 14.2 | 18.3 | 22.2 | 28.6 | 30.2 | 38.9 | 38.2 | 49.2 |
| 6.4 | 8.3 | 14.4 | 18.5 | 22.4 | 28.9 | 30.4 | 39.2 | 38.4 | 49.5 |
| 6.6 | 8.5 | 14.6 | 18.8 | 22.6 | 29.1 | 30.6 | 39.5 | 38.6 | 49.8 |
| 6.8 | 8.8 | 14.8 | 19.0 | 22.8 | 29.4 | 30.8 | 39.7 | 38.8 | 50.0 |
| 7.0 | 9.0 | 15.0 | 19.3 | 23.0 | 29.7 | 31.0 | 40.0 | 39.0 | 50.3 |
| 7.2 | 9.3 | 15.2 | 19.6 | 23.2 | 29.9 | 31.2 | 40.2 | 39.2 | 50.5 |
| 7.4 | 9.5 | 15.4 | 19 8 | 23.4 | 30.2 | 31.4 | 40.5 | 39.4 | 50.8 |
| 7.6 | 9.8 | 15.6 | 20.1 | 23.6 | 30.4 | 31.6 | 40.7 | 39.6 | 51.1 |
| 7.8 | 10.1 | 15.8 | 20.3 | 23.8 | 30.7 | 31.8 | 41.0 | 39.8 | 51.3 |
| 8.0 | 10.3 | 16.0 | 20.6 | 24.0 | 30.9 | 32.0 | 41.3 | 40.0 | 51.6 |

This Table supposes the scale to be of *brass* from the top to the cistern. If it were of glass or of wood, the argument T' — T ought to be diminished at the ratio of 54 to 62.

In computing by the formula of Laplace, we begin by reducing the barometers to the same temperature by means of the following formula: $H = h' + h'\left(\frac{T' - T}{6196}\right)$. Table II. saves this trouble, and gives, in metres, the correction due to the difference of temperature of the barometers.

## TABLE III. Correction for Decrease of Gravitation in Latitude.

$$\beta = (0.0028371 \text{ cosin. } 2\,L). \quad (A + \alpha + \beta).$$

The Argument is the Mean Latitude between the two Stations.

| LATITUDE. | | Correction, in metres, for | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Correction. Added. | Subtr'ct | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 |
| ° | ° | | | | | | | | | |
| 0 | 90 | 2.8 | 5.7 | 8.5 | 11.3 | 14.2 | 17.0 | 19.9 | 22.7 | 25.7 |
| 1 | 89 | 2.8 | 5.7 | 8.5 | 11.3 | 14.2 | 17.0 | 19.8 | 22.7 | 25.6 |
| 2 | 88 | 2.8 | 5.7 | 8.5 | 11.3 | 14.1 | 17.0 | 19.8 | 22.6 | 25.5 |
| 3 | 87 | 2.8 | 5.6 | 8.5 | 11.3 | 14.1 | 16.9 | 19.7 | 22.6 | 25.4 |
| 4 | 86 | 2.8 | 5.6 | 8.4 | 11.2 | 14.0 | 16.9 | 19.7 | 22.5 | 25.3 |
| 5 | 85 | 2.8 | 5.6 | 8.4 | 11.2 | 14.0 | 16.8 | 19.6 | 22.3 | 25.1 |
| 6 | 84 | 2.8 | 5.5 | 8.3 | 11.1 | 13.9 | 16.6 | 19.4 | 22.2 | 25.0 |
| 7 | 83 | 2.7 | 5.5 | 8.2 | 11.0 | 13.8 | 16.5 | 19.3 | 22.0 | 24.8 |
| 8 | 82 | 2.7 | 5.4 | 8.2 | 10.9 | 13.6 | 16.4 | 19.1 | 21.8 | 24.5 |
| 9 | 81 | 2.7 | 5.4 | 8.1 | 10.8 | 13.5 | 16.2 | 18.9 | 21.6 | 24.3 |
| 10 | 80 | 2.7 | 5.3 | 8.0 | 10.7 | 13.3 | 16.0 | 18.7 | 21.3 | 24.0 |
| 11 | 79 | 2.6 | 5.2 | 7.9 | 10.5 | 13.1 | 15.8 | 18.4 | 21.0 | 23.7 |
| 12 | 78 | 2.6 | 5.2 | 7.8 | 10.4 | 13.0 | 15.5 | 18.1 | 20.7 | 23.3 |
| 13 | 77 | 2.5 | 5.1 | 7.6 | 10.2 | 12.7 | 15.3 | 17.8 | 20.4 | 22.9 |
| 14 | 76 | 2.5 | 5.0 | 7.5 | 10.0 | 12.5 | 15.0 | 17.5 | 20.0 | 22.5 |
| 15 | 75 | 2.5 | 4.9 | 7.4 | 9.8 | 12.3 | 14.7 | 17.2 | 19.7 | 22.1 |
| 16 | 74 | 2.4 | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | 21.6 |
| 17 | 73 | 2.4 | 4.7 | 7.0 | 9.4 | 11.8 | 14.1 | 16.5 | 18.8 | 21.2 |
| 18 | 72 | 2.3 | 4.6 | 6.9 | 9.2 | 11.5 | 13.8 | 16.1 | 18.4 | 20.7 |
| 19 | 71 | 2.2 | 4.5 | 6.7 | 8.9 | 11.2 | 13.4 | 15.6 | 17.9 | 20.1 |
| 20 | 70 | 2.2 | 4.3 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | 19.6 |
| 21 | 69 | 2.1 | 4.2 | 6.3 | 8.4 | 10.5 | 12.6 | 14.7 | 16.9 | 19.0 |
| 22 | 68 | 2.0 | 4.1 | 6.1 | 8.2 | 10.2 | 12.2 | 14.3 | 16.3 | 18.4 |
| 23 | 67 | 2.0 | 3.9 | 5.9 | 7.9 | 9.8 | 11.8 | 13.8 | 15.8 | 17.7 |
| 24 | 66 | 1.9 | 3.8 | 5.7 | 7.6 | 9.5 | 11.4 | 13.3 | 15.2 | 17.1 |
| 25 | 65 | 1.8 | 3.6 | 5.5 | 7.3 | 9.1 | 10.9 | 12.8 | 14.6 | 16.4 |
| 26 | 64 | 1.7 | 3.5 | 5.2 | 7.0 | 8.7 | 10.5 | 12.2 | 14.0 | 15.7 |
| 27 | 63 | 1.7 | 3.3 | 5.0 | 6.7 | 8.3 | 10.0 | 11.7 | 13.3 | 15.0 |
| 28 | 62 | 1.6 | 3.2 | 4.8 | 6.3 | 7.9 | 9.5 | 11.1 | 12.7 | 14.3 |
| 29 | 61 | 1.5 | 3.0 | 4.5 | 6.0 | 7.5 | 9.0 | 10.5 | 12.0 | 13.5 |
| 30 | 60 | 1.4 | 2.8 | 4.3 | 5.7 | 7.1 | 8.5 | 9.9 | 11.3 | 12.8 |
| 31 | 59 | 1.3 | 2.7 | 4.0 | 5.3 | 6.6 | 8.0 | 9.3 | 10.6 | 12.0 |
| 32 | 58 | 1.2 | 2.5 | 3.7 | 5.0 | 6.2 | 7.5 | 8.7 | 9.9 | 11.2 |
| 33 | 57 | 1.1 | 2.3 | 3.5 | 4.6 | 5.8 | 6.9 | 8.1 | 9.2 | 10.4 |
| 34 | 56 | 1.1 | 2.1 | 3.2 | 4.2 | 5.3 | 6.4 | 7.4 | 8.5 | 9.6 |
| 35 | 55 | 1.0 | 1.9 | 2.9 | 3.9 | 4.8 | 5.8 | 6.8 | 7.8 | 8.7 |
| 36 | 54 | 0.9 | 1.7 | 2.6 | 3.5 | 4.4 | 5.3 | 6.1 | 7.0 | 7.9 |
| 37 | 53 | 0.8 | 1.6 | 2.3 | 3.1 | 3.9 | 4.7 | 5.5 | 6.2 | 7.0 |
| 38 | 52 | 0.7 | 1.4 | 2.1 | 2.7 | 3.4 | 4.1 | 4.8 | 5.5 | 6.2 |
| 39 | 51 | 0.6 | 1.2 | 1.8 | 2.4 | 2.9 | 3.5 | 4.1 | 4.7 | 5.3 |
| 40 | 50 | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.4 | 3.9 | 4.4 |
| 41 | 49 | 0.4 | 0.8 | 1.2 | 1.6 | 2.0 | 2.4 | 2.8 | 3.2 | 3.5 |
| 42 | 48 | 0.3 | 0.6 | 0.9 | 1.2 | 1.5 | 1.8 | 2.1 | 2.4 | 2.7 |
| 43 | 47 | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.4 | 1.6 | 1.8 |
| 44 | 46 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
| 45 | 45 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## TABLE IV. Correction for Decrease of Gravitation on a Vertical Line.

$$\delta = \left(\frac{A + \alpha + \beta + \upsilon + 15296}{6366200}\right) \times A\,(+\alpha + \beta + \upsilon).$$

Argument $= (A + \alpha + \beta + \upsilon)$.

| Approximate Difference of Level. | Correspond. Correction Positive. | Approximate Difference of Level. | Correspond. Correction Positive. | Approximate Difference of Level. | Correspond. Correction Positive. | Approximate Difference of Level. | Correspond. Correction Positive. |
|---|---|---|---|---|---|---|---|
| Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 100 | 0.2 | 2100 | 6.0 | 4100 | 12.9 | 6100 | 21.1 |
| 200 | 0.5 | 2200 | 6.3 | 4200 | 13.3 | 6200 | 21.6 |
| 300 | 0.8 | 2300 | 6.6 | 4300 | 13.7 | 6300 | 22.0 |
| 400 | 1.0 | 2400 | 6.9 | 4400 | 14.1 | 6400 | 22.5 |
| 500 | 1.3 | 2500 | 7.3 | 4500 | 14.5 | 6500 | 22.9 |
| 600 | 1.6 | 2600 | 7.6 | 4600 | 14.9 | 6600 | 23.4 |
| 700 | 1.8 | 2700 | 7.9 | 4700 | 15.3 | 6700 | 23.9 |
| 800 | 2.1 | 2800 | 8.3 | 4800 | 15.7 | 6800 | 24.3 |
| 900 | 2.4 | 2900 | 8.6 | 4900 | 16.1 | 6900 | 24.8 |
| 1000 | 2.7 | 3000 | 8.9 | 5000 | 16.5 | 7000 | 25.3 |
| 1100 | 2.9 | 3100 | 9.3 | 5100 | 16.9 | 7100 | 25.7 |
| 1200 | 3.2 | 3200 | 9.6 | 5200 | 17.3 | 7200 | 26.2 |
| 1300 | 3.5 | 3300 | 10.0 | 5300 | 17.7 | 7300 | 26.7 |
| 1400 | 3.8 | 3400 | 10.3 | 5400 | 18.1 | 7400 | 27.2 |
| 1500 | 4.1 | 3500 | 10.7 | 5500 | 18.5 | 7500 | 27.7 |
| 1600 | 4.4 | 3600 | 11.1 | 5600 | 19.0 | 7600 | 28.1 |
| 1700 | 4.7 | 3700 | 11.4 | 5700 | 19.4 | 7700 | 28.6 |
| 1800 | 5.0 | 3800 | 11.8 | 5800 | 19.8 | 7800 | 29.1 |
| 1900 | 5.3 | 3900 | 12.2 | 5900 | 20.3 | 7900 | 29.6 |
| 2000 | 5.6 | 4000 | 12.5 | 6000 | 20.7 | 8000 | 30.1 |

## TABLE V. Correction for the Elevation of the Lower Station above Ocean.

Argument = Height of Barometer at Lower Station.

| Approximate Difference of Level. | Height of Barometer at Lower Station in Millimetres. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 |
| Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 1000 | 1.7 | 1.4 | 1.1 | 0.9 | 0.6 | 0.4 | 0.2 | 0.0 |
| 2000 | 3.4 | 2.8 | 2.2 | 1.7 | 1.3 | 0.8 | 0.4 | 0.1 |
| 3000 | 5.1 | 4.2 | 3.3 | 2.6 | 1.9 | 1.3 | 0.7 | 0.1 |
| 4000 | 6.8 | 5.6 | 4.4 | 3.4 | 2.5 | 1.7 | 0.9 | 0.1 |
| 5000 | 8.5 | 6.9 | 5.5 | 4.3 | 3.1 | 2.1 | 1.1 | 0.1 |
| 6000 | 10.3 | 8.3 | 6.7 | 5.2 | 3.8 | 2.5 | 1.3 | 0.2 |
| 7000 | 12.0 | 9.7 | 7.8 | 6.0 | 4.4 | 2.9 | 1.5 | 0.2 |
| 8000 | 13.7 | 11.1 | 8.9 | 6.9 | 5.0 | 3.4 | 1.8 | 0.2 |
| 9000 | 15.4 | 12.5 | 10.0 | 7.7 | 5.7 | 3.8 | 2.0 | 0.3 |

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# II.

## TABLES

### FOR COMPUTING DIFFERENCES OF ELEVATION FROM BAROMETRICAL OBSERVATIONS.

BY A. GUYOT.

TABLES which, like the preceding ones by Delcros, in metrical measures, are sufficiently extensive to save the necessity of interpolations, relieve the computer of most of his trouble, and considerably reduce the chances of error in the computations. They thus render to science itself a real service, by inducing observers to determine a larger number of points, and to secure the accuracy of the results by repeating their observations at the same point in various atmospheric circumstances, both of which they can do without fear of being overwhelmed by the labor of the computation.

Similar tables are here offered to the observers who use instruments graduated to English measures. Like those of Delcros, the new tables are based on Laplace's formula, with a slight modification of only one constant. They dispense with the use of logarithms, and give the differences of level corresponding to every thousandth of an inch from 12 to 31 inches by means of the simplest arithmetical operations, so that the data being prepared and corrected, the computation of an elevation takes but a few minutes, and is done with scarcely any chance of error.

Laplace's formula and constants were adopted for the computation of the tables in preference to others found in the following sets for reasons which a few words will explain.

It has been remarked, page 9, that, in consequence of Laplace's constants having been retained in Gauss's, Schmidt's, and Baily's formulæ, they all give similar results; but that Bessel's formula differs in separating the correction due to the moisture of the air from that due to its temperature, while in Laplace's, and in the formulæ just mentioned, both are united. To introduce a separate correction for the expansion of aqueous vapor is, in the writer's view, a doubtful improvement. The laws of the distribution and transmission of moisture through the atmosphere are too little known, and its amount, especially in mountain regions, is too variable, and depends too much upon local winds and local condensation, to allow a reasonable hope of obtaining the mean humidity of the layer of air between the two stations by means of hygrometrical observations taken at each of them. These doubts are confirmed by the experience of the author and of many other observers, which shows that, on an average, Laplace's method works not only as well as the other, but more uniformly well. At any rate, the gain, if there is any, is not clear enough to compensate for the undesirable complication of the formula.

Though the several co-efficients of Laplace's formula need perhaps to be modified according to more recent and probably more accurate determinations of the physical constants on which they depend, as has been proposed by Plantamour, E. Ritter, and lately by the writer himself in a paper read before the American Association for the Advancement of Science at their meeting in Montreal, they have been retained in preparing the following tables, partly because it was found that the errors due to

the various co-efficients nearly compensate each other; partly on the ground that, until a severe test, by means of actual comparative measurements made for the purpose, has shown the expediency of these modifications, it seemed desirable to adhere to the old constants, and thus to preserve a uniformity in the results with the tables of Oltmans, Delcros, Gauss, Baily, and others, which have already been extensively used. The substitution of the co-efficient 0.00260, expressing, according to Schmidt's computation (*Mathem. und Physic. Geogr.*, II. p. 202), the variation of gravity in latitude, for the value 0.002837, does not sensibly alter the altitudes obtained.

The close agreement of the determinations furnished by Laplace's formula, in barometrical measurements carefully conducted, made in favorable circumstances, and during the warm season, with those obtained from repeated trigonometrical observations, or by the spirit-level, strongly testifies in favor of its general correctness. A few striking examples will suffice to show it.

The altitude of Mont Blanc, measured by the barometer, by MM. Bravais and Martins, on the 29th of August, 1844, and computed by Delcros, by means of nine corresponding stations situated on all sides of the mountain (see *Annuaire Météorologique de France*, for 1851, p. 274), was found to be 4810 metres. The altitude of the same point, being the mean of seven of the most elaborate and reliable geodetic measurements, which cost nearly twenty years of labor, is 4809.6 metres.

For smaller elevations the formula seems to answer equally well.

The barometrical measurement of Mount Washington, in New Hampshire, by the author, on the 8th and 9th of August, 1851, gave, by Delcros's Tables, for the mean of eight observations, taken at different hours of the day, 5466.7 English feet above Gorham, N. H., 6285.7 above high tide, and 6291.7 feet above the mean level of the ocean in Portland harbor. In August, 1852, W. A. Goodwin, Civil Engineer, starting from Gorham Railroad Station, found, by the spirit-level, Mount Washington to be 6285.5 feet above mean tide. In September, 1853, Captain T. J. Cram, of the Topographical Engineers, executed, in behalf of the Coast Survey, a careful measurement with the spirit-level, on the same line, for the purpose of testing the various methods of measuring altitudes, and found Mount Washington to be 6293 English feet above the mean level of the ocean.

In lower latitudes the formula showed equally good results. By a barometrical measurement in July, 1856, the altitude of the highest peak of the Black Mountain, North Carolina, about Lat. 36°, was found by the author to be 6701 English feet; and that of the highest Mountain House 5248 feet. In September, 1857, Major T. C. Turner, Chief Engineer of the Morganton Railroad, ran a line of levels from the same point which was used as the lower station for the barometrical measurement, to the top of the highest peak, and found its altitude to be 6711 English feet, and that of the Mountain House 5246 feet. Other points on the line agreed equally well.

Such an agreement, in so considerable elevations, is all that can be desired.

These figures show conclusively, that, when the errors which may arise from the great variability of the data furnished by the instruments have been removed by a repetition, in various states of the atmosphere, and by a proper combination of simultaneous observations at stations not too distant from each other, those which remain and may be attributed to the formula cannot be considerable. But, on the other

hand, we have no right to expect such results from single observations, taken, perhaps, in unsettled weather, without paying any regard to the time of the day at which they were made, to the distance or the non-simultaneity of the corresponding observations, or to other unfavorable circumstances. It is too well known that in such cases large errors may and do actually occur; but for these the formula ought not to be held responsible.

## Arrangement of the Tables.

If we call

$h$ = the observed height of the barometer
$\tau$ = the temperature of the barometer
$t$ = the temperature of the air
} at the lower station;

$h'$ = the observed height of the barometer
$\tau'$ = the temperature of the barometer
$t'$ = the temperature of the air
} at the upper station.

If we make, further,

$Z$ = the difference of level between the two barometers;

$L$ = the mean latitude between the two stations;

$H$ = the height of the barometer at the upper station reduced to the temperature of the barometer at the lower station; or,

$H = h' \{1 + 0.00008967\ (\tau - \tau')\}$;

The expansion of the mercurial column, measured by a brass scale, for 1° Fahrenheit = 0.00008967;

The increase of gravity from the equator to the poles = 0.00520048, or 0.00260 to the 45th degree of latitude;

The earth's mean radius = 20,886,860 English feet;

Then, Laplace's formula, reduced to English measures, reads as follows:

$$Z = \log \frac{h}{H} \times 60158.6 \text{ English feet} \left\{ \begin{array}{l} \left(1 + \frac{t + t' - 64}{900}\right). \\ (1 + 0.00260 \cos 2\,L). \\ \left(1 + \frac{z + 52252}{20886860} + \frac{h}{10443430}\right). \end{array} \right.$$

Table I. gives, in English feet, the value of log $H$ or $h \times 60158.6$ for every hundredth of an inch, from 12 to 31 inches in the barometer, together with the value of the additional thousandths, in a separate column. These values have been diminished by a constant, which does not alter the difference required.

Table II. gives the correction 2.343 feet $\times (\tau - \tau')$ for the difference of the temperatures of the barometers at the two stations, or $\tau - \tau'$. As the temperature at the upper station is generally lower, $\tau - \tau'$ is usually positive, and the correction *negative*. It becomes *positive* when the temperature of the upper barometer is higher, and $\tau - \tau'$ negative. When the heights of the barometers have been reduced to the same temperature, or to the freezing point, this table will not be used.

Table IV. shows the correction $D' \frac{z + 52252}{20886860}$ to be applied to the approximate altitude for the decrease of gravity on a vertical acting on the density of the mercurial column. It is always *additive*.

Table V. furnishes the small correction $\frac{h}{10443430}$ for the decrease of gravity on a vertical acting on the density of the air; the height of the barometer $h$ at the lower station representing its approximate altitude. Like the preceding correction, it is always *additive*.

## Use of the Tables.

In Table I. find first the numbers corresponding to the observed heights of the barometer $h$ and $h'$. Suppose, for instance, $h = 29.345$ in.; find in the first column on the left the number 29.3; on the same horizontal line, in the column headed .04, is given the number corresponding to $29.34 = 28121.7$; in the last column but one on the right, we find for $.005 = 4.5$, or for $29.345 = 28126.2$. Take likewise the value of $h'$, and find the difference.

If the barometrical heights have not been previously reduced to the same temperature, or to the freezing point, apply to the difference the correction found in Table II. opposite the number representing $\tau - \tau'$; we thus obtain the approximate difference of level, $D$.

For computing the correction due to the expansion of the air according to its temperature, or $D \times \left(\frac{t + t' - 64}{900}\right)$, make the sum of the temperatures, subtract from that sum 64; multiply the rest into the approximate difference $D$, and divide the product by 900. This correction is of the same sign as $(t + t' - 64)$. By applying it, we obtain a second approximate difference of level, $D'$.

In Table III., with $D'$ and the mean latitude of the stations, find the correction for variation of gravity in latitude, and add it to $D'$, paying due attention to the sign.

In Table IV. with $D'$, and in Table V. with $D'$ and the height of the barometer at the lower station, take the corrections for the decrease of gravity on a vertical, and add them to the approximate difference of level.

The sum thus found is the true difference of level between the two stations, or $Z$; by adding the elevation of the lower station above the level of the sea, when known, we obtain the *altitude* of the upper station.

The use of the small table, VI., by means of which approximate differences of level can be obtained by a single multiplication, is explained below, page 90.

### *Example* 1.

Measurement of Mount Washington, New Hampshire, by A. Guyot, August 8th, 1851, 4 P. M.; the barometer at the lower station being at 825 English feet above the mean level of the sea; at the upper station at one foot below the summit.

The observation gave,

| | Barometer. | Attached Thermometer. | Temperature of Air. |
|---|---|---|---|
| Gorham, | $h = 29.272$ in. | $\tau = 70°.70$ F. | $t = 72°.05$ F. |
| Mount Washington, | $h' = 24.030$ " | $\tau' = 54°.52$ F. | $t' = 50°.54$ F. |
| | | $\tau - \tau' = 16°.18$ F. | 122°.59 F. |
| | | | $- 64°$ |
| | | | $t + t' - 64 = 58°.59$ F. |

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| | |
|---|---|
| Table I. gives for $h$ = 29.272 inches, . . . | 28,061.00 |
| " " for $h'$ = 24.030 " . . . | 22,905.60 |
| Difference, . . | 5,155.40 |
| Table II. gives for $\tau - \tau'$ = 16°.38 . . . | — 37.64 |
| Approximate difference of level, $D$ = | 5,117.76 |
| $\frac{D \times (t + t' - 64)}{900} = \frac{5118 \times 58.6}{900}$ = | 333.19 |
| Second approximate difference, $D'$ = | 5,450.95 |
| Table III. gives for $D'$ = 5450 and Lat. 44° . . | 0.50 |
| Table IV. gives for $D'$ = 5450 . . . . . | 14.94 |
| Table V. gives for $h$ = 29.27 . . . . . | 0.00 |
| Barometer below summit, . . | + 1.00 |
| Mount Washington above Gorham, or . . $Z$ = | 5,465.39 |
| Barometer at Gorham above sea level . . | 825.00 |
| Mount Washington above the sea, or altitude, . . | 6,290.39 Eng. ft. |

*Example* 2.

Measurement of the highest peak of the Black Mountain, in North Carolina, July 11th, 1856, by A. Guyot.

By observation we have at,

| | Barometer. | Attached Thermometer. | Temperature of Air. |
|---|---|---|---|
| Mountain House, | $h$ = 24.934 in. | $\tau$ = 64°.58 F. | $t$ = 61°.34 F. |
| Highest Peak, | $h'$ = 23.662 " | $\tau'$ = 61°.88 F. | $t'$ = 59°.36 F. |
| | | $\tau - \tau'$ = 2°.70 F. | 120°.70 F. |
| | | | — 64° |
| | | | $t + t' - 64$ = 56°.7 F. |

| | |
|---|---|
| Table I. gives for $h$ = 24.934 . . . . . | 23,870.4 |
| " " for $h'$ = 23.662 . . . . . | 22,502.4 |
| Difference, . . . . . | 1,368.0 |
| Table II. gives for $\tau - \tau'$ = 2.7 . . . . . | — 6.3 |
| Approximate difference, $D$ = | 1,361.7 |
| $\frac{D \times (t + t' - 64)}{900} = \frac{1362 \times 56.7}{900}$ = | 85.8 |
| Second approximate difference, $D'$ = | 1,447.5 |
| Table III. gives for $D'$ = 1448 and Lat. 36° . . | 1.2 |
| Table IV. gives for $D'$ = 1448 . . . . . | 3.8 |
| Table V. gives for $D'$ = 1448 and $h$ = 25 . . | 0.7 |
| Highest peak above Mountain House, or . . $Z$ = | 1,453.2 |
| Mountain House above the sea . . . . . | 5,248.4 |
| Black Mountain, highest peak above the sea, or altitude, | 6,701.6 Eng. ft. |

# TABLES

## FOR COMPUTING THE DIFFERENCE IN THE HEIGHT OF TWO PLACES FROM BAROMETRICAL OBSERVATIONS.

I. $D = 60158.58 \times \log H$ or $h$. Argument, the observed Height of the Barometer at either Station.

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | | |
| 12.0 | 4763.4 | 4785.2 | 4806.9 | 4828.7 | 4850.4 | 4872.1 | 4893.7 | 4915.4 | 4937.0 | 4958.6 | | | 12.0 |
| 12.1 | 4980.2 | 5001.8 | 5023.4 | 5044.9 | 5066.4 | 5087.9 | 5109.4 | 5130.9 | 5152.4 | 5173.8 | | | 12.1 |
| 12.2 | 5195.2 | 5216.6 | 5238.0 | 5259.4 | 5280.7 | 5302.1 | 5323.4 | 5344.7 | 5367.0 | 5387.2 | | Feet. | 12.2 |
| 12.3 | 5408.5 | 5429.8 | 5452.0 | 5472.2 | 5493.4 | 5514.5 | 5535.7 | 5556.8 | 5578.9 | 5599.0 | 1 | 2.1 | 12.3 |
| 12.4 | 5620.1 | 5641.2 | 5662.2 | 5683.2 | 5704.3 | 5725.3 | 5746.2 | 5767.2 | 5788.1 | 5809.0 | 2 | 4.2 | 12.4 |
| 12.5 | 5829.9 | 5850.8 | 5871.7 | 5892.6 | 5913.4 | 5934.2 | 5955.0 | 5975.8 | 5996.6 | 6017.4 | 3 | 6.2 | 12.5 |
| 12.6 | 6038.1 | 6058.8 | 6079.6 | 6100.2 | 6120.9 | 6141.6 | 6162.2 | 6182.8 | 6203.5 | 6224.0 | 4 | 8.3 | 12.6 |
| 12.7 | 6244.6 | 6265.2 | 6285.8 | 6306.3 | 6326.8 | 6347.3 | 6367.8 | 6388.3 | 6408.8 | 6429.2 | 5 | 10.4 | 12.7 |
| 12.8 | 6449.6 | 6470.0 | 6490.4 | 6510.8 | 6531.1 | 6551.5 | 6571.8 | 6592.1 | 6612.4 | 6632.7 | 6 | 12.5 | 12.8 |
| 12.9 | 6652.9 | 6673.2 | 6693.4 | 6713.6 | 6733.8 | 6754.0 | 6774.1 | 6794.3 | 6814.4 | 6834.5 | 7 | 14.6 | 12.9 |
| 13.0 | 6854.7 | 6874.7 | 6894.8 | 6914.9 | 6934.9 | 6955.0 | 6975.0 | 6995.0 | 7014.9 | 7034.9 | 8 | 16.6 | 13.0 |
| 13.1 | 7054.9 | 7074.8 | 7094.7 | 7114.6 | 7134.5 | 7154.4 | 7174.3 | 7194.1 | 7213.9 | 7233.8 | 9 | 18.7 | 13.1 |
| 13.2 | 7253.6 | 7273.3 | 7293.1 | 7312.9 | 7332.6 | 7352.3 | 7372.1 | 7391.8 | 7411.4 | 7431.1 | | | 13.2 |
| 13.3 | 7450.8 | 7470.4 | 7490.0 | 7509.6 | 7529.2 | 7548.8 | 7568.4 | 7587.9 | 7607.4 | 7627.0 | | | 13.3 |
| 13.4 | 7646.5 | 7666.0 | 7685.4 | 7704.9 | 7724.4 | 7743.8 | 7763.2 | 7782.6 | 7802.0 | 7821.4 | | | 13.4 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | Feet. | |
| 13.5 | 7840.8 | 7860.1 | 7879.4 | 7898.7 | 7918.0 | 7937.3 | 7956.6 | 7975.8 | 7995.1 | 8014.3 | | | 13.5 |
| 13.6 | 8033.6 | 8052.8 | 8071.9 | 8091.1 | 8110.3 | 8129.4 | 8148.6 | 8167.7 | 8186.8 | 8205.9 | | | 13.6 |
| 13.7 | 8225.0 | 8244.0 | 8263.1 | 8282.1 | 8301.1 | 8320.1 | 8339.1 | 8358.1 | 8377.1 | 8396.0 | 1 | 1.9 | 13.7 |
| 13.8 | 8415.0 | 8433.9 | 8452.8 | 8471.7 | 8490.6 | 8509.4 | 8528.3 | 8547.1 | 8565.9 | 8584.8 | 2 | 3.8 | 13.8 |
| 13.9 | 8603.6 | 8622.3 | 8641.1 | 8659.9 | 8678.6 | 8697.4 | 8716.1 | 8734.8 | 8753.5 | 8772.2 | 3 | 5.6 | 13.9 |
| 14.0 | 8790.8 | 8809.5 | 8828.2 | 8846.8 | 8865.4 | 8884.0 | 8902.6 | 8921.2 | 8939.7 | 8958.3 | 4 | 7.5 | 14.0 |
| 14.1 | 8976.8 | 8995.4 | 9013.9 | 9032.4 | 9050.8 | 9069.3 | 9087.8 | 9106.2 | 9124.6 | 9143.0 | 5 | 9.4 | 14.1 |
| 14.2 | 9161.4 | 9179.8 | 9198.2 | 9216.6 | 9234.9 | 9253.3 | 9271.6 | 9289.9 | 9308.2 | 9326.5 | 6 | 11.3 | 14.2 |
| 14.3 | 9344.7 | 9363.0 | 9381.3 | 9399.5 | 9417.7 | 9436.0 | 9454.2 | 9472.3 | 9490.5 | 9508.7 | 7 | 13.2 | 14.3 |
| 14.4 | 9526.8 | 9545.0 | 9563.1 | 9581.2 | 9599.3 | 9617.4 | 9635.5 | 9653.5 | 9671.6 | 9689.6 | 8 | 15.0 | 14.4 |
| 14.5 | 9707.6 | 9725.7 | 9743.7 | 9761.7 | 9779.6 | 9797.6 | 9815.6 | 9833.5 | 9851.4 | 9869.3 | 9 | 17.0 | 14.5 |
| 14.6 | 9887.2 | 9905.1 | 9923.0 | 9940.9 | 9958.7 | 9976.5 | 9994.4 | 10012.2 | 10030.0 | 10047.8 | | | 14.6 |
| 14.7 | 10065.5 | 10083.3 | 10101.1 | 10118.8 | 10136.6 | 10154.3 | 10172.0 | 10189.7 | 10207.4 | 10225.1 | | | 14.7 |
| 14.8 | 10242.7 | 10260.4 | 10278.0 | 10295.7 | 10313.3 | 10330.9 | 10348.5 | 10366.1 | 10383.6 | 10401.2 | 1 | 1.7 | 14.8 |
| 14.9 | 10418.7 | 10436.3 | 10453.8 | 10471.3 | 10488.8 | 10506.3 | 10523.7 | 10541.2 | 10558.6 | 10576.0 | 2 | 3.4 | 14.9 |
| 15.0 | 10593.4 | 10610.8 | 10628.2 | 10645.6 | 10662.9 | 10680.3 | 10697.6 | 10715.0 | 10732.3 | 10749.6 | 3 | 5.1 | 15.0 |
| 15.1 | 10766.9 | 10784.1 | 10801.5 | 10818.7 | 10836.0 | 10853.2 | 10870.5 | 10887.7 | 10904.9 | 10922.1 | 4 | 6.8 | 15.1 |
| 15.2 | 10939.3 | 10956.5 | 10973.6 | 10990.8 | 11008.0 | 11025.1 | 11042.2 | 11059.3 | 11076.4 | 11093.5 | 5 | 8.5 | 15.2 |
| 15.3 | 11110.6 | 11127.7 | 11144.7 | 11161.8 | 11178.8 | 11195.8 | 11212.8 | 11229.8 | 11246.8 | 11263.8 | 6 | 10.2 | 15.3 |
| 15.4 | 11280.8 | 11297.8 | 11314.7 | 11331.6 | 11348.6 | 11365.5 | 11382.4 | 11399.3 | 11416.2 | 11433.0 | 7 | 11.9 | 15.4 |
| 15.5 | 11449.9 | 11466.7 | 11483.6 | 11500.4 | 11517.2 | 11534.0 | 11550.8 | 11567.6 | 11584.4 | 11601.1 | 8 | 13.6 | 15.5 |
| 15.6 | 11617.9 | 11634.6 | 11651.4 | 11668.1 | 11684.8 | 11701.5 | 11718.2 | 11734.9 | 11751.6 | 11768.2 | 9 | 15.3 | 15.6 |
| 15.7 | 11784.9 | 11801.5 | 11818.2 | 11834.8 | 11851.4 | 11868.0 | 11884.6 | 11901.1 | 11917.7 | 11934.3 | | | 15.7 |
| 15.8 | 11950.8 | 11967.3 | 11983.8 | 12000.4 | 12016.9 | 12033.3 | 12049.8 | 12066.3 | 12082.7 | 12099.2 | | | 15.8 |
| 15.9 | 12115.6 | 12132.0 | 12148.4 | 12164.8 | 12181.2 | 12197.6 | 12214.0 | 12230.4 | 12246.7 | 12263.1 | | | 15.9 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | Feet. | |
| 16.0 | 12279.6 | 12295.9 | 12312.2 | 12328.5 | 12344.8 | 12361.1 | 12377.4 | 12393.6 | 12409.9 | 12426.1 | | | 16.0 |
| 16.1 | 12442.4 | 12458.6 | 12474.8 | 12491.0 | 12507.2 | 12523.4 | 12539.6 | 12555.7 | 12571.9 | 12588.0 | | | 16.1 |
| 16.2 | 12604.2 | 12620.3 | 12636.4 | 12652.5 | 12668.6 | 12684.7 | 12700.8 | 12716.8 | 12732.9 | 12748.9 | 1 | 1.6 | 16.2 |
| 16.3 | 12765.0 | 12781.0 | 12797.0 | 12813.0 | 12829.0 | 12845.0 | 12861.0 | 12876.9 | 12892.9 | 12908.8 | 2 | 3.1 | 16.3 |
| 16.4 | 12924.8 | 12940.7 | 12956.6 | 12972.5 | 12988.4 | 13004.3 | 13020.2 | 13036.0 | 13051.9 | 13067.7 | 3 | 4.7 | 16.4 |
| 16.5 | 13083.6 | 13099.4 | 13115.2 | 13131.0 | 13146.8 | 13162.6 | 13178.4 | 13194.2 | 13210.0 | 13225.7 | 4 | 6.3 | 16.5 |
| 16.6 | 13241.5 | 13257.2 | 13272.9 | 13288.6 | 13304.3 | 13320.0 | 13335.7 | 13351.4 | 13367.1 | 13382.7 | 5 | 7.8 | 16.6 |
| 16.7 | 13398.4 | 13414.0 | 13429.6 | 13445.2 | 13460.8 | 13476.4 | 13492.0 | 13507.6 | 13523.2 | 13538.7 | 6 | 9.4 | 16.7 |
| 16.8 | 13554.3 | 13569.8 | 13585.4 | 13600.9 | 13616.4 | 13631.9 | 13647.4 | 13662.9 | 13678.4 | 13693.9 | 7 | 11.0 | 16.8 |
| 16.9 | 13709.4 | 13724.8 | 13740.3 | 13755.7 | 13771.1 | 13786.5 | 13801.9 | 13817.3 | 13832.7 | 13848.1 | 8 | 12.5 | 16.9 |
| 17.0 | 13863.5 | 13878.8 | 13894.2 | 13909.6 | 13924.9 | 13940.2 | 13955.6 | 13970.9 | 13986.2 | 14001.5 | 9 | 14.1 | 17.0 |
| 17.1 | 14016.8 | 14032.0 | 14047.3 | 14062.6 | 14077.8 | 14093.0 | 14108.3 | 14123.5 | 14138.7 | 14153.9 | | | 17.1 |
| 17.2 | 14169.1 | 14184.3 | 14199.4 | 14214.6 | 14229.8 | 14244.9 | 14260.1 | 14275.2 | 14290.3 | 14305.5 | | | 17.2 |
| 17.3 | 14320.6 | 14335.7 | 14350.8 | 14365.8 | 14380.9 | 14396.0 | 14411.0 | 14426.1 | 14441.1 | 14456.2 | | | 17.3 |
| 17.4 | 14471.2 | 14486.2 | 14501.2 | 14516.2 | 14531.2 | 14546.1 | 14561.1 | 14576.1 | 14591.0 | 14605.9 | 1 | 1.5 | 17.4 |
| 17.5 | 14620.9 | 14635.8 | 14650.7 | 14665.6 | 14680.5 | 14695.4 | 14710.3 | 14725.2 | 14740.1 | 14754.9 | 2 | 2.9 | 17.5 |
| 17.6 | 14769.8 | 14784.6 | 14799.4 | 14814.3 | 14829.1 | 14843.9 | 14858.7 | 14873.5 | 14888.2 | 14903.0 | 3 | 4.4 | 17.6 |
| 17.7 | 14917.8 | 14932.5 | 14947.3 | 14962.0 | 14976.8 | 14991.5 | 15006.2 | 15020.9 | 15035.6 | 15050.3 | 4 | 5.8 | 17.7 |
| 17.8 | 15065.0 | 15079.6 | 15094.3 | 15109.0 | 15123.6 | 15138.2 | 15152.9 | 15167.5 | 15182.1 | 15196.7 | 5 | 7.3 | 17.8 |
| 17.9 | 15211.3 | 15225.9 | 15240.5 | 15255.0 | 15269.6 | 15284.2 | 15298.7 | 15313.3 | 15327.8 | 15342.4 | 6 | 8.8 | 17.9 |
| 18.0 | 15356.8 | 15371.3 | 15385.8 | 15400.3 | 15414.8 | 15429.3 | 15443.7 | 15458.2 | 15472.7 | 15487.1 | 7 | 10.2 | 18.0 |
| 18.1 | 15501.5 | 15516.0 | 15530.4 | 15544.8 | 15559.2 | 15573.6 | 15588.0 | 15602.4 | 15616.8 | 15631.2 | 8 | 11.7 | 18.1 |
| 18.2 | 15645.5 | 15659.9 | 15674.2 | 15688.5 | 15702.9 | 15717.2 | 15731.5 | 15745.8 | 15760.1 | 15774.4 | 9 | 13.1 | 18.2 |
| 18.3 | 15788.6 | 15802.9 | 15817.2 | 15831.4 | 15845.7 | 15859.9 | 15874.2 | 15888.4 | 15902.6 | 15916.8 | | | 18.3 |
| 18.4 | 15931.0 | 15945.2 | 15959.4 | 15973.6 | 15987.8 | 16001.9 | 16016.1 | 16030.2 | 16044.4 | 16058.5 | | | 18.4 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | | |
| 18.5 | 16072.6 | 16086.8 | 16100.9 | 16115.0 | 16129.1 | 16143.2 | 16157.3 | 16171.3 | 16185.4 | 16199.5 | | | 18.5 |
| 18.6 | 16213.5 | 16227.6 | 16241.6 | 16255.6 | 16269.7 | 16283.7 | 16297.7 | 16311.7 | 16325.7 | 16339.6 | | Feet. | 18.6 |
| 18.7 | 16353.5 | 16367.5 | 16381.5 | 16395.4 | 16409.4 | 16423.3 | 16437.2 | 16451.2 | 16465.1 | 16479.0 | 1 | 1.4 | 18.7 |
| 18.8 | 16492.9 | 16506.8 | 16520.7 | 16534.6 | 16548.5 | 16562.3 | 16576.2 | 16590.0 | 16603.9 | 16617.8 | 2 | 2.7 | 18.8 |
| 18.9 | 16631.5 | 16645.4 | 16659.2 | 16673.0 | 16686.8 | 16700.6 | 16714.4 | 16728.1 | 16741.9 | 16755.7 | 3 | 4.1 | 18.9 |
| 19.0 | 16769.4 | 16783.2 | 16796.9 | 16810.6 | 16824.3 | 16838.1 | 16851.8 | 16865.5 | 16879.2 | 16892.8 | 4 | 5.4 | 19.0 |
| 19.1 | 16906.5 | 16920.2 | 16933.9 | 16947.5 | 16961.2 | 16974.9 | 16988.5 | 17002.1 | 17015.8 | 17029.4 | 5 | 6.8 | 19.1 |
| 19.2 | 17043.0 | 17056.6 | 17070.2 | 17083.8 | 17097.4 | 17110.9 | 17124.5 | 17138.1 | 17151.6 | 17165.2 | 6 | 8.1 | 19.2 |
| 19.3 | 17178.7 | 17192.2 | 17205.8 | 17219.3 | 17232.8 | 17246.3 | 17259.8 | 17273.3 | 17286.8 | 17300.3 | 7 | 9.5 | 19.3 |
| 19.4 | 17313.7 | 17327.2 | 17340.6 | 17354.1 | 17367.5 | 17380.9 | 17394.4 | 17407.8 | 17421.2 | 17434.6 | 8 | 10.9 | 19.4 |
| 19.5 | 17448.0 | 17461.4 | 17474.8 | 17488.2 | 17501.6 | 17515.0 | 17528.3 | 17541.7 | 17555.0 | 17568.4 | 9 | 12.2 | 19.5 |
| 19.6 | 17581.7 | 17595.0 | 17608.3 | 17621.7 | 17635.0 | 17648.2 | 17661.5 | 17674.8 | 17688.1 | 17701.4 | | | 19.6 |
| 19.7 | 17714.6 | 17727.9 | 17741.1 | 17754.4 | 17767.6 | 17780.8 | 17794.1 | 17807.3 | 17820.5 | 17833.7 | | | 19.7 |
| 19.8 | 17846.9 | 17860.1 | 17873.3 | 17886.5 | 17899.6 | 17912.8 | 17926.0 | 17939.1 | 17952.2 | 17965.4 | | | 19.8 |
| 19.9 | 17978.5 | 17991.6 | 18004.8 | 18017.9 | 18031.0 | 18044.1 | 18057.2 | 18070.3 | 18083.4 | 18096.4 | 1 | 1.3 | 19.9 |
| 20.0 | 18109.5 | 18122.6 | 18135.6 | 18148.7 | 18161.7 | 18174.8 | 18187.8 | 18200.8 | 18213.8 | 18226.8 | 2 | 2.6 | 20.0 |
| 20.1 | 18239.8 | 18252.8 | 18265.8 | 18278.8 | 18291.8 | 18304.8 | 18317.7 | 18330.7 | 18343.6 | 18356.6 | 3 | 3.9 | 20.1 |
| 20.2 | 18369.5 | 18382.5 | 18395.4 | 18408.3 | 18421.2 | 18434.1 | 18447.0 | 18459.9 | 18472.8 | 18485.7 | 4 | 5.1 | 20.2 |
| 20.3 | 18498.5 | 18511.4 | 18524.3 | 18537.1 | 18550.0 | 18562.8 | 18575.7 | 18588.5 | 18601.3 | 18614.1 | 5 | 6.4 | 20.3 |
| 20.4 | 18626.9 | 18639.7 | 18652.5 | 18665.3 | 18678.1 | 18690.9 | 18703.6 | 18716.4 | 18729.1 | 18741.9 | 6 | 7.7 | 20.4 |
| 20.5 | 18754.6 | 18767.4 | 18780.1 | 18792.9 | 18805.6 | 18818.3 | 18831.0 | 18843.7 | 18856.4 | 18869.1 | 7 | 9.0 | 20.5 |
| 20.6 | 18881.8 | 18894.5 | 18907.2 | 18919.9 | 18932.5 | 18945.2 | 18957.8 | 18970.5 | 18983.1 | 18995.7 | 8 | 10.3 | 20.6 |
| 20.7 | 19008.3 | 19021.0 | 19033.6 | 19046.2 | 19058.8 | 19071.4 | 19083.9 | 19096.5 | 19109.1 | 19121.7 | 9 | 11.6 | 20.7 |
| 20.8 | 19134.2 | 19146.8 | 19159.3 | 19171.9 | 19184.4 | 19196.9 | 19209.5 | 19222.0 | 19234.5 | 19247.0 | | | 20.8 |
| 20.9 | 19259.5 | 19272.0 | 19284.5 | 19297.1 | 19309.5 | 19322.0 | 19334.4 | 19346.9 | 19359.3 | 19371.8 | | | 20.9 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | Feet. | |
| 21.0 | 19384.3 | 19396.7 | 19409.1 | 19421.5 | 19434.0 | 19446.4 | 19458.8 | 19471.2 | 19483.6 | 19496.0 | | | 21.0 |
| 21.1 | 19508.4 | 19520.8 | 19533.1 | 19545.5 | 19557.9 | 19570.2 | 19582.6 | 19594.9 | 19607.3 | 19619.6 | 1 | 1.2 | 21.1 |
| 21.2 | 19632.0 | 19644.3 | 19656.6 | 19668.9 | 19681.2 | 19693.5 | 19705.8 | 19718.0 | 19730.3 | 19742.6 | 2 | 2.4 | 21.2 |
| 21.3 | 19754.9 | 19767.1 | 19779.4 | 19791.6 | 19803.9 | 19816.1 | 19828.4 | 19840.6 | 19852.8 | 19865.0 | 3 | 3.6 | 21.3 |
| 21.4 | 19877.3 | 19889.5 | 19901.7 | 19913.9 | 19926.0 | 19938.2 | 19950.4 | 19962.6 | 19974.7 | 19986.9 | 4 | 4.8 | 21.4 |
| 21.5 | 19999.1 | 20011.2 | 20023.3 | 20035.5 | 20047.6 | 20059.7 | 20071.8 | 20083.9 | 20096.1 | 20108.2 | 5 | 6.0 | 21.5 |
| 21.6 | 20120.3 | 20132.3 | 20144.4 | 20156.5 | 20168.6 | 20180.7 | 20192.7 | 20204.8 | 20216.9 | 20228.9 | 6 | 7.2 | 21.6 |
| 21.7 | 20241.0 | 20253.0 | 20265.0 | 20277.0 | 20289.1 | 20301.1 | 20313.1 | 20325.1 | 20337.1 | 20349.1 | 7 | 8.4 | 21.7 |
| 21.8 | 20361.1 | 20373.0 | 20385.0 | 20397.0 | 20409.0 | 20420.9 | 20432.9 | 20444.8 | 20456.8 | 20468.7 | 8 | 9.7 | 21.8 |
| 21.9 | 20480.7 | 20492.6 | 20504.5 | 20516.4 | 20528.3 | 20540.2 | 20552.1 | 20564.0 | 20575.9 | 20587.8 | 9 | 10.9 | 21.9 |
| 22.0 | 20599.7 | 20611.5 | 20623.4 | 20635.3 | 20647.1 | 20659.0 | 20670.8 | 20682.7 | 20694.5 | 20706.3 | | | 22.0 |
| 22.1 | 20718.2 | 20732.0 | 20741.8 | 20753.6 | 20765.4 | 20777.2 | 20789.0 | 20801.8 | 20812.6 | 20824.4 | | | 22.1 |
| 22.2 | 20836.2 | 20847.9 | 20859.7 | 20871.4 | 20883.2 | 20894.9 | 20906.7 | 20918.4 | 20930.1 | 20941.9 | | | 22.2 |
| 22.3 | 20953.6 | 20965.3 | 20977.0 | 20988.7 | 21000.4 | 21012.1 | 21023.8 | 21035.4 | 21047.1 | 21058.8 | 1 | 1.1 | 22.3 |
| 22.4 | 21070.5 | 21082.1 | 21093.8 | 21105.4 | 21117.1 | 21128.7 | 21140.4 | 21152.0 | 21163.6 | 21175.3 | 2 | 2.3 | 22.4 |
| 22.5 | 21186.9 | 21198.5 | 21210.1 | 21221.6 | 21233.2 | 21244.8 | 21256.4 | 21268.0 | 21279.5 | 21291.1 | 3 | 3.4 | 22.5 |
| 22.6 | 21302.6 | 21314.2 | 21325.8 | 21337.3 | 21348.9 | 21360.4 | 21371.9 | 21383.5 | 21395.0 | 21406.5 | 4 | 4.6 | 22.6 |
| 22.7 | 21418.1 | 21429.6 | 21441.1 | 21452.5 | 21464.0 | 21475.5 | 21487.0 | 21498.5 | 21509.9 | 21521.4 | 5 | 5.7 | 22.7 |
| 22.8 | 21532.9 | 21544.3 | 21555.8 | 21567.2 | 21578.7 | 21590.1 | 21601.6 | 21613.0 | 21624.4 | 21635.8 | 6 | 6.8 | 22.8 |
| 22.9 | 21647.3 | 21658.7 | 21670.1 | 21681.4 | 21692.8 | 21704.2 | 21715.6 | 21727.0 | 21738.3 | 21749.7 | 7 | 8.0 | 22.9 |
| 23.0 | 21761.0 | 21772.4 | 21783.7 | 21795.1 | 21806.4 | 21817.7 | 21829.1 | 21840.4 | 21851.7 | 21863.0 | 8 | 9.1 | 23.0 |
| 23.1 | 21874.3 | 21885.6 | 21897.0 | 21908.3 | 21919.6 | 21930.8 | 21942.1 | 21953.4 | 21964.7 | 21976.0 | 9 | 10.2 | 23.1 |
| 23.2 | 21987.2 | 21998.5 | 22009.8 | 22021.0 | 22032.3 | 22043.5 | 22054.7 | 22066.0 | 22077.2 | 22088.4 | | | 23.2 |
| 23.3 | 22099.6 | 22110.8 | 22122.1 | 22133.3 | 22144.5 | 22155.6 | 22166.8 | 22178.0 | 22189.2 | 22200.4 | | | 23.3 |
| 23.4 | 22211.5 | 22222.7 | 22233.9 | 22245.0 | 22256.2 | 22267.3 | 22278.4 | 22289.6 | 22300.7 | 22311.8 | | | 23.4 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng Feet. | Eng Feet. | Eng Feet | Eng. Feet | | | |
| 23.5 | 22322.9 | 22334.0 | 22345.2 | 22356.3 | 22367.4 | 22378.4 | 22389.5 | 22400.6 | 22411.7 | 22422.8 | | | 23.5 |
| 23.6 | 22433.8 | 22444.9 | 22456.0 | 22467.0 | 22478.1 | 22489.1 | 22500.2 | 22511.2 | 22522.3 | 22533.3 | | | 23.6 |
| 23.7 | 22544.3 | 22555.4 | 22566.4 | 22577.4 | 22588.4 | 22599.4 | 22610.4 | 22621.4 | 22632.4 | 22643.4 | | Feet | 23.7 |
| 23.8 | 22654.3 | 22665.3 | 22676.3 | 22687.2 | 22698.2 | 22709.1 | 22720.1 | 22731.0 | 22742.0 | 22752.9 | 1 | 1.1 | 23.8 |
| 23.9 | 22763.8 | 22774.8 | 22785.7 | 22796.6 | 22807.5 | 22818.4 | 22829.4 | 22840.3 | 22851.2 | 22862.0 | 2 | 2.2 | 23.9 |
| 24.0 | 22873.0 | 22883.9 | 22894.7 | 22905.6 | 22916.5 | 22927.4 | 22938.2 | 22949.1 | 22960.0 | 22970.8 | 3 | 3.2 | 24.0 |
| 24.1 | 22981.7 | 22992.5 | 23003.3 | 23014.2 | 23025.0 | 23035.8 | 23046.6 | 23057.5 | 23068.3 | 23079.1 | 4 | 4.3 | 24.1 |
| 24.2 | 23089.9 | 23100.7 | 23111.4 | 23122.2 | 23133.0 | 23143.8 | 23154.5 | 23165.3 | 23176.1 | 23186.8 | 5 | 5.4 | 24.2 |
| 24.3 | 23197.6 | 23208.3 | 23219.1 | 23229.8 | 23240.5 | 23251.3 | 23262.0 | 23272.7 | 23283.4 | 23294.2 | 6 | 6.5 | 24.3 |
| 24.4 | 23304.9 | 23315.6 | 23326.3 | 23337.0 | 23347.6 | 23358.3 | 23369.0 | 23379.7 | 23390.3 | 23401.0 | 7 | 7.5 | 24.4 |
| 24.5 | 23411.7 | 23422.3 | 23433.0 | 23443.7 | 23454.3 | 23464.9 | 23475.6 | 23486.2 | 23496.8 | 23507.4 | 8 | 8.6 | 24.5 |
| 24.6 | 23518.1 | 23528.7 | 23539.3 | 23549.9 | 23560.5 | 23571.1 | 23581.7 | 23592.3 | 23602.9 | 23613.5 | 9 | 9.7 | 24.6 |
| 24.7 | 23624.1 | 23634.6 | 23645.2 | 23655.8 | 23666.3 | 23676.9 | 23687.5 | 23698.0 | 23708.6 | 23719.1 | | | 24.7 |
| 24.8 | 23729.7 | 23740.2 | 23750.7 | 23761.2 | 23771.7 | 23782.3 | 23792.8 | 23803.3 | 23813.8 | 23824.3 | | | 24.8 |
| 24.9 | 23834.8 | 23845.3 | 23855.7 | 23866.2 | 23876.7 | 23887.2 | 23897.7 | 23908.2 | 23918.6 | 23929.1 | 1 | 1.0 | 24.9 |
| 25.0 | 23939.5 | 23949.9 | 23960.4 | 23970.8 | 23981.3 | 23991.7 | 24002.1 | 24012.5 | 24023.0 | 24033.4 | 2 | 2.1 | 25.0 |
| 25.1 | 24043.8 | 24054.2 | 24064.6 | 24075.0 | 24085.4 | 24095.7 | 24106.1 | 24116.5 | 24126.9 | 24137.2 | 3 | 3.1 | 25.1 |
| 25.2 | 24147.6 | 24158.0 | 24168.3 | 24178.7 | 24189.0 | 24199.4 | 24209.7 | 24220.1 | 24230.4 | 24240.8 | 4 | 4.1 | 25.2 |
| 25.3 | 24251.1 | 24261.4 | 24271.8 | 24282.1 | 24292.4 | 24302.7 | 24313.0 | 24323.3 | 24333.6 | 24343.9 | 5 | 5.1 | 25.3 |
| 25.4 | 24354.2 | 24364.5 | 24374.7 | 24385.0 | 24395.3 | 24405.5 | 24415.8 | 24426.1 | 24436.3 | 24446.6 | 6 | 6.2 | 25.4 |
| 25.5 | 24456.8 | 24467.0 | 24477.3 | 24487.5 | 24497.8 | 24508.0 | 24518.2 | 24528.4 | 24538.7 | 24548.9 | 7 | 7.2 | 25.5 |
| 25.6 | 24559.1 | 24569.3 | 24579.5 | 24589.7 | 24599.9 | 24610.0 | 24620.2 | 24630.4 | 24640.6 | 24650.7 | 8 | 8.2 | 25.6 |
| 25.7 | 24660.9 | 24671.1 | 24681.2 | 24691.4 | 24701.5 | 24711.7 | 24721.8 | 24732.0 | 24742.1 | 24752.3 | 9 | 9.2 | 25.7 |
| 25.8 | 24762.4 | 24772.5 | 24782.6 | 24792.8 | 24802.9 | 24813.0 | 24823.1 | 24833.2 | 24843.3 | 24853.4 | | | 25.8 |
| 25.9 | 24863.5 | 24873.6 | 24883.7 | 24893.7 | 24903.8 | 24913.9 | 24924.0 | 24934.0 | 24944.1 | 24954.1 | | | 25.9 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | Feet. | |
| 26.0 | 24964.2 | 24974.2 | 24984.3 | 24994.3 | 25004.4 | 25014.4 | 25024.4 | 25034.4 | 25044.5 | 25054.5 | | | 26.0 |
| 26.1 | 25064.5 | 25074.5 | 25084.5 | 25094.5 | 25104.5 | 25114.5 | 25124.5 | 25134.5 | 25144.4 | 25154.4 | | | 26.1 |
| 26.2 | 25164.4 | 25174.4 | 25184.3 | 25194.3 | 25204.2 | 25214.2 | 25224.1 | 25234.1 | 25244.0 | 25254.0 | 1 | 1.0 | 26.2 |
| 26.3 | 25263.9 | 25273.8 | 25283.8 | 25293.7 | 25303.6 | 25313.5 | 25323.4 | 25333.3 | 25343.2 | 25353.1 | 2 | 2.0 | 26.3 |
| 26.4 | 25363.0 | 25372.9 | 25382.8 | 25392.7 | 25402.6 | 25412.4 | 25422.3 | 25432.2 | 25442.1 | 25451.9 | 3 | 2.9 | 26.4 |
| 26.5 | 25461.8 | 25471.7 | 25481.5 | 25491.4 | 25501.2 | 25511.0 | 25520.9 | 25530.7 | 25540.5 | 25550.4 | 4 | 3.9 | 26.5 |
| 26.6 | 25560.2 | 25570.0 | 25579.8 | 25589.7 | 25599.5 | 25609.3 | 25619.1 | 25628.9 | 25638.7 | 25648.5 | 5 | 4.9 | 26.6 |
| 26.7 | 25658.3 | 25668.1 | 25677.8 | 25687.6 | 25697.4 | 25707.1 | 25716.9 | 25726.7 | 25736.4 | 25746.2 | 6 | 5.9 | 26.7 |
| 26.8 | 25755.9 | 25765.6 | 25775.4 | 25785.1 | 25794.8 | 25804.6 | 25814.3 | 25824.0 | 25833.8 | 25843.5 | 7 | 6.9 | 26.8 |
| 26.9 | 25853.2 | 25862.9 | 25872.6 | 25882.3 | 25892.0 | 25901.7 | 25911.4 | 25921.1 | 25930.8 | 25940.5 | 8 | 7.8 | 26.9 |
| 27.0 | 25950.2 | 25959.9 | 25969.6 | 25979.2 | 25988.9 | 25998.6 | 26008.2 | 26017.9 | 26027.5 | 26037.2 | 9 | 8.8 | 27.0 |
| 27.1 | 26046.8 | 26056.5 | 26066.1 | 26075.7 | 26085.3 | 26095.0 | 26104.6 | 26114.2 | 26123.8 | 26133.4 | | | 27.1 |
| 27.2 | 26143.0 | 26152.6 | 26162.2 | 26171.8 | 26181.4 | 26191.0 | 26200.6 | 26210.2 | 26219.8 | 26229.3 | | | 27.2 |
| 27.3 | 26238.9 | 26248.5 | 26258.0 | 26267.6 | 26277.2 | 26286.7 | 26296.3 | 26305.8 | 26315.3 | 26324.9 | | | 27.3 |
| 27.4 | 26334.4 | 26344.0 | 26353.5 | 26363.0 | 26372.5 | 26382.1 | 26391.6 | 26401.1 | 26410.6 | 26420.1 | 1 | 0.9 | 27.4 |
| 27.5 | 26429.6 | 26439.1 | 26448.6 | 26458.1 | 26467.6 | 26477.1 | 26486.5 | 26496.0 | 26505.5 | 26514.9 | 2 | 1.9 | 27.5 |
| 27.6 | 26524.4 | 26533.9 | 26543.3 | 26552.8 | 26562.3 | 26571.7 | 26581.2 | 26590.6 | 26600.0 | 26609.5 | 3 | 2.8 | 27.6 |
| 27.7 | 26618.9 | 26628.4 | 26637.8 | 26647.2 | 26656.7 | 26666.1 | 26675.5 | 26684.9 | 26694.3 | 26703.7 | 4 | 3.7 | 27.7 |
| 27.8 | 26713.1 | 26722.5 | 26731.9 | 26741.3 | 26750.7 | 26760.1 | 26769.5 | 26778.8 | 26788.2 | 26797.6 | 5 | 4.7 | 27.8 |
| 27.9 | 26806.9 | 26816.3 | 26825.6 | 26835.0 | 26844.3 | 26853.7 | 26863.0 | 26872.3 | 26881.7 | 26891.0 | 6 | 5.6 | 27.9 |
| 28.0 | 26900.4 | 26909.7 | 26919.0 | 26928.4 | 26937.7 | 26947.0 | 26956.3 | 26965.6 | 26975.0 | 26984.3 | 7 | 6.5 | 28.0 |
| 28.1 | 26993.6 | 27002.9 | 27012.2 | 27021.5 | 27030.7 | 27040.0 | 27049.3 | 27058.6 | 27067.8 | 27077.1 | 8 | 7.5 | 28.1 |
| 28.2 | 27086.4 | 27095.6 | 27104.9 | 27114.2 | 27123.4 | 27132.7 | 27141.9 | 27151.2 | 27160.4 | 27169.6 | 9 | 8.4 | 28.2 |
| 28.3 | 27178.9 | 27188.1 | 27197.3 | 27206.5 | 27215.7 | 27225.0 | 27234.2 | 27243.4 | 27252.6 | 27261.8 | | | 28.3 |
| 28.4 | 27271.0 | 27280.2 | 27289.4 | 27298.6 | 27307.8 | 27317.0 | 27326.2 | 27335.3 | 27344.5 | 27353.7 | | | 28.4 |

| Barometer in Eng. Inch. | Hundredths of an Inch. | | | | | | | | | | Thousandths of an Inch. | | Barometer in Eng. Inch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | | | |
| | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | Eng. Feet. | | Feet. | |
| 28.5 | 27362.9 | 27372.0 | 27381.2 | 27390.4 | 27399.5 | 27408.7 | 27417.8 | 27427.0 | 27436.1 | 27445.2 | | | 28.5 |
| 28.6 | 27454.4 | 27463.5 | 27472.6 | 27481.8 | 27490.9 | 27500.0 | 27509.1 | 27518.2 | 27527.4 | 27536.5 | | | 28.6 |
| 28.7 | 27545.6 | 27554.7 | 27563.8 | 27572.9 | 27582.0 | 27591.1 | 27600.2 | 27609.3 | 27618.3 | 27627.4 | 1 | 0.9 | 28.7 |
| 28.8 | 27636.5 | 27645.5 | 27654.6 | 27663.7 | 27672.7 | 27681.8 | 27690.8 | 27699.9 | 27708.9 | 27717.9 | 2 | 1.8 | 28.8 |
| 28.9 | 27727.0 | 27736.0 | 27745.1 | 27754.1 | 27763.1 | 27772.2 | 27781.2 | 27790.2 | 27799.2 | 27808.3 | 3 | 2.7 | 28.9 |
| 29.0 | 27817.2 | 27826.2 | 27835.2 | 27844.2 | 27853.2 | 27862.2 | 27871.2 | 27880.2 | 27889.1 | 27898.1 | 4 | 3.6 | 29.0 |
| 29.1 | 27907.1 | 27916.1 | 27925.0 | 27934.0 | 27943.0 | 27951.9 | 27960.9 | 27969.8 | 27978.8 | 27987.7 | 5 | 4.5 | 29.1 |
| 29.2 | 27996.7 | 28005.6 | 28014.6 | 28023.5 | 28032.4 | 28041.4 | 28050.3 | 28059.2 | 28068.2 | 28077.1 | 6 | 5.4 | 29.2 |
| 29.3 | 28086.0 | 28094.9 | 28103.8 | 28112.8 | 28121.7 | 28130.6 | 28139.5 | 28148.4 | 28157.3 | 28166.2 | 7 | 6.3 | 29.3 |
| 29.4 | 28175.1 | 28184.0 | 28192.9 | 28201.7 | 28210.6 | 28219.5 | 28228.4 | 28237.2 | 28246.1 | 28254.9 | 8 | 7.2 | 29.4 |
| 29.5 | 28263.8 | 28272.6 | 28281.5 | 28290.3 | 28299.2 | 28308.0 | 28316.9 | 28325.7 | 28334.5 | 28343.4 | 9 | 8.1 | 29.5 |
| 29.6 | 28352.2 | 28361.0 | 28369.8 | 28378.7 | 28387.5 | 28396.3 | 28405.1 | 28413.9 | 28422.7 | 28431.5 | | | 29.6 |
| 29.7 | 28440.3 | 28449.1 | 28457.9 | 28466.7 | 28475.4 | 28484.2 | 28493.0 | 28501.8 | 28510.6 | 28519.3 | | | 29.7 |
| 29.8 | 28528.1 | 28536.9 | 28545.6 | 28554.4 | 28563.2 | 28571.9 | 28580.7 | 28589.4 | 28598.2 | 28606.9 | | | 29.8 |
| 29.9 | 28615.7 | 28624.4 | 28633.2 | 28641.9 | 28650.6 | 28659.3 | 28668.1 | 28676.8 | 28685.5 | 28694.2 | 1 | 8.6 | 29.9 |
| 30.0 | 28702.9 | 28711.6 | 28720.3 | 28729.0 | 28737.7 | 28746.4 | 28755.1 | 28763.8 | 28772.5 | 28781.1 | 2 | 1.7 | 30.0 |
| 30.1 | 28789.8 | 28798.5 | 28807.2 | 28815.9 | 28824.5 | 28833.2 | 28841.9 | 28850.5 | 28859.2 | 28867.9 | 3 | 2.6 | 30.1 |
| 30.2 | 28876.5 | 28885.2 | 28893.8 | 28902.5 | 28911.1 | 28919.8 | 28928.4 | 28937.0 | 28945.7 | 28954.3 | 4 | 3.4 | 30.2 |
| 30.3 | 28962.9 | 28971.5 | 28980.1 | 28988.8 | 28997.4 | 29006.0 | 29014.6 | 29023.2 | 29031.7 | 29040.3 | 5 | 4.3 | 30.3 |
| 30.4 | 29048.9 | 29057.5 | 29066.1 | 29074.7 | 29083.3 | 29091.8 | 29100.4 | 29109.0 | 29117.6 | 29126.2 | 6 | 5.2 | 30.4 |
| 30.5 | 29134.7 | 29143.3 | 29151.9 | 29160.4 | 29169.0 | 29177.6 | 29186.1 | 29194.7 | 29203.2 | 29211.8 | 7 | 6.0 | 30.5 |
| 30.6 | 29220.3 | 29228.9 | 29237.4 | 29245.9 | 29254.4 | 29262.9 | 29271.5 | 29280.0 | 29288.5 | 29297.0 | 8 | 6.9 | 30.6 |
| 30.7 | 29305.5 | 29314.0 | 29322.5 | 29331.1 | 29339.6 | 29348.1 | 29356.6 | 29365.1 | 29373.5 | 29382.0 | 9 | 7.7 | 30.7 |
| 30.8 | 29390.5 | 29399.0 | 29407.5 | 29416.0 | 29424.4 | 29432.9 | 29441.4 | 29449.8 | 29458.3 | 29466.8 | | | 30.8 |
| 30.9 | 29475.2 | 29483.7 | 29492.1 | 29500.6 | 29509.0 | 29517.5 | 29525.9 | 29534.3 | 29542.8 | 29551.2 | | | 30.9 |

## II. Correction for $\tau - \tau'$, or Difference of the Temperature of the Barometers at the Two Stations.

This Correction is *negative* when the attached Thermometer at the Upper Station is lowest; *positive*, when the attached Thermometer at the Upper Station is highest.

| $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. | $\tau - \tau'$ Fahrenheit. | Correction in Eng. Feet. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | | ° | | ° | | ° | | ° | | ° | | ° | | ° | | ° | | ° | |
| 1.0 | 2.3 | 11.0 | 25.8 | 21.0 | 49.2 | 31.0 | 72.6 | 41.0 | 96.0 | 51.0 | 119.5 | 61.0 | 142.9 | 71.0 | 166.3 | 81.0 | 189.7 | 91.0 | 213.2 |
| 1.5 | 3.5 | 11.5 | 26.9 | 21.5 | 50.4 | 31.5 | 73.8 | 41.5 | 97.2 | 51.5 | 120.6 | 61.5 | 144.1 | 71.5 | 167.5 | 81.5 | 190.9 | 91.5 | 214.3 |
| 2.0 | 4.7 | 12.0 | 28.1 | 22.0 | 51.5 | 32.0 | 75.0 | 42.0 | 98.4 | 52.0 | 121.8 | 62.0 | 145.2 | 72.0 | 168.7 | 82.0 | 192.1 | 92.0 | 215.5 |
| 2.5 | 5.9 | 12.5 | 29.3 | 22.5 | 52.7 | 32.5 | 76.1 | 42.5 | 99.6 | 52.5 | 123.0 | 62.5 | 146.4 | 72.5 | 169.8 | 82.5 | 193.3 | 92.5 | 216.7 |
| 3.0 | 7.0 | 13.0 | 30.5 | 23.0 | 53.9 | 33.0 | 77.3 | 43.0 | 100.7 | 53.0 | 124.2 | 63.0 | 147.6 | 73.0 | 171.0 | 83.0 | 194.4 | 93.0 | 217.9 |
| 3.5 | 8.2 | 13.5 | 31.6 | 23.5 | 55.1 | 33.5 | 78.5 | 43.5 | 101.9 | 53.5 | 125.3 | 63.5 | 148.8 | 73.5 | 172.2 | 83.5 | 195.6 | 93.5 | 219.0 |
| 4.0 | 9.4 | 14.0 | 32.8 | 24.0 | 56.2 | 34.0 | 79.6 | 44.0 | 103.1 | 54.0 | 126.5 | 64.0 | 149.9 | 74.0 | 173.4 | 84.0 | 196.8 | 94.0 | 220.2 |
| 4.5 | 10.5 | 14.5 | 34.0 | 24.5 | 57.4 | 34.5 | 80.8 | 44.5 | 104.2 | 54.5 | 127.7 | 64.5 | 151.1 | 74.5 | 174.5 | 84.5 | 197.9 | 94.5 | 221.4 |
| 5.0 | 11.7 | 15.0 | 35.1 | 25.0 | 58.6 | 35.0 | 82.0 | 45.0 | 105.4 | 55.0 | 128.8 | 65.0 | 152.3 | 75.0 | 175.7 | 85.0 | 199.1 | 95.0 | 222.5 |
| 5.5 | 12.9 | 15.5 | 36.3 | 25.5 | 59.7 | 35.5 | 83.2 | 45.5 | 106.6 | 55.5 | 130.0 | 65.5 | 153.4 | 75.5 | 176.9 | 85.5 | 200.3 | 95.5 | 223.7 |
| 6.0 | 14.1 | 16.0 | 37.5 | 26.0 | 60.9 | 36.0 | 84.3 | 46.0 | 107.8 | 56.0 | 131.2 | 66.0 | 154.6 | 76.0 | 178.0 | 86.0 | 201.5 | 96.0 | 224.9 |
| 6.5 | 15.2 | 16.5 | 38.7 | 26.5 | 62.1 | 36.5 | 85.5 | 46.5 | 108.9 | 56.5 | 132.4 | 66.5 | 155.8 | 76.5 | 179.2 | 86.5 | 202.6 | 96.5 | 226.1 |
| 7.0 | 16.4 | 17.0 | 39.8 | 27.0 | 63.2 | 37.0 | 86.7 | 47.0 | 110.1 | 57.0 | 133.5 | 67.0 | 157.0 | 77.0 | 180.4 | 87.0 | 203.8 | 97.0 | 227.2 |
| 7.5 | 17.6 | 17.5 | 41.0 | 27.5 | 64.4 | 37.5 | 87.8 | 47.5 | 111.3 | 57.5 | 134.7 | 67.5 | 158.1 | 77.5 | 181.6 | 87.5 | 205.0 | 97.5 | 228.4 |
| 8.0 | 18.7 | 18.0 | 42.2 | 28.0 | 65.6 | 38.0 | 89.0 | 48.0 | 112.4 | 58.0 | 135.9 | 68.0 | 159.3 | 78.0 | 182.7 | 88.0 | 206.1 | 98.0 | 229.6 |
| 8.5 | 19.9 | 18.5 | 43.3 | 28.5 | 66.8 | 38.5 | 90.2 | 48.5 | 113.6 | 58.5 | 137.0 | 68.5 | 160.5 | 78.5 | 183.9 | 88.5 | 207.3 | 98.5 | 230.7 |
| 9.0 | 21.1 | 19.0 | 44.5 | 29.0 | 67.9 | 39.0 | 91.4 | 49.0 | 114.8 | 59.0 | 138.2 | 69.0 | 161.6 | 79.0 | 185.1 | 89.0 | 208.5 | 99.0 | 231.9 |
| 9.5 | 22.3 | 19.5 | 45.7 | 29.5 | 69.1 | 39.5 | 92.5 | 49.5 | 116.0 | 59.5 | 139.4 | 69.5 | 162.8 | 79.5 | 186.2 | 89.5 | 209.7 | 99.5 | 233.1 |
| 10.0 | 23.4 | 20.0 | 46.9 | 30.0 | 70.3 | 40.0 | 93.7 | 50.0 | 117.1 | 60.0 | 140.6 | 70.0 | 164.0 | 80.0 | 187.4 | 90.0 | 210.8 | 100.0 | 234.3 |
| 10.5 | 24.6 | 20.5 | 48.0 | 30.5 | 71.4 | 40.5 | 94.9 | 50.5 | 118.3 | 60.5 | 141.7 | 70.5 | 165.2 | 80.5 | 188.6 | 90.5 | 212.0 | 100.5 | 235.4 |

Correction *positive* from Latitude 0° to 45°. *Negative* from 45° to 90°.

| Approximate Difference of Level. | Latitude. | | | | | | | | | | | | | | | | | | | | | | | Approximate Difference of Level. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° 90° | 2° 88° | 4° 86° | 6° 84° | 8° 82° | 10° 80° | 12° 78° | 14° 76° | 16° 74° | 18° 72° | 20° 70° | 22° 68° | 24° 66° | 26° 64° | 28° 62° | 30° 60° | 32° 58° | 34° 56° | 36° 54° | 38° 52° | 40° 50° | 42° 48° | 44° 46° | 45° | |
| Eng. Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Eng. Feet. |
| 1000 | 2.6 | 2.6 | 2.6 | 2.5 | 2.5 | 2.4 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.3 | 1.1 | 1.0 | 0.8 | 0.6 | 0.5 | 0.3 | 0.1 | 0 | 1000 |
| 2000 | 5.2 | 5.2 | 5.1 | 5.1 | 5.0 | 4.9 | 4.7 | 4.6 | 4.4 | 4.2 | 4.0 | 3.7 | 3.5 | 3.2 | 2.9 | 2.6 | 2.3 | 1.9 | 1.6 | 1.3 | 0.9 | 0.5 | 0.2 | 0 | 2000 |
| 3000 | 7.8 | 7.8 | 7.7 | 7.6 | 7.5 | 7.3 | 7.1 | 6.9 | 6.6 | 6.3 | 6.0 | 5.6 | 5.2 | 4.8 | 4.4 | 3.9 | 3.4 | 2.9 | 2.4 | 1.9 | 1.4 | 0.8 | 0.3 | 0 | 3000 |
| 4000 | 10.4 | 10.4 | 10.3 | 10.2 | 10.0 | 9.8 | 9.5 | 9.2 | 8.8 | 8.4 | 8.0 | 7.5 | 7.0 | 6.4 | 5.8 | 5.2 | 4.6 | 3.9 | 3.2 | 2.5 | 1.8 | 1.1 | 0.4 | 0 | 4000 |
| 5000 | 13.0 | 13.0 | 12.9 | 12.7 | 12.5 | 12.2 | 11.9 | 11.5 | 11.0 | 10.5 | 10.0 | 9.4 | 8.7 | 8.0 | 7.3 | 6.5 | 5.7 | 4.9 | 4.0 | 3.1 | 2.3 | 1.4 | 0.5 | 0 | 5000 |
| 6000 | 15.6 | 15.6 | 15.4 | 15.3 | 15.0 | 14.7 | 14.3 | 13.8 | 13.2 | 12.6 | 11.9 | 11.2 | 10.4 | 9.6 | 8.7 | 7.8 | 6.8 | 5.8 | 4.8 | 3.8 | 2.7 | 1.6 | 0.5 | 0 | 6000 |
| 7000 | 18.2 | 18.2 | 18.0 | 17.8 | 17.5 | 17.1 | 16.6 | 16.1 | 15.4 | 14.7 | 13.9 | 13.1 | 12.2 | 11.2 | 10.2 | 9.1 | 8.0 | 6.8 | 5.6 | 4.4 | 3.2 | 1.9 | 0.6 | 0 | 7000 |
| 8000 | 20.8 | 20.7 | 20.6 | 20.3 | 20.0 | 19.5 | 19.0 | 18.4 | 17.6 | 16.8 | 15.9 | 15.0 | 13.9 | 12.8 | 11.6 | 10.4 | 9.1 | 7.8 | 6.4 | 5.0 | 3.6 | 2.2 | 0.7 | 0 | 8000 |
| 9000 | 23.4 | 23.3 | 23.2 | 22.9 | 22.5 | 22.0 | 21.4 | 20.7 | 19.8 | 18.9 | 17.9 | 16.8 | 15.7 | 14.4 | 13.1 | 11.7 | 10.3 | 8.8 | 7.2 | 5.7 | 4.1 | 2.4 | 0.8 | 0 | 9000 |
| 10000 | 26.0 | 25.9 | 25.7 | 25.4 | 25.0 | 24.4 | 23.8 | 23.0 | 22.0 | 21.0 | 19.9 | 18.7 | 17.4 | 16.0 | 14.5 | 13.0 | 11.4 | 9.7 | 8.0 | 6.3 | 4.5 | 2.7 | 0.9 | 0 | 10000 |
| 11000 | 28.6 | 28.5 | 28.3 | 28.0 | 27.5 | 26.9 | 26.1 | 25.3 | 24.3 | 23.1 | 21.9 | 20.6 | 19.1 | 17.6 | 16.0 | 14.3 | 12.5 | 10.7 | 8.8 | 6.9 | 5.0 | 3.0 | 1.0 | 0 | 11000 |
| 12000 | 31.2 | 31.1 | 30.9 | 30.5 | 30.0 | 29.3 | 28.5 | 27.5 | 26.5 | 25.2 | 23.9 | 22.4 | 20.9 | 19.2 | 17.4 | 15.6 | 13.7 | 11.7 | 9.6 | 7.5 | 5.4 | 3.3 | 1.1 | 0 | 12000 |
| 13000 | 33.8 | 33.7 | 33.5 | 33.1 | 32.5 | 31.8 | 30.9 | 29.8 | 28.7 | 27.3 | 25.9 | 24.3 | 22.6 | 20.8 | 18.9 | 16.9 | 14.8 | 12.7 | 10.4 | 8.2 | 5.9 | 3.5 | 1.2 | 0 | 13000 |
| 14000 | 36.4 | 36.3 | 36.0 | 35.6 | 35.0 | 34.2 | 33.3 | 32.1 | 30.9 | 29.4 | 27.9 | 26.2 | 24.4 | 22.4 | 20.4 | 18.2 | 16.0 | 13.6 | 11.2 | 8.8 | 6.3 | 3.8 | 1.3 | 0 | 14000 |
| 15000 | 39.0 | 38.9 | 38.6 | 38.1 | 37.5 | 36.6 | 35.6 | 34.4 | 33.1 | 31.6 | 29.9 | 28.1 | 26.1 | 24.0 | 21.8 | 19.5 | 17.1 | 14.6 | 12.1 | 9.4 | 6.8 | 4.1 | 1.4 | 0 | 15000 |
| 16000 | 41.6 | 41.5 | 41.2 | 40.7 | 40.0 | 39.1 | 38.0 | 36.7 | 35.3 | 33.7 | 31.9 | 29.9 | 27.8 | 25.6 | 23.3 | 20.8 | 18.2 | 15.6 | 12.9 | 10.1 | 7.2 | 4.3 | 1.5 | 0 | 16000 |
| 17000 | 44.2 | 44.1 | 43.8 | 43.2 | 42.5 | 41.5 | 40.4 | 39.0 | 37.5 | 35.8 | 33.9 | 31.8 | 29.6 | 27.2 | 24.7 | 22.1 | 19.4 | 16.6 | 13.7 | 10.7 | 7.7 | 4.6 | 1.5 | 0 | 17000 |
| 18000 | 46.8 | 46.7 | 46.3 | 45.8 | 45.0 | 44.0 | 42.8 | 41.3 | 39.7 | 37.9 | 35.8 | 33.7 | 31.3 | 28.8 | 26.2 | 23.4 | 20.5 | 17.5 | 14.5 | 11.3 | 8.1 | 4.9 | 1.6 | 0 | 18000 |
| 19000 | 49.4 | 49.3 | 48.9 | 48.3 | 47.5 | 46.4 | 45.1 | 43.6 | 41.9 | 40.0 | 37.8 | 35.5 | 33.1 | 30.4 | 27.6 | 24.7 | 21.7 | 18.5 | 15.3 | 12.0 | 8.6 | 5.2 | 1.7 | 0 | 19000 |
| 20000 | 52.0 | 51.9 | 51.5 | 50.9 | 50.0 | 48.9 | 47.5 | 45.9 | 44.1 | 42.1 | 39.8 | 37.4 | 34.8 | 32.0 | 29.1 | 26.0 | 22.8 | 19.5 | 16.1 | 12.6 | 9.0 | 5.4 | 1.8 | 0 | 20000 |
| 21000 | 54.6 | 54.5 | 54.1 | 53.4 | 52.5 | 51.3 | 49.9 | 48.2 | 46.3 | 44.2 | 41.8 | 39.3 | 36.5 | 33.6 | 30.5 | 27.3 | 23.9 | 20.5 | 16.9 | 13.2 | 9.5 | 5.7 | 1.9 | 0 | 21000 |
| 22000 | 57.2 | 57.1 | 56.6 | 55.9 | 55.0 | 53.7 | 52.3 | 50.5 | 48.5 | 46.3 | 43.8 | 41.1 | 38.3 | 35.2 | 32.0 | 28.6 | 25.1 | 21.4 | 17.7 | 13.8 | 9.9 | 6.0 | 2.0 | 0 | 22000 |
| 23000 | 59.8 | 59.7 | 59.2 | 58.5 | 57.5 | 56.2 | 54.6 | 52.8 | 50.7 | 48.4 | 45.8 | 43.0 | 40.0 | 36.8 | 33.4 | 29.9 | 26.2 | 22.4 | 18.5 | 14.5 | 10.4 | 6.2 | 2.1 | 0 | 23000 |
| 24000 | 62.4 | 62.2 | 61.8 | 61.0 | 60.0 | 58.6 | 57.0 | 55.1 | 52.9 | 50.5 | 47.8 | 44.9 | 41.8 | 38.4 | 34.9 | 31.2 | 27.4 | 23.4 | 19.3 | 15.1 | 10.8 | 6.5 | 2.2 | 0 | 24000 |
| 25000 | 65.0 | 64.8 | 64.4 | 63.6 | 62.5 | 61.1 | 59.4 | 57.4 | 55.1 | 52.6 | 49.8 | 46.8 | 43.5 | 40.0 | 36.3 | 32.5 | 28.5 | 24.3 | 20.1 | 15.7 | 11.3 | 6.8 | 2.3 | 0 | 25000 |

## IV. Correction for

| Approximate Difference of Level. | Decrease of Gravity on a Vertical. *Positive.* | |
|---|---|---|
| | 0 | +500 |
| Eng. Feet. | Feet. | Feet. |
| 1000 | 2.5 | 3.9 |
| 2000 | 5.2 | 6.6 |
| 3000 | 7.9 | 9.3 |
| 4000 | 10.8 | 12.2 |
| 5000 | 13.7 | 15.2 |
| 6000 | 16.7 | 18.3 |
| 7000 | 19.9 | 21.5 |
| 8000 | 23.1 | 24.7 |
| 9000 | 26.4 | 28.1 |
| 10000 | 29.8 | 31.5 |
| 11000 | 33.3 | 35.1 |
| 12000 | 36.9 | 38.7 |
| 13000 | 40.6 | 42.5 |
| 14000 | 44.4 | 46.3 |
| 15000 | 48.3 | 50.3 |
| 16000 | 52.3 | 54.3 |
| 17000 | 56.4 | 58.4 |
| 18000 | 60.5 | 62.6 |
| 19000 | 64.8 | 67.0 |
| 20000 | 69.2 | 71.4 |
| 21000 | 73.6 | 75.9 |
| 22000 | 78.2 | 80.5 |
| 23000 | 82.9 | 85.2 |
| 24000 | 87.6 | 90.0 |
| 25000 | 92.5 | 94.9 |

## V. Correction for the Height of the Lower Station. — *Positive.*

| Height of the Barometer, in English Inches, at Lower Station. | | | | | | |
|---|---|---|---|---|---|---|
| 16 | 18 | 20 | 22 | 24 | 26 | 28 |
| Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. |
| 1.6 | 1.3 | 1.0 | 0.8 | 0.6 | 0.4 | 0.2 |
| 3.1 | 2.5 | 2.0 | 1.5 | 1.1 | 0.7 | 0.3 |
| 4.7 | 3.8 | 3.0 | 2.3 | 1.7 | 1.1 | 0.5 |
| 6.3 | 5.1 | 4.0 | 3.1 | 2.2 | 1.4 | 0.7 |
| 7.8 | 6.4 | 5.0 | 3.8 | 2.8 | 1.8 | 0.8 |
| 9.4 | 7.6 | 6.0 | 4.6 | 3.3 | 2.1 | 1.0 |
| 11.0 | 8.9 | 7.1 | 5.4 | 3.9 | 2.5 | 1.2 |
| 12.5 | 10.2 | 8.1 | 6.2 | 4.4 | 2.8 | 1.3 |
| 14.1 | 11.4 | 9.1 | 6.9 | 5.0 | 3.2 | 1.5 |
| 15.7 | 12.7 | 10.1 | 7.7 | 5.5 | 3.5 | 1.7 |
| 17.2 | 14.0 | 11.1 | 8.5 | 6.1 | 3.9 | 1.8 |
| 18.8 | 15.3 | 12.1 | 9.2 | 6.6 | 4.2 | 2.0 |
| 20.4 | 16.5 | 13.1 | 10.0 | 7.2 | 4.6 | 2.2 |
| 21.9 | 17.8 | 14.1 | 10.8 | 7.7 | 4.9 | 2.3 |
| 23.5 | 19.1 | 15.1 | 11.5 | 8.3 | 5.3 | 2.5 |
| 25.1 | 20.3 | 16.1 | 12.3 | 8.8 | 5.6 | 2.7 |
| 26.6 | 21.6 | 17.1 | 13.1 | 9.4 | 6.0 | 2.8 |
| 28.2 | 22.9 | 18.1 | 13.8 | 9.9 | 6.3 | 3.0 |
| 29.8 | 24.1 | 19.2 | 14.6 | 10.5 | 6.7 | 3.2 |
| 31.3 | 25.4 | 20.2 | 15.4 | 11.0 | 7.0 | 3.3 |
| 32.9 | 26.7 | 21.2 | 16.1 | 11.6 | 7.4 | 3.5 |
| 34.5 | 28.0 | 22.2 | 16.9 | 12.1 | 7.7 | 3.7 |
| 36.0 | 29.2 | 23.2 | 17.7 | 12.7 | 8.1 | 3.8 |
| 37.6 | 30.5 | 24.2 | 18.5 | 13.2 | 8.4 | 4.0 |
| 39.1 | 31.8 | 25.2 | 19.2 | 13.8 | 8.8 | 4.1 |

## VI. Height of a Column of Air, corresponding to One Tenth of an Inch in the Barometer.

| Barometer Reading in English Inches. | Temperature of the Air, Fahrenheit, being | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° |
| | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. |
| 18.5 | 144.6 | 146.1 | 147.7 | 149.3 | 150.9 | 152.5 | 154.0 | 155.7 | 157.2 | 158.8 |
| 19.0 | 140.8 | 142.3 | 143.8 | 145.4 | 146.9 | 148.4 | 150.0 | 151.5 | 153.1 | 154.6 |
| 19.5 | 137.1 | 138.6 | 140.1 | 141.6 | 143.1 | 144.6 | 146.1 | 147.6 | 149.1 | 150.6 |
| 20.0 | 133.7 | 135.2 | 136.6 | 138.1 | 139.6 | 141.0 | 142.5 | 143.9 | 145.4 | 146.9 |
| 20.5 | 130.5 | 131.9 | 133.3 | 134.7 | 136.1 | 137.6 | 139.0 | 140.4 | 141.8 | 143.3 |
| 21.0 | 127.3 | 128.7 | 130.1 | 131.5 | 132.9 | 134.3 | 135.7 | 137.0 | 138.4 | 139.8 |
| 21.5 | 124.3 | 125.7 | 127.0 | 128.4 | 129.7 | 131.1 | 132.4 | 133.8 | 135.1 | 136.5 |
| 22.0 | 121.5 | 122.9 | 124.2 | 125.5 | 126.8 | 128.2 | 129.5 | 130.8 | 132.2 | 133.5 |
| 22.5 | 118.8 | 120.1 | 121.4 | 122.7 | 124.0 | 125.3 | 126.6 | 127.9 | 129.2 | 130.5 |
| 23.0 | 116.2 | 117.5 | 118.8 | 120.0 | 121.3 | 122.6 | 123.8 | 125.1 | 126.4 | 127.7 |
| 23.5 | 113.7 | 115.0 | 116.2 | 117.5 | 118.7 | 120.0 | 121.2 | 122.5 | 123.7 | 124.9 |
| 24.0 | 111.3 | 112.6 | 113.8 | 115.0 | 116.2 | 117.4 | 118.6 | 119.9 | 121.1 | 122.3 |
| 24.5 | 109.1 | 110.3 | 111.5 | 112.6 | 113.8 | 115.0 | 116.2 | 117.3 | 118.6 | 119.8 |
| 25.0 | 106.9 | 108.1 | 109.3 | 110.4 | 111.6 | 112.8 | 113.9 | 115.1 | 116.3 | 117.4 |
| 25.5 | 104.8 | 105.9 | 107.1 | 108.2 | 109.3 | 110.5 | 111.6 | 112.8 | 113.9 | 115.1 |
| 26.0 | 102.7 | 103.9 | 105.0 | 106.1 | 107.2 | 108.4 | 109.5 | 110.6 | 111.7 | 112.8 |
| 26.5 | 100.9 | 102.0 | 103.1 | 104.2 | 105.3 | 106.4 | 107.5 | 108.6 | 109.7 | 110.8 |
| 27.0 | 99.0 | 100.1 | 101.2 | 102.3 | 103.3 | 104.4 | 105.5 | 106.6 | 107.6 | 108.7 |
| 27.5 | 97.2 | 98.2 | 99.3 | 100.3 | 101.4 | 102.5 | 103.5 | 104.6 | 105.6 | 106.7 |
| 28.0 | 95.4 | 96.5 | 97.5 | 98.6 | 99.6 | 100.7 | 101.7 | 102.8 | 103.8 | 104.8 |
| 28.5 | 93.8 | 94.8 | 95.8 | 96.9 | 97.9 | 98.9 | 99.9 | 100.9 | 101.9 | 103.0 |
| 29.0 | 92.1 | 93.1 | 94.1 | 95.1 | 96.2 | 97.2 | 98.2 | 99.2 | 100.2 | 101.2 |
| 29.5 | 90.6 | 91.6 | 92.6 | 93.6 | 94.5 | 95.5 | 96.5 | 97.5 | 98.5 | 99.5 |
| 30.0 | 89.1 | 90.0 | 91.0 | 92.0 | 92.9 | 93.9 | 94.9 | 95.9 | 96.8 | 97.8 |
| 30.5 | 87.6 | 88.5 | 89.5 | 90.4 | 91.4 | 92.3 | 93.3 | 94.2 | 95.2 | 96.1 |

# III.

## TABLE

FOR

COMPUTING THE DIFFERENCE IN THE HEIGHTS OF TWO PLACES BY MEANS OF THE BAROMETER.

By Prof. Elias Loomis.

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This table was computed from the formula of Laplace, modified in accordance with the results of more recent determinations.

Suppose that we have observed

At the lower station.
- H, the height of the barometer,
- T, the temperature of the barometer,
- $t$, the temperature of the air,

At the upper station.
- $h'$, the height of the barometer,
- T', the temperature of the barometer,
- $t'$, the temperature of the air.

Represent by $s$ the height of the lower station above the level of the sea, by L the latitude of the place, and by $h$ the observed height $h'$ reduced to the temperature T.

The difference of level $x$ between the two stations is given by the formula,

$$x = 60158.6 \text{ ft.} \times \log. \frac{H}{h} \times \left\{ \begin{array}{l} \left(1 + \frac{t + t' - 64}{900}\right) \\ (1 + 0.00265 \cos. 2\,L) \\ \left(1 + \frac{x + 52251}{20888629} + \frac{s}{10444315}\right) \end{array} \right\}$$

But $h$ represents the height $h'$ reduced from the temperature T' to the temperature T. The expansion of mercury for 1° Fahr. is 0.0001000; that of the brass which forms the scale of the barometer is 0.0000104; the difference is 0.0000896. Hence we have $h = h' \{1 + 0.0000896\,(T - T')\}$.

Therefore,

$$60158.6 \text{ ft. log. } \frac{H}{h} = 60158.6 \text{ ft. log. } \frac{H}{h'} - 2.3409 \text{ ft. } (T - T').$$

Part I. of the accompanying Table furnishes in English feet the value of the expression 60158.6 log. H for heights of the barometer from 11 to 31 inches; only they have all been diminished by the constant 27541.5 feet which does not change the difference

$$60158.6 \log. H - 60158.6 \log. h.$$

Part II. furnishes the correction $-2.3409\,(T - T')$ depending upon the difference $T - T'$ of the temperatures of the barometers at the two stations. This cor-

rection is generally negative. It would be positive if T — T′ were negative; that is, if the temperature T′ of the barometer at the upper station exceeded the temperature T at the lower station.

Part III. gives the correction $A \times 0.00265 \cos. 2L$, to be applied to the approximate altitude A, and which arises from the variation of gravity from the latitude of 45 degrees, to the latitude L of the place of observation. This correction has the same sign as cos. 2 L; that is, it is positive from the equator to 45 degrees, and negative from 45 degrees to the pole.

Part IV. gives the correction $A \times \frac{A + 52251}{20888629}$, which is always to be added to the approximate height A, and which is due to the diminution of gravity on the vertical.

Part V. furnishes for the approximate difference of level A the small correction $A \times \frac{s}{10444315}$ corresponding to several values of the height $s$ of the lower station. But in place of $s$ there has been substituted as the argument of the table, the height H of the barometer at this station.

### *Method of Computation.*

Take from Part I. the two numbers corresponding to the observed barometric heights H and $h'$. From their difference subtract the correction 2.3409 (T — T′) found in Part II. with the difference T — T′ of the thermometers attached to the barometers. We thus obtain an approximate altitude $a$.

We then calculate the correction $a \frac{t + t' - 64}{900}$ for the temperature of the air, by multiplying the nine-hundredth part of $a$ by the sum of the temperatures $t$ and $t'$ diminished by 64. This correction is of the same sign as $t + t' - 64$. We thus obtain a second approximate altitude A.

With A and the latitude of the place L, we seek in Part III. the correction $A \times 0.00265 \cos. 2L$ arising from the variation of gravity with the latitude.

For the approximate height A, Part IV. gives the correction $A \times \frac{A + 52251}{20888629}$ arising from the diminution of gravity on a vertical. This correction is always additive.

Finally, when the height $s$ of the lower station is considerable, the small correction $A \times \frac{s}{10444315}$ may be found in Part V. This correction is always additive.

### *Example* 1.

M. Humboldt made the following observations on the mountain of Guanaxuato, in Mexico, in Latitude 21°, viz.

| | Upper station. | Lower station near the sea. |
|---|---|---|
| Thermometer in open air, | $t' = 70°.3$ | $t = 77°.5$ |
| Thermometer to barometer, | $T' = 70°.3$ | $T = 77°.5$ |
| Barometer, | $h' = 23.660$ | $H = 30.046$ |

Required the difference in the height of the two stations.

| | | |
|---|---|---|
| Part I. gives | for H = 30.046 inches | 27649.7 |
| | for $h$ = 23.66 inches | 21406.9 |
| | Difference | 6242.8 |
| Part II. gives for T — T′ = 7°.2, | | —16.9 |
| | Approximate altitude $a$, | 6225.9 |
| $\frac{a}{900}(t + t' - 64) = 6.918 \times 83.8$, | | +579.7 |
| | Second approximate altitude A, | 6805.6 |
| Part III. gives for A = 6806, and L = 21°, | | +13.3 |
| Part IV. gives for 6806, | | +19.3 |
| | Height above the sea, | 6838.2 feet. |

*Example* 2.

M. Gay Lussac in his celebrated balloon ascent in 1805, found his barometer to icate 12.945 English inches, the temperature being 14°.9 Fahrenheit. The baneter at Paris at the same time indicated 30.145 English inches with a tempera-e of 87°.44 Fahrenheit. Required the elevation of the balloon above Paris.

| | | |
|---|---|---|
| Part I. gives | for H = 30.145 inches, | 27735.6 |
| | for $h'$ = 12.945 inches, | 5650.4 |
| | Difference, | 22085.2 |
| Part II. gives for T — T′ = 72°.54, | | —169.9 |
| | Approximate altitude $a$, | 21915.3 |
| $\frac{a}{900}(t + t' - 64) = 24.35 \times 38.34$, | | +933.6 |
| | Second approximate altitude A, | 22848.9 |
| Part III. gives for A = 22848, and L = 48° 50′ | | —8.2 |
| Part IV. gives for 22848, | | +82.1 |
| Height of balloon above Paris, | | 22922.8 feet. |

## PART I.

Argument, the observed Height of the Barometer at either Station.

| Inches. | Feet. | Diff. | Inches. | Feet. | Diff. | Inches. | Feet. | Diff. | Inches. | Feet. | Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.0 | 1396.9 | 236.4 | 16.0 | 11186.3 | 162.8 | 21.0 | 18291.0 | 124.1 | 26.0 | 23871.0 | 100.3 |
| 11.1 | 1633.3 | 234.3 | 16.1 | 11349.1 | 161.8 | 21.1 | 18415.1 | 123.6 | 26.1 | 23971.3 | 99.9 |
| 11.2 | 1867.6 | 232.3 | 16.2 | 11510.9 | 160.8 | 21.2 | 18538.7 | 122.9 | 26.2 | 24071.2 | 99. |
| 11.3 | 2099.9 | 230.2 | 16.3 | 11671.7 | 159.8 | 21.3 | 18661.6 | 122.4 | 26.3 | 24170.7 | 99. |
| 11.4 | 2330.1 | 228.2 | 16.4 | 11831.5 | 158.8 | 21.4 | 18784.0 | 121.8 | 26.4 | 24269.8 | 98. |
| 11.5 | 2558.3 | 226.2 | 16.5 | 11990.3 | 157.9 | 21.5 | 18905.8 | 121.2 | 26.5 | 24368.6 | 98. |
| 11.6 | 2784.5 | 224.2 | 16.6 | 12148.2 | 156.9 | 21.6 | 19027.0 | 120.7 | 26.6 | 24467.0 | 98. |
| 11.7 | 3008.7 | 222.4 | 16.7 | 12305.1 | 155.9 | 21.7 | 19147.7 | 120.1 | 26.7 | 24565.1 | 97. |
| 11.8 | 3231.1 | 220.5 | 16.8 | 12461.0 | 155.1 | 21.8 | 19267.8 | 119.6 | 26.8 | 24662.7 | 97. |
| 11.9 | 3451.6 | 218.6 | 16.9 | 12616.1 | 154.1 | 21.9 | 19387.4 | 119.0 | 26.9 | 24760.0 | 97. |
| 12.0 | 3670.2 | 216.8 | 17.0 | 12770.2 | 153.3 | 22.0 | 19506.4 | 118.5 | 27.0 | 24857.0 | 96. |
| 12.1 | 3887.0 | 215.0 | 17.1 | 12923.5 | 152.3 | 22.1 | 19624.9 | 118.0 | 27.1 | 24953.6 | 96. |
| 12.2 | 4102.0 | 213.3 | 17.2 | 13075.8 | 151.5 | 22.2 | 19742.9 | 117.4 | 27.2 | 25049.8 | 95. |
| 12.3 | 5315.3 | 211.6 | 17.3 | 13227.3 | 150.6 | 22.3 | 19860.3 | 116.9 | 27.3 | 25145.7 | 95. |
| 12.4 | 4526.9 | 209.8 | 17.4 | 13377.9 | 149.7 | 22.4 | 19977.2 | 116.4 | 27.4 | 25241.2 | 95. |
| 12.5 | 4736.7 | 208.2 | 17.5 | 13527.6 | 148.9 | 22.5 | 20093.6 | 115.8 | 27.5 | 25336.4 | 94. |
| 12.6 | 4944.9 | 206.5 | 17.6 | 13676.5 | 148.0 | 22.6 | 20209.4 | 115.4 | 27.6 | 25431.2 | 94. |
| 12.7 | 5151.4 | 205.0 | 17.7 | 13824.5 | 147.2 | 22.7 | 20324.8 | 114.8 | 27.7 | 25525.7 | 94. |
| 12.8 | 5356.4 | 203.3 | 17.8 | 13971.7 | 146.3 | 22.8 | 20439.6 | 114.4 | 27.8 | 25619.9 | 93. |
| 12.9 | 5559.7 | 201.7 | 17.9 | 14118.0 | 145.6 | 22.9 | 20554.0 | 113.8 | 27.9 | 25713.7 | 93. |
| 13.0 | 5761.4 | 200.2 | 18.0 | 14263.6 | 144.7 | 23.0 | 20667.8 | 113.3 | 28.0 | 25807.1 | 93. |
| 13.1 | 5961.6 | 198.7 | 18.1 | 14408.3 | 144.0 | 23.1 | 20781.1 | 112.9 | 28.1 | 25900.3 | 92. |
| 13.2 | 6160.3 | 197.2 | 18.2 | 14552.3 | 143.1 | 23.2 | 20894.0 | 112.4 | 28.2 | 25993.1 | 92. |
| 13.3 | 6357.5 | 195.7 | 18.3 | 14695.4 | 142.4 | 23.3 | 21006.4 | 111.9 | 28.3 | 26085.6 | 92. |
| 13.4 | 6553.2 | 194.3 | 18.4 | 14837.8 | 141.6 | 23.4 | 21118.3 | 111.4 | 28.4 | 26177.7 | 91. |
| 13.5 | 6747.5 | 192.8 | 18.5 | 14979.4 | 140.9 | 23.5 | 21229.7 | 110.9 | 28.5 | 26269.6 | 91. |
| 13.6 | 6940.3 | 191.4 | 18.6 | 15120.3 | 140.0 | 23.6 | 21340.6 | 110.5 | 28.6 | 26361.1 | 91. |
| 13.7 | 7131.7 | 190.0 | 18.7 | 15260.3 | 139.4 | 23.7 | 21451.1 | 110.0 | 28.7 | 26452.3 | 90. |
| 13.8 | 7321.7 | 188.6 | 18.8 | 15399.7 | 138.6 | 23.8 | 21561.1 | 109.5 | 28.8 | 26543.2 | 90. |
| 13.9 | 7510.3 | 187.3 | 18.9 | 15538.3 | 137.9 | 23.9 | 21670.6 | 109.1 | 28.9 | 26633.7 | 90. |
| 14.0 | 7697.6 | 186.0 | 19.0 | 15676.2 | 137.1 | 24.0 | 21779.7 | 108.7 | 29.0 | 26724.0 | 89. |
| 14.1 | 7883.6 | 184.6 | 19.1 | 15813.3 | 136.5 | 24.1 | 21888.4 | 108.2 | 29.1 | 26813.9 | 89. |
| 14.2 | 8068.2 | 183.3 | 19.2 | 15949.8 | 135.7 | 24.2 | 21996.6 | 107.7 | 29.2 | 26903.5 | 89. |
| 14.3 | 8251.5 | 182.1 | 19.3 | 16085.5 | 135.0 | 24.3 | 22104.3 | 107.3 | 29.3 | 26992.8 | 89. |
| 14.4 | 8433.6 | 180.8 | 19.4 | 16220.5 | 134.3 | 24.4 | 22211.6 | 106.8 | 29.4 | 27081.9 | 88. |
| 14.5 | 8614.4 | 179.6 | 19.5 | 16354.8 | 133.7 | 24.5 | 22318.4 | 106.4 | 29.5 | 27170.6 | 88. |
| 14.6 | 8794.0 | 178.3 | 19.6 | 16488.5 | 132.9 | 24.6 | 22424.8 | 106.0 | 29.6 | 27259.0 | 88. |
| 14.7 | 8972.3 | 177.2 | 19.7 | 16621.4 | 132.3 | 24.7 | 22530.8 | 105.6 | 29.7 | 27347.1 | 87. |
| 14.8 | 9149.5 | 176.0 | 19.8 | 16753.7 | 131.6 | 24.8 | 22636.4 | 105.1 | 29.8 | 27434.9 | 87. |
| 14.9 | 9325.5 | 174.8 | 19.9 | 16885.3 | 131.0 | 24.9 | 22741.5 | 104.8 | 29.9 | 27522.5 | 87. |
| 15.0 | 9500.3 | 173.5 | 20.0 | 17016.3 | 130.3 | 25.0 | 22846.3 | 104.3 | 30.0 | 27609.7 | 86. |
| 15.1 | 9673.8 | 172.4 | 20.1 | 17146.6 | 129.7 | 25.1 | 22950.6 | 103.8 | 30.1 | 27696.6 | 86. |
| 15.2 | 9846.2 | 171.3 | 20.2 | 17276.3 | 129.0 | 25.2 | 23054.4 | 103.5 | 30.2 | 27783.3 | 86. |
| 15.3 | 10017.5 | 170.2 | 20.3 | 17405.3 | 128.4 | 25.3 | 23157.9 | 103.1 | 30.3 | 27869.7 | 86. |
| 15.4 | 10187.7 | 169.1 | 20.4 | 17533.7 | 127.7 | 25.4 | 23261.0 | 102.6 | 30.4 | 27955.7 | 85. |
| 15.5 | 10356.8 | 168.0 | 20.5 | 17661.4 | 127.2 | 25.5 | 23363.6 | 102.3 | 30.5 | 28041.5 | 85. |
| 15.6 | 10524.8 | 167.0 | 20.6 | 17788.6 | 126.5 | 25.6 | 23465.9 | 101.8 | 30.6 | 28127.1 | 85. |
| 15.7 | 10691.8 | 165.9 | 20.7 | 17915.1 | 125.9 | 25.7 | 23567.7 | 101.5 | 30.7 | 28212.3 | 85. |
| 15.8 | 10857.7 | 164.8 | 20.8 | 18041.0 | 125.3 | 25.8 | 23669.2 | 101.1 | 30.8 | 28297.3 | 84. |
| 15.9 | 11022.5 | 163.8 | 20.9 | 18166.3 | 124.7 | 25.9 | 23770.3 | 100.7 | 30.9 | 28382.0 | 84. |
| 16.0 | 11186.3 | | 21.0 | 18291.0 | | 26.0 | 23871.0 | | 31.0 | 28466.4 | |

## PART II.

Correction due to T — T', or the Difference of the Temperatures of the Barometers at the two Stations.

*This Correction is Negative when the Temperature at the Upper Station is lowest, and vice versâ.*

| T — T'. | Correction. | T — T'. | Correction. | T — T'. | Correction. | T — T'. | Correction. | T — T'. | Correction. | T — T'. | Correction. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fah't. | Feet. | Fah't. | Feet. | Fah't. | Feet. | Fah't. | Feet. | Fah't. | Feet. | Fah't. | Feet. |
| ° | | ° | | ° | | ° | | ° | | ° | |
| 1 | 2.3 | 14 | 32.8 | 27 | 63.2 | 40 | 93.6 | 53 | 124.1 | 66 | 154.5 |
| 2 | 4.7 | 15 | 35.1 | 28 | 65.5 | 41 | 96.0 | 54 | 126.4 | 67 | 156.8 |
| 3 | 7.0 | 16 | 37.5 | 29 | 67.9 | 42 | 98.3 | 55 | 128.7 | 68 | 159.2 |
| 4 | 9.4 | 17 | 39.8 | 30 | 70.2 | 43 | 100.7 | 56 | 131.1 | 69 | 161.5 |
| 5 | 11.7 | 18 | 42.1 | 31 | 72.6 | 44 | 103.0 | 57 | 133.4 | 70 | 163.9 |
| 6 | 14.0 | 19 | 44.5 | 32 | 74.9 | 45 | 105.3 | 58 | 135.8 | 71 | 166.2 |
| 7 | 16.4 | 20 | 46.8 | 33 | 77.3 | 46 | 107.7 | 59 | 138.1 | 72 | 168.6 |
| 8 | 18.7 | 21 | 49.2 | 34 | 79.6 | 47 | 110.0 | 60 | 140.4 | 73 | 170.9 |
| 9 | 21.1 | 22 | 51.5 | 35 | 81.9 | 48 | 112.4 | 61 | 142.8 | 74 | 173.3 |
| 10 | 23.4 | 23 | 53.8 | 36 | 84.3 | 49 | 114.7 | 62 | 145.1 | 75 | 175.6 |
| 11 | 25.8 | 24 | 56.2 | 37 | 86.6 | 50 | 117.0 | 63 | 147.5 | 76 | 177.9 |
| 12 | 28.1 | 25 | 58.5 | 38 | 89.0 | 51 | 119.4 | 64 | 149.8 | 77 | 180.3 |
| 13 | 30.4 | 26 | 60.9 | 39 | 91.3 | 52 | 121.7 | 65 | 152.2 | 78 | 182.6 |

## PART III.

Correction due to the Change of Gravity from the Latitude of 45° to the Latitude of the Place of Observation.

*Positive from Lat.* 0° *to* 45°; *Negative from Lat.* 45° *to* 90°.

| App. Alt. | Latitude. 0° 90° | 10° 80° | 20° 70° | 30° 60° | 40° 50° | 45° |
|---|---|---|---|---|---|---|
| Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. |
| 1000 | 2.6 | 2.5 | 2.0 | 1.3 | 0.5 | 0 |
| 2000 | 5.3 | 5.0 | 4.1 | 2.6 | 0.9 | 0 |
| 3000 | 7.9 | 7.5 | 6.1 | 4.0 | 1.4 | 0 |
| 4000 | 10.6 | 10.0 | 8.1 | 5.3 | 1.8 | 0 |
| 5000 | 13.2 | 12.4 | 10.1 | 6.6 | 2.3 | 0 |
| 6000 | 15.9 | 14.9 | 12.2 | 7.9 | 2.8 | 0 |
| 7000 | 18.5 | 17.4 | 14.2 | 9.3 | 3.2 | 0 |
| 8000 | 21.2 | 19.9 | 16.2 | 10.6 | 3.7 | 0 |
| 9000 | 23.8 | 22.4 | 18.3 | 11.9 | 4.1 | 0 |
| 10000 | 26.5 | 24.9 | 20.3 | 13.2 | 4.6 | 0 |
| 11000 | 29.1 | 27.4 | 22.3 | 14.6 | 5.1 | 0 |
| 12000 | 31.8 | 29.9 | 24.4 | 15.9 | 5.5 | 0 |
| 13000 | 34.4 | 32.4 | 26.4 | 17.2 | 6.0 | 0 |
| 14000 | 37.1 | 34.9 | 28.4 | 18.5 | 6.4 | 0 |
| 15000 | 39.7 | 37.3 | 30.4 | 19.9 | 6.9 | 0 |
| 16000 | 42.4 | 39.8 | 32.5 | 21.2 | 7.4 | 0 |
| 17000 | 45.0 | 42.3 | 34.5 | 22.5 | 7.8 | 0 |
| 18000 | 47.7 | 44.8 | 36.5 | 23.8 | 8.3 | 0 |
| 19000 | 50.3 | 47.3 | 38.6 | 25.2 | 8.7 | 0 |
| 20000 | 53.0 | 49.8 | 40.6 | 26.5 | 9.2 | 0 |
| 21000 | 55.6 | 52.3 | 42.6 | 27.8 | 9.7 | 0 |
| 22000 | 58.3 | 54.8 | 44.7 | 29.1 | 10.1 | 0 |
| 23000 | 60.9 | 57.3 | 46.7 | 30.5 | 10.6 | 0 |
| 24000 | 63.6 | 59.8 | 48.7 | 31.8 | 11.0 | 0 |
| 25000 | 66.2 | 62.2 | 50.7 | 33.1 | 11.5 | 0 |

## PART IV.

Correction for Decrease of Gravity on a Vertical.

*Always Positive.*

| Feet. |
|---|
| 2.5 |
| 5.2 |
| 7.9 |
| 10.8 |
| 13.7 |
| 16.7 |
| 19.9 |
| 23.1 |
| 26.4 |
| 29.8 |
| 33.3 |
| 36.9 |
| 40.6 |
| 44.4 |
| 48.3 |
| 52.3 |
| 56.4 |
| 60.5 |
| 64.8 |
| 69.2 |
| 73.6 |
| 78.2 |
| 82.9 |
| 87.6 |
| 92.5 |

## PART V.

Correction due to the Height of the Lower Station.

*Always Positive.*

| Height of Barometer at Lower Station. 16 in. | 18 in. | 20 in. | 22 in. | 24 in. | 26 in. | 28 in. | App. Alt. |
|---|---|---|---|---|---|---|---|
| Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. | Feet. |
| 1.6 | 1.3 | 1.0 | 0.8 | 0.6 | 0.4 | 0.2 | 1000 |
| 3.1 | 2.5 | 2.0 | 1.5 | 1.1 | 0.7 | 0.3 | 2000 |
| 4.7 | 3.8 | 3.0 | 2.3 | 1.7 | 1.1 | 0.5 | 3000 |
| 6.3 | 5.1 | 4.0 | 3.1 | 2.2 | 1.4 | 0.7 | 4000 |
| 7.8 | 6.4 | 5.0 | 3.8 | 2.8 | 1.8 | 0.8 | 5000 |
| 9.4 | 7.6 | 6.0 | 4.6 | 3.3 | 2.1 | 1.0 | 6000 |
| 11.0 | 8.9 | 7.1 | 5.4 | 3.9 | 2.5 | 1.2 | 7000 |
| 12.5 | 10.2 | 8.1 | 6.2 | 4.4 | 2.8 | 1.3 | 8000 |
| 14.1 | 11.4 | 9.1 | 6.9 | 5.0 | 3.2 | 1.5 | 9000 |
| 15.7 | 12.7 | 10.1 | 7.7 | 5.5 | 3.5 | 1.7 | 10000 |
| 17.2 | 14.0 | 11.1 | 8.5 | 6.1 | 3.9 | 1.8 | 11000 |
| 18.8 | 15.3 | 12.1 | 9.2 | 6.6 | 4.2 | 2.0 | 12000 |
| 20.4 | 16.5 | 13.1 | 10.0 | 7.2 | 4.6 | 2.2 | 13000 |
| 21.9 | 17.8 | 14.1 | 10.8 | 7.7 | 4.9 | 2.3 | 14000 |
| 23.5 | 19.1 | 15.1 | 11.5 | 8.3 | 5.3 | 2.5 | 15000 |
| 25.1 | 20.3 | 16.1 | 12.3 | 8.8 | 5.6 | 2.7 | 16000 |
| 26.6 | 21.6 | 17.1 | 13.1 | 9.4 | 6.0 | 2.8 | 17000 |
| 28.2 | 22.9 | 18.1 | 13.8 | 9.9 | 6.3 | 3.0 | 18000 |
| 29.8 | 24.1 | 19.2 | 14.6 | 10.5 | 6.7 | 3.2 | 19000 |
| 31.3 | 25.4 | 20.2 | 15.4 | 11.0 | 7.0 | 3.3 | 20000 |
| 32.9 | 26.7 | 21.2 | 16.1 | 11.6 | 7.4 | 3.5 | 21000 |
| 34.5 | 28.0 | 22.2 | 16.9 | 12.1 | 7.7 | 3.7 | 22000 |
| 36.0 | 29.2 | 23.2 | 17.7 | 12.7 | 8.1 | 3.8 | 23000 |
| 37.6 | 30.5 | 24.2 | 18.5 | 13.2 | 8.4 | 4.0 | 24000 |
| 39.1 | 31.8 | 25.2 | 19.2 | 13.8 | 8.8 | 4.1 | 25000 |

# IV.

## TABLES

### FOR REDUCING BAROMETRICAL OBSERVATIONS TO THE LEVEL OF THE SEA, OR TO ANY OTHER LEVEL, AND FOR COMPUTING DIFFERENCES OF ELEVATION MEASURED BY THE BAROMETER, BY M. C. DIPPE.

THE following tables, published by M. C. DIPPE, in the *Astronomische Nachrichten* No. 1056, November, 1856, are a modification and extension of Gauss's tables published in Schumacher's *Jahrbuch*, for 1836 and the following years, which are based on the formula of Laplace. In this new form they answer a double purpose. They give the means of solving a problem which often occurs in Meteorology, viz. The difference of elevation between two stations, and the temperature of the air at both, being known, to reduce the height of the barometer at one of the stations to the height it would have at the other. They are likewise adapted to the computation of heights from barometrical observations.

The formula of Laplace, which has been used, the Metres being reduced to Toises and the Centigrade degrees to degrees of Reaumur, reads as follows:

$$h = \overset{\text{T.}}{9407.73}\left(1+\frac{t+t'}{400}\right)(1+a\cos 2\phi)\left(1+\frac{h}{r}\right)\left\{\log\frac{b}{b'}+2\log\left(1+\frac{h}{r}\right)\right\}.$$

Where $t$ and $t'$ = the temperatures of the air, in degrees of Reaumur, at the lower and upper station,

$b$ and $b'$ = the height of the barometer, in any scale, reduced to the freezing point, at the lower and upper station,

$h$ = the difference of level, in toises, between the two stations,

$r$ = the distance, in toises, of the lower station to the centre of the Earth,

$\phi$ = the latitude of the place of observation,

$a$ = the increase of gravity from the equator to the poles.

Making, besides, $m$ = the modulus of the common logarithms, the formula becomes, with sufficient accuracy,

$$\log b - \log b' = h\left\{\frac{1}{9407.73}\cdot\frac{1}{1+\frac{t+t'}{400}}-\frac{2m}{r}\right\}\cdot\frac{1}{1+a\cos 2\phi}\cdot\frac{1}{1+\frac{h}{r}}.$$

Assuming $r$, or the radius of the Earth, at 45° latitude = 3266631 toises, and $a$ = 0.002595, instead of 0.002845 adopted in Gauss's tables, and making

$$u = \log b - \log b',$$

$$a = \log\left(\frac{1}{9407.73}\cdot\frac{1}{1+\frac{t+t'}{400}}-\frac{2m}{r}\right),$$

$$c = -\,m\,a\cos 2\phi,$$

$$c' = -\frac{m\,h}{r},$$

then the reduction of *the height of the barometer to another level* is given by the formula,

$$1.\quad \log u = \log h + a + c + c';$$
$$2.\quad \log b = \log b' + u.$$

Table I. contains the values of $a$ for the argument $t + t'$; 10 units are to be subtracted from the characteristic.

Table II. gives the values of $c$ for the argument $\phi$, or the correction for the change of gravity in latitude, which is *negative* from 0° to 45°, *positive* from 45° to 90°.

Table III. furnishes the values of $c'$ for the argument $h$ in toises, or the correction for the decrease of gravity on the vertical. Both in Tables II. and III. the values of $c$ and $c'$ are given in units of the fifth decimal place.

The *difference of elevation of the two stations* is given by the formula,

$$1.\qquad u = \log b - \log b',$$
$$2.\quad \log h = \log u + \mathrm{A} + c + c',$$

in which A is the arithmetical complement of $a$, and the corrections $c$ and $c'$ receive *contrary signs*. For the sake of convenience, the values of A have been placed in Table I., and in Table III. the correction for A is found in another column, with the more convenient argument $v = \log u + \mathrm{A}$.

If the heights of the barometers have not been reduced to the freezing point, then, B and B′ being the unreduced heights of the barometers, and T and T′ the temperature of the attached thermometer *in degrees of Reaumur*,

$$b : b' = \frac{\mathrm{B}}{1 + \frac{\mathrm{T}}{4440}} : \frac{\mathrm{B}'}{1 + \frac{\mathrm{T}'}{4440}},$$

and making $\frac{m}{4440} = \beta$,

$$u = \log b - \log b' = (\log \mathrm{B} - \beta\,\mathrm{T}) - (\log \mathrm{B}' - \beta\,\mathrm{T}').$$

Instead of $\beta = 0.000098$, we can write with sufficient accuracy 0.00010.

## Use of the Tables.

These tables can be used in any latitude, and for any barometrical scale; but the indications of the barometers *must be reduced to the freezing point;* and the temperatures of the air *must be given in degrees of Reaumur.* The tables suppose the use of logarithms with 5 decimals, such as those of Lalande, and give the results in toises.

### I. *For Reducing Barometrical Observations to another Level.*

Given $h$ in toises, $t$, $t'$, $\phi$, and $b$ or $b'$.
To find $b$ or $b'$.

In Table I. with the argument $t + t'$, take $a$,
In Table II. with the argument $\phi$, take $c$,
In Table III. with the argument $h$, take $c'$,

the last two corrections being given in units of the fifth decimal, making

$$\log h + a + c + c' - 10 \text{ (whole units)} = \log u.$$

Then we have

for a level lower by $h$ toises, $\log b = \log b' + u$;
for a level higher by $h$ toises, $\log b' = \log b - u$.

If $h$, or the difference of elevation, is given in metres, take $c'$, which is always negative, from Table III. (for A) with the argument $v = \log h + 9.71$, and write

$$\log u = 9.71018 + \log h + a + c + c' - 10 \text{ (whole units)}.$$

Then again is $\log b = \log b' + u$.

*Example* 1.

Suppose the height of the barometer, reduced to the freezing point, to be $b' =$ 295.39 Paris lines; the temperature of the air $t' = 11°.8$ Reaumur, and the latitude $\phi = 51° 48'$; the increase of heat downwards being 1° Reaumur for 100 toises. What is the height of the barometer, reduced to the freezing point, at a station lower by $h = 498.2$ toises?

In th' case $t = t' + 4°.98 = 16°.78$, and $t + t' = 28°.58$.

Then

| | | |
|---|---|---|
| | $\log h =$ | 2.69740 |
| Table I. for 28°.58 gives | $a =$ | 5.99538 |
| Table II. for 51° 48′ gives | $c = +$ | 0.00026 |
| Table III. for 498 toises gives | $c' = -$ | 0.00007 |
| | $\log u =$ | 8.69297 — 10 |
| | $u =$ | 0.04931 |
| | $\log b' =$ | 2.47040 |
| | $\log b =$ | 2.51971 |
| Barometer at the lower station | $b =$ | 330.90 Paris lines. |

*Example* 2.

Suppose the reduced barometer $b' = 598.6$ millimetres; the temperature of the air $t' = 18°.0$ Centigrade $= 14°.4$ Reaumur; the difference of elevation $h = 2217$ metres; $\phi = 3°$. The temperature of the air at the lower station $t = 27°.5$ Centigrade $= 22°.0$ Reaumur, and $t + t' = 36°.4$ Reaumur.

| | | | |
|---|---|---|---|
| Then $\log h =$ | log 2217 = | 3.34577 | |
| | + | 9.71018 | |
| | | 3.05595 | $v = 3.06$ |
| | $a =$ | 5.98750 | |
| | $c = -$ | 0.00112 | |
| | $c' = -$ | 0.00015 | |
| | $\log u =$ | 9.04218 — 10 | |
| | $u =$ | 0.11020 | |
| | $\log b' =$ | 9.77714 | |
| | $\log b =$ | 9.88734 | |
| Barometer at the lower station | $b =$ | 771.5 millimetres. | |

2. *For Computing Differences of Elevation from Barometrical Observations.*

Given the unreduced height of the barometer at the lower and upper station, B and B′; the temperatures of the attached thermometers, T and T′; the temperatures of the air, $t$ and $t'$; and the latitude, $\phi$.

To find $h$, or the difference of elevation between the two stations.

Subtract (log B′ — 10 T′) from (log B — 10 T), paying due attention to the nature of the signs of T and T′, and taking the numbers 10 T and 10 T′ as units of the fifth decimal. Calling then (log B — 10 T) — (log B′ — 10 T′) $= u$, or if the heights of the Barometers are reduced to the freezing point, $\log b - \log b' = u$, take,

In Table I., A with the argument $t + t'$, and make $v = \log u +$ A.
In Table II., with the argument $\phi$, take $c$ reversing the sign.

In Table III., for A, with the argument $v$, take $c'$, which, in this case, is always *positive*; then, remembering that the values of $c$ and $c'$ are given in units of the fifth decimal, we have,

$$v + c + c' = \log h \text{ in toises,}$$
$$v + c + c' + 0.28982 = \log h \text{ in metres,}$$
$$v + c + c' + 0.80584 = \log h \text{ in English feet.}$$

*Example* 1.

L. station B = 329.013 Paris lines; T = +15°.88 R.; $t$ = + 15°.96 R.; $\phi$ = 45° 32′.
U. station B′ = 268.215 Paris lines; T′ = + 8.40 R.; $t$ = + 7.92 R.

$t + t'$ = 23.88 R.

| | | |
|---|---|---|
| log B = 2.51722 — 10 × 15.88 | = | 2.51563 |
| log B′ = 2.42848 — 10 × 8.4 | = | 2.42764 |
| $u$ | = | 0.08799 |
| log $u$ | = | 8.94443 |
| A | = | 3.99982 |
| $v$ | = | 2.94425 |
| $c$ | = | — 0.00002 |
| $c'$ | = | + 0.00012 |
| log $h$ | = | 2.94435 |
| $h$ | = | 879.74 toises. |

*Example* 2.

L. station B = 763.15 millimetres; T = $t$ = 25°.3 Cent. = 20°.24 R.; $\phi$ = 21°.
U. station B′ = 600.95 millimetres; T′ = $t'$ = 21.3 Cent. = 17.04 R.

$t + t'$ = 37.28 R.

| | | |
|---|---|---|
| log B = 9.88261 — 10 × 20.24 | = | 9.88059 |
| log B′ = 9.77884 — 10 × 17.04 | = | 9.77714 |
| $u$ | = | 0.10345 |
| log $u$ | = | 9.01473 |
| A | = | 4.01337 |
| $v$ | = | 3.02810 |
| $c$ | = | + 0.00084 |
| $c'$ | = | + 0.00014 |
| log $h$ | = | 3.02908 for toises. |
| | | 0.28982 |
| log $h$ | = | 3.31890 for metres. |
| log $h$ | = | 3.02908 for toises. |
| | | 0.30584 |
| log $h$ | = | 3.83492 for English feet. |

$h$ = 1069.3 toises = 2084.0 metres = 6837.9 English feet.

## I. Argument: Sum of the Temperatures of the Air in Degrees of Reaumur.

| $t+t'$ Reaumur. | Correction for $a$ | Difference. | A | $t+t'$ Reaumur. | Correction for $a$ | Difference. | A |
|---|---|---|---|---|---|---|---|
| −60° | 6.09617 | | 3.90383 | −20° | 6.04776 | | 3.95224 |
| | | 128 | | | | 115 | |
| −59 | 6.09489 | | 3.90511 | −19 | 6.04661 | | 3.95339 |
| | | 127 | | | | 114 | |
| −58 | 6.09362 | | 3.90638 | −18 | 6.04547 | | 3.95453 |
| | | 127 | | | | 113 | |
| −57 | 6.09235 | | 3.90765 | −17 | 6.04434 | | 3.95566 |
| | | 127 | | | | 114 | |
| −56 | 6.09108 | | 3.90892 | −16 | 6.04320 | | 3.95680 |
| | | 126 | | | | 113 | |
| −55 | 6.08982 | | 3.91018 | −15 | 6.04207 | | 3.95793 |
| | | 126 | | | | 113 | |
| −54 | 6.08856 | | 3.91144 | −14 | 6.04094 | | 3.95906 |
| | | 126 | | | | 113 | |
| −53 | 6.08730 | | 3.91270 | −13 | 6.03981 | | 3.96019 |
| | | 125 | | | | 112 | |
| −52 | 6.08605 | | 3.91395 | −12 | 6.03869 | | 3.96131 |
| | | 125 | | | | 112 | |
| −51 | 6.08480 | | 3.91520 | −11 | 6.03757 | | 3.96243 |
| | | 124 | | | | 112 | |
| −50 | 6.08356 | | 3.91644 | −10 | 6.03645 | | 3.96355 |
| | | 125 | | | | 112 | |
| −49 | 6.08231 | | 3.91769 | − 9 | 6.03533 | | 3.96467 |
| | | 123 | | | | 111 | |
| −48 | 6.08108 | | 3.91892 | − 8 | 6.03422 | | 3.96578 |
| | | 124 | | | | 111 | |
| −47 | 6.07984 | | 3.92016 | − 7 | 6.03311 | | 3.96689 |
| | | 123 | | | | 110 | |
| −46 | 6.07861 | | 3.92139 | − 6 | 6.03201 | | 3.96799 |
| | | 123 | | | | 111 | |
| −45 | 6.07738 | | 3.92262 | − 5 | 6.03090 | | 3.96910 |
| | | 122 | | | | 110 | |
| −44 | 6.07616 | | 3.92384 | − 4 | 6.02980 | | 3.97020 |
| | | 122 | | | | 109 | |
| −43 | 6.07494 | | 3.92506 | − 3 | 6.02871 | | 3.97129 |
| | | 122 | | | | 110 | |
| −42 | 6.07372 | | 3.92628 | − 2 | 6.02761 | | 3.97239 |
| | | 122 | | | | 109 | |
| −41 | 6.07250 | | 3.92750 | − 1 | 6.02652 | | 3.97348 |
| | | 121 | | | | 109 | |
| −40 | 6.07129 | | 3.92871 | 0 | 6.02543 | | 3.97457 |
| | | 120 | | | | 109 | |
| −39 | 6.07009 | | 3.92991 | + 1 | 6.02434 | | 3.97566 |
| | | 121 | | | | 108 | |
| −38 | 6.06888 | | 3.93112 | 2 | 6.02326 | | 3.97674 |
| | | 120 | | | | 109 | |
| −37 | 6.06768 | | 3.93232 | 3 | 6.02217 | | 3.97783 |
| | | 120 | | | | 108 | |
| −36 | 6.06648 | | 3.93352 | 4 | 6.02109 | | 3.97891 |
| | | 119 | | | | 107 | |
| −35 | 6.06529 | | 3.93471 | 5 | 6.02002 | | 3.97998 |
| | | 119 | | | | 107 | |
| −34 | 6.06410 | | 3.93590 | 6 | 6.01895 | | 3.98105 |
| | | 119 | | | | 108 | |
| −33 | 6.06291 | | 3.93709 | 7 | 6.01787 | | 3.98213 |
| | | 118 | | | | 107 | |
| −32 | 6.06173 | | 3.93827 | 8 | 6.01680 | | 3 98320 |
| | | 118 | | | | 106 | |
| −31 | 6.06055 | | 3.93945 | 9 | 6.01574 | | 3.98426 |
| | | 118 | | | | 106 | |
| −30 | 6.05937 | | 3.94063 | 10 | 6.01468 | | 3.98532 |
| | | 118 | | | | 106 | |
| −29 | 6.05819 | | 3.94181 | 11 | 6.01362 | | 3.98638 |
| | | 117 | | | | 106 | |
| −28 | 6.05702 | | 3.94298 | 12 | 6.01256 | | 3.98744 |
| | | 117 | | | | 106 | |
| −27 | 6.05585 | | 3.94415 | 13 | 6.01150 | | 3.98850 |
| | | 116 | | | | 105 | |
| −26 | 6.05469 | | 3.94531 | 14 | 6.01045 | | 3.98955 |
| | | 117 | | | | 105 | |
| −25 | 6.05352 | | 3.94648 | 15 | 6.00940 | | 3.99060 |
| | | 116 | | | | 105 | |
| −24 | 6.05236 | | 3.94764 | 16 | 6.00835 | | 3.99165 |
| | | 115 | | | | 104 | |
| −23 | 6.05121 | | 3.94879 | 17 | 6.00731 | | 3.99269 |
| | | 116 | | | | 105 | |
| −22 | 6.05005 | | 3.94995 | 18 | 6.00626 | | 3.99374 |
| | | 115 | | | | 104 | |
| −21 | 6.04890 | | 3.95110 | 19 | 6.00522 | | 3.99478 |
| | | 114 | | | | 104 | |
| −20 | 6.04776 | | 3.95224 | +20 | 6.00418 | | 3.99582 |

*(Continued.)*

| $t+t'$ Reaumur. | Correction for $a$ | Difference. | A | $t+t'$ Reaumur. | Correction for $a$ | Difference. | A |
|---|---|---|---|---|---|---|---|
| +20° | 6.00418 | 103 | 3.99582 | +40° | 5.98393 | 99 | 4.01607 |
| 21 | 6.00315 | 103 | 3.99685 | 41 | 5.98294 | 99 | 4.01706 |
| 22 | 6.00212 | 104 | 3.99788 | 42 | 5.98195 | 98 | 4.01805 |
| 23 | 6.00108 | 102 | 3.99892 | 43 | 5.98097 | 99 | 4.01903 |
| 24 | 6.00006 | 103 | 3.99994 | 44 | 5.97998 | 98 | 4.02002 |
| 25 | 5.99903 | 102 | 4.00097 | 45 | 5.97900 | 97 | 4.02100 |
| 26 | 5.99801 | 102 | 4.00199 | 46 | 5.97803 | 98 | 4.02197 |
| 27 | 5.99699 | 102 | 4.00301 | 47 | 5.97705 | 97 | 4.02295 |
| 28 | 5.99597 | 102 | 4.00403 | 48 | 5.97608 | 97 | 4.02392 |
| 29 | 5.99495 | 101 | 4.00505 | 49 | 5.97511 | 97 | 4.02489 |
| 30 | 5.99394 | 101 | 4.00606 | 50 | 5.97414 | 97 | 4.02586 |
| 31 | 5.99293 | 101 | 4.00707 | 51 | 5.97317 | 96 | 4.02683 |
| 32 | 5.99192 | 101 | 4.00808 | 52 | 5.97221 | 97 | 4.02779 |
| 33 | 5.99091 | 100 | 4.00909 | 53 | 5.97124 | 96 | 4.02876 |
| 34 | 5.98991 | 101 | 4.01009 | 54 | 5.97028 | 95 | 4.02972 |
| 35 | 5.98890 | 100 | 4.01110 | 55 | 5.96933 | 96 | 4.03067 |
| 36 | 5.98790 | 99 | 4.01210 | 56 | 5.96837 | 95 | 4.03163 |
| 37 | 5.98691 | 100 | 4.01309 | 57 | 5.96742 | 96 | 4.03258 |
| 38 | 5.98591 | 99 | 4.01409 | 58 | 5.96646 | 95 | 4.03354 |
| 39 | 5.98492 | | 4.01508 | 59 | 5.96551 | | 4.03449 |

## II. Latitude. — Correction for $a$.

For A reverse the Signs of $c$.

| $\phi$ | $c$ | $\phi$ | $\phi$ | $c$ | $\phi$ | $\phi$ | $c$ | $\phi$ |
|---|---|---|---|---|---|---|---|---|
| ° | | ° | ° | | ° | ° | | ° |
| 0 | −113+ | 90 | 15 | −98+ | 75 | 30 | −56+ | 60 |
| 1 | 113 | 89 | 16 | 96 | 74 | 31 | 53 | 59 |
| 2 | 112 | 88 | 17 | 93 | 73 | 32 | 49 | 58 |
| 3 | 112 | 87 | 18 | 91 | 72 | 33 | 46 | 57 |
| 4 | 112 | 86 | 19 | 89 | 71 | 34 | 42 | 56 |
| 5 | 111 | 85 | 20 | 86 | 70 | 35 | 39 | 55 |
| 6 | 110 | 84 | 21 | 84 | 69 | 36 | 35 | 54 |
| 7 | 109 | 83 | 22 | 81 | 68 | 37 | 31 | 53 |
| 8 | 108 | 82 | 23 | 78 | 67 | 38 | 27 | 52 |
| 9 | 107 | 81 | 24 | 75 | 66 | 39 | 23 | 51 |
| 10 | 106 | 80 | 25 | 72 | 65 | 40 | 20 | 50 |
| 11 | 104 | 79 | 26 | 69 | 64 | 41 | 16 | 49 |
| 12 | 103 | 78 | 27 | 66 | 63 | 42 | 12 | 48 |
| 13 | 101 | 77 | 28 | 63 | 62 | 43 | 8 | 47 |
| 14 | 100 | 76 | 29 | 60 | 61 | 44 | 4 | 46 |
| 15 | −98+ | 75 | 30 | −56+ | 60 | 45 | −0+ | 45 |

## III. Decrease of Gravity on the Vertical. — Correction

| For $a$, argument $h$, in Toises, $c'$ always Negative. | | | | For A, arg. $v$, $c'$ always Positive. | |
|---|---|---|---|---|---|
| $h$ | $c'$ | $h$ | $c'$ | $v$ | $c'$ |
| 100 | 1 | 1600 | 21 | 1.8 | 1 |
| 200 | 3 | 1700 | 23 | 1.9 | 1 |
| 300 | 4 | 1800 | 24 | 2.0 | 1 |
| 400 | 5 | 1900 | 25 | 2.1 | 2 |
| 500 | 7 | 2000 | 27 | 2.2 | 2 |
| | | | | 2.3 | 3 |
| 600 | 8 | 2100 | 28 | 2.4 | 3 |
| 700 | 9 | 2200 | 29 | 2.5 | 4 |
| 800 | 11 | 2300 | 31 | 2.6 | 5 |
| 900 | 12 | 2400 | 32 | 2.7 | 7 |
| 1000 | 13 | 2500 | 33 | 2.8 | 8 |
| | | | | 2.9 | 11 |
| 1100 | 15 | 2600 | 35 | 3.0 | 13 |
| 1200 | 16 | 2700 | 36 | 3.1 | 17 |
| 1300 | 17 | 2800 | 37 | 3.2 | 21 |
| 1400 | 19 | 2900 | 39 | 3.3 | 27 |
| 1500 | 20 | 3000 | 40 | 3.4 | 33 |
| | | | | 3.5 | 42 |
| 1600 | 21 | 3500 | 47 | 3.6 | 53 |

# V.

## TABLES

FOR REDUCING BAROMETRICAL OBSERVATIONS TO ANOTHER LEVEL, AND FOR COMPUTING DIFFERENCES OF ELEVATION MEASURED BY THE BAROMETER, BY M. C. DIPPE.

In No. 1088 of the *Astronomische Nachrichten*, published in June, 1857, Dr. Dippe gives the following set of Tables for reducing barometrical observations to another level, and for computing heights. These tables, being based, as the preceding ones (IV.), on the formula of Laplace, and computed with the same constants, give results nearly identical, but dispense with the use of logarithms.

### Use of the Tables.

The tables suppose the height of the barometer to be expressed in French inches or Paris lines, and the temperature in degrees of Reaumur; they give the differences of level in French toises.

The signs used have the following signification: —

At Lower Station.
- $B$ = Observed Height of Barometer in Paris lines.
- $T$ = Attached Thermometer in degrees of Reaumur.
- $b$ = Barometer reduced to the freezing point.
- $t$ = Temperature of the air, detached Thermometer.

At Upper Station.
- $B'$ = Observed Height of Barometer.
- $T'$ = Attached Thermometer.
- $b'$ = Barometer at the freezing point.
- $t'$ = Temperature of the air.

- $\phi$ = Latitude of the place.
- $h$ = Difference of elevation between the two stations.

### I. *For Reducing Barometrical Observations to another Level.*

Given, $h$ in toises, $t$, $t'$, $\phi$, and $b$ or $b'$.
To find $b$ or $b'$.

Make first $2\tau = \frac{t+t}{2}$ and $\tau$, and

In Table I., with the argument $2\tau$, take $\tau'$;
In Table III., with the arguments $h$ and $\tau$, take C;
In Table IV., with the arguments $h$ and $\phi$, take C';

Make, further,

$$u = h + C + C' \text{ and } \frac{u}{100}\tau';$$

And if $b'$ be given, and $b$ required,

In Table II., with the argument $b$, take H;

then is $$H = H' + (u - \frac{u}{100}\tau'),$$

and the height of the barometer, in Table II., due to H, is $b$ required.

If $b$ be given, and $b'$ required for a level higher by $h$ toises, then,

In Table II., with the argument $b$, take H'.

Make, further,

$$H' = H - (u - \frac{u}{100}\tau'),$$

and $b'$ is the height of the barometer in Table II., corresponding to H'.

*Example* 1.

Suppose the height of the barometer reduced to the freezing point to be $b' =$ 295.39 Paris lines; the temperature of the air $t' = 11°.8$ Reaumur; and the latitude $\phi = 51°.48$; the increase of heat downwards being 1° Reaumur for 100 toises. What is the height of the barometer reduced to the freezing point, at a station lower by $h = 498.2$ toises?

In this case, $t' = 11°.8$; $t = 11°.8 + 4°.98$; $t + t' = 28°.58$;

$$2\tau = \frac{t+t}{2} = 14°.29;\ \tau = 7°.15;$$

and according to Table I. $\tau' = +6.67$.

With $h$ and $\tau$, in Table III., we find $C = -1.4$
With $h$ and $\phi$, in Table IV., we find $C' = +0.3$

| | |
|---|---|
| We add $h =$ | 498.2 |
| and we have $u =$ | 497.1; |
| $-\frac{u}{100}\tau' =$ | −33.15 |
| | 463.95 |
| With $b'$, in Table II., we find $H' =$ | 367.86 |
| $H =$ | 831.81 |

$\frac{u}{100} = 4.971$
$\tau' = +6.67$
29 83
2.98
.34
$\frac{u}{100}\tau' = +33.15$

Finally, with H, in Table II., we find $b = 330.91$ Paris lines, which is the required height of the barometer at the lower station. Gauss's tables (IV.) would give $b =$ 330.90 lines.

*Example 2.*

Suppose $b' = 330.46$ Paris lines; $t' = -12°.3$ Reaumur; $h' = 92.7$ toises; $\phi = 62°$.

In this case, assuming $t = t'$,

$$2\tau = \frac{t+t'}{2} = -12°.3; \quad \tau = -6.15;$$

and according to Table I. $\tau' = -6.55$.

With $h$ and $\tau$, in Table III., take C $= -0.2$
With $h$ and $\phi$, in Table IV., take C′ $= +0.1$
Add $h = 92.7$
We have $u = 92.6$
$-\frac{u}{100}\tau' = +6.07$
98.67
With $b'$, in Table II., take H′ $= 826.22$
H $= 924.89$

$\frac{u}{100} = 0.926$
$\tau' = -6.55$
5.56
.46
.05
$\frac{u}{100}\tau' = -6.07$

With H, in Table II., we find $b = 338.53$ Paris lines. Gauss's tables (IV.) would give $b = 338.54$ lines.

II. *For Computing Differences of Elevation from Barometrical Observations.*

Suppose to be given B, B′, T, T′, $t$, $t'$, $\phi$; required $h$.

Make first $\tau = \frac{t+t'}{4}$ and T — T′.

Then in Table II., with the argument $\begin{cases} \text{B take H,} \\ \text{B′ take H′,} \end{cases}$

and make

$$u = (\text{H} - \text{H}') + \frac{\text{H} - \text{H}'}{100}\tau - (\text{T} - \text{T}'),$$

in which each full degree of T — T′ corresponds to a toise.

Further, in Table III., with $u$ and $\tau$, take C reversing the sign;
in Table IV., with $u$ and $\phi$, take C′ reversing the sign;
in Table V., with T — T′ and $\tau$, take C″ with the signs of T — T′.

Then the difference of elevation required is

$$h = u + \text{C} + \text{C}' + \text{C}''.$$

If the heights of the barometer, reduced to the freezing point, or $b$ and $b'$, are given

then in Table II., with the argument, $\begin{cases} b \text{ take H} \\ b' \text{ take H′,} \end{cases}$

and make

$$u = \text{H} - \text{H}' + \frac{\text{H} - \text{H}'}{100}\tau.$$

Further, in Table III., take C reversing the sign;
in Table IV., take C′ reversing the sign;

and

$$h = u + \text{C} + \text{C}'.$$

*Example* 1.

Suppose to be given,

B = 333.6 Paris lines; T = + 17°.0 Reaumur; $t$ = + 19°.0 R.; $\phi$ = 48°.

B′ = 289.9 Paris lines; T′ = + 16°.3 Reaumur; $t'$ = + 15°.2 R.

T — T′ = 0°.7 $\quad$ $t + t'$ = + 34°.2

$\tau$ = + 8.55

In Table II. with B take H = 864.9

" with B′ take H′ = 291.2

H — H′ = 573.7

$\frac{H - H'}{100}\tau$ = 49.06

— (T — T′) = —0.7

$u$ = 622.06

$\frac{H-H'}{100}$ = 5.737

$\tau$ = +8.55

45 90

2.87

.29

$\frac{H-H'}{100}\tau$ = 49.06

In Table III., with $u$ and $\tau$, take C = +1.8

In Table IV., with $u$ and $\phi$, take C′ = —0.2

In Table V., with T — T′ and $\tau$ take C″ = 0.0

Difference of elevation, or $h$ = 623.66 toises.

Gauss's Tables give 623.64 toises.

*Example* 2.

Suppose to be given,

$b$ = 342.68 Paris lines; $t$ = — 10°.38 Reaumur; $\phi$ = 65°.

$b'$ = 285.47 Paris lines; $t'$ = — 14°.94 Reaumur; T — T′ = 0°. R.

$t + t'$ = — 25°.32

$\tau$ = — 6.33

In Table II. with $b$ take H = 974.58

" with $b'$ take H′ = 228.28

H — H′ = 746.30

$\frac{H - H'}{100}\tau$ = —47.24

$u$ = 699.06

$\frac{H-H'}{100}$ = 7 463

$\tau$ = — 6.33

44.78

2.24

.22

$\frac{H-H'}{100}\tau$ = 47.24

In Table III., with $u$ and $\tau$, take C = + 1.8

In Table IV., with $u$ and $\phi$, take C′ = — 1.2

$h$ = 699.66

Gauss's Tables give $h$ = 699.72 toises.

# V.

## TABLES

### FOR REDUCING BAROMETRICAL OBSERVATIONS TO ANOTHER LEVEL, AND FOR COMPUTING DIFFERENCES OF ELEVATION, BY M. C. DIPPE.

TABLE I. — *Argument,* the observed Height of the Barometer at either Station.

| Barometer in Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| B or B' | H or H' in Toises = | | | | | | | | | |
| 270 | 0.7 | 2.2 | 3.7 | 5.2 | 6.7 | 8.2 | 9.7 | 11.2 | 12.8 | 14.3 |
| 271 | 15.8 | 17.3 | 18.8 | 20.3 | 21.8 | 23.3 | 24.8 | 26.3 | 27.8 | 29.3 |
| 272 | 30.8 | 32.3 | 33.8 | 35.3 | 36.8 | 38.3 | 39.8 | 41.3 | 42.8 | 44.3 |
| 273 | 45.8 | 47.3 | 48.8 | 50.3 | 51.8 | 53.3 | 54.8 | 56.3 | 57.8 | 59.3 |
| 274 | 60.8 | 62.2 | 63.7 | 65.2 | 66.7 | 68.2 | 69.7 | 71.2 | 72.7 | 74.1 |
| 275 | 75.6 | 77.1 | 78.6 | 80.1 | 81.6 | 83.1 | 84.5 | 86.0 | 87.5 | 89.0 |
| 23 Inch. | | | | | | | | | | |
| 276 | 90.5 | 91.9 | 93.4 | 94.9 | 96.4 | 97.9 | 99.3 | 100.8 | 102.3 | 103.8 |
| 277 | 105.2 | 106.7 | 108.2 | 109.7 | 111.1 | 112.6 | 114.1 | 115.6 | 117.0 | 118.5 |
| 278 | 120.0 | 121.4 | 122.9 | 124.4 | 125.8 | 127.3 | 128.8 | 130.2 | 131.7 | 133.2 |
| 279 | 134.6 | 136.1 | 137.6 | 139.0 | 140.5 | 142.0 | 143.4 | 144.9 | 146.3 | 147.8 |
| 280 | 149.3 | 150.7 | 152.2 | 153.6 | 155.1 | 156.5 | 158.0 | 159.5 | 160.9 | 162.4 |
| 281 | 163.8 | 165.3 | 166.7 | 168.2 | 169.6 | 171.1 | 172.5 | 174.0 | 175.4 | 176.9 |
| 282 | 178.3 | 179.8 | 181.2 | 182.7 | 184.1 | 185.6 | 187.0 | 188.5 | 189.9 | 191.4 |
| 283 | 192.8 | 194.2 | 195.7 | 197.1 | 198.6 | 200.0 | 201.4 | 202.9 | 204.3 | 205.8 |
| 284 | 207.2 | 208.6 | 210.1 | 211.5 | 213.0 | 214.4 | 215.8 | 217.3 | 218.7 | 220.1 |
| 285 | 221.6 | 223.0 | 224.4 | 225.9 | 227.3 | 228.7 | 230.2 | 231.6 | 233.0 | 234.5 |
| 286 | 235.9 | 237.3 | 238.7 | 240.2 | 241.6 | 243.0 | 244.4 | 245.9 | 247.3 | 248.7 |
| 287 | 250.1 | 251.6 | 253.0 | 254.4 | 255.8 | 257.3 | 258.7 | 260.1 | 261.5 | 262.9 |
| 24 Inch. | | | | | | | | | | |
| 288 | 264.4 | 265.8 | 267.2 | 268.6 | 270.0 | 271.4 | 272.9 | 274.3 | 275.7 | 277.1 |
| 289 | 278.5 | 279.9 | 281.3 | 282.8 | 284.2 | 285.6 | 287.0 | 288.4 | 289.8 | 291.2 |
| 290 | 292.6 | 294.0 | 295.4 | 296.8 | 298.3 | 299.7 | 301.1 | 302.5 | 303.9 | 305.3 |
| 291 | 306.7 | 308.1 | 309.5 | 310.9 | 312.3 | 313.7 | 315.1 | 316.5 | 317.9 | 319.3 |
| 292 | 320.7 | 322.1 | 323.5 | 324.9 | 326.3 | 327.7 | 329.1 | 330.5 | 331.9 | 333.3 |
| 293 | 334.7 | 336.1 | 337.5 | 338.9 | 340.2 | 341.6 | 343.0 | 344.4 | 345.8 | 347.2 |
| 294 | 348.6 | 350.0 | 351.4 | 352.8 | 354.2 | 355.5 | 356.9 | 358.3 | 359.7 | 361.1 |
| 295 | 362.5 | 363.9 | 365.2 | 366.6 | 368.0 | 369.4 | 370.8 | 372.2 | 373.5 | 374.9 |
| 296 | 376.3 | 377.7 | 379.1 | 380.4 | 381.8 | 383.2 | 384.6 | 385.9 | 387.3 | 388.7 |
| 297 | 390.1 | 391.5 | 392.8 | 394.2 | 395.6 | 397.0 | 398.3 | 399.7 | 401.1 | 402.4 |
| 298 | 403.8 | 405.2 | 406.5 | 407.9 | 409.3 | 410.7 | 412.0 | 413.4 | 414.8 | 416.1 |
| 299 | 417.5 | 418.9 | 420.2 | 421.6 | 423.0 | 424.3 | 425.7 | 427.1 | 428.4 | 429.8 |
| 25 Inch. | | | | | | | | | | |
| 300 | 431.1 | 432.5 | 433.9 | 435.2 | 436.6 | 437.9 | 439.3 | 440.7 | 442.0 | 443.4 |
| 301 | 444.7 | 446.1 | 447.5 | 448.8 | 450.2 | 451.5 | 452.9 | 454.2 | 455.6 | 456.9 |
| 302 | 458.3 | 459.6 | 461.0 | 462.3 | 463.7 | 465.0 | 466.4 | 467.8 | 469.1 | 470.5 |
| 303 | 471.8 | 473.1 | 474.5 | 475.8 | 477.2 | 478.5 | 479.9 | 481.2 | 482.6 | 483.9 |
| 304 | 485.3 | 486.6 | 487.9 | 489.3 | 490.6 | 492.0 | 493.3 | 494.7 | 496.0 | 497.3 |
| 305 | 498.7 | 500.0 | 501.4 | 502.7 | 504.0 | 505.4 | 506.7 | 508.0 | 509.4 | 510.7 |
| 306 | 512.0 | 513.4 | 514.7 | 516.0 | 517.4 | 518.7 | 520.1 | 521.4 | 522.7 | 524.0 |

TABLE I. *Continued.*

| Barometer in Paris Lines. | Tenths of a Line. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 306 | 512.0 | 513.4 | 514.7 | 516.0 | 517.4 | 518.7 | 520.1 | 521.4 | 522.7 | 524.0 |
| 307 | 525.4 | 526.7 | 528.0 | 529.4 | 530.7 | 532.0 | 533.4 | 534.7 | 536.0 | 537.4 |
| 308 | 538.7 | 540.0 | 541.3 | 542.6 | 544.0 | 545.3 | 546.6 | 547.9 | 549.3 | 550.6 |
| 309 | 551.9 | 553.2 | 554.6 | 555.9 | 557.2 | 558.5 | 559.8 | 561.2 | 562.5 | 563.8 |
| 310 | 565.1 | 566.4 | 567.8 | 569.1 | 570.4 | 571.7 | 573.0 | 574.3 | 575.6 | 576.9 |
| 311 | 578.3 | 579.6 | 580.9 | 582.2 | 583.5 | 584.8 | 586.1 | 587.5 | 588.8 | 590.1 |
| **26** Inch. | | | | | | | | | | |
| 312 | 591.4 | 592.7 | 594.0 | 595.3 | 596.6 | 597.9 | 599.2 | 600.6 | 601.9 | 603.2 |
| 313 | 604.5 | 605.8 | 607.1 | 608.4 | 609.7 | 611.0 | 612.3 | 613.6 | 614.9 | 616.2 |
| 314 | 617.5 | 618.8 | 620.1 | 621.4 | 622.7 | 624.0 | 625.3 | 626.6 | 627.9 | 629.2 |
| 315 | 630.5 | 631.8 | 633.1 | 634.4 | 635.7 | 637.0 | 638.3 | 639.5 | 640.8 | 642.1 |
| 316 | 643.4 | 644.7 | 646.0 | 647.3 | 648.6 | 649.9 | 651.2 | 652.5 | 653.8 | 655.1 |
| 317 | 656.3 | 657.6 | 658.9 | 660.2 | 661.5 | 662.8 | 664.1 | 665.4 | 666.6 | 667.9 |
| 318 | 669.2 | 670.5 | 671.8 | 673.1 | 674.3 | 675.6 | 676.9 | 678.2 | 679.5 | 680.8 |
| 319 | 682.0 | 683.3 | 684.6 | 685.9 | 687.2 | 688.4 | 689.7 | 691.0 | 692.3 | 693.6 |
| 320 | 694.8 | 696.1 | 697.4 | 698.7 | 699.9 | 701.2 | 702.5 | 703.8 | 705.0 | 706.3 |
| 321 | 707.6 | 708.9 | 710.1 | 711.4 | 712.7 | 713.9 | 715.2 | 716.5 | 717.7 | 719.0 |
| 322 | 720.3 | 721.6 | 722.8 | 724.1 | 725.4 | 726.6 | 727.9 | 729.2 | 730.4 | 731.7 |
| 323 | 733.0 | 734.2 | 735.5 | 736.7 | 738.0 | 739.3 | 740.5 | 741.8 | 743.1 | 744.3 |
| **27** Inch. | | | | | | | | | | |
| 324 | 745.6 | 746.8 | 748.1 | 749.4 | 750.6 | 751.9 | 753.2 | 754.4 | 755.7 | 756.9 |
| 325 | 758.2 | 759.4 | 760.7 | 761.9 | 763.2 | 764.5 | 765.7 | 767.0 | 768.2 | 769.5 |
| 326 | 770.7 | 772.0 | 773.2 | 774.5 | 775.7 | 777.0 | 778.2 | 779.5 | 780.7 | 782.0 |
| 327 | 783.2 | 784.5 | 785.7 | 787.0 | 788.2 | 789.5 | 790.7 | 792.0 | 793.2 | 794.5 |
| 328 | 795.7 | 797.0 | 798.2 | 799.4 | 800.7 | 801.9 | 803.2 | 804.4 | 805.7 | 806.9 |
| 329 | 808.2 | 809.4 | 810.6 | 811.9 | 813.1 | 814.4 | 815.6 | 816.8 | 818.1 | 819.3 |
| 330 | 820.6 | 821.8 | 823.0 | 824.3 | 825.5 | 826.7 | 828.0 | 829.2 | 830.4 | 831.7 |
| 331 | 832.9 | 834.2 | 835.4 | 836.6 | 837.9 | 839.1 | 840.3 | 841.6 | 842.8 | 844.0 |
| 332 | 845.2 | 846.5 | 847.7 | 848.9 | 850.2 | 851.4 | 852.6 | 853.9 | 855.1 | 856.3 |
| 333 | 857.5 | 858.8 | 860.0 | 861.2 | 862.4 | 863.7 | 864.9 | 866.1 | 867.3 | 868.6 |
| 334 | 869.8 | 871.0 | 872.2 | 873.4 | 874.7 | 875.9 | 877.1 | 878.3 | 879.6 | 880.8 |
| 335 | 882.0 | 883.2 | 884.4 | 885.7 | 886.9 | 888.1 | 889.3 | 890.5 | 891.7 | 893.0 |
| **28** Inch. | | | | | | | | | | |
| 336 | 894.2 | 895.4 | 896.6 | 897.8 | 899.0 | 900.3 | 901.5 | 902.7 | 903.9 | 905.1 |
| 337 | 906.3 | 907.5 | 908.7 | 909.9 | 911.2 | 912.4 | 913.6 | 914.8 | 916.0 | 917.2 |
| 338 | 918.4 | 919.6 | 920.8 | 922.0 | 923.3 | 924.5 | 925.7 | 926.9 | 928.1 | 929.3 |
| 339 | 930.5 | 931.7 | 932.9 | 934.1 | 935.3 | 936.5 | 937.7 | 938.9 | 940.1 | 941.3 |
| 340 | 942.5 | 943.7 | 944.9 | 946.1 | 947.3 | 948.5 | 949.7 | 950.9 | 952.1 | 953.3 |
| 341 | 954.5 | 955.7 | 956.9 | 958.1 | 959.3 | 960.5 | 961.7 | 962.9 | 964.1 | 965.3 |
| 342 | 966.5 | 967.7 | 968.9 | 970.1 | 971.3 | 972 5 | 973.7 | 974.8 | 976.0 | 977.2 |
| 343 | 978.4 | 979.6 | 980.8 | 982.0 | 983.2 | 984.4 | 985.6 | 986.8 | 987.9 | 989.1 |
| 344 | 990.3 | 991.5 | 992.7 | 993.9 | 995.1 | 996.2 | 997.4 | 998.6 | 999.8 | 1001.0 |
| 345 | 1002.2 | 1003.4 | 1004.5 | 1005.7 | 1006.9 | 1008.1 | 1009.3 | 1010.5 | 1011.6 | 1012.8 |
| 346 | 1014.0 | 1015.2 | 1016.4 | 1017.5 | 1018.7 | 1019.9 | 1021.1 | 1022.3 | 1023.4 | 1024.6 |
| 347 | 1025.8 | 1027.0 | 1028.1 | 1029.3 | 1030.5 | 1031.7 | 1032.8 | 1034.0 | 1035.2 | 1036.4 |
| **29** Inch | | | | | | | | | | |
| 348 | 1037.5 | 1038.7 | 1039.9 | 1041.1 | 1042.2 | 1043.4 | 1044.6 | 1045.8 | 1046 9 | 1048.1 |

## Table II.

### CORRECTION FOR THE TEMPERATURE OF THE AIR.

Argument, $2\tau = \frac{t+t'}{2}$.

| $2\tau$ | $\tau'$ | Diff. | $2\tau$ | $\tau'$ | Diff. | $2\tau$ | $\tau'$ | Diff. | $2\tau$ | $\tau'$ | Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| −25 | −14.29 | | −12 | −6.38 | | + 1 | +0.50 | | +14 | + 6.54 | |
| | | 0.65 | | | 0.56 | | | 0.49 | | | 0.44 |
| −24 | −13.64 | | −11 | −5.82 | | 2 | 0.99 | | 15 | 6.98 | |
| | | 0.64 | | | 0.56 | | | 0.49 | | | 0.43 |
| −23 | −13.00 | | −10 | −5.26 | | 3 | 1.48 | | 16 | 7.41 | |
| | | 0.64 | | | 0.55 | | | 0.48 | | | 0.42 |
| −22 | −12.36 | | − 9 | −4.71 | | 4 | 1.96 | | 17 | 7.83 | |
| | | 0.63 | | | 0.54 | | | 0.48 | | | 0.43 |
| −21 | −11.73 | | − 8 | −4.17 | | 5 | 2.44 | | 18 | 8.26 | |
| | | 0.62 | | | 0.54 | | | 0.47 | | | 0.42 |
| −20 | −11.11 | | − 7 | −3.63 | | 6 | 2.91 | | 19 | 8.68 | |
| | | 0.61 | | | 0.54 | | | 0.47 | | | 0.41 |
| −19 | −10.50 | | − 6 | −3.09 | | 7 | 3.38 | | 20 | 9.09 | |
| | | 0.61 | | | 0.53 | | | 0.47 | | | 0.41 |
| −18 | − 9.89 | | − 5 | −2.56 | | 8 | 3.85 | | 21 | 9.50 | |
| | | 0.60 | | | 0.52 | | | 0.46 | | | 0.41 |
| −17 | − 9.29 | | − 4 | −2.04 | | 9 | 4.31 | | 22 | 9.91 | |
| | | 0.59 | | | 0.52 | | | 0.45 | | | 0.40 |
| −16 | − 8.70 | | − 3 | −1.52 | | 10 | 4.76 | | 23 | 10.31 | |
| | | 0.59 | | | 0.51 | | | 0.45 | | | 0.40 |
| −15 | − 8.11 | | − 2 | −1.01 | | 11 | 5.21 | | 24 | 10.71 | |
| | | 0.58 | | | 0.51 | | | 0.45 | | | 0.40 |
| −14 | − 7.53 | | − 1 | −0.50 | | 12 | 5.66 | | 25 | 11.11 | |
| | | 0.58 | | | 0.50 | | | 0.44 | | | 0.39 |
| −13 | − 6.95 | | 0 | 0.00 | | 13 | 6.10 | | 26 | 11.50 | |
| | | 0.57 | | | 0.50 | | | 0.44 | | | 0.39 |
| −12 | − 6.38 | | + 1 | +0.50 | | +14 | +6.54 | | +27 | +11.89 | |

## Table III. for *C*.

### Arguments, $h$ and $\tau$.

In computing Heights *reverse* the signs of *C*. — Arguments, $\tau$ and $u$.

| $h$, ($u$) Toises. | $\tau$, in Degrees of Reaumur = | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | −16° | −12° | −8° | −4° | 0° | +4° | +8° | +12° | +16° |
| 50 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 100 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 150 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 200 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 |
| 250 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 |
| 300 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 |
| 350 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.1 |
| 400 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.2 | 1.2 |
| 450 | 1.0 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | 1.3 | 1.4 |
| 500 | 1.1 | 1.2 | 1.2 | 1.3 | 1.3 | 1.4 | 1.4 | 1.5 | 1.5 |
| 550 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.5 | 1.6 | 1.6 | 1.7 |
| 600 | 1.4 | 1.4 | 1.5 | 1.6 | 1.6 | 1.7 | 1.7 | 1.8 | 1.9 |
| 650 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 |
| 700 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 |
| 750 | 1.7 | 1.8 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 | 2.3 |
| 800 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.4 | 2.5 |
| 850 | 2.0 | 2.1 | 2.2 | 2.3 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 |
| 900 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 |
| 950 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.7 | 2.9 | 3.0 | 3.1 |
| 1000 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.1 | 3.2 | 3.3 |

## Table IV. for C′.

CORRECTION IN TOISES FOR THE CHANGE OF GRAVITY IN LATITUDE.

In computing Heights, reverse the signs of C′. Arguments $\varphi$ and $u$.

| Latitude. | | Approximate Difference of Level, in Toises. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| — | + | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
| 0 | 90 | 0.3 | 0.5 | 0.8 | 1.0 | 1.3 | 1.6 | 1.8 | 2.1 | 2.3 | 2.6 |
| 5 | 85 | 0.3 | 0.5 | 0.8 | 1.0 | 1.3 | 1.5 | 1.8 | 2.0 | 2.3 | 2.6 |
| 10 | 80 | 0.2 | 0.5 | 0.7 | 1.0 | 1.2 | 1.5 | 1.7 | 2.0 | 2.2 | 2.4 |
| 15 | 75 | 0.2 | 0.4 | 0.7 | 0.9 | 1.1 | 1.3 | 1.6 | 1.8 | 2.0 | 2.3 |
| 20 | 70 | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.4 | 1.6 | 1.8 | 2.0 |
| 25 | 65 | 0.2 | 0.3 | 0.5 | 0.7 | 0.8 | 1.0 | 1.2 | 1.3 | 1.5 | 1.7 |
| 30 | 60 | 0.1 | 0.3 | 0.4 | 0.5 | 0.6 | 0.8 | 0.9 | 1.0 | 1.2 | 1.3 |
| 35 | 55 | 0.1 | 0.2 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
| 36 | 54 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.6 | 0.7 | 0.8 |
| 37 | 53 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 |
| 38 | 52 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 |
| 39 | 51 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 |
| 40 | 50 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 |
| 41 | 49 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| 42 | 48 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| 43 | 47 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| 44 | 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 45 | 45 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Table V. for C″.

Arguments $\tau$ and T — T′. To be used only in computing Heights.

| T — T′ | Correction for T — T′, in Toises, with the *same* sign; $\tau$ = | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Reaumur. | −12° | −10° | −8° | −6° | −4° | −2° | 0° | +2° | +4° | +6° |
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| 2 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 |
| 3 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 |
| 4 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 |
| 5 | 1.0 | 0 9 | 0.8 | 0.7 | 0.6 | 0.5 | 0 4 | 0.3 | 0.2 | 0.1 |
| 6 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.1 |
| 7 | 1.3 | 1.2 | 1.1 | 0.9 | 0.8 | 0.7 | 0.6 | 0.4 | 0.3 | 0.2 |
| 8 | 1.5 | 1.4 | 1.2 | 1.1 | 0.9 | 0.8 | 0.6 | 0.5 | 0.3 | 0.2 |
| 9 | 1.7 | 1.6 | 1.4 | 1.2 | 1.1 | 0 9 | 0.7 | 0.6 | 0.4 | 0.2 |
| 10 | 1.9 | 1.7 | 1.5 | 1.4 | 1.2 | 1.0 | 0.8 | 0.6 | 0.4 | 0.2 |

Correction for T — T′ with *contrary* sign; $\tau$ =

| T — T′ | +8° | +10° | +12° | +14° | T — T′ | +8° | +10° | +12° | +14° |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 6 | 0.0 | 0.1 | 0.2 | 0.3 |
| 2 | 0.0 | 0.0 | 0.1 | 0.1 | 7 | 0.0 | 0.1 | 0.2 | 0.3 |
| 3 | 0.0 | 0.0 | 0.1 | 0.1 | 8 | 0.0 | 0.1 | 0.2 | 0.4 |
| 4 | 0.0 | 0.0 | 0.1 | 0.2 | 9 | 0.0 | 0.1 | 0.2 | 0.4 |
| 5 | 0.0 | 0.1 | 0.2 | 0.2 | 10 | 0.0 | 0.1 | 0.3 | 0.4 |

# VI.

## LAPLACE'S FORMULA FOR COMPUTING DIFFERENCES OF ELEVATION FROM BAROMETRICAL OBSERVATIONS, MODIFIED BY BABINET.

In the *Comptes Rendus de l'Académie des Sciences* for March, 1851, M. Babinet proposes the following modification of Laplace's formula, the object of which is to dispense both with the use of logarithms and with tables of any kind.

Laplace's formula is,

$$z = 18393 \text{ metres } (\log \mathrm{H} - \log h)\left[1 + \frac{2(\mathrm{T}+t)}{1000}\right],$$

$z$ being the difference of level between the two stations,

H, the height of barometer at the lower station,

$h$, the height of barometer at the upper station,

T, temperature of air at the lower station,

$t$, temperature of air at the upper station.

The two barometers are supposed to be reduced to the same temperature. The small correction for the latitude is omitted.

For elevations less than 1000 metres, and even for much greater elevations, if approximate results only are needed, the formula may be transformed into the following:

$$z = 16000 \text{ metres } \frac{\mathrm{H}-h}{\mathrm{H}+h}\left[1 + \frac{2(\mathrm{T}+t)}{1000}\right].$$

### *Example* 1.

Suppose,

at lower station, barometer at zero Cent. = $755^{mm.}$; temperature of air 15° Cent.

at upper station, barometer at zero Cent. = $745^{mm.}$; temperature of air 10° Cent.

$\mathrm{H}-h = 10^{mm.}$ $\quad$ $\mathrm{T}+t = 25°$ Cent.

$\mathrm{H}+h = 1500^{mm.}$ $\quad$ $2(\mathrm{T}+t) = \frac{50}{1000} = .05.$

Then $z = 16000\frac{10}{1500} \times (1.05) = 112$ metres.

Laplace's formula, by Delcros's tables, would give 111.6 metres.

### *Example* 2.

Suppose,

at lower station, barometer at zero Cent. = $730^{mm.}$; temperature of air 20° Cent.

at upper station, barometer at zero Cent. = $635^{mm.}$; temperature of air 15° Cent.

$\mathrm{H}-h = 95^{mm.}$ $\quad$ $\mathrm{T}+t = 35°$ Cent.

$\mathrm{H}+h = 1365^{mm.}$ $\quad$ $2(\mathrm{T}+t) = \frac{70}{1000} = .07.$

Then $z = 16000\frac{95}{1365} \times (1.07) = 1191.5$ metres.

Laplace's formula, by Delcros's tables, would give 1191.1 metres.

For greater elevations an intermediate station may be supposed.

Babinet's formula reduced to English measures becomes,

$$z = 52494 \text{ English feet } \frac{\mathrm{H}-h}{\mathrm{H}+h}\left[1 + \frac{(\mathrm{T}+t-64)}{900}\right];$$

but as, in this form, it loses the simplicity of its coefficient, it will be found, on trial, that its use requires rather more computing than the author's tables (II.), p. 38, which give more accurate results.

# VII.

## TABLES

### FOR COMPUTING THE DIFFERENCE IN THE HEIGHTS OF TWO PLACES BY MEANS OF THE BAROMETER. — BAILY.

BAILY, in his *Astronomical Tables and Formulæ*, page 111, gives the following final formula:

$$x = 60345.51\,\{1 + .0011111\,(t + t' - 64°)\}$$
$$\times \log \text{ of } \left\{\frac{\beta}{\beta'} \times \frac{1}{1 + .0001\,(\tau - \tau')}\right\} \times \{1 + .002695 \cos 2\phi\}.$$

Where $\phi$ = the latitude of the place,

$\beta$ = the height of the barometer,
$\tau$ = the temperature, Fahrenheit, of the mercury,
$t$ = the temperature, Fahrenheit, of the air,
} at the lower station.

$\beta'$ = the height of the barometer,
$\tau'$ = the temperature, Fahrenheit, of the mercury,
$t'$ = the temperature, Fahrenheit, of the air.
} at the upper station.

The numerical values assumed are as follows: —

| | |
|---|---|
| The constant barometrical coefficient | = 60158.53 English feet. |
| The expansion of *moist* air for 1° Fahrenheit | = .0022222. |
| The expansion of mercury for 1° Fahrenheit | = .0001001. |
| The increase of gravitation from Equator to Poles | = .00539. |
| The radius of the Earth at $\phi$ | = 20898240 English feet. |
| The height of lower station assumed | = 4000 English feet. |

Make A = the log of the first term, in English feet.
B = the log of $1 + .0001\,(\tau - \tau')$.
C = the log of the last term.
D = $\log \beta - (\log \beta' + \text{B})$.

Then, by the tables which follow, the logarithm of the difference of altitude in English feet

$$= \text{A} + \text{C} + \log \text{D}.$$

Baily's Tables have been recomputed and extended by Downes, for Lee's *Collection of Tables and Formulæ* (2d edit. pp. 84, 85). These new tables are given here as revised by Mr. Downes for this volume.

## I. Thermometers in the Open Air.

| $t+t'$ | A | $t+t'$ | A | $t+t'$ | A | $t+t'$ | A | $t+t'$ | A |
|---|---|---|---|---|---|---|---|---|---|
| ° | | ° | | ° | | ° | | ° | |
| 1 | 4.74913 | 37 | 4.76742 | 73 | 4.78497 | 109 | 4.80183 | 145 | 4.81807 |
| 2 | 4.74965 | 38 | 4.76791 | 74 | 4.78544 | 110 | 4.80229 | 146 | 4.81851 |
| 3 | 4.75016 | 39 | 4.76841 | 75 | 4.78592 | 111 | 4.80275 | 147 | 4.81896 |
| 4 | 4.75068 | 40 | 4.76891 | 76 | 4.78640 | 112 | 4.80321 | 148 | 4.81940 |
| 5 | 4.75120 | 41 | 4.76940 | 77 | 4.78687 | 113 | 4.80367 | 149 | 4.81984 |
| 6 | 4.75171 | 42 | 4.76990 | 78 | 4.78735 | 114 | 4.80413 | 150 | 4.82028 |
| 7 | 4.75223 | 43 | 4.77039 | 79 | 4.78782 | 115 | 4.80458 | 151 | 4.82072 |
| 8 | 4.75274 | 44 | 4 77089 | 80 | 4.78830 | 116 | 4.80504 | 152 | 4.82116 |
| 9 | 4.75326 | 45 | 4.77138 | 81 | 4.78877 | 117 | 4.80550 | 153 | 4.82160 |
| 10 | 4.75377 | 46 | 4.77187 | 82 | 4.78925 | 118 | 4.80595 | 154 | 4.82204 |
| 11 | 4.75429 | 47 | 4.77236 | 83 | 4.78972 | 119 | 4.80641 | 155 | 4.82248 |
| 12 | 4.75480 | 48 | 4.77285 | 84 | 4.79019 | 120 | 4.80686 | 156 | 4.82291 |
| 13 | 4.75531 | 49 | 4.77335 | 85 | 4.79066 | 121 | 4.80731 | 157 | 4.82335 |
| 14 | 4 75582 | 50 | 4.77384 | 86 | 4.79113 | 122 | 4.80777 | 158 | 4.82379 |
| 15 | 4.75633 | 51 | 4.77433 | 87 | 4.79160 | 123 | 4.80822 | 159 | 4.82423 |
| 16 | 4.75684 | 52 | 4.77482 | 88 | 4.79207 | 124 | 4.80867 | 160 | 4.82466 |
| 17 | 4.75735 | 53 | 4.77530 | 89 | 4.79254 | 125 | 4.80913 | 161 | 4.82510 |
| 18 | 4.75786 | 54 | 4.77579 | 90 | 4.79301 | 126 | 4.80958 | 162 | 4.82553 |
| 19 | 4.75837 | 55 | 4.77628 | 91 | 4.79348 | 127 | 4.81003 | 163 | 4.82597 |
| 20 | 4.75888 | 56 | 4.77677 | 92 | 4.79395 | 128 | 4.81048 | 164 | 4.82640 |
| 21 | 4.75938 | 57 | 4.77725 | 93 | 4 79442 | 129 | 4.81093 | 165 | 4.82684 |
| 22 | 4.75989 | 58 | 4.77774 | 94 | 4.79489 | 130 | 4.81138 | 166 | 4.82727 |
| 23 | 4.76040 | 59 | 4.77823 | 95 | 4.79535 | 131 | 4.81183 | 167 | 4.82770 |
| 24 | 4.76090 | 60 | 4.77871 | 96 | 4.79582 | 132 | 4.81228 | 168 | 4.82814 |
| 25 | 4.76141 | 61 | 4.77919 | 97 | 4.79628 | 133 | 4.81273 | 169 | 4.82857 |
| 26 | 4.76191 | 62 | 4.77968 | 98 | 4.79675 | 134 | 4.81317 | 170 | 4.82900 |
| 27 | 4.76241 | 63 | 4.78016 | 99 | 4.79721 | 135 | 4.81362 | 171 | 4.82943 |
| 28 | 4.76292 | 64 | 4.78065 | 100 | 4.79768 | 136 | 4.81407 | 172 | 4.82986 |
| 29 | 4.76342 | 65 | 4.78113 | 101 | 4.79814 | 137 | 4.81452 | 173 | 4.83029 |
| 30 | 4.76392 | 66 | 4.78161 | 102 | 4.79861 | 138 | 4.81496 | 174 | 4.83072 |
| 31 | 4.76442 | 67 | 4.78209 | 103 | 4.79907 | 139 | 4.81541 | 175 | 4.8311b |
| 32 | 4.76492 | 68 | 4.78257 | 104 | 4.79953 | 140 | 4.81585 | 176 | 4.83158 |
| 33 | 4.76542 | 69 | 4.78305 | 105 | 4.79999 | 141 | 4.81630 | 177 | 4.83201 |
| 34 | 4.76592 | 70 | 4.78353 | 106 | 4.80045 | 142 | 4.81674 | 178 | 4.83244 |
| 35 | 4.76642 | 71 | 4.78401 | 107 | 4.80091 | 143 | 4.81719 | 179 | 4.83287 |
| 36 | 4.76692 | 72 | 4.78449 | 108 | 4.80137 | 144 | 4.81763 | 180 | 4.83330 |

| II. Attached Thermometer. | | | | | | III. Latitude of the Place. | |
|---|---|---|---|---|---|---|---|
| $\tau - \tau'$ | B | $\tau - \tau'$ | B | $\tau - \tau'$ | B | $\phi$ | C |
| ° | | ° | | ° | | ° | |
| 0 | 0.00000 | 20 | 0.00087 | 40 | 0.00174 | 0 | 0.00117 |
| 1 | 0.00004 | 21 | 0.00091 | 41 | 0.00178 | 5 | 0.00115 |
| 2 | 0.00009 | 22 | 0.00096 | 42 | 0.00182 | 10 | 0.00110 |
| 3 | 0.00013 | 23 | 0.00100 | 43 | 0.00187 | 15 | 0.00101 |
| 4 | 0.00017 | 24 | 0.00104 | 44 | 0.00191 | 20 | 0.00090 |
| 5 | 0.00022 | 25 | 0.00109 | 45 | 0.00195 | 25 | 0.00075 |
| 6 | 0.00026 | 26 | 0.00113 | 46 | 0.00200 | 30 | 0.00058 |
| 7 | 0.00030 | 27 | 0.00117 | 47 | 0.00204 | 35 | 0.00040 |
| 8 | 0.00035 | 28 | 0.00122 | 48 | 0.00208 | 40 | 0.00020 |
| 9 | 0.00039 | 29 | 0.00126 | 49 | 0.00212 | 45 | 0.00000 |
| 10 | 0.00043 | 30 | 0.00130 | 50 | 0.00217 | 50 | 9.99980 |
| 11 | 0.00048 | 31 | 0.00135 | 51 | 0.00221 | 55 | 9.99960 |
| 12 | 0.00052 | 32 | 0.00139 | 52 | 0.00225 | 60 | 9.99942 |
| 13 | 0.00056 | 33 | 0.00143 | 53 | 0.00230 | 65 | 9.99925 |
| 14 | 0.00061 | 34 | 0.00148 | 54 | 0.00234 | 70 | 9.99910 |
| 15 | 0.00065 | 35 | 0.00152 | 55 | 0.00238 | 75 | 9.99900 |
| 16 | 0.00069 | 36 | 0.00156 | 56 | 0.00243 | 80 | 9.99890 |
| 17 | 0.00074 | 37 | 0.00161 | 57 | 0.00247 | 85 | 9.99885 |
| 18 | 0.00078 | 38 | 0.00165 | 58 | 0.00251 | 90 | 9.99883 |
| 19 | 0.00083 | 39 | 0.00169 | 59 | 0.00256 | | |

## Example.

| | Upper Station. | Lower Station. |
|---|---|---|
| Thermometer in open air, | $t' = 70.4$, | $t = 77.6$. |
| Attached Thermometer, | $\tau' = 70.4$, | $\tau = 77.6$. |
| Barometer, | $\beta' = 23.66$ inches, | $\beta = 30.05$ inches. |
| Latitude of the place | $\phi = 21°$. | |

$$B = 0.00031$$
$$\log \beta' = 1.37401$$
$$\overline{1.37432}$$
$$\log \beta = 1.47784$$
$$D = 0.10352$$

$$\log D = 9.01502$$
$$C = 0.00087$$
$$A = 4.81940$$
$$\overline{3.83529}$$
$$= 6843.7 \text{ English feet.}$$

# VIII.

## TABLES

### FOR COMPUTING DIFFERENCES OF ELEVATION FROM BAROMETRICAL OBSERVATIONS, BASED ON BESSEL'S FORMULA.

By E. PLANTAMOUR.

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[These Tables, computed by Professor E. Plantamour, Director of the Observatory at Geneva, Switzerland, are found in Vol. XIII. Part 1, of the *Mémoires de la Société de Physique, &c. de Genève*, p. 63, together with the following explanations.]

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In No. 356 of the *Astronomische Nachrichten*, Bessel published a paper on the measurement of heights by means of the barometer, in which he deduces a formula which contains a factor depending on the humidity of the air. This formula is:

$$\log \frac{P}{P'} = \frac{(g) \cdot H' - H}{L(1 + KT)} \left[ 1 - a \frac{0.002561}{\sqrt{PP'}} \cdot 10^{0.0279712\,T - 0.0000625826\,T^2} \right],$$

where the various quantities have the following signification: —

$h$ being the elevation of the lower station, and
$h'$ the elevation of the upper station above the level of the sea,
$a$ = the radius of the Earth,

$$H = \frac{a\,h}{a + h},$$

$$H' = \frac{a\,h'}{a + h'};$$

$P$ = the weight of the atmosphere at the lower station,
$P'$ = the weight of the atmosphere at the upper station,
the unit of weight assumed being the pressure of a column of mercury

of 336.905 Paris lines, at the temperature of the freezing point, or zero Reaumur, and under the 45th degree of latitude.

$(g)$ = the gravity, at the level of the sea, in the mean latitude between the two places of observation.

Therefore, calling $\phi$ the latitude,

$(g) = 1 - 0.0026257 \cos \phi$,

L = the constant barometrical coefficient depending on the relative density of the mercury and of the air,

K = the coefficient of the expansion of the air,

T = the mean temperature of the layer of air between the lower and upper station,

$a$ = the fraction of saturation of the same layer.

The second term in the parenthesis, destined to take into account the aqueous vapor in the air, was obtained by assuming that the elastic force of vapor for a temperature T is represented, in unit of weight, by the expression,

$$p = 0.0067407 \times 10^{0.0279712\,T - 0.0000625826\,T^2}.$$

Multiplying the second member by 336.905 we find the expression of the elastic force of vapor that Laplace deduced from Dalton's experiments. Substituting, in the computation, Regnault's results, the numerical value of these coefficients is somewhat changed, and we find then

$$p = 0.0060527 \times 10^{0.0301975\,T - 0.000080170\,T}.$$

Bessel's tables give the difference of elevation in toises. The logarithm of the difference is obtained by the sum of four logarithms. The same form is preserved in the following tables; but the differences of elevation are given in metres.

The term due to the expansion of the air is computed in Bessel's tables for two values of the coefficient, viz. that of Gay-Lussac, 0.00375, and that of Rudberg, 0.003648; in the new tables it is only computed for that of Regnault, 0.003665.

The relative density of dry air at the freezing point, under a barometrical pressure of $0^{m}.76$, and at the 45th degree of latitude, and of mercury in the same circumstances, adopted by Bessel, is that determined by the experiments of Biot and Arago, viz. $\frac{1}{10466.8}$. The value of that constant derived from Regnault's experiments has been substituted. Regnault found the weight of a litre of dry air, at zero Centigrade, under a pressure of $0^{m}.76$, and at the latitude of Paris, to be 1.293187 grammes, which, reduced to the gravity of the 45th degree of latitude, becomes 1.292732 grammes. The weight of a litre of mercury, at zero Centigrade, he found to be 13596 grammes; the ratio is thus:

$$D = \frac{1}{10517.3},$$

or about $\frac{1}{289}$ smaller than the value adopted by Bessel. If the constant coefficient L is expressed by $L = \frac{0^{m}.76}{D \cdot \mu}$, $\mu$ being the modulus of the common logarithms, its numerical value becomes

$$L = 18404^{m}.8.$$

In order to reduce the formula into tables, Bessel caused it to undergo several modifications, which we have followed, introducing the values of the constants above mentioned.

Let $b$ and $b'$ be the heights of the barometer, expressed in the metrical scale, at the two stations; $t$ and $t'$, the temperatures of the mercury measured with a brass scale; we have,

$$P = \frac{b}{0^{m}.76} \cdot (g) \cdot \left(\frac{a}{a+h}\right)^{2} \frac{(1 + 0.00001879\, t)}{(1 + 0.00018018\, t)},$$

and

$$P' = \frac{b'}{0^{m}.76} \cdot (g) \cdot \left(\frac{a}{a+h'}\right)^{2} \frac{(1 + 0.00001879\, t')}{(1 + 0.00018018\, t')}.$$

Therefore,

$$\log P = \log b + \log (g) - \log 0^{m}.76 - \frac{2\,H\,\mu}{a} - \mu\, t\, [0.00018018 - 0.00001879],$$

$$\log P' = \log b' + \log (g) - \log 0^{m}.76 - \frac{2\,H'\,\mu}{a} - \mu\, t'\, [0.00018018 - 0.00001879].$$

If we call B, B′ the heights of the barometer reduced to the freezing point, which we obtain by making

$$\log B = \log b - t \,.\, 0.000070095; \qquad \log B' = \log b' - t' \,.\, 0.000070095,$$

$$\log \frac{P}{P'} = \log B - \log B' + \frac{H' - H}{7329755},$$

and with sufficient accuracy,

$$\sqrt{P\,P'} = \frac{\sqrt{B\,B'}}{0^{m}.76}.$$

Substituting these expressions in the formula, it becomes,

$$\log B - \log B' =$$

$$\frac{(g) \,.\, H' - H}{L\,(1 + K\,T)} \left[1 - \frac{L\,(1 + K\,T)}{(g) \,.\, 7329755} - \frac{a \,.\, 0.001748}{\sqrt{B\,B'}} \,.\, 10^{\,0.0301975\,T - 0.000080170\,T^{2}}\right].$$

If we set instead of $a$ the half sum $\frac{a+a}{2}$ of the fraction of saturation observed at both stations, we find, after some transformations,

$$\log B - \log B' = \frac{(g)\,(H' - H)\,(397.25 - KT)}{398.25 \,.\, L\,(1 + KT)} \times$$

$$\left[1 - \frac{(a + a') \,.\, 0.34807}{(397.25 - KT)\sqrt{BB'}} \,.\, 10^{0.0301975\,T - 0.000080170\,T^2}\right].$$

Making further,

$$V = \frac{398.25}{397.25 - KT}\, L\,(1 + KT),$$

$$W = \frac{0.34807}{397.25 - KT} \,.\, 10^{0.0301975\,T - 0.000080170\,T^2},$$

we shall have for the logarithm of the approximate difference of level between the two stations $H' - H$,

$$\log (H' - H) = \log [\log B - \log B'] + \log V + \log \frac{1}{1 - W\frac{a + a'}{\sqrt{BB'}}} + \log \frac{(g)}{1}.$$

Table I. gives the values of log V and log W, both of which only depend on the temperature; the argument is the sum of the temperature of the air, $\tau$ and $\tau'$, observed at both stations, supposing $\tau + \tau' = 2T$.

Table II. gives the factor depending on the humidity of the air; with the argument

$$W \,.\, \log \frac{(a + a')}{\sqrt{BB'}},$$

we obtain

$$\log \frac{1}{1 - W\frac{(a + a')}{\sqrt{BB'}}} = \log V'.$$

Table III. gives the factor depending on the latitude for every degree, viz.

$$\log G' = \log \frac{1}{(g)}.$$

The logarithm of the approximate difference is thus given by the sum of four logarithms. To obtain the exact elevation, the small correction found in Table IV. must be added to the number corresponding to that logarithm. For we have, with the necessary accuracy,

$$h' - h = H' - H + \frac{H'^2}{a} - \frac{H^2}{a}.$$

Table IV. gives, for every 200 metres, the quantity $\frac{H^2}{a}$; the number in the table corresponding to $\frac{H'^2}{a}$ must be *added* to the approximate elevation; and the number corresponding to $\frac{H^2}{a}$ must be subtracted from the same.

## Use of the Tables.

Reduce first the observed height of the barometer at both stations to the freezing point by means of the usual tables, or by the logarithmic formula,

$$\log B = \log b - t \,.\, 0.00007, \qquad \log B' = \log b' - t' \, 0.00007 ;$$

$b$ and $b'$ being, in fractions of metre, the observed heights at the temperatures $t$ and $t'$ marked by the attached thermometers; and B and B′ the reduced height at the lower and upper station.

Take the difference of log B and log B′, and find, in the tables of the common logarithms, the logarithm of that difference, viz. log (log B — log B′); find also the logarithm of the product $\sqrt{B\,B'}$, or

$$\log \sqrt{B\,B'} = \frac{\log B + \log B'}{2}.$$

Make further the sum $\tau + \tau'$ of the temperature of the air at both stations, and likewise the sum of $a + a'$ of the fraction of saturation.

Then, in Table I., with argument $\tau + \tau'$, take log V and log W; further, to log W add log $(a + a')$, and subtract log $\sqrt{B\,B'}$; and with the logarithm thus obtained as argument, take in Table II. log V′.

Table III. with the mean latitude of the stations gives log G′.

H′ — H being the approximate difference of level between the two stations, we have

$$\log (H' - H) = \log (\log B - \log B') + \log V + \log V' + \log G'.$$

The altitude of the lower station being known, we deduce from H′ — H the approximate altitude, H′, of the upper station; $h'$, the exact altitude, or $h' - h$, the difference of elevation, is given by the formula,

$$h' - h = H' - H + \frac{H'^2}{a} - \frac{H^2}{a}.$$

Table IV. gives the values of $\frac{H'^2}{a}$ and $\frac{H^2}{a}$ for the values of H′ or H for every 200 metres.

### *Example* 1.

Computing the height of St. Bernard, taking Geneva, 407 metres above the level of the sea, as the lower station. The observation gives,

| | |
|---|---|
| B = 726.43 millimetres | B′ = 563.64 millimetres |
| $\tau$ = + 8°.97 Centigrade | $\tau'$ = — 1°.89 Centig. $\tau + \tau'$ = + 7°.08 |
| $a$ = 0.77 | $a'$ = 0.80 $a + a'$ = 1.57 |

| | |
|---|---|
| log B = 9.86119 | log $\sqrt{(B\,B')}$ = 9.8061 |
| log B′ = 9.75100 | Table I. log W = 7.0511 |
| log B — log B′ = 0.11019 | log $(a + a')$ = 0.1959 |
| | log $\frac{(a + a')}{\sqrt{B\,B'}}$ . W = 7.4409 |

$\log [\log B - \log B'] = 9.04215$
In Table I. argt. $\tau + \tau' = +7.08$, $\log V = 4.27164$
In Table II. argt. 7.4409, $\log V' = 0.00120$
In Table III. argt. 46°, $\log G' = -0.00004$
$\log (H' - H) = 3.31495$

$H' - H = 2065.1$ metres.

In Table IV. $\frac{H'^2}{a} - \frac{H^2}{a} = +0.9$

$h' - h = 2066.0$
Geneva altitude $h = 407.0$
St. Bernard above the level of the sea $h' = 2473.0$ metres.

*Example* 2.

Computing the height of Mont Blanc from the observations of Bravais and Martins, on the 29th of August, 1844, taking St. Bernard (2473.0 metres) as the lower station. The observation gives,

$B = 568.03$ millimetres
$\tau = +7°.6$ Centigrade
$a = 0.59$

$B' = 424.29$ millimetres
$\tau' = -9°.1$ Centig. $\tau + \tau' = -1°.5$
$a' = 0.57$ $a + a' = 1.16$

$\log B = 9.75437$
$\log B' = 9.62766$
$\log B - \log B' = 0.12671$

$\log \sqrt{B B'} = -9.6910$
Table I. $\log W = 6.9183$
$\log (a + a') = 0.0648$
$\log \frac{(a + a')}{\sqrt{B B'}} \cdot W = 7.2921$

$\log [\log B - \log B'] = 9.10281$
In Table I. argt. $-1°.5$, $\log V = 4.26483$
In Table II. argt. 7.2921, $\log V' = 0.00087$
In Table III. argt. 46°, $\log G' = -0.00004$
$\log (H' - H) = 3.36847$

$H' - H = 2336.0$ metres.

In Table IV. { with argument $4800 + \frac{H'^2}{a} = +3.6$
with argument $2473 - \frac{H^2}{a} = -0.9$

$h' - h = 2338.7$
St. Bernard altitude, $h = 2473.0$
Mont Blanc above the sea, $h' = 4811.7$ metres.

## TABLE I.

Argument = $\tau + \tau'$. Centigrade Degrees.

| $\tau+\tau'$. | log. V. | log. W. | $\tau+\tau'$. | log. V. | log. W. | $\tau+\tau'$. | log. V. | log. W. |
|---|---|---|---|---|---|---|---|---|
| ° | | | ° | | | ° | | |
| −24 | 4.24644 | 6.5362 | +15 | 4.27783 | 7.1692 | +54 | 4.30711 | 7.7033 |
| −23 | 4.24728 | 6.5441 | +16 | 4.27861 | 7.1839 | +55 | 4.30784 | 7.7160 |
| −22 | 4.24811 | 6.5620 | +17 | 4.27938 | 7.1985 | +56 | 4.30856 | 7.7287 |
| −21 | 4.24894 | 6.5797 | +18 | 4.28016 | 7.2131 | +57 | 4.30929 | 7.7413 |
| −20 | 4.24977 | 6.5974 | +19 | 4.28093 | 7.2275 | +58 | 4.31001 | 7.7539 |
| −19 | 4.25059 | 6.6157 | +20 | 4.28170 | 7.2420 | +59 | 4.31073 | 7.7664 |
| −18 | 4.25142 | 6.6341 | +21 | 4.28247 | 7.2564 | +60 | 4.31145 | 7.7789 |
| −17 | 4.25225 | 6.6521 | +22 | 4.28323 | 7.2708 | +61 | 4.31217 | 7.7914 |
| −16 | 4.25307 | 6.6700 | +23 | 4.28400 | 7.2850 | +62 | 4.31288 | 7.8038 |
| −15 | 4.25389 | 6.6879 | +24 | 4.28477 | 7.2993 | +63 | 4.31360 | 7.8161 |
| −14 | 4.25471 | 6.7057 | +25 | 4.28553 | 7.3135 | +64 | 4.31432 | 7.8285 |
| −13 | 4.25553 | 6.7232 | +26 | 4.28629 | 7.3276 | +65 | 4.31503 | 7.8407 |
| −12 | 4.25634 | 6.7407 | +27 | 4.28705 | 7.3417 | +66 | 4.31574 | 7.8530 |
| −11 | 4.25716 | 6.7581 | +28 | 4.28781 | 7.3557 | | | |
| −10 | 4.25797 | 6.7755 | +29 | 4.28857 | 7.3697 | | | |
| − 9 | 4.25878 | 6.7926 | +30 | 4.28933 | 7.3837 | | | |
| − 8 | 4.25959 | 6.8096 | +31 | 4.29008 | 7.3975 | | | |
| − 7 | 4.26040 | 6.8266 | +32 | 4.29084 | 7.4114 | | | |
| − 6 | 4.26121 | 6.8436 | +33 | 4.29159 | 7.4252 | | | |
| − 5 | 4.26202 | 6.8603 | +34 | 4.29234 | 7.4389 | | | |
| − 4 | 4.26282 | 6.8770 | +35 | 4.29319 | 7.4526 | | | |
| − 3 | 4.26362 | 6.8935 | +36 | 4.29384 | 7.4662 | | | |
| − 2 | 4.26443 | 6.9100 | +37 | 4.29459 | 7.4798 | | | |
| − 1 | 4.26523 | 6.9263 | +38 | 4.29534 | 7.4933 | | | |
| 0 | 4.26603 | 6.9426 | +39 | 4.29608 | 7.5068 | | | |
| + 1 | 4.26682 | 6.9581 | +40 | 4.29683 | 7.5202 | | | |
| + 2 | 4.26762 | 6.9736 | +41 | 4.29757 | 7.5336 | | | |
| + 3 | 4.26841 | 6.9889 | +42 | 4.29831 | 7.5470 | | | |
| + 4 | 4.26921 | 7.0043 | +43 | 4.29905 | 7.5602 | | | |
| + 5 | 4.27000 | 7.0195 | +44 | 4.29979 | 7.5735 | | | |
| + 6 | 4.27079 | 7.0347 | +45 | 4.30053 | 7.5867 | | | |
| + 7 | 4.27157 | 7.0499 | +46 | 4.30127 | 7.5999 | | | |
| + 8 | 4.27236 | 7.0650 | +47 | 4.30200 | 7.6130 | | | |
| + 9 | 4.27315 | 7.0800 | +48 | 4.30273 | 7.6260 | | | |
| +10 | 4.27393 | 7.0950 | +49 | 4.30347 | 7.6390 | | | |
| +11 | 4.27471 | 7.1099 | +50 | 4.30420 | 7.6519 | | | |
| +12 | 4.27550 | 7.1248 | +51 | 4.30493 | 7.6648 | | | |
| +13 | 4.27628 | 7.1397 | +52 | 4.30566 | 7.6777 | | | |
| +14 | 4.27705 | 7.1545 | +53 | 4.30639 | 7.6905 | | | |
| +15 | 4.27783 | 7.1692 | +54 | 4.30711 | 7.7033 | | | |

## TABLE IV.

Arg't. = Height.

| H'. H. | + − |
|---|---|
| Metres. | Metres. |
| 200 | 0.01 |
| 400 | 0.03 |
| 600 | 0.06 |
| 800 | 0.10 |
| 1000 | 0.16 |
| 1200 | 0.23 |
| 1400 | 0.31 |
| 1600 | 0.40 |
| 1800 | 0.51 |
| 2000 | 0.63 |
| 2200 | 0.76 |
| 2400 | 0.90 |
| 2600 | 1.06 |
| 2800 | 1.23 |
| 3000 | 1.41 |
| 3200 | 1.61 |
| 3400 | 1.82 |
| 3600 | 2.04 |
| 3800 | 2.27 |
| 4000 | 2.51 |
| 4200 | 2.77 |
| 4400 | 3.04 |
| 4600 | 3.32 |
| 4800 | 3.62 |
| 5000 | 3.93 |
| 5200 | 4.25 |
| 5400 | 4.58 |
| 5600 | 4.93 |
| 5800 | 5.28 |
| 6000 | 5.65 |
| 6200 | 6.04 |
| 6400 | 6.43 |
| 6600 | 6.84 |
| 6800 | 7.26 |
| 7000 | 7.70 |
| 7200 | 8.14 |
| 7400 | 8.60 |

## TABLE II.

Argument = log. W. $\frac{(\alpha + \alpha')}{\sqrt{B\,B'}}$.

| Argum't. | log. V'. | Argum't. | log. V'. | Argum't. | log. V'. |
|---|---|---|---|---|---|
| 6.5 | 0.00014 | 7.70 | 0.00218 | 8.09 | 0.00538 |
| 6.6 | 0.00017 | 7.71 | 0.00223 | 8.10 | 0.00550 |
| 6.7 | 0.00022 | 7.72 | 0.00229 | 8.11 | 0.00563 |
| 6.8 | 0.00027 | 7.73 | 0.00234 | 8.12 | 0.00576 |
| 6.9 | 0.00034 | 7.74 | 0.00239 | 8.13 | 0.00590 |
| 7.0 | 0.00043 | 7.75 | 0.00245 | 8.14 | 0.00604 |
| 7.1 | 0.00055 | 7.76 | 0.00251 | 8.15 | 0.00618 |
| 7.2 | 0.00069 | 7.77 | 0.00256 | 8.16 | 0.00632 |
| 7.3 | 0.00087 | 7.78 | 0.00262 | 8.17 | 0.00647 |
| 7.4 | 0.00109 | 7.79 | 0.00269 | 8.18 | 0.00662 |
| 7.41 | 0.00112 | 7.80 | 0.00275 | 8.19 | 0.00678 |
| 7.42 | 0.00114 | 7.81 | 0.00281 | 8.20 | 0.00694 |
| 7.43 | 0.00117 | 7.82 | 0.00288 | 8.21 | 0.00710 |
| 7.44 | 0.00120 | 7.83 | 0.00295 | 8.22 | 0.00727 |
| 7.45 | 0.00123 | 7.84 | 0.00302 | 8.23 | 0.00744 |
| 7.46 | 0.00125 | 7.85 | 0.00309 | 8.24 | 0.00761 |
| 7.47 | 0.00128 | 7.86 | 0.00316 | 8.25 | 0.00779 |
| 7.48 | 0.00131 | 7.87 | 0.00323 | 8.26 | 0.00798 |
| 7.49 | 0.00134 | 7.88 | 0.00331 | 8.27 | 0.00816 |
| 7.50 | 0.00138 | 7.89 | 0.00338 | 8.28 | 0.00835 |
| 7.51 | 0.00141 | 7.90 | 0.00346 | 8.29 | 0.00855 |
| 7.52 | 0.00144 | 7.91 | 0.00354 | 8.30 | 0.00875 |
| 7.53 | 0.00147 | 7.92 | 0.00363 | 8.31 | 0.00896 |
| 7.54 | 0.00151 | 7.93 | 0.00371 | 8.32 | 0.00917 |
| 7.55 | 0.00154 | 7.94 | 0.00380 | 8.33 | 0.00939 |
| 7.56 | 0.00158 | 7.95 | 0.00389 | 8.34 | 0.00961 |
| 7.57 | 0.00162 | 7.96 | 0.00398 | 8.35 | 0.00983 |
| 7.58 | 0.00165 | 7.97 | 0.00407 | | |
| 7.59 | 0.00169 | 7.98 | 0.00417 | | |
| 7.60 | 0.00173 | 7.99 | 0.00427 | | |
| 7.61 | 0.00177 | 8.00 | 0.00437 | | |
| 7.62 | 0.00181 | 8.01 | 0.00447 | | |
| 7.63 | 0.00186 | 8.02 | 0.00457 | | |
| 7.64 | 0.00190 | 8.03 | 0.00468 | | |
| 7.65 | 0.00194 | 8.04 | 0.00479 | | |
| 7.66 | 0.00199 | 8.05 | 0.00490 | | |
| 7.67 | 0.00204 | 8.06 | 0.00502 | | |
| 7.68 | 0.00208 | 8.07 | 0.00513 | | |
| 7.69 | 0.00213 | 8.08 | 0.00525 | | |
| 7.70 | 0.00218 | 8.09 | 0.00538 | | |

## TABLE III.

Argument = Latitude.

| φ. | log. G'. | φ. | log. G'. |
|---|---|---|---|
| ° | | ° | |
| 0 | +0.00114 | 40 | +0.00020 |
| 1 | +0.00114 | 41 | +0.00016 |
| 2 | +0.00114 | 42 | +0.00012 |
| 3 | +0.00114 | 43 | +0.00008 |
| 4 | +0.00113 | 44 | +0.00004 |
| 5 | +0.00112 | 45 | 0.00000 |
| 6 | +0.00112 | 46 | −0.00004 |
| 7 | +0.00111 | 47 | −0.00008 |
| 8 | +0.00110 | 48 | −0.00012 |
| 9 | +0.00109 | 49 | −0.00016 |
| 10 | +0.00107 | 50 | −0.00020 |
| 11 | +0.00106 | 51 | −0.00024 |
| 12 | +0.00104 | 52 | −0.00028 |
| 13 | +0.00103 | 53 | −0.00031 |
| 14 | +0.00101 | 54 | −0.00035 |
| 15 | +0.00099 | 55 | −0.00039 |
| 16 | +0.00097 | 56 | −0.00043 |
| 17 | +0.00095 | 57 | −0.00046 |
| 18 | +0.00092 | 58 | −0.00050 |
| 19 | +0.00090 | 59 | −0.00054 |
| 20 | +0.00087 | 60 | −0.00057 |
| 21 | +0.00085 | 61 | −0.00060 |
| 22 | +0.00082 | 62 | −0.00064 |
| 23 | +0.00079 | 63 | −0.00067 |
| 24 | +0.00076 | 64 | −0.00070 |
| 25 | +0.00073 | 65 | −0.00073 |
| 26 | +0.00070 | 66 | −0.00076 |
| 27 | +0.00067 | 67 | −0.00079 |
| 28 | +0.00064 | 68 | −0.00082 |
| 29 | +0.00060 | 69 | −0.00085 |
| 30 | +0.00057 | 70 | −0.00087 |
| 31 | +0.00054 | 71 | −0.00090 |
| 32 | +0.00050 | 72 | −0.00092 |
| 33 | +0.00046 | 73 | −0.00094 |
| 34 | +0.00043 | 74 | −0.00097 |
| 35 | +0.00039 | 75 | −0.00099 |
| 36 | +0.00035 | 76 | −0.00101 |
| 37 | +0.00031 | 77 | −0.00102 |
| 38 | +0.00028 | 78 | −0.00104 |
| 39 | +0.00024 | 79 | −0.00106 |
| 40 | +0.00020 | 80 | −0.00107 |

## CORRECTION

### FOR THE HOUR OF THE DAY AND THE SEASON OF THE YEAR AT WHICH THE OBSERVATIONS HAVE BEEN TAKEN.

In all the preceding tables, the mean temperature of the layer of air between the two stations is assumed to be given by the half-sum of the temperatures observed at each station, or by $\frac{t+t'}{2}$. Experience, however, has proved that this assumption is not true under all meteorological circumstances, and that, not to speak of more irregular influences, the temperature expressed by $\frac{t+t'}{2}$ differs in + or — from the true mean temperature by a quantity which considerably varies with the hour of the day, the season of the year, and the elevation at which the observations are taken. The amount of the correction for the temperature of the air, as given by the various formulas, thus needs to be modified accordingly. In the absence of the data necessary for establishing the law of the decrease of heat on the vertical in the various layers of the atmosphere, at the different periods of the day and of the year, and in different latitudes, which alone would furnish the means of determining the true value of this correction in these various circumstances, the following empirical tables enable us to form a judgment of the importance of that correction.

Tables IX. and X. are taken from Berghaus, *Grundriss der Geographie*, p. 91, and in the Tables accompanying the same work, p. 71. The correction to be applied for the hour of the day at which the observations have been taken, is found by multiplying the approximate height obtained by the factors in Table IX., giving to the correction the sign of the factor. This table and the following are calculated to be used in the climate of Germany, and for elevations not much exceeding 5,000 feet. The influence of the seasons on the correction is not taken into the account; judging from Table X., the correction may be, perhaps, too small for the summer months, and may better answer for the autumn. Using these factors, we obtain for the differences of level, in toises, placed at the head of each column, in Table X., the correction corresponding to each hour, from 6 A. M. to 10 P. M.

## TABLE IX.

### CORRECTION FOR THE HOUR OF THE DAY.

| Hour. | Factor. | Hour. | Factor. | Hour. | Factor. |
|---|---|---|---|---|---|
| A. M. 6 | +0.0075 | Noon. | −0.0054 | P. M. 5 | −0.0011 |
| 7 | +0.0050 | P. M. 1 | −0.0057 | 6 | +0.0013 |
| 8 | +0.0025 | 2 | −0.0059 | 7 | +0.0022 |
| 9 | −0.0005 | 3 | −0.0045 | 8 | +0.0032 |
| 10 | −0.0035 | 4 | −0.0031 | 9 | +0.0043 |
| 11 | −0.0044 | 5 | −0.0011 | 10 | +0.0054 |

# TABLE X.

## CORRECTION FOR THE HOUR OF THE DAY.

ARGUMENT, THE HOUR, AND THE APPROXIMATE HEIGHT IN TOISES.

| Hour. | Correction, in Toises, for 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | Hour. |
|---|---|---|---|---|---|---|---|---|---|---|
| A. M. 6 | +0.7 | +1.5 | +2.2 | +3.0 | +3.7 | +4.5 | +5.2 | +6.0 | +6.7 | 6 A. M. |
| 7 | +0.5 | +1.0 | +1.5 | +2.0 | +2.5 | +3.0 | +3.5 | +4.0 | +4.5 | 7 |
| 8 | +0.2 | +0.5 | +0.7 | +1.0 | +1.2 | +1.5 | +1.8 | +2.0 | +2.3 | 8 |
| 9 | −0.0 | −0.1 | −0.1 | −0.2 | −0.2 | −0.3 | −0.3 | −0.4 | −0.4 | 9 |
| 10 | −0.3 | −0.7 | −1.0 | −1.4 | −2.1 | −2.4 | −2.8 | −3.1 | −3.5 | 10 |
| 11 | −0.4 | −0.9 | −1.3 | −1.8 | −2.2 | −2.7 | −3.1 | −3.6 | −4.0 | 11 |
| Noon. | −0.5 | −1.1 | −1.6 | −2.2 | −2.7 | −3.3 | −3.8 | −4.4 | −4.9 | Noon. |
| P. M. 1 | −0.6 | −1.1 | −1.7 | −2.3 | −2.8 | −3.4 | −4.0 | −4.5 | −5.1 | 1 P. M. |
| 2 | −0.6 | −1.2 | −1.8 | −2.4 | −3.0 | −3.5 | −4.1 | −4.7 | −5.3 | 2 |
| 3 | −0.4 | −0.9 | −1.3 | −1.8 | −2.2 | −2.7 | −3.1 | −3.6 | −4.0 | 3 |
| 4 | −0.3 | −0.6 | −0.9 | −1.2 | −1.5 | −1.8 | −2.1 | −2.4 | −2.7 | 4 |
| 5 | −0.1 | −0.2 | −0.3 | −0.4 | −0.5 | −0.6 | −0.7 | −0.8 | −0.9 | 5 |
| 6 | +0.1 | +0.2 | +0.4 | +0.5 | +0.5 | +0.8 | +0.9 | +1.0 | +1.1 | 6 |
| 7 | +0.2 | +0.4 | +0.7 | +0.9 | +1.1 | +1.3 | +1.6 | +1.8 | +2.0 | 7 |
| 8 | +0.3 | +0.6 | +0.9 | +1.3 | +1.6 | +1.9 | +2.2 | +2.5 | +2.9 | 8 |
| 9 | +0.4 | +0.8 | +1.3 | +1.7 | +2.1 | +2.6 | +3.0 | +3.4 | +3.8 | 9 |
| 10 | +0.5 | +1.1 | +1.6 | +2.1 | +2.7 | +3.2 | +2.8 | +4.3 | +4.8 | 10 |

Table XI. is found in the *Résumé des Observations Thermométrique et Baromériques faites à Genève et au Grand St. Bernard pendant les dix années* 1841 à 1850, a very elaborate paper by Professor E. Plantamour, Director of the Observatory at Geneva, published in Vol. XIII. of the *Mémoires de la Société de Physique de Genève.* The author, after having determined the difference of elevation between Geneva (407.0 metres above the level of the sea) and the Great St. Bernard, by means of the corresponding observations, made during these 10 years, and using his own tables given above, reversed the problem. Assuming the difference of level thus found, viz. 2066 metres, to be the true height of the layer of air between the two stations, and its weight being given by the barometrical observations, he deduced from these data its mean density, and from the density its mean temperature at every even hour in every month of the year. Comparing these mean temperatures with those given at the same hours by the half-sum of the temperatures taken at the upper and the lower station, he found the differences contained in Table XI., which are the corrections to be applied to the half-sums of the temperatures to obtain, in this particular case, the true mean temperatures. The second part of the table has been computed by multiplying each temperature in the first by 7.5 metres, in order to show the value of that correction in barometrical measurements.

# TABLE XI.

CORRECTION TO BE APPLIED TO THE HALF-SUMS OF THE TEMPERATURES OF THE AIR, OBSERVED AT GENEVA AND AT THE GREAT ST. BERNARD, TO OBTAIN THE TRUE MEAN TEMPERATURE OF THE AIR BETWEEN THE TWO STATIONS.

Correction, in Centigrade Degrees, for

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |
| Noon. | −0.5 | −1.7 | −3.0 | −3.9 | −4.1 | −4.4 | −4.4 | −3.8 | −2.7 | −1.6 | −0.4 | +0.7 | −2.5 |
| 2 | −0.2 | −1.5 | −2.8 | −3.7 | −4.0 | −4.4 | −4.4 | −3.8 | −2.6 | −1.5 | −0.2 | +0.7 | −2.3 |
| 4 | +0.4 | −0.6 | −1.6 | −2.5 | −2.7 | −3.4 | −3.6 | −2.9 | −1.7 | −0.7 | +0.4 | +1.3 | −1.5 |
| 6 | +1.2 | +0.7 | −0.2 | −0.9 | −1.3 | −2.1 | −2.2 | −1.6 | −0.5 | +0.4 | +1.3 | +2.1 | −0.3 |
| 8 | +1.5 | +1.4 | +0.6 | 0.0 | 0.0 | −0.6 | −0.7 | −0.5 | +0.3 | +1.3 | +1.7 | +2.6 | +0.6 |
| 10 | +1.7 | +1.5 | +1.2 | +0.6 | +0.7 | +0.5 | −0.1 | +0.1 | +0.8 | +1.7 | +1.8 | +2.6 | +1.1 |
| Mid-night. | +1.9 | +1.8 | +1.9 | +1.3 | +1.8 | +1.6 | +0.9 | +1.2 | +1.3 | +2.3 | +2.1 | +2.5 | +1.7 |
| 2 | +2.0 | +2.2 | +2.5 | +1.9 | +2.2 | +2.0 | +1.5 | +2.0 | +1.9 | +2.5 | +2.4 | +2.6 | +2.2 |
| 4 | +2.3 | +2.5 | +2.6 | +1.8 | +1.7 | +1.4 | +1.1 | +1.8 | +2.1 | +2.5 | +2.7 | +2.9 | +2.1 |
| 6 | +2.0 | +2.0 | +1.7 | +0.7 | +0.4 | +0.1 | 0.0 | +0.7 | +1.5 | +1.7 | +2.3 | +2.9 | +1.3 |
| 8 | +1.5 | +1.1 | 0.0 | −1.3 | −2.0 | −2.2 | −2.4 | −1.7 | −0.4 | +0.6 | +1.7 | +2.5 | −0.3 |
| 10 | +0.4 | −0.4 | −2.0 | −3.1 | −3.5 | −3.8 | −3.7 | −3.1 | −2.0 | −1.0 | +0.3 | +1.3 | −1.7 |
| Mean, | +1.2 | +0.8 | +0.1 | −0.8 | −0.9 | −1.2 | −1.5 | −0.9 | −0.2 | +0.7 | +1.3 | +2.1 | 0.0 |

Correction, in Metres, for

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon. | − 3.7 | −12.7 | −22.5 | −29.2 | −30.7 | −33.0 | −33.0 | −28.5 | −20.2 | −12.0 | − 3.0 | + 5.2 | −18.7 |
| 2 | − 1.5 | −11.2 | −21.0 | −27.7 | −30.0 | −33.0 | −33.0 | −28.5 | −19.5 | −11.2 | − 1.5 | + 5.2 | −17.2 |
| 4 | + 3.0 | − 4.5 | −12.0 | −18.7 | −20.2 | −25.5 | −27.0 | −21.7 | −12.7 | − 5.2 | + 3.0 | + 9.7 | −11.2 |
| 6 | + 9.0 | + 5.2 | − 1.5 | − 6.7 | − 9.7 | −15.7 | −16.5 | −12.0 | − 3.7 | + 3.0 | + 9.7 | +15.7 | − 2.2 |
| 8 | +11.2 | +10.5 | + 4.5 | 0.0 | 0.0 | − 4.5 | − 5.2 | − 3.7 | + 2.2 | + 9.7 | +12.7 | +19.5 | + 4.5 |
| 10 | +12.7 | +11.2 | + 9.0 | + 4.5 | + 5.2 | + 3.7 | − 0.7 | + 0.7 | + 6.0 | +12.7 | +13.5 | +19.5 | + 8.5 |
| Mid-night. | +14.5 | +13.5 | +14.5 | + 9.7 | +13.5 | +12.0 | + 6.7 | + 9.0 | + 9.7 | +17.2 | +15.7 | +18.7 | +12.7 |
| 2 | +15.0 | +16.5 | +18.7 | +14.2 | +16.5 | +15.0 | +11.2 | +15.0 | +14.2 | +18.7 | +18.0 | +19.5 | +16.5 |
| 4 | +17.2 | +18.7 | +19.5 | +13.5 | +12.7 | +10.5 | + 8.2 | +13.5 | +15.7 | +18.7 | +20.2 | +21.7 | +15.7 |
| 6 | +15.0 | +15.0 | +12.7 | + 5.2 | + 3.0 | + 0.7 | 0.0 | + 5.2 | +11.2 | +12.7 | +17.2 | +21.7 | + 9.7 |
| 8 | +11.2 | + 8.2 | 0.0 | − 9.7 | −15.0 | −16.5 | −18.0 | −12.7 | − 3.0 | + 4.5 | +12.7 | +18.7 | − 2.2 |
| 10 | + 3.0 | − 3.0 | −15.0 | −23.2 | −26.2 | −28.5 | −27.7 | −23.2 | −15.0 | − 7.5 | + 2.2 | + 9.7 | −12.7 |
| Mean, | +9.0 | +6.0 | +0.7 | −6.0 | −6.7 | −9.0 | −11.2 | −6.7 | −1.5 | +5.2 | +9.7 | +15.7 | 0.0 |

The elevation of a place in the interior of a continent where regular meteorological observations are made, may be ascertained by taking the yearly means of the barometer reduced to the freezing point, and of the temperature of the air, as data for the upper station, and the yearly means of the reduced barometer and of the free thermometer at the level of the sea, as the data for the lower station. The Hypsometric Tables then will give the difference of level. As observation, however, has shown that the mean height of the barometer at the level of the sea is not the same in all latitudes, it is necessary to take for such a comparison the mean height of the barometer which belongs to the latitude of the station the elevation of which is to be computed, or that which is nearest to it.

Table XII., published by Schouw, in Poggendorf's *Annalen*, and in the *Comptes Rendus de l'Académie des Sciences*, Tom. III. p. 573, gives in Paris lines the mean height of the barometer in various latitudes. The reduction into millimetres is from Martins's French translation of Kaemtz's *Meteorology*, p. 278; the corresponding values in English inches, and the new stations, Savannah, Ga., Philadelphia, Pa., and Cambridge, Mass., have been added. The mean heights last mentioned have been derived from three years of observations at Savannah, by Dr. John F. Posey, from June, 1853, to June, 1856, published in the American Almanac; from four years of hourly observations at Girard College, Philadelphia, by Prof. A. D. Bache; and from ten years of observations at Cambridge Observatory. They have been reduced to a common absolute standard and to mean tide-water at the respective places.

These mean barometric heights, corrected for the variation of gravity in latitude, according to the proposition of Poggendorf, by the formula $b = b\,45\,(1 - 0.0025935 \cos 2\,\phi)$, where $b$ is the height of the barometer in latitude $\phi$, and $b\,45$ the corresponding height at the forty-fifth degree of latitude, are found in another column. For computing the elevations, the uncorrected heights are to be used.

The mean barometric pressure, as shown by Table XIII. from Kaemtz's *Précis de Météorologie*, French translation, p. 281, is not the same in all seasons, and the monthly means differ by a quantity which also varies with the latitude. If, therefore, the height of an inland station is to be ascertained from the barometrical means of one or more months only, the computation must be made with the mean pressure in the corresponding months at the level of the sea; or if this is not known, the yearly means taken from Table XII. must be corrected for the difference between the monthly means of the given month, or months, and the annual mean in the same latitude, as derived from the comparison of the numbers in Table XIII.

*Example.*

Suppose an inland station, in latitude 40° N.; the mean barometric pressure for July is 26.30 inches, and its elevation is to be computed from it.

Table XII. gives for latitude 40°, at Philadelphia, reduced to the level of the sea, 30.053 inches. Table XIII. gives as the mean for July, at the same place, 759.80 millimetres, and for the year, 760.25 millimetres (both not reduced to the level of the sea), difference — 0.45 millimetres = — 0.017 English inches, which is to be subtracted from the annual mean, 30.053, to reduce it to the mean of July; or

30.053 — 0.017 = 30.036. This last number is to be used in the computation, with the mean temperature of July at both stations.

Towards the tropical regions, the irregular or non-periodic variations of the barometer, which in high and middle latitudes are so considerable as to render simultaneous observations indispensable for the measurement of heights, gradually decrease and nearly cease to exist, while the monthly and daily periodic variations, which are small in high latitudes, considerably increase. Within the tropics, therefore, the oscillations of the barometer being far more uniform, observations made during a short period of time, or even single observations, may be used for computing heights, without corresponding observations, by referring them to the mean pressure at the level of the sea as to a constant, provided this last has been corrected for the monthly and daily periodic variation at the place.

Table XIII. furnishes the means of applying the correction for the monthly variation, as described above. Table XIV., which gives the mean height of the barometer at all hours of the day in various latitudes, enables the observer to correct the data according to the hour at which the observations have been taken. This table is from Kaemtz's *Vorlesungen über Meteorologie*, French translation, p. 249. The column Bossekop is from the observations of the French Scientific Expedition in the North; the column Philadelphia, from the observations at Girard College, has been added.

The correction for the hourly variation is found by taking the difference between the mean of the hour of observation and the daily mean, and correcting accordingly, with due regard to the signs, either the yearly mean at the sea level, or the observation at the upper station.

*Example.*

The barometer at Caracas, latitude 10° 30′ N., on the 20th of August, at 4 o'clock P. M., reads 680.57 millimetres.

| | | |
|---|---|---|
| In Table XII. the mean height of the barometer at La Guayra, lat. 10° N. . . . . | = | 760.17 millimetres, |
| By Table XIII. we find for August a correction . . | = | — 2.95 |
| Mean barometer in August . . . . . | = | 757.22 |
| In Table XIV. daily mean — mean at 4 P. M. gives for 4 P. M. a correction . . . . . | = | — 1.17 |
| Mean barometer at La Guayra in August, at 4 P. M. | = | 756.05 millimetres, |

which is the number to be used for the computation of the height of Caracas. In this case, however, the monthly correction, being derived from a higher latitude, may be too small. Both corrections can of course be applied, with contrary signs, to the observation at Caracas, leaving then the mean height at the level of the sea as a constant.

# TABLE XII.

## MEAN HEIGHT OF THE BAROMETER,

### IN VARIOUS LATITUDES, REDUCED TO THE LEVEL OF THE SEA, AND TO THE FREEZING POINT.

| Places. | Latitude. | In Millimetres. | | In English Inches. | | In Paris Lines. | |
|---|---|---|---|---|---|---|---|
| | | Observed. | Corrected for Gravity. | Observed. | Corrected for Gravity. | Observed. | Corrected for Gravity. |
| | ° ′ | | | | | | |
| Cape of Good Hope, | 33 S. | 763.01 | 762.20 | 30.041 | 30.008 | 338.24 | 337.88 |
| Rio Janeiro, Brazil, | 23 S. | 764.03 | 762.65 | 30.080 | 30.026 | 338.69 | 338.08 |
| Christiansborg, Guinea, | 5 30N. | 760.10 | 758.16 | 29.925 | 29.850 | 336.95 | 336.09 |
| La Guayra, Venezuela, | 10 | 760.17 | 758.32 | 29.928 | 29.855 | 336.98 | 336.16 |
| St. Thomas, W. Indies, | 19 | 760.51 | 758.95 | 29.942 | 29.881 | 337 13 | 336.44 |
| Macao, China, | 23 | 762.99 | 761.61 | 30.040 | 29.986 | 338.23 | 337.62 |
| Teneriffe, Canary Isles, | 28 | 764.21 | 763.10 | 30.087 | 30.044 | 338.77 | 338.28 |
| Savannah, Georgia, | 32 | 764.59 | 763.74 | 30.102 | 30.070 | 338.93 | 338.57 |
| Funchal, Madeira, | 32 30 | 765.18 | 764.34 | 30.126 | 30.093 | 339.20 | 338.83 |
| Tripoli, Northern Africa, | 33 | 767.41 | 766.60 | 30.214 | 30.182 | 340.19 | 339.83 |
| Palermo, Sicily, | 38 | 762.95 | 762.47 | 30.038 | 30.019 | 338.21 | 338.00 |
| Philadelphia, Penn. | 40 | 763.35 | 763.00 | 30.053 | 30.040 | 338.38 | 338.23 |
| Naples, Italy, | 41 | 762.34 | 762.06 | 30.014 | 30.003 | 337.94 | 337.82 |
| Cambridge, Mass. | 42 | 762.44 | 762.24 | 30.018 | 30.010 | 337.99 | 337.90 |
| Florence, Italy, | 43 30 | 761.93 | 761.81 | 29.997 | 29.993 | 337.76 | 337.71 |
| Avignon, France, | 44 | 762.02 | 761.95 | 30.001 | 29.998 | 337.80 | 337.77 |
| Bologna, Italy, | 44 30 | 762.18 | 762.13 | 30.007 | 30.005 | 337.87 | 337.85 |
| Padua, Italy, | 45 | 762.18 | 762.18 | 30.007 | 30.007 | 337.87 | 337.87 |
| Paris, France, | 49 | 761.41 | 761.68 | 29.978 | 29.988 | 337.53 | 337.65 |
| London, England, | 51 30 | 760.96 | 761.41 | 29.960 | 29.978 | 337.33 | 337.53 |
| Altona, Denmark, | 53 30 | 760.42 | 761.01 | 29.938 | 29.961 | 337.09 | 337.35 |
| Dantzig, Prussia, | 54 30 | 760.10 | 760.76 | 29.925 | 29.952 | 336.95 | 337.24 |
| Königsberg, Prussia, | 54 30 | 760.49 | 761.14 | 29.941 | 29.967 | 337.12 | 337.41 |
| Apenrade, Denmark, | 55 | 759.58 | 760.71 | 29.906 | 29.950 | 336.72 | 337.22 |
| Edinburgh, Scotland, | 56 | 758.25 | 759.00 | 29.853 | 29.882 | 336.13 | 336.46 |
| Christiania, Norway, | 60 | 758.64 | 759.63 | 29.868 | 29.908 | 336.30 | 336.74 |
| Hardanger, Norway, | 60 | 756.94 | 757.04 | 29.801 | 29.841 | 335.55 | 335.99 |
| Bergen, Norway, | 60 | 757.01 | 758.00 | 29.804 | 29.844 | 335.58 | 336.02 |
| Reikiavig, Iceland, | 64 | 752.00 | 753.20 | 29.607 | 29.654 | 333.36 | 333.89 |
| Godthaab, S. Greenland, | 64 | 751.94 | 753.13 | 29.605 | 29.651 | 333.33 | 333.86 |
| Eyafiord, Iceland, | 66 | 753.58 | 754.89 | 29.669 | 29.721 | 334.06 | 334.64 |
| Godhavn, Disco, Greenl. | 68 | 753.76 | 755.16 | 29.677 | 29.731 | 334.14 | 334.76 |
| Upernavik, N. Greenl. | 73 | 755.18 | 756.80 | 29.732 | 29.796 | 334.77 | 335.49 |
| Melville Isl., Arct. Amer. | 74 30 | 757.08 | 758.75 | 29.807 | 29.872 | 335.61 | 336.35 |
| Spitzbergen, | 75 30 | 756.76 | 758.48 | 29.794 | 29.862 | 335.47 | 336.23 |

## XIII. MEAN HEIGHT OF THE BAROMETER, IN ALL MONTHS OF THE YEAR, IN VARIOUS LATITUDES.

*Not* reduced to the Level of the Sea.

| Places, | Havana. | Calcutta. | Macao. | Cairo. | Savannah. | Philadelphia. | Cambridge. | Paris. | St. Petersburg |
|---|---|---|---|---|---|---|---|---|---|
| Latitude, | 23° 9′ | 22° 33′ | 22° 11′ | 30° 2′ | 32° 5′ | 39° 58′ | 42° 23′ | 48° 50′ | 59° 56′ |
| Jan. | 765.24 | 764.57 | 767.93 | 762.40 | 762.80 | 760.97 | 761.37 | 758.86 | 762.54 |
| Feb. | 760.15 | 758.86 | 767.01 | " | 763.76 | 759.63 | 760.90 | 759.09 | 763.10 |
| March, | 760.98 | 756.24 | 766.08 | 759.43 | 763.05 | 760.51 | 759.09 | 756.33 | 760.76 |
| April, | 759.58 | 753.83 | 761.93 | 760.10 | 763.10 | 760.05 | 759.37 | 755.18 | 761.19 |
| May, | 758.19 | 750.81 | 761.64 | 758.23 | 763.39 | 759.09 | 759.63 | 755.61 | 760.94 |
| June, | 760.67 | 748.10 | 757.31 | 754.42 | 764.37 | 759.22 | 758.91 | 757.28 | 759.83 |
| July, | 760.67 | 747.54 | 757.91 | 753.90 | 764.02 | 759.80 | 760.34 | 756.52 | 758.25 |
| Aug. | 757.33 | 748.53 | 757.91 | 754.06 | 765.54 | 760.54 | 761.11 | 756.74 | 759.94 |
| Sept. | 757.46 | 751.83 | 762.22 | 756.70 | 763.36 | 761.25 | 761.83 | 756.61 | 761.19 |
| Oct. | 758.19 | 755.25 | 763.37 | 759.70 | 763.13 | 760.68 | 761.07 | 754.42 | 760.82 |
| Nov. | 761.25 | 758.37 | 766.17 | 760.76 | 763.41 | 760.49 | 760.85 | 755.75 | 758.05 |
| Dec. | 763.62 | 760.59 | 768.65 | 761.82 | 761.12 | 760.82 | 760.80 | 755.09 | 760.22 |
| Year, | 760.28 | 754.54 | 763.18 | 758.32 | 763.41 | 760.25 | 760.44 | 756.46 | 760.57 |

## XIV. MEAN HEIGHT OF THE BAROMETER, AT ALL HOURS OF THE DAY, IN VARIOUS LATITUDES.

*Not* reduced to the Level of the Sea.

| Places, | Pacific Ocean. | Cumana. | La Guayra. | Calcutta. | Philadelphia. | Padua. | Halle. | St. Petersburg | Bosserof. |
|---|---|---|---|---|---|---|---|---|---|
| Latitude, | 0° 0′ | 10° 28′N. | 10° 36′N. | 22° 35′N. | 39° 58′N. | 45° 24′N. | 51° 29′N. | 59° 56′N. | 69° 58′N. |
| Observers, | Horner. | Humboldt. | Boussingault. | Balfour. | Bache. | Ciminello. | Kaemtz. | Kupffer. | Bravais. |
| | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| Midnight, | 752.47 | 756.86 | 759.64 | 758.80 | 760.49 | 757.01 | 753.23 | 759.35 | 754.90 |
| 1 | 752.20 | 756.53 | 759.34 | 758.62 | 760.46 | 756.90 | 753.14 | " | " |
| 2 | 751.77 | 756.21 | 759.05 | 758.57 | 760.41 | 756.84 | 753.05 | 759.32 | 754.79 |
| 3 | 751.63 | 755.89 | 758.81 | 758.49 | 760.34 | 756.78 | 752.99 | " | " |
| 4 | 751.32 | 755.66 | 758.68 | 758.47 | 760.39 | 756.74 | 752.99 | 759.32 | 754.70 |
| 5 | 751.65 | 755.79 | 758.85 | 758.44 | 760.49 | 756.75 | 753.34 | " | " |
| 6 | 751.95 | 756.18 | 759.32 | 758.68 | 760.75 | 756.79 | 753.12 | 759.39 | 754.68 |
| 7 | 752.48 | 756.58 | 759.94 | 759.16 | 761.00 | 756.89 | 753.24 | " | " |
| 8 | 752.95 | 756.98 | 760.50 | 759.88 | 761.15 | 757.01 | 753.37 | 759.49 | 754.75 |
| 9 | 753.16 | 757.31 | 759.63 | 760.11 | 761.22 | 757.08 | 753.44 | " | " |
| 10 | 753.15 | 757.32 | 760.50 | 760.19 | 761.17 | 757.14 | 753.46 | 759.51 | 754.96 |
| 11 | 752.80 | 757.01 | 759.99 | 760.09 | 760.97 | 757.07 | 753.40 | " | " |
| Noon, | 752.35 | 756.57 | 759.41 | 759.61 | 760.56 | 757.02 | 753.29 | 759.47 | 755.01 |
| 1 | 751.87 | 755.99 | 758.91 | 759.22 | 760.13 | 756.85 | 753.11 | " | " |
| 2 | 751.55 | 755.47 | 758.41 | 758.39 | 759.83 | 756.67 | 752.99 | 759.38 | 754.96 |
| 3 | 751.15 | 755.14 | 758.12 | 758.12 | 759.65 | 756.54 | 752.89 | " | " |
| 4 | 751.02 | 754.96 | 758.05 | 757.91 | 759.65 | 756.47 | 753.84 | 759.32 | 754.82 |
| 5 | 751.31 | 755.14 | 758.10 | 757.93 | 759.70 | 756.46 | 752.86 | " | " |
| 6 | 751.71 | 755.41 | 758.40 | 758.01 | 759.85 | 756.50 | 752.91 | 759.31 | 754.87 |
| 7 | 751.93 | 755.81 | 758.90 | 758.02 | 760.08 | 756.63 | 753.02 | " | " |
| 8 | 752.35 | 756.21 | 759.19 | 758.54 | 760.31 | 756.79 | 753.14 | 759.32 | 754.89 |
| 9 | 752.74 | 756.59 | 759.69 | 759.24 | 760.49 | 756.92 | 753.24 | " | " |
| 10 | 752.85 | 756.87 | 759.93 | 759.33 | 760.59 | 757.02 | 753.31 | 759.36 | 754.92 |
| 11 | 752.86 | 757.15 | 759.98 | 759.09 | 760.72 | 757.02 | 753.29 | " | " |
| Mean, | 752.13 | 756.33 | 759.22 | 758.87 | 760.43 | 756.83 | 753.19 | 759.38 | 754.85 |

Table XIV. shows that, after all irregular variations of the barometer have been liminated, there remains a double period of rise and fall within the twenty-four ours, and that the amplitude of these daily oscillations is greatest within the tropics, nd goes on diminishing towards the polar regions.

According to Kaemtz, the mean time of the daily maxima and minima, or the ean tropic hours for the northern hemisphere, are as follows: —

| | h. |
|---|---|
| The minimum of the afternoon is reached at | 4.05 P. M. |
| The maximum of the evening is reached at | 10.11 P. M. |
| The minimum of the night is reached at | 3.45 A. M. |
| The maximum of the morning is reached at | 9.37 A. M. |

Even in temperate and high latitudes these diurnal variations, though small, must be aken into account, if great accuracy is required, in reducing corresponding obser- ations made at a somewhat different hour to the time of the observation at the tation the height of which is to be determined. But in so doing, it must be remem- ered that the times of the minima and maxima change with the seasons, as is shown y Table XV. from Kaemtz, p. 251 of the French translation.

XV. TROPIC HOURS OF THE DAILY VARIATION OF THE BAROMETER AT HALLE. LAT. 51° 30′ N.

| Month. | Minimum, P. M. | Maximum, P. M. | Minimum, A. M. | Maximum, A. M. | Month. | Minimum, P. M. | Maximum, P. M. | Minimum, A. M. | Maximum, A. M. |
|---|---|---|---|---|---|---|---|---|---|
| | h. | h. | h. | h. | | h. | h. | h. | h. |
| Jan. | 2.81 | 9.17 | 4.91 | 9.91 | July, | 5.21 | 11.04 | 3.04 | 8.73 |
| Feb. | 3.43 | 9.46 | 3.86 | 9.66 | Aug. | 4.86 | 10.66 | 3.06 | 8.96 |
| March, | 3.82 | 9.80 | 3.87 | 10.10 | Sept. | 4.55 | 10.45 | 3.45 | 9.71 |
| April, | 4.46 | 10.27 | 3.53 | 9.53 | Oct. | 4.17 | 10.24 | 3.97 | 10.07 |
| May, | 5.43 | 10.93 | 3.03 | 9.13 | Nov. | 3.52 | 9.85 | 4.68 | 10.08 |
| June, | 5.20 | 10.93 | 2.83 | 8.73 | Dec. | 3.15 | 9.11 | 4.91 | 10.18 |

This shifting of the times of maxima and minima with the seasons diminishes with he latitude, and tends to disappear towards the equator, with the inequality of the ays and nights. The elevation above the level of the sea also causes a change in he tropic hours of the daily variation which is not yet sufficiently studied.

Table XIV. gives evidence that the amplitude of the hourly oscillation is greatest nder the equator, and gradually decreases towards the pole. Kaemtz computes its ean value in various latitudes and at the level of the sea, as follows: —

XV′. AMPLITUDE OF DAILY VARIATIONS IN VARIOUS LATITUDES.

| Latitude. | Variation. | Latitude. | Variation. | Latitude. | Variation. | Latitude | Variation. |
|---|---|---|---|---|---|---|---|
| ° ′ | Millim. | ° ′ | Millim. | ° ′ | Millim. | ° ′ | Millim. |
| 0 0 | 2.28 | 23 55 | 1.80 | 39 4 | 1.13 | 52 33 | 0.45 |
| 5 26 N. | 2.26 | 29 28 | 1.58 | 43 34 | 0.90 | 57 17 | 0.23 |
| 17 52 | 2.03 | 34 26 | 1.35 | 48 1 | 0.67 | 62 25 | 0.00 |

The amplitude also decreases with the elevation, at least in our latitudes; it was ound to be on the Faulhorn, in Switzerland, 9000 feet above the sea level, 0.27 millimetres, while it was 0.90 millimetres at Geneva.

# TABLES

## FOR REDUCING BAROMETRICAL OBSERVATIONS TO THE LEVEL OF THE SEA, OR TO ANOTHER LEVEL.

To reduce barometric means taken at a given elevation to the height they would have if taken at the level of the sea, or barometric observations made at different elevations to a common level, in order to eliminate the influence of altitude in the comparison of barometric pressures, is a problem, the solution of which is often needed in meteorology.

For a complete and accurate reduction, embracing all cases, Tables IV. and V., by Dippe, given above, pages 54 *et seq.*, may be used. But when the difference of height between the two stations, or above the sea-level, does not exceed a few hundred feet, the small tables XVI. to XIX., in three different scales, will be found more convenient.

Tables XVI. and XVII. have been computed from the constants of Laplace's formula, the barometric coefficient, including the correction for the decrease of gravity on a vertical, being respectively 60,345.51 English feet and 56,621.83 Paris feet; and the coefficient for expansion of moist air 0.00222 and 0.005.

In Table XVIII. the coefficient 18,420 metres, deduced from Regnault's experiments (see *Proceedings of the Amer. Assoc. for Adv. of Science*, 1857), and his coefficient for expansion of dry air, 0.003665, increased to 0.0039, in order to include the effect of moisture, have been used.

### Use of the Tables.

The correction for reducing the barometer to the level of the sea is found by the formula

$$C = \frac{f}{N} \times \frac{h'}{h},$$

where C is the correction required; $f$, the elevation of the station; N, the number in the tables; $h'$, the reading of the barometer; $h$, the normal height of barometer at the sea-level.

### *Example.*

At Cambridge Observatory, Massachusetts, at 71.34 English feet above mean tide, the mean barometer is = 29.939 inches; the mean temperature 47°.3 Fahrenheit; what would be the height at the level of the sea?

In Table XVI. we take for 47°.3 = 90.49, or, in order to get the correction in a fraction of an inch, 904.9.

Then

$$C = \frac{71.34}{904.9} \times \frac{29.939}{30} = 0.079, \text{ correction required;}$$

and

$29.939 + 0.079 = 30.018$ inches, height of the barometer at the level of the sea.

It will be seen that the quantity represented by the second member can be neglected without causing a sensible error in the correction. In this case the error does not amount to .001; it scarcely would reach .002 for 250 feet of elevation; so that the reduction can be made in most cases by a simple division; viz. $\frac{f}{N}$.

## XVI. HEIGHT, IN ENGLISH FEET, OF A COLUMN OF AIR CORRESPONDING TO A TENTH OF AN ENGLISH INCH IN THE BAROMETER, AT TEMPERATURES BETWEEN 32° AND 100° FAHRENHEIT,

The Barometric Pressure at the Lower Station being = 30 English Inches.

| Temperature of Air, Fahren. | Height in English Feet. | Temperature of Air, Fahren. | Height in English Feet. | Temperature of Air, Fahren. | Height in English Feet. | Temperature of Air, Fahren. | Height in English Feet. | Temperature of Air, Fahren. | Height in English Feet. |
|---|---|---|---|---|---|---|---|---|---|
| 32° | 87.51 | 46° | 90.23 | 60° | 92.95 | 74° | 95.67 | 87° | 98.20 |
| 33 | 87.70 | 47 | 90.42 | 61 | 93.15 | 75 | 95.87 | 88 | 98.40 |
| 34 | 87.90 | 48 | 90.62 | 62 | 93.34 | 76 | 96.06 | 89 | 98.59 |
| 35 | 88.09 | 49 | 90.81 | 63 | 93.53 | 77 | 96.26 | 90 | 98.79 |
| 36 | 88.28 | 50 | 91.01 | 64 | 93.73 | 78 | 96.45 | 91 | 98.98 |
| 37 | 88.48 | 51 | 91.20 | 65 | 93.92 | 79 | 96.65 | 92 | 99.17 |
| 38 | 88.67 | 52 | 91.40 | 66 | 94.12 | 80 | 96.84 | 93 | 99.37 |
| 39 | 88.87 | 53 | 91.59 | 67 | 94.31 | 81 | 97.04 | 94 | 99.56 |
| 40 | 89.06 | 54 | 91.78 | 68 | 94.51 | 82 | 97.23 | 95 | 99.76 |
| 41 | 89.26 | 55 | 91.98 | 69 | 94.70 | 83 | 97.42 | 96 | 99.95 |
| 42 | 89.45 | 56 | 92.17 | 70 | 94.90 | 84 | 97.62 | 97 | 100.15 |
| 43 | 89.65 | 57 | 92.37 | 71 | 95.09 | 85 | 97.81 | 98 | 100.34 |
| 44 | 89.84 | 58 | 92.56 | 72 | 95.29 | 86 | 98.01 | 99 | 100.54 |
| 45 | 90.03 | 59 | 92.76 | 73 | 95.48 | 87 | 98.20 | 100 | 100.73 |

## XVII. HEIGHT, IN FRENCH FEET, OF A COLUMN OF AIR CORRESPONDING TO A PARIS LINE IN THE BAROMETER, AT TEMPERATURES OF THE AIR BETWEEN 0° AND 34° REAUMUR,

The Barometric Pressure at the Lower Station being = 337 Paris Lines.

| Temperature of Air, Reaumur. | Height in French Feet. | Temperature of Air, Reaumur. | Height in French Feet. | Temperature of Air, Reaumur. | Height in French Feet. | Temperature of Air, Reaumur. | Height in French Feet. | Temperature of Air, Reaumur. | Height in French Feet. |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 73.08 | 7° | 75.63 | 14° | 78.19 | 21° | 80.75 | 28° | 83.31 |
| 1 | 73.44 | 8 | 76.00 | 15 | 78.56 | 22 | 81.11 | 29 | 83.67 |
| 2 | 73.81 | 9 | 76.36 | 16 | 78.92 | 23 | 81.48 | 30 | 84.04 |
| 3 | 74.17 | 10 | 76.73 | 17 | 79.29 | 24 | 81.85 | 31 | 84.40 |
| 4 | 74.54 | 11 | 77.10 | 18 | 79.65 | 25 | 82.21 | 32 | 84.77 |
| 5 | 74.90 | 12 | 77.46 | 19 | 80.02 | 26 | 82.58 | 33 | 85.13 |
| 6 | 75.27 | 13 | 77.83 | 20 | 80.38 | 27 | 82.94 | 34 | 85.50 |

## XVIII. HEIGHT, IN METRES, OF A COLUMN OF AIR CORRESPONDING TO A MILLIMETRE IN THE BAROMETER, AT TEMPERATURES BETWEEN 0° AND 39° CENTIGRADE,

The Barometric Pressure at the Lower Station being = 760 Millimetres.

| Temperature of Air, Centigr | Height in Metres. | Temperature of Air, Centigr. | Height in Metres. | Temperature of Air, Centigr. | Height in Metres. | Temperature of Air, Centigr. | Height in Metres. | Temperature of Air, Centigr. | Height in Metres. |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 10.54 | 8° | 10.86 | 16° | 11.19 | 24° | 11.52 | 32° | 11.85 |
| 1 | 10.58 | 9 | 10.91 | 17 | 11.23 | 25 | 11.56 | 33 | 11.89 |
| 2 | 10.62 | 10 | 10.95 | 18 | 11.28 | 26 | 11.60 | 34 | 11.93 |
| 3 | 10.66 | 11 | 10.99 | 19 | 11.32 | 27 | 11.64 | 35 | 11.97 |
| 4 | 10.70 | 12 | 11.03 | 20 | 11.36 | 28 | 11.69 | 36 | 12.01 |
| 5 | 10.74 | 13 | 11.07 | 21 | 11.40 | 29 | 11.73 | 37 | 12.06 |
| 6 | 10.78 | 14 | 11.11 | 22 | 11.44 | 30 | 11.77 | 38 | 12.10 |
| 7 | 10.82 | 15 | 11.15 | 23 | 11.48 | 31 | 11.81 | 39 | 12.14 |

Table XIX. gives, in metrical measure, the values of a millimetre in the barometer at different elevations and Centigrade temperatures. The values are derived from Laplace's constants, as in Tables XVI. and XVII.

This table may be used, as the preceding ones, for reducing barometrical observations to the level of the sea, and also to any other level by a similar process.

*Example.*

Suppose the barometer to read 700 millimetres at the altitude of 750 metres, the temperature of air being = 16° Centigrade; what would be the reading at a station lower by 350 metres, assuming the temperature of the air downwards to increase at the rate of 1° Centigrade for 185 metres?

The temperature of air at lower station will be $16° + 1°.9 = 17°.9$

The approximate height of barometer about 73 centimetres.

| | |
|---|---|
| Then, in Table XIX. we find for 16° and 70 centimetres, | 12.15 |
| " " " for 17°.9 and 73 centimetres, | 11.73 |
| Mean | 11.94 |

And

$\frac{350}{11.94} = 29.31$, or barometer at lower station $700 + 29.31 = 729.31$ millimetres.

Delcros's tables, with these data, would give for the difference of level 349.76, instead of 350 metres; the corresponding error in the height of the barometrical column does not exceed 0.08 millimetre, and thus remains within the limits of error which may be expected in an ordinary observation.

The principal object of this table, however, is to furnish the scientific traveller with the means of readily computing on the spot approximate differences of level, by simply multiplying the difference between the readings of the barometer at each station by the half sum of the numbers in the table corresponding to the data given by the observations.

*Example.*

Suppose the barometer at the lower station to read 732.5, and at the upper station 703.2 millimetres; the temperature of the air being respectively 18° and 16° Centigrade.

The difference of the barometers, supposed to be reduced to the same temperature, is 29.3 millimetres.

| | |
|---|---|
| Then, Table XIX. gives for 18° Centigrade and 73 centimetres, | 11.73 |
| " " for 16° Centigrade and 70 centimetres, | 12.15 |
| Half sum, or mean, | 11.94 |

And, $29.3 \times 11.94 = 349.8$ metres = difference of level required.

By the large tables of Delcros, we find for the same data 350.1 metres.

This table can be considered as a complement to Delcros's tables, and may save the traveller the trouble of carrying the larger tables.

A similar table in English measures is found above, at the end of the author's larger tables (Table VI.), page 48 of this series, and another, more extensive one, below, page 92, the use of which is explained by the examples just given.

XIX. HEIGHT, IN METRES, OF A COLUMN OF AIR, CORRESPONDING TO A MILLIMETRE IN THE BAROMETER, AT DIFFERENT TEMPERATURES AND ELEVATIONS.

| Temperature of Air, Centig. | Barometer at the Lower Station, Reading in Centimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |
| o | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 10.52 | 10.66 | 10.80 | 10.94 | 11.10 | 11.26 | 11.42 | 11.59 | 11.75 | 11.93 |
| 2 | 10.60 | 10.74 | 10.89 | 11.03 | 11.19 | 11.35 | 11.51 | 11.68 | 11.85 | 12.03 |
| 4 | 10.69 | 10.83 | 10.97 | 11.12 | 11.28 | 11.44 | 11.60 | 11.77 | 11.94 | 12.13 |
| 6 | 10.77 | 10.91 | 11.06 | 11.20 | 11.37 | 11.53 | 11.69 | 11.86 | 12.04 | 12.22 |
| 8 | 10.85 | 11.00 | 11.15 | 11.29 | 11.46 | 11.62 | 11.78 | 11.96 | 12.13 | 12.32 |
| 10 | 10.94 | 11.08 | 11.23 | 11.38 | 11.55 | 11.71 | 11.87 | 12.05 | 12.22 | 12.41 |
| 12 | 11.02 | 11.17 | 11.32 | 11.47 | 11.63 | 11.80 | 11.97 | 12.14 | 12.32 | 12.51 |
| 14 | 11.11 | 11.25 | 11.41 | 11.55 | 11.72 | 11.89 | 12.06 | 12.23 | 12.41 | 12.60 |
| 16 | 11.19 | 11.34 | 11.49 | 11.64 | 11.81 | 11.98 | 12.15 | 12.33 | 12.51 | 12.70 |
| 18 | 11.27 | 11.43 | 11.58 | 11.73 | 11.90 | 12.07 | 12.24 | 12.42 | 12.60 | 12.79 |
| 20 | 11.36 | 11.51 | 11.67 | 11.82 | 11.99 | 12.16 | 12.33 | 12.51 | 12.69 | 12.89 |
| 22 | 11.44 | 11.60 | 11.75 | 11.90 | 12.08 | 12.25 | 12.42 | 12.61 | 12.79 | 12.99 |
| 24 | 11.53 | 11.68 | 11.84 | 11.99 | 12.17 | 12.34 | 12.51 | 12.70 | 12.88 | 13.08 |
| 26 | 11.61 | 11.77 | 11.93 | 12.08 | 12.26 | 12.43 | 12.61 | 12.79 | 12.98 | 13.18 |
| 28 | 11.70 | 11.85 | 12.01 | 12.17 | 12.35 | 12.52 | 12.70 | 12.88 | 13.07 | 13.27 |
| 30 | 11.78 | 11.94 | 12.10 | 12.25 | 12.43 | 12.61 | 12.79 | 12.98 | 13.16 | 13.37 |
| 32 | 11.86 | 12.02 | 12.18 | 12.34 | 12.52 | 12.70 | 12.88 | 13.07 | 13.26 | 13.46 |
| 34 | 11.95 | 12.11 | 12.27 | 12.43 | 12.61 | 12.79 | 12.97 | 13.16 | 13.35 | 13.56 |
| 36 | 12.03 | 12.19 | 12.36 | 12.52 | 12.70 | 12.88 | 13.06 | 13.25 | 13.45 | 13.65 |
| 38 | 12.12 | 12.28 | 12.44 | 12.60 | 12.79 | 12.97 | 13.15 | 13.35 | 13.54 | 13.75 |

| Temperature of Air, Centig. | Barometer in Centimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 |
| o | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 12.11 | 12.30 | 12.49 | 12.69 | 12.89 | 13.10 | 13.32 | 13.55 | 13.78 | 14.03 |
| 2 | 12.21 | 12.40 | 12.59 | 12.79 | 13.00 | 13.21 | 13.43 | 13.66 | 13.89 | 14.14 |
| 4 | 12.31 | 12.50 | 12.69 | 12.89 | 13.10 | 13.31 | 13.54 | 13.77 | 14.00 | 14.25 |
| 6 | 12.40 | 12.60 | 12.79 | 13.00 | 13.20 | 13.42 | 13.64 | 13.88 | 14.11 | 14.36 |
| 8 | 12.50 | 12.69 | 12.89 | 13.10 | 13.31 | 13.52 | 13.75 | 13.98 | 14.22 | 14.47 |
| 10 | 12.60 | 12.79 | 12.99 | 13.20 | 13.41 | 13.63 | 13.86 | 14.09 | 14.34 | 14.59 |
| 12 | 12.69 | 12.89 | 13.09 | 13.30 | 13.51 | 13.73 | 13.96 | 14.20 | 14.45 | 14.70 |
| 14 | 12.79 | 12.99 | 13.19 | 13.40 | 13.62 | 13.84 | 14.07 | 14.31 | 14.56 | 14.81 |
| 16 | 12.89 | 13.09 | 13.29 | 13.50 | 13.72 | 13.94 | 14.18 | 14.42 | 14.67 | 14.92 |
| 18 | 12.98 | 13.19 | 13.39 | 13.61 | 13.82 | 14.05 | 14.28 | 14.53 | 14.78 | 15.04 |
| 20 | 13.08 | 13.28 | 13.49 | 13.71 | 13.93 | 14.15 | 14.39 | 14.63 | 14.89 | 15.15 |
| 22 | 13.18 | 13.38 | 13.59 | 13.81 | 14.03 | 14.26 | 14.50 | 14.74 | 15.00 | 15.26 |
| 24 | 13.27 | 13.48 | 13.69 | 13.91 | 14.13 | 14.36 | 14.60 | 14.85 | 15.11 | 15.37 |
| 26 | 13.37 | 13.58 | 13.79 | 14.01 | 14.24 | 14.47 | 14.71 | 14.96 | 15.22 | 15.48 |
| 28 | 13.47 | 13.68 | 13.89 | 14.11 | 14.34 | 14.57 | 14.82 | 15.07 | 15.33 | 15.60 |
| 30 | 13.57 | 13.78 | 13.99 | 14.22 | 14.44 | 14.68 | 14.92 | 15.18 | 15.44 | 15.71 |
| 32 | 13.66 | 13.87 | 14.09 | 14.32 | 14.55 | 14.78 | 15.03 | 15.28 | 15.55 | 15.82 |
| 34 | 13.76 | 13.97 | 14.19 | 14.44 | 14.65 | 14.89 | 15.14 | 15.39 | 15.66 | 15.93 |
| 36 | 13.86 | 14.07 | 14.29 | 14.52 | 14.75 | 14.99 | 15.24 | 15.50 | 15.77 | 16.05 |

XIX'. HEIGHT, IN ENGLISH FEET, OF A COLUMN OF AIR, CORRESPONDING TO A TENTH OF AN INCH IN THE BAROMETER, AT DIFFERENT TEMPERATURES AND ELEVATIONS.

| Barometer Reading in English Inches. | Temperature of the Air, Fahrenheit, being | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
| 22.0 | 121.5 | 122.8 | 124.2 | 125.5 | 126.8 | 128.2 | 129.5 | 130.8 | 132.1 | 133.5 | 134.8 | 136.1 |
| 22.2 | 120.4 | 121.7 | 123.1 | 124 4 | 125.7 | 127.0 | 128.3 | 129.6 | 130.9 | 132.2 | 133.6 | 134.9 |
| 22.4 | 119.3 | 120.6 | 121.9 | 123.2 | 124.6 | 125.9 | 127.2 | 128.5 | 129.8 | 131.1 | 132.4 | 133.7 |
| 22.6 | 118.2 | 119.5 | 120.8 | 122.1 | 123.4 | 124.7 | 126.0 | 127.3 | 128.6 | 129.9 | 131.2 | 132.4 |
| 22.8 | 117.2 | 118.5 | 119.8 | 121.1 | 122.3 | 123.6 | 124.9 | 126.2 | 127.5 | 128.8 | 130.0 | 131.3 |
| 23.0 | 116.2 | 117.5 | 118.7 | 120.0 | 121.3 | 122.6 | 123.8 | 125.1 | 126.4 | 127.6 | 129.9 | 130.2 |
| 23.2 | 115.2 | 116.5 | 117.7 | 119.0 | 120.2 | 121.5 | 122.7 | 124.0 | 125.3 | 126.5 | 127.8 | 129.0 |
| 23.4 | 114.2 | 115.5 | 116.7 | 118.0 | 119.2 | 120.5 | 121.7 | 123.0 | 124.2 | 125.4 | 126.7 | 127.9 |
| 23.6 | 113 2 | 114.4 | 115.7 | 116.9 | 118.1 | 119.4 | 120.6 | 121.8 | 123.1 | 124.3 | 125.5 | 126.8 |
| 23.8 | 112.3 | 113.5 | 114.8 | 116.0 | 117.2 | 118.4 | 119.7 | 120.9 | 122.1 | 123.3 | 124.6 | 125.8 |
| 24.0 | 111.4 | 112.6 | 113.8 | 115.0 | 116.2 | 117.4 | 118.7 | 119.9 | 121.1 | 122.3 | 123.5 | 124.7 |
| 24.2 | 110.5 | 111.7 | 112.9 | 114.1 | 115.3 | 116.5 | 117.7 | 118.9 | 120.1 | 121.3 | 122.5 | 123.7 |
| 24.4 | 109.5 | 110.7 | 111.9 | 113.1 | 114.3 | 115.5 | 116.7 | 117.9 | 119.1 | 120.3 | 121.5 | 122.7 |
| 24.6 | 108.6 | 109.8 | 111.0 | 112.2 | 113.4 | 114.6 | 115.8 | 116.9 | 118.1 | 119.3 | 120.5 | 121.7 |
| 24.8 | 107.8 | 108.9 | 110.1 | 111.3 | 112.5 | 113.7 | 114.8 | 116.0 | 117.2 | 118.4 | 119.5 | 120.7 |
| 25.0 | 106.9 | 108.1 | 109.2 | 110.4 | 111.6 | 112.7 | 113.9 | 115.1 | 116.2 | 117.4 | 118.6 | 119.7 |
| 25.2 | 106.0 | 107.2 | 108.4 | 109.5 | 110.7 | 111.8 | 113.0 | 114.1 | 115.3 | 116.5 | 117.6 | 118.8 |
| 25.4 | 105.2 | 106.4 | 107.5 | 108.7 | 109.8 | 111.0 | 112.1 | 113.3 | 114.4 | 115.6 | 116.7 | 117.9 |
| 25.6 | 104.4 | 105.5 | 106.7 | 107.8 | 108.9 | 110.1 | 111.2 | 112.4 | 113.5 | 114.6 | 115.8 | 116.9 |
| 25.8 | 103.6 | 104.7 | 105.8 | 107.0 | 108.1 | 109.2 | 110.4 | 111.5 | 112.6 | 113.8 | 114.9 | 116.0 |
| 26.0 | 102.8 | 103.9 | 105.0 | 106.1 | 107.3 | 108.4 | 109.5 | 110.6 | 111.8 | 112.9 | 114.0 | 115.1 |
| 26.2 | 102.0 | 103.1 | 104.2 | 105.3 | 106.5 | 107.6 | 108.7 | 109.8 | 110.9 | 112.0 | 113.1 | 114.2 |
| 26.4 | 101.2 | 102.3 | 103.4 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 |
| 26.6 | 100.5 | 101.6 | 102.7 | 103.8 | 104.9 | 106.0 | 107.1 | 108.2 | 109.3 | 110.4 | 111.4 | 112.5 |
| 26.8 | 99.7 | 100.8 | 101.9 | 103.0 | 104.1 | 105.2 | 106.3 | 107.4 | 108.5 | 109.5 | 110.6 | 111.7 |
| 27.0 | 99.0 | 100.1 | 101.2 | 102.2 | 103.3 | 104.4 | 105.5 | 106.6 | 107.6 | 108.7 | 109.8 | 110.9 |
| 27.2 | 98.3 | 99.3 | 100.4 | 101.5 | 102.6 | 103.6 | 104.7 | 105.8 | 106.8 | 107.9 | 109.0 | 110.1 |
| 27.4 | 97.5 | 98.6 | 99.7 | 100.7 | 101.8 | 102.9 | 103.9 | 105.0 | 106.1 | 107.1 | 108.2 | 109.3 |
| 27.6 | 96.8 | 97.9 | 98.9 | 100.0 | 101.1 | 102.1 | 103.2 | 104.2 | 105.3 | 106.3 | 107.4 | 108.5 |
| 27.8 | 96.1 | 97.2 | 98.2 | 99.3 | 100.3 | 101.4 | 102.4 | 103.5 | 104.5 | 105.6 | 106.6 | 107.7 |
| 28.0 | 95.4 | 96.5 | 97.5 | 98.6 | 99.6 | 100.6 | 101.7 | 102.7 | 103.8 | 104.8 | 105.9 | 106.9 |
| 28.2 | 94.8 | 95.8 | 96.8 | 97.9 | 98.9 | 99.9 | 101.0 | 102.0 | 103.0 | 104.1 | 105.1 | 106.1 |
| 28.4 | 94.1 | 95.1 | 96.1 | 97.2 | 98.2 | 99.2 | 100.2 | 101.3 | 102.3 | 103.3 | 104.3 | 105.4 |
| 28.6 | 93.4 | 94.4 | 95.5 | 96.5 | 97.5 | 98.5 | 99.5 | 100.6 | 101.6 | 102.6 | 103.6 | 104.6 |
| 28.8 | 92.8 | 93.8 | 94.8 | 95.8 | 96.8 | 97.8 | 98.8 | 99.8 | 100.8 | 101.8 | 102.8 | 103.8 |
| 29.0 | 92.1 | 93.1 | 94.1 | 95.1 | 96.2 | 97.2 | 98.2 | 99.2 | 100.2 | 101.2 | 102.2 | 103.2 |
| 29.2 | 91.5 | 92.5 | 93.5 | 94.5 | 95.5 | 96.5 | 97.5 | 98.5 | 99.5 | 100.5 | 101.5 | 102.5 |
| 29.4 | 90.9 | 91.9 | 92.9 | 93.9 | 94.8 | 95.8 | 96.8 | 97.8 | 98.8 | 99.8 | 100.8 | 101.8 |
| 29.6 | 90.3 | 91.3 | 92.2 | 93.2 | 94.2 | 95.2 | 96.2 | 97.2 | 98.2 | 99.1 | 100.1 | 101.1 |
| 29.8 | 89.7 | 90.6 | 91.6 | 92.6 | 93.6 | 94.5 | 95.5 | 96.5 | 97.5 | 98.5 | 99.4 | 100.4 |
| 30.0 | 89.1 | 90.0 | 91.0 | 92.0 | 92.9 | 93.9 | 94.9 | 95.9 | 96.8 | 97.8 | 98.8 | 99.7 |
| 30.2 | 88.5 | 89.4 | 90.4 | 91.4 | 92.3 | 93.3 | 94.3 | 95.2 | 96.2 | 97.2 | 98.1 | 99.1 |
| 30.4 | 87.9 | 88.8 | 89.8 | 90.8 | 91.7 | 92.7 | 93.6 | 94.6 | 95.6 | 96.5 | 97.5 | 98.4 |

When the Barometrical means to be used have been derived from observations taken at such hours of the day as, if combined, do not give the true mean pressure, they must be reduced to the true means by using the Tables XX. and XXI. These tables give the corrections to be applied to the hourly means, in each month, for reducing them to the means which would have been given by observations made at each of the twenty-four hours. The correction for any given set of hours is found by taking the mean of the corrections due to each of the combined hours, paying due attention to the signs. Table XX. has been computed from the hourly observations made under the superintendence of Professor A. D. Bache, at Girard College, Philadelphia. Table XXI. is from the Greenwich Observations, by Glaisher.

## XX.

North America. — Philadelphia. *Lat.* 39° 58′ N. *Long.* 75° 11′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Barometric Pressure of the respective Days, Months, and of the Year.

Barometer in English Inches.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. |
| Midnight. | +.002 | −.009 | −.007 | −.004 | −.002 | +.003 | −.007 | −.003 | −.002 | +.007 | +.003 | −.010 | −.0024 |
| 1 | +.001 | −.007 | −.002 | −.001 | +.003 | +.007 | +.001 | −.001 | +.005 | +.007 | +.007 | −.011 | +.0007 |
| 2 | −.007 | −.003 | −.001 | +.006 | +.007 | +.010 | +.004 | +.004 | +.010 | +.011 | +.011 | −.016 | +.0030 |
| 3 | −.008 | +.002 | +.009 | +.005 | +.007 | +.007 | +.003 | +.005 | +.009 | +.011 | +.007 | −.014 | +.0036 |
| 4 | −.003 | +.003 | +.009 | +.002 | +.003 | +.002 | .000 | +.004 | +.005 | +.007 | +.003 | −.010 | +.0038 |
| 5 | −.003 | .000 | +.002 | −.007 | −.006 | −.007 | −.010 | −.005 | −.006 | −.003 | −.006 | −.008 | −.0050 |
| 6 | −.009 | −.004 | −.011 | −.020 | −.019 | −.022 | −.019 | −.017 | −.016 | −.012 | −.012 | −.015 | −.0147 |
| 7 | −.021 | −.013 | −.020 | −.029 | −.026 | −.024 | −.025 | −.023 | −.023 | −.021 | −.019 | −.023 | −.0222 |
| 8 | −.032 | −.023 | −.028 | −.034 | −.031 | −.029 | −.028 | −.026 | −.029 | −.030 | −.028 | −.029 | −.0290 |
| 9 | −.040 | −.026 | −.028 | −.035 | −.028 | −.027 | −.027 | −.033 | −.031 | −.029 | −.034 | −.030 | −.0307 |
| 10 | −.041 | −.026 | −.025 | −.033 | −.024 | −.025 | −.026 | −.030 | −.029 | −.026 | −.038 | −.032 | −.0296 |
| 11 | −.023 | −.019 | −.016 | −.023 | −.018 | −.019 | −.019 | −.022 | −.021 | −.014 | −.017 | −.011 | −.0185 |
| Noon. | +.006 | −.004 | −.002 | −.008 | −.006 | −.010 | −.012 | −.012 | −.009 | +.001 | +.006 | +.005 | −.0037 |
| 1 | +.028 | +.017 | +.014 | +.006 | +.005 | .000 | .000 | .000 | +.005 | +.006 | +.023 | +.024 | +.0107 |
| 2 | +.037 | +.032 | +.031 | +.021 | +.017 | +.011 | +.011 | +.012 | +.020 | +.028 | +.033 | +.034 | +.0240 |
| 3 | +.034 | +.034 | +.034 | +.034 | +.028 | +.019 | +.020 | +.022 | +.024 | +.028 | +.033 | +.034 | +.0287 |
| 4 | +.031 | +.032 | +.034 | +.042 | +.032 | +.027 | +.027 | +.027 | +.030 | +.028 | +.027 | +.030 | +.0306 |
| 5 | +.024 | +.024 | +.025 | +.036 | +.034 | +.030 | +.028 | +.029 | +.027 | +.021 | +.018 | +.026 | +.0267 |
| 6 | +.015 | +.014 | +.016 | +.031 | +.027 | +.023 | +.028 | +.028 | +.023 | +.012 | +.005 | +.021 | +.0202 |
| 7 | +.003 | +.006 | +.007 | +.022 | +.016 | +.018 | +.021 | +.018 | +.016 | +.001 | −.002 | +.018 | +.0123 |
| 8 | +.003 | .000 | −.003 | +.009 | +.002 | +.010 | +.014 | +.008 | +.007 | −.009 | −.006 | +.013 | +.0040 |
| 9 | −.002 | −.008 | −.010 | +.001 | −.010 | .000 | +.003 | +.003 | −.001 | −.013 | −.007 | +.012 | −.0027 |
| 10 | −.003 | −.012 | −.011 | −.003 | −.018 | −.003 | −.004 | −.001 | −.005 | −.016 | −.010 | +.008 | −.0065 |
| 11 | +.002 | −.011 | −.017 | −.010 | −.019 | −.005 | −.002 | −.002 | −.004 | −.009 | −.003 | +.005 | −.0064 |
| 6, 2, 10 | +.008 | +.005 | +.003 | −.001 | −.007 | −.005 | −.004 | −.002 | .000 | .000 | +.004 | +.009 | + .001 |
| 7, 2, 9 | +.008 | +.004 | .000 | −.002 | −.006 | −.004 | −.004 | −.003 | −.001 | −.002 | +.002 | +.008 | .000 |
| 12, 3, 9 | .000 | −.001 | −.001 | −.002 | −.004 | −.004 | −.004 | −.004 | −.004 | −.003 | −.001 | +.005 | − .002 |

XXI. ENGLAND. — GREENWICH. *Lat.* 51° 29′ N.; *Long.* 0° 0′.

Corrections to be applied to the Means of the Hours of Observation, or Sets of Hours, to obtain the true Mean *Barometric Pressure* for the respective Months. — GLAISHER.

English Inches.

| Hours. | Jan. | Feb. | March | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. |
| Midn. . . | .000 | −.001 | −.002 | −.008 | −.005 | .000 | −.006 | −.010 | −.005 | −.005 | −.011 | −.004 | −.005 |
| 1 | .001 | .004 | .013 | .000 | .002 | .004 | .000 | .000 | .000 | .004 | −.005 | .001 | .002 |
| 2 | .002 | .008 | .020 | .007 | .004 | .005 | .003 | .007 | .005 | .010 | .003 | .006 | .007 |
| 3 | .005 | .012 | .023 | .010 | .005 | .004 | .005 | .011 | .010 | .015 | .008 | .010 | .009 |
| 4 | .011 | .014 | .022 | .011 | .005 | .001 | .005 | .014 | .012 | .020 | .013 | .012 | .012 |
| 5 | .015 | .015 | .019 | .011 | .006 | −.002 | .006 | .011 | .014 | .022 | .016 | .014 | .012 |
| 6 | .015 | .012 | .012 | .006 | .006 | −.006 | .002 | .005 | .010 | .018 | .015 | .011 | .009 |
| 7 | .010 | .007 | .005 | −.003 | .006 | −.010 | −.004 | .000 | .001 | .008 | .010 | .006 | .003 |
| 8 | .003 | .000 | −.004 | −.008 | .003 | −.012 | −.008 | −.007 | −.006 | −.003 | .003 | .004 | −.003 |
| 9 | −.008 | −.008 | −.010 | −.011 | −.007 | −.012 | −.010 | −.008 | −.011 | −.009 | −.005 | −.010 | −.009 |
| 10 | −.010 | −.015 | −.015 | −.014 | −.009 | −.011 | −.010 | −.009 | −.013 | −.014 | −.007 | −.015 | −.012 |
| 11 | −.014 | −.016 | −.015 | −.011 | −.006 | −.009 | −.009 | −.008 | −.010 | −.014 | −.005 | −.015 | −.011 |
| Noon. . . | −.005 | −.012 | −.010 | −.008 | −.002 | −.006 | −.006 | −.005 | −.005 | −.010 | .002 | −.009 | −.006 |
| 1 | .002 | −.006 | −.005 | −.004 | .000 | −.003 | −.003 | .000 | .000 | −.003 | .007 | .003 | −.001 |
| 2 | .005 | .003 | .000 | .003 | .003 | .003 | .001 | .003 | .004 | .004 | .011 | .008 | .004 |
| 3 | .004 | .006 | 003 | .009 | .006 | .007 | .005 | .005 | .008 | .005 | .010 | .010 | .006 |
| 4 | .002 | .008 | .005 | .004 | .010 | .013 | .009 | .009 | .010 | .003 | .008 | .009 | .007 |
| 5 | .000 | .006 | .004 | .014 | .014 | .017 | .013 | .011 | .011 | .000 | .004 | .006 | .008 |
| 6 | −.003 | .002 | .000 | .011 | .015 | .017 | .013 | .011 | .006 | −.005 | .000 | .002 | .006 |
| 7 | −.005 | −.004 | −.006 | −.007 | .010 | .014 | .010 | .005 | .000 | −.008 | −.006 | −.003 | .000 |
| 8 | −.006 | −.006 | −.012 | −.005 | .000 | .008 | .004 | −.005 | −.005 | −.011 | −.012 | −.006 | −.005 |
| 9 | −.007 | −.008 | −.015 | −.009 | −.006 | .003 | −.001 | −.010 | −.009 | −.014 | −.017 | −.009 | −.008 |
| 10 | −.005 | −.007 | −.012 | −.012 | −.008 | −.002 | −.005 | −.015 | −.011 | −.012 | −.019 | −.010 | −.010 |
| 11 | −.004 | −.005 | −.010 | −.012 | −.008 | −.002 | −.012 | −.015 | −.011 | −.009 | −.017 | −.009 | −.009 |
| 6. 6 | .006 | .007 | .006 | .008 | .011 | .005 | .008 | .008 | .008 | .006 | .007 | .006 | .008 |
| 7. 7 | .002 | .002 | .000 | −.005 | .008 | .002 | .003 | .002 | .000 | .000 | .002 | .002 | .001 |
| 8. 8 | −.002 | −.003 | −.008 | −.006 | .002 | −.002 | −.002 | −.006 | −.006 | −.007 | −.004 | −.001 | −.004 |
| 9. 9 | −.007 | −.008 | −.013 | −.010 | −.006 | −.004 | −.005 | −.009 | −.010 | −.012 | −.011 | −.009 | −.009 |
| 10.10 | −.007 | −.011 | −.014 | −.013 | −.009 | −.006 | −.007 | −.012 | −.012 | −.013 | −.013 | −.012 | −.011 |
| 7. 2. 9 | .003 | .001 | −.003 | −.003 | .001 | −.001 | −.001 | −.002 | −.001 | −.001 | .001 | .002 | .001 |
| 6. 2. 8 | .005 | .003 | .000 | .001 | .003 | .002 | .002 | .001 | .003 | .004 | .005 | .004 | .003 |
| 6. 2.10 | .005 | .003 | .000 | −.001 | .000 | −.002 | −.001 | −.002 | .001 | .003 | .002 | .003 | .001 |
| 6. 2. 6 | .006 | .006 | .004 | .007 | .008 | −.005 | .005 | .006 | .007 | .006 | .009 | .007 | .006 |
| 7. 2 | .007 | .005 | .003 | .000 | .004 | −.004 | −.001 | .002 | .002 | .006 | .010 | .007 | .003 |
| 8. 2 | .004 | .002 | −.002 | −.002 | .003 | −.004 | −.003 | −.002 | −.001 | .000 | .007 | .006 | .001 |
| 8. 1 | .002 | −.003 | −.004 | −.006 | .001 | −.007 | −.006 | −.003 | −.003 | −.003 | .005 | .003 | −.002 |
| 7. 1 | .006 | .001 | .000 | −.003 | .003 | −.006 | −.003 | .000 | .000 | .002 | .008 | .004 | .001 |
| 9.12.3.9 | −.004 | −.005 | −.008 | −.005 | −.002 | −.002 | −.003 | −.004 | −.004 | −.007 | −.002 | −.004 | −.004 |

The numbers without sign must be added: those with the sign — must be subtracted.

## XXII. TABLE TO REDUCE, BY INTERPOLATION,

THE OBSERVATIONS TO THE SAME ABSOLUTE TIME.

DECIMALS OF AN HOUR.

| Min. | Decimal. | Min. | Decimal. | Min. | Decimal. | Min. | Decimal. | Min. | Decimal. | Min. | Decimal. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .017 | 11 | .183 | 21 | .350 | 31 | .517 | 41 | .683 | 51 | .850 |
| 2 | .033 | 12 | .200 | 22 | .367 | 32 | .533 | 42 | .700 | 52 | .867 |
| 3 | .050 | 13 | .217 | 23 | .383 | 33 | .550 | 43 | .717 | 53 | .883 |
| 4 | .067 | 14 | .233 | 24 | .400 | 34 | .567 | 44 | .733 | 54 | .900 |
| 5 | .083 | 15 | .250 | 25 | .417 | 35 | .583 | 45 | .750 | 55 | .917 |
| 6 | .100 | 16 | .267 | 26 | .433 | 36 | .600 | 46 | .767 | 56 | .933 |
| 7 | .117 | 17 | .283 | 27 | .450 | 37 | .617 | 47 | .783 | 57 | .950 |
| 8 | .133 | 18 | .300 | 28 | .467 | 38 | .633 | 48 | .800 | 58 | .967 |
| 9 | .150 | 19 | .317 | 29 | .483 | 39 | .650 | 49 | .817 | 59 | .983 |
| 10 | .167 | 20 | .333 | 30 | .500 | 40 | .667 | 50 | .833 | 60 | 1.000 |

### Table for Correction of Curvature and Refraction.

From a mountain, when furnished with a barometer, or with an apparatus for determining the temperature of boiling water, and a pocket level, an observer can find the elevations of distant points, which are in sight, but lower than the mountain itself on which he stands. He has only to seek, with the level, the point on the slope of the mountain which corresponds to the point at a distance that he wishes to determine, and to take there a barometrical, or a boiling point observation. This observation is to be calculated in the usual way, but the result must be corrected for the curvature of the surface of the globe, and for the atmospheric refraction, by means of the following Table.

This method, which furnishes the means of multiplying, without much trouble, the measurements of heights, gives approximations which are sufficient for most of the purposes of Physical Geography. It may even seem preferable to direct measurements for determining the mean elevation of certain physical lines, which are best estimated when seen from a distance; such as the upper limit of the growth of trees, the limits of different kinds of vegetation, that of permanent snow, that of the mean elevation of the crest of a mountain range, &c.

Table XXIII. is taken from Captain Lee's *Collection of Tables and Formulæ*, 3d edit., page 81.

## XXIII. CORRECTIONS FOR CURVATURE AND REFRACTION.

Showing the Difference of the Apparent and True Level, in feet and decimals, for Distances in feet and miles.

| Distances in Feet. | Correction in Feet. | | | Distances in Miles. | Correction in Feet. | | |
|---|---|---|---|---|---|---|---|
| | For Curvature. | For Refraction. | For Curvature and Refraction. | | For Curvature. | For Refraction. | For Curvature and Refraction. |
| 100 | .00024 | .00004 | .00020 | $\frac{1}{4}$ | .0417 | .0060 | .0357 |
| 150 | .00054 | .00008 | .00046 | $\frac{1}{2}$ | .1668 | .0238 | .1430 |
| 200 | .00094 | .00013 | .00083 | $\frac{3}{4}$ | .3752 | .0536 | .3216 |
| 250 | .00149 | .00021 | .00128 | 1 | .6670 | .0953 | .5717 |
| 300 | .00215 | .00031 | .00184 | $1\frac{1}{2}$ | 1.5008 | .2144 | 1.2864 |
| 350 | .00293 | .00042 | .00251 | 2 | 2.6680 | .3811 | 2.2869 |
| 400 | .00383 | .00055 | .00328 | $2\frac{1}{2}$ | 4.1688 | .5955 | 3.5733 |
| 450 | .00484 | .00069 | .00415 | 3 | 6.0030 | .8561 | 5.1469 |
| 500 | .00598 | .00085 | .00513 | $3\frac{1}{2}$ | 8.1708 | 1.1673 | 7.0035 |
| 550 | .00724 | .00103 | .00621 | 4 | 10.6720 | 1.5246 | 9.1474 |
| 600 | .00861 | .00123 | .00738 | $4\frac{1}{2}$ | 13.5468 | 1.9295 | 11.5773 |
| 650 | .01010 | .00144 | .00866 | 5 | 16.6750 | 2.3821 | 14.2929 |
| 700 | .01172 | .00167 | .01005 | $5\frac{1}{2}$ | 20.1769 | 2.8824 | 17.2945 |
| 750 | .01345 | .00192 | .01153 | 6 | 24.0120 | 3.4303 | 20.5817 |
| 800 | .01531 | .00219 | .01312 | $6\frac{1}{2}$ | 28.1809 | 4.0258 | 24.1551 |
| 850 | .01728 | .00247 | .01481 | 7 | 32.6830 | 4.6690 | 28.0143 |
| 900 | .01938 | .00277 | .01661 | $7\frac{1}{2}$ | 37.5190 | 5.3599 | 32.1591 |
| 950 | .02159 | .00308 | .01851 | 8 | 42.6880 | 6.0997 | 36.5883 |
| 1000 | .02392 | .00333 | .02059 | $8\frac{1}{2}$ | 48.1910 | 6.8844 | 41.3066 |
| 1050 | .02638 | .00377 | .02261 | 9 | 54.0270 | 7.7181 | 46.3089 |
| 1100 | .02895 | .00414 | .02481 | $9\frac{1}{2}$ | 60.1971 | 8.5996 | 51.5975 |
| 1150 | .03164 | .00452 | .02712 | 10 | 66.7000 | 9.5286 | 57.1714 |
| 1200 | .03445 | .00492 | .02953 | 11 | 80.7070 | 11.5296 | 69.1774 |
| 1250 | .03738 | .00534 | .03204 | 12 | 96.0480 | 13.7211 | 82.3269 |
| 1300 | .04043 | .00578 | .03465 | 13 | 112.7230 | 16.1033 | 96.6197 |
| 1350 | .04361 | .00623 | .03738 | 14 | 130.7320 | 18.6760 | 112.0560 |
| 1400 | .04689 | .00670 | .04019 | 15 | 150.0750 | 21.4393 | 128.6357 |
| 1450 | .05030 | .00719 | .04311 | 16 | 170.7520 | 24.3931 | 146.3589 |
| 1500 | .05383 | .00769 | .04614 | 17 | 192.7630 | 27.5376 | 165.2254 |
| 1550 | .05748 | .00821 | .04927 | 18 | 216.1086 | 30.8727 | 185.2359 |
| 1600 | .06125 | .00875 | .05250 | 19 | 240.7870 | 34.3981 | 206.3889 |
| 1650 | .06514 | .00931 | .05583 | 20 | 266.8000 | 38.1143 | 228.6857 |
| 1700 | .06914 | .00988 | .05926 | | | | |
| 1750 | .07327 | .01047 | .06280 | | | | |
| 1800 | .07752 | .01107 | .06645 | | | | |
| 1850 | .08188 | .01170 | .07018 | | | | |
| 1900 | .08637 | .01234 | .07403 | | | | |
| 1950 | .09098 | .01300 | .07798 | | | | |
| 2000 | .09570 | .01367 | .08203 | | | | |

# THERMOMETRICAL

# MEASUREMENT OF HEIGHTS,

OR

# TABLES

FOR DEDUCING DIFFERENCES OF LEVEL FROM OBSERVATIONS OF THE TEMPERATURE OF BOILING WATER.

# THERMOMETRICAL MEASUREMENT OF HEIGHTS.

## TABLES

### FOR DEDUCING DIFFERENCES OF LEVEL FROM THE TEMPERATURE OF THE BOILING POINT OF WATER.

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When water is heated in the open air, the elastic force of the vapors produced from it gradually increases, until it becomes equal to the incumbent weight of the atmosphere. Then, the pressure of the atmosphere being overcome, the steam escapes rapidly in large bubbles, and the water boils. The temperature at which, in the open air, water boils, thus depends upon the weight of the atmospheric column above it, and under a less barometric pressure the water will boil at a lower temperature than under a greater pressure. Now, as the weight of the atmosphere decreases with the elevation, it is obvious that, in ascending a mountain, the *higher* the station where an observation is taken, the *lower* the temperature at which water boils at that station will be.

The difference of elevation between two places, therefore, can be deduced from the temperature of boiling water observed at each station. It is only necessary to find the barometric pressures which correspond to those temperatures, and, the atmospheric pressures at both places being known, to compute the difference of level by a formula, or by the tables given above for computing heights from barometrical observations.

From the above, it may be seen that the heights determined by means of the temperature of boiling water are less reliable than those deduced from barometrical observations. Both derive the difference of altitude from the difference of atmospheric pressure. But the temperature of boiling water gives only *indirectly* the atmospheric pressure, which is given *directly* by the barometer. This method is thus liable to all the chances of error which may affect the measurements by means of the barometer, besides adding to them new ones peculiar to itself, the principal of which, not to speak of the differences exhibited in the various tables of the force of vapor, is the difficulty of ascertaining with the necessary accuracy the true temperature of boiling water. In the present state of thermometry it would hardly be safe, indeed, to answer, in the most favorable circumstances, for quantities so small as hundredths of degrees, even when the thermometer has been constructed with the utmost care; moreover, the quality of the glass of the instrument, the form and the substance of the vessel containing the water, the nature of the water itself, the place at which the bulb of the thermometer is placed, whether in the current of steam or in the water, — all these circumstances cause no inconsiderable variations to take place in the indications of thermometers observed under the same atmospheric

pressure. Owing to these various causes, an observation of the boiling point, differing by one tenth of a degree from the true temperature, ought to be still admitted as a good one. Now, as the tables show, an error of one tenth of a degree Centigrade in the temperature of boiling water would cause an error of 2 millimetres in the barometric pressure, or of from 70 to 80 feet in the final result, while with a good barometer the error of pressure will hardly ever exceed one tenth of a millimetre, making a difference of 3 feet in altitude.

Notwithstanding these imperfections, the hypsometric thermometer, or thermobarometer, is of the greatest utility to travellers traversing distant or rough countries, on account of its being more conveniently transported, and much less liable to accidents than the mercurial barometer. The best form for it is that contrived and described by Regnault in the *Annales de Chimie et de Physique*, Tom. XIV. p. 202. It consists of an accurate thermometer with long degrees, subdivided into tenths, whose bulb is placed, about 2 or 3 centimetres above the surface of the water, in the steam rising from distilled water in a cylindrical vessel, the water being made to boil by a spirit-lamp. The whole instrument when closed is about 6 inches long; when drawn out for observation, about 14 inches.

Table XXIV. of barometric pressures corresponding to temperatures of boiling water, has been calculated by Regnault from his Tables of Forces of Vapor, and published in the *Annales de Chimie et de Physique*, Tom. XIV. p. 206. It gives, in millimetres of mercury, the barometric pressures corresponding to every tenth of a centigrade degree; for greater convenience, the values for every hundredth have been added.

The accuracy of this table has been tested by direct observation by Mr. Wisse, a traveller competent in such matters, who noted down simultaneously the temperatures of the boiling point of water and the height of the barometer, in various parts of the Andes, up to the summit of the volcano of Pichincha, including in his observations barometrical pressures ranging from 752 to 430 millimetres of mercury. The agreement between the barometric pressures given here by Regnault and those found by Wisse are very satisfactory, the differences never exceeding a few tenths of a millimetre. See *Annales de Chimie et de Physique*, Tom. XXVIII. p. 123.

Table XXV. is the same table, revised by A. Moritz, who, in a communication to the Académie des Sciences, in October, 1856, called the attention to some slight errors of computation in Regnault's table, and gave the corrected numbers for every whole degree from 40° to 102° Centigrade. Those numbers are given here from 80° upwards, as published in the *Journal de l'Institut;* the values for every tenth of a degree, and their differences, have been computed to fit the table for practical use. The comparison of the two tables will show that the corrections mostly amount to a few hundredths, and never exceed one tenth of a millimetre.

Table XXVI. is table XXV. reduced to English measures.

| Centig. Degrees. | Hundredths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 85.0 | 433.04 | 433.21 | 433.38 | 433.55 | 433.72 | 433.89 | 434.07 | 434.24 | 434.41 | 434.58 |
| 85.1 | 434.75 | 434.92 | 435.09 | 435.26 | 435.43 | 435.60 | 435.78 | 435.95 | 436.12 | 436.29 |
| 85.2 | 436.46 | 436.63 | 436.80 | 436.97 | 437.14 | 437.31 | 437.49 | 437.66 | 437.83 | 438.00 |
| 85.3 | 438.17 | 438.34 | 438.51 | 438.69 | 438.86 | 439.03 | 439.20 | 439.37 | 439.55 | 439.72 |
| 85.4 | 439.89 | 440.06 | 440.23 | 440.41 | 440.58 | 440.75 | 440.93 | 441.10 | 441.27 | 441.45 |
| 85.5 | 441.62 | 441.79 | 441.97 | 442.14 | 442.31 | 442.48 | 442.66 | 442.83 | 443.00 | 443.18 |
| 85.6 | 443.35 | 443.52 | 443.70 | 443.87 | 444.05 | 444.22 | 444.39 | 444.57 | 444.74 | 444.92 |
| 85.7 | 445.09 | 445.26 | 445.44 | 445.61 | 445.79 | 445.96 | 446.14 | 446.31 | 446.49 | 446.67 |
| 85.8 | 446.84 | 447.01 | 447.19 | 447.36 | 447.54 | 447.71 | 447.89 | 448.06 | 448.24 | 448.41 |
| 85.9 | 448.59 | 448.76 | 448.94 | 449.11 | 449.29 | 449.46 | 449.64 | 449.81 | 449.99 | 450.16 |
| 86.0 | 450.34 | 450.52 | 450.69 | 450.87 | 451.04 | 451.22 | 451.40 | 451.57 | 451.75 | 451.92 |
| 86.1 | 452.10 | 452.28 | 452.45 | 452.63 | 452.81 | 452.98 | 453.16 | 453.34 | 453.52 | 453.69 |
| 86.2 | 453.87 | 454.05 | 454.22 | 454.40 | 454.58 | 454.75 | 454.93 | 455.11 | 455.29 | 455.46 |
| 86.3 | 455.64 | 455.82 | 456.00 | 456.17 | 456.35 | 456.53 | 456.71 | 456.89 | 457.06 | 457.24 |
| 86.4 | 457.42 | 457.60 | 457.78 | 457.96 | 458.14 | 458.31 | 458.49 | 458.67 | 458.85 | 459.03 |
| 86.5 | 459.21 | 459.39 | 459.57 | 459.75 | 459.93 | 460.10 | 460.28 | 460.46 | 460.64 | 460.82 |
| 86.6 | 461.00 | 461.18 | 461.36 | 461.54 | 461.72 | 461.90 | 462.08 | 462.26 | 462.44 | 462.62 |
| 86.7 | 462.80 | 462 98 | 463.16 | 463.34 | 463.52 | 463.70 | 463.88 | 464.06 | 464.24 | 464.42 |
| 86.8 | 464.60 | 464.78 | 464.96 | 465.14 | 465.32 | 465.50 | 465.69 | 465.87 | 466.05 | 466.23 |
| 86.9 | 466.41 | 466.59 | 466.77 | 466.95 | 467.13 | 467.31 | 467.50 | 467.68 | 467.86 | 468.04 |
| 87.0 | 468.22 | 468.40 | 468.58 | 468.77 | 468.95 | 469.13 | 469.31 | 469.49 | 469.68 | 469.86 |
| 87.1 | 470.04 | 470.22 | 470.41 | 470.59 | 470.77 | 470.95 | 471.14 | 471.32 | 471.50 | 471.69 |
| 87.2 | 471.87 | 472.05 | 472.24 | 472.42 | 472.60 | 472.78 | 472.97 | 473.15 | 473.33 | 473.52 |
| 87.3 | 473.70 | 473.88 | 474.07 | 474.25 | 474.44 | 474.62 | 474.80 | 474.99 | 475.17 | 475.36 |
| 87.4 | 475.54 | 475.72 | 475.91 | 476.09 | 476.28 | 476.46 | 476.64 | 476.83 | 477.01 | 477.20 |
| 87.5 | 477.38 | 477.56 | 477.75 | 477.93 | 478.12 | 478.30 | 478.49 | 478.67 | 478.86 | 479.04 |
| 87.6 | 479.23 | 479.41 | 479.60 | 479.78 | 479.97 | 480.15 | 480.34 | 480.52 | 480.71 | 480.89 |
| 87.7 | 481.08 | 481.27 | 481.45 | 481.64 | 481.82 | 482.01 | 482.20 | 482.38 | 482.57 | 482.75 |
| 87.8 | 482.94 | 483.13 | 483.31 | 483.50 | 483.69 | 483.87 | 484.06 | 484.25 | 484.44 | 484.62 |
| 87.9 | 484.81 | 485.00 | 485.19 | 485.37 | 485.56 | 485.75 | 485.94 | 486.13 | 486.31 | 486.50 |
| 88.0 | 486.69 | 486.88 | 487.07 | 487.25 | 487.44 | 487.63 | 487.82 | 488.01 | 488.19 | 488.38 |
| 88.1 | 488.57 | 488.76 | 488.95 | 489.13 | 489.32 | 489.51 | 489.70 | 489.89 | 490.07 | 490.26 |
| 88.2 | 490.45 | 490.64 | 490.83 | 491.02 | 491.21 | 491.39 | 491.58 | 491.77 | 491.96 | 492.15 |
| 88.3 | 492.34 | 492.53 | 492.72 | 492.91 | 493.10 | 493.29 | 493.48 | 493.67 | 493.86 | 494.05 |
| 88.4 | 494.24 | 494.43 | 494.62 | 494.81 | 495.00 | 495.19 | 495.39 | 495.58 | 495.77 | 495.96 |
| 88.5 | 496.15 | 496.34 | 496.53 | 496.72 | 496.91 | 497.10 | 497.30 | 497.49 | 497.68 | 497.87 |
| 88.6 | 498.06 | 498.25 | 498.44 | 498.64 | 498.83 | 499.02 | 499.21 | 499.40 | 499.60 | 499.79 |
| 88.7 | 499.98 | 500.17 | 500.36 | 500.56 | 500.75 | 500.94 | 501.13 | 501.32 | 501.52 | 501.71 |
| 88.8 | 501.90 | 502.09 | 502.28 | 502.48 | 502.67 | 502.86 | 503.05 | 503.24 | 503.44 | 503.63 |
| 88.9 | 503.82 | 504.01 | 504.21 | 504.40 | 504.60 | 504.79 | 504.98 | 505.18 | 505.37 | 505.57 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centig. Degrees. | Hundredths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 89.0 | 505.76 | 505.95 | 506.15 | 506.34 | 506.54 | 506.73 | 506.92 | 507.12 | 507.31 | 507.51 |
| 89.1 | 507.70 | 507.89 | 508.09 | 508.28 | 508.48 | 508.67 | 508.87 | 509.06 | 509.26 | 509.45 |
| 89.2 | 509.65 | 509.84 | 510.04 | 510.23 | 510.43 | 510.62 | 510.82 | 511.01 | 511.21 | 511.40 |
| 89.3 | 511.60 | 511.80 | 511.99 | 512.19 | 512.38 | 512.58 | 512.78 | 512.97 | 513.17 | 513.36 |
| 89.4 | 513.56 | 513.76 | 513.95 | 514.15 | 514.35 | 514.54 | 514.74 | 514.94 | 515.14 | 515.33 |
| 89.5 | 515.53 | 515.73 | 515.92 | 516.12 | 516.32 | 516.51 | 516.71 | 516.91 | 517.11 | 517.30 |
| 89.6 | 517.50 | 517.70 | 517.90 | 518.09 | 518.29 | 518.49 | 518.69 | 518.89 | 519.08 | 519.28 |
| 89.7 | 519.48 | 519.68 | 519.88 | 520.07 | 520.27 | 520.47 | 520.67 | 520.87 | 521.06 | 521.26 |
| 89.8 | 521.46 | 521.66 | 521.86 | 522.06 | 522.26 | 522.46 | 522.66 | 522.86 | 523.05 | 523.25 |
| 89.9 | 523.45 | 523.65 | 523.85 | 524.05 | 524.25 | 524.45 | 524.65 | 524.85 | 525.05 | 525.25 |
| 90.0 | 525.45 | 525.65 | 525.85 | 526.05 | 526.25 | 526.45 | 526.65 | 526.85 | 527.05 | 527.25 |
| 90.1 | 527.45 | 527.65 | 527.85 | 528.05 | 528.25 | 528.45 | 528.66 | 528.86 | 529.06 | 529.26 |
| 90.2 | 529.46 | 529.66 | 529.86 | 530.07 | 530.27 | 530.47 | 530.67 | 530.87 | 531.08 | 531.28 |
| 90.3 | 531.48 | 531.68 | 531.88 | 532.09 | 532.29 | 532.49 | 532.69 | 532.89 | 533.10 | 533.30 |
| 90.4 | 533.50 | 533.70 | 533.91 | 534.11 | 534.31 | 534.51 | 534.72 | 534.92 | 535.12 | 535.33 |
| 90.5 | 535.53 | 535.73 | 535.94 | 536.14 | 536.35 | 536.55 | 536.75 | 536.96 | 537.16 | 537.37 |
| 90.6 | 537.57 | 537.77 | 537.98 | 538.18 | 538.39 | 538.59 | 538.79 | 539.00 | 539.20 | 539.41 |
| 90.7 | 539.61 | 539.81 | 540.02 | 540.22 | 540.43 | 540.63 | 540.84 | 541.04 | 541.25 | 541.45 |
| 90.8 | 541.66 | 541.87 | 542.07 | 542.28 | 542.48 | 542.69 | 542.90 | 543.10 | 543.31 | 543.51 |
| 90.9 | 543.72 | 543.93 | 544.13 | 544.34 | 544.54 | 544.75 | 544.96 | 545.16 | 545.37 | 545.57 |
| 91.0 | 545.78 | 545.99 | 546.19 | 546.40 | 546.61 | 546.81 | 547.03 | 547.23 | 547.44 | 547.64 |
| 91.1 | 547.85 | 548.06 | 548.26 | 548.47 | 548.68 | 548.88 | 549.09 | 549.30 | 549.51 | 549.71 |
| 91.2 | 549.92 | 550.13 | 550.34 | 550.54 | 550.75 | 550.96 | 551.17 | 551.38 | 551.58 | 551.79 |
| 91.3 | 552.00 | 552.21 | 552.42 | 552.63 | 552.84 | 553.04 | 553.25 | 553.46 | 553.67 | 553.88 |
| 91.4 | 554.09 | 554.30 | 554.51 | 554.72 | 554.93 | 555.14 | 555.35 | 555.56 | 555.77 | 555.98 |
| 91.5 | 556.19 | 556.40 | 556.61 | 556.82 | 557.03 | 557.24 | 557.45 | 557.66 | 557.87 | 558.08 |
| 91.6 | 558.29 | 558.50 | 558.71 | 558.92 | 559.13 | 559.34 | 559.55 | 559.76 | 559.97 | 560.18 |
| 91.7 | 560.39 | 560.60 | 560.81 | 561.03 | 561.24 | 561.45 | 561.66 | 561.87 | 562.09 | 562.30 |
| 91.8 | 562.51 | 562.72 | 562.93 | 563.15 | 563.36 | 563.57 | 563.78 | 563.99 | 564.21 | 564.42 |
| 91.9 | 564.63 | 564.86 | 565.06 | 565.27 | 565.48 | 565.69 | 565.91 | 566.12 | 566.33 | 566.55 |
| 92.0 | 566.76 | 566.97 | 567.19 | 567.40 | 567.61 | 567.85 | 568.04 | 568.25 | 568.46 | 568.68 |
| 92.1 | 568.89 | 569.10 | 569.32 | 569.53 | 569.75 | 569.96 | 570.17 | 570.39 | 570.60 | 570.82 |
| 92.2 | 571.03 | 571.24 | 571.46 | 571.67 | 571.89 | 572.10 | 572.32 | 572.53 | 572.75 | 572.96 |
| 92.3 | 573.18 | 573.40 | 573.61 | 573.83 | 574.04 | 574.26 | 574.48 | 574.69 | 574.91 | 575.12 |
| 92.4 | 575.34 | 575.56 | 575.77 | 575.99 | 576.20 | 576.42 | 576.64 | 576.85 | 577.07 | 577.28 |
| 92.5 | 577.50 | 577.72 | 577.93 | 578.15 | 578.37 | 578.58 | 578.80 | 579.02 | 579.24 | 579.45 |
| 92.6 | 579.67 | 579.89 | 580.10 | 580.32 | 580.54 | 580.75 | 580.97 | 581.19 | 581.41 | 581.62 |
| 92.7 | 581.84 | 582.06 | 582.28 | 582.49 | 582.71 | 582.93 | 583.15 | 583.37 | 583.58 | 583.80 |
| 92.8 | 584.02 | 584.24 | 584.46 | 584.68 | 584.90 | 585.11 | 585.33 | 585.55 | 585.77 | 585.99 |
| 92.9 | 586.21 | 586.43 | 586.65 | 586.87 | 587.09 | 587.31 | 587.53 | 587.75 | 587.97 | 588.19 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centig. Degrees. | Hundredths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 93.0 | 588.41 | 588.63 | 588.85 | 589.07 | 589.29 | 589.51 | 589.73 | 589.95 | 590.17 | 590.39 |
| 93.1 | 590.61 | 590.83 | 591.05 | 591.27 | 591.49 | 591.71 | 591.94 | 592.16 | 592.38 | 592.60 |
| 93.2 | 592.82 | 593.04 | 593.26 | 593.49 | 593.71 | 593.93 | 594.15 | 594.37 | 594.60 | 594.82 |
| 93.3 | 595.04 | 595.26 | 595.48 | 595.71 | 595.93 | 596.15 | 596.37 | 596 59 | 596.82 | 597.04 |
| 93.4 | 597.26 | 597.48 | 597.71 | 597.93 | 598.15 | 598.37 | 598.60 | 598.82 | 599.04 | 599.27 |
| 93.5 | 599.49 | 599.71 | 599.94 | 600.16 | 600.38 | 600.60 | 600.83 | 601.05 | 601.27 | 601.50 |
| 93.6 | 601.72 | 601.94 | 602.17 | 602.39 | 602.62 | 602.84 | 603.07 | 603.29 | 603.52 | 603.74 |
| 93.7 | 603.97 | 604.19 | 604.42 | 604.64 | 604.87 | 605.09 | 605.32 | 605.54 | 605.77 | 605.99 |
| 93.8 | 606.22 | 606.45 | 606.67 | 606.90 | 607.12 | 607.35 | 607.58 | 607.80 | 608.03 | 608.25 |
| 93.9 | 608.48 | 608.71 | 608.93 | 609.16 | 609.38 | 609.61 | 609.84 | 610.06 | 610.29 | 610.51 |
| 94.0 | 610.74 | 610.97 | 611.19 | 611.42 | 611.65 | 611.87 | 612.10 | 612.33 | 612.56 | 612.78 |
| 94.1 | 613.01 | 613.24 | 613.47 | 613.69 | 613.92 | 614.15 | 614.38 | 614.61 | 614.83 | 615.06 |
| 94.2 | 615.29 | 615.52 | 615.75 | 615.97 | 616.21 | 616.43 | 616.66 | 616.89 | 617.12 | 617.35 |
| 94.3 | 617.58 | 617.81 | 618.04 | 618.27 | 618.50 | 618.72 | 618.95 | 619.18 | 619.41 | 619.64 |
| 94.4 | 619.87 | 620.10 | 620.33 | 620.56 | 620.79 | 621.02 | 621.25 | 621.48 | 621.71 | 621.94 |
| 94.5 | 622.17 | 622.40 | 622.63 | 622.86 | 623.09 | 623.32 | 623.56 | 623.79 | 624.02 | 624.25 |
| 94.6 | 624.48 | 624.71 | 624.94 | 625.17 | 625.40 | 625.63 | 625.87 | 626.10 | 626.33 | 626.56 |
| 94.7 | 626.79 | 627.02 | 627.25 | 627.49 | 627.72 | 627.95 | 628.18 | 628.41 | 628.65 | 628.88 |
| 94.8 | 629.11 | 629.34 | 629.58 | 629.81 | 630.04 | 630.27 | 630.51 | 630.74 | 630.97 | 631.21 |
| 94.9 | 631.44 | 631.67 | 631.91 | 632.14 | 632.38 | 632.61 | 632.84 | 633.08 | 633.31 | 633.55 |
| 95.0 | 633.78 | 634.01 | 634.25 | 634.48 | 634.72 | 634.95 | 635.18 | 635.42 | 635.65 | 635.89 |
| 95.1 | 636.12 | 636.35 | 636.59 | 636.82 | 637.06 | 637.29 | 637.53 | 637.76 | 638.00 | 638.23 |
| 95.2 | 638.47 | 638.71 | 638.94 | 639.18 | 639.41 | 639.65 | 639.89 | 640.12 | 640.36 | 640.59 |
| 95.3 | 640.83 | 641.07 | 641.30 | 641.54 | 641.77 | 642.01 | 642.25 | 642.48 | 642.72 | 642.95 |
| 95.4 | 643.19 | 643.43 | 643.67 | 643.90 | 644.14 | 644.38 | 644.62 | 644.86 | 645.09 | 645.33 |
| 95.5 | 645.57 | 645.81 | 646.05 | 646.28 | 646.52 | 646.76 | 647.00 | 647.24 | 647.47 | 647.71 |
| 95.6 | 647.95 | 648.19 | 648.43 | 648.67 | 648.91 | 649.14 | 649.38 | 649.62 | 649.86 | 650.10 |
| 95.7 | 650.34 | 650.58 | 650.82 | 651.06 | 651.30 | 651.53 | 651.77 | 652.01 | 652.25 | 652.49 |
| 95.8 | 652.73 | 652.97 | 653.21 | 653.45 | 653.69 | 653.93 | 654.17 | 654.41 | 654.65 | 654.89 |
| 95.9 | 655.13 | 655.37 | 655.61 | 655.85 | 656.09 | 656.33 | 656.58 | 656.82 | 657.06 | 657.30 |
| 96.0 | 657.54 | 657.78 | 658.02 | 658.26 | 658.50 | 658.74 | 658.99 | 659.23 | 659.47 | 659.71 |
| 96.1 | 659.95 | 660.19 | 660.43 | 660.68 | 660.92 | 661.16 | 661.40 | 661.64 | 661.89 | 662.13 |
| 96.2 | 662.37 | 662.61 | 662.86 | 663.10 | 663.34 | 663.58 | 663.83 | 664.07 | 664.31 | 664.56 |
| 96.3 | 664.80 | 665.04 | 665.29 | 665.53 | 665.78 | 666.02 | 666.26 | 666.51 | 666.75 | 667.00 |
| 96.4 | 667.24 | 667.48 | 667.73 | 667.97 | 668.22 | 668.46 | 668.71 | 668.95 | 669.20 | 669.44 |
| 96.5 | 669.69 | 669.93 | 670.18 | 670.42 | 670.67 | 670.91 | 671.16 | 671.40 | 671.65 | 671.99 |
| 96.6 | 672.14 | 672.39 | 672.63 | 672.88 | 673.12 | 673.37 | 673.62 | 673.86 | 674.11 | 674.35 |
| 96.7 | 674.60 | 674.85 | 675.09 | 675.34 | 675.59 | 675.83 | 676.08 | 676.33 | 676.58 | 676.82 |
| 96.8 | 677.07 | 677.32 | 677.57 | 677.81 | 678.06 | 678.31 | 678.56 | 678.81 | 679.05 | 679.30 |
| 96.9 | 679.55 | 679.80 | 680.05 | 680.29 | 680.54 | 680.79 | 681.04 | 681.29 | 681.53 | 681.78 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

| Centig. Degrees. | Hundredths of a Degree. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| ° | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. | Millim. |
| 97.0 | 682.03 | 682.28 | 682.53 | 682.78 | 683.03 | 683.27 | 683.52 | 683.77 | 684.02 | 684.27 |
| 97.1 | 684.52 | 684.77 | 685.02 | 685.27 | 685.52 | 685.77 | 686.02 | 686.27 | 686.52 | 686.77 |
| 97.2 | 687.02 | 687.27 | 687.52 | 687.77 | 688.02 | 688.27 | 688.53 | 688.78 | 689.03 | 689.28 |
| 97.3 | 689.53 | 689.78 | 690.03 | 690.28 | 690.53 | 690.78 | 691.04 | 691.29 | 691.54 | 691.79 |
| 97.4 | 692.04 | 692.29 | 692.54 | 692.80 | 693.05 | 693.30 | 693.55 | 693.80 | 694.06 | 694.31 |
| 97.5 | 694.56 | 694.81 | 695.06 | 695.32 | 695.57 | 695.82 | 696.07 | 696.32 | 696.58 | 696.83 |
| 97.6 | 697.08 | 697.33 | 697.59 | 697.84 | 698.09 | 698.34 | 698.60 | 698.85 | 699.10 | 699.36 |
| 97.7 | 699.61 | 699.86 | 700.12 | 700.37 | 700.63 | 700.88 | 701.13 | 701.39 | 701.64 | 701.90 |
| 97.8 | 702.15 | 702.40 | 702.66 | 702.91 | 703.17 | 703.42 | 703.68 | 703.93 | 704.19 | 704.44 |
| 97.9 | 704.70 | 704.96 | 705.21 | 705.47 | 705.72 | 705.98 | 706.24 | 706.49 | 706.75 | 707.00 |
| 98.0 | 707.26 | 707.52 | 707.77 | 708.03 | 708.28 | 708.54 | 708.80 | 709.05 | 709.31 | 709.56 |
| 98.1 | 709.82 | 710.08 | 710.33 | 710.59 | 710.85 | 711.10 | 711.36 | 711.62 | 711.88 | 712.13 |
| 98.2 | 712.39 | 712.65 | 712.91 | 713.16 | 713.42 | 713.68 | 713.94 | 714.20 | 714.45 | 714.71 |
| 98.3 | 714.97 | 715.22 | 715.49 | 715.75 | 716.01 | 716.26 | 716.52 | 716.78 | 717.04 | 717.30 |
| 98.4 | 717.56 | 717.82 | 718.08 | 718.34 | 718.60 | 718.85 | 719.11 | 719.37 | 719.63 | 719.89 |
| 98.5 | 720.15 | 720.41 | 720.67 | 720.93 | 721.19 | 721.45 | 721.71 | 721.97 | 722.23 | 722.49 |
| 98.6 | 722.75 | 723.01 | 723.27 | 723.53 | 723.79 | 724.05 | 724.31 | 724.57 | 724.83 | 725.09 |
| 98.7 | 725.35 | 725.61 | 725.87 | 726.13 | 726.39 | 726.65 | 726.92 | 727.18 | 727.44 | 727.70 |
| 98.8 | 727.96 | 728.22 | 728.48 | 728.75 | 729.01 | 729.27 | 729.53 | 729.79 | 730.06 | 730.32 |
| 98.9 | 730.58 | 730.84 | 731.11 | 731.37 | 731.63 | 731.89 | 732.16 | 732.42 | 732.68 | 732.95 |
| 99.0 | 733.21 | 733.47 | 733.74 | 734.00 | 734.27 | 734.53 | 734.79 | 735.06 | 735.32 | 735.59 |
| 99.1 | 735.85 | 736.11 | 736.38 | 736.64 | 736.91 | 737.17 | 737.44 | 737.70 | 737.97 | 738.23 |
| 99.2 | 738.50 | 738.77 | 739.03 | 739.30 | 739.56 | 739.83 | 740.10 | 740.36 | 740.63 | 740.89 |
| 99.3 | 741.16 | 741.43 | 741.69 | 741.96 | 742.23 | 742.49 | 742.76 | 743.03 | 743.30 | 743.56 |
| 99.4 | 743.83 | 744.10 | 744.36 | 744.63 | 744.90 | 745.16 | 745.43 | 745.70 | 745.97 | 746.23 |
| 99.5 | 746.50 | 746.77 | 747.04 | 747.30 | 747.57 | 747.84 | 748.11 | 748.38 | 748.64 | 748.91 |
| 99.6 | 749.18 | 749.45 | 749.72 | 749.99 | 750.26 | 750.52 | 750.79 | 751.06 | 751.33 | 751.60 |
| 99.7 | 751.87 | 752.14 | 752.41 | 752.68 | 752.95 | 753.22 | 753.49 | 753.76 | 754.03 | 754.30 |
| 99.8 | 754.57 | 754.84 | 755.11 | 755.38 | 755.65 | 755.92 | 756.20 | 756.47 | 756.74 | 757.01 |
| 99.9 | 757.28 | 757.55 | 757.82 | 758.10 | 758.37 | 758.64 | 758.91 | 759.18 | 759.46 | 759.73 |
| 100.0 | 760.00 | 760.27 | 760.55 | 760.82 | 761.09 | 761.36 | 761.64 | 761.91 | 762.18 | 762.46 |
| 100.1 | 762.73 | 763.00 | 763.28 | 763.55 | 763.82 | 764.09 | 764.37 | 764.64 | 764.91 | 765.19 |
| 100.2 | 765.46 | 765.73 | 766.01 | 766.28 | 766.56 | 766.83 | 767.10 | 767.38 | 767.65 | 767.93 |
| 100.3 | 768.20 | 768.47 | 768.75 | 769.02 | 769.30 | 769.57 | 769.85 | 770.12 | 770.40 | 770.67 |
| 100.4 | 770.95 | 771.23 | 771.50 | 771.78 | 772.05 | 772.33 | 772.61 | 772.88 | 773.16 | 773.43 |
| 100.5 | 773.71 | 773.99 | 774.26 | 774.54 | 774.82 | 775.09 | 775.37 | 775.65 | 775.93 | 776.20 |
| 100.6 | 776.48 | 776.76 | 777.04 | 777.31 | 777.59 | 777.87 | 778.15 | 778.43 | 778.70 | 778.98 |
| 100.7 | 779.26 | 779.54 | 779.82 | 780.09 | 780.37 | 780.65 | 780.93 | 781.21 | 781.48 | 781.76 |
| 100.8 | 782.04 | 782.32 | 782.60 | 782.88 | 783.16 | 783.43 | 783.71 | 783.99 | 784.27 | 784.55 |
| 100.9 | 784.83 | 785.11 | 785.39 | 785.67 | 785.95 | 786.23 | 786.51 | 786.79 | 787.07 | 787.35 |
| 101.0 | 787.63 | 787.91 | 788.19 | 788.47 | 788.75 | 789.03 | 789.31 | 789.59 | 789.87 | 790.15 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

# TABLE XXV.

## BAROMETRIC PRESSURES CORRESPONDING TO TEMPERATURES OF THE BOILING POINT OF WATER,

### EXPRESSED IN MILLIMETRES OF MERCURY FOR CENTIGRADE TEMPERATURES.

BY REGNAULT, REVISED BY MOBITZ.

| Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. | Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. | Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. |
|---|---|---|---|---|---|---|---|---|
| ° | | | ° | | | ° | | |
| 80.0 | 354.62 | | 83.0 | 400.07 | | 86.0 | 450.30 | |
| | | 1.44 | | | 1.60 | | | 1.76 |
| 80.1 | 356.06 | | 83.1 | 401.66 | | 86.1 | 452.06 | |
| | | 1.45 | | | 1.60 | | | 1.77 |
| 80.2 | 357.50 | | 83.2 | 403.26 | | 86.2 | 453.83 | |
| | | 1.45 | | | 1.61 | | | 1.77 |
| 80.3 | 358.96 | | 83.3 | 404.87 | | 86.3 | 455.60 | |
| | | 1.46 | | | 1.61 | | | 1.78 |
| 80.4 | 360.41 | | 83.4 | 406.48 | | 86.4 | 457.38 | |
| | | 1.46 | | | 1.62 | | | 1.78 |
| 80.5 | 361.87 | | 83.5 | 408.10 | | 86.5 | 459.17 | |
| | | 1.47 | | | 1.62 | | | 1.79 |
| 80.6 | 363.34 | | 83.6 | 409.72 | | 86.6 | 460.96 | |
| | | 1.47 | | | 1.63 | | | 1.80 |
| 80.7 | 364.81 | | 83.7 | 411.35 | | 86.7 | 462.75 | |
| | | 1.48 | | | 1.63 | | | 1.80 |
| 80.8 | 366.29 | | 83.8 | 412.98 | | 86.8 | 464.55 | |
| | | 1.48 | | | 1.64 | | | 1.81 |
| 80.9 | 367.77 | | 83.9 | 414.62 | | 86.9 | 466.36 | |
| | | 1.49 | | | 1.64 | | | 1.81 |
| 81.0 | 369.26 | | 84.0 | 416.26 | | 87.0 | 468.17 | |
| | | 1.49 | | | 1.65 | | | 1.82 |
| 81.1 | 370.75 | | 84.1 | 417.91 | | 87.1 | 469.99 | |
| | | 1.50 | | | 1.66 | | | 1.83 |
| 81.2 | 372.25 | | 84.2 | 419.57 | | 87.2 | 471.82 | |
| | | 1.50 | | | 1.66 | | | 1.83 |
| 81.3 | 373.75 | | 84.3 | 421.23 | | 87.3 | 473.65 | |
| | | 1.51 | | | 1.67 | | | 1.84 |
| 81.4 | 375.25 | | 84.4 | 422.89 | | 87.4 | 475.49 | |
| | | 1.51 | | | 1.67 | | | 1.84 |
| 81.5 | 376.77 | | 84.5 | 424.56 | | 87.5 | 477.33 | |
| | | 1.52 | | | 1.68 | | | 1.85 |
| 81.6 | 378.28 | | 84.6 | 426.24 | | 87.6 | 479.18 | |
| | | 1.52 | | | 1.68 | | | 1.86 |
| 81.7 | 379.81 | | 84.7 | 427.92 | | 87.7 | 481.04 | |
| | | 1.53 | | | 1.69 | | | 1.86 |
| 81.8 | 381.33 | | 84.8 | 429.61 | | 87.8 | 482.90 | |
| | | 1.53 | | | 1.69 | | | 1.87 |
| 81.9 | 382.87 | | 84.9 | 431.30 | | 87.9 | 484.76 | |
| | | 1.54 | | | 1.70 | | | 1.87 |
| 82.0 | 384.40 | | 85.0 | 433.00 | | 88.0 | 486.64 | |
| | | 1.54 | | | 1.70 | | | 1.88 |
| 82.1 | 385.95 | | 85.1 | 434.71 | | 88.1 | 488.52 | |
| | | 1.55 | | | 1.71 | | | 1.89 |
| 82.2 | 387.49 | | 85.2 | 436.42 | | 88.2 | 490.40 | |
| | | 1.55 | | | 1.72 | | | 1.89 |
| 82.3 | 389.05 | | 85.3 | 438.13 | | 88.3 | 492.29 | |
| | | 1.56 | | | 1.72 | | | 1.90 |
| 82.4 | 390.61 | | 85.4 | 439.85 | | 88.4 | 494.19 | |
| | | 1.56 | | | 1.73 | | | 1.90 |
| 82.5 | 392.17 | | 85.5 | 441.58 | | 88.5 | 496.09 | |
| | | 1.57 | | | 1.73 | | | 1.91 |
| 82.6 | 393.74 | | 85.6 | 443.31 | | 88.6 | 498.00 | |
| | | 1.57 | | | 1.74 | | | 1.92 |
| 82.7 | 395.31 | | 85.7 | 445.05 | | 88.7 | 500.92 | |
| | | 1.58 | | | 1.74 | | | 1.92 |
| 82.8 | 396.89 | | 85.8 | 446.80 | | 88.8 | 501.84 | |
| | | 1.58 | | | 1.75 | | | 1.93 |
| 82.9 | 398.48 | | 85.9 | 448.55 | | 88.9 | 503.77 | |
| | | 1.59 | | | 1.76 | | | 1.93 |
| 83.0 | 400.07 | | 86.0 | 450.30 | | 89.0 | 505.70 | |

| Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. | Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. | Boiling Point, Centigrade. | Barometer in Millimetres. | Difference. |
|---|---|---|---|---|---|---|---|---|
| ° | | | ° | | | ° | | |
| 89.0 | 505.70 | 1.94 | 93.0 | 588.33 | 2.20 | 97.0 | 681.93 | 2.49 |
| 89.1 | 507.65 | 1.95 | 93.1 | 590.53 | 2.21 | 97.1 | 684.42 | 2.50 |
| 89.2 | 509.59 | 1.95 | 93.2 | 592.74 | 2.22 | 97.2 | 686.92 | 2.51 |
| 89.3 | 511.54 | 1.96 | 93.3 | 594.96 | 2.22 | 97.3 | 689.42 | 2.51 |
| 89.4 | 513.50 | 1.97 | 93.4 | 597.18 | 2.23 | 97.4 | 691.94 | 2.52 |
| 89.5 | 515.47 | 1.97 | 93.5 | 599.41 | 2.24 | 97.5 | 694.46 | 2.53 |
| 89.6 | 517.44 | 1.98 | 93.6 | 601.65 | 2.24 | 97.6 | 696.98 | 2.54 |
| 89.7 | 519.42 | 1.98 | 93.7 | 603.89 | 2.25 | 97.7 | 699.52 | 2.54 |
| 89.8 | 521.40 | 1.99 | 93.8 | 606.14 | 2.26 | 97.8 | 702.06 | 2.55 |
| 89.9 | 523.39 | 2.00 | 93.9 | 608.40 | 2.26 | 97.9 | 704.62 | 2.56 |
| 90.0 | 525.39 | 2.00 | 94.0 | 610.66 | 2.27 | 98.0 | 707.17 | 2.57 |
| 90.1 | 527.40 | 2.01 | 94.1 | 612.93 | 2.28 | 98.1 | 709.74 | 2.57 |
| 90.2 | 529.41 | 2.02 | 94.2 | 615.21 | 2.29 | 98.2 | 712.31 | 2.58 |
| 90.3 | 531.42 | 2.02 | 94.3 | 617.50 | 2.29 | 98.3 | 714.90 | 2.59 |
| 90.4 | 533.44 | 2.03 | 94.4 | 619.79 | 2.30 | 98.4 | 717.49 | 2.60 |
| 90.5 | 535.47 | 2.04 | 94.5 | 622.09 | 2.31 | 98.5 | 720.08 | 2.61 |
| 90.6 | 537.51 | 2.04 | 94.6 | 624.39 | 2.31 | 98.6 | 722.69 | 2.61 |
| 90.7 | 539.55 | 2.05 | 94.7 | 626.71 | 2.32 | 98.7 | 725.30 | 2.62 |
| 90.8 | 541.60 | 2.05 | 94.8 | 629.93 | 2.33 | 98.8 | 727.93 | 2.63 |
| 90.9 | 543.65 | 2.06 | 94.9 | 631.36 | 2.33 | 98.9 | 730.55 | 2.64 |
| 91.0 | 545.71 | 2.07 | 95.0 | 633.69 | 2.34 | 99.0 | 733.19 | 2.64 |
| 91.1 | 547.78 | 2.07 | 95.1 | 636.03 | 2.35 | 99.1 | 735.84 | 2.65 |
| 91.2 | 549.86 | 2.08 | 95.2 | 638.38 | 2.36 | 99.2 | 738.49 | 2.66 |
| 91.3 | 551.94 | 2.09 | 95.3 | 640.74 | 2.36 | 99.3 | 741.15 | 2.67 |
| 91.4 | 554.03 | 2.09 | 95.4 | 643.10 | 2.37 | 99.4 | 743.82 | 2.68 |
| 91.5 | 556.12 | 2.10 | 95.5 | 645.48 | 2.38 | 99.5 | 746.50 | 2.68 |
| 91.6 | 558.22 | 2.11 | 95.6 | 647.86 | 2.39 | 99.6 | 749.18 | 2.69 |
| 91.7 | 560.33 | 2.11 | 95.7 | 650.24 | 2.39 | 99.7 | 751.87 | 2.70 |
| 91.8 | 562.44 | 2.12 | 95.8 | 652.63 | 2.40 | 99.8 | 754.57 | 2.71 |
| 91.9 | 564.56 | 2.13 | 95.9 | 655.04 | 2.41 | 99.9 | 757.28 | 2.72 |
| 92.0 | 566.69 | 2.13 | 96.0 | 657.44 | 2.42 | 100.0 | 760.00 | 2.73 |
| 92.1 | 568.82 | 2.14 | 96.1 | 659.86 | 2.42 | 100.1 | 762.73 | 2.73 |
| 92.2 | 570.96 | 2.15 | 96.2 | 662.28 | 2.43 | 100.2 | 765.46 | 2.74 |
| 92.3 | 573.11 | 2.15 | 96.3 | 664.71 | 2.44 | 100.3 | 768.20 | 2.75 |
| 92.4 | 575.27 | 2.16 | 96.4 | 667.15 | 2.44 | 100.4 | 770.95 | 2.76 |
| 92.5 | 577.43 | 2.17 | 96.5 | 669.59 | 2.45 | 100.5 | 773.71 | 2.77 |
| 92.6 | 579.59 | 2.17 | 96.6 | 672.05 | 2.46 | 100.6 | 776.47 | 2.77 |
| 92.7 | 581.77 | 2.18 | 96.7 | 674.51 | 2.47 | 100.7 | 779.25 | 2.78 |
| 92.8 | 583.95 | 2.19 | 96.8 | 676.97 | 2.47 | 100.8 | 782.03 | 2.79 |
| 92.9 | 586.14 | 2.19 | 96.9 | 679.45 | 2.48 | 100.9 | 784.82 | 2.80 |
| 93.0 | 588.33 | | 97.0 | 681.93 | | 101.0 | 787.62 | |

# TABLE XXVI.

## BAROMETRIC PRESSURES CORRESPONDING TO TEMPERATURES OF THE BOILING POINT OF WATER,

### EXPRESSED IN ENGLISH INCHES FOR TEMPERATURES OF FAHRENHEIT.

REDUCED FROM REGNAULT'S TABLE, REVISED BY MORITZ.

| Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | | | ° | | | ° | | | ° | | |
| 185.0 | 17.048 | | 188.0 | 18.195 | | 191.0 | 19.407 | | 194.0 | 20.685 | |
| | | 0.037 | | | 0.039 | | | 0.042 | | | 0.044 |
| 185.1 | 17.085 | .037 | 188.1 | 18.235 | .039 | 191.1 | 19.448 | .042 | 194.1 | 20.729 | .044 |
| 185.2 | 17.122 | .037 | 188.2 | 18.274 | .039 | 191.2 | 19.490 | .042 | 194.2 | 20.773 | .044 |
| 185.3 | 17.160 | .037 | 188.3 | 18.314 | .040 | 191.3 | 19.532 | .042 | 194.3 | 20.817 | .044 |
| 185.4 | 17.197 | .038 | 188.4 | 18.353 | .040 | 191.4 | 19.573 | .042 | 194.4 | 20.861 | .044 |
| 185.5 | 17.235 | | 188.5 | 18.393 | | 191.5 | 19.615 | | 194.5 | 20.905 | |
| | | .038 | | | .040 | | | .042 | | | .044 |
| 185.6 | 17.272 | .038 | 188.6 | 18.432 | .040 | 191.6 | 19.657 | .042 | 194.6 | 20.949 | .044 |
| 185.7 | 17.310 | .038 | 188.7 | 18.472 | .040 | 191.7 | 19.699 | .042 | 194.7 | 20.993 | .044 |
| 185.8 | 17.348 | .038 | 188.8 | 18.512 | .040 | 191.8 | 19.741 | .042 | 194.8 | 21.038 | .044 |
| 185.9 | 17.385 | .038 | 188.9 | 18.552 | .040 | 191.9 | 19.783 | .042 | 194.9 | 21.082 | .044 |
| 186.0 | 17.423 | | 189.0 | 18.592 | | 192.0 | 19.825 | | 195.0 | 21.126 | |
| | | .038 | | | .040 | | | .042 | | | .045 |
| 186.1 | 17.461 | .038 | 189.1 | 18.632 | .040 | 192.1 | 19.868 | .042 | 195.1 | 21.171 | .045 |
| 186.2 | 17.499 | .038 | 189.2 | 18.672 | .040 | 192.2 | 19.910 | .042 | 195.2 | 21.216 | .045 |
| 186.3 | 17.537 | .038 | 189.3 | 18.712 | .040 | 192.3 | 19.952 | .042 | 195.3 | 21.260 | .045 |
| 186.4 | 17.575 | .038 | 189.4 | 18.753 | .040 | 192.4 | 19.995 | .043 | 195.4 | 21.305 | .045 |
| 186.5 | 17.614 | | 189.5 | 18.793 | | 192.5 | 20.037 | | 195.5 | 21.350 | |
| | | .038 | | | .040 | | | .043 | | | .045 |
| 186.6 | 17.652 | .038 | 189.6 | 18.833 | .040 | 192.6 | 20.080 | .043 | 195.6 | 21.395 | .045 |
| 186.7 | 17.690 | .038 | 189.7 | 18.874 | .041 | 192.7 | 20.123 | .043 | 195.7 | 21.440 | .045 |
| 186.8 | 17.729 | .038 | 189.8 | 18.914 | .041 | 192.8 | 20.166 | .043 | 195.8 | 21.485 | .045 |
| 186.9 | 17.767 | .039 | 189.9 | 18.955 | .041 | 192.9 | 20.208 | .043 | 195.9 | 21.530 | .045 |
| 187.0 | 17.806 | | 190.0 | 18.996 | | 193.0 | 20.251 | | 196.0 | 21.576 | |
| | | .039 | | | .041 | | | .043 | | | .045 |
| 187.1 | 17.844 | .039 | 190.1 | 19.036 | .041 | 193.1 | 20.294 | .043 | 196.1 | 21.621 | .045 |
| 187.2 | 17.883 | .039 | 190.2 | 19.077 | .041 | 193.2 | 20.338 | .043 | 196.2 | 21.666 | .046 |
| 187.3 | 17.922 | .039 | 190.3 | 19.118 | .041 | 193.3 | 20.381 | .043 | 196.3 | 21.712 | .046 |
| 187.4 | 17.961 | .039 | 190.4 | 19.159 | .041 | 193.4 | 20.424 | .043 | 196.4 | 21.758 | .046 |
| 187.5 | 18.000 | | 190.5 | 19.200 | | 193.5 | 20.467 | | 196.5 | 21.803 | |
| | | .039 | | | .041 | | | .043 | | | .046 |
| 187.6 | 18.039 | .039 | 190.6 | 19.241 | .041 | 193.6 | 20.511 | .043 | 196.6 | 21.849 | .046 |
| 187.7 | 18.078 | .039 | 190.7 | 19.283 | .041 | 193.7 | 20.554 | .044 | 196.7 | 21.895 | .046 |
| 187.8 | 18.117 | .039 | 190.8 | 19.324 | .041 | 193.8 | 20.598 | .044 | 196.8 | 21.941 | .046 |
| 187.9 | 18.156 | 0.039 | 190.9 | 19.365 | 0.041 | 193.9 | 20.641 | 0.044 | 196.9 | 21.987 | 0.046 |
| 188.0 | 18.195 | | 191.0 | 19.407 | | 194.0 | 20.685 | | 197.0 | 22.033 | |

| Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. | Boiling Point, Fahren. | Barometer in English Inches. | Difference. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | | | ° | | | ° | | | ° | | |
| 197.0 | 22.033 | | 201.0 | 23.943 | | 205.0 | 25.990 | | 209.0 | 28.180 | |
| | | 0.046 | | | 0.049 | | | 0.053 | | | 0.057 |
| 197.1 | 22.079 | | 201.1 | 23.993 | | 205.1 | 26.043 | | 209.1 | 28.237 | |
| | | .046 | | | .050 | | | .053 | | | .057 |
| 197.2 | 22.125 | | 201.2 | 24.042 | | 205.2 | 26.096 | | 209.2 | 28.293 | |
| | | .046 | | | .050 | | | .053 | | | .057 |
| 197.3 | 22.172 | | 201.3 | 24.092 | | 205.3 | 26.149 | | 209.3 | 28.350 | |
| | | .046 | | | .050 | | | .053 | | | .057 |
| 197.4 | 22.218 | | 201.4 | 24.142 | | 205.4 | 26.202 | | 209.4 | 28.407 | |
| | | .046 | | | .050 | | | .053 | | | .057 |
| 197.5 | 22.264 | | 201.5 | 24.191 | | 205.5 | 26.255 | | 209.5 | 28.464 | |
| | | .047 | | | .050 | | | .053 | | | .057 |
| 197.6 | 22.311 | | 201.6 | 24.241 | | 205.6 | 26.309 | | 209.6 | 28.521 | |
| | | .047 | | | .050 | | | .054 | | | .057 |
| 197.7 | 22.358 | | 201.7 | 24.291 | | 205.7 | 26.362 | | 209.7 | 28.579 | |
| | | .047 | | | .050 | | | .054 | | | .057 |
| 197.8 | 22.404 | | 201.8 | 24.341 | | 205.8 | 26.416 | | 209.8 | 28.636 | |
| | | .047 | | | .050 | | | .054 | | | .057 |
| 197.9 | 22.451 | | 201.9 | 24.391 | | 205.9 | 26.470 | | 209.9 | 28.693 | |
| | | .047 | | | .050 | | | .054 | | | .058 |
| 198.0 | 22.498 | | 202.0 | 24.442 | | 206.0 | 26.523 | | 210.0 | 28.751 | |
| | | .047 | | | .050 | | | .054 | | | .058 |
| 198.1 | 22.545 | | 202.1 | 24.492 | | 206.1 | 26.577 | | 210.1 | 28.809 | |
| | | .047 | | | .050 | | | .054 | | | .058 |
| 198.2 | 22.592 | | 202.2 | 24.542 | | 206.2 | 26.631 | | 210.2 | 28.866 | |
| | | .047 | | | .050 | | | .054 | | | .058 |
| 198.3 | 22.639 | | 202.3 | 24.593 | | 206.3 | 26.685 | | 210.3 | 28.924 | |
| | | .047 | | | .051 | | | .054 | | | .058 |
| 198.4 | 22.686 | | 202.4 | 24.644 | | 206.4 | 26.740 | | 210.4 | 28.982 | |
| | | .047 | | | .051 | | | .054 | | | .058 |
| 198.5 | 22.734 | | 202.5 | 24.694 | | 206.5 | 26.794 | | 210.5 | 29.040 | |
| | | .047 | | | .051 | | | .054 | | | .058 |
| 198.6 | 22.781 | | 202.6 | 24.745 | | 206.6 | 26.848 | | 210.6 | 29.098 | |
| | | .047 | | | .051 | | | .054 | | | .058 |
| 198.7 | 22.829 | | 202.7 | 24.796 | | 206.7 | 26.903 | | 210.7 | 29.156 | |
| | | .048 | | | .051 | | | .055 | | | .058 |
| 198.8 | 22.876 | | 202.8 | 24.847 | | 206.8 | 26.957 | | 210.8 | 29.215 | |
| | | .048 | | | .051 | | | .055 | | | .058 |
| 198.9 | 22.924 | | 202.9 | 24.898 | | 206.9 | 27.012 | | 210.9 | 29.273 | |
| | | .048 | | | .051 | | | .055 | | | .059 |
| 199.0 | 22.971 | | 203.0 | 24.949 | | 207.0 | 27.066 | | 211.0 | 29.331 | |
| | | .048 | | | .051 | | | .055 | | | .059 |
| 199.1 | 23.019 | | 203.1 | 25.000 | | 207.1 | 27.121 | | 211.1 | 29.390 | |
| | | .048 | | | .051 | | | .055 | | | .059 |
| 199.2 | 23.067 | | 203.2 | 25.051 | | 207.2 | 27.176 | | 211.2 | 29.449 | |
| | | .048 | | | .051 | | | .055 | | | .059 |
| 199.3 | 23.115 | | 203.3 | 25.103 | | 207.3 | 27.231 | | 211.3 | 29.508 | |
| | | .048 | | | .051 | | | .055 | | | .059 |
| 199.4 | 23.163 | | 203.4 | 25.154 | | 207.4 | 27.286 | | 211.4 | 29.566 | |
| | | .048 | | | .052 | | | .055 | | | .059 |
| 199.5 | 23.211 | | 203.5 | 25.206 | | 207.5 | 27.341 | | 211.5 | 29.625 | |
| | | .048 | | | .052 | | | .055 | | | .059 |
| 199.6 | 23.259 | | 203.6 | 25.257 | | 207.6 | 27.397 | | 211.6 | 29.684 | |
| | | .048 | | | .052 | | | .055 | | | .059 |
| 199.7 | 23.308 | | 203.7 | 25.309 | | 207.7 | 27.452 | | 211.7 | 29.744 | |
| | | .048 | | | .052 | | | .055 | | | .059 |
| 199.8 | 23.356 | | 203.8 | 25.361 | | 207.8 | 27.507 | | 211.8 | 29.803 | |
| | | .048 | | | .052 | | | .056 | | | .059 |
| 199.9 | 23.405 | | 203.9 | 25.413 | | 207.9 | 27.563 | | 211.9 | 29.862 | |
| | | .049 | | | .052 | | | .056 | | | .059 |
| 200.0 | 23.453 | | 204.0 | 25.465 | | 208.0 | 27.618 | | 212.0 | 29.922 | |
| | | .049 | | | .052 | | | .056 | | | .060 |
| 200.1 | 23.502 | | 204.1 | 25.517 | | 208.1 | 27.674 | | 212.1 | 29.981 | |
| | | .049 | | | .052 | | | .056 | | | .060 |
| 200.2 | 23.550 | | 204.2 | 25.569 | | 208.2 | 27.730 | | 212.2 | 30.041 | |
| | | .049 | | | .052 | | | .056 | | | .060 |
| 200.3 | 23.599 | | 204.3 | 25.621 | | 208.3 | 27.786 | | 212.3 | 30.101 | |
| | | .049 | | | .052 | | | .056 | | | .060 |
| 200.4 | 23.648 | | 204.4 | 25.674 | | 208.4 | 27.842 | | 212.4 | 30.161 | |
| | | .049 | | | .052 | | | .056 | | | .060 |
| 200.5 | 23.697 | | 204.5 | 25.726 | | 208.5 | 27.898 | | 212.5 | 30.221 | |
| | | .049 | | | .053 | | | .056 | | | .060 |
| 200.6 | 23.746 | | 204.6 | 25.779 | | 208.6 | 27.954 | | 212.6 | 30.281 | |
| | | .049 | | | .053 | | | .056 | | | .060 |
| 200.7 | 23.795 | | 204.7 | 25.831 | | 208.7 | 28.011 | | 212.7 | 30.341 | |
| | | .049 | | | .053 | | | .056 | | | .060 |
| 200.8 | 23.845 | | 204.8 | 25.884 | | 208.8 | 28.067 | | 212.8 | 30.401 | |
| | | .049 | | | .053 | | | .056 | | | .060 |
| 200.9 | 23.894 | | 204.9 | 25.937 | | 208.9 | 28.123 | | 212.9 | 30.461 | |
| | | 0.049 | | | 0.053 | | | 0.057 | | | 0.060 |
| 201.0 | 23.943 | | 205.0 | 25.990 | | 209.0 | 28.180 | | 213.0 | 30.522 | |

# APPENDIX

TO

# THE HYPSOMETRICAL TABLES.

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COMPARISON OF THE DIFFERENT MEASURES OF LENGTH MOST GENERALLY USED FOR INDICATING ALTITUDES.

# COMPARISON

## OF THE MEASURES OF LENGTH MOST GENERALLY USED FOR INDICATING ALTITUDES.

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It is too well known that the measures used in scientific researches among civilized nations are not uniform, as the convenience of all would require. In France the metre is employed; in England and North America, the yard and its third part, the English foot; in Germany, most commonly, the Old French or Paris foot, the sixth part of the French toise called the *Toise du Pérou;* at the same time, however, though not so extensively, the Rhine foot, in Denmark and Holland, and especially in Prussia, where it has been declared, under the name of Prussian foot, the legal measure in that kingdom; in Austria, the klafter of Vienna and its sixth part, the foot of Vienna; in Switzerland, the Swiss or federal foot, which has been adjusted to the metrical system, and is three tenths of a metre; and so on.

The numerous altitudes ascertained, either by private efforts, or in connection with the public works, and quite especially with the extensive geodetic operations carried on by the governments of these various countries for the survey of a regular map, are expressed in the measures respectively adopted by each of them. These heights, however, before they can be compared, require to be uniformly reduced to any one of these measures. Their relation to each other, therefore, is given here, together with numerous reduction tables, designed to save both the useless expenditure of time and the almost unavoidable errors arising from so numerous reductions.

The exact relation of the standard measures above mentioned is not easily ascertained, and the numbers given by the best authorities by no means always agree; for the manufacture of exact copies of a standard scale, and the accurate comparison of it, require considerable skill, and belong to the most delicate operations of physics. The numbers used for computing the following tables have been adopted, after a careful review of the authorities, as the most reliable. A few words on the most important original legal standards of measures may not be unwelcome. For further details on the subject the reader is referred principally to Dove's work, *Maas und Messen*, 2d edition, Berlin, 1835.

The principal original, legal standards are the following: —

1. The *Toise du Pérou*, the old French standard, made in 1735, in Paris, by Langlois, under the direction of Godin, is a bar of iron which has its standard length at the temperature of 13° Reaumur. It is known as the Toise du Pérou, because it was used by the French Academicians Bouguer and La Condamine in their measurement

of an arc of the meridian in Peru. What follows will show that it may almost be called the only common standard, to which all the others are referred for comparison.

2. The *Metre* is a standard bar of platina, made by Lenoir in Paris, which has its normal length at the temperature of zero Centigrade, or the freezing point. Its length is intended to make it a natural standard, and to represent the ten-millionth part of the terrestrial arc comprised between the equator and the pole, or of a quarter of the meridian. The length of this arc given by the measurement ordered for the purpose by the Assemblée Nationale, of the arc of the meridian between Barcelona, through France, to Dunkirk, combined with the measurements previously made in Peru and in Lapland, gave for the distance of the equator from the pole 5,130,740 toises, with an ellipticity of $\frac{1}{334}$, and for the length of the metre 443.29596 lines of the toise du Perou, assumed to be 443.296 lines, or 3 feet 11.296 lines. This last quantity was declared in 1799 to be the length of the *legal* metre, and *vrai et définitif*, and is the length of Lenoir's platina standard. Later and more extensive measurements in various parts of the globe, however, seem to indicate that this quantity is somewhat too small. The latest and most exact results we now possess, combined and computed by Bessel, would make the quarter of the meridian 10,000,856 metres, and the metre = 443.29979 Paris lines; Schmidt's computation would make it 443.29977 lines, and both numbers are confirmed by Airy's results. The legal metre is thus, in fact, as Dove remarks, a legalized part of the toise du Pérou, and this last remains the primitive standard. But it must be added that a natural standard, in the absolute sense of the word, is a utopian one, which ever-changing Nature never will give us. The metre is, for all practical purposes, what it was intended to be, a natural standard; though it must be confessed that, in practice, the question is not whether and how far a standard is a natural or a conventional one, but how readily and accurately it can be obtained, or recovered when lost.

3. The *English Standard Yard* is a brass bar, made by Bird in 1760, which was declared, by act of Parliament, 1st May, 1825, the legal measure of length when at the temperature of 62° Fahrenheit, under the name of *Imperial Standard*. Another standard, sometimes also called Parliamentary Standard, was made by Bird in 1758. Sir George Shuckburgh found both to be nearly identical, at least within 0.0002 of an inch. (*Philos. Trans. for* 1798, p. 170.)

Another scale of brass, however, made by Troughton for Sir George Shuckburgh, described in the *Philosophical Transactions for* 1798, and known as Shuckburgh's scale, obtained among scientific men, perhaps, a higher degree of authority, on account of the great accuracy of its division, and of its apparatus, devised by Troughton, for delicate comparisons. That scale was used by Captain Kater, in 1818, in his researches for determining the length of the pendulum beating a second at London, and also the length of the metre, expressed in English inches of the imperial standard. (*Phil. Trans. for* 1818.)

Numerous attempts to determine the relation between the English and the French measures show no inconsiderable discrepancies in their results. Omitting the older comparisons with the toise, we give here the value of the metre in English imperial inches, as resulting from the most reliable comparisons.

A standard scale made and divided by Troughton, and in all particulars identical

with Shuckburgh's scale, was brought to France in 1801 by Pictet. The comparison of it with the standard metre, made by Prony, Legendre, and Méchain, gave, after due reduction of the two standards to their respective normal temperatures,

1 metre at 32° Fahr. = 39.371 English imperial inches at 62° Fahr.

This determination was adopted for all reductions in Kelly's *Universal Cambist*, and in the French translation of the work, published in Paris in 1823.

A new comparison was made with great care by Captain H. Kater, in 1818. (See *Philos. Trans. for* 1818, p. 103.) The standards used were a brass scale metre, by Fortin, terminated with parallel planes (*mètre à bouts*), and a bar of platina on which the length of the metre was marked by two very fine lines (*mètre à traits*). Both were compared with Shuckburgh's scale, and a double series of experiments gave as the mean result:

| | | | | | | |
|---|---|---|---|---|---|---|
| Brass metre at 32° Fahr. | = | 39.37076 | inches | of Shuckburgh's scale at | 62° | Fahr. |
| Platina metre at 32° Fahr. | = | 39.37081 | " | " | " | " |
| Mean | | 39.37079 | " | " | " | " |

On this value of the metre are based the reduction tables by Matthieu, published yearly in the *Annuaire du Bureau des Longitudes;* and it has come into general use, both in Europe and in this country.

Captain Kater gives besides, in the same paper, p. 109, note, the value of the metre compared with Bird's Parliamentary standard as being

1 metre at 32° F. = 39.37062 imp. inches of Bird's Parliamentary standard at 62° F.

This value has been adopted by Dove, as being the legal one, in his reduction tables in his work, *Maas und Messen*, p. 175, &c., and by many German authorities.

According to Baily's experiments, made in 1835, when engaged in constructing a new standard for the Royal Astronomical Society (*Memoirs R. Ast. Soc.*, Vol. IX.), the value of the metre is (Lee, *Collection of Tables and Formulæ*, p. 62)

1 metre at 32° F. = 39.370092 imperial standard inches at 62° F.

The original legal standards having been lost in the fire which destroyed, several years ago, the Parliament Houses, an act of Parliament provided for the construction of new ones; but as the report of the committee having charge of the construction of the new British standard has not yet been published, the discussion of the subject must be postponed.

The value adopted in the following tables, is that determined by Captain Kater, viz. 1 metre = 39.37079 English inches.

It may not be out of place to remark that Schumacher, in the first edition of his *Sammlung von Hülfstafeln*, used the value 1 metre = 39.3827 English inches, as given in the *Base du Système Métrique;* but this number, which expresses the relation of both standards when at the freezing point, becomes 39.37079 when they are respectively reduced to their normal temperatures. Schumacher's tables, therefore, must be corrected accordingly.

4. The *actual standard of length of the United States* is a brass scale of eighty-two inches in length, prepared for the Coast Survey of the United States, by Troughton of London, meant to be identical with the English Imperial Standard, and deposited in the office of weights and measures. The temperature at which it is a standard is 62° Fahrenheit, and the yard measure is between the 27th and 63d inches of the

scale. (See *Report on the Construction and Distribution of Weights and Measures*, by Prof. A. D. Bache, 1857.)

Hassler, first Superintendent of the United States Coast Survey, made an elaborate comparison of eleven different standard metres with the brass scale of eighty-two inches, by Troughton. Three of the standard metres, certified to be correct by high authorities, seem to deserve especial confidence: — 1. An iron metre, presented to Mr. Hassler by Tralles, which was one of the three that Tralles had made by Lenoir at the same time with those distributed to the committee on the weights and measures. 2. Another metre of iron, also by Lenoir, verified by Bouvard and Arago, and declared by them to be identical with the original. 3. A platina standard by Fortin, verified by Arago, and found to be $\frac{1}{100}$ of a millimetre too long, for which error allowance was made. Their comparison with the Troughton scale at the temperature of the freezing point gave:

1. Iron metre of Tralles = 39.3809171 inches of the Troughton scale.
2. Iron metre of Lenoir = 39.3799487 " " "
3. Platina metre of Fortin = 39.3804194 " " "

Or, correcting for expansion, and reducing them to their respective standard temperatures:

1. Iron metre of Tralles at 32° F. = 39.36850
2. Iron metre of Lenoir at 32° F. = 39.36754
3. Platina metre of Fortin at 32° F. = 39.36789

} English inches of the Troughton scale of 82 inches at 62° F.

Hassler, in his Report to Congress on Weights and Measures, in 1832, adopts the first value, viz.:

1 metre at 32° F. = 39.3809171 inches of the Troughton scale at 32° F;

and the Troughton scale was declared the United States standard, from which copies were to be made.

This value materially differs from those given by other careful comparisons, while, on the other hand, the close accordance of the numbers corresponding to the various standard metres proves the accuracy of Hassler's method and comparison. It is, therefore, difficult not to ascribe, with Baily, this discrepancy to some inaccuracy in the length of the Troughton scale of 82 inches. But as that scale has been declared the standard of length of the United States, it seems better to call it, as is done in the Coast Survey Reports, the *American yard*, and its subdivisions the *American foot* and *inch*, and to consider it as a new standard, similar to, but not identical with, the English imperial standard. The value of the metre expressed in American standard inches is given in the Coast Survey Report for 1853, as

1 metre at 32° F. = 39.36850535 United States standard inches at 62° F.

We learn from the *Report on Weights and Measures*, by Prof. A. D. Bache, 1857, p. 18, that two copies of the new British standards, now in progress of construction, viz. a bronze standard, No. 11, and a malleable iron standard, No. 57, have been presented by the British government to the United States. A series of careful comparisons, made in 1856, by Mr. Saxton, under the direction of Prof. A. D. Bache, of the British bronze standard, No. 11, with the Troughton scale of eighty-two inches, showed that the British bronze standard yard is shorter than the American yard by 0.00087 inch.

Comparisons of the American standards with new French standards, recently presented to the United States by the French government, are still in progress.

For the present, however, it seems best to adhere to the value of the metre, expressed in American standard inches, adopted by the Coast Survey as given above. From this value the separate tables, which will be found below, for the reduction of the American yard and foot, were computed.

5. The *Klafter of Vienna* is a silver line let into a prismatic bar of iron, on which the length of the klafter was engraved by Voigtländer. It has its normal length at 13° Reaumur, and was declared by law, in 1816, the standard Klafter of Vienna. On the same silver line the French toise is marked, from the standard toise sent, in 1760, by La Caille and La Condamine to the Observatory of Vienna. According to a recent and very careful comparison by Struve (*Mem. of the Austrian Acad.*, Vol. V., I. p. 117), the value of the klafter of Vienna is 0.9730317 toise du Pérou.

6. The *Prussian Foot* is marked on a standard iron bar, 3 feet long, made by Pistor in Berlin; it is a standard at the temperature of 13° Reaumur. The length of the Prussian foot was declared by law to be = 139.13 lines of the toise du Pérou.

7. A *Mexican Vara*, the standard length, brought from Mexico at the close of the war, by Major Turnbull of the Topographical Engineers, was presented to the Office of Weights and Measures. This standard was made by soldering sheet-brass upon the tinned surface of an iron bar. A careful comparison of its length with the American standard was made under the direction of Prof. Bache, which gave its length to be = 32.9682 inches at 58°.7 Fahrenheit, or 32.9680 when reduced to 62° Fahrenheit.

The relation of that particular Mexican standard to the Spanish standard not being known, it was thought better to adopt, for the present, the value of the Spanish Vara, and of its third part, the Castilian foot, found in Thionville, *Traité des Poids et Mesures*, &c., in Balbi's *Abrégé de Géographie*, viz. 1 vara = 0.847965 metre.

From the fundamental equations indicated above have been derived all those which have been used for computing the reduction tables given in the Appendix. At the head of each table will be found the value from which it was computed.

The tables are so arranged as to give *directly* the reduction of any whole number not exceeding three or four figures, and larger numbers within the limits needed for altitudes, by means of a *single* addition.

*Example.*

Reduce 25,351 English feet into metres.

In Table XVI., on the line beginning with 25,000 and in the column headed 300, take for 25,300 = 7711.30 metres.

In the second part of the table, on the line beginning with 50, and in column headed 1, take for 51 = 15.54 "

English feet 25,351 = 7726.84 "

The fractions, which seldom occur, are treated as whole numbers, taking care only properly to move the decimal point.

Tables XL. to XLIV. will be found convenient for converting fractional parts of a toise or of a foot into each other.

## TO CONVERT

# FRENCH TOISES

## INTO DIFFERENT MEASURES OF LENGTH.

### I. CONVERSION OF FRENCH TOISES INTO METRES.

1 Toise = 1.94903631 Metre.

| Toises. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.000 | 1.949 | 3.898 | 5.847 | 7.796 | 9.745 | 11.694 | 13.643 | 15.592 | 17.541 |
| 10 | 19.490 | 21.439 | 23.388 | 25.337 | 27.287 | 29.236 | 31.185 | 33.124 | 35.073 | 37.022 |
| 20 | 38.981 | 40.930 | 42.879 | 44.828 | 46.777 | 48.726 | 50.675 | 52.624 | 54.573 | 56.522 |
| 30 | 58.471 | 60.420 | 62.369 | 64.318 | 66.267 | 68.216 | 70.165 | 72.114 | 74.063 | 76.012 |
| 40 | 77.961 | 79.911 | 81.860 | 83.809 | 85.758 | 87.707 | 89.656 | 91.605 | 93.554 | 95.503 |
| 50 | 97.452 | 99.401 | 101.350 | 103.299 | 105.248 | 107.197 | 109.146 | 111.095 | 113.044 | 114.993 |
| 60 | 116.942 | 118.891 | 120.840 | 122.789 | 124.738 | 126.687 | 128.636 | 130.585 | 132.534 | 134.484 |
| 70 | 136.433 | 138.382 | 140.331 | 142.280 | 144.229 | 146.178 | 148.127 | 150.076 | 152.025 | 153.974 |
| 80 | 155.923 | 157.872 | 159.821 | 161.770 | 163.719 | 165.668 | 167.617 | 169.566 | 171.515 | 173.464 |
| 90 | 175.413 | 177.362 | 179.311 | 181.260 | 183.209 | 185.158 | 187.108 | 189.057 | 191.006 | 192.955 |

| Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 194.90 | 389.81 | 584.71 | 779.61 | 974.52 | 1169.42 | 1364.33 | 1559.23 | 1754.13 |
| 1000 | 1949.04 | 2143.94 | 2338.84 | 2533.75 | 2728.65 | 2923.55 | 3118.46 | 3312.36 | 3507.27 | 3702.17 |
| 2000 | 3898.07 | 4092.98 | 4287.88 | 4482.78 | 4677.69 | 4872.59 | 5067.50 | 5262.40 | 5457.30 | 5652.21 |
| 3000 | 5847.11 | 6042.01 | 6236.92 | 6431.82 | 6626.72 | 6821.63 | 7016.53 | 7211.44 | 7406.34 | 7601.24 |
| 4000 | 7796.15 | 7991.05 | 8185.95 | 8380.86 | 8575.76 | 8770.66 | 8965.57 | 9160.47 | 9355.38 | 9550.28 |
| 5000 | 9745.18 | 9940.09 | 10135.0 | 10329.9 | 10524.8 | 10719.7 | 10914.6 | 11109.5 | 11304.4 | 11499.3 |

### II. CONVERSION OF TOISES INTO FRENCH OR PARIS FEET.

1 Toise = 6 French Feet.

| Toises. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Par Feet | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par Feet. | Par.Feet. | Par.Feet. | Par Feet | Par.Feet. |
| 0 | 0.00 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 |
| 10 | 60 | 66 | 72 | 78 | 84 | 90 | 96 | 102 | 108 | 114 |
| 20 | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 | 168 | 174 |
| 30 | 180 | 186 | 192 | 198 | 204 | 210 | 216 | 222 | 228 | 234 |
| 40 | 240 | 246 | 252 | 258 | 264 | 270 | 276 | 282 | 288 | 294 |
| 50 | 300 | 306 | 312 | 318 | 324 | 330 | 336 | 342 | 348 | 354 |
| 60 | 360 | 366 | 372 | 378 | 384 | 390 | 396 | 402 | 408 | 414 |
| 70 | 420 | 426 | 432 | 438 | 444 | 450 | 456 | 462 | 468 | 474 |
| 80 | 480 | 486 | 492 | 498 | 504 | 510 | 516 | 522 | 528 | 534 |
| 90 | 540 | 546 | 552 | 558 | 564 | 570 | 576 | 582 | 588 | 594 |

## III. CONVERSION OF FRENCH TOISES INTO ENGLISH FEET AND DECIMALS.

1 Toise = 6.3945916 English Feet.

| Toises. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Eng. feet. | Eng. feet. | Eng feet. | Eng feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng feet. | Eng. feet. | Eng. feet. |
| 0 | 0.000 | 6.395 | 12.789 | 19.184 | 25.578 | 31.973 | 38.368 | 44.762 | 51.157 | 57.551 |
| 10 | 63.946 | 70.340 | 76.735 | 83.130 | 89.524 | 95.919 | 102.313 | 108.708 | 115.103 | 121.497 |
| 20 | 127.892 | 134.286 | 140.681 | 147.076 | 153.470 | 159.865 | 166.259 | 172.654 | 179.049 | 185.443 |
| 30 | 191.838 | 198.232 | 204.627 | 211.021 | 217.416 | 223.811 | 230.205 | 236.600 | 242.994 | 249.389 |
| 40 | 255.784 | 262.178 | 268.573 | 274.967 | 281.362 | 287.757 | 294.151 | 300.546 | 306.940 | 313.335 |
| 50 | 319.729 | 326.124 | 332.519 | 338.913 | 345.308 | 351.702 | 358.097 | 364.492 | 370.886 | 377.281 |
| 60 | 383.675 | 390.070 | 396.465 | 402.859 | 409.254 | 415.648 | 422.043 | 428.438 | 434.832 | 441.227 |
| 70 | 447.621 | 454.016 | 460.410 | 466.805 | 473.200 | 479.594 | 485.989 | 492.383 | 498.778 | 505.173 |
| 80 | 511.567 | 517.962 | 524.356 | 530.751 | 537.146 | 543.540 | 549.935 | 556.329 | 562.724 | 569.119 |
| 90 | 575.513 | 581.908 | 588.302 | 594.697 | 601.091 | 607.486 | 613.881 | 620.275 | 626.670 | 633.064 |

| Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet | Eng feet. | Eng. feet. |
| 0 | 0.0 | 639.5 | 1278.9 | 1918.4 | 2557.8 | 3197.3 | 3836.8 | 4476.2 | 5115.7 | 5755.1 |
| 1000 | 6394.6 | 7034.0 | 7673.5 | 8313.0 | 8952.4 | 9591.9 | 10231.3 | 10870.8 | 11510.3 | 12149.7 |
| 2000 | 12789.2 | 13428.6 | 14068.1 | 14707.6 | 15347.0 | 15986.5 | 16625.9 | 17265.4 | 17904.9 | 18544.3 |
| 3000 | 19183.8 | 19823.2 | 20462.7 | 21102.1 | 21741.6 | 22381.1 | 23020.5 | 23660.0 | 24299.4 | 24938.9 |
| 4000 | 25578.4 | 26217.8 | 26857.3 | 27496.7 | 28136.2 | 28775.7 | 29415.1 | 30054.6 | 30694.0 | 31333.5 |
| 5000 | 31972.9 | 32612.4 | 33251.9 | 33891.3 | 34530.8 | 35170.2 | 35809.7 | 36449.2 | 37088.6 | 37728.1 |

## IV. CONVERSION OF FRENCH TOISES INTO AMERICAN FEET.

1 Toise = 6.3942205 American Feet.

| Toises. Tens. | Units. 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Am. Feet. | Am. Feet | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet | Am Feet. | Am. Feet. | Am. Feet |
| 0 | 0.000 | 6.394 | 12.788 | 19.183 | 25.577 | 31.971 | 38.365 | 44.760 | 51.154 | 57.548 |
| 10 | 63.942 | 70.336 | 76.731 | 83.125 | 89.519 | 95.913 | 102.308 | 108.702 | 115.096 | 121.490 |
| 20 | 127.884 | 134.279 | 140.673 | 147.067 | 153.461 | 159.855 | 166.250 | 172.644 | 179.038 | 185.432 |
| 30 | 191.827 | 198.221 | 204.615 | 211.009 | 217.403 | 223.798 | 230.192 | 236.586 | 242.980 | 249.375 |
| 40 | 255.769 | 262.163 | 268.557 | 274.951 | 281.346 | 287.740 | 294.134 | 300.528 | 306.923 | 313.317 |
| 50 | 319.711 | 326.105 | 332.499 | 338.894 | 345.288 | 351.682 | 358.076 | 364.470 | 370.865 | 377.259 |
| 60 | 383.653 | 390.047 | 396.442 | 402.836 | 409.230 | 415.624 | 422.018 | 428.413 | 434.807 | 441.201 |
| 70 | 447.595 | 453.990 | 460.384 | 466.778 | 473.172 | 479.566 | 485.961 | 492.355 | 498.749 | 505.143 |
| 80 | 511.538 | 517.932 | 524.326 | 530.720 | 537.114 | 543.509 | 549.903 | 556.297 | 562.691 | 569.085 |
| 90 | 575.480 | 581.874 | 588.268 | 594.662 | 601.057 | 607.451 | 613.845 | 620.239 | 626.633 | 633.028 |

| Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Am. Feet | Am Feet | Am Feet | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet. | Am. Feet. | Am Feet. | Am. Feet. |
| 0 | 0.0 | 639.4 | 1278.8 | 1918.3 | 2557.7 | 3197.1 | 3836.5 | 4476.0 | 5115.4 | 5754.8 |
| 1000 | 6394.2 | 7033.6 | 7673.1 | 8312.5 | 8951.9 | 9591.3 | 10230.8 | 10870.2 | 11509.6 | 12149.0 |
| 2000 | 12788.4 | 13427.9 | 14067.3 | 14706.7 | 15346.1 | 15985.5 | 16625.0 | 17264.4 | 17903.8 | 18543.2 |
| 3000 | 19182.7 | 19822.1 | 20461.5 | 21100.9 | 21740.3 | 22379.8 | 23019.2 | 23658.6 | 24298.0 | 24937.5 |
| 4000 | 25576.9 | 26216.3 | 26855.7 | 27495.1 | 28134.6 | 28774.0 | 29413.4 | 30052.8 | 30692.3 | 31331.7 |
| 5000 | 31971.1 | 32610.5 | 33249.9 | 33889.4 | 34528.8 | 35168.2 | 35807.6 | 36447.0 | 37086.5 | 37725.9 |

TO CONVERT

# METRES

INTO DIFFERENT MEASURES OF LENGTH.

1 LEGAL METRE = 443.296 FRENCH OR PARIS LINES.

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## V. CONVERSION OF METRES INTO TOISES AND DECIMALS.

1 Metre = 0.513074074 Toise.

| Metres. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises | Toises. | Toises. | Toises. |
| 0 | 0.00 | 51.31 | 102.61 | 153.92 | 205.23 | 256.54 | 307.84 | 359.15 | 410.46 | 461.77 |
| 1000 | 513.07 | 564.38 | 615.69 | 667.00 | 718.30 | 769.61 | 820.92 | 872.23 | 923.53 | 974.84 |
| 2000 | 1026.15 | 1077.46 | 1128.76 | 1180.07 | 1231.38 | 1282.69 | 1333.99 | 1385.30 | 1436.61 | 1487.91 |
| 3000 | 1539.22 | 1590.53 | 1641.84 | 1693.14 | 1744.45 | 1795.76 | 1847.07 | 1898.37 | 1949.68 | 2000.99 |
| 4000 | 2052.30 | 2103.60 | 2154.91 | 2206.22 | 2257.53 | 2308.83 | 2360.14 | 2411.45 | 2462.76 | 2514.06 |
| 5000 | 2565.37 | 2616.68 | 2667.98 | 2719.29 | 2770.60 | 2821.91 | 2873.21 | 2924.52 | 2975.83 | 3027.14 |
| 6000 | 3078.44 | 3129.75 | 3181.06 | 3232.37 | 3283.67 | 3334.98 | 3386.29 | 3437.60 | 3488.90 | 3540.21 |
| 7000 | 3591.52 | 3642.83 | 3694.13 | 3745.44 | 3796.75 | 3848.06 | 3899.36 | 3950.67 | 4001.98 | 4053.28 |
| 8000 | 4104.59 | 4155.90 | 4207.21 | 4258.51 | 4309.82 | 4361.13 | 4412.44 | 4463.74 | 4515.05 | 4566.36 |
| 9000 | 4617.67 | 4668.97 | 4720.28 | 4771.59 | 4822.90 | 4874.20 | 4925.51 | 4976.82 | 5028.13 | 5079.43 |

| Metres. Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. |
| 0 | 0.000 | 0.513 | 1.026 | 1.539 | 2.052 | 2.565 | 3.078 | 3.592 | 4.105 | 4.618 |
| 10 | 5.131 | 5.644 | 6.157 | 6.670 | 7.183 | 7.696 | 8.209 | 8.722 | 9.235 | 9.748 |
| 20 | 10.261 | 10.775 | 11.288 | 11.801 | 12.314 | 12.827 | 13.340 | 13.853 | 14.366 | 14.879 |
| 30 | 15.392 | 15.905 | 16.418 | 16.931 | 17.445 | 17.958 | 18.471 | 18.984 | 19.497 | 20.010 |
| 40 | 20.523 | 21.036 | 21.549 | 22.062 | 22.575 | 23.088 | 23.601 | 24.114 | 24.628 | 25.141 |
| 50 | 25.654 | 26.167 | 26.680 | 27.193 | 27.706 | 28.219 | 28.732 | 29.245 | 29.758 | 30.271 |
| 60 | 30.784 | 31.298 | 31.811 | 32.324 | 32.837 | 33.350 | 33.863 | 34.376 | 34.889 | 35.402 |
| 70 | 35.915 | 36.428 | 36.941 | 37.454 | 37.967 | 38.481 | 38.994 | 39.507 | 40.020 | 40.533 |
| 80 | 41.046 | 41.559 | 42.072 | 42.585 | 43.098 | 43.611 | 44.124 | 44.637 | 45.151 | 45.664 |
| 90 | 46.177 | 46.690 | 47.203 | 47.716 | 48.229 | 48.742 | 49.255 | 49.768 | 50.281 | 50.794 |

1 Metre = 3.078444 Paris Feet.

| Metres. Tens. | Metres. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. |
| 0 | 0.00 | 3.08 | 6.16 | 9.24 | 12.31 | 15.39 | 18.47 | 21.55 | 24.63 | 27.71 |
| 10 | 30.78 | 33.86 | 36.94 | 40.02 | 43.10 | 46.18 | 49.26 | 52.33 | 55.41 | 58.49 |
| 20 | 61.57 | 64.65 | 67.73 | 70.80 | 73.88 | 76.96 | 80.04 | 83.12 | 86.20 | 89.27 |
| 30 | 92.35 | 95.43 | 98.51 | 101.59 | 104.67 | 107.75 | 110.82 | 113.90 | 116.98 | 120.06 |
| 40 | 123.14 | 126.22 | 129.29 | 132.37 | 135.45 | 138.53 | 141.61 | 144.69 | 147.77 | 150.84 |
| 50 | 153.92 | 157.00 | 160.08 | 163.16 | 166.24 | 169.31 | 172.39 | 175.47 | 178.55 | 181.63 |
| 60 | 184.71 | 187.79 | 190.86 | 193.94 | 197.02 | 200.10 | 203.18 | 206.26 | 209.33 | 212.41 |
| 70 | 215.49 | 218.57 | 221.65 | 224.73 | 227.80 | 230.88 | 233.96 | 237.04 | 240.12 | 243.20 |
| 80 | 246.28 | 249.35 | 252.43 | 255.51 | 258.59 | 261.67 | 264.75 | 267.82 | 270.90 | 273.98 |
| 90 | 277.06 | 280.14 | 283.22 | 286.30 | 289.37 | 292.45 | 295.53 | 298.61 | 301.69 | 304.77 |
| 100 | 307.84 | 310.92 | 314.00 | 317.08 | 320.16 | 323.24 | 326.32 | 329.39 | 332.47 | 335.55 |
| 110 | 338.63 | 341.71 | 344.79 | 347.86 | 350.94 | 354.02 | 357.10 | 360.18 | 363.26 | 366.33 |
| 120 | 369.41 | 372.49 | 375.57 | 378.65 | 381.73 | 384.81 | 387.88 | 390.96 | 394.04 | 397.12 |
| 130 | 400.20 | 403.28 | 406.35 | 409.43 | 412.51 | 415.59 | 418.67 | 421.75 | 424.83 | 427.90 |
| 140 | 430.98 | 434.06 | 437.14 | 440.22 | 443.30 | 446.37 | 449.45 | 452.53 | 455.61 | 458.69 |
| 150 | 461.77 | 464.85 | 467.92 | 471.00 | 474.08 | 477.16 | 480.24 | 483.32 | 486.39 | 489.47 |
| 160 | 492.55 | 495.63 | 498.71 | 501.79 | 504.86 | 507.94 | 511.02 | 514.10 | 517.18 | 520.26 |
| 170 | 523.34 | 526.41 | 529.49 | 532.57 | 535.65 | 538.73 | 541.81 | 544.88 | 547.96 | 551.04 |
| 180 | 554.12 | 557.20 | 560.28 | 563.36 | 566.43 | 569.51 | 572.59 | 575.67 | 578.75 | 581.83 |
| 190 | 584.90 | 587.98 | 591.06 | 594.14 | 597.22 | 600.30 | 603.38 | 606.45 | 609.53 | 612.61 |
| 200 | 615.69 | 618.77 | 621.85 | 624.92 | 628.00 | 631.08 | 634.16 | 637.24 | 640.32 | 643.39 |
| 210 | 646.47 | 649.55 | 652.63 | 655.71 | 658.79 | 661.87 | 664.94 | 668.02 | 671.10 | 674.18 |
| 220 | 677.26 | 680.34 | 683.41 | 686.49 | 689.57 | 692.65 | 695.73 | 698.81 | 701.89 | 704.96 |
| 230 | 708.04 | 711.12 | 714.20 | 717.28 | 720.36 | 723.43 | 726.51 | 729.59 | 732.67 | 735.75 |
| 240 | 738.83 | 741.90 | 744.98 | 748.06 | 751.14 | 754.22 | 757.30 | 760.38 | 763.45 | 766.53 |
| 250 | 769.61 | 772.69 | 775.77 | 778.85 | 781.92 | 785.00 | 788.08 | 791.16 | 794.24 | 797.32 |
| 260 | 800.40 | 803.47 | 806.55 | 809.63 | 812.71 | 815.79 | 818.87 | 821.94 | 825.02 | 828.10 |
| 270 | 831.18 | 834.26 | 837.34 | 840.42 | 843.49 | 846.57 | 849.65 | 852.73 | 855.81 | 858.89 |
| 280 | 861.96 | 865.04 | 868.12 | 871.20 | 874.28 | 877.36 | 880.43 | 883.51 | 886.59 | 889.67 |
| 290 | 892.75 | 895.83 | 898.91 | 901.98 | 905.06 | 908.14 | 911.22 | 914.30 | 917.38 | 920.45 |
| 300 | 923.53 | 926.61 | 929.69 | 932.77 | 935.85 | 938.93 | 942.00 | 945.08 | 948.16 | 951.24 |
| 310 | 954.32 | 957.40 | 960.47 | 963.55 | 966.63 | 969.71 | 972.79 | 975.87 | 978.95 | 982.02 |
| 320 | 985.10 | 988.18 | 991.26 | 994.34 | 997.42 | 1000.49 | 1003.57 | 1006.65 | 1009.73 | 1012.81 |
| 330 | 1015.89 | 1018.96 | 1022.04 | 1025.12 | 1028.20 | 1031.28 | 1034.36 | 1037.44 | 1040.51 | 1043.59 |
| 340 | 1046.67 | 1049.75 | 1052.83 | 1055.91 | 1058.98 | 1062.06 | 1065.14 | 1068.22 | 1071.30 | 1074.38 |
| 350 | 1077.46 | 1080.53 | 1083.61 | 1086.69 | 1089.77 | 1092.85 | 1095.93 | 1099.00 | 1102.08 | 1105.16 |
| 360 | 1108.24 | 1111.32 | 1114.40 | 1117.48 | 1120.55 | 1123.63 | 1126.71 | 1129.79 | 1132.87 | 1135.95 |
| 370 | 1139.02 | 1142.10 | 1145.18 | 1148.26 | 1151.34 | 1154.42 | 1157.49 | 1160.57 | 1163.65 | 1166.73 |
| 380 | 1169.81 | 1172.89 | 1175.97 | 1179.04 | 1182.12 | 1185.20 | 1188.28 | 1191.36 | 1194.44 | 1197.51 |
| 390 | 1200.59 | 1203.67 | 1206.75 | 1209.83 | 1212.91 | 1215.99 | 1219.06 | 1222.14 | 1225.22 | 1228.30 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 3.078444 Paris Feet.

| Metres. Tens. | Metres. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. |
| 400 | 1231.38 | 1234.46 | 1237.53 | 1240.61 | 1243.69 | 1246.77 | 1249.85 | 1252.93 | 1256.01 | 1259.08 |
| 410 | 1262.16 | 1265.24 | 1268.32 | 1271.40 | 1274.48 | 1277.55 | 1280.63 | 1283.71 | 1286.79 | 1289.87 |
| 420 | 1292.95 | 1296.02 | 1299.10 | 1302.18 | 1305.26 | 1308.34 | 1311.42 | 1314.50 | 1317.57 | 1320.65 |
| 430 | 1323.73 | 1326.81 | 1329.89 | 1332.97 | 1336.04 | 1339.12 | 1342.20 | 1345.28 | 1348.36 | 1351.44 |
| 440 | 1354.52 | 1357.59 | 1360.67 | 1363.75 | 1366.83 | 1369.91 | 1372.99 | 1376.06 | 1379.14 | 1382.22 |
| 450 | 1385.30 | 1388.38 | 1391.46 | 1394.54 | 1397.61 | 1400.69 | 1403.77 | 1406.85 | 1409.93 | 1413.01 |
| 460 | 1416.08 | 1419.16 | 1422.24 | 1425.32 | 1428.40 | 1431.48 | 1434.55 | 1437.63 | 1440.71 | 1443.79 |
| 470 | 1446.87 | 1449.95 | 1453.03 | 1456.10 | 1459.18 | 1462.26 | 1465.34 | 1468.42 | 1471.50 | 1474.57 |
| 480 | 1477.65 | 1480.73 | 1483.81 | 1486.89 | 1489.97 | 1493.05 | 1496.12 | 1499.20 | 1502.28 | 1505.36 |
| 490 | 1508.44 | 1511.52 | 1514.59 | 1517.67 | 1520.75 | 1523.83 | 1526.91 | 1529.99 | 1533.07 | 1536.14 |
| 500 | 1539.22 | 1542.30 | 1545.38 | 1548.46 | 1551.54 | 1554.61 | 1557.69 | 1560.77 | 1563.85 | 1566.93 |
| 510 | 1570.01 | 1573.08 | 1576.16 | 1579.24 | 1582.32 | 1585.40 | 1588.48 | 1591.56 | 1594.63 | 1597.71 |
| 520 | 1600.79 | 1603.87 | 1606.95 | 1610.03 | 1613.10 | 1616.18 | 1619.26 | 1622.34 | 1625.42 | 1628.50 |
| 530 | 1631.58 | 1634.65 | 1637.73 | 1640.81 | 1643.89 | 1646.97 | 1650.05 | 1653.12 | 1656.20 | 1659.28 |
| 540 | 1662.36 | 1665.44 | 1668.52 | 1671.60 | 1674.67 | 1677.75 | 1680.83 | 1683.91 | 1686.99 | 1690.07 |
| 550 | 1693.14 | 1696.22 | 1699.30 | 1702.38 | 1705.46 | 1708.54 | 1711.61 | 1714.69 | 1717.77 | 1720.85 |
| 560 | 1723.93 | 1727.01 | 1730.09 | 1733.16 | 1736.24 | 1739.32 | 1742.40 | 1745.48 | 1748.56 | 1751.63 |
| 570 | 1754.71 | 1757.79 | 1760.87 | 1763.95 | 1767.03 | 1770.11 | 1773.18 | 1776.26 | 1779.34 | 1782.42 |
| 580 | 1785.50 | 1788.58 | 1791.65 | 1794.73 | 1797.81 | 1800.89 | 1803.97 | 1807.05 | 1810.13 | 1813.20 |
| 590 | 1816.28 | 1819.36 | 1822.44 | 1825.52 | 1828.60 | 1831.67 | 1834.75 | 1837.83 | 1840.91 | 1843.99 |
| 600 | 1847.07 | 1850.14 | 1853.22 | 1856.30 | 1859.38 | 1862.46 | 1865.54 | 1868.62 | 1871.69 | 1874.77 |
| 610 | 1877.85 | 1880.93 | 1884.01 | 1887.09 | 1890.16 | 1893.24 | 1896.32 | 1899.40 | 1902.48 | 1905.56 |
| 620 | 1908.64 | 1911.71 | 1914.79 | 1917.87 | 1920.95 | 1924.03 | 1927.11 | 1930.18 | 1933.26 | 1936.34 |
| 630 | 1939.42 | 1942.50 | 1945.58 | 1948.66 | 1951.73 | 1954.81 | 1957.89 | 1960.97 | 1964.05 | 1967.13 |
| 640 | 1970.20 | 1973.28 | 1976.36 | 1979.44 | 1982.52 | 1985.60 | 1988.67 | 1991.75 | 1994.83 | 1997.91 |
| 650 | 2000.99 | 2004.07 | 2007.15 | 2010.22 | 2013.30 | 2016.38 | 2019.46 | 2022.54 | 2025.62 | 2028.69 |
| 660 | 2031.77 | 2034.85 | 2037.93 | 2041.01 | 2044.09 | 2047.17 | 2050.24 | 2053.32 | 2056.40 | 2059.48 |
| 670 | 2062.56 | 2065.64 | 2068.71 | 2071.79 | 2074.87 | 2077.95 | 2081.03 | 2084.11 | 2087.19 | 2090.26 |
| 680 | 2093.34 | 2096.42 | 2099.50 | 2102.58 | 2105.66 | 2108.73 | 2111.81 | 2114.89 | 2117.97 | 2121.05 |
| 690 | 2124.13 | 2127.20 | 2130.28 | 2133.36 | 2136.44 | 2139.52 | 2142.60 | 2145.68 | 2148.75 | 2151.83 |
| 700 | 2154.91 | 2157.99 | 2161.07 | 2164.15 | 2167.22 | 2170.30 | 2173.38 | 2176.46 | 2179.54 | 2182.62 |
| 710 | 2185.70 | 2188.77 | 2191.85 | 2194.93 | 2198.01 | 2201.09 | 2204.17 | 2207.24 | 2210.32 | 2213.40 |
| 720 | 2216.48 | 2219.56 | 2222.64 | 2225.72 | 2228.79 | 2231.87 | 2234.95 | 2238.03 | 2241.11 | 2244.19 |
| 730 | 2247.26 | 2250.34 | 2253.42 | 2256.50 | 2259.58 | 2262.66 | 2265.73 | 2268.81 | 2271.89 | 2274.97 |
| 740 | 2278.05 | 2281.13 | 2284.21 | 2287.28 | 2290.36 | 2293.44 | 2296.52 | 2299.60 | 2302.68 | 2305.75 |
| 750 | 2308.83 | 2311.91 | 2314.99 | 2318.07 | 2321.15 | 2324.23 | 2327.30 | 2330.38 | 2333.46 | 2336.54 |
| 760 | 2339.62 | 2342.70 | 2345.77 | 2348.85 | 2351.93 | 2355.01 | 2358.09 | 2361.17 | 2364.24 | 2367.32 |
| 770 | 2370.40 | 2373.48 | 2376.56 | 2379.64 | 2382.72 | 2385.79 | 2388.87 | 2391.95 | 2395.03 | 2398.11 |
| 780 | 2401.19 | 2404.26 | 2407.34 | 2410.42 | 2413.50 | 2416.58 | 2419.66 | 2422.74 | 2425.81 | 2428.89 |
| 790 | 2431.97 | 2435.05 | 2438.13 | 2441.21 | 2444.28 | 2447.36 | 2450.44 | 2453.52 | 2456.60 | 2459.68 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

1 Metre = 3.078444 Paris Feet.

| Metres. Tens. | Metres. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. |
| 800 | 2462.76 | 2465.83 | 2468.91 | 2471.99 | 2475.07 | 2478.15 | 2481.23 | 2484.30 | 2487.38 | 2490.46 |
| 810 | 2493.54 | 2496.62 | 2499.70 | 2502.77 | 2505.85 | 2508.93 | 2512.01 | 2515.09 | 2518.17 | 2521.25 |
| 820 | 2524.32 | 2527.40 | 2530.48 | 2533.56 | 2536.64 | 2539.72 | 2542.79 | 2545.87 | 2548.95 | 2552.03 |
| 830 | 2555.11 | 2558.19 | 2561.27 | 2564.34 | 2567.42 | 2570.50 | 2573.58 | 2576.66 | 2579.74 | 2582.81 |
| 840 | 2585.89 | 2588.97 | 2592.05 | 2595.13 | 2598.21 | 2601.29 | 2604.36 | 2607.44 | 2610.52 | 2613.60 |
| 850 | 2616.68 | 2619.76 | 2622.83 | 2625.91 | 2628.99 | 2632.07 | 2635.15 | 2638.23 | 2641.30 | 2644.38 |
| 860 | 2647.46 | 2650.54 | 2653.62 | 2656.70 | 2659.78 | 2662.85 | 2665.93 | 2669.01 | 2672.09 | 2675.17 |
| 870 | 2678.25 | 2681.32 | 2684.40 | 2687.48 | 2690.56 | 2693.64 | 2696.72 | 2699.80 | 2702.87 | 2705.95 |
| 880 | 2709.03 | 2712.11 | 2715.19 | 2718.27 | 2721.34 | 2724.42 | 2727.50 | 2730.58 | 2733.66 | 2736.74 |
| 890 | 2739.82 | 2742.89 | 2745.97 | 2749.05 | 2752.13 | 2755.21 | 2758.29 | 2761.36 | 2764.44 | 2767.52 |
| 900 | 2770.60 | 2773.68 | 2776.76 | 2779.83 | 2782.91 | 2785.99 | 2789.07 | 2792.15 | 2795.23 | 2798.31 |
| 910 | 2801.38 | 2804.46 | 2807.54 | 2810.62 | 2813.70 | 2816.78 | 2819.85 | 2822.93 | 2826.01 | 2829.09 |
| 920 | 2832.17 | 2835.75 | 2838.33 | 2841.40 | 2844.48 | 2847.56 | 2850.64 | 2853.72 | 2856.80 | 2859.87 |
| 930 | 2862.95 | 2866.03 | 2869.11 | 2872.19 | 2875.27 | 2878.35 | 2881.42 | 2884.50 | 2887.58 | 2890.66 |
| 940 | 2893.74 | 2896.82 | 2899.89 | 2902.97 | 2906.05 | 2909.13 | 2912.21 | 2915.29 | 2918.36 | 2921.44 |
| 950 | 2924.52 | 2927.60 | 2930.68 | 2933.76 | 2936.84 | 2939.91 | 2942.99 | 2946.07 | 2949.15 | 2952.23 |
| 960 | 2955.31 | 2958.38 | 2961.46 | 2964.54 | 2967.62 | 2970.70 | 2973.78 | 2976.86 | 2979.93 | 2983.01 |
| 970 | 2986.09 | 2989.17 | 2992.25 | 2995.33 | 2998.40 | 3001.48 | 3004.56 | 3007.64 | 3010.72 | 3013.80 |
| 980 | 3016.88 | 3019.95 | 3023.03 | 3026.11 | 3029.19 | 3032.27 | 3035.35 | 3038.42 | 3041.50 | 3044.58 |
| 990 | 3047.66 | 3050.74 | 3053.82 | 3056.89 | 3059.97 | 3063.05 | 3066.13 | 3069.21 | 3072.29 | 3075.37 |

| Metres. | French Feet. | Metres. | French Feet. | Metres. | French Feet. | Metres. | French Feet. |
|---|---|---|---|---|---|---|---|
| 1000 | 3078.44 | 5000 | 15392.22 | 9000 | 27706.00 | 13000 | 40019.78 |
| 2000 | 6156.89 | 6000 | 18470.67 | 10000 | 30784.44 | 14000 | 43098.22 |
| 3000 | 9235.33 | 7000 | 21549.11 | 11000 | 33862.89 | 15000 | 46176.67 |
| 4000 | 12313.78 | 8000 | 24627.56 | 12000 | 36941.33 | 16000 | 49255.11 |

| Metres. | Decimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet | Fr. Feet. | Fr. Feet. | Fr. Feet. | Fr. Feet. |
| 0 | 0.0000 | 0.3078 | 0.6157 | 0.9235 | 1.2314 | 1.5392 | 1.8471 | 2.1549 | 2.4628 | 2.7706 |
| 1 | 3.0784 | 3.3863 | 3.6941 | 4.0020 | 4.3098 | 4.6177 | 4.9255 | 5.2334 | 5.5412 | 5.8490 |
| 2 | 6.1569 | 6.4647 | 6.7726 | 7.0804 | 7.3883 | 7.6961 | 8.0040 | 8.3118 | 8.6196 | 8.9275 |
| 3 | 9.2353 | 9.5432 | 9.8510 | 10.1589 | 10.4667 | 10.7746 | 11.0824 | 11.3902 | 11.6981 | 12.0059 |
| 4 | 12.3138 | 12.6216 | 12.9295 | 13.2373 | 13.5452 | 13.8530 | 14.1608 | 14.4687 | 14.7765 | 15.0844 |
| 5 | 15.3922 | 15.7001 | 16.0079 | 16.3158 | 16.6236 | 16.9314 | 17.2393 | 17.5471 | 17.8550 | 18.1628 |
| 6 | 18.4707 | 18.7785 | 19.0864 | 19.3942 | 19.7020 | 20.0099 | 20.3177 | 20.6256 | 20.9334 | 21.2413 |
| 7 | 21.5491 | 21.8570 | 22.1648 | 22.4726 | 22.7805 | 23.0883 | 23.3962 | 23.7040 | 24.0119 | 24.3197 |
| 8 | 24.6276 | 24.9354 | 25.2432 | 25.5511 | 25.8589 | 26.1668 | 26.4746 | 26.7825 | 27.0903 | 27.3982 |
| 9 | 27.7060 | 28.0138 | 28.3217 | 28.6295 | 28.9374 | 29.2452 | 29.5531 | 29.8609 | 30.1688 | 30.4766 |

1 Metre = 3.28089917 English Feet.

| Metres. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 0 | 0.0 | 3.28 | 6.56 | 9.84 | 13.12 | 16.40 | 19.69 | 22.97 | 26.25 | 29.53 |
| 10 | 32.81 | 36.09 | 39.37 | 42.65 | 45.93 | 49.21 | 52.49 | 55.78 | 59.06 | 62.34 |
| 20 | 65.62 | 68.90 | 72.18 | 75.46 | 78.74 | 82.02 | 85.30 | 88.58 | 91.87 | 95.15 |
| 30 | 98.43 | 101.71 | 104.99 | 108.27 | 111.55 | 114.83 | 118.11 | 121.39 | 124.67 | 127.96 |
| 40 | 131.24 | 134.52 | 137.80 | 141.08 | 144.36 | 147.64 | 150.92 | 154.20 | 157.48 | 160.76 |
| 50 | 164.04 | 167.33 | 170.61 | 173.89 | 177.17 | 180.45 | 183.73 | 187.01 | 190.29 | 193.57 |
| 60 | 196.85 | 200.13 | 203.42 | 206.70 | 209.98 | 213.26 | 216.54 | 219.82 | 223.10 | 226.38 |
| 70 | 229.66 | 232.94 | 236.22 | 239.51 | 242.79 | 246.07 | 249.35 | 252.63 | 255.91 | 259.19 |
| 80 | 262.47 | 265.75 | 269.03 | 272.31 | 275.60 | 278.88 | 282.16 | 285.44 | 288.72 | 292.00 |
| 90 | 295.28 | 298.56 | 301.84 | 305.12 | 308.40 | 311.69 | 314.97 | 318.25 | 321.53 | 324.81 |
| 100 | 328.09 | 331.37 | 334.65 | 337.93 | 341.21 | 344.49 | 347.78 | 351.06 | 354.34 | 357.62 |
| 110 | 360.90 | 364.18 | 367.46 | 370.74 | 374.02 | 377.30 | 380.58 | 383.87 | 387.15 | 390.43 |
| 120 | 393.71 | 396.99 | 400.27 | 403.55 | 406.83 | 410.11 | 413.39 | 416.67 | 419.96 | 423.24 |
| 130 | 426.52 | 429.80 | 433.08 | 436.36 | 439.64 | 442.92 | 446.20 | 449.48 | 452.78 | 456.04 |
| 140 | 459.33 | 462.61 | 465.89 | 469.17 | 472.45 | 475.73 | 479.01 | 482.29 | 485.57 | 488.85 |
| 150 | 492.13 | 495.42 | 498.70 | 501.98 | 505.26 | 508.54 | 511.82 | 515.10 | 518.38 | 521.66 |
| 160 | 524.94 | 528.22 | 531.51 | 534.79 | 538.07 | 541.35 | 544.63 | 547.91 | 551.19 | 554.47 |
| 170 | 557.75 | 561.03 | 564.31 | 567.60 | 570.88 | 574.16 | 577.44 | 580.72 | 584.00 | 587.28 |
| 180 | 590.56 | 593.84 | 597.12 | 600.40 | 603.69 | 606.97 | 610.25 | 613.53 | 616.81 | 620.09 |
| 190 | 623.37 | 626.65 | 629.93 | 633.21 | 636.49 | 639.78 | 643.06 | 646.34 | 649.62 | 652.90 |
| 200 | 656.18 | 659.46 | 662.74 | 666.02 | 669.30 | 672.58 | 675.87 | 679.15 | 682.43 | 685.71 |
| 210 | 688.99 | 692.27 | 695.55 | 698.83 | 702.11 | 705.39 | 708.67 | 711.96 | 715.24 | 718.52 |
| 220 | 721.80 | 725.08 | 728.36 | 731.64 | 734.92 | 738.20 | 741.48 | 744.76 | 748.05 | 751.33 |
| 230 | 754.61 | 757.89 | 761.17 | 764.45 | 767.73 | 771.01 | 774.29 | 777.57 | 780.85 | 784.13 |
| 240 | 787.42 | 790.70 | 793.98 | 797.26 | 800.54 | 803.82 | 807.10 | 810.38 | 813.66 | 816.94 |
| 250 | 820.22 | 823.51 | 826.79 | 830.07 | 833.35 | 836.63 | 839.91 | 843.19 | 846.47 | 849.75 |
| 260 | 853.03 | 856.31 | 859.60 | 862.88 | 866.16 | 869.44 | 872.72 | 876.00 | 879.28 | 882.56 |
| 270 | 885.84 | 889.12 | 892.40 | 895.69 | 898.97 | 902.25 | 905.53 | 908.81 | 912.09 | 915.37 |
| 280 | 918.65 | 921.93 | 925.21 | 928.49 | 931.78 | 935.06 | 938.34 | 941.62 | 944.90 | 948.18 |
| 290 | 951.46 | 954.74 | 958.02 | 961.30 | 964.58 | 967.87 | 971.15 | 974.43 | 977.71 | 980.99 |
| 300 | 984.27 | 987.55 | 990.83 | 994.11 | 997.39 | 1000.67 | 1003.96 | 1007.24 | 1010.52 | 1013.80 |
| 310 | 1017.08 | 1020.36 | 1023.64 | 1026.92 | 1030.20 | 1033.48 | 1036.76 | 1040.05 | 1043.33 | 1046.61 |
| 320 | 1049.89 | 1053.17 | 1056.45 | 1059.73 | 1063.01 | 1066.29 | 1069.57 | 1072.85 | 1076.13 | 1079.42 |
| 330 | 1082.70 | 1085.98 | 1089.26 | 1092.54 | 1095.82 | 1099.10 | 1102.38 | 1105.66 | 1108.94 | 1112.22 |
| 340 | 1115.51 | 1118.79 | 1122.07 | 1125.35 | 1128.63 | 1131.91 | 1135.19 | 1138.47 | 1141.75 | 1145.03 |
| 350 | 1148.31 | 1151.60 | 1154.88 | 1158.16 | 1161.44 | 1164.72 | 1168.00 | 1171.28 | 1174.56 | 1177.84 |
| 360 | 1181.12 | 1184.40 | 1187.69 | 1190.97 | 1194.25 | 1197.53 | 1200.81 | 1204.09 | 1207.37 | 1210.65 |
| 370 | 1213.93 | 1217.21 | 1220.49 | 1223.78 | 1227.06 | 1230.34 | 1233.62 | 1236.90 | 1240.18 | 1243.46 |
| 380 | 1246.74 | 1250.02 | 1253.30 | 1256.58 | 1259.87 | 1263.15 | 1266.43 | 1269.71 | 1272.99 | 1276.27 |
| 390 | 1279.55 | 1282.83 | 1286.11 | 1289.39 | 1292.67 | 1295.96 | 1299.24 | 1302.52 | 1305.80 | 1309.08 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 400 to 799.

| Metres. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 400 | 1312.36 | 1315.64 | 1318.92 | 1322.20 | 1325.48 | 1328.76 | 1332.05 | 1335.33 | 1338.61 | 1341.89 |
| 410 | 1345.17 | 1348.45 | 1351.73 | 1355.01 | 1358.29 | 1361.57 | 1364.85 | 1368.13 | 1371.42 | 1374.70 |
| 420 | 1377.98 | 1381.26 | 1384.54 | 1387.82 | 1391.10 | 1394.38 | 1397.66 | 1400.94 | 1404.22 | 1407.51 |
| 430 | 1410.79 | 1414.07 | 1417.35 | 1420.63 | 1423.91 | 1427.19 | 1430.47 | 1433.75 | 1437.03 | 1440.31 |
| 440 | 1443.60 | 1446.88 | 1450.16 | 1453.44 | 1456.72 | 1460.00 | 1463.28 | 1466.56 | 1469.84 | 1473.12 |
| 450 | 1476.40 | 1479.69 | 1482.97 | 1486.25 | 1489.53 | 1492.81 | 1496.09 | 1499.37 | 1502.65 | 1505.93 |
| 460 | 1509.21 | 1512.49 | 1515.78 | 1519.06 | 1522.34 | 1525.62 | 1528.90 | 1532.18 | 1535.46 | 1538.74 |
| 470 | 1542.02 | 1545.30 | 1548.58 | 1551.87 | 1555.15 | 1558.43 | 1561.71 | 1564.99 | 1568.27 | 1571.55 |
| 480 | 1574.83 | 1578.11 | 1581.39 | 1584.67 | 1587.96 | 1591.23 | 1594.52 | 1597.80 | 1601.08 | 1604.36 |
| 490 | 1607.64 | 1610.92 | 1614.20 | 1617.48 | 1620.76 | 1624.05 | 1627.33 | 1630.61 | 1633.89 | 1637.17 |
| 500 | 1640.45 | 1643.73 | 1647.01 | 1650.29 | 1653.57 | 1656.85 | 1660.13 | 1663.42 | 1666.70 | 1669.98 |
| 510 | 1673.26 | 1676.54 | 1679.82 | 1683.10 | 1686.38 | 1689.66 | 1692.94 | 1696.22 | 1699.51 | 1702.79 |
| 520 | 1706.07 | 1709.35 | 1712.63 | 1715.91 | 1719.19 | 1722.47 | 1725.75 | 1729.03 | 1732.31 | 1735.60 |
| 530 | 1738.88 | 1742.16 | 1745.44 | 1748.72 | 1752.00 | 1755.28 | 1758.56 | 1761.84 | 1765.12 | 1768.40 |
| 540 | 1771.69 | 1774.97 | 1778.25 | 1781.53 | 1784.81 | 1788.09 | 1791.37 | 1794.65 | 1797.93 | 1801.21 |
| 550 | 1804.49 | 1807.78 | 1811.06 | 1814.34 | 1817.62 | 1820.90 | 1824.18 | 1827.46 | 1830.74 | 1834.02 |
| 560 | 1837.30 | 1840.58 | 1843.87 | 1847.15 | 1850.43 | 1853.71 | 1856.99 | 1860.27 | 1863.55 | 1866.83 |
| 570 | 1870.11 | 1873.39 | 1876.67 | 1879.96 | 1883.24 | 1886.52 | 1889.80 | 1893.08 | 1896.36 | 1899.64 |
| 580 | 1902.92 | 1906 20 | 1909.48 | 1912.76 | 1916.05 | 1919.33 | 1922.61 | 1925.89 | 1929.17 | 1932.45 |
| 590 | 1935.73 | 1939.01 | 1942.29 | 1945.57 | 1948.85 | 1952.13 | 1955.42 | 1958.70 | 1961.98 | 1965.26 |
| 600 | 1968.54 | 1971.82 | 1975.10 | 1978.38 | 1981.66 | 1984.94 | 1988.22 | 1991.51 | 1994.79 | 1998.07 |
| 610 | 2001.35 | 2004.63 | 2007.91 | 2011.19 | 2014.47 | 2017.75 | 2021.03 | 2024.31 | 2027.60 | 2030.88 |
| 620 | 2034.16 | 2037.44 | 2040.72 | 2044.00 | 2047.28 | 2050.56 | 2053.84 | 2057.12 | 2060.40 | 2063.69 |
| 630 | 2066.97 | 2070.25 | 2073.53 | 2076.81 | 2080.09 | 2083.37 | 2086.65 | 2089.93 | 2093.21 | 2096.49 |
| 640 | 2099.78 | 2103.06 | 2106.34 | 2109.62 | 2112.90 | 2116.18 | 2119.46 | 2122.74 | 2126.02 | 2129.30 |
| 650 | 2132.58 | 2135.87 | 2139.15 | 2142.43 | 2145.71 | 2148.99 | 2152.27 | 2155.55 | 2158.83 | 2162.11 |
| 660 | 2165.39 | 2168.67 | 2171.96 | 2175.24 | 2178.52 | 2181.80 | 2185.08 | 2188.36 | 2191.64 | 2194.92 |
| 670 | 2198.20 | 2201.48 | 2204.76 | 2208.05 | 2211.33 | 2214.61 | 2217.89 | 2221.17 | 2224.45 | 2227.73 |
| 680 | 2231.01 | 2234.29 | 2237.57 | 2240.85 | 2244.13 | 2247.42 | 2250.70 | 2253.98 | 2257.26 | 2260.54 |
| 690 | 2263.82 | 2267.10 | 2270.38 | 2273.66 | 2276.94 | 2280.22 | 2283.51 | 2286.79 | 2290.07 | 2293.35 |
| 700 | 2296.63 | 2299.91 | 2303.19 | 2306.47 | 2309.75 | 2313.03 | 2316.31 | 2319.60 | 2322.88 | 2326.16 |
| 710 | 2329.44 | 2332.72 | 2336.00 | 2339.28 | 2342.56 | 2345.84 | 2349.12 | 2352.40 | 2355.69 | 2358.97 |
| 720 | 2362.25 | 2365.53 | 2368.81 | 2372.09 | 2375.37 | 2378.65 | 2381.93 | 2385.21 | 2388.49 | 2391.78 |
| 730 | 2395.06 | 2398.34 | 2401.62 | 2404.90 | 2408.18 | 2411.46 | 2414.74 | 2418.02 | 2421.30 | 2424.58 |
| 740 | 2427.87 | 2431.15 | 2434.43 | 2437.71 | 2440.99 | 2444.27 | 2447.55 | 2450.83 | 2454.11 | 2457.39 |
| 750 | 2460.67 | 2463.96 | 2467.24 | 2470.52 | 2473.80 | 2477.08 | 2480.36 | 2483.64 | 2486.92 | 2490.20 |
| 760 | 2493.48 | 2496.76 | 2500.05 | 2503.33 | 2506.61 | 2509.89 | 2513.17 | 2516.45 | 2519.73 | 2523.01 |
| 770 | 2526.29 | 2529.57 | 2532.85 | 2536.14 | 2539.42 | 2542.70 | 2545.98 | 2549.26 | 2552.54 | 2555.82 |
| 780 | 2559.10 | 2562.38 | 2565.66 | 2568.94 | 2572.22 | 2575.51 | 2578.79 | 2582.07 | 2585.35 | 2588.63 |
| 790 | 2591.91 | 2595.19 | 2598.47 | 2601.75 | 2605.03 | 2608.31 | 2611.60 | 2614.88 | 2618.16 | 2621.44 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 800 to 1199.

| Metros. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 800 | 2624.72 | 2628.00 | 2631.28 | 2634.56 | 2637.84 | 2641.12 | 2644.40 | 2647.69 | 2650.97 | 2654.25 |
| 810 | 2657.53 | 2660.81 | 2664.09 | 2667.37 | 2670.65 | 2673.93 | 2677.21 | 2680.49 | 2683.78 | 2687.06 |
| 820 | 2690.34 | 2693.62 | 2696.90 | 2700.18 | 2703.46 | 2706.74 | 2710.02 | 2713.30 | 2716.58 | 2719.87 |
| 830 | 2723.15 | 2726.43 | 2729.71 | 2732.99 | 2736.27 | 2739.55 | 2742.83 | 2746.11 | 2749.39 | 2752.67 |
| 840 | 2755.96 | 2759.24 | 2762.52 | 2765.80 | 2769.08 | 2772.36 | 2775.64 | 2778.92 | 2782.20 | 2785.48 |
| 850 | 2788.76 | 2792.05 | 2795.33 | 2798.61 | 2801.89 | 2805.17 | 2808.45 | 2811.73 | 2815.01 | 2818.29 |
| 860 | 2821.57 | 2824.85 | 2828.14 | 2831.42 | 2834.70 | 2837.98 | 2841.26 | 2844.54 | 2847.82 | 2851.10 |
| 870 | 2854.38 | 2857.66 | 2860.94 | 2864.22 | 2867.51 | 2870.79 | 2874.07 | 2877.55 | 2880.63 | 2883.91 |
| 880 | 2887.19 | 2890.47 | 2893.75 | 2897.03 | 2900.31 | 2903.60 | 2906.88 | 2910.16 | 2913.44 | 2916.72 |
| 890 | 2920.00 | 2923.28 | 2926.56 | 2929.84 | 2933.12 | 2936.40 | 2939.69 | 2942.97 | 2946.25 | 2949.53 |
| 900 | 2952.81 | 2956.09 | 2959.37 | 2962.65 | 2965.93 | 2969.21 | 2972.49 | 2975.78 | 2979.06 | 2982.34 |
| 910 | 2985.62 | 2988.90 | 2992.18 | 2995.46 | 2998.74 | 3002.02 | 3005.30 | 3008.58 | 3011.87 | 3015.15 |
| 920 | 3018.43 | 3021.71 | 3024.99 | 3028.27 | 3031.55 | 3034.83 | 3038.11 | 3041.39 | 3044.67 | 3047.96 |
| 930 | 3051.24 | 3054.52 | 3057.80 | 3061.08 | 3064.36 | 3067.64 | 3070.92 | 3074.20 | 3077.48 | 3080.76 |
| 940 | 3084.05 | 3087.33 | 3090.61 | 3093.89 | 3097.17 | 3100.45 | 3103.73 | 3107.01 | 3110.29 | 3113.57 |
| 950 | 3116.85 | 3120.14 | 3123.42 | 3126.70 | 3129.98 | 3133.26 | 3136.54 | 3139.82 | 3143.10 | 3146.38 |
| 960 | 3149.66 | 3152.94 | 3156.22 | 3159.51 | 3162.79 | 3166.07 | 3169.35 | 3172.63 | 3175.91 | 3179.19 |
| 970 | 3182.47 | 3185.75 | 3189.03 | 3192.31 | 3195.60 | 3198.88 | 3202.16 | 3205.44 | 3208.72 | 3212.00 |
| 980 | 3215.28 | 3218.56 | 3221.84 | 3225.12 | 3228.40 | 3231.69 | 3234.97 | 3238.25 | 3241.53 | 3244.81 |
| 990 | 3248.09 | 3251.37 | 3254.65 | 3257.93 | 3261.21 | 3264.49 | 3267.78 | 3271.06 | 3274.34 | 3277.62 |
| 1000 | 3280.90 | 3284.18 | 3287.46 | 3290.74 | 3294.02 | 3297.30 | 3300.58 | 3303.87 | 3307.15 | 3310.43 |
| 1010 | 3313.71 | 3316.99 | 3320.27 | 3323.55 | 3326.83 | 3330.11 | 3333.39 | 3336.67 | 3339.96 | 3343.24 |
| 1020 | 3346.52 | 3349.80 | 3353.08 | 3356.36 | 3359.64 | 3362.92 | 3366.20 | 3369.48 | 3372.76 | 3376.05 |
| 1030 | 3379.33 | 3382.61 | 3385.89 | 3389.17 | 3392.45 | 3395.73 | 3399.01 | 3402.29 | 3405.57 | 3408.85 |
| 1040 | 3412.14 | 3415.42 | 3418.70 | 3421.98 | 3425.26 | 3428.54 | 3431.82 | 3435.10 | 3438.38 | 3441.66 |
| 1050 | 3444.94 | 3448.22 | 3451.51 | 3454.79 | 3458.07 | 3461.35 | 3464.63 | 3467.91 | 3471.19 | 3474.47 |
| 1060 | 3477.75 | 3481.03 | 3484.31 | 3487.60 | 3490.88 | 3494.16 | 3497.44 | 3500.72 | 3504.00 | 3507.28 |
| 1070 | 3510.56 | 3513.84 | 3517.12 | 3520.40 | 3523.69 | 3526.97 | 3530.25 | 3533.53 | 3536.81 | 3540.09 |
| 1080 | 3543.37 | 3546.65 | 3549.93 | 3553.21 | 3556.49 | 3559.78 | 3563.06 | 3566.34 | 3569.62 | 3572.90 |
| 1090 | 3576.18 | 3579.46 | 3582.74 | 3586.02 | 3589.30 | 3592.58 | 3595.87 | 3599.15 | 3602.43 | 3605.71 |
| 1100 | 3608.99 | 3612.27 | 3615.55 | 3618.83 | 3622.11 | 3625.39 | 3628.67 | 3631.96 | 3635.24 | 3638.52 |
| 1110 | 3641.80 | 3645.08 | 3648.36 | 3651.64 | 3654.92 | 3658.20 | 3661.48 | 3664.76 | 3668.05 | 3671.33 |
| 1120 | 3674.61 | 3677.89 | 3681.17 | 3684.45 | 3687.73 | 3691.01 | 3694.29 | 3697.57 | 3700.85 | 3704.14 |
| 1130 | 3707.42 | 3710.70 | 3713.98 | 3717.26 | 3720.54 | 3723.82 | 3727.10 | 3730.38 | 3733.66 | 3736.94 |
| 1140 | 3740.22 | 3743.51 | 3746.79 | 3750.07 | 3753.35 | 3756.63 | 3759.91 | 3763.19 | 3766.47 | 3769.75 |
| 1150 | 3773.03 | 3776.31 | 3779.60 | 3782.88 | 3786.16 | 3789.44 | 3792.72 | 3796.00 | 3799.28 | 3802.56 |
| 1160 | 3805.84 | 3809.12 | 3812.40 | 3815.69 | 3818.97 | 3822.25 | 3825.53 | 3828.81 | 3832.09 | 3835.37 |
| 1170 | 3838.65 | 3841.93 | 3845.21 | 3848.49 | 3851.78 | 3855.06 | 3858.34 | 3861.62 | 3864.90 | 3868.18 |
| 1180 | 3871.46 | 3874.74 | 3878.02 | 3881.30 | 3884.58 | 3887.87 | 3891.15 | 3894.43 | 3897.71 | 3900.99 |
| 1190 | 3904.27 | 3907.55 | 3910.83 | 3914.11 | 3917.39 | 3920.67 | 3923.96 | 3927.24 | 3930.52 | 3933.80 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 1200 to 1599.

| Metres. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 1200 | 3937.08 | 3940.36 | 3943.64 | 3946.92 | 3950.20 | 3953.48 | 3956.76 | 3960.05 | 3963.33 | 3966.61 |
| 1210 | 3969.89 | 3973.17 | 3976.45 | 3979.73 | 3983.01 | 3986.29 | 3989.57 | 3992.85 | 3996.14 | 3999.42 |
| 1220 | 4002.70 | 4005.98 | 4009.26 | 4012.54 | 4015.82 | 4019.10 | 4022.38 | 4025.66 | 4028.94 | 4032.23 |
| 1230 | 4035.51 | 4038.79 | 4042.07 | 4045.35 | 4048.63 | 4051.91 | 4055.19 | 4058.47 | 4061.75 | 4065.03 |
| 1240 | 4068.31 | 4071.60 | 4074.88 | 4078.16 | 4081.44 | 4084.72 | 4088.00 | 4091.28 | 4094.56 | 4097.84 |
| 1250 | 4101.12 | 4104.40 | 4107.69 | 4110.97 | 4114.25 | 4117.53 | 4120.81 | 4124.09 | 4127.37 | 4130.65 |
| 1260 | 4133.93 | 4137.21 | 4140.49 | 4143.78 | 4147.06 | 4150.34 | 4153.62 | 4156.90 | 4160.18 | 4163.46 |
| 1270 | 4166.74 | 4170.02 | 4173.30 | 4176.58 | 4179.87 | 4183.15 | 4186.43 | 4189.71 | 4192.99 | 4196.27 |
| 1280 | 4199.55 | 4202.83 | 4206.11 | 4209.39 | 4212.67 | 4215.96 | 4219.24 | 4222.52 | 4225.80 | 4229.08 |
| 1290 | 4232.36 | 4235.64 | 4238.92 | 4242.20 | 4245.48 | 4248.76 | 4252.05 | 4255.33 | 4258.61 | 4261.89 |
| 1300 | 4265.17 | 4268.45 | 4271.73 | 4275.01 | 4278.29 | 4281.57 | 4284.85 | 4288.14 | 4291.42 | 4294.70 |
| 1310 | 4297.98 | 4301.26 | 4304.54 | 4307.82 | 4311.10 | 4314.38 | 4317.66 | 4320.94 | 4324.23 | 4327.51 |
| 1320 | 4330.79 | 4334.07 | 4337.35 | 4340.63 | 4343.91 | 4347.19 | 4350.47 | 4353.75 | 4357.03 | 4360.31 |
| 1330 | 4363.60 | 4366.88 | 4370.16 | 4373.44 | 4376.72 | 4380.00 | 4383.28 | 4386.56 | 4389.84 | 4393.12 |
| 1340 | 4396.40 | 4399.69 | 4402.97 | 4406.25 | 4409.53 | 4412.81 | 4416.09 | 4419.37 | 4422.65 | 4425.93 |
| 1350 | 4429.21 | 4432.49 | 4435.78 | 4439.06 | 4442.34 | 4445.62 | 4448.90 | 4452.18 | 4455.46 | 4458.74 |
| 1360 | 4462.02 | 4465.30 | 4468.58 | 4471.87 | 4475.15 | 4478.43 | 4481.71 | 4484.99 | 4488.27 | 4491.55 |
| 1370 | 4494.83 | 4498.11 | 4501.39 | 4504.67 | 4507.96 | 4511.24 | 4514.52 | 4517.80 | 4521.08 | 4524.36 |
| 1380 | 4527.64 | 4530.92 | 4534.20 | 4537.48 | 4540.76 | 4544.05 | 4547.33 | 4550.61 | 4553.89 | 4557.17 |
| 1390 | 4560.45 | 4563.73 | 4567.01 | 4570.29 | 4573.57 | 4576.85 | 4580.14 | 4583.42 | 4586.70 | 4589.98 |
| 1400 | 4593.26 | 4596.54 | 4599.82 | 4603.10 | 4606.38 | 4609.66 | 4612.94 | 4616.23 | 4619.51 | 4622.79 |
| 1410 | 4626.07 | 4629.35 | 4632.63 | 4635.91 | 4639.19 | 4642.47 | 4645.75 | 4649.03 | 4652.31 | 4655.60 |
| 1420 | 4658.88 | 4662.16 | 4665.44 | 4668.72 | 4672.00 | 4675.28 | 4678.56 | 4681.84 | 4685.12 | 4688.40 |
| 1430 | 4691.69 | 4694.97 | 4698.25 | 4701.53 | 4704.81 | 4708.09 | 4711.37 | 4714.65 | 4717.93 | 4721.21 |
| 1440 | 4724.49 | 4727.78 | 4731.06 | 4734.34 | 4737.62 | 4740.90 | 4744.18 | 4747.46 | 4750.74 | 4754.02 |
| 1450 | 4757.30 | 4760.58 | 4763.87 | 4767.15 | 4770.43 | 4773.71 | 4776.99 | 4780.27 | 4783.55 | 4786.83 |
| 1460 | 4790.11 | 4793.39 | 4796.67 | 4799.96 | 4803.24 | 4806.52 | 4809.80 | 4813.08 | 4816.36 | 4819.64 |
| 1470 | 4822.92 | 4826.20 | 4829.48 | 4832.76 | 4836.05 | 4839.33 | 4842.61 | 4845.89 | 4849.17 | 4852.45 |
| 1480 | 4855.73 | 4859.01 | 4862.29 | 4865.57 | 4868.85 | 4872.14 | 4875.42 | 4878.70 | 4881.98 | 4885.26 |
| 1490 | 4888.54 | 4891.82 | 4895.10 | 4898.38 | 4901.66 | 4904.94 | 4908.23 | 4911.51 | 4914.79 | 4918.07 |
| 1500 | 4921.35 | 4924.63 | 4927.91 | 4931.19 | 4934.47 | 4937.75 | 4941.03 | 4944.31 | 4947.60 | 4950.88 |
| 1510 | 4954.16 | 4957.44 | 4960.72 | 4964.00 | 4967.28 | 4970.56 | 4973.84 | 4977.12 | 4980.40 | 4983.69 |
| 1520 | 4986.97 | 4990.25 | 4993.53 | 4996.81 | 5000.09 | 5003.37 | 5006.65 | 5009.93 | 5013.21 | 5016.49 |
| 1530 | 5019.78 | 5023.06 | 5026.34 | 5029.62 | 5032.90 | 5036.18 | 5039.46 | 5042.74 | 5046.02 | 5049.30 |
| 1540 | 5052.58 | 5055.87 | 5059.15 | 5062.43 | 5065.71 | 5068.99 | 5072.27 | 5075.55 | 5078.83 | 5082.11 |
| 1550 | 5085.39 | 5088.67 | 5091.96 | 5095.24 | 5098.52 | 5101.80 | 5105.08 | 5108.36 | 5111.64 | 5114.92 |
| 1560 | 5118.20 | 5121.48 | 5124.76 | 5128.05 | 5131.33 | 5134.61 | 5137.89 | 5141.17 | 5144.45 | 5147.73 |
| 1570 | 5151.01 | 5154.29 | 5157.57 | 5160.85 | 5164.14 | 5167.42 | 5170.70 | 5173.98 | 5177.26 | 5180.54 |
| 1580 | 5183.82 | 5187.10 | 5190.38 | 5193.66 | 5196.94 | 5200.23 | 5203.51 | 5206.79 | 5210.07 | 5213.35 |
| 1590 | 5216.63 | 5219.91 | 5223.19 | 5226.47 | 5229.75 | 5233.03 | 5236.32 | 5239.60 | 5242.88 | 5246.16 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 1600 to 2000.

| Metres. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 1600 | 5249.44 | 5252.72 | 5256.00 | 5259.28 | 5262.56 | 5265.84 | 5269.12 | 5272.40 | 5275.69 | 5278.97 |
| 1610 | 5282.25 | 5285.53 | 5288.81 | 5292.09 | 5295.37 | 5298.65 | 5301.93 | 5305.21 | 5308.49 | 5311.78 |
| 1620 | 5315.06 | 5318.34 | 5321.62 | 5324.90 | 5328.18 | 5331.46 | 5334.74 | 5338.02 | 5341.30 | 5344.58 |
| 1630 | 5347.87 | 5351.15 | 5354.43 | 5357.71 | 5360.99 | 5364.27 | 5367.55 | 5370.83 | 5374.11 | 5377.39 |
| 1640 | 5380.67 | 5383.96 | 5387.24 | 5390.52 | 5393.80 | 5397.08 | 5400.36 | 5403.64 | 5406.92 | 5410.20 |
| 1650 | 5413.48 | 5416.76 | 5420.05 | 5423.33 | 5426.61 | 5429.89 | 5433.17 | 5436.45 | 5439.73 | 5443.01 |
| 1660 | 5446.29 | 5449.57 | 5452.85 | 5456.14 | 5459.42 | 5462.70 | 5465.98 | 5469.26 | 5472.54 | 5475.82 |
| 1670 | 5479.10 | 5482.38 | 5485.66 | 5488.94 | 5492.23 | 5495.51 | 5498.79 | 5502.07 | 5505.35 | 5508.63 |
| 1680 | 5511.91 | 5515.19 | 5518.47 | 5521.75 | 5525.03 | 5528.32 | 5531.60 | 5534.88 | 5538.16 | 5541.44 |
| 1690 | 5544.72 | 5548.00 | 5551.28 | 5554.56 | 5557.84 | 5561.12 | 5564.40 | 5567.69 | 5570.97 | 5574.25 |
| 1700 | 5577.53 | 5580.81 | 5584.09 | 5587.37 | 5590.65 | 5593.93 | 5597.21 | 5600.49 | 5603.78 | 5607.06 |
| 1710 | 5610.34 | 5613.62 | 5616.90 | 5620.18 | 5623.46 | 5626.74 | 5630.02 | 5633.30 | 5636.58 | 5639.87 |
| 1720 | 5643.15 | 5646.43 | 5649.71 | 5652.99 | 5656.27 | 5659.55 | 5662.83 | 5666.11 | 5669.39 | 5672.67 |
| 1730 | 5675.96 | 5679.24 | 5682.52 | 5685.80 | 5689.08 | 5692.36 | 5695.64 | 5698.92 | 5702.20 | 5705.48 |
| 1740 | 5708.76 | 5712.05 | 5715.33 | 5718.61 | 5721.89 | 5725.17 | 5728.45 | 5731.73 | 5735.01 | 5738.29 |
| 1750 | 5741.57 | 5744.85 | 5748.14 | 5751.42 | 5754.70 | 5757.98 | 5761.26 | 5764.54 | 5767.82 | 5771.10 |
| 1760 | 5774.38 | 5777.66 | 5780.94 | 5784.23 | 5787.51 | 5790.79 | 5794.07 | 5797.35 | 5800.63 | 5803.91 |
| 1770 | 5807.19 | 5810.47 | 5813.75 | 5817.03 | 5820.32 | 5823.60 | 5826.88 | 5830.16 | 5833.44 | 5836.72 |
| 1780 | 5840.00 | 5843.28 | 5846.56 | 5849.84 | 5853.12 | 5856.40 | 5859.69 | 5862.97 | 5866.25 | 5869.53 |
| 1790 | 5872.81 | 5876.09 | 5879.37 | 5882.65 | 5885.93 | 5889.21 | 5892.49 | 5895.78 | 5899.06 | 5902.34 |
| 1800 | 5905.62 | 5908.90 | 5912.18 | 5915.46 | 5918.74 | 5922.02 | 5925.30 | 5928.58 | 5931.87 | 5935.15 |
| 1810 | 5938.43 | 5941.71 | 5944.99 | 5948.27 | 5951.55 | 5954.83 | 5958.11 | 5961.39 | 5964.67 | 5967.96 |
| 1820 | 5971.24 | 5974.52 | 5977.80 | 5981.08 | 5984.36 | 5987.64 | 5990.92 | 5994.20 | 5997.48 | 6000.76 |
| 1830 | 6004.05 | 6007.33 | 6010.61 | 6013.89 | 6017.17 | 6020.45 | 6023.73 | 6027.01 | 6030.29 | 6033.57 |
| 1840 | 6036.85 | 6040.14 | 6043.42 | 6046.70 | 6049.98 | 6053.26 | 6056.54 | 6059.82 | 6063.10 | 6066.38 |
| 1850 | 6069.66 | 6072.94 | 6076.23 | 6079.51 | 6082.79 | 6086.07 | 6089.35 | 6092.63 | 6095.91 | 6099.19 |
| 1860 | 6102.47 | 6105.75 | 6109.03 | 6112.32 | 6115.60 | 6118.88 | 6122.16 | 6125.44 | 6128.72 | 6132.00 |
| 1870 | 6135.28 | 6138.56 | 6141.84 | 6145.12 | 6148.40 | 6151.69 | 6154.97 | 6158.25 | 6161.53 | 6164.81 |
| 1880 | 6168.09 | 6171.37 | 6174.65 | 6177.93 | 6181.21 | 6184.49 | 6187.78 | 6191.06 | 6194.34 | 6197.62 |
| 1890 | 6200.90 | 6204.18 | 6207.46 | 6210.74 | 6214.02 | 6217.30 | 6220.58 | 6223.87 | 6227.15 | 6230.43 |
| 1900 | 6233.71 | 6236.99 | 6240.27 | 6243.55 | 6246.83 | 6250.11 | 6253.39 | 6256.67 | 6259.96 | 6263.24 |
| 1910 | 6266.52 | 6269.80 | 6273.08 | 6276.36 | 6279.64 | 6282.92 | 6286.20 | 6289.48 | 6292.76 | 6296.05 |
| 1920 | 6299.33 | 6302.61 | 6305.89 | 6309.17 | 6312.45 | 6315.73 | 6329.01 | 6322.29 | 6325.57 | 6328.85 |
| 1930 | 6332.14 | 6335.42 | 6338.70 | 6341.98 | 6345.26 | 6348.54 | 6351.82 | 6355.10 | 6358.38 | 6361.66 |
| 1940 | 6364.94 | 6368.23 | 6371.51 | 6374.79 | 6378.07 | 6381.35 | 6384.63 | 6387.91 | 6391.19 | 6394.47 |
| 1950 | 6397.75 | 6401.03 | 6404.32 | 6407.60 | 6410.88 | 6414.16 | 6417.44 | 6420.72 | 6424.00 | 6427.28 |
| 1960 | 6430.56 | 6433.84 | 6437.12 | 6440.41 | 6443.69 | 6446.97 | 6450.25 | 6453.53 | 6456.81 | 6460.09 |
| 1970 | 6463.37 | 6466.65 | 6469.93 | 6473.21 | 6476.49 | 6479.78 | 6483.06 | 6486.34 | 6489.62 | 6492.90 |
| 1980 | 6496.18 | 6499.46 | 6502.74 | 6506.02 | 6509.30 | 6512.58 | 6515.87 | 6519.15 | 6522.43 | 6525.71 |
| 1990 | 6528.99 | 6532.27 | 6535.55 | 6538.83 | 6542.11 | 6545.39 | 6548.67 | 6551.96 | 6555.24 | 6558.52 |
| 2000 | 6561.80 | 6565.08 | 6568.36 | 6571.64 | 6574.92 | 6578.20 | 6581.48 | 6584.76 | 6588.05 | 6591.33 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 2000 to 2399.

| Metres. | Metres. (Units) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 2000 | 6561.80 | 6565.08 | 6568.36 | 6571.64 | 6574.92 | 6578.20 | 6581.48 | 6584.76 | 6588.05 | 6591.33 |
| 2010 | 6594.61 | 6597.89 | 6601.17 | 6604.45 | 6607.73 | 6611.01 | 6614.29 | 6617.57 | 6620.85 | 6624.14 |
| 2020 | 6627.42 | 6630.70 | 6633.98 | 6637.26 | 6640.54 | 6643.82 | 6647.10 | 6650.38 | 6653.66 | 6656.94 |
| 2030 | 6660.23 | 6663.51 | 6666.79 | 6670.07 | 6673.35 | 6676.63 | 6679.91 | 6683.19 | 6686.47 | 6689.75 |
| 2040 | 6693.03 | 6696.32 | 6699.60 | 6702.88 | 6706.16 | 6709.44 | 6712.72 | 6716.00 | 6719.28 | 6722.56 |
| 2050 | 6725.84 | 6729.12 | 6732.41 | 6735.69 | 6738.97 | 6742.25 | 6745.53 | 6748.81 | 6752.09 | 6755.37 |
| 2060 | 6758.65 | 6761.93 | 6765.21 | 6768.49 | 6771.78 | 6775.06 | 6778.34 | 6781.62 | 6784.90 | 6788.18 |
| 2070 | 6791.46 | 6794.74 | 6798.02 | 6801.30 | 6804.58 | 6807.87 | 6811.15 | 6814.43 | 6817.71 | 6820.99 |
| 2080 | 6824.27 | 6827.55 | 6830.83 | 6834.11 | 6837.39 | 6840.67 | 6843.96 | 6847.24 | 6850.52 | 6853.80 |
| 2090 | 6857.08 | 6860.36 | 6863.64 | 6866.92 | 6870.20 | 6873.48 | 6876.76 | 6880.05 | 6883.33 | 6886.61 |
| 2100 | 6889.89 | 6893.17 | 6896.45 | 6899.73 | 6903.01 | 6906.29 | 6909.57 | 6912.85 | 6916.14 | 6919.42 |
| 2110 | 6922.70 | 6925.98 | 6929.26 | 6932.54 | 6935.82 | 6939.10 | 6942.38 | 6945.66 | 6948.94 | 6952.23 |
| 2120 | 6955.51 | 6958.79 | 6962.07 | 6965.35 | 6968.63 | 6971.91 | 6975.19 | 6978.47 | 6981.75 | 6985.03 |
| 2130 | 6988.32 | 6991.60 | 6994.88 | 6998.16 | 7001.44 | 7004.72 | 7008.00 | 7011.28 | 7014.56 | 7017.84 |
| 2140 | 7021.12 | 7024.41 | 7027.69 | 7030.97 | 7034.25 | 7037.53 | 7040.81 | 7044.09 | 7047.37 | 7050.65 |
| 2150 | 7053.93 | 7057.21 | 7060.49 | 7063.78 | 7067.06 | 7070.34 | 7073.62 | 7076.90 | 7080.18 | 7083.46 |
| 2160 | 7086.74 | 7090.02 | 7093.30 | 7096.58 | 7099.87 | 7103.15 | 7106.43 | 7109.71 | 7112.99 | 7116.27 |
| 2170 | 7119.55 | 7122.83 | 7125.11 | 7129.39 | 7132.67 | 7135.96 | 7139.24 | 7142.52 | 7145.80 | 7149.08 |
| 2180 | 7152.36 | 7155.64 | 7158.92 | 7162.20 | 7165.48 | 7168.76 | 7172.05 | 7175.33 | 7178.61 | 7181.89 |
| 2190 | 7185.17 | 7188.45 | 7191.73 | 7195.01 | 7198.29 | 7201.57 | 7204.85 | 7208.14 | 7211.42 | 7214.70 |
| 2200 | 7217.98 | 7221.26 | 7224.54 | 7227.82 | 7231.10 | 7234.38 | 7237.66 | 7240.94 | 7244.23 | 7247.51 |
| 2210 | 7250.79 | 7254.07 | 7257.35 | 7260.63 | 7263.91 | 7267.19 | 7270.47 | 7273.75 | 7277.03 | 7280.32 |
| 2220 | 7283.60 | 7286.88 | 7290.16 | 7293.44 | 7296.72 | 7300.00 | 7303.28 | 7306.56 | 7309.84 | 7313.12 |
| 2230 | 7316.41 | 7319.69 | 7322.97 | 7326.25 | 7329.53 | 7332.81 | 7336.09 | 7339.37 | 7342.65 | 7345.93 |
| 2240 | 7349.21 | 7352.49 | 7355.78 | 7359.06 | 7362.34 | 7365.62 | 7368.90 | 7372.18 | 7375.46 | 7378.74 |
| 2250 | 7382.02 | 7385.30 | 7388.58 | 7391.87 | 7395.15 | 7398.43 | 7401.71 | 7404.99 | 7408.27 | 7411.55 |
| 2260 | 7414.83 | 7418.11 | 7421.39 | 7424.67 | 7427.96 | 7431.24 | 7434.52 | 7437.80 | 7441.08 | 7444.36 |
| 2270 | 7447.64 | 7450.92 | 7454.20 | 7457.48 | 7460.76 | 7464.05 | 7467.33 | 7470.61 | 7473.89 | 7477.17 |
| 2280 | 7480.45 | 7483.73 | 7487.01 | 7490.29 | 7493.57 | 7496.85 | 7500.14 | 7503.42 | 7506.70 | 7509.98 |
| 2290 | 7513.26 | 7516.54 | 7519.82 | 7523.10 | 7526.38 | 7529.66 | 7532.94 | 7536.23 | 7539.51 | 7542.79 |
| 2300 | 7546.07 | 7549.35 | 7552.64 | 7555.91 | 7559.19 | 7562.47 | 7565.75 | 7569.03 | 7572.32 | 7575.60 |
| 2310 | 7578.88 | 7582.16 | 7585.44 | 7588.72 | 7592.00 | 7595.28 | 7598.56 | 7601.84 | 7605.12 | 7608.41 |
| 2320 | 7611.69 | 7614.97 | 7618.25 | 7621.53 | 7624.81 | 7628.09 | 7631.37 | 7634.65 | 7637.93 | 7641.21 |
| 2330 | 7644.50 | 7647.78 | 7651.06 | 7654.34 | 7657.62 | 7660.90 | 7664.18 | 7667.46 | 7670.74 | 7674.02 |
| 2340 | 7677.30 | 7680.58 | 7683.87 | 7687.15 | 7690.43 | 7693.71 | 7696.99 | 7700.27 | 7703.55 | 7706.83 |
| 2350 | 7710.11 | 7713.39 | 7716.67 | 7719.96 | 7723.24 | 7726.52 | 7729.80 | 7733.08 | 7736.36 | 7739.64 |
| 2360 | 7742.92 | 7746.20 | 7749.48 | 7752.76 | 7756.05 | 7759.33 | 7762.61 | 7765.89 | 7769.17 | 7772.45 |
| 2370 | 7775.73 | 7779.01 | 7782.29 | 7785.57 | 7788.85 | 7792.14 | 7795.42 | 7798.70 | 7801.98 | 7805.26 |
| 2380 | 7808.54 | 7811.82 | 7815.10 | 7818.38 | 7821.66 | 7824.94 | 7828.23 | 7831.51 | 7834.79 | 7838.07 |
| 2390 | 7841.35 | 7844.63 | 7847.91 | 7851.19 | 7854.47 | 7857.75 | 7861.03 | 7864.32 | 7867.60 | 7870.88 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 2400 to 2799.

| Metres. | Metres. (Units) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 2400 | 7874.16 | 7877.44 | 7880.72 | 7884.00 | 7887.28 | 7890.56 | 7893.84 | 7897.12 | 7900.41 | 7903.69 |
| 2410 | 7906.97 | 7910.25 | 7913.53 | 7916.81 | 7920.09 | 7923.37 | 7926.65 | 7929.93 | 7933.21 | 7936.50 |
| 2420 | 7939.78 | 7943.06 | 7946.34 | 7949.62 | 7952.90 | 7956.18 | 7959.46 | 7962.74 | 7966.02 | 7969.30 |
| 2430 | 7972.59 | 7975.87 | 7979.15 | 7982.43 | 7985.71 | 7988.99 | 7992.27 | 7995.55 | 7998.83 | 8002.11 |
| 2440 | 8005.39 | 8008.67 | 8011.96 | 8015.24 | 8018.52 | 8021.80 | 8025.08 | 8028.36 | 8031.64 | 8034.92 |
| 2450 | 8038.20 | 8041.48 | 8044.76 | 8048.05 | 8051.33 | 8054.61 | 8057.89 | 8061.17 | 8064.45 | 8067.73 |
| 2460 | 8071.01 | 8074.29 | 8077.57 | 8080.85 | 8084.14 | 8087.42 | 8090.70 | 8093.98 | 8097.26 | 8100.54 |
| 2470 | 8103.82 | 8107.10 | 8110.38 | 8113.66 | 8116.94 | 8120.22 | 8123.51 | 8126.79 | 8130.07 | 8133.35 |
| 2480 | 8136.63 | 8139.91 | 8143.19 | 8146.47 | 8149.75 | 8153.03 | 8156.32 | 8159.60 | 8162.88 | 8166.16 |
| 2490 | 8169.44 | 8172.72 | 8176.00 | 8179.28 | 8182.56 | 8185.84 | 8189.12 | 8192.41 | 8195.69 | 8198.97 |
| 2500 | 8202.25 | 8205.53 | 8208.81 | 8212.09 | 8215.37 | 8218.65 | 8221.93 | 8225.21 | 8228.50 | 8231.78 |
| 2510 | 8235.06 | 8238.34 | 8241.62 | 8244.90 | 8248.18 | 8251.46 | 8254.74 | 8258.02 | 8261.30 | 8264.59 |
| 2520 | 8267.87 | 8271.15 | 8274.43 | 8277.71 | 8280.99 | 8284.27 | 8287.55 | 8290.83 | 8294.11 | 8297.39 |
| 2530 | 8300.67 | 8303.96 | 8307.24 | 8310.52 | 8313.80 | 8317.08 | 8320.36 | 8323.64 | 8326.92 | 8330.20 |
| 2540 | 8333.48 | 8336.76 | 8340.05 | 8343.33 | 8346.61 | 8349.89 | 8353.17 | 8356.45 | 8359.73 | 8363.01 |
| 2550 | 8366.29 | 8369.37 | 8372.85 | 8376.14 | 8379.42 | 8382.70 | 8385.98 | 8389.26 | 8392.54 | 8395.82 |
| 2560 | 8399.10 | 8402.38 | 8405.66 | 8408.94 | 8412.23 | 8415.51 | 8418.79 | 8422.07 | 8425.35 | 8428.63 |
| 2570 | 8431.91 | 8435.19 | 8438.47 | 8441.75 | 8445.03 | 8448.32 | 8451.60 | 8454.88 | 8458.16 | 8461.44 |
| 2580 | 8464.72 | 8468.00 | 8471.28 | 8474.56 | 8477.84 | 8481.12 | 8484.41 | 8487.69 | 8490.97 | 8494.25 |
| 2590 | 8497.53 | 8500.81 | 8504.09 | 8507.37 | 8510.65 | 8513.93 | 8517.21 | 8520.50 | 8523.78 | 8527.06 |
| 2600 | 8530.34 | 8533.62 | 8536.90 | 8540.18 | 8543.46 | 8546.74 | 8550.02 | 8553.30 | 8556.58 | 8559.87 |
| 2610 | 8563.15 | 8566.43 | 8569.71 | 8572.99 | 8576.27 | 8579.55 | 8582.83 | 8586.11 | 8589.39 | 8592.67 |
| 2620 | 8595.96 | 8599.24 | 8602.52 | 8605.80 | 8609.08 | 8612.36 | 8615.64 | 8618.92 | 8622.20 | 8625.48 |
| 2630 | 8628.76 | 8632.05 | 8635.33 | 8638.61 | 8641.89 | 8645.17 | 8648.45 | 8651.73 | 8655.01 | 8658.29 |
| 2640 | 8661.57 | 8664.85 | 8668.14 | 8671.42 | 8674.70 | 8677.98 | 8681.26 | 8684.54 | 8687.82 | 8691.10 |
| 2650 | 8694.38 | 8697.66 | 8700.94 | 8704.23 | 8707.51 | 8710.79 | 8714.07 | 8717.35 | 8720.63 | 8723.91 |
| 2660 | 8727.19 | 8730.47 | 8733.75 | 8737.03 | 8740.32 | 8743.60 | 8746.88 | 8750.16 | 8753.44 | 8756.72 |
| 2670 | 8760.00 | 8763.28 | 8766.56 | 8769.84 | 8773.12 | 8776.41 | 8779.69 | 8782.97 | 8786.25 | 8789.53 |
| 2680 | 8792.81 | 8796.09 | 8799.37 | 8802.65 | 8805.93 | 8809.21 | 8812.50 | 8815.78 | 8819.06 | 8822.34 |
| 2690 | 8825.62 | 8828.90 | 8832.18 | 8835.46 | 8838.74 | 8842.02 | 8845.30 | 8848.59 | 8851.87 | 8855.15 |
| 2700 | 8858.43 | 8861.71 | 8864.99 | 8868.27 | 8871.55 | 8874.83 | 8878.11 | 8881.39 | 8884.67 | 8887.96 |
| 2710 | 8891.24 | 8894.52 | 8897.80 | 8901.08 | 8904.36 | 8907.64 | 8910.92 | 8914.20 | 8917.48 | 8920.76 |
| 2720 | 8926.05 | 8927.33 | 8930.61 | 8933.89 | 8937.17 | 8940.45 | 8943.73 | 8947.01 | 8950.29 | 8953.57 |
| 2730 | 8956.85 | 8960.14 | 8963.42 | 8966.70 | 8969.98 | 8973.26 | 8976.54 | 8979.82 | 8983.10 | 8986.38 |
| 2740 | 8989.66 | 8992.94 | 8996.23 | 8999.51 | 9002.79 | 9006.07 | 9009.35 | 9012.63 | 9015.91 | 9019.19 |
| 2750 | 9022.47 | 9025.75 | 9029.03 | 9032.32 | 9035.60 | 9038.88 | 9042.16 | 9045.44 | 9048.72 | 9052.00 |
| 2760 | 9055.28 | 9058.56 | 9061.84 | 9065.12 | 9068.41 | 9071.69 | 9074.97 | 9078.25 | 9081.53 | 9084.81 |
| 2770 | 9088.09 | 9091.37 | 9094.65 | 9097.93 | 9101.21 | 9104.50 | 9107.78 | 9111.06 | 9114.34 | 9117.62 |
| 2780 | 9120.90 | 9124.18 | 9127.46 | 9130.74 | 9134.02 | 9137.30 | 9140.59 | 9143.87 | 9147.15 | 9150.43 |
| 2790 | 9153.71 | 9156.99 | 9160.27 | 9163.55 | 9166.83 | 9170.11 | 9173.39 | 9176.68 | 9179.96 | 9183.24 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## 2800 to 3000.

| Metres. | Metres. (Units.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 2800 | 9186.52 | 9189.80 | 9193.08 | 9196.36 | 9199.64 | 9202.92 | 9206.20 | 9209.48 | 9212.76 | 9216.05 |
| 2810 | 9219.33 | 9222.61 | 9225.89 | 9229.17 | 9232.45 | 9235.73 | 9239.01 | 9242.29 | 9245.57 | 9248.85 |
| 2820 | 9252.14 | 9255.42 | 9258.70 | 9261.98 | 9265.26 | 9268.54 | 9271.82 | 9275.10 | 9278.38 | 9281.66 |
| 2830 | 9284.94 | 9288.23 | 9291.51 | 9294.79 | 9298.07 | 9301.35 | 9304.64 | 9307.91 | 9311.19 | 9314.47 |
| 2840 | 9317.75 | 9321.03 | 9324.32 | 9327.60 | 9330.88 | 9334.16 | 9337.44 | 9340.72 | 9344.00 | 9347.28 |
| 2850 | 9350.56 | 9353.84 | 9357.12 | 9360.41 | 9363.69 | 9366.97 | 9370.25 | 9373.53 | 9376.81 | 9380.09 |
| 2860 | 9383.37 | 9386.65 | 9389.93 | 9393.21 | 9396.50 | 9399.78 | 9403.06 | 9406.34 | 9409.62 | 9412.90 |
| 2870 | 9416.18 | 9419.46 | 9422.74 | 9426.02 | 9429.30 | 9432.59 | 9435.87 | 9439.15 | 9442.43 | 9445.71 |
| 2880 | 9448.99 | 9452.27 | 9455.55 | 9458.83 | 9462.11 | 9465.39 | 9468.68 | 9471.96 | 9475.24 | 9478.52 |
| 2890 | 9481.80 | 9485.08 | 9488.36 | 9491.64 | 9494.92 | 9498.20 | 9501.48 | 9504.76 | 9508.05 | 9511.33 |
| 2900 | 9514.61 | 9517.89 | 9521.17 | 9524.45 | 9527.73 | 9531.01 | 9534.29 | 9537.57 | 9540.85 | 9544.14 |
| 2910 | 9547.42 | 9550.70 | 9553.98 | 9557.26 | 9560.54 | 9563.82 | 9567.10 | 9570.38 | 9573.66 | 9576.94 |
| 2920 | 9580.23 | 9583.51 | 9586.79 | 9590.07 | 9593.35 | 9596.63 | 9599.91 | 9603.19 | 9606.47 | 9609.75 |
| 2930 | 9613.03 | 9616.32 | 9619.60 | 9622.88 | 9626.16 | 9629.44 | 9632.72 | 9636.00 | 9639.28 | 9642.56 |
| 2940 | 9645.84 | 9649.12 | 9652.41 | 9655.69 | 9658.97 | 9662.25 | 9665.53 | 9668.81 | 9672.09 | 9675.37 |
| 2950 | 9678.62 | 9681.93 | 9685.21 | 9688.50 | 9691.78 | 9695.06 | 9698.34 | 9701.62 | 9704.90 | 9708.18 |
| 2960 | 9711.46 | 9714.74 | 9718.02 | 9721.30 | 9724.59 | 9727.87 | 9731.15 | 9734.43 | 9737.71 | 9740.99 |
| 2970 | 9744.27 | 9747.55 | 9750.83 | 9754.11 | 9757.39 | 9760.68 | 9763.96 | 9767.24 | 9770.52 | 9773.80 |
| 2980 | 9777.08 | 9780.36 | 9783.64 | 9786.92 | 9790.20 | 9793.48 | 9796.76 | 9800.05 | 9803.33 | 9806.61 |
| 2990 | 9809.89 | 9813.17 | 9816.45 | 9819.73 | 9823.01 | 9826.29 | 9829.57 | 9832.85 | 9836.14 | 9839.42 |
| 3000 | 9842.70 | 9845.98 | 9849.26 | 9852.54 | 9855.82 | 9859.10 | 9862.38 | 9865.66 | 9868.94 | 9872.23 |

### Proportional Parts.

| Metres. | Decimetres. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. | Eng.Feet. |
| 0 | 0.0000 | 0.3281 | 0.6562 | 0.9843 | 1.3124 | 1.6404 | 1.9685 | 2.2966 | 2.6247 | 2.9528 |
| 1 | 3.2809 | 3.6090 | 3.9371 | 4.2652 | 4.5933 | 4.9213 | 5.2494 | 5.5775 | 5.9056 | 6.2337 |
| 2 | 6.5618 | 6.8899 | 7.2180 | 7.5461 | 7.8742 | 8.2022 | 8.5303 | 8.8584 | 9.1865 | 9.5146 |
| 3 | 9.8427 | 10.1708 | 10.4989 | 10.8270 | 11.1551 | 11.4831 | 11.8112 | 12.1393 | 12.4674 | 12.7955 |
| 4 | 13.1236 | 13.4517 | 13.7798 | 14.1079 | 14.4360 | 14.7640 | 15.0921 | 15.4202 | 15.7483 | 16.0764 |
| 5 | 16.4045 | 16.7326 | 17.0607 | 17.3888 | 17.7169 | 18.0449 | 18.3730 | 18.7011 | 19.0292 | 19.3573 |
| 6 | 19.6854 | 20.0135 | 20.3416 | 20.6697 | 20.9978 | 21.3258 | 21.6539 | 21.9820 | 22.3101 | 22.6382 |
| 7 | 22.9663 | 23.2944 | 23.6225 | 23.9506 | 24.2787 | 24.6067 | 24.9348 | 25.2629 | 25.5910 | 25.9191 |
| 8 | 26.2472 | 26.5753 | 26.9034 | 27.2315 | 27.5596 | 27.8876 | 28.2157 | 28.5438 | 28.8719 | 29.2000 |
| 9 | 29.5281 | 29.8562 | 30.1843 | 30.5124 | 30.8405 | 31.1685 | 31.4966 | 31.8247 | 31.1528 | 32.4809 |
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |

## VIII. CONVERSION OF METRES INTO AMERICAN FEET AND DECIMALS.

1 Metre = 3.28070878 American Feet.

| Metres. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Am. Feet. | Am Feet | Am. Feet. | Am. Feet | Am. Feet | Am. Feet | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet |
| 0 | 0.0 | 328.1 | 656.1 | 984.2 | 1312.3 | 1640.4 | 1968.4 | 2296.5 | 2624.6 | 2952.6 |
| 1000 | 3280.7 | 3608.8 | 3936.9 | 4264.9 | 4593.0 | 4921.1 | 5249.1 | 5577.2 | 5905.3 | 6233.3 |
| 2000 | 6561.4 | 6889.5 | 7217.6 | 7545.6 | 7873.7 | 8201.8 | 8529.8 | 8857.9 | 9186.0 | 9514.1 |
| 3000 | 9842.1 | 10170.2 | 10498.3 | 10826.3 | 11154.4 | 11482.5 | 11810.6 | 12138.6 | 12466.7 | 12794.8 |
| 4000 | 13122.8 | 13450.9 | 13779.0 | 14107.0 | 14435.1 | 14763.2 | 15091.3 | 15419.3 | 15747.4 | 16075.5 |
| 5000 | 16403.5 | 16731.6 | 17059.7 | 17387.8 | 17715.8 | 18043.9 | 18372.0 | 18700.0 | 19028.1 | 19356.2 |
| 6000 | 19684.3 | 20012.3 | 20340.4 | 20668.5 | 20996.5 | 21324.6 | 21652.7 | 21980.7 | 22308.8 | 22636.9 |
| 7000 | 22965.0 | 23293.0 | 23621.1 | 23949.2 | 24277.2 | 24605.3 | 24933.4 | 25261.5 | 25589.5 | 25917.6 |
| 8000 | 26245.7 | 26573.7 | 26901.8 | 27229.9 | 27558.0 | 27886.0 | 28214.1 | 28542.2 | 28870.2 | 29198.3 |
| 9000 | 29526.4 | 29854.4 | 30182.5 | 30510.6 | 30838.7 | 31166.7 | 31494.8 | 31822.9 | 32150.9 | 32479.0 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Am Feet | Am Feet. | Am Feet | Am. Feet. | Am. Feet | Am Feet. | Am. Feet | Am. Feet. | Am. Feet. | Am. Feet |
| 0 | 0.000 | 3.281 | 6.561 | 9.842 | 13.123 | 16.404 | 19.684 | 22.965 | 26.246 | 29.526 |
| 10 | 32.807 | 36.088 | 39.369 | 42.649 | 45.930 | 49.211 | 52.491 | 55.772 | 59.053 | 62.333 |
| 20 | 65.614 | 68.895 | 72.176 | 75.456 | 78.737 | 82.018 | 85.298 | 88.579 | 91.860 | 95.141 |
| 30 | 98.421 | 191.702 | 104.983 | 108.263 | 111.544 | 114.825 | 118.106 | 121.386 | 124.667 | 127.948 |
| 40 | 131.228 | 134.509 | 137.790 | 141.070 | 144.351 | 147.632 | 150.913 | 154.193 | 157.474 | 160.755 |
| 50 | 164.035 | 167.316 | 170.597 | 173.878 | 177.158 | 180.439 | 183.720 | 187.000 | 190.281 | 193.562 |
| 60 | 196.843 | 200.123 | 203.404 | 206.685 | 209.965 | 213.246 | 216.527 | 219.807 | 223.088 | 226.369 |
| 70 | 229.650 | 232.930 | 236.211 | 239.492 | 242.772 | 246.053 | 249.334 | 252.615 | 255.895 | 259.176 |
| 80 | 262.457 | 265.737 | 269.018 | 272.299 | 275.580 | 278.860 | 282.141 | 285.422 | 288.702 | 291.983 |
| 90 | 295.264 | 298.544 | 301.825 | 305.106 | 308.387 | 311.667 | 314.948 | 318.229 | 321.509 | 324.790 |

## IX. CONVERSION OF METRES INTO RHINE OR PRUSSIAN FEET AND DECIMALS.

1 Metre = 3.1861995 Rhine Feet.

| Metres. Thousands | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Rhine Ft. | Rhine Ft. | Rhine Ft | Rhine Ft. | Rhine Ft. | Rhine Ft | Rhine Ft. | Rhine Ft. | Rhine Ft. | Rhine Ft. |
| 0 | 0.0 | 318.6 | 637.2 | 955.9 | 1274.5 | 1593.1 | 1911.7 | 2230.3 | 2549.0 | 2867.6 |
| 1000 | 3186.2 | 3504.8 | 3823.4 | 4142.1 | 4460.7 | 4779.3 | 5097.9 | 5416.5 | 5735.2 | 6053.8 |
| 2000 | 6372.4 | 6691.0 | 7009.6 | 7328.3 | 7646.9 | 7965.5 | 8284.1 | 8602.7 | 8921.4 | 9240.0 |
| 3000 | 9558.6 | 9877.2 | 10195.8 | 10514.5 | 10833.1 | 11151.7 | 11470.3 | 11788.9 | 12107.6 | 12426.2 |
| 4000 | 12744.8 | 13063.4 | 13382.0 | 13700.7 | 14019.3 | 14337.9 | 14656.5 | 14975.1 | 15293.8 | 15612.4 |
| 5000 | 15931.0 | 16249.6 | 16568.2 | 16886.9 | 17205.5 | 17524.1 | 17842.7 | 18161.3 | 18480.0 | 18798.6 |
| 6000 | 19117.2 | 19435.8 | 19754.4 | 20073.1 | 20391.7 | 20710.3 | 21028.9 | 21347.5 | 21666.2 | 21984.8 |
| 7000 | 22303.4 | 22622.0 | 22940.6 | 23259.3 | 23577.9 | 23896.5 | 24215.1 | 24533.7 | 24852.4 | 25171.0 |
| 8000 | 25489.6 | 25808.2 | 26126.8 | 26445.5 | 26764.1 | 27082.7 | 27401.3 | 27719.9 | 28038.6 | 28357.2 |
| 9000 | 28675.8 | 28994.4 | 29313.0 | 29631.7 | 29950.3 | 30268.9 | 30587.5 | 30906.1 | 31224.8 | 31543.4 |

TO CONVERT

# PARIS OR FRENCH FEET

INTO DIFFERENT MEASURES OF LENGTH.

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## X. CONVERSION OF PARIS OR FRENCH FEET INTO TOISES.

1 French Foot = 0.1666666 Toise.

| French Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises | Toises. | Toises. | Toises. | Toises. |
| 0 | 0.00 | 16.67 | 33.33 | 50.00 | 66.67 | 83.33 | 100.00 | 116.67 | 133.33 | 150.00 |
| 1000 | 166.67 | 183.33 | 200.00 | 216.67 | 233.33 | 250.00 | 266.67 | 283.33 | 300.00 | 316.67 |
| 2000 | 333.33 | 350.00 | 366.67 | 383.33 | 400.00 | 416.67 | 433.33 | 450.00 | 466.67 | 483.33 |
| 3000 | 500.00 | 516.67 | 533.33 | 550.00 | 566.67 | 583.33 | 600.00 | 616.67 | 633.33 | 650.00 |
| 4000 | 666.67 | 683.33 | 700.00 | 716.67 | 733.33 | 750.00 | 766.67 | 783.33 | 800.00 | 816.67 |
| 5000 | 833.33 | 850.00 | 866.67 | 883.33 | 900.00 | 916.67 | 933.33 | 950.00 | 966.67 | 983.33 |
| 6000 | 1000.00 | 1016.67 | 1033.33 | 1050.00 | 1066.67 | 1083.33 | 1100.00 | 1116.67 | 1133.33 | 1150.00 |
| 7000 | 1166.67 | 1183.33 | 1200.00 | 1216.67 | 1233.33 | 1250.00 | 1266.67 | 1283.33 | 1300.00 | 1316.67 |
| 8000 | 1333.33 | 1350.00 | 1366.67 | 1383.33 | 1400.00 | 1416.67 | 1433.33 | 1450.00 | 1466.67 | 1483.33 |
| 9000 | 1500.00 | 1516.67 | 1533.33 | 1550.00 | 1566.67 | 1583.33 | 1600.00 | 1616.67 | 1633.33 | 1650.00 |
| 10000 | 1666.67 | 1683.33 | 1700.00 | 1716.67 | 1733.33 | 1750.00 | 1766.67 | 1783.33 | 1800.00 | 1816.67 |
| 11000 | 1833.33 | 1850.00 | 1866.67 | 1883.33 | 1900.00 | 1916.67 | 1933.33 | 1950.00 | 1966.67 | 1983.33 |
| 12000 | 2000.00 | 2016.67 | 2033.33 | 2050.00 | 2066.67 | 2083.33 | 2100.00 | 2116.67 | 2133.33 | 2150.00 |
| 13000 | 2166.67 | 2183.33 | 2200.00 | 2216.67 | 2233.33 | 2250.00 | 2266.67 | 2283.33 | 2300.00 | 2316.67 |
| 14000 | 2333.33 | 2350.00 | 2366.67 | 2383.33 | 2400.00 | 2416.67 | 2433.33 | 2450.00 | 2466.67 | 2483.33 |
| 15000 | 2500.00 | 2516.67 | 2533.33 | 2550.00 | 2566.67 | 2583.33 | 2600.00 | 2616.67 | 2633.33 | 2650.00 |
| 16000 | 2666.67 | 2683.33 | 2700.00 | 2716.67 | 2733.33 | 2750.00 | 2766.67 | 2783.33 | 2800.00 | 2816.67 |
| 17000 | 2833.33 | 2850.00 | 2866.67 | 2883.33 | 2900.00 | 2916.67 | 2933.33 | 2950.00 | 2966.67 | 2983.33 |
| 18000 | 3000.00 | 3016.67 | 3033.33 | 3050.00 | 3066.67 | 3083.33 | 3100.00 | 3116.67 | 3133.33 | 3150.00 |
| 19000 | 3166.67 | 3183.33 | 3200.00 | 3216.67 | 3233.33 | 3250.00 | 3266.67 | 3283.33 | 3300.00 | 3316.67 |
| 20000 | 3333.33 | 3350.00 | 3366.67 | 3383.33 | 3400.00 | 3416.67 | 3433.33 | 3450.00 | 3466.67 | 3483.33 |
| 21000 | 3500.00 | 3516.67 | 3533.33 | 3550.00 | 3566.67 | 3583.33 | 3600.00 | 3616.67 | 3633.33 | 3650.00 |
| 22000 | 3666.67 | 3683.33 | 3700.00 | 3716.67 | 3733.33 | 3750.00 | 3766.67 | 3783.33 | 3800.00 | 3816.67 |
| 23000 | 3833.33 | 3850.00 | 3866.67 | 3883.33 | 3900.00 | 3916.67 | 3933.33 | 3950.00 | 3966.67 | 3983.33 |
| 24000 | 4000.00 | 4016.67 | 4033.33 | 4050.00 | 4066.67 | 4083.33 | 4100.00 | 4116.67 | 4133.33 | 4150.00 |
| 25000 | 4166.67 | 4183.33 | 4200.00 | 4216.67 | 4233.33 | 4250.00 | 4266.67 | 4283.33 | 4300.00 | 4316.67 |
| 26000 | 4333.33 | 4350.00 | 4366.67 | 4383.33 | 4400.00 | 4416.67 | 4433.33 | 4450.00 | 4466.67 | 4483.33 |

## XI. CONVERSION OF PARIS OR FRENCH FEET INTO METRES.

1 Paris Foot = 0.32483943 Metres.

| French Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 000.00 | 32.48 | 64.97 | 97.45 | 129.94 | 162.42 | 194.90 | 227.39 | 259.87 | 292.36 |
| 1000 | 324.84 | 357.32 | 389.81 | 422.29 | 454.78 | 487.26 | 519.74 | 552.23 | 584.71 | 617.19 |
| 2000 | 649.68 | 682.16 | 714.65 | 747.13 | 779.61 | 812.10 | 844.58 | 877.07 | 909.55 | 942.03 |
| 3000 | 974.52 | 1007.00 | 1039.49 | 1071.97 | 1104.45 | 1136.94 | 1169.42 | 1201.91 | 1234.39 | 1266.87 |
| 4000 | 1299.36 | 1331.84 | 1364.33 | 1396.81 | 1429.29 | 1461.78 | 1494.26 | 1526.75 | 1559.23 | 1591.71 |
| 5000 | 1624.20 | 1656.68 | 1689.16 | 1721.65 | 1754.13 | 1786.62 | 1819.10 | 1851.58 | 1884.07 | 1916.55 |
| 6000 | 1949.04 | 1981.52 | 2014.00 | 2046.49 | 2078.97 | 2111.46 | 2143.94 | 2176.42 | 2208.91 | 2241.39 |
| 7000 | 2273.88 | 2306.36 | 2338.84 | 2371.33 | 2403.81 | 2436.30 | 2468.78 | 2501.26 | 2533.75 | 2566.23 |
| 8000 | 2598.72 | 2631.20 | 2663.68 | 2696.17 | 2728.65 | 2761.14 | 2793.62 | 2826.10 | 2858.59 | 2891.07 |
| 9000 | 2923.55 | 2956.04 | 2988.52 | 3021.01 | 3053.49 | 3085.97 | 3118.46 | 3150.94 | 3183.43 | 3215.91 |
| 10000 | 3248.39 | 3280.88 | 3313.36 | 3345.85 | 3378.33 | 3410.81 | 3443.30 | 3475.78 | 3508.27 | 3540.75 |
| 11000 | 3573.23 | 3605.72 | 3638.20 | 3670.69 | 3703.17 | 3735.65 | 3768.14 | 3800.62 | 3833.11 | 3865.59 |
| 12000 | 3898.07 | 3930.56 | 3963.04 | 3995.52 | 4028.01 | 4060.49 | 4092.98 | 4125.46 | 4157.94 | 4190.43 |
| 13000 | 4222.91 | 4255.40 | 4287.88 | 4320.36 | 4352.85 | 4385.33 | 4417.82 | 4450.30 | 4482.78 | 4515.27 |
| 14000 | 4547.75 | 4580.24 | 4612.72 | 4645.10 | 4677.59 | 4710.07 | 4742.56 | 4775.04 | 4807.52 | 4840.01 |
| 15000 | 4872.59 | 4905.08 | 4937.56 | 4970.04 | 5002.53 | 5035.01 | 5067.49 | 5099.98 | 5132.46 | 5164.95 |
| 16000 | 5197.43 | 5229.91 | 5262.40 | 5294.88 | 5327.37 | 5359.85 | 5392.33 | 5424.82 | 5457.30 | 5489.79 |
| 17000 | 5522.27 | 5554.75 | 5587.24 | 5619.72 | 5652.21 | 5684.69 | 5717.17 | 5749.66 | 5782.14 | 5814.63 |
| 18000 | 5847.11 | 5879.59 | 5912.08 | 5944.56 | 5977.05 | 6009.53 | 6042.01 | 6074.50 | 6106.98 | 6139.47 |
| 19000 | 6171.95 | 6204.43 | 6236.92 | 6269.40 | 6301.88 | 6334.37 | 6366.85 | 6399.34 | 6431.82 | 6464.30 |
| 20000 | 6496.79 | 6529.27 | 6561.76 | 6594.24 | 6626.72 | 6659.21 | 6691.69 | 6724.18 | 6756.66 | 6789.14 |
| 21000 | 6821.63 | 6854.11 | 6886.60 | 6919.08 | 6951.56 | 6984.05 | 7016.53 | 7049.02 | 7081.50 | 7113.98 |
| 22000 | 7146.47 | 7178.95 | 7211.44 | 7243.92 | 7276.40 | 7308.89 | 7341.37 | 7373.86 | 7406.34 | 7438.82 |
| 23000 | 7471.31 | 7503.79 | 7536.27 | 7568.76 | 7601.24 | 7633.73 | 7666.21 | 7698.69 | 7731.18 | 7763.66 |
| 24000 | 7796.15 | 7828.63 | 7861.11 | 7893.60 | 7926.08 | 7958.57 | 7991.05 | 8023.53 | 8056.02 | 8088.50 |
| 25000 | 8120.99 | 8153.47 | 8185.95 | 8218.44 | 8250.92 | 8283.41 | 8315.89 | 8448.37 | 8380.86 | 8413.34 |
| 26000 | 8445.83 | 8478.31 | 8510.79 | 8543.28 | 8575.76 | 8608.24 | 8640.73 | 8673.21 | 8705.70 | 8738.18 |
| 27000 | 8770.66 | 8803.15 | 8835.63 | 8868.12 | 8900.60 | 8933.08 | 8965.57 | 8998.05 | 9030.54 | 9063.02 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.0000 | 0.3248 | 0.6497 | 0.9745 | 1.2994 | 1.6242 | 1.9490 | 2.2739 | 2.5987 | 2.9236 |
| 10 | 3.2484 | 3.5732 | 3.8981 | 4.2229 | 4.5478 | 4.8726 | 5.1974 | 5.5223 | 5.8471 | 6.1719 |
| 20 | 6.4968 | 6.8216 | 7.1465 | 7.4713 | 7.7961 | 8.1210 | 8.4458 | 8.7707 | 9.0955 | 9.4203 |
| 30 | 9.7452 | 10.0700 | 10.3949 | 10.7197 | 11.0445 | 11.3694 | 11.6942 | 12.0191 | 12.3439 | 12.6687 |
| 40 | 12.9936 | 13.3184 | 13.6433 | 13.9681 | 14.2929 | 14.6178 | 14.9426 | 15.2675 | 15.5923 | 15.9171 |
| 50 | 16.2420 | 16.5668 | 16.8916 | 17.2165 | 17.5413 | 17.8662 | 18.1910 | 18.5158 | 18.8407 | 19.1655 |
| 60 | 19.4904 | 19.8152 | 20.1400 | 20.4649 | 20.7897 | 21.1146 | 21.4394 | 21.7642 | 22.0891 | 22.4139 |
| 70 | 22.7388 | 23.0636 | 23.3884 | 23.7133 | 24.0381 | 24.3630 | 24.6878 | 25.0126 | 25.3375 | 25.6623 |
| 80 | 25.9872 | 26.3120 | 26.6368 | 26.9617 | 27.2865 | 27.6114 | 27.9362 | 28.2610 | 28.5859 | 28.9107 |
| 90 | 29.2355 | 29.5604 | 29.8852 | 30.2101 | 30.5349 | 30.8597 | 31.1846 | 31.5094 | 31.8343 | 32.1591 |

1 French Foot = 1.06576527 English Feet.

| French Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. |
| 0 | 0.0 | 106.6 | 213.2 | 319.7 | 426.3 | 532.9 | 639.5 | 746.0 | 852.6 | 959.2 |
| 1000 | 1065.8 | 1172.3 | 1278.9 | 1385.5 | 1492.1 | 1598.6 | 1705.2 | 1811.8 | 1918.4 | 2025.0 |
| 2000 | 2131.5 | 2238.1 | 2344.7 | 2451.3 | 2557.8 | 2664.4 | 2771.0 | 2877.6 | 2984.1 | 3090.7 |
| 3000 | 3197.3 | 3303.9 | 3410.4 | 3517.0 | 3623.6 | 3730.2 | 3836.8 | 3943.3 | 4049.9 | 4156.5 |
| 4000 | 4263.1 | 4369.6 | 4476.2 | 4582.8 | 4689.4 | 4795.9 | 4902.5 | 5009.1 | 5115.7 | 5222.3 |
| 5000 | 5328.8 | 5435.4 | 5542.0 | 5648.6 | 5755.1 | 5861.7 | 5968.3 | 6074.9 | 6181.4 | 6288.0 |
| 6000 | 6394.6 | 6501.2 | 6607.7 | 6714.3 | 6820.9 | 6927.5 | 7034.1 | 7140.6 | 7247.2 | 7353.8 |
| 7000 | 7460.4 | 7566.9 | 7673.5 | 7780.1 | 7886.7 | 7993.2 | 8099.8 | 8206.4 | 8313.0 | 8419.5 |
| 8000 | 8526.1 | 8632.7 | 8739.3 | 8845.9 | 8952.4 | 9059.0 | 9165.6 | 9272.2 | 9378.7 | 9485.3 |
| 9000 | 9591.9 | 9698.5 | 9805.0 | 9911.6 | 10018.2 | 10124.8 | 10231.3 | 10337.9 | 10444.5 | 10551.1 |
| 10000 | 10657.7 | 10764.2 | 10870.8 | 10977.4 | 11084.0 | 11190.5 | 11297.1 | 11403.7 | 11510.3 | 11616.8 |
| 11000 | 11723.4 | 11830.0 | 11936.6 | 12043.1 | 12149.7 | 12256.3 | 12362.9 | 12469.5 | 12576.0 | 12682.6 |
| 12000 | 12789.2 | 12895.8 | 13002.3 | 13108.9 | 13215.5 | 13322.1 | 13428.6 | 13535.2 | 13641.8 | 13748.4 |
| 13000 | 13855.0 | 13961.5 | 14068.1 | 14174.7 | 14281.3 | 14387.8 | 14494.4 | 14601.0 | 14707.6 | 14814.1 |
| 14000 | 14920.7 | 15027.3 | 15133.9 | 15240.4 | 15347.0 | 15453.6 | 15560.2 | 15666.8 | 15773.3 | 15879.9 |
| 15000 | 15986.5 | 16093.1 | 16199.6 | 16306.2 | 16412.8 | 16519.4 | 16625.9 | 16732.5 | 16839.1 | 16945.7 |
| 16000 | 17052.2 | 17158.8 | 17265.4 | 17372.0 | 17478.6 | 17585.1 | 17691.7 | 17798.3 | 17904.9 | 18011.4 |
| 17000 | 18118.0 | 18224.6 | 18331.2 | 18437.7 | 18544.3 | 18650.9 | 18757.5 | 18864.0 | 18970.6 | 19077.2 |
| 18000 | 19183.8 | 19290.4 | 19396.9 | 19503.5 | 19610.1 | 19716.7 | 19823.2 | 19929.8 | 20036.4 | 20143.0 |
| 19000 | 20249.5 | 20356.1 | 20462.7 | 20569.3 | 20675.8 | 20782.4 | 20889.0 | 20995.6 | 21102.2 | 21208.7 |
| 20000 | 21315.3 | 21421.9 | 21528.5 | 21635.0 | 21741.6 | 21848.2 | 22054.8 | 22161.3 | 22167.9 | 22274.5 |
| 21000 | 22381.1 | 22487.7 | 22594.2 | 22700.8 | 22807.4 | 22914.0 | 23020.5 | 23127.1 | 23233.7 | 23340.3 |
| 22000 | 23446.8 | 23553.4 | 23660.0 | 23766.6 | 23873.1 | 23979.7 | 24086.3 | 24192.9 | 24299.5 | 24406.0 |
| 23000 | 24512.6 | 24619.2 | 24725.8 | 24832.3 | 24938.9 | 25045.5 | 25152.1 | 25258.6 | 25365.2 | 25471.8 |
| 24000 | 25578.4 | 25684.9 | 25791.5 | 25898.1 | 26004.7 | 26111.3 | 26217.8 | 26324.4 | 26431.0 | 26537.6 |
| 25000 | 26644.1 | 26750.7 | 26857.3 | 26963.9 | 27070.4 | 27177.0 | 27283.6 | 27390.2 | 27496.7 | 27603.3 |
| 26000 | 27709.9 | 27816.5 | 27923.1 | 28029.6 | 28136.2 | 28242.8 | 28349.4 | 28455.9 | 28562.5 | 28669.1 |
| 27000 | 28775.7 | 28882.2 | 28988.8 | 29095.4 | 29202.0 | 29308.5 | 29415.1 | 29521.7 | 29628.3 | 29734.9 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet |
| 0 | 0.000 | 1.066 | 2.132 | 3.197 | 4.263 | 5.329 | 6.395 | 7.460 | 8.526 | 9.592 |
| 10 | 10.658 | 11.723 | 12.789 | 13.855 | 14.921 | 15.986 | 17.052 | 18.118 | 19.184 | 20.250 |
| 20 | 21.315 | 22.381 | 23.447 | 24.513 | 25.578 | 26.644 | 27.710 | 28.776 | 29.841 | 30.907 |
| 30 | 31.973 | 33.039 | 34.104 | 35.170 | 36.236 | 37.302 | 38.368 | 39.433 | 40.499 | 41.565 |
| 40 | 42.631 | 43.696 | 44.762 | 45.828 | 46.894 | 47.959 | 49.025 | 50.091 | 51.157 | 52.223 |
| 50 | 53.288 | 54.354 | 55.420 | 56.486 | 57.551 | 58.617 | 59.683 | 60.749 | 61.814 | 62.880 |
| 60 | 63.946 | 65.012 | 66.077 | 67.143 | 68.209 | 69.275 | 70.341 | 71.406 | 72.472 | 73.538 |
| 70 | 74.604 | 75.669 | 76.735 | 77.801 | 78.867 | 79.932 | 80.998 | 82.064 | 83.130 | 84.195 |
| 80 | 85.261 | 86.327 | 87.393 | 88.459 | 89.524 | 90.590 | 91.656 | 92.722 | 93.787 | 94.853 |
| 90 | 95.919 | 96.985 | 98.050 | 99.116 | 100.182 | 101.248 | 102.313 | 103.379 | 104.445 | 105.511 |

## XIII. CONVERSION OF PARIS OR FRENCH FEET INTO AMERICAN FEET.

1 French Foot = 1.0657034 American Foot.

| French Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Am. Feet. | Am. Feet | Am. Feet. | Am. Feet. | Am Feet | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet. |
| 0 | 0.0 | 106.6 | 213.1 | 319.7 | 426.3 | 532.9 | 639.4 | 746.0 | 852.6 | 959.1 |
| 1000 | 1065.7 | 1172.3 | 1278.8 | 1385.4 | 1492.0 | 1598.6 | 1705.1 | 1811.7 | 1918.3 | 2024.8 |
| 2000 | 2131.4 | 2238.0 | 2344.5 | 2451.1 | 2557.7 | 2664.3 | 2770.8 | 2877.4 | 2984.0 | 3090.5 |
| 3000 | 3197.1 | 3303.7 | 3410.3 | 3516.8 | 3623.4 | 3730.0 | 3836.5 | 3943.1 | 4049.7 | 4156.2 |
| 4000 | 4262.8 | 4369.4 | 4476.0 | 4582.5 | 4689.1 | 4795.7 | 4902.2 | 5008.8 | 5115.4 | 5221.9 |
| 5000 | 5328.5 | 5435.1 | 5541.7 | 5648.2 | 5754.8 | 5861.4 | 5967.9 | 6074.5 | 6181.1 | 6287.7 |
| 6000 | 6394.2 | 6500.8 | 6607.4 | 6713.9 | 6820.5 | 6927.1 | 7033.6 | 7140.2 | 7246.8 | 7353.4 |
| 7000 | 7459.9 | 7566.5 | 7673.1 | 7779.6 | 7886.2 | 7992.8 | 8099.3 | 8205.9 | 8312.5 | 8419.1 |
| 8000 | 8525.6 | 8632.2 | 8738.8 | 8845.3 | 8951.9 | 9058.5 | 9165.1 | 9271.6 | 9378.2 | 9484.8 |
| 9000 | 9591.3 | 9697.9 | 9804.5 | 9911.0 | 10017.6 | 10124.2 | 10230.8 | 10337.3 | 10443.9 | 10550.5 |
| 10000 | 10657.0 | 10763.6 | 10870.2 | 10976.7 | 11083.3 | 11189.9 | 11296.5 | 11403.0 | 11509.6 | 11616.2 |
| 11000 | 11722.7 | 11829.3 | 11935.9 | 12042.5 | 12149.0 | 12255.6 | 12362.2 | 12468.7 | 12575.3 | 12681.9 |
| 12000 | 12788.4 | 12895.0 | 13001.6 | 13108.2 | 13214.7 | 13321.3 | 13427.9 | 13534.4 | 13641.0 | 13747.6 |
| 13000 | 13854.1 | 13960.7 | 14067.3 | 14173.9 | 14280.4 | 14387.0 | 14493.6 | 14600.1 | 14706.7 | 14813.3 |
| 14000 | 14919.9 | 15026.4 | 15133.0 | 15239.6 | 15346.1 | 15452.7 | 15559.3 | 15665.8 | 15772.4 | 15879.0 |
| 15000 | 15985.6 | 16092.1 | 16198.7 | 16305.3 | 16411.8 | 16518.4 | 16625.0 | 16731.5 | 16838.1 | 16944.7 |
| 16000 | 17051.3 | 17157.8 | 17264.4 | 17371.0 | 17477.5 | 17584.1 | 17690.7 | 17797.2 | 17903.8 | 18010.4 |
| 17000 | 18117.0 | 18223.5 | 18330.1 | 18436.7 | 18543.2 | 18649.8 | 18756.4 | 18863.0 | 18969.5 | 19076.1 |
| 18000 | 19182.7 | 19289.2 | 19395.8 | 19502.4 | 19608.9 | 19715.5 | 19822.1 | 19928.7 | 20035.2 | 20141.8 |
| 19000 | 20248.4 | 20354.9 | 20461.5 | 20568.1 | 20674.6 | 20781.2 | 20887.8 | 20994.4 | 21100.9 | 21207.5 |
| 20000 | 21314.1 | 21420.6 | 21527.2 | 21633.8 | 21740.4 | 21846.9 | 21953.5 | 22060.1 | 22166.6 | 22273.2 |
| 21000 | 22379.8 | 22486.3 | 22592.9 | 22699.5 | 22806.1 | 22912.6 | 23019.2 | 23125.8 | 23232.3 | 23338.9 |
| 22000 | 23445.5 | 23552.0 | 23658.6 | 23765.2 | 23871.8 | 23978.3 | 24084.9 | 24191.5 | 24298.0 | 24404.6 |
| 23000 | 24511.2 | 24617.8 | 24724.3 | 24830.9 | 24937.5 | 25044.0 | 25150.6 | 25257.2 | 25363.7 | 25470.3 |
| 24000 | 25576.9 | 25683.5 | 25790.0 | 25896.6 | 26003.2 | 26109.7 | 26216.3 | 26322.9 | 16429.4 | 26536.0 |
| 25000 | 26642.6 | 26749.2 | 26855.7 | 26962.3 | 27068.9 | 27175.4 | 27282.0 | 27388.6 | 27495.2 | 27601.7 |
| 26000 | 27708.3 | 27814.9 | 27921.4 | 28028.0 | 28134.6 | 28241.1 | 28347.7 | 28454.3 | 28560.9 | 28667.4 |
| 27000 | 28774.0 | 28880.6 | 28987.1 | 29093.7 | 29200.3 | 29306.8 | 29413.4 | 29520.0 | 29626.6 | 29733.1 |
| 28000 | 29839.7 | 29946.3 | 30052.8 | 30159.4 | 30266.0 | 30372.6 | 30479.1 | 30585.7 | 30692.3 | 30799.8 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Am. Feet. | Am. Feet. | Am Feet | Am. Feet. | Am Feet | Am Feet. | Am. Feet. | Am Feet. | Am. Feet | Am. Feet. |
| 0 | 0.00 | 1.07 | 2.13 | 3.20 | 4.26 | 5.33 | 6.39 | 7.46 | 8.53 | 9.59 |
| 10 | 10.66 | 11.72 | 12.79 | 13.85 | 14.92 | 15.99 | 17.05 | 18.12 | 19.18 | 20.25 |
| 20 | 21.31 | 22.38 | 23.45 | 24.51 | 25.58 | 26.64 | 27.71 | 28.77 | 29.84 | 30.91 |
| 30 | 31.97 | 33.04 | 34.10 | 35.17 | 36.23 | 37.30 | 38.37 | 39.43 | 40.50 | 41.56 |
| 40 | 42.63 | 43.69 | 44.76 | 45.83 | 46.89 | 47.96 | 49.02 | 50.09 | 51.15 | 52.22 |
| 50 | 53.29 | 54.35 | 55.42 | 56.48 | 57.55 | 58.61 | 59.68 | 60.75 | 61.81 | 62.88 |
| 60 | 63.94 | 65.01 | 66.07 | 67.14 | 68.21 | 69.27 | 70.34 | 71.40 | 72.47 | 73.53 |
| 70 | 74.60 | 75.66 | 76.73 | 77.80 | 78.86 | 79.93 | 80.99 | 82.06 | 83.12 | 84.19 |
| 80 | 85.26 | 86.32 | 87.39 | 88.45 | 89.52 | 90.58 | 91.65 | 92.72 | 93.78 | 94.85 |
| 90 | 95.91 | 96.98 | 98.04 | 99.11 | 100.18 | 101.24 | 102.31 | 103.37 | 104.44 | 105.50 |

TO CONVERT

# ENGLISH YARDS AND FEET

INTO DIFFERENT MEASURES OF LENGTH.

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## XIV. CONVERSION OF ENGLISH YARDS INTO FRENCH TOISES.

1 English Yard = 0.4691465 Toise.

| English Yards. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **100.** | **200.** | **300.** | **400.** | **500.** | **600.** | **700.** | **800.** | **900.** |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises | Toises. | Toises. | Toises. |
| 0 | 0.00 | 46.91 | 93.83 | 140.74 | 187.66 | 234.57 | 281.49 | 328.40 | 375.32 | 422.23 |
| 1000 | 469.15 | 516.06 | 562.98 | 609.89 | 656.80 | 703.72 | 750.63 | 797.55 | 844.46 | 891.38 |
| 2000 | 938.29 | 985.21 | 1032.12 | 1079.04 | 1125.95 | 1172.87 | 1219.78 | 1266.70 | 1313.61 | 1360.52 |
| 3000 | 1407.44 | 1454.35 | 1501.27 | 1548.18 | 1595.10 | 1642.01 | 1688.93 | 1735.84 | 1782.76 | 1829.67 |
| 4000 | 1876.59 | 1923.50 | 1970.41 | 2017.33 | 2064.24 | 2111.16 | 2158.07 | 2204.99 | 2251.90 | 2298.82 |
| 5000 | 2345.73 | 2392.65 | 2439.56 | 2486.48 | 2533.39 | 2580.31 | 2627.22 | 2674.13 | 2721.05 | 2767.96 |
| 6000 | 2814.88 | 2861.79 | 2908.71 | 2955.62 | 3002.54 | 3049.45 | 3096.37 | 3143.28 | 3190.20 | 3237.11 |
| 7000 | 3284.02 | 3330.94 | 3377.85 | 3424.77 | 3471.68 | 3518.60 | 3565.51 | 3612.43 | 3659.34 | 3706.26 |
| 8000 | 3753.17 | 3800.09 | 3847.00 | 3893.92 | 3940.83 | 3987.74 | 4034.66 | 4081.57 | 4128.49 | 4175.40 |
| 9000 | 4222.32 | 4269.23 | 4316.15 | 4363.06 | 4409.98 | 4456.89 | 4503.81 | 4550.72 | 4597.63 | 4644.55 |

## XV. CONVERSION OF ENGLISH YARDS INTO METRES.

1 English Yard = 0.91438348 Metre.

| English Yards. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **100.** | **200.** | **300.** | **400.** | **500.** | **600.** | **700.** | **800.** | **900.** |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 91.44 | 182.88 | 274.32 | 365.75 | 457.19 | 548.63 | 640.07 | 731.51 | 822.95 |
| 1000 | 914.38 | 1005.82 | 1097.26 | 1188.70 | 1280.14 | 1371.58 | 1463.01 | 1554.45 | 1645.89 | 1737.33 |
| 2000 | 1828.77 | 1920.21 | 2011.64 | 2103.08 | 2194.52 | 2285.96 | 2377.40 | 2468.84 | 2560.27 | 2651.71 |
| 3000 | 2743.15 | 2834.59 | 2926.03 | 3017.47 | 3108.90 | 3200.34 | 3291.78 | 3383.22 | 3474.66 | 3566.10 |
| 4000 | 3657.53 | 3748.97 | 3840.41 | 3931.85 | 4023.29 | 4114.73 | 4206.16 | 4297.60 | 4389.04 | 4480.48 |
| 5000 | 4571.92 | 4663.36 | 4754.79 | 4846.23 | 4937.67 | 5029.11 | 5120.55 | 5211.99 | 5303.42 | 5394.86 |
| 6000 | 5486.30 | 5577.74 | 5669.18 | 5760.62 | 5852.05 | 5943.49 | 6034.93 | 6126.37 | 6217.81 | 6309.25 |
| 7000 | 6400.68 | 6492.12 | 6583.56 | 6675.00 | 6766.44 | 6857.88 | 6949.31 | 7040.75 | 7132.19 | 7223.63 |
| 8000 | 7315.07 | 7406.51 | 7497.94 | 7589.38 | 7680.82 | 7772.26 | 7863.70 | 7955.14 | 8046.57 | 8138.01 |
| 9000 | 8229.45 | 8320.89 | 8412.33 | 8503.77 | 8595.20 | 8686.64 | 8778.08 | 8869.52 | 8960.96 | 9052.40 |

## XVI. CONVERSION OF ENGLISH FEET INTO METRES.

1 English Foot = 0.30479449 Metre.

| English Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 000.000 | 30.4794 | 60.9589 | 91.4383 | 121.918 | 152.397 | 182.877 | 213.356 | 243.836 | 274.315 |
| 1000 | 304.794 | 335.274 | 365.763 | 396.233 | 426.712 | 457.192 | 487.671 | 518.151 | 548.630 | 579.110 |
| 2000 | 609.589 | 640.068 | 670.548 | 701.027 | 731.507 | 761.986 | 792.466 | 822.945 | 853.425 | 883.904 |
| 3000 | 914.383 | 944.863 | 975.342 | 1005.82 | 1036.30 | 1066.78 | 1097.26 | 1127.74 | 1158.22 | 1188.70 |
| 4000 | 1219.18 | 1249.66 | 1280.14 | 1310.62 | 1341.10 | 1371.58 | 1402.05 | 1432.53 | 1463.01 | 1493.49 |
| 5000 | 1523.97 | 1554.45 | 1584.93 | 1615.41 | 1645.89 | 1676.37 | 1706.85 | 1737.33 | 1767.81 | 1798.29 |
| 6000 | 1828.77 | 1859.25 | 1889.73 | 1920.21 | 1950.68 | 1981.16 | 2011.64 | 2042.12 | 2072.60 | 2103.08 |
| 7000 | 2133.56 | 2164.04 | 2194.52 | 2225.00 | 2255.48 | 2285.96 | 2316.44 | 2346.92 | 2377.40 | 2407.88 |
| 8000 | 2438.36 | 2468.84 | 2499.31 | 2529.79 | 2560.27 | 2590.75 | 2621.23 | 2651.71 | 2682.19 | 2712.67 |
| 9000 | 2743.15 | 2773.63 | 2804.11 | 2834.59 | 2865.07 | 2895.55 | 2926.03 | 2956.51 | 2986.99 | 3017.47 |
| 10000 | 3047.94 | 3078.42 | 3108.90 | 3139.38 | 3169.86 | 3200.34 | 3230.82 | 3261.30 | 3291.78 | 3322.26 |
| 11000 | 3352.74 | 3383.22 | 3413.70 | 3444.18 | 3474.66 | 3505.14 | 3535.62 | 3566.10 | 3596.57 | 3627.05 |
| 12000 | 3657.53 | 3688.01 | 3718.49 | 3748.97 | 3779.45 | 3809.93 | 3840.41 | 3870.89 | 3901.37 | 3931.85 |
| 13000 | 3962.33 | 3992.81 | 4023.29 | 4053.77 | 4084.25 | 4114.73 | 4145.21 | 4175.68 | 4206.16 | 4236.64 |
| 14000 | 4267.12 | 4297.60 | 4228.08 | 4358.56 | 4389.04 | 4419.52 | 4450.00 | 4480.48 | 4510.96 | 4541.44 |
| 15000 | 4571.92 | 4602.40 | 4632.88 | 4663.36 | 4693.84 | 4724.31 | 4754.79 | 4785.27 | 4815.75 | 4846.23 |
| 16000 | 4876.71 | 4907.19 | 4937.67 | 4968.15 | 4998.63 | 5029.11 | 5059.59 | 5090.07 | 5120.55 | 5151.03 |
| 17000 | 5181.51 | 5211.99 | 5242.47 | 5272.94 | 5303.42 | 5333.90 | 5364.38 | 5394.86 | 5425.34 | 5455.82 |
| 18000 | 5486.30 | 5516.78 | 5547.26 | 5577.74 | 5608.22 | 5638.70 | 5669.18 | 5699.66 | 5730.14 | 5760.62 |
| 19000 | 5791.10 | 5821.57 | 5852.05 | 5882.53 | 5913.01 | 5943.49 | 5973.97 | 6004.45 | 6034.93 | 6065.41 |
| 20000 | 6095.89 | 6126.37 | 6156.85 | 6187.33 | 6217.81 | 6248.29 | 6278.77 | 6309.25 | 6339.73 | 6370.20 |
| 21000 | 6400.68 | 6431.16 | 6461.64 | 6492.12 | 6522.60 | 6553.08 | 6583.56 | 6614.04 | 6644.52 | 6675.00 |
| 22000 | 6705.48 | 6735.96 | 6766.44 | 6796.92 | 6827.40 | 6857.88 | 6888.36 | 6918.83 | 6949.31 | 6979.79 |
| 23000 | 7010.27 | 7040.75 | 7071.23 | 7101.71 | 7132.19 | 7162.67 | 7193.15 | 7223.63 | 7254.11 | 7284.59 |
| 24000 | 7315.07 | 7345.55 | 7376.03 | 7406.51 | 7436.99 | 7467.47 | 7497.94 | 7528.42 | 7558.90 | 7589.38 |
| 25000 | 7619.86 | 7650.34 | 7680.82 | 7711.30 | 7741.78 | 7772.26 | 7802.74 | 7833.22 | 7863.70 | 7894.18 |
| 26000 | 7924.66 | 7955.14 | 7985.62 | 8016.10 | 8046.57 | 8077.05 | 8107.53 | 8138.01 | 8168.49 | 8198.97 |
| 27000 | 8229.45 | 8259.93 | 8290.41 | 8320.89 | 8351.37 | 8381.85 | 8412.33 | 8442.81 | 8473.29 | 8503.77 |
| 28000 | 8534.25 | 8564.73 | 8595.20 | 8625.68 | 8656.16 | 8686.64 | 8717.12 | 8747.60 | 8778.08 | 8808.56 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00000 | 0.30479 | 0.60959 | 0.91438 | 1.21918 | 1.52397 | 1.82877 | 2.13356 | 2.43836 | 2.74315 |
| 10 | 3.04794 | 3.35274 | 3.65753 | 3.96233 | 4.26712 | 4.57192 | 4.87671 | 5.18151 | 5.48630 | 5.79110 |
| 20 | 6.09589 | 6.40068 | 6.70548 | 7.01027 | 7.31507 | 7.61986 | 7.92466 | 8.22945 | 8.53425 | 8.83904 |
| 30 | 9.14383 | 9.44863 | 9.75342 | 10.0582 | 10.3630 | 10.6678 | 10.9726 | 11.2774 | 11.5822 | 11.8870 |
| 40 | 12.1918 | 12.4966 | 12.8014 | 13.1062 | 13.4110 | 13.7158 | 14.0205 | 14.3253 | 14.6301 | 14.9349 |
| 50 | 15.2397 | 15.5445 | 15.8493 | 16.1541 | 16.4589 | 16.7637 | 17.0685 | 17.3733 | 17.6781 | 17.9829 |
| 60 | 18.2877 | 18.5925 | 18.8973 | 19.2021 | 19.5068 | 19.8116 | 20.1164 | 20.4212 | 20.7260 | 21.0308 |
| 70 | 21.3356 | 21.6404 | 21.9452 | 22.2500 | 22.5548 | 22.8596 | 23.1644 | 23.4692 | 23.7740 | 24.0788 |
| 80 | 24.3836 | 24.6884 | 24.9931 | 25.2979 | 25.6027 | 25.9075 | 26.2123 | 26.5171 | 26.8219 | 27.1267 |
| 90 | 27.4315 | 27.7363 | 28.0411 | 28.3459 | 28.6507 | 28.9555 | 29.2603 | 29.5651 | 29.8699 | 30.1747 |

## XVII. CONVERSION OF ENGLISH FEET INTO FRENCH OR PARIS FEET AND DECIMALS.

1 English Foot = 0.9382929 Paris Foot.

| English Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. |
| 0 | 000.0 | 93.8 | 187.7 | 281.5 | 375.3 | 469.1 | 563.0 | 656.8 | 750.6 | 844.5 |
| 1000 | 938.3 | 1032.1 | 1126.0 | 1219.8 | 1313.6 | 1407.4 | 1501.3 | 1595.1 | 1688.9 | 1782.8 |
| 2000 | 1876.6 | 1970.4 | 2064.2 | 2158.1 | 2251.9 | 2345.7 | 2439.6 | 2533.4 | 2627.2 | 2721.0 |
| 3000 | 2814.9 | 2908.7 | 3002.5 | 3096.4 | 3190.2 | 3284.0 | 3377.9 | 3471.7 | 3565.5 | 3659.3 |
| 4000 | 3753.2 | 3847.0 | 3940.8 | 4034.7 | 4128.5 | 4222.3 | 4316.1 | 4410.0 | 4503.8 | 4597.6 |
| 5000 | 4691.5 | 4785.3 | 4879.1 | 4973.0 | 5066.8 | 5160.6 | 5254.4 | 5348.3 | 5442.1 | 5535.9 |
| 6000 | 5629.8 | 5723.6 | 5817.4 | 5911.2 | 6005.1 | 6098.9 | 6192.7 | 6286.6 | 6380.4 | 6474.2 |
| 7000 | 6568.0 | 6661.9 | 6755.7 | 6849.5 | 6943.4 | 7037.2 | 7131.0 | 7224.9 | 7318.7 | 7412.5 |
| 8000 | 7506.3 | 7600.2 | 7694.0 | 7787.8 | 7881.7 | 7975.5 | 8069.3 | 8163.1 | 8257.0 | 8350.8 |
| 9000 | 8444.6 | 8538.5 | 8632.3 | 8726.1 | 8820.0 | 8913.8 | 9007.6 | 9101.4 | 9195.3 | 9289.1 |
| 10000 | 9382.9 | 9476.8 | 9570.6 | 9664.4 | 9758.2 | 9852.1 | 9945.9 | 10039.7 | 10133.6 | 10227.4 |
| 11000 | 10321.2 | 10415.0 | 10508.9 | 10602.7 | 10696.5 | 10790.4 | 10884.2 | 10978.0 | 11071.9 | 11165.7 |
| 12000 | 11259.5 | 11353.3 | 11447.2 | 11541.0 | 11634.8 | 11728.7 | 11822.5 | 11916.3 | 12010.1 | 12104.0 |
| 13000 | 12197.8 | 12291.6 | 12385.5 | 12479.3 | 12573.1 | 12667.0 | 12760.8 | 12854.6 | 12948.4 | 13042.3 |
| 14000 | 13136.1 | 13229.9 | 13323.8 | 13417.6 | 13511.4 | 13605.2 | 13699.1 | 13792.9 | 13886.7 | 13980.6 |
| 15000 | 14074.4 | 14168.2 | 14262.0 | 14355.9 | 14449.7 | 14543.5 | 14637.4 | 14731.2 | 14825.0 | 14918.9 |
| 16000 | 15012.7 | 15106.5 | 15200.3 | 15294.2 | 15388.0 | 15481.8 | 15575.7 | 15669.5 | 15763.3 | 15857.1 |
| 17000 | 15951.0 | 16044.8 | 16138.6 | 16232.5 | 16326.3 | 16420.1 | 16514.0 | 16607.8 | 16701.6 | 16795.4 |
| 18000 | 16889.3 | 16983.1 | 17076.9 | 17170.8 | 17264.6 | 17358.4 | 17452.2 | 17546.1 | 17639.9 | 17733.7 |
| 19000 | 17827.6 | 17921.4 | 18015.2 | 18109.0 | 18202.9 | 18296.7 | 18390.5 | 18484.4 | 18578.2 | 18672.0 |
| 20000 | 18765.9 | 18859.7 | 18953.5 | 19047.3 | 19141.2 | 19235.0 | 19328.8 | 19422.7 | 19516.5 | 19610.3 |
| 21000 | 19704.1 | 19798.0 | 19891.8 | 19985.6 | 20079.5 | 20173.3 | 20267.1 | 20361.0 | 20454.8 | 20548.6 |
| 22000 | 20642.4 | 20736.3 | 20830.1 | 20923.9 | 21017.8 | 21111.6 | 21205.4 | 21299.2 | 21393.1 | 21486.9 |
| 23000 | 21580.7 | 21674.6 | 21768.4 | 21862.2 | 21956.0 | 22049.9 | 22143.7 | 22237.5 | 22331.4 | 22425.2 |
| 24000 | 22519.0 | 22612.9 | 22706.7 | 22800.5 | 22894.3 | 22988.2 | 23082.0 | 23175.8 | 23269.7 | 23363.5 |
| 25000 | 23457.3 | 23551.1 | 23645.0 | 23738.8 | 23832.6 | 23926.5 | 24020.3 | 24114.1 | 24208.0 | 24301.8 |
| 26000 | 24395.6 | 24489.4 | 24583.3 | 24677.1 | 24770.9 | 24864.8 | 24958.6 | 25052.4 | 25146.2 | 25240.1 |
| 27000 | 25333.9 | 25427.7 | 25521.6 | 25615.4 | 25709.2 | 25803.1 | 25896.9 | 25990.7 | 26084.5 | 26178.4 |
| 28000 | 26272.2 | 26366.0 | 26459.9 | 26553.7 | 26647.5 | 26741.3 | 26835.2 | 26929.0 | 27022.8 | 27116.7 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. |
| 0 | 0.00 | 0.94 | 1.88 | 2.81 | 3.75 | 4.69 | 5.63 | 6.57 | 7.51 | 8.44 |
| 10 | 9.38 | 10.32 | 11.26 | 12.20 | 13.14 | 14.07 | 15.01 | 15.95 | 16.89 | 17.83 |
| 20 | 18.77 | 19.70 | 20.64 | 21.58 | 22.52 | 23.46 | 24.40 | 25.33 | 26.27 | 27.21 |
| 30 | 28.15 | 29.09 | 30.03 | 30.96 | 31.90 | 32.84 | 33.78 | 34.72 | 35.66 | 36.59 |
| 40 | 37.53 | 38.47 | 39.41 | 40.35 | 41.28 | 42.22 | 43.16 | 44.10 | 45.04 | 45.98 |
| 50 | 46.91 | 47.85 | 48.79 | 49.73 | 50.67 | 51.61 | 52.54 | 53.48 | 54.42 | 55.36 |
| 60 | 56.30 | 57.24 | 58.17 | 59.11 | 60.05 | 60.99 | 61.93 | 62.87 | 63.80 | 64.74 |
| 70 | 65.68 | 66.62 | 67.56 | 68.50 | 69.43 | 70.37 | 71.31 | 72.25 | 73.19 | 74.13 |
| 80 | 75.06 | 76.00 | 76.94 | 77.88 | 78.82 | 79.75 | 80.69 | 81.63 | 82.57 | 83.51 |
| 90 | 84.45 | 85.38 | 86.32 | 87.26 | 88.20 | 89.14 | 90.08 | 91.01 | 91.95 | 92.89 |

## XVIII. CONVERSION OF ENGLISH FEET INTO AMERICAN FEET AND DECIMALS.

1 English Foot = 0.99994197 American Foot.

| Eng. Feet. Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet |
| 0 | 0.00 | 99.99 | 199.99 | 299.98 | 399.98 | 499.97 | 599.97 | 699.96 | 799.95 | 899.95 |
| 1000 | 999.94 | 1099.94 | 1199.93 | 1299.92 | 1399.92 | 1499.91 | 1599.91 | 1699.90 | 1799.90 | 1899.89 |
| 2000 | 1999.88 | 2099.88 | 2199.87 | 2299.87 | 2399.86 | 2499.85 | 2599.85 | 2699.84 | 2799.84 | 2899.83 |
| 3000 | 2999.83 | 3099.82 | 3199.81 | 3299.81 | 3399.80 | 3499.80 | 3599.79 | 3699.79 | 3799.78 | 3899.77 |
| 4000 | 3999.77 | 4099.76 | 4199.76 | 4299.75 | 4399.74 | 4499.74 | 4599.73 | 4699.73 | 4799.72 | 4899.72 |
| 5000 | 4999.71 | 5099.70 | 5199.70 | 5299.69 | 5399.69 | 5499.68 | 5599.68 | 5699.67 | 5799.66 | 5899.66 |
| 6000 | 5999.65 | 6099.65 | 6199.64 | 6299.63 | 6399.63 | 6499.62 | 6599.62 | 6699.61 | 6799.61 | 6899.60 |
| 7000 | 6999.59 | 7099.59 | 7199.58 | 7299.58 | 7399.57 | 7499.56 | 7599.56 | 7699.55 | 7799.55 | 7899.54 |
| 8000 | 7999.54 | 8099.53 | 8199.52 | 8299.52 | 8399.51 | 8499.51 | 8599.50 | 8699.50 | 8799.49 | 8899.48 |
| 9000 | 8999.48 | 9099.47 | 9199.47 | 9299.46 | 9399.45 | 9499.45 | 9599.44 | 9699.44 | 9799.43 | 9899.43 |
| 10000 | 9999.42 | 10099.4 | 10199.4 | 10299.4 | 10399.4 | 10499.4 | 10599.4 | 10699.4 | 10799.4 | 10899.4 |
| 11000 | 10999.4 | 11099.4 | 11199.4 | 11299.3 | 11399.3 | 11499.3 | 11599.3 | 11699.3 | 11799.3 | 11899.3 |
| 12000 | 11999.3 | 12099.3 | 12199.3 | 12299.3 | 12399.3 | 12499.3 | 12599.3 | 12699.3 | 12799.3 | 12899.2 |
| 13000 | 12999.2 | 13099.2 | 13199.2 | 13299.2 | 13399.2 | 13499.2 | 13599.2 | 13699.2 | 13799.2 | 13899.2 |
| 14000 | 13999.2 | 14099.2 | 14199.2 | 14299.2 | 14399.2 | 14499.2 | 14599.2 | 14699.1 | 14799.1 | 14899.1 |
| 15000 | 14999.1 | 15099.1 | 15199.1 | 15299.1 | 15399.1 | 15499.1 | 15599.1 | 15699.1 | 15799.1 | 15899.1 |

The following Table of Differences between English and American Feet, for every hundred feet, will make it easy to convert English into American Feet, or American into English Feet, by adding to, or subtracting from, the number of feet to be converted, which is contained in the first column, the numbers found in the other columns.

## XIX. DIFFERENCES BETWEEN ENGLISH AND AMERICAN FEET.

To obtain English Feet *add*. To obtain American Feet *subtract*.

10000 American Feet = 10000.5803 English Feet.

| Number of Feet. Thousands. | Hundreds. 0. | 200. | 400. | 600. | 800. | Number of Feet. Thousands. | Hundreds. 0. | 200. | 400. | 600. | 800. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Diff feet | Diff. feet | Diff feet | Diff. feet. | Diff feet | | Diff. feet. | Diff. feet | Diff. feet | Diff feet. | Diff. feet |
| 0 | ±0.000 | ±0.012 | ±0.023 | ±0.035 | ±0.046 | 15000 | ±0.870 | ±0.882 | ±0.894 | ±0.905 | ±0.917 |
| 1000 | 0.058 | 0.070 | 0.082 | 0.093 | 0.105 | 16000 | 0.928 | 0.940 | 0.952 | 0.963 | 0.975 |
| 2000 | 0.116 | 0.128 | 0.139 | 0.151 | 0.162 | 17000 | 0.987 | 0.998 | 1.010 | 1.021 | 1.033 |
| 3000 | 0.174 | 0.186 | 0.197 | 0.209 | 0.221 | 18000 | 1.045 | 1.056 | 1.068 | 1.079 | 1.091 |
| 4000 | 0.232 | 0.244 | 0.255 | 0.267 | 0.279 | 19000 | 1.103 | 1.114 | 1.126 | 1.137 | 1.149 |
| 5000 | 0.290 | 0.302 | 0.313 | 0.325 | 0.337 | 20000 | 1.161 | 1.172 | 1.184 | 1.195 | 1.207 |
| 6000 | 0.348 | 0.360 | 0.371 | 0.383 | 0.395 | 21000 | 1.219 | 1.230 | 1.242 | 1.253 | 1.265 |
| 7000 | 0.406 | 0.418 | 0.429 | 0.441 | 0.453 | 22000 | 1.277 | 1.288 | 1.300 | 1.311 | 1.323 |
| 8000 | 0.464 | 0.476 | 0.487 | 0.499 | 0.511 | 23000 | 1.335 | 1.346 | 1.358 | 1.370 | 1.381 |
| 9000 | 0.522 | 0.534 | 0.546 | 0.557 | 0.569 | 24000 | 1.393 | 1.404 | 1.416 | 1.428 | 1.439 |
| 10000 | 0.580 | 0.592 | 0.604 | 0.615 | 0.627 | 25000 | 1.451 | 1.462 | 1.474 | 1.486 | 1.497 |
| 11000 | 0.638 | 0.650 | 0.662 | 0.673 | 0.685 | 26000 | 1.509 | 1.520 | 1.532 | 1.544 | 1.555 |
| 12000 | 0.696 | 0.708 | 0.720 | 0.731 | 0.743 | 27000 | 1.567 | 1.578 | 1.590 | 1.602 | 1.613 |
| 13000 | 0.754 | 0.766 | 0.778 | 0.789 | 0.801 | 28000 | 1.625 | 1.636 | 1.648 | 1.660 | 1.671 |
| 14000 | 0.812 | 0.824 | 0.836 | 0.847 | 0.859 | 29000 | 1.683 | 1.694 | 1.606 | 1.718 | 1.729 |

TO CONVERT

# AMERICAN YARDS AND FEET

INTO DIFFERENT MEASURES OF LENGTH

## XX. CONVERSION OF AMERICAN YARDS INTO FRENCH TOISES.

1 American Yard = 0.4691737 Toise.

| American Yards Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. |
| 0 | 0.00 | 46.92 | 93.83 | 140.75 | 187.67 | 234.59 | 281.50 | 328.42 | 375.34 | 422.26 |
| 1000 | 469.17 | 516.09 | 563.01 | 609.93 | 656.84 | 703.76 | 750.68 | 797.60 | 844.51 | 891.43 |
| 2000 | 938.35 | 985.26 | 1032.18 | 1079.10 | 1126.02 | 1172.93 | 1219.85 | 1266.77 | 1313.69 | 1360.60 |
| 3000 | 1407.52 | 1454.44 | 1501.36 | 1548.27 | 1595.19 | 1642.11 | 1689.02 | 1735.94 | 1782.86 | 1829.78 |
| 4000 | 1876.69 | 1923.61 | 1970.53 | 2017.45 | 2064.36 | 2111.28 | 2158.20 | 2205.12 | 2252.03 | 2298.95 |
| 5000 | 2345.87 | 2392.79 | 2439.70 | 2486.62 | 2533.54 | 2580.45 | 2627.37 | 2674.29 | 2721.21 | 2768.12 |
| 6000 | 2815.04 | 2861.96 | 2908.88 | 2955.79 | 3002.71 | 3049.63 | 3096.55 | 3143.46 | 3190.38 | 3237.30 |
| 7000 | 3284.22 | 3331.13 | 3378.05 | 3424.97 | 3471.88 | 3518.80 | 3565.72 | 3612.64 | 3659.55 | 3706.47 |
| 8000 | 3753.39 | 3800.31 | 3847.22 | 3894.14 | 3941.06 | 3987.98 | 4034.89 | 4081.81 | 4128.73 | 4175.65 |
| 9000 | 4222.56 | 4269.48 | 4316.40 | 4363.31 | 4410.23 | 4457.15 | 4504.07 | 4550.98 | 4597.90 | 4644.82 |

## XXI. CONVERSION OF AMERICAN YARDS INTO METRES.

1 American Yard = 0.91443655 Metre.

| American Yards. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 91.44 | 182.89 | 274.33 | 365.77 | 457.22 | 548.66 | 640.11 | 731.55 | 822.99 |
| 1000 | 914.44 | 1005.88 | 1097.32 | 1188.77 | 1280.21 | 1371.65 | 1463.10 | 1554.54 | 1645.99 | 1737.43 |
| 2000 | 1828.87 | 1920.32 | 2011.76 | 2103.20 | 2194.65 | 2286.09 | 2377.54 | 2468.98 | 2560.42 | 2651.87 |
| 3000 | 2743.31 | 2834.75 | 2926.20 | 3017.64 | 3109.08 | 3200.53 | 3291.97 | 3383.42 | 3474.86 | 3566.30 |
| 4000 | 3657.75 | 3749.19 | 3840.63 | 3932.08 | 4023.52 | 4114.96 | 4206.41 | 4297.85 | 4389.30 | 4480.74 |
| 5000 | 4572.18 | 4663.63 | 4755.07 | 4846.51 | 4937.96 | 5029.40 | 5120.84 | 5212.29 | 5303.73 | 5395.18 |
| 6000 | 5486.62 | 5578.06 | 5669.51 | 5760.95 | 5852.39 | 5943.84 | 6035.28 | 6126.72 | 6218.17 | 6309.61 |
| 7000 | 6401.06 | 6492.50 | 6583.94 | 6675.39 | 6766.83 | 6858.27 | 6949.72 | 7041.16 | 7132.61 | 7224.05 |
| 8000 | 7315.49 | 7406.94 | 7498.38 | 7589.82 | 7681.27 | 7772.71 | 7864.15 | 7955.60 | 8047.04 | 8138.49 |
| 9000 | 8229.93 | 8321.37 | 8412.82 | 8504.26 | 8595.70 | 8687.15 | 8778.59 | 8870.03 | 8961.48 | 9052.92 |

## XXII. CONVERSION OF AMERICAN FEET INTO METRES.

1 American Foot = 0.30481218 Metre.

| Amer. Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 30.48 | 60.96 | 91.44 | 121.92 | 152.41 | 182.89 | 213.37 | 243.85 | 274.33 |
| 1000 | 304.81 | 335.29 | 365.77 | 396.26 | 426.74 | 457.22 | 487.70 | 518.18 | 548.66 | 579.14 |
| 2000 | 609.62 | 640.11 | 670.59 | 701.07 | 731.55 | 762.03 | 792.51 | 822.99 | 853.47 | 883.96 |
| 3000 | 914.44 | 944.92 | 975.40 | 1005.88 | 1036.36 | 1066.84 | 1097.32 | 1127.81 | 1158.29 | 1188.77 |
| 4000 | 1219.25 | 1249.73 | 1280.21 | 1310.69 | 1341.17 | 1371.65 | 1402.14 | 1432.62 | 1463.10 | 1493.58 |
| 5000 | 1524.06 | 1554.54 | 1585.02 | 1615.50 | 1645.99 | 1676.47 | 1706.95 | 1737.43 | 1767.91 | 1798.39 |
| 6000 | 1828.87 | 1859.35 | 1889.84 | 1910.32 | 1940.80 | 1971.28 | 2001.76 | 2032.24 | 2062.72 | 2093.20 |
| 7000 | 2123.69 | 2154.17 | 2184.65 | 2225.13 | 2255.61 | 2286.09 | 2316.57 | 2347.05 | 2377.54 | 2408.02 |
| 8000 | 2438.50 | 2468.98 | 2499.46 | 2529.94 | 2560.42 | 2590.90 | 2621.38 | 2651.87 | 2682.35 | 2712.83 |
| 9000 | 2743.31 | 2773.79 | 2804.27 | 2834.75 | 2865.23 | 2895.72 | 2926.20 | 2956.68 | 2987.16 | 3017.64 |
| 10000 | 3048.12 | 3078.60 | 3109.08 | 3139.57 | 3170.05 | 3200.53 | 3231.01 | 3261.49 | 3291.97 | 3322.45 |
| 11000 | 3352.93 | 3383.42 | 3413.90 | 3444.38 | 3474.86 | 3505.34 | 3535.82 | 3566.30 | 3596.78 | 3627.26 |
| 12000 | 3657.75 | 3688.23 | 3718.71 | 3749.19 | 3779.67 | 3810.15 | 3840.63 | 3871.11 | 3901.60 | 3932.08 |
| 13000 | 3962.56 | 3993.04 | 4023.52 | 4054.00 | 4084.48 | 4114.96 | 4145.45 | 4175.93 | 4206.41 | 4236.89 |
| 14000 | 4267.37 | 4297.85 | 4328.33 | 4358.81 | 4389.30 | 4419.78 | 4450.26 | 4480.74 | 4511.22 | 4541.70 |
| 15000 | 4572.18 | 4602.66 | 4633.15 | 4663.63 | 4694.11 | 4724.59 | 4755.07 | 4785.55 | 4816.03 | 4846.51 |
| 16000 | 4876.99 | 4907.48 | 4937.96 | 4968.44 | 4998.92 | 5029.40 | 5059.88 | 5090.36 | 5120.84 | 5151.33 |
| 17000 | 5181.81 | 5212.29 | 5242.77 | 5273.25 | 5303.73 | 5334.21 | 5364.69 | 5395.18 | 5425.66 | 5456.14 |
| 18000 | 5486.62 | 5517.10 | 5547.58 | 5578.06 | 5608.54 | 5639.03 | 5669.51 | 5699.99 | 5730.47 | 5760.95 |
| 19000 | 5791.43 | 5821.91 | 5852.39 | 5882.88 | 5913.36 | 5943.84 | 5974.32 | 6004.80 | 6035.28 | 6065.76 |
| 20000 | 6096.24 | 6126.72 | 6157.21 | 6187.69 | 6218.17 | 6248.65 | 6279.13 | 6309.61 | 6340.09 | 6370.57 |
| 21000 | 6401.06 | 6431.54 | 6462.02 | 6492.50 | 6522.98 | 6553.46 | 6583.94 | 6614.42 | 6644.91 | 6675.39 |
| 22000 | 6705.87 | 6736.35 | 6766.83 | 6797.31 | 6827.79 | 6858.27 | 6888.76 | 6919.24 | 6949.72 | 6980.20 |
| 23000 | 7010.68 | 7041.16 | 7071.64 | 7102.12 | 7132.61 | 7163.09 | 7193.57 | 7224.05 | 7254.53 | 7285.01 |
| 24000 | 7315.49 | 7345.97 | 7376.45 | 7406.94 | 7437.42 | 7467.90 | 7498.38 | 7528.86 | 7559.34 | 7589.82 |
| 25000 | 7620.30 | 7650.79 | 7681.27 | 7711.75 | 7742.23 | 7772.71 | 7803.19 | 7833.67 | 7864.15 | 7894.64 |
| 26000 | 7925.12 | 7955.60 | 7986.08 | 8016.56 | 8047.04 | 8077.52 | 8108.00 | 8138.49 | 8168.97 | 8199.45 |
| 27000 | 8229.93 | 8260.41 | 8290.89 | 8321.37 | 8351.85 | 8382.33 | 8412.82 | 8443.30 | 8473.78 | 8504.26 |
| 28000 | 8534.74 | 8565.22 | 8595.70 | 8626.18 | 8656.67 | 8687.15 | 8717.63 | 8748.11 | 8778.59 | 8809.07 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.0000 | 0.3048 | 0.6096 | 0.9144 | 1.2192 | 1.5241 | 1.8289 | 2.1337 | 2.4385 | 2.7433 |
| 10 | 3.0481 | 3.3529 | 3.6577 | 3.9626 | 4.2674 | 4.5722 | 4.8770 | 5.1818 | 5.4866 | 5.7914 |
| 20 | 6.0962 | 6.4011 | 6.7059 | 7.0107 | 7.3155 | 7.6203 | 7.9251 | 8.2299 | 8.5347 | 8.8396 |
| 30 | 9.1444 | 9.4492 | 9.7540 | 10.0588 | 10.3636 | 10.6684 | 10.9732 | 11.2781 | 11.5829 | 11.8877 |
| 40 | 12.1925 | 12.4973 | 12.8021 | 13.1069 | 13.4117 | 13.7165 | 14.0214 | 14.3262 | 14.6310 | 14.9358 |
| 50 | 15.2406 | 15.5454 | 15.8502 | 16.1550 | 16.4599 | 16.7647 | 17.0695 | 17.3743 | 17.6791 | 17.9839 |
| 60 | 18.2887 | 18.5935 | 18.8984 | 19.1032 | 19.4080 | 19.7128 | 20.0176 | 20.3224 | 20.6272 | 20.9320 |
| 70 | 21.2369 | 21.5417 | 21.8465 | 22.2513 | 22.5561 | 22.8609 | 23.1657 | 23.4705 | 23.7754 | 24.0802 |
| 80 | 24.3850 | 24.6898 | 24.9946 | 25.2994 | 25.6042 | 25.9090 | 26.2138 | 26.5187 | 26.8235 | 27.1283 |
| 90 | 27.4331 | 27.7379 | 28.0427 | 28.3475 | 28.6523 | 28.9572 | 29.2620 | 29.5668 | 29.8716 | 30.1764 |

## XXIII. CONVERSION OF AMERICAN FEET INTO PARIS OR FRENCH FEET.

1 American Foot = 0.93834737 Paris Foot.

| Amer. Feet. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. |
| 0 | 0.0 | 93.8 | 187.7 | 281.5 | 375.3 | 469.2 | 563.0 | 656.8 | 750.7 | 844.5 |
| 1000 | 938.3 | 1032.2 | 1126.0 | 1219.9 | 1313.7 | 1407.5 | 1501.4 | 1595.2 | 1689.0 | 1782.9 |
| 2000 | 1876.7 | 1970.5 | 2064.4 | 2158.2 | 2252.0 | 2345.9 | 2439.7 | 2533.5 | 2627.4 | 2721.2 |
| 3000 | 2815.0 | 2908.9 | 3002.7 | 3096.5 | 3190.4 | 3284.2 | 3378.1 | 3471.9 | 3565.7 | 3659.6 |
| 4000 | 3753.4 | 3847.2 | 3941.1 | 4034.9 | 4128.7 | 4222.6 | 4316.4 | 4410.2 | 4504.1 | 4597.9 |
| 5000 | 4691.7 | 4785.6 | 4879.4 | 4973.2 | 5067.1 | 5160.9 | 5254.7 | 5348.6 | 5442.4 | 5536.2 |
| 6000 | 5630.1 | 5723.9 | 5817.8 | 5911.6 | 6005.4 | 6099.3 | 6193.1 | 6286.9 | 6380.8 | 6474.6 |
| 7000 | 6568.4 | 6662.3 | 6756.1 | 6849.9 | 6943.8 | 7037.6 | 7131.4 | 7225.3 | 7319.1 | 7412.9 |
| 8000 | 7506.8 | 7600.6 | 7694.4 | 7788.3 | 7882.1 | 7976.0 | 8069.8 | 8163.6 | 8257.5 | 8351.3 |
| 9000 | 8445.1 | 8539.0 | 8632.8 | 8726.6 | 8820.5 | 8914.3 | 9008.1 | 9102.0 | 9195.8 | 9289.6 |
| 10000 | 9383.5 | 9477.3 | 9571.1 | 9665.0 | 9758.8 | 9852.6 | 9946.5 | 10040.3 | 10134.2 | 10228.0 |
| 11000 | 10321.8 | 10415.7 | 10509.5 | 10603.3 | 10697.2 | 10791.0 | 10884.8 | 10978.7 | 11072.5 | 11166.3 |
| 12000 | 11260.2 | 11354.0 | 11447.8 | 11541.7 | 11635.5 | 11729.3 | 11823.2 | 11917.0 | 12010.8 | 12104.7 |
| 13000 | 12198.5 | 12292.3 | 12386.2 | 12480.0 | 12573.9 | 12667.7 | 12761.5 | 12855.4 | 12949.2 | 13043.0 |
| 14000 | 13136.9 | 13230.7 | 13324.5 | 13418.4 | 13512.2 | 13606.0 | 13699.9 | 13793.7 | 13887.5 | 13981.4 |
| 15000 | 14075.2 | 14169.0 | 14262.9 | 14356.7 | 14450.5 | 14544.4 | 14638.2 | 14732.1 | 14825.9 | 14919.7 |
| 16000 | 15013.6 | 15107.4 | 15201.2 | 15295.1 | 15388.9 | 15482.7 | 15576.6 | 15670.4 | 15764.2 | 15858.1 |
| 17000 | 15951.9 | 16045.7 | 16139.6 | 16233.4 | 16327.2 | 16421.1 | 16514.9 | 16608.7 | 16702.6 | 16796.4 |
| 18000 | 16890.3 | 16984.1 | 17077.9 | 17171.8 | 17265.6 | 17359.4 | 17453.3 | 17547.1 | 17640.9 | 17734.8 |
| 19000 | 17828.6 | 17922.4 | 18016.3 | 18110.1 | 18203.9 | 18297.8 | 18391.6 | 18485.4 | 18579.3 | 18673.1 |
| 20000 | 18766.9 | 18860.8 | 18954.6 | 19048.4 | 19142.3 | 19236.1 | 19330.0 | 19423.8 | 19517.6 | 19611.5 |
| 21000 | 19705.3 | 19799.1 | 19893.0 | 19986.8 | 20080.6 | 20174.5 | 20268.3 | 20362.1 | 20456.0 | 20549.8 |
| 22000 | 20643.6 | 20737.5 | 20831.3 | 20925.1 | 21019.0 | 21112.8 | 21206.6 | 21300.5 | 21394.3 | 21488.2 |
| 23000 | 21582.0 | 21675.8 | 21769.7 | 21863.5 | 21957.3 | 22051.2 | 22145.0 | 22238.8 | 22332.7 | 22426.5 |
| 24000 | 22520.3 | 22614.2 | 22708.0 | 22801.8 | 22895.7 | 22989.5 | 23083.3 | 23177.2 | 23271.0 | 23364.8 |
| 25000 | 23458.7 | 23552.5 | 23646.4 | 23740.2 | 23834.0 | 23927.9 | 24021.7 | 24115.5 | 24209.4 | 24303.2 |
| 26000 | 24397.0 | 24490.9 | 24584.7 | 24678.5 | 24772.4 | 24866.2 | 24960.0 | 25053.9 | 25147.7 | 25241.5 |
| 27000 | 25335.4 | 25429.2 | 25523.0 | 25616.9 | 25710.7 | 25804.5 | 25898.4 | 25992.2 | 26086.1 | 26179.9 |
| 28000 | 26273.7 | 26367.6 | 26461.4 | 26555.2 | 26649.1 | 26742.9 | 26836.7 | 26930.6 | 27024.4 | 27118.2 |

| Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet | Par Feet | Par.Feet |
| 0 | 0.00 | 0.94 | 1.88 | 2.82 | 3.75 | 4.69 | 5.63 | 6.57 | 7.51 | 8.45 |
| 10 | 9.38 | 10.32 | 11.26 | 12.20 | 13.14 | 14.08 | 15.01 | 15.95 | 16.89 | 17.83 |
| 20 | 18.77 | 19.71 | 20.64 | 21.58 | 22.52 | 23.46 | 24.40 | 25.34 | 26.27 | 27.21 |
| 30 | 28.15 | 29.09 | 30.03 | 30.97 | 31.90 | 32.84 | 33.78 | 34.72 | 35.66 | 36.60 |
| 40 | 37.53 | 38.47 | 39.41 | 40.35 | 41.29 | 42.23 | 43.16 | 44.10 | 45.04 | 45.98 |
| 50 | 46.92 | 47.86 | 48.79 | 49.73 | 50.67 | 51.61 | 52.55 | 53.49 | 54.42 | 55.36 |
| 60 | 56.30 | 57.24 | 58.18 | 59.12 | 60.05 | 60.99 | 61.93 | 62.87 | 63.81 | 64.75 |
| 70 | 65.68 | 66.62 | 67.56 | 68.50 | 69.44 | 70.38 | 71.31 | 72.25 | 73.19 | 74.13 |
| 80 | 75.07 | 76.01 | 76.94 | 77.88 | 78.82 | 79.76 | 80.70 | 81.64 | 82.57 | 83.51 |
| 90 | 84.45 | 85.39 | 86.33 | 87.27 | 88.20 | 89.14 | 90.08 | 91.02 | 91.96 | 92.90 |

TO CONVERT

# KLAFTER AND FEET OF VIENNA

INTO DIFFERENT MEASURES OF LENGTH.

1 KLAFTER OF VIENNA = 6 FEET OF VIENNA = 0.9730317 TOISE DU PÉROU.

From this value are derived the equations used in computing the following tables.

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## XXIV. CONVERSION OF KLAFTER OF VIENNA INTO FRENCH TOISES.

1 Klafter = 0.9730317 Toise.

| Klafter of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises | Toises. | Toises. |
| 0 | 0.00 | 97.30 | 194.61 | 291.91 | 389.21 | 486.52 | 583.82 | 681.12 | 778.43 | 875.73 |
| 1000 | 973.03 | 1070.33 | 1167.64 | 1264.94 | 1362.24 | 1459.55 | 1556.85 | 1654.15 | 1751.46 | 1848.76 |
| 2000 | 1946.06 | 2043.37 | 2140.67 | 2237.97 | 2335.28 | 2432.58 | 2529.88 | 2627.19 | 2724.49 | 2821.79 |
| 3000 | 2919.10 | 3016.40 | 3113.70 | 3211.00 | 3308.31 | 3405.61 | 3502.91 | 3600.22 | 3697.52 | 3794.82 |
| 4000 | 3892.13 | 3989.43 | 4086.73 | 4184.04 | 4281.34 | 4378.64 | 4475.95 | 4573.25 | 4670.55 | 4767.86 |
| 5000 | 4865.16 | 4962.46 | 5059.76 | 5157.07 | 5254.37 | 5351.67 | 5448.98 | 5546.28 | 5643.58 | 5740.89 |

| Klafter. Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. |
| 0 | 0.000 | 0.973 | 1.946 | 2.919 | 3.892 | 4.865 | 5.838 | 6.811 | 7.784 | 8.757 |
| 10 | 9.730 | 10.703 | 11.676 | 12.649 | 13.622 | 14.595 | 15.569 | 16.542 | 17.515 | 18.488 |
| 20 | 19.461 | 20.434 | 21.407 | 22.380 | 23.353 | 24.326 | 25.299 | 26.272 | 27.245 | 28.218 |
| 30 | 29.191 | 30.164 | 31.137 | 32.110 | 33.083 | 34.056 | 35.029 | 36.002 | 36.975 | 37.948 |
| 40 | 38.921 | 39.894 | 40.867 | 41.840 | 42.813 | 43.786 | 44.759 | 45.732 | 46.706 | 47.679 |
| 50 | 48.652 | 49.625 | 50.598 | 51.571 | 52.544 | 53.517 | 54.490 | 55.463 | 56.436 | 57.409 |
| 60 | 58.382 | 59.355 | 60.328 | 61.301 | 62.274 | 63.247 | 64.220 | 65.193 | 66.166 | 67.139 |
| 70 | 68.112 | 69.085 | 70.058 | 71.031 | 72.004 | 72.977 | 73.950 | 74.923 | 75.896 | 76.870 |
| 80 | 77.843 | 78.816 | 79.789 | 80.762 | 81.735 | 82.708 | 83.681 | 84.654 | 85.627 | 86.600 |
| 90 | 87.573 | 88.546 | 89.519 | 90.492 | 91.465 | 92.438 | 93.411 | 94.384 | 95.357 | 96.330 |

## XXV. CONVERSION OF KLAFTER OF VIENNA INTO METRES.

1 Klafter = 1.8964741 Metres.

| Klafter of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 189.65 | 379.29 | 568.94 | 758.59 | 948.24 | 1137.88 | 1327.53 | 1517.18 | 1706.83 |
| 1000 | 1896.47 | 2086.12 | 2275.77 | 2465.42 | 2655.06 | 2844.71 | 3034.36 | 3224.01 | 3413.65 | 3603.30 |
| 2000 | 3792.95 | 3982.60 | 4172.24 | 4361.89 | 4551.54 | 4741.19 | 4930.83 | 5120.48 | 5310.13 | 5499.77 |
| 3000 | 5689.42 | 5879.07 | 6068.72 | 6258.36 | 6448.01 | 6637.66 | 6827.31 | 7016.95 | 7206.60 | 7396.25 |
| 4000 | 7585.90 | 7775.54 | 7965.19 | 8154.84 | 8344.49 | 8534.13 | 8723.78 | 8913.43 | 9103.08 | 9292.72 |

| Klafter. Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres |
| 0 | 0.000 | 1.896 | 3.793 | 5.689 | 7.586 | 9.482 | 11.379 | 13.275 | 15.172 | 17.068 |
| 10 | 18.965 | 20.861 | 22.758 | 24.654 | 26.551 | 28.447 | 30.344 | 32.240 | 34.136 | 36.033 |
| 20 | 37.929 | 39.826 | 41.722 | 43.619 | 45.515 | 47.412 | 49.308 | 51.205 | 53.101 | 54.998 |
| 30 | 56.894 | 58.791 | 60.687 | 62.584 | 64.480 | 66.377 | 68.273 | 70.170 | 72.066 | 73.962 |
| 40 | 75.859 | 77.755 | 79.652 | 81.548 | 83.445 | 85.341 | 87.238 | 89.134 | 91.031 | 92.927 |
| 50 | 94.824 | 96.720 | 98.617 | 100.513 | 102.409 | 104.306 | 106.203 | 108.099 | 109.995 | 111.892 |
| 60 | 113.788 | 115.685 | 117.581 | 119.478 | 121.374 | 123.271 | 125.167 | 127.064 | 128.960 | 130.857 |
| 70 | 132.753 | 134.650 | 136.546 | 138.443 | 140.339 | 142.236 | 144.132 | 146.029 | 147.925 | 149.821 |
| 80 | 151.718 | 153.614 | 155.511 | 157.407 | 159.304 | 161.200 | 163.097 | 164.993 | 166.890 | 168.786 |
| 90 | 170.683 | 172.579 | 174.476 | 176.372 | 178.269 | 180.165 | 182.062 | 183.958 | 185.854 | 187.751 |

## XXVI. CONVERSION OF KLAFTER OF VIENNA INTO PARIS OR FRENCH FEET.

1 Klafter = 5.8381902 Paris or French Feet.

| Klafter of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. |
| 0 | 0.00 | 583.82 | 1167.64 | 1751.46 | 2335.28 | 2919.10 | 3502.91 | 4086.73 | 4670.55 | 5254.37 |
| 1000 | 5838.19 | 6422.01 | 7005.83 | 7589.65 | 8173.47 | 8757.29 | 9341.10 | 9924.92 | 10508.7 | 11092.6 |
| 2000 | 11676.4 | 12260.2 | 12844.0 | 13427.8 | 14011.7 | 14595.5 | 15179.3 | 15763.1 | 16346.9 | 16930.8 |
| 3000 | 17514.6 | 18098.4 | 18682.2 | 19266.0 | 19849.8 | 20433.7 | 21017.5 | 21601.3 | 22185.1 | 22768.9 |
| 4000 | 23352.8 | 23936.6 | 24520.4 | 25104.2 | 25688.0 | 26271.9 | 26855.7 | 27439.5 | 28023.3 | 28607.1 |

| Klafter. Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. | Par.Feet. |
| 0 | 0.00 | 5.84 | 11.68 | 17.51 | 23.35 | 29.19 | 35.03 | 40.87 | 46.71 | 52.54 |
| 10 | 58.38 | 64.22 | 70.06 | 75.90 | 81.73 | 87.57 | 93.41 | 99.25 | 105.09 | 110.93 |
| 20 | 116.76 | 122.60 | 128.44 | 134.28 | 140.12 | 145.95 | 151.79 | 157.63 | 163.47 | 169.31 |
| 30 | 175.15 | 180.98 | 186.82 | 192.66 | 198.50 | 204.34 | 210.17 | 216.01 | 221.85 | 227.69 |
| 40 | 233.53 | 239.37 | 245.20 | 251.04 | 256.88 | 262.72 | 268.56 | 274.39 | 280.23 | 286.07 |
| 50 | 291.91 | 297.75 | 303.59 | 309.42 | 315.26 | 321.10 | 326.94 | 332.78 | 338.62 | 344.45 |
| 60 | 350.29 | 356.13 | 361.97 | 367.81 | 373.64 | 379.48 | 385.32 | 391.16 | 397.00 | 402.84 |
| 70 | 408.67 | 414.51 | 420.35 | 426.19 | 432.03 | 437.86 | 443.70 | 449.54 | 455.38 | 461.22 |
| 80 | 467.06 | 472.89 | 478.73 | 484.57 | 490.41 | 496.25 | 502.08 | 507.92 | 513.76 | 519.60 |
| 90 | 525.44 | 531.28 | 537.11 | 542.95 | 548.79 | 554.63 | 560.47 | 566.30 | 572.14 | 577.98 |

## XXVII. CONVERSION OF KLAFTER OF VIENNA INTO ENGLISH FEET.

1 Klafter = 6.2221403 English Feet.

| Klafter of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng feet. |
| 0 | 0.00 | 622.21 | 1244.43 | 1866.64 | 2488.86 | 3111.07 | 3733.28 | 4355.50 | 4977.71 | 5599.93 |
| 1000 | 6222.14 | 6844.35 | 7466.57 | 8088.78 | 8711.00 | 9333.21 | 9955.42 | 10577.6 | 11199.9 | 11822.1 |
| 2000 | 12444.3 | 13066.5 | 13688.7 | 14310.9 | 14933.1 | 15555.4 | 16177.6 | 16799.8 | 17422.0 | 18044.2 |
| 3000 | 18666.4 | 19288.6 | 19910.8 | 20533.1 | 21155.3 | 21777.5 | 22399.7 | 23021.9 | 23644.1 | 24266.3 |
| 4000 | 24888.6 | 25510.8 | 26133.0 | 26755.2 | 27377.4 | 27999.6 | 28621.8 | 29244.1 | 29866.3 | 30488.5 |

| Klafter. Tens. | Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. |
| 0 | 0.00 | 6.22 | 12.44 | 18.67 | 24.89 | 31.11 | 37.33 | 43.55 | 49.78 | 56.00 |
| 10 | 62.22 | 68.44 | 74.67 | 80.89 | 87.11 | 93.33 | 99.55 | 105.78 | 112.00 | 118.22 |
| 20 | 124.44 | 130.66 | 136.89 | 143.11 | 149.33 | 155.55 | 161.78 | 168.00 | 174.22 | 180.44 |
| 30 | 186.66 | 192.89 | 199.11 | 205.33 | 211.55 | 217.77 | 224.00 | 230.22 | 236.44 | 242.66 |
| 40 | 248.89 | 255.11 | 261.33 | 267.55 | 273.77 | 280.00 | 286.22 | 292.44 | 298.66 | 304.88 |
| 50 | 311.11 | 317.33 | 323.55 | 329.77 | 336.00 | 342.22 | 348.44 | 354.66 | 360.88 | 367.11 |
| 60 | 373.33 | 379.55 | 385.77 | 391.99 | 398.22 | 404.44 | 410.66 | 416.88 | 423.11 | 429.33 |
| 70 | 435.55 | 441.77 | 447.99 | 454.22 | 460.44 | 466.66 | 472.88 | 479.10 | 485.33 | 491.55 |
| 80 | 497.77 | 503.99 | 510.22 | 516.44 | 522.66 | 528.88 | 535.10 | 541.33 | 547.55 | 553.77 |
| 90 | 559.99 | 566.21 | 572.44 | 578.66 | 584.88 | 591.10 | 597.33 | 603.55 | 609.77 | 615.99 |

## XXVIII. CONVERSION OF FEET OF VIENNA INTO METRES.

1 Foot of Vienna = 0.3160790 Metre.

| Feet of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 31.61 | 63.22 | 94.82 | 126.43 | 158.04 | 189.65 | 221.26 | 252.86 | 284.47 |
| 1000 | 316.08 | 347.69 | 379.29 | 410.90 | 442.51 | 474.12 | 505.73 | 537.33 | 568.94 | 600.55 |
| 2000 | 632.16 | 663.77 | 695.37 | 726.98 | 758.59 | 790.20 | 821.81 | 853.41 | 885.02 | 916.63 |
| 3000 | 948.24 | 979.84 | 1011.45 | 1043.06 | 1074.67 | 1106.28 | 1137.88 | 1169.49 | 1201.10 | 1232.71 |
| 4000 | 1264.32 | 1295.92 | 1327.53 | 1359.14 | 1390.75 | 1422.36 | 1453.96 | 1485.57 | 1517.18 | 1548.79 |
| 5000 | 1580.40 | 1612.00 | 1643.61 | 1675.22 | 1706.83 | 1738.43 | 1770.04 | 1801.65 | 1833.26 | 1864.87 |
| 6000 | 1896.47 | 1928.08 | 1959.69 | 1991.30 | 2022.91 | 2054.51 | 2086.12 | 2117.73 | 2149.34 | 2180.95 |
| 7000 | 2212.55 | 2244.16 | 2275.77 | 2307.38 | 2338.98 | 2370.59 | 2402.20 | 2433.81 | 2465.42 | 2497.02 |
| 8000 | 2528.63 | 2560.24 | 2591.85 | 2623.46 | 2655.06 | 2686.67 | 2718.28 | 2749.89 | 2781.50 | 2813.10 |
| 9000 | 2844.71 | 2876.32 | 2907.93 | 2939.53 | 2971.14 | 3002.75 | 3034.36 | 3065.97 | 3097.57 | 3129.18 |
| 10000 | 3160.79 | 3192.40 | 3224.01 | 3255.61 | 3287.02 | 3318.83 | 3350.44 | 3382.05 | 3413.65 | 3445.26 |
| 11000 | 3476.87 | 3508.48 | 3540.08 | 3571.69 | 3603.30 | 3634.91 | 3666.52 | 3698.12 | 3729.73 | 3761.34 |
| 12000 | 3792.95 | 3824.56 | 3856.16 | 3887.77 | 3919.38 | 3950.99 | 3982.60 | 4014.20 | 4045.81 | 4077.42 |
| 13000 | 4109.03 | 4140.64 | 4172.24 | 4203.85 | 4235.46 | 4267.07 | 4298.67 | 4330.28 | 4361.89 | 4393.50 |
| 14000 | 4425.11 | 4456.71 | 4488.32 | 4519.93 | 4551.54 | 4583.15 | 4614.75 | 4646.34 | 4677.97 | 4709.58 |
| 15000 | 4741.19 | 4772.79 | 4804.40 | 4836.01 | 4867.62 | 4899.22 | 4930.83 | 4962.44 | 4994.05 | 5025.66 |

## XXIX. CONVERSION OF FEET OF VIENNA INTO PARIS OR FRENCH FEET AND DECIMALS.

1 Foot of Vienna = 0.9730317 Paris Foot.

| Feet of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. | Par. feet. |
| 0 | 0.0 | 97.30 | 19.46 | 29.19 | 38.92 | 48.65 | 58.38 | 68.11 | 77.84 | 87.57 |
| 1000 | 973.0 | 1070.3 | 1167.6 | 1264.9 | 1362.2 | 1459.5 | 1556.9 | 1654.2 | 1251.5 | 1848.8 |
| 2000 | 1946.1 | 2043.4 | 2140.7 | 3238.0 | 2335.3 | 2432.6 | 2530.0 | 2627.2 | 2724 5 | 2821.8 |
| 3000 | 2919.1 | 3016.4 | 3113.7 | 3211.0 | 3308.3 | 3405.6 | 3502.9 | 3600.2 | 3697.5 | 3794.8 |
| 4000 | 3892.1 | 3989.4 | 4086.7 | 4184.0 | 4281.3 | 4378.6 | 4475.9 | 4573.2 | 4670.6 | 4767.9 |
| 5000 | 4865.2 | 4962.5 | 5059.8 | 5157.1 | 5254.4 | 5351.7 | 5449.0 | 5546.3 | 5643.6 | 5740.9 |
| 6000 | 5838.2 | 5935.5 | 6032.8 | 6130.1 | 6227.4 | 6324.7 | 6422.0 | 6519.3 | 6616.6 | 6713.9 |
| 7000 | 6811.2 | 6908.5 | 7005.8 | 7103.1 | 7200.4 | 7297.7 | 7395.0 | 7492.3 | 7589.6 | 7687.0 |
| 8000 | 7784.3 | 7881.6 | 7978.9 | 8076.2 | 8173.5 | 8270.8 | 8368.1 | 8465.4 | 8562.7 | 8660.0 |
| 9000 | 8757.3 | 8854.6 | 8951.9 | 9049.2 | 9146.5 | 9243.8 | 9341.1 | 9438.4 | 9535.7 | 9633.0 |
| 10000 | 9730.3 | 9827.6 | 9924.9 | 10022.2 | 10119.5 | 10216.8 | 10314.1 | 10411.4 | 10508.7 | 10606.0 |
| 11000 | 10703.3 | 10800.7 | 10898.0 | 10995.3 | 11092.6 | 11189.9 | 11287.2 | 11384.5 | 11481.8 | 11579.1 |
| 12000 | 11676.4 | 11773.7 | 11871.0 | 11968.3 | 12065.6 | 12162.9 | 12260.2 | 12357.5 | 12454.8 | 12552.1 |
| 13000 | 12649.4 | 12746.7 | 12844.0 | 12941.3 | 13038.6 | 13135.9 | 13233.2 | 13330.5 | 13427.8 | 13525.1 |
| 14000 | 13622.4 | 13719.7 | 13817.1 | 13914.3 | 14011.7 | 14109.0 | 14206.3 | 14303.6 | 14400.9 | 14498.2 |
| 15000 | 14595.5 | 14692.8 | 14790.1 | 14887.4 | 14984.7 | 15082.0 | 15179.3 | 15276.6 | 15373.9 | 15471.2 |
| 16000 | 15568.5 | 15665.8 | 15763.1 | 15860.4 | 15957.7 | 16055.0 | 16152.3 | 16249.6 | 16346.9 | 16444.2 |

## XXX. CONVERSION OF FEET OF VIENNA INTO ENGLISH FEET AND DECIMALS.

1 Foot of Vienna = 1.0370234 English Foot.

| Feet of Vienna. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. |
| 0 | 0.0 | 103.7 | 207.4 | 311.1 | 414.8 | 518.5 | 622.2 | 725.9 | 829.6 | 933.3 |
| 1000 | 1037.0 | 1140.7 | 1244.4 | 1348.1 | 1451.8 | 1555.5 | 1659.2 | 1762.9 | 1866.6 | 1970.3 |
| 2000 | 2074.0 | 2177.7 | 2281.5 | 2385.2 | 2488.9 | 2592.6 | 2696.3 | 2800.0 | 2903.7 | 3007.4 |
| 3000 | 3111.1 | 3214.8 | 3318.5 | 3422.2 | 3525.9 | 3629.6 | 3733.3 | 3837.0 | 3940.7 | 4044.4 |
| 4000 | 4148.1 | 4251.8 | 4355.5 | 4459.2 | 4562.9 | 4666.6 | 4770.3 | 4874.0 | 4977.7 | 5081.4 |
| 5000 | 5185.1 | 5288.8 | 5292.5 | 5496.2 | 5599.9 | 5703.6 | 5807.3 | 5911.0 | 6014.7 | 6118.4 |
| 6000 | 6222.1 | 6325.8 | 6429.5 | 6533.2 | 6636.9 | 6740.7 | 6844.4 | 6948.1 | 7051.8 | 7155.5 |
| 7000 | 7259.2 | 7362.9 | 7466.6 | 7570.3 | 7674.0 | 7777.7 | 7881.4 | 7985.1 | 8088.8 | 8192.5 |
| 8000 | 8296.2 | 8399.9 | 8503.6 | 8607.3 | 8711.0 | 8814.7 | 8918.4 | 9022.1 | 9125.8 | 9229.5 |
| 9000 | 9333.2 | 9436.9 | 9540.6 | 9644.3 | 9748.0 | 9851.7 | 9955.4 | 10059.1 | 10162.8 | 10266.5 |
| 10000 | 10370.2 | 10473.9 | 10577.6 | 10681.3 | 10785.0 | 10888.7 | 10992.4 | 11096.2 | 11199.9 | 11303.6 |
| 11000 | 11407.3 | 11511.0 | 11614.7 | 11718.4 | 11822.1 | 11925.8 | 12029.5 | 12133.2 | 12236.9 | 12340.6 |
| 12000 | 12444.3 | 12548.0 | 12651.7 | 12755.4 | 12859.1 | 12962.8 | 13066.5 | 13170.2 | 13273.9 | 13377.6 |
| 13000 | 13481.3 | 13585.0 | 13688.7 | 13792.4 | 13896.1 | 13999.8 | 14103.5 | 14207.2 | 14310.9 | 14414.6 |
| 14000 | 14518.3 | 14622.0 | 14725.7 | 14829.4 | 14933.1 | 15036.8 | 15140.5 | 15244.2 | 15347.9 | 15451.6 |
| 15000 | 15555.4 | 15659.1 | 15762.8 | 15866.5 | 15970.2 | 16073.9 | 16177.6 | 16281.3 | 16385.0 | 16488.7 |
| 16000 | 16592.4 | 16696.1 | 16799.8 | 16903.5 | 17007.2 | 17110.9 | 17214.6 | 17318.3 | 17422.0 | 17525.7 |

TO CONVERT

# RHINE OR PRUSSIAN FEET

## INTO DIFFERENT MEASURES OF LENGTH.

The Rhine Foot is used in Physical Geography, though not so extensively as the French or Paris Foot, in the northwestern part of Germany, Denmark, and Holland. Its legal value in the Prussian system of weights and measures is 139.13 French or Paris Lines, from which are derived the equations used in computing the following tables.

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### XXXI. CONVERSION OF RHINE OR PRUSSIAN FEET INTO FRENCH TOISES.

1 Rhine Foot = 0.1610301 Toise.

| Rhine Feet. Thousands | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **100.** | **200.** | **300.** | **400.** | **500.** | **600.** | **700.** | **800.** | **900.** |
| | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. | Toises. |
| 0 | 0.00 | 16.10 | 32.21 | 48.31 | 64.41 | 80.52 | 96.62 | 112.72 | 128.82 | 144.93 |
| 1000 | 161.03 | 177.13 | 193.24 | 209.34 | 225.44 | 241.55 | 257.65 | 273.75 | 289.85 | 305.96 |
| 2000 | 322.06 | 338.16 | 354.27 | 370.37 | 386.47 | 402.58 | 418.68 | 434.78 | 450.88 | 466.99 |
| 3000 | 483.09 | 499.19 | 515.30 | 531.40 | 547.50 | 563.61 | 579.71 | 595.81 | 611.91 | 628.02 |
| 4000 | 634.12 | 650.22 | 666.33 | 692.43 | 608.53 | 724.64 | 740.74 | 756.84 | 772.94 | 789.05 |
| 5000 | 805.15 | 821.25 | 837.36 | 853.46 | 869.56 | 885.67 | 901.77 | 917.87 | 933.97 | 950.08 |
| 6000 | 966.18 | 982.28 | 998.39 | 1014.49 | 1030.59 | 1046.70 | 1062.80 | 1078.90 | 1095.00 | 1111.11 |
| 7000 | 1127.21 | 1143.31 | 1159.42 | 1175.52 | 1191.62 | 1207.73 | 1223.83 | 1239.93 | 1256.03 | 1272.14 |
| 8000 | 1288.24 | 1304.34 | 1320.45 | 1336.55 | 1352.65 | 1368.76 | 1384.86 | 1400.96 | 1417.06 | 1433.17 |
| 9000 | 1449.27 | 1465.37 | 1481.48 | 1497.58 | 1513.68 | 1529.79 | 1545.89 | 1561.99 | 1578.09 | 1594.20 |

## XXXII. CONVERSION OF RHINE OR PRUSSIAN FEET INTO METRES.

1 Rhine Foot = 0.31385350 Metre.

| Rhine Feet. Thousands. | Rhine Feet Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 31.39 | 62.77 | 94.16 | 125.54 | 156.93 | 188.31 | 219.70 | 251.08 | 282.47 |
| 1000 | 313.85 | 345.24 | 376.62 | 408.01 | 439.39 | 470.78 | 502.17 | 533.55 | 564.94 | 596.32 |
| 2000 | 627.71 | 659.09 | 690.48 | 721.86 | 753.25 | 784.63 | 816.02 | 847.40 | 878.79 | 910.18 |
| 3000 | 941.56 | 972.95 | 1004.33 | 1035.72 | 1067.10 | 1098.49 | 1129.87 | 1161.26 | 1192.64 | 1224.03 |
| 4000 | 1255.41 | 1286.80 | 1318.18 | 1349.57 | 1380.96 | 1412.34 | 1443.73 | 1475.11 | 1506.50 | 1537.88 |
| 5000 | 1569.27 | 1600.65 | 1632.04 | 1663.42 | 1694.81 | 1726.19 | 1757.58 | 1788.97 | 1820.35 | 1851.74 |
| 6000 | 1883.12 | 1914.51 | 1945.89 | 1977.28 | 2008.66 | 2040.05 | 2071.43 | 2102.82 | 2134.20 | 2165.59 |
| 7000 | 2196.97 | 2228.36 | 2259.75 | 2291.13 | 2322.52 | 2353.90 | 2385.29 | 2416.67 | 2448.06 | 2479.44 |
| 8000 | 2510.83 | 2542.21 | 2573.60 | 2604.98 | 2636.37 | 2667.76 | 2699.14 | 2730.53 | 2761.91 | 2793.30 |
| 9000 | 2824.68 | 2856.07 | 2887.45 | 2918.84 | 2950.22 | 2981.61 | 3012.99 | 3044.38 | 3075.76 | 3107.15 |

## XXXIII. OF RHINE OR PRUSSIAN FEET INTO FRENCH FEET AND DECIMALS.

1 Rhine Foot = 0 96618056 French Foot.

| Rhine Feet. Thousands. | Rhine Feet. Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Fr. Feet | Fr Feet. | Fr. Feet | Fr. Feet. | Fr. Feet | Fr Feet. | Fr. Feet. | Fr. Feet. | Fr Feet. | Fr. Feet. |
| 0 | 0.00 | 96.62 | 193.24 | 289.85 | 386.47 | 483.09 | 579.71 | 676.33 | 772.94 | 869.56 |
| 1000 | 966.18 | 1062.80 | 1159.42 | 1256.03 | 1352.65 | 1449.27 | 1545.89 | 1642.51 | 1739.13 | 1835.74 |
| 2000 | 1932.36 | 2028.98 | 2125.60 | 2222.22 | 2318.83 | 2415.45 | 2512.07 | 2608.69 | 2705.31 | 2801.92 |
| 3000 | 2898.54 | 2995.16 | 3091.78 | 3188.40 | 3285.01 | 3381.63 | 3478.25 | 3574.87 | 3671.49 | 3768.10 |
| 4000 | 3864.72 | 3961.34 | 4057.96 | 4154.58 | 4251.19 | 4347.81 | 4444.43 | 4541.05 | 4637.67 | 4734.28 |
| 5000 | 4830.90 | 4927.52 | 5024.14 | 5120.76 | 5217.38 | 5313.99 | 5410.61 | 5507.23 | 5603.85 | 5700.47 |
| 6000 | 5797.08 | 5893.70 | 5990.32 | 6086.94 | 6183.56 | 6280.17 | 6376.79 | 6473.41 | 6570.03 | 6666.65 |
| 7000 | 6763.26 | 6859.88 | 6956.50 | 7053.12 | 7149.74 | 7246.35 | 7342.97 | 7439.59 | 7536.21 | 7632.83 |
| 8000 | 7729.44 | 7826.06 | 7922.68 | 8019.30 | 8115.92 | 8212.53 | 8309.15 | 8405.77 | 8502.39 | 8599.01 |
| 9000 | 8695.63 | 8792.24 | 8888.86 | 8985.48 | 9082.10 | 9178.72 | 9275.33 | 9371.95 | 9468.57 | 9565.19 |

## XXXIV. OF RHINE OR PRUSSIAN FEET INTO ENGLISH FEET AND DECIMALS.

1 Rhine Foot = 1 0297217 English Foot.

| Rhine Feet. Thousands. | Rhine Feet. Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. |
| 0 | 0.00 | 102.97 | 205.94 | 308.92 | 411.89 | 514.86 | 617.83 | 720.81 | 823.78 | 926.75 |
| 1000 | 1029.72 | 1132.69 | 1235.67 | 1338.64 | 1441.61 | 1544.58 | 1647.55 | 1750.53 | 1853.50 | 1956.47 |
| 2000 | 2059.44 | 2162.42 | 2265.39 | 2368.36 | 2471.33 | 2574.30 | 2677.28 | 2780.25 | 2883.22 | 2986.19 |
| 3000 | 3089.17 | 3192.14 | 3295.11 | 3398.08 | 3501.05 | 3604.03 | 3707.00 | 3809.97 | 3912.94 | 4015.92 |
| 4000 | 4118.89 | 4221.86 | 4324.83 | 4427.80 | 4530.78 | 4633.75 | 4736.72 | 4839.69 | 4942.66 | 5045.64 |
| 5000 | 5148.61 | 5251.58 | 5354.55 | 5457.53 | 5560.50 | 5663.47 | 5766.44 | 5869.41 | 5972.39 | 6075.36 |
| 6000 | 6178.33 | 6281.30 | 6384.28 | 6487.25 | 6590.22 | 6693.19 | 6796.16 | 6899.14 | 7002.11 | 7105.08 |
| 7000 | 7208.05 | 7311.02 | 7414.00 | 7516.97 | 7619.94 | 7722.91 | 7825.89 | 7928.86 | 8031.83 | 8134.80 |
| 8000 | 8237.77 | 8340.75 | 8443.72 | 8546.69 | 8649.66 | 8752.64 | 8855.61 | 8958.58 | 9061.55 | 9164.52 |
| 9000 | 9267.50 | 9370.47 | 9473.44 | 9576.41 | 9679.38 | 9782.36 | 9885.33 | 9988.30 | 10091.3 | 10194.2 |

TO CONVERT

# SPANISH OR MEXICAN VARAS AND FEET

INTO DIFFERENT MEASURES OF LENGTH.

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## XXXV. CONVERSION OF SPANISH OR MEXICAN VARAS INTO METRES.

1 Vara = 0.847965 Metre.

| Varas. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 84.80 | 169.59 | 254.39 | 339.19 | 423.98 | 508.78 | 593.58 | 678.37 | 763.17 |
| 1000 | 847.96 | 932.76 | 1017.56 | 1102.35 | 1187.15 | 1271.95 | 1356.74 | 1441.54 | 1526.34 | 1611.13 |
| 2000 | 1695.93 | 1780.73 | 1865.52 | 1950.32 | 2035.12 | 2119.91 | 2204.71 | 2289.51 | 2374.30 | 2459.10 |
| 3000 | 2543.89 | 2628.69 | 2713.49 | 2798.28 | 2883.08 | 2967.88 | 3052.67 | 3137.47 | 3222.27 | 3307.06 |
| 4000 | 3391.86 | 3476.66 | 3561.45 | 3646.25 | 3731.05 | 3815.84 | 3900.64 | 3985.44 | 4070.23 | 4155.03 |
| 5000 | 4239.82 | 4324.62 | 4409.42 | 4494.21 | 4579.01 | 4663.81 | 4748.60 | 4833.40 | 4918.20 | 5002.99 |
| 6000 | 5087.79 | 5172.59 | 5257.38 | 5342.18 | 5426.98 | 5511.77 | 5596.57 | 5681.37 | 5766.16 | 5850.96 |
| 7000 | 5935.75 | 6020.55 | 6105.35 | 6190.14 | 6274.94 | 6359.74 | 6444.53 | 6529.33 | 6614.13 | 6698.92 |
| 8000 | 6783.72 | 6868.52 | 6953.31 | 7038.11 | 7122.91 | 7207.70 | 7292.50 | 7377.30 | 7462.09 | 7546.89 |
| 9000 | 7631.68 | 7716.48 | 7801.28 | 7886.07 | 7970.87 | 8055.67 | 8140.46 | 8225.26 | 8310.06 | 8394.85 |

## XXXVI. OF SPANISH OR MEXICAN VARAS INTO ENGLISH FEET AND DECIMALS.

1 Vara = 2.78209 English Feet.

| Varas. Thousands. | Hundreds. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
| | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. | Eng. feet. |
| 0 | 0.0 | 278.2 | 556.4 | 834.6 | 1112.8 | 1391.0 | 1669.3 | 1947.5 | 2225.7 | 2503.9 |
| 1000 | 2782.1 | 3060.3 | 3338.5 | 3616.7 | 3894.9 | 4173.1 | 4451.3 | 4729.6 | 5007.8 | 5286.0 |
| 2000 | 5564.2 | 5842.4 | 6120.6 | 6398.8 | 6677.0 | 6955.2 | 7233.4 | 7511.6 | 7789.9 | 8068.1 |
| 3000 | 8346.3 | 8624.5 | 8902.7 | 9180.9 | 9459.1 | 9737.3 | 10015.5 | 10293.7 | 10571.9 | 10850.2 |
| 4000 | 11128.4 | 11406.6 | 11684.8 | 11963.0 | 12241.2 | 12519.4 | 12797.6 | 13075.8 | 13354.0 | 13632.2 |
| 5000 | 13910.4 | 14188.7 | 14466.9 | 14745.1 | 15023.3 | 15301.5 | 15579.7 | 15857.9 | 16136.1 | 16414.3 |
| 6000 | 16692.5 | 16970.7 | 17249.0 | 17527.2 | 17805.4 | 18083.6 | 18361.8 | 18640.0 | 18918.2 | 19196.4 |
| 7000 | 19474.6 | 19752.8 | 20031.0 | 20309.3 | 20587.5 | 20865.7 | 21143.9 | 21422.1 | 21700.3 | 21978.5 |
| 8000 | 22256.7 | 22534.9 | 22813.1 | 23091.3 | 23369.6 | 23647.8 | 23926.0 | 24204.2 | 24482.4 | 24760.6 |
| 9000 | 25038.8 | 25317.0 | 25595.2 | 25873.4 | 26151.6 | 26429.9 | 26708.1 | 26986.3 | 27164.5 | 27442.7 |

## XXXVII. CONVERSION OF CASTILIAN FEET INTO METRES.

1 Castilian Foot = 0.282655 Metre.

| Castilian Feet. Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. | Metres. |
| 0 | 0.00 | 28.27 | 56.53 | 84.80 | 113.06 | 141.33 | 169.59 | 197.86 | 226.12 | 254.39 |
| 1000 | 282.65 | 310.92 | 339.19 | 367.45 | 395.72 | 423.98 | 452.25 | 480.51 | 508.78 | 537.04 |
| 2000 | 565.31 | 593.58 | 621.84 | 650.11 | 678.37 | 706.64 | 734.90 | 763.17 | 791.43 | 819.70 |
| 3000 | 847.96 | 876.23 | 904.50 | 932.76 | 961.03 | 989.29 | 1017.56 | 1045.82 | 1074.09 | 1102.35 |
| 4000 | 1130.62 | 1158.89 | 1187.15 | 1215.42 | 1243.68 | 1271.95 | 1300.21 | 1328.48 | 1356.74 | 1385.01 |
| 5000 | 1413.27 | 1441.54 | 1469.81 | 1498.07 | 1526.34 | 1554.60 | 1582.87 | 1611.13 | 1639.40 | 1667.66 |
| 6000 | 1695.93 | 1724.20 | 1752.46 | 1780.73 | 1808.99 | 1837.26 | 1865.52 | 1893.79 | 1922.05 | 1950.32 |
| 7000 | 1978.58 | 2006.85 | 2035.12 | 2063.38 | 2091.65 | 2119.91 | 2148.18 | 2176.44 | 2204.71 | 2232.97 |
| 8000 | 2261.24 | 2289.51 | 2317.77 | 2346.04 | 2374.30 | 2402.57 | 2430.83 | 2459.10 | 2487.36 | 2515.63 |
| 9000 | 2543.89 | 2572.16 | 2600.43 | 2628.69 | 2656.96 | 2685.22 | 2713.49 | 2741.75 | 2770.02 | 2798.28 |

## XXXVIII. CONVERSION OF CASTILIAN FEET INTO PARIS OR FRENCH FEET.

1 Castilian Foot = 0 870138 Paris Foot.

| Castilian Feet. Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Par. Feet. | Par. Feet. | Par. Feet. | Par. Feet. | Par Feet. | Par. Feet. | Par. Feet. | Par Feet. | Par. Feet. | Par. Feet. |
| 0 | 0.00 | 87.01 | 174.03 | 261.04 | 348.06 | 435.07 | 522.08 | 609.10 | 696.11 | 783.12 |
| 1000 | 870.14 | 957.15 | 1044.17 | 1131.18 | 1218.19 | 1305.21 | 1392.22 | 1479.23 | 1566.25 | 1653.26 |
| 2000 | 1740.28 | 1827.29 | 1914.30 | 2001.32 | 2088.33 | 2175.35 | 2262.36 | 2349.37 | 2436.39 | 2523.40 |
| 3000 | 2610.41 | 2697.43 | 2784.44 | 2871.46 | 2958.47 | 3045.48 | 3132.50 | 3219.51 | 3306.52 | 3393.54 |
| 4000 | 3480.55 | 3567.57 | 3654.58 | 3741.59 | 3828.61 | 3915.62 | 4002.64 | 4089.65 | 4176.66 | 4263.68 |
| 5000 | 4350.69 | 4437.70 | 4524.72 | 4611.73 | 4698.75 | 4785.76 | 4872.77 | 4959.79 | 5046.80 | 5133.82 |
| 6000 | 5220.83 | 5307.84 | 5394.86 | 5481.87 | 5568.88 | 5655.90 | 5742.91 | 5829.93 | 5916.94 | 6003.95 |
| 7000 | 6090.97 | 6177.98 | 6265.00 | 6352.01 | 6439.02 | 6526.04 | 6613.05 | 6700.06 | 6787.08 | 6874.09 |
| 8000 | 6961.11 | 7048.12 | 7135.13 | 7222.15 | 7309.16 | 7396.17 | 7483.19 | 7570.20 | 7657.22 | 7744.23 |
| 9000 | 7831.24 | 7918.26 | 8005.27 | 8092.29 | 8179.30 | 8266.31 | 8353.33 | 8440.34 | 8527.35 | 8614.37 |

## XXXIX. CONVERSION OF CASTILIAN FEET INTO AMERICAN FEET.

1 Castilian Foot = 0.927309 American Foot.

| Castilian Feet. Thousands. | Hundreds. 0. | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Am. Feet. | Am Feet. | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet. | Am. Feet | Am. Feet | Am. Feet. |
| 0 | 0.00 | 92.73 | 185.46 | 278.19 | 370.92 | 463.65 | 556.39 | 649.12 | 741.85 | 834.58 |
| 1000 | 927.31 | 1020.04 | 1112.77 | 1205.50 | 1298.23 | 1390.96 | 1483.69 | 1576.43 | 1669.16 | 1761.89 |
| 2000 | 1854.62 | 1947.35 | 2040.08 | 2132.81 | 2225.54 | 2318.27 | 2411.00 | 2503.74 | 2596.47 | 2689.20 |
| 3000 | 2781.93 | 2874.66 | 2967.39 | 3060.12 | 3152.85 | 3245.58 | 3338.31 | 3431.04 | 3523.78 | 3616.51 |
| 4000 | 3709.24 | 3801.97 | 3894.70 | 3987.43 | 4080.16 | 4172.89 | 4265.62 | 4358.35 | 4451.08 | 4543.82 |
| 5000 | 4636.55 | 4729.28 | 4822.01 | 4914.74 | 5007.47 | 5100.20 | 5192.93 | 5285.66 | 5378.39 | 5471.12 |
| 6000 | 5563.86 | 5656.59 | 5749.32 | 5842.05 | 5934.78 | 6027.51 | 6120.24 | 6212.97 | 6305.70 | 6398.43 |
| 7000 | 6491.17 | 6583.90 | 6676.63 | 6769.36 | 6862.09 | 6954.82 | 7047.55 | 7140.28 | 7233.01 | 7325.74 |
| 8000 | 7418.47 | 7511.21 | 7603.94 | 7696.67 | 7789.40 | 7882.13 | 7974.86 | 8067.59 | 8160.32 | 8253.05 |
| 9000 | 8345.78 | 8438.51 | 8531.25 | 8623.98 | 8716.71 | 8809.44 | 8902.17 | 8994.90 | 9087.63 | 9180.36 |

THE length of the Spanish Vara, and of the Spanish or Castilian foot, used in the late Spanish Colonies of Mexico and South America, owing, no doubt, to the imperfection of the local standards, shows considerable variations from the value on which the preceding tables are based.

A careful comparison of the standard Vara, brought from Mexico by Major Turnbull, and deposited in the United States Office of Weights and Measures, (see above p. 113,) gave for its length 32.9682 American inches = 2.7473333 American feet = 2.7474928 English feet = 0.8374206 metre.

From a series of altitudes published in Mexico, by Cortina, in Castilian feet, and by Orbegozo in metres and Castilian feet, Jul. Schmidt derives the following value of the Vara and of the Castilian foot, used by these authors (see Petermann's *Mittheil.* 1857, p. 371): One Vara = 2.573296 Paris feet = 0.8358065 metre; and one Castilian foot = 0.857764 Paris foot = 0.91417 English foot.

According to Colonel J. Ondarza, one of the authors of the new official Map of Bolivia, the Bolivian government has declared the legal value of the Spanish Vara to be in the ratio of 100 metres = 118 Varas = 354 Spanish feet, which value has been adopted by him in publishing his measured altitudes.

XXXVIII′ MEXICO. — CONVERSION OF CASTILIAN FEET INTO METRES, PARIS AND ENGLISH FEET.

| Mexican or Castilian Feet. | According to Turnbull's Standard. | | | According to Schmidt, from Cortina. | | |
|---|---|---|---|---|---|---|
| | Metres. | Paris Feet. | English Feet. | Metres. | Paris Feet. | English Feet. |
| 1000 | 279.14 | 859.30 | 915.83 | 278.64 | 857.76 | 914.17 |
| 2000 | 558.28 | 1718.60 | 1831.66 | 557.27 | 1715.53 | 1828.34 |
| 3000 | 837.42 | 2577.89 | 2747.49 | 835.91 | 2573.29 | 2742.51 |
| 4000 | 1116.56 | 3437.19 | 3663.32 | 1114.54 | 3431.06 | 3656.68 |
| 5000 | 1395.70 | 4296.49 | 4579.15 | 1393.18 | 4288.82 | 4570.85 |
| 6000 | 1674.84 | 5155.79 | 5494.99 | 1671.81 | 5146.58 | 5485.02 |
| 7000 | 1953.98 | 6015.08 | 6410.82 | 1950.45 | 6004.35 | 6399.19 |
| 8000 | 2233.12 | 6874.38 | 7326.65 | 2229.08 | 6862.11 | 7313.36 |
| 9000 | 2512.26 | 7733.68 | 8242.48 | 2507.72 | 7719.88 | 8227.53 |

XXXIX′. BOLIVIA. — CONVERSION OF SPANISH VARA AND SPANISH FEET.

1 Spanish foot = 0 2824859 metre = 0.8696171 Paris foot, = 0.9268078 English foot.

| Bolivian or Spanish Feet. | Metres. | Paris Feet. | English Feet. | Metres. | Spanish Varas. | Spanish Feet. |
|---|---|---|---|---|---|---|
| 1000 | 282.49 | 869.62 | 926.81 | 1000 | 1180 | 3540 |
| 2000 | 564.97 | 1739.23 | 1853.61 | 2000 | 2360 | 7080 |
| 3000 | 847.46 | 2608.85 | 2780.42 | 3000 | 3540 | 10620 |
| 4000 | 1129.94 | 3478.47 | 3707.23 | 4000 | 4720 | 14160 |
| 5000 | 1412.43 | 4348.09 | 4634.04 | 5000 | 5900 | 17700 |
| 6000 | 1694.92 | 5217.70 | 5560.85 | 6000 | 7080 | 21240 |
| 7000 | 1977.40 | 6087.32 | 6487.65 | 7000 | 8260 | 24780 |
| 8000 | 2259.89 | 6956.94 | 7414.46 | 8000 | 9440 | 28320 |
| 9000 | 2542.37 | 7826.55 | 8341.27 | 9000 | 10620 | 31860 |

## TO CONVERT

# FRACTIONAL PARTS OF A TOISE AND OF A FOOT

## INTO EACH OTHER.

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### XL. CONVERSION OF INCHES INTO DUODECIMAL LINES.

1 Inch = 12 Lines.

| ches. / ens. | Inches. Units. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | Lines. | Lines. | Lines. | Lines. | Lines. | Lines. | Lines. | Lines. | Lines. | Lines. |
| 0 | 0 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 |
| 10 | 120 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 216 | 228 |
| 20 | 240 | 252 | 264 | 276 | 288 | 300 | 312 | 324 | 336 | 348 |
| 30 | 360 | 372 | 384 | 396 | 408 | 420 | 432 | 444 | 456 | 468 |
| 40 | 480 | 492 | 504 | 516 | 528 | 540 | 552 | 564 | 576 | 588 |
| 50 | 600 | 612 | 624 | 636 | 648 | 660 | 672 | 684 | 696 | 708 |
| 60 | 720 | 732 | 744 | 756 | 768 | 780 | 792 | 804 | 816 | 828 |
| 70 | 840 | 852 | 864 | 876 | 888 | 900 | 912 | 924 | 936 | 948 |
| 80 | 960 | 972 | 984 | 996 | 1008 | 1020 | 1032 | 1044 | 1056 | 1068 |
| 90 | 1080 | 1092 | 1104 | 1116 | 1128 | 1140 | 1152 | 1164 | 1176 | 1188 |
| 100 | 1200 | 1212 | 1224 | 1236 | 1248 | 1260 | 1272 | 1284 | 1296 | 1308 |

### XLI. CONVERSION OF DECIMALS OF A TOISE INTO FEET AND INCHES.

1 Toise = 6 Feet = 72 Inches = 864 Lines.

| s. / . | Hundredths of a Toise. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0.** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** | **9.** |
| | ft in lin. | ft. in. lin. | ft. in. lin | ft. in. lin. | ft. in lin. | ft. in. lin. | ft. in. lin. | ft. in. lin. | ft. in. lin. | ft. in. lin. |
| 0 | 0.0.0,00 | 0. 0. 8,64 | 0. 1. 5,28 | 0. 2. 1,92 | 0. 2.10,56 | 0. 3.7,20 | 0. 4. 3,84 | 0.5. 0,48 | 0. 5. 9,12 | 0. 6. 5,76 |
| 0 | 0.7.2,40 | 0. 7.11,04 | 0. 8. 7,68 | 0. 9. 4,32 | 0.10. 0,96 | 0.10.9,60 | 0.11. 6,24 | 1.0. 2,88 | 1. 0.11,52 | 1. 1. 8,16 |
| 0 | 1.2.4,80 | 1. 3. 1,44 | 1. 3.10,08 | 1. 4. 6,72 | 1. 5. 3,36 | 1. 6.0,00 | 1. 6. 8,64 | 1.7. 5,28 | 1. 8. 1,92 | 1. 8.10,56 |
| 0 | 1.9.7,20 | 1.10. 3,84 | 1.11. 0,48 | 1.11. 9,12 | 2. 0. 5,76 | 2. 1.2,40 | 2. 1.11,04 | 2.2. 7,68 | 2. 3. 4,32 | 2. 4. 0,96 |
| 0 | 2.4.9,60 | 2. 5. 6,24 | 2. 6. 2,88 | 2. 6.11,52 | 2. 7. 8,16 | 2. 8.4,80 | 2. 9. 1,44 | 2.9.10,08 | 2.10. 6,72 | 2.11. 3,36 |
| 1 | 3.0.0,00 | 3. 0. 8,64 | 3. 1. 5,28 | 3. 2. 1,92 | 3. 2.10,56 | 3. 3.7,20 | 3. 4. 3,84 | 3.5. 0,48 | 3. 5. 9,12 | 3. 6. 5,76 |
| 1 | 3.7.2,40 | 3. 7.11,04 | 3. 8. 7,68 | 3. 9. 4,32 | 3.10. 0,96 | 3.10.9,60 | 3.11. 6,24 | 4.0. 2,88 | 4. 0.11,52 | 4. 1. 8,16 |
| 1 | 4.2.4,80 | 4. 3. 1,44 | 4. 3.10,08 | 4. 4. 6,72 | 4. 5. 3,36 | 4. 6.0,00 | 4. 6. 8,64 | 4.7. 5,28 | 4. 8. 1,92 | 4. 8.10,56 |
| 1 | 4.9.7,20 | 4.10. 3,84 | 4.11. 0,48 | 4.11. 9,12 | 5. 0. 5,76 | 5. 1.2,40 | 5. 1.11,04 | 5.2. 7,68 | 5. 3. 4,32 | 5. 4. 0,96 |
| 1 | 5.4.9,60 | 5. 5. 6,24 | 5. 6. 2,88 | 5. 6.11,52 | 5. 7. 8,16 | 5. 8.4,80 | 5. 9. 1,44 | 5.9.10,08 | 5.10. 6,72 | 5.11. 3,36 |

## XLII. CONVERSION OF DECIMALS OF A FOOT INTO INCHES AND DECIMALS.

| Feet. Tens. | Hundredths of a Foot. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | Inches. | Inches. | Inches. | Inches. | Inches. | Inches. | Inches. | Inches. | Inches. | Inches. |
| 0.0 | 0.00 | 0.12 | 0.24 | 0.36 | 0.48 | 0.60 | 0.72 | 0.84 | 0.96 | 1.08 |
| 0.1 | 1.20 | 1.32 | 1.44 | 1.56 | 1.68 | 1.80 | 1.92 | 2.04 | 2.16 | 2.28 |
| 0.2 | 2.40 | 2.52 | 2.64 | 2.76 | 2.88 | 3.00 | 3.12 | 3.24 | 3.36 | 3.48 |
| 0.3 | 3.60 | 3.72 | 3.84 | 3.96 | 4.08 | 4.20 | 4.32 | 4.44 | 4.56 | 4.68 |
| 0.4 | 4.80 | 4.92 | 5.04 | 5.16 | 5.28 | 5.40 | 5.52 | 5.64 | 5.76 | 5.88 |
| 0.5 | 6.00 | 6.12 | 6.24 | 6.36 | 6.48 | 6.60 | 6.72 | 6.84 | 6.96 | 7.08 |
| 0.6 | 7.20 | 7.32 | 7.44 | 7.56 | 7.68 | 7.80 | 7.92 | 8.04 | 8.16 | 8.28 |
| 0.7 | 8.40 | 8.52 | 8.64 | 8.76 | 8.88 | 9.00 | 9.12 | 9.24 | 9.36 | 9.48 |
| 0.8 | 9.60 | 9.72 | 9.84 | 9.96 | 10.08 | 10.20 | 10.32 | 10.44 | 10.56 | 10.68 |
| 0.9 | 10.80 | 10.92 | 11.04 | 11.16 | 11.28 | 11.40 | 11.52 | 11.64 | 11.76 | 11.88 |

## XLIII. CONVERSION OF DECIMALS OF A FOOT INTO INCHES AND DUODECIMAL LINES.

| Feet. Tens. | Hundredths of a Foot. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| | In. Line. | In. Line. | In. Line. | In. Line. | In. Line. | In. Line. | In. Line. | In. Line. | In. Line | In. Line. |
| 0.0 | 0.0,00 | 0. 1,44 | 0. 2,88 | 0. 4,32 | 0. 5,76 | 0.7,20 | 0. 8,64 | 0.10,08 | 0.11,52 | 1. 0,96 |
| 0.1 | 1.2,40 | 1. 3,84 | 1. 5,28 | 1. 6,72 | 1. 8,16 | 1.9,60 | 1.11,04 | 2. 0,48 | 2. 1,92 | 2. 3,36 |
| 0.2 | 2.4,80 | 2. 6,24 | 2. 7,68 | 2. 9,12 | 2.10,56 | 3.0,00 | 3. 1,44 | 3. 2,88 | 3. 4,32 | 3. 5,76 |
| 0.3 | 3.7,20 | 3. 8,64 | 3.10,08 | 3.11,52 | 4. 0,96 | 4.2,40 | 4. 3,84 | 4. 5,28 | 4. 6,72 | 4. 8,16 |
| 0.4 | 4.9,60 | 4.11,04 | 5. 0,48 | 5. 1,92 | 5. 3,36 | 5.4,80 | 5. 6,24 | 5. 7,68 | 5. 9,12 | 5.10,56 |
| 0.5 | 6.0,00 | 6. 1,44 | 6. 2,88 | 6. 4,32 | 6. 5,76 | 6.7,20 | 6. 8,64 | 6.10,08 | 6.11,52 | 7. 0,96 |
| 0.6 | 7.2,40 | 7. 3,84 | 7. 5,28 | 7. 6,72 | 7. 8,16 | 7.9,60 | 7.11,04 | 8. 0,48 | 8. 1,92 | 8. 3,36 |
| 0.7 | 8.4,80 | 8. 6,24 | 8. 7,68 | 8. 9,12 | 8.10,56 | 9.0,00 | 9. 1,44 | 9. 2,88 | 9. 4,32 | 9. 5,76 |
| 0.8 | 9.7,20 | 9. 8,64 | 9.10,08 | 9.11,52 | 10. 0,96 | 10.2,40 | 10. 3,84 | 10. 5,28 | 10. 6,72 | 10. 8,16 |
| 0.9 | 10.9,60 | 10.11,04 | 11. 0,48 | 11. 1,92 | 11. 3,36 | 11.4,80 | 11. 6,24 | 11. 7,68 | 11. 9,12 | 11.10,56 |

## XLIV. CONVERSION OF INCHES AND DUODECIMAL LINES INTO DECIMALS OF A FOOT.

1 Inch = 0.08333 of a Foot. 1 Line = 0.006944 of a Foot.

| Inches. | Lines. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. |
| | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. | Foot. |
| 0 | 0.0000 | 0.0069 | 0.0139 | 0.0208 | 0.0278 | 0.0347 | 0.0417 | 0.0486 | 0.0556 | 0.0625 | 0.0694 | 0.0764 |
| 1 | 0.0833 | 0.0903 | 0.0972 | 0.1042 | 0.1111 | 0.1181 | 0.1250 | 0.1319 | 0.1389 | 0.1458 | 0.1528 | 0.1597 |
| 2 | 0.1667 | 0.1736 | 0.1806 | 0.1875 | 0.1944 | 0.2014 | 0.2083 | 0.2153 | 0.2222 | 0.2292 | 0.2361 | 0.2431 |
| 3 | 0.2500 | 0.2569 | 0.2639 | 0.2708 | 0.2778 | 0.2847 | 0.2917 | 0.2986 | 0.3056 | 0.3125 | 0.3194 | 0.3264 |
| 4 | 0.3333 | 0.3403 | 0.3472 | 0.3542 | 0.3611 | 0.3681 | 0.3750 | 0.3819 | 0.3889 | 0.3958 | 0.4028 | 0.4097 |
| 5 | 0.4167 | 0.4236 | 0.4306 | 0.4375 | 0.4444 | 0.4514 | 0.4583 | 0.4653 | 0.4722 | 0.4792 | 0.4861 | 0.4931 |
| 6 | 0.5000 | 0.5069 | 0.5139 | 0.5208 | 0.5278 | 0.5347 | 0.5417 | 0.5486 | 0.5556 | 0.5625 | 0.5694 | 0.5764 |
| 7 | 0.5833 | 0.5903 | 0.5972 | 0.6042 | 0.6111 | 0.6181 | 0.6250 | 0.6319 | 0.6389 | 0.6458 | 0.6528 | 0.6597 |
| 8 | 0.6667 | 0.6736 | 0.6806 | 0.6875 | 0.6944 | 0.7014 | 0.7083 | 0.7153 | 0.7222 | 0.7292 | 0.7361 | 0.7431 |
| 9 | 0.7500 | 0.7569 | 0.7639 | 0.7708 | 0.7778 | 0.7847 | 0.7917 | 0.7986 | 0.8056 | 0.8125 | 0.8194 | 0.8264 |
| 10 | 0.8333 | 0.8403 | 0.8472 | 0.8542 | 0.8611 | 0.8681 | 0.8750 | 0.8819 | 0.8889 | 0.8958 | 0.9028 | 0.9097 |
| 11 | 0.9167 | 0.9236 | 0.9306 | 0.9375 | 0.9444 | 0.9514 | 0.9583 | 0.9653 | 0.9722 | 0.9792 | 0.9861 | 0.9931 |

# METEOROLOGICAL TABLES.

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## V.

# METEOROLOGICAL CORRECTIONS,

OR

# TABLES

FOR CORRECTING SERIES OF OBSERVATIONS FOR THE PERIODIC AND NON-PERIODIC VARIATIONS.

# CONTENTS.

[The figures refer to the folio at the bottom of the page. — The letters near them mean, D. = calculated by Dove; Gl. = Glaisher; G. = Guyot; L. = Lefroy. For the letters before the latitudes, see page 12.]

## *Temperature.*

### *Hourly Corrections for Periodic Variations.*

#### NORTH AMERICA.


| | Station. | | Latitude. | Scale. | | Page. |
|---|---|---|---|---|---|---|
| TABLE I. | Washington, District Columbia, | B 1. | 38° 54′ N. | Reau. | D. | 15 |
| " II. | Philadelphia, Girard College, | A′3. | 39 58 N. | Reau. | D. | 15 |
| " III. | Philadelphia, Girard College, | A′3. | 39 58 N. | Fahr. | G. | 16 |
| " IV. | Frankfort Arsenal, Penn., | C. | 39 57 N. | Reau. | D. | 17 |
| " V. | Frankfort Arsenal, Penn., | C. | 39 57 N. | Fahr. | D. | 18 |
| " VI. | Toronto, Canada West, | B. | 43 40 N. | Fahr. | D. | 19 |
| " VII. | Toronto, Canada West, | B. | 43 40 N. | Reau. | D. | 20 |
| " VIII. | Toronto, Canada West, | A′6. | 43 40 N. | Fahr. | L. | 21 |
| " IX. | Toronto, Canada West, | A′6. | 43 40 N. | Reau. | D. | 22 |
| " X. | Montreal, Canada East, | A′1. | 45 30 N. | Fahr. | G. | 22 |
| " XI. | Sitka, Russian America, | A′5. | 57 3 N. | Reau. | D. | 23 |
| " XII. | Boothia Felix, Arctic America, | A. | 69 59 N. | Reau. | D. | 24 |
| " XIII. | Lake Athabasca, Arctic America, | C. | 59 N. | Fahr. | L. | 25 |
| " XIV. | Melville Island, Arctic America, | C. | 74 47 N. | Reau. | D. | 25 |
| " XV. | Hecla Cove, Spitzbergen, | C. | 79 55 N. | Reau. | D. | 25 |
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ASIA.


| | Station. | | Latitude. | Scale. | | Page. |
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| " XIX. | Trevandrum, India, | A. | 8 31 N. | Reau. | D. | 32 |
| ' XX. | Madras, India, | A. | 13 4 N. | Fahr. | D. | 33 |
| " XXI. | Madras, India, | A. | 13 4 N. | Reau. | D. | 34 |
| " XXII. | Bombay, India, | A. | 18 56 N. | Fahr. | D. | 35 |
| " XXIII. | Bombay, India, | A. | 18 56 N. | Reau. | D. | 36 |
| " XXIV. | Madras, India, | A′5. | 13 4 N. | Reau. | D. | 37 |
| " XXV. | Bombay, India, | A′4. | 18 56 N. | Reau. | D. | 37 |
| " XXVI. | Calcutta, India, | A′2. | 22 33 N. | Reau. | D. | 38 |
| " XXVII. | Tiflis, Georgia, | A′4. | 41 41 N. | Reau. | D. | 39 |
| " XXVIII. | Peking, China, | A′4. | 39 54 N. | Reau. | D. | 39 |
| " XXIX. | Nertchinsk, Siberia, | A′6. | 51 18 N. | Reau. | D. | 40 |
| " XXX. | Nertchinsk, Siberia, | A. | 51 18 N. | Reau. | D. | 41 |
| " XXXI. | Barnaul, Siberia, | A. | 53 20 N. | Fahr. | D. | 42 |
| " XXXII. | Barnaul, Siberia, | A. | 53 20 N. | Reau. | D. | 43 |
| " XXXIII. | Barnaul, Siberia, | A′6. | 53 20 N. | Reau. | D. | 44 |


EUROPE.


| | | | | | | |
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| " XXXV. | Padua, Italy, | C. | 45 24 N. | Reau. | D. | 48 |
| " XXXVI. | Geneva, Switzerland, | C 10. | 46 12 N. | Reau. | D. | 49 |
| " XXXVII. | Geneva, Switzerland, | C′4. | 46 12 N. | Reau. | D. | 49 |
| " XXXVIII. | St. Bernard, Switzerland, | C 10. | 45 52 N. | Reau. | D. | 50 |
| " XXXIX. | St. Bernard, Switzerland, | C′4. | 45 52 N. | Reau. | D. | 50 |
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| " XLII. | Munich, Bavaria, | A′6. | 48 9 N. | Reau. | D. | 52 |
| " XLIII. | Prague, Bohemia, | A′10. | 50 5 N. | Reau. | D. | 53 |
| " XLIV. | Prague, Bohemia, | A. | 50 5 N. | Reau. | D. | 54 |
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| " XLVI. | Plymouth, England, | C. | 50 22 N. | Reau. | D. | 56 |
| " XLVII. | Brussels, Belgium, | B. | 50 51 N. | Reau. | D. | 57 |
| " XLVIII. | Brussels, Belgium, | B′. | 50 51 N. | Reau. | D. | 58 |
| " XLIX. | Schwerin, Germany, | B′3. | 53 36 N. | Reau. | D. | 58 |
| " L. | Mühlhausen, Prussia, | C. | 51 13 N. | Reau. | D. | 59 |
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| " LII. | Greenwich, England, | B′7. | 51 29 N. | Reau. | D. | 60 |
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| | | Station. | | Latitude. | Scale. | | Page. |
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| " | LX. | Apenrade, Sleswick, | C. | 55 3 N. | Reau. | D. | 68 |
| " | LXI. | Leith, Scotland, | A. | 55 59 N. | Fahr. | D. | 69 |
| " | LXII. | Leith, Scotland, | A. | 55 59 N. | Reau. | D. | 70 |
| " | LXIII. | Makerstoun, Scotland, | A′3. | 55 36 N. | Reau. | D. | 71 |
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| " | LXXXV. | Stuttgard, South Germany, | 48 46 N. | Reau. | D. | 99 |
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| " | LXXXVII. | Berlin, North Germany, | 52 30 N. | Reau. | D. | 102 |
| " | LXXXVIII. | Copenhagen, Denmark, | 55 41 N. | Reau. | D. | 105 |
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| " | XCI. | London, England, | 51 30 N. | Reau. | D. | 110 |

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| " XCIV. | Albany, N. Y., North America, | 42 39 N. | Reau. | D. | 113 |
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*Hourly Corrections for Periodic Variations.*

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# METEOROLOGICAL CORRECTIONS.

One of the prominent objects of a prolonged series of meteorological observations is to determine the mean condition of the atmosphere, during a given interval of time, such as a day, a month, or a year, as to its temperature, moisture, and barometric pressure. In order to furnish the true means of these elements, free from the periodic changes which depend upon the daily course of the sun and upon the seasons, the observations ought to be made at equal intervals of time, and be so often repeated as actually to represent the sum of the variations which took place during the stated time. It is generally admitted that observations taken at every one of the twenty-four hours of the day give means which do not sensibly differ from the means which would be obtained from a still larger number of observations during the same time; so that means derived from hourly observations may be considered as the true daily, monthly, and annual means of the year in which the observations were taken.

However, as the means of a given month, or year, will generally be found somewhat to differ from those of another year, at the same place, from causes which are not of a periodic nature, it is obvious that the absolute means can only be derived from the means of a series of years, in which the differences arising from these non-periodic variations may be considered as sufficiently balancing each other.

Hourly observations can be expected only from a very few stations, favored with peculiar arrangements for the purpose. By far the larger number of observers must necessarily confine themselves to three or four observations a day. The means, therefore, deduced from such a set of observations, generally differ from the true means which would be given by hourly observations, by a quantity which varies with the hours selected for the observations. If that quantity, however, is known by having been previously determined for every hour, or set of hours, by a long series

of hourly observations taken at some station in a similar climatic situation, it is evident that, whatever be the hours at which observations are taken, the means derived from them can always be reduced to the true means by correcting them for that difference.

The following tables furnish such corrections, both for periodic and non-periodic variations of temperature, and for stations situated in various latitudes. They give the quantities which must be added to, or subtracted from, the hourly means, in order to obtain the true means of the day, of the month, and of the year.

Two tables of the same description, for moisture, which may be considered as specimens of the kind, close the set.

Two other tables, for correcting the mean barometric pressures, are found at the end of the Hypsometrical Tables, pp. 92, 93.

# CORRECTIONS FOR TEMPERATURE.

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## HOURLY CORRECTIONS FOR PERIODIC VARIATIONS,

OR

## TABLES

FOR REDUCING THE MEANS OF THE OBSERVATIONS TAKEN AT ANY HOUR OF THE DAY TO THE TRUE MEAN TEMPERATURE OF THE DAY, OF THE MONTH, AND OF THE YEAR.

# HOURLY CORRECTIONS FOR PERIODIC VARIATIONS,

OR

## CORRECTIONS TO BE APPLIED TO THE MEANS OF THE HOURS OF OBSERVATION, OR SETS OF HOURS, IN ORDER TO OBTAIN THE TRUE MEAN TEMPERATURES OF THE RESPECTIVE DAYS, MONTHS, AND OF THE YEAR.

THE following set contains all the tables for correcting the means of observations on atmospheric temperature for the effect of diurnal variation which have been published by Dove, together with a few others of the same description. Dove's tables are found in two papers, published in the *Memoirs of the Royal Academy of Berlin* for 1846 and for 1856, and in the first *Report on the Observations of the Meteorological Institute of Prussia*, Berlin, 1851.

In the first paper are twenty-nine tables, in Reaumur's scale, nine of which have been republished, in Fahrenheit's scale, in the *Proceedings of the British Association* for 1847, and will also be found below. In that series the corrections have been formed by finding first the differences between the hourly and the true means, and then computing the observations by Bessel's formula, in order to eliminate the accidental irregularities due to the shortness of the period during which the observations were taken. Calling $x$ the horary angle reckoned from noon, Bessel's formula is

$$tx = u + u' \sin (x + U') + u'' \sin (2x + U'') + u''' \sin (3x + U''').$$

The stations at which hourly observations were made are Trevandrum, Madras, Bombay, Salzuflen, Prague, St. Petersburg, Catharinenburg, Barnaul, Nertchinsk, Matoschkin-Schar, Strait of Kara, and Boothia Felix. Bi-hourly observations were taken at Brussels, Greenwich, and Toronto; in all others the night observations are wanting, and were obtained by interpolation. Moreover, in several stations the number of observations was small, at Madras even only thirty-six days. The tables of that series may be readily distinguished from those belonging to the same stations in the second, by their containing the corrections for several sets of hours, which are not found in the tables of the other.

In Dove's second series, and in all other tables, the corrections given are simply the differences, with reverse signs, between the hourly and the true means, excepting, however, the stations of Toronto, in which the corrections were computed, by Bessel's formula, by Colonel Sabine; of Prague, by Jelineck; of Salzburg, and those of Geneva and St. Bernard, by Plantamour.

The observations from which these tables are derived were made hourly at Hobarton during 8 years; at the Cape of Good Hope, for 5¼ years; St. Helena, 5 years; Madras, 5 years; Bombay, 4 years; Calcutta, 1½ years; Toronto, 6 years; Philadelphia, 3 years; Makerstoun, 3 years; Utrecht, 1¾ years; Prague, 10½ years; Munich, 7 years; Salzburg, 6 years; St. Petersburg, 10 years; Catherinenburg, 6 years; Barnaul, 5 years; Tiflis, 4 years; Nertchinsk, 6 years; Peking, 4 years; Sitka, 5 years. In the following stations the observations were bi-hourly: — Washington, for 1½ years; Greenwich, 7 years; Dublin, 4 years; Brussels, 9 years; Geneva and St. Bernard, 4 years; Schwerin, 3 years.

The observations made in England, and in her colonies, are found in the various government publications. Those of the Russian stations are taken from the *Annuaire Météorologique et Magnétique des Ingénieurs des Mines*, and in the *Annales de*

*l'Observatoire Physique Central de Russie.* The observations made at Prague, Munich, Geneva, with those at St. Bernard, Makerstoun, Greenwich, Brussels, and Washington, were published by their respective Observatories; those of Utrecht, by Buys-Ballot; of Dublin, by Lloyd, in his *Notes on the Meteorology of Ireland;* those of Schwerin were communicated in manuscript by Dippe; the observations at Melville Island are published in No. 42 of the Parliamentary papers for 1854; and those at Bossekop, by Martins and Bravais, in the *Voyage de la Commission Scientifique du Nord.*

The tables of this second series being mostly deduced from longer series of observations than those in the first, when the same station is found in both, the table in the second is generally to be preferred.

Glaisher's table for Greenwich has been taken from the *Greenwich Observations.* Captain Lefroy kindly furnished the tables for Toronto and Lake Athabasca. To him the author is also indebted for the observations made at Montreal by Mr. McCord, from which Table X. was computed. Table III., for Philadelphia, was deduced by the writer from the observations made at Girard College under the direction of Prof. A. D. Bache.

In order to facilitate the selection of the tables, they are marked in the table of contents with capitals, which have the following signification: —

A and B mean that the tables have been derived from hourly and bi-hourly observations, and have been computed by Bessel's formula; C, that the tables contain values obtained by interpolation.

A′, B′, and C′ indicate the tables based respectively on hourly and bi-hourly or partly interpolated observations, which give simply the differences between the hourly and the true means.

The figures added to the letters indicate the number of years during which the observations used in forming the table were carried on. The stations are arranged, in each continent, in the order of their latitude.

## Use of the Tables.

In order to reduce meteorological means obtained from any set of hours to the true means, the table best suited to the purpose must first be selected. The diurnal variation changing with the seasons, the latitude, the altitude, and the distance from the sea-shore, the station which comes nearest, in all these respects, to the station the observations of which are to be corrected, must be adopted.

Suppose the thermometer has been observed at Baltimore, during the month of January, at 7 A. M., 1 P. M., and 7 P. M., and the monthly means of these hours to be respectively 27°, 35°, and 31° Fahrenheit. We take Table III., Philadelphia, it being the nearest in latitude and climatic situation. We find the correction for the hours 7, 1, and 7, and we have

| | Observed Means. | Corrections. | | True Means. |
|---|---|---|---|---|
| For 7 A. M. | 27° | + 3°.63 | = | 30°.63 |
| For 1 P. M. | 35° | — 3°.87 | = | 31°.13 |
| For 7 P. M. | 31° | — 1°.13 | = | 29°.87 |
| Sums, | 93° | — 1°.37 | = | 91°.63 |
| Means, | 31° | — 0°.46 | = | 30°.54 True Mean for January. |

It is obvious that the corrections can be applied, either separately to each hour, as is done above, or collectively, in taking the mean of the three hourly corrections and applying it to the mean of the three observations, as in the last line, which is the more convenient method. Therefore, in order to find the correction for any set of hours, it suffices to take the mean of the corrections given in the table for the hours composing the set. The true daily means can be found in the same way, and the true yearly means can be derived from the corrected monthly means, or by applying the corrections given in the last column.

# HOURLY CORRECTIONS

FOR

# PERIODIC VARIATIONS.

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NORTH AMERICA. — SOUTH AMERICA.

## I.

NORTH AMERICA. — WASHINGTON. *Lat.* 38° 54′ N. *Long.* 77° 3′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A.M. 0 12′ | 1.15 | 1.26 | 1.60 | 1.95 | 2.33 | 2.87 | 2.94 | 2.31 | 2.39 | 1.73 | 0.85 | 0.96 | 1.86 |
| 2 12′ | 1.28 | 1.86 | 2.14 | 2.40 | 3.15 | 3.21 | 3.25 | 3.07 | 2.75 | 2.27 | 1.34 | 1.12 | 2.32 |
| 4 12′ | 1.45 | 2.18 | 2.67 | 2.75 | 3.56 | 3.64 | 3.83 | 3.49 | 3.15 | 2.89 | 1.92 | 1.54 | 2.76 |
| 6 12′ | 1.88 | 2.32 | 2.76 | 2.59 | 2.20 | 2.23 | 2.12 | 2.81 | 3.02 | 3.19 | 2.18 | 1.81 | 2.43 |
| 8 12′ | 1.48 | 1.76 | 1.68 | 1.05 | 0.32 | −0.16 | 0.09 | 0.28 | 1.04 | 1.69 | 1.88 | 1.68 | 1.07 |
| 10 12′ | −0.18 | −0.58 | −0.88 | −0.76 | −1.24 | −1.82 | −1.32 | −1.81 | −1.31 | −1.25 | −0.17 | −0.15 | −0.96 |
| P.M. 0 12′ | −1.47 | −2.05 | −2.36 | −2.39 | −2.64 | −2.69 | −2.55 | −2.97 | −2.92 | −2.89 | −1.90 | −1.57 | −2.37 |
| 2 12′ | −2.60 | −3.15 | −3.35 | −3.41 | −3.57 | −3.84 | −3.49 | −3.83 | −3.74 | −3.64 | −2.44 | −2.50 | −3.30 |
| 4 12′ | −2.32 | −3.05 | −3.20 | −3.51 | −3.66 | −4.29 | −4.16 | −3.59 | −3.65 | −3.29 | −2.08 | −2.19 | −3.25 |
| 6 12′ | −0.76 | −1.25 | −1.73 | −2.18 | −2.44 | −1.60 | −2.24 | −1.74 | −1.88 | −1.84 | −1.59 | −1.01 | −1.69 |
| 8 12′ | −0.23 | 0.02 | −0.05 | 0.06 | 0.27 | 0.44 | −0.21 | −0.26 | −0.23 | 0.18 | −0.22 | −0.26 | −0.04 |
| 10 12′ | 0.33 | 0.69 | 0.76 | 1.42 | 1.67 | 2.04 | 1.26 | 1.79 | 1.41 | 0.98 | 0.23 | 0.43 | 1.08 |
| Means. | 1.32 | 1.52 | 6.26 | 9.02 | 12.64 | 18.34 | 19.29 | 17.78 | 16.04 | 7.47 | 5.20 | 1.63 | |

## II.

N. AMERICA. — PHILADELPHIA. *Lat.* 39° 58′ N. *Long.* 75° 11′ W. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.64 | 1.27 | 1.33 | 1,81 | 2.06 | 2.34 | 2.10 | 1.94 | 2.12 | 1.70 | 1.31 | 0.62 | 1.60 |
| 1 | 0.94 | 1.48 | 1.61 | 2.20 | 2.32 | 2.63 | 2.45 | 2.19 | 2.04 | 1.87 | 1.22 | 0.81 | 1.81 |
| 2 | 1.00 | 1.67 | 1.85 | 2.58 | 2.64 | 2.86 | 2.69 | 2.41 | 2.22 | 2.18 | 1.43 | 0.98 | 2.04 |
| 3 | 1.13 | 1.95 | 2.00 | 2.76 | 2.96 | 3.20 | 2.88 | 2.44 | 2.43 | 2.36 | 1.50 | 1.12 | 2.23 |
| 4 | 1.24 | 2.05 | 2.08 | 2.97 | 3.27 | 3.40 | 3.04 | 2.74 | 2.56 | 2.58 | 1.74 | 1.28 | 2.41 |
| 5 | 1.36 | 2.13 | 2.50 | 3.06 | 3.32 | 3.28 | 3.11 | 2.89 | 2.68 | 2.78 | 1.83 | 1.38 | 2.53 |
| 6 | 1.50 | 2.24 | 2.44 | 2.84 | 2.63 | 2.54 | 2.56 | 2.64 | 2.65 | 2.95 | 1.89 | 1.44 | 2.36 |
| 7 | 1.60 | 2.28 | 2.24 | 2.15 | 1.68 | 1.45 | 1.53 | 1.84 | 1.92 | 2.40 | 1.88 | 1.36 | 1.86 |
| 8 | 1.40 | 1.46 | 1.26 | 1.17 | 0.65 | 0.40 | 0.54 | 0.67 | 0.78 | 1.08 | 1.21 | 1.14 | 0.98 |
| 9 | 0.78 | 0.57 | 0.35 | 0.23 | −0.39 | −0.52 | −0.36 | −0.20 | −0.18 | −0.15 | 0.26 | 0.52 | 0.08 |
| 10 | 0.02 | −0.39 | −0.46 | −0.71 | −1.06 | −1.23 | −1.00 | −1.05 | −1.08 | −1.17 | −0.56 | −0.22 | −0.74 |
| 11 | −0.68 | −1.20 | −1.38 | −1.54 | −1.74 | −1.93 | −1.74 | −1.84 | −1.90 | −1.96 | −1.27 | −0.92 | −1.50 |
| Noon. | −1.21 | −1.77 | −1.97 | −2.16 | −2.24 | −2.51 | −2.26 | −2.34 | −2.45 | −2.61 | −1.77 | −1.28 | −2.05 |
| 1 | −1.73 | −2.36 | −2.45 | −2.86 | −2.71 | −3.06 | −2.66 | −2.67 | −2.88 | −3.14 | −2.26 | −1.63 | −2.53 |
| 2 | −2.04 | −2.66 | −2.74 | −3.29 | −3.11 | −3.32 | −2.97 | −3.01 | −3.22 | −3.45 | −2.52 | −1.84 | −2.85 |
| 3 | −2.10 | −2.82 | −3.07 | −3.42 | −3.36 | −3.40 | −3.15 | −3.11 | −3.26 | −3.45 | −2.48 | −1.85 | −2.96 |
| 4 | −1.98 | −2.69 | −2.99 | −3.44 | −3.46 | −3.44 | −3.06 | −2.98 | −3.17 | −3.33 | −2.24 | −1.63 | −2.87 |
| 5 | −1.30 | −2.18 | −2.52 | −3.14 | −3.26 | −3.05 | −2.94 | −2.70 | −2.77 | −2.46 | −1.46 | −1.10 | −2.41 |
| 6 | −0.91 | −1.37 | −1.60 | −2.49 | −2.46 | −2.47 | −2.30 | −2.03 | −1.77 | −1.33 | −0.82 | −0.64 | −1.68 |
| 7 | −0.51 | −0.80 | −0.88 | −1.23 | −1.28 | −1.38 | −1.44 | −1.02 | −0.76 | −0.52 | −0.33 | −0.31 | −0.87 |
| 8 | −0.20 | −0.21 | −0.20 | −0.29 | −0.06 | 0.06 | 0.03 | 0.01 | 0.28 | 0.18 | −0.14 | −0.04 | −0.05 |
| 9 | 0.07 | 0.11 | 0.90 | 0.35 | 0.65 | 0.82 | 0.57 | 0.60 | 0.81 | 0.65 | 0.29 | 0.09 | 0.49 |
| 10 | 0.33 | 0.48 | 0.77 | 0.93 | 1.24 | 1.37 | 1.08 | 1.09 | 1.33 | 1.24 | 0.45 | 0.27 | 0.88 |
| 11 | 0.56 | 0.75 | 0.96 | 1.44 | 1.74 | 1.91 | 1.55 | 1.44 | 1.64 | 1.63 | 0.79 | 0.40 | 1.23 |
| Mean. | 0.30 | 1.12 | 5.18 | 8.75 | 12.18 | 16.22 | 18.19 | 17.52 | 14.66 | 8.72 | 3.67 | 0.58 | |

The numbers without sign must be added; those with the sign — must be subtracted.

III.

NORTH AMERICA. — PHILADELPHIA. *Lat.* 39° 58′ N. *Long.* 75° 11′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — GUYOT.

Degrees of Fahrenheit.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midnight. | 1.47 | 2.90 | 2.90 | 4.13 | 4.68 | 5.28 | 4.70 | 4.37 | 4.47 | 3.80 | 2.70 | 1.40 | 3.57 |
| 1 | 2.13 | 3.37 | 3.63 | 4.88 | 5.25 | 5.93 | 5.57 | 4.93 | 4.60 | 4.17 | 2.73 | 1.83 | 4.08 |
| 2 | 2.20 | 3.57 | 4.17 | 5.88 | 5.95 | 6.45 | 6.10 | 5.43 | 5.00 | 4.87 | 3.20 | 2.20 | 4.59 |
| 3 | 2.57 | 4.43 | 4.50 | 6.28 | 6.68 | 7.23 | 6.53 | 5.50 | 5.47 | 5.27 | 3.37 | 2.53 | 5 03 |
| 4 | 2.80 | 4.67 | 4.70 | 6.75 | 7.38 | 7.68 | 6.90 | 6.17 | 5.77 | 5.77 | 3.90 | 2.87 | 5.45 |
| 5 | 3.07 | 4.83 | 5.63 | 6.95 | 7.48 | 7.40 | 7.03 | 6.50 | 6.03 | 6.23 | 4.10 | 3.10 | 5.70 |
| 6 | 3.40 | 5.10 | 5.50 | 6.45 | 5.93 | 5.73 | 5.80 | 5.93 | 5.97 | 6.60 | 4.23 | 3.23 | 5.32 |
| 7 | 3.63 | 5.17 | 5.03 | 4.90 | 3.80 | 3.28 | 3.50 | 4.13 | 4.33 | 5.37 | 4.20 | 3.07 | 4.20 |
| 8 | 3.17 | 3.33 | 2.80 | 2.50 | 1.48 | 0.90 | 1.27 | 1.50 | 1.93 | 2.40 | 2.70 | 2.57 | 2.16 |
| 9 | 1.77 | 1.33 | 0.80 | 0.58 | −0.85 | −1.15 | −0.77 | −0.43 | −0.40 | −0.37 | 0.57 | 1.17 | 0.19 |
| 10 | 0.07 | −0.83 | −1.03 | −1.53 | −2.38 | −2.75 | −2.20 | −2.37 | −2.43 | −2.67 | −1.27 | −0.50 | −1.66 |
| 11 | −1.40 | −2.63 | −3.10 | −3.40 | −3.90 | −4.33 | −3.87 | −4.13 | −4.27 | −4.43 | −2.87 | −2.07 | −3.37 |
| Noon. | −2.70 | −3.93 | −4.43 | −4.72 | −5.03 | −5.63 | −5.03 | −5.27 | −5.50 | −5.90 | −4.00 | −2.87 | −4.58 |
| 1 | −3.87 | −5.27 | −5.50 | −6.38 | −6.08 | −6.88 | −5.93 | −6.00 | −6.47 | −7.10 | −5.10 | −3.67 | −5.69 |
| 2 | −4.57 | −5.97 | −6.17 | −7.12 | −6.98 | −7.45 | −6.63 | −6.83 | −7.20 | −7.80 | −5.67 | −4.13 | −6.40 |
| 3 | −4.70 | −6.30 | −6.90 | −7.63 | −7.55 | −7.63 | −7.03 | −7.00 | −7.33 | −7.80 | −5.60 | −4.17 | −6.64 |
| 4 | −4.43 | −6.00 | −6.73 | −7.65 | −7.78 | −7.73 | −6.83 | −6.70 | −7.13 | −7.53 | −5.07 | −3.67 | −6.44 |
| 5 | −2.90 | −4.87 | −5.67 | −7.00 | −7.33 | −6.85 | −6.57 | −6.07 | −6.23 | −5.57 | −3.30 | −2.47 | −5.40 |
| 6 | −2.03 | −3.03 | −3.60 | −5.55 | −5.53 | −5.55 | −5.13 | −4.57 | −3.97 | −3.03 | −1.87 | −1.43 | −3.77 |
| 7 | −1.13 | −1.77 | −1.97 | −2.70 | −2.88 | −3.10 | −3.20 | −2.30 | −1.70 | −1.20 | −0.77 | −0.70 | −1.95 |
| 8 | −0.43 | −0.43 | −0.43 | −0.60 | −0.13 | 0.15 | 0.08 | 0.03 | 0.63 | 0.37 | 0.15 | −0.10 | −0.11 |
| 9 | 0.17 | 0.30 | 0.73 | 0.85 | 1.48 | 1.85 | 1.33 | 1.37 | 1.83 | 1.43 | 0.63 | 0.20 | 1.01 |
| 10 | 0.77 | 1.13 | 1.73 | 2.15 | 2.80 | 3.10 | 2.47 | 2.47 | 3.00 | 2.77 | 1.00 | 0.60 | 2.00 |
| 11 | 1.27 | 1.73 | 2.17 | 3.30 | 3.93 | 4.30 | 3.53 | 3.23 | 3.70 | 3.63 | 1.77 | 0.90 | 2.78 |
| 6, 6 | 0.69 | 1.04 | 0.95 | 0.45 | 0.20 | 0.09 | 0.34 | 0.68 | 1.00 | 1.79 | 1.18 | 0.90 | 0.78 |
| 7, 7 | 1.25 | 1.70 | 1.53 | 1.10 | 0.46 | 0.09 | 0.15 | 0.92 | 1.32 | 2.09 | 1.72 | 1.19 | 1.13 |
| 8, 8 | 1.37 | 1.45 | 1.18 | 0.85 | 0.68 | 0.53 | 0.67 | 0.77 | 1.01 | 1.38 | 1.35 | 1.24 | 1.04 |
| 9, 9 | 0.97 | 0.82 | 0.76 | 0.72 | 0.32 | 0.35 | 0.28 | 0.47 | 0.72 | 0.53 | 0.60 | 0.69 | 0.66 |
| 10, 10 | 0.42 | 0.15 | 0.35 | 0.31 | 0.21 | 0.18 | 0.14 | 0.05 | 0.29 | 0.05 | −0.13 | 0.05 | 0.17 |
| 7, 2, 9 | −0.22 | −0.17 | −0.15 | −0.53 | −0.57 | −0.77 | −0.61 | −0.44 | −0.35 | −0.33 | −0.28 | −0.29 | −0.39 |
| 6, 2, 8 | −0.53 | −0.43 | −0.37 | −0.42 | −0.39 | −0.52 | −0.37 | −0.29 | −0.20 | −0.28 | −0.43 | −0.67 | −0.41 |
| 6, 2, 10 | −0.13 | 0.09 | 0.53 | 0.74 | 0.58 | 0.46 | 0.55 | 0.52 | 0.59 | 0.52 | −0.15 | −0.10 | 0.44 |
| 6, 2, 6 | −1.07 | −0.72 | −1.42 | −2.07 | −2.19 | −2.42 | −1.43 | −1.82 | −1.73 | −1.41 | −1.10 | −0.78 | −1.44 |
| 7, 2 | −0.47 | −0.40 | −0.57 | −1.11 | −1.59 | −2.09 | −1.57 | −1.35 | −1.44 | −1.22 | −0.74 | −0.53 | −1.09 |
| 8, 2 | −0.70 | −1.32 | −1.68 | −2.31 | −2.75 | −3.28 | −2.68 | −2.67 | −2.90 | −2.70 | −1.49 | −0.78 | −2.10 |
| 8, 1 | −0.35 | −0.97 | −1.35 | −1.94 | −2.30 | −2.99 | −2.33 | −2.25 | −2.53 | −2.35 | −1.20 | −0.55 | −1.76 |
| 7, 1 | −0.12 | −0.03 | −0.24 | −0.74 | −1.14 | −1.80 | −1.22 | −0.94 | −1.07 | −0.87 | −0.45 | −0.30 | −0.75 |
| 9, 12, 3, 9 | −1.37 | −2.15 | −2.45 | −2.73 | −2.99 | −3.14 | −2.88 | −2.83 | −2.85 | −3.16 | −2.39 | −1.42 | −2.53 |

## IV.

N. America. — Frankfort Arsenal. *Lat.* 39° 57′ N. *Long.* 75° 8′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.34 | 1.46 | 1.75 | 1.87 | 2.60 | 3.41 | 3.07 | 2.69 | 2.63 | 2.40 | 1.18 | 1.34 | 2.15 |
| 2 | 1.51 | 1.73 | 2.13 | 2.33 | 3.05 | 3.73 | 3.51 | 3.04 | 3.05 | 2.67 | 1.27 | 1.50 | 2.46 |
| 3 | 1.82 | 1.98 | 2.56 | 2.88 | 3.43 | 3.92 | 3.83 | 3.32 | 3.49 | 2.94 | 1.41 | 1.66 | 2.77 |
| 4 | 2.13 | 2.23 | 2.90 | 3.29 | 3.57 | 3.84 | 3.84 | 3.36 | 3.73 | 3.13 | 1.51 | 1.80 | 2.94 |
| 5 | 2.31 | 2.46 | 2.95 | 3.31 | 3.32 | 3.36 | 3.40 | 2.99 | 3.54 | 3.12 | 1.73 | 1.87 | 2.86 |
| 6 | 2.25 | 2.35 | 2.62 | 2.83 | 2.65 | 2.46 | 2.52 | 2.21 | 2.84 | 2.82 | 1.38 | 1.80 | 2.39 |
| 7 | 1.88 | 2.01 | 1.91 | 1.94 | 1.66 | 1.26 | 1.34 | 1.15 | 1.71 | 2.19 | 1.06 | 1.52 | 1.64 |
| 8 | 1.22 | 1.33 | 0.94 | 0.85 | 0.57 | −0.03 | 0.08 | 0.01 | 0 36 | 1.26 | 0.58 | 0.97 | 0.68 |
| 9 | 0.34 | 0.30 | −0.07 | −0.20 | −0.45 | −1.20 | −1.06 | −1.00 | −0.96 | 0.12 | −0.02 | 0.18 | −0.34 |
| 10 | −0.62 | −0.72 | −1.00 | −1.05 | −1.29 | −2.11 | −1.96 | −1.78 | −2.06 | −1.13 | −0.70 | −0.76 | −1.27 |
| 11 | −1.54 | −1.77 | −1.76 | −1.69 | −1.97 | −2.74 | −2.64 | −2.34 | −2.89 | −2.33 | −1.12 | −1.70 | −2.04 |
| Noon. . . | −2.30 | −2.60 | −2.32 | −2.22 | −2.35 | −3.17 | −3.16 | −2.78 | −3.47 | −3.35 | −1.96 | −2.45 | −2.68 |
| 1 | −2.85 | −3.01 | −2.74 | −2.72 | −3.07 | −3.51 | −3.58 | −3.16 | −3.86 | −4.05 | −2.38 | −2.87 | −3.15 |
| 2 | −3.02 | −3.18 | −3.01 | −3.19 | −3.52 | −3.77 | −3.87 | −3.48 | −4.07 | −4.36 | −2.54 | −2.89 | −3.41 |
| 3 | −2.92 | −2.93 | −3.10 | −3.53 | −3.78 | −3.89 | −3.94 | −3.61 | −4.02 | −4.22 | −2.40 | −2.54 | −3.41 |
| 4 | −2.53 | −2.44 | −2.95 | −3.55 | −3.70 | −3.75 | −3.67 | −3.42 | −3.63 | −3.66 | −1.96 | −1.94 | −3.10 |
| 5 | −1.90 | −1.87 | −2.50 | −3.11 | −3.20 | −3.23 | −3.00 | −2.81 | −2.84 | −2.75 | −1.52 | −1.23 | −2.50 |
| 6 | −1.14 | −1.11 | −1.78 | −2.23 | −2.31 | −2.33 | −2.00 | −1.83 | −1.72 | −1.65 | −0.56 | −0.55 | −1.60 |
| 7 | −0.37 | −0.46 | −0.92 | −1.09 | −1.19 | −1.16 | −0.83 | −0.67 | −0.48 | −0.54 | 0.14 | 0.01 | −0.63 |
| 8 | 0.29 | 0.12 | −0.06 | 0.02 | −0.10 | 0.07 | 0.28 | 0.43 | 0.66 | 0.43 | 0.69 | 0.42 | 0.27 |
| 9 | 0.76 | 0.66 | 0.61 | 0.85 | 0.80 | 1.17 | 1.17 | 1.29 | 1.49 | 1.17 | 1.02 | 0.71 | 0.98 |
| 10 | 1.02 | 0.93 | 1.05 | 1.32 | 1.43 | 2.02 | 1.79 | 1.84 | 1.96 | 1.66 | 1.15 | 0.90 | 1.42 |
| 11 | 1.13 | 1.18 | 1.31 | 1.50 | 1.85 | 2.61 | 2.24 | 2.15 | 2.18 | 1.96 | 0.91 | 1.06 | 1.67 |
| Midn. . . | 1.19 | 1.36 | 1.48 | 1.62 | 2.01 | 3.04 | 2.63 | 2.40 | 2.35 | 2.18 | 1.15 | 1.20 | 1.88 |
| 6. 6 | 0.56 | 0.62 | 0.42 | 0.30 | 0.17 | 0.07 | 0.26 | 0.19 | 0.56 | 0.58 | 0.41 | 0.62 | 0.40 |
| 7. 7 | 0.76 | 0.78 | 0.50 | 0.42 | 0.24 | 0.05 | 0.26 | 0.24 | 0.62 | 0.83 | 0.60 | 0.76 | 0.51 |
| 8. 8 | 0.76 | 0.72 | 0.44 | 0.43 | 0.24 | 0.02 | 0.18 | 0.22 | 0.51 | 0.85 | 0.63 | 0.70 | 0.48 |
| 9. 9 | 0.55 | 0.48 | 0.27 | 0.33 | 0.18 | −0.02 | 0.06 | 0.14 | 0.26 | 0.64 | 0.50 | 0.44 | 0.32 |
| 10.10 | 0.20 | 0.11 | 0.03 | 0.13 | 0.07 | −0.05 | −0.08 | 0.03 | −0.05 | 0.26 | 0.23 | 0.07 | 0.08 |
| 7. 2. 9 | −0.13 | −0.17 | −0.16 | −0.13 | −0.35 | −0.45 | −0.45 | −0.35 | −0.29 | −0.33 | −0.15 | −0.22 | −0.27 |
| 6. 2. 8 | −0.16 | −0.24 | −0.15 | −0.11 | −0.32 | −0.41 | −0.36 | −0.28 | −0.19 | −0.37 | −0.16 | −0.22 | −0.25 |
| 6. 2.10 | 0.08 | 0.03 | 0.22 | 0.32 | 0.19 | 0.24 | 0.15 | 0.19 | 0.24 | 0.04 | 0.00 | −0.06 | 0.14 |
| 6. 2. 6 | −0.64 | −0.65 | −0.72 | −0.86 | −1.06 | −1.21 | −1.12 | −1.03 | −0.98 | −1.06 | −0.57 | −0.55 | −0.87 |
| 7. 2 | −0.57 | −0.59 | −0.55 | −0.63 | −0.93 | −1.26 | −1.27 | −1.17 | −1.18 | −1.09 | −0.74 | −0.69 | −0.89 |
| 8. 2 | −0.90 | −0.93 | −1.04 | −1.17 | −1.48 | −1.90 | −1.90 | −1.74 | −1.86 | −1.55 | −0.98 | −0.96 | −1.37 |
| 8. 1 | −0.82 | −0.84 | −0.90 | −0.94 | −1.25 | −1.77 | −1.75 | −1.58 | −1.75 | −1.40 | −0.90 | −0.95 | −1.24 |
| 7. 1 | −0.49 | −0.50 | −0.42 | −0.39 | −0.71 | −1.13 | −1.12 | −1.10 | −1.08 | −0.93 | −0.66 | −0.68 | −0.76 |
| 9.12.3.9 | −1.03 | −1.14 | −1.22 | −1.28 | −1.45 | −1.77 | −1.75 | −1.53 | −1.74 | −1.57 | −0.84 | −1.03 | −1.36 |
| 7. 2.2(9) | 0.10 | 0.04 | −0.03 | 0.11 | −0.07 | −0.04 | −0.05 | 0.06 | 0.16 | 0.04 | 0.14 | 0.01 | 0.04 |
| Dail. ext. | −0.36 | −0.36 | −0.08 | −0.12 | −0.11 | 0.02 | −0.05 | −0.13 | −0.17 | −0.62 | −0.41 | −0.51 | −0.24 |

The numbers without sign must be added; those with the sign — must be subtracted.

V.

N. AMERICA. — FRANKFORT ARSENAL. *Lat.* 39° 57′ N. *Long.* 75° 8′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 3.02 | 3.29 | 3.94 | 4.21 | 5.85 | 7.67 | 6.91 | 6.05 | 5.92 | 5.40 | 2.66 | 3.02 | 4.84 |
| 2 | 3.40 | 3.89 | 4.79 | 5.24 | 6.86 | 8.39 | 7.90 | 6.84 | 6.86 | 6.01 | 2.86 | 3.38 | 5.54 |
| 3 | 4.10 | 4.46 | 5.76 | 6.48 | 7.72 | 8.82 | 8.62 | 7.47 | 7.85 | 6.62 | 3.17 | 3.74 | 6.23 |
| 4 | 4.79 | 5.02 | 6.53 | 7.40 | 8.03 | 8.64 | 8.64 | 7.56 | 8.39 | 7.04 | 3.40 | 4.05 | 6.62 |
| 5 | 5.20 | 5.54 | 6.64 | 7.45 | 7.74 | 7.56 | 7.65 | 6.73 | 7.97 | 7.02 | 3.89 | 4.21 | 6.44 |
| 6 | 5.06 | 5.29 | 5.90 | 6.37 | 5.96 | 5.54 | 5.67 | 4.97 | 6.39 | 6.35 | 3.11 | 4.05 | 5.38 |
| 7 | 4.23 | 4.52 | 4.30 | 4.37 | 3.74 | 2.84 | 3.02 | 2.59 | 3.85 | 4.93 | 2.39 | 3.42 | 3.69 |
| 8 | 2.75 | 2.99 | 2.12 | 1.91 | 1.28 | −0.07 | 0.18 | 0.02 | 0.81 | 2.84 | 1.31 | 2.18 | 1.53 |
| 9 | 0.77 | 0.68 | −0.16 | −0.45 | −1.01 | −2.70 | −2.39 | −2.25 | −2.16 | 0.27 | −0.05 | 0.41 | −0.77 |
| 10 | −1.40 | −1.62 | −2.25 | −2.36 | −2.90 | −4.75 | −4.41 | −4.01 | −4.64 | −2.54 | −1.58 | −1.71 | −2.86 |
| 11 | −3.47 | −3.98 | −3.96 | −3.80 | −4.43 | −6.17 | −5.94 | −5.27 | −6.50 | −5.24 | −2.52 | −3.83 | −4.59 |
| Noon. . . | −5.18 | −5.85 | −5.22 | −5.00 | −5.29 | −7.13 | −7.11 | −6.26 | −7.81 | −7.54 | −4.41 | −5.51 | −6.03 |
| 1 | −6.41 | −6.77 | −6.17 | −6.12 | −6.91 | −7.90 | −8.06 | −7.11 | −8.69 | −9.11 | −5.36 | −6.46 | −7.09 |
| 2 | −6.80 | −7.16 | −6.77 | −7.18 | −7.92 | −8.48 | −8.71 | −7.83 | −9.16 | −9.81 | −5.72 | −6.58 | −7.67 |
| 3 | −6.57 | −6.59 | −6.98 | −7.94 | −8.51 | −8.75 | −8.87 | −8.12 | −9.05 | −9.50 | −5.40 | −5.72 | −7.67 |
| 4 | −5.69 | −5.49 | −6.64 | −7.99 | −8.33 | −8.44 | −8.26 | −7.70 | −8.17 | −8.24 | −4.41 | −4.37 | −6.98 |
| 5 | −4.28 | −4.21 | −5.63 | −7.00 | −7.20 | −7.27 | −6.75 | −6.32 | −6.39 | −6.19 | −3.42 | −2.77 | −5.63 |
| 6 | −2.57 | −2.50 | −4.01 | −5.02 | −5.20 | −5.24 | −4.50 | −4.12 | −3.87 | −3.71 | −1.26 | −1.24 | −3.60 |
| 7 | −0.83 | −1.04 | −2.07 | −2.45 | −2.68 | −2.61 | −1.87 | −1.51 | −1.08 | −1.22 | 0.32 | 0.02 | −1.42 |
| 8 | 0.65 | 0.27 | −0.14 | 0.05 | −0.23 | 0.16 | 0.63 | 0.97 | 1.49 | 0.97 | 1 55 | 0.95 | 0.61 |
| 9 | 1.71 | 1.48 | 1.37 | 1.91 | 1.80 | 2.63 | 2.63 | 2.90 | 3.35 | 2.63 | 2.30 | 1.60 | 2.21 |
| 10 | 2.30 | 2.09 | 2.36 | 1.97 | 3.22 | 4.55 | 4.03 | 4.14 | 4.41 | 3.74 | 2.59 | 2.03 | 3.20 |
| 11 | 2.54 | 2.66 | 2.95 | 3.38 | 4.16 | 5.87 | 5.04 | 4.84 | 4.91 | 4.41 | 2.05 | 2.39 | 3.76 |
| Midn. . . | 2.68 | 3.06 | 3.33 | 3.65 | 4.52 | 6.84 | 5.92 | 5.40 | 5.29 | 4.91 | 2.59 | 2.10 | 4.23 |
| 6. 6 | 1.26 | 1.40 | 0.95 | 0.68 | 0.38 | 0.16 | 0.59 | 0.43 | 1.26 | 1.31 | 0.92 | 1.40 | 0.90 |
| 7. 7 | 1.71 | 1.76 | 1.13 | 0.95 | 0.54 | 0.11 | 0.59 | 0.54 | 1.40 | 1.87 | 1.35 | 1.71 | 1.15 |
| 8. 8 | 1.71 | 1.62 | 0.99 | 0.97 | 0.54 | 0.05 | 0.41 | 0.50 | 1.15 | 1.91 | 1.42 | 1.58 | 1.08 |
| 9. 9 | 1.24 | 1.08 | 0.61 | 0.74 | 0.41 | −0.05 | 0.14 | 0.32 | 0.59 | 1.44 | 1.13 | 0.99 | 0.72 |
| 10.10 | 0.45 | 0.25 | 0.07 | 0.29 | 0.16 | −0.11 | −0.18 | 0.07 | −0.11 | 0.59 | 0.52 | 0.16 | 0.18 |
| 7. 2. 9 | −0.29 | −0.38 | −0.36 | −0.29 | −0.79 | −1.01 | −1.01 | −0.79 | −0.65 | −0.74 | −0.34 | −0.50 | −0.61 |
| 6. 2. 8 | −0.36 | −0.54 | −0.39 | −0.25 | −0.72 | −0.92 | −0.81 | −0.63 | −0.43 | −0.83 | −0.36 | −0.50 | −0.56 |
| 6. 2.10 | 0.18 | 0.07 | 0.50 | 0.72 | 0.43 | 0.54 | 0.34 | 0.43 | 0.54 | 0.09 | 0.00 | −0.14 | 0.32 |
| 6. 2. 6 | −1.44 | −1.46 | −1.62 | −1.94 | −2.39 | −2.72 | −2.52 | −2.32 | −2.21 | −2.39 | −1.28 | −1.24 | −1.96 |
| 7. 2 | −1.28 | −1.33 | −1.24 | −1.42 | −2.09 | −2.84 | −2.86 | −2.63 | −2.66 | −2.45 | −1.67 | −1.55 | −2.00 |
| 8. 2 | −2.03 | −2.09 | −2.34 | −2.63 | −3.33 | −4.28 | −4.28 | −3.92 | −4.19 | −3.49 | −2.21 | −2.16 | −3.08 |
| 8. 1 | −1.85 | −1.89 | −2.03 | −2.12 | −2.81 | −3.98 | −3.94 | −3.56 | −3.94 | −3.75 | −2.03 | −2.14 | −2.79 |
| 7. 2 | −1.10 | −1.13 | −0.95 | −0.88 | −1.60 | −2.54 | −2.52 | −2.27 | −2.43 | −2.09 | −1.49 | −1.53 | −1.71 |
| 9.12.3.9 | −2.32 | −2.57 | −2.75 | −2.88 | −3.26 | −3.98 | −3.94 | −3.44 | −3.92 | −3.53 | −1.89 | −2.32 | −3.06 |
| 7. 2.2(9) | 0.23 | 0.09 | 0.07 | 0.25 | −0.16 | −0.09 | −0.11 | 0.14 | 0.36 | 0.09 | 0.32 | 0.02 | 0.09 |
| Dail. ext. | −0.81 | −0.81 | −0.18 | −0.27 | −0.25 | 0.04 | −0.11 | −0.29 | −0.38 | −1.39 | −0.92 | −1.15 | −0.54 |

The numbers without sign must be added; those with the sign — must be subtracted.

## VI.

N. America. — Toronto. *Lat.* 43° 39′ 35″ N. *Long.* 79° 21′ 30″ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.87 | 0.92 | 3.04 | 4,43 | 5.90 | 5.94 | 6.30 | 5.06 | 5.74 | 4.16 | 1.91 | 1.04 | 3.87 |
| 2 | 2.16 | 1.33 | 3.56 | 5.11 | 6.64 | 6.62 | 7.13 | 5.68 | 6.68 | 4.68 | 2.14 | 1.13 | 4.41 |
| 3 | 2.39 | 1.91 | 4.19 | 5.76 | 7.36 | 7.29 | 8.01 | 6.82 | 7.63 | 5.04 | 2.39 | 1.40 | 5.02 |
| 4 | 2.68 | 2.66 | 4.75 | 6.17 | 7.65 | 7.56 | 8.44 | 7.61 | 8.19 | 5.20 | 2.61 | 1.78 | 5.45 |
| 5 | 3.02 | 3.40 | 4.95 | 5.94 | 7.07 | 6.98 | 7.88 | 7.49 | 7.94 | 5.02 | 2.68 | 2.16 | 5.38 |
| 6 | 3.29 | 3.92 | 4.61 | 4.97 | 5.49 | 5.38 | 6.14 | 6.14 | 6.71 | 4.48 | 2.52 | 2.39 | 4.68 |
| 7 | 3.26 | 3.98 | 3.65 | 3.38 | 3.17 | 3.04 | 3.49 | 3.67 | 4.52 | 3.44 | 2.05 | 2.27 | 3.33 |
| 8 | 2.72 | 3.40 | 2.12 | 1.42 | 0.68 | 0.43 | 0.52 | 0.68 | 1.78 | 1.91 | 1.15 | 1.71 | 1.55 |
| 9 | 1.58 | 2.33 | 0.29 | −0.50 | −1.51 | −1.85 | −2.12 | −2.09 | −1.06 | −0.05 | −0.07 | 0.79 | −0.36 |
| 10 | 0.00 | 0.61 | −1.60 | −2.07 | −3.08 | −3.47 | −4.01 | −4.14 | −3.62 | −2.25 | −1.46 | −0.34 | −2.12 |
| 11 | −1.71 | −1.15 | −3.26 | −3.26 | −4.14 | −4.46 | −5.15 | −5.33 | −5.72 | −4.39 | −2.79 | −1.44 | −3.58 |
| Noon. . . | −3.11 | −2.66 | −4.55 | −4.19 | −5.00 | −5.18 | −5.90 | −5.96 | −7.25 | −6.12 | −3.78 | −2.30 | −4.66 |
| 1 | −3.89 | −3.67 | −5.36 | −5.00 | −5.99 | −5.94 | −6.59 | −6.50 | −8.33 | −7.11 | −4.28 | −2.77 | −5 45 |
| 2 | −3.98 | −4.07 | −5.72 | −5.76 | −7.16 | −6.89 | −7.47 | −7.11 | −8.89 | −7.25 | −4.14 | −2.86 | −5 94 |
| 3 | −3.53 | −3.92 | −5.60 | −6.35 | −8.15 | −7.74 | −8.28 | −7.70 | −8.87 | −6.53 | −3.51 | −2.66 | −6.08 |
| 4 | −2.84 | −3.38 | −5.02 | −6.48 | −8.51 | −8.08 | −8.55 | −7.81 | −8.12 | −5.18 | −2.52 | −2.23 | −5.72 |
| 5 | −2.14 | −2.63 | −4.03 | −5.94 | −7.76 | −7.43 | −7.83 | −6.95 | −6.59 | −3.53 | −1.44 | −1.71 | −4.84 |
| 6 | −1.62 | −1.89 | −2.75 | −4.66 | −5.83 | −5.65 | −5.94 | −5.00 | −4.43 | −1.91 | −0.45 | −1.13 | −3.44 |
| 7 | −1.24 | −1.24 | −1.31 | −2.81 | −3.08 | −3.04 | −3.17 | −2.25 | −1.94 | −0.50 | 0.32 | −0.54 | −1.73 |
| 8 | −0.88 | −0.68 | 0.05 | −0.77 | −0.16 | −0.18 | −0.18 | 0.65 | 0.43 | 0.65 | 0.86 | 0.02 | −0.02 |
| 9 | −0.43 | −0.25 | 1.15 | 1.06 | 2.30 | 2.30 | 2.39 | 2.97 | 2.30 | 1.53 | 1.17 | 0.47 | 1.42 |
| 10 | 0.16 | 0.11 | 1.89 | 2.41 | 3.94 | 3.98 | 4.14 | 4.32 | 3.58 | 2.25 | 1.37 | 0.81 | 2.41 |
| 11 | 0.83 | 0.38 | 2.34 | 3.26 | 4.82 | 4.93 | 5.11 | 4.77 | 4.37 | 2.90 | 1.53 | 0.97 | 3.02 |
| Midn. . . | 1.42 | 0.63 | 2.66 | 3.85 | 5.33 | 5.45 | 5.64 | 4.84 | 5.00 | 3.56 | 1.71 | 1.01 | 3.42 |
| 6. 6 | 0.83 | 1.01 | 0.95 | 0.16 | −0.18 | 0.14 | 0.11 | 0.56 | 1.13 | 1.28 | 1.04 | 0.63 | 0.61 |
| 7. 7 | 1.01 | 1.27 | 1.17 | 0.29 | −0.05 | 0.00 | 0.16 | 0.72 | 1.28 | 1.49 | 1.19 | 0.86 | 0.81 |
| 8. 8 | 0.92 | 1.37 | 1.08 | 0.34 | 0.27 | 0.14 | 0.16 | 0.68 | 1.10 | 1.28 | 1.01 | 0.86 | 0.77 |
| 9. 9 | 0.59 | 0.99 | 0.72 | 0.29 | 0.41 | 0.23 | 0.14 | 0.45 | 0.63 | 0.74 | 0.56 | 0.63 | 0.54 |
| 10.10 | 0.07 | 0.36 | 0.14 | 0.16 | 0.43 | 0.27 | 0.07 | 0.09 | −0.02 | 0.00 | −0.05 | 0.23 | 0.14 |
| 7. 2. 9 | −0.38 | −0.11 | −0.32 | −0.45 | −0.56 | −0.52 | −0.54 | −0.16 | −0.70 | −0.77 | −0.32 | −0.05 | −0.41 |
| 6. 2. 8 | −0.52 | −0.27 | −0.36 | −0.52 | −0.61 | −0.56 | −0.50 | −0.11 | −0.59 | −0.70 | −0.25 | −0.16 | −0.43 |
| 6. 2.10 | −0.18 | −0.02 | 0.27 | 0.54 | 0.77 | 0.83 | 0.95 | 1.13 | 0.47 | −0.18 | −0.09 | 0.11 | 0.38 |
| 6. 2. 6 | −0.77 | −0.68 | −1.28 | −1.82 | −2.50 | −2.39 | −2.43 | −1.98 | −2.21 | −1.55 | −0.70 | −0.54 | −1.58 |
| 7. 2 | −0.36 | −0.05 | −1.04 | −1.19 | −2.00 | −1.94 | −2.00 | −1.73 | −2.18 | −1.91 | −1.06 | −0.29 | −1.31 |
| 8. 2 | −0.63 | −0.34 | −1.80 | −2.18 | −3.24 | −3.24 | −3.49 | −3.22 | −3.56 | −2.68 | −1.51 | −0.59 | −2.21 |
| 8. 1 | −0.59 | −0.14 | −1.62 | −1.80 | −2.66 | −2.77 | −3.04 | −2.93 | −3.29 | −2.61 | −1.58 | −0.54 | −1.96 |
| 7. 1 | −0.32 | 0.16 | −0.86 | −0.81 | −1.42 | −1.46 | −1.55 | −1.42 | −1.91 | −1.85 | −1.13 | −0.25 | −1.06 |
| 9.12.3.9 | −1.37 | −1.15 | −2.18 | −2.50 | −3.08 | −3.13 | −3.49 | −3.20 | −3.71 | −2.79 | −1.55 | −0.92 | −2.43 |
| 7. 2.2(9) | −0.41 | −0.16 | 0.07 | −0.07 | 0.16 | 0.18 | 0.20 | 0.63 | 0.07 | −0.18 | 0.07 | 0.09 | 0.05 |

The numbers without sign must be added; those with the sign — must be subtracted.

## VII.

N. America. — Toronto. *Lat.* 43° 39′ 35″ N. *Long.* 79° 21′ 30″ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.83 | 0.41 | 1.35 | 1.97 | 2.62 | 2.64 | 2.80 | 2.25 | 2.55 | 1.85 | 0.85 | 0.46 | 1.72 |
| 2 | 0.96 | 0.59 | 1.58 | 2.27 | 2.95 | 2.94 | 3.17 | 2.57 | 2.97 | 2.08 | 0.95 | 0.50 | 1.96 |
| 3 | 1.06 | 0.85 | 1.86 | 2.56 | 3.27 | 3.24 | 3.56 | 3.03 | 3.39 | 2.24 | 1.06 | 0.62 | 2.23 |
| 4 | 1.19 | 1.18 | 2.11 | 2.74 | 3.40 | 3.36 | 3.75 | 3.38 | 3.64 | 2.31 | 1.16 | 0.79 | 2.42 |
| 5 | 1.34 | 1.51 | 2.20 | 2.64 | 3.14 | 3.10 | 3.50 | 3.33 | 3.53 | 2.23 | 1.19 | 0.96 | 2.39 |
| 6 | 1.46 | 1.74 | 2.05 | 2.21 | 2.44 | 2.39 | 2.73 | 2.73 | 2.98 | 1.99 | 1.12 | 1.06 | 2.08 |
| 7 | 1.45 | 1.77 | 1.62 | 1.50 | 1.41 | 1.35 | 1.55 | 1.63 | 2.01 | 1.53 | 0.91 | 1.01 | 1.48 |
| 8 | 1.21 | 1.51 | 0.94 | 0.63 | 0.30 | 0.19 | 0.23 | 0.30 | 0.79 | 0.85 | 0.51 | 0.76 | 0.69 |
| 9 | 0.70 | 0.99 | 0.13 | −0.22 | −0.67 | −0.82 | −0.94 | −0.93 | −0.47 | −0.02 | −0.03 | 0.35 | −0.16 |
| 10 | −0.00 | 0.27 | −0.71 | −0.92 | −1.37 | −1.54 | −1.78 | −1.84 | −1.61 | −1.00 | −0.65 | −0.15 | −0.94 |
| 11 | −0.76 | −0.51 | −1.45 | −1.45 | −1.84 | −1.98 | −2.29 | −2.37 | −2.54 | −1.95 | −1.24 | −0.64 | −1.59 |
| Noon. . . | −1.38 | −1.18 | −2.02 | −1.86 | −2.22 | −2.30 | −2.62 | −2.65 | −3.22 | −2.72 | −1.68 | −1.02 | −2.07 |
| 1 | −1.73 | −1.63 | −2.38 | −2.22 | −2.66 | −2.64 | −2.93 | −2.89 | −3.70 | −3.16 | −1.90 | −1.23 | −2.42 |
| 2 | −1.77 | −1.81 | −2.54 | −2.56 | −3.18 | −3.06 | −3.32 | −3.16 | −3.95 | −3.22 | −1.84 | −1.27 | −2.64 |
| 3 | −1.57 | −1.74 | −2.49 | −2.82 | −3.62 | −3.44 | −3.68 | −3.42 | −3.94 | −2.90 | −1.56 | −1.18 | −2.70 |
| 4 | −1.26 | −1.50 | −2.23 | −2.88 | −3.78 | −3.59 | −3.80 | −3.47 | −3.61 | −2.30 | −1.12 | −0.99 | −2.54 |
| 5 | −0.95 | −1.17 | −1.79 | −2.64 | −3.45 | −3.30 | −3.48 | −3.09 | −2.93 | −1.57 | −0.64 | −0.76 | −2.15 |
| 6 | −0.72 | −0.84 | −1.22 | −2.07 | −2.59 | −2.51 | −2.64 | −2.22 | −1.97 | −0.85 | −0.20 | −0.50 | −1.53 |
| 7 | −0.55 | −0.55 | −0.58 | −1.25 | −1.37 | −1.35 | −1.41 | −1.00 | −0.86 | −0.22 | 0.14 | −0.24 | −0.77 |
| 8 | −0.39 | −0.30 | 0.02 | −0.34 | −0.07 | −0.08 | −0.08 | 0.29 | 0.19 | 0.29 | 0.38 | 0.01 | −0.01 |
| 9 | −0.19 | −0.11 | 0.51 | 0.47 | 1.02 | 1.02 | 1.06 | 1.32 | 1.02 | 0.68 | 0.52 | 0.21 | 0.63 |
| 10 | 0.07 | 0.05 | 0.84 | 1.07 | 1.75 | 1.77 | 1.84 | 1.92 | 1.59 | 1.00 | 0.61 | 0.36 | 1.07 |
| 11 | 0.37 | 0.17 | 1.04 | 1.45 | 2.14 | 2.19 | 2.27 | 2.12 | 1.94 | 1.29 | 0.68 | 0.43 | 1.34 |
| Midn. . . | 0.63 | 0.28 | 1.18 | 1.71 | 2.37 | 2.42 | 2.53 | 2.15 | 2.22 | 1.58 | 0.76 | 0.45 | 1.52 |
| 6. 6 | 0.37 | 0.45 | 0.42 | 0.07 | −0.08 | −0.06 | 0.05 | 0.25 | 0.50 | 0.57 | 0.46 | 0.28 | 0.27 |
| 7. 7 | 0.45 | 0.61 | 0.52 | 0.13 | 0.02 | 0.00 | 0.07 | 0.32 | 0.57 | 0.66 | 0.53 | 0.38 | 0.36 |
| 8. 8 | 0.41 | 0.61 | 0.48 | 0.15 | 0.12 | 0.06 | 0.07 | 0.30 | 0.49 | 0.57 | 0.45 | 0.38 | 0.34 |
| 9. 9 | 0.26 | 0.44 | 0.32 | 0.13 | 0.18 | 0.10 | 0.06 | 0.20 | 0.28 | 0.33 | 0.25 | 0.28 | 0.24 |
| 10.10 | 0.03 | 0.16 | 0.06 | 0.07 | 0.19 | 0.12 | 0.03 | 0.04 | −0.01 | 0.00 | −0.02 | 0.10 | 0.06 |
| 7. 2. 9 | −0.17 | −0.05 | −0.14 | −0.20 | −0.25 | −0.23 | −0.24 | −0.07 | −0.31 | −0.34 | −0.14 | −0.02 | −0.18 |
| 6. 2. 8 | −0.23 | −0.12 | −0.16 | −0.23 | −0.27 | −0.25 | −0.22 | −0.05 | −0.26 | −0.31 | −0.11 | −0.07 | −0.19 |
| 6. 2.10 | −0.08 | −0.01 | 0.12 | 0.24 | 0.34 | 0.37 | 0.42 | 0.50 | 0.21 | −0.08 | −0.04 | 0.05 | 0.17 |
| 6. 2. 6 | −0.34 | −0.30 | −0.57 | −0.81 | −1.11 | −1.06 | −1.08 | −0.88 | −0.98 | −0.69 | −0.31 | −0.24 | −0.70 |
| 7. 2 | −0.16 | −0.02 | −0.46 | −0.53 | −0.89 | −0.86 | −0.89 | −0.77 | −0.97 | −0.85 | −0.47 | −0.13 | −0.58 |
| 8. 2 | −0.28 | −0.15 | −0.80 | −0.97 | −1.44 | −1.44 | −1.55 | −1.43 | −1.58 | −1.19 | −0.67 | −0.26 | −0.98 |
| 8. 1 | −0.26 | −0.06 | −0.72 | −0.80 | −1.18 | −1.23 | −1.35 | −1.30 | −1.46 | −1.16 | −0.70 | −0.24 | −0.87 |
| 7. 1 | −0.14 | 0.07 | −0.38 | −0.36 | −0.63 | −0.65 | −0.69 | −0.63 | −0.85 | −0.82 | −0.50 | −0.11 | −0.47 |
| 9.12.3.9 | −0.61 | −0.51 | −0.97 | −1.11 | −1.37 | −1.39 | −1.55 | −1.42 | −1.65 | −1.24 | −0.69 | −0.41 | −1.08 |
| 7. 2.2(9) | −0.18 | −0.07 | 0.03 | −0.03 | 0.07 | 0.08 | 0.09 | 0.28 | 0.03 | −0.08 | 0.03 | 0.04 | 0.02 |
| Dail. ext. | −0.16 | −0.02 | −0.17 | −0.07 | −0.19 | −0.12 | −0.03 | −0.05 | −0.16 | −0.46 | −0.36 | −0.11 | −0.14 |

The numbers without sign must be added; those with the sign — must be subtracted.

## VIII.

North America. — Toronto. *Lat.* 43° 40′ N. *Long.* 79° 21′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Lefroy.

Degrees of Fahrenheit.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midnight. | 1.47 | 1.73 | 2.63 | 3.22 | 5.02 | 5.15 | 6.37 | 5.33 | 5.96 | 3.22 | 1.80 | 0.90 | 3.57 |
| 1 | 1.95 | 2.09 | 3.11 | 3.79 | 5.93 | 6.00 | 7.13 | 6.06 | 4.57 | 3.80 | 2.10 | 1.50 | 4.00 |
| 2 | 2.05 | 2.46 | 3.47 | 4.48 | 6.77 | 6.70 | 7.68 | 6.69 | 5.17 | 4.13 | 2.36 | 1.85 | 4.48 |
| 3 | 2.20 | 2.82 | 3.76 | 5.08 | 7.45 | 7.50 | 8.41 | 7.29 | 5.59 | 4.31 | 2.66 | 1.96 | 4.92 |
| 4 | 2.28 | 3.20 | 4.07 | 5.38 | 7.93 | 8.06 | 9.03 | 7.63 | 6.18 | 4.64 | 2.85 | 2.04 | 5.27 |
| 5 | 2.46 | 3.62 | 4.35 | 5.75 | 7.83 | 7.88 | 9.02 | 7.89 | 6.77 | 4.77 | 2.76 | 2.07 | 5.43 |
| 6 | 1.83 | 4.23 | 4.75 | 5.48 | 5.40 | 5.21 | 5.92 | 6.57 | 6.17 | 4.71 | 2.52 | 2.39 | 4.60 |
| 7 | 1.94 | 4.34 | 3.93 | 3.22 | 2.43 | 2.41 | 2.38 | 3.28 | 3.68 | 3.94 | 2.52 | 2.55 | 3.05 |
| 8 | 1.66 | 3.29 | 1.89 | 1.09 | 0.06 | 0.10 | −0.31 | 0.21 | 1.02 | 1.66 | 1.53 | 2.12 | 1.25 |
| 9 | 0.63 | 1.02 | −0.25 | −1.01 | −2.11 | −1.82 | −2.39 | −2.26 | −1.52 | −1.01 | 0.01 | 0.92 | −0.82 |
| 10 | −0.59 | −0.95 | −1.91 | −2.45 | −3.81 | −3.49 | −3.98 | −4.18 | −3.47 | −2.93 | −1.41 | −0.53 | −2.47 |
| 11 | −1.70 | −2.44 | −3.14 | −3.85 | −4.92 | −4.77 | −5.49 | −5.57 | −4.85 | −4.33 | −2.44 | −1.72 | −3.77 |
| Noon. | −2.48 | −3.56 | −4.15 | −4.86 | −5.87 | −5.88 | −6.72 | −6.39 | −5.95 | −5.36 | −3.34 | −2.52 | −4.76 |
| 1 | −2.92 | −4.49 | −4.79 | −5.72 | −6.83 | −6.59 | −7.58 | −7.11 | −6.58 | −5.76 | −3.74 | −3.06 | −5.43 |
| 2 | −3.20 | −4.88 | −5.31 | −6.14 | −7.13 | −7.03 | −8.26 | −7.62 | −6.96 | −6.04 | −3.82 | −3.31 | −5.81 |
| 3 | −3.16 | −4.90 | −5.15 | −6.16 | −7.20 | −7.37 | −8.34 | −7.98 | −7.01 | −5.85 | −3.64 | −3.13 | −5.82 |
| 4 | −2.63 | −4.47 | −4.65 | −5.81 | −7.17 | −7.60 | −8.25 | −7.79 | −6.75 | −5.17 | −2.83 | −2.47 | −5.47 |
| 5 | −1.68 | −3.30 | −3.92 | −5.12 | −6.80 | −7.18 | −7.93 | −7.20 | −5.78 | −3.40 | −1.58 | −1.49 | −4.61 |
| 6 | −0.90 | −1.87 | −2.35 | −3.42 | −5.05 | −5.73 | −6.57 | −5.39 | −3.16 | −1.37 | −0.76 | −0.82 | −3.12 |
| 7 | −0.40 | −0.98 | −0.91 | −0.94 | −2.19 | −2.99 | −3.28 | −1.64 | −0.43 | −0.25 | −0.15 | −0.47 | −1.22 |
| 8 | −0.12 | −0.13 | 0.03 | 0.66 | 0.43 | 0.33 | 0.68 | 1.23 | 0.81 | 0.48 | 0.19 | −0.12 | 0.38 |
| 9 | 0.07 | 0.52 | 1.00 | 1.78 | 2.31 | 2.44 | 2.99 | 2.70 | 1.90 | 1.25 | 0.44 | 0.18 | 1.46 |
| 10 | 0.44 | 1.06 | 1.63 | 2.59 | 3.29 | 3.80 | 4.24 | 3.73 | 2.94 | 1.97 | 0.78 | 0.47 | 2.24 |
| 11 | 0.77 | 1.60 | 2.01 | 3.07 | 4.20 | 4.76 | 5.21 | 4.54 | 3.61 | 2.68 | 1.13 | 0.59 | 2.85 |
| 6, 6 | 0.46 | 1.18 | 1.20 | 1.03 | 0.17 | −0.26 | −0.32 | 0.59 | 1.50 | 1.67 | 1.38 | 0.78 | 0.74 |
| 7, 7 | 0.77 | 1.67 | 1.51 | 1.14 | 0.12 | −0.29 | −0.45 | 0.82 | 1.62 | 1.84 | 1.18 | 1.04 | 0.91 |
| 8, 8 | 0.77 | 1.58 | 0.96 | 0.87 | 0.24 | 0.21 | 0.18 | 0.72 | 0.91 | 1.45 | 0.98 | 1.15 | 0.82 |
| 9, 9 | 0.35 | 0.77 | 0.37 | 0.38 | 0.10 | 0.31 | 0.30 | 0.22 | 0.19 | 0.10 | 0.22 | 0.55 | 0.32 |
| 10, 10 | −0.07 | 0.05 | −0.14 | −0.07 | −0.26 | 0.25 | 0.13 | −0.22 | −0.26 | −0.48 | −0.31 | −0.03 | −0.11 |
| 6, 2, 10 | −0.31 | 0.14 | 0.36 | 0.64 | 0.52 | 0.66 | 0.63 | 0.89 | 0.72 | 0.21 | −0.17 | −0.15 | 0.34 |
| 7, 2, 9 | −0.40 | −0.01 | −0.09 | −0.38 | −0.80 | −0.73 | −0.96 | −0.55 | −0.46 | −0.28 | −0.29 | −0.19 | −0.43 |
| 9, 12, 3, 9 | −1.23 | −1.73 | −2.01 | −2.56 | −3.22 | −3.16 | −3.61 | −3.48 | −3.14 | −2.74 | −1.63 | −1.14 | −2.48 |
| Mean. | 25.82 | 23.70 | 29.79 | 41.99 | 52.92 | 60.67 | 66.39 | 65.86 | 57.55 | 44.14 | 36.18 | 27.40 | 44.37 |

The numbers without sign must be added; those with the sign — must be subtracted.

## IX.

NORTH AMERICA. — TORONTO. *Lat.* 43° 40′ N. *Long.* 79° 21′ W. *Gr.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.68 | 0.81 | 1.10 | 1.45 | 2.24 | 2.36 | 2.91 | 2.43 | 1.76 | 1.44 | 0.81 | 0.40 | 1.53 |
| 1 | 0.88 | 0.98 | 1.31 | 0.78 | 2.62 | 2.67 | 3.29 | 2.72 | 2.03 | 1.71 | 0.94 | 0.66 | 1.80 |
| 2 | 0.92 | 1.13 | 1.48 | 2.08 | 2.99 | 2.98 | 3.54 | 3.02 | 2.29 | 1.85 | 1.06 | 0.83 | 2.01 |
| 3 | 0.99 | 1.32 | 1.61 | 2.17 | 3.31 | 3.32 | 3.86 | 3.32 | 2.49 | 1.92 | 1.20 | 0.88 | 2.20 |
| 4 | 1.03 | 1.45 | 1.78 | 2.36 | 3.52 | 3.58 | 4.14 | 3.48 | 2.76 | 2.06 | 1.28 | 0.90 | 2.36 |
| 5 | 1.11 | 1.61 | 2.01 | 2.52 | 3.49 | 3.49 | 4.16 | 3.57 | 3.04 | 2.13 | 1.23 | 0.91 | 2.44 |
| 6 | 0.79 | 1.86 | 2.13 | 2.47 | 2.40 | 2.32 | 2.74 | 2.92 | 2.74 | 2.04 | 1.11 | 1.09 | 2.05 |
| 7 | 0.83 | 1.92 | 1.75 | 1.45 | 1.08 | 1.07 | 1.11 | 1.60 | 1.60 | 1.70 | 1.11 | 1.16 | 1.36 |
| 8 | 0.73 | 1.47 | 0.87 | 0.45 | 0.09 | 0.03 | −0.05 | 0.15 | 0.38 | 0.70 | 0.64 | 0.97 | 0.56 |
| 9 | 0.30 | 0.44 | −0.10 | −0.43 | −0.94 | −0.81 | −1.03 | −0.96 | −0.69 | −0.49 | −0.04 | 0.45 | −0.36 |
| 10 | −0.25 | −0.45 | −0.87 | −1.11 | −1.69 | −1.55 | −1.78 | −1.84 | −1.57 | −1.35 | −0.68 | −0.20 | −1.11 |
| 11 | −0.77 | −1.16 | −1.41 | −1.72 | −2.20 | −2.12 | −2.47 | −2.48 | −2.20 | −1.96 | −1.13 | −0.75 | −1.70 |
| Noon. | −1.12 | −1.69 | −1.87 | −2.18 | −2.62 | −2.61 | −3.05 | −3.04 | −2.64 | −2.36 | −1.48 | −1.11 | −2.15 |
| 1 | −1.34 | −2.07 | −2.16 | −2.60 | −3.03 | −2.93 | −3.46 | −3.25 | −2.90 | −2.55 | −1.66 | −1.42 | −2.45 |
| 2 | −1.46 | −2.25 | −2.41 | −2.76 | −3.18 | −3.12 | −3.84 | −3.51 | −3.08 | −2.70 | −1.69 | −1.49 | −2.62 |
| 3 | −1.44 | −2.24 | −2.32 | −2.80 | −3.21 | −3.29 | −3.92 | −3.66 | −3.09 | −2.60 | −1.62 | −1.38 | −2.63 |
| 4 | −1.21 | −2.00 | −2.11 | −2.62 | −3.19 | −3.40 | −3.93 | −3.60 | −3.00 | −2.28 | −1.22 | −1.09 | −2.47 |
| 5 | −0.77 | −1.47 | −1.78 | −2.30 | −3.02 | −3.13 | −3.72 | −3.35 | −2.57 | −1.50 | −0.68 | −0.67 | −2.08 |
| 6 | −0.40 | −0.82 | −1.03 | −1.50 | −2.24 | −2.55 | −3.08 | −2.51 | −1.38 | −0.59 | −0.32 | −0.36 | −1.40 |
| 7 | −0.17 | −0.38 | −0.38 | −0.37 | −0.96 | −1.33 | −1.54 | −0.74 | −0.18 | −0.10 | −0.06 | −0.21 | −0.53 |
| 8 | −0.03 | 0.00 | 0.05 | 0.33 | 0.24 | 0.13 | 0.33 | 0.56 | 0.39 | 0.23 | 0.08 | −0.04 | 0.19 |
| 9 | 0.06 | 0.28 | 0.50 | 0.81 | 1.02 | 1.09 | 1.38 | 1.26 | 0.85 | 0.57 | 0.20 | 0.07 | 0.67 |
| 10 | 0.23 | 0.53 | 0.79 | 1.16 | 1.45 | 1.69 | 1.93 | 1.72 | 1.32 | 0.90 | 0.36 | 0.20 | 1.02 |
| 11 | 0.37 | 0.76 | 1.08 | 1.38 | 1.86 | 2.12 | 2.45 | 2.07 | 1.60 | 1.20 | 0.52 | 0.25 | 1.31 |
| Mean. | −2.97 | −3.88 | −0.98 | 4.72 | 9.29 | 12.75 | 15.11 | 15.00 | 11.37 | 5.42 | 1.88 | −2.03 | |

## X.

NORTH AMERICA. — MONTREAL. *Lat.* 45° 30′ N. *Long.* 73° 22′ E. *Gr.*

Degrees of Fahrenheit.

| Hour. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March. | April. | May. | June. | July. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 4.00 | 3.89 | 2.83 | 1.36 | 1.68 | 1.10 | 1.28 | 1.31 | 2.52 | 4.55 | 5.25 | 4.39 | 2.85 |
| 2 | 5.39 | 4.34 | 4.01 | 1.59 | 1.00 | 2.36 | 2.69 | 2.88 | 4.37 | 6.95 | 7.42 | 7.17 | 4.20 |
| 4 | 6.34 | 5.60 | 4.84 | 1.81 | 1.38 | 2.88 | 3.36 | 5.56 | 7.09 | 6.95 | 7.18 | 7.57 | 4.96 |
| 6 | 5.99 | 4.59 | 4.83 | 1.36 | 1.32 | 3.54 | 3.90 | 5.22 | 5.56 | 6.61 | 5.55 | 5.46 | 4.50 |
| 8 | 2.79 | 2.19 | 2.52 | 0.78 | 0.92 | 3.10 | 3.22 | 3.30 | 3.44 | 3.06 | 0.88 | 0.60 | 2.24 |
| 10 | −1.74 | −1.48 | −0.99 | −0.41 | 0.21 | −0.21 | −0.81 | −0.03 | −0.79 | −0.97 | −1.75 | −2.85 | −0.93 |
| Noon. | −5.63 | −5.43 | −4.22 | −1.87 | −1.22 | −2.82 | −3.50 | −4.23 | −5.01 | −7.10 | −5.17 | −5.46 | −4.30 |
| 2 | −7.93 | −6.60 | −6.96 | −2.37 | −2.54 | −4.07 | −5.43 | −6.49 | −5.99 | −8.76 | −7.72 | −7.36 | −6.02 |
| 4 | −7.72 | −6.70 | −5.62 | −2.52 | −3.22 | −3.88 | −3.60 | −5.96 | −5.79 | −8.35 | −7.00 | −7.51 | −5.65 |
| 6 | −5.63 | −2.80 | −2.79 | −1.04 | −1.30 | −1.77 | −1.50 | −3.43 | −3.88 | −3.87 | −5.02 | −5.40 | −3.20 |
| 8 | −0.70 | 0.10 | −0.25 | 0.03 | 0.02 | −0.90 | −0.59 | −1.23 | −0.81 | −1.61 | −1.10 | −0.67 | −0.65 |
| 10 | 1.99 | 2.39 | 1.42 | 1.18 | 0.89 | 0.17 | 0.22 | −0.30 | 0.64 | −1.87 | 2.47 | 2.64 | 1.30 |
| Mean. | 66.40 | 57.70 | 48.31 | 30.39 | 23.42 | 8.10 | 20.84 | 27.31 | 42.27 | 56.61 | 64.38 | 70.39 | 43.01 |

The numbers without sign must be added; those with the sign — must be subtracted.

## X.

### North America. — Montreal, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year.

Degrees of Fahrenheit.

| Hour. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March. | April. | May. | June. | July. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A.M.1 | 5.03 | 4.92 | 2.53 | 1.16 | 0.88 | 1.43 | 1.61 | 4.38 | 3.12 | 4.85 | 4.55 | 5.07 | 3.30 |
| 3 | 5.99 | 5.20 | 3.61 | 1.58 | 1.79 | 1.30 | 2.72 | 5.18 | 5.14 | 6.51 | 5.10 | 6.80 | 4.25 |
| 5 | 6.44 | 5.43 | 4.45 | 2.08 | 2.21 | 1.87 | 3.95 | 6.84 | 6.54 | 6.56 | 6.30 | 7.76 | 5.05 |
| 7 | 2.10 | 3.47 | 3.61 | 2.01 | 2.08 | 1.98 | 5.22 | 7.07 | 3.84 | 3.56 | 4.72 | 3.04 | 3.56 |
| 9 | −0.58 | 0.73 | 0.77 | 0.63 | 1.14 | 1.16 | 3.99 | 2.96 | 0.71 | 0.50 | −0.02 | 0.22 | 1.02 |
| 11 | −3.61 | −2.20 | −2.73 | −1.35 | −0.49 | −1.08 | −0.17 | −2.51 | −2.48 | −2.79 | −3.42 | −3.21 | −2.17 |
| P.M.1 | −6.61 | −5.12 | −5.41 | −3.47 | −2.38 | −1.49 | −4.80 | −7.41 | −4.93 | −5.78 | −5 97 | −6.08 | −4.95 |
| 3 | −7.34 | −6.65 | −5.80 | −3.22 | −2.78 | −2.36 | −6.08 | −9.03 | −6.33 | −6.46 | −6.93 | −8.01 | −5.91 |
| 5 | −5.47 | −5.83 | −3.15 | −1.19 | −1.44 | −0.63 | −4.12 | −6.48 | −5.63 | −6.62 | −6.18 | −6.53 | −4.43 |
| 7 | −1.45 | −0.62 | −1.00 | −0.44 | −0.70 | −0.60 | −1.23 | −2.40 | −2.93 | −3.50 | −3.17 | −2.88 | −1.74 |
| 9 | 1.58 | 1.32 | 0.32 | 0.13 | −0.71 | −0.66 | −0.96 | −0.75 | 0.44 | 0.61 | 1.58 | 1.17 | 0.34 |
| 11 | 3.10 | 3.02 | 2.47 | 1.48 | 0.22 | 0.61 | 0.24 | 1.78 | 2.06 | 2.52 | 3.55 | 3.39 | 2.02 |
| Mean. | 69.69 | 57.53 | 44.70 | 32.76 | 15.91 | 18.96 | 14.52 | 22.50 | 34.47 | 51.33 | 65.08 | 67.42 | 41.24 |

## XI.

### North America.—Sitka. *Lat.* 57° 3′ N. *Long.* 135° 18′ W. *Gr.*—Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.33 | 0.58 | 0.97 | 1.51 | 1.80 | 1.81 | 1.68 | 1.34 | 1.07 | 1.19 | 0.41 | 0.28 | 1.08 |
| 1 | 0.34 | 0.66 | 1.09 | 1.68 | 2.04 | 2.06 | 1.88 | 1.53 | 1.18 | 1.11 | 0.46 | 0.33 | 1.20 |
| 2 | 0.35 | 0.72 | 1.17 | 1.81 | 2.20 | 2.25 | 2.04 | 1.66 | 1.33 | 1.18 | 0.49 | 0.33 | 1.29 |
| 3 | 0.51 | 0.78 | 1.36 | 1.89 | 2.43 | 2.49 | 2.16 | 1.77 | 1.24 | 0.64 | 0.48 | 0.18 | 1.33 |
| 4 | 0.45 | 0.86 | 1.47 | 2.02 | 2.55 | 2.57 | 2.20 | 1.82 | 1.29 | 0.68 | 0.49 | 0.18 | 1.38 |
| 5 | 0.45 | 0.83 | 1.57 | 2.07 | 2.39 | 2.47 | 2.95 | 1.89 | 1.33 | 0.70 | 0.49 | 0.14 | 1.52 |
| 6 | 0.45 | 0.84 | 1.56 | 1.89 | 1.76 | 1.77 | 1.67 | 1.62 | 1.33 | 0.78 | 0.46 | 0.18 | 1.26 |
| 7 | 0.52 | 0.82 | 1.37 | 1.13 | 0.96 | 1.08 | 0.96 | 1.09 | 1.05 | 0.58 | 0.40 | 0.17 | 0.85 |
| 8 | 0.48 | 0.76 | 0.75 | 0.31 | 0.00 | 0.26 | 0.26 | 0.40 | 0.47 | 0.53 | 0.33 | 0.12 | 0.39 |
| 9 | 0.39 | 0.49 | −0.08 | −0.63 | −0.82 | −0.52 | −0.58 | −0.26 | −0.17 | 0.12 | 0.23 | 0.10 | −0.15 |
| 10 | 0.16 | −0.03 | −0.69 | −1.12 | −1.35 | −1.28 | −1.27 | −0.95 | −0.73 | −0.28 | 0.00 | −0.11 | −0.64 |
| 11 | −0.19 | −0.60 | −1.29 | −1.68 | −1.75 | −1.70 | −1.97 | −1.57 | −1.28 | −0.75 | −0.35 | −0.11 | −1.11 |
| Noon. | −0.57 | −1.05 | −1.71 | −2.13 | −2.17 | −2.11 | −2.11 | −2.04 | −1.65 | −1.14 | −0.72 | −0.32 | −1.48 |
| 1 | −0.83 | −1.36 | −1.74 | −2.33 | −2.35 | −2.35 | −2.25 | −2.33 | −1.56 | −1.38 | −0.84 | −0.46 | −1.65 |
| 2 | −0.95 | −1.44 | −1.99 | −2.28 | −2.40 | −2.42 | −2.31 | −2.16 | −1.86 | −1.42 | −1.00 | −0.50 | −1.73 |
| 3 | −0.95 | −1.47 | −1.94 | −2.10 | −2.28 | −2.31 | −2.13 | −2.00 | −1.72 | −1.37 | −0.94 | −0.44 | −1.64 |
| 4 | −0.78 | −1.20 | −1.67 | −1.91 | −2.04 | −2.09 | −1.94 | −1.76 | −1.56 | −1.13 | −0.75 | −0.32 | −1.43 |
| 5 | −0.50 | −0.85 | −1.17 | −1.63 | −1.73 | −1.76 | −1.65 | −1.43 | −1.24 | −0.88 | −0.45 | −0.20 | −1.12 |
| 6 | −0.25 | −0.45 | −0.82 | −1.13 | −1.37 | −1.48 | −1.26 | −1.02 | −0.64 | −0.50 | −0.21 | −0.10 | −0.77 |
| 7 | −0.15 | −0.10 | −0.29 | −0.48 | −0.76 | −1.00 | −0.81 | −0.49 | −0.28 | −0.16 | −0.04 | −0.03 | −0.38 |
| 8 | −0.01 | 0.11 | 0.13 | 0.15 | −0.23 | −0.41 | −0.22 | 0.12 | 0.19 | 0.06 | 0.07 | 0.01 | 0.00 |
| 9 | 0.15 | 0.30 | 0.44 | 0.70 | 0.48 | 0.27 | 0.33 | 0.66 | 0.52 | 0.21 | 0.22 | 0.12 | 0.37 |
| 10 | 0.23 | 0.37 | 0.64 | 1.07 | 1.02 | 0.97 | 0.99 | 0.96 | 0.76 | 0.30 | 0.29 | 0.19 | 0.65 |
| 11 | 0.31 | 0.48 | 0.84 | 1.28 | 1.57 | 1.46 | 1.38 | 1.19 | 0.90 | 0.95 | 0.43 | 0.22 | 0.93 |
| Mean. | −1.39 | −1.07 | 0.55 | 3.51 | 6.21 | 9.10 | 10.24 | 10.28 | 7.96 | 5.26 | 2.52 | 1.73 | |

The numbers without sign must be added; those with the sign — must be subtracted.

ARCTIC AMERICA. — BOOTHIA FELIX. *Lat.* 69° 59′ N. *Long.* 92° 1′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.08 | 0.42 | 1.61 | 2.17 | 2.64 | 2.38 | 1.78 | 1.34 | 0.56 | 0.30 | 0.02 | 0.12 | 1.12 |
| 2 | 0.10 | 0.28 | 1.85 | 2.25 | 2.75 | 2.55 | 1.78 | 1.30 | 0.62 | 0.32 | 0.18 | 0.13 | 1.15 |
| 3 | 0.11 | 0.25 | 2.10 | 2.30 | 2.61 | 2.45 | 1.65 | 1.17 | 0.66 | 0.33 | 0.29 | 0.10 | 1.12 |
| 4 | 0.11 | 0.21 | 2.30 | 2.26 | 2.23 | 2.05 | 1.35 | 1.02 | 0.66 | 0.34 | 0.31 | 0.06 | 1.02 |
| 5 | 0.10 | 0.22 | 2.38 | 2.02 | 1.76 | 1.39 | 0.99 | 0.86 | 0.56 | 0.32 | 0.24 | 0.02 | 0.87 |
| 6 | 0.10 | 0.26 | 2.23 | 1.53 | 1.02 | 0.65 | 0.61 | 0.70 | 0.46 | 0.27 | 0.13 | −0.04 | 0.64 |
| 7 | 0.09 | 0.29 | 1.77 | 0.81 | 0.35 | −0.04 | 0.26 | 0.50 | 0.27 | 0.17 | 0.02 | −0.07 | 0.37 |
| 8 | 0.08 | 0.22 | 0.98 | −0.06 | −0.32 | −0.58 | −0.03 | 0.24 | 0.05 | 0.01 | 0.01 | −0.10 | 0.04 |
| 9 | 0.06 | 0.05 | −0.06 | −0.98 | −0.95 | −0.99 | −0.37 | −0.10 | −0.12 | −0.20 | −0.04 | −0.10 | −0.32 |
| 10 | 0.02 | −0.26 | −1.22 | −1.81 | −1.54 | −1.33 | −0.70 | −0.49 | −0.43 | −0.41 | −0.14 | −0.10 | −0.70 |
| 11 | −0.02 | −0.58 | −2.28 | −2.45 | −2.06 | −1.66 | −1.05 | −0.86 | −0.65 | −0.59 | −0.26 | −0.11 | −1.05 |
| Noon. . . | −0.05 | −0.87 | −3.05 | −2.86 | −2.46 | −2.02 | −1.43 | −1.16 | −0.82 | −0.69 | −0.32 | −0.12 | −1.32 |
| 1 | −0.11 | −1.02 | −3.38 | −3.03 | −2.66 | −2.33 | −1.70 | −1.34 | −0.93 | −0.68 | −0.30 | −0.14 | −1.47 |
| 2 | −0.14 | −0.98 | −3.26 | −2.96 | −2.65 | −2.48 | −1.86 | −1.38 | −0.94 | −0.57 | −0.19 | −0.13 | −1.46 |
| 3 | −0.15 | −0.78 | −2.78 | −2.67 | −2.40 | −2.38 | −1.78 | −1.32 | −0.93 | −0.38 | −0.04 | −0.10 | −1.31 |
| 4 | −0.14 | −0.46 | −2.06 | −2.18 | −1.98 | −1.98 | −1.56 | −1.18 | −0.68 | −0.18 | 0.06 | −0.05 | −1.03 |
| 5 | −0.11 | −0.14 | −1.29 | −1.50 | −1.45 | −1.36 | −1.18 | −1.01 | −0.44 | 0.01 | 0.24 | 0.01 | −0.69 |
| 6 | −0.09 | 0.13 | −0.57 | −0.74 | −0.88 | −0.66 | −0.78 | −0.78 | −0.17 | 0.14 | 0.31 | 0.07 | −0.34 |
| 7 | −0.06 | 0.32 | 0.01 | 0.06 | −0.34 | −0.01 | −0.34 | −0.50 | 0.08 | 0.22 | 0.36 | 0.10 | −0.01 |
| 8 | −0.05 | 0.43 | 0.44 | 0.78 | 0.20 | 0.51 | 0.07 | −0.16 | 0.26 | 0.25 | 0.38 | 0.11 | 0.27 |
| 9 | −0.03 | 0.50 | 0.76 | 1.35 | 0.74 | 0.92 | 0.50 | 0.24 | 0.38 | 0.26 | 0.38 | 0.10 | 0.51 |
| 10 | −0.02 | 0.51 | 0.99 | 1.74 | 1.28 | 1.26 | 0.90 | 0.66 | 0.44 | 0.26 | 0.35 | 0.10 | 0.71 |
| 11 | 0.02 | 0.52 | 1.19 | 1.95 | 1.82 | 1.63 | 1.20 | 1.01 | 0.48 | 0.26 | 0.28 | 0.09 | 0 87 |
| Midn. . . | 0.05 | 0.49 | 1.38 | 2.08 | 2.30 | 2.04 | 1.59 | 1.25 | 0.51 | 0.28 | 0.15 | 0.12 | 1.02 |
| 6. 6 | 0.01 | 0.20 | 0.83 | 0.40 | 0.07 | −0.01 | −0.09 | −0.04 | 0.15 | 0.21 | 0.09 | 0.02 | 0.15 |
| 7. 7 | 0.02 | 0.31 | 0.89 | 0.44 | 0.01 | −0.03 | −0.04 | −0.00 | 0.18 | 0.20 | 0.17 | 0.02 | 0.18 |
| 8. 8 | 0.02 | 0.33 | 0.71 | 0.36 | −0.06 | −0.04 | 0.02 | 0.04 | 0.16 | 0.13 | 0.20 | 0.01 | 0.16 |
| 9. 9 | 0.02 | 0.28 | 0.35 | 0.19 | −0.11 | −0.04 | 0.07 | 0.07 | 0.13 | 0.03 | 0.17 | −0.00 | 0.10 |
| 10.10 | −0.00 | 0.13 | −0.12 | −0.04 | −0.13 | −0.04 | 0.10 | 0.09 | 0.01 | −0.08 | 0.11 | −0.00 | 0.00 |
| 7. 2. 9 | −0.03 | −0.06 | −0.24 | −0.27 | −0.52 | −0.53 | −0.37 | −0.21 | −0.10 | −0.05 | 0.06 | −0.03 | −0.20 |
| 6. 2. 8 | −0.03 | −0.10 | −0.20 | −0.22 | −0.48 | −0.44 | −0.39 | −0.28 | −0.07 | −0.02 | 0.02 | −0.02 | −0.19 |
| 6. 2.10 | −0.02 | −0.07 | −0.01 | 0.10 | −0.12 | −0.19 | −0.12 | −0.01 | −0.01 | −0.01 | 0.01 | −0.02 | −0.04 |
| 6. 2. 6 | −0.04 | −0.20 | −0.53 | −0.72 | −0.84 | −0.83 | −0.68 | −0.49 | −0.22 | −0.05 | −0.00 | −0.03 | −0.39 |
| 7. 2 | −0.03 | −0.35 | −0.75 | −1.08 | −1.15 | −1.26 | −0.80 | −0.44 | −0.34 | −0.20 | −0.11 | −0.10 | −0.55 |
| 8. 2 | −0.03 | −0.38 | −1.14 | −1.51 | −1.49 | −1.53 | −0.95 | −0.57 | −0.45 | −0.28 | −0.09 | −0.12 | −0.71 |
| 8. 1 | −0.02 | −0.40 | −1.20 | −1.55 | −1.49 | −1.46 | −0.87 | −0.55 | −0.44 | −0.34 | −0.15 | −0.12 | −0.72 |
| 7. 1 | −0.01 | −0.37 | −0.81 | −1.11 | −1.16 | −1.19 | −0.72 | −0.42 | −0.33 | −0.26 | −0.16 | −0.11 | −0.55 |
| 9.12.3.9 | −0.04 | −0.28 | −1.28 | −1.29 | −1.27 | −1.12 | −0.77 | −0.59 | −0.37 | −0.25 | −0.01 | −0.06 | −0.61 |
| 7. 2.2(9) | −0.03 | 0.08 | 0.01 | 0.14 | −0.21 | −0.17 | −0.15 | −0.10 | 0.02 | 0.03 | 0.14 | −0.00 | −0.02 |
| Dail.ext. | −0.02 | −0.25 | −0.50 | −0.37 | 0.05 | 0.04 | −0.04 | −0.02 | −0.14 | −0.18 | 0.03 | −0.01 | −0.16 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XIII.

N. America. — Lake Athabasca. *Lat.* 59° N. *Long.* 111° W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Lefroy.

The corrections for April and May are derived from observations made at Fort Simpson, Lat. 62° N.

Degrees of Fahrenheit.

| Hour. | April. | May. | October. | November. | December. | January. | February. |
|---|---|---|---|---|---|---|---|
| daily ext. | 1.58 | 1.71 | 0.33 | 0.25 | −0.17 | 0.77 | 1.19 |
| 6, 6 | 1.15 | 0.51 | 1.07 | 0.59 | 0.27 | 0.84 | 1.19 |
| 7, 7 | 1.50 | 0.16 | 0.76 | 0.54 | 0.30 | 0.58 | 1.31 |
| 8, 8 | 1.72 | 0.18 | 0.69 | 0.55 | 0.62 | 0.95 | 1.27 |
| 9, 9 | 0.54 | 0.30 | 0.37 | 0.32 | 0.84 | 0.80 | 0.78 |
| 10, 10 | −0.43 | −0.08 | −0.32 | −0.06 | 0.34 | 0.12 | 0.31 |
| 11, 11 | −1.68 | −1.20 | −0.57 | −0.37 | 0.10 | −0.62 | −0.23 |
| 6, 2, 10 | 0.47 | 0.46 | −0.31 | −0.21 | −0.22 | −0.17 | −0.05 |
| 7, 3, 11 | 0.46 | 0.59 | −0.40 | −0.16 | 0 17 | 0.06 | −0.26 |
| Mean. | 32.48 | 44.56 | 21.44 | 9.76 | 0.40 | −23.00 | 4.79 |

## XIV.

Arctic America. — Melville Island. *Lat.* 74° 47′ N. *Long.* 110° 48′ W. *Gr.* — Dove.

Degrees of Reaumur.

| Hour. | January. | February. | March. | October. | Hour. | November. | December. |
|---|---|---|---|---|---|---|---|
| A.M. 1 | 0.12 | 0.10 | 1.04 | 0.04 | A.M. 2 | −0.12 | −0.09 |
| 3 | 0.18 | 0.05 | 1.22 | 0.12 | 4 | −0.02 | −0.06 |
| 5 | 0.07 | 0.25 | 0.90 | 0.24 | 6 | 0.00 | 0.11 |
| 7 | 0.11 | 0.29 | 0.57 | 0.20 | 8 | −0.22 | 0.07 |
| 9 | −0.13 | −0.24 | 0.29 | −0.15 | 10 | −0.38 | 0.11 |
| 11 | −0.35 | −0.43 | −1.33 | −0.46 | 12 | −0.41 | 0.24 |
| P.M. 1 | −0.22 | −0.65 | −1.72 | −0.43 | P.M. 2 | −0.27 | 0.14 |
| 3 | −0.25 | −0.52 | −1.00 | 0.22 | 4 | 0.16 | 0.00 |
| 5 | 0.04 | 0.04 | −0.43 | −0.24 | 6 | 0.27 | −0.12 |
| 7 | 0.04 | 0.24 | 0.06 | −0.10 | 8 | 0.38 | −0.26 |
| 9 | 0.11 | 0.35 | 0.33 | 0.11 | 10 | 0.36 | −0.12 |
| 11 | 0.40 | 0.49 | 0.66 | 0.43 | 12 | 0.25 | 0.00 |
| Mean. | −29.75 | −27.58 | −22.73 | −14.32 | Mean. | −18.65 | −25.75 |

## XV.

Spitzbergen. — Hecla Cove. *Lat.* 79° 55′ N. *Long.* 16° 49′ E. *Gr.* — Dove.

Degrees of Reaumur.

| Hour. | June. | July. | August. | Hour. | June. | July. | August. |
|---|---|---|---|---|---|---|---|
| A.M. 1 | 0.63 | 0.62 | 0.42 | P.M. 1 | −0.67 | −0.67 | −0.63 |
| 3 | 0.43 | 0.84 | 0.54 | 3 | −0.58 | −0.42 | −0.58 |
| 5 | 0.26 | 0.51 | 0.53 | 5 | −0.27 | −0.44 | −0.32 |
| 7 | −0.12 | −0.02 | 0.25 | 7 | 0.26 | −0.17 | −0.06 |
| 9 | −0.29 | −0.09 | −0.09 | 9 | 0.21 | 0.06 | 0.14 |
| 11 | −0.47 | −0.49 | −0.45 | 11 | 0.61 | 0.26 | 0.24 |
| | | | | Mean. | 1.71 | 3.63 | 2.84 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XVI.

S. America. — Rio Janeiro. *Lat.* 22° 54′ S. *Long.* 43° 16′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.74 | 1.51 | 1.80 | 0.90 | 1.13 | 0.56 | 1.85 | 1.31 | 1.04 | 0.97 | 1.76 | 1.31 | 1.24 |
| 2 | 1.64 | 2.41 | 2.48 | 1.64 | 2.12 | 1.53 | 2.75 | 2.00 | 1.69 | 1.64 | 2.32 | 2.05 | 2.03 |
| 3 | 2.50 | 3.11 | 3.02 | 2.32 | 2.93 | 2.43 | 3.47 | 2.66 | 2.27 | 2.21 | 2.75 | 2.66 | 2.70 |
| 4 | 3.08 | 3.90 | 3.24 | 2.79 | 3.38 | 3.04 | 3.87 | 3.04 | 2.59 | 2.50 | 2.93 | 2.99 | 3.06 |
| 5 | 3.22 | 3.29 | 3.15 | 2.90 | 3.40 | 3.29 | 3.83 | 3.08 | 2.66 | 2.52 | 2 79 | 2.99 | 3.08 |
| 6 | 2.93 | 2.84 | 2.75 | 2.75 | 3.06 | 3.20 | 3.47 | 2.79 | 2.41 | 2.27 | 2.32 | 2.68 | 2.79 |
| 7 | 2.30 | 2.21 | 2.14 | 2.30 | 2.48 | 2.84 | 2.70 | 2.25 | 2.00 | 1.82 | 1.67 | 2.12 | 2.23 |
| 8 | 1.49 | 1.49 | 1.40 | 1.71 | 1.85 | 2.39 | 1.96 | 1.60 | 1.46 | 1.28 | 0.90 | 1.40 | 1.58 |
| 9 | 0.68 | 0.72 | 0.59 | 1.04 | 1.15 | 1.82 | 1.15 | 0.90 | 0.86 | 0.68 | 0.14 | 0.59 | 0.86 |
| 10 | −0.07 | −0.05 | −0.23 | 0.32 | 0.50 | 1.13 | 0.32 | 0.23 | 0.18 | 0.05 | −0.56 | −0.23 | −0.14 |
| 11 | −0.77 | −0.86 | −1.01 | −0.45 | −0.23 | 0.32 | −0.50 | −0.50 | −0.54 | −0.59 | −1.22 | −1.04 | −0.61 |
| Noon. . . | −1.40 | −1.64 | −1.71 | −1.22 | −0.99 | −0.65 | −1.31 | −1.19 | −1.26 | −1.22 | −1.80 | −1.82 | −1.35 |
| 1 | −2.00 | −2.30 | −2.30 | −1.94 | −1.71 | −1.67 | −2.16 | −1.91 | −1.89 | −1.78 | −2.32 | −2.43 | −2.03 |
| 2 | −2.41 | −2.75 | −2.66 | −2.41 | −2.30 | −2.48 | −2.88 | −2.48 | −2 34 | −2.16 | −2.66 | −2.81 | −2.52 |
| 3 | −2.59 | −2.88 | −2.84 | −2.66 | −2.66 | −2.99 | −3.40 | −2.84 | −2.50 | −2.27 | −2.79 | −2.86 | −2.77 |
| 4 | −2.45 | −2.70 | −2.77 | −2.57 | −2.75 | −3.04 | −3.60 | −2.93 | −2.36 | −2.12 | −2.66 | −2.59 | −2.70 |
| 5 | −2 05 | −2.30 | −2.50 | −2.21 | −2.54 | −2.75 | −3.47 | −2.68 | −2.00 | −1.78 | −2.25 | −2.09 | −2.39 |
| 6 | −1.51 | −1.82 | −2.12 | −1.76 | −2.21 | −2.23 | −3.04 | −2.23 | −1.55 | −1.37 | −1.67 | −1.49 | −1.91 |
| 7 | −1.04 | −1.40 | −1.67 | −1.28 | −1.89 | −1.76 | −2.39 | −1.67 | −1.13 | −1.04 | −1.08 | −0.99 | −1.44 |
| 8 | −0.72 | −1.13 | −1.22 | −0.95 | −1.67 | −1.42 | −1.85 | −1.13 | −0.83 | −0.77 | −0.59 | −0.61 | −1.08 |
| 9 | −0.59 | −0.92 | −0.77 | −0.72 | −1.44 | −1.26 | −1.22 | −0.70 | −0.61 | −0.61 | −0.14 | −0.38 | −0.79 |
| 0 | −0.56 | −0.63 | −0.25 | −0.52 | −1.13 | −1.13 | −0.59 | −0.32 | −0.41 | −0.45 | 0.23 | −0.16 | −0.50 |
| 11 | −0.41 | −0.14 | 0.36 | −0.25 | −0.63 | −0.86 | 0.09 | 0.09 | −0.09 | −0.16 | 0.65 | 0.14 | 0.09 |
| Midn. . . | 0.00 | 0.59 | 1.06 | 0.23 | 0.14 | −0.29 | 0.92 | 0.61 | 0.38 | 0.32 | 1.15 | 0.65 | 0.47 |
| 6. 6 | 0.72 | 0.52 | 0.32 | 0.50 | 0.43 | 0.50 | 0.30 | 0.29 | 0.43 | 0.45 | 0.34 | 0.61 | 0.45 |
| 7. 7 | 0.63 | 0.41 | 0.25 | 0.52 | 0.29 | 0.54 | 0.16 | 0.29 | 0.45 | 0.41 | 0.29 | 0.56 | 0.41 |
| 8. 8 | 0.38 | 0.18 | 0.09 | 0.38 | 0.09 | 0.50 | 0.07 | 0.25 | 0.32 | 0.27 | 0.16 | 0.41 | 0.25 |
| 9. 9 | 0.05 | −0.11 | −0.09 | −0.16 | −0.16 | 0.29 | −0.05 | 0.11 | 0.14 | 0.05 | 0.00 | 0.11 | 0.05 |
| 10.10 | −0.32 | −0.34 | −0.25 | −0.11 | −0.32 | 0.00 | −0.14 | −0.05 | −0.11 | −0.20 | −0.18 | −0.20 | −0.18 |
| 7. 2. 9 | −0.23 | −0.50 | −0.43 | −0.27 | −0.43 | −0.29 | −0.47 | −0.32 | −0.32 | −0.32 | −0.38 | −0.36 | −0.36 |
| 6. 2. 8 | −0.07 | −0.34 | −0.38 | −0.20 | −0.29 | −0.23 | −0.43 | −0.27 | −0.25 | −0.23 | −0.32 | −0.25 | −0.27 |
| 6. 2.10 | −0.02 | −0.18 | −0.05 | −0.07 | −0.11 | −0.14 | 0.00 | 0.00 | −0.11 | −0.11 | −0.05 | −0.09 | −0.07 |
| 6. 2. 6 | −0.34 | −0.59 | −0.68 | −0.47 | −0.47 | −0.50 | −0.81 | −0.63 | −0.50 | −0.43 | −0.68 | −0.54 | −0.56 |
| 7. 2 | −0.07 | −0.27 | −0.27 | −0.07 | 0.09 | 0.18 | −0.09 | −0.11 | −0.18 | −0.18 | −0.50 | −0.36 | −0.16 |
| 8. 2 | −0.47 | −0.63 | −0.63 | −0.36 | −0.23 | −0.05 | −0.47 | −0.45 | −0.45 | −0.45 | −0.88 | −0.72 | −0.47 |
| 8. 1 | −0.27 | −0.41 | −0.45 | −0.11 | 0.07 | 0.36 | −0.11 | −0.16 | −0.23 | −0.25 | −0.72 | −0.52 | −0.23 |
| 7. 1 | 0.16 | −0.05 | −0.09 | 0.18 | 0.38 | 0 59 | −0.27 | 0.18 | 0.07 | 0.02 | −0.34 | −0.16 | −0.11 |
| 9.12.3.9 | −0.97 | −1.19 | −1.19 | −0.90 | −0.99 | −0 77 | −1.19 | −0.97 | −0 88 | −0.86 | −1.15 | −1.13 | −1.01 |
| 7. 2.2(9) | −0.32 | −0.61 | −0.52 | −0.38 | −0.68 | −0.54 | −0.65 | −0.41 | −0.38 | −0.38 | −0.32 | −0.36 | −0.47 |
| Dail. ext. | 0.32 | 0.27 | 0.20 | 0.14 | 0.34 | 0.14 | 0.14 | 0.09 | 0.09 | 0.14 | 0.07 | 0.07 | 0.16 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XVII.

S. America. — Rio Janeiro. *Lat.* 22° 54′ S. *Long.* 43° 16′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.33 | 0.67 | 0.80 | 0.40 | 0.50 | 0.25 | 0.82 | 0.58 | 0.46 | 0.43 | 0.78 | 0.58 | 0.55 |
| 2 | 0.73 | 1.07 | 1.10 | 0.73 | 0.94 | 0.68 | 1.22 | 0.89 | 0.75 | 0.73 | 1.03 | 0.91 | 0.90 |
| 3 | 1.11 | 1.38 | 1.34 | 1.03 | 1.30 | 1.08 | 1.54 | 1.18 | 1 01 | 0.98 | 1.22 | 1.18 | 1.20 |
| 4 | 1.37 | 1.51 | 1.44 | 1.24 | 1.50 | 1.35 | 1.72 | 1.35 | 1.15 | 1.11 | 1.30 | 1.33 | 1.36 |
| 5 | 1.43 | 1.46 | 1.40 | 1.29 | 1.51 | 1.46 | 1.70 | 1.37 | 1.18 | 1.12 | 1.24 | 1.33 | 1.37 |
| 6 | 1.30 | 1.26 | 1.22 | 1.22 | 1.36 | 1.42 | 1.54 | 1.24 | 1.07 | 1.01 | 1.03 | 1.19 | 1.24 |
| 7 | 1.02 | 0.98 | 0.95 | 1.02 | 1.10 | 1.26 | 1.20 | 1.00 | 0.89 | 0.81 | 0.74 | 0.94 | 0.99 |
| 8 | 0.66 | 0.66 | 0.62 | 0.76 | 0.82 | 1.06 | 0.87 | 0.71 | 0.65 | 0.57 | 0.40 | 0.62 | 0.70 |
| 9 | 0.30 | 0.32 | 0.26 | 0.46 | 0.51 | 0.81 | 0.51 | 0.40 | 0.38 | 0.30 | 0.06 | 0.26 | 0.38 |
| 10 | −0.03 | −0.02 | −0.10 | 0.14 | 0.22 | 0.50 | 0.14 | 0.10 | 0.08 | 0.02 | −0.25 | −0.10 | 0.06 |
| 11 | −0.34 | −0.38 | −0.45 | −0.20 | −0.10 | 0.14 | −0.22 | −0.22 | −0.24 | −0.26 | −0.54 | −0.46 | −0.27 |
| Noon. . . | −0.62 | −0.73 | −0.76 | −0.54 | −0.44 | −0.29 | −0.58 | −0.53 | −0.56 | −0.54 | −0.80 | −0.81 | −0.60 |
| 1 | −0.89 | −1.02 | −1.02 | −0.86 | −0.76 | −0.74 | −0.96 | −0.85 | −0.84 | −0.79 | −1.03 | −1.08 | −0.90 |
| 2 | −1.07 | −1.22 | −1.18 | −1.07 | −1.02 | −1.10 | −1.28 | −1.10 | −1.04 | −0.96 | −1.18 | −1.25 | −1.12 |
| 3 | −1.15 | −1.28 | −1.26 | −1.18 | −1.18 | −1.33 | −1.51 | −1.26 | −1.11 | −1.01 | −1.24 | −1.27 | −1.23 |
| 4 | −1.09 | −1.20 | −1.23 | −1.14 | −1.22 | −1.35 | −1.60 | −1.30 | −1.05 | −0.94 | −1.18 | −1.15 | −1.20 |
| 5 | −0.91 | −1.02 | −1.11 | −0.98 | −1.13 | −1.22 | −1.54 | −1.19 | −0.89 | −0.79 | −1.00 | −0.93 | −1.06 |
| 6 | −0.67 | −0.81 | −0.94 | −0.78 | −0.98 | −0.99 | −1.35 | −0.99 | −0.69 | −0.61 | −0.74 | −0.66 | −0.85 |
| 7 | −0.46 | −0.62 | −0.74 | −0.57 | −0.84 | −0.78 | −1.06 | −0.74 | −0.50 | −0.46 | −0.48 | −0.44 | −0.64 |
| 8 | −0.32 | −0.50 | −0.54 | −0.42 | −0.74 | −0.63 | −0.82 | −0.50 | −0.37 | −0.34 | −0.26 | −0.27 | −0.48 |
| 9 | −0.26 | −0.41 | −0.34 | −0.32 | −0.64 | −0.56 | −0.54 | −0.31 | −0.27 | −0.27 | −0.06 | −0.17 | −0.35 |
| 10 | −0.25 | −0.28 | −0.11 | −0.23 | −0.50 | −0.50 | −0.26 | −0.14 | −0.18 | −0.20 | 0.10 | −0.07 | −0.22 |
| 11 | −0.18 | −0.06 | 0.16 | −0.11 | −0.28 | −0.38 | 0.04 | −0.04 | −0.04 | −0.07 | 0.29 | 0.06 | −0.04 |
| Midn. . . | 0.00 | 0.26 | 0.47 | 0.10 | 0.06 | −0.13 | 0.41 | 0.27 | 0.17 | 0.14 | 0.51 | 0.29 | 0.21 |
| 6. 6 | 0.32 | 0.23 | 0.14 | 0.22 | 0.19 | 0.22 | 0.10 | 0.13 | 0.19 | 0.20 | 0.15 | 0 27 | 0.20 |
| 7. 7 | 0.28 | 0.18 | 0.11 | 0.23 | 0.13 | 0.24 | 0.07 | 0.13 | 0.20 | 0.18 | 0.13 | 0.25 | 0.18 |
| 8. 8 | 0.17 | 0.08 | 0.04 | 0.17 | 0.04 | 0.22 | 0.03 | 0.11 | 0.14 | 0.12 | 0.07 | 0.18 | 0.11 |
| 9. 9 | 0.02 | −0.05 | −0.04 | 0.07 | −0.07 | 0.13 | −0.02 | 0.05 | 0.06 | 0.02 | −0.00 | 0.05 | 0.02 |
| 10.10 | −0.14 | −0.15 | −0.11 | −0.05 | −0.14 | −0.00 | −0.06 | −0.02 | −0.05 | −0.09 | −0.08 | −0.09 | −0.08 |
| 7. 2. 9 | −0.10 | −0.22 | −0.19 | −0.12 | −0.19 | −0.13 | −0.21 | −0.14 | −0.14 | −0.14 | −0.17 | −0.16 | −0.16 |
| 6. 2. 8 | −0.03 | −0.15 | −0.17 | −0.09 | −0.13 | −0.10 | −0.19 | −0.12 | −0.11 | −0.10 | −0.14 | −0.11 | −0.12 |
| 6. 2.10 | −0.01 | −0.08 | −0.02 | −0.03 | −0.05 | −0.06 | −0.00 | −0.00 | −0.05 | −0.05 | −0.02 | −0.04 | −0.03 |
| 6. 2. 6 | −0.15 | −0.26 | −0.30 | −0.21 | −0.21 | −0.22 | −0.36 | −0.28 | −0.22 | −0.19 | −0.30 | −0.24 | −0.25 |
| 7. 2 | −0.03 | −0.12 | −0.12 | −0.03 | 0.04 | 0.08 | −0.04 | −0.05 | −0.08 | −0.08 | −0.22 | −0.16 | −0.07 |
| 8. 2 | −0.21 | −0.28 | −0.28 | −0.16 | −0.10 | −0.02 | −0.21 | −0 20 | −0.20 | −0.20 | −0.39 | −0.32 | −0.21 |
| 8. 1 | −0.12 | −0.18 | −0.20 | −0.05 | 0.03 | 0.16 | −0.05 | −0.07 | −0.10 | −0.11 | −0.32 | −0.23 | −0.10 |
| 7. 1 | 0.07 | −0.02 | −0.04 | 0 08 | 0.17 | 0.26 | 0.12 | 0.08 | 0.03 | 0.01 | −0.15 | −0.07 | 0.05 |
| 9.12.3.9 | −0.43 | −0.53 | −0.53 | −0.40 | −0.44 | −0.34 | −0 53 | −0.43 | −0.39 | −0.38 | −0.51 | −0.50 | −0.45 |
| 7. 2.2(9) | −0.14 | −0.27 | −0.23 | −0.17 | −0.30 | −0.24 | −0.29 | −0.18 | −0.17 | −0.17 | −0.14 | −0.16 | −0.21 |
| Dail.ext. | 0.14 | 0.12 | 0.09 | 0.06 | 0.15 | 0.06 | 0.06 | 0.04 | 0.04 | 0.06 | 0.03 | 0.03 | 0.07 |

The numbers without sign must be added; those with the sign — must be subtracted.

V'.

N. AMERICA.—AMHERST COLLEGE.—*Lat.* 42° 22′ N. *Long.* 72° 30′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year.—DEWEY.

Degrees of Fahrenheit.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 3.90 | 2.78 | 4.73 | 6.23 | 5.51 | 6.64 | 6.39 | 5.14 | 5.36 | 4.87 | 2.34 | 1.63 | 4.63 |
| 2 | 4.24 | 3.03 | 4.81 | 6.69 | 6.48 | 7.28 | 6.83 | 5.66 | 6.12 | 5.65 | 2.99 | 2.20 | 5.16 |
| 3 | 4.13 | 3.20 | 5.36 | 7.42 | 7.41 | 7.92 | 7.28 | 6.03 | 6.92 | 6.46 | 3.49 | 2.55 | 5.68 |
| 4 | 4.50 | 3.94 | 5.69 | 7.85 | 7.88 | 8.04 | 7.42 | 6.29 | 6.56 | 7.09 | 3.72 | 2.70 | 6.06 |
| 5 | 4.72 | 4.20 | 6.04 | 8.12 | 8.18 | 7.80 | 7.54 | 6.66 | 7.88 | 7.72 | 4.03 | 3.32 | 6.35 |
| 6 | 4.68 | 4.78 | 6.12 | 7.77 | 6.77 | 5.96 | 6.02 | 5.81 | 7.44 | 7.65 | 4.34 | 3.78 | 5.93 |
| 7 | 4.75 | 4.78 | 4.62 | 5.97 | 4.22 | 4.20 | 3.80 | 4.48 | 5.32 | 6.87 | 4.28 | 3.97 | 4.77 |
| 8 | 3.83 | 3.78 | 2.08 | 3.04 | 1.62 | 1.40 | 1.09 | 1.96 | 2.52 | 4.31 | 2.68 | 4.13 | 2.70 |
| 9 | 1.46 | 1.45 | −0.46 | 0.08 | −0.60 | −0.88 | −0.87 | −0.93 | −0.56 | 0.83 | 0.34 | 2.40 | 0.19 |
| 10 | −1.26 | −0.85 | −2.57 | − 2.69 | −1.12 | −3.12 | −3.80 | −3.04 | −3.32 | −2.24 | −1.43 | −0.55 | −2.34 |
| 11 | −4.10 | −2.72 | −4.77 | − 5.65 | −5.12 | −5.68 | −6.43 | −5.45 | −6.04 | −5.02 | −3.01 | −2.76 | −4.73 |
| Noon. | −6.32 | −4.26 | −6.38 | − 7.92 | −6.75 | −8.08 | −8.50 | −6.86 | −8.16 | −7.06 | −5.01 | −4.30 | −6.63 |
| 1 | −7.46 | −5.35 | −7.65 | − 9.46 | −8.15 | −9.36 | −8.83 | −8.23 | −9.12 | −8.24 | −6.12 | −6.14 | −7.84 |
| 2 | −7.80 | −6.06 | −8.34 | −10.42 | −8.75 | −9.00 | −9.50 | −7.86 | −9.80 | −9.28 | −5.97 | −6.30 | −8.26 |
| 3 | −7.32 | −5.80 | −8.11 | − 9.81 | −8.27 | −8.60 | −7.50 | −7.67 | −9.20 | −9.24 | −5.28 | −5.60 | −7.70 |
| 4 | −5.84 | −4.89 | −7.23 | − 8.61 | −7.86 | −7.84 | −7.17 | −6.23 | −8.40 | −8.24 | −3.85 | −3.76 | −6.66 |
| 5 | −3.32 | −3.10 | −5.65 | − 7.04 | −5.97 | −6.00 | −5.83 | −5.26 | −6.44 | −5.65 | −2.28 | −2.03 | −4.88 |
| 6 | −2.06 | −1.18 | −3.46 | − 4.50 | −4.08 | −4.20 | −4.17 | −2.82 | −3.52 | −3.50 | −0.85 | −0.68 | −2.92 |
| 7 | 0.24 | −1.05 | 0.17 | − 1.69 | −2.38 | −1.92 | −1.54 | −1.44 | −1.47 | −1.24 | −0.64 | −0.31 | −1.11 |
| 8 | 0.64 | −0.43 | 0.93 | 0.27 | −0.19 | 0.04 | 0.98 | 0.33 | 0.11 | 0.13 | 0.08 | 0.20 | 0.26 |
| 9 | 1.50 | 0.28 | 1.89 | 1.77 | 1.66 | 1.96 | 3.05 | 1.59 | 1.99 | 1.16 | 0.80 | 0.69 | 1.53 |
| 10 | 2.01 | 0.57 | 3.29 | 3.31 | 2.73 | 3.20 | 3.79 | 3.02 | 3.53 | 1.90 | 1.16 | 1.20 | 2.48 |
| 11 | 2.42 | 1.19 | 4.29 | 4.23 | 3.99 | 4.20 | 4.24 | 3.79 | 4.61 | 3.24 | 1.96 | 1.58 | 3.31 |
| Midnight. | 2.50 | 1.70 | 4.85 | 4.92 | 4.75 | 5.48 | 5.31 | 4.52 | 5.34 | 4.09 | 2.40 | 1.98 | 3.99 |
| 3, 9, 3, 9 | −0.05 | −0.22 | −0.08 | − 0.13 | 0.05 | 0.10 | 0.49 | 0.26 | −0.21 | −0.20 | −0.16 | −0.01 | −0.01 |
| 9, 9 | 1.48 | 0.87 | 0.72 | 0.93 | 0.53 | 0.54 | 1.09 | 0.33 | 0.72 | 1.00 | 0.57 | 1.55 | 0.86 |
| 10, 10 | 0.38 | −0.14 | 0.36 | 0.31 | 0.81 | 0.04 | 0.00 | −0.51 | 0.11 | −0.17 | −0.13 | 0.33 | 0.12 |
| 7, 2, 9 | −0.48 | −0.33 | −0.61 | − 0.89 | −0.96 | −0.95 | −0.88 | −0.60 | −0.83 | −0.42 | −0.29 | −0.55 | −0.65 |
| 6, 2, 10 | −0.37 | −0.24 | 0.36 | − 0.24 | 0.25 | 0.05 | 0.10 | 0.32 | 0.39 | 0.09 | −0.16 | −0.44 | 0.01 |
| 7, 2, 10 | −0.35 | −0.04 | −0.14 | − 0.38 | −0.60 | −0.53 | −0.64 | −0.12 | −0.32 | −0.17 | −0.18 | −0.38 | −0.32 |
| 7, 2, 11 | −0.21 | −0.03 | 0.19 | − 0.07 | −0.18 | −0.20 | −0.49 | 0.14 | 0.04 | 0.28 | 0.09 | −0.25 | −0.07 |
| 6, 8, 2, 4, 10, 12 | −0.09 | 0.02 | 0.13 | 0.00 | −0.12 | −0.13 | −0.08 | 0.20 | 0.11 | 0.07 | 0.13 | 0.17 | 0.03 |
| 7,2,2,(9) | −0.01 | −0.18 | 0.01 | − 0.23 | −0.30 | −0.22 | 0.10 | −0.05 | −0.12 | −0.02 | −0.02 | −0.24 | −0.11 |
| Mean. | 22.94 | 28.57 | 34.81 | 48.54 | 56.92 | 61.60 | 71.61 | 67.44 | 59.80 | 50.46 | 34.80 | 29.28 | 47.23 |

The numbers without sign must be added; those with the sign — must be subtracted.

The above Table has been derived from one year of hourly observations made at Amherst College, Massachusetts, in 1839, under the direction of Professor Snell, and communicated by Professor Chester Dewey. It gives the simple differences of the monthly means of each hour from the monthly means of the twenty-four hours which are found in the last line.

# HOURLY CORRECTIONS

FOR

# PERIODIC VARIATIONS.

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## ASIA.

## XVIII.

INDIA. — TREVANDRUM. *Lat.* 8° 31′ N. *Long.* 74° 50′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 4.41 | 4.03 | 3.80 | 3.85 | 3.26 | 2.66 | 2.41 | 2.88 | 2.99 | 3.06 | 3.33 | 4.25 | 3.42 |
| 2 | 5.13 | 4.95 | 4.64 | 4.46 | 3.80 | 3.02 | 2.75 | 3.24 | 3.44 | 3.44 | 3.83 | 4.86 | 3.96 |
| 3 | 6.03 | 6.12 | 5.67 | 5.15 | 4.39 | 3.47 | 3.17 | 3.74 | 3.98 | 3.92 | 4.46 | 5.67 | 4.66 |
| 4 | 6.95 | 7.31 | 6.64 | 5.74 | 4.82 | 3.80 | 3.58 | 4.21 | 4.48 | 4.34 | 5.04 | 6.50 | 5.29 |
| 5 | 7.56 | 8.15 | 7.13 | 5.81 | 4.82 | 3.83 | 3.76 | 4.41 | 4.61 | 4.46 | 5.22 | 6.93 | 5.56 |
| 6 | 7.34 | 8.01 | 6.73 | 5.11 | 4.14 | 3.35 | 3.49 | 4.07 | 4.14 | 4.01 | 4.73 | 6.57 | 5.15 |
| 7 | 6.01 | 6.59 | 5.20 | 3.53 | 2.81 | 2.34 | 2.68 | 3.06 | 3.02 | 2.88 | 3.40 | 5.11 | 3.89 |
| 8 | 3.56 | 3.92 | 2.66 | 1.22 | 0.95 | 0.90 | 1.35 | 1.49 | 1.26 | 1.13 | 1.40 | 2.70 | 1.87 |
| 9 | 0.41 | 0.50 | −0.47 | −1.42 | −1.13 | −0.74 | −0.27 | −0.45 | −0.81 | −0.99 | −0.92 | −0.29 | −0.54 |
| 10 | −2.84 | −2.97 | −3.53 | −3.89 | −3.04 | −2.30 | −1.91 | −2.41 | −2.86 | −3.06 | −3.11 | −3 24 | −2.93 |
| 11 | −5.51 | −5.85 | −5.94 | −5.76 | −4.48 | −3.53 | −3.33 | −4.05 | −4.50 | −4.73 | −4.75 | −5.58 | −4.84 |
| Noon. . . | −7.25 | −7.58 | −7.36 | −6.82 | −5.33 | −4.34 | −4.32 | −5.18 | −5.54 | −5.72 | −5.67 | −7.00 | −6.01 |
| 1 | −7.92 | −8.17 | −7.72 | −7.04 | −5.60 | −4.68 | −4.79 | −5.69 | −5.87 | −5.94 | −5.90 | −7.49 | −6.41 |
| 2 | −7.76 | −7.83 | −7.22 | −6.59 | −5.38 | −4.61 | −4.77 | −5.60 | −5.60 | −5.54 | −5.60 | −7.25 | −6.14 |
| 3 | −7.09 | −6.98 | −6.26 | −5.65 | −4.79 | −4.19 | −4.30 | −5.04 | −4.86 | −4.66 | −4.95 | −6.57 | −5.45 |
| 4 | −6.17 | −5.99 | −5.06 | −4.46 | −3.94 | −3.47 | −3.51 | −4.10 | −3.80 | −3.53 | −4.12 | −5.67 | −4.48 |
| 5 | −5.15 | −4.88 | −3.83 | −3.11 | −2.88 | −2.52 | −2.52 | −2.90 | −2.59 | −2.32 | −3.15 | −4.61 | −8.38 |
| 6 | −3.92 | −3.74 | −2.57 | −1.71 | −1.69 | −1.42 | −1.40 | −1.58 | −1.31 | −1.10 | −2.03 | −3.35 | −2.16 |
| 7 | −2.50 | −2.45 | −1.31 | −0.34 | −0.50 | −0.32 | −0.29 | −0.27 | −0.11 | 0.00 | −0.81 | −1.89 | −0.90 |
| 8 | −0.92 | −1.04 | −0.07 | 0.92 | 0.63 | 0.70 | 0.68 | 0.90 | 0.92 | 0.97 | 0.38 | −0.32 | 0.32 |
| 9 | 0.68 | 0.38 | 1.06 | 1.91 | 1.53 | 1.46 | 1.40 | 1.76 | 1.69 | 1.71 | 1.42 | 1.19 | 1.35 |
| 10 | 2.05 | 1.64 | 1.96 | 2.61 | 2.16 | 1.96 | 1.85 | 2.30 | 2.18 | 2.25 | 2.21 | 2.43 | 2.14 |
| 11 | 3.08 | 2.57 | 2.63 | 3.06 | 2.57 | 2.23 | 2.09 | 2.54 | 2.48 | 2.57 | 2.68 | 3.26 | 2.66 |
| Midn. . . | 3.83 | 3.31 | 3.17 | 3.42 | 2.88 | 2.41 | 2.23 | 2.68 | 2.70 | 2.81 | 2.99 | 3.80 | 3.02 |
| 6. 6 | 1.71 | 2.14 | 2.09 | 1.71 | 1.24 | 0.97 | 1.04 | 1.24 | 1.42 | 1.46 | 1.35 | 1.60 | 1.51 |
| 7. 7 | 1.76 | 2.07 | 1.96 | 1.60 | 1.17 | 1.01 | 1.19 | 1.40 | 1.44 | 1.44 | 1.28 | 1.62 | 1.49 |
| 8. 8 | 1.33 | 1.44 | 1.31 | 1.06 | 0.79 | 0.79 | 1.01 | 1.19 | 1.08 | 1.06 | 0.88 | 1.19 | 1.10 |
| 9. 9 | 0.54 | 0.43 | 0.29 | 0.25 | 0.20 | 0.36 | 0.56 | 0.65 | 0.43 | 0.36 | 0.25 | 0.45 | 0.41 |
| 10.10 | −0.41 | −0.65 | −0.79 | −0.63 | −0.45 | −0.18 | −0.02 | −0.07 | −0.34 | −0.41 | −0.45 | −0.40 | −0.41 |
| 7. 2. 9 | −0.36 | −0.29 | −0.32 | −0.38 | −0.34 | −0.27 | −0.23 | −0.27 | −0.29 | −0.32 | −0.27 | −0.32 | −0.32 |
| 6. 2. 8 | −0.45 | −0.29 | −0.18 | −0.18 | −0.20 | −0.18 | −0.20 | −0.20 | −0.18 | −0.18 | −0.16 | −0.34 | −0.23 |
| 6. 2.10 | 0.54 | 0.61 | 0.50 | 0.38 | 0.32 | 0.23 | 0.18 | 0.25 | 0.25 | 0.25 | 0.45 | 0.59 | 0.38 |
| 6. 2. 6 | −1.44 | −1.19 | −1.01 | −1.06 | −0.97 | −0.90 | −0.90 | −1.04 | −0.92 | −0.88 | −0.97 | −1.35 | −1.06 |
| 7. 2 | −0.88 | −0.63 | −1.01 | −1.53 | −1.28 | −1.15 | −1.06 | −1.28 | −1.31 | −1.33 | −1.10 | −1.08 | −1.13 |
| 8. 2 | −2.12 | −1.96 | −2.30 | −2.70 | −2.23 | −1.87 | −1.71 | −2.07 | −2.18 | −2.21 | −2.12 | −2.27 | −2.14 |
| 8. 1 | −2.18 | −2.14 | −2.54 | −2.93 | −2.34 | −1.89 | −1.73 | −2.12 | −2.32 | −2.41 | −2.25 | −2.41 | −2.27 |
| 7. 1 | −0.97 | −0.79 | −1.26 | −1.76 | −1.40 | −1.17 | −1.06 | −1.33 | −1.44 | −1.53 | −1.26 | −1.19 | −1.26 |
| 9.12.3.9 | −3.31 | −3.42 | −3.26 | −2.99 | −2.43 | −1.96 | −1.87 | −2.23 | −2.39 | −2.41 | −2.54 | −3.17 | −2.66 |
| 7. 2.2(9) | −0.11 | −0.11 | 0.02 | 0.20 | 0.14 | 0.16 | 0.18 | 0.25 | 0.20 | 0.20 | 0.16 | 0.07 | 0.11 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XIX.

India. — Trevandrum. *Lat.* 8° 31′ N. *Long.* 74° 50′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.96 | 1.79 | 1.69 | 1.71 | 1.45 | 1.18 | 1.07 | 1.28 | 1.33 | 1.36 | 1.48 | 1.89 | 1.52 |
| 2 | 2.28 | 2.20 | 2.06 | 1.98 | 1.69 | 1.34 | 1.22 | 1.44 | 1.53 | 1.53 | 1.70 | 2.16 | 1.76 |
| 3 | 2.68 | 2.72 | 2.52 | 2.29 | 1.95 | 1.54 | 1.41 | 1.66 | 1.77 | 1.74 | 1.98 | 2.52 | 2.07 |
| 4 | 3.09 | 3.25 | 2.95 | 2.55 | 2.14 | 1.69 | 1.59 | 1.87 | 1.90 | 1.93 | 2.24 | 2.89 | 2.35 |
| 5 | 3.36 | 3.62 | 3.17 | 2.58 | 2.14 | 1.70 | 1.67 | 1.96 | 2.05 | 1.98 | 2.32 | 3.08 | 2.47 |
| 6 | 3.26 | 3.56 | 2.99 | 2.27 | 1.85 | 1.49 | 1.55 | 1.81 | 1.84 | 1.78 | 2.10 | 2.92 | 2.29 |
| 7 | 2.67 | 2.93 | 2.31 | 1.57 | 1.25 | 1.04 | 1.19 | 1.36 | 1.34 | 1.28 | 1.51 | 2.27 | 1.73 |
| 8 | 1.58 | 1.74 | 1.18 | 0.54 | 0.42 | 0.40 | 0.60 | 0.66 | 0.56 | 0.50 | 0.62 | 1.20 | 0.83 |
| 9 | 0.18 | 0.22 | −0.21 | −0.63 | −0.50 | −0.33 | −0.12 | −0.20 | −0.36 | −0.44 | −0.41 | −0.13 | −0.24 |
| 10 | −1.26 | −1.32 | −1.57 | −1.73 | −1.35 | −1.02 | −0.85 | −1.07 | −1.27 | −1.36 | −1.38 | −1.44 | −1.30 |
| 11 | −2.45 | −2.60 | −2.64 | −2.56 | −1.99 | −1.57 | −1.48 | −1.80 | −2.00 | −2.10 | −2.11 | −2.48 | −2.15 |
| Noon. . . | −3.22 | −3.37 | −3.27 | −3.03 | −2.37 | −1.93 | −1.92 | −2.30 | −2.46 | −2.54 | −2.52 | −3.11 | −2.67 |
| 1 | −3.52 | −3.63 | −3.43 | −3.13 | −2.49 | −2.08 | −2.13 | −2.53 | −2.61 | −2.64 | −2.62 | −3.33 | −2.85 |
| 2 | −3.45 | −3.48 | −3.21 | −2.93 | −2.39 | −2.05 | −2.12 | −2.49 | −2.49 | −2.46 | −2.49 | −3.22 | −2.73 |
| 3 | −3.15 | −3.10 | −2.78 | −2.51 | −2.13 | −1.86 | −1.91 | −2.24 | −2.16 | −2.07 | −2.20 | −2.92 | −2.42 |
| 4 | −2.74 | −2.66 | −2.25 | −1.98 | −1.75 | −1.54 | −1.56 | −1.82 | −1.69 | −1.57 | −1.83 | −2.52 | −1.99 |
| 5 | −2.28 | −2.17 | −1.70 | −1.38 | −1.28 | −1.12 | −1.12 | −1.29 | −1.15 | −1.03 | −1.40 | −2.05 | −1.50 |
| 6 | −1.74 | −1.66 | −1.14 | −0.76 | −0.75 | −0.63 | −0.62 | −0.70 | −0.58 | −0.49 | −0.90 | −1.49 | −0.96 |
| 7 | −1.11 | −1.09 | −0.58 | −0.15 | −0.22 | −0.14 | −0.13 | −0.12 | −0.05 | 0.00 | −0.36 | −0.84 | −0.40 |
| 8 | −0.41 | −0.46 | −0.03 | 0.41 | 0.28 | 0.31 | 0.30 | 0.40 | 0.41 | 0.43 | 0.17 | −0.14 | 0.14 |
| 9 | 0.30 | 0.17 | 0.47 | 0.85 | 0.68 | 0.65 | 0.62 | 0.78 | 0.75 | 0.76 | 0.63 | 0.53 | 0.60 |
| 10 | 0.91 | 0 73 | 0.87 | 1.16 | 0.96 | 0.87 | 0.82 | 1.02 | 0.97 | 1.00 | 0.98 | 1.08 | 0.95 |
| 11 | 1.37 | 1.14 | 1.17 | 1.36 | 1.14 | 0.99 | 0.93 | 1.13 | 1.10 | 1.14 | 1.19 | 1.45 | 1.18 |
| Midn. . . | 1.70 | 1.47 | 1.41 | 1.52 | 1.28 | 1.07 | 0.99 | 1.19 | 1.20 | 1.25 | 1.33 | 1.69 | 1.34 |
| 6. 6 | 0.76 | 0.95 | 0.93 | 0.76 | 0.55 | 0.43 | 0.46 | 0.55 | 0.63 | 0.65 | 0.60 | 0.71 | 0.67 |
| 7. 7 | 0.78 | 0 92 | 0.87 | 0.71 | 0.52 | 0.45 | 0.53 | 0.62 | 0 64 | 0.64 | 0.57 | 0.72 | 0.66 |
| 8. 8 | 0.59 | 0.64 | 0.58 | 0.47 | 0.35 | 0.35 | 0.45 | 0.53 | 0.48 | 0.47 | 0.39 | 0.53 | 0.49 |
| 9. 9 | 0.24 | 0.19 | 0.13 | 0.11 | 0.09 | 0.16 | 0.25 | 0.29 | 0.19 | 0.16 | 0.11 | 0.20 | 0.18 |
| 10.10 | −0.18 | −0.29 | −0.35 | −0.28 | −0.20 | −0.08 | −0.01 | −0.03 | −0.15 | −0.18 | −0.20 | −0.18 | −0.18 |
| 7. 2. 9 | −0.16 | −0.13 | −0.14 | −0.17 | −0.15 | −0.12 | −0.10 | −0.12 | −0.13 | −0.14 | −0.12 | −0.14 | −0.14 |
| 6. 2. 8 | −0.20 | −0.13 | −0.08 | −0.08 | −0.09 | −0.08 | −0.09 | −0.09 | −0.08 | −0.08 | −0.07 | −0.15 | −0.10 |
| 6. 2.10 | 0.24 | 0.27 | 0.22 | 0.17 | 0.14 | 0.10 | 0.08 | 0.11 | 0.11 | 0.11 | 0.20 | 0.26 | 0.17 |
| 6. 2. 6 | −0.64 | −0.53 | −0.45 | −0.47 | −0.43 | −0.40 | −0.40 | −0.46 | −0.41 | −0.39 | −0.43 | −0.60 | −0.47 |
| 7. 2 | −0.39 | −0.28 | −0.45 | −0.68 | −0.57 | −0.51 | −0.47 | −0.57 | −0.58 | −0.59 | −0.49 | −0.48 | −0.50 |
| 8. 2 | −0.94 | −0.87 | −1.02 | −1.20 | −0.99 | −0.83 | −0.76 | −0.92 | −0.97 | −0.98 | −0.94 | −1.01 | −0.95 |
| 8. 1 | −0.97 | −0.95 | −1.13 | −1.30 | −1.04 | −0.84 | −0.77 | −0.94 | −1.03 | −1.07 | −1.00 | −1.07 | −1.01 |
| 7. 1 | −0.43 | −0.35 | −0.56 | −0.78 | −0.62 | −0.52 | −0.47 | −0.59 | −0.64 | −0.68 | −0.56 | −0.53 | −0.56 |
| 9.12.3.9 | −1.47 | −1.52 | −1.45 | −1.33 | −1.08 | −0.87 | −0.83 | −0.99 | −1.06 | −1.07 | −1.13 | −1.41 | −1.18 |
| 7. 2.2(9) | −0.05 | −0.05 | 0.01 | 0.09 | 0.06 | 0.07 | 0.08 | 0.11 | 0.09 | 0.09 | 0.07 | 0.03 | 0.05 |
| Dail. ext. | −0.08 | −0.01 | −0.13 | −0.28 | −0.18 | −0.19 | −0.23 | −0.29 | −0.28 | −0.33 | −0.15 | −0.13 | −0.19 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XX.

INDIA. — MADRAS. *Lat.* 13° 4′ N. *Long.* 80° 19′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midnight. | 2.05 | 2.54 | 2.25 | 3.65 | 2.74 | 3.03 | 2.90 | 2.86 | 2.34 | 1.84 | 2.05 | 1.89 | 2.50 |
| 1 | 2.54 | 3.26 | 2.90 | 3.08 | 3.31 | 3.50 | 3.10 | 3.01 | 2.70 | 2.27 | 2.54 | 2.25 | 2.87 |
| 2 | 2.96 | 3.95 | 3.60 | 3.57 | 3.72 | 3.86 | 3.55 | 3.39 | 3.10 | 2.79 | 3.03 | 2.63 | 3 35 |
| 3 | 3.33 | 4.52 | 4.25 | 4.07 | 4.07 | 4.27 | 3.93 | 3.69 | 3.55 | 3.12 | 3.50 | 2.96 | 3.77 |
| 4 | 3.62 | 5.06 | 4.79 | 4.40 | 4.45 | 4.68 | 4.31 | 3.98 | 3.95 | 3.46 | 3.91 | 3.19 | 4.15 |
| 5 | 3.81 | 5.49 | 5.24 | 4.45 | 4.68 | 4.95 | 4.66 | 4.34 | 4.23 | 3.71 | 4.23 | 3.60 | 4.45 |
| 6 | 4.05 | 5.64 | 5.11 | 3.78 | 3.86 | 4.21 | 4.31 | 4.07 | 3.82 | 3.28 | 4.05 | 3.73 | 4.16 |
| 7 | 2.43 | 3.33 | 2.54 | 1.78 | 2.07 | 2.51 | 2.92 | 2.79 | 2.43 | 1.80 | 2.00 | 2.38 | 2.41 |
| 8 | −0.04 | 0.29 | 0.16 | −0.18 | −0.11 | 0.38 | 1.06 | 0.99 | 0.72 | 0.13 | −0.56 | 0.00 | 0.23 |
| 9 | −2.02 | −1.93 | −1.89 | −2.41 | −2.43 | −1.73 | −0.76 | −0.90 | −1.12 | −1.26 | −2.49 | −1.73 | −1.72 |
| 10 | −3.26 | −3.60 | −3.67 | −4.14 | −4.68 | −3.67 | −2.67 | −2.74 | −2.96 | −2.34 | −3.53 | −3.05 | −3 36 |
| 11 | −4.02 | −4.81 | −4.81 | −4.83 | −5.75 | −5.02 | −4.25 | −4.16 | −4.54 | −3.17 | −4.09 | −3.62 | −4.42 |
| Noon. | −4.43 | −5.06 | −5.35 | −5.66 | −5.87 | −5.85 | −5.51 | −5.28 | −5.04 | −3.76 | −4.31 | −3.93 | −5.01 |
| 1 | −4.40 | −5.35 | −5.42 | −5.53 | −5.64 | −6.05 | −6.07 | −5.75 | −5.04 | −3.73 | −4.25 | −3.86 | −5.09 |
| 2 | −4.14 | −5.30 | −4.99 | −4.95 | −4.99 | −5.69 | −6.02 | −5.40 | −4.66 | −3.55 | −3.73 | −3.60 | −4.75 |
| 3 | −3.46 | −4.85 | −4.27 | −4.07 | −4.00 | −4.61 | −4.92 | −4.59 | −3.73 | −3.03 | −3.05 | −2.88 | −3.95 |
| 4 | −2.41 | −3.64 | −3.10 | −2.65 | −2.45 | −3.57 | −3.73 | −3.44 | −2.56 | −2.38 | −1.98 | −2.04 | −2.83 |
| 5 | −1.19 | −2.27 | −1.66 | −1.03 | −1.01 | −1.91 | −2.18 | −1.84 | −1.44 | −1.26 | −0.88 | −1.01 | −1.47 |
| 6 | −0.38 | −1.10 | −0.52 | 0.20 | 0.11 | −0.58 | −0.81 | −0.70 | −0.52 | −0.63 | −0.25 | −0.38 | −0.46 |
| 7 | 0.09 | −0.36 | 0.17 | 0.83 | 0.76 | 0.36 | 0.16 | 0.13 | 0.07 | −0.18 | 0.09 | 0.00 | 0.18 |
| 8 | 0.54 | 0.27 | 0.58 | 0.99 | 1.19 | 0.97 | 0.83 | 0.74 | 0.47 | 0.16 | 0.47 | 0.34 | 0.63 |
| 9 | 0.94 | 0.81 | 0.97 | 1.57 | 1.57 | 1.42 | 1.35 | 1.17 | 0.99 | 0.49 | 0.74 | 0.67 | 1.06 |
| 10 | 1.39 | 1.33 | 1.39 | 1.89 | 1.96 | 2.11 | 1.87 | 1.64 | 1.39 | 0.90 | 1.08 | 1.03 | 1.50 |
| 11 | 1.84 | 1.87 | 1.84 | 2.25 | 2.34 | 2.41 | 2.29 | 2.14 | 1.89 | 1.28 | 1.46 | 1.44 | 1.92 |
| 6, 6 | 1.83 | 2.27 | 2.29 | 1.99 | 1.98 | 1.81 | 1.75 | 1.65 | 1.65 | 1.32 | 1.90 | 1.67 | 1.84 |
| 7, 7 | 1.26 | 1.48 | 1.35 | 1.30 | 1.41 | 1.43 | 1.54 | 1.46 | 1.25 | 0.81 | 1.04 | 1.19 | 1.29 |
| 8, 8 | 0.25 | 0.28 | 0.37 | 0.40 | 0.54 | 0.67 | 0.94 | 0.81 | 0.59 | 0.14 | −0.04 | 0.17 | 0.43 |
| 9, 9 | −0.54 | −0.56 | −0.46 | −0.42 | −0.43 | −0.15 | 0.29 | 0.13 | −0.06 | −0.38 | −0.87 | −0.53 | −0.33 |
| 10, 10 | −0.93 | −1.13 | −1.14 | −1.12 | −1.36 | −0.78 | −0.40 | −0.55 | −0.78 | −0.70 | −1.22 | −1.01 | −0.93 |
| 7, 1 | −0.98 | −1.01 | −1.44 | −1.87 | −1.78 | −1.77 | −1.57 | −1.48 | −1.30 | −0.86 | −1.12 | −0.74 | −1.33 |
| 7, 2, 9 | −0.26 | −0.39 | −0.49 | −0.53 | −0.45 | −0.59 | −0.58 | −0.48 | −0.41 | −0.42 | −0.33 | −0.18 | −0.43 |
| 6, 2, 10 | 0.43 | 0.56 | 0.50 | 0.24 | 0.28 | 0.21 | 0.05 | 0.10 | 0.18 | 0.21 | 0.47 | 0.39 | 0.30 |
| Mean. | 76.77 | 78.25 | 82.24 | 85.73 | 87.10 | 87.01 | 86.22 | 84.51 | 83.50 | 81.18 | 78.53 | 76.75 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXI.

INDIA. — MADRAS. *Lat.* 13° 4′ N. *Long.* 80° 19′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.41 | 1.22 | 1.32 | 1.06 | 1.26 | 1.15 | 0.93 | 0.83 | 1.26 | 1.18 | 1.04 | 1.38 | 1.17 |
| 2 | 1.79 | 1.64 | 1.42 | 1.36 | 1.59 | 1.42 | 1.09 | 1.40 | 1.52 | 1.46 | 1.32 | 1.50 | 1.46 |
| 3 | 2.14 | 2.10 | 1.50 | 1.76 | 1.94 | 1.70 | 1.26 | 1.66 | 1.67 | 1.70 | 1.70 | 1.68 | 1.73 |
| 4 | 2.38 | 2.42 | 1.58 | 2.10 | 2.17 | 1.90 | 1.42 | 1.66 | 1.70 | 1.88 | 1.90 | 1.93 | 1.92 |
| 5 | 2.42 | 2.43 | 1.61 | 2.20 | 2.18 | 1.95 | 1.42 | 1.45 | 1.62 | 1.88 | 2.02 | 2.17 | 1.95 |
| 6 | 2.22 | 2.05 | 1.48 | 1.91 | 1.86 | 1.77 | 1.33 | 1.10 | 1.39 | 1.64 | 1.81 | 2.25 | 1.73 |
| 7 | 1.76 | 1.30 | 1.14 | 1.24 | 1.19 | 1.30 | 1.12 | 0.75 | 1.02 | 1.14 | 1.27 | 2.00 | 1.27 |
| 8 | 1.05 | 0.36 | 0.54 | 0.30 | 0.27 | 0.70 | 0.78 | 0.46 | 0.47 | 0.40 | 0.50 | 1.32 | 0.60 |
| 9 | 0.15 | −0.59 | −0.23 | −0.71 | −0.75 | −0.06 | 0.35 | 0.16 | −0.23 | −0.46 | −0.35 | 0.27 | −0.20 |
| 10 | −0.82 | −1.38 | −1.04 | −1.56 | −1.67 | −0.82 | −0.21 | −0.18 | −1.02 | −1.26 | −1.10 | −0.94 | −1.00 |
| 11 | −1.74 | −1.94 | −1.70 | −2.12 | −2.31 | −1.46 | −0.86 | −0.62 | −1.77 | −1.83 | −1.75 | −2.20 | −1.69 |
| Noon. . . | −2.48 | −2.23 | −2.06 | −2.36 | −2.58 | −1.94 | −1.52 | −1.12 | −2.29 | −2.18 | −2.12 | −2.76 | −2.14 |
| 1 | −2.90 | −2.34 | −2.10 | −2.34 | −2.48 | −2.20 | −2.13 | −1.57 | −2.47 | −2.17 | −2.25 | −2.98 | −2.33 |
| 2 | −2.97 | −2.30 | −1.88 | −2.14 | −2.13 | −2.24 | −2.47 | −1.82 | −2.27 | −1.91 | −2.18 | −2.76 | −2.26 |
| 3 | −2.68 | −2.12 | −1.52 | −1.84 | −1.62 | −2.07 | −2.48 | −1.77 | −1.77 | −1.50 | −1.98 | −2.25 | −1.97 |
| 4 | −2.14 | −1.81 | −1.14 | −1.46 | −1.11 | −1.74 | −2.12 | −1.43 | −1.12 | −1.08 | −1.61 | −1.65 | −1.53 |
| 5 | −1.47 | −1.34 | −0.83 | −1.00 | −0.65 | −1.28 | −1.44 | −0.94 | −0.50 | −0.70 | −1.10 | −1.13 | −1.03 |
| 6 | −0.81 | −0.78 | −0.58 | −0.48 | −0.27 | −0.78 | −0.65 | −0.46 | −0.06 | −0.38 | −0.58 | −0.72 | −0.55 |
| 7 | −0.26 | −0.18 | −0.35 | 0.04 | 0.02 | −0.30 | 0.08 | −0.14 | 0.18 | −0.14 | −0.14 | −0.39 | −0.13 |
| 8 | 0.13 | 0.30 | −0.08 | 0.49 | 0.26 | 0.12 | 0.62 | −0.04 | 0.27 | 0.06 | 0.36 | −0.06 | 0.20 |
| 9 | 0.38 | 0.62 | 0.42 | 0.71 | 0.45 | 0.42 | 0.86 | −0.06 | 0.33 | 0.26 | 0.64 | 0.30 | 0.44 |
| 10 | 0.58 | 0.77 | 0.60 | 0.90 | 0.61 | 0.63 | 0.91 | −0.06 | 0.44 | 0.46 | 0.81 | 0.66 | 0.61 |
| 11 | 0.79 | 0.84 | 0.91 | 0.91 | 0.78 | 0.79 | 0.87 | 0.11 | 0.66 | 0.67 | 0.83 | 0.99 | 0.76 |
| Midn. . . | 1.06 | 0.96 | 1.16 | 0.92 | 0.98 | 0.94 | 0.84 | 0.47 | 0.95 | 0.91 | 0.89 | 1.22 | 0.94 |
| 6. 6 | 0.71 | 0.64 | 0.45 | 0.72 | 0.80 | 0.50 | 0.34 | 0.32 | 0.67 | 0.63 | 0.62 | 0.77 | 0.60 |
| 7. 7 | 0.75 | 0.56 | 0.40 | 0.64 | 0.61 | 0.50 | 0.60 | 0.31 | 0.60 | 0.50 | 0.57 | 0.81 | 0.57 |
| 8. 8 | 0.59 | 0.33 | 0.23 | 0.40 | 0.27 | 0.41 | 0.70 | 0.21 | 0.37 | 0.23 | 0.43 | 0.63 | 0 40 |
| 9. 9 | 0.27 | 0.02 | 0.10 | −0.00 | −0.15 | 0.18 | 0.61 | 0.05 | 0.05 | −0.10 | 0.15 | 0.29 | 0.12 |
| 10.10 | −0.12 | −0.31 | −0.22 | −0.33 | −0.53 | −0.10 | −0.35 | −0.12 | −0.29 | −0.40 | −0.15 | −0.14 | −0.20 |
| 7. 2. 9 | −0.28 | −0.13 | −0.11 | −0.06 | −0.16 | −0.17 | −0.16 | −0.38 | −0.31 | −0.17 | −0.09 | −0.15 | −0.18 |
| 6. 2. 8 | −0.21 | 0.02 | −0.16 | 0.09 | −0.00 | −0.12 | −0.17 | −0.25 | −0.20 | −0.07 | −0.01 | −0.19 | −0.11 |
| 6. 2.10 | −0.06 | 0.17 | 0.07 | 0.22 | 0.11 | 0.05 | −0.08 | −0.26 | −0.15 | 0.06 | 0.15 | 0.05 | 0.03 |
| 6. 2. 6 | −0.52 | −0.34 | −0.33 | −0.24 | −0.18 | −0.42 | −0.60 | −0.39 | −0.31 | −0.22 | −0.32 | −0.41 | −0.36 |
| 7. 2 | −0.61 | −0.50 | −0.37 | −0.45 | −0.47 | −0.47 | −0.68 | −0.54 | −0.63 | −0.32 | −0.46 | −0.38 | −0.50 |
| 8. 2 | −0.96 | −0.97 | −0.67 | −0.92 | −0.93 | −0.77 | −0.85 | −0.68 | −0.90 | −0.76 | −0.84 | −0.72 | −0.83 |
| 8. 1 | −0.93 | −0.99 | −0.78 | −1.02 | −1.11 | −0.75 | −0.68 | −0.56 | −1.00 | −0.89 | −0.88 | −0.83 | −0.87 |
| 7. 1 | −0.57 | −0.52 | −0.48 | −0.55 | −0.65 | −0.45 | −0.51 | −0.41 | −0.73 | −0.52 | −0.49 | −0.49 | −0 53 |
| 9.12.3.9 | −1.16 | −1.08 | −0.85 | −1.05 | −1.13 | −0.01 | −0.70 | −0.70 | −0.99 | −0.97 | −0.95 | −1.11 | −0.97 |
| 7. 2.2(9) | −0.11 | 0.06 | 0.03 | 0.13 | −0.01 | −0.03 | 0.09 | −0.30 | −0.15 | −0.06 | 0.09 | −0.04 | −0.03 |
| Dail. ext. | −0.28 | 0.05 | −0.25 | −0.08 | −0.20 | −0.15 | −0.53 | −0.08 | −0.39 | −0.15 | −0.12 | −0.37 | −0.19 |

The numbers without sign must be added; those with the sign — must be subtracted.

INDIA. — BOMBAY. *Lat.* 18° 56′ N. *Long.* 72° 54′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.49 | 1.40 | 0.99 | 1.13 | 1.42 | 1.15 | 0.79 | 0.97 | 0.86 | 1.49 | 2.03 | 1.55 | 1.26 |
| 2 | 1.80 | 1.69 | 1.33 | 1.51 | 1.78 | 1.40 | 0.88 | 1.13 | 0.97 | 1.87 | 2.18 | 1.87 | 1.53 |
| 3 | 2.27 | 2.21 | 1.91 | 2.05 | 2.14 | 1.69 | 0.90 | 1.24 | 1.24 | 2.32 | 2.45 | 2.41 | 1.91 |
| 4 | 2.86 | 2.84 | 2.59 | 2.48 | 2.32 | 1.91 | 0.90 | 1.31 | 1.53 | 2.75 | 2.81 | 3.11 | 2.27 |
| 5 | 3.47 | 3.40 | 3.04 | 2.61 | 2.23 | 1.96 | 0.86 | 1.31 | 1.71 | 2.95 | 3.11 | 3.78 | 2.54 |
| 4 | 3.83 | 3.62 | 3.06 | 2.34 | 1.80 | 1.80 | 0.79 | 1.24 | 1.67 | 2.79 | 3.15 | 4.16 | 2.52 |
| 7 | 3.69 | 3.33 | 2.54 | 1.67 | 1.15 | 1.42 | 0.65 | 1.04 | 1.22 | 2.21 | 2.79 | 4.01 | 2.14 |
| 8 | 2.97 | 2.48 | 1.58 | 0.77 | 0.36 | 0.88 | 0.38 | 0.74 | 0.79 | 1.28 | 1.91 | 3.24 | 1.44 |
| 9 | 1.69 | 1.22 | 0.38 | −0.14 | −0.41 | 0.23 | 0.00 | 0.32 | 0.09 | 0.16 | 0.63 | 1.87 | 0.50 |
| 10 | 0.07 | −0.23 | −0.77 | −0.90 | −1.06 | −0.43 | −0.52 | −0.20 | −0.65 | −0.95 | −0.83 | 0.16 | −0.52 |
| 11 | −1.55 | −1.55 | −1.67 | −1.49 | −1.55 | −6.08 | −6.08 | −0.79 | −1.28 | −1.91 | −2.21 | −1.60 | −1.49 |
| Noon. . . | −2.86 | −2.61 | −2.30 | −1.91 | −1.94 | −1.64 | −1.55 | −1.35 | −1.80 | −2.59 | −3.29 | −3.08 | −2.25 |
| 1 | −3.69 | −3.29 | −2.66 | −2.25 | −2.21 | −2.12 | −1.82 | −1.78 | −2.12 | −2.99 | −3.92 | −4.10 | −2.75 |
| 2 | −3.98 | −3.60 | −2.84 | −2.50 | −2.34 | −2.41 | −1.78 | −2.00 | −2.25 | −3.13 | −4.07 | −4.59 | −2.95 |
| 3 | −3.85 | −3.65 | −2.86 | −2.61 | −2.32 | −2.45 | −1.44 | −1.98 | −2.16 | −2.99 | −3.85 | −4.55 | −2.90 |
| 4 | −3.42 | −3.42 | −2.72 | −2.50 | −2.09 | −2.25 | −0.92 | −1.69 | −1.87 | −2.66 | −3.33 | −4.12 | −2.59 |
| 5 | −2.84 | −2.95 | −2.34 | −2.07 | −1.64 | −1.78 | −0.38 | −1.24 | −1.37 | −2.14 | −2.61 | −3.38 | −2.07 |
| 6 | −2.18 | −2.27 | −1.71 | −1.37 | −1.04 | −1.15 | 0.09 | −0.72 | −0.74 | −1.46 | −1.78 | −2.45 | −1.40 |
| 7 | −1.49 | −1.44 | −0.88 | −0.54 | −0.38 | −0.47 | 0.38 | −0.23 | 0.05 | −0.72 | −0.88 | −1.46 | −0.68 |
| 8 | −0.79 | −0.56 | −0.07 | 0.23 | 0.18 | 0.14 | 0.50 | 0.16 | 0.47 | −0.02 | 0.00 | −0.52 | −0.02 |
| 9 | −0.11 | 0.23 | 0.56 | 0.72 | 0 59 | 0.54 | 0.54 | 1.43 | 0.86 | 0.52 | 0.77 | 0.29 | 0.50 |
| 10 | 0.47 | 0.81 | 0 90 | 0.92 | 0.83 | 0.79 | 0.54 | 0.59 | 0.99 | 0.88 | 1.35 | 0.86 | 0.83 |
| 11 | 0.92 | 1.10 | 0.97 | 0.92 | 0.99 | 0.96 | 0.61 | 0.72 | 0.97 | 1.08 | 1.71 | 1.19 | 1.01 |
| Midn. . . | 1.24 | 1.26 | 0 92 | 0.95 | 1.15 | 0.99 | 0.70 | 0.83 | 0.88 | 1.26 | 1.91 | 1.37 | 1.13 |
| 6. 6 | 0.81 | 0.68 | 0.68 | 0.50 | 0.38 | 0.34 | 0.43 | 0.25 | 0.45 | 0.68 | 0.70 | 0.86 | 0.56 |
| 7. 7 | 1.10 | 0.95 | 0.83 | 0.56 | 0.38 | 0.47 | 0.52 | 0.41 | 0.63 | 0.74 | 0.95 | 1.28 | 0.74 |
| 8. 8 | 1.08 | 0.97 | 0.77 | 0.50 | 0.27 | 0.50 | 0.45 | 0.45 | 0.63 | 0.63 | 0.95 | 1.35 | 0.72 |
| 9. 9 | 0.79 | 0.72 | 0.47 | 0.29 | 0.09 | 0.38 | 0.27 | 0.36 | 0.47 | 0.34 | 0.70 | 1.08 | 0.50 |
| 10.10 | 0.27 | 0.29 | 0.07 | 0.00 | −0.11 | 0.18 | 0.02 | 0.20 | 0.18 | −0.05 | 0.25 | 0.52 | 0.16 |
| 7. 2. 9 | −0.14 | −0.02 | 0.09 | −0.05 | −0.20 | −0.16 | −0.20 | −0.18 | −0.07 | −0.14 | −0.18 | −0.09 | −0.11 |
| 6. 2. 8 | −0.32 | −0.18 | 0.05 | 0.02 | −0.11 | −0.16 | −0.16 | −0.20 | −0.05 | −0.11 | −0.32 | −0.32 | −0.16 |
| 6. 2.10 | 0.11 | 0.27 | 0 38 | 0.25 | 0.09 | 0.07 | −0.16 | −0.07 | 0.14 | 0.18 | 0.14 | 0.14 | 0.14 |
| 6. 2. 6 | −0.79 | −0.74 | −0.50 | −0.52 | −0.52 | −0.59 | −0.29 | −0.50 | −0.45 | −0.61 | −0.90 | −0.97 | −0.61 |
| 7. 2 | −0.16 | −0.14 | −0.16 | −0.43 | −0.61 | −0.50 | −0.56 | −0.50 | −0.52 | −0.47 | −0.65 | −0.29 | −0.41 |
| 8. 2 | −0.52 | −0.56 | −0.63 | −0.88 | −0.99 | −0.77 | −0.70 | −0.63 | −0.74 | −0.92 | −1.08 | −0.68 | −0.77 |
| 8. 1 | −0.36 | −0.41 | −0.54 | −0.79 | −0.92 | −0.63 | −0.72 | −0.52 | −0.68 | −0.86 | −1.01 | −0.43 | −0.65 |
| 7. 1 | 0.00 | 0 02 | −0.07 | −0 29 | −0 54 | −0.36 | −0.59 | −0.38 | −0.45 | −0.41 | −0.56 | −0.05 | −0.32 |
| 9.12.3.9 | −1.28 | −1.22 | −1.06 | −0.99 | −1.01 | −0.83 | −0.61 | −0.65 | −0.77 | −1.24 | −1.44 | −1.37 | −1.04 |
| 7. 2.2(9) | −0.14 | 0.05 | 0.20 | 0.16 | 0.00 | 0.02 | −0.02 | −0.02 | 0.18 | 0.02 | 0.07 | 0.00 | 0.05 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXIII.

INDIA. — BOMBAY. *Lat.* 18° 56′ N. *Long.* 72° 54′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.66 | 0.62 | 0.44 | 0.50 | 0.63 | 0.51 | 0.35 | 0.43 | 0 38 | 0.66 | 0.90 | 0.69 | 0.56 |
| 2 | 0.80 | 0.75 | 0.59 | 0.67 | 0.79 | 0.62 | 0.39 | 0.50 | 0.43 | 0.83 | 0.97 | 0.83 | 0.68 |
| 3 | 1.01 | 0.98 | 0.85 | 0.91 | 0.95 | 0.75 | 0.40 | 0.55 | 0.55 | 1.03 | 1.09 | 1.07 | 0.85 |
| 4 | 1.27 | 1.26 | 1.15 | 1.10 | 1.03 | 0.85 | 0.40 | 0.58 | 0.68 | 1.22 | 1.25 | 1.38 | 1.01 |
| 5 | 1.54 | 1.51 | 1.35 | 1.16 | 0.99 | 0.87 | 0.38 | 0.58 | 0.76 | 1.31 | 1.38 | 1.68 | 1.13 |
| 6 | 1.70 | 1.61 | 1.36 | 1.04 | 0.80 | 0.80 | 0.35 | 0.55 | 0.74 | 1.24 | 1.40 | 1.85 | 1.12 |
| 7 | 1.64 | 1.48 | 1.13 | 0.74 | 0.51 | 0.63 | 0.29 | 0.46 | 0.54 | 0.98 | 1.24 | 1.78 | 0.95 |
| 8 | 1.32 | 1.10 | 0.70 | 0.34 | 0.16 | 0.39 | 0.17 | 0.33 | 0.35 | 0.57 | 0.85 | 1.44 | 0.64 |
| 9 | 0.75 | 0.54 | 0.17 | −0.06 | −0.18 | 0.10 | −0. | 0.14 | 0.04 | 0.07 | 0.28 | 0.83 | 0.22 |
| 10 | 0.03 | −0.10 | −0.34 | −0.40 | −0.47 | −0.19 | −0.23 | −0.09 | −0.29 | −0.42 | −0.37 | 0.07 | −0.23 |
| 11 | −0.69 | −0.69 | −0.74 | −0.66 | −0.69 | −0.48 | −0.48 | −0.35 | −0.57 | −0.85 | −0.98 | −0.71 | −0 66 |
| Noon. . . | −1.27 | −1.16 | −1.02 | −0.85 | −0.86 | −0.73 | −0.69 | −0.60 | −0.80 | −1.15 | −1.46 | −1.37 | −1.00 |
| 1 | −1.64 | −1.46 | −1.18 | −1.00 | −0.98 | −0.94 | −0.81 | −0.79 | −0 94 | −1 33 | −1.74 | −1.82 | −1.22 |
| 2 | −1.77 | −1.60 | −1.26 | −1.11 | −1.04 | −1.07 | −0.79 | −0.89 | −1.00 | −1 39 | −1.81 | −2 04 | −1.31 |
| 3 | −1.71 | −1.62 | −1.27 | −1.16 | −1.03 | −1.09 | −0.64 | −0.88 | −0.96 | −1 33 | −1.71 | −2.02 | −1.29 |
| 4 | −1.52 | −1.52 | −1.21 | −1.11 | −0.93 | −1.00 | −0.41 | −0.75 | −0.83 | −1.18 | −1.48 | −1.83 | −1.15 |
| 5 | −1.26 | −1.31 | −1.04 | −0.92 | −0.73 | −0.79 | −0.17 | −0.55 | −0.61 | −0.95 | −1.16 | −1.50 | −0.92 |
| 6 | −0.97 | −1.01 | −0.76 | −0.61 | −0.46 | −0.51 | 0.04 | −0 32 | −0.33 | −0.65 | −0.79 | −1 09 | −0.62 |
| 7 | −0.66 | −0.64 | −0.39 | −0.24 | −0.17 | −0.21 | 0.17 | −0.10 | 0.02 | −0.32 | −0.39 | −0.65 | −0.30 |
| 8 | −0.35 | −0.25 | 0.03 | 0.10 | 0.08 | 0.06 | 0.22 | 0.07 | 0.21 | −0.01 | 0. | −0.23 | −0 01 |
| 9 | −0.05 | 0.10 | 0.25 | 0.32 | 0.26 | 0.24 | 0.24 | 0.19 | 0.38 | 0.23 | 0.34 | 0.13 | 0.22 |
| 10 | 0.21 | 0.36 | 0.40 | 0 41 | 0.37 | 0 35 | 0.24 | 0.26 | 0.44 | 0.39 | 0 60 | 0.38 | 0.37 |
| 11 | 0.41 | 0.49 | 0.43 | 0.41 | 0.44 | 0.40 | 0.27 | 0.32 | 0.43 | 0.48 | 0.76 | 0.53 | 0.45 |
| Midn. . . | 0.55 | 0 56 | 0.41 | 0.42 | 0.51 | 0.44 | 0.31 | 0.37 | 0.39 | 0.56 | 0.85 | 0.61 | 0.50 |
| 6. 6 | 0.36 | 0.30 | 0.30 | 0.22 | 0.17 | 0.15 | 0.19 | 0.11 | 0.20 | 0.30 | 0.31 | 0 38 | 0.25 |
| 7. 7 | 0.49 | 0.42 | 0.37 | 0.25 | 0.17 | 0.21 | 0.23 | 0.18 | 0.28 | 0.33 | 0.42 | 0 57 | 0.33 |
| 8. 8 | 0.48 | 0.43 | 0.34 | 0.22 | 0.12 | 0.22 | 0.20 | 0.20 | 0 28 | 0.28 | 0 42 | 0.60 | 0.32 |
| 9 9 | 0.35 | 0 32 | 0.21 | 0.13 | 0.04 | 0.17 | 0.12 | 0.16 | 0.21 | 0.15 | 0.31 | 0.48 | 0.22 |
| 10.10 | 0.12 | 0.13 | 0.03 | 0.00 | −0.05 | 0.08 | 0.01 | 0.09 | 0.08 | −0.02 | 0.11 | 0.23 | 0.07 |
| 7. 2. 9 | −0.06 | −0.01 | 0.04 | −0.02 | −0.09 | −0.07 | −0.09 | −0.08 | −0.03 | −0.06 | −0.08 | −0.04 | −0.05 |
| 6. 2. 8 | 0.14 | −0.08 | 0.02 | 0.01 | −0.05 | −0.07 | −0.07 | −0.09 | −0.02 | −0.05 | −0.14 | −0.14 | −0.07 |
| 6. 2.10 | 0 05 | 0.12 | 0.17 | 0.11 | 0.04 | 0.03 | −0.07 | −0.03 | 0.06 | 0 08 | 0.06 | 0.06 | 0.06 |
| 6. 2 6 | −0.35 | −0.33 | −0.22 | −0.23 | −0.23 | −0.26 | −0.13 | −0.22 | −0.20 | −0.27 | −0.40 | −0.43 | −0.27 |
| 7. 2 | −0.07 | −0.06 | −0.07 | −0.19 | −0.27 | −0.22 | −0.25 | −0.22 | −0.23 | −0.21 | −0.29 | −0.13 | −0.18 |
| 8. 2 | −0.23 | −0.25 | −0.28 | −0.39 | −0.44 | −0.34 | −0.31 | −0.28 | −0.33 | −0.41 | −0.48 | −0.30 | −0.34 |
| 8. 1 | −0.16 | −0.18 | −0.24 | −0.33 | −0.41 | −0.28 | −0.32 | −0 23 | −0 30 | −0.38 | −0.45 | −0.19 | −0.29 |
| 7. 1 | 0.00 | 0.01 | −0.03 | −0.13 | −0.24 | −0.16 | −0.26 | −0.17 | −0.20 | −0.18 | −0.25 | −0.02 | −0.14 |
| 9.12.2.9 | −0.57 | −0.54 | −0.47 | −0.44 | −0.45 | −0.37 | −0.27 | −0.29 | −0.34 | −0.55 | −0.64 | −0.61 | −0.46 |
| 7. 2.2(9) | −0.06 | 0.02 | 0.09 | 0.07 | 0.00 | 0.01 | −0.01 | −0.01 | 0.08 | 0.01 | 0.03 | 0 00 | 0.02 |
| Dail. ext. | −0.04 | −0.01 | 0.05 | 0.01 | 0.00 | −0.11 | −0.21 | −0.16 | −0.12 | −0.04 | −0.21 | −0.10 | −0.09 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXIV.

INDIA. — MADRAS. *Lat.* 13° 4′ N. *Long.* 80° 19′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.91 | 1.13 | 1.00 | 1.62 | 1.22 | 1.35 | 1.19 | 1.27 | 1.04 | 0.82 | 0.91 | 0.84 | 1.11 |
| 1 | 1.13 | 1.45 | 1.29 | 1.37 | 1.47 | 1.56 | 1.38 | 1.34 | 1.20 | 1.01 | 1.13 | 1.00 | 1.28 |
| 2 | 1.32 | 1.76 | 1.60 | 1.59 | 1.65 | 1.72 | 1.58 | 1.51 | 1.38 | 1.24 | 1.35 | 1.17 | 1.49 |
| 3 | 1.48 | 2.01 | 1.88 | 1.81 | 1.81 | 1.90 | 1.75 | 1.64 | 1.58 | 1.39 | 1.56 | 1.32 | 1.68 |
| 4 | 1.61 | 2.25 | 2.13 | 1.96 | 1.98 | 2.08 | 1.92 | 1.77 | 1.76 | 1.54 | 1.74 | 1.42 | 1.85 |
| 5 | 1.74 | 2.44 | 2.33 | 1.98 | 2.08 | 2.20 | 2.07 | 1.93 | 1.88 | 1.65 | 1.88 | 1.60 | 1.98 |
| 6 | 1.80 | 2.51 | 2.27 | 1.68 | 1.72 | 1.87 | 1.92 | 1.81 | 1.70 | 1.46 | 1.80 | 1.66 | 1.85 |
| 7 | 1.08 | 1.48 | 1.13 | 0.79 | 0.92 | 1.12 | 1.30 | 1.24 | 1.08 | 0.80 | 1.89 | 1.06 | 1.07 |
| 8 | −0.02 | 0.13 | 0.07 | −0.08 | −0.05 | 0.17 | 0.47 | 0.44 | 0.32 | 0.06 | −0.25 | 0.00 | 0.10 |
| 9 | −0.90 | −0.86 | −0.84 | −1.07 | −1.08 | −0.77 | −0.34 | −0.40 | −0.50 | −0.56 | −1.11 | −0.77 | −0.77 |
| 10 | −1.45 | −1.60 | −1.63 | −1.84 | −2.08 | −1.63 | −1.19 | −1.22 | −1.32 | −1.04 | −1.57 | −1.36 | −1.49 |
| 11 | −1.79 | −2.14 | −2.14 | −2.15 | −2.56 | −2.23 | −1.89 | −1.85 | −2.02 | −1.41 | −1.82 | −1.61 | −1.47 |
| Noon. | −1.97 | −2.25 | −2.38 | −2.52 | −2.61 | −2.60 | −2.45 | −2.35 | −2.24 | −1.67 | −1.92 | −1.75 | −2.23 |
| 1 | −1.96 | −2.38 | −2.41 | −2.46 | −2.51 | −2.69 | −2.70 | −2.56 | −2.24 | −1.66 | −1.89 | −1.72 | −2.26 |
| 2 | −1.84 | −2.36 | −2.22 | −2.20 | −2.22 | −2.53 | −2.67 | −2.40 | −2.07 | −1.58 | −1.66 | −1.60 | −2.11 |
| 3 | −1.54 | −2.16 | −1.90 | −1.81 | −1.78 | −2.05 | −2.19 | −2.04 | −1.66 | −1.35 | −1.36 | −1.28 | −1.76 |
| 4 | −1.07 | −1.62 | −1.38 | −1.18 | −1.09 | −1.59 | −1.66 | −1.53 | −1.14 | −1.06 | −0.88 | −0.91 | −1.26 |
| 5 | −0.53 | −1.01 | −0.74 | −0.46 | −0.45 | −0.85 | −0.97 | −0.82 | −0.64 | −0.56 | −0.39 | −0.45 | −0.66 |
| 6 | −0.17 | −0.49 | −0.23 | 0.09 | 0.05 | −0.26 | −0.36 | −0.31 | −0.23 | −0.28 | −0.11 | −0.17 | −0.21 |
| 7 | 0.04 | −0.16 | 0.07 | 0.37 | 0.34 | 0.16 | 0.07 | 0.06 | 0.03 | −0.08 | 0.04 | 0.00 | 0.08 |
| 8 | 0.24 | 0.12 | 0.26 | 0.44 | 0.53 | 0.43 | 0.37 | 0.33 | 0.21 | 0.07 | 0.21 | 0.15 | 0.28 |
| 9 | 0.42 | 0.36 | 0.43 | 0.70 | 0.70 | 0.63 | 0.60 | 0.52 | 0.44 | 0.22 | 0.33 | 0.30 | 0.47 |
| 10 | 0.62 | 0.59 | 0.62 | 0.84 | 0.87 | 0.94 | 0.83 | 0.73 | 0.62 | 0.40 | 0.48 | 0.46 | 0.67 |
| 11 | 0.82 | 0.83 | 0.82 | 1.00 | 1.04 | 1.07 | 1.02 | 0.95 | 0.84 | 0.57 | 0.65 | 0.64 | 0.85 |
| Mean. | 19.90 | 20.56 | 22.33 | 23.88 | 24.49 | 24.45 | 24.10 | 23.34 | 22.89 | 21.86 | 20.68 | 19.89 | |

## XXV.

INDIA. — BOMBAY. *Lat.* 18° 56′ N. *Long.* 72° 54′ E. *Greenw.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 1.76 | 1.68 | 1.43 | 1.40 | 1.30 | 0.80 | 0.57 | 0.59 | 0.92 | 1.36 | 1.74 | 1.93 | 1.29 |
| 1 | 1.91 | 1.88 | 1.65 | 1.54 | 1.40 | 0.89 | 0.65 | 0.64 | 0.98 | 1.52 | 1.80 | 2.00 | 1.40 |
| 2 | 2.04 | 2.04 | 1.80 | 1.75 | 1.54 | 0.88 | 0.63 | 1.16 | 1.09 | 1.62 | 1.97 | 2.18 | 1.56 |
| 3 | 2.18 | 2.22 | 1.90 | 1.92 | 1.69 | 0.94 | 0.65 | 0.81 | 1.18 | 1.74 | 2.11 | 2.28 | 1.63 |
| 4 | 2.39 | 2.44 | 2.26 | 2.02 | 1.81 | 1.04 | 0.76 | 0.82 | 1.25 | 1.89 | 2.23 | 2.41 | 1.78 |
| 5 | 2.65 | 2.68 | 2.42 | 2.26 | 1.92 | 1.09 | 0.83 | 0.90 | 1.25 | 1.96 | 2.40 | 2.62 | 1.92 |
| 6 | 2.88 | 2.88 | 2.60 | 2.20 | 1.65 | 1.03 | 0.84 | 0.84 | 1.21 | 2.00 | 2.55 | 2.66 | 1.94 |
| 7 | 2.53 | 2.37 | 1.61 | 0.76 | 0.44 | 0.60 | 0.55 | 0.51 | 0.61 | 1.02 | 1.47 | 2.08 | 1.21 |
| 8 | 0.72 | 0.48 | −1.04 | −0.62 | −0.51 | −0.01 | 0.02 | 0.08 | −0.20 | −0.31 | −0.12 | 0.20 | −0.11 |
| 9 | −1.04 | −1.05 | −1.49 | −1.53 | −1.30 | −0.46 | −0.46 | −0.45 | −0.84 | −1.53 | −1.40 | −1.00 | −1.05 |
| 10 | −2.40 | −2.29 | −2.28 | −2.00 | −1.73 | −0.79 | −0.74 | −0.76 | −1.32 | −2.17 | −2.38 | −2.14 | −1.75 |
| 11 | −3.08 | −2.98 | −2.54 | −2.20 | −2.08 | −1.18 | −1.07 | −1.12 | −1.51 | −2.38 | −3.18 | −2.94 | −2.19 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXV.

### India. — Bombay, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon. | −3.40 | −3.29 | −2.52 | −2.44 | −2.32 | −1.40 | −1.09 | −1.34 | −1.72 | −2.39 | −3.26 | −3.32 | −2.37 |
| 1 | −3.02 | −3.12 | −2.67 | −2.53 | −2.28 | −1.50 | −1.12 | −1.35 | −1.77 | −2.22 | −2.96 | −3.35 | −2.32 |
| 2 | −2.78 | −2.89 | −2.56 | −2.32 | −2.14 | −1.52 | −0.97 | −1.35 | −1.55 | −2.09 | −2.55 | −2.97 | −2.14 |
| 3 | −2.38 | −2.54 | −2.25 | −2.05 | −1.85 | −1.31 | −0.85 | −1.09 | −1.37 | −1.79 | −2.22 | −2.59 | −1.86 |
| 4 | −1.96 | −2.07 | −1.72 | −1.49 | −1.36 | −0.89 | −0.63 | −0.76 | −0.95 | −1.38 | −1.55 | −2.03 | −1.40 |
| 5 | −1.30 | −1.41 | −1.08 | −0.96 | −0.83 | −0.49 | −0.36 | −0.34 | −0.36 | −0.61 | −0.67 | −1.09 | −0.79 |
| 6 | −0.64 | −0.44 | −0.16 | 0.00 | 0.09 | −0.02 | 0.03 | 0.13 | 0.14 | 0.01 | −0.14 | −0.52 | −0.13 |
| 7 | −0.28 | −0.07 | 0.19 | 0.43 | 0.63 | 0.22 | 0.21 | 0.26 | 0.28 | 0.30 | 0.09 | −0.23 | 0.17 |
| 8 | 0.00 | 0.23 | 0.48 | 0.66 | 0.87 | 0.39 | 0.28 | 0.34 | 0.44 | 0.53 | 0.36 | 0.10 | 0.39 |
| 9 | 0.58 | 0.63 | 0.80 | 0.83 | 0.92 | 0.44 | 0.36 | 0.41 | 0.58 | 0.76 | 0.85 | 0.75 | 0.66 |
| 10 | 1.16 | 1.15 | 1.04 | 1.09 | 0.95 | 0.52 | 0.41 | 0.52 | 0.78 | 0.96 | 1.32 | 1.35 | 0.94 |
| 11 | 1.47 | 1.48 | 1.20 | 1.24 | 1.17 | 0.71 | 0.48 | 0.56 | 0.89 | 1.18 | 1.58 | 1.65 | 1.13 |
| Mean. | 18.38 | 19.30 | 21.00 | 22.50 | 23.43 | 22.35 | 21.67 | 21.45 | 21.42 | 22.08 | 21.28 | 19.54 | |

## XXVI.

### India. — Calcutta. *Lat.* 22° 33′ 5″ N. *Long.* 88° 19′ 2″ E. *Greenw.* — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 1.86 | 1.69 | 2.06 | 1.60 | 1.90 | 1.12 | 0.69 | 0.69 | 0.71 | 1.00 | 1.24 | 1.51 | 1.34 |
| 1 | 2.24 | 2.00 | 2.37 | 1.96 | 2.06 | 1.12 | 0.80 | 0.78 | 0.76 | 1.17 | 1.47 | 1.77 | 1.54 |
| 2 | 2.53 | 2.22 | 2.62 | 2.18 | 2.21 | 1.16 | 0.91 | 0.85 | 0.84 | 1.26 | 1.69 | 2.00 | 1.71 |
| 3 | 2.80 | 2.44 | 2.84 | 2.27 | 2.32 | 1.29 | 1.02 | 0.92 | 0.93 | 1.26 | 1.82 | 2.31 | 1.85 |
| 4 | 3.06 | 2.71 | 3.08 | 2.40 | 2.41 | 1.29 | 1.11 | 0.96 | 1.04 | 1.46 | 2.00 | 2.40 | 1.99 |
| 5 | 3.33 | 2.89 | 3.28 | 2.47 | 2.50 | 1.34 | 1.24 | 1.07 | 1.16 | 1.53 | 2.22 | 2.66 | 2.14 |
| 6 | 3.53 | 3.11 | 3.42 | 2.53 | 2.41 | 1.34 | 1.24 | 1.12 | 1.16 | 1.62 | 2.36 | 2.80 | 2.22 |
| 7 | 3.71 | 3.24 | 3.42 | 2.22 | 1.90 | 1.03 | 0.96 | 0.89 | 0.93 | 0.86 | 2.31 | 2.93 | 2.03 |
| 8 | 2.73 | 2.20 | 1.97 | 1.18 | 0.81 | 0.45 | 0.42 | 0.32 | 0.27 | 0.31 | 0.93 | 1.68 | 1.11 |
| 9 | 0.91 | 0.71 | 0.46 | 0.11 | −0.34 | −0.13 | −0.16 | −0.22 | −0.24 | −0.47 | −0.13 | 0.35 | 0.07 |
| 10 | −0.78 | −0.62 | −0.98 | −0.44 | −1.39 | −0.66 | −0.69 | −0.33 | −0.73 | −0.58 | −1.02 | −0.76 | −0.75 |
| 11 | −2.09 | −1.64 | −2.14 | −1.82 | −2.14 | −1.15 | −1.13 | −1.08 | −1.16 | −1.60 | −1.91 | −1.87 | −1.64 |
| Noon. | −3.31 | −2.62 | −3.16 | −2.67 | −2.76 | −1.60 | −1.51 | −1.51 | −1.40 | −1.94 | −2.44 | −2.80 | −2.31 |
| 1 | −4.14 | −3.28 | −3.87 | −3.09 | −3.12 | −1.68 | −1.58 | −1.55 | −1.44 | −2.05 | −2.80 | −3.29 | −2.66 |
| 2 | −4.52 | −3.64 | −4.25 | −3.47 | −3.32 | −1.73 | −1.29 | −1.80 | −1.63 | −2.12 | −3.07 | −3.69 | −2.88 |
| 3 | −4.65 | −3.87 | −4.40 | −3.62 | −3.43 | −1.92 | −1.24 | −1.20 | −1.27 | −1.83 | −2.98 | −3.69 | −2.84 |
| 4 | −3.78 | −3.69 | −4.23 | −3.40 | −3.10 | −1.53 | −0.96 | −0.95 | −0.91 | −1.49 | −2.18 | −2.76 | −2.41 |
| 5 | −3.07 | −3.13 | −3.36 | −2.73 | −2.43 | −1.20 | −0.64 | −0.68 | −0.56 | −0.92 | −1.60 | −2.18 | −1.88 |
| 6 | −1.87 | −1.91 | −1.96 | −1.42 | −1.23 | −0.57 | −0.31 | −0.31 | −0.16 | −0.25 | −0.76 | −1.34 | −1.01 |
| 7 | −0.96 | −0.93 | −0.78 | −0.31 | −0.14 | −0.11 | −0.07 | −0.09 | 0.04 | 0.13 | −0.22 | −0.63 | −0.34 |
| 8 | −0.20 | −0.22 | 0.00 | 0.40 | 0.68 | 0.20 | 0.09 | 0.25 | 0.22 | 0.42 | 0.27 | −0.05 | 0.17 |
| 9 | 0.42 | 0.38 | 0.73 | 0.89 | 1.08 | 0.49 | 0.22 | 0.45 | 0.33 | 0.60 | 0.62 | 0.44 | 0.55 |
| 10 | 0.95 | 0.80 | 1.22 | 1.20 | 1.46 | 0.63 | 0.36 | 0.56 | 0.47 | 0.75 | 1.07 | 0.93 | 0.87 |
| 11 | 1.37 | 1.20 | 1.66 | 1.54 | 1.64 | 0.74 | 0.49 | 0.65 | 0.60 | 0.88 | 1.16 | 1.20 | 1.09 |
| Mean. | 15.49 | 17.57 | 21.19 | 22.51 | 24.01 | 23.29 | 22.68 | 22.86 | 22.42 | 21.73 | 18.88 | 16.36 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXVII.

ASIA. — TIFLIS. *Lat.* 41° 41′ N. *Long.* 45° 17′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.87 | 1.01 | 1.54 | 1.81 | 1.95 | 2.38 | 2.43 | 2.22 | 1.60 | 1.38 | 0.99 | 0.80 | 1.58 |
| 1 | 1.02 | 1.15 | 1.80 | 2.10 | 2.28 | 2.67 | 2.79 | 2.52 | 1.81 | 1.64 | 1.16 | 0.94 | 1.82 |
| 2 | 1.17 | 1.33 | 2.02 | 2.40 | 2.58 | 2.94 | 3.13 | 2.82 | 2.08 | 1.88 | 1.37 | 1.04 | 2.06 |
| 3 | 1.32 | 1.47 | 2.23 | 2.64 | 2.84 | 3.22 | 3.49 | 3.13 | 2.29 | 2.11 | 1.59 | 1.14 | 2.28 |
| 4 | 1.46 | 1.57 | 2.39 | 2.94 | 3.14 | 3.43 | 3.73 | 3.44 | 2.59 | 2.39 | 1.73 | 1.25 | 2.51 |
| 5 | 1.60 | 1.69 | 2.58 | 3.12 | 3.09 | 3.09 | 3.55 | 3.59 | 2.74 | 2.62 | 1.85 | 1.35 | 2.57 |
| 6 | 1.76 | 1.75 | 2.63 | 2.89 | 2.39 | 2.35 | 2.77 | 3.06 | 2.63 | 2.77 | 1.99 | 1.40 | 2.37 |
| 7 | 1.87 | 1.75 | 2.14 | 2.19 | 1.53 | 1.28 | 1.50 | 2.16 | 1.99 | 2.38 | 1.85 | 1.42 | 1.84 |
| 8 | 1.40 | 1.23 | 1.23 | 0.99 | 0.53 | 0.35 | 0.70 | 1.05 | 1.07 | 1.52 | 1.44 | 1.19 | 1.06 |
| 9 | 0.05 | 0.50 | 0.16 | −0.22 | −0.51 | −0.65 | −0.32 | −0.21 | −0.03 | 0.30 | 0.54 | 0.49 | 0.01 |
| 10 | −0.41 | −0.46 | −0.94 | −1.20 | −1.41 | −1.66 | −1.35 | −1.32 | −1.15 | −0.47 | −0.46 | −0.19 | −0.92 |
| 11 | −1.17 | −1.33 | −1.85 | −2.06 | −2.19 | −2.40 | −2.27 | −2.20 | −2.01 | −1.77 | −1.31 | −1.11 | −1.81 |
| Noon. | −1.91 | −1.94 | −2.64 | −2.77 | −2.89 | −2.42 | −2.99 | −2.89 | −2.67 | −2.53 | −2.07 | −1.76 | −2.46 |
| 1 | −2.37 | −2.45 | −3.12 | −3.29 | −3.21 | −3.42 | −3.53 | −3.60 | −3.17 | −3.07 | −2.50 | −2.21 | −3.00 |
| 2 | −2.59 | −2.65 | −3.25 | −3.37 | −3.34 | −3.50 | −3.68 | −3.85 | −3.41 | −3.56 | −2.81 | −2.38 | −3.20 |
| 3 | −2.33 | −2.58 | −3.21 | −3.41 | −3.25 | −3.51 | −3.82 | −3.98 | −3.37 | −3.41 | −2.55 | −2.08 | −3.12 |
| 4 | −1.78 | −2.07 | −2.78 | −3.20 | −2.97 | −3.39 | −3.82 | −3.72 | −2.95 | −2.81 | −1.87 | −1.43 | −2.73 |
| 5 | −0.99 | −1.24 | −2.08 | −2.46 | −2.65 | −2.86 | −3.47 | −3.20 | −1.53 | −1.85 | −1.27 | −0.90 | −2.04 |
| 6 | −0.57 | −0.60 | −1.11 | −1.56 | −1.47 | −1.81 | −2.36 | −2.01 | −1.18 | −1.17 | −0.73 | −0.49 | −1.26 |
| 7 | −0.17 | −0.19 | −0.48 | −0.69 | −0.45 | −0.63 | −0.86 | −0.85 | −0.46 | −0.50 | −0.35 | −0.13 | −0.48 |
| 8 | 0.15 | 0.19 | 0.12 | −0.02 | 0.26 | 0.23 | 0.13 | −0.02 | 0.18 | 0.11 | −0.02 | 0.19 | 0.12 |
| 9 | 0.33 | 0.44 | 0.51 | 0.64 | 0.83 | 0.92 | 0.87 | 0.72 | 0.61 | 0.50 | 0.24 | 0.36 | 0.58 |
| 10 | 0.55 | 0.65 | 0.91 | 1.05 | 1.28 | 1.51 | 1.44 | 1.33 | 1.00 | 0.81 | 0.48 | 0.53 | 0.96 |
| 11 | 0.69 | 0.89 | 1.25 | 1.45 | 1.63 | 1.95 | 1.96 | 1.80 | 1.32 | 1.10 | 0.76 | 0.68 | 1.29 |
| Mean. | −0.20 | 3.00 | 5.64 | 9.99 | 13.54 | 16.10 | 19.01 | 19.43 | 15.03 | 11.40 | 5.07 | 2.45 | |

## XXVIII.

CHINA. — PEKING. *Lat.* 39° 54′ N. *Long.* 116° 26′ E. *Greenw.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June | July. | Aug | Sept. | Oct. | Nov. | Dec | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 1.16 | 1.70 | 1.83 | 1.75 | 2.19 | 2.24 | 1.61 | 1.49 | 1.69 | 1.64 | 1.19 | 1.25 | 1.64 |
| 1 | 1.47 | 2.07 | 2.19 | 2.26 | 2.76 | 2.73 | 1.89 | 1.80 | 2.04 | 2.05 | 1.47 | 1.39 | 2.01 |
| 2 | 1.66 | 2.35 | 2.78 | 2.67 | 3.20 | 3.12 | 2.23 | 2.04 | 2.32 | 2.37 | 1.68 | 1.65 | 2.34 |
| 3 | 1.93 | 2.55 | 2.93 | 3.18 | 3.72 | 3.47 | 2.50 | 2.31 | 2.55 | 2.62 | 1.88 | 1.83 | 2.62 |
| 4 | 2.13 | 2.81 | 3.27 | 3.57 | 4.13 | 3.82 | 2.74 | 2.54 | 2.97 | 2.92 | 2.01 | 2.46 | 2.95 |
| 5 | 2.41 | 2.94 | 3.57 | 3.89 | 4.30 | 3.88 | 2.78 | 2.71 | 3.10 | 3.19 | 2.20 | 2.10 | 3.09 |
| 6 | 2.58 | 3.15 | 3.65 | 3.81 | 3.37 | 2.86 | 2.10 | 2.46 | 2.96 | 3.43 | 2.32 | 2.18 | 2.91 |
| 7 | 2.63 | 3.21 | 3.19 | 2.91 | 2.30 | 1.95 | 1.34 | 1.65 | 2.10 | 2.98 | 2.30 | 2.29 | 2.40 |
| 8 | 2.23 | 2.37 | 1.84 | 1.65 | 1.19 | 1.07 | 0.52 | 0.76 | 0.87 | 1.68 | 1.39 | 1.73 | 1.44 |
| 9 | 0.77 | 0.70 | 0.49 | 0.34 | 0.00 | 0.03 | −0.12 | −0.20 | −0.24 | 0.15 | 0.19 | 0.31 | 0.20 |
| 10 | −0.57 | −0.65 | −0.81 | −0.79 | −1.20 | −1.06 | −0.97 | −1.09 | −1.36 | −1.05 | −0.84 | −0.97 | −0.95 |
| 11 | −1.35 | −1.90 | −1.93 | −2.03 | −1.24 | −2.17 | −1.71 | −1.67 | −2.17 | −2.18 | −1.74 | −1.96 | −1.84 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXVIII.

### China. — Peking, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon. | −2.83 | −2.80 | −2.95 | −2.92 | −3.05 | −2.92 | −2.24 | −2.02 | −2.77 | −3.03 | −2.39 | −2.64 | −2.71 |
| 1 | −3.01 | −3.54 | −3.54 | −3.59 | −3.74 | −3.55 | −2.65 | −2.64 | −3.10 | −3.65 | −2.87 | −3.18 | −3.25 |
| 2 | −3.37 | −3.84 | −4.03 | −3.98 | −4.08 | −3.97 | −2.88 | −2.90 | −3.38 | −3.96 | −3.07 | −3.41 | −3.57 |
| 3 | −3.40 | −3.94 | −4.12 | −4.06 | −4.24 | −4.00 | −2.85 | −2.94 | −3.44 | −3.97 | −2.88 | −2.74 | −3.55 |
| 4 | −2.88 | −3.65 | −3.92 | −3.86 | −4.03 | −3.74 | −2.74 | −2.79 | −3.06 | −2.43 | −2.23 | −2.50 | −3.15 |
| 5 | −1.79 | −2.83 | −3.21 | −3.24 | −3.65 | −3.31 | −2.36 | −2.20 | −2.34 | −2.34 | −1.18 | −1.34 | −2.48 |
| 6 | −0.97 | −1.79 | −2.20 | −2.34 | −3.04 | −2.44 | −1.76 | −1.45 | −1.18 | −1.12 | −0.59 | −0.64 | −1.63 |
| 7 | −0.48 | −0.15 | −1.05 | −1.13 | −1.18 | −1.21 | −0.72 | −0.45 | −0.50 | −0.54 | −0.48 | −0.26 | −0.68 |
| 8 | −0.02 | −0.27 | −0.30 | −0.33 | −0.19 | −0.11 | 0.12 | 0.08 | 0.09 | −0.02 | 0.01 | 0.18 | −0.06 |
| 9 | 0.30 | 0.26 | 0.26 | 0.24 | 0.59 | 0.59 | 0.63 | 0.51 | 0.57 | 0.42 | 0.30 | 0.54 | 0.43 |
| 10 | 0.57 | 0.73 | 0.83 | 0.84 | 1.15 | 1.14 | 1.04 | 0.83 | 0.97 | 0.86 | 0.59 | 0.77 | 0.86 |
| 11 | 0.90 | 1.20 | 1.30 | 1.28 | 1.67 | 1.65 | 1.35 | 1.18 | 1.32 | 1.00 | 0.81 | 1.01 | 1.22 |
| Mean. | −3.57 | −2.04 | 3.42 | 9.66 | 15.83 | 19.61 | 21.27 | 19.30 | 15.68 | 9.61 | 1.79 | −2.44 | |

## XXIX.

### Siberia. — Nertchinsk. *Lat.* 51° 18′ N. *Long.* 117° 20′ E. *Gr.* — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.78 | 1.38 | 1.92 | 2.53 | 3.10 | 3.13 | 2.63 | 2.51 | 2.12 | 1.66 | 0.96 | 0.75 | 1.96 |
| 1 | 1.06 | 1.61 | 2.25 | 2.95 | 3.71 | 3.55 | 3.00 | 2.87 | 2.58 | 1.98 | 1.22 | 0.94 | 2.31 |
| 2 | 1.24 | 1.84 | 2.65 | 3.36 | 4.20 | 3.98 | 3.34 | 3.25 | 2.93 | 2.27 | 1.42 | 1.16 | 2.64 |
| 3 | 1.45 | 2.15 | 3.02 | 3.75 | 4.78 | 4.32 | 3.64 | 3.57 | 3.28 | 2.57 | 1.70 | 1.33 | 2.96 |
| 4 | 1.70 | 2.40 | 3.38 | 4.09 | 5.04 | 4.29 | 3.86 | 3.79 | 3.62 | 2.80 | 1.91 | 1.45 | 3.19 |
| 5 | 1.93 | 2.72 | 3.70 | 4.15 | 3.97 | 3.27 | 3.17 | 3.68 | 3.97 | 3.00 | 2.06 | 1.63 | 3.10 |
| 6 | 2.08 | 2.94 | 3.89 | 2.96 | 2.31 | 2.03 | 1.99 | 2.61 | 3.63 | 3.16 | 2.15 | 1.76 | 2.63 |
| 7 | 2.26 | 3.00 | 2.88 | 1.43 | 0.82 | 0.74 | 1.01 | 1.31 | 2.07 | 2.46 | 2.35 | 1.95 | 1.86 |
| 8 | 2.20 | 1.82 | 1.36 | 0.19 | −0.53 | −0.45 | −1.28 | 0.11 | 0.66 | 0.84 | 1.61 | 1.98 | 0.71 |
| 9 | 0.56 | −0.20 | −0.12 | −1.32 | −1.77 | −1.59 | −1.25 | −1.08 | −0.72 | −0.69 | −0.03 | 0.62 | −0.63 |
| 10 | −0.96 | −1.27 | −1.71 | −2.35 | −2.73 | −2.52 | −2.13 | −2.10 | −1.99 | −1.82 | −1.17 | −0.89 | −1.80 |
| 11 | −1.90 | −2.34 | −2.61 | −3.08 | −3.34 | −3.17 | −2.79 | −2.91 | −2.94 | −2.78 | −2.12 | −1.85 | −2.65 |
| Noon. | −2.70 | −3.16 | −3.43 | −3.70 | −3.82 | −3.62 | −3.28 | −3.49 | −3.71 | −3.41 | −2.84 | −2.58 | −3.31 |
| 1 | −3.06 | −3.75 | −3.96 | −4.01 | −4.08 | −3.80 | −3.58 | −3.76 | −4.09 | −3.75 | −3.09 | −2.85 | −3.65 |
| 2 | −3.00 | −3.80 | −4.23 | −4.08 | −4.10 | −3.73 | −3.66 | −3.92 | −4.20 | −3.66 | −2.97 | −2.52 | −3.66 |
| 3 | −2.50 | −3.47 | −4.03 | −3.84 | −3.99 | −3.59 | −3.48 | −3.79 | −3.86 | −3.26 | −2.27 | −1.87 | −3.33 |
| 4 | −1.54 | −2.73 | −3.53 | −3.48 | −3.55 | −3.24 | −3.02 | −3.21 | −3.34 | −2.43 | −1.34 | −0.96 | −2.70 |
| 5 | −0.71 | −1.61 | −2.75 | −2.85 | −3.02 | −3.73 | −2.38 | −2.56 | −2.48 | −1.42 | −0.87 | −0.43 | −1.98 |
| 6 | −0.28 | −0.63 | −1.71 | −1.97 | −2.27 | −2.06 | −1.73 | −1.68 | −1.22 | −0.50 | −0.10 | −0.17 | −1.20 |
| 7 | 0.02 | 0.01 | −0.34 | −0.34 | −0.93 | −0.93 | −0.82 | −0.66 | −0.49 | −0.24 | −0.17 | −0.70 | −0.47 |
| 8 | 0.13 | 0.39 | 0.24 | 0.61 | 0.27 | 0.97 | 0.37 | 0.41 | 0.34 | 0.30 | 0.06 | 0.08 | 0.29 |
| 9 | 0.27 | 0.63 | 0.66 | 1.19 | 1.34 | 1.32 | 1.24 | 1.30 | 0.89 | 0.64 | 0.34 | 0.22 | 0.84 |
| 10 | 0.43 | 0.86 | 1.06 | 1.72 | 1.92 | 2.02 | 1.78 | 1.70 | 1.30 | 1.01 | 0.54 | 0.43 | 1.23 |
| 11 | 0.57 | 1.16 | 1.47 | 2.17 | 2.63 | 2.63 | 2.29 | 2.14 | 1.71 | 1.31 | 0.75 | 0.56 | 1.62 |
| Mean. | −21.94 | −17.84 | −8.35 | 0.04 | 7.51 | 1.78 | 13.91 | 11.91 | 6.55 | −1.80 | −13.44 | −21.36 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXX.

SIBERIA. — NERTCHINSK. *Lat.* 51° 18′ N. *Long.* 119° 21′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.91 | 1.42 | 2.07 | 2.69 | 4.07 | 4.29 | 3.07 | 3.00 | 2.16 | 2.31 | 0.76 | 0.66 | 2.28 |
| 2 | 1.00 | 1.68 | 2.57 | 3.29 | 4.69 | 4.71 | 3.46 | 3.48 | 2.96 | 2.79 | 0.96 | 0.74 | 2.69 |
| 3 | 1.15 | 2.08 | 3.16 | 3.78 | 5.08 | 4.90 | 3.75 | 3.89 | 3.27 | 3.26 | 1.26 | 0.84 | 3.04 |
| 4 | 1.42 | 2.52 | 3.63 | 3.97 | 4.98 | 4.70 | 3.76 | 4.04 | 3.81 | 3.61 | 1.66 | 1.07 | 3.26 |
| 5 | 1.78 | 2.84 | 3.73 | 3.69 | 4.24 | 3.96 | 3.37 | 3.72 | 3.94 | 3.66 | 2.06 | 1.41 | 3.20 |
| 6 | 2.07 | 2.80 | 3.28 | 2.88 | 2.86 | 2.67 | 2.54 | 2.89 | 3.15 | 3.30 | 2.30 | 1.75 | 2.71 |
| 7 | 2.06 | 2.28 | 2.31 | 1.63 | 1.07 | 0.99 | 1.37 | 1.62 | 2.38 | 2.47 | 2.18 | 1.87 | 1.85 |
| 8 | 1.60 | 1.28 | 0.99 | 0.16 | −0.78 | −0.79 | 0.06 | 0.15 | 0.87 | 1.24 | 1.58 | 1.59 | 0.66 |
| 9 | 0.65 | −0.05 | −0.41 | −1.26 | −2.33 | −2.34 | −1.19 | −1.25 | −0.70 | −0.23 | 0.55 | 0.87 | −0.64 |
| 10 | −0.59 | −1.43 | −1.67 | −2.42 | −3.40 | −3.41 | −1.98 | −2.38 | −1.74 | −1.70 | −0.69 | −0.17 | −1.80 |
| 11 | −1.79 | −2.58 | −2.64 | −3.22 | −3.98 | −3.97 | −2.92 | −3.15 | −2.99 | −2.96 | −1.84 | −1.23 | −2.77 |
| Noon. . . | −2.61 | −3.29 | −3.25 | −3.64 | −4.19 | −4.12 | −3.38 | −3.61 | −3.49 | −3.84 | −2.60 | −2.01 | −3.34 |
| 1 | −2.87 | −3.49 | −3.61 | −3.76 | −4.22 | −4.05 | −3.64 | −3.83 | −3.69 | −4.25 | −2.81 | −2.30 | −3.54 |
| 2 | −2.56 | −3.27 | −3.74 | −3.65 | −4.18 | −3.92 | −3.72 | −3.88 | −4.00 | −4.20 | −2.50 | −2.08 | −3.48 |
| 3 | −1.89 | −2.76 | −3.65 | −3.33 | −4.03 | −3.77 | −3.62 | −3.75 | −3.54 | −3.77 | −1.87 | −1.54 | −3.13 |
| 4 | −1.14 | −2.12 | −3.31 | −2.84 | −3.69 | −3.54 | −3.29 | −3.40 | −3.24 | −3.08 | −1.17 | −0.92 | −2.65 |
| 5 | −0.56 | −1.45 | −2.65 | −2.17 | −3.04 | −3.07 | −2.68 | −2.76 | −2.68 | −2.24 | −0.61 | −0.47 | −2.03 |
| 6 | −0.23 | −0.81 | −1.78 | −1.39 | −2.08 | −2.30 | −1.82 | −1.86 | −1.54 | −1.36 | −0.27 | −0.25 | −1.31 |
| 7 | −0.11 | −0.21 | −0.77 | −0.56 | −0.92 | −1.23 | −0.81 | −0.80 | −0.86 | −0.54 | −0.12 | −0.23 | −0.60 |
| 8 | −0.04 | 0.31 | 0.18 | 0.20 | 0.26 | 0.00 | 0.20 | 0.24 | 0.17 | 0.17 | −0.25 | −0.24 | 0.12 |
| 9 | 0.09 | 0.74 | 0.90 | 0.82 | 1.29 | 1.21 | 1.06 | 1.11 | 0.97 | 0.74 | 0.05 | −0.17 | 0.73 |
| 10 | 0.31 | 1.02 | 1.34 | 1.29 | 2.11 | 2.25 | 1.51 | 1.74 | 1.17 | 1.18 | 0.20 | 0.02 | 1.18 |
| 11 | 0.57 | 1.19 | 1.56 | 1.71 | 2.78 | 3.09 | 2.23 | 2.19 | 1.73 | 1.54 | 0.39 | 0.28 | 1.61 |
| Midn. . . | 0.78 | 1.29 | 1.76 | 2.15 | 3.41 | 3.75 | 2.65 | 2.57 | 1.88 | 1.90 | 0.58 | 0.52 | 1.94 |
| 6. 6 | 0.92 | 1.00 | 0.75 | 0.75 | 0.39 | 0.19 | 0.36 | 0.52 | 0 80 | 0.97 | 1.01 | 0.75 | 0.70 |
| 7. 7 | 0.98 | 1.04 | 0.77 | 0.53 | 0.07 | −0.12 | 0.28 | 0.41 | 0.76 | 0.97 | 1.03 | 0.82 | 0.63 |
| 8. 8 | 0.78 | 0.80 | 0.58 | 0.18 | −0.26 | −0.39 | 0.13 | 0.20 | 0.52 | 0.71 | 0.77 | 0.67 | 0.39 |
| 9. 9 | 0.37 | 0.34 | 0.24 | −0.22 | −0.52 | −0.56 | −0.06 | −0.07 | 0.13 | 0.26 | 0.30 | 0.35 | 0.05 |
| 10.10 | −0.14 | −0.20 | −0.16 | −0.57 | −0.65 | −0.58 | −0.24 | −0.32 | −0.29 | −0.26 | −0.25 | −0.07 | −0.31 |
| 7. 2. 9 | −0.14 | −0.08 | −0.18 | −0.40 | −0.61 | −0.57 | −0.43 | −0.38 | −0.22 | −0.33 | −0.09 | −0.13 | −0.30 |
| 6. 2. 8 | −0.18 | −0.05 | −0.09 | −0.19 | −0.35 | -0.42 | −0.33 | −0.25 | −0.23 | −0.24 | −0.08 | −0.19 | −0.22 |
| 6. 2.10 | −0.06 | 0.18 | 0.29 | 0.17 | 0.26 | 0.33 | 0.11 | 0.25 | 0.11 | 0.09 | 0.00 | −0.01 | 0.14 |
| 6. 2. 6 | −0.24 | −0.43 | −0.75 | −0.72 | −1.13 | −1.18 | −1.00 | −0.95 | −0.80 | −0.75 | −0.16 | −0.19 | −0.69 |
| 7. 2 | −0.41 | −0.61 | −0.65 | −0.07 | −1.58 | −1.53 | −1.14 | −1.11 | −0.66 | −0.89 | −0.32 | −0.22 | −0.85 |
| 8. 2 | −0.94 | −1.34 | −1.60 | −1.85 | −2.32 | −2.26 | −1.78 | −1.88 | −1.69 | −1.78 | −0.97 | −0.71 | −1.59 |
| 8. 1 | −0.64 | −1.11 | −1.31 | −1.80 | −2.50 | −2.42 | −1.79 | −1.84 | −1.41 | −1.51 | −0.62 | −0.36 | −1.14 |
| 7. 1 | −0.25 | −0.50 | −0.72 | −1.01 | −1.56 | −1.47 | −1.18 | −1.13 | −0.81 | −0.87 | −0.16 | −0.11 | −0.81 |
| 9.12.3.9 | −0.48 | −1.00 | −1.38 | −1.75 | −2.48 | −2.36 | −1.83 | −1.87 | −1.57 | −1.48 | −0.46 | −0.25 | −1.41 |
| 7. 2.2(9) | −0.08 | 0.12 | 0.09 | −0.09 | −0.13 | −0.13 | −0.06 | −0.01 | 0.08 | −0.04 | −0.05 | −0.14 | −0.04 |
| Dail. ext. | −0.40 | −0.33 | −0.01 | −0.11 | 0.43 | 0.39 | 0.02 | 0.08 | −0.03 | −0.30 | −0.26 | −0.22 | −0.14 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXI.

SIBERIA. — BARNAUL. *Lat.* 53° 20′ N. *Long.* 83° 27′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 2.54 | 1.85 | 4.70 | 5.49 | 8.82 | 7.83 | 8.37 | 7.11 | 5.45 | 3.06 | 2.48 | 1.82 | 4 95 |
| 2 | 2.81 | 2.14 | 5.47 | 6.30 | 10.19 | 8.87 | 9.77 | 8.35 | 6.50 | 3.78 | 2.97 | 2.00 | 5.76 |
| 3 | 2.70 | 2.48 | 6.28 | 7.07 | 10.96 | 9.59 | 10.69 | 9.52 | 7.65 | 4.52 | 3.35 | 2.07 | 6.41 |
| 4 | 2.39 | 2.81 | 7.02 | 7.45 | 10.76 | 9.14 | 10.67 | 10.15 | 8.48 | 5.15 | 3.71 | 2.18 | 6.66 |
| 5 | 2.07 | 3.13 | 7.43 | 7.09 | 9.32 | 7.58 | 9.50 | 9.77 | 8.60 | 5.47 | 4.01 | 2.45 | 6.37 |
| 6 | 1.96 | 3.33 | 9.38 | 5.87 | 6.68 | 5.45 | 7.18 | 8.12 | 5.58 | 5.29 | 4.16 | 2.79 | 5.65 |
| 7 | 2.00 | 3.20 | 5.90 | 3.87 | 3.38 | 2.50 | 4.05 | 5.36 | 2.70 | 4.46 | 3.96 | 2.99 | 3.94 |
| 8 | 1.98 | 2.59 | 3.71 | 1.37 | −0.11 | −0.18 | 0.70 | 1.96 | | 2.97 | 3.15 | 2.70 | 1.96 |
| 9 | 1.53 | 1.37 | 0.86 | −1.28 | −3.02 | −2.48 | −2.32 | −1.44 | −0.56 | 0.99 | 1.64 | 1.73 | −0.25 |
| 10 | 0.45 | −0.36 | −2.18 | −3.74 | −5.06 | −4.61 | −4.68 | −4.32 | −3.67 | −1.22 | −0.41 | 0.11 | −2.48 |
| 11 | −1.22 | −2.30 | −4.91 | −5.78 | −6.35 | −5.99 | −6.35 | −6.48 | −6.21 | −3.31 | −2.61 | −1.76 | −4.43 |
| Noon. . . | −3.08 | −4 03 | −6.89 | −7.34 | −7.20 | −7.31 | −7.52 | −7.97 | −7.99 | −5.00 | −4.48 | −3.42 | −6.01 |
| 1 | −4.59 | −5.13 | −7 97 | −8.35 | −8.03 | −8.39 | −8.42 | −8.96 | −8.96 | −6.05 | −5.58 | −4.39 | −7.07 |
| 2 | −5.27 | −5.38 | −8.21 | −8.71 | −8.78 | −8.78 | −9.16 | −9.63 | −9.23 | −6.39 | −5.72 | −4.48 | −7.47 |
| 3 | −4.93 | −4.77 | −7.76 | −8.39 | −9.41 | −8.91 | −9.56 | −9.88 | −8.82 | −6.05 | −5 02 | −3.78 | −7.27 |
| 4 | −3.78 | −3.56 | −6.84 | −7.34 | −9.50 | −8.01 | −9.36 | −9.50 | −7.81 | −5.22 | −3.85 | −2.68 | −6.46 |
| 5 | −2.25 | −2.14 | −5.65 | −5.58 | −8.66 | −6.32 | −8.35 | −8.28 | −6.26 | −4.05 | −2.57 | −1.60 | −5.15 |
| 6 | −0.90 | −0.83 | −6.46 | −3.35 | −6.82 | −4.39 | −6.48 | −6.19 | −4.25 | −2.75 | −1.55 | −0.83 | −3.74 |
| 7 | 0.02 | 0.09 | −2.61 | −1.04 | −4.16 | −1.94 | −4.01 | −3.51 | −2 07 | −1.49 | −0.86 | −0.43 | −1.82 |
| 8 | 0.47 | 0.63 | −0.97 | 1.04 | −1.31 | 0.11 | −1.31 | −0.68 | 0.02 | −0.36 | −0.41 | −0.23 | −0.25 |
| 9 | 0.70 | 0.92 | 0.63 | 2.61 | 1.46 | 1.80 | 1.24 | 1.80 | 1.76 | 0.54 | 0.00 | 0.00 | 1.13 |
| 10 | 0.95 | 1.10 | 2.00 | 3.62 | 3.78 | 3.49 | 3.38 | 3.67 | 2.99 | 1.28 | 0.52 | 0.38 | 2.27 |
| 11 | 1.42 | 1.28 | 3.13 | 4.25 | 5.69 | 4.75 | 5.20 | 4.97 | 3.85 | 1.87 | 1.15 | 0.92 | 3.22 |
| Midn. . . | 2.03 | 1.55 | 3.98 | 4.82 | 7.36 | 6.26 | 6.82 | 6.03 | 4.59 | 2.45 | 1.85 | 1.44 | 4.10 |
| 6. 6 | 0.54 | 1.24 | 1.46 | 1.26 | −0.07 | 0.54 | 0.34 | 0.97 | 1.69 | 1.28 | 1.31 | 0 99 | 0.97 |
| 7. 7 | 1.01 | 1.64 | 1.64 | 1.42 | −0.41 | 0.27 | 0.02 | 0.92 | 1.76 | 1.49 | 1.55 | 1 28 | 1.06 |
| 8. 8 | 1.24 | 1.62 | 1.37 | 1.22 | −0.72 | −0.05 | −0.29 | 0.65 | 1.35 | 1.31 | 1.37 | 1.24 | 0.86 |
| 9. 9 | 1.10 | 1.15 | 0.74 | 0.68 | −0.79 | −0.34 | −0.54 | 0.18 | 0.59 | 0.77 | 0.83 | 0.86 | 0.43 |
| 10.10 | 0.70 | 0.38 | −0.09 | −0.07 | −0.63 | −0.56 | −0.65 | −0.34 | −0.34 | 0.05 | 0.07 | 0.25 | −0.11 |
| 7. 2. 9 | −0.86 | −0.43 | −0.56 | −0.74 | −1.31 | −1.49 | −1.28 | −0.83 | −0.63 | −0.47 | −0.59 | −0.50 | −0.81 |
| 6. 2. 8 | −0.95 | −0.47 | 0.07 | −0.61 | −1.13 | −1.08 | −1.10 | −0.72 | −0.52 | −0.50 | −0.65 | −0.63 | −0.70 |
| 6. 2.10 | −0.79 | −0.32 | 1.06 | 0.27 | 0.56 | 0.05 | 0.47 | 0.72 | 0.47 | 0.07 | −0.34 | −0.43 | 0.16 |
| 6. 2. 6 | −1.10 | −0.97 | −1.76 | −2.07 | −2.97 | −2.57 | −2.81 | −2.57 | −1.94 | −1.28 | −1.04 | 0 83 | −1.85 |
| 7. 2 | −1.64 | −1.09 | −1.16 | −2.42 | −2.70 | −3.14 | −2.56 | −2.14 | −1.83 | −0 97 | −0.88 | −0.75 | −1.77 |
| 8. 2 | −1.65 | −1.40 | −2 25 | −3.67 | −4.45 | −4.48 | −4.23 | −3.84 | −3.27 | −1.71 | −1.29 | −0.89 | −2.76 |
| 8. 1 | −1.31 | −1.27 | −2.13 | −3.49 | −4.07 | −4.29 | −3.86 | −3.50 | −3.13 | −1.54 | −1.22 | −0.85 | −2.56 |
| 7. 1 | −1.30 | −0.97 | −1.04 | −2.24 | −2.33 | −2.95 | −2.19 | −1.80 | −1.69 | −0.80 | −0.81 | −0.70 | −1.57 |
| 9.12.3.9 | −1.45 | −1.62 | −3.29 | −3.60 | −4.55 | −4.23 | −4.55 | −4.37 | −3.92 | −2.39 | −1.96 | −1.37 | −3.11 |
| 7. 2.2(9) | −0.47 | −0.09 | −0.27 | 0.09 | −0.63 | −0.68 | −0.65 | −0.18 | −0.05 | −0.23 | −0.45 | −0.38 | −0.34 |
| Dail. ext. | −1.24 | −1.04 | 0.59 | −0.63 | 0.74 | 0.34 | 0.56 | 0.14 | −0.32 | −0.47 | −0 79 | −0.74 | −0.41 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXII.

SIBERIA. — BARNAUL. *Lat.* 53° 20′ N. *Long.* 83° 27′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 1.13 | 0.82 | 2.09 | 2.44 | 3.92 | 3.48 | 3.72 | 3.16 | 2.42 | 1.36 | 1.10 | 0.81 | 2.20 |
| 2 | 1.25 | 0.95 | 2.43 | 2.80 | 4.53 | 3.94 | 4.34 | 3.71 | 2.89 | 1.68 | 1.32 | 0.89 | 2.56 |
| 3 | 1.20 | 1.10 | 2.79 | 3.14 | 4.87 | 4.26 | 4.73 | 4.23 | 3.40 | 2.01 | 1.49 | 0.92 | 2.85 |
| 4 | 1.06 | 1.25 | 3.12 | 3.31 | 4.78 | 4.06 | 4.74 | 4.51 | 3.77 | 2.29 | 1.65 | 0.97 | 2.96 |
| 5 | 0.92 | 1.39 | 3.30 | 3.15 | 4.14 | 3.37 | 4.22 | 4.34 | 3.82 | 2.43 | 1.78 | 1.09 | 2.83 |
| 6 | 0.87 | 1.48 | 4.17 | 2.61 | 2.97 | 2.42 | 3.19 | 3.61 | 3.40 | 2.35 | 1.85 | 1.24 | 2.51 |
| 7 | 0.89 | 1.42 | 2.62 | 1.72 | 1.50 | 1.11 | 1.80 | 2.38 | 2.48 | 1.98 | 1.76 | 1.33 | 1.75 |
| 8 | 0.88 | 1.15 | 1.65 | 0.61 | −0.05 | −0.08 | 0.31 | 0.87 | 1.20 | 1.32 | 1.40 | 1.20 | 0.87 |
| 9 | 0.68 | 0.61 | 0.38 | −0.57 | −1.34 | −1.10 | −1.03 | −0.64 | −0.25 | 0.44 | 0.73 | 0.77 | −0.11 |
| 10 | 0.20 | −0.16 | −0.97 | −1.66 | −2.25 | −2.05 | −2.08 | −1.92 | −1.63 | −0.54 | −0.18 | 0.05 | −1.10 |
| 11 | −0.54 | −1.02 | −2.18 | −2.57 | −2.82 | −2.66 | −2.82 | −2.88 | −2.76 | −1.47 | −1.16 | −0.78 | −1.97 |
| Noon. . . | −1.37 | −1.79 | −3.06 | −3.26 | −3.20 | −3.25 | −3.34 | −3.54 | −3.55 | −2.22 | −1.99 | −1.52 | −2.67 |
| 1 | −2.04 | −2.28 | −3.54 | −3.71 | −3.57 | −3.73 | −3.74 | −3.98 | −3.98 | −2.69 | −2.48 | −1.95 | −3.14 |
| 2 | −2.34 | −2.39 | −3.65 | −3.87 | −3.90 | −3.90 | −4.07 | −4.28 | −4.10 | −2.84 | −2.54 | −1.99 | −3.32 |
| 3 | −2.19 | −2.12 | −3.45 | −3.73 | −4.18 | −3.96 | −4.25 | −4.39 | −3.92 | −2.69 | −2.23 | −1.68 | −3.23 |
| 4 | −1.68 | −1.58 | −3.04 | −3.26 | −4.22 | −3.56 | −4.16 | −4.22 | −3.47 | −2.32 | −1.71 | −1.19 | −2.87 |
| 5 | −1.00 | −0.95 | −2.51 | −2.48 | −3.85 | −2.81 | −3.71 | −3.68 | −2.78 | −1.80 | −1.14 | −0.71 | −2.29 |
| 6 | −0.40 | −0.37 | −2.87 | −1.49 | −3.03 | −1.95 | −2.88 | −2.75 | −1.89 | −1.22 | −0.69 | −0.37 | −1.66 |
| 7 | 0.01 | 0.04 | −1.16 | −0.46 | −1.85 | −0.86 | −1.78 | −1.56 | −0.92 | −0.66 | −0.38 | −0.19 | −0.81 |
| 8 | 0.21 | 0.28 | −0.43 | 0.46 | −0.58 | 0.05 | −0.58 | −0.30 | 0.01 | −0.16 | −0.18 | −0.10 | −0.11 |
| 9 | 0.31 | 0.41 | 0.28 | 1.16 | 0.65 | 0.80 | 0.55 | 0.80 | 0.78 | 0.24 | 0.00 | 0.00 | 0.50 |
| 10 | 0.42 | 0.49 | 0.89 | 1.61 | 1.68 | 1.55 | 1.50 | 1.63 | 1.33 | 0.57 | 0.23 | 0.17 | 1.01 |
| 11 | 0.63 | 0.57 | 1.39 | 1.89 | 2.53 | 2.11 | 2.31 | 2.21 | 1.71 | 0.83 | 0.51 | 0.41 | 1.43 |
| Midn. . . | 0.90 | 0.69 | 1.77 | 2.14 | 3.27 | 2.78 | 3.03 | 2.68 | 2.04 | 1.09 | 0.82 | 0.64 | 1.82 |
| 6. 6 | 0.24 | 0.55 | 0.65 | 0.56 | −0.03 | 0.24 | 0.15 | 0.43 | 0.75 | 0.57 | 0.58 | 0.44 | 0.43 |
| 7. 7 | 0.45 | 0.73 | 0.73 | 0.63 | −0.18 | 0.12 | 0.01 | 0.41 | 0.78 | 0.66 | 0.69 | 0.57 | 0.47 |
| 8. 8 | 0.55 | 0.72 | 0.61 | 0.54 | −0.32 | −0.02 | −0.13 | 0.29 | 0.60 | 0.58 | 0.61 | 0.55 | 0.38 |
| 9. 9 | 0.49 | 0.51 | 0.33 | 0.30 | −0.35 | −0.15 | −0.24 | 0.08 | 0.26 | 0.34 | 0.37 | 0.38 | 0.19 |
| 10.10 | 0.31 | 0.17 | −0.04 | −0.03 | −0.28 | −0.25 | −0.29 | −0.15 | −0.15 | 0.02 | 0.03 | 0.11 | −0.05 |
| 7. 2. 9 | −0.38 | −0.19 | −0.25 | −0.33 | −0.58 | −0.66 | −0.57 | −0.37 | −0.28 | −0.21 | −0.26 | −0.22 | −0.36 |
| 6. 2. 8 | −0.42 | −0.21 | 0.03 | −0.27 | −0.50 | −0.48 | −0.49 | −0.32 | −0.23 | −0.22 | −0.29 | −0.28 | −0.31 |
| 6. 2.10 | −0.35 | −0.14 | 0.47 | 0.12 | 0.25 | 0.02 | 0.21 | 0.32 | 0.21 | 0.03 | −0.15 | −0.19 | 0.07 |
| 6. 2. 6 | −0.62 | −0.43 | −0.78 | −0.92 | −1.32 | −1.14 | −1.25 | −1.14 | −0.86 | −0.57 | −0.46 | −0.37 | −0.82 |
| 7. 2 | −0.73 | −0.49 | −0.52 | −1.80 | −1.20 | −1.40 | −1.14 | −0.95 | −0.81 | −0.43 | −0.39 | −0.33 | −0.79 |
| 8. 2 | −0.73 | −0.62 | −1.00 | −1.63 | −1.98 | −1.99 | −1.88 | −1.71 | −1.45 | −0.76 | −0.57 | −0.40 | −1.23 |
| 8. 1 | −0.58 | −0.57 | −0.95 | −1.55 | −1.81 | −1.91 | −1.72 | −1.56 | −1.39 | −0.69 | −0.54 | −0.38 | −1.14 |
| 7. 1 | −0.58 | −0.43 | −0.46 | −1.00 | −1.04 | −1.31 | −0.97 | −0.80 | −0.75 | −0.36 | −0.36 | −0.31 | −0.70 |
| 9.12.3.9 | −0.64 | −0.72 | −1.46 | −1.60 | −2.02 | −1.88 | −2.02 | −1.94 | −1.74 | −1.06 | −0.87 | −0.61 | −1.38 |
| 7. 2.2(9) | −0.21 | −0.04 | −0.12 | 0.04 | −0.28 | −0.30 | −0.29 | −0.08 | −0.02 | −0.10 | −0.20 | −0.17 | −0.15 |
| Dail. ext. | −0.55 | −0.46 | 0.26 | −0.28 | 0.33 | 0.15 | 0.25 | 0.06 | −0.14 | −0.21 | −0.35 | −0.33 | −0.18 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXIII.

SIBERIA. — BARNAUL. *Lat.* 53° 20′ N. *Long.* 83° 27′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.99 | 1.98 | 2.43 | 2.65 | 3.70 | 3.75 | 3.48 | 3.10 | 2.80 | 1.99 | 1.06 | 0.77 | 2.39 |
| 1 | 1.15 | 2.21 | 2.77 | 3.03 | 4.11 | 4.30 | 4.07 | 3.50 | 3.20 | 2.24 | 1.22 | 0.86 | 2.72 |
| 2 | 1.26 | 2.36 | 3.13 | 3.24 | 4.47 | 4.83 | 4.49 | 3.90 | 3.63 | 2.50 | 1.39 | 0.95 | 3.00 |
| 3 | 1.41 | 2.47 | 3.34 | 3.49 | 4.72 | 4.95 | 4.77 | 4.29 | 3.92 | 2.69 | 1.46 | 1.01 | 3.21 |
| 4 | 1.56 | 2.56 | 3.61 | 3.59 | 4.20 | 4.41 | 4.40 | 4.23 | 4.11 | 2.89 | 1.51 | 1.07 | 3.18 |
| 5 | 1.55 | 2.68 | 3.70 | 2.78 | 2.85 | 3.12 | 3.34 | 3.60 | 3.90 | 2.91 | 1.57 | 1.10 | 2.76 |
| 6 | 1.61 | 2.69 | 2.90 | 1.58 | 1.44 | 1.75 | 1.88 | 2.29 | 3.06 | 2.68 | 1.59 | 1.09 | 2.05 |
| 7 | 1.53 | 2.30 | 1.63 | 0.46 | 0.28 | 0.49 | 0.50 | 0.85 | 1.54 | 1.84 | 1.50 | 1.18 | 1.17 |
| 8 | 0.94 | 1.15 | 0.13 | −0.69 | −0.80 | −0.65 | −0.54 | −0.51 | −0.08 | 0.87 | 0.95 | 0.93 | 0.14 |
| 9 | 0.27 | −0.47 | −1.35 | −1.80 | −1.94 | −1.78 | −1.81 | −1.79 | −1.62 | −0.73 | −0.03 | 0.11 | −1.08 |
| 10 | −0.79 | −1.90 | −2.36 | −2.68 | −2.71 | −2.75 | −2.70 | −2.80 | −2.84 | −1.96 | −1.12 | −0.83 | −2.12 |
| 11 | −1.69 | −2.95 | −3.31 | −3.27 | −3.39 | −3.39 | −3.44 | −3.41 | −3.75 | −2.81 | −1.93 | −1.62 | −2.91 |
| Noon. | −2.35 | −3.89 | −3.78 | −3.66 | −3.73 | −3.98 | −3.90 | −3.81 | −4.19 | −3.48 | −2.42 | −2.04 | −3.44 |
| 1 | −2.61 | −4.25 | −4.11 | −3.68 | −4.04 | −4.19 | −4.09 | −4.11 | −4.41 | −3.72 | −2.57 | −2.12 | −3.66 |
| 2 | −2.39 | −4.23 | −4.07 | −3.65 | −4.13 | −4.34 | −4.21 | −4.10 | −4.34 | −3.64 | −2.39 | −1.70 | −3.60 |
| 3 | −1.88 | −3.62 | −3.69 | −3.39 | −4.09 | −4.19 | −3.89 | −3.91 | −4.11 | −3.17 | −1.66 | −1.09 | −3.22 |
| 4 | −1.19 | −2.30 | −2.67 | −2.62 | −3.51 | −3.57 | −3.65 | −3.68 | −3.21 | −2.53 | −1.05 | −0.76 | −2.56 |
| 5 | −0.81 | −1.30 | −1.69 | −1.82 | −3.09 | −3.04 | −3.07 | −2.78 | −2.29 | −1.49 | −0.71 | −0.53 | −1.89 |
| 6 | −0.41 | −0.56 | −0.84 | −0.62 | −1.92 | −2.19 | −2.09 | −1.54 | −1.05 | −0.72 | −0.33 | −0.28 | −1.05 |
| 7 | −0.20 | 0.09 | 0.35 | 0.27 | −0.46 | −0.84 | −0.69 | −0.20 | −0.17 | −0.08 | −0.03 | −0.02 | −0.17 |
| 8 | 0.12 | 0.69 | 0.39 | 0.99 | 0.77 | 0.51 | 0.52 | 0.67 | 0.60 | 0.31 | 0.23 | 0.19 | 0.50 |
| 9 | 0.32 | 1.08 | 0.88 | 1.50 | 1.64 | 1.48 | 1.42 | 1.46 | 1.26 | 0.82 | 0.42 | 0.39 | 1.06 |
| 10 | 0.73 | 1.47 | 1.46 | 2.02 | 2.42 | 2.31 | 2.22 | 2.04 | 1.85 | 1.29 | 0.58 | 0.58 | 1.58 |
| 11 | 0.78 | 1.76 | 1.92 | 2.35 | 3.11 | 3.05 | 2.88 | 2.58 | 2.36 | 1.68 | 0.83 | 0.75 | 2.00 |
| Mean. | −14.71 | −13.47 | −5.47 | 1.77 | 7.78 | 13.62 | 14.98 | 12.76 | 7.53 | 1.58 | −8.36 | −13.07 | 4.94 |

The numbers without sign must be added; those with the sign — must be subtracted.

# HOURLY CORRECTIONS

FOR

# PERIODIC VARIATIONS.

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## EUROPE.

## XXXIV.

ITALY. — ROME. *Lat.* 41° 54′ N. *Long.* 12° 25′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.90 | 1.08 | 1.22 | 1.55 | 1.88 | 2.44 | 2.17 | 2.20 | 1.63 | 1.50 | 1.15 | 0.93 | 1.55 |
| 2 | 0.99 | 1.26 | 1.50 | 1.84 | 2.10 | 2.59 | 2.41 | 2.49 | 1.91 | 1.75 | 1.29 | 1.02 | 1.76 |
| 3 | 1.14 | 1.58 | 1.96 | 2.31 | 2.56 | 3.02 | 2.99 | 3.00 | 2.38 | 2.12 | 1.53 | 1.19 | 2.15 |
| 4 | 1.36 | 1.99 | 2.46 | 2.80 | 3.06 | 3.51 | 3.68 | 3.54 | 2.91 | 2.58 | 1.87 | 1.43 | 2.60 |
| 5 | 1.60 | 2.36 | 2.80 | 3.07 | 3.30 | 3.71 | 4.06 | 3.79 | 3.25 | 2.96 | 2.22 | 1.70 | 2.90 |
| 6 | 1.77 | 2.52 | 2.76 | 2.92 | 3.04 | 3.36 | 3.81 | 3.53 | 3.17 | 3.10 | 2.42 | 1.87 | 2.86 |
| 7 | 1.74 | 2.33 | 2.24 | 2.25 | 2.19 | 2.38 | 2.82 | 2.62 | 2.58 | 2.82 | 2.33 | 1.83 | 2.34 |
| 8 | 1.40 | 1.73 | 1.29 | 1.15 | 0.93 | 0.98 | 1.27 | 1.22 | 1.51 | 2.05 | 1.82 | 1.47 | 1.40 |
| 9 | 0.72 | 0.78 | 0.10 | −0.15 | −0.47 | −0.51 | −0.44 | −0.35 | 0.15 | 0.86 | 0.93 | 0.78 | 0.20 |
| 10 | −0.24 | −0.38 | −1.08 | −1.39 | −1.68 | −1.75 | −1.89 | −1.78 | −1.23 | −0.58 | −0.22 | −0.15 | −1.03 |
| 11 | −1.27 | −1.54 | −2.06 | −2.36 | −2.53 | −2.59 | −2.87 | −2.84 | −2.41 | −2.00 | −1.41 | −1.14 | −2.09 |
| Noon. . . | −2.15 | −2.49 | −2.71 | −2.98 | −3.01 | −3.08 | −3.38 | −3.49 | −3.24 | −3.14 | −2.39 | −1.99 | −2.84 |
| 1 | −2.69 | −3.07 | −3.02 | −3.27 | −3.23 | −3.40 | −3.61 | −3.81 | −3.70 | −3.82 | −3.00 | −2.52 | −3.26 |
| 2 | −2.78 | −3.25 | −3.04 | −3.28 | −3.31 | −3.70 | −3.76 | −3.92 | −3.80 | −3.99 | −3.16 | −2.66 | −3.39 |
| 3 | −2.44 | −3.03 | −2.84 | −3.10 | −3.31 | −3.97 | −3.89 | −3.87 | −3.59 | −3.69 | −2.93 | −2.44 | −3.26 |
| 4 | −1.83 | −2.51 | −2.45 | −2.72 | −3.14 | −4.05 | −3.88 | −3.62 | −3.11 | −3.04 | −2.41 | −1.95 | −2.89 |
| 5 | −1.11 | −1.81 | −1.89 | −2.15 | −2.70 | −3.70 | −3.53 | −3.05 | −2.38 | −2.21 | −1.76 | −1.35 | −2.30 |
| 6 | −0.45 | −1.05 | −1.20 | −1.39 | −1.91 | −2.79 | −2.67 | −2.18 | −1.48 | −1.32 | −1.09 | −0.75 | −1.52 |
| 7 | 0.05 | −0.34 | −0.44 | −0.53 | −0.84 | −1.42 | −1.38 | −1.01 | −0.51 | −0.50 | −0.48 | −0.24 | −0.64 |
| 8 | 0.39 | 0.25 | 0.26 | 0.30 | 0.29 | 0.13 | 0.08 | 0.21 | 0.38 | 0.19 | 0.05 | 0.17 | 0.23 |
| 9 | 0.59 | 0.67 | 0.78 | 0.94 | 1.22 | 1.46 | 1.33 | 1.22 | 1.05 | 0.71 | 0.46 | 0.46 | 0.91 |
| 10 | 0.71 | 0.90 | 1.07 | 1.31 | 1.76 | 2.29 | 2.10 | 1.86 | 1.43 | 1.05 | 0.76 | 0.66 | 1.33 |
| 11 | 0.78 | 0.99 | 1.15 | 1.44 | 1.93 | 2.57 | 2.33 | 2.11 | 1.54 | 1.24 | 0.95 | 0.79 | 1.49 |
| Midn. . . | 0.84 | 1.02 | 1.15 | 1.46 | 1.88 | 2.51 | 2.24 | 2.14 | 1.55 | 1.36 | 1.06 | 0.86 | 1.51 |
| 6. 6 | 0.66 | 0.74 | 0.78 | 0.76 | 0.57 | 0.28 | 0.57 | 0.68 | 0.85 | 0.89 | 0.67 | 0.56 | 0.67 |
| 7. 7 | 0.90 | 1.00 | 0.90 | 0.86 | 0.68 | 0.48 | 0.72 | 0.80 | 1.03 | 1.16 | 0.92 | 0.80 | 0.85 |
| 8. 8 | 0.89 | 0.99 | 0.77 | 0.72 | 0.61 | 0.55 | 0.67 | 0.71 | 0.95 | 1.12 | 0.94 | 0.82 | 0.81 |
| 9. 9 | 0.65 | 0.72 | 0.44 | 0.40 | 0.37 | 0.48 | 0.45 | 0.43 | 0.60 | 0.78 | 0.70 | 0.62 | 0.55 |
| 10.10 | 0.24 | 0.26 | −0.01 | −0.04 | 0.04 | 0.27 | 0.10 | 0.04 | 0.10 | 0.23 | 0.27 | 0.26 | 0.15 |
| 7. 2. 9 | −0.15 | −0.08 | −0.01 | −0.03 | 0.03 | 0.05 | 0.13 | −0.03 | −0.06 | −0.15 | −0.12 | −0.12 | −0.05 |
| 6. 2. 8 | −0.21 | −0.16 | −0.01 | −0.02 | 0.01 | −0.07 | 0.04 | −0.06 | −0.08 | −0.23 | −0.23 | −0.21 | −0.10 |
| 6. 2.10 | −0.10 | 0.06 | 0.26 | 0.32 | 0.50 | 0.65 | 0.72 | 0.49 | 0.27 | 0.05 | 0.01 | −0.04 | 0.27 |
| 6. 2. 6 | −0.49 | −0.59 | −0.49 | −0.58 | −0.73 | −1.04 | −0.87 | −0.86 | −0.70 | −0.74 | −0.61 | −0.51 | −0.68 |
| 7. 2 | −0.52 | −0.46 | −0.40 | −0.52 | −0.56 | −0.66 | −0.47 | −0.65 | −0.61 | −0.59 | −0.42 | −0.42 | −0.52 |
| 8. 2 | −0.69 | −0.76 | −0.88 | −1.07 | −1.19 | −1.36 | −1.25 | −1.35 | −1.15 | −0.97 | −0.67 | −0.60 | −1.00 |
| 8. 1 | −0.65 | −0.67 | −0.87 | −1.06 | −1.15 | −1.21 | −1.17 | −1.30 | −1.10 | −0.89 | −0.59 | −0.53 | −0.93 |
| 7. 1 | −0.48 | −0.37 | −0.39 | −0.51 | −0.52 | −0.51 | −0.40 | −0.60 | −0.56 | −0.50 | −0.34 | −0.35 | −0.46 |
| 9.12.3.9 | −0.82 | −1.02 | −1.17 | −1.32 | −1.39 | −1.53 | −1.60 | −1.62 | −1.41 | −1.32 | −0.98 | −0.80 | −1.25 |
| 7. 2.2(9) | 0.04 | 0.11 | 0.19 | 0.21 | 0.33 | 0.40 | 0.43 | 0.29 | 0.22 | 0.06 | 0.02 | 0.02 | 0.19 |
| Dail.ext. | −0.51 | −0.37 | −0.12 | −0.11 | −0.01 | −0.17 | 0.09 | −0.07 | −0.28 | −0.45 | −0.37 | −0.40 | −0.25 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXV.

ITALY. — PADUA. *Lat.* 45° 24′ N. *Long.* 11° 52′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.58 | 0.57 | 0.89 | 1.23 | 2.43 | 2.21 | 2.86 | 2.27 | 1.59 | 0.86 | 1.04 | 0.83 | 1.45 |
| 2 | 0.58 | 0.81 | 1.20 | 1.49 | 2.70 | 2.40 | 3.20 | 2.70 | 1.85 | 1.03 | 1.16 | 0.96 | 1.67 |
| 3 | 0.76 | 0.97 | 1.42 | 1.66 | 3.00 | 2.68 | 3.53 | 3.05 | 2.10 | 1.20 | 1.26 | 0.98 | 1.88 |
| 4 | 0.79 | 1.13 | 1.68 | 1.97 | 3.14 | 2.71 | 3.78 | 3.44 | 2.34 | 1.39 | 1.35 | 1.05 | 2.06 |
| 5 | 1.06 | 1.31 | 1.89 | 2.26 | 2.97 | 2.39 | 3.34 | 3.44 | 2.66 | 1.58 | 1.42 | 1.12 | 2.12 |
| 6 | 1.13 | 1.46 | 2.06 | 2.22 | 1.96 | 1.22 | 2.07 | 2.93 | 2.54 | 1.54 | 1.49 | 1.16 | 1.82 |
| 7 | 1.25 | 1.58 | 1.86 | 1.82 | 0.66 | 0.08 | 0.56 | 1.82 | 1.78 | 1.37 | 1.58 | 1.23 | 1.30 |
| 8 | 1.07 | 1.42 | 0.66 | 1.03 | −0.23 | −0.65 | −0.25 | 0.58 | 0.79 | 0.81 | 0.97 | 1.00 | 0.60 |
| 9 | 0.70 | 0.82 | 0.61 | 0.18 | −1.07 | −1.24 | −1.63 | −1.65 | −0.58 | 0.18 | 0.02 | 0.33 | −0.28 |
| 10 | 0.10 | −0.08 | −0.83 | −0.42 | −1.70 | −1.66 | −2.29 | −1.90 | −1.03 | −0.51 | −0.81 | −0.26 | −0.95 |
| 11 | −0.58 | −0.62 | −0.87 | −0.85 | −2.30 | −2.23 | −2.77 | −2.38 | −1.56 | −0.99 | −1.51 | −1.05 | −1.48 |
| Noon. . . | −0.98 | −1.24 | −1.32 | −1.27 | −2.74 | −2.52 | −3.16 | −2.97 | −2.14 | −1.41 | −2.02 | −1.50 | −1.94 |
| 1 | −1.38 | −1.45 | −1.54 | −1.68 | −2.88 | −2.61 | −3.53 | −3.34 | −2.54 | −1.74 | −2.42 | −1.90 | −2.25 |
| 2 | −1.51 | −1.62 | −1.74 | −1.92 | −2.94 | −2.62 | −3.74 | −3.73 | −2.84 | −2.01 | −2.55 | −2.06 | −2.44 |
| 3 | −1.45 | −1.65 | −1.90 | −2.14 | −2.94 | −2.59 | −3.54 | −3.81 | −2.87 | −2.04 | −2.22 | −1.68 | −2.40 |
| 4 | −1.18 | −1.34 | −1.71 | −2.10 | −2.67 | −2.20 | −2.82 | −3.23 | −2.38 | −1.94 | −1.53 | −1.14 | −2.02 |
| 5 | −0.87 | −0.98 | −1.39 | −1.98 | −2.08 | −1.60 | −2.44 | −2.49 | −1.60 | −1.05 | −0.73 | −0.74 | −1.50 |
| 6 | −0.59 | −0.79 | −1.02 | −1.51 | −1.20 | −1.00 | −1.41 | −1.34 | −0.83 | −0.54 | −0.15 | −0.33 | −0.89 |
| 7 | −0.32 | −0.62 | −0.73 | −1.12 | −0.26 | −0.12 | −0.46 | −0.32 | −0.18 | −0.14 | 0.12 | −0.15 | −0.36 |
| 8 | −0.07 | −0.42 | −0.43 | −0.47 | −0.14 | 0.38 | 1.01 | 0.50 | −0.10 | 0.05 | 0.33 | 0.04 | 0.06 |
| 9 | 0.05 | −0.14 | −0.10 | −0.11 | 1.11 | 1.38 | 1.54 | 1.01 | 0.23 | 0.26 | 0.49 | 0.26 | 0.50 |
| 10 | 0.18 | 0.09 | 0.24 | 0.27 | 1.44 | 1.72 | 1.67 | 1.36 | 0.58 | 0.52 | 0.72 | 0.46 | 0.77 |
| 11 | 0.29 | 0.31 | 0.48 | 0.60 | 1.75 | 1.86 | 2.14 | 1.78 | 0.84 | 0.68 | 0.86 | 0.59 | 1.02 |
| Midn. . . | 0.37 | 0.49 | 0.72 | 0.85 | 2.02 | 2.10 | 2.43 | 2.23 | 1.36 | 0.78 | 0.94 | 0.70 | 1.25 |
| 6. 6 | 0.27 | 0.34 | 0.52 | 0.36 | 0.38 | 0.11 | 0.33 | 0.80 | 0.86 | 0.50 | 0.67 | 0.42 | 0.46 |
| 7. 7 | 0.47 | 0.48 | 0.57 | 0.35 | 0.20 | −0.02 | 0.05 | 0.75 | 0.80 | 0.62 | 0.85 | 0.54 | 0.47 |
| 8. 8 | 0.50 | 0.50 | 0.12 | 0.28 | −0.19 | −0.14 | 0.38 | 0.54 | 0.35 | 0.43 | 0.65 | 0.52 | 0.33 |
| 9. 9 | 0.38 | 0.34 | 0.26 | 0.04 | 0.02 | 0.07 | −0.05 | −0.32 | −0.18 | 0.22 | 0.26 | 0.30 | 0.11 |
| 10.10 | 0.14 | 0.01 | −0.30 | −0.08 | −0.13 | 0.03 | −0.31 | −0.27 | −0.23 | 0.01 | −0.05 | 0.10 | −0.09 |
| 7. 2. 9 | −0.07 | −0.06 | 0.01 | −0.07 | −0.39 | −0.39 | −0.55 | −0.30 | −0.28 | −0.13 | −0.16 | −0.19 | −0.21 |
| 6. 2. 8 | −0.15 | −0.19 | −0.04 | −0.06 | −0.37 | −0.34 | −0.22 | −0.10 | −0.13 | −0.14 | −0.24 | −0.29 | −0.19 |
| 6. 2.10 | −0.07 | −0.02 | 0.19 | 0.19 | 0.15 | 0.11 | −0.00 | 0.19 | 0.09 | 0.02 | −0.11 | −0.15 | 0.05 |
| 6. 2. 6 | −0.32 | −0.32 | −0.23 | −0.40 | −0.73 | −0.80 | −1.03 | −0.71 | −0.38 | −0.34 | −0.40 | −0.41 | −0.51 |
| 7. 2 | −0.13 | −0.02 | 0.06 | −0.05 | −1.14 | −1.27 | −1.59 | −0 96 | −0.53 | −0.32 | −0.49 | −0.42 | −0.57 |
| 8. 2 | −0.22 | −0.10 | −0.54 | −0.45 | −1.59 | −1.64 | −2.00 | −1.58 | −1.03 | −0.60 | −0.79 | −0.53 | −0.92 |
| 8. 1 | −0.16 | −0.02 | −0.44 | −0.33 | −1.56 | −1.63 | −1.89 | −1.38 | −0.88 | −0.47 | −0.73 | −0.45 | −0.83 |
| 7. 1 | −0 07 | 0.07 | 0.16 | 0.07 | −1.11 | −1.27 | −1.49 | −0.76 | −0.38 | −0.19 | −0.42 | −0.34 | −0.48 |
| 9.12.3.9 | −0.42 | −0.55 | −0.68 | −0.84 | −1.41 | −1.24 | −1.70 | −1.86 | −1 34 | −0.75 | −0.93 | −0.65 | −1.03 |
| 7. 2.2(9) | −0.04 | −0.08 | −0.02 | −0.08 | −0.02 | 0.06 | −0.03 | 0.03 | −0.15 | −0.03 | −0.00 | −0.08 | −0.04 |
| Dail. ext. | −0.13 | −0.04 | 0.08 | 0.06 | 0.10 | 0.05 | 0.02 | −0.19 | −0.11 | −0.23 | −0.49 | −0.42 | −0.16 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXVI.

SWITZERLAND. — GENEVA. *Lat.* 46° 12′ N. *Long.* 6° 9′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.50 | 0.68 | 1.38 | 1.68 | 2.16 | 2.77 | 2.54 | 2.38 | 1.86 | 1.44 | 0.80 | 0.48 | 1.56 |
| 1 | 0.62 | 0.83 | 1.88 | 2.14 | 2.72 | 3.32 | 3.19 | 3.08 | 2.41 | 1.71 | 0.97 | 0.54 | 1.95 |
| 2 | 0.74 | 1.01 | 2.34 | 2.53 | 3.16 | 3.68 | 3.70 | 3.68 | 2.93 | 1.95 | 1.14 | 0.61 | 2.29 |
| 3 | 0.83 | 1.22 | 2.70 | 2.76 | 3.40 | 3.74 | 3.89 | 4.03 | 3.34 | 2.14 | 1.30 | 0.70 | 2.50 |
| 4 | 0.92 | 1.46 | 2.89 | 2.78 | 3.34 | 3.50 | 3.80 | 4.00 | 3.49 | 2.22 | 1.43 | 0.81 | 2.55 |
| 5 | 0.98 | 1.66 | 2.83 | 2.54 | 2.93 | 2.88 | 3.26 | 3.52 | 3.30 | 2.14 | 1.51 | 0.91 | 2.37 |
| 6 | 1.02 | 1.75 | 2.49 | 2.03 | 2.22 | 2.03 | 2.39 | 2.65 | 2.72 | 1.85 | 1.48 | 0.97 | 1.97 |
| 7 | 0.97 | 1.66 | 1.90 | 1.33 | 1.28 | 1.05 | 1.38 | 1.54 | 1.84 | 1.34 | 1.26 | 0.92 | 1.37 |
| 8 | 0.78 | 1.33 | 1.09 | 0.50 | 0.27 | 0.08 | 0.26 | 0.37 | 0.78 | 0.65 | 0.84 | 0.70 | 0.64 |
| 9 | 0.46 | 0.74 | 0.17 | −0.34 | −0.69 | −0.82 | −0.71 | −0.70 | −0.30 | −0.15 | 0.23 | 0.34 | −0.16 |
| 10 | −0.02 | −0.01 | −0.77 | −1.10 | −1.51 | −1.57 | −1.53 | −1.58 | −1.26 | −0.98 | −0.47 | −0.16 | −0.91 |
| 11 | −0.57 | −0.80 | −1.61 | −1.75 | −2.17 | −2.18 | −2.24 | −2.29 | −2.06 | −1.70 | −1.14 | −0.67 | −1.60 |
| Noon. | −1.06 | −1.49 | −2.26 | −2.23 | −2.66 | −2.70 | −2.74 | −2.85 | −2.66 | −2.22 | −1.66 | −1.10 | −2.14 |
| 1 | −1.40 | −1.98 | −2.70 | −2.55 | −2.98 | −3.10 | −3.18 | −3.29 | −3.08 | −2.53 | −1.94 | −1.37 | −2.51 |
| 2 | −1.50 | −2.18 | −2.87 | −2.67 | −3.12 | −3.35 | −3.48 | −3.58 | −3.29 | −2.58 | −1.94 | −1.41 | −2.66 |
| 3 | −1.41 | −2.10 | −2.81 | −2.61 | −3.07 | −3.42 | −3.51 | −3.65 | −3.28 | −2.41 | −1.74 | −1.26 | −2.61 |
| 4 | −1.14 | −1.82 | −2.54 | −2.37 | −2.80 | −3.25 | −3.37 | −3.43 | −3.04 | −2.06 | −1.38 | −0.97 | −2.35 |
| 5 | −0.79 | −1.37 | −2.10 | −1.97 | −2.32 | −2.78 | −2.90 | −2.92 | −2.57 | −1.59 | −0.99 | −0.64 | −1.91 |
| 6 | −0.46 | −0.94 | −1.59 | −1.46 | −1.70 | −2.11 | −2.22 | −2.18 | −1.91 | −1.06 | −0.62 | −0.32 | −1.38 |
| 7 | −0.20 | −0.51 | −1.06 | −0.90 | −1.00 | −1.29 | −1.40 | −1.31 | −1.16 | −0.53 | −0.30 | −0.07 | −0.81 |
| 8 | −0.01 | −0.14 | −0.54 | −0.34 | −0.29 | −0.42 | −0.49 | −0.46 | −0.42 | −0.02 | −0.03 | 0.11 | −0.26 |
| 9 | 0.12 | 0.14 | 0.05 | 0.20 | 0.38 | 0.47 | 0.34 | 0.32 | 0.26 | 0.42 | 0.20 | 0.24 | 0.26 |
| 10 | 0.25 | 0.37 | 0.42 | 0.70 | 0.91 | 1.30 | 1.10 | 1.02 | 0.83 | 0.82 | 0.42 | 0.34 | 0.71 |
| 11 | 0.37 | 0.54 | 0.90 | 1.20 | 1.51 | 2.07 | 1.87 | 1.70 | 1.35 | 1.15 | 0.62 | 0.41 | 1.14 |
| Mean. | −0.53 | 1.24 | 3.41 | 6.77 | 10.37 | 13.31 | 14.30 | 13.58 | 11.46 | 7.48 | 3.76 | 0.58 | |

## XXXVII.

SWITZERLAND. — GENEVA. *Lat.* 46° 12′ N. *Long.* 6° 9′ E. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.45 | 0.69 | 1.26 | 1.44 | 1.54 | 1.98 | 2.12 | 1.63 | 1.44 | 0.94 | 0.50 | 0.59 | 1.21 |
| 2 | 0.70 | 0.96 | 2.21 | 2.62 | 2.60 | 3.20 | 3.18 | 2.83 | 2.72 | 1.46 | 0.73 | 0.66 | 1.99 |
| 4 | 1.01 | 1.33 | 2.91 | 3.36 | 3.11 | 3.55 | 3.82 | 3.51 | 3.26 | 1.90 | 1.02 | 0.80 | 2.46 |
| 6 | 1.19 | 1.49 | 2.70 | 2.87 | 2.26 | 2.38 | 2.47 | 2.82 | 2.79 | 1.74 | 1.13 | 0.97 | 2.07 |
| 8 | 1.22 | 1.22 | 1.42 | 0.74 | 0.27 | 0.13 | 0.22 | 0.49 | 0.72 | 0.94 | 0.90 | 0.95 | 0.77 |
| 10 | −0.02 | −0.25 | −0.68 | −1.70 | −1.30 | −1.34 | −1.25 | −1.01 | −1.10 | −0.73 | −0.26 | −0.14 | −0.73 |
| Noon. | −0.13 | −1.30 | −1.97 | −2.14 | −2.42 | −2.54 | −2.50 | −2.34 | −2.38 | −1.86 | −1.18 | −1.22 | −1.91 |
| 2 | −1.69 | −1.70 | −2.82 | −2.94 | −2.97 | −3.09 | −3.11 | −3.17 | −3.03 | −2.35 | −1.55 | −1.46 | −2.49 |
| 4 | −1.30 | −1.61 | −2.70 | −2.94 | −2.46 | −2.87 | −2.89 | −3.04 | −2.86 | −1.53 | −1.19 | −1.05 | −2.20 |
| 6 | −0.54 | −0.90 | −1.79 | −2.06 | −1.40 | −1.89 | −2.24 | −2.04 | −1.74 | −0.88 | −0.45 | −0.43 | −1.36 |
| 8 | −0.09 | −0.21 | −0.89 | −0.70 | −0.10 | −0.25 | −0.58 | −0.38 | −0.38 | −0.08 | 0.03 | 0.10 | −0.29 |
| 10 | 0.20 | 0.28 | 0.34 | 0.40 | 0.86 | 0.78 | 0.78 | 0.69 | 0.57 | 0.47 | 0.29 | 0.18 | 0.49 |
| Mean. | 1.20 | 0.47 | 2.28 | 6.81 | 9.48 | 12.82 | 14.43 | 13.74 | 10.66 | 7.73 | 3.30 | 0.12 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XXXVIII.

SWITZERLAND. — ST. BERNARD. *Lat.* 45° 52′ N. *Long.* 9° 22′ E. *Gr.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.48 | 0.81 | 1.34 | 1.96 | 2.10 | 1.72 | 1.62 | 1.30 | 0.76 | 1.02 | 0.59 | 0.31 | 1.17 |
| 1 | 0.63 | 0.91 | 1.58 | 2.22 | 2.45 | 1.99 | 1.93 | 1.53 | 0.97 | 1.17 | 0.66 | 0.33 | 1.36 |
| 2 | 0.81 | 1.09 | 1.82 | 2.40 | 2.73 | 2.15 | 2.14 | 1.82 | 1.17 | 1.30 | 0.78 | 0.40 | 1.55 |
| 3 | 0.99 | 1.26 | 1.98 | 2.46 | 2.81 | 2.24 | 2.24 | 1.94 | 1.34 | 1.36 | 0.89 | 0.50 | 1.67 |
| 4 | 1.08 | 1.38 | 2.02 | 2.34 | 2.67 | 2.14 | 2.17 | 1.91 | 1.41 | 1.34 | 0.98 | 0.52 | 1.66 |
| 5 | 1.08 | 1.34 | 1.84 | 2.00 | 2.28 | 1.88 | 1.90 | 1.70 | 1.35 | 1.19 | 0.98 | 0.66 | 1.52 |
| 6 | 0.91 | 1.14 | 1.42 | 1.45 | 1.72 | 1.42 | 1.44 | 1.34 | 1.14 | 0.92 | 0.86 | 0.62 | 1.20 |
| 7 | 0.60 | 0.74 | 0.79 | 0.70 | 0.81 | 0.81 | 0.82 | 0.76 | 0.77 | 0.83 | 0.61 | 0.50 | 0.73 |
| 8 | 0.17 | 0.18 | 0.00 | −0.16 | −0.08 | 0.09 | 0.10 | 0.12 | 0.29 | 0.06 | 0.26 | 0.26 | 0.11 |
| 9 | −0.31 | −0.48 | −0.85 | −1.06 | −1.10 | −0.66 | −0.66 | −0.53 | −0.26 | −0.46 | −0.22 | −0.06 | −0.55 |
| 10 | −0.78 | −1.13 | −1.63 | −1.86 | −1.94 | −1.36 | −1.34 | −1.13 | −0.78 | −0.94 | −0.68 | −0.41 | −1.16 |
| 11 | −1.14 | −1.66 | −2.23 | −2.50 | −2.58 | −1.95 | −1.90 | −1.60 | −1.22 | −1.33 | −1.09 | −0.71 | −1.66 |
| Noon. | −1.34 | −1.98 | −2.58 | −2.87 | −2.96 | −2.34 | −2.26 | −1.90 | −1.51 | −1.58 | −1.36 | −0.94 | −1.97 |
| 1 | −1.38 | −2.04 | −2.62 | −2.98 | −3.06 | −2.51 | −2.40 | −2.02 | −1.62 | −1.66 | −1.47 | −1.03 | −2.07 |
| 2 | −1.24 | −1.86 | −2.38 | −2.78 | −2.89 | −2.44 | −2.33 | −1.94 | −1.56 | −1.59 | −1.39 | −0.99 | −1.95 |
| 3 | −0.98 | −1.47 | −1.92 | −2.36 | −2.51 | −2.21 | −2.08 | −1.74 | −1.35 | −1.38 | −1.16 | −0.82 | −1.66 |
| 4 | −0.65 | −0.97 | −1.34 | −1.79 | −1.98 | −1.80 | −1.70 | −1.42 | −1.05 | −1.07 | −0.83 | −0.57 | −1.26 |
| 5 | −0.32 | −0.43 | −0.73 | −1.17 | −1.40 | −1.32 | −1.26 | −1.06 | −0.70 | −0.72 | −0.46 | −0.27 | −0.82 |
| 6 | −0.05 | 0.04 | −0.19 | −0.54 | −0.81 | −0.80 | −0.80 | −0.70 | −0.38 | −0.36 | −0.10 | 0.00 | −0.39 |
| 7 | 0.14 | 0.39 | 0.25 | 0.04 | −0.25 | −0.28 | −0.34 | −0.34 | −0.11 | −0.03 | 0.19 | 0.21 | −0.01 |
| 8 | 0.25 | 0.60 | 0.56 | 0.54 | 0.27 | 0.20 | 0.09 | 0.00 | 0.10 | 0.24 | 0.38 | 0.34 | 0.30 |
| 9 | 0.30 | 0.69 | 0.78 | 0.96 | 0.76 | 0.63 | 0.50 | 0.32 | 0.27 | 0.47 | 0.49 | 0.38 | 0.55 |
| 10 | 0.34 | 0.72 | 0.96 | 1.33 | 1.22 | 1.02 | 0.89 | 0.64 | 0.42 | 0.67 | 0.53 | 0.38 | 0.76 |
| 11 | 0.38 | 0.74 | 1.14 | 1.66 | 1.68 | 1.40 | 1.26 | 0.97 | 0.58 | 0.85 | 0.55 | 0.33 | 0.96 |
| Mean. | −8.26 | −6.62 | −5.72 | −2.97 | 0.74 | 3.55 | 4.82 | 4.32 | 2.40 | −0.91 | −3.95 | −5.86 | |

## XXXIX.

SWITZERLAND. — ST. BERNARD. *Lat.* 45° 52′ N. *Long.* 9° 22′ E. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.34 | 0.55 | 0.75 | 1.19 | 1.26 | 1.39 | 1.02 | 1.08 | 0.81 | 0.66 | 0.33 | 0.28 | 0.80 |
| 2 | 0.52 | 0.78 | 1.14 | 1.64 | 1.75 | 1.88 | 1.62 | 1.53 | 1.16 | 0.94 | 0.42 | 0.27 | 1.14 |
| 4 | 0.82 | 1.06 | 1.50 | 1.84 | 1.91 | 1.98 | 1.82 | 1.71 | 1.34 | 1.17 | 0.65 | 0.42 | 1.35 |
| 6 | 0.65 | 0.86 | 1.20 | 1.50 | 1.53 | 1.46 | 1.46 | 1.27 | 0.98 | 0.88 | 0.50 | 0.32 | 1.05 |
| 8 | 0.48 | 0.26 | 0.14 | −0.08 | −0.25 | 0.01 | 0.22 | 0.16 | 0.08 | 0.28 | 0.27 | 0.15 | 0.14 |
| 10 | −0.35 | −0.91 | −1.06 | −1.26 | −1.39 | −1.18 | −1.11 | −0.94 | −0.86 | −0.68 | −0.54 | −0.23 | −0.88 |
| Noon. | −1.40 | −1.66 | −1.74 | −2.11 | −2.15 | −1.92 | −1.81 | −1.77 | −1.58 | −1.45 | −1.26 | −0.91 | −1.65 |
| 2 | −1.37 | −1.55 | −1.89 | −2.12 | −2.12 | −2.23 | −2.01 | −1.97 | −1.54 | −1.52 | −1.23 | −1.22 | −1.73 |
| 4 | −0.42 | −0.71 | −1.14 | −1.55 | −1.47 | −1.65 | −1.49 | −1.30 | −0.88 | −0.86 | −0.37 | −0.02 | −0.99 |
| 6 | 0.09 | 0.17 | 0.09 | −0.26 | −0.35 | −0.71 | −0.57 | −0.46 | −0.26 | −0.07 | 0.08 | 0.22 | −0.17 |
| 8 | 0.25 | 0.44 | 0.49 | 0.49 | 0.50 | 0.35 | 0.30 | 0.26 | 0.26 | 0.22 | 0.70 | 0.30 | 0.38 |
| 10 | 0.37 | 0.55 | 0.55 | 0.71 | 0.76 | 0.64 | 0.56 | 0.43 | 0.46 | 0.43 | 0.40 | 0.40 | 0.52 |
| Mean. | −6.03 | −8.83 | −6.66 | −3.01 | −0.42 | 2.71 | 4.82 | 4.70 | 2.07 | −0.36 | −5.46 | −6.18 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XL.

AUSTRIA. — KREMSMÜNSTER. *Lat.* 48° 3′ N. *Long.* 14° 7′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.58 | 0.90 | 1.05 | 1.14 | 2.30 | 2.77 | 1.86 | 1.94 | 1.52 | 1.26 | 0.61 | 0.40 | 1.36 |
| 2 | 0.66 | 1.03 | 1.30 | 1.36 | 2.66 | 3.08 | 2.16 | 2.26 | 1.94 | 1.58 | 0.72 | 0.42 | 1.60 |
| 3 | 0.71 | 1.07 | 1.57 | 1.63 | 2.84 | 3.14 | 2.35 | 2.50 | 2.32 | 1.82 | 0.78 | 0.42 | 1.76 |
| 4 | 0.78 | 1.12 | 1.80 | 1.88 | 2.78 | 2.90 | 2.34 | 2.54 | 2.58 | 1.97 | 0.83 | 0.42 | 1.83 |
| 5 | 0.84 | 1.19 | 1.90 | 1.99 | 2.44 | 2.32 | 2.08 | 2.30 | 2.60 | 1.98 | 0.88 | 0.46 | 1.75 |
| 6 | 0.88 | 1.24 | 1.82 | 1.88 | 1.86 | 1.54 | 1.54 | 1.80 | 2.34 | 1.91 | 0.93 | 0.54 | 1.52 |
| 7 | 0.84 | 1.26 | 1.50 | 1.41 | 1.11 | 0.68 | 0.94 | 1.11 | 1.81 | 1.63 | 0.92 | 0.59 | 1.15 |
| 8 | 0.67 | 1.07 | 0.96 | 0.87 | 0.31 | −0.15 | 0.23 | 0.35 | 1.09 | 1.21 | 0.80 | 0.56 | 0.66 |
| 9 | 0.35 | 0.67 | 0.30 | 0.14 | −0.45 | −0.86 | −0.42 | −0.37 | 0.28 | 0.62 | 0.51 | 0.38 | 0.10 |
| 10 | −0.10 | 0.01 | −0.41 | −0.58 | −1.10 | −1.42 | −0.95 | −0.98 | −0.52 | −0.13 | 0.06 | 0.05 | −0.56 |
| 11 | −0.58 | −0.72 | −1.06 | −1.20 | −1.65 | −1.84 | −1.39 | −1.47 | −1.23 | −0.92 | −0.47 | −0.38 | −1.08 |
| Noon. . . | −0.98 | −1.37 | −1.56 | −1.65 | −2.09 | −2.17 | −1.75 | −1.86 | −1.81 | −1.68 | −0.97 | −0.78 | −1.56 |
| 1 | −1.22 | −1.78 | −1.89 | −1.93 | −2.42 | −2.42 | −2.05 | −2.21 | −2.28 | −2.25 | −1.30 | −1.03 | −1.90 |
| 2 | −1.26 | −1.90 | −2.02 | −2.06 | −2.62 | −2.58 | −2.26 | −2.38 | −2.56 | −2.53 | −1.40 | −1.09 | −2.05 |
| 3 | −1.12 | −1.69 | −1.99 | −2.04 | −2.67 | −2.62 | −2.33 | −2.46 | −2.65 | −2.49 | −1.28 | −0.94 | −2.02 |
| 4 | −0.86 | −1.32 | −1.79 | −1.89 | −2.51 | −2.49 | −2.22 | −2.34 | −2.52 | −2.17 | −1.01 | −0.66 | −1.98 |
| 5 | −0.59 | −0.92 | −1.48 | −1.60 | −2.15 | −2.16 | −1.88 | −2.00 | −2.18 | −1.69 | −0.68 | −0.35 | −1.47 |
| 6 | −0.35 | −0.57 | −1.08 | −1.18 | −1.62 | −1.66 | −1.38 | −1.49 | −1.66 | −1.14 | −0.41 | −0.11 | −1.05 |
| 7 | −0.18 | −0.36 | −0.65 | −0.68 | −0.98 | −1.03 | −0.76 | −0.86 | −1.05 | −0.66 | −0.22 | 0.02 | −0.62 |
| 8 | −0.04 | −0.19 | −0.23 | −0.17 | −0.34 | −0.35 | −0.15 | −0.24 | −0.46 | −0.26 | −0.11 | 0.09 | −0.20 |
| 9 | 0.07 | −0.02 | 0.13 | 0.28 | 0.28 | 0.34 | 0.38 | 0.30 | 0.05 | 0.06 | −0.02 | 0.12 | 0.16 |
| 10 | 0.20 | 0.18 | 0.42 | 0.61 | 0.84 | 1.02 | 0.82 | 0.76 | 0.46 | 0.34 | 0.11 | 0.18 | 0.49 |
| 11 | 0.34 | 0.46 | 0.63 | 0.82 | 1.36 | 1.68 | 1.19 | 1.15 | 0.80 | 0.63 | 0.27 | 0.25 | 0.80 |
| Midn. . . | 0.47 | 0.70 | 0.83 | 0.97 | 1.85 | 2.27 | 1.52 | 1.53 | 1.14 | 0.94 | 0.46 | 0.34 | 1.08 |
| 6. 6 | 0.27 | 0.34 | 0.37 | 0.35 | 0.12 | −0.06 | 0.08 | 0.16 | 0.34 | 0.39 | 0.26 | 0.22 | 0.24 |
| 7. 7 | 0.33 | 0.45 | 0.43 | 0.37 | 0.07 | −0.18 | 0.09 | 0.13 | 0.38 | 0.48 | 0.35 | 0.29 | 0.27 |
| 8. 8 | 0.32 | 0.44 | 0.37 | 0.35 | −0.02 | −0.10 | 0.04 | 0.06 | 0.32 | 0.48 | 0.35 | 0.24 | 0.24 |
| 9. 9 | 0.21 | 0.33 | 0.22 | 0.21 | −0.09 | −0.26 | −0.02 | −0.04 | 0.17 | 0.34 | 0.25 | 0.25 | 0.13 |
| 10.10 | 0.05 | 0.10 | 0.01 | 0.02 | −0.13 | −0.20 | −0.07 | −0.11 | −0.03 | 0.11 | 0.09 | 0.12 | 0.00 |
| 7. 2. 9 | −0.12 | −0.22 | −0.13 | −0.12 | −0.41 | −0.52 | −0.31 | −0.32 | −0.23 | −0.28 | −0.17 | −0.16 | −0.25 |
| 6. 2. 8 | −0.14 | −0.28 | −0.14 | −0.12 | −0.37 | −0.46 | −0.29 | −0.27 | −0.23 | −0.29 | −0.19 | −0.15 | −0.24 |
| 6. 2.10 | −0.06 | −0.16 | 0.07 | 0.14 | 0.03 | −0.01 | 0.03 | 0.06 | 0.08 | −0.09 | −0.12 | −0.12 | −0.01 |
| 6. 2. 6 | −0.24 | −0.41 | −0.43 | −0.45 | −0.79 | −0.90 | −0.70 | −0.69 | −0.63 | −0.94 | −0.36 | −0.15 | −0.56 |
| 7. 2 | −0.21 | −0.32 | −0.26 | −0.33 | −0.76 | −0.95 | −0.66 | −0.63 | −0.38 | −0.45 | −0.24 | −0.25 | −0.45 |
| 8. 2 | −0.30 | −0.42 | −0.53 | −0.60 | −1.16 | −1.22 | −1.02 | −1.02 | −0.74 | −0.66 | −0.30 | −0.27 | −0.69 |
| 8. 1 | −0.28 | −0.36 | −0.47 | −0.53 | −1.06 | −1.14 | −0.91 | −0.93 | −0.60 | −0.52 | −0.25 | −0.24 | −0.61 |
| 7. 1 | −0.19 | −0.26 | −0.20 | −0.26 | −0.66 | −0.87 | −0.56 | −0.55 | −0.24 | −0.31 | −0.19 | −0.22 | −0.38 |
| 9.12.3.9 | −0.42 | −0.60 | −0.78 | −0.82 | −1.23 | −1.33 | −1.03 | −1.10 | −1.03 | −0.87 | −0.44 | −0.31 | −0.83 |
| 7. 2.2(9) | −0.07 | −0.17 | −0.07 | −0.02 | −0.24 | −0.31 | −0.15 | −0.17 | −0.14 | −0.19 | −0.13 | −0.07 | −0.14 |
| Dail. ext. | −0.19 | −0.32 | −0.06 | −0.04 | 0.09 | 0.36 | 0.01 | 0.04 | −0.03 | −0.28 | −0.24 | −0.25 | −0.08 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XLI.

AUSTRIA. — SALZBURG. *Lat.* 47° 48′ N. *Long.* 13° 1′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.54 | 0.70 | 1.06 | 1.31 | 2.03 | 2.07 | 1.87 | 1.57 | 1.21 | 1.02 | 0.48 | 0.42 | 1.19 |
| 1 | 0.59 | 0.79 | 1.29 | 1.58 | 2.37 | 2.27 | 2.13 | 1.81 | 1.45 | 1.15 | 0.65 | 0.50 | 1.38 |
| 2 | 0.72 | 0.97 | 0.51 | 1.79 | 2.64 | 2.56 | 2.36 | 2.05 | 1.61 | 1.27 | 0.81 | 0.59 | 1.49 |
| 3 | 0.82 | 1.08 | 1.75 | 2.04 | 2.90 | 2.73 | 2.64 | 2.24 | 1.87 | 1.41 | 0.88 | 0.70 | 1.75 |
| 4 | 0.96 | 1.09 | 1.89 | 2.21 | 3.10 | 2.82 | 2.62 | 2.23 | 2.04 | 1.52 | 0.91 | 0.69 | 1.84 |
| 5 | 1.03 | 1.28 | 2.01 | 2.37 | 3.10 | 2.75 | 2.59 | 2.24 | 2.14 | 1.72 | 1.03 | 0.81 | 1.92 |
| 6 | 1.06 | 1.34 | 2.14 | 2.28 | 2.76 | 2.45 | 2.31 | 2.26 | 2.18 | 1.77 | 1.03 | 0.87 | 1.87 |
| 7 | 1.09 | 1.36 | 2.06 | 1.86 | 1.89 | 1.53 | 1.61 | 1.74 | 1.94 | 1.74 | 1.06 | 0.94 | 1.57 |
| 8 | 1.12 | 1.24 | 1.58 | 1.06 | 0.84 | 0.63 | 0.67 | 0.89 | 1.15 | 1.26 | 1.07 | 1.00 | 1.04 |
| 9 | 0.91 | 0.75 | 0.76 | 0.14 | −0.10 | −0.25 | 0.20 | 0.04 | 0.33 | 0.48 | 0.64 | 0.74 | 0.39 |
| 10 | 0.38 | 0.04 | −0.06 | −0.67 | −0.92 | −1.10 | −0.97 | −0.76 | −0.53 | −0.35 | 0.06 | 0.21 | −0.39 |
| 11 | −0.26 | −0.62 | −0.96 | −1.39 | −1.80 | −1.87 | −1.63 | −1.40 | −1.25 | −1.17 | −0.62 | −0.35 | −1.11 |
| Noon. | −0.90 | −1.19 | −1.75 | −1.99 | −2.36 | −2.90 | −2.14 | −2.13 | −2.00 | −1.84 | −1.25 | −0.93 | −1.78 |
| 1 | −1.47 | −1.68 | −2.26 | −2.48 | −2.82 | −2.84 | −2.59 | −2.59 | −1.48 | −2.39 | −1.68 | −1.47 | −2.15 |
| 2 | −1.70 | −1.96 | −2.55 | −2.74 | −3.08 | −3.03 | −2.77 | −2.73 | −2.71 | −2.55 | −1.85 | −1.64 | −2.44 |
| 3 | −1.68 | −2.04 | −2.61 | −2.74 | −3.21 | −3.04 | −2.90 | −2.75 | −2.67 | −2.51 | −1.75 | −1.55 | −2.45 |
| 4 | −1.40 | −1.80 | −2.55 | −2.60 | −3.27 | −3.00 | −2.90 | −2.85 | −2.56 | −2.21 | −1.37 | −1.19 | −2.31 |
| 5 | −1.00 | −1.46 | −2.26 | −2.10 | −2.97 | −2.64 | −2.64 | −2.46 | −2.09 | −1.63 | −0.85 | −0.72 | −1.90 |
| 6 | −0.60 | −0.76 | −1.51 | −1.52 | −2.27 | −2.10 | −2.05 | −1.78 | −1.31 | −0.83 | −0.35 | −0.42 | −1.29 |
| 7 | −0.31 | −0.27 | −0.76 | −0.75 | −1.43 | −1.21 | −1.24 | −0.85 | −0.48 | −0.29 | −0.10 | −0.15 | −0.65 |
| 8 | −0.25 | −0.02 | −0.16 | −0.07 | −0.43 | −0.13 | −0.24 | 0.06 | 0.15 | 0.16 | 0.11 | 0.04 | −0.06 |
| 9 | −0.04 | 0.20 | 0.17 | 0.51 | 0.48 | 0.71 | 0.67 | 0.70 | 0.50 | 0.48 | 0.24 | 0.17 | 0.40 |
| 10 | 0.12 | 0.43 | 0.46 | 0.81 | 1.03 | 1.41 | 1.22 | 1.09 | 0.78 | 0.76 | 0.34 | 0.33 | 0.73 |
| 11 | 0.28 | 0.53 | 0.76 | 1.08 | 1.50 | 1.70 | 1.56 | 1.38 | 0.76 | 1.03 | 0.52 | 0.41 | 0.96 |
| Mean. | −2.71 | 1.14 | 2.49 | 6.90 | 10.42 | 13.22 | 13.93 | 13.66 | 10.30 | 7.37 | 1.52 | 1.63 | |

## XLII.

GERMANY. — MUNICH. *Lat.* 48° 9′ N. *Long.* 11° 37′ E. *Greenw.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.71 | 0.92 | 1.54 | 2.27 | 2.58 | 2.49 | 2.84 | 2.37 | 2.17 | 1.53 | 0.91 | 0.46 | 1.73 |
| 1 | 0.90 | 1.04 | 1.83 | 2.37 | 3.02 | 3.06 | 3.27 | 2.64 | 2.33 | 1.59 | 0.87 | 0.58 | 1.96 |
| 2 | 0.97 | 1.18 | 2.04 | 2.62 | 3.30 | 3.39 | 3.56 | 2.94 | 2.61 | 1.67 | 0.94 | 0.67 | 2.16 |
| 3 | 1.04 | 1.30 | 2.16 | 2.89 | 3.61 | 3.66 | 3.80 | 3.19 | 2.81 | 1.78 | 1.00 | 0.77 | 2.33 |
| 4 | 1.03 | 1.33 | 2.25 | 3.12 | 3.85 | 3.82 | 4.05 | 3.41 | 2.98 | 1.91 | 1.04 | 0.85 | 2.47 |
| 5 | 1.07 | 1.43 | 2.37 | 3.29 | 3.69 | 3.25 | 3.71 | 3.50 | 3.16 | 2.01 | 1.12 | 0.92 | 2.46 |
| 6 | 1.14 | 1.52 | 2.56 | 2.93 | 2.61 | 2 11 | 2.41 | 2.79 | 3.08 | 2.14 | 1 13 | 0 99 | 2.12 |
| 7 | 1.17 | 1.55 | 2.17 | 1.80 | 1.21 | 0.77 | 0.93 | 1.48 | 2.22 | 1.84 | 1.13 | 0.97 | 1.44 |
| 8 | 1.10 | 1.14 | 1.14 | 0.36 | −0.07 | −0.35 | −0.28 | 0.18 | 0.59 | 0.99 | 0.75 | 0.88 | 0.54 |
| 9 | 0.46 | 0.36 | −0.11 | −0.79 | −1.00 | −1.21 | −1.25 | −1.05 | −0.74 | −0.24 | 0.06 | 0.41 | −0.42 |
| 10 | −0.72 | −0.61 | −1.18 | −1.80 | −1.99 | −1.96 | −2.12 | −1.88 | −1.70 | −1.34 | −0.79 | −0.42 | −1.38 |
| 11 | −1.06 | −1.46 | −2.04 | −2.39 | −2.59 | −2.69 | −2.66 | −2.58 | −2.61 | −2.19 | −1.49 | −0.97 | −2.06 |

The numbers without sign must be added ; those with the sign — must be subtracted.

## XLII.

GERMANY. — MUNICH, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon | −1.70 | −1.93 | −2.67 | −2.99 | −3.28 | −2.98 | −3.14 | −3.09 | −3.18 | −2.69 | −1.94 | −1.02 | −2.55 |
| 1 | −2.08 | −2.31 | −3.01 | −3.27 | −3.59 | −3.41 | −3.48 | −3.55 | −3.58 | −3.08 | −2.23 | −1.83 | −2.95 |
| 2 | −2.15 | −2.40 | −3.24 | −3.60 | −3.77 | −3.79 | −3.75 | −3.72 | −3.74 | −3.15 | −2.05 | −1.85 | −3.10 |
| 3 | −1.83 | −2.15 | −3.17 | −3.45 | −3.77 | −3.54 | −3.83 | −3.58 | −3.56 | −2.87 | −1.75 | −1.43 | −2.91 |
| 4 | −1.08 | −1.67 | −2.64 | −3.18 | −3.41 | −3.34 | −3.49 | −3.30 | −3.24 | −2.27 | −1.02 | −0.76 | −2.45 |
| 5 | −0.46 | −0.95 | −1.98 | −2.51 | −2.87 | −2.80 | −3.07 | −2.76 | −2.56 | −1.27 | −0.43 | −0.34 | −1.83 |
| 6 | −0.16 | −0.37 | −0.94 | −1.53 | −2.05 | −1.94 | −2.32 | −1.81 | −1.29 | −0.44 | −0.12 | −0.13 | −1.09 |
| 7 | 0.04 | −0.07 | −0.20 | −0.36 | −0.74 | −0.84 | −2.99 | −0.47 | −0.30 | 0.08 | 0.20 | 0.06 | −0.47 |
| 8 | 0.23 | 0.22 | 0.28 | 0.40 | 0.41 | 0.61 | 0.40 | 0.55 | 0.37 | 0.56 | 0.44 | 0.14 | 0.38 |
| 9 | 0.39 | 0.45 | 0.55 | 0.91 | 1.13 | 1.35 | 1.20 | 1.15 | 0.93 | 0.88 | 0.57 | 0.23 | 0.81 |
| 10 | 0.49 | 0.59 | 1.02 | 1.31 | 1.65 | 1.86 | 1.87 | 1.60 | 1.40 | 1.14 | 0.74 | 0.33 | 1.17 |
| 11 | 0.61 | 0.77 | 1.33 | 1.69 | 2.18 | 2.28 | 2.41 | 2.06 | 1.80 | 1.34 | 0.85 | 0.40 | 1.48 |
| Mean. | −2.15 | −0.12 | 0.75 | 5.57 | 9.29 | 12.74 | 13.65 | 12.93 | 9.45 | 6.28 | 1.55 | −1.28 | |

## XLIII.

BOHEMIA. — PRAGUE. *Lat.* 50° 5′ N. *Long.* 14° 25′ E. *Greenw.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn | 0.30 | 0.52 | 1.03 | 1.47 | 1.70 | 1.68 | 1.72 | 1.17 | 1.23 | 0.84 | 0.36 | 0.25 | 1.02 |
| 1 | 0.40 | 0.60 | 1.14 | 1.68 | 1.97 | 1.97 | 2.05 | 1.78 | 1.49 | 1.02 | 0.45 | 0.32 | 1.24 |
| 2 | 0.50 | 0.71 | 1.29 | 1.95 | 2.25 | 2.23 | 2.34 | 2.10 | 1.72 | 1.19 | 0.54 | 0.39 | 1.43 |
| 3 | 0.55 | 0.83 | 1.44 | 2.17 | 2.46 | 2.47 | 2.60 | 2.38 | 1.96 | 1.31 | 0.61 | 0.50 | 1.61 |
| 4 | 0.65 | 0.89 | 1.60 | 2.39 | 2.75 | 2.71 | 2.91 | 2.63 | 2.19 | 1.49 | 0.70 | 0.56 | 1.79 |
| 5 | 0.71 | 0.99 | 1.72 | 2.64 | 2.96 | 2.86 | 3.07 | 2.88 | 2.43 | 1.65 | 0.77 | 0.65 | 1.94 |
| 6 | 0.77 | 1.00 | 1.81 | 2.75 | 2.96 | 2.71 | 2.92 | 2.93 | 2.61 | 1.73 | 0.82 | 0.72 | 1.98 |
| 7 | 0.68 | 0.99 | 1.53 | 2.32 | 2.11 | 1.88 | 2.13 | 2.34 | 2.29 | 1.65 | 0.79 | 0.73 | 1.62 |
| 8 | 0.73 | 0.88 | 1.28 | 1.29 | 0.98 | 0.82 | 1.02 | 1.30 | 1.62 | 1.29 | 0.66 | 0.70 | 1.05 |
| 9 | 0.62 | 0.57 | 0.63 | 0.32 | 0.06 | −0.14 | 0.17 | 0.21 | 0.60 | 0.70 | 0.41 | 0.54 | 0.39 |
| 10 | 0.26 | 0.15 | −0.11 | −0.53 | −0.91 | −0.93 | −0.95 | −0.77 | −0.51 | −0.10 | −0.12 | 0.17 | −0.36 |
| 11 | −0.16 | −0.45 | −0.77 | −1.51 | −1.60 | −1.58 | −1.62 | −1.50 | −1.46 | −0.86 | −0.46 | −0.22 | −1.02 |
| Noon. | −0.60 | −0.92 | −1.37 | −2.09 | −2.16 | −2.08 | −2.16 | −2.18 | −2.02 | −1.53 | −0.86 | −0.65 | −1.55 |
| 1 | −0.93 | −1.27 | −1.83 | −2.48 | −2.56 | −2.48 | −2.59 | −2.61 | −2.56 | −2.01 | −1.13 | −0.95 | −1.95 |
| 2 | −1.10 | −1.50 | −2.20 | −2.74 | −2.80 | −2.73 | −2.83 | −2.89 | −2.84 | −2.31 | −1.25 | −1.07 | −2.19 |
| 3 | −1.11 | −1.51 | −2.29 | −2.88 | −2.90 | −2.79 | −2.93 | −3.01 | −2.96 | −2.32 | −1.28 | −0.99 | −2.25 |
| 4 | −0.93 | −1.35 | −2.20 | −2.76 | −2.82 | −2.71 | −2.92 | −2.85 | −2.78 | −2.10 | −0.87 | −0.79 | −2.09 |
| 5 | −0.68 | −0.97 | −1.83 | −2.46 | −2.53 | −2.56 | −2.83 | −2.66 | −2.35 | −1.58 | −0.62 | −0.55 | −1.80 |
| 6 | −0.44 | −0.61 | −1.26 | −1.91 | −2.17 | −2.10 | −2.36 | −2.11 | −1.64 | −1.01 | −0.36 | −0.37 | −1.36 |
| 7 | −0.31 | −0.32 | −0.70 | −1.12 | −1.49 | −1.37 | −1.59 | −1.23 | −0.87 | −0.54 | −0.19 | −0.21 | −0.83 |
| 8 | −0.23 | −0.06 | −0.24 | −0.33 | −0.51 | −0.39 | −0.58 | −0.34 | −0.24 | −0.10 | 0.01 | −0.19 | −0.27 |
| 9 | 0.01 | 0.12 | 0.09 | 0.20 | 0.27 | 0.30 | 0.22 | 0.20 | 0.27 | 0.23 | 0.16 | 0.06 | 0.18 |
| 10 | 0.10 | 0.26 | 0.40 | 0.72 | 0.80 | 0.91 | 0.90 | 0.81 | 0.74 | 0.51 | 0.29 | 0.16 | 0.55 |
| 11 | 0.19 | 0.39 | 0.66 | 1.12 | 1.24 | 1.28 | 1.32 | 1.20 | 1.08 | 0.85 | 0.43 | 0.25 | 0.83 |
| Mean. | −1.69 | 0.64 | 2.20 | 7.27 | 11.27 | 14.47 | 15.66 | 15.01 | 11.52 | 7.94 | 3.02 | −0.12 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## XLIV.

BOHEMIA. — PRAGUE. *Lat.* 50° 5′ N. *Long.* 14° 24′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.45 | 0.76 | 0.86 | 1.73 | 1.47 | 1.90 | 1.93 | 1.59 | 1.46 | 1.06 | 0.73 | 0.45 | 1.20 |
| 2 | 0.52 | 0.88 | 1.05 | 2.06 | 1.77 | 2.22 | 2.24 | 1.85 | 1.69 | 1.18 | 0.79 | 0.52 | 1.40 |
| 3 | 0.54 | 0.98 | 1.24 | 2.45 | 2.08 | 2.62 | 2.36 | 2.04 | 1.85 | 1.23 | 0.82 | 0.54 | 1.56 |
| 4 | 0.53 | 1.06 | 1.42 | 2.82 | 2.31 | 3.02 | 2.27 | 2.10 | 1.95 | 1.24 | 0.78 | 0.55 | 1.67 |
| 5 | 0.50 | 1.14 | 1.55 | 3.02 | 2.35 | 3.22 | 2.01 | 2.01 | 1.97 | 1.22 | 0.78 | 0.60 | 1.70 |
| 6 | 0.49 | 1.15 | 1.60 | 2.92 | 2.12 | 3.03 | 1.62 | 1.76 | 1.90 | 1.19 | 0.80 | 0.70 | 1.61 |
| 7 | 0.47 | 1.09 | 1.51 | 2.43 | 1.62 | 2.40 | 1.16 | 1.36 | 1.69 | 1.10 | 0.77 | 0.80 | 1.37 |
| 8 | 0.42 | 0.91 | 1.24 | 1.59 | 0.92 | 1.40 | 0.66 | 0.83 | 1.28 | 0.90 | 0.69 | 0.82 | 0.97 |
| 9 | 0.29 | 0.55 | 0.77 | 0.53 | 0.15 | 0.24 | 0.10 | 0.19 | 0.64 | 0.51 | 0.42 | 0.67 | 0.42 |
| 10 | 0.08 | −1.01 | 0.16 | −0.56 | −0.57 | −0.85 | −0.52 | −0.51 | −0.20 | −0.07 | −0.02 | 0.31 | −0.31 |
| 11 | −0.21 | −1.19 | −0.52 | −1.52 | −1.16 | −1.68 | −1.19 | −1.23 | −1.14 | −0.78 | −0.55 | −1.18 | −0.95 |
| Noon. . . | −0.52 | −1.10 | −1.16 | −2.25 | −1.60 | −2.23 | −1.84 | −1.86 | −2.00 | −1.47 | −1.10 | −0.70 | −1.49 |
| 1 | −0.76 | −1.51 | −1.63 | −2.74 | −1.91 | −2.55 | −2.37 | −2.33 | −2.63 | −1.99 | −1.47 | −1.08 | −1.91 |
| 2 | −0.88 | −1.70 | −1.89 | −3.00 | −2.14 | −2.76 | −2.66 | −2.57 | −2.89 | −2.21 | −1.58 | −1.23 | −2.13 |
| 3 | −0.85 | −1.64 | −1.92 | −3.08 | −2.26 | −2.92 | −2.65 | −2.53 | −2.76 | −2.08 | −1.44 | −1.13 | −2.11 |
| 4 | −0.71 | −1.39 | −1.75 | −2.97 | −2.26 | −2.98 | −2.36 | −2.23 | −2.31 | −1.68 | −1.08 | −0.87 | −1.88 |
| 5 | −0.51 | −1.05 | −1.45 | −2.65 | −2.08 | −2.86 | −1.86 | −1.75 | −1.70 | −1.14 | −0.67 | −0.56 | −1.52 |
| 6 | −0.31 | −0.66 | −1.10 | −2.13 | −1.71 | −2.45 | −1.28 | −1.18 | −1.07 | −0.60 | −0.31 | −0.31 | −1.09 |
| 7 | −0.16 | −0.34 | −0.73 | −1.42 | −1.17 | −1.75 | −0.73 | −0.62 | −0.52 | −0.17 | −0.04 | −0.17 | −0.65 |
| 8 | −0.06 | −0.09 | −0.40 | −0.64 | −0.56 | −0.85 | −0.24 | −0.12 | −0.08 | 0.13 | 0.10 | −0.11 | −0.24 |
| 9 | 0.02 | 0.11 | 0.10 | 0.11 | 0.03 | 0.06 | 0.19 | 0.30 | 0.26 | 0.34 | 0.20 | 0.07 | 0.12 |
| 10 | 0.11 | 1.35 | 0.18 | 0.71 | 0.52 | 0.81 | 0.61 | 0.65 | 0.57 | 0.51 | 0.32 | 0.01 | 0.53 |
| 11 | 0.22 | 1.10 | 0.42 | 1.15 | 0.89 | 1.32 | 1.05 | 0.97 | 0.87 | 0.70 | 0.44 | 0.14 | 0.77 |
| Midn. . . | 0.34 | 0.61 | 0.65 | 1.46 | 1.18 | 1.64 | 1.51 | 1.28 | 1.17 | 0.89 | 0.61 | 0.31 | 0.97 |
| 6. 6 | 0.09 | 0.24 | 0.25 | 0.40 | 0.21 | 0.29 | 0.17 | 0.29 | 0.42 | 0.29 | 0.25 | 0.19 | 0.26 |
| 7. 7 | 0.15 | 0.38 | 0.39 | 0.50 | 0.22 | 0.33 | 0.22 | 0.37 | 0.59 | 0.47 | 0.37 | 0.32 | 0.36 |
| 8. 8 | 0.18 | 0.41 | 0.42 | 0.47 | 0.18 | 0.27 | 0.21 | 0.36 | 0.60 | 0.51 | 0.39 | 0.35 | 0.36 |
| 9. 9 | 0.16 | 0.33 | 0.34 | 0.32 | 0.90 | 0.15 | 0.15 | 0.25 | 0.45 | 0.42 | 0.31 | 0.30 | 0.27 |
| 10.10 | 0.09 | 0.17 | 0.17 | 0.08 | −0.03 | −0.02 | 0.04 | 0.07 | 0.18 | 0.22 | 0.15 | 0.16 | 0.11 |
| 7. 2. 9 | −0.13 | −0.17 | −0.16 | −0.15 | −0.16 | −0.10 | −0.44 | −0.30 | −0.31 | −0.26 | −0.20 | −0.17 | −0.21 |
| 6. 2. 8 | −0.15 | −0.21 | −0.23 | −0.24 | −0.19 | −0.19 | −0.43 | −0.31 | −0.36 | −0.30 | −0.23 | −0.21 | −0.25 |
| 6. 2.10 | −0.09 | 0.27 | −0.04 | 0.21 | 0.17 | 0.36 | −0.14 | −0.05 | −0.14 | −0.17 | −0.15 | −0.17 | 0.01 |
| 6. 2. 6 | −0.23 | −0.40 | −0.46 | −0.74 | −0.58 | −0.73 | −0.77 | −0.66 | −0.69 | −0.54 | −0.36 | −0.28 | −0.54 |
| 7. 2 | −0.21 | −0.31 | −0.19 | −0.29 | −0.26 | −0.18 | −0.75 | −0.61 | −0.60 | −0.56 | −0.41 | −0.22 | −0.38 |
| 8. 2 | −0.23 | −0.40 | −0.33 | −0.71 | −0.61 | −0.68 | −1.00 | −0.87 | −0.81 | −0.66 | −0.45 | −0.21 | −0.58 |
| 8. 1 | −0.17 | −0.30 | −0.20 | −0.58 | −0.50 | −0.58 | −0.86 | −0.75 | −0.68 | −0.55 | −0.39 | −0.13 | −0.97 |
| 7. 1 | −0.15 | −0.21 | −0.06 | −0.16 | −0.15 | −0.08 | −0.61 | −0.49 | −0.47 | −0.45 | −0.35 | −0.14 | −0.28 |
| 9.12.3.9 | −0.27 | −0.52 | −0.60 | −1.17 | −0.92 | −1.21 | −1.05 | −0.98 | −0.97 | −0.68 | −0.48 | −0.31 | −0.76 |
| 7. 2.2(9) | −0.09 | −0.10 | −0.15 | −0.09 | −0.12 | −0.06 | −0.28 | −0.15 | −0.17 | −0.11 | −0.10 | −0.14 | −0.13 |
| Dail. ext. | −0.17 | −0.18 | −0.16 | −0.03 | 0.05 | 0.12 | −0.15 | −0.24 | −0.46 | −0.49 | −0.38 | −0.21 | −0.22 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XLV.

ENGLAND. — PLYMOUTH. *Lat.* 50° 22′ N. *Long.* 4° 7′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.86 | 1.46 | 2 32 | 4.01 | 5.13 | 4.34 | 4.75 | 4.16 | 3.24 | 2.66 | 1.58 | 0.95 | 2.95 |
| 2 | 0.90 | 1.67 | 2.63 | 4.43 | 5.94 | 4.82 | 5.38 | 4.79 | 3.60 | 2.79 | 1.69 | 0.86 | 3.29 |
| 3 | 0.99 | 1.87 | 3 02 | 4.91 | 6.62 | 5.13 | 5.69 | 5.45 | 4.03 | 3.02 | 1.80 | 0.74 | 3.60 |
| 4 | 1.15 | 2.12 | 3.31 | 5.13 | 6.75 | 5.00 | 5.58 | 5.76 | 4.34 | 3.31 | 1.96 | 0.81 | 3.76 |
| 5 | 1.37 | 2.36 | 3.40 | 4.91 | 6.03 | 4.57 | 4.82 | 5.42 | 4.25 | 3.51 | 2.09 | 1.04 | 3.65 |
| 6 | 1.53 | 2.48 | 3.08 | 3.98 | 4.37 | 2.79 | 3.35 | 4.21 | 3.62 | 3.38 | 2.14 | 1.31 | 3.02 |
| 7 | 1.46 | 2.30 | 2.25 | 2.39 | 2.00 | 0.95 | 1.92 | 2.25 | 2.32 | 2.66 | 1.89 | 1.40 | 1.94 |
| 8 | 1.10 | 1.67 | 0.97 | 0.29 | −0.54 | −1.01 | −0.65 | −0.11 | 0.50 | 1.26 | 1.24 | 1.13 | 0.50 |
| 9 | 0.36 | 0.59 | −0.63 | −1.94 | −2.88 | −2.70 | −2.57 | −2.39 | −1.53 | −0.65 | 0.16 | 0.41 | −1.15 |
| 10 | −0.61 | −0.83 | −2.23 | −3.94 | −4.57 | −3.87 | −4.03 | −4.21 | −3.44 | −2.70 | −1.17 | −0.61 | −2.68 |
| 11 | −1.58 | −2.25 | −3.56 | −5.40 | −5.63 | −4.64 | −5.02 | −5.36 | −4.93 | −4.41 | −2.43 | −1.67 | −3.92 |
| | −2.32 | −3.33 | −4.43 | −6.17 | −6.12 | −4.93 | −5.58 | −5.87 | −5.74 | −5.40 | −3.29 | −2.43 | −4.64 |
| Noon. 1 | −2.63 | −3.85 | −4.70 | −6.37 | −6.37 | −5.02 | −5.81 | −5.96 | −5.92 | −5.51 | −3.56 | −2.70 | −4.86 |
| 2 | −2.50 | −3.69 | −4.43 | −5.99 | −6.37 | −4.91 | −5.76 | −5.72 | −5.49 | −4.84 | −3.22 | −2.45 | −4.61 |
| 3 | −1.96 | −3.02 | −3.74 | −5.22 | −6.12 | −4.64 | −5.40 | −5.27 | −4.64 | −3.71 | −2.45 | −1.85 | −4.01 |
| 4 | −1.26 | −2.07 | −2.81 | −4.14 | −5.47 | −4.03 | −4.64 | −4.52 | −3.49 | −2.45 | −1.55 | −1.10 | −3.13 |
| 5 | −0.59 | −1.10 | −1.76 | −2.86 | −4.32 | −3.04 | −3.47 | −3.44 | −2.18 | −1.33 | −0.77 | −0.41 | −2.12 |
| 6 | −0.07 | −0.38 | −0.74 | −1.42 | −2.68 | −1.73 | −2.00 | −2.23 | −0.88 | −0.45 | −0.23 | 0.05 | −1.06 |
| 7 | 0.29 | 0.09 | 0.14 | 0.00 | −0.81 | −0.27 | −0.38 | −0.47 | 0.36 | 0.23 | 0.07 | 0.34 | −0.05 |
| 8 | 0.50 | 0.36 | 0.86 | 1.26 | 0.99 | 0.74 | 1.10 | 1.06 | 1.37 | 0.79 | 0.25 | 0.52 | 0.81 |
| 9 | 0.63 | 0.56 | 1.35 | 2.25 | 2.36 | 2.21 | 2.27 | 2.23 | 2.12 | 1.33 | 0.47 | 0.72 | 1.55 |
| 10 | 0.72 | 0.77 | 1.69 | 2.93 | 3.29 | 2.93 | 3.11 | 2.97 | 2.59 | 1.85 | 0.77 | 0.88 | 2.05 |
| 11 | 0.79 | 0.99 | 1.89 | 3.35 | 3.89 | 3.44 | 3.67 | 3.40 | 2.84 | 2.23 | 1.08 | 1.01 | 2.39 |
| Midn. . . | 0.83 | 1.26 | 2.07 | 3.67 | 4.46 | 3.87 | 4.21 | 3.71 | 2.99 | 2.48 | 1.37 | 1.04 | 2.66 |
| 6. 6 | 0.74 | 1.06 | 1.17 | 1.28 | 0.86 | 0.54 | 0.68 | 0.99 | 1.37 | 1.46 | 0.97 | 0.68 | 0.99 |
| 7. 7 | 0.88 | 1.19 | 1.19 | 1.19 | 0.61 | 0.34 | 0.52 | 0.90 | 1.35 | 1.44 | 0.99 | 0.88 | 0.95 |
| 8. 8 | 0 81 | 1.01 | 0.92 | 0.79 | 0.23 | 0.14 | 0.23 | 0.47 | 0.95 | 1.04 | 0.74 | 0.83 | 0.65 |
| 9. 9 | 0.50 | 0.59 | 0.36 | 0.16 | −0.27 | −0.25 | −0.16 | −0.09 | 0.29 | 0.34 | 0.32 | 0.56 | 0.20 |
| 10.10 | 0.07 | −0.05 | −0.27 | −0.52 | −0.65 | −0.47 | −0.47 | −0.63 | −0.43 | −0.43 | −0.20 | 0.14 | −0.32 |
| 7. 2. 9 | −0.14 | −0.27 | −0.27 | −0.45 | −0.68 | −0.59 | −0.70 | −0.41 | −0.36 | −0.29 | −0.29 | −0.11 | −0.38 |
| 6. 2. 8 | −0.16 | −0.29 | −0.16 | −0.25 | −0.34 | −0.45 | −0.43 | −0.16 | −0.16 | −0.23 | −0.27 | −0.20 | −0.25 |
| 6. 2.10 | −0.09 | −0.16 | 0.11 | 0.32 | 0.43 | 0.27 | 0.23 | 0.50 | 0.25 | 0.14 | −0.11 | −0.09 | 0.16 |
| 6. 2. 6 | −0.34 | −0.54 | −0.70 | −1.15 | −1.55 | −1.28 | −1.46 | −1.24 | −0.92 | −0.63 | −0.43 | −0.36 | −0.88 |
| 7. 2 | −0.52 | −0.70 | −1.10 | −1.80 | −2.18 | −1.98 | −2.18 | −1.73 | −1.60 | −1.10 | −0.68 | −0.54 | −1.35 |
| 8. 2 | −0.70 | −1.01 | −1.73 | −2.86 | −3.47 | −2.97 | −3.22 | −2.93 | −2.50 | −1.80 | −0.99 | −0.68 | −2.07 |
| 8. 1 | −0.77 | −1.10 | −1.87 | −3.04 | −3.47 | −3.02 | −3.24 | −3.04 | −2.72 | −2.14 | −1.17 | −0.79 | −2.21 |
| 7. 1 | −0.59 | −0.79 | −1.24 | −2.00 | −2.18 | −2.05 | −2.21 | −1.87 | −1.80 | −1.44 | −0.83 | −0.65 | −1.46 |
| 9.12.3.9 | −0.83 | −1.31 | −1.87 | −2.77 | −4.20 | −2.52 | −2.81 | −2.84 | −2.45 | −2.12 | −1.28 | −0.79 | −2.07 |
| 7. 2.2(9) | 0.07 | −0.07 | 0.14 | 0.23 | 0.09 | 0.11 | 0.05 | 0.25 | 0.27 | 0.11 | −0.09 | 0.09 | 0.11 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XLVI.

ENGLAND. — PLYMOUTH. *Lat.* 50° 22′ N. *Long.* 4° 7′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.38 | 0.65 | 1.03 | 1.78 | 2.28 | 1.93 | 2.11 | 1.85 | 1.44 | 1.18 | 0.70 | 0.42 | 1.31 |
| 2 | 0.40 | 0.74 | 1.17 | 1.97 | 2.64 | 2.14 | 2.39 | 2.13 | 1.60 | 1.24 | 0.75 | 0.38 | 1.46 |
| 3 | 0.44 | 0.83 | 1.34 | 2.18 | 2.94 | 2.28 | 2.53 | 2.42 | 1.79 | 1.34 | 0.80 | 0.33 | 1.60 |
| 4 | 0.51 | 0.94 | 1.47 | 2.28 | 3.00 | 2.22 | 2.48 | 2.56 | 1.93 | 1.47 | 0.87 | 0.36 | 1.67 |
| 5 | 0.61 | 1.05 | 1.51 | 2.18 | 2.68 | 2.03 | 2.14 | 2.41 | 1.89 | 1.56 | 0.93 | 0.46 | 1.62 |
| 6 | 0.68 | 1.10 | 1.37 | 1.77 | 1.94 | 1.24 | 1.49 | 1.87 | 1.61 | 1.50 | 0.95 | 0.58 | 1.34 |
| 7 | 0.65 | 1.02 | 1.00 | 1.06 | 0.89 | 0.42 | 0.63 | 1.00 | 1.03 | 1.18 | 0.84 | 0.62 | 0.86 |
| 8 | 0.49 | 0.74 | 0.43 | 0.13 | −0.24 | −0.45 | −0.29 | −0.05 | 0.22 | 0.56 | 0.55 | 0.50 | 0.22 |
| 9 | 0.16 | 0.26 | −0.28 | −0.86 | −1.28 | −1.20 | −1.14 | −1.06 | −0.68 | −0.29 | 0.07 | 0.18 | −0.51 |
| 10 | −0.27 | −0.37 | −0.99 | −1.75 | −2.03 | −1.72 | −1.79 | −1.87 | −1.53 | −1.20 | −0.52 | −0.27 | −1.19 |
| 11 | −0.70 | −1.00 | −1.58 | −2.40 | −2.50 | −2.06 | −2.23 | −2.38 | −2.19 | −1.96 | −1.08 | −0.74 | −1.74 |
| Noon. . . | −1.03 | −1.48 | −1.97 | −2.74 | −2.72 | −2.19 | −2.48 | −2.61 | −2.55 | −2.40 | −1.46 | −1.08 | −2.06 |
| 1 | −1.17 | −1.71 | −2.09 | −2.83 | −2.83 | −2.23 | −2.58 | −2.65 | −2.63 | −2.45 | −1.58 | −1.20 | −2.16 |
| 2 | −1.11 | −1.64 | −1.97 | −2.66 | −2.83 | −2.18 | −2.56 | −2.54 | −2.44 | −2.15 | −1.43 | −1.09 | −2.05 |
| 3 | −0.87 | −1.34 | −1.66 | −2.32 | −2.72 | −2.06 | −2.40 | −2.34 | −2.06 | −1.65 | −1.09 | −0.82 | −1.78 |
| 4 | −0.56 | −0.92 | −1.25 | −1.84 | −2.43 | −1.79 | −2.06 | −2.01 | −1.55 | −1.09 | −0.69 | −0.49 | −1.39 |
| 5 | −0.26 | −0.49 | −0.78 | −1.27 | −1.92 | −1.35 | −1.54 | −1.53 | −0.97 | −0.59 | −0.34 | −0.18 | −0.94 |
| 6 | −0.03 | −0.17 | −0.33 | −0.63 | −1.19 | −0.77 | −0.89 | −0.99 | −0.39 | −0.20 | −0.10 | 0.02 | −0.47 |
| 7 | 0.13 | 0.04 | 0.06 | −0.00 | −0.36 | −0.12 | −0.17 | −0.21 | 0.16 | 0.10 | 0.03 | 0.15 | −0.02 |
| 8 | 0.22 | 0.16 | 0.38 | 0.56 | 0.44 | 0.33 | 0.49 | 0.47 | 0.61 | 0.35 | 0.11 | 0.23 | 0.36 |
| 9 | 0.28 | 0.25 | 0.60 | 1.00 | 1.05 | 0.98 | 1.01 | 0.99 | 0.94 | 0.59 | 0.21 | 0.32 | 0.69 |
| 10 | 0.32 | 0.34 | 0.75 | 1.30 | 1.46 | 1.30 | 1.38 | 1.32 | 1.15 | 0.82 | 0.34 | 0.39 | 0.91 |
| 11 | 0.35 | 0.44 | 0.84 | 1.49 | 1.73 | 1.53 | 1.63 | 1.51 | 1.26 | 0.99 | 0.48 | 0.45 | 1.06 |
| Midn. . . | 0.37 | 0.56 | 0.92 | 1.63 | 1.98 | 1.72 | 1.87 | 1.65 | 1.33 | 1.10 | 0.61 | 0.46 | 1.18 |
| 6. 6 | 0.33 | 0.47 | 0.52 | 0.57 | 0.38 | 0.24 | 0.30 | 0.44 | 0.61 | 0.65 | 0.43 | 0.30 | 0.44 |
| 7. 7 | 0.39 | 0.53 | 0.53 | 0.53 | 0.27 | 0.15 | 0.23 | 0.40 | 0.60 | 0.64 | 0.44 | 0.39 | 0.42 |
| 8. 8 | 0.36 | 0.45 | 0.41 | 0.35 | 0.10 | −0.06 | 0.10 | 0.21 | 0.42 | 0.46 | 0.33 | 0.37 | 0.29 |
| 9. 9 | 0.22 | 0.26 | 0.16 | 0.07 | −0.12 | −0.11 | −0.07 | −0.04 | 0.13 | 0.15 | 0.14 | 0.25 | 0.09 |
| 10.10 | 0.03 | −0.02 | −0.12 | −0.23 | −0.29 | −0.21 | −0.21 | −0.28 | −0.19 | −0.19 | −0.09 | 0.06 | −0.14 |
| 7. 2. 9 | −0.06 | −0.12 | −0.12 | −0.20 | −0.30 | −0.26 | −0.31 | −0.18 | −0.16 | −0.13 | −0.13 | −0.05 | −0.17 |
| 6. 2. 8 | −0.07 | −0.13 | −0.07 | −0.11 | −0.15 | −0.20 | −0.19 | −0.07 | −0.07 | −0.10 | −0.12 | −0.09 | −0.11 |
| 6. 2.10 | −0.04 | −0.07 | 0.05 | 0.14 | 0.19 | 0.12 | 0.10 | 0.22 | 0.11 | 0.06 | −0.05 | −0.04 | 0.07 |
| 6. 2. 6 | −0.15 | −0.24 | −0.31 | −0.51 | −0.69 | −0.57 | −0.65 | −0.55 | −0.41 | −0.28 | −0.19 | −0.16 | −0.39 |
| 7. 2 | −0.23 | −0.31 | −0.42 | −0.80 | −0.97 | −0.88 | −0.97 | −0.77 | −0.71 | −0.49 | −0.30 | −0.24 | −0.60 |
| 8. 2 | −0.31 | −0.45 | −0.77 | −1.27 | −1.54 | −1.32 | −1.43 | −1.30 | −1.11 | −0.80 | −0.44 | −0.30 | −0.92 |
| 8. 1 | −0.34 | −0.49 | −0.83 | −1.35 | −1.54 | −1.34 | −1.44 | −1.35 | −1.21 | −0.95 | −0.52 | −0.35 | −0.98 |
| 7. 1 | −0.26 | −0.35 | −0.55 | −0.89 | −0.97 | −0.91 | −0.98 | −0.83 | −0.80 | −0.64 | −0.37 | −0.29 | −0.65 |
| 9.12.3.9 | −0.37 | −0.58 | −0.83 | −1.23 | −1.42 | −1.12 | −1.25 | −1.26 | −1.09 | −0.94 | −0.57 | −0.35 | −0.92 |
| 7. 2.2(9) | 0.03 | −0.03 | 0.06 | 0.10 | 0.04 | 0.05 | 0.02 | 0.11 | 0.12 | 0.05 | −0.04 | 0.04 | 0.05 |
| Dail. ext. | −0.25 | −0.31 | −0.29 | −0.28 | 0.09 | 0.03 | −0.03 | −0.05 | −0.35 | −0.45 | −0.32 | −0.29 | −0.25 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XLVII.

BELGIUM. — BRUSSELS. *Lat.* 50° 51′ N. *Long.* 4° 22′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.58 | 0.67 | 1.19 | 2.23 | 2.57 | 2.83 | 2.34 | 2.49 | 1.71 | 0.85 | 0.49 | 0.73 | 1.56 |
| 2 | 0.60 | 0.73 | 1.36 | 2.59 | 2.89 | 3.12 | 2.57 | 2.84 | 2.00 | 0.99 | 0.49 | 0.39 | 1.71 |
| 3 | 0.60 | 0.79 | 1.54 | 2.99 | 3.17 | 3.18 | 2.74 | 3.20 | 2.33 | 1.15 | 0.54 | 0.08 | 1.86 |
| 4 | 0.60 | 0.86 | 1.70 | 3.29 | 3.28 | 3.14 | 2.74 | 3.42 | 2.57 | 1.31 | 0.65 | 0.02 | 1.97 |
| 5 | 0.62 | 0.92 | 1.79 | 3.29 | 3.06 | 2.71 | 2.47 | 3.32 | 2.58 | 1.40 | 0.77 | 0.25 | 1.93 |
| 6 | 0.64 | 0.97 | 1.74 | 2.86 | 2.45 | 2.00 | 1.88 | 2.82 | 2.28 | 1.35 | 0.85 | 0.65 | 1.71 |
| 7 | 0.61 | 0.93 | 1.50 | 2.01 | 1.52 | 1.10 | 1.06 | 1.94 | 1.67 | 1.11 | 0.81 | 0.97 | 1.27 |
| 8 | 0.46 | 0.75 | 1.03 | 0.86 | 0.44 | 0.16 | 0.15 | 0.82 | 0.82 | 0.68 | 0.58 | 0.97 | 0.64 |
| 9 | 0.18 | 0.39 | 0.39 | −0.35 | −0.59 | −0.61 | −0.69 | −0.34 | −0.14 | 0.08 | 0.19 | 0.56 | −0.08 |
| 10 | −0.22 | −0.13 | −0.36 | −1.42 | −1.43 | −1.35 | −1.33 | −1.37 | −1.06 | −0.60 | −0.31 | −0.13 | −0.81 |
| 11 | −0.65 | −0.71 | −1.11 | −2.23 | −2.06 | −1.86 | −1.77 | −2.19 | −1.86 | −1.23 | −0.80 | −0.84 | −1.44 |
| Noon. . . | −1.01 | −1.23 | −1.72 | −2.77 | −2.52 | −2.27 | −2.06 | −2.81 | −2.48 | −1.71 | −1.16 | −1.29 | −1.92 |
| 1 | −1.20 | −1.57 | −2.13 | −3.11 | −2.89 | −2.65 | −2.29 | −3.27 | −2.88 | −1.96 | −1.32 | −1.33 | −2.22 |
| 2 | −1.19 | −1.65 | −2.29 | −3.29 | −3.21 | −2.97 | −2.51 | −3.58 | −3.05 | −1.95 | −1.27 | −1.03 | −2.33 |
| 3 | −0.99 | −1.49 | −2.21 | −3.33 | −3.40 | −3.25 | −2.69 | −3.69 | −2.98 | −1.71 | −1.05 | −0.59 | −2.28 |
| 4 | −0.70 | −1.14 | −1.93 | −3.18 | −3.36 | −3.16 | −2.71 | −3.53 | −2.63 | −1.31 | −0.75 | −0.26 | −2.06 |
| 5 | −0.39 | −0.72 | −1.51 | −2.76 | −2.97 | −2.83 | −2.47 | −3.02 | −2.05 | −0.84 | −0.45 | −0.16 | −1.68 |
| 6 | −0.15 | −0.33 | −1.03 | −2.05 | −2.21 | −2.17 | −1.91 | −2.19 | −1.30 | −0.39 | −0.18 | −0.25 | −1.18 |
| 7 | 0.02 | −0.03 | −0.55 | −1.13 | −1.20 | −1.28 | −1.11 | −1.15 | −0.49 | −0.01 | 0.03 | −0.37 | −0.61 |
| 8 | 0.12 | 0.17 | −0.10 | −0.16 | −0.12 | −0.31 | −0.20 | −0.09 | 0.23 | 0.28 | 0.19 | −0.33 | −0.03 |
| 9 | 0.21 | 0.31 | 0.28 | 0.69 | 0.82 | 0.68 | 0.64 | 0.82 | 0.78 | 0.48 | 0.32 | 0.05 | 0.50 |
| 10 | 0.31 | 0.41 | 0.59 | 1.31 | 1.51 | 1.37 | 1.31 | 1.48 | 1.13 | 0.60 | 0.41 | 0.37 | 0.90 |
| 11 | 0.42 | 0.50 | 0.83 | 1.70 | 1.96 | 1.97 | 1.77 | 1.89 | 1.33 | 0.68 | 0.47 | 0.75 | 1.19 |
| Midn. . . | 0.52 | 0.59 | 1.02 | 1.96 | 2.28 | 2.44 | 2.08 | 2.19 | 1.49 | 0.75 | 0.49 | 0.89 | 1.39 |
| 6. 6 | 0.25 | 0.32 | 0.35 | 0.41 | 0.12 | −0.09 | −0.01 | 0.31 | 0.49 | 0.48 | 0.33 | 0.20 | 0.26 |
| 7. 7 | 0.31 | 0.45 | 0.47 | 0.44 | 0.16 | −0.09 | −0.02 | 0.39 | 0.59 | 0.55 | 0.42 | 0.30 | 0.33 |
| 8. 8 | 0.29 | 0.46 | 0.47 | 0.35 | 0.16 | −0.07 | −0.03 | 0.37 | 0.53 | 0.48 | 0.39 | 0.32 | 0.31 |
| 9. 9 | 0.20 | 0.35 | 0.34 | 0.17 | 0.12 | 0.04 | −0.02 | 0.24 | 0.32 | 0.28 | 0.25 | 0.25 | 0.21 |
| 10.10 | 0.05 | 0.14 | 0.11 | 0.05 | 0.04 | 0.01 | −0.01 | 0.05 | 0.03 | 0.00 | 0.05 | 0.12 | 0.05 |
| 7. 2. 9 | −0.12 | −0.14 | −0.17 | −0.20 | −0.29 | −0.40 | −0.27 | −0.27 | −0.20 | −0.12 | −0.05 | −0.04 | −0.19 |
| 6. 2. 8 | −0.14 | −0.17 | −0.22 | −0.20 | −0.29 | −0.43 | −0.28 | −0.28 | −0.18 | −0.11 | −0.08 | −0.24 | −0.22 |
| 6. 2.10 | −0.08 | −0.09 | 0.01 | 0.29 | 0.25 | 0.13 | 0.23 | 0.24 | 0.12 | 0.00 | −0.00 | −0.00 | 0.09 |
| 6. 2. 6 | −0.23 | −0.34 | −0.53 | −0.83 | −0.99 | −1.05 | −0.85 | −0.98 | −0.69 | −0.33 | −0.20 | −0.21 | −0.60 |
| 7. 2 | −0.29 | −0.36 | −0.40 | −0.64 | −0.85 | −0.94 | −0.73 | −0.82 | −0.69 | −0.42 | −0.23 | −0.03 | −0.53 |
| 8. 2 | −0.37 | −0.45 | −0.63 | −1.22 | −1.39 | −1.41 | −1.18 | −1.38 | −1.12 | −0.64 | −0.35 | −0.03 | −0.85 |
| 8. 1 | −0.37 | −0.41 | −0.55 | −1.13 | −1.23 | −1.25 | −1.07 | −1.23 | −1.03 | −0.64 | −0.37 | −0.18 | −0.79 |
| 7. 1 | −0.30 | −0.32 | −0.32 | −0.55 | −0.69 | −0.78 | −0.62 | −0.67 | −0.61 | −0.43 | −0.26 | −0.18 | −0.48 |
| 9.12.2.9 | −0.40 | −0.51 | −0.82 | −1.44 | −1.42 | −1.36 | −1.20 | −1.51 | −1.21 | −0.72 | 0.43 | −0.34 | −0.95 |
| 7. 2.2(9) | −0.04 | −0.03 | −0.06 | 0.03 | −0.01 | −0.13 | −0.04 | −0.00 | 0.05 | 0.03 | 0.05 | −0.04 | −0.02 |
| Dail. ext. | −0.28 | −0.34 | −0.25 | −0.02 | −0.06 | −0.04 | 0.02 | −0.14 | −0.24 | −0.28 | −0.24 | −0.18 | −0.18 |

The numbers without sign must be added; those with the sign — must be subtracted

## XLVIII.

BELGIUM. — BRUSSELS. *Lat.* 50° 51′ N. *Long.* 4° 22′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.30 | 0.60 | 1.09 | 1.72 | 2.27 | 2.46 | 2.20 | 1.88 | 1.52 | 0.92 | 0.51 | 0.30 | 1.31 |
| 2 | 0.56 | 0.82 | 1.39 | 2.19 | 3.00 | 2.82 | 2.77 | 2.44 | 2.03 | 1.20 | 0.77 | 0.47 | 1.70 |
| 4 | 0.64 | 0.97 | 1.66 | 2.64 | 3.32 | 3.53 | 3.14 | 2.76 | 2.38 | 1.44 | 0.83 | 0.62 | 1.99 |
| 6 | 0.66 | 1.03 | 1.83 | 2.43 | 2.44 | 2.27 | 2.30 | 2.44 | 2.47 | 1.56 | 0.93 | 0.63 | 1.75 |
| 8 | 0.67 | 0.84 | 1.02 | 0.76 | 0.49 | 0.41 | 0.32 | 0.68 | 1.03 | 0.96 | 0.79 | 0.63 | 0.72 |
| 9 | 0.36 | 0.33 | 0.21 | −0.38 | 0.61 | −0.61 | −0.63 | −0.39 | −0.14 | 0.07 | 0.21 | 0.34 | 0.00 |
| 10 | 0.07 | −0.09 | −0.54 | −1.18 | −1.43 | −1.32 | −1.36 | −1.26 | −1.19 | −0.78 | −0.36 | −0.08 | −0.79 |
| Noon. | −0.92 | −1.27 | −1.78 | −2.42 | −2.61 | −2.47 | −2.35 | −2.47 | −2.46 | −1.87 | −1.27 | −0.83 | −1.89 |
| 2 | −1.15 | −1.65 | −2.30 | −2.95 | −3.22 | −3.21 | −2.92 | −3.08 | −3.04 | −2.17 | −1.42 | −1.04 | −2.35 |
| 4 | −0.72 | −1.19 | −2.04 | −2.63 | −3.15 | −3.18 | −2.90 | −2.93 | −2.70 | −1.61 | −0.90 | −0.65 | −2.05 |
| 6 | −0.21 | −0.49 | −0.94 | −1.71 | −2.44 | −2.57 | −2.38 | −1.87 | −1.21 | −0.37 | −0.28 | −0.18 | −1.22 |
| 8 | −0.08 | −0.05 | −0.00 | 0.13 | 0.05 | −0.16 | −0.15 | 0.17 | 0.21 | 0.23 | 0.07 | −0.03 | 0.03 |
| 9 | 0.13 | 0.17 | 0.31 | 0.63 | 0.76 | 0.80 | 0.79 | 0.76 | 0.64 | 0.43 | 0.24 | 0.07 | 0.48 |
| 10 | 0.20 | 0.30 | 0.58 | 1.04 | 1.25 | 1.45 | 1.39 | 1.27 | 1.01 | 0.54 | 0.38 | 0.14 | 0.80 |
| Mean. | 0.52 | 2.45 | 3.56 | 7.27 | 10.37 | 13.10 | 13.69 | 13.58 | 11.22 | 7.69 | 4.72 | 1.89 | |

## XLIX.

GERMANY. — SCHWERIN. *Lat.* 53° 36′ N. *Long.* 11° 30′ E. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.05 | 0.49 | 0.92 | 1.66 | 1.97 | 2.10 | 2.12 | 1.92 | 1.70 | 0.87 | 0.21 | 0.16 | 1.18 |
| 2 | 0.08 | 0.69 | 1.20 | 2.17 | 2.44 | 2.69 | 2.72 | 2.41 | 2.19 | 1.14 | 0.24 | 0.34 | 1.53 |
| 4 | 0.27 | 0.83 | 1.43 | 2.53 | 2.96 | 2.97 | 2.96 | 2.62 | 2.54 | 1.51 | 0.42 | 0.48 | 1.79 |
| 6 | 0.35 | 0.86 | 1.62 | 2.67 | 2.07 | 1.80 | 1.94 | 2.13 | 2.70 | 1.67 | 0.62 | 0.48 | 1.55 |
| 8 | 0.59 | 1.19 | 1.24 | 0.98 | 0.56 | 0.25 | 0.12 | 0.32 | 0.95 | 1.21 | 0.70 | 0.63 | 0.73 |
| 10 | 0.17 | 0.18 | −0.11 | −0.97 | −1.15 | −1.20 | −1.26 | −1.17 | −1.12 | −0.34 | 0.01 | 0.13 | −0.57 |
| Noon. | −0.42 | −0.97 | −1.32 | −2.34 | −2.47 | −2.36 | −2.20 | −2.29 | −2.42 | −1.80 | −0.77 | −0.43 | −1.65 |
| 2 | −0.61 | −0.72 | −2.21 | −3.50 | −3.38 | −3.23 | −3.26 | −3.45 | −3.58 | −2.54 | −0.91 | −0.68 | −2.42 |
| 4 | −0.43 | −1.22 | −2.13 | −2.86 | −2.70 | −2.62 | −2.76 | −2.76 | −3.03 | −1.85 | −0.62 | −0.62 | −1.97 |
| 6 | −0.02 | −0.42 | −0.95 | −1.54 | −1.62 | −1.71 | −1.70 | −1.37 | −1.32 | −0.55 | −0.23 | −0.27 | −0.98 |
| 8 | −0.07 | −0.07 | −0.11 | 0.13 | 0.11 | −0.02 | 0.08 | 0.34 | 0.26 | 0.16 | 0.02 | −0.14 | 0.06 |
| 10 | 0.06 | 0.21 | 0.45 | 1.01 | 1.15 | 1.28 | 1.29 | 1.30 | 1.19 | 0.57 | 0.24 | −0.02 | 0.73 |
| Mean. | −1.05 | −2.00 | 1.18 | 5.26 | 8.45 | 12.19 | 13.50 | 13.02 | 10.42 | 7.48 | 1.42 | −1.38 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## L.

PRUSSIA. — MÜHLHAUSEN. *Lat.* 51° 13′ N. *Long.* 10° 27′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.71 | 1.28 | 1.10 | 1.84 | 2.40 | 3.56 | 2.91 | 2.49 | 1.95 | 1.39 | 0.47 | 0.58 | 1.72 |
| 2 | 0.75 | 1.30 | 1.28 | 2.19 | 2.80 | 3.97 | 3.30 | 2.80 | 2.20 | 1.65 | 0.53 | 0.59 | 1.95 |
| 3 | 0.77 | 1.33 | 1.46 | 2.40 | 3.06 | 4.16 | 3.50 | 3.06 | 3.29 | 1.85 | 0.60 | 0.60 | 2.17 |
| 4 | 0.82 | 1.40 | 1.60 | 2.74 | 3.06 | 3.98 | 3.42 | 3.14 | 2.70 | 1.99 | 0.66 | 0.62 | 2.18 |
| 5 | 0.86 | 1.47 | 1.62 | 2.61 | 2.67 | 3.40 | 3.00 | 2.98 | 2.73 | 2.05 | 0.68 | 0.66 | 2.06 |
| 6 | 0.91 | 1.50 | 1.46 | 2.25 | 2.06 | 2.49 | 2.22 | 2.51 | 2.46 | 1.93 | 0.63 | 0.67 | 1.76 |
| 7 | 0.86 | 1.36 | 1.11 | 1.41 | 1.15 | 1.32 | 1.20 | 1.73 | 1.03 | 1.50 | 0.46 | 0.59 | 1.14 |
| 8 | 0.62 | 0.98 | 0.55 | 0.58 | 0.16 | 0.11 | 0.09 | 0.86 | 0.87 | 0.84 | 0.16 | 0.46 | 0.52 |
| 9 | 0.21 | 0.33 | −0.02 | −0.38 | −0.75 | −1.02 | −0.97 | −0.36 | −0.26 | −0.03 | −0.22 | 0.03 | −0.29 |
| 10 | −0.38 | −0.50 | −0.70 | −1.16 | −1.50 | −1.98 | −1.82 | −1.38 | −1.40 | −0.99 | −0.62 | −0.54 | −1.08 |
| 11 | −0.93 | −1.35 | −1.30 | −1.97 | −2.06 | −2.77 | −2.46 | −2.24 | −2.42 | −1.88 | −0.92 | −0.77 | −1.76 |
| Noon. . . | −1.38 | −2.02 | −1.76 | −2.42 | −2.44 | −3.39 | −2.94 | −2.89 | −3.14 | −2.53 | −1.09 | −1.06 | −2.26 |
| 1 | −1.58 | −2.38 | −2.02 | −2.80 | −2.71 | −3.86 | −3.26 | −3.29 | −3.52 | −2.82 | −1.08 | −1.15 | −2.54 |
| 2 | −1.52 | −2.38 | −2.07 | −2.94 | −2.87 | −4.14 | −3.42 | −3.46 | −3.54 | −2.99 | −0.89 | −1.10 | −2.61 |
| 3 | −1.24 | −2.07 | −1.90 | −2.85 | −2.89 | −4.13 | −3.36 | −3.39 | −3.23 | −2.48 | −0.66 | −0.81 | −2.42 |
| 4 | −0.84 | −1.56 | −1.58 | −2.39 | −2.69 | −3.78 | −3.06 | −3.07 | −2.65 | −1.89 | −0.39 | −0.50 | −2.03 |
| 5 | −0.44 | −1.02 | −1.11 | −1.95 | −2.19 | −3.06 | −2.52 | −2.51 | −1.89 | −1.21 | −0.14 | −0.23 | −1.52 |
| 6 | −0.20 | −0.54 | −0.62 | −1.20 | −1.59 | −2.10 | −1.76 | −1.76 | −1.06 | −0.58 | 0.02 | −0.02 | −0.95 |
| 7 | −0.04 | −0.17 | −0.18 | −0.47 | −0.83 | −1.02 | −0.85 | −0.90 | −0.24 | −0.03 | 0.06 | 0.12 | −0.38 |
| 8 | 0.18 | 0.13 | 0.16 | 0.09 | −0.08 | 0.05 | 0.03 | −0.05 | 0.50 | 0.38 | 0.22 | 0.26 | 0.16 |
| 9 | 0.27 | 0.41 | 0.45 | 0.53 | 0.58 | 1.01 | 0.81 | 0.71 | 0.99 | 0.70 | 0.26 | 0.32 | 0.59 |
| 10 | 0.37 | 0.66 | 0.64 | 0.89 | 1.10 | 1.76 | 1.46 | 1.24 | 1.35 | 0.91 | 0.34 | 0.40 | 0.93 |
| 11 | 0.53 | 0.89 | 0.78 | 1.14 | 1.56 | 2.42 | 2.01 | 1.78 | 1.58 | 1.10 | 0.38 | 0.47 | 1.22 |
| Midn. . . | 0.64 | 1.08 | 0.94 | 1.58 | 1.98 | 3.05 | 3.29 | 2.16 | 1.75 | 1.26 | 0.42 | 0.54 | 1.56 |
| 6. 6 | 0.36 | 0.48 | 0.42 | 0.53 | 0.24 | 0.20 | 0.23 | 0.38 | 0.70 | 0.68 | 0.33 | 0.33 | 0.41 |
| 7. 7 | 0.41 | 0.60 | 0.47 | 0.47 | 0.16 | 0.15 | 0.18 | 0.42 | 0.40 | 0.74 | 0.26 | 0.36 | 0.38 |
| 8. 8 | 0.40 | 0.56 | 0.36 | 0.34 | 0.04 | 0.08 | 0.06 | 0.41 | 0.69 | 0.61 | 0.19 | 0.36 | 0.34 |
| 9. 9 | 0.24 | 0.37 | 0.22 | 0.08 | −0.09 | −0.01 | −0.08 | 0.18 | 0.37 | 0.34 | 0.02 | 0.18 | 0.15 |
| 10.10 | −0.01 | 0.08 | −0.03 | −0.14 | −0.20 | −0.11 | −0.18 | −0.07 | −0.03 | −0.04 | −0.14 | −0.07 | −0.08 |
| 7. 2. 9 | −0.13 | −0.20 | −0.17 | −0.23 | −0.38 | −0.60 | −0.47 | −0.34 | −0.51 | −0.26 | −0.06 | −0.06 | −0.29 |
| 6. 2. 8 | −0.14 | −0.25 | −0.15 | −0.20 | −0.30 | −0.53 | −0.39 | −0.33 | −0.19 | −0.23 | −0.01 | −0.06 | −0.23 |
| 6. 2.10 | −0.08 | −0.07 | 0.01 | 0.07 | 0.10 | 0.04 | 0.09 | 0.10 | 0.09 | −0.05 | 0.03 | −0.01 | 0.03 |
| 6. 2. 6 | −0.27 | −0.47 | −0.41 | −0.63 | −0.80 | −1.25 | −0.99 | −0.90 | −0.71 | −0.55 | −0.08 | −0.15 | −0.60 |
| 7. 2 | −0.33 | −0.51 | −0.48 | −0.77 | −0.86 | −1.41 | −1.11 | −0.87 | −1.26 | −0.75 | −0.22 | −0.26 | −0.74 |
| 8. 2 | −0.45 | −0.70 | −0.76 | −1.18 | −1.36 | −2.02 | −1.67 | −1.30 | −1.34 | −1.08 | −0.37 | −0.32 | −1.05 |
| 8. 1 | −0.48 | −0.70 | −0.74 | −1.11 | −1.28 | −1.88 | −1.59 | −1.22 | −1.33 | −0.99 | −0.46 | −0.35 | −1.01 |
| 7. 1 | −0.36 | −0.51 | −0.46 | −0.70 | −0.78 | −1.27 | −1.03 | −0.78 | −1.25 | −0.66 | −0.31 | −0.28 | −0.70 |
| 9.12.3.9 | −0.54 | −0.84 | −0.81 | −1.28 | −1.38 | −1.88 | −1.62 | −1.48 | −1.41 | −1.09 | −0.43 | −0.38 | −1.10 |
| 7. 2.2(9) | −0.03 | −0.05 | −0.02 | −0.12 | −0.14 | −0.20 | −0.15 | −0.08 | −0.13 | −0.02 | 0.02 | 0.03 | −0.07 |
| Dail. ext. | −0.34 | −0.44 | −0.23 | −0.10 | 0.09 | 0.01 | 0.04 | −0.16 | −0.13 | −0.47 | −0.21 | −0.24 | −0.22 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LI.

HOLLAND. — UTRECHT. *Lat.* 52° 5′ N. *Long.* 5° 8′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.36 | 0.62 | 1.13 | 1.71 | 2.56 | 2.74 | 2.64 | 1.87 | 1.91 | 1.07 | 0.76 | 0.11 | 1.44 |
| 1 | 0.37 | 0.74 | 1.18 | 1.87 | 2.86 | 3.29 | 2.67 | 1.91 | 2.10 | 1.11 | 0.70 | 0.19 | 1.58 |
| 2 | 0.46 | 0.82 | 1.24 | 2.00 | 3.00 | 3.21 | 2.82 | 2.02 | 2.21 | 1.18 | 0.78 | 0.32 | 1.67 |
| 3 | 0.51 | 0.87 | 1.27 | 2.10 | 3.02 | 3.25 | 2.97 | 2.07 | 2.34 | 1.25 | 0.82 | 0.42 | 1.74 |
| 4 | 0.57 | 0.90 | 1.31 | 2.16 | 2.70 | 2.84 | 2.76 | 2.06 | 2.45 | 1.31 | 0.82 | 0.44 | 1.69 |
| 5 | 0.61 | 0.97 | 1.26 | 1.92 | 1.80 | 1.82 | 1.86 | 1.80 | 2.42 | 1.42 | 0.90 | 0.50 | 1.44 |
| 6 | 0.66 | 0.98 | 1.02 | 1.30 | 0.67 | 0.44 | 0.33 | 1.05 | 1.87 | 1.22 | 0.91 | 0.46 | 0.91 |
| 7 | 0.64 | 0.84 | 0.62 | 0.37 | −0.38 | −0.70 | −0.77 | 0.04 | 0.72 | 0.39 | 0.78 | 0.38 | 0.24 |
| 8 | 0.50 | 0.56 | −0.01 | −0.40 | −1.17 | −1.50 | −1.28 | −0.68 | −0.39 | 0.12 | 0.29 | 0.31 | −0.30 |
| 9 | 0.13 | −0.07 | −0.53 | −1.20 | −1.68 | −2.02 | −1.69 | −1.33 | −1.12 | −0.50 | −0.22 | 0.14 | −0.84 |
| 10 | −0.26 | −0.49 | −1.05 | −1.71 | −2.06 | −2.42 | −2.02 | −1.65 | −1.79 | −1.12 | −0.71 | −0.14 | −1.29 |
| 11 | −0.62 | −0.97 | −1.50 | −2.16 | −2.46 | −2.78 | −2.27 | −1.87 | −2.34 | −1.68 | −1.15 | −0.33 | −1.68 |
| Noon. | −0.85 | −1.34 | −1.77 | −2.41 | −2.78 | −2.94 | −2.53 | −2.16 | −2.83 | −1.98 | −1.49 | −0.62 | −1.97 |
| 1 | −0.98 | −1.58 | −1.88 | −2.42 | −2.94 | −3.00 | −2.61 | −2.40 | −3.07 | −2.11 | −1.62 | −0.75 | −2.11 |
| 2 | −1.02 | −1.54 | −1.82 | −2.42 | −2.88 | −2.94 | −2.60 | −2.30 | −2.99 | −1.99 | −1.43 | −0.66 | −2.05 |
| 3 | −0.81 | −1.21 | −1.54 | −2.24 | −2.58 | −2.64 | −1.58 | −2.13 | −2.68 | −1.64 | −1.08 | −0.47 | −1.72 |
| 4 | −0.60 | −0.89 | −1.25 | −1.82 | −2.06 | −2.20 | −2.00 | −1.79 | −2.06 | −1.10 | −0.70 | −0.23 | −1.39 |
| 5 | −0.35 | −0.48 | −0.75 | −1.23 | −1.42 | −1.53 | −1.62 | −1.30 | −1.34 | −0.52 | −0.42 | −0.17 | −0.93 |
| 6 | −0.19 | −0.21 | −0.24 | −0.47 | −0.76 | −0.74 | −0.76 | −0.61 | −0.52 | −0.11 | −0.18 | −0.10 | −0.41 |
| 7 | −0.05 | −0.03 | 0.14 | 0.20 | 0.07 | 0.17 | 0.02 | 0.14 | 0.10 | 0.22 | −0.02 | −0.03 | 0.06 |
| 8 | 0.05 | 0.12 | 0.48 | 0.72 | 0.85 | 1.01 | 0.82 | 0.86 | 0.62 | 0.53 | 0.18 | 0.02 | 0.52 |
| 9 | 0.22 | 0.23 | 0.74 | 1.13 | 1.51 | 1.77 | 1.50 | 1.24 | 1.17 | 0.84 | 0.40 | 0.06 | 0.90 |
| 10 | 0.36 | 0.40 | 0.94 | 1.41 | 1.92 | 2.25 | 1.96 | 1.52 | 1.51 | 1.01 | 0.58 | 0.04 | 1.16 |
| 11 | 0.36 | 0.67 | 1.02 | 1.58 | 2.16 | 2.53 | 2.17 | 1.70 | 1.76 | 1.14 | 1.06 | 0.02 | 1.35 |
| Mean. | −2.83 | 4.18 | 3.20 | 7.14 | 10.55 | 12.95 | 13.75 | 12.90 | 10.87 | 6.88 | 4.65 | 0.76 | |

## LII.

ENGLAND. — GREENWICH. *Lat.* 51° 28′ 38″ N. *Long.* 0° 0′. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A.M. 1 | 0.44 | 0.75 | 1.44 | 2.32 | 2.72 | 3.24 | 2.73 | 2.49 | 2.05 | 1.34 | 0.67 | 0.47 | 1.72 |
| 3 | 0.62 | 0.94 | 1.66 | 2.66 | 3.04 | 3.70 | 3.11 | 2.82 | 2.40 | 1.42 | 0.80 | 0.56 | 1.98 |
| 5 | 0.75 | 1.06 | 1.92 | 2.84 | 2.84 | 3.25 | 2.91 | 2.89 | 2.58 | 1.54 | 0.87 | 0.56 | 2.00 |
| 7 | 0.86 | 1.08 | 1.60 | 1.31 | 0.75 | 0.80 | 0.88 | 1.22 | 1.65 | 1.26 | 0.88 | 0.60 | 1.07 |
| 9 | 0.41 | 0.24 | −0.22 | −0.82 | −1.30 | −1.52 | −1.14 | −1.14 | −0.76 | −0.30 | 0.11 | 0.24 | −0.50 |
| 11 | −0.74 | −1.03 | −1.90 | −2.48 | −2.60 | −2.91 | −2.67 | −2.64 | −2.57 | −1.88 | −1.06 | −0.73 | −1.93 |
| P.M. 1 | −1.25 | −1.73 | −2.62 | −3.31 | −3.36 | −3.75 | −3.17 | −3.40 | −3.28 | −2.40 | −1.64 | −1.20 | −2.59 |
| 3 | −1.10 | −1.59 | −2.43 | −3.08 | −3.02 | −3.60 | −3.09 | −3.20 | −2.94 | −2.04 | −1.26 | −0.85 | −2.35 |
| 5 | −0.36 | −0.63 | −1.33 | −2.04 | −2.05 | −2.51 | −2.24 | −2.11 | −1.65 | −0.73 | −0.38 | −0.24 | −1.37 |
| 7 | 0.03 | 0.05 | 0.09 | −0.16 | −0.29 | −0.58 | −0.50 | −0.11 | 0.04 | 0.11 | 0.09 | 0.00 | −0.10 |
| 9 | 0.10 | 0.32 | 0.71 | 0.99 | 1.20 | 1.40 | 1.13 | 1.22 | 0.89 | 0.63 | 0.40 | 0.21 | 0.77 |
| 11 | 0.23 | 0.54 | 1.11 | 1.77 | 2.06 | 2.52 | 2.08 | 1.96 | 1.60 | 1.07 | 0.53 | 0.37 | 1.33 |
| Mean. | 2.48 | 2.53 | 4.53 | 6.71 | 9.62 | 12.47 | 13.08 | 12.98 | 11.12 | 7.71 | 5.47 | 3.09 | |

The numbers without sign must be added; those with the sign — must be subtracted.

LIII.

ENGLAND. — GREENWICH. *Lat.* 51° 29′ N. *Long.* 0° 0′.

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.38 | 0.68 | 1.29 | 2.21 | 2.72 | 3.13 | 2.61 | 2.61 | 1.89 | 1.28 | 0.60 | 0.40 | 1.65 |
| 2 | 0.63 | 0.82 | 1.44 | 2.31 | 2.85 | 3.30 | 2.71 | 2.68 | 2.06 | 1.45 | 0.75 | 0.52 | 1.79 |
| 3 | 0.83 | 0.95 | 1.62 | 2.44 | 2.91 | 3.41 | 2.74 | 2.78 | 2.22 | 1.56 | 0.88 | 0.59 | 1.91 |
| 4 | 0.93 | 1.02 | 1.82 | 2.54 | 2.85 | 3.40 | 2.71 | 2.86 | 2.34 | 1.60 | 0.95 | 0.62 | 1.97 |
| 5 | 0.93 | 1.03 | 1.95 | 2.46 | 2.60 | 3.14 | 2.53 | 2.81 | 2.35 | 1.56 | 0.95 | 0.62 | 1.91 |
| 6 | 0.84 | 0.97 | 1.93 | 2.17 | 2.08 | 2.52 | 2.11 | 2.48 | 2.15 | 1.42 | 0.89 | 0.60 | 1.68 |
| 7 | 0.71 | 0.84 | 1.66 | 1.56 | 1.25 | 1.53 | 1.38 | 1.77 | 1.67 | 1.15 | 0.75 | 0.57 | 1.24 |
| 8 | 0.53 | 0.61 | 1.11 | 0.66 | 0.20 | 0.28 | 0.40 | 0.72 | 0.88 | 0.71 | 0.52 | 0.48 | 0.59 |
| 9 | 0.30 | 0.26 | 0.30 | −0.37 | −0.92 | −1.02 | −0.71 | −0.55 | −0.13 | 0.09 | 0.19 | 0.28 | −0.19 |
| 10 | −0.01 | −0.20 | −0.66 | −1.43 | −1.94 | −2.12 | −1.73 | −1.78 | −1.23 | −0.66 | −0.26 | −0.04 | −1.01 |
| 11 | −0.39 | −0.75 | −1.60 | −2.30 | −2.70 | −2.89 | −2.51 | −2.79 | −2.22 | −1.43 | −0.77 | −0.46 | −1.73 |
| Noon. . . | −0.79 | −1.27 | −2.35 | −2.87 | −3.13 | −3.28 | −2.94 | −3.43 | −2.94 | −2.07 | −1.25 | −0.87 | −2.27 |
| 1 | −1.12 | −1.66 | −2.79 | −3.17 | −3.26 | −3.39 | −3.04 | −3.69 | −3.28 | −2.45 | −1.59 | −1.17 | −2.55 |
| 2 | −1.28 | −1.81 | −2.85 | −3.14 | −3.16 | −3.34 | −2.91 | −3.63 | −3.23 | −2.48 | −1.69 | −1.25 | −2.56 |
| 3 | −1.21 | −1.67 | −2.57 | −2.92 | −2.90 | −3.21 | −2.67 | −3.34 | −2.86 | −2.17 | −1.51 | −1.10 | −2.34 |
| 4 | −0.95 | −1.29 | −2.05 | −2.54 | −2.54 | −3.01 | −2.38 | −2.89 | −2.28 | −1.63 | −1.10 | −0.76 | −1.95 |
| 5 | −0.58 | −0.78 | −1.40 | −1.97 | −2.06 | −2.67 | −2.30 | −2.30 | −1.60 | −1.01 | −0.59 | −0.36 | −1.45 |
| 6 | −0.22 | −0.26 | −0.75 | −1.34 | −1.45 | −2.10 | −1.57 | −1.56 | −0.91 | −0.43 | −0.10 | −0.01 | −0.89 |
| 7 | 0.03 | 0.14 | −0.17 | −0.60 | −0.71 | −1.26 | −0.96 | −0.69 | −0.27 | 0.02 | 0.24 | 0.20 | −0.34 |
| 8 | 0.11 | 0.37 | 0.30 | 0.17 | 0.11 | −0.24 | −0.19 | 0.24 | 0.29 | 0.32 | 0.41 | 0.26 | 0.18 |
| 9 | 0.08 | 0.46 | 0.65 | 0.84 | 0.92 | 0.81 | 0.64 | 1.11 | 0.77 | 0.52 | 0.44 | 0.23 | 0.62 |
| 10 | 0.03 | 0.48 | 0.89 | 1.42 | 1.62 | 1.74 | 1.41 | 1.81 | 1.17 | 0.69 | 0.41 | 0.19 | 0.99 |
| 11 | 0.04 | 0.49 | 1.05 | 1.81 | 2.16 | 2.42 | 2.01 | 2.27 | 1.47 | 0.87 | 0.40 | 0.20 | 1.27 |
| Midn. . . | 0.16 | 0.56 | 1.17 | 2.03 | 2.51 | 2.86 | 2.40 | 2.51 | 1.70 | 1.08 | 0.46 | 0.28 | 1.48 |
| 6. 6 | 0.31 | 0.36 | 0.59 | 0.42 | 0.31 | 0.21 | 0.27 | 0.46 | 0.62 | 0.50 | 0.39 | 0.30 | 0.40 |
| 7. 7 | 0.37 | 0.49 | 0.75 | 0.48 | 0.27 | 0.13 | 0.21 | 0.54 | 0.70 | 0.59 | 0.50 | 0.38 | 0.45 |
| 8. 8 | 0.32 | 0.49 | 0.71 | 0.42 | 0.16 | 0.02 | 0.10 | 0.48 | 0.59 | 0.52 | 0.47 | 0.37 | 0.39 |
| 9. 9 | 0.19 | 0.36 | 0.48 | 0.24 | 0.00 | −0.10 | −0.04 | 0.28 | 0.32 | 0.31 | 0.31 | 0.25 | 0.22 |
| 10.10 | 0.01 | 0.14 | 0.12 | −0.00 | −0.16 | −0.19 | −0.16 | 0.01 | −0.03 | 0.02 | 0.08 | 0.07 | −0.01 |
| 7. 2. 9 | −0.16 | −0.17 | −0.18 | −0.25 | −0.33 | −0.33 | −0.30 | −0.25 | −0.26 | −0.27 | −0.17 | −0.15 | −0.24 |
| 6. 2. 8 | −0.11 | −0.16 | −0.21 | −0.27 | −0.32 | −0.35 | −0.33 | −0.30 | −0.26 | −0.25 | −0.13 | −0.13 | −0.24 |
| 6. 2.10 | −0.14 | −0.12 | −0.01 | 0.15 | 0.18 | 0.31 | −0.20 | 0.22 | 0.03 | −0.12 | −0.13 | −0.15 | 0.04 |
| 6. 2. 6 | −0.22 | −0.37 | −0.56 | −0.77 | −0.84 | −0.97 | −0.79 | −0.90 | −0.66 | −0.50 | −0.30 | −0.22 | −0.59 |
| 7. 2 | −0.29 | −0.49 | −0.60 | −0.79 | −0.96 | −0.91 | −0.77 | −0.93 | −0.78 | −0.67 | −0.47 | −0.34 | −0.67 |
| 8. 2 | −0.38 | −0.60 | −0.87 | −1.24 | −1.48 | −1.53 | −1.26 | −1.46 | −1.18 | −0.89 | −0.59 | −0.39 | −0.99 |
| 8. 1 | −0.30 | −0.53 | −0.84 | −1.26 | −1.53 | −1.56 | −1.31 | −1.49 | −1.20 | −0.87 | −0.54 | −0.35 | −0.98 |
| 7. 1 | −0.21 | −0.41 | −0.57 | −0.81 | −1.01 | −0.93 | −0.83 | −0.96 | −0.81 | −0.65 | −0.42 | −0.30 | −0.66 |
| 9.12.3.9 | −0.41 | −0.56 | −0.99 | −1.33 | −1.51 | −1.68 | −1.42 | −1.55 | −1.29 | −0.91 | −0.53 | −0.37 | −1.05 |
| 7. 2.2(9) | −0.10 | −0.01 | 0.03 | 0.03 | −0.02 | −0.05 | −0.06 | 0.09 | −0.01 | −0.07 | −0.02 | −0.06 | −0.02 |
| Dail. ext. | −0.18 | −0.39 | −0.45 | −0.32 | −0.18 | 0.01 | −0.15 | −0.42 | −0.47 | −0.44 | −0.37 | −0.32 | −0.30 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LIV.

ENGLAND. — GREENWICH. *Lat.* 51° 29′ N. *Long.* 0° 0′.

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — GLAISHER.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. . . | 1.0 | 1.6 | 2.9 | 4.8 | 5.4 | 6.2 | 5.0 | 5.1 | 4.0 | 2.9 | 1.7 | 0.9 | 3.5 |
| 1 | 0.9 | 1.8 | 3.0 | 5.2 | 6.0 | 7.1 | 5.5 | 5.5 | 4.5 | 3.0 | 1.8 | 1.0 | 3.8 |
| 2 | 1.2 | 2.0 | 3.3 | 5.7 | 6.4 | 8.0 | 6.0 | 6.0 | 5.5 | 3.4 | 2.0 | 1.2 | 4.2 |
| 3 | 1.3 | 2.1 | 3.6 | 6.2 | 6.7 | 8.7 | 6.4 | 6.3 | 6.4 | 3.6 | 2.0 | 1.3 | 4.5 |
| 4 | 1.6 | 2.3 | 3.9 | 6.6 | 6.7 | 9.3 | 6.6 | 6.5 | 6.6 | 3.8 | 2.1 | 1.4 | 4.8 |
| 5 | 1.8 | 2.2 | 4.0 | 6.7 | 6.3 | 8.8 | 6.2 | 6.5 | 6.2 | 3.8 | 2.0 | 1.4 | 4.7 |
| 6 | 1.9 | 2.3 | 3.9 | 6.0 | 4.8 | 6.4 | 4.5 | 5.5 | 5.3 | 3.5 | 1.9 | 1.4 | 3.9 |
| 7 | 1.9 | 2.1 | 3.6 | 4.3 | 2.6 | 3.0 | 2.5 | 3.3 | 4.0 | 2.8 | 1.7 | 1.5 | 2.8 |
| 8 | 1.5 | 1.6 | 2.5 | 2.0 | 0.5 | 0.0 | 0.0 | 0.9 | 2.1 | 1.6 | 1.0 | 1.3 | 1.2 |
| 9 | 1.0 | 0.7 | 0.2 | −0.9 | −2.0 | −2.5 | −2.0 | −1.6 | −0.4 | 0.0 | 0.4 | 0.9 | −0.5 |
| 10 | 0.2 | −0.5 | −1.9 | −3.2 | −4.0 | −4.5 | −4.0 | −3.5 | −3.0 | −2.0 | −0.6 | 0.0 | −2.2 |
| 11 | −1.3 | −2.1 | −3.5 | −5.3 | −5.5 | −5.8 | −5.4 | −5.4 | −5.0 | −3.8 | −2.0 | −1.3 | −3.9 |
| Noon. . . | −2.3 | −3.2 | −5.0 | −6.8 | −6.7 | −7.3 | −6.4 | −6.5 | −6.4 | −5.1 | −3.1 | −2.1 | −5.1 |
| 1 | −2.9 | −3.9 | −5.8 | −7.9 | −7.5 | −8.1 | −6.7 | −7.5 | −7.1 | −5.5 | −3.5 | −2.4 | −5.7 |
| 2 | −3.0 | −3.9 | −5.8 | −8.2 | −7.7 | −8.6 | −6.7 | −7.7 | −7.1 | −4.9 | −3.6 | −2.3 | −5.8 |
| 3 | −2.5 | −3.6 | −5.5 | −7.7 | −7.3 | −8.4 | −6.5 | −7.0 | −6.6 | −3.7 | −3.0 | −1.9 | −5.3 |
| 4 | −1.9 | −2.8 | −4.5 | −6.7 | −6.1 | −7.4 | −5.8 | −5.5 | −5.5 | −2.8 | −2.1 | −1.3 | −4.4 |
| 5 | −1.1 | −1.6 | −3.3 | −5.4 | −4.8 | −6.1 | −4.9 | −3.6 | −4.2 | −1.7 | −1.2 | −0.8 | −3.2 |
| 6 | −0.6 | −0.6 | −1.8 | −3.5 | −3.0 | −4.5 | −3.5 | −2.0 | −2.5 | −0.8 | −0.4 | −0.4 | −2.0 |
| 7 | −0.3 | 0.3 | −0.4 | −1.1 | −1.0 | −2.4 | −1.5 | −0.5 | −0.6 | 0.0 | 0.1 | −0.1 | −0.6 |
| 8 | 0.1 | 0.6 | 0.9 | 0.7 | 0.9 | 0.0 | 0.3 | 1.0 | 1.0 | 0.7 | 0.6 | 0.2 | 0.6 |
| 9 | 0.4 | 1.0 | 1.7 | 2.0 | 2.3 | 1.8 | 1.9 | 2.4 | 1.8 | 1.3 | 1.0 | 0.4 | 1.5 |
| 10 | 0.6 | 1.3 | 2.3 | 3.2 | 3.5 | 3.6 | 3.3 | 3.3 | 2.7 | 1.9 | 1.3 | 0.5 | 2.3 |
| 11 | 0.7 | 1.5 | 2.6 | 4.1 | 4.5 | 5.0 | 4.2 | 4.3 | 3.4 | 2.4 | 1.5 | 0.8 | 2.9 |
| 6. 6 | 0.6 | 0.9 | 1.0 | 1.2 | 0.9 | 0.9 | 0.5 | 1.7 | 1.4 | 1.3 | 0.8 | 0.5 | 0.9 |
| 7. 7 | 0.8 | 1.2 | 1.6 | 1.6 | 0.8 | 0.3 | 0.5 | 1.4 | 1.7 | 1.4 | 0.9 | 0.7 | 1.1 |
| 8. 8 | 0.8 | 1.1 | 1.7 | 1.3 | 0.7 | 0.0 | 0.1 | 0.9 | 1.5 | 1.1 | 0.8 | 0.8 | 0.9 |
| 9. 9 | 0.7 | 0.8 | 0.9 | 0.5 | 0.1 | −0.3 | −0.0 | 0.4 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 |
| 10.10 | 0.4 | 0.4 | 0.2 | 0.0 | −0.2 | −0.4 | −0.4 | −0.1 | −0.1 | −0.0 | 0.4 | 0.2 | 0.0 |
| 7. 2. 9 | −0.2 | −0.3 | −0.2 | −0.6 | −0.9 | −1.2 | −0.8 | −0.7 | −0.4 | −0.2 | −0.3 | −0.1 | −0.5 |
| 6. 2. 8 | −0.3 | −0.3 | −0.3 | −0.5 | −0.7 | −0.7 | −0.6 | −0.4 | −0.3 | −0.2 | −0.4 | −0.2 | −0.4 |
| 6. 2.10 | −0.2 | −0.1 | 0.1 | 0.3 | 0.2 | 0.5 | 0.4 | 0.3 | 0.3 | 0.2 | −0.1 | −0.1 | 0.1 |
| 6. 2. 6 | −0.6 | −0.7 | −1.2 | −1.9 | −1.9 | −2.2 | −1.9 | −1.4 | −1.4 | −0.7 | −0.7 | −0.4 | −1.3 |
| 7. 2 | −0.5 | −0.9 | −1.1 | −1.9 | −2.5 | −2.8 | −2.1 | −2.2 | −1.5 | −1.0 | −0.9 | −0.4 | −1.5 |
| 8. 2 | −0.7 | −1.1 | −1.6 | −3.1 | −3.6 | −4.3 | −3.3 | −3.4 | −2.5 | −1.7 | −1.3 | −0.5 | −2.3 |
| 8. 1 | −0.7 | −1.1 | −1.6 | −2.9 | −3.5 | −4.0 | −3.4 | −3.3 | −2.5 | −1.9 | −1.3 | −0.5 | −2.2 |
| 7. 1 | −0.5 | −0.9 | −1.1 | −1.8 | −2.4 | −2.6 | −2.1 | −2.1 | −1.5 | −1.4 | −0.9 | −0.4 | −1.5 |
| 9.12.3.9 | −0.8 | −1.3 | −2.1 | −3.3 | −3.4 | −4.1 | −3.2 | −3.2 | −2.9 | −1.9 | −1.2 | −0.7 | −2.4 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LV.

PRUSSIA. — HALLE. *Lat.* 51° 30′ N. *Long.* 11° 57′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.53 | 1.00 | 1.36 | 2.52 | 3.98 | 3.91 | 3.72 | 3.32 | 2.70 | 2.01 | 0.95 | 0.46 | 2.21 |
| 2 | 0.56 | 1.14 | 1.58 | 2.86 | 4.10 | 3.94 | 3.82 | 3.57 | 2.99 | 2.22 | 0.97 | 0.48 | 2.35 |
| 3 | 0.60 | 1.26 | 1.74 | 3.00 | 3.78 | 3.62 | 3.56 | 3.56 | 3.12 | 2.37 | 1.01 | 0.50 | 2.34 |
| 4 | 0.66 | 1.34 | 1.82 | 2.94 | 3.10 | 2.95 | 2.97 | 3.27 | 3.02 | 2.41 | 1.03 | 0.54 | 2.17 |
| 5 | 0.72 | 1.36 | 1.72 | 2.62 | 2.18 | 2.09 | 2.14 | 2.64 | 2.62 | 2.25 | 1.00 | 0.55 | 1.82 |
| 6 | 0.72 | 1.30 | 1.42 | 1.98 | 1.30 | 1.18 | 1.24 | 1.90 | 1.97 | 1.90 | 0.92 | 0.58 | 1.37 |
| 7 | 0.65 | 1.10 | 0.94 | 1.07 | 0.32 | 0.25 | 0.23 | 0.84 | 0.98 | 1.32 | 0.74 | 0.55 | 0.75 |
| 8 | 0.36 | 0.53 | 0.20 | 0.03 | −0.56 | −0.58 | −0.57 | −0.20 | 0.12 | 0.33 | 0.30 | 0.28 | 0.02 |
| 9 | 0.05 | −0.08 | −0.66 | −0.98 | −1.34 | −1.34 | −1.30 | −1.20 | −1.14 | −0.71 | −0.31 | −0.09 | −0.76 |
| 10 | −0.45 | −0.76 | −1.18 | −1.86 | −2.09 | −2.01 | −1.99 | −2.10 | −2.03 | −1.66 | −0.87 | −0.54 | −1.46 |
| 11 | −0.82 | −1.29 | −1.73 | −2.58 | −2.66 | −2.68 | −2.65 | −2.90 | −2.72 | −2.44 | −1.35 | −0.90 | −2.06 |
| Noon. . . | −1.09 | −1.77 | −2.06 | −3.08 | −3.14 | −3.07 | −3.16 | −3.35 | −3.11 | −2.86 | −1.66 | −1.08 | −2.45 |
| 1 | −1.17 | −2.02 | −2.22 | −3.32 | −3.33 | −3.35 | −3.46 | −3.53 | −3.30 | −3.01 | −1.73 | −1.09 | −2.63 |
| 2 | −1.06 | −1.86 | −2.10 | −3.26 | −3.37 | −3.46 | −3.54 | −3.57 | −3.27 | −2.76 | −1.52 | −0.94 | −2.56 |
| 3 | −0.86 | −1.49 | −1.86 | −2.90 | −3.13 | −3.23 | −3.29 | −3.30 | −2.98 | −2.32 | −1.14 | −0.74 | −2.27 |
| 4 | −0.53 | −1.01 | −1.42 | −2.39 | −2.74 | −2.74 | −2.76 | −2.84 | −2.50 | −1.81 | −0.75 | −0.42 | −1.83 |
| 5 | −0.30 | −0.59 | −0.91 | −1.78 | −2.24 | −2.22 | −2.16 | −1.97 | −1.83 | −1.20 | −0.40 | −0.20 | −1.32 |
| 6 | −0.13 | −0.29 | −0.52 | −0.96 | −1.58 | −1.50 | −1.39 | −1.38 | −1.12 | −0.69 | −0.14 | −0.03 | −0.81 |
| 7 | −0.00 | −0.09 | −0.06 | −0.34 | −0.86 | −0.73 | −0.55 | −0.59 | −0.38 | −0.21 | 0.04 | 0.09 | −0.31 |
| 8 | 0.11 | 0.13 | 0.26 | 0.32 | −0.10 | 0.07 | 0.26 | 0.15 | 0.29 | 0.25 | 0.21 | 0.22 | −0.18 |
| 9 | 0.21 | 0.30 | 0.59 | 0.88 | 0.68 | 0.90 | 1.09 | 0.90 | 0.87 | 0.68 | 0.39 | 0.34 | 0.65 |
| 10 | 0.31 | 0.46 | 0.79 | 1.33 | 1.64 | 1.81 | 1.87 | 1.61 | 1.42 | 1.12 | 0.59 | 0.37 | 1.11 |
| 11 | 0.41 | 0.65 | 0.98 | 1.78 | 2.61 | 2.69 | 2.64 | 2.30 | 1.90 | 1.47 | 0.76 | 0.40 | 1.55 |
| Midn. . . | 0.48 | 0.83 | 1.16 | 2.17 | 3.43 | 3.42 | 3.29 | 2.86 | 2.33 | 1.77 | 0.89 | 0.43 | 1.92 |
| 6. 6 | 0.21 | 0.39 | 0.41 | 0.42 | −0.03 | −0.07 | −0.01 | 0.34 | 0.40 | 0.53 | 0.30 | 0.18 | 0.26 |
| 7. 7 | 0.30 | 0.51 | 0.45 | 0.51 | −0.14 | −0.16 | −0.08 | 0.26 | 0.43 | 0.61 | 0.39 | 0.28 | 0.28 |
| 8. 8 | 0.33 | 0.51 | 0.44 | 0.37 | −0.27 | −0.24 | −0.16 | 0.13 | 0.30 | 0.56 | 0.39 | 0.32 | 0.22 |
| 9. 9 | 0.24 | 0.33 | 0.23 | 0.18 | −0.33 | −0.26 | −0.16 | −0.03 | 0.21 | 0.29 | 0.26 | 0.25 | 0.10 |
| 10.10 | 0.13 | 0.11 | −0.04 | −0.05 | −0.33 | −0.22 | −0.11 | −0.15 | −0.14 | −0.02 | 0.04 | 0.13 | −0.05 |
| 7. 2. 9 | −0.11 | −0.20 | −0.18 | −0.34 | −0.71 | −0.70 | −0.65 | −0.49 | −0.35 | −0.29 | −0.20 | −0.10 | −0.36 |
| 6. 2. 8 | −0.15 | −0.25 | −0.19 | −0.35 | −0.67 | −0.66 | −0.62 | −0.49 | −0.35 | −0.32 | −0.23 | −0.15 | −0.37 |
| 6. 2.10 | −0.08 | −0.12 | 0.03 | 0.06 | −0.16 | −0.12 | −0.08 | −0.00 | 0.06 | −0.03 | −0.11 | −0.07 | −0.05 |
| 6. 2. 6 | −0.25 | −0.42 | −0.47 | −0.83 | −1.13 | −1.16 | −1.16 | −0.95 | −0.84 | −0.65 | −0.38 | −0.25 | −0.71 |
| 7. 2 | −0.23 | −0.36 | −0.40 | −0.67 | −1.02 | −1.09 | −1.11 | −0.82 | −0.67 | −0.56 | −0.41 | −0.26 | −0.63 |
| 8. 2 | −0.26 | −0.46 | −0.64 | −1.13 | −1.51 | −1.55 | −1.62 | −1.35 | −1.16 | −0.85 | −0.50 | −0.27 | −0.94 |
| 8. 1 | −0.22 | −0.34 | −0.56 | −1.01 | −1.41 | −1.41 | −1.47 | −1.26 | −1.07 | −0.77 | −0.46 | −0.27 | −0.85 |
| 7. 1 | −0.19 | −0.24 | −0.32 | −0.55 | −0.92 | −0.95 | −0.96 | −0.73 | −0.57 | −0.48 | −0.37 | −0.25 | −0.54 |
| 9.12.3.9 | −0.35 | −0.62 | −0.84 | −1.37 | −1.67 | −1.66 | −1.63 | −1.63 | −1.40 | −1.16 | −0.59 | −0.34 | −1.10 |
| 7. 2.2(9) | −0.06 | −0.12 | −0.07 | −0.18 | −0.56 | −0.51 | −0.43 | −0.33 | −0.19 | −0.15 | −0.10 | −0.02 | −0.23 |
| Dail. ext. | −0.23 | −0.33 | −0.20 | −0.16 | 0.37 | 0.24 | 0.14 | 0.00 | −0.09 | −0.30 | −0.35 | −0.26 | −0.14 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LVI.

HANOVER. — GÖTTINGEN. *Lat.* 51° 32′ N. *Long.* 9° 56′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.90 | 1.13 | 1.58 | 2.24 | 3.31 | 3.43 | 3.56 | 3.35 | 2.31 | 1.58 | 0.69 | 0.60 | 2.06 |
| 2 | 0.92 | 1.14 | 1.77 | 2.49 | 3.70 | 3.71 | 3.82 | 3.70 | 2.68 | 1.75 | 0.74 | 0.59 | 2.25 |
| 3 | 0.94 | 1.16 | 2.01 | 2.79 | 3.93 | 3.73 | 3.92 | 3.92 | 3.23 | 1.94 | 0.82 | 0.58 | 2.41 |
| 4 | 0.99 | 1.20 | 2.22 | 3.04 | 3.91 | 3.57 | 3.79 | 3.89 | 3.63 | 2.10 | 0.92 | 0.58 | 2.49 |
| 5 | 1.15 | 1.26 | 2.29 | 3.08 | 3.55 | 3.10 | 3.36 | 3.52 | 3.62 | 2.15 | 1.00 | 0.62 | 2.39 |
| 6 | 1.12 | 1.20 | 2.10 | 2.73 | 2.62 | 2.22 | 2.59 | 2.79 | 3.50 | 1.99 | 1.08 | 0.66 | 2.05 |
| 7 | 1.13 | 1.14 | 1.77 | 2.24 | 1.78 | 1.21 | 1.40 | 1.69 | 2.62 | 1.58 | 0.94 | 0.65 | 1.51 |
| 8 | 1.12 | 0.80 | 1.02 | 0.89 | 0.75 | 0.49 | 0.48 | 0.56 | 1.36 | 1.08 | 0.53 | 0.54 | 0.80 |
| 9 | 0.50 | −0.08 | −0.14 | −0.16 | −0.47 | −0.55 | −0.65 | −0.68 | −0.22 | −0.21 | 0.10 | 0.30 | −0.19 |
| 10 | −0.37 | −0.88 | −1.09 | −1.32 | −1.53 | −1.60 | −2.22 | −1.84 | −1.45 | −0.82 | −0.42 | −0.02 | −1.13 |
| 11 | −1.26 | −1.78 | −1.87 | −2.30 | −2.59 | −2.53 | −2.74 | −2.83 | −2.45 | −1.74 | −0.99 | −0.74 | −1.99 |
| Noon. . . | −1.83 | −2.17 | −2.43 | −2.98 | −3.30 | −3.19 | −3.48 | −3.52 | −3.37 | −2.50 | −1.46 | −1.12 | −2.61 |
| 1 | −2.02 | −2.32 | −2.81 | −3.37 | −3.82 | −3.72 | −3.78 | −3.82 | −3.80 | −2.89 | −1.58 | −1.42 | −2.95 |
| 2 | −2.03 | −2.23 | −3.05 | −3.56 | −3.98 | −4.03 | −4.09 | −4.15 | −4.00 | −2.98 | −1.60 | −1.28 | −3.08 |
| 3 | −1.74 | −1.98 | −2.88 | −3.48 | −3.95 | −3.91 | −4.00 | −4.03 | −4.03 | −2.84 | −1.32 | −1.02 | −2.93 |
| 4 | −1.23 | −1.35 | −2.48 | −3.24 | −3.67 | −3.65 | −3.82 | −3.71 | −3.62 | −2.40 | −0.90 | −0.66 | −2.56 |
| 5 | −0.79 | −0.59 | −1.79 | −2.64 | −3.13 | −3.09 | −3.18 | −3.15 | −2.94 | −1.74 | −0.54 | −0.36 | −2.00 |
| 6 | −0.33 | −0.04 | −1.06 | −1.86 | −2.40 | −2.20 | −2.40 | −2.32 | −1.97 | −0.94 | −0.23 | −0.14 | −1.32 |
| 7 | −0.05 | 0.31 | −0.26 | −0.80 | −1.44 | −1.16 | −1.30 | −1.09 | −0.87 | −0.30 | 0.01 | 0.06 | −0.57 |
| 8 | 0.24 | 0.58 | 0.34 | 0.04 | 0.22 | −0.15 | 0.03 | 0.13 | 0.05 | 0.24 | 0.17 | 0.20 | 0.14 |
| 9 | 0.40 | 0.82 | 0.78 | 0.77 | 0.88 | 0.79 | 1.09 | 1.05 | 0.78 | 0.71 | 0.30 | 0.30 | 0.72 |
| 10 | 0.57 | 0.94 | 1.05 | 1.30 | 1.59 | 1.73 | 1.87 | 1.62 | 1.28 | 1.02 | 0.42 | 0.40 | 1.15 |
| 11 | 0.71 | 1.01 | 1.30 | 1.75 | 2.29 | 2.69 | 2.62 | 2.26 | 1.71 | 1.35 | 0.56 | 0.44 | 1.56 |
| Midn. . . | 0.88 | 1.07 | 1.54 | 2.11 | 2.52 | 3.01 | 3.18 | 2.93 | 2.00 | 1.44 | 0.62 | 0.56 | 1.22 |
| 6. 6 | 0.40 | 0.58 | 0.52 | 0.44 | 0.11 | 0.01 | 0.10 | 0.24 | 0.77 | 0.53 | 0.43 | 0.26 | 0.37 |
| 7. 7 | 0.54 | 0.73 | 0.76 | 0.72 | 0.17 | 0.03 | 0.05 | 0.30 | 0.88 | 0.64 | 0.48 | 0.36 | 0.47 |
| 8. 8 | 0.68 | 0.69 | 0.68 | 0.47 | 0.27 | 0.17 | 0.26 | 0.35 | 0.71 | 0.66 | 0.35 | 0.37 | 0.47 |
| 9. 9 | 0.45 | 0.37 | 0.32 | 0.31 | 0.21 | 0.12 | 0.22 | 0.19 | 0.28 | 0.25 | 0.20 | 0.30 | 0.27 |
| 10.10 | 0.10 | 0.03 | −0.02 | −0.01 | 0.03 | 0.07 | −0.19 | −0.11 | −0.09 | 0.10 | −0.00 | 0.19 | 0.01 |
| 7. 2. 9 | −0.17 | −0.09 | −0.17 | −0.18 | −0.44 | −0.68 | −0.53 | −0.47 | −0.20 | −0.23 | −0.12 | −0.11 | −0.28 |
| 6. 2. 8 | −0.22 | −0.15 | −0.20 | −0.26 | −0.53 | −0.65 | −0.49 | −0.41 | −0.15 | −0.25 | −0.12 | −0.14 | −0.30 |
| 6. 2.10 | −0.11 | −0.03 | 0.03 | 0.16 | 0.08 | −0.03 | 0.12 | 0.09 | 0.26 | 0.01 | −0.03 | −0.07 | 0.04 |
| 6. 2. 6 | −0.41 | −0.36 | −0.67 | −0.90 | −1.25 | −1.34 | −1.30 | −1.23 | −0.82 | −0.64 | −0.25 | −0.25 | −0.79 |
| 7. 2 | −0.45 | −0.55 | −0.64 | −0.66 | −1.10 | −1.41 | −1.35 | −1.23 | −0.69 | −0.70 | −0.33 | −0.32 | −0.79 |
| 8. 2 | −0.46 | −0.72 | −1.02 | −1.34 | −1.62 | −1.77 | −1.81 | −1.80 | −1.32 | −0.95 | −0.54 | −0.37 | −1.14 |
| 8. 1 | −0.45 | −0.76 | −0.90 | −1.24 | −1.54 | −1.62 | −1.65 | −1.63 | −1.22 | −0.91 | −0.53 | −0.44 | −1.07 |
| 7. 1 | −0.45 | −0.59 | −0.52 | −0.57 | −1.02 | −1.26 | −1.19 | −1.07 | −0.59 | −0.66 | −0.32 | −0.39 | −0.72 |
| 9.12.3.9 | −0.67 | −0.85 | −1.17 | −1.46 | −1.71 | −1.72 | −1.76 | −1.80 | −1.71 | −1.21 | −0.60 | −0.39 | −1.25 |
| 7. 2.2(9) | −0.03 | 0.14 | 0.07 | 0.06 | −0.11 | −0.31 | −0.13 | −0.09 | 0.05 | 0.01 | −0.02 | −0.01 | −0.03 |
| Dail. ext. | −0.44 | −0.53 | −0.38 | −0.24 | −0.03 | −0.15 | −0.09 | −0.12 | −0.20 | −0.42 | −0.26 | −0.38 | −0.30 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LVII.

PRUSSIA. — BERLIN. *Lat.* 52° 30′ N. *Long.* 13° 24′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midnight. | 0.34 | 0.59 | 0.90 | 1.78 | 2.21 | 2.15 | 1.78 | 1.52 | 1.50 | 0.95 | 0.44 | 0.34 | 1.21 |
| 1 | 0.43 | 0.78 | 1.13 | 2.22 | 3.23 | 2.80 | 2.52 | 2.53 | 1.99 | 1.48 | 0.59 | 0.37 | 1.67 |
| 2 | 0.49 | 0.97 | 1.38 | 2.56 | 3.83 | 3.38 | 3.06 | 3.05 | 2.41 | 1.95 | 0.68 | 0.43 | 2.02 |
| 3 | 0.54 | 1.09 | 1.64 | 2.41 | 4.00 | 3.46 | 3.28 | 3.15 | 2.76 | 2.31 | 0.73 | 0.46 | 2.15 |
| 4 | 0.58 | 1.25 | 1.85 | 3.03 | 3.77 | 3.18 | 3.12 | 3.40 | 2.94 | 2.45 | 0.79 | 0.52 | 2.24 |
| 5 | 0.65 | 1.37 | 1.97 | 3.05 | 3.16 | 2.59 | 2.67 | 3.16 | 2.89 | 2.32 | 0.84 | 0.56 | 2.10 |
| 6 | 0.73 | 1.39 | 1.92 | 2.69 | 3.23 | 1.73 | 1.92 | 2.57 | 2.56 | 1.52 | 0.84 | 0.71 | 1.73 |
| 7 | 0.75 | 1.18 | 1.62 | 2.01 | 1.43 | 0.94 | 1.18 | 1.83 | 2.03 | 1.15 | 0.65 | 0.63 | 1.21 |
| 8 | 0.62 | 0.89 | 1.14 | 0.94 | 0.42 | 0.41 | 0.44 | 0.75 | 1.03 | 0.62 | 0.56 | 0.60 | 0.70 |
| 9 | 0.41 | 0.49 | 0.44 | −0.17 | −0.65 | −0.40 | −0.35 | −0.36 | −0.09 | −0.04 | 0.35 | 0.38 | 0.00 |
| 10 | 0.19 | −0.09 | −0.25 | −1.08 | −1.47 | −1.14 | −1.15 | −1.27 | −0.81 | −0.81 | −0.09 | 0.05 | −0.66 |
| 11 | −0.30 | −0.66 | −1.02 | −1.78 | −2.20 | −1.72 | −1.78 | −2.07 | −1.90 | −1.46 | −0.55 | −0.36 | −1.32 |
| Noon. | −0.55 | −1.16 | −1.44 | −2.37 | −2.65 | −2.17 | −2.26 | −2.64 | −2.49 | −1.87 | −0.95 | −0.69 | −1.77 |
| 1 | −0.93 | −1.48 | −1.97 | −2.85 | −3.00 | −2.25 | −2.54 | −3.06 | −2.96 | −2.14 | −1.26 | −0.86 | −2.11 |
| 2 | −1.07 | −1.73 | −2.20 | −2.98 | −3.25 | −2.72 | −2.75 | −3.17 | −3.16 | −2.23 | −1.27 | −0.96 | −2.29 |
| 3 | −1.03 | −1.67 | −2.28 | −3.27 | −3.34 | −2.84 | −2.82 | −3.25 | −3.19 | −2.12 | −1.20 | −0.95 | −2.32 |
| 4 | −0.78 | −1.46 | −2.07 | −3.11 | −3.11 | −2.72 | −2.73 | −3.14 | −3.16 | −1.75 | −0.81 | −0.73 | −2.13 |
| 5 | −0.56 | −1.07 | −1.70 | −2.57 | −2.69 | −2.60 | −2.40 | −2.72 | −2.34 | −1.53 | −0.49 | −0.48 | −1.76 |
| 6 | −0.38 | −0.74 | −1.12 | −2.05 | −2.35 | −2.36 | −2.16 | −2.21 | −1.58 | −0.87 | −0.30 | −0.25 | −1.36 |
| 7 | −0.22 | −0.46 | −0.64 | −1.13 | −1.55 | −1.75 | −1.44 | −1.22 | −0.82 | −0.63 | −0.11 | −0.15 | −0.84 |
| 8 | −0.12 | −0.20 | −0.27 | −0.34 | −0.67 | −0.57 | −0.39 | −0.30 | −0.16 | −0.30 | 0.05 | −0.02 | −0.27 |
| 9 | 0.06 | 0.03 | 0.05 | 0.40 | 0.13 | 0.31 | 0.38 | 0.84 | 0.36 | −0.08 | 0.10 | 0.06 | 0.22 |
| 10 | 0.14 | 0.21 | 0.39 | 0.93 | 0.82 | 0.96 | 1.01 | 1.06 | 0.98 | 0.26 | 0.20 | 0.17 | 0.59 |
| 11 | 0.24 | 0.38 | 0.65 | 1.37 | 1.56 | 1.58 | 1.44 | 1.57 | 1.20 | 0.56 | 0.36 | 0.25 | 0.93 |
| 6, 6 | 0.17 | 0.32 | 0.40 | 0.32 | −0.06 | −0.31 | −0.12 | 0.19 | 0.49 | 0.32 | 0.27 | 0.23 | 0.10 |
| 7, 7 | 0.27 | 0.36 | 0.49 | 0.44 | −0.06 | −0.40 | −0.13 | 0.30 | 0.60 | 0.26 | 0.27 | 0.24 | 0.22 |
| 8, 8 | 0.25 | 0.35 | 0.44 | 0.30 | −0.08 | −0.08 | 0.03 | 0.23 | 0.44 | 0.16 | 0.26 | 0.29 | 0.13 |
| 9, 9 | 0.24 | 0.26 | 0.30 | 0.12 | 0.21 | −0.05 | 0.02 | 0.24 | −0.23 | −0.06 | 0.23 | 0.22 | 0.12 |
| 10, 10 | 0.17 | 0.06 | 0.07 | −0.08 | −0.33 | −0.09 | −0.07 | −0.11 | −0.09 | −0.28 | 0.06 | 0.11 | 0.05 |
| 7, 1 | −0.09 | −0.15 | −0.17 | −0.42 | −0.79 | −0.65 | −0.68 | −0.61 | −0.46 | −0.49 | −0.31 | −0.12 | −0.42 |
| 7, 2, 9 | −0.09 | −0.17 | −0.18 | −0.19 | −0.56 | −0.49 | −0.36 | −0.17 | −0.26 | −0.39 | −0.17 | −0.09 | −0.26 |
| 6, 2, 10 | −0.07 | −0.04 | 0.04 | 0.21 | −0.07 | −0.01 | 0.06 | 0.15 | 0.13 | −0.15 | −0.08 | −0.03 | −0.07 |
| Daily ext. | −0.16 | −0.17 | −0.16 | −0.11 | 0.33 | 0.31 | 0.23 | 0.08 | −0.13 | 0.11 | −0.22 | −0.13 | 0.00 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LVIII.

GERMANY. — SALZUFLEN. *Lat.* 52° 5′ N. *Long.* 8° 40′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.00 | 1.10 | 1.05 | 2.11 | 2.41 | 2.57 | 2.05 | 1.71 | 2.12 | 1.24 | 0.90 | 0.31 | 1.46 |
| 2 | 0.55 | 1.22 | 1.20 | 2.44 | 2.93 | 2.85 | 2.27 | 2.01 | 2.44 | 1.55 | 1.26 | 0.48 | 1.77 |
| 3 | 0.60 | 1.27 | 1.34 | 2.64 | 3.29 | 2.98 | 2.39 | 2.23 | 2.74 | 1.82 | 1.53 | 0.65 | 1.96 |
| 4 | 0.62 | 1.26 | 1.38 | 2.62 | 3.37 | 2.86 | 2.32 | 2.26 | 2.87 | 1.98 | 1.64 | 0.78 | 2.00 |
| 5 | 0.72 | 1.18 | 1.29 | 2.35 | 3.08 | 2.47 | 1.99 | 2.00 | 2.71 | 1.97 | 1.58 | 0.83 | 1.85 |
| 6 | 0.62 | 1.01 | 1.06 | 1.80 | 2.41 | 1.83 | 1.42 | 1.48 | 2.18 | 1.75 | 1.37 | 0.79 | 1.48 |
| 7 | 0.51 | 0.75 | 0.70 | 1.05 | 1.45 | 1.02 | 0.70 | 0.79 | 1.34 | 1.34 | 1.04 | 0.64 | 0.94 |
| 8 | 0.31 | 0.41 | 0.25 | 0.20 | 0.38 | 0.15 | −0.06 | 0.08 | 0.30 | 0.75 | 0.62 | 0.38 | 0.31 |
| 9 | 0.08 | −0.03 | −0.22 | −0.63 | −0.59 | −0.67 | −0.74 | −0.54 | −0.65 | 0.09 | 0.14 | 0.06 | −0.31 |
| 10 | −0.33 | −0.53 | −0.68 | −1.36 | −1.42 | −1.38 | −1.15 | −1.02 | −1.47 | −0.63 | −0.35 | −0.24 | −0.88 |
| 11 | −0.74 | −1.02 | −1.06 | −1.93 | −1.96 | −1.94 | −1.62 | −1.38 | −2.08 | −1.27 | −0.02 | −0.48 | −1.29 |
| Noon. . . | −0.91 | −1.42 | −1.39 | −2.32 | −2.31 | −2.39 | −1.90 | −1.72 | −2.41 | −1.78 | −1.18 | −0.62 | −1.70 |
| 1 | −1.01 | −1.68 | −1.59 | −2.54 | −2.53 | −2.72 | −2.13 | −2.03 | −2.75 | −2.09 | −1.48 | −0.64 | −1.93 |
| 2 | −0.94 | −1.74 | −1.65 | −2.60 | −2.66 | −2.91 | −2.30 | −2.30 | −2.90 | −2.18 | −1.56 | −0.58 | −2.03 |
| 3 | −0.79 | −1.58 | −1.56 | −2.49 | −2.72 | −2.92 | −2.36 | −2.42 | −2.90 | −2.06 | −1.46 | −0.50 | −1.98 |
| 4 | −0.50 | −1.29 | −1.33 | −2.21 | −2.65 | −2.71 | −2.24 | −2.30 | −2.70 | −1.76 | −1.22 | −0.41 | −1.78 |
| 5 | −0.20 | −0.90 | −0.98 | −1.77 | −2.39 | −2.26 | −1.89 | −1.87 | −2.25 | −1.34 | −0.92 | −0.35 | −1.43 |
| 6 | −0.10 | −0.51 | −0.56 | −1.22 | −1.94 | −1.62 | −1.32 | −1.22 | −1.55 | −0.90 | −0.65 | −0.32 | −0.99 |
| 7 | 0.01 | −0.17 | −0.15 | −0.62 | −1.34 | −0.86 | −0.62 | 0.47 | −0.71 | −0.47 | −0.44 | −0.30 | −0.51 |
| 8 | 0.08 | 0.11 | 0.19 | −0.04 | −0.65 | −0.09 | 0.09 | 0.21 | 0.12 | −0.11 | −0.31 | −0.27 | −0.06 |
| 9 | 0.14 | 0.34 | 0.45 | 0.48 | 0.04 | 0.62 | 0.70 | 0.71 | 0.81 | 0.18 | −0.20 | −0.21 | 0.34 |
| 10 | 0.21 | 0.55 | 0.63 | 0.94 | 0.68 | 1.22 | 1.26 | 1.03 | 1.30 | 0.42 | −0.06 | −0.12 | 0.67 |
| 11 | 0.22 | 0.74 | 0.77 | 1.34 | 1.27 | 1.74 | 1.52 | 1.25 | 1.61 | 0.66 | 0.18 | 0.01 | 0.94 |
| Midn. . . | 0.40 | 0.93 | 0.90 | 1.74 | 1.84 | 2.18 | 1.80 | 1.45 | 1.86 | 0.94 | 0.50 | 0.15 | 1.22 |
| 6. 6 | 0.26 | 0.25 | 0.25 | 0.29 | 0.24 | 0.11 | 0.05 | 0.13 | 0.32 | 0.43 | 0.36 | 0.24 | 0.24 |
| 7. 7 | 0.26 | 0.29 | 0.28 | 0.22 | 0.06 | 0.08 | 0.04 | 0.16 | 0.32 | 0.44 | 0.30 | 0.17 | 0.22 |
| 8. 8 | 0.20 | 0.26 | 0.22 | 0.08 | −0.14 | 0.03 | 0.02 | 0.15 | 0.21 | 0.32 | 0.16 | 0.06 | 0.13 |
| 9. 9 | 0.11 | 0.16 | 0.12 | −0.08 | −0.28 | −0.03 | −0.02 | 0.09 | 0.08 | 0.14 | −0.03 | −0.08 | 0.02 |
| 10.10 | −0.06 | 0.01 | −0.03 | −0.21 | −0.37 | −0.08 | 0.06 | 0.01 | −0.09 | −0.11 | −0.21 | −0.18 | −0.11 |
| 7. 2. 9 | −0.10 | −0.22 | −0.17 | −0.36 | −0.39 | −0.42 | −0.30 | −0.27 | −0.25 | −0.22 | −0.24 | −0.05 | −0.25 |
| 6. 2. 8 | −0.08 | −0.21 | −0.13 | −0.28 | −0.30 | −0.39 | −0.26 | −0.20 | −0.20 | −0.18 | −0.17 | −0.02 | −0.20 |
| 6. 2.10 | −0.04 | −0.06 | 0.01 | 0.05 | 0.14 | 0.05 | 0.13 | 0.07 | 0.19 | −0.00 | −0.08 | 0.03 | 0.04 |
| 6. 2. 6 | −0.14 | −0.41 | −0.38 | −0.67 | −0.73 | −0.90 | −0.73 | −0.68 | −0.76 | −0.44 | −0.28 | −0.04 | −0.51 |
| 7. 2 | −0.22 | −0.50 | −0.48 | −0.78 | −0.61 | −0.95 | −0.80 | −0.76 | −0.78 | −0.42 | −0.26 | 0.03 | −0.54 |
| 8. 2 | −0.32 | −0.67 | −0.70 | −1.20 | −1.14 | −1.38 | −1.18 | −1.11 | −1.30 | −0.72 | −0.47 | −0.10 | −0.86 |
| 8. 1 | −0.35 | −0.64 | −0.67 | −1.17 | −1.08 | −1.29 | −1.10 | −0.98 | −1.23 | −0.67 | −0.43 | −0.13 | −0.81 |
| 7. 1 | −0.25 | −0.47 | −0.45 | −0.75 | −0.54 | −0.85 | −0.72 | −0.62 | −0.71 | −0.38 | −0.22 | −0.00 | −0.50 |
| 9.12.3.9 | −0.37 | −0.67 | −0.68 | −1.24 | −1.40 | −1.34 | −1.08 | −0.99 | −1.29 | −0.89 | −0.68 | −0.32 | −0.91 |
| 7. 2.2(9) | −0.04 | −0.08 | −0.01 | −0.15 | −0.28 | −0.16 | −0.05 | −0.02 | 0.02 | −0.12 | −0.23 | −0.09 | −0.10 |
| Dail.ext. | −0.15 | −0.24 | −0.14 | 0.02 | 0.33 | 0.03 | 0.02 | −0.08 | −0.02 | −0.10 | 0.04 | 0.10 | −0.02 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LIX.

PRUSSIA. — STETTIN. *Lat.* 53° 25′ N. *Long.* 14° 34′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midnight. | 0.26 | 0.54 | 0.98 | 1.66 | 2.21 | 2.21 | 1.83 | 1.93 | 1.53 | 0.88 | 0.50 | 0.39 | 1.24 |
| 1 | 0.38 | 0.59 | 1.17 | 1.91 | 2.66 | 2.46 | 2.25 | 2.24 | 1.61 | 1.01 | 0.44 | 0.46 | 1.43 |
| 2 | 0.43 | 0.70 | 1.30 | 2.15 | 3.03 | 2.84 | 2.62 | 2.54 | 1.87 | 1.13 | 0.47 | 0.50 | 1.63 |
| 3 | 0.49 | 0.88 | 1.41 | 2.39 | 3.39 | 3.10 | 2.95 | 2.83 | 2.11 | 1.24 | 0.51 | 0.56 | 1.99 |
| 4 | 0.53 | 0.89 | 1.51 | 2.60 | 3.58 | 3.08 | 3.07 | 3.08 | 2.33 | 1.33 | 0.55 | 0.61 | 1.92 |
| 5 | 0.57 | 0.97 | 1.63 | 2.67 | 3.45 | 2.78 | 2.85 | 3.10 | 2.46 | 1.40 | 0.58 | 0.64 | 1.92 |
| 6 | 0.55 | 0.94 | 1.62 | 2.40 | 2.78 | 2.12 | 2.21 | 2.78 | 2.45 | 1.42 | 0.60 | 0.56 | 1.70 |
| 7 | 0.46 | 0.83 | 1.37 | 1.70 | 1.63 | 1.17 | 1.31 | 2.02 | 1.98 | 1.25 | 0.52 | 0.46 | 1.23 |
| 8 | 0.36 | 0.66 | 0.90 | 0.66 | 0.33 | 0.20 | 0.35 | 0.96 | 1.11 | 0.79 | 0.43 | 0.38 | 0.59 |
| 9 | 0.22 | 0.36 | 0.23 | −0.42 | −0.88 | −0.72 | −0.53 | −0.26 | −0.05 | 0.16 | 0.13 | 0.23 | −0.13 |
| 10 | −0.04 | −0.02 | −0.44 | −1.36 | −1.87 | −1.54 | −1.33 | −1.40 | −1.11 | −0.55 | −0.22 | −0.03 | −0 83 |
| 11 | −0.36 | −0.53 | −1.06 | −2.07 | −2.62 | −2.18 | −1.96 | −2.23 | −1.96 | −1.23 | −0.60 | −0.35 | −1.43 |
| Noon. | −0.63 | −0.93 | −1.59 | −2.50 | −3.09 | −2.59 | −2.46 | −2.93 | −2.58 | −1.68 | −0.90 | −0.64 | −1.88 |
| 1 | −0.81 | −1.26 | −1.92 | −2.80 | −3.36 | −2.90 | −2.81 | −3.38 | −2.88 | −1.98 | −1.06 | −0.86 | −2.17 |
| 2 | −0.90 | −1.39 | −2.08 | −2.94 | −3.50 | −2.99 | −2.99 | −3.50 | −2.99 | −2.06 | −1.06 | −0.94 | −2.28 |
| 3 | −0.78 | −1.34 | −2.06 | −2.84 | −3.35 | −2.90 | −2.80 | −3.38 | −2.82 | −1.88 | −0.94 | −0.86 | −2.16 |
| 4 | −0.63 | −1.15 | −1.84 | −2.54 | −2.99 | −2.99 | −2.60 | −3.03 | −2.44 | −1.43 | −0.68 | −0.70 | −1.92 |
| 5 | −0.41 | −0.83 | −1.43 | −2.02 | −2.46 | −2.46 | −2.15 | −2.40 | −1.85 | −0.99 | −0.39 | −0.48 | −1.49 |
| 6 | −0.25 | −0.46 | −0.90 | −1.32 | −1.74 | −1.74 | −1.62 | −1.68 | −1.14 | −0.46 | −0.19 | −0.30 | −0.98 |
| 7 | −0.11 | −0.23 | −0.40 | −0.55 | −0.89 | −0.89 | −0.93 | −0.78 | −0.52 | −0.10 | −0.00 | −0.18 | −0.46 |
| 8 | 0.01 | −0.04 | −0.02 | 0.10 | −0.14 | −0.14 | −0.17 | 0.02 | 0.06 | 0.17 | 0.18 | −0.06 | −0.00 |
| 9 | 0.08 | 0.16 | 0.32 | 0.68 | 0.73 | 0.73 | 0.48 | 0.74 | 0.60 | 0.39 | 0.30 | 0.07 | 0.31 |
| 10 | 0.20 | 0.30 | 0.61 | 1.10 | 1.30 | 1.30 | 1.03 | 1.20 | 1.00 | 0.58 | 0.43 | 0.22 | 0.77 |
| 11 | 0.25 | 0.42 | 0.79 | 1.42 | 1.76 | 1.76 | 1.47 | 1.60 | 1.31 | 0.74 | 0.50 | 0.32 | 1.03 |
| 6, 6 | 0.15 | 0.24 | 0.36 | 0.54 | 0.52 | 0.19 | 0.29 | 0.55 | 0.65 | 0.48 | 0.21 | 0.13 | 0.36 |
| 7, 7 | 0.17 | 0.30 | 0.48 | 0.57 | 0.37 | 0.14 | 0.19 | 0.62 | 0.73 | 0.57 | 0.26 | 0.14 | 0.38 |
| 8, 8 | 0.19 | 0.31 | 0.44 | 0.38 | 0.10 | 0.03 | 0.09 | 0.49 | 0.59 | 0.48 | 0.31 | 0.16 | 0.30 |
| 9, 9 | 0.15 | 0.26 | 0.28 | 0.13 | −0.08 | 0.01 | −0.03 | 0.24 | 0.28 | 0.28 | 0.22 | 0.15 | 0.16 |
| 10, 10 | 0.08 | 0.14 | 0.09 | −0.13 | −0.29 | −0.12 | −0.15 | −0.10 | −0.06 | 0.02 | 0.11 | 0.10 | −0.03 |
| 7, 1 | −0.17 | −0.21 | −0.67 | −0.55 | −0.86 | −0.86 | −0.75 | −0.68 | −0.45 | −0.36 | −0.27 | −0.20 | −0.50 |
| 7, 2, 9 | −0.13 | −0.13 | −0.13 | −0.19 | −0.38 | −0.36 | −0.40 | −0.25 | −0.14 | −0.14 | −0.08 | −0.14 | −0.21 |
| 6, 2, 10 | −0.05 | −0.05 | 0.38 | 0.19 | 0.19 | 0.14 | 0.08 | 0.16 | 0.15 | −0.02 | −0.01 | −0.05 | 0.09 |
| Daily ext. | −0.16 | −0.21 | −0.23 | −0.14 | 0.04 | 0.06 | 0.04 | −0.20 | −0.27 | −0.32 | −0.23 | −0.15 | −0.15 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LX.

SLESWICK. — APENRADE. *Lat.* 55° 3′ N. *Long.* 9° 25′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.26 | 0.69 | 0.98 | 1.73 | 3.18 | 3.82 | 2.50 | 2.61 | 2.16 | 1.06 | 0.54 | 0.31 | 1.65 |
| 2 | 0.31 | 0.78 | 1.14 | 1.83 | 3.17 | 3.90 | 2.38 | 2.66 | 2.29 | 1.19 | 0.59 | 0.35 | 1.72 |
| 3 | 0.38 | 0.79 | 1.26 | 1.98 | 3.02 | 3.82 | 2.13 | 2.66 | 2.54 | 1.30 | 0.64 | 0.37 | 1.74 |
| 4 | 0.42 | 0.75 | 1.34 | 2.10 | 2.71 | 3.50 | 1.78 | 2.64 | 2.62 | 1.37 | 0.66 | 0.38 | 1.69 |
| 5 | 0.44 | 0.69 | 1.31 | 2.02 | 2.22 | 2.89 | 1.35 | 2.18 | 2.43 | 1.36 | 0.69 | 0.40 | 1.50 |
| 6 | 0.50 | 0.62 | 1.18 | 1.63 | 1.54 | 1.94 | 0.86 | 1.56 | 2.02 | 1.25 | 0.69 | 0.40 | 1.18 |
| 7 | 0.47 | 0.54 | 0.90 | 1.15 | 0.70 | 0.83 | 0.30 | 0.77 | 1.18 | 0.97 | 0.61 | 0.37 | 0.73 |
| 8 | 0.39 | 0.38 | 0.50 | 0.41 | −0.23 | −0.34 | −0.29 | −0.18 | 0.18 | 0.52 | 0.42 | 0.27 | 0.17 |
| 9 | 0.23 | 0.10 | −0.02 | −0.42 | −1.14 | −1.38 | −0.87 | −1.10 | −0.83 | −0.10 | 0.10 | 0.10 | −0.44 |
| 10 | −0.06 | −0.32 | −0.66 | −1.22 | −1.90 | −2.16 | −1.40 | −1.98 | −1.71 | −0.79 | −0.30 | −0.15 | −1.00 |
| 11 | −0.36 | −0.78 | −1.15 | −1.90 | −2.49 | −2.66 | −1.80 | −2.42 | −2.38 | −1.38 | −0.68 | −0.43 | −1.41 |
| Noon. . . | −0.62 | −1.19 | −1.62 | −2.42 | −2.86 | −2.98 | −2.09 | −2.74 | −2.79 | −1.94 | −0.98 | −0.66 | −1.91 |
| 1 | −0.78 | −1.40 | −1.90 | −2.75 | −3.08 | −3.24 | −2.23 | −2.89 | −3.03 | −2.15 | −1.10 | −0.78 | −2.11 |
| 2 | −0.69 | −1.34 | −1.96 | −2.89 | −3.16 | −3.49 | −2.27 | −2.90 | −3.08 | −2.07 | −1.02 | −0.75 | −2.14 |
| 3 | −0.61 | −1.06 | −1.78 | −2.79 | −3.10 | −3.68 | −2.21 | −2.78 | −2.93 | −1.74 | −0.82 | −0.59 | −2.01 |
| 4 | −0.38 | −0.64 | −1.41 | −2.43 | −2.86 | −3.62 | −2.02 | −2.39 | −2.54 | −1.23 | −0.59 | −0.38 | −1.71 |
| 5 | −0.16 | −0.23 | −0.92 | −1.80 | −2.40 | −3.34 | −1.70 | −2.02 | −1.93 | −0.71 | −0.29 | −0.15 | −1.30 |
| 6 | −0.03 | 0.05 | −0.42 | −0.99 | −1.70 | −2.57 | −1.18 | −1.23 | −1.13 | −0.25 | −0.12 | 0.02 | −0.80 |
| 7 | 0.01 | 0.18 | 0.02 | −0.12 | −0.79 | −1.42 | −0.57 | −0.47 | −0.26 | 0.10 | 0.02 | 0.10 | −0.27 |
| 8 | 0.03 | 0.18 | 0.33 | 0.66 | 0.22 | −0.07 | 0.18 | 0.40 | 0.56 | 0.34 | 0.03 | 0.14 | 0.25 |
| 9 | 0.01 | 0.17 | 0.54 | 1.25 | 1.22 | 1.25 | 0.97 | 1.21 | 1.21 | 0.51 | 0.09 | 0.15 | 0.71 |
| 10 | 0.02 | 0.22 | 0.66 | 1.57 | 2.05 | 2.33 | 1.63 | 1.72 | 1.61 | 0.65 | 0.18 | 0.18 | 1.07 |
| 11 | 0.07 | 0.33 | 0.76 | 1.69 | 2.66 | 3.10 | 2.14 | 2.25 | 1.83 | 0.85 | 0.30 | 0.21 | 1.35 |
| Midn. . . | 0.15 | 0.52 | 0.86 | 1.70 | 3.02 | 3.57 | 2.43 | 1.68 | 1.97 | 0.92 | 0.42 | 0.26 | 1.46 |
| 6. 6 | 0.24 | 0.34 | 0.38 | 0.32 | −0.08 | −0.32 | −0.16 | 0.17 | 0.45 | 0.50 | 0.29 | 0.21 | 0.19 |
| 7. 7 | 0.24 | 0.36 | 0.46 | 0.52 | −0.05 | −0.30 | −0.14 | 0.15 | 0.46 | 0.54 | 0.30 | 0.24 | 0.23 |
| 8. 8 | 0.21 | 0.28 | 0.42 | 0.54 | −0.01 | −0.21 | −0.06 | 0.11 | 0.37 | 0.43 | 0.23 | 0.21 | 0.21 |
| 9. 9 | 0.11 | 0.14 | 0.26 | 0.42 | 0.04 | −0.07 | 0.05 | 0.06 | 0.19 | 0.21 | 0.10 | 0.13 | 0.14 |
| 10.10 | −0.02 | −0.05 | −0.00 | 0.18 | 0.08 | 0.09 | 0.12 | −0.13 | −0.05 | −0.07 | −0.06 | 0.02 | 0.01 |
| 7. 2. 9 | −0.08 | −0.21 | −0.17 | −0.16 | −0.41 | −0.47 | −0.33 | −0.31 | −0.23 | −0.20 | −0.11 | −0.08 | −0.23 |
| 6. 2. 8 | −0.05 | −0.18 | −0.15 | −0.20 | −0.47 | −0.54 | −0.41 | −0.31 | −0.17 | −0.16 | −0.10 | −0.07 | −0.23 |
| 6. 2.10 | −0.06 | −0.17 | −0.04 | 0.10 | 0.14 | 0.26 | 0.07 | 0.13 | 0.18 | −0.06 | −0.05 | −0.06 | 0.04 |
| 6. 2. 6 | −0.07 | −0.22 | −0.40 | −0.75 | −1.11 | −1.37 | −0.86 | −0.86 | −0.73 | −0.36 | −0.15 | −0.11 | −0.58 |
| 7. 2 | −0.11 | −0.40 | −0.53 | −0.87 | −1.23 | −1.33 | −0.99 | −1.07 | −0.95 | −0.55 | −0.21 | −0.19 | −0.70 |
| 8. 2 | −0.15 | −0.48 | −0.73 | −1.24 | −1.70 | −1.92 | −1.28 | −1.54 | −1.45 | −0.78 | −0.30 | −0.24 | −0.98 |
| 8. 1 | −0.20 | −0.51 | −0.70 | −1.17 | −1.66 | −1.79 | −1.26 | −1.54 | −1.43 | −0.82 | −0.34 | −0.26 | −0.97 |
| 7. 1 | −0.16 | −0.43 | −0.50 | −0.80 | −1.19 | −1.21 | −0.97 | −1.06 | −0.93 | −0.59 | −0.25 | −0.21 | −0.69 |
| 9.12.3.9 | −0.25 | −0.50 | −0.72 | −1.10 | −1.47 | −1.70 | −1.05 | −1.35 | −1.34 | −0.82 | −0.40 | −0.25 | −0.91 |
| 7. 2.2(9) | −0.06 | −0.12 | 0.01 | 0.19 | 0.01 | −0.04 | −0.01 | 0.07 | 0.13 | −0.02 | −0.06 | −0.02 | 0.01 |
| Dail.ext. | −0.14 | −0.31 | −0.31 | −0.40 | 0.01 | 0.11 | 0.12 | −0.12 | −0.23 | −0.39 | −0.21 | −0.19 | −0.20 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXI.

SCOTLAND. — LEITH. *Lat.* 55° 59′ N. *Long.* 3° 10′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Fahrenheit.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.38 | 0.86 | 1.76 | 3.02 | 3.04 | 3.29 | 4.10 | 2.95 | 2.54 | 1.10 | 1.26 | 0.72 | 2.09 |
| 2 | 0.61 | 0.77 | 1.98 | 3.92 | 3.47 | 3.62 | 4.28 | 3.20 | 2.77 | 1.19 | 1.53 | 0.65 | 2.33 |
| 3 | 0.68 | 0.77 | 2.41 | 4.57 | 3.96 | 3.74 | 4.66 | 3.49 | 3.29 | 1.31 | 1.40 | 0.61 | 2.57 |
| 4 | 0.95 | 0.95 | 2.59 | 5.31 | 4.41 | 3.98 | 5.11 | 3.71 | 3.65 | 1.33 | 1.46 | 0.70 | 2.84 |
| 5 | 1.06 | 1.17 | 2.75 | 5.49 | 4.28 | 3.94 | 4.59 | 3.65 | 3.78 | 1.62 | 1.37 | 0.77 | 2.87 |
| 6 | 1.06 | 1.31 | 2.79 | 5.36 | 3.51 | 3.04 | 3.56 | 3.26 | 3.51 | 2.03 | 1.28 | 0.59 | 2.61 |
| 7 | 0.97 | 1.24 | 2.48 | 3.47 | 2.66 | 2.25 | 2.39 | 2.25 | 2.75 | 1.62 | 1.06 | 0.68 | 1.98 |
| 8 | 0.88 | 1.26 | 1.80 | 2.18 | 1.40 | 1.10 | 1.15 | 1.08 | 1.46 | 0.97 | 1.04 | 0.54 | 1.24 |
| 9 | 0.61 | 0.77 | 0.81 | −0.27 | 0.11 | −0.18 | −0.23 | −0.50 | −0.14 | 0.32 | 0.56 | 0.32 | 0.18 |
| 10 | 0.16 | −0.07 | 0.18 | −2.00 | −1.06 | −1.31 | −1.37 | −1.26 | −1.10 | −0.83 | −0.34 | −0.02 | −0.75 |
| 11 | −0.34 | −0.97 | −1.22 | −3.02 | −2.00 | −2.30 | −2.25 | −2.03 | −2.21 | −1.71 | −1.33 | −0.86 | −1.69 |
| Noon. . . | −1.04 | −1.69 | −2.61 | −3.92 | −2.75 | −2.79 | −3.58 | −2.99 | −3.13 | −2.36 | −1.96 | −1.33 | −2.51 |
| 1 | −1.42 | −2.25 | −2.97 | −4.37 | −3.35 | −3.15 | −3.67 | −3.44 | −3.92 | −2.79 | −2.30 | −1.51 | −2.93 |
| 2 | −1.58 | −2.23 | −3.29 | −4.73 | −3.78 | −3.83 | −4.07 | −3.65 | −4.28 | −2.84 | −2.57 | −1.55 | −3.20 |
| 3 | −1.60 | −2.27 | −3.38 | −5.09 | −3.85 | −4.37 | −4.37 | −3.65 | −4.16 | −2.57 | −2.63 | −1.13 | −3.26 |
| 4 | −1.19 | −1.73 | −3.33 | −4.79 | −4.19 | −3.94 | −4.46 | −3.87 | −3.56 | −1.96 | −1.69 | −0.83 | −2.96 |
| 5 | −0.68 | −0.95 | −2.84 | −4.25 | −4.03 | −3.71 | −4.57 | −3.76 | −3.56 | −1.31 | −1.04 | −0.50 | −2.60 |
| 6 | −0.45 | −0.47 | −2.14 | −3.83 | −3.51 | −3.29 | −4.41 | −3.47 | −2.30 | −0.59 | −0.68 | −0.27 | −2.12 |
| 7 | −0.09 | −0.09 | −1.17 | −2.45 | −2.61 | −2.52 | −3.58 | −1.69 | −0.97 | 0.05 | −0.25 | 0.18 | −1.27 |
| 8 | 0.14 | 0.32 | −0.45 | −0.81 | −1.17 | −0.79 | −1.31 | −0.41 | −0.16 | 0.59 | 0.05 | 0.29 | −0.31 |
| 9 | 0.23 | 0.61 | 0.25 | 0.38 | 0.32 | 0.50 | 0.43 | 0.59 | 0.59 | 0.72 | 0.32 | 0.36 | 0.44 |
| 10 | 0.18 | 0.88 | 0.77 | 1.08 | 0.86 | 1.89 | 1.71 | 1.58 | 1.24 | 1.15 | 0.79 | 0.41 | 1.04 |
| 11 | 0.32 | 0.99 | 1.31 | 2.18 | 1.69 | 2.16 | 2.52 | 2.23 | 1.67 | 1.60 | 1.19 | 0.54 | 1.53 |
| Midn. . . | 0.38 | 1.01 | 1.44 | 2.68 | 2.32 | 2.68 | 3.44 | 2.77 | 2.27 | 1.49 | 1.42 | 0.59 | 1.87 |
| 6. 6 | 0.32 | 0.43 | 0.34 | 0.77 | 0.00 | −0.14 | −0.43 | −0.11 | 0.61 | 0.72 | 0.32 | 0.16 | 0.25 |
| 7. 7 | 0.45 | 0.59 | 0.65 | 0.52 | 0.02 | −0.14 | −0.61 | 0.29 | 0.90 | 0.83 | 0.41 | 0.43 | 0.36 |
| 8. 8 | 0.52 | 0.79 | 0.68 | 0.70 | 0.11 | 0.16 | −0.09 | 0.34 | 0.65 | 0.79 | 0.54 | 0.43 | 0.47 |
| 9. 9 | 0.43 | 0.70 | 0.54 | 0.07 | 0.23 | 0.16 | 0.11 | 0.05 | 0.23 | 0.52 | 0.45 | 0.34 | 0.32 |
| 10.10 | 0.18 | 0.41 | 0.47 | −0.47 | −0.11 | 0.29 | 0.18 | 0.16 | 0.07 | 0.16 | 0.23 | 0.20 | 0.15 |
| 7. 2. 9 | −0.14 | −0.14 | −0.18 | −0.29 | −0.27 | −0.36 | −0.43 | −0.27 | −0.32 | −0.16 | −0.41 | −0.18 | −0.26 |
| 6. 2. 8 | −0.14 | −0.20 | −0.32 | −0.07 | −0.47 | −0.52 | −0.61 | −0.27 | −0.32 | −0.07 | −0.41 | −0.23 | −0.30 |
| 6. 2.10 | −0.11 | −0.02 | 0.09 | 0.56 | 0.20 | 0.36 | 0.41 | 0.41 | 0.16 | 0.11 | −0.16 | −0.18 | 0.15 |
| 6. 2. 6 | −0.32 | −0.47 | −0.88 | −1.06 | −1.26 | −1.35 | −1.64 | −1.28 | −1.01 | −0.47 | −0.65 | −0.41 | −0.90 |
| 7. 2 | −0.32 | −0.50 | −0.41 | −0.63 | −0.56 | −0.79 | −0.86 | −0.70 | −0.77 | −0.61 | −0.77 | −0.45 | −0.61 |
| 8. 2 | −0.36 | −0.50 | −0.74 | −1.28 | −1.19 | −1.37 | −1.46 | −1.28 | −1.42 | −0.95 | −0.77 | −0.52 | −0.99 |
| 8. 1 | −0.27 | −0.50 | −0.59 | −1.10 | −0.99 | −1.04 | −1.26 | −1.19 | −1.24 | −0.92 | −0.63 | −0.50 | −0.85 |
| 7. 1 | −0.23 | −0.52 | −0.25 | −0.45 | −0.36 | −0.45 | −0.65 | −0.61 | −0.59 | −0.59 | −0.63 | −0.41 | −0.47 |
| 9.12.3.9 | −0.45 | −0.65 | −1.24 | −2.23 | −1.55 | −1.71 | −1.94 | −1.64 | −1.71 | −0.97 | −0.92 | −0.45 | −1.29 |
| 7. 2.2(9) | −0.05 | 0.07 | −0.09 | −0.14 | −0.14 | −0.16 | −0.20 | −0.07 | −0.09 | 0.07 | −0.23 | −0.05 | −0.09 |
| Dail. ext. | −0.27 | −0.49 | −0.29 | 0.20 | −0.11 | −0.20 | 0.27 | −0.09 | −0.25 | −0.40 | −0.56 | −0.40 | −0.20 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXII.

SCOTLAND. — LEITH. *Lat.* 55° 59′ N. *Long.* 3° 10′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.17 | 0.38 | 0.78 | 1.34 | 1.35 | 1.46 | 1.82 | 1.31 | 1.13 | 0.49 | 0.56 | 0.32 | 0.93 |
| 2 | 0.27 | 0.34 | 0.88 | 1.74 | 1.54 | 1.61 | 1.90 | 1.42 | 1.23 | 0.53 | 0.68 | 0.29 | 1.04 |
| 3 | 0.30 | 0.34 | 1.07 | 2.03 | 1.76 | 1.66 | 2.07 | 1.55 | 1.46 | 0.58 | 0.62 | 0.27 | 1.14 |
| 4 | 0.42 | 0.42 | 1.15 | 2.36 | 1.96 | 1.77 | 2.27 | 1.65 | 1.62 | 0.59 | 0.65 | 0.31 | 1.26 |
| 5 | 0.47 | 0.52 | 1.22 | 2.44 | 1.90 | 1.75 | 2.04 | 1.62 | 1.68 | 0.72 | 0.61 | 0.34 | 1.28 |
| 6 | 0.47 | 0.58 | 1.24 | 2.38 | 1.56 | 1.35 | 1.58 | 1.45 | 1.56 | 0.90 | 0.57 | 0.26 | 1.16 |
| 7 | 0.43 | 0.55 | 1.10 | 1.54 | 1.18 | 1.00 | 1.06 | 1.00 | 1.22 | 0.72 | 0.47 | 0.30 | 0.88 |
| 8 | 0.39 | 0.56 | 0.80 | 0.97 | 0.62 | 0.49 | 0.51 | 0.48 | 0.65 | 0.43 | 0.46 | 0.24 | 0.55 |
| 9 | 0.27 | 0.34 | 0.36 | −0.12 | 0.05 | −0.08 | −0.10 | −0.22 | −0.06 | 0.14 | 0.25 | 0.14 | 0.08 |
| 10 | 0.07 | −0.03 | 0.08 | −0.89 | −0.47 | −0.58 | −0.61 | −0.56 | −0.49 | −0.37 | −0.15 | −0.01 | −0.33 |
| 11 | −0.15 | −0.43 | −0.54 | −1.34 | −0.89 | −1.02 | −1.00 | −0.90 | −0.98 | −0.76 | −0.59 | −0.38 | −0.75 |
| Noon. . . | −0.46 | −0.75 | −1.16 | −1.74 | −1.22 | −1.24 | −1.59 | −1.33 | −1.39 | −1.05 | −0.87 | −0.59 | −1.12 |
| 1 | −0.63 | −1.00 | −1.32 | −1.94 | −1.49 | −1.40 | −1.63 | −1.53 | −1.74 | −1.24 | −1.02 | −0.67 | −1.30 |
| 2 | −0.70 | −0.99 | −1.46 | −2.10 | −1.68 | −1.70 | −1.81 | −1.62 | −1.90 | −1.26 | −1.14 | −0.69 | −1.42 |
| 3 | −0.71 | −1.01 | −1.50 | −2.26 | −1.71 | −1.94 | −1.94 | −1.62 | −1.85 | −1.14 | −1.17 | −0.50 | −1.45 |
| 4 | −0.53 | −0.77 | −1.48 | −2.13 | −1.86 | −1.75 | −1.98 | −1.72 | −1.58 | −0.87 | −0.75 | −0.37 | −1.32 |
| 5 | −0.30 | −0.42 | −1.26 | −1.89 | −1.79 | −1.65 | −2.03 | −1.67 | −1.58 | −0.58 | −0.46 | −0.22 | −1.15 |
| 6 | −0.20 | −0.21 | −0.95 | −1.70 | −1.56 | −1.46 | −1.96 | −1.54 | −1.02 | −0.26 | −0.30 | −0.12 | −0.94 |
| 7 | −0.04 | −0.04 | −0.52 | −1.09 | −1.16 | −1.12 | −1.59 | −0.75 | −0.43 | 0.02 | −0.11 | 0.08 | −0.56 |
| 8 | 0.06 | 0.14 | −0.20 | −0.36 | −0.52 | −0.35 | −0.58 | −0.18 | −0.07 | 0.26 | 0.02 | 0.13 | −0.14 |
| 9 | 0.10 | 0.27 | 0.11 | 0.17 | 0.14 | 0.22 | 0.19 | 0.26 | 0.26 | 0.32 | 0.14 | 0.16 | 0.20 |
| 10 | 0.08 | 0.39 | 0.34 | 0.48 | 0.38 | 0.84 | 0.76 | 0.70 | 0.55 | 0.51 | 0.35 | 0.18 | 0.46 |
| 11 | 0.14 | 0.44 | 0.58 | 0.97 | 0.75 | 0.96 | 1.12 | 0.99 | 0.74 | 0.71 | 0.53 | 0.24 | 0.68 |
| Midn. . . | 0.17 | 0.45 | 0.64 | 1.19 | 1.03 | 1.19 | 1.53 | 1.23 | 1.01 | 0.66 | 0.63 | 0.26 | 0.83 |
| 6. 6 | 0.14 | 0.19 | 0.15 | 0.34 | 0.00 | −0.06 | −0.19 | −0.05 | 0.27 | 0.32 | 0.14 | 0.07 | 0.11 |
| 7. 7 | 0.20 | 0.26 | 0.29 | 0.23 | 0.01 | −0.06 | −0.27 | 0.13 | 0.40 | 0.37 | 0.18 | 0.19 | 0.16 |
| 8. 8 | 0.23 | 0.35 | 0.30 | 0.31 | 0.05 | 0.07 | −0.04 | 0.15 | 0.29 | 0.35 | 0.24 | 0.19 | 0.21 |
| 9. 9 | 0.19 | 0.31 | 0.24 | 0.03 | 0.10 | 0.07 | 0.05 | 0.02 | 0.10 | 0.23 | 0.20 | 0.15 | 0.14 |
| 10.10 | 0.08 | 0.18 | 0.21 | −0.21 | −0.05 | 0.13 | 0.08 | 0.07 | 0.03 | 0.07 | 0.10 | 0.09 | 0.06 |
| 7. 2. 9 | −0.06 | −0.06 | −0.08 | −0.13 | −0.12 | −0.16 | −0.19 | −0.12 | −0.14 | −0.07 | −0.18 | −0.08 | −0.12 |
| 6. 2. 8 | −0.06 | −0.09 | −0.14 | −0.03 | −0.21 | −0.23 | −0.27 | −0.12 | −0.14 | −0.03 | −0.18 | −0.10 | −0.13 |
| 6. 2.10 | −0.05 | −0.01 | 0.04 | 0.25 | 0.09 | 0.16 | 0.18 | 0.18 | 0.07 | 0.05 | −0.07 | −0.08 | 0.07 |
| 6. 2. 6 | −0.14 | −0.21 | −0.39 | −0.47 | −0.56 | −0.60 | −0.73 | −0.57 | −0.45 | −0.21 | −0.29 | −0.18 | −0.40 |
| 7. 2 | −0.14 | −0.22 | −0.18 | −0.28 | −0.25 | −0.35 | −0.38 | −0.31 | −0.34 | −0.27 | −0.34 | −0.20 | −0.27 |
| 8. 2 | −0.16 | −0.22 | −0.33 | −0.57 | −0.53 | −0.61 | −0.65 | −0.57 | −0.63 | −0.42 | −0.34 | −0.23 | −0.44 |
| 8. 1 | −0.12 | −0.22 | −0.26 | −0.49 | −0.44 | −0.46 | −0.56 | −0.53 | −0.55 | −0.41 | −0.28 | −0.22 | −0.38 |
| 7. 1 | −0.10 | −0.23 | −0.11 | −0.20 | −0.16 | −0.20 | −0.29 | −0.27 | −0.26 | −0.26 | −0.28 | −0.18 | −0.21 |
| 9.12.3.9 | −0.20 | −0.29 | −0.55 | −0.99 | −0.69 | −0.76 | −0.86 | −0.73 | −0.76 | −0.43 | −0.41 | −0.20 | −0.57 |
| 7. 2.2(9) | −0.02 | 0.03 | −0.04 | −0.06 | −0.06 | −0.07 | −0.09 | −0.03 | −0.04 | 0.03 | −0.10 | −0.02 | −0.04 |
| Dail. ext. | −0.12 | −0.22 | −0.13 | 0.09 | 0.05 | −0.09 | 0.12 | −0.04 | −0.11 | −0.18 | −0.25 | −0.18 | −0.09 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXIII.

SCOTLAND. — MAKERSTOUN. *Lat.* 55° 36′ N. *Long.* 2° 31′ W. *Gr.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.67 | 0.88 | 1.24 | 2.30 | 2.00 | 2.25 | 2.10 | 1.98 | 1.95 | 0.88 | 0.46 | 0.24 | 1.41 |
| 1 | 0.76 | 0.92 | 1.37 | 2.52 | 2.04 | 2.43 | 2.44 | 2.24 | 2.15 | 0.88 | 0.46 | 0.16 | 1.53 |
| 2 | 0.78 | 1.08 | 1.37 | 2.70 | 2.33 | 2.54 | 2.57 | 2.38 | 2.26 | 1.06 | 0.60 | 0.18 | 1.65 |
| 3 | 0.76 | 1.06 | 1.48 | 2.79 | 2.55 | 2.65 | 2.79 | 2.56 | 2.35 | 1.57 | 0.60 | 0.29 | 1.79 |
| 4 | 0.67 | 1.01 | 1.66 | 2.96 | 2.51 | 2.43 | 2.70 | 2.56 | 2.48 | 1.20 | 0.68 | 0.40 | 1.77 |
| 5 | 0.78 | 0.92 | 1.77 | 2.88 | 2.06 | 1.96 | 2.21 | 2.44 | 2.46 | 1.40 | 0.60 | 0.44 | 1.66 |
| 6 | 0.60 | 0.85 | 1.73 | 2.25 | 1.31 | 1.12 | 1.35 | 1.78 | 2.22 | 1.31 | 0.66 | 0.51 | 1.31 |
| 7 | 0.51 | 0.99 | 1.26 | 1.43 | 0.48 | 0.32 | 0.46 | 0.91 | 1.24 | 1.26 | 0.66 | 0.44 | 0.83 |
| 8 | 0.53 | 0.79 | 0.46 | 0.36 | −0.25 | −0.51 | −0.39 | −0.09 | 0.00 | 0.62 | 0.66 | 0.40 | 0.22 |
| 9 | 0.33 | 0.08 | −0.38 | −0.79 | −0.94 | −1.11 | −0.96 | −1.02 | −1.00 | −0.16 | 0.08 | 0.22 | −0.47 |
| 10 | −0.22 | −0.72 | −1.12 | −1.86 | −1.52 | −1.68 | −1.59 | −1.78 | −1.92 | −0.96 | −0.47 | −0.20 | −1.17 |
| 11 | −0.84 | −1.21 | −1.67 | −2.55 | −2.09 | −2.26 | −2.14 | −2.33 | −2.45 | −1.63 | −0.94 | −0.62 | −1.73 |
| Noon. | −1.36 | −1.61 | −2.09 | −3.06 | −2.34 | −2.48 | −2.45 | −2.73 | −2.67 | −2.03 | −1.34 | −0.93 | −2.09 |
| 1 | −1.71 | −2.03 | −2.27 | −3.44 | −2.69 | −2.75 | −2.48 | −2.87 | −3.03 | −2.25 | −1.56 | −1.13 | −2.35 |
| 2 | −1.67 | −2.05 | −2.36 | −3.57 | −2.65 | −2.57 | −2.52 | −2.93 | −3.12 | −2.20 | −1.47 | −0.96 | −2.34 |
| 3 | −1.29 | −1.68 | −2.32 | −3.52 | −2.65 | −2.28 | −2.54 | −2.73 | −2.85 | −1.83 | −0.96 | −0.60 | −2.10 |
| 4 | −0.71 | −1.30 | −1.80 | −3.05 | −2.27 | −1.95 | −2.28 | −2.47 | −2.29 | −1.23 | −0.45 | −0.16 | −1.66 |
| 5 | −0.13 | −0.50 | −1.20 | −2.30 | −1.76 | −1.64 | −1.81 | −1.78 | −1.49 | −0.49 | −0.07 | −0.11 | −1.11 |
| 6 | 0.18 | −0.08 | −0.40 | −1.39 | −0.98 | −0.95 | −1.34 | −1.07 | −0.60 | −0.09 | 0.13 | 0.18 | −0.53 |
| 7 | 0.29 | 0.15 | 0.08 | −0.19 | −0.18 | −0.40 | −0.59 | −0.18 | 0.06 | 0.17 | 0.17 | 0.18 | −0.04 |
| 8 | 0.31 | 0.37 | 0.46 | 0.52 | 0.62 | 0.36 | 0.35 | 0.56 | 0.46 | 0.40 | 0.28 | 0.18 | 0.41 |
| 9 | 0.29 | 0.52 | 0.73 | 1.21 | 1.15 | 1.00 | 0.95 | 1.09 | 0.95 | 0.64 | 0.37 | 0.24 | 0.76 |
| 10 | 0.27 | 0.64 | 0.95 | 1.74 | 1.46 | 1.56 | 1.48 | 1.58 | 1.33 | 0.73 | 0.46 | 0.31 | 1.04 |
| 11 | 0.22 | 0.79 | 1.06 | 2.08 | 1.77 | 1.94 | 1.70 | 1.89 | 1.51 | 0.73 | 0.40 | 0.36 | 1.20 |
| Mean. | 1.53 | 0.35 | 2.06 | 5.96 | 6.86 | 10.25 | 10.12 | 10.00 | 8.51 | 6.64 | 4.60 | 1.16 | |

## LXIV.

IRELAND. — DUBLIN. *Lat.* 53° 23′ N. *Long.* 6° 20′ W. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A.M. 1 | 0.58 | 0.53 | 1.56 | 2.18 | 2.53 | 2.76 | 2.18 | 2.22 | 1.64 | 1.16 | 0.53 | 0.36 | 1.52 |
| 3 | 0.80 | 0.71 | 1.64 | 2.40 | 2.89 | 3.11 | 2.53 | 2.40 | 1.87 | 1.42 | 0.67 | 0.49 | 1.74 |
| 5 | 0.93 | 0.98 | 1.64 | 2.49 | 2.31 | 2.18 | 2.18 | 2.53 | 1.87 | 1.73 | 0.76 | 0.58 | 1.68 |
| 7 | 0.84 | 0.93 | 1.38 | 0.58 | −0.22 | −0.89 | −0.36 | 0.40 | 1.07 | 1.56 | 0.80 | 0.53 | 0.56 |
| 9 | 0.36 | 0.18 | −0.31 | −1.11 | −1.24 | −1.38 | −1.10 | −1.16 | −0.76 | −0.09 | 0.27 | 0.36 | −0.50 |
| 11 | −0.98 | −0.07 | −1.82 | −2.40 | −2.18 | −2.09 | −2.04 | −2.27 | −2.13 | −1.91 | −0.98 | −0.71 | −1.71 |
| P.M. 1 | −1.60 | −1.78 | −2.67 | −2.93 | −2.62 | −2.40 | −2.27 | −2.62 | −2.67 | −2.44 | −1.56 | −1.16 | −2.23 |
| 3 | −1.33 | −1.47 | −2.44 | −2.84 | −2.71 | −2.31 | −2.27 | −2.49 | −2.22 | −2.04 | −1.11 | −0.67 | −1.99 |
| 5 | −0.44 | 0.44 | −1.29 | −1.82 | −1.82 | −1.87 | −1.64 | −1.73 | −1.29 | −0.84 | −0.27 | −0.18 | −1.14 |
| 7 | 0.09 | 0.18 | 0.18 | 0.04 | −0.27 | −0.44 | −0.27 | −0.09 | 0.27 | 0.04 | 0.04 | 0.09 | −0.01 |
| 9 | 0.22 | 0.31 | 0.76 | 1.20 | 1.29 | 1.24 | 1.20 | 1.16 | 0.93 | 0.58 | 0.36 | 0.18 | 0.79 |
| 11 | 0.36 | 0.40 | 1.07 | 1.73 | 1.96 | 2.04 | 1.87 | 1.64 | 1.42 | 0.84 | 0.44 | 0.22 | 1.17 |
| Mean. | 4.09 | 4.75 | 5.10 | 6.66 | 9.51 | 11.86 | 12.48 | 12.31 | 10.79 | 7.73 | 5.99 | 4.88 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXV.

RUSSIA. — CATHARINENBURG. *Lat.* 56° 50′ N. *Long.* 60° 34′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.59 | 0.91 | 1.84 | 1.97 | 3.09 | 3.69 | 3.51 | 2.49 | 1.99 | 0.68 | 0.47 | 0.65 | 1.82 |
| 2 | 0.58 | 0.89 | 2.09 | 2.41 | 3.52 | 4.15 | 3.76 | 2.93 | 2.27 | 0.84 | 0.42 | 0.67 | 2.04 |
| 3 | 0.53 | 0.87 | 2.42 | 2.87 | 3.80 | 4.35 | 3.96 | 3.42 | 2.60 | 1.04 | 0.36 | 0.64 | 2.24 |
| 4 | 0.48 | 0.89 | 2.80 | 3.21 | 3.82 | 4.17 | 4.01 | 3.78 | 2.89 | 1.23 | 0.35 | 0.61 | 2.35 |
| 5 | 0.58 | 0.95 | 3.11 | 3.23 | 3.45 | 3.54 | 3.78 | 3.79 | 2.98 | 1.36 | 0.43 | 0.63 | 2.32 |
| 6 | 0.54 | 1.00 | 3.15 | 2.83 | 2.67 | 2.49 | 3.18 | 3.30 | 2.74 | 1.36 | 0.55 | 0.72 | 2.04 |
| 7 | 0.60 | 0.94 | 2.76 | 1.99 | 1.57 | 1.18 | 2.21 | 2.29 | 2.11 | 1.17 | 0.64 | 0.81 | 1.52 |
| 8 | 0.56 | 0.71 | 1.90 | 0.84 | 0.31 | 0.17 | 0.98 | 0.94 | 1.16 | 0.80 | 0.60 | 0.80 | 0.79 |
| 9 | 0.37 | 0.27 | 0.65 | −0.41 | −0.88 | −1.35 | −0.34 | −0.48 | 0.05 | 0.28 | 0.37 | 0.61 | −0.07 |
| 10 | −0.01 | −0.33 | −0.75 | −1.52 | −1.85 | −2.23 | −1.61 | −1.70 | −1.03 | −0.32 | −0.02 | 0.21 | −0.93 |
| 11 | −0.60 | −0.97 | −2.03 | −2.34 | −2.53 | −2.79 | −2.72 | −2.55 | −1.93 | −0.89 | −0.49 | −0.34 | −1.68 |
| Noon. . . | −0.98 | −1.47 | −3.00 | −2.83 | −2.98 | −3.13 | −3.64 | −3.03 | −2.58 | −1.34 | −0.89 | −0.90 | −2.23 |
| 1 | −1.30 | −1.75 | −3.52 | −3.04 | −3.25 | −3.35 | −4.33 | −3.25 | −2.98 | −1.62 | −1.12 | −1.32 | −2.57 |
| 2 | −1.37 | −1.77 | −3.62 | −3.03 | −3.41 | −3.50 | −4.78 | −3.34 | −3.16 | −1.69 | −1.13 | −1.50 | −2.69 |
| 3 | −1.19 | −1.55 | −3.39 | −2.88 | −3.46 | −3.56 | −4.90 | −3.36 | −3.17 | −1.58 | −0.95 | −1.40 | −2.62 |
| 4 | −0.84 | −1.19 | −2.96 | −2.60 | −3.33 | −3.46 | −4.62 | −3.27 | −2.98 | −1.31 | −0.66 | −1.10 | −2.36 |
| 5 | −0.34 | −0.79 | −2.40 | −2.18 | −2.95 | −3.09 | −3.90 | −2.98 | −2.57 | −0.96 | −0.37 | −0.73 | −1.94 |
| 6 | −0.11 | −0.42 | −1.77 | −1.61 | −2.29 | −2.43 | −2.77 | −2.39 | −1.93 | −0.58 | −0.14 | −0.39 | −1.40 |
| 7 | 0.11 | −0.10 | −1.08 | −0.92 | −1.41 | −1.52 | −1.39 | −1.53 | −1.12 | −0.23 | 0.01 | −0.14 | −0.78 |
| 8 | 0.22 | 0.17 | 0.36 | −0.22 | −0.42 | −0.48 | 0.03 | −0.53 | −0.26 | 0.06 | 0.12 | 0.03 | 0.14 |
| 9 | 0.30 | 0.42 | 0.32 | 0.42 | 0.53 | 0.56 | 1.28 | 0.43 | 0.52 | 0.26 | 0.22 | 0.15 | 0.45 |
| 10 | 0.37 | 0.63 | 0.90 | 0.91 | 1.35 | 1.51 | 2.22 | 1.20 | 1.13 | 0.40 | 0.33 | 0.28 | 0.95 |
| 11 | 0.36 | 0.80 | 1.32 | 1.29 | 2.03 | 2.35 | 2.84 | 1.74 | 1.52 | 0.48 | 0.42 | 0.43 | 1.30 |
| Midn. . . | 0.55 | 0.89 | 1.62 | 1.61 | 2.59 | 3.07 | 3.23 | 2.12 | 1.77 | 0.56 | 0.48 | 0.57 | 1.59 |
| 6. 6 | 0.21 | 0.27 | 0.69 | 0.61 | 0.19 | 0.03 | 0.20 | 0.45 | 0.40 | 0.39 | 0.21 | 0.17 | 0.32 |
| 7. 7 | 0.35 | 0.42 | 0.84 | 0.53 | 0.08 | −0.17 | 0.41 | 0.38 | 0.49 | 0.47 | 0.33 | 0.33 | 0.37 |
| 8. 8 | 0.39 | 0.44 | 0.77 | 0.31 | −0.05 | −0.33 | 0.51 | 0.20 | 0.45 | 0.43 | 0.36 | 0.41 | 0.32 |
| 9. 9 | 0.33 | 0.34 | 0.49 | 0.01 | −0.17 | −0.39 | 0.47 | −0.03 | 0.29 | 0.27 | 0.29 | 0.38 | 0.19 |
| 10.10 | 0.18 | 0.15 | 0.08 | −0.30 | −0.25 | −0.36 | 0.31 | −0.25 | 0.05 | 0.04 | 0.15 | 0.25 | 0.00 |
| 7. 2. 9 | −0.16 | −0.14 | −0.18 | −0.21 | −0.44 | −0.59 | −0.43 | −0.21 | −0.18 | −0.09 | −0.09 | −0.18 | −0.20 |
| 6. 2. 8 | −0.20 | −0.20 | −0.28 | −0.14 | −0.39 | −0.50 | −0.52 | −0.19 | −0.23 | −0.09 | −0.15 | −0.25 | −0.26 |
| 6. 2.10 | −0.15 | −0.05 | 0.14 | 0.24 | 0.20 | 0.17 | 0.21 | 0.39 | 0.24 | 0.02 | 0.08 | −0.17 | 0.10 |
| 6. 2. 6 | −0.31 | −0.40 | −0.75 | −0.60 | −0.01 | −1.15 | −1.46 | −0.81 | −0.78 | −0.30 | −0.24 | −0.39 | −0.68 |
| 7. 2 | −0.39 | −0.42 | −0.43 | −0.52 | −0.92 | −1.16 | −1.29 | −0.53 | −0.53 | −0.26 | −0.25 | −0.35 | −0.59 |
| 8. 2 | −0.41 | −0.54 | −0.86 | −1.10 | −1.55 | −1.84 | −1.90 | −1.20 | −1.00 | −0.45 | −0.27 | −0.35 | −0.96 |
| 8. 1 | −0.37 | −0.52 | −0.81 | −1.10 | −1.47 | −1.76 | −1.68 | −1.16 | −0.91 | −0.41 | −0.26 | −0.26 | −0.89 |
| 7. 1 | −0.35 | −0.41 | −0.38 | −0.53 | −0.84 | −1.09 | −1.06 | −0.48 | −0.44 | −0.23 | −0.24 | −0.26 | −0.53 |
| 9.12.3.9 | −0.38 | −0.58 | −1.36 | −1.43 | −1.70 | −1.87 | −1.90 | −1.61 | −1.30 | −0.60 | −0.31 | −0.39 | −1.12 |
| 7. 2.2(9) | −0.04 | −0.00 | −0.06 | −0.05 | −0.20 | −0.30 | −0.00 | −0.05 | 0.00 | 0.00 | −0.01 | −0.10 | 0.06 |
| Dail. ext. | −0.39 | −0.39 | −0.24 | 0.10 | 0.18 | 0.40 | −0.45 | 0.22 | 0.17 | −0.17 | −0.25 | −0.35 | −0.17 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXVI.

RUSSIA. — CATHARINENBURG. *Lat.* 56° 50′ N. *Long.* 60° 34′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.42 | 1.07 | 1.70 | 2.12 | 2.64 | 3.06 | 2.93 | 2.16 | 1.96 | 0.89 | 0.47 | 0.47 | 1.66 |
| 1 | 0.52 | 1.19 | 2.00 | 2.40 | 3.11 | 3.51 | 3.41 | 2.49 | 2.31 | 1.08 | 0.51 | 0.50 | 1.92 |
| 2 | 0.52 | 1.25 | 2.23 | 2.82 | 3.49 | 3.90 | 3.86 | 2.76 | 2.58 | 0.99 | 0.54 | 0.52 | 2.12 |
| 3 | 0.55 | 1.41 | 2.53 | 3.05 | 3.73 | 4.15 | 4.11 | 3.03 | 2.83 | 1.47 | 0.58 | 0.54 | 2.33 |
| 4 | 0.63 | 1.52 | 2.75 | 3.26 | 3.74 | 3.92 | 4.28 | 3.22 | 3.06 | 1.61 | 0.68 | 0.58 | 2.44 |
| 5 | 0.68 | 1.67 | 2.85 | 3.24 | 3.27 | 3.35 | 3.66 | 3.14 | 3.22 | 1.67 | 0.71 | 0.61 | 2.34 |
| 6 | 0.73 | 1.76 | 3.06 | 2.24 | 2.27 | 1.99 | 2.47 | 2.45 | 3.04 | 1.69 | 0.82 | 0.64 | 1.93 |
| 7 | 0.81 | 1.76 | 2.59 | 1.61 | 0.89 | 0.61 | 1.02 | 1.37 | 2.27 | 1.53 | 0.85 | 0.65 | 1.33 |
| 8 | 0.88 | 1.51 | 1.46 | 0.34 | −0.24 | −0.53 | −0.28 | 0.18 | 0.85 | 0.91 | 0.77 | 0.58 | 0.54 |
| 9 | 0.67 | 0.73 | −0.06 | −0.81 | −1.09 | −1.46 | −1.45 | −0.97 | −0.57 | −0.03 | 0.33 | 0.39 | −0.36 |
| 10 | 0.13 | −0.45 | −1.45 | −1.99 | −1.94 | −2.23 | −2.35 | −1.72 | −1.68 | −0.78 | −0.22 | −0.08 | −1.23 |
| 11 | −0.57 | −1.44 | −2.39 | −2.62 | −2.72 | −2.93 | −3.10 | −2.54 | −2.50 | −1.46 | −0.72 | −0.71 | −1.98 |
| Noon. | −1.04 | −2.13 | −2.95 | −3.09 | −3.19 | −3.38 | −3.58 | −2.99 | −3.09 | −1.73 | −1.03 | −1.19 | −2.45 |
| 1 | −1.39 | −2.58 | −3.27 | −3.22 | −3.28 | −3.48 | −3.57 | −3.04 | −3.32 | −1.99 | −1.25 | −1.45 | −2.65 |
| 2 | −1.50 | −2.74 | −3.38 | −3.26 | −3.41 | −3.59 | −3.55 | −3.02 | −3.36 | −2.02 | −1.23 | −1.39 | −2.70 |
| 3 | −1.28 | −2.37 | −3.18 | −2.86 | −3.14 | −3.37 | −3.40 | −3.03 | −3.48 | −2.23 | −1.11 | −1.00 | −2.54 |
| 4 | −0.85 | −1.97 | −2.82 | −2.65 | −2.99 | −3.05 | −3.15 | −2.83 | −3.18 | −1.61 | −0.79 | −0.61 | −2.21 |
| 5 | −0.50 | −1.28 | −2.20 | −2.14 | −2.60 | −2.49 | −2.67 | −2.37 | −2.48 | −0.95 | −0.47 | −0.33 | −1.71 |
| 6 | −0.22 | −0.74 | −1.37 | −1.46 | −1.98 | −1.98 | −2.14 | −1.66 | −1.56 | −0.56 | −0.26 | −0.11 | −1.17 |
| 7 | 0.00 | −0.25 | −0.67 | −0.59 | −0.95 | −1.17 | −1.29 | −0.79 | −0.65 | −0.22 | −0.07 | 0.02 | −0.55 |
| 8 | 0.10 | 0.08 | −0.12 | 0.13 | −0.04 | −0.12 | −0.16 | 0.11 | 0.07 | 0.06 | 0.06 | 0.11 | 0.02 |
| 9 | 0.17 | 0.40 | 0.44 | 0.65 | 0.85 | 0.96 | 0.83 | 0.84 | 0.67 | 0.36 | 0.16 | 0.26 | 0.55 |
| 10 | 0.24 | 0.65 | 0.94 | 1.13 | 1.53 | 1.88 | 1.67 | 1.39 | 1.25 | 0.53 | 0.27 | 0.39 | 0.99 |
| 11 | 0.34 | 0.86 | 1.34 | 1.58 | 2.13 | 2.51 | 2.36 | 1.81 | 1.65 | 0.74 | 0.40 | 0.56 | 1.36 |
| Mean. | −10.76 | −9.50 | −5.83 | 0.47 | 6.31 | 12.08 | 14.53 | 10.61 | 6.32 | 1.41 | −6.11 | −11.68 | |

## LXVII.

RUSSIA. — ST. PETERSBURG. *Lat.* 59° 56′ N. *Long.* 30° 18′ E. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.14 | 0.38 | 0.73 | 1.44 | 2.08 | 1.99 | 1.77 | 1.68 | 1.17 | 0.52 | 0.15 | 0.17 | 1.02 |
| 1 | 0.21 | 0.44 | 0.99 | 1.68 | 2.43 | 2.29 | 2.05 | 2.02 | 1.38 | 0.60 | 0.17 | 0.21 | 1.21 |
| 2 | 0.25 | 0.46 | 1.22 | 1.91 | 2.70 | 2.56 | 2.24 | 2.24 | 1.58 | 0.65 | 0.15 | 0.27 | 1.35 |
| 3 | 0.30 | 0.52 | 1.38 | 2.11 | 2.91 | 2.73 | 2.43 | 2.48 | 1.75 | 0.73 | 0.25 | 0.34 | 1.49 |
| 4 | 0.38 | 0.63 | 1.56 | 2.24 | 2.86 | 2.44 | 2.32 | 2.59 | 1.87 | 0.78 | 0.30 | 0.36 | 1.53 |
| 5 | 0.43 | 0.72 | 1.71 | 2.28 | 2.38 | 1.97 | 1.92 | 2.40 | 1.96 | 0.84 | 0.34 | 0.34 | 1.44 |
| 6 | 0.45 | 0.76 | 1.75 | 1.95 | 1.72 | 1.33 | 1.33 | 1.96 | 1.90 | 0.90 | 0.37 | 0.30 | 1.23 |
| 7 | 0.41 | 0.78 | 1.57 | 1.32 | 0.93 | 0.63 | 0.64 | 1.19 | 1.47 | 0.82 | 0.37 | 0.29 | 0.87 |
| 8 | 0.42 | 0.60 | 1.07 | 0.65 | 0.14 | −0.04 | 0.05 | 0.42 | 0.81 | 0.57 | 0.32 | 0.25 | 0.44 |
| 9 | 0.35 | 0.40 | 0.40 | −0.05 | −0.59 | −0.69 | −0.56 | −0.40 | 0.00 | 0.20 | 0.17 | 0.17 | −0.05 |
| 10 | 0.13 | −0.05 | −0.19 | −0.78 | −1.30 | −1.21 | −1.12 | −1.07 | −0.71 | −0.22 | 0.00 | 0.04 | −0.54 |
| 11 | −0.20 | −0.48 | −0.86 | −1.42 | −1.92 | −1.71 | −1.58 | −1.64 | −1.27 | −0.61 | −0.20 | −0.14 | −1.00 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXVII.

### Russia. — St. Petersburg, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon. | −0.38 | −0.90 | −1.31 | −1.93 | −2.30 | −1.99 | −1.89 | −2.10 | −1.72 | −0.94 | −0.37 | −0.30 | −1.34 |
| 1 | −0.63 | −0.97 | −1.62 | −2.10 | −2.41 | −2.17 | −2.03 | −2.47 | −2.26 | −1.75 | −0.64 | −0.48 | −1.63 |
| 2 | −0.66 | −1.04 | −1.88 | −2.36 | −2.65 | −2.32 | −2.15 | −2.60 | −2.34 | −1.29 | −0.63 | −0.58 | −1.71 |
| 3 | −0.55 | −0.99 | −1.94 | −2.49 | −2.90 | −2.45 | −2.29 | −2.64 | −2.31 | −1.06 | −0.46 | −0.40 | −1.71 |
| 4 | −0.33 | −0.83 | −1.92 | −2.65 | −2.92 | −2.60 | −2.41 | −2.80 | −2.27 | −0.86 | −0.20 | −0.31 | −1.68 |
| 5 | −0.25 | −0.45 | −1.53 | −2.31 | −2.48 | −2.23 | −2.06 | −2.45 | −1.76 | −0.50 | −0.16 | −0.22 | −1.37 |
| 6 | −0.19 | −0.26 | −1.02 | −1.43 | −1.65 | −1.41 | −1.30 | −1.41 | −0.95 | −0.25 | −0.11 | −0.14 | −0.84 |
| 7 | −0.18 | −0.16 | −0.55 | −0.61 | −0.74 | −0.71 | −0.63 | −0.62 | −0.35 | −0.09 | −0.05 | −0.10 | −0.40 |
| 8 | −0.14 | −0.03 | −0.25 | −0.03 | 0.06 | −0.03 | 0.02 | 0.09 | 0.07 | 0.07 | 0.01 | 0.08 | −0.01 |
| 9 | −0.11 | 0.08 | 0.03 | 0.47 | 0.79 | 0.67 | 0.64 | 0.65 | 0.40 | 0.18 | 0.08 | 0.03 | 0.33 |
| 10 | −0.03 | 0.17 | 0.24 | 0.84 | 1.22 | 1.25 | 1.18 | 1.05 | 0.66 | 0.33 | 0.08 | 0.02 | 0.58 |
| 11 | 0.06 | 0.30 | 0.50 | 1.17 | 1.76 | 1.65 | 1.45 | 1.40 | 0.91 | 0.45 | 0.11 | 0.11 | 0.82 |
| Mean. | −7.41 | −6.73 | −3.56 | 1.10 | 7.01 | 11.33 | 13.39 | 13.58 | 8.43 | 3.61 | −0.80 | −3.75 | |

## LXVIII.

### Russia. — Helsingfors. *Lat.* 60° 10′ N. *Long.* 24° 57′ E. *Gr.* — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.06 | 0.47 | 1.28 | 1.61 | 1.61 | 2.01 | 1.65 | 1.36 | 0.83 | 0.37 | 0.18 | 0.20 | 0.97 |
| 1 | 0.13 | 0.49 | 1.48 | 1.87 | 1.94 | 2.44 | 1.90 | 1.68 | 1.03 | 0.45 | 0.15 | 0.21 | 1.15 |
| 2 | 0.16 | 0.52 | 1.64 | 2.07 | 2.21 | 2.84 | 2.17 | 1.98 | 1.21 | 0.55 | 0.18 | 0.18 | 1.31 |
| 3 | 0.23 | 0.67 | 1.84 | 2.21 | 2.58 | 3.04 | 2.45 | 2.23 | 1.35 | 0.65 | 0.23 | 0.15 | 1.47 |
| 4 | 0.35 | 0.64 | 1.91 | 2.37 | 2.68 | 2.77 | 2.42 | 2.49 | 1.48 | 0.62 | 0.28 | 0.23 | 1.52 |
| 5 | 0.38 | 0.77 | 1.98 | 2.34 | 2.28 | 2.21 | 2.05 | 2.41 | 1.63 | 0.67 | 0.33 | 0.10 | 1.43 |
| 6 | 0.38 | 0.92 | 2.01 | 1.74 | 1.31 | 1.31 | 1.33 | 1.81 | 1.63 | 0.75 | 0.33 | 0.03 | 1.13 |
| 7 | 0.41 | 0.99 | 1.78 | 1.14 | 0.58 | 0.51 | 0.55 | 1.11 | 1.28 | 0.73 | 0.36 | 0.01 | 0.79 |
| 8 | 0.43 | 0.99 | 1.04 | 0.17 | −0.19 | −0.36 | −0.10 | 0.26 | 0.58 | 0.57 | 0.35 | 0.00 | 0.31 |
| 9 | 0.38 | 0.55 | 0.04 | −0.73 | −0.86 | −0.83 | −0.73 | −0.56 | −0.09 | 0.33 | 0.25 | 0.06 | −0.18 |
| 10 | 0.08 | −0.20 | −0.89 | −1.49 | −1.39 | −1.29 | −1.23 | −1.12 | −0.65 | −0.15 | 0.13 | −0.07 | −0.69 |
| 11 | −0.19 | −0.93 | −1.19 | −1.93 | −1.76 | −1.83 | −1.65 | −1.59 | −1.05 | −0.47 | −0.19 | −0.32 | −1.09 |
| Noon. | −0.72 | −1.25 | −2.36 | −2.26 | −1.82 | −1.76 | −1.80 | −2.02 | −1.67 | −0.90 | −0.59 | −0.42 | −1.46 |
| 1 | −0.79 | −1.50 | −2.62 | −2.46 | −2.12 | −2.06 | −2.13 | −2.26 | −1.82 | −1.08 | −0.70 | −0.45 | −1.67 |
| 2 | −0.74 | −1.60 | −2.62 | −2.56 | −2.19 | −2.36 | −2.28 | −2.31 | −1.85 | −1.10 | −0.64 | −0.42 | −1.72 |
| 3 | −0.49 | −1.33 | −2.46 | −2.37 | −2.16 | −2.49 | −2.13 | −2.17 | −1.75 | −0.95 | −0.50 | −0.22 | −1.58 |
| 4 | −0.24 | −0.90 | −2.12 | −1.89 | −1.82 | −2.16 | −1.75 | −1.84 | −1.52 | −0.77 | −0.29 | −0.02 | −1.28 |
| 5 | −0.12 | −0.43 | −1.56 | −1.59 | −1.49 | −1.89 | −1.48 | −1.64 | −1.20 | −0.43 | −0.17 | 0.03 | −1.00 |
| 6 | −0.04 | −0.21 | −0.79 | −1.09 | −1.09 | −1.53 | −1.15 | −1.19 | −0.72 | −0.25 | −0.09 | −0.02 | −0.68 |
| 7 | 0.03 | 0.07 | −0.29 | −0.49 | −0.86 | −0.96 | −0.68 | −0.64 | −0.27 | −0.13 | −0.04 | 0.01 | −0.35 |
| 8 | 0.08 | 0.20 | 0.01 | 0.14 | −0.16 | −0.36 | −0.10 | −0.14 | 0.05 | −0.03 | 0.00 | 0.11 | −0.02 |
| 9 | 0.10 | 0.25 | 0.44 | 0.64 | 0.44 | 0.37 | 0.55 | 0.28 | 0.23 | 0.05 | 0.06 | 0.13 | 0.29 |
| 10 | 0.08 | 0.35 | 0.74 | 1.04 | 0.94 | 1.04 | 1.02 | 0.71 | 0.43 | 0.13 | 0.10 | 0.18 | 0.56 |
| 11 | 0.01 | 0.42 | 1.01 | 1.37 | 1.34 | 1.54 | 1.37 | 1.06 | 0.63 | 0.27 | 0.18 | 0.15 | 0.78 |
| Mean. | −5.02 | −7.43 | −3.89 | −0.06 | 5.11 | 10.84 | 12.75 | 14.11 | 9.23 | 4.55 | 1.13 | −3.42 | |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXIX.

RUSSIA. — PETERSBURG. *Lat.* 59° 56′ N. *Long.* 30° 18′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.20 | 0.38 | 0.92 | 1.52 | 2.59 | 2.40 | 1.98 | 2.08 | 1.39 | 0.72 | 0.14 | 0.17 | 1.21 |
| 2 | 0.23 | 0.37 | 1.10 | 1.75 | 2.84 | 2.69 | 2.26 | 2.43 | 1.67 | 0.77 | 0.13 | 0.27 | 1.38 |
| 3 | 0.22 | 0.39 | 1.30 | 2.01 | 3.03 | 2.90 | 2.49 | 2.79 | 1.97 | 0.82 | 0.14 | 0.33 | 1.53 |
| 4 | 0.21 | 0.43 | 1.49 | 2.19 | 3.05 | 2.91 | 2.57 | 3.01 | 2.20 | 0.88 | 0.16 | 0.35 | 1.62 |
| 5 | 0.26 | 0.50 | 1.59 | 2.17 | 2.79 | 2.60 | 2.37 | 2.92 | 2.25 | 0.95 | 0.20 | 0.35 | 1.58 |
| 6 | 0.37 | 0.57 | 1.56 | 1.88 | 2.20 | 1.98 | 1.88 | 2.46 | 2.06 | 0.98 | 0.23 | 0.34 | 1.38 |
| 7 | 0.51 | 0.56 | 1.36 | 1.35 | 1.27 | 1.13 | 1.15 | 1.70 | 1.62 | 0.92 | 0.23 | 0.33 | 1.01 |
| 8 | 0.59 | 0.46 | 0.99 | 0.68 | 0.41 | 0.24 | 0.34 | 0.79 | 1.01 | 0.72 | 0.16 | 0.31 | 0.56 |
| 9 | 0.53 | 0.23 | 0.47 | −0.02 | −0.47 | −0.53 | −0.40 | −0.10 | 0.31 | 0.36 | 0.03 | 0.27 | 0.06 |
| 10 | 0.33 | −0.09 | −0.13 | −0.65 | −1.16 | −1.09 | −0.97 | −0.86 | −0.42 | −0.09 | −0.16 | 0.18 | −0.43 |
| 11 | 0.01 | −0.43 | −0.74 | −1.18 | −1.68 | −1.49 | −1.37 | −1.47 | −1.12 | −0.58 | −0.35 | 0.03 | −0.86 |
| Noon. . . | −0.34 | −0.73 | −1.28 | −1.62 | −2.09 | −1.83 | −1.67 | −2.01 | −1.75 | −0.99 | −0.49 | −0.15 | −1.25 |
| 1 | −0.59 | −0.92 | −1.68 | −2.01 | −2.50 | −2.20 | −1.98 | −2.53 | −2.29 | −1.27 | −0.54 | −0.32 | −1.57 |
| 2 | −0.68 | −0.95 | −1.89 | −2.33 | −2.91 | −2.62 | −2.31 | −3.01 | −2.67 | −1.36 | −0.49 | −0.44 | −1.81 |
| 3 | −0.61 | −0.86 | −1.92 | −2.52 | −3.25 | −2.98 | −2.58 | −3.35 | −2.81 | −1.30 | −0.35 | −0.48 | −1.92 |
| 4 | −0.45 | −0.67 | −1.75 | −2.50 | −3.36 | −3.12 | −2.68 | −3.39 | −2.65 | −1.12 | −0.18 | −0.44 | −1.86 |
| 5 | −0.27 | −0.44 | −1.44 | −2.10 | −3.11 | −2.89 | −2.46 | −3.02 | −2.19 | −0.88 | −0.02 | −0.36 | −1.61 |
| 6 | −0.15 | −0.22 | −1.04 | −1.01 | −2.44 | −2.26 | −1.94 | −2.26 | −1.50 | −0.62 | 0.10 | −0.26 | −1.18 |
| 7 | −0.12 | −0.02 | −0.60 | −0.86 | −1.37 | −1.33 | −1.15 | −1.25 | −0.72 | −0.37 | 0.17 | −0.19 | −0.65 |
| 8 | −0.13 | 0.13 | −0.20 | −0.10 | −0.34 | −0.31 | −0.29 | −0.20 | −0.01 | −0.12 | 0.19 | −0.14 | −0.13 |
| 9 | −0.14 | 0.24 | 0.14 | 0.54 | 0.69 | 0.61 | 0.49 | 0.66 | 0.53 | 0.11 | 0.19 | −0.12 | 0.33 |
| 10 | −0.09 | 0.32 | 0.40 | 0.96 | 1.47 | 1.30 | 1.07 | 1.24 | 0.87 | 0.33 | 0.18 | −0.09 | 0.66 |
| 11 | 0.02 | 0.37 | 0.59 | 1.20 | 2.00 | 1.77 | 1.45 | 1.58 | 1.05 | 0.50 | 0.17 | −0.02 | 0.89 |
| Midn. . . | 0.12 | 0.38 | 0.75 | 1.35 | 2.33 | 2.11 | 1.73 | 1.81 | 1.20 | 0.63 | 0.16 | 0.07 | 1.05 |
| 6. 6 | 0.11 | 0.18 | 0.26 | 0.14 | −0.12 | −0.14 | −0.03 | 0.10 | 0.28 | 0.18 | 0.17 | 0.04 | 0.10 |
| 7. 7 | 0.20 | 0.27 | 0.38 | 0.25 | −0.05 | −0.10 | −0.00 | 0.23 | 0.45 | 0.28 | 0.20 | 0.07 | 0.18 |
| 8. 8 | 0.23 | 0.29 | 0.40 | 0.29 | 0.04 | −0.04 | 0.03 | 0.29 | 0.50 | 0.30 | 0.18 | 0.09 | 0.22 |
| 9. 9 | 0.20 | 0.24 | 0.31 | 0.26 | 0.11 | 0.04 | 0.04 | 0.28 | 0.42 | 0.24 | 0.11 | 0.08 | 0.19 |
| 10.10 | 0.12 | 0.12 | 0.13 | 0.15 | 0.16 | 0.11 | 0.05 | 0.19 | 0.22 | 0.12 | 0.01 | 0.05 | 0.12 |
| 7. 2. 9 | −0.10 | −0.05 | −0.13 | −0.15 | −0.32 | −0.29 | −0.22 | −0.22 | −0.17 | −0.11 | −0.02 | −0.08 | −0.16 |
| 6. 2. 8 | −0.15 | −0.08 | −0.18 | −0.18 | −0.35 | −0.32 | −0.24 | −0.25 | −0.21 | −0.17 | −0.02 | −0.08 | −0.19 |
| 6. 2.10 | −0.13 | −0.02 | 0.02 | 0.17 | 0.25 | 0.22 | 0.21 | 0.23 | 0.09 | −0.02 | −0.03 | −0.06 | 0.08 |
| 6. 2. 6 | −0.15 | −0.20 | −0.46 | −0.69 | −1.05 | −0.97 | −0.79 | −0.94 | −0.70 | −0.33 | −0.05 | −0.12 | −0.54 |
| 7. 2 | −0.09 | −0.20 | −0.27 | −0.49 | −0.82 | −0.75 | −0.58 | −0.66 | −0.53 | −0.22 | −0.13 | −0.06 | −0.40 |
| 8. 2 | −0.05 | −0.25 | −0.45 | −0.83 | −1.25 | −1.19 | −0.99 | −1.11 | −0.83 | −0.32 | −0.17 | −0.07 | −0.63 |
| 8. 1 | 0.00 | −0.23 | −0.35 | −0.67 | −1.05 | −0.98 | −0.82 | −0.87 | −0.64 | −0.28 | −0.19 | −0.01 | −0.51 |
| 7. 1 | −0.04 | −0.18 | −0.16 | −0.33 | −0.62 | −0.54 | −0.42 | −0.42 | −0.34 | −0.18 | −0.16 | 0.01 | −0.28 |
| 9.12.3.9 | −0.14 | −0.28 | −0.65 | −0.91 | −1.28 | −1.18 | −1.04 | −1.20 | −0.93 | −0.46 | −0.16 | −0.12 | −0.70 |
| 7. 2.2(9) | −0.11 | 0.02 | −0.06 | 0.03 | −0.07 | −0.07 | −0.05 | 0.00 | 0.00 | −0.06 | 0.03 | −0.09 | −0.04 |
| Dail. ext. | −0.05 | −0.19 | −0.17 | −0.17 | −0.16 | −0.11 | −0.06 | −0.19 | −0.28 | −0.19 | −0.16 | −0.07 | −0.15 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXX.

RUSSIA. — HELSINGFORS. *Lat.* 60° 10′ N. *Long.* 24° 57′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.47 | 0.85 | 1.40 | 2.10 | 2.49 | 3.37 | 3.16 | 2.58 | 1.60 | 1.06 | 0.64 | 0.34 | 1.67 |
| 2 | 0.79 | 1.25 | 1.86 | 3.18 | 2.82 | 3.78 | 3.48 | 2.96 | 2.09 | 1.45 | 0.99 | 0.68 | 2.11 |
| 3 | 0.99 | 1.55 | 2.28 | 2.79 | 2.89 | 3.74 | 3.45 | 3.11 | 2.48 | 1.70 | 1.22 | 0.91 | 2.26 |
| 4 | 1.13 | 1.71 | 2.52 | 2.77 | 2.62 | 3.22 | 3.02 | 2.92 | 2.61 | 1.74 | 1.26 | 0.97 | 2.21 |
| 5 | 1.06 | 1.66 | 2.49 | 2.41 | 2.06 | 2.32 | 2.25 | 2.39 | 2.40 | 1.51 | 1.09 | 0.84 | 1.87 |
| 6 | 0.86 | 1.43 | 2.16 | 1.76 | 1.30 | 1.24 | 1.23 | 1.59 | 1.84 | 1.10 | 0.76 | 0.59 | 1.32 |
| 7 | 0.58 | 1.07 | 1.57 | 0.92 | 0.49 | 0.20 | 0.17 | 0.64 | 1.06 | 0.59 | 0.38 | 0.31 | 0.67 |
| 8 | 0.28 | 0.60 | 0.79 | 0.05 | −0.26 | −0.65 | −0.78 | −0.28 | 0.21 | 0.08 | 0.02 | 0.07 | 0.01 |
| 9 | 0.01 | 0.10 | −0.05 | −0.74 | −0.87 | −1.26 | −1.51 | −1.07 | −0.58 | −0.38 | −0.27 | −0.10 | −0.56 |
| 10 | −0.25 | −0.42 | −0.87 | −1.35 | −1.34 | −1.65 | −2.02 | −1.68 | −1.23 | −0.77 | −0.48 | −0.22 | −1.02 |
| 11 | −0.48 | −0.91 | −1.56 | −1.80 | −1.70 | −1.93 | −2.35 | −2.12 | −1.71 | −1.07 | −0.64 | −0.32 | −1.38 |
| Noon. . . | −0.70 | −1.29 | −2.06 | −2.10 | −1.98 | −2.16 | −2.54 | −2.43 | −2.04 | −1.30 | −0.76 | −0.43 | −1.65 |
| 1 | −0.86 | −1.54 | −2.36 | −2.30 | −2.19 | −2.36 | −2.65 | −2.61 | −2.23 | −1.42 | −0.85 | −0.54 | −1.83 |
| 2 | −0.92 | −1.60 | −2.45 | −2.37 | −2.32 | −2.51 | −2.66 | −2.66 | −2.30 | −1.43 | −0.88 | −0.61 | −1.89 |
| 3 | −0.84 | −1.47 | −2.32 | −2.31 | −2.31 | −2.55 | −2.55 | −2.55 | −2.20 | −1.30 | −0.82 | −0.60 | −1.82 |
| 4 | −0.73 | −1.20 | −2.01 | −2.10 | −2.11 | −2.42 | −2.27 | −2.26 | −1.92 | −1.05 | −0.68 | −0.49 | −1.60 |
| 5 | −0.52 | −0.87 | −1.56 | −1.73 | −1.77 | −2.13 | −1.85 | −1.80 | −1.48 | −0.74 | −0.48 | −0.33 | −1.27 |
| 6 | −0.32 | −0.57 | −1.07 | −1.25 | −1.30 | −1.71 | −1.30 | −1.24 | −0.95 | −0.44 | −0.28 | −0.18 | −0.88 |
| 7 | −0.19 | −0.38 | −0.60 | −0.72 | −0.78 | −1.20 | −0.68 | −0.62 | −0.42 | −0.22 | −0.16 | −0.11 | −0.51 |
| 8 | −0.15 | −0.25 | −0.20 | −0.21 | −0.24 | −0.61 | −0.04 | −0.03 | −0.00 | −0.10 | −0.12 | −0.12 | −0.17 |
| 9 | −0.16 | −0.18 | 0.10 | 0.26 | 0.29 | 0.07 | 0.61 | 0.52 | 0.31 | −0.03 | −0.12 | −0.20 | 0.12 |
| 10 | −0.16 | −0.08 | 0.36 | 0.69 | 0.82 | 0.87 | 1.27 | 1.03 | 0.54 | 0.08 | −0.10 | −0.25 | 0.42 |
| 11 | −0.06 | 0.12 | 0.63 | 1.13 | 1.40 | 1.75 | 1.95 | 1.54 | 0.79 | 0.29 | 0.02 | −0.19 | 0.78 |
| Midn. . . | 0.16 | 0.44 | 0.96 | 1.60 | 1.97 | 2.63 | 2.61 | 2.08 | 1.14 | 0.63 | 0.28 | 0.02 | 1.21 |
| 6. 6 | 0.27 | 0.43 | 0.55 | 0.26 | −0.00 | −0.24 | −0.04 | 0.18 | 0.45 | 0.33 | 0.24 | 0.21 | 0.22 |
| 7. 7 | 0.20 | 0.35 | 0.49 | 0.10 | −0.15 | −0.50 | −0.26 | 0.01 | 0.32 | 0.19 | 0.11 | 0.10 | 0.08 |
| 8. 8 | 0.07 | 0.18 | 0.30 | −0.08 | −0.25 | −0.63 | −0.41 | −0.16 | 0.11 | −0.01 | −0.05 | −0.03 | −0.08 |
| 9. 9 | −0.08 | −0.04 | 0.03 | −0.24 | −0.29 | −0.60 | −0.45 | −0.28 | −0.14 | −0.21 | −0.20 | −0.15 | −0.22 |
| 10.10 | −0.21 | −0.25 | −0.26 | −0.33 | −0.26 | −0.39 | −0.38 | −0.33 | −0.35 | −0.35 | −0.29 | −0.24 | −0.30 |
| 7. 2. 9 | −0.17 | −0.24 | −0.26 | −0.40 | −0.51 | −0.75 | −0.63 | −0.50 | −0.31 | −0.29 | −0.21 | −0.17 | −0.37 |
| 6. 2. 8 | −0.07 | −0.14 | −0.16 | −0.27 | −0.42 | −0.63 | −0.49 | −0.37 | −0.15 | −0.14 | −0.08 | −0.05 | −0.25 |
| 6. 2.10 | −0.07 | −0.08 | 0.02 | 0.03 | −0.07 | −0.13 | −0.05 | −0.01 | 0.03 | −0.08 | −0.07 | −0.09 | −0.05 |
| 6. 2. 6 | −0.13 | −0.25 | −0.45 | −0.62 | −0.77 | −0.99 | −0.91 | −0.77 | −0.47 | −0.26 | −0.13 | −0.07 | −0.49 |
| 7. 2 | −0.17 | −0.27 | −0.44 | −0.73 | −0.92 | −1.16 | −1.25 | −1.01 | −0.62 | −0.42 | −0.25 | −0.15 | −0.62 |
| 8. 2 | −0.32 | −0.50 | −0.83 | −1.16 | −1.29 | −1.58 | −1.72 | −1.47 | −1.05 | −0.68 | −0.43 | −0.27 | −0.94 |
| 8. 1 | −0.29 | −0.47 | −0.79 | −1.13 | −1.23 | −1.51 | −1.72 | −1.45 | −1.01 | −0.67 | −0.42 | −0.24 | −0.91 |
| 7. 1 | −0.14 | −0.24 | −0.40 | −0.69 | −0.85 | −1.08 | −1.24 | −0.99 | −0.59 | −0.42 | −0.24 | −0.12 | −0.58 |
| 9.12.3.9 | −0.42 | −0.71 | −1.08 | −1.22 | −1.22 | −1.48 | −1.50 | −1.38 | −1.13 | −0.75 | −0.49 | −0.33 | −0.98 |
| 7. 2.2(9) | −0.17 | −0.22 | −0.17 | −0.23 | −0.31 | −0.54 | −0.32 | −0.25 | −0.16 | −0.23 | −0.19 | −0.18 | −0.25 |
| Dail. ext. | 0.11 | 0.06 | 0.04 | 0.41 | 0.29 | 0.62 | 0.41 | 0.23 | 0.16 | 0.16 | 0.19 | 0.18 | 0.19 |

The numbers without sign must be added; those with the sign — must be subtracted.

NORWAY. — CHRISTIANIA. *Lat.* 59° 55′ N. *Long.* 10° 43′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.16 | 0.89 | 1.07 | 1.56 | 2.55 | 2.58 | 2.21 | 2.04 | 1.64 | 0.74 | 0.52 | 0.22 | 1.35 |
| 2 | 0.21 | 0.94 | 1.30 | 1.88 | 2.85 | 3.15 | 2.53 | 2.23 | 1.88 | 0.82 | 0.50 | 0.21 | 1.54 |
| 3 | 0.27 | 1.17 | 1.51 | 2.03 | 3.23 | 3.28 | 2.64 | 2.41 | 2.03 | 0.94 | 0.49 | 0.28 | 1.69 |
| 4 | 0.32 | 1.49 | 1.67 | 2.12 | 3.21 | 3.05 | 2.62 | 2.60 | 2.07 | 1.06 | 0.55 | 0.30 | 1.84 |
| 5 | 0.38 | 1.60 | 1.82 | 2.23 | 2.55 | 2.39 | 2.09 | 2.44 | 2.14 | 1.16 | 0.51 | 0.22 | 1.63 |
| 6 | 0.47 | 1.54 | 1.69 | 1.81 | 1.63 | 1.31 | 1.37 | 1.98 | 2.10 | 1.16 | 0.60 | 0.11 | 1.31 |
| 7 | 0.51 | 1.67 | 1.71 | 1.28 | 0.71 | 0.43 | 0.58 | 1.00 | 1.50 | 1.13 | 0.46 | 0.19 | 0.93 |
| 8 | 0.54 | 1.42 | 1.29 | 0.56 | 0.07 | −0.32 | −0.22 | 0.10 | 0.62 | 0.75 | 0.38 | 0.15 | 0.44 |
| 9 | 0.48 | 1.11 | 0.36 | −0.06 | −0.52 | −0.86 | −0.78 | −0.59 | 0.01 | 0.15 | 0.17 | 0.16 | −0.03 |
| 10 | 0.24 | 0.27 | −0.35 | −0.67 | −1.19 | −1.57 | −1.26 | −1.23 | −0.78 | −0.48 | −0.23 | 0.11 | −0.59 |
| 11 | −0.17 | −0.69 | −0.96 | −1.38 | −1.66 | −2.05 | −1.74 | −1.67 | −1.44 | −1.00 | −0.76 | −0.20 | −1.14 |
| Noon. . . | −0.67 | −1.32 | −1.48 | −1.80 | −2.17 | −2.29 | −2.02 | −2.11 | −2.02 | −1.30 | −1.06 | −0.40 | −1.55 |
| 1 | −0.87 | −1.90 | −1.74 | −2.22 | −2.46 | −2.50 | −2.21 | −2.35 | −2.41 | −1.59 | −1.15 | −0.42 | −1.82 |
| 2 | −1.04 | −2.22 | −1.95 | −2.32 | −2.46 | −2.40 | −2.20 | −2.50 | −2.54 | −1.67 | −1.15 | −0.35 | −1.90 |
| 3 | −0.91 | −2.29 | −2.16 | −2.26 | −2.54 | −2.47 | −2.21 | −2.50 | −2.50 | −1.58 | −0.88 | −0.23 | −1.88 |
| 4 | −0.62 | −2.00 | −1.99 | −2.11 | −2.53 | −2.29 | −2.00 | −2.32 | −2.35 | −1.33 | −0.55 | −0.12 | −1.68 |
| 5 | −0.35 | −1.42 | −1.58 | −1.80 | −2.20 | −2.14 | −1.87 | −1.97 | −1.80 | −0.90 | −0.23 | −0.06 | −1.36 |
| 6 | −0.12 | −1.10 | −1.10 | −1.27 | −1.82 | −1.70 | −1.48 | −1.48 | −1.21 | −0.52 | −0.02 | −0.03 | −0.99 |
| 7 | −0.01 | −0.60 | −0.65 | −0.70 | −1.35 | −0.98 | −0.89 | −0.78 | −0.57 | −0.24 | 0.11 | −0.10 | −0.58 |
| 8 | 0.12 | −0.32 | −0.20 | −0.14 | −0.44 | −0.31 | −0.30 | −0.10 | 0.02 | 0.18 | 0.23 | −0.13 | −0.12 |
| 9 | 0.16 | 0.09 | 0.09 | 0.36 | 0.24 | 0.44 | 0.45 | 0.55 | 0.36 | 0.36 | 0.27 | −0.05 | 0.28 |
| 10 | 0.27 | 0.34 | 0.36 | 0.70 | 0.93 | 1.20 | 1.06 | 1.08 | 0.81 | 0.58 | 0.33 | −0.04 | 0.63 |
| 11 | 0.31 | 0.52 | 0.53 | 0.99 | 1.46 | 1.76 | 1.63 | 1.41 | 1.06 | 0.75 | 0.43 | 0.10 | 0.91 |
| Midn. . . | 0.33 | 0.86 | 0.77 | 1.20 | 1.90 | 2.31 | 2.00 | 1.75 | 1.38 | 0.95 | 0.48 | 0.09 | 1.17 |
| 6. 6 | 0.18 | 0.22 | 0.30 | 0.27 | −0.10 | −0.20 | −0.06 | 0.25 | 0.45 | 0.32 | 0.29 | 0.04 | 0.16 |
| 7. 7 | 0.25 | 0.54 | 0.53 | 0.29 | −0.32 | −0.28 | −0.16 | 0.11 | 0.47 | 0.45 | 0.29 | 0.05 | 0.18 |
| 8. 8 | 0.33 | 0.55 | 0.55 | 0.21 | −0.19 | −0.32 | −0.26 | 0.00 | 0.32 | 0.47 | 0.31 | 0.01 | 0.16 |
| 9. 9 | 0.32 | 0.60 | 0.23 | 0.15 | −0.14 | −0.21 | −0.17 | −0.02 | 0.19 | 0.26 | 0.22 | 0.06 | 0.12 |
| 10.10 | 0.26 | 0.31 | 0.01 | 0.05 | −0.13 | −0.18 | −0.10 | −0.08 | 0.02 | 0.05 | 0.05 | 0.04 | 0.02 |
| 7. 2. 9 | −0.12 | −0.15 | −0.05 | −0.23 | −0.50 | −0.51 | −0.39 | −0.32 | −0.23 | −0.06 | −0.14 | −0.07 | −0.23 |
| 6. 2. 8 | −0.15 | −0.33 | −0.15 | −0.22 | −0.42 | −0.47 | −0.38 | −0.21 | −0.14 | −0.11 | −0.11 | −0.12 | −0.23 |
| 6. 2.10 | −0.10 | −0.11 | 0.03 | 0.06 | 0.03 | 0.04 | 0.08 | 0.19 | 0.12 | 0.02 | −0.07 | −0.09 | 0.02 |
| 6. 2. 6 | −0.23 | −0.59 | −0.45 | −0.59 | −0.76 | −0.67 | −0.70 | −0.67 | −0.55 | −0.34 | −0.19 | −0.11 | −0.49 |
| 7. 2 | −0.27 | −0.28 | −0.12 | −0.52 | −0.88 | −0.99 | −0.81 | −0.75 | −0.52 | −0.27 | −0.35 | −0.08 | −0.49 |
| 8. 2 | −0.25 | −0.40 | −0.33 | −0.88 | −1.20 | −1.04 | −0.99 | −1.20 | −0.96 | −0.46 | −0.39 | −0.10 | −0.68 |
| 8. 1 | −0.17 | −0.24 | −0.23 | −0.83 | −1.20 | −1.09 | −1.00 | −1.13 | −0.90 | −0.42 | −0.39 | −0.14 | −0.64 |
| 7. 1 | −0.18 | −0.12 | −0.02 | −0.47 | −0.88 | −1.04 | −0.82 | −0.68 | −0.46 | −0.23 | −0.35 | −0.12 | −0.50 |
| 9.12.3.9 | −0.56 | −0.60 | −0.80 | −0.94 | −1.25 | −1.29 | −1.14 | −1.16 | −1.04 | −0.59 | −0.38 | −0.13 | −0.82 |
| 7. 2.2(9) | −0.05 | −0.09 | −0.02 | −0.08 | −0.32 | −0.27 | −0.18 | −0.10 | −0.08 | 0.05 | −0.04 | −0.07 | −0.11 |
| Dail. ext. | −0.25 | −0.31 | −0.17 | −0.05 | 0.35 | 0.39 | 0.22 | 0.05 | −0.20 | −0.26 | −0.28 | −0.06 | −0.05 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXXII.

NORWAY. — DRONTHEIM. *Lat.* 63° 26′ N. *Long.* 10° 25′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.29 | 0.41 | 0.77 | 1.94 | 2.63 | 2.64 | 2.53 | 2.51 | 1.37 | 0.89 | 0.27 | 0.33 | 1.38 |
| 2 | 0.25 | 0.50 | 0.95 | 2.09 | 2.97 | 2.76 | 2.75 | 2.68 | 1.48 | 0.91 | 0.31 | 0.31 | 1.50 |
| 3 | 0.22 | 0.64 | 1.11 | 2.19 | 3.13 | 2.82 | 2.77 | 2.91 | 1.59 | 0.97 | 0.23 | 0.42 | 1.58 |
| 4 | 0.20 | 0.71 | 1.27 | 2.32 | 3.03 | 2.82 | 2.65 | 2.77 | 1.55 | 1.07 | 0.28 | 0.34 | 1.58 |
| 5 | 0.13 | 0.75 | 1.37 | 2.05 | 2.76 | 2.52 | 2.35 | 2.58 | 1.59 | 0.86 | 0.30 | 0.42 | 1.47 |
| 6 | 0.11 | 0.82 | 1.42 | 1.67 | 2.30 | 1.96 | 1.86 | 2.13 | 1.49 | 0.71 | 0.14 | 0.43 | 1.25 |
| 7 | 0.04 | 0.58 | 1.35 | 1.36 | 1.68 | 1.39 | 1.17 | 1.58 | 1.07 | 0.42 | 0.00 | 0.36 | 0.92 |
| 8 | 0.08 | 0.23 | 1.17 | 0.94 | 0.83 | 0.61 | 0.40 | 1.02 | 0.57 | 0.06 | −0.02 | 0.36 | 0.52 |
| 9 | 0.00 | −0.08 | 0.41 | −0.02 | −0.28 | −0.03 | −0.14 | 0.22 | −0.07 | −0.29 | −0.14 | 0.19 | −0.02 |
| 10 | −0.09 | −0.48 | −0.13 | −0.85 | −1.29 | −0.92 | −1.30 | −1.22 | −0.89 | −0.59 | −0.16 | 0.02 | −0.65 |
| 11 | −0.16 | −0.78 | −0.65 | −1.90 | −2.09 | −2.01 | −1.95 | −2.63 | −1.34 | −0.88 | −0.33 | −0.12 | −1.24 |
| Noon. . . | −0.59 | −1.08 | −1.35 | −2.57 | −2.81 | −2.43 | −2.77 | −3.21 | −2.05 | −1.20 | −0.38 | −0.42 | −1.75 |
| 1 | −0.80 | −1.22 | −1.70 | −2.66 | −3.28 | −3.25 | −3.20 | −3.39 | −2.12 | −1.14 | −0.44 | −0.42 | −1.97 |
| 2 | −0.68 | −1.15 | −1.70 | −2.46 | −3.27 | −3.32 | −3.07 | −3.36 | −2.28 | −1.09 | −0.42 | −0.47 | −1.94 |
| 3 | −0.48 | −0.80 | −1.54 | −2.22 | −3.25 | −3.05 | −3.06 | −3.21 | −1.85 | −1.07 | −0.28 | −0.37 | −1.76 |
| 4 | −0.36 | −0.56 | −1.37 | −1.83 | −2.90 | −2.78 | −2.41 | −2.81 | −1.43 | −0.86 | −0.16 | −0.29 | −1.48 |
| 5 | −0.29 | −0.36 | −1.07 | −1.30 | −2.20 | −2.45 | −2.02 | −2.23 | −1.09 | −0.50 | −0.06 | −0.22 | −1.15 |
| 6 | −0.17 | −0.11 | −0.75 | −0.90 | −1.70 | −1.84 | −1.15 | −1.27 | −0.79 | −0.51 | 0.08 | −0.23 | −0.78 |
| 7 | 0.09 | −0.04 | −0.54 | −0.57 | −1.03 | −1.00 | −0.61 | −0.68 | −0.32 | −0.28 | 0.09 | −0.30 | −0.43 |
| 8 | 0.27 | 0.17 | −0.27 | −0.20 | −0.37 | 0.04 | 0.01 | 0.11 | 0.03 | −0.02 | 0.17 | −0.19 | −0.02 |
| 9 | 0.45 | 0.37 | 0.00 | 0.16 | 0.50 | 0.41 | 0.66 | 0.51 | 0.43 | 0.22 | 0.05 | −0.11 | 0.30 |
| 10 | 0.52 | 0.53 | 0.23 | 0.61 | 1.10 | 1.08 | 1.17 | 1.18 | 0.75 | 0.55 | 0.13 | −0.06 | 0.65 |
| 11 | 0.47 | 0.50 | 0.43 | 0.90 | 1.61 | 1.63 | 1.48 | 1.67 | 1.02 | 0.74 | 0.11 | 0.02 | 0.88 |
| Midn. . . | 0.45 | 0.49 | 0.63 | 1.27 | 1.92 | 2.07 | 1.88 | 2.13 | 1.28 | 1.14 | 0.19 | 0.02 | 1.12 |
| 6. 6 | −0.03 | 0.36 | 0.34 | 0.39 | 0.30 | 0.06 | 0.36 | 0.43 | 0.35 | 0.10 | 0.11 | 0.10 | 0.24 |
| 7. 7 | 0.07 | 0.27 | 0.41 | 0.40 | 0.33 | 0.20 | 0.28 | 0.45 | 0.38 | 0.07 | 0.05 | 0.03 | 0.24 |
| 8. 8 | 0.18 | 0.20 | 0.45 | 0.37 | 0.23 | 0.33 | 0.21 | 0.57 | 0.30 | 0.02 | 0.08 | 0.09 | 0.25 |
| 9. 9 | 0.23 | 0.15 | 0.21 | 0.07 | 0.11 | 0.19 | 0.26 | 0.37 | 0.18 | −0.04 | −0.05 | 0.04 | 0.14 |
| 10.10 | 0.22 | 0.03 | 0.05 | −0.12 | −0.10 | 0.08 | −0.07 | −0.02 | −0.07 | −0.02 | −0.02 | −0.02 | 0.00 |
| 7. 2. 9 | −0.06 | −0.07 | −0.12 | −0.31 | −0.36 | −0.51 | −0.41 | −0.42 | −0.26 | −0.15 | −0.12 | −0.07 | −0.24 |
| 6. 2. 8 | −0.10 | −0.05 | −0.18 | −0.33 | −0.45 | −0.44 | −0.40 | −0.37 | −0.25 | −0.13 | −0.04 | −0.08 | −0.23 |
| 6. 2.10 | −0.02 | 0.07 | −0.02 | −0.06 | 0.04 | −0.09 | −0.01 | −0.02 | −0.01 | 0.06 | −0.05 | −0.03 | −0.01 |
| 6. 2. 6 | −0.25 | −0.62 | −0.39 | −0.56 | −0.89 | −1.06 | −0.79 | −0.83 | −0.53 | −0.30 | −0.07 | −0.09 | −0.53 |
| 7. 2 | −0.32 | −0.29 | −0.18 | −0.55 | −0.80 | −0.97 | −0.95 | −0.89 | −0.61 | −0.34 | −0.21 | −0.06 | −0.51 |
| 8. 2 | −0.30 | 0.46 | −0.27 | −0.76 | −1.22 | −1.36 | −1.34 | −1.17 | −0.86 | −0.52 | −0.22 | −0.06 | −0.63 |
| 8. 1 | −0.36 | −0.50 | −0.27 | −0.86 | −1.23 | −1.32 | −1.40 | −1.19 | −0.78 | −0.54 | −0.23 | −0.03 | −0.73 |
| 7. 1 | −0.38 | −0.32 | −0.18 | −0.65 | −0.80 | −0.93 | −1.02 | −0.91 | −0.53 | −0.36 | −0.22 | −0.03 | −0.53 |
| 9.12.3.9 | −0.16 | −0.40 | −0.62 | −1.16 | −1.46 | −1.28 | −1.33 | −1.42 | −0.89 | −0.59 | −0.19 | −0.18 | −0.87 |
| 7. 2.2(9) | 0.07 | 0.04 | −0.09 | −0.19 | −0.15 | −0.28 | −0.15 | −0.19 | −0.09 | −0.16 | −0.02 | −0.12 | −0.11 |
| Dail. ext. | −0.14 | −0.20 | −0.14 | −0.17 | −0.08 | −0.25 | −0.22 | −0.24 | −0.35 | −0.07 | −0.07 | −0.02 | −0.16 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXXIII.

STRAIT OF KARA. *Lat.* 70° 37′ N. *Long.* 57° 47′ E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | 0.27 | 0.38 | 1.66 | 2.53 | 2.26 | 1.86 | 1.37 | 0.62 | 0.33 | 0.00 | 0.08 | 0.55 | 0.99 |
| 2 | 0.24 | 0.38 | 1.78 | 2.67 | 2.22 | 1.68 | 1.24 | 0.58 | 0.40 | 0.02 | 0.14 | 0.42 | 0.98 |
| 3 | 0.22 | 0.40 | 1.86 | 2.66 | 2.06 | 1.41 | 1.03 | 0.53 | 0.49 | 0.02 | 0.14 | 0.26 | 0.92 |
| 4 | 0.23 | 0.42 | 1.88 | 2.44 | 1.82 | 1.12 | 0.79 | 0.47 | 0.58 | 0.06 | 0.15 | 0.11 | 0.84 |
| 5 | 0.25 | 0.42 | 1.80 | 1.98 | 1.48 | 0.82 | 0.54 | 0.38 | 0.61 | 0.17 | 0.22 | −0.00 | 0.72 |
| 6 | 0.27 | 0.33 | 1.55 | 1.30 | 1.01 | 0.49 | 0.25 | 0.26 | 0.58 | 0.29 | 0.36 | −0.15 | 0.55 |
| 7 | 0.29 | 0.16 | 1.10 | 0.52 | 0.40 | 0.10 | −0.05 | 0.10 | 0.42 | 0.35 | 0.52 | −0.29 | 0.30 |
| 8 | 0.30 | 0.08 | 0.42 | −0.27 | −0.30 | −0.33 | −0.35 | −0.07 | 0.27 | 0.32 | 0.64 | −0.42 | 0.01 |
| 9 | 0.26 | 0.30 | −0.43 | −0.98 | −1.01 | −0.78 | −0.66 | −0.23 | 0.01 | 0.18 | 0.66 | −0.54 | −0.32 |
| 10 | 0.18 | −0.50 | −1.32 | −1.58 | −1.63 | −1.19 | −0.85 | −0.36 | −0.28 | 0.02 | 0.55 | −0.61 | −0.63 |
| 11 | 0.04 | −0.64 | −2.07 | −2.13 | −2.06 | −1.48 | −0.98 | −0.46 | −0.54 | −0.25 | 0.33 | −0.62 | −0.91 |
| Noon. . . | −0.12 | −0.70 | −2.56 | −2.41 | −2.27 | −1.62 | −1.04 | −0.55 | −0.72 | −0.37 | 0.18 | −0.54 | −1.07 |
| 1 | −0.31 | −0.70 | −2.70 | −2.67 | −2.26 | −1.62 | −1.03 | −0.63 | −0.81 | −0.43 | −0.13 | −0.44 | −1.14 |
| 2 | −0.49 | −0.64 | −2.52 | −2.81 | −2.11 | −1.54 | −1.00 | −0.71 | −0.78 | −0.36 | −0.25 | −0.31 | −1.13 |
| 3 | −0.60 | −0.53 | −2.10 | −2.75 | −1.88 | −1.40 | −0.95 | −0.76 | −0.66 | −0.23 | −0.30 | −0.21 | −1.03 |
| 4 | −0.63 | −0.38 | −1.54 | −2.46 | −1.61 | −1.25 | −0.90 | −0.69 | −0.49 | −0.10 | −0.32 | −0.11 | −0.87 |
| 5 | −0.58 | −0.21 | −0.98 | −1.91 | −1.30 | −1.05 | −0.78 | −0.59 | −0.30 | 0.02 | −0.35 | −0.04 | −0.67 |
| 6 | −0.46 | −0.02 | −0.47 | −1.18 | −0.90 | −0.76 | −0.59 | −0.38 | −0.13 | 0.07 | −0.41 | 0.06 | −0.43 |
| 7 | −0.26 | 0.14 | −0.04 | −0.37 | −0.40 | −0.35 | −0.29 | −0.09 | 0.06 | 0.08 | −0.48 | 0.18 | −0.15 |
| 8 | −0.06 | 0.32 | 0.34 | 0.42 | 0.20 | 0.18 | 0.11 | 0.22 | 0.11 | 0.07 | −0.52 | 0.33 | 0.14 |
| 9 | 0.11 | 0.42 | 0.67 | 1.08 | 0.83 | 0.78 | 0.54 | 0.46 | 0.17 | 0.06 | −0.49 | 0.48 | 0.43 |
| 10 | 0.22 | 0.46 | 0.98 | 1.59 | 1.42 | 1.31 | 0.94 | 0.62 | 0.20 | 0.06 | −0.38 | 0.61 | 0.67 |
| 11 | 0.28 | 0.44 | 1.25 | 1.98 | 1.88 | 1.71 | 1.23 | 0.68 | 0.23 | 0.06 | −0.20 | 0.66 | 0.85 |
| Midn. . . | 0.29 | 0.40 | 1.48 | 2.29 | 2.16 | 1.90 | 1.38 | 0.66 | 0.27 | 0.01 | −0.03 | 0.64 | 0.95 |
| 6. 6 | 0.10 | 0.16 | 0.54 | 0.06 | 0.06 | −0.14 | −0.17 | −0.06 | 0.23 | 0.18 | −0.03 | −0.05 | 0.06 |
| 7. 7 | 0.02 | 0.15 | 0.53 | 0.08 | −0.00 | −0.13 | −0.17 | 0.01 | 0.24 | 0.22 | 0.02 | −0.06 | 0.08 |
| 8. 8 | 0.12 | 0.12 | 0.38 | 0.08 | −0.05 | −0.08 | −0.12 | 0.08 | 0.19 | 0.20 | 0.06 | −0.05 | 0.08 |
| 9. 9 | 0.19 | 0.06 | 0.12 | 0.05 | −0.09 | −0.00 | −0.06 | 0.12 | 0.09 | 0.12 | 0.09 | −0.03 | 0.05 |
| 10.10 | 0.20 | −0.02 | −0.17 | 0.01 | −0.11 | 0.06 | 0.05 | 0.13 | −0.04 | 0.04 | 0.09 | −0.00 | 0.02 |
| 7. 2. 9 | −0.03 | −0.02 | −0.25 | −0.40 | −0.29 | −0.22 | −0.17 | −0.05 | −0.06 | 0.02 | −0.07 | −0.04 | −0.13 |
| 6. 2. 8 | −0.09 | −0.00 | −0.21 | −0.36 | −0.30 | −0.29 | −0.21 | −0.08 | −0.03 | −0.00 | −0.14 | −0.04 | −0.15 |
| 6. 2.10 | −0.00 | 0.05 | −0.00 | 0.03 | 0.11 | 0.09 | 0.06 | 0.06 | −0.00 | −0.00 | −0.09 | 0.05 | 0.03 |
| 6. 2. 6 | −0.23 | −0.11 | −0.48 | −0.90 | −0.67 | −0.60 | −0.45 | −0.28 | −0.11 | −0.00 | −0.10 | −0.13 | 0.34 |
| 7. 2 | −0.10 | −0.24 | −0.71 | −1.15 | −0.86 | −0.72 | −0.53 | −0.31 | −0.18 | −0.01 | 0.14 | −0.30 | −0.41 |
| 8. 2 | −0.10 | −0.36 | −1.05 | −1.54 | −1.21 | −0.94 | −0.68 | −0.39 | −0.26 | −0.02 | 0.20 | −0.37 | −0.56 |
| 8. 1 | −0.01 | −0.39 | −1.14 | −1.47 | −1.28 | −0.98 | −0.69 | −0.35 | −0.27 | −0.06 | 0.26 | −0.43 | −0.57 |
| 7. 1 | −0.01 | −0.27 | −0.80 | −1.08 | −0.93 | −0.76 | −0.54 | −0.27 | −0.20 | −0.04 | 0.20 | −0.37 | −0.42 |
| 9.12.3.9 | −0.09 | −0.28 | −1.11 | −1.27 | −1.08 | −0.76 | −0.53 | −0.27 | −0.30 | −0.09 | −0.01 | −0.20 | −0.50 |
| 7. 2.2(9) | 0.01 | 0.09 | −0.02 | −0.03 | −0.01 | 0.03 | 0.01 | 0.08 | −0.01 | 0.03 | −0.18 | 0.09 | 0.01 |
| Dail. ext. | −0.17 | −0.12 | −0.41 | −0.07 | −0.01 | 0.14 | 0.17 | −0.04 | −0.10 | −0.04 | 0.07 | 0.02 | −0.08 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXXIV.

NOVAIA ZEMLIA. — MATOSCHKIN SCHAR. *Lat.* 73° —′ N. *Long.* 57° 20′ E. *Gr.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morn. 1 | −0.22 | 0.16 | 0.46 | 1.63 | 2.42 | 1.70 | 1.18 | 0.73 | 1.08 | −0.49 | −0.14 | −0.11 | 0.70 |
| 2 | −0.30 | 0.09 | 0.70 | 1.34 | 2.28 | 1.54 | 1.20 | 0.79 | 0.88 | −0.47 | −0.14 | 0.05 | 0.66 |
| 3 | −0.31 | 0.01 | 0.91 | 1.15 | 1.89 | 1.26 | 1.11 | 0.80 | 0.62 | −0.22 | −0.10 | 0.17 | 0.61 |
| 4 | −0.26 | −0.06 | 1.02 | 1.09 | 1.41 | 0.93 | 0.94 | 0.72 | 0.46 | 0.02 | −0.00 | 0.26 | 0.54 |
| 5 | −0.14 | −0.09 | 0.99 | 0.81 | 0.85 | 0.61 | 0.73 | 0.55 | 0.46 | 0.20 | 0.10 | 0.34 | 0.45 |
| 6 | −0.03 | −0.09 | 0.86 | 0.63 | 0.26 | 0.30 | 0.47 | 0.30 | 0.56 | 0.26 | 0.20 | 0.41 | 0.34 |
| 7 | 0.06 | −0.07 | 0.62 | 0.09 | −0.38 | −0.02 | 0.18 | 0.01 | 0.58 | 0.18 | 0.26 | 0.45 | 0.16 |
| 8 | 0.10 | −0.05 | 0.34 | −0.50 | −1.03 | −0.38 | −0.13 | −0.30 | 0.38 | 0.06 | 0.26 | 0.46 | −0.07 |
| 9 | 0.10 | −0.05 | 0.02 | −1.14 | −1.65 | −0.78 | −0.46 | −0.58 | −0.00 | −0.06 | 0.24 | 0.43 | −0.33 |
| 10 | 0.07 | −0.06 | −0.28 | −1.78 | −2.17 | −1.16 | −0.75 | −0.79 | −0.71 | −0.19 | 0.18 | 0.37 | −0.61 |
| 11 | 0.05 | −0.10 | −0.58 | −2.02 | −2.53 | −1.45 | −0.97 | −0.91 | −1.24 | −0.14 | 0.15 | 0.28 | −0.79 |
| Noon. . . | 0.05 | −0.13 | −0.78 | −2.09 | −2.67 | −1.58 | −1.08 | −0.93 | −1.46 | −0.12 | 0.11 | 0.18 | −0.88 |
| 1 | 0.06 | −0.14 | −0.93 | −1.93 | −2.58 | −1.52 | −1.06 | −0.85 | −1.32 | −0.10 | 0.08 | 0.10 | −0.85 |
| 2 | 0.09 | −0.14 | −0.96 | −1.62 | −2.28 | −1.32 | −0.96 | −0.70 | −0.89 | −0.09 | 0.02 | −0.02 | −0.74 |
| 3 | 0.10 | −0.11 | −0.88 | −1.26 | −1.83 | −1.05 | −0.81 | −0.52 | −0.40 | −0.07 | −0.04 | −0.11 | −0.58 |
| 4 | 0.10 | −0.07 | −0.71 | −0.80 | −1.30 | −0.78 | −0.66 | −0.32 | −0.07 | −0.02 | −0.10 | −0.20 | −0.41 |
| 5 | 0.10 | −0.03 | −0.50 | −0.54 | −0.72 | −0.57 | −0.54 | −0.14 | −0.02 | 0.10 | −0.18 | −0.26 | −0.28 |
| 6 | 0.10 | 0.02 | −0.30 | −0.26 | −0.14 | −0.38 | −0.43 | −0.00 | −0.17 | 0.26 | −0.20 | −0.36 | −0.16 |
| 7 | 0.10 | 0.06 | −0.16 | 0.30 | 0.46 | −0.16 | −0.30 | 0.12 | −0.35 | 0.40 | −0.18 | −0.43 | −0.01 |
| 8 | 0.12 | 0.10 | −0.09 | 0.70 | 1.04 | 0.15 | −0.11 | 0.21 | −0.36 | 0.46 | −0.14 | −0.48 | 0.13 |
| 9 | 0.12 | 0.15 | −0.06 | 1.24 | 1.59 | 0.56 | 0.14 | 0.30 | −0.12 | 0.36 | −0.10 | −0.49 | 0.31 |
| 10 | 0.08 | 0.19 | −0.02 | 1.50 | 2.06 | 1.02 | 0.46 | 0.39 | 0.33 | 0.18 | −0.08 | −0.44 | 0.47 |
| 11 | −0.00 | 0.21 | 0.09 | 1.75 | 2.40 | 1.42 | 0.78 | 0.50 | 0.79 | −0.15 | −0.08 | −0.34 | 0.61 |
| Midn. . . | −0.11 | 0.20 | 0.23 | 1.72 | 2.55 | 1.66 | 1.03 | 0.62 | 1.06 | −0.39 | −0.11 | −0.22 | 0.69 |
| 6. 6 | 0.04 | 0.04 | 0.28 | 0.19 | 0.06 | −0.04 | 0.02 | 0.15 | 0.20 | 0.26 | 0.00 | 0.03 | 0.10 |
| 7. 7 | 0.08 | 0.01 | 0.23 | 0.20 | 0.04 | −0.09 | −0.06 | 0.07 | 0.12 | 0.29 | 0.04 | 0.01 | 0.08 |
| 8. 8 | 0.11 | 0.03 | 0.13 | 0.10 | 0.01 | −0.12 | −0.12 | −0.05 | 0.01 | 0.26 | 0.06 | −0.01 | 0.03 |
| 9. 9 | 0.11 | 0.05 | −0.02 | 0.05 | −0.03 | −0.11 | −0.16 | −0.14 | −0.06 | 0.15 | 0.07 | −0.03 | −0.01 |
| 10.10 | 0.08 | 0.07 | −0.15 | −0.14 | −0.06 | −0.07 | −0.15 | −0.20 | −0.19 | −0.01 | 0.05 | −0.04 | −0.07 |
| 7. 2. 9 | 0.09 | −0.02 | −0.13 | −0.10 | −0.36 | −0.26 | −0.21 | −0.13 | −0.14 | 0.15 | 0.06 | −0.02 | −0.09 |
| 6. 2. 8 | 0.06 | −0.04 | −0.06 | −0.10 | −0.33 | −0.29 | −0.20 | −0.06 | −0.23 | 0.21 | 0.03 | −0.03 | −0.09 |
| 6. 2.10 | 0.05 | −0.01 | −0.04 | 0.17 | 0.01 | −0.00 | −0.01 | −0.00 | −0.00 | 0.12 | 0.05 | −0.02 | 0.03 |
| 6. 2. 6 | 0.05 | −0.07 | −0.13 | −0.42 | −0.72 | −0.47 | −0.31 | −0.13 | −0.17 | 0.14 | 0.01 | 0.01 | −0.18 |
| 7. 2 | 0.08 | −0.11 | −0.17 | −0.77 | −1.33 | −0.67 | −0.39 | −0.35 | −0.16 | 0.05 | 0.14 | 0.22 | −0.29 |
| 8. 2 | 0.10 | −0.10 | −0.31 | −1.06 | −1.66 | −0.85 | −0.55 | −0.50 | −0.26 | −0.02 | 0.14 | 0.22 | −0.40 |
| 8. 1 | 0.08 | −0.10 | −0.30 | −1.22 | −1.81 | −0.95 | −0.60 | −0.58 | −0.47 | −0.02 | 0.17 | 0.28 | −0.46 |
| 7. 1 | 0.06 | −0.11 | −0.16 | −0.92 | −1.48 | −0.77 | −0.44 | −0.42 | −0.37 | 0.04 | 0.17 | 0.28 | −0.34 |
| 9.12.3.9 | 0.09 | −0.04 | −0.43 | −0.81 | −1.14 | −0.71 | −0.55 | −0.43 | −0.50 | 0.03 | 0.05 | −0.00 | −0.37 |
| 7. 2.2(9) | 0.10 | 0.02 | −0.12 | 0.24 | 0.13 | −0.06 | −0.13 | −0.02 | −0.14 | 0.20 | 0.02 | −0.14 | 0.01 |
| Dail.ext. | −0.10 | 0.04 | 0.03 | −0.17 | −0.06 | 0.06 | 0.06 | −0.07 | −0.19 | −0.02 | 0.03 | −0.02 | −0.09 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXXV.

NORWAY. — BOSSEKOP. *Lat.* 69° 58′ N. *Long.* 22° E. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | Sept. | Oct. | Nov. | Dec. | 80 Days without Sun. |
|---|---|---|---|---|---|---|---|---|---|
| A.M. 2 | −0.26 | 0.36 | 1.37 | . . . | 1.20 | 0.66 | 0.04 | 0.35 | 0.04 |
| 4 | −0.11 | 0.30 | 1.78 | . . . | 1.01 | 0.53 | −0.03 | 0.42 | 0.10 |
| 6 | 0.00 | 0.50 | 1.90 | . . . | 1.22 | 0.73 | 0.04 | 0.28 | 0.08 |
| 8 | 0.09 | 0.26 | 1.18 | 0.36 | 0.62 | 0.41 | 0.07 | 0.10 | 0.02 |
| 10 | −0.13 | −0.19 | −1.09 | −0.85 | −1.01 | −0.29 | −0.15 | −0.14 | −0.19 |
| Noon. | 0.18 | −0.79 | −2.39 | −1.29 | −1.66 | −1.05 | −0.13 | −0.09 | −0.03 |
| 2 | 0.20 | −1.02 | −2.85 | −1.22 | −1.69 | −1.02 | −0.09 | −0.34 | −0.10 |
| 4 | 0.30 | −0.11 | −2.38 | −0.82 | −1.54 | −0.50 | 0.09 | −0.38 | 0.06 |
| 6 | 0.18 | 0.06 | −0.57 | −0.10 | −0.27 | −0.17 | 0.18 | −0.23 | 0.09 |
| 8 | 0.12 | 0.16 | 0.46 | 0.70 | 0.39 | 0.09 | 0.14 | −0.26 | 0.02 |
| 10 | −0.34 | 0.21 | 1.19 | 1.44 | 0.79 | 0.13 | −0.03 | 0.14 | −0.10 |
| 12 | −0.27 | 0.22 | 1.39 | 1.83 | 0.89 | 0.49 | −0.13 | 0.17 | −0.10 |
| Mean. | −7.67 | −6.39 | −7.55 | −0.77 | 5.91 | −1.62 | −6.55 | −5.66 | −7.66 |

## LXXV′.

NORWAY. — BOSSEKOP. *Lat.* 69° 58′ N. *Long.* 22° E. *Greenw.*

Centigrade Degrees.

| Hour. | Jan. | Feb. | March. | April. | Sept. | Oct. | Nov. | Dec. | 80 Days without Sun. |
|---|---|---|---|---|---|---|---|---|---|
| A.M. 2 | −0.32 | 0.45 | 1.71 | . . . | 1.50 | 0.82 | 0.05 | 0.44 | 0.05 |
| 4 | −0.14 | 0.37 | 2.22 | . . . | 1.26 | 0.66 | −0.04 | 0.52 | 0.12 |
| 6 | 0.00 | 0.62 | 2.37 | . . . | 1.52 | 0.91 | 0.05 | 0.35 | 0.10 |
| 8 | 0.11 | 0.32 | 1.47 | 0.45 | 0.77 | 0.51 | 0.09 | 0.12 | 0.02 |
| 10 | −0.16 | −0.24 | −1.36 | −1.06 | −1.26 | −0.36 | −0.19 | −0.17 | −0.24 |
| Noon. | 0.22 | −0.99 | −2.98 | −1.62 | −2.07 | −1.31 | −0.16 | −0.11 | −0.04 |
| 2 | 0.25 | −1.27 | −3.56 | −1.52 | −2.11 | −1.27 | −0.11 | −0.42 | −0.12 |
| 4 | 0.37 | −0.14 | −2.97 | −1.02 | −1.92 | −0.62 | 0.11 | −0.47 | 0.07 |
| 6 | 0.22 | 0.07 | −0.71 | −0.12 | −0.34 | −0.21 | 0.22 | −0.29 | 0.11 |
| 8 | 0.15 | 0.20 | 0.57 | 0.87 | 0.49 | 0.11 | 0.17 | −0.32 | 0.02 |
| 10 | −0.42 | 0.26 | 1.48 | 1.80 | 0.99 | 0.16 | −0.04 | 0.17 | −0.12 |
| 12 | −0.34 | 0.27 | 1.73 | 2.29 | 1.11 | 0.61 | −0.16 | 0.21 | −0.12 |
| Mean. | −9.59 | −7.99 | −9.44 | −0.96 | 7.39 | −2.02 | −8.19 | −7.07 | −9.57 |

# HOURLY CORRECTIONS

FOR

# PERIODIC VARIATIONS.

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AFRICA.—AUSTRALIA.

## LXXVI.

AFRICA. — ST. HELENA. *Lat.* 15° 55′ S. *Long.* 5° 43′ W. *Greenw.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — DOVE.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 0.76 | 0.70 | 0.63 | 0.58 | 0.52 | 0.43 | 0.48 | 0.43 | 0.52 | 0.62 | 0.71 | 0.73 | 0.59 |
| 1 | 0.85 | 0.76 | 0.71 | 0.66 | 0.61 | 0.48 | 0.53 | 0.48 | 0.56 | 0.71 | 0.78 | 0.81 | 0.66 |
| 2 | 0.93 | 0.84 | 0.77 | 0.70 | 0.66 | 0.54 | 0.56 | 0.53 | 0.62 | 0.78 | 0.86 | 0.90 | 0.72 |
| 3 | 1.03 | 0.92 | 0.86 | 0.76 | 0.73 | 0.59 | 0.62 | 0.63 | 0.69 | 0.86 | 0.95 | 0.98 | 0.80 |
| 4 | 1.06 | 1.00 | 0.92 | 0.81 | 0.80 | 0.65 | 0.66 | 0.66 | 0.76 | 0.91 | 0.99 | 1.02 | 0.85 |
| 5 | 1.11 | 1.04 | 0.93 | 0.86 | 0.83 | 0.67 | 0.69 | 0.73 | 0.79 | 0.94 | 1.02 | 1.08 | 0.89 |
| 6 | 1.15 | 1.07 | 0.98 | 0.93 | 0.83 | 0.68 | 0.72 | 0.74 | 0.83 | 0.99 | 1.07 | 1.09 | 0.92 |
| 7 | 1.16 | 1.08 | 0.97 | 0.94 | 0.89 | 0.71 | 0.75 | 0.79 | 0.81 | 0.96 | 1.03 | 1.06 | 0.93 |
| 8 | 0.95 | 0.99 | 0.78 | 0.85 | 0.88 | 0.69 | 0.72 | 0.72 | 0.72 | 0.77 | 0.80 | 0.98 | 0.82 |
| 9 | 0.53 | 0.63 | 0.52 | 0.49 | 0.46 | 0.42 | 0.41 | 0.43 | 0.42 | 0.38 | 0.40 | 0.48 | 0.46 |
| 10 | −0.05 | 0.06 | −0.07 | −0.04 | −0.08 | −0.04 | −0.04 | −0.02 | −0.05 | −0.17 | −0.16 | −0.09 | −0.06 |
| 11 | −0.62 | −0.55 | −0.49 | −0.51 | −0.47 | −0.40 | −0.40 | −0.40 | −0.55 | −0.66 | −0.67 | −0.56 | −0.52 |
| Noon. | −1.14 | −1.06 | −0.95 | −1.00 | −0.96 | −0.73 | −0.76 | −0.80 | −0.92 | −1.11 | −1.12 | −1.08 | −0.97 |
| 1 | −1.64 | −1.46 | −1.28 | −1.31 | −1.20 | −1.04 | −1.06 | −1.12 | −1.25 | −1.45 | −1.60 | −1.52 | −1.33 |
| 2 | −1.81 | −1.67 | −1.48 | −1.46 | −1.32 | −1.20 | −1.26 | −1.25 | −1.42 | −1.67 | −1.80 | −1.80 | −1.51 |
| 3 | −1.76 | −1.78 | −1.62 | −1.50 | −1.35 | −1.18 | −1.24 | −1.31 | −1.38 | −1.64 | −1.84 | −1.82 | −1.54 |
| 4 | −1.69 | −1.66 | −1.54 | −1.35 | −1.24 | −1.03 | −1.12 | −1.13 | −1.20 | −1.37 | −1.64 | −1.76 | −1.39 |
| 5 | −1.48 | −1.38 | −1.27 | −1.06 | −0.94 | −0.78 | −0.84 | −0.86 | −0.91 | −0.99 | −1.24 | −1.38 | −1.09 |
| 6 | −0.92 | −0.91 | −0.83 | −0.61 | −0.47 | −0.40 | −0.44 | −0.42 | −0.43 | −0.48 | −0.66 | −0.82 | −0.62 |
| 7 | −0.27 | −0.33 | −0.28 | −0.11 | −0.23 | −0.03 | −0.07 | −0.03 | 0.01 | 0.02 | −0.04 | −0.18 | −0.13 |
| 8 | 0.26 | 0.21 | 0.18 | 0.20 | −0.12 | 0.17 | 0.13 | 0.15 | 0.23 | 0.29 | 0.32 | 0.30 | 0.19 |
| 9 | 0.47 | 0.44 | 0.34 | 0.34 | 0.14 | 0.26 | 0.23 | 0.25 | 0.32 | 0.26 | 0.48 | 0.48 | 0.33 |
| 10 | 0.60 | 0.55 | 0.48 | 0.44 | 0.41 | 0.32 | 0.33 | 0.32 | 0.38 | 0.49 | 0.56 | 0.58 | 0.46 |
| 11 | 0.69 | 0.64 | 0.55 | 0.51 | 0.45 | 0.39 | 0.38 | 0.38 | 0.46 | 0.55 | 0.64 | 0.67 | 0.53 |
| Mean. | 14.21 | 15.04 | 15.22 | 14.93 | 13.80 | 12.48 | 11.55 | 11.19 | 11.14 | 11.66 | 12.37 | 13.23 | |

## LXXVII.

AFRICA. — CAPE OF GOOD HOPE. *Lat.* 33° 56′ S. *Long.* 19° 39′ E. *Gr.* — DOVE.

Degrees of Reaumur.

| Hour | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 1.69 | 1.50 | 1.51 | 1.37 | 1.00 | 0.88 | 1.04 | 0.85 | 1.07 | 1.45 | 1.62 | 1.85 | 1.32 |
| 1 | 2.80 | 1.64 | 1.64 | 1.49 | 1.07 | 1.01 | 1.20 | 1.03 | 1.25 | 1.62 | 1.79 | 2.01 | 1.55 |
| 2 | 1.89 | 1.74 | 1.81 | 1.61 | 1.14 | 1.09 | 1.33 | 1.14 | 1.39 | 1.72 | 1.98 | 2.16 | 1.58 |
| 3 | 2.01 | 1.92 | 1.92 | 1.70 | 1.24 | 1.16 | 1.43 | 1.23 | 1.54 | 1.82 | 2.12 | 2.30 | 1.70 |
| 4 | 2.10 | 2.00 | 2.05 | 1.88 | 1.34 | 1.30 | 1.53 | 1.37 | 1.63 | 1.92 | 2.21 | 2.42 | 1.81 |
| 5 | 1.96 | 2.13 | 2.13 | 1.93 | 1.46 | 1.42 | 1.59 | 1.53 | 1.59 | 1.93 | 1.92 | 2.01 | 1.80 |
| 6 | 1.06 | 1.53 | 1.97 | 1.98 | 1.59 | 1.48 | 1.73 | 1.55 | 1.62 | 1.26 | 0.85 | 0.86 | 1.46 |
| 7 | 0.15 | 0.70 | 1.21 | 1.39 | 1.41 | 1.47 | 1.57 | 1.22 | 0.81 | 0.39 | −0.02 | −0.20 | 0.84 |
| 8 | −0.53 | −0.01 | 0.16 | 0.36 | 0.53 | 0.86 | 0.77 | 0.64 | −0.06 | −0.46 | −0.67 | −0.81 | 0.06 |
| 9 | −1.10 | −0.80 | −0.76 | −0.68 | −0.39 | −0.12 | −0.24 | −0.42 | −0.82 | −1.24 | −1.25 | −1.36 | −0.77 |
| 10 | −1.72 | −1.65 | −1.66 | −1.48 | −1.10 | −0.90 | −1.09 | −1.08 | −1.41 | −1.82 | −1.80 | −1.90 | −1.47 |
| 11 | −2.23 | −2.31 | −2.37 | −2.10 | −1.64 | −1.46 | −1.72 | −1.63 | −1.85 | −2.25 | −2.24 | −2.25 | −2.00 |

The numbers without sign must be added; those with the sign — must be subtracted.

## LXXVII.

### Africa. — Cape of Good Hope, *Continued.*

Corrections to be applied to the Means of the Hours of Observation to obtain the true Mean Temperatures of the respective Days, Months, and of the Year. — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Noon. | −2.48 | −2.72 | −2.66 | −2.56 | −2.09 | −1.92 | −2.11 | −1.88 | −2.15 | −2.45 | −2.46 | −2.52 | −2.33 |
| 1 | −2.54 | −2.74 | −2.95 | −2.81 | −2.20 | −2.07 | −2.33 | −2.04 | −2.23 | −2.55 | −2.48 | −2.61 | −2.46 |
| 2 | −2.42 | −2.54 | −2.86 | −2.79 | −2.14 | −2.06 | −2.33 | −1.97 | −2.18 | −2.44 | −2.30 | −2.44 | −2.37 |
| 3 | −2.16 | −2.20 | −2.51 | −2.42 | −1.84 | −1.86 | −2.13 | −1.77 | −1.82 | −2.08 | −2.01 | −2.16 | −2.08 |
| 4 | −1.75 | −1.70 | −1.78 | −1.75 | −1.28 | −1.28 | −1.49 | −1.32 | −1.28 | −1.52 | −1.66 | −1.90 | −1.56 |
| 5 | −1.21 | −1.09 | −1.03 | −0.71 | −0.61 | −0.64 | −0.76 | −0.57 | −0.56 | −0.71 | −1.05 | −1.28 | −0.85 |
| 6 | −0.16 | −0.13 | −0.10 | −0.03 | −0.21 | −0.29 | −0.33 | −0.17 | 0.00 | 0.20 | −0.01 | −0.15 | −0.12 |
| 7 | 0.65 | 0.54 | 0.35 | 0.22 | 0.09 | −0.05 | −0.03 | 0.12 | 0.30 | 0.57 | 0.60 | 0.63 | 0.33 |
| 8 | 0.95 | 0.79 | 0.61 | 0.48 | 0.36 | 0.19 | 0.26 | 0.32 | 0.51 | 0.86 | 0.92 | 0.96 | 0.60 |
| 9 | 1.14 | 1.00 | 0.92 | 0.73 | 0.54 | 0.40 | 0.48 | 0.46 | 0.69 | 1.09 | 1.10 | 1.20 | 0.81 |
| 10 | 1.30 | 1.14 | 1.14 | 1.00 | 0.78 | 0.61 | 0.69 | 0.65 | 0.97 | 1.26 | 1.31 | 1.46 | 1.03 |
| 11 | 1.55 | 1.32 | 1.29 | 1.22 | 0.95 | 0.81 | 0.91 | 0.76 | 1.02 | 1.44 | 1.48 | 1.67 | 1.20 |
| Mean. | 15.81 | 15.96 | 15.00 | 13.61 | 11.38 | 9.84 | 9.96 | 10.06 | 11.01 | 12.43 | 13.54 | 14.82 | |

## LXXVIII.

### Australia. — Hobarton. *Lat.* 42° 53′ S. *Long.* 147° 21′ E. *Gr.* — Dove.

Degrees of Reaumur.

| Hour. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. | 2.34 | 1.95 | 1.78 | 1.31 | 0.88 | 0.66 | 0.72 | 1.10 | 1.51 | 1.99 | 2.44 | 2.45 | 1.59 |
| 1 | 2.59 | 2.17 | 1.99 | 1.41 | 1.03 | 0.76 | 0.86 | 1.36 | 1.71 | 2.19 | 2.67 | 2.76 | 1.79 |
| 2 | 2.89 | 2.32 | 2.19 | 1.62 | 1.11 | 0.88 | 1.01 | 1.43 | 1.93 | 2.45 | 2.77 | 2.95 | 1.96 |
| 3 | 3.09 | 2.53 | 2.39 | 1.75 | 1.23 | 0.97 | 1.16 | 1.58 | 2.06 | 2.68 | 2.98 | 3.24 | 2.14 |
| 4 | 3.20 | 2.68 | 2.49 | 1.85 | 1.31 | 1.15 | 1.28 | 1.69 | 2.20 | 2.80 | 3.11 | 3.38 | 2.26 |
| 5 | 3.33 | 2.82 | 2.54 | 1.99 | 1.44 | 1.15 | 1.40 | 1.82 | 2.32 | 2.85 | 2.99 | 3.13 | 2.31 |
| 6 | 2.62 | 2.59 | 2.64 | 2.11 | 1.55 | 1.29 | 1.50 | 1.91 | 2.34 | 2.60 | 2.24 | 2.24 | 2.14 |
| 7 | 1.48 | 1.75 | 2.10 | 2.00 | 1.60 | 1.37 | 1.50 | 1.90 | 1.84 | 1.61 | 1.16 | 1.03 | 1.61 |
| 8 | 0.27 | 0.68 | 1.08 | 1.30 | 1.27 | 1.26 | 1.31 | 1.32 | 0.93 | 0.41 | 0.01 | −0.24 | 0.80 |
| 9 | −0.88 | −0.56 | −0.17 | 0.24 | 0.45 | 0.60 | 0.60 | 0.44 | −0.21 | −0.70 | −1.13 | −1.27 | −0.22 |
| 10 | −1.92 | −1.61 | −1.28 | −0.85 | −0.46 | −0.18 | −0.21 | −0.52 | −1.21 | −1.68 | −2.10 | −2.16 | −1.18 |
| 11 | −2.75 | −2.34 | −2.24 | −1.78 | −1.29 | −0.96 | −1.01 | −1.53 | −2.09 | −2.54 | −2.89 | −2.85 | −2.02 |
| Noon. | −3.51 | −3.22 | −3.03 | −2.58 | −2.00 | −1.67 | −1.67 | −2.28 | −2.70 | −3.10 | −3.43 | −3.36 | −2.71 |
| 1 | −3.82 | −3.52 | −3.48 | −2.95 | −2.42 | −2.08 | −2.17 | −2.73 | −3.14 | −3.48 | −3.72 | −3.67 | −3.10 |
| 2 | −3.91 | −3.54 | −3.63 | −3.11 | −2.53 | −2.22 | −2.38 | −2.91 | −3.25 | −3.48 | −3.67 | −3.56 | −3.18 |
| 3 | −3.60 | −3.36 | −3.43 | −2.87 | −2.32 | −2.02 | −2.23 | −2.71 | −3.10 | −3.32 | −3.33 | −3.45 | −2.98 |
| 4 | −3.20 | −2.94 | −2.92 | −2.23 | −1.69 | −1.43 | −1.73 | −2.20 | −2.53 | −3.04 | −3.12 | −3.12 | −2.51 |
| 5 | −2.57 | −2.22 | −2.02 | −1.35 | −0.92 | −0.73 | −1.01 | −1.37 | −1.59 | −2.02 | −2.30 | −2.56 | −1.72 |
| 6 | −1.38 | −1.04 | −0.84 | −0.56 | −0.36 | −0.25 | −0.48 | −0.64 | −0.65 | −0.80 | −1.01 | −1.38 | −1.78 |
| 7 | −0.13 | −0.20 | −0.04 | −0.05 | 0.01 | 0.00 | 0.12 | −0.13 | 0.01 | 0.05 | 0.20 | −0.09 | −0.02 |
| 8 | 0.82 | 0.68 | 0.45 | 0.32 | 0.27 | 0.24 | 0.14 | 0.21 | 0.46 | 0.55 | 0.90 | 0.89 | 0.49 |
| 9 | 1.31 | 1.13 | 0.82 | 0.57 | 0.42 | 0.24 | 0.34 | 0.57 | 0.79 | 1.00 | 1.41 | 1.51 | 0.84 |
| 10 | 1.71 | 1.47 | 1.19 | 0.84 | 0.62 | 0.40 | 0.50 | 0.79 | 1.08 | 1.34 | 1.75 | 1.91 | 1.13 |
| 11 | 2.05 | 1.77 | 1.47 | 1.06 | 0.77 | 0.54 | 0.64 | 0.93 | 1.31 | 1.63 | 2.05 | 2.25 | 1.37 |
| Mean. | 13.38 | 13.96 | 11.96 | 9.41 | 7.69 | 5.93 | 5.21 | 6.24 | 7.97 | 9.39 | 11.38 | 12.95 | |

The numbers without sign must be added; those with the sign — must be subtracted.

# CORRECTIONS FOR TEMPERATURE.

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## MONTHLY AND YEARLY

## CORRECTIONS FOR NON-PERIODIC VARIATIONS,

OR

## TABLES

FOR REDUCING THE MONTHLY AND YEARLY MEANS OF SINGLE YEARS TO THE MEANS DERIVED FROM A SERIES OF YEARS.

# TABLES

## FOR REDUCING THE MONTHLY AND YEARLY MEANS OF SINGLE YEARS TO THE MEANS DERIVED FROM A SERIES OF YEARS.

OBSERVATION shows that the monthly and annual mean temperature of a place somewhat varies from year to year. No law, however, has been as yet discovered as to the course of these oscillations. It follows that the means derived from observations carried on during a single year are but approximations to the true means. These last must be obtained from observations made for a series of years, during which these irregular variations become insensible by compensating each other; and it is obvious that their accuracy increases with the number of years which compose the series.

Professor Dove, having proved by his researches that these abnormal temperatures above and below the average of a whole month, or of a year, are apt to be felt simultaneously on extensive tracts of country, concluded that the means of a single year could be made available for obtaining the true means of the place, by being corrected for the non-periodic variations by means of normal stations in *the same meteorological region*, in which those elements had been more accurately determined by the observations of a long series of years. Comparing, namely, the means of a given year with the means derived from the whole series, we find a difference in + or —, which, applied, with *reverse* signs, to the means of the same year in the neighboring station to be corrected, will reduce, with a good degree of probability, the means of that particular year to the means which would have been obtained from a long series of years similar to that of the normal station.

The following tables, LXXIX. to XCVII., have been selected from those given by Dove in his five papers on the non-periodic variations of the atmospheric temperature, to be found in the *Memoirs of the Academy of Sciences of Berlin* for the years 1838, 1839, 1842, 1848, and 1853, to which we must refer for further details. They furnish normal stations for various latitudes; the columns contain the corrections for every month, viz. the differences, with *reverse* signs, between the monthly means in the year indicated in the first and last columns, and the means derived from the whole series, which are contained in the line at the bottom.

## LXXIX.

### Region of the Monsoons. — Madras.

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1796 | 0.00 | 0.24 | 0.00 | 0.36 | −0.10 | −1.48 | −1.16 | −1.15 | −0.31 | −0.28 | −0.47 | −0.51 | 1796 |
| 1797 | . . | . . | 0.66 | 0.53 | 0.39 | 0.56 | 0.09 | 0.85 | −0.09 | −0.33 | 0.16 | −0.02 | 1797 |
| 1798 | −0.13 | 1.12 | 0.40 | . . | . . | 0.39 | 0.53 | −0.31 | 0.27 | 0.56 | −0.16 | 0.20 | 1798 |
| 1799 | −0.13 | −0.08 | 0.62 | 0.36 | 0.26 | −0.06 | −1.20 | 0.00 | −0.36 | 0.38 | −1.44 | 0.25 | 1799 |
| 1800 | 0.40 | 0.41 | 0.57 | 1.20 | −0.23 | −0.50 | −1.02 | −0.40 | −0.58 | 0.20 | 0.47 | −0.60 | 1800 |
| 1801 | 0.44 | 0.01 | 1.77 | . . | . . | −0.59 | −0.67 | 0.63 | −0.49 | −0.02 | −0.20 | 0.25 | 1801 |
| 1802 | 0.44 | 0.86 | 1.77 | 1.02 | −0.36 | 0.65 | 0.58 | −0.04 | 1.60 | 0.43 | −0.02 | −0.28 | 1802 |
| 1803 | 0.22 | 0.24 | 0.80 | 0.53 | −0.32 | 0.08 | 0.18 | 0.80 | 0.80 | 0.38 | 0.33 | 0.65 | 1803 |
| 1804 | 1.64 | 1.48 | 0.75 | 1.38 | 0.70 | 0.70 | 1.24 | 0.00 | 0.58 | 0.38 | 0.91 | 0.29 | 1804 |
| 1805 | 0.27 | 0.41 | 0.66 | −0.36 | 0.61 | 0.52 | −0.76 | −0.22 | −0.27 | −0.33 | 0.69 | 0.65 | 1805 |
| 1806 | 0.00 | −0.39 | −0.09 | 0.09 | −0.41 | −1.61 | 0.00 | −0.13 | 1.07 | 0.47 | 0.96 | 0.12 | 1806 |
| 1807 | 0.22 | −1.54 | −3.20 | −5.47 | −1.79 | 0.48 | 1.20 | −0.17 | −0.09 | −0.64 | −0.20 | 0.78 | 1807 |
| 1813 | 0.80 | 0.37 | 0.13 | 0.96 | 1.12 | −0.32 | 0.44 | −0.22 | −0.18 | 0.25 | −0.38 | −1.04 | 1813 |
| 1814 | −0.36 | −0.39 | −0.58 | 0.04 | −2.99 | 1.10 | 1.38 | 0.29 | −0.22 | 0.07 | −0.20 | −0.37 | 1814 |
| 1815 | −0.98 | 0.32 | −0.67 | 2.00 | 1.55 | −1.39 | −0.98 | 0.27 | 0.31 | −0.73 | −0.91 | −0.82 | 1815 |
| 1816 | −1.09 | −1.76 | −1.56 | −0.93 | 0.44 | 0.39 | −0.44 | −0.71 | −0.67 | −0.20 | 0.33 | −0.51 | 1816 |
| 1817 | −0.58 | −0.70 | −0.67 | −0.62 | 0.12 | −0.19 | 0.67 | 0.29 | −0.71 | −0.55 | −0.96 | 0.52 | 1817 |
| 1818 | 0.22 | 0.32 | −0.80 | −0.04 | 1.41 | 0.65 | −1.33 | −2.00 | −0.18 | −0.55 | −0.56 | −0.37 | 1818 |
| 1819 | −1.78 | −1.28 | −0.76 | −0.13 | 0.48 | 0.88 | 0.44 | 0.98 | −0.31 | 0.03 | 0.78 | 0.16 | 1819 |
| 1820 | −0.67 | −0.30 | −0.85 | 0.58 | −1.16 | −0.32 | 0.18 | 0.23 | −0.09 | 0.47 | 0.69 | 0.47 | 1820 |
| 1821 | 1.02 | 0.64 | 1.06 | −1.51 | 0.26 | 0.08 | 0.58 | 0.94 | −0.04 | −0.02 | 0.20 | 0.20 | 1821 |
| Means. | 19.19 | 20.07 | 21.30 | 22.41 | 24.41 | 24.96 | 23.84 | 23.43 | 23.03 | 22.16 | 20.74 | 19.48 | Means. |
| 1822 | −0.36 | 0.37 | 0.41 | −0.28 | 0.07 | −0.95 | −0.76 | 0.72 | −0.37 | −0.70 | −0.35 | −0.19 | 1822 |
| 1823 | 0.31 | 0.37 | −0.21 | 0.30 | 0.15 | 0.29 | 0.22 | 0.17 | −0.60 | 0.72 | 0.27 | 0.97 | 1823 |
| 1824 | 0.71 | 0.59 | 0.27 | 0.52 | −0.02 | 0.60 | 1.55 | 0.88 | 1.36 | −0.93 | 0.14 | 0.26 | 1824 |
| 1825 | −0.09 | 0.37 | −0.21 | 0.12 | 0.24 | −0.29 | 0.04 | −0.36 | 0.03 | 0.32 | 0.59 | −0.59 | 1825 |
| 1826 | 0.80 | 0.24 | 0.45 | 0.92 | 0.78 | −1.17 | 0.04 | −0.36 | 0.25 | 0.81 | 0.36 | 0.30 | 1826 |
| 1827 | −0.09 | −0.29 | −0.17 | 0.17 | −1.27 | −0.46 | −0.01 | −0.09 | −0.15 | −0.13 | 0.54 | 0.08 | 1827 |
| 1828 | 1.07 | 0.51 | −0.57 | −0.59 | −0.42 | 0.34 | −0.23 | 0.04 | −0.60 | −0.17 | 0.81 | 0.21 | 1828 |
| 1829 | 0.09 | −0.69 | −0.35 | 0.08 | −0.11 | 0.16 | −0.89 | −0.01 | 0.16 | 0.54 | 0.23 | 0.12 | 1829 |
| 1830 | −0.27 | −0.74 | 0.01 | −0.32 | −2.73 | −0.15 | −0.36 | −0.23 | 0.25 | 1.12 | 0.68 | 0.53 | 1830 |
| 1831 | 0.31 | 1.49 | 1.66 | 0.48 | 1.89 | 1.36 | 0.04 | 0.67 | 0.70 | 0.41 | 0.41 | 0.53 | 1831 |
| 1832 | −0.49 | −0.29 | 1.26 | 1.73 | 2.51 | 2.65 | 1.64 | 2.40 | 0.34 | −0.25 | 0.46 | . . | 1832 |
| 1833 | 0.36 | 0.91 | −0.19 | 0.97 | 0.83 | 0.83 | 1.33 | 0.40 | 0.16 | 0.41 | 0.19 | 1.06 | 1833 |
| 1834 | 0.18 | 0.60 | 0.55 | −0.58 | 1.31 | 0.12 | −0.98 | −0.18 | −0.15 | −0.03 | 0.01 | −0.01 | 1834 |
| 1835 | −0.66 | −0.73 | −0.57 | −1.07 | −0.24 | −0.86 | −0.67 | −0.45 | −0.46 | −0.74 | −0.48 | −0.94 | 1835 |
| 1836 | −0.75 | −0.73 | −1.41 | −0.72 | 0.60 | 0.12 | −0.58 | −1.29 | −0.24 | 0.15 | −0.92 | −1.03 | 1836 |
| 1837 | −0.31 | −0.02 | 0.06 | −0.63 | −1.17 | −0.41 | −0.40 | −0.05 | 0.03 | −0.34 | −0.17 | −0.85 | 1837 |
| 1838 | −1.24 | −0.69 | −0.30 | 0.04 | −0.33 | −0.24 | 0.75 | −0.05 | 0.65 | −0.12 | −0.57 | −0.41 | 1838 |
| 1839 | 0.36 | −0.11 | −0.12 | −0.45 | −0.15 | −0.41 | −0.49 | −0.93 | −0.68 | 0.68 | −0.83 | 0.71 | 1839 |
| 1840 | −0.13 | −0.42 | −0.70 | 0.17 | 0.29 | 0.25 | −0.45 | 0.27 | −0.77 | 0.19 | −1.14 | −0.32 | 1840 |
| 1841 | 0.05 | −0.16 | −0.17 | −0.58 | −1.17 | −0.81 | 0.35 | −0.71 | 0.74 | −1.28 | −0.34 | −0.27 | 1841 |
| 1842 | −0.09 | −0.51 | −0.08 | −0.49 | 0.47 | 0.07 | 0.00 | 0.09 | −0.86 | −0.30 | −0.30 | −0.23 | 1842 |
| 1843 | 0.23 | −0.02 | −0.03 | 0.22 | −1.53 | −1.04 | −0.22 | 0.44 | 0.16 | −0.52 | 0.23 | −0.32 | 1843 |
| Means. | 20.53 | 21.31 | 22.92 | 24.27 | 25.62 | 25.35 | 24.31 | 23.73 | 23.70 | 22.92 | 21.32 | 20.67 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXX.

### Sicily. — Palermo.

**For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.**

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1791 | .. | .. | .. | .. | −0.44 | −0.32 | −0.52 | 0.95 | −0.67 | −0.36 | 1.73 | 0.00 | 1791 |
| 1792 | 1.18 | 0.51 | 0.09 | 0.12 | −0.48 | 1.12 | −1.01 | −1.65 | −0.63 | 0.22 | −0.83 | −0.96 | 1792 |
| 1793 | −1.68 | −0.38 | −0.33 | −1.63 | −2.04 | −1.83 | −1.28 | −1.14 | 0.86 | −0.54 | −0.25 | 0.44 | 1793 |
| 1794 | −0.04 | −0.69 | −0.51 | 0.59 | −0.79 | −1.92 | −0.81 | −0.48 | −0.14 | −0.69 | −0.29 | −0.47 | 1794 |
| 1795 | −1.62 | 1.27 | 0.78 | −0.10 | 0.12 | −0.59 | −1.12 | −0.34 | −0.72 | .. | −0.23 | 0.18 | 1795 |
| 1796 | 0.78 | 0.58 | −0.84 | −1.56 | −0.19 | −0.59 | −0.39 | −0.01 | 0.40 | 1.11 | 0.00 | 0.98 | 1796 |
| 1797 | −0.24 | −0.29 | −1.15 | −0.19 | −0.24 | −0.70 | −0.56 | 0.39 | 0.15 | 0.13 | −0.12 | 0.16 | 1797 |
| 1798 | 0.03 | 0.20 | 0.78 | −0.90 | −0.99 | −0.45 | 0.72 | −0.41 | 0.00 | −1.00 | 1.97 | 0.31 | 1798 |
| 1799 | −1.75 | 1.38 | 0.52 | 0.64 | −0.35 | 0.08 | 0.37 | 0.75 | 0.48 | 1.40 | −0.32 | 0.40 | 1799 |
| 1800 | 2.27 | 2.96 | 0.69 | 2.46 | 0.63 | −0.14 | 0.26 | −0.41 | −0.58 | 0.02 | −0.18 | 0.09 | 1800 |
| 1801 | −0.11 | 0.76 | 1.45 | 0.24 | −0.10 | −0.16 | 1.26 | −0.56 | −0.07 | 1.04 | 1.04 | 1.64 | 1801 |
| 1802 | 0.09 | −0.16 | 0.47 | −1.01 | −0.30 | 2.50 | 0.17 | 0.72 | 0.42 | 0.77 | 1.51 | 1.40 | 1802 |
| 1803 | 1.67 | −1.69 | .. | 2.08 | −1.08 | 0.66 | 0.04 | 0.52 | 0.31 | −0.65 | 1.42 | 0.42 | 1803 |
| 1804 | 4.63 | −0.82 | 0.16 | 0.21 | 0.14 | 1.30 | 1.12 | 0.12 | −0.14 | 0.31 | 1.22 | 1.40 | 1804 |
| 1805 | 0.80 | 0.69 | −0.68 | −1.59 | −1.59 | 1.21 | −0.65 | −0.34 | −1.52 | 0.06 | −1.85 | −1.02 | 1805 |
| 1806 | −1.15 | 0.64 | −0.04 | −0.50 | 0.41 | 0.10 | −0.14 | −0.85 | −1.16 | −0.43 | −0.14 | 0.40 | 1806 |
| 1807 | −1.06 | 0.16 | 0.34 | −1.21 | 0.74 | 0.90 | 1.37 | 0.92 | 2.80 | 1.26 | 1.95 | −0.07 | 1807 |
| 1808 | −0.24 | −1.22 | −0.86 | −1.36 | −0.48 | −0.43 | 0.88 | 0.04 | 2.42 | −1.92 | −0.29 | −2.31 | 1808 |
| 1809 | 0.87 | −0.31 | 0.23 | −0.50 | −0.48 | 0.86 | 1.46 | −0.23 | −0.67 | −1.67 | −1.36 | −0.98 | 1809 |
| 1810 | 0.01 | −0.27 | 2.49 | 0.28 | 0.50 | −0.63 | −0.54 | −0.19 | −0.29 | −0.67 | 0.06 | −0.91 | 1810 |
| 1811 | −0.15 | 0.69 | −0.91 | 0.24 | 0.43 | 1.46 | 0.97 | 0.26 | 0.04 | 0.95 | 0.00 | −0.76 | 1811 |
| 1812 | −1.51 | 0.40 | 0.00 | −0.39 | −0.61 | 0.15 | −1.32 | −0.21 | −0.69 | −0.16 | 0.35 | −0.18 | 1812 |
| 1813 | −1.51 | −1.02 | −0.80 | −0.52 | 0.79 | 0.32 | −0.92 | −1.25 | −1.00 | 1.31 | 0.04 | −1.18 | 1813 |
| 1814 | 0.54 | −3.04 | −0.88 | 0.04 | −1.46 | −0.59 | −0.96 | −0.56 | −2.03 | −0.49 | −0.52 | −0.42 | 1814 |
| 1815 | −0.46 | 0.07 | 0.29 | 0.90 | 0.61 | −0.63 | −1.12 | −2.01 | −0.78 | 0.22 | 0.08 | −0.78 | 1815 |
| 1816 | −0.40 | −0.31 | −0.71 | −0.54 | 0.05 | −1.94 | −0.65 | −0.48 | −0.80 | −1.09 | −0.63 | −1.24 | 1816 |
| 1817 | −0.11 | −0.09 | −0.15 | .. | .. | 0.32 | −0.39 | 0.46 | −0.34 | 0.11 | −0.47 | −0.02 | 1817 |
| 1818 | −0.66 | 0.87 | .. | 1.21 | 0.19 | −1.10 | −0.25 | −0.45 | 0.24 | −0.78 | 0.33 | 0.62 | 1818 |
| 1819 | −1.02 | 0.18 | 0.72 | 0.97 | −0.12 | −0.21 | −0.28 | −0.34 | −0.32 | 0.82 | 1.11 | 0.82 | 1819 |
| 1820 | 1.89 | −0.11 | −0.97 | 0.37 | 2.03 | 0.68 | 0.48 | .. | .. | .. | −0.65 | 0.29 | 1820 |
| 1821 | 1.92 | −0.76 | 0.49 | 0.50 | 0.85 | −0.74 | −0.30 | −0.21 | 0.51 | −0.74 | −0.72 | 0.69 | 1821 |
| 1822 | −1.28 | −1.11 | −0.53 | .. | 0.68 | 2.97 | 1.48 | 1.46 | 1.88 | 1.51 | 0.06 | 0.18 | 1822 |
| 1823 | 0.52 | 1.78 | −0.80 | 0.28 | 0.99 | 0.30 | −0.36 | 0.35 | −0.34 | −0.76 | −1.63 | −0.53 | 1823 |
| 1824 | −0.91 | 0.42 | −1.04 | −1.01 | 1.25 | −0.25 | −0.70 | 1.86 | 0.13 | 1.51 | 0.64 | 0.51 | 1824 |
| 1825 | −1.04 | −1.02 | −0.17 | 0.12 | 0.30 | −0.45 | −0.10 | 0.46 | 0.55 | −1.00 | −0.05 | 1.67 | 1825 |
| 1826 | −0.88 | 0.56 | −0.29 | −0.59 | −1.08 | −0.74 | 0.39 | 0.52 | 1.35 | 0.46 | −0.87 | −0.24 | 1826 |
| 1827 | 0.07 | 0.83 | 0.82 | −0.51 | 0.18 | −1.30 | 0.80 | 1.33 | −0.73 | 0.50 | −1.76 | −0.04 | 1827 |
| 1828 | −0.16 | 0.20 | 0.23 | 0.29 | 1.99 | 1.28 | 2.48 | 1.10 | 0.74 | −0.34 | 0.06 | −0.37 | 1828 |
| 1829 | 0.79 | −1.90 | 1.12 | 2.49 | −0.09 | −0.47 | 0.16 | −0.12 | 0.41 | −0.38 | −0.35 | −0.16 | 1829 |
| Means. | 8.35 | 8.27 | 9.40 | 11.52 | 14.35 | 17.12 | 19.25 | 19.48 | 17.60 | 14.78 | 11.69 | 9.44 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXI.

### North Italy. — Milan.

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1763 | −1.32 | 1.58 | −0.60 | 0.27 | −2.28 | −0.79 | 0.68 | 1.11 | −1.11 | −1.69 | −0.56 | 1.02 | 1763 |
| 1764 | 1.68 | 1.98 | −0.70 | −0.63 | 1.32 | 0.91 | −0.12 | −1.29 | −1.21 | −1.19 | −0.26 | 1.52 | 1764 |
| 1765 | 3.88 | −0.92 | 0.60 | 0.47 | −1.08 | 0.11 | −2.62 | −1.69 | −0.11 | 0.11 | 0.24 | −0.98 | 1765 |
| 1766 | −3.42 | −1.52 | −0.40 | 0.57 | 0.02 | 1.31 | −1.32 | −0.19 | −1.21 | −0.49 | 2.14 | −0.68 | 1766 |
| 1767 | −4.22 | 0.38 | 0.10 | −0.93 | −1.08 | −1.19 | 0.78 | −0.69 | . . | . . | . . | −0.88 | 1767 |
| 1768 | −0.82 | −1.22 | −1.50 | 0.37 | −0.58 | −2.19 | 0.68 | 0.51 | . . | . . | 0.64 | −0.78 | 1768 |
| 1769 | 1.88 | −0.42 | −0.50 | −1.63 | −0.48 | 1.01 | −0.52 | 1.51 | . . | −2.19 | 1.24 | 0.62 | 1769 |
| 1770 | −0.52 | 0.98 | −0.60 | −0.33 | −0.58 | 0.81 | −0.72 | 0.01 | 1.99 | 0.51 | 1.04 | −0.68 | 1770 |
| 1771 | 1.78 | −0.52 | −0.60 | −1.43 | 1.02 | −0.19 | 0.68 | 1.51 | 0.49 | −0.69 | −1.06 | 2.32 | 1771 |
| 1772 | 1.58 | 2.48 | 2.50 | 0.57 | −0.58 | 1.61 | 1.38 | 0.41 | 0.29 | 2.01 | 1.94 | 2.02 | 1772 |
| 1773 | 1.58 | −0.42 | −0.80 | −0.03 | −0.48 | . . | −1.72 | −1.29 | 0.69 | 1.61 | 0.34 | 1.82 | 1773 |
| 1774 | 0.48 | 0.08 | 0.70 | 0.77 | −0.28 | 0.51 | −0.12 | 1.31 | −0.31 | −1.09 | −0.96 | −2.68 | 1774 |
| 1775 | 0.38 | 2.08 | 1.60 | 0.47 | −0.58 | 0.71 | 0.78 | −0.09 | −0.31 | −1.79 | −0.16 | −0.88 | 1775 |
| 1776 | −0.32 | −0.02 | 1.30 | 0.97 | −1.28 | 0.11 | 0.48 | 0.41 | −0.71 | 0.11 | −0.36 | −1.18 | 1776 |
| 1777 | −1.52 | −1.42 | 1.30 | −0.23 | −1.08 | −0.79 | −1.22 | 0.51 | 0.19 | 0.41 | 1.24 | −1.98 | 1777 |
| 1778 | 0.38 | 0.08 | −1.90 | 1.47 | 0.62 | −0.29 | 0.98 | 0.81 | −0.81 | −0.09 | 0.64 | 1.72 | 1778 |
| 1779 | −3.52 | 1.98 | 0.00 | 1.07 | 1.72 | −1.39 | 0.18 | −0.19 | 1.59 | 1.81 | −0.16 | 1.82 | 1779 |
| 1780 | −0.62 | −1.92 | 2.70 | −0.43 | 1.72 | 1.51 | 0.78 | 0.11 | −0.51 | 1.81 | −0.16 | −1.08 | 1780 |
| 1781 | −0.12 | 0.38 | 1.90 | 1.47 | 0.22 | 0.01 | 1.78 | 0.41 | 0.39 | −0.89 | 0.04 | 1.42 | 1781 |
| 1782 | 2.18 | −2.42 | −0.70 | −1.03 | −1.08 | 1.21 | 2.08 | 0.91 | −0.31 | −1.79 | −2.46 | −0.58 | 1782 |
| 1783 | 0.98 | 1.18 | −0.60 | 0.97 | 0.42 | −0.99 | 1.08 | −0.29 | −0.31 | 1.51 | 0.24 | −1.88 | 1783 |
| 1784 | 0.48 | −2.02 | 0.50 | −2.03 | 2.62 | 2.11 | 1.38 | 0.61 | 1.49 | −1.49 | −0.46 | −1.18 | 1784 |
| 1785 | 0.58 | −1.12 | −3.80 | −1.23 | 0.72 | 1.21 | 0.68 | 0.61 | 2.69 | 0.41 | 0.74 | 2.02 | 1785 |
| 1786 | 0.18 | 0.68 | −0.90 | 0.87 | 0.72 | 0.81 | −0.52 | −0.89 | 1.09 | −1.89 | −0.36 | −0.48 | 1786 |
| 1787 | −0.32 | 0.08 | 0.90 | −0.03 | −1.98 | 1.71 | −0.02 | 1.61 | 0.09 | 0.81 | 0.84 | 1.72 | 1787 |
| 1788 | 2.78 | 1.08 | 2.30 | 1.37 | −0.18 | 1.51 | 2.78 | −0.39 | 0.99 | 0.21 | −0.86 | −2.88 | 1788 |
| 1789 | −1.72 | 0.98 | −1.70 | 1.37 | 2.22 | −0.79 | 0.28 | 0.11 | 0.29 | 0.31 | −1.26 | −2.38 | 1789 |
| 1790 | −0.12 | 1.48 | −0.20 | −1.73 | 1.62 | 0.71 | −0.72 | 1.21 | 0.19 | 2.21 | 1.24 | 0.02 | 1790 |
| 1791 | 2.48 | 1.08 | 1.20 | 1.87 | −0.18 | −0.49 | 0.58 | 1.51 | 0.09 | −0.29 | −0.46 | 1.92 | 1791 |
| 1792 | 0.98 | −0.12 | 1.30 | 1.87 | −0.18 | 0.21 | 0.08 | 0.11 | −0.41 | 0.71 | 0.54 | −0.08 | 1792 |
| 1793 | −1.22 | −0.02 | 0.40 | −1.43 | −0.38 | 0.01 | 1.78 | −0.29 | 2.49 | 1.31 | 1.44 | 2.22 | 1793 |
| 1794 | 2.28 | 3.08 | 2.00 | 2.37 | −0.08 | 0.81 | 1.78 | 0.21 | −1.11 | −0.49 | 1.84 | −0.38 | 1794 |
| 1795 | −3.72 | −3.12 | −0.20 | 1.37 | 1.52 | −0.79 | −1.42 | 0.91 | 0.49 | 1.71 | −0.16 | 1.52 | 1795 |
| 1796 | 2.48 | 1.18 | −1.70 | −0.13 | −0.28 | −0.29 | −0.12 | 0.71 | 1.39 | 0.41 | 1.24 | −1.38 | 1796 |
| 1797 | 0.78 | 0.18 | −1.40 | 0.67 | 1.22 | −1.59 | 1.18 | 2.51 | 1.09 | −0.59 | 0.94 | 1.32 | 1797 |
| 1798 | 1.78 | 2.08 | 0.20 | 0.27 | 0.72 | −0.09 | 0.48 | 0.51 | 0.29 | −0.39 | −0.86 | −2.08 | 1798 |
| 1799 | −3.22 | 0.88 | 0.60 | −1.23 | −0.98 | −1.49 | −0.62 | 0.41 | 1.39 | 0.51 | −0.96 | −1.18 | 1799 |
| 1800 | 1.78 | 4.58 | −1.10 | 2.67 | 1.32 | −1.59 | 0.38 | −0.09 | 0.49 | 0.01 | 1.24 | −0.08 | 1800 |
| 1801 | 1.38 | 1.08 | 1.50 | 0.77 | 0.32 | −0.39 | −0.62 | −0.79 | 0.49 | 0.61 | 0.04 | 0.02 | 1801 |
| 1802 | 0.18 | 1.18 | 0.70 | 0.87 | −0.08 | 1.71 | 0.28 | 2.21 | 1.09 | 2.81 | 1.04 | 1.52 | 1802 |
| 1803 | 2.38 | −3.82 | 0.30 | 1.47 | −0.88 | 1.11 | 0.78 | 1.11 | −0.91 | −0.49 | 0.54 | 0.22 | 1803 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXI.

### North Italy. — Milan (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1804 | 3.98 | −1.32 | −0.60 | −0.03 | 1.32 | 2.11 | . . | −0.39 | 0.49 | 0.71 | −0.36 | −0.18 | 1804 |
| 1805 | −0.12 | −0.02 | −0.10 | −2.03 | −0.78 | 0.21 | −0.42 | −0.29 | 0.79 | −1.19 | −2.36 | −1.58 | 1805 |
| 1806 | 0.18 | 1.68 | 0.10 | −1.53 | 0.32 | 1.01 | −0.52 | −1.19 | −0.41 | −0.19 | 1.34 | 1.92 | 1806 |
| 1807 | 0.58 | 0.28 | −2.40 | −1.33 | 1.32 | 0.21 | 1.18 | 1.71 | 0.19 | 1.71 | 1.34 | −0.08 | 1807 |
| 1808 | −1.02 | −1.62 | −3.80 | −1.23 | 1.62 | −0.49 | 1.98 | −0.69 | 0.39 | −2.39 | 0.24 | −2.08 | 1808 |
| 1809 | 0.48 | 1.98 | −1.40 | −2.63 | 1.02 | 0.51 | −0.52 | 0.21 | −0.51 | −0.19 | −0.96 | 0.22 | 1809 |
| 1810 | 0.08 | −0.72 | 1.90 | −0.23 | 0.22 | −1.49 | −2.12 | −0.79 | 0.59 | 1.11 | 0.34 | 1.82 | 1810 |
| 1811 | −0.72 | 1.48 | 1.70 | 1.47 | 1.82 | −0.29 | 1.18 | −0.49 | 0.39 | 2.21 | 2.24 | −0.38 | 1811 |
| 1812 | −3.32 | −0.32 | −0.40 | −1.73 | 0.92 | 1.01 | −0.82 | −0.59 | −1.41 | 0.11 | −2.96 | −2.38 | 1812 |
| 1813 | −0.12 | 1.08 | 0.50 | 1.07 | 1.52 | −0.99 | −2.12 | −1.09 | −1.11 | 0.21 | −0.56 | 1.32 | 1813 |
| 1814 | −0.12 | −4.42 | −1.40 | 0.77 | −1.98 | −1.09 | −0.12 | −1.09 | −1.91 | −0.69 | 1.04 | 1.82 | 1814 |
| 1815 | −2.02 | −0.32 | 1.90 | 0.77 | 1.22 | −0.49 | −1.22 | −1.39 | 0.29 | 0.81 | −1.26 | −1.78 | 1815 |
| 1816 | −0.52 | −2.92 | −1.20 | −0.93 | −0.58 | −1.49 | −2.22 | −3.69 | −0.51 | 0.41 | −1.46 | −1.88 | 1816 |
| 1817 | −2.52 | 2.08 | 0.30 | −2.83 | −1.28 | 0.21 | −3.52 | −0.59 | 0.89 | −1.89 | 0.44 | −0.18 | 1817 |
| 1818 | 0.48 | 3.34 | 0.70 | 0.37 | −3.80 | 0.26 | 0.53 | −0.79 | −0.23 | 0.48 | 1.13 | −0.39 | 1818 |
| 1819 | 0.00 | 0.73 | 1.48 | 1.35 | −0.02 | −0.53 | 0.32 | −0.50 | 0.48 | 0.46 | 0.93 | 0.30 | 1819 |
| 1820 | −0.79 | 0.58 | −0.56 | 1.60 | 1.03 | −0.48 | −0.48 | 1.76 | −0.09 | −0.30 | −0.72 | −0.03 | 1820 |
| 1821 | 0.80 | −0.18 | −0.52 | 0.59 | 0.10 | −2.20 | −1.46 | 0.43 | 1.01 | −0.29 | 0.78 | 0.35 | 1821 |
| 1822 | 1.81 | 1.28 | 2.10 | 0.99 | 1.05 | 3.31 | 0.53 | 0.26 | 0.78 | 0.66 | 1.38 | −0.48 | 1822 |
| 1823 | −1.92 | −0.25 | −0.37 | −0.55 | 0.93 | −0.78 | −0.60 | 0.53 | 1.18 | 0.11 | −1.37 | 0.01 | 1823 |
| 1824 | 1.01 | 1.49 | −0.40 | −0.85 | −0.16 | −1.57 | 1.33 | 0.90 | 0.71 | 0.23 | 1.25 | 2.07 | 1824 |
| 1825 | 1.39 | 0.62 | −2.38 | 1.21 | −0.17 | 0.32 | 0.05 | 0.53 | 0.86 | −0.81 | 0.82 | 3.92 | 1825 |
| 1826 | −2.18 | 0.44 | 0.76 | −0.72 | −1.23 | −0.09 | 0.18 | 1.55 | 0.71 | 1.48 | −0.56 | 1.16 | 1826 |
| 1827 | 0.36 | −1.72 | 1.12 | 0.73 | 0.46 | −1.26 | 1.20 | −0.60 | −1.06 | 1.37 | −1.46 | 0.25 | 1827 |
| 1828 | 1.38 | −0.36 | 1.49 | 0.64 | 0.45 | 1.27 | 1.38 | 0.19 | 0.47 | 0.38 | −0.81 | 0.60 | 1828 |
| 1829 | −0.04 | −2.79 | 0.05 | 0.05 | −0.03 | 0.23 | 0.22 | −1.15 | −0.89 | −0.40 | −1.68 | −1.90 | 1829 |
| 1830 | −3.72 | −3.45 | 1.66 | 2.66 | 0.66 | −0.33 | 1.71 | 1.02 | −0.79 | −0.81 | 0.99 | 0.60 | 1830 |
| 1831 | 0.38 | −0.51 | 0.73 | 0.19 | −1.12 | −0.56 | 0.12 | −1.05 | −1.08 | 1.77 | 0.24 | 1.34 | 1831 |
| 1832 | 0.41 | 0.52 | −0.21 | −0.68 | −2.07 | −1.27 | 0.03 | 0.49 | −1.15 | −0.47 | −0.41 | −1.71 | 1832 |
| 1833 | −0.47 | 1.18 | −0.59 | −1.23 | 2.00 | 0.37 | −2.28 | −2.77 | −3.20 | −1.36 | 0.14 | 1.37 | 1833 |
| 1834 | 0.17 | −0.80 | −0.19 | −1.97 | 0.53 | −0.31 | −0.23 | −1.16 | 0.41 | −0.79 | −0.23 | −0.94 | 1834 |
| 1835 | 1.03 | 0.76 | −0.44 | −0.88 | −1.01 | −1.47 | −2.59 | −2.35 | −2.01 | −2.24 | −3.27 | −2.69 | 1835 |
| 1836 | −2.51 | −2.08 | −0.05 | −1.07 | −3.41 | −0.49 | −0.97 | −1.09 | −2.48 | −0.65 | −2.16 | −0.02 | 1836 |
| 1837 | −0.83 | −4.75 | −3.12 | −2.41 | −3.58 | 0.64 | −1.29 | 0.37 | −2.40 | −1.93 | −1.76 | −0.36 | 1837 |
| 1838 | −2.16 | −2.39 | −0.72 | −2.74 | −0.98 | −0.75 | −0.78 | −1.55 | −1.58 | −1.74 | 0.08 | −0.80 | 1838 |
| Means. | 0.52 | 2.82 | 6.40 | 10.03 | 14.08 | 17.09 | 18.92 | 18.39 | 15.31 | 10.79 | 5.76 | 2.08 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXII.

### Switzerland. — Geneva.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1768 | −0.86 | −0.01 | −2.38 | −0.14 | −0.61 | −1.71 | −0.92 | −1.25 | −1.42 | 0.99 | 0.77 | 0.08 | 1768 |
| 1769 | 0.92 | 0.16 | −1.05 | 0.13 | −0.71 | −1.57 | −1.11 | −1.43 | −0.89 | −3.00 | 1.62 | 0.61 | 1769 |
| 1770 | −1.25 | −1.30 | −1.72 | −2.40 | −1.20 | −1.34 | −2.97 | −1.24 | 0.49 | −0.81 | 0.35 | 0.42 | 1770 |
| 1771 | 0.53 | −0.67 | 0.17 | −2.68 | 0.34 | −1.84 | 0.07 | −1.45 | −0.57 | −0.17 | −1.80 | 1.66 | 1771 |
| 1772 | 0.61 | 2.57 | 1.76 | −0.41 | −2.23 | 0.35 | −0.72 | −0.47 | 0.52 | 1.34 | 1.29 | 1.16 | 1772 |
| 1773 | 1.47 | −1.84 | −1.18 | −1.16 | −1.64 | −0.87 | −2.03 | −1.70 | −0.12 | −0.35 | −0.12 | 1.01 | 1773 |
| 1774 | 1.22 | 0.91 | 2.38 | 0.73 | −0.94 | −0.47 | −1.27 | 0.42 | −1.08 | −1.45 | −1.18 | −2.03 | 1774 |
| 1775 | 0.89 | 1.89 | 0.99 | −1.60 | −1.90 | 0.54 | −0.84 | −0.82 | −0.02 | −0.24 | 0.33 | −0.68 | 1775 |
| 1776 | −1.78 | 1.92 | 1.85 | 0.18 | −1.96 | 0.09 | 0.20 | 0.28 | −1.50 | 0.26 | −0.26 | −0.09 | 1776 |
| 1777 | −0.41 | −0.76 | 2.46 | −1.23 | −1.51 | −0.38 | −1.12 | 0.45 | −0.41 | 1.27 | 0.21 | −1.72 | 1777 |
| 1778 | 0.03 | −0.93 | 0.86 | 0.78 | −0.09 | −0.76 | 1.59 | 0.68 | −1.85 | 0.32 | 0.76 | 1.85 | 1778 |
| 1779 | −3.43 | −0.28 | −0.14 | 1.70 | 0.97 | −1.22 | −0.61 | −0.45 | 0.48 | 1.77 | 0.57 | 2.70 | 1779 |
| 1780 | −1.48 | −1.63 | 2.35 | −0.86 | 0.97 | 1.14 | 0.95 | 1.16 | 0.14 | 0.51 | −1.02 | −1.25 | 1780 |
| 1781 | 0.96 | 1.09 | 0.37 | 2.15 | 1.78 | 0.28 | −1.17 | 0.30 | 0.76 | −0.47 | 1.69 | 2.97 | 1781 |
| 1782 | 2.22 | −3.74 | −0.53 | −0.95 | −1.76 | 0.18 | −1.10 | −0.72 | −0.97 | −1.06 | −1.83 | −2.04 | 1782 |
| 1783 | 2.01 | 1.68 | −0.27 | −0.71 | −0.06 | −1.13 | 1.75 | −0.94 | 0.17 | 0.93 | 0.81 | 1.03 | 1783 |
| 1784 | −1.06 | −2.03 | −0.43 | −2.51 | 1.73 | 1.69 | 0.84 | −1.62 | 1.40 | −1.87 | −0.76 | −3.38 | 1784 |
| 1785 | 0.58 | −3.26 | −6.75 | −5.48 | −0.19 | 0.30 | −0.33 | −1.75 | 0.94 | −0.40 | 0.11 | 0.42 | 1785 |
| 1786 | 0.41 | 0.08 | −1.62 | 0.69 | −0.25 | 1.92 | −0.99 | −1.22 | −0.59 | −1.71 | −0.69 | 0.19 | 1786 |
| 1787 | −1.99 | −1.15 | 1.76 | −0.30 | −1.98 | 0.79 | −0.70 | 0.21 | −0.27 | 0.41 | 0.72 | 2.83 | 1787 |
| 1788 | 1.01 | 2.06 | 2.19 | 1.04 | 1.13 | 1.04 | 1.61 | −0.45 | 0.71 | −0.83 | −2.15 | −4.48 | 1788 |
| 1789 | −1.17 | 1.12 | −1.97 | 1.19 | 1.71 | −1.25 | −0.80 | −0.19 | −0.57 | −0.59 | −1.59 | −0.17 | 1789 |
| 1790 | 0.36 | 0.75 | 0.99 | −0.73 | 1.52 | 0.94 | −1.10 | 0.63 | −0.84 | 1.95 | 1.13 | 0.78 | 1790 |
| 1791 | 2.40 | 0.04 | −0.02 | 2.86 | 0.61 | 1.04 | 0.98 | 2.30 | 0.98 | 0.72 | −1.37 | 1.30 | 1791 |
| 1792 | 1.22 | −0.28 | 2.11 | 1.81 | −0.12 | 1.14 | 1.03 | 0.83 | −0.09 | 1.37 | 0.86 | 0.45 | 1792 |
| 1793 | −0.52 | 1.05 | 1.77 | 0.08 | −0.05 | 0.20 | 3.12 | 2.49 | −0.12 | 1.24 | 0.61 | 1.19 | 1793 |
| 1794 | 0.14 | 2.21 | 1.91 | 3.26 | 0.76 | 1.10 | 2.11 | 0.39 | −0.74 | −0.28 | 0.86 | −1.75 | 1794 |
| 1795 | −4.85 | 0.37 | 0.26 | 1.76 | 1.32 | 1.34 | −0.73 | 1.34 | 1.54 | 1.92 | −0.96 | 1.11 | 1795 |
| 1796 | 1.25 | 0.72 | −2.15 | −0.06 | 0.60 | 0.60 | 0.37 | 0.80 | 1.61 | 0.41 | −0.14 | −1.92 | 1796 |
| 1797 | 0.11 | −1.41 | −1.08 | 1.49 | 2.14 | −1.28 | 2.21 | 1.28 | 0.71 | −0.08 | 0.71 | 1.61 | 1797 |
| 1798 | 0.53 | −1.17 | −1.02 | 0.83 | 1.00 | 1.29 | 0.45 | 0.81 | 0.48 | −0.29 | 0.44 | −0.96 | 1798 |
| 1799 | −1.57 | 1.71 | −0.16 | −1.73 | −1.70 | −1.16 | −0.13 | 0.67 | 0.21 | −0.40 | −0.54 | −2.59 | 1799 |
| 1800 | 1.64 | 0.06 | −1.66 | 2.43 | 2.40 | −0.83 | 1.48 | 0.82 | 0.96 | −1.55 | 0.63 | −0.27 | 1800 |
| Means. | −0.43 | 0.75 | 3.08 | 7.19 | 11.21 | 14.03 | 15.44 | 14.85 | 11.49 | 7.32 | 3.34 | 0.57 | Means. |
| 1796 | 2.27 | 0.07 | −2.14 | −0.25 | −0.91 | −0.64 | −1.10 | 0.16 | 0.70 | 0.08 | −0.68 | −1.70 | 1796 |
| 1797 | 0.45 | −0.85 | −0.66 | 0.97 | 0.67 | −2.03 | 1.27 | 0.71 | −0.48 | −0.26 | 0.47 | 1.58 | 1797 |
| 1798 | 0.68 | −0.25 | −0.40 | 0.96 | −0.22 | 0.32 | −0.64 | −0.14 | 0.12 | −0.08 | −0.76 | −1.36 | 1798 |
| 1799 | −1.44 | 1.93 | −0.26 | −1.60 | −1.50 | −0.49 | −0.46 | 0.33 | 0.19 | −0.26 | −1.24 | −3.30 | 1799 |
| 1800 | 2.06 | 0.03 | −1.53 | 2.88 | 1.66 | −0.97 | 1.62 | 0.70 | 0.41 | −1.16 | 0.67 | −0.32 | 1800 |
| 1801 | 1.81 | 0.13 | 1.43 | 0.74 | 0.43 | −0.26 | 0.42 | 0.15 | 0.90 | 0.84 | 0.67 | 0.95 | 1801 |
| 1802 | −3.98 | −0.38 | 0.94 | 1.18 | 0.53 | 1.66 | −0.12 | 2.68 | 1.72 | 2.51 | 0.63 | 0.58 | 1802 |
| 1803 | −0.26 | −2.58 | 0.24 | 2.05 | −1.42 | 0.89 | 2.20 | 2.25 | −0.79 | −0.57 | 1.04 | 1.88 | 1803 |
| 1804 | 4.58 | −1.58 | −0.19 | 0.30 | 1.50 | 2.02 | 0.04 | 0.47 | 0.59 | 0.22 | 1.36 | −0.59 | 1804 |

The numbers without sign must be subtracted; those with the sign — must be added

## LXXXII.

### Switzerland. — Geneva (*continued*).

**For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.**

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1805 | −0.41 | −0.23 | −0.41 | −1.35 | −1.22 | −0.49 | −0.41 | −0.73 | 0.18 | −1.45 | −2.19 | −1.64 | 1805 |
| 1806 | 3.23 | 1.83 | 0.12 | −1.80 | 1.33 | 1.66 | 0.08 | −0.39 | 0.11 | 1.10 | 1.34 | 2.42 | 1806 |
| 1807 | −1.10 | 0.24 | −2.65 | −1.47 | 1.42 | 0.43 | 2.66 | 3.03 | −0.58 | 1.42 | 0.39 | −2.48 | 1807 |
| 1808 | −0.49 | −3.14 | −2.58 | −1.87 | 1.14 | −1.33 | 0.70 | 0.59 | −0.14 | −2.40 | −0.28 | −2.99 | 1808 |
| 1809 | 2.23 | 1.95 | 0.19 | −3.68 | −0.06 | 0.12 | −0.43 | −0.32 | −1.00 | −1.05 | −1.76 | 0.70 | 1809 |
| 1810 | −3.14 | −3.34 | 3.08 | −0.28 | 0.29 | −0.45 | −1.01 | −0.70 | 1.37 | 1.26 | 1.05 | 1.19 | 1810 |
| 1811 | −2.22 | 1.98 | 1.46 | 1.34 | 1.23 | 1.82 | 1.53 | −0.14 | 0.70 | 2.21 | 0.71 | −0.85 | 1811 |
| 1812 | −3.92 | 1.40 | −0.02 | −1.54 | 0.27 | 0.02 | −0.37 | −0.69 | −0.43 | 0.13 | −1.80 | −2.74 | 1812 |
| 1813 | −1.74 | 1.51 | −0.69 | 0.53 | 0.54 | −0.84 | −2.10 | −1.02 | −1.14 | 0.78 | −0.49 | 0.32 | 1813 |
| 1814 | −1.32 | −3.92 | −1.44 | 0.96 | −1.74 | −0.26 | 0.37 | −0.66 | −1.74 | −0.87 | 0.95 | 2.34 | 1814 |
| 1815 | −2.24 | 1.43 | 2.17 | 1.06 | 0.82 | 0.08 | 0.20 | −0.59 | 0.54 | 1.43 | −1.57 | −0.39 | 1815 |
| 1816 | −0.13 | −1.33 | 2.54 | −0.48 | −0.54 | −1.41 | −2.40 | −2.14 | −0.47 | 0.59 | −1.05 | −0.02 | 1816 |
| 1817 | 2.50 | 2.38 | 0.29 | −2.11 | −1.34 | 1.35 | −0.25 | −0.71 | 2.16 | −1.58 | 0.85 | −0.45 | 1817 |
| 1818 | 0.54 | 0.69 | 0.13 | −0.08 | −1.26 | 0.66 | 1.41 | −0.41 | −0.89 | −0.29 | 1.60 | −0.26 | 1818 |
| 1819 | 1.86 | 0.98 | 0.82 | 1.00 | −0.21 | −0.19 | 0.07 | −0.34 | 0.42 | 0.07 | −0.40 | 0.95 | 1819 |
| 1820 | 0.10 | 0.54 | −1.24 | 2.07 | 0.39 | −0.59 | −0.65 | 0.84 | −1.93 | −0.31 | −2.16 | 0.02 | 1820 |
| 1821 | 1.98 | −1.31 | 0.94 | 0.71 | −1.19 | −1.54 | −1.17 | 0.62 | 0.26 | 0.27 | 2.34 | 3.36 | 1821 |
| 1822 | 0.20 | 1.27 | 3.06 | 0.47 | 1.32 | 3.85 | 0.27 | −0.85 | −0.07 | 0.69 | 1.60 | −2.32 | 1822 |
| 1823 | −1.17 | 1.46 | −0.29 | −0.42 | 0.17 | −1.62 | −1.54 | −1.04 | −0.42 | −2.10 | −1.97 | 1.04 | 1823 |
| 1824 | −0.78 | −0.30 | −1.84 | −2.05 | −1.50 | −2.05 | 0.17 | −1.49 | −1.23 | −1.58 | 0.03 | 1.30 | 1824 |
| 1825 | −0.07 | −0.55 | −1.09 | 1.69 | −0.63 | 0.26 | −0.40 | −0.11 | 0.88 | 0.30 | 0.54 | 2.76 | 1825 |
| Means. | −0.42 | 1.87 | 4.70 | 8.79 | 13.45 | 15.81 | 17.67 | 17.66 | 14.70 | 9.73 | 5.23 | 1.27 | Means. |
| 1826 | −3.23 | 1.12 | 1.47 | 0.34 | −1.04 | −0.06 | 0.90 | 2.57 | 1.22 | 0.95 | −1.19 | 0.03 | 1826 |
| 1827 | 1.49 | −2.15 | 1.02 | 1.29 | 0.90 | −0.07 | 1.95 | 0.66 | 0.24 | 0.99 | −2.02 | 2.56 | 1827 |
| 1828 | 2.82 | 1.06 | 0.70 | 0.81 | 1.22 | 0.89 | 0.59 | −0.80 | 0.86 | 0.96 | 0.62 | 0.94 | 1828 |
| 1829 | −0.85 | −0.63 | 0.10 | 0.25 | −0.06 | −0.83 | 0.15 | −0.89 | −0.71 | −1.52 | −1.28 | −3.87 | 1829 |
| 1830 | −4.14 | −1.74 | 1.20 | 2.70 | 0.57 | −0.49 | 0.53 | −0.01 | −0.94 | −0.86 | 0.46 | −0.90 | 1830 |
| 1831 | −1.10 | 0.46 | 1.67 | 1.54 | 0.53 | −0.11 | −0.02 | −0.02 | −0.29 | 2.16 | 0.58 | 0.90 | 1831 |
| 1832 | 0.10 | 0.36 | −0.25 | 0.45 | −0.40 | −0.83 | 0.81 | 2.29 | −0.39 | 0.07 | −0.02 | 0.62 | 1832 |
| 1833 | −0.06 | 3.36 | −0.50 | −0.68 | 2.67 | 1.23 | −1.29 | −1.17 | −0.17 | 0.59 | 0.39 | 3.28 | 1833 |
| 1834 | 5.06 | 1.47 | 0.35 | −0.70 | 2.28 | 1.53 | 1.94 | 1.07 | 2.74 | 0.68 | 0.71 | −1.18 | 1834 |
| 1835 | 1.15 | 1.40 | −0.44 | −0.06 | 0.56 | 0.15 | 1.69 | 0.40 | 0.22 | −1.34 | −2.27 | −2.66 | 1835 |
| 1836 | 0.48 | −0.04 | 1.82 | −0.95 | −2.14 | 0.17 | 0.57 | 0.28 | −0.62 | 0.14 | −0.02 | 0.50 | 1836 |
| 1837 | 0.37 | 0.52 | −2.94 | −1.89 | −2.18 | 1.21 | −0.58 | 1.41 | −1.16 | −0.39 | −1.06 | −0.46 | 1837 |
| 1838 | −3.64 | −0.91 | 0.25 | −1.75 | −0.11 | −0.71 | −0.56 | −1.23 | −0.58 | −0.61 | 1.18 | −0.57 | 1838 |
| 1839 | 0.55 | −0.07 | −0.42 | −1.55 | −0.97 | 1.14 | 0.24 | −1.73 | −0.58 | 1.11 | 1.43 | 2.81 | 1839 |
| 1840 | 2.60 | 0.02 | −3.22 | 0.71 | −0.10 | −0.37 | −2.32 | −0.01 | −0.56 | −1.74 | 1.43 | −3.14 | 1840 |
| 1841 | 0.45 | −0.25 | 0.77 | −0.69 | 1.82 | −1.71 | −1.98 | −1.37 | 0.09 | 0.90 | 0.26 | 0.89 | 1841 |
| 1842 | −5.18 | −2.84 | 0.56 | −0.58 | 0.02 | 1.00 | −0.19 | 0.78 | −1.08 | −2.18 | −1.03 | −0.71 | 1842 |
| 1843 | 1.50 | 2.22 | −0.34 | 0.27 | −1.60 | −2.56 | −2.35 | −0.73 | 0.60 | −0.24 | 0.25 | −0.83 | 1843 |
| 1844 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1844 |
| 1845 | 1.70 | −3.33 | −1.77 | 0.49 | −1.98 | 0.47 | 0.06 | −1.53 | 1.10 | 0.40 | 1.54 | 1.74 | 1845 |
| Means. | −0.72 | 0.98 | 4.16 | 7.03 | 10.77 | 13.61 | 14.96 | 14.58 | 11.84 | 7.98 | 3.98 | 1.30 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added

## LXXXIII.

### South Germany. — Vienna.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1775 | −1.43 | 1.86 | 1.21 | −2.35 | −2.77 | 1.32 | −0.41 | 1.29 | 0.84 | 0.26 | 0.29 | −1.09 | 1775 |
| 1776 | −4.30 | 0.57 | 0.70 | −1.11 | −2.30 | −0.42 | −0.24 | 0.25 | −1.42 | −1.53 | −1.32 | −2.19 | 1776 |
| 1777 | −1.79 | −1.24 | 0.32 | −2.93 | −0.22 | −0.10 | −1.17 | 0.57 | −1.38 | −0.53 | 0.35 | −1.00 | 1777 |
| 1778 | 1.92 | −1.04 | 0.18 | 1.89 | 0.04 | −0.43 | 1.18 | 0.95 | −0.89 | −0.54 | 0.87 | 3.61 | 1778 |
| 1779 | −1.75 | 3.15 | 2.27 | 3.05 | 1.24 | −1.32 | −1.35 | −0.07 | 0.65 | 1.00 | 0.43 | 3.01 | 1779 |
| 1780 | −1.68 | 3.04 | 2.73 | −1.38 | −0.18 | −0.92 | −0.70 | −0.48 | −1.08 | 0.51 | 0.19 | −1.99 | 1780 |
| 1781 | −0.87 | 0.05 | 0.77 | 0.86 | 0.25 | 1.44 | −0.06 | 2.31 | 1.40 | −0.45 | 1.84 | 0.34 | 1781 |
| 1782 | 2.72 | −2.63 | 0.60 | −0.06 | 0.54 | 1.82 | 2.74 | 0.85 | 0.86 | −0.76 | −1.50 | 0.62 | 1782 |
| 1783 | 3.59 | 4.12 | −0.08 | 0.65 | 1.81 | 1.94 | 1.66 | 1.81 | 2.12 | 1.59 | 0.58 | −2.56 | 1783 |
| 1784 | −3.51 | −1.87 | −0.42 | −1.36 | 1.69 | 0.86 | 0.47 | 0.49 | 1.98 | −2.56 | 0.70 | 0.03 | 1784 |
| 1785 | −0.73 | −0.93 | −5.63 | −3.04 | −0.67 | −1.47 | −0.83 | −0.86 | 2.11 | −0.55 | 0.41 | 0.17 | 1785 |
| 1786 | 0.52 | 0.16 | −0.04 | 1.84 | −1.12 | 0.25 | −1.54 | −1.85 | −0.92 | −2.11 | −2.12 | 0.60 | 1786 |
| 1787 | −0.39 | 1.47 | 0.65 | −1.46 | −2.11 | 1.11 | −0.40 | 0.35 | −0.78 | 1.10 | 0.93 | 2.82 | 1787 |
| 1788 | 2.22 | 0.17 | 0.81 | 0.05 | −0.36 | 1.18 | 2.28 | −1.72 | 1.00 | −0.29 | −1.39 | −6.79 | 1788 |
| 1789 | −0.49 | 2.00 | −2.43 | 1.19 | 2.15 | −0.49 | 0.40 | −0.60 | 0.37 | 0.77 | 0.73 | 0.21 | 1789 |
| 1790 | 0.86 | 2.87 | 0.31 | −1.11 | 1.20 | 1.56 | −1.10 | 0.31 | −0.83 | −0.76 | −0.43 | 2.09 | 1790 |
| 1791 | 4.29 | 1.01 | 1.63 | 1.33 | −0.44 | −0.33 | −0.37 | 0.67 | −0.84 | −0.40 | −0.46 | 0.89 | 1791 |
| 1792 | 0.56 | −1.24 | 0.47 | 0.38 | −0.96 | 0.62 | 0.38 | 0.26 | −0.93 | −1.11 | −0.24 | 0.56 | 1792 |
| 1793 | −1.55 | 1.27 | −1.00 | −2.40 | −1.23 | −1.08 | 1.81 | 1.86 | −0.07 | 1.13 | 0.64 | 1.99 | 1793 |
| 1794 | 2.24 | 2.99 | 1.95 | 3.74 | 1.35 | 1.55 | 2.92 | −0.75 | −1.38 | −0.19 | 0.33 | −0.95 | 1794 |
| 1795 | −4.94 | −1.29 | 0.23 | 1.81 | −0.05 | 1.44 | −1.95 | 0.31 | −0.17 | 2.75 | −1.00 | 2.28 | 1795 |
| 1796 | 5.23 | 1.32 | −2.73 | −1.52 | 0.48 | −0.04 | 0.14 | 0.58 | 1.96 | 0.84 | −0.14 | −1.48 | 1796 |
| 1797 | 1.58 | 1.02 | −0.71 | 2.10 | 2.94 | 0.68 | 1.95 | 2.17 | 2.01 | 1.23 | 0.54 | 1.11 | 1797 |
| 1798 | 1.96 | 2.83 | 1.40 | 0.65 | 0.26 | 0.84 | 0.14 | 1.29 | 1.62 | −0.47 | −0.68 | −3.68 | 1798 |
| 1799 | −5.34 | −2.08 | −0.83 | −0.43 | −0.45 | −1.16 | −0.58 | 1.00 | −0.50 | 0.45 | 0.58 | −2.94 | 1799 |
| 1800 | 0.74 | −0.19 | −3.31 | 5.57 | 1.90 | −1.45 | −0.44 | 1.49 | 0.27 | −0.40 | 1.57 | 0.10 | 1800 |
| 1801 | 1.85 | −0.21 | 2.47 | 0.80 | 1.83 | −0.85 | −1.18 | −1.32 | 1.37 | 1.94 | 1.71 | 0.99 | 1801 |
| 1802 | −0.43 | −1.34 | 0.89 | 0.73 | −1.14 | 1.33 | 1.02 | 1.65 | 0.38 | 2.10 | 1.84 | 1.40 | 1802 |
| 1803 | −2.68 | −3.46 | −0.50 | 2.49 | −1.59 | −0.75 | 0.23 | 0.08 | −2.12 | −0.45 | 1.24 | 0.27 | 1803 |
| 1804 | 3.42 | −0.59 | −2.44 | 0.05 | 0.29 | −0.10 | 0.25 | −0.51 | 0.80 | 0.48 | −2.47 | −2.40 | 1804 |
| 1805 | −0.48 | −1.18 | −1.28 | −2.16 | −1.85 | −0.79 | −1.26 | −1.61 | −0.04 | −2.89 | −2.19 | 0.24 | 1805 |
| 1806 | 4.04 | 2.12 | 1.07 | −2.07 | 1.84 | −0.02 | −0.16 | −0.62 | 0.56 | −0.80 | 1.60 | 3.48 | 1806 |
| 1807 | 1.08 | 1.96 | −1.54 | −1.18 | 1.23 | −0.34 | 1.25 | 4.74 | 0.17 | 1.37 | 1.96 | 0.46 | 1807 |
| 1808 | 1.20 | −0.51 | −4.99 | −1.20 | 1.42 | 0.15 | 1.30 | 1.80 | 1.13 | −0.97 | −0.32 | −3.68 | 1808 |
| 1809 | −0.08 | 1.54 | −1.13 | −2.51 | 0.89 | 0.27 | 0.23 | 0.79 | 0.11 | −1.31 | −0.75 | 1.67 | 1809 |
| 1810 | −0.71 | −0.03 | 2.03 | −0.74 | 0.50 | −1.65 | 0.82 | 0.15 | 2.26 | −0.18 | −0.09 | 2.01 | 1810 |
| 1811 | −3.58 | −0.91 | 2.08 | 0.75 | 3.12 | 4.62 | 2.56 | 0.99 | 0.42 | 3.63 | 1.20 | 0.19 | 1811 |
| 1812 | −2.13 | 0.53 | 0.67 | −2.67 | 0.65 | 0.35 | −0.87 | −0.52 | −1.32 | 2.04 | −0.84 | −3.96 | 1812 |
| 1813 | −1.84 | 2.07 | −0.76 | 1.56 | 0.36 | −1.82 | −1.34 | −1.80 | −1.34 | −0.37 | −0.24 | 0.68 | 1813 |
| 1814 | −0.34 | −4.37 | −0.55 | 1.54 | −2.19 | −1.76 | 0.66 | −0.21 | −2.45 | −0.73 | 0.32 | 2.19 | 1814 |
| 1815 | −1.03 | 2.39 | 2.06 | 0.10 | 0.52 | 0.28 | −1.51 | −1.29 | −1.20 | 0.06 | −1.07 | −2.87 | 1815 |
| 1816 | 1.84 | −0.80 | −0.19 | 0.09 | −0.95 | −0.73 | −1.58 | −1.39 | −0.95 | −0.73 | −0.39 | −1.45 | 1816 |
| 1817 | 3.24 | 3.78 | 0.51 | −4.08 | 0.53 | 2.18 | −0.08 | −0.25 | 0.56 | −2.29 | 1.09 | 0.16 | 1817 |
| 1818 | 2.77 | 0.78 | 1.84 | 2.01 | −0.11 | 0.55 | 0.13 | −0.71 | 0.41 | 0.84 | 0.60 | −1.31 | 1818 |
| 1819 | 1.22 | 2.04 | 1.94 | 1.17 | −0.75 | 1.01 | 0.66 | −0.35 | 0.71 | −0.12 | 0.51 | −1.21 | 1819 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXIII.

### South Germany. — Vienna (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1820 | −2.47 | 0.36 | −0.86 | 1.78 | 1.97 | −1.18 | −0.96 | 2.36 | −0.71 | 0.16 | −0.36 | −1.49 | 1820 |
| 1821 | 2.22 | −1.56 | −0.72 | 1.57 | −0.81 | −3.08 | −1.83 | −0.76 | 0.51 | −0.12 | 1.93 | 2.90 | 1821 |
| 1822 | 2.85 | 1.63 | 3.44 | 1.05 | 1.21 | 1.50 | 1.16 | −0.27 | 0.06 | 2.12 | 0.44 | −0.27 | 1822 |
| 1823 | −4.55 | 0.68 | 0.80 | −0.29 | 0.42 | −0.68 | −1.35 | 0.15 | 0.36 | 1.13 | 0.29 | 1.35 | 1823 |
| 1824 | 1.77 | 2.31 | 0.09 | −0.72 | −0.74 | −0.60 | −0.22 | −0.53 | 1.36 | 0.60 | 1.56 | 4.00 | 1824 |
| 1825 | 3.15 | 0.50 | −1.59 | 1.02 | −0.14 | −0.31 | −0.72 | −0.47 | −0.62 | −1.71 | 1.74 | 3.11 | 1825 |
| 1826 | −3.65 | −2.12 | 0.91 | −0.12 | −2.42 | −0.38 | 1.34 | 2.06 | 0.69 | 0.89 | −0.32 | 1.78 | 1826 |
| 1827 | 0.69 | −2.92 | 1.61 | 1.65 | 1.33 | 1.19 | 1.67 | −1.06 | −0.57 | 0.82 | −3.48 | 0.83 | 1827 |
| 1828 | 0.19 | −2.22 | 0.88 | 1.30 | −0.16 | 0.21 | 0.63 | −1.49 | −0.70 | −0.82 | 0.48 | 1.57 | 1828 |
| 1829 | −1.66 | −3.79 | −1.87 | −0.23 | −2.26 | −2.69 | −0.32 | −2.62 | −0.31 | −2.12 | −3.62 | −6.11 | 1829 |
| 1830 | −5.31 | −3.23 | −0.44 | 0.94 | −0.39 | 0.33 | 0.02 | −0.04 | −1.81 | −1.68 | 0.76 | 1.13 | 1830 |
| 1831 | −1.42 | 0.26 | 0.43 | 2.23 | −0.90 | −1.86 | 0.33 | −1.01 | −1.96 | 2.02 | −0.16 | −0.04 | 1831 |
| 1832 | 0.55 | 0.61 | 0.04 | −0.16 | −1.90 | −1.46 | −1.29 | 0.32 | −0.86 | 0.04 | −1.57 | −1.36 | 1832 |
| 1833 | −3.35 | 2.33 | 0.24 | −1.40 | 2.57 | 1.20 | −2.26 | −2.80 | −1.22 | −0.55 | 0.23 | 4.03 | 1833 |
| 1834 | 4.67 | 0.32 | −0.29 | −1.17 | 2.24 | 1.65 | 2.61 | 1.26 | 2.85 | −0.08 | −0.89 | 1.25 | 1834 |
| 1835 | 1.71 | 1.46 | 0.46 | −1.10 | 0.27 | −0.07 | 0.92 | 0.19 | 0.09 | −0.76 | −3.77 | −1.39 | 1835 |
| 1836 | −0.08 | 0.29 | 3.84 | 0.00 | −2.95 | 0.30 | −0.48 | −0.78 | −0.89 | 0.91 | −1.00 | 2.44 | 1836 |
| 1837 | 0.20 | −2.39 | −1.96 | −1.18 | −2.57 | −1.38 | −2.96 | 0.84 | −2.22 | −0.82 | −0.74 | −0.95 | 1837 |
| 1838 | −5.10 | −4.14 | −0.50 | −2.44 | −0.76 | −0.74 | −1.39 | −2.29 | −0.03 | −1.75 | −0.65 | −0.84 | 1838 |
| 1839 | 1.12 | 0.73 | −2.31 | −3.85 | −2.04 | 1.06 | 0.36 | −2.23 | 0.23 | 1.05 | 1.55 | 0.70 | 1839 |
| 1840 | 1.03 | −0.88 | −3.76 | −0.55 | −1.59 | −1.05 | −1.56 | −1.94 | −0.11 | −2.03 | 2.09 | −7.72 | 1840 |
| 1841 | 0.33 | −3.24 | 0.65 | 0.93 | 2.19 | −1.02 | 0.55 | −1.10 | 0.24 | 2.04 | 0.28 | 2.27 | 1841 |
| Means. | −1.22 | 0.63 | 3.85 | 8.66 | 13.31 | 15.72 | 17.14 | 16.77 | 13.25 | 8.51 | 3.67 | 0.39 | Means. |

## LXXXIV. South Germany. — Ratisbon.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1773 | 3.00 | −0.28 | −0.04 | −0.28 | 0.25 | 0.34 | −1.23 | −0.60 | 0.47 | 1.20 | 1.06 | 2.35 | 1773 |
| 1774 | 1.63 | 0.85 | 2.17 | 1.97 | −0.10 | −0.17 | −1.11 | 0.16 | −1.29 | −0.63 | −2.98 | −2.32 | 1774 |
| 1775 | 0.67 | 2.87 | 1.13 | −2.41 | −3.42 | −0.51 | −1.91 | . . | −0.73 | −2.19 | −0.14 | −0.64 | 1775 |
| 1776 | −3.04 | 1.19 | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | 1776 |
| 1777 | −1.47 | −0.68 | 2.37 | −1.29 | −0.16 | 0.28 | −1.02 | 1.24 | 0.01 | 1.07 | 1.31 | −1.17 | 1777 |
| 1778 | 1.88 | 0.21 | 0.89 | 1.98 | 1.76 | 0.81 | 3.20 | 2.38 | −1.33 | −0.36 | 1.36 | 3.06 | 1778 |
| 1779 | −2.51 | 1.43 | 2.27 | 2.89 | 1.88 | −0.34 | −0.38 | 0.95 | 1.40 | 2.18 | 1.47 | 3.74 | 1779 |
| 1780 | −0.83 | −1.52 | 2.87 | −0.92 | 0.87 | 1.30 | 0.64 | 1.65 | 1.32 | 1.25 | 0.25 | −0.75 | 1780 |
| 1781 | . . | . . | 1.52 | 1.88 | 0.82 | 1.52 | 0.48 | 2.36 | 2.45 | −1.03 | 0.53 | 0.56 | 1781 |
| 1782 | 2.46 | −2.93 | 3.32 | 3.15 | 3.74 | 1.92 | 2.02 | −0.28 | 0.80 | −1.67 | −2.72 | −0.32 | 1782 |
| 1783 | 3.48 | 2.22 | −0.95 | 0.26 | 0.93 | 0.92 | 1.73 | 0.45 | 0.13 | 1.00 | −0.34 | −2.38 | 1783 |
| 1784 | −4.07 | −3.45 | −1.69 | −2.76 | 1.67 | 0.60 | 0.23 | 0.34 | 2.21 | −2.46 | 0.36 | −1.21 | 1784 |
| 1785 | −1.20 | −2.85 | −6.49 | −4.37 | −1.08 | −0.83 | −1.42 | −1.91 | 2.05 | −0.77 | 0.28 | 0.10 | 1785 |
| 1786 | 0.66 | 0.04 | −2.05 | 1.32 | −1.54 | 1.28 | −2.31 | −1.85 | −1.30 | −1.93 | −2.68 | −0.18 | 1786 |
| 1787 | −1.03 | 4.29 | 0.75 | −1.53 | −2.51 | 0.92 | −1.31 | 0.36 | 0.07 | 1.78 | 0.89 | 2.06 | 1787 |
| 1788 | 1.86 | −0.61 | −0.30 | −0.59 | −0.35 | 0.88 | 1.66 | −1.53 | 1.44 | −0.20 | −2.14 | −8.30 | 1788 |
| 1789 | −1.93 | 1.41 | −2.90 | 0.64 | 1.62 | −1.30 | −0.29 | −0.28 | −0.53 | 0.27 | 0.25 | 0.64 | 1789 |
| 1790 | 1.99 | 1.73 | 0.91 | −1.21 | 1.20 | 1.42 | −1.49 | −0.08 | −0.87 | −0.37 | −0.26 | 0.89 | 1790 |
| 1791 | 3.24 | 0.14 | 1.00 | 1.81 | −0.76 | −0.35 | −0.35 | 1.14 | −0.15 | 0.50 | −2.43 | 0.84 | 1791 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXIV.

### South Germany. — Ratisbon (*continued*).

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1792 | −0.57 | −0.21 | 1.41 | 1.17 | −1.12 | 0.87 | 0.66 | 0.88 | −1.01 | 0.05 | 0.17 | 0.89 | 1792 |
| 1793 | −1.17 | 1.26 | 0.53 | −1.81 | −1.23 | −0.76 | 1.56 | 1.09 | −0.47 | 1.87 | 0.95 | 1.26 | 1793 |
| 1794 | 2.30 | 3.01 | 3.05 | 3.04 | 1.19 | 1.69 | 2.85 | −0.80 | −1.00 | 1.24 | 0.67 | −0.78 | 1794 |
| 1795 | −5.05 | −0.89 | −0.10 | 1.96 | −0.82 | 1.39 | −2.22 | 0.29 | 1.08 | 3.11 | −0.98 | 2.26 | 1795 |
| 1796 | 4.26 | 1.59 | −1.63 | −0.77 | −0.25 | 0.05 | 0.47 | 0.93 | 2.24 | 0.28 | −0.38 | −2.04 | 1796 |
| 1797 | 1.46 | 1.52 | −0.17 | 2.09 | 2.60 | −0.72 | 2.14 | 1.73 | 0.75 | 0.06 | 1.00 | 1.59 | 1797 |
| 1798 | 1.88 | 1.94 | 0.18 | 1.02 | 0.66 | 1.65 | 0.50 | 1.26 | 1.08 | −0.73 | −0.68 | −2.69 | 1798 |
| 1799 | −5.61 | 0.14 | −0.29 | −1.87 | −1.37 | −0.83 | −0.91 | −2.86 | −0.60 | −0.23 | −0.35 | −3.81 | 1799 |
| 1800 | 1.15 | −0.63 | −2.62 | 4.66 | 1.80 | −1.42 | 0.32 | 1.53 | 0.43 | −0.69 | 1.30 | 0.63 | 1800 |
| 1801 | 2.72 | 0.10 | 1.82 | 0.76 | 2.45 | −0.75 | −0.30 | 0.13 | 1.15 | 1.60 | 1.45 | 0.81 | 1801 |
| 1802 | −3.20 | −0.90 | 0.29 | 0.62 | 0.16 | 1.66 | −0.04 | 2.80 | 0.73 | 2.40 | 0.63 | 0.71 | 1802 |
| 1803 | −1.24 | −2.05 | −0.06 | 2.70 | −1.78 | −0.31 | 1.70 | 1.31 | −0.96 | −0.33 | 0.29 | 0.93 | 1803 |
| 1804 | 3.84 | −0.86 | −1.18 | −0.49 | 1.17 | 0.88 | 0.29 | −0.14 | 1.27 | 1.09 | −0.71 | −1.68 | 1804 |
| 1805 | −1.41 | −1.00 | −0.34 | −1.27 | −1.76 | −0.88 | −0.88 | −1.60 | 0.74 | −2.03 | −1.81 | −0.21 | 1805 |
| 1806 | 4.22 | 2.45 | 0.40 | −2.24 | 2.47 | 0.16 | −0.49 | 0.15 | 0.86 | 0.04 | 1.94 | 3.58 | 1806 |
| 1807 | 1.19 | 1.18 | −1.17 | −1.32 | 1.24 | 0.46 | 2.87 | 4.63 | −0.94 | 1.58 | 1.03 | 1.54 | 1807 |
| 1808 | 1.08 | −0.73 | −2.79 | −1.93 | 2.02 | −0.45 | 1.61 | 1.19 | 0.33 | −1.97 | −0.23 | −5.46 | 1808 |
| 1809 | 0.33 | 2.19 | −0.40 | −2.92 | 0.71 | −0.25 | 0.02 | 0.23 | −0.31 | −0.76 | −0.86 | 0.93 | 1809 |
| 1810 | −1.72 | −2.39 | 0.86 | −0.63 | −0.05 | −1.00 | −0.41 | 0.17 | 2.72 | 0.52 | 0.04 | 1.89 | 1810 |
| 1811 | −2.93 | −0.16 | 2.09 | 1.48 | 2.23 | 2.85 | 1.75 | 0.24 | 0.43 | 2.24 | 1.43 | −0.25 | 1811 |
| 1812 | −1.33 | 1.05 | 0.28 | −2.87 | 0.13 | −1.15 | −2.18 | −1.44 | −1.39 | 0.60 | −1.99 | −4.72 | 1812 |
| 1813 | −3.03 | 0.99 | −1.15 | 0.46 | −0.60 | −1.86 | −1.73 | −2.10 | −1.47 | −0.50 | −0.75 | −0.33 | 1813 |
| 1814 | −1.37 | −4.71 | −2.93 | 0.49 | −2.79 | −2.39 | −0.12 | −1.12 | −2.45 | −1.50 | 0.65 | 1.77 | 1814 |
| 1815 | −1.30 | 1.05 | 1.18 | −0.37 | −0.46 | −0.74 | −2.23 | −2.07 | −1.35 | −0.70 | −1.37 | −2.26 | 1815 |
| 1816 | 1.36 | −1.83 | −1.23 | −0.93 | −2.69 | −2.21 | −2.42 | −2.56 | −2.04 | −0.93 | −1.49 | −0.75 | 1816 |
| 1817 | 2.51 | 2.42 | −1.14 | −5.01 | −1.93 | 0.61 | −1.79 | −1.89 | 0.56 | −3.22 | 0.63 | −0.70 | 1817 |
| 1818 | 2.08 | 0.29 | −0.16 | 0.27 | −1.72 | −0.02 | −0.48 | −2.27 | −1.09 | −0.71 | 0.41 | −2.08 | 1818 |
| 1819 | 1.49 | 0.60 | 0.64 | −0.09 | −0.76 | 0.15 | −0.05 | −0.35 | −0.28 | −0.78 | −0.99 | −1.34 | 1819 |
| 1820 | −2.43 | −0.35 | −2.26 | 0.38 | −0.47 | −2.89 | −1.66 | 0.93 | −2.28 | −1.22 | −1.63 | −1.66 | 1820 |
| 1821 | 1.17 | −3.06 | −1.51 | 0.99 | −2.48 | −3.01 | −2.77 | −1.18 | −0.06 | −0.99 | 1.51 | 2.53 | 1821 |
| 1822 | 2.21 | 0.63 | 1.92 | 0.26 | 0.53 | 2.43 | 0.49 | −0.87 | −0.56 | 0.73 | 0.48 | −2.29 | 1822 |
| 1823 | −4.17 | 0.86 | 0.11 | −1.72 | 0.20 | −0.97 | −1.05 | 0.43 | 0.38 | 0.02 | −0.61 | 1.05 | 1823 |
| 1824 | 0.92 | 0.38 | −1.02 | −2.10 | −1.74 | −1.07 | −0.14 | −0.51 | 0.97 | −0.26 | 1.44 | 3.93 | 1824 |
| 1825 | 2.80 | 0.39 | −1.05 | 2.12 | 0.93 | 0.56 | 0.51 | 0.32 | 1.31 | 0.21 | 3.09 | 4.15 | 1825 |
| 1826 | −3.57 | −0.34 | 1.39 | 0.17 | −1.04 | 1.05 | 1.99 | 3.61 | 1.61 | 1.38 | −0.28 | 0.92 | 1826 |
| 1827 | 0.09 | −4.95 | 1.00 | 1.31 | 1.20 | 1.05 | 2.06 | −0.57 | 0.93 | 1.35 | −1.30 | 2.93 | 1827 |
| 1828 | 2.12 | 0.27 | 0.51 | 0.31 | −0.77 | 0.39 | 0.85 | −2.47 | −1.95 | −0.20 | 0.61 | 2.28 | 1828 |
| 1829 | −0.85 | −3.13 | −1.38 | 0.20 | −1.14 | −1.11 | −0.20 | −2.37 | −1.35 | −1.41 | −3.79 | −5.79 | 1829 |
| 1830 | −5.98 | −3.61 | 1.17 | 0.77 | −0.12 | −0.94 | 0.50 | −1.28 | −1.05 | −0.88 | 1.14 | −0.58 | 1830 |
| 1831 | −2.09 | −0.82 | 0.70 | 3.60 | −0.48 | −1.36 | −0.09 | −0.12 | −1.57 | 2.40 | 2.27 | 0.26 | 1831 |
| 1832 | 0.77 | 1.28 | 0.09 | 0.21 | −2.45 | −0.87 | −1.18 | 0.59 | −0.98 | 0.16 | −0.71 | 0.25 | 1832 |
| 1833 | −3.05 | 3.32 | 0.21 | −1.45 | 2.29 | 1.06 | −1.70 | −3.06 | −2.01 | −0.90 | 2.78 | 3.95 | 1833 |
| 1834 | 5.52 | −0.43 | −0.25 | −1.69 | 0.99 | 0.44 | 4.89 | 2.48 | 1.21 | 0.50 | 0.74 | 1.36 | 1834 |
| Means. | −2.42 | −0.09 | 3.09 | 7.55 | 11.94 | 13.72 | 14.88 | 14.62 | 11.69 | 7.11 | 2.22 | −0.71 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXV.

### South Germany. — Stuttgard.

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1792 | 0.64 | −1.23 | 1.78 | 1.36 | −1.12 | −0.30 | 1.04 | 1.70 | −0.70 | 1.30 | −0.73 | 0.44 | 1792 |
| 1793 | −1.41 | 1.64 | 0.37 | −1.36 | −1.24 | −0.31 | 2.52 | 1.84 | −0.84 | 1.71 | 0.66 | 2.10 | 1793 |
| 1794 | 2.02 | 3.72 | 2.76 | 3.26 | 0.41 | 1.30 | 2.75 | 0.12 | −1.34 | 0.32 | 0.85 | −1.72 | 1794 |
| 1795 | −4.88 | 0.36 | 0.65 | 2.81 | 0.64 | 1.43 | −1.01 | 1.33 | 1.93 | 3.69 | −0.49 | 3.76 | 1795 |
| 1796 | 6.17 | 1.90 | −2.51 | −0.67 | −0.32 | 0.10 | −0.36 | 0.23 | 2.34 | 0.13 | −0.87 | −2.18 | 1796 |
| 1797 | 2.46 | 0.08 | −0.27 | 1.88 | 1.16 | −1.30 | 2.86 | 1.01 | 1.04 | 0.36 | 1.82 | 3.02 | 1797 |
| 1798 | 0.65 | 1.44 | 0.69 | 1.16 | 0.66 | 1.21 | 0.14 | 0.66 | 1.36 | 0.53 | 0.33 | −2.05 | 1798 |
| 1799 | −3.46 | 1.77 | −0.78 | −1.30 | −0.89 | −0.75 | −0.98 | 0.32 | −0.04 | −0.15 | 0.42 | −4.70 | 1799 |
| 1800 | 3.03 | −0.92 | −2.04 | 4.56 | 2.03 | −1.81 | 0.00 | 0.79 | 0.84 | −0.37 | 1.61 | −0.18 | 1800 |
| 1801 | 3.95 | 0.97 | 1.98 | 0.24 | 0.94 | −0.54 | 0.91 | 1.42 | 2.32 | 2.89 | 1.30 | 1.46 | 1801 |
| 1802 | −2.55 | −0.02 | 0.80 | 2.13 | 0.23 | 1.53 | −0.24 | 2.22 | 0.62 | 2.08 | 0.81 | 1.41 | 1802 |
| 1803 | −0.81 | −1.90 | −1.31 | 1.49 | −2.28 | 0.05 | 1.21 | 1.28 | −1.78 | −0.90 | 0.46 | 1.36 | 1803 |
| 1804 | 4.61 | −0.98 | −1.05 | −0.22 | 0.78 | 0.92 | −0.35 | −0.66 | 2.88 | 0.74 | 0.56 | −1.56 | 1804 |
| 1805 | −1.03 | −0.28 | −0.60 | −1.38 | −2.16 | −1.35 | −1.28 | −1.44 | 0.38 | −2.73 | −2.47 | 0.06 | 1805 |
| 1806 | −2.78 | 2.77 | 1.10 | −1.99 | 1.37 | −0.27 | −0.62 | −0.59 | −0.27 | 0.03 | 1.67 | 4.85 | 1806 |
| 1807 | 0.76 | 1.58 | −2.43 | −1.14 | −1.02 | −0.21 | 2.15 | 3.23 | −0.74 | 1.71 | 1.37 | −0.94 | 1807 |
| 1808 | 1.95 | −1.23 | −3.55 | −1.35 | 1.96 | −0.98 | 0.54 | 0.77 | −0.34 | −1.49 | −0.17 | −4.02 | 1808 |
| 1809 | 1.56 | 3.64 | 0.69 | −2.58 | 0.84 | −0.65 | −0.36 | 0.16 | 0.30 | −1.05 | −1.65 | 2.12 | 1809 |
| 1810 | −1.56 | −2.45 | 2.11 | −4.12 | −0.25 | −0.95 | −0.26 | −0.48 | 2.08 | 0.09 | 1.44 | 0.97 | 1810 |
| 1811 | −3.01 | 0.49 | 2.31 | 0.97 | 1.41 | 1.41 | 0.75 | −0.38 | −0.04 | 3.02 | 1.28 | −0.04 | 1811 |
| 1812 | −2.36 | 1.26 | −0.23 | −3.17 | 0.64 | 0.37 | −1.85 | −1.17 | −0.49 | 0.01 | −2.28 | −4.81 | 1812 |
| 1813 | −2.25 | 0.28 | −0.42 | 0.53 | 0.13 | −1.45 | −1.96 | −3.00 | −1.63 | −0.34 | −1.15 | −0.70 | 1813 |
| 1814 | −1.96 | −3.96 | −3.67 | 1.09 | −2.14 | −1.52 | 0.26 | −0.76 | −1.56 | −1.34 | 0.69 | 2.13 | 1814 |
| 1815 | −1.92 | 1.26 | 2.15 | 0.39 | 0.71 | −0.42 | −1.95 | −1.44 | −0.48 | 0.03 | −2.30 | −1.44 | 1815 |
| 1816 | 0.69 | −2.37 | −0.60 | −0.68 | −2.22 | −2.63 | −2.45 | −2.34 | −0.85 | −0.17 | −2.45 | −0.82 | 1816 |
| 1817 | 3.31 | 1.47 | −0.71 | −3.71 | −1.78 | 0.92 | −1.54 | −0.97 | 1.08 | −3.25 | 1.01 | −0.49 | 1817 |
| 1818 | 2.67 | 0.40 | 0.41 | 1.33 | −0.82 | 1.06 | 0.15 | −0.91 | −0.70 | −0.91 | 1.62 | −2.04 | 1818 |
| 1819 | −0.61 | 1.54 | 0.89 | 1.21 | 0.29 | 0.36 | 1.02 | 0.36 | −0.92 | −0.02 | −0.95 | 1.16 | 1819 |
| 1820 | −1.64 | −0.06 | −2.16 | 1.31 | −0.05 | −1.91 | −1.37 | 1.10 | −1.84 | −1.11 | −2.81 | −0.66 | 1820 |
| 1821 | 2.13 | −2.72 | 0.19 | 1.52 | −1.98 | −2.26 | −1.97 | 0.15 | 0.77 | −0.62 | 2.42 | 3.25 | 1821 |
| 1822 | 2.11 | 1.58 | 2.61 | 0.51 | 1.43 | 2.90 | 0.08 | −0.85 | −0.48 | 1.33 | 1.82 | −3.09 | 1822 |
| 1823 | −2.76 | 1.25 | −0.05 | −0.77 | 0.92 | −1.42 | −1.19 | 0.25 | −0.38 | −1.03 | −1.37 | 1.70 | 1823 |
| 1824 | 0.79 | 0.79 | −0.89 | −1.61 | −1.05 | −0.98 | 0.30 | −0.39 | 0.68 | 0.44 | 2.52 | 3.81 | 1824 |
| 1825 | 1.92 | −0.37 | −1.36 | 1.85 | 0.27 | 0.26 | 0.19 | 0.02 | −0.61 | −0.64 | 1.27 | 2.74 | 1825 |
| 1826 | −4.81 | 1.06 | 1.16 | 0.19 | −0.93 | 0.54 | 1.70 | 1.78 | 1.51 | 1.43 | −1.07 | 0.54 | 1826 |
| 1827 | −0.49 | −5.36 | 1.47 | 1.22 | 1.60 | 0.23 | 1.10 | −0.45 | 0.08 | 0.67 | −2.41 | 2.98 | 1827 |
| 1828 | 3.10 | −0.35 | 0.61 | 0.54 | 0.43 | 0.97 | 1.02 | −1.10 | 0.07 | −0.61 | −0.17 | 1.19 | 1828 |
| 1829 | −2.45 | −3.10 | −0.58 | 0.46 | −0.36 | −0.61 | 0.45 | −1.13 | −1.50 | −1.66 | −2.88 | −5.91 | 1829 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXV.

### South Germany. — Stuttgard (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1830 | −6.40 | −3.47 | 1.62 | 2.06 | 0.90 | −0.38 | 1.05 | 0.00 | −1.43 | −0.89 | 0.90 | −0.74 | 1830 |
| 1831 | −0.73 | 1.25 | 1.68 | 1.44 | −0.11 | −0.09 | 1.22 | −0.10 | −1.15 | 2.92 | 0.15 | 1.26 | 1831 |
| 1832 | 0.10 | −0.76 | −0.64 | 0.13 | −0.93 | −0.59 | −0.22 | 0.75 | −1.05 | −0.78 | −1.41 | 0.05 | 1832 |
| 1833 | −2.56 | 2.99 | −0.99 | −1.31 | 3.38 | 2.06 | −1.46 | −2.81 | −1.35 | −1.03 | −0.13 | 3.18 | 1833 |
| 1834 | 5.05 | 0.14 | −0.60 | −1.87 | 2.16 | 1.33 | 2.74 | 0.90 | 1.73 | −0.06 | 0.12 | −0.27 | 1834 |
| 1835 | 1.53 | 1.20 | −0.15 | −0.90 | −0.53 | 0.28 | 1.62 | −0.21 | 0.60 | −1.20 | −3.22 | −2.85 | 1835 |
| 1836 | 0.45 | −1.27 | 3.18 | −0.90 | −2.14 | 0.64 | 0.22 | 0.46 | −1.21 | 0.47 | −0.01 | 1.04 | 1836 |
| 1837 | 0.90 | 0.24 | −2.68 | −2.84 | −2.23 | 1.16 | −1.19 | 1.17 | −1.94 | −0.60 | −0.40 | 0.04 | 1837 |
| 1838 | −4.43 | −2.08 | 0.21 | −2.32 | −0.45 | −0.03 | −0.36 | −0.90 | 0.64 | −0.36 | 1.03 | −1.34 | 1838 |
| 1839 | 0.78 | −0.03 | −1.31 | −2.71 | −1.07 | 2.30 | 0.58 | −1.55 | 0.64 | 0.84 | 1.07 | 1.95 | 1839 |
| 1840 | 1.82 | 0.15 | −2.90 | 1.36 | 0.29 | 0.16 | −1.42 | −0.23 | −0.26 | −2.39 | 1.10 | −5.61 | 1840 |
| 1841 | 0.89 | −1.98 | 2.09 | 0.53 | 3.42 | −1.55 | −1.83 | −0.69 | 1.65 | 1.24 | 1.22 | 2.85 | 1841 |
| 1842 | −1.50 | −1.05 | 1.36 | −0.47 | 1.35 | 1.74 | 0.35 | 2.64 | 0.07 | −2.47 | −1.82 | −0.20 | 1842 |
| 1843 | 2.07 | 1.54 | 0.15 | 0.60 | −1.06 | −1.48 | −0.68 | 0.20 | −0.15 | 0.02 | 0.67 | 0.23 | 1843 |
| 1844 | 0.31 | −0.91 | −0.30 | 1.42 | −1.01 | 1.39 | −1.99 | −2.17 | 0.56 | 0.39 | 0.91 | −3.18 | 1844 |
| Means. | −0.80 | 1.64 | 3.97 | 7.80 | 11.87 | 14.03 | 15.48 | 15.02 | 12.05 | 8.05 | 4.11 | 1.25 | Means. |

## LXXXVI. South Germany — Carlsruhe.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1779 | −3.98 | 1.18 | 1.26 | 2.19 | 1.14 | −0.64 | 0.80 | 1.72 | 2.40 | 2.75 | 1.71 | 2.94 | 1779 |
| 1780 | −2.23 | −2.20 | 3.27 | −1.17 | 0.52 | 0.41 | 0.27 | 1.39 | 0.18 | 0.83 | 0.00 | −1.32 | 1780 |
| 1781 | 0.45 | 1.82 | 0.99 | 2.26 | 0.87 | 1.63 | 0.63 | 1.20 | 1.11 | −0.94 | −0.38 | 1.09 | 1781 |
| 1782 | 3.13 | −3.95 | −0.67 | −1.10 | −1.44 | 0.93 | 1.00 | −1.62 | −1.69 | −2.08 | −3.90 | −1.07 | 1782 |
| 1783 | 3.33 | 1.35 | −1.60 | 0.05 | −0.14 | 0.47 | 1.69 | −0.38 | −0.71 | −0.35 | −1.04 | −3.26 | 1783 |
| 1784 | −4.85 | −3.17 | −1.67 | −2.72 | 0.42 | −0.13 | −0.48 | −1.97 | −0.63 | −3.71 | −0.71 | −2.14 | 1784 |
| 1785 | −0.27 | −3.06 | −5.49 | −3.26 | −1.28 | −0.44 | −0.46 | . . | . . | . . | −0.63 | −0.60 | 1785 |
| 1786 | . . | . . | . . | 0.76 | −1.35 | 1.20 | −1.77 | . . | . . | −1.97 | −3.13 | −0.18 | 1786 |
| 1788 | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | −8.65 | 1788 |
| 1789 | −0.91 | 1.74 | −3.15 | . . | 2.19 | −1.49 | 0.34 | −0.14 | −1.17 | . . | . . | 0.91 | 1789 |
| 1798 | . . | . . | . . | . . | . . | . . | 0.20 | 0.39 | 0.59 | 0.55 | 0.14 | −1.90 | 1798 |
| 1799 | −3.09 | 0.92 | −0.59 | −1.15 | −1.43 | −0.70 | −0.60 | 0.20 | 0.01 | 0.12 | −0.12 | −4.22 | 1799 |
| 1800 | 2.53 | −1.60 | −2.25 | 3.40 | 1.46 | −2.10 | −0.26 | 1.20 | 0.89 | −0.43 | 1.15 | 0.21 | 1800 |
| 1801 | 3.13 | 0.68 | 1.95 | 0.32 | 0.98 | −0.98 | −0.15 | −0.49 | 0.76 | 0.98 | 1.17 | 2.21 | 1801 |
| 1802 | −2.69 | 0.64 | 0.83 | 1.08 | −0.60 | 1.37 | −0.97 | 2.33 | 0.23 | 1.38 | −0.38 | 0.53 | 1802 |
| 1803 | −1.27 | −2.92 | −1.30 | 1.11 | −2.75 | −0.71 | 0.63 | 0.54 | −2.37 | −0.90 | 0.52 | 1.99 | 1803 |
| 1804 | 4.53 | −1.30 | −1.12 | −0.47 | 0.94 | 0.96 | −0.56 | −0.70 | 0.10 | 0.90 | 0.08 | −2.05 | 1804 |
| 1805 | −1.49 | −0.61 | −0.70 | −0.89 | −1.66 | −0.76 | −1.21 | −1.17 | 0.16 | −2.18 | −2.92 | −0.39 | 1805 |
| 1806 | 4.11 | 1.89 | 0.58 | −2.23 | 1.41 | −0.09 | 0.03 | −0.35 | −0.36 | −0.67 | 1.62 | 4.71 | 1806 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVI.

SOUTH GERMANY. — CARLSRUHE (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1807 | 0.02 | 1.11 | −2.83 | −1.34 | 1.19 | −0.28 | 2.34 | 3.15 | −1.57 | 1.30 | 1.21 | −0.53 | 1807 |
| 1808 | 1.38 | −1.25 | −3.54 | −1.63 | 2.40 | −0.41 | 1.94 | 0.96 | −0.54 | −1.28 | −0.24 | −3.75 | 1808 |
| 1809 | 1.24 | 3.25 | 0.52 | −3.16 | 0.41 | −1.22 | −0.61 | −0.33 | −0.80 | −1.36 | −1.90 | 1.60 | 1809 |
| 1810 | −3.19 | −2.78 | 1.26 | −0.17 | −0.60 | −0.62 | −0.65 | −0.46 | 1.58 | −0.05 | 0.84 | 1.69 | 1810 |
| 1811 | −2.40 | 1.17 | 2.79 | 1.65 | 2.32 | 1.55 | 0.78 | −0.29 | 0.53 | 2.92 | 1.21 | 0.48 | 1811 |
| 1812 | −2.09 | 1.47 | −0.16 | −2.96 | 0.83 | −0.50 | −1.53 | −0.27 | −0.24 | 1.33 | −1.42 | −3.80 | 1812 |
| 1813 | −0.84 | 2.15 | 0.57 | 1.50 | 0.12 | −1.01 | −1.75 | −1.78 | −1.15 | 0.27 | −0.11 | −0.89 | 1813 |
| 1814 | −1.51 | −3.24 | −1.56 | 1.82 | −1.68 | −1.66 | 0.07 | −1.12 | −1.07 | −0.68 | 0.82 | 2.67 | 1814 |
| 1815 | −2.35 | 2.31 | 2.67 | 0.75 | 1.10 | −0.57 | −1.75 | −1.03 | 0.09 | 0.62 | −1.99 | −1.02 | 1815 |
| 1816 | 1.38 | −2.00 | −0.27 | 0.27 | −2.23 | −2.48 | −2.61 | −2.16 | −0.89 | −0.33 | −2.14 | 0.17 | 1816 |
| 1817 | 3.56 | 2.16 | −0.36 | −3.14 | −1.63 | 0.87 | −1.47 | −1.40 | 1.60 | −2.82 | 1.78 | 0.13 | 1817 |
| 1818 | 2.91 | 1.12 | 0.59 | 1.53 | −1.44 | 1.00 | 0.34 | −1.01 | −0.50 | −0.63 | 1.49 | −2.11 | 1818 |
| 1819 | 1.85 | 1.30 | 0.75 | 1.42 | 0.49 | 0.15 | 0.42 | 0.64 | 0.49 | −0.15 | −0.75 | 0.31 | 1819 |
| 1820 | −1.09 | 0.55 | −1.35 | 2.19 | 0.22 | −2.16 | −0.96 | 0.66 | −1.20 | −0.61 | −1.80 | 0.00 | 1820 |
| 1821 | 2.31 | −1.59 | 0.73 | 1.78 | −1.87 | −2.01 | −2.03 | 0.14 | 0.17 | −0.68 | 2.72 | 3.52 | 1821 |
| 1822 | 2.52 | 2.96 | 4.04 | 1.75 | 2.11 | 3.77 | 0.56 | −0.14 | 0.46 | 1.19 | 2.66 | −1.31 | 1822 |
| 1823 | −2.23 | 2.20 | 1.05 | −0.09 | 1.23 | −1.02 | −1.14 | 0.87 | 0.24 | −0.27 | −0.11 | 2.95 | 1823 |
| 1824 | 1.39 | 1.98 | −0.10 | −0.89 | −1.13 | −0.65 | 0.32 | −0.22 | 1.04 | 0.66 | 2.68 | 4.09 | 1824 |
| 1825 | 1.92 | 0.28 | −0.76 | 1.43 | −0.15 | −0.41 | 0.85 | 0.49 | 1.15 | 0.15 | 1.51 | 3.05 | 1825 |
| 1826 | −3.48 | 1.35 | 1.13 | 0.20 | −1.25 | 1.06 | 2.12 | 2.86 | 1.75 | 1.94 | −0.21 | 0.93 | 1826 |
| 1827 | −0.55 | −5.10 | 1.19 | 1.50 | 1.25 | 1.01 | 2.06 | 0.00 | 1.15 | 1.34 | −2.01 | 2.85 | 1827 |
| 1828 | 3.18 | 0.41 | 1.17 | 0.82 | 0.74 | 1.19 | 0.91 | −1.22 | 0.48 | 0.28 | −0.33 | 1.85 | 1828 |
| 1829 | −2.12 | −2.33 | −0.05 | 0.72 | −0.04 | 0.21 | 0.50 | −1.17 | −0.88 | −0.60 | −1.88 | −4.97 | 1829 |
| 1830 | −5.83 | −2.98 | 2.14 | 2.21 | 0.81 | −0.22 | 0.86 | −0.13 | −1.01 | −0.17 | 1.31 | −0.32 | 1830 |
| 1831 | −0.98 | 0.96 | 1.68 | 1.83 | −0.50 | −0.61 | 0.38 | 0.40 | −0.81 | 3.26 | 0.30 | 1.64 | 1831 |
| 1832 | 0.10 | −0.27 | 0.23 | 0.96 | −0.88 | −0.49 | −0.01 | 1.02 | −0.59 | 0.18 | −0.68 | 0.95 | 1832 |
| 1833 | −2.63 | 3.41 | −0.71 | −0.78 | 2.94 | 1.45 | −1.24 | −2.23 | −1.08 | −0.17 | 0.51 | 4.43 | 1833 |
| 1834 | 5.74 | 0.29 | 0.76 | −1.12 | 1.87 | 1.12 | 2.76 | 1.35 | 1.82 | 0.53 | 0.79 | 0.29 | 1834 |
| 1835 | 1.77 | 1.74 | 0.11 | −0.90 | −0.68 | 0.13 | 1.46 | −0.17 | −0.03 | −0.83 | −2.92 | −2.23 | 1835 |
| 1836 | 0.43 | −0.85 | 3.27 | −0.66 | −1.99 | 0.47 | 0.21 | 0.47 | 1.67 | 0.82 | 0.66 | 1.56 | 1836 |
| 1837 | 1.30 | 0.80 | −1.86 | −2.33 | −2.05 | 1.26 | −0.86 | 1.24 | −1.66 | 0.28 | 0.46 | 0.72 | 1837 |
| 1838 | −4.35 | −2.13 | 0.21 | −2.36 | −0.33 | −0.21 | −0.36 | −1.20 | 0.44 | −0.02 | 1.10 | −0.52 | 1838 |
| 1839 | 0.88 | 0.67 | −0.73 | −2.24 | −0.54 | 2.28 | 0.16 | −0.47 | 0.09 | 1.20 | 1.49 | 2.20 | 1839 |
| 1840 | 1.37 | −0.69 | −2.82 | 1.28 | −0.51 | 0.23 | −1.39 | 0.34 | −0.22 | −2.04 | 1.81 | −5.32 | 1840 |
| Means. | −0.17 | 1.95 | 4.39 | 8.31 | 12.40 | 14.43 | 15.80 | 15.41 | 12.60 | 8.30 | 4.16 | 1.35 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVII.

### North Germany. — Berlin.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1719 | 2.44 | 0.21 | 1.50 | 0.69 | 1.45 | 2.38 | 3.13 | 1.86 | 0.08 | 0.66 | 2.09 | −1.02 | 1719 |
| 1720 | 2.27 | 0.40 | −0.14 | 0.70 | 1.34 | 0.94 | 2.01 | 0.31 | 0.10 | 1.62 | −0.03 | 1.47 | 1720 |
| 1721 | 2.38 | −1.80 | −1.53 | 2.23 | −0.91 | 1.21 | −0.67 | −0.17 | 0.54 | 0.40 | 1.69 | 0.07 | 1721 |
| 1728 | 1.50 | −2.28 | 2.39 | 0.65 | 1.24 | 0.26 | −0.38 | −1.36 | −0.10 | 0.66 | −0.58 | −1.51 | 1728 |
| 1729 | −3.18 | −1.46 | −3.57 | −2.11 | . . | . . | . . | . . | . . | . . | . . | . . | 1729 |
| 1730 | 1.64 | 0.20 | 0.29 | 0.70 | 0.00 | 0.12 | −0.62 | −0.03 | −0.69 | −2.55 | 1.99 | −0.48 | 1730 |
| 1731 | −2.00 | −1.78 | −0.67 | −1.67 | −1.33 | −0.89 | −1.44 | −0.62 | −0.25 | 1.85 | 0.67 | 0.26 | 1731 |
| 1732 | −1.50 | 1.34 | 1.05 | 1.34 | 0.29 | −1.54 | −1.95 | −0.98 | −0.84 | 1.14 | −0.78 | −3.99 | 1732 |
| 1733 | 2.69 | 2.54 | 0.86 | 1.59 | −1.77 | −2.71 | −0.38 | −0.97 | −2.02 | −0.53 | 0.21 | 2.46 | 1733 |
| 1734 | 0.40 | 2.51 | 1.86 | 0.55 | −0.54 | −1.26 | −0.62 | −0.93 | −0.54 | 0.65 | −2.85 | −1.03 | 1734 |
| 1735 | 1.79 | 0.30 | 1.81 | 1.49 | −0.87 | −0.33 | −1.38 | −0.84 | 0.91 | −1.01 | −1.07 | −0.17 | 1735 |
| 1736 | −0.08 | −0.92 | −0.73 | 0.85 | −0.88 | −0.87 | −0.24 | 0.64 | −0.98 | 0.23 | −0.09 | 1.18 | 1736 |
| 1737 | 1.83 | 0.55 | 1.57 | −1.36 | 0.77 | 0.11 | −0.77 | −1.65 | −0.10 | −0.39 | −0.83 | −0.05 | 1737 |
| 1738 | −0.55 | 0.55 | 1.11 | 1.54 | −0.08 | −0.42 | −0.79 | −0.38 | −0.05 | 0.88 | −2.21 | 0.90 | 1738 |
| 1739 | −0.17 | 2.06 | 1.11 | −1.65 | 0.64 | −0.96 | 0.99 | −1.23 | 0.91 | −2.62 | −5.35 | −0.01 | 1739 |
| 1740 | −6.61 | −6.54 | −3.28 | −3.45 | −3.49 | −1.70 | −0.96 | −0.62 | 1.62 | −3.12 | −2.35 | −0.18 | 1740 |
| 1741 | −0.93 | 1.88 | −0.71 | −1.38 | −1.90 | −1.59 | 0.17 | −0.54 | −0.20 | 1.22 | 1.77 | −0.16 | 1741 |
| 1742 | −1.23 | 1.08 | −0.99 | −2.16 | −1.83 | −0.72 | −0.66 | −1.26 | −1.78 | 0.19 | 0.70 | −3.22 | 1742 |
| 1743 | 1.32 | 0.99 | −0.53 | −1.94 | 0.28 | 1.05 | −1.46 | 0.32 | −0.50 | −1.44 | 2.77 | 0.84 | 1743 |
| 1744 | −1.98 | −2.42 | −0.09 | 2.33 | 0.10 | −1.47 | 0.25 | −0.60 | 0.94 | 2.10 | 1.25 | −0.39 | 1644 |
| 1745 | −1.92 | −1.26 | −0.10 | 0.20 | 0.73 | 1.01 | 0.01 | 0.17 | 0.10 | 1.15 | 2.17 | −2.36 | 1745 |
| 1746 | 0.12 | 0.03 | −1.88 | −0.39 | 0.43 | −0.72 | 1.41 | −0.43 | 0.44 | −1.06 | −0.53 | 1.89 | 1746 |
| 1747 | −0.17 | 3.49 | −2.09 | 0.70 | −0.67 | 2.34 | −0.33 | 0.18 | 1.43 | 0.43 | 0.21 | 1.04 | 1747 |
| 1748 | −1.17 | −1.70 | −2.29 | 0.22 | 1.53 | 2.11 | 0.56 | 2.85 | −0.14 | 0.00 | 1.79 | 3.19 | 1748 |
| 1749 | 2.28 | 0.47 | −1.52 | −0.14 | 1.58 | 0.21 | 0.39 | 1.64 | 0.33 | 0.05 | −0.63 | 1.28 | 1749 |
| 1750 | 1.19 | 3.22 | 3.87 | 1.26 | 0.30 | 1.06 | 1.97 | 1.56 | 0.26 | −0.55 | . . | −0.06 | 1750 |
| 1751 | −0.45 | −1.70 | 2.79 | −0.86 | 3.59 | 2.39 | 1.78 | 3.12 | 0.42 | −0.04 | . . | . . | 1751 |
| Means. | −0.19 | 0.69 | 2.65 | 6.51 | 10.63 | 12.82 | 14.02 | 13.14 | 11.06 | 6.53 | 3.15 | 1.24 | Means. |
| 1755 | −4.56 | −6.47 | . . | 0.54 | . . | . . | . . | −0.25 | . . | . . | . . | 2.14 | 1755 |
| 1756 | 4.13 | 2.63 | 1.85 | 1.77 | 0.37 | 2.55 | 1.50 | −0.35 | 1.61 | 1.62 | −0.38 | −1.43 | 1756 |
| 1757 | 1.17 | 2.37 | 1.71 | . . | −0.39 | 1.47 | 3.25 | 0.22 | −1.70 | −2.88 | 1.21 | −1.25 | 1757 |
| 1758 | −2.57 | −0.17 | 0.13 | −0.21 | 1.08 | 0.18 | −0.86 | 0.55 | −1.11 | −0.97 | 0.16 | 0.38 | 1758 |
| 1759 | 3.26 | 1.79 | 1.18 | −0.01 | −1.45 | 0.87 | 1.15 | 0.60 | −0.45 | 1.09 | −2.21 | −3.85 | 1759 |
| 1760 | −0.56 | −1.48 | −0.81 | 0.34 | 0.33 | 0.57 | −0.29 | 0.03 | 0.87 | 0.98 | 0.12 | 2.05 | 1760 |
| 1761 | 0.97 | 1.65 | 2.51 | −0.01 | 1.55 | 1.95 | −0.62 | 1.88 | 2.30 | −1.02 | −0.12 | −3.08 | 1761 |
| 1762 | 2.11 | −0.01 | −1.88 | 1.88 | 0.42 | 0.27 | −0.19 | −1.45 | 0.23 | −1.34 | −0.32 | −1.82 | 1762 |
| 1763 | −2.25 | 3.02 | −0.40 | −0.55 | −0.34 | 0.17 | 0.92 | 1.32 | −0.86 | −0.87 | −0.25 | 2.67 | 1763 |
| 1764 | 2.91 | 2.88 | −0.10 | −0.30 | 1.71 | −1.94 | 1.43 | −0.60 | −1.70 | −0.63 | −1.32 | −1.54 | 1764 |
| 1765 | 1.64 | −2.90 | 1.70 | 0.78 | −2.50 | −0.88 | −1.92 | 1.12 | −1.16 | 1.20 | 0.15 | 0.03 | 1765 |
| 1766 | −0.10 | −0.12 | 1.01 | 2.07 | 1.17 | 0.30 | −0.36 | −0.25 | 0.73 | −0.43 | 0.48 | −0.26 | 1766 |
| 1767 | −5.54 | 1.74 | 0.01 | −1.58 | −1.03 | −1.65 | −0.23 | 0.88 | 0.42 | 0.95 | 2.03 | −1.75 | 1767 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVII.

### North Germany. — Berlin (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1768 | −3.52 | −0.98 | −1.28 | −0.11 | −0.68 | −0.06 | 0.28 | −0.08 | −1.03 | −0.48 | 0.54 | 0.47 | 1768 |
| 1769 | 1.22 | −0.74 | 0.75 | 0.14 | −1.01 | −1.01 | −0.71 | −1.07 | 0.58 | −2.26 | 0.26 | 0.84 | 1769 |
| 1770 | −0.20 | −0.21 | −3.16 | −1.09 | −0.11 | −1.20 | −0.35 | −0.08 | 0.62 | 0.81 | 0.16 | 1.92 | 1770 |
| 1771 | −1.24 | −3.28 | −3.40 | −3.27 | 2.04 | −0.21 | −0.82 | −2.12 | −0.46 | 0.76 | −1.47 | 0.95 | 1771 |
| 1772 | 0.66 | 1.20 | 0.86 | −0.86 | −2.50 | −0.10 | −1.40 | −0.41 | 0.60 | 1.62 | 1.89 | 1.38 | 1772 |
| 1773 | 2.50 | −1.00 | −0.61 | 0.49 | 1.37 | −1.22 | −0.85 | 0.06 | 0.57 | 1.89 | −0.92 | 2.21 | 1773 |
| Means. | −0.13 | 1.64 | 3.87 | 7.71 | 11.94 | 15.23 | 16.18 | 15.34 | 12.12 | 7.73 | 4.38 | 1.85 | Means. |
| 1774 | 1.50 | 2.26 | 2.29 | 1.56 | −0.05 | 0.69 | −1.56 | −1.92 | −1.61 | 0.71 | −3.70 | −0.75 | 1774 |
| 1775 | 0.95 | 3.20 | 2.53 | −0.65 | −0.72 | 3.26 | 1.88 | 1.61 | 2.00 | 1.23 | −0.84 | 2.16 | 1775 |
| 1776 | −5.55 | 2.42 | 2.10 | −0.13 | −2.11 | 1.19 | 1.21 | 0.32 | 0.12 | −0.47 | 0.70 | 0.54 | 1776 |
| 1777 | 0.04 | −1.67 | 0.67 | −1.12 | 0.52 | 0.04 | −0.60 | −0.01 | −1.71 | 0.23 | 2.23 | 0.75 | 1777 |
| 1778 | −0.58 | −1.72 | 1.09 | 1.98 | 0.67 | 0.30 | 1.02 | 0.66 | −0.67 | −1.69 | 1.44 | 3.84 | 1778 |
| 1779 | 0.33 | 3.82 | 2.99 | 2.39 | 0.61 | −0.30 | 0.74 | 1.71 | 1.59 | 1.95 | 0.90 | 2.26 | 1779 |
| 1780 | −1.06 | −2.02 | 3.37 | −1.27 | 0.72 | 0.24 | 0.45 | 0.99 | −0.03 | 1.46 | −0.34 | −0.70 | 1780 |
| 1781 | −0.44 | 0.53 | 2.05 | 1.85 | 1.19 | 1.97 | 2.02 | 2.56 | 1.60 | −0.39 | 0.80 | 0.01 | 1781 |
| 1782 | 3.15 | −2.86 | −0.39 | −0.87 | 0.33 | 1.78 | 1.52 | 0.21 | 1.75 | −0.30 | −1.13 | 0.78 | 1782 |
| 1783 | 3.19 | 3.67 | −0.58 | 0.86 | 1.38 | 2.71 | 1.45 | 0.71 | 0.36 | 0.34 | 0.50 | −1.51 | 1783 |
| 1784 | −3.97 | −3.54 | −1.68 | −2.30 | 0.58 | 0.20 | −0.75 | −1.35 | 0.02 | −2.21 | 1.29 | −0.94 | 1784 |
| 1785 | 0.47 | −3.28 | −5.74 | −2.54 | −1.48 | −0.84 | −0.70 | −1.12 | 0.61 | −0.34 | 1.09 | −1.42 | 1785 |
| 1786 | 1.81 | −0.93 | −2.32 | 1.60 | −1.25 | 0.54 | −1.71 | −1.26 | −1.86 | −1.97 | −3.64 | −0.16 | 1786 |
| 1787 | −0.29 | 1.38 | 2.05 | −1.31 | −0.77 | 0.99 | −0.65 | −0.59 | −0.17 | 1.32 | 0.69 | 2.07 | 1787 |
| 1788 | 2.46 | −1.26 | −1.47 | 0.10 | 0.45 | 1.64 | 1.64 | −1.21 | 1.20 | −0.35 | −0.79 | −8.64 | 1788 |
| 1789 | −1.93 | 1.46 | −4.45 | 0.01 | 1.85 | 0.14 | 0.11 | 0.36 | 1.85 | 0.64 | 0.89 | 3.55 | 1789 |
| 1790 | 3.05 | 2.82 | 2.19 | −1.67 | 1.70 | 0.58 | −1.13 | −0.54 | −0.48 | −0.44 | −0.30 | 1.92 | 1790 |
| 1791 | 3.91 | 1.52 | 1.47 | 1.74 | −1.16 | 0.19 | 0.78 | 1.08 | −0.78 | 0.22 | −0.89 | 1.35 | 1791 |
| 1792 | 0.53 | −1.89 | 0.80 | 1.45 | −0.81 | 0.83 | 1.59 | 0.46 | −0.98 | −0.30 | −0.01 | 1.14 | 1792 |
| 1793 | −0.70 | 2.14 | 0.61 | −0.68 | −0.58 | −1.34 | 1.68 | 0.22 | −0.83 | 1.99 | 0.99 | 2.05 | 1793 |
| 1794 | 1.18 | 2.56 | 3.66 | 3.12 | 0.18 | 1.77 | 2.79 | −0.59 | −1.62 | 0.37 | 1.53 | −2.14 | 1794 |
| 1795 | −5.23 | −0.36 | −0.84 | 2.88 | −1.78 | 2.10 | −0.92 | −0.37 | 1.27 | 3.36 | 0.10 | 3.14 | 1795 |
| 1796 | 6.51 | 0.68 | −1.70 | −0.34 | −0.46 | 0.38 | 0.48 | 1.33 | 1.74 | 0.07 | −0.60 | −1.82 | 1796 |
| 1797 | 1.60 | 1.89 | 0.66 | 1.09 | 1.41 | −0.23 | 1.55 | 1.26 | 2.02 | 0.55 | −0.80 | 1.81 | 1797 |
| 1798 | 1.79 | 1.57 | −0.07 | 1.29 | 0.76 | 1.20 | 0.38 | 0.92 | 1.24 | −0.17 | −0.45 | −3.54 | 1798 |
| 1799 | −2.97 | −4.47 | −1.65 | −2.12 | −2.27 | −1.53 | −1.05 | −0.32 | −0.65 | −0.70 | 0.48 | −4.41 | 1799 |
| 1800 | −1.12 | −3.61 | −4.09 | 4.43 | 2.33 | −3.06 | −1.99 | 0.22 | 0.67 | −0.41 | 1.47 | 0.00 | 1800 |
| 1801 | 1.88 | −1.02 | 1.84 | 0.05 | 3.00 | −1.37 | −0.61 | −0.68 | 1.01 | 1.40 | 0.93 | 0.84 | 1801 |
| 1802 | −1.00 | 0.50 | 1.65 | 0.45 | −2.37 | −1.01 | −1.54 | 1.54 | −0.08 | 3.04 | 0.78 | 1.81 | 1802 |
| 1803 | −5.33 | 2.02 | −0.16 | 2.84 | −1.36 | −1.46 | 2.03 | 1.80 | −1.82 | −0.45 | 0.68 | −0.39 | 1803 |
| 1804 | 1.51 | −1.48 | −3.11 | −1.06 | 1.04 | −0.54 | 0.10 | −0.73 | 1.17 | −0.02 | −2.40 | −3.92 | 1804 |
| 1805 | −3.90 | −1.94 | −0.48 | −1.58 | 1.36 | −1.53 | −1.18 | −1.83 | 0.55 | −3.53 | −2.58 | 1.24 | 1805 |
| 1806 | 3.02 | 0.94 | 0.19 | −2.82 | 0.99 | −2.26 | −1.35 | −0.98 | 0.41 | −0.12 | 1.47 | 4.14 | 1806 |
| 1807 | 1.62 | 0.18 | −1.97 | −1.43 | −0.42 | −1.50 | 0.42 | 3.72 | −2.15 | 0.08 | 1.11 | 1.53 | 1807 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVII.

### North Germany. — Berlin (*continued*).

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1808 | 0.83 | −1.07 | −3.39 | −2.80 | 0.80 | −0.42 | 1.19 | 0.69 | −0.54 | −1.56 | −1.10 | −4.40 | 1808 |
| 1809 | −3.31 | 1.64 | −1.09 | −3.34 | 0.99 | −0.89 | −0.48 | 0.36 | 0.29 | −0.99 | 0.02 | 2.23 | 1809 |
| 1810 | −0.99 | −1.66 | 0.40 | −1.41 | −1.88 | −1.93 | −0.05 | −0.47 | 1.16 | −1.33 | 0.09 | 1.22 | 1810 |
| 1811 | −2.93 | −0.72 | 2.01 | −0.15 | 3.07 | 2.67 | 0.94 | −0.59 | −0.72 | 2.21 | 0.35 | 1.50 | 1811 |
| 1812 | −1.14 | −0.27 | −1.05 | −3.98 | −1.20 | −0.68 | −2.37 | −0.78 | −1.81 | 1.14 | −1.57 | −5.52 | 1812 |
| 1813 | −1.20 | 2.38 | 0.24 | 1.00 | −0.73 | −1.23 | −1.27 | −2.07 | −0.82 | −1.30 | 0.05 | 1.02 | 1813 |
| 1814 | −2.12 | −5.52 | −2.78 | 1.00 | −2.92 | −1.99 | 1.02 | −1.34 | −2.23 | −1.21 | 0.55 | 1.26 | 1814 |
| 1815 | −2.81 | 1.14 | 1.56 | −0.45 | −0.15 | 0.61 | −2.98 | −1.57 | −1.95 | 0.42 | −0.69 | −1.37 | 1815 |
| 1816 | 0.95 | −2.27 | −0.68 | −0.21 | −2.68 | −1.54 | −1.32 | −2.59 | −1.64 | −1.23 | −1.96 | −0.39 | 1816 |
| 1817 | 2.58 | 1.79 | −0.19 | −3.86 | −0.49 | 1.04 | −1.57 | −0.55 | 1.43 | −2.57 | 2.37 | −0.14 | 1817 |
| 1818 | 2.54 | 0.19 | 1.56 | 0.53 | 0.22 | 0.95 | 0.72 | −1.41 | 0.14 | −0.58 | −0.60 | −0.89 | 1818 |
| 1819 | 2.51 | 1.57 | 1.59 | 0.85 | 1.00 | 2.28 | 1.42 | 1.60 | 0.81 | −0.41 | −0.66 | −2.61 | 1819 |
| 1820 | −3.08 | 0.34 | −0.02 | 1.52 | 0.91 | −2.38 | −2.08 | 1.23 | −0.75 | 0.99 | −1.57 | −1.88 | 1820 |
| 1821 | 1.52 | −1.05 | 0.14 | 3.28 | −0.48 | −2.17 | −1.51 | −0.78 | 0.91 | 1.33 | 3.27 | 3.44 | 1821 |
| Means. | −1.59 | 0.30 | 2.28 | 6.89 | 11.36 | 13.73 | 15.16 | 15.00 | 11.83 | 7.16 | 2.61 | −0.32 | Means. |
| 1822 | 3.39 | 3.67 | 3.22 | 1.55 | 0.59 | 0.58 | 0.77 | −0.19 | −1.24 | 1.36 | 1.58 | −3.18 | 1822 |
| 1823 | −7.56 | −0.25 | 0.41 | −1.32 | −0.26 | −0.78 | −1.76 | 1.03 | −0.34 | 0.66 | 1.01 | 1.12 | 1823 |
| 1824 | 3.67 | 2.45 | 0.29 | −0.52 | −1.04 | −0.75 | −0.56 | −0.58 | 1.27 | 0.56 | 1.96 | 2.69 | 1824 |
| 1825 | 3.92 | 0.92 | −2.26 | 0.86 | −0.15 | −1.10 | −0.47 | 0.05 | 0.54 | −0.12 | 1.30 | 2.03 | 1825 |
| 1826 | −3.44 | 1.98 | 1.15 | −0.19 | −0.24 | 1.20 | 3.03 | 3.00 | 0.35 | 0.71 | −0.33 | 0.49 | 1826 |
| 1827 | 0.25 | −4.90 | 1.25 | 2.29 | 1.98 | 1.33 | 0.80 | −0.04 | 1.09 | 0.83 | −2.24 | 1.16 | 1827 |
| 1828 | −0.26 | −0.55 | 0.67 | 1.22 | 0.33 | 0.30 | 1.17 | −0.71 | −0.15 | −0.28 | 0.17 | 0.47 | 1828 |
| 1829 | −2.87 | −2.67 | −1.23 | 0.41 | −0.29 | 0.12 | 0.41 | −0.56 | −0.16 | −1.62 | −2.54 | −8.25 | 1829 |
| 1830 | −4.21 | −2.70 | 1.09 | 1.53 | 0.30 | 0.07 | 0.35 | −0.26 | −0.57 | −0.69 | 1.47 | −1.79 | 1830 |
| 1831 | −1.81 | 0.75 | 0.40 | 2.21 | −0.94 | −1.34 | 0.36 | 0.20 | −1.22 | 1.77 | −0.54 | 0.11 | 1831 |
| 1832 | 0.76 | 1.12 | 0.42 | 0.32 | −1.43 | −0.33 | −2.40 | 0.22 | −1.22 | −0.35 | −0.63 | −0.24 | 1832 |
| 1833 | −0.86 | 3.16 | −0.18 | −1.82 | 3.46 | 1.33 | −0.45 | −3.12 | −0.48 | −0.93 | 0.14 | 2.48 | 1833 |
| 1834 | 4.73 | 1.31 | 1.00 | −0.68 | 1.82 | 1.23 | 3.65 | 2.34 | 0.74 | −0.28 | 0.56 | 0.36 | 1834 |
| 1835 | 2.81 | 2.37 | 0.57 | −0.91 | −0.86 | 0.13 | 0.21 | −0.59 | 1.22 | −0.97 | −2.71 | −1.77 | 1835 |
| 1836 | 1.37 | 1.11 | 3.42 | 0.07 | −2.55 | 0.20 | −1.08 | −1.49 | −1.06 | 1.00 | −1.10 | 0.26 | 1836 |
| 1837 | 1.91 | 0.38 | −1.98 | −1.68 | −1.42 | −0.69 | −1.11 | 1.20 | −0.92 | 0.37 | 0.72 | −0.87 | 1837 |
| 1838 | −6.30 | −3.63 | 0.42 | −1.42 | −0.24 | 0.35 | −0.22 | −1.78 | 1.27 | −0.89 | −1.14 | −0.33 | 1838 |
| 1839 | 0.79 | 1.50 | −1.98 | −2.54 | 0.58 | 0.95 | 0.77 | −0.44 | 1.10 | 0.15 | 1.10 | −1.49 | 1839 |
| 1840 | −0.09 | 0.65 | 0.23 | −0.07 | −0.03 | 0.16 | 0.27 | −0.07 | −0.05 | 0.09 | −0.05 | −0.33 | 1840 |
| 1841 | −0.01 | −4.03 | 0.91 | 1.01 | 2.51 | −0.88 | −1.10 | −0.01 | 0.58 | 1.29 | 0.75 | 1.62 | 1841 |
| 1842 | −1.34 | 0.39 | 0.93 | −1.52 | 0.75 | −0.54 | −0.84 | 3.13 | 0.42 | −1.55 | −2.82 | 0.71 | 1842 |
| 1843 | 2.40 | 2.45 | −1.09 | 0.44 | −2.01 | −1.00 | −0.41 | 1.17 | −0.64 | −0.66 | 1.42 | 1.96 | 1843 |
| 1844 | 1.00 | −0.96 | −1.50 | 0.48 | 0.56 | −1.00 | −2.35 | −1.60 | 0.36 | −0.24 | 0.56 | 2.41 | 1844 |
| 1845 | 1.65 | −4.55 | −6.24 | 0.28 | −1.48 | 0.49 | 0.90 | −0.94 | −0.93 | −0.18 | 1.26 | 0.33 | 1845 |
| Means. | −1.90 | −0.15 | 2.74 | 6.88 | 10.92 | 13.94 | 15.04 | 14.43 | 11.75 | 7.97 | 3.25 | 1.32 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVIII.

### Denmark. — Copenhagen.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1767 | −3.89 | 0.34 | 0.52 | −1.49 | −1.83 | −1.99 | −1.40 | −0.47 | 0.22 | −0.75 | 1.58 | −0.29 | 1767 |
| 1768 | −0.67 | −0.14 | −1.01 | 0.11 | −0.82 | −0.50 | −0.18 | −0.59 | −1.37 | −0.49 | 0.57 | 1.66 | 1768 |
| 1769 | 1.74 | 0.79 | 1.44 | 0.30 | −0.70 | −0.50 | −0.42 | −1.21 | −0.17 | −1.92 | 0.03 | 0.37 | 1769 |
| 1770 | 0.19 | 1.64 | −2.57 | −0.77 | −0.32 | −0.88 | 0.21 | 0.36 | 1.11 | 1.38 | −0.48 | 0.69 | 1770 |
| 1771 | −1.20 | −2.18 | −3.96 | −3.14 | 0.27 | 1.50 | −0.33 | −2.04 | −0.90 | 0.03 | −1.11 | 1.10 | 1771 |
| 1772 | −0.88 | −1.71 | −2.53 | −1.72 | −1.94 | −0.51 | −0.56 | −0.59 | 0.83 | 1.49 | 2.39 | 1.33 | 1772 |
| 1773 | 1.78 | −0.46 | 0.35 | 0.33 | 0.83 | −0.54 | 0.50 | 0.81 | 0.45 | 1.73 | 0.81 | 0.94 | 1773 |
| 1774 | −2.37 | 0.34 | 0.87 | 0.83 | −0.09 | 0.37 | 0.04 | −0.65 | −1.07 | −0.31 | −5.39 | −2.55 | 1774 |
| 1775 | −0.51 | 1.79 | 1.72 | 0.21 | −0.09 | 2.13 | 1.39 | 1.72 | 2.60 | 0.78 | −1.97 | 0.71 | 1775 |
| 1776 | −5.22 | 1.18 | 1.49 | 0.73 | −0.87 | 1.61 | 2.30 | 1.35 | 0.59 | 0.67 | 0.77 | 0.69 | 1776 |
| 1782 | 2.38 | −0.61 | −0.99 | −0.62 | −0.63 | 3.43 | 0.12 | 0.32 | 0.99 | −1.09 | −1.42 | 0.07 | 1782 |
| 1783 | 0.81 | 2.57 | −0.38 | 2.01 | 1.97 | 2.36 | 3.05 | 1.56 | 1.67 | 1.91 | −0.06 | −0.87 | 1783 |
| 1784 | −2.02 | −0.59 | −2.41 | −1.51 | 0.24 | 0.07 | −0.31 | −0.21 | 0.18 | −0.78 | 1.16 | −0.76 | 1784 |
| 1785 | 0.53 | −2.27 | −2.96 | −1.04 | −1.52 | 0.78 | −0.33 | −0.46 | 0.10 | −0.05 | 1.55 | −0.20 | 1785 |
| 1786 | 0.13 | 0.06 | −2.69 | 0.83 | −1.08 | 1.48 | −0.35 | −0.41 | −0.74 | −1.21 | −2.91 | −0.04 | 1786 |
| 1787 | 0.94 | 2.21 | 2.09 | −0.20 | 0.07 | 0.01 | 0.06 | −0.31 | 0.58 | 1.81 | −0.40 | 0.26 | 1787 |
| 1788 | 2.02 | 0.63 | −1.14 | 0.95 | 1.00 | 1.28 | −0.93 | 0.38 | 1.71 | −0.31 | −0.19 | −6.92 | 1788 |
| 1798 | 1.15 | 2.27 | 1.31 | 2.48 | 2.71 | 2.06 | 2.00 | 2.15 | 1.09 | 1.01 | 0.01 | −2.29 | 1798 |
| 1799 | −0.71 | −4.50 | −1.94 | −1.59 | −2.12 | −0.44 | −0.18 | −0.43 | 0.21 | 0.56 | 1.27 | −2.55 | 1799 |
| 1800 | −0.96 | −2.07 | −3.57 | 2.60 | 1.77 | −1.69 | −0.89 | 0.42 | 0.21 | 1.19 | 1.78 | 1.20 | 1800 |
| 1801 | 1.28 | 0.75 | 2.82 | 1.44 | 2.93 | −0.10 | 1.30 | 0.58 | 0.69 | 2.17 | 1.97 | 0.46 | 1801 |
| 1802 | −0.56 | 1.04 | 1.90 | . . | −1.78 | −2.26 | −3.12 | −0.56 | −0.87 | 0.98 | 0.45 | 0.32 | 1802 |
| 1803 | −3.02 | −1.58 | −0.39 | 1.86 | −1.69 | −2.02 | −0.21 | −0.14 | −1.76 | −0.90 | −0.31 | −1.36 | 1803 |
| 1804 | 2.01 | −1.47 | −1.82 | −0.58 | 0.25 | −0.57 | −0.30 | 0.12 | 1.23 | 0.77 | −1.74 | −2.85 | 1804 |
| 1805 | −1.79 | −2.02 | 0.26 | −1.03 | −2.14 | −3.46 | −1.48 | −1.03 | 0.77 | −2.53 | −0.56 | 0.77 | 1805 |
| 1806 | 1.90 | 1.64 | −0.49 | −1.59 | 0.03 | −2.28 | −1.79 | −0.08 | 1.32 | 0.35 | 1.27 | 2.54 | 1806 |
| 1807 | 1.75 | 1.46 | −0.55 | −0.56 | −0.37 | −1.60 | −0.17 | 2.54 | −2.22 | 0.02 | 0.19 | 0.77 | 1807 |
| 1808 | 1.04 | −0.77 | −1.30 | −1.40 | 0.19 | 0.02 | 1.26 | 1.34 | 1.10 | −0.14 | −0.85 | −2.42 | 1808 |
| 1809 | −2.64 | 0.30 | −0.42 | −2.52 | 0.60 | −0.91 | −0.89 | 0.47 | 0.30 | −0.44 | −0.23 | 1.65 | 1809 |
| 1810 | 0.60 | −0.28 | 0.05 | −1.19 | −2.69 | −1.01 | −0.07 | −0.29 | 0.51 | −0.79 | −0.22 | 0.10 | 1810 |
| 1811 | −0.65 | 0.23 | 2.46 | −0.71 | 1.75 | 0.96 | 2.07 | −0.32 | −0.26 | 1.28 | 1.12 | 1.07 | 1811 |
| 1812 | 0.40 | 1.21 | −1.55 | −2.62 | −1.63 | −0.97 | −2.38 | −0.61 | −1.67 | 1.36 | −1.14 | −3.56 | 1812 |
| 1813 | 0.23 | 2.66 | 1.50 | 0.55 | −1.01 | −1.00 | 0.44 | −0.89 | −0.53 | −2.01 | 0.20 | 0.97 | 1813 |
| 1814 | −3.81 | −4.01 | −2.15 | 0.28 | −2.99 | −1.97 | 0.13 | −0.87 | −1.05 | −0.58 | 1.22 | 0.85 | 1814 |
| 1815 | −0.67 | 1.47 | 1.82 | 0.30 | −0.26 | −1.26 | −1.95 | −0.81 | −1.11 | 0.59 | 0.20 | −0.66 | 1815 |
| 1816 | 0.72 | −1.56 | −0.05 | −0.49 | −2.69 | −1.87 | −0.49 | −1.86 | −0.89 | −0.72 | −0.95 | −0.31 | 1816 |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXVIII.

### Denmark. — Copenhagen (*continued*).

### For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1817 | 2.79 | 2.98 | 1.13 | −1.10 | −0.01 | −1.04 | −1.53 | −1.38 | 0.62 | −2.24 | 1.41 | −1.71 | 1817 |
| 1818 | 1.99 | 1.73 | 2.40 | −1.05 | −0.05 | 0.97 | 1.29 | −0.24 | 0.69 | 0.87 | 1.48 | 0.20 | 1818 |
| 1819 | 3.46 | 2.30 | 2.39 | 1.56 | 1.25 | 1.69 | 1.58 | 3.28 | 1.46 | −0.79 | −1.03 | −1.26 | 1819 |
| 1820 | −1.67 | 0.51 | 0.52 | 1.55 | 0.25 | −1.16 | −0.36 | −0.33 | −0.60 | −0.64 | −0.56 | −0.87 | 1820 |
| 1821 | 0.36 | 0.16 | 0.24 | 2.24 | −0.43 | −1.77 | −1.81 | −0.86 | 0.67 | 1.62 | 1.68 | 2.47 | 1821 |
| 1822 | 2.56 | 3.82 | 3.64 | 2.28 | 1.59 | 0.87 | 0.24 | −0.17 | −0.64 | 1.52 | 2.63 | 0.56 | 1822 |
| 1823 | −2.60 | −0.08 | 0.70 | −0.04 | 0.51 | 0.15 | −0.94 | 0.41 | 0.47 | 1.02 | 1.88 | 1.74 | 1823 |
| 1824 | 3.65 | 2.36 | 0.97 | 0.91 | 0.14 | 1.22 | −0.61 | −0.48 | 1.62 | 0.09 | 1.20 | 2.18 | 1824 |
| 1826 | .. | .. | .. | .. | 4.30 | 5.91 | 7.76 | 6.63 | .. | .. | .. | 2.04 | 1826 |
| 1827 | 0.16 | −2.30 | 0.59 | 2.14 | 1.44 | 1.93 | 0.09 | −0.29 | 1.48 | 1.16 | −1.20 | 2.30 | 1827 |
| 1828 | −0.07 | 0.43 | 1.37 | 0.58 | 1.31 | 1.34 | 1.36 | 0.26 | 0.41 | 0.46 | 0.61 | 0.50 | 1828 |
| 1829 | −1.14 | −3.06 | −0.95 | −1.00 | 1.84 | 1.50 | −0.23 | −1.01 | 0.03 | −1.43 | −2.91 | −3.60 | 1829 |
| 1830 | −2.26 | −2.85 | 1.39 | 0.69 | −0.18 | −0.86 | 0.30 | −0.81 | −0.95 | 0.15 | 1.75 | −0.22 | 1830 |
| 1831 | −1.60 | 0.61 | −0.16 | 1.87 | 0.31 | 0.85 | 2.52 | 1.55 | −0.59 | 2.71 | −0.65 | 1.91 | 1831 |
| 1832 | 1.52 | 1.73 | 1.55 | 1.84 | −0.23 | 1.29 | −0.94 | −0.06 | −0.98 | 0.60 | −0.47 | 0.58 | 1832 |
| 1833 | 0.05 | 1.50 | −0.45 | −0.72 | 2.32 | 0.72 | 0.79 | −2.27 | 0.08 | 0.63 | 0.77 | 1.32 | 1833 |
| 1834 | 2.26 | 1.71 | 2.23 | 0.90 | 1.98 | 0.72 | 3.60 | 3.26 | 0.11 | −0.05 | 0.22 | 0.59 | 1834 |
| 1835 | 1.87 | 2.16 | 1.66 | −0.02 | −0.92 | 1.17 | 1.03 | −0.57 | 0.09 | −0.85 | −1.44 | −0.88 | 1835 |
| 1836 | 0.29 | 0.63 | 2.71 | 0.14 | −0.17 | 0.24 | −0.89 | −1.86 | −1.62 | −0.48 | −1.34 | 0.09 | 1836 |
| 1837 | 0.17 | 0.54 | −1.08 | −1.50 | −1.10 | 0.05 | −0.21 | 0.60 | −0.80 | −0.06 | −0.91 | −0.75 | 1837 |
| 1838 | −2.83 | −4.85 | −0.56 | −2.63 | −0.97 | −0.70 | −0.09 | −2.25 | −0.44 | −1.82 | −2.01 | −0.25 | 1838 |
| 1839 | −0.17 | −0.38 | −2.06 | −2.80 | 0.49 | 0.13 | 0.23 | −1.24 | −0.40 | 0.11 | −0.19 | −2.12 | 1839 |
| 1840 | −0.63 | −0.39 | −0.64 | 0.35 | −2.64 | −2.17 | −3.25 | −1.79 | −1.95 | −3.77 | −0.51 | −2.65 | 1840 |
| 1841 | −1.14 | −2.52 | 0.97 | 0.62 | 2.21 | −1.37 | −2.56 | −0.97 | −0.71 | −0.38 | −0.36 | 2.37 | 1841 |
| 1842 | −0.26 | 1.43 | 2.05 | 0.61 | 1.78 | −0.11 | −0.99 | 2.73 | 0.31 | −0.88 | −1.57 | 2.36 | 1842 |
| 1843 | 1.82 | 0.79 | −0.33 | 0.46 | −0.96 | −0.25 | −0.67 | 1.03 | −0.20 | −1.23 | 0.86 | 2.99 | 1843 |
| 1844 | 0.07 | −2.48 | −1.50 | 0.74 | 1.49 | −1.12 | −2.17 | −1.42 | −0.62 | −0.29 | 0.46 | −1.43 | 1844 |
| 1845 | 1.24 | −4.16 | −4.45 | 0.54 | −1.01 | 0.20 | 0.22 | −0.86 | −1.26 | −1.04 | 1.28 | 0.59 | 1845 |
| Means. | −1.16 | −0.80 | 0.55 | 4.45 | 8.98 | 12.45 | 13.81 | 13.50 | 10.86 | 7.05 | 3.12 | 0.68 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## LXXXIX.

### France. — Paris.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1806 | 3.35 | 1.38 | 0.28 | −1.54 | 2.07 | 0.77 | 0.64 | −0.38 | 0.53 | −0.26 | 1.69 | 4.00 | 1806 |
| 1807 | 0.34 | 1.39 | −2.74 | −0.63 | 1.28 | −0.52 | 1.94 | 2.34 | −2.08 | 1.15 | −0.74 | −1.75 | 1807 |
| 1808 | 0.42 | −1.42 | −2.19 | −2.23 | 2.55 | −0.30 | 2.14 | 0.66 | −0.78 | −1.74 | 0.58 | −1.87 | 1808 |
| 1809 | 2.95 | 2.91 | 0.42 | −2.72 | 0.54 | −1.38 | −1.08 | −0.36 | −0.81 | −1.09 | −1.54 | 1.04 | 1809 |
| 1810 | −2.90 | −1.11 | 1.16 | −0.42 | −0.62 | −0.06 | −0.74 | −0.70 | 1.75 | 0.25 | 0.80 | 1.30 | 1810 |
| 1811 | −1.83 | 2.31 | 1.90 | 1.58 | 2.14 | 0.25 | 0.44 | −0.66 | 0.95 | 2.55 | 1.38 | 0.72 | 1811 |
| 1812 | −0.32 | 1.63 | −0.82 | −1.92 | 0.88 | −0.77 | −0.96 | −0.46 | −0.17 | 0.51 | −1.95 | −3.71 | 1812 |
| 1813 | −1.18 | 1.33 | −0.23 | 0.71 | 0.48 | −1.26 | −1.12 | −1.42 | −1.38 | 0.29 | −0.63 | −0.47 | 1813 |
| 1814 | −1.70 | −3.37 | −2.30 | 1.30 | −1.67 | −1.17 | 0.46 | −0.91 | −0.26 | −1.22 | −0.51 | 2.02 | 1814 |
| 1815 | −1.98 | 2.39 | 2.29 | 0.36 | 0.18 | −0.89 | −0.93 | −0.54 | −0.11 | 0.77 | −2.70 | −1.34 | 1815 |
| 1816 | 0.54 | −1.69 | −0.71 | 0.10 | −1.40 | −1.83 | −2.53 | −2.37 | −1.26 | 0.29 | −2.24 | 0.07 | 1816 |
| 1817 | 2.48 | 2.22 | −0.20 | −2.02 | −1.70 | 0.61 | −1.34 | −1.66 | 0.99 | −3.16 | 1.80 | −1.12 | 1817 |
| 1818 | 1.94 | −0.21 | −0.15 | 1.20 | −0.65 | 1.75 | 1.14 | −0.18 | 0.05 | 0.38 | 1.98 | −1.23 | 1818 |
| 1819 | 2.43 | 0.95 | 0.16 | 1.31 | 0.02 | −0.85 | 0.30 | 0.78 | 0.58 | −0.12 | −1.66 | −0.30 | 1819 |
| 1820 | −2.02 | −0.98 | −1.42 | 1.20 | −0.30 | −1.37 | −0.35 | 0.11 | −1.19 | −0.93 | −1.30 | −0.22 | 1820 |
| 1821 | 1.02 | −2.58 | 0.54 | 1.34 | −1.95 | −2.05 | −1.39 | 1.20 | 0.85 | −0.14 | 2.70 | 3.10 | 1821 |
| 1822 | 1.96 | 1.52 | 2.62 | 1.01 | 1.72 | 3.26 | 0.09 | 0.42 | 0.18 | 1.72 | 1.82 | −3.42 | 1822 |
| 1823 | −1.79 | 0.88 | −0.14 | −0.62 | 0.50 | −1.69 | −1.23 | 0.46 | 0.00 | −0.58 | −0.84 | 1.58 | 1823 |
| 1824 | 0.61 | 0.68 | −1.00 | −0.54 | −1.52 | −0.61 | −0.02 | −0.17 | 0.89 | 0.54 | 2.30 | 2.74 | 1824 |
| 1825 | 1.23 | 0.06 | −0.94 | 1.54 | −0.22 | −0.05 | 1.24 | 0.70 | 1.77 | 0.75 | 0.40 | 2.18 | 1825 |
| 1826 | −2.77 | 1.73 | 0.56 | 0.27 | −1.48 | 1.35 | 1.59 | 2.10 | 1.11 | 1.70 | −1.08 | 1.72 | 1826 |
| 1827 | −1.63 | −4.14 | 1.14 | 1.14 | 0.18 | −0.09 | 0.85 | −0.43 | 0.46 | 1.52 | −0.77 | 2.58 | 1827 |
| 1828 | 3.28 | 0.80 | 0.29 | 0.50 | 0.46 | 0.34 | 0.34 | −0.74 | 0.74 | −0.30 | 0.51 | 0.89 | 1828 |
| 1829 | −3.16 | −0.97 | −0.75 | −0.08 | 0.32 | 0.05 | −0.10 | −1.30 | −1.53 | −1.01 | −1.64 | −5.70 | 1829 |
| 1830 | −3.42 | −2.59 | 2.54 | 1.68 | 0.11 | −0.82 | 0.16 | −1.23 | −1.50 | −0.44 | 0.83 | −0.82 | 1830 |
| 1831 | 0.13 | 1.53 | 1.85 | 1.30 | −0.20 | −0.12 | 0.86 | 0.12 | −0.35 | 2.83 | −0.10 | 1.50 | 1831 |
| 1832 | −0.36 | −0.59 | −0.93 | 0.65 | −1.05 | 0.22 | 0.68 | 1.87 | −0.10 | 0.06 | −0.10 | 0.53 | 1832 |
| 1833 | −1.73 | 2.34 | −1.82 | −0.38 | 2.54 | 1.06 | −0.24 | −1.65 | −1.53 | 0.57 | −0.61 | 3.46 | 1833 |
| 1834 | 4.34 | −0.42 | 0.67 | −0.70 | 1.59 | 0.70 | 1.25 | 0.69 | 1.24 | 0.29 | −0.05 | −0.02 | 1834 |
| 1835 | 1.35 | 1.69 | −0.14 | −0.38 | −0.55 | 0.18 | 1.92 | 1.42 | 0.36 | −0.92 | −1.10 | −2.84 | 1835 |
| 1836 | 0.55 | −1.03 | 1.62 | −1.02 | −1.67 | 1.06 | 0.56 | 0.30 | −1.24 | −0.04 | 0.66 | 0.36 | 1836 |
| 1837 | 0.39 | 0.97 | −3.26 | −3.34 | −2.79 | 1.14 | −0.32 | 1.26 | −0.84 | 0.04 | −0.62 | 0.60 | 1837 |
| 1838 | −5.21 | −5.03 | 0.26 | −2.52 | −0.23 | −0.68 | −0.32 | −0.42 | −0.12 | −0.04 | 0.74 | −1.48 | 1838 |
| 1839 | 0.75 | 0.73 | −0.62 | −1.70 | −0.71 | 1.62 | −0.04 | −0.86 | 0.00 | −0.56 | 1.10 | 1.60 | 1839 |
| 1840 | 1.23 | −0.47 | −2.58 | 2.26 | 0.49 | 1.02 | −1.08 | 0.98 | −0.64 | −1.40 | 0.99 | −4.76 | 1840 |
| 1841 | 0.47 | −1.35 | 1.94 | 0.42 | 2.25 | −1.26 | −1.68 | −0.50 | 2.28 | 0.12 | 0.02 | 1.48 | 1841 |
| 1842 | −2.65 | 0.33 | 1.30 | 0.26 | 0.05 | 2.66 | 0.52 | 3.18 | −0.12 | −2.28 | −1.10 | 0.36 | 1842 |
| 1843 | 2.07 | −0.39 | 1.06 | 0.50 | −0.31 | −0.86 | −0.48 | 0.70 | 0.96 | 0.12 | 0.54 | 0.60 | 1843 |
| 1844 | 0.83 | −1.31 | 0.18 | 2.22 | −1.35 | 0.54 | −1.12 | −2.34 | 0.24 | −0.36 | 0.26 | −3.40 | 1844 |
| Means. | 1.53 | 3.35 | 5.33 | 7.90 | 11.59 | 13.66 | 14.96 | 14.82 | 12.52 | 9.00 | 5.41 | 2.92 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## XC.

### Holland. — Zwanenburg.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1743 | 0.60 | 1.40 | −0.15 | −2.69 | −0.40 | 0.59 | −1.15 | 0.05 | −0.22 | −2.27 | 1.83 | −0.23 | 1743 |
| 1744 | −0.91 | −2.36 | −0.74 | −0.80 | −0.89 | −0.26 | −1.02 | −1.23 | −0.71 | 0.39 | 0.66 | 0.21 | 1744 |
| 1745 | 0.15 | −1.64 | −0.70 | −0.43 | −0.04 | −0.69 | −0.92 | −1.20 | 0.02 | −0.27 | −0.50 | −2.16 | 1745 |
| 1746 | −0.82 | −1.70 | −2.19 | −1.20 | 1.36 | −0.62 | 0.04 | −1.28 | −0.65 | −2.09 | −2.80 | 1.02 | 1746 |
| 1747 | −0.47 | 2.16 | −2.29 | −0.18 | −0.52 | 0.92 | −0.65 | −0.21 | 0.34 | −0.49 | 1.62 | 1.60 | 1747 |
| 1748 | −0.24 | −2.63 | −4.14 | −2.12 | −0.31 | 1.45 | 0.08 | 0.39 | −0.03 | 0.28 | 1.68 | 3.46 | 1748 |
| 1749 | 2.68 | 0.11 | −1.09 | −0.52 | 1.11 | −2.30 | −0.10 | 0.23 | −0.11 | −0.35 | −0.45 | 1.65 | 1749 |
| 1750 | −0.34 | 2.60 | 2.88 | −0.06 | 0.14 | −0.10 | 0.97 | −0.45 | 0.75 | −1.25 | −1.63 | −0.31 | 1750 |
| 1751 | 1.09 | −2.29 | 1.33 | −0.60 | −1.21 | −0.10 | −0.78 | −0.52 | −1.19 | −0.48 | −1.31 | 0.33 | 1751 |
| 1752 | 1.71 | −0.56 | 0.72 | −0.63 | −1.10 | 0.95 | −0.48 | −0.09 | 0.39 | 0.07 | 0.90 | 1.37 | 1752 |
| 1753 | −1.80 | −0.11 | 1.34 | 0.01 | −0.30 | 1.19 | −0.34 | −1.00 | 0.30 | 0.59 | −0.88 | 0.67 | 1753 |
| 1754 | 0.64 | −1.14 | −2.23 | −1.40 | 0.41 | −0.49 | −1.33 | −0.16 | −0.44 | 0.61 | 0.05 | −0.36 | 1754 |
| 1755 | −1.98 | −3.19 | −1.24 | 1.72 | −1.37 | 1.89 | −0.31 | −1.33 | −1.12 | −0.08 | −0.03 | 1.22 | 1755 |
| 1756 | 3.20 | 1.32 | 0.38 | −1.57 | −1.53 | 0.97 | 0.80 | −0.50 | 0.74 | −0.31 | −1.13 | −2.60 | 1756 |
| 1757 | −2.22 | −0.59 | 0.00 | 1.00 | −1.01 | −0.11 | 2.37 | 0.36 | −0.21 | −1.09 | 1.43 | −0.09 | 1757 |
| 1758 | −1.28 | 0.37 | 0.41 | −0.39 | 1.95 | 0.29 | −1.41 | 0.99 | −0.17 | 0.21 | 0.05 | 0.36 | 1758 |
| 1759 | 2.86 | 2.13 | 1.49 | 0.86 | −0.58 | 0.99 | 1.66 | 0.71 | −0.07 | 1.05 | −1.54 | −2.68 | 1759 |
| 1760 | −1.64 | −0.69 | 0.15 | 0.77 | −0.22 | 1.31 | −0.15 | −0.40 | 1.14 | 0.28 | 1.08 | 2.67 | 1760 |
| 1761 | 1.78 | 1.90 | 2.37 | 0.47 | 0.92 | 0.86 | −0.61 | 1.16 | 0.67 | −1.75 | 0.34 | −1.59 | 1761 |
| 1762 | 2.10 | 0.09 | −1.25 | 2.37 | 0.93 | 0.67 | 0.30 | −1.31 | −0.04 | −1.98 | −1.37 | −2.02 | 1762 |
| 1763 | −4.88 | 0.79 | −0.34 | −0.24 | −1.04 | 0.28 | −0.08 | 0.22 | −0.56 | −0.99 | 0.56 | 1.52 | 1763 |
| 1764 | 3.37 | 2.52 | 0.17 | 0.52 | 1.71 | 0.02 | 1.43 | −0.32 | −1.14 | −0.74 | −0.45 | −1.01 | 1764 |
| 1765 | 2.24 | −2.13 | 2.30 | 1.62 | 0.27 | 1.22 | −0.84 | 0.85 | −0.05 | 1.24 | 0.08 | −0.82 | 1765 |
| 1766 | −0.22 | −0.78 | 0.72 | 1.67 | 0.37 | 0.35 | 0.20 | 0.45 | 0.49 | 0.32 | 0.46 | −0.68 | 1766 |
| 1767 | −3.34 | 2.34 | 1.08 | −0.63 | −1.36 | −0.94 | −0.80 | 0.36 | 0.98 | 0.71 | 2.15 | −1.33 | 1767 |
| 1768 | −1.94 | 0.93 | −0.07 | −0.09 | −0.02 | 0.54 | 0.65 | 0.33 | −1.27 | −0.37 | 0.70 | 0.72 | 1768 |
| 1769 | 1.19 | 0.09 | 0.85 | 0.99 | −0.21 | −0.53 | 0.53 | −0.06 | 0.48 | −1.71 | 0.58 | 1.43 | 1769 |
| 1770 | 1.45 | 0.92 | −1.12 | −1.04 | −0.15 | −0.34 | 0.02 | 1.20 | 1.59 | 0.19 | 0.06 | 2.01 | 1770 |
| 1771 | −0.50 | −1.44 | −2.33 | −2.59 | 1.72 | 0.26 | −0.29 | −1.01 | 0.04 | 0.89 | 0.69 | 1.68 | 1771 |
| 1772 | 0.11 | 0.21 | 0.68 | −0.50 | −1.11 | 1.19 | 0.57 | 0.36 | 0.83 | 2.68 | 2.36 | 1.16 | 1772 |
| 1773 | 3.38 | −0.57 | 1.36 | 0.81 | 0.35 | 0.31 | −0.16 | 1.17 | 0.66 | 1.79 | 1.51 | 1.76 | 1773 |
| 1774 | 0.58 | 1.62 | 2.18 | 1.30 | 0.08 | 0.96 | 1.12 | 0.51 | −0.30 | 1.23 | −1.84 | −0.45 | 1774 |
| 1775 | 1.31 | 3.40 | 2.12 | 1.04 | −0.12 | 2.19 | 0.78 | 0.88 | 1.84 | 1.25 | −1.53 | 1.65 | 1775 |
| 1776 | −4.40 | 1.20 | 1.99 | 1.45 | −0.85 | 1.11 | 1.56 | 0.47 | −0.01 | 1.31 | 0.46 | 0.05 | 1776 |
| 1777 | −0.23 | −1.57 | 1.14 | −0.56 | 0.15 | −0.19 | −0.07 | 0.88 | 0.60 | 0.73 | 1.97 | −0.60 | 1777 |
| 1778 | −1.26 | −1.70 | −0.55 | 0.36 | 0.71 | 0.43 | 1.43 | 0.54 | −1.58 | −2.02 | 1.08 | 2.90 | 1778 |
| 1779 | −0.28 | 2.55 | 1.79 | 1.21 | 0.61 | −0.77 | 0.60 | 1.51 | 1.27 | 1.61 | 0.19 | 0.53 | 1779 |
| 1780 | −1.54 | −0.56 | 2.68 | −0.78 | 1.07 | −0.51 | −0.25 | 2.04 | 1.08 | 1.03 | −0.07 | −1.09 | 1780 |

The numbers without sign must be subtracted; those with the sign — must be added.

## XC.

### Holland. — Zwanenburg (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1781 | −0.97 | 1.18 | 1.18 | 1.23 | 0.37 | 2.47 | 1.04 | 1.56 | 0.91 | 0.75 | 0.36 | −0.39 | 1781 |
| 1782 | 2.88 | −1.88 | −0.56 | −1.11 | −1.09 | 0.77 | 0.34 | −0.54 | 0.50 | −0.93 | −2.43 | −0.89 | 1782 |
| 1783 | 2.39 | 2.13 | −1.31 | 1.24 | −0.05 | 0.92 | 2.75 | 0.93 | 0.44 | 0.73 | 0.48 | −2.74 | 1783 |
| 1784 | −3.26 | −3.01 | −2.04 | −2.16 | 1.23 | 0.15 | −0.37 | −0.80 | 0.94 | −2.30 | 0.80 | −1.60 | 1784 |
| 1785 | −0.06 | −2.34 | −3.32 | −1.54 | −0.96 | −0.46 | −0.01 | −0.59 | 1.14 | 0.40 | 0.41 | −1.70 | 1785 |
| 1786 | 0.35 | −0.08 | −3.19 | 0.44 | −0.59 | 0.72 | −1.80 | −0.75 | −1.55 | −1.49 | −3.59 | −0.23 | 1786 |
| 1787 | −0.23 | 1.24 | 1.82 | −0.90 | −1.11 | −0.11 | −0.82 | −0.56 | . . | . . | . . | . . | 1787 |
| 1788 | 2.20 | −0.42 | −1.15 | 0.24 | 0.58 | 1.05 | 0.87 | −0.66 | 0.30 | 0.33 | −0.73 | −6.23 | 1788 |
| 1789 | −2.66 | 0.98 | −3.65 | −1.64 | 0.56 | −0.65 | −0.58 | −0.07 | −0.40 | −1.13 | −1.10 | 1.84 | 1789 |
| 1790 | 2.20 | 2.51 | 1.53 | −2.00 | 0.89 | −0.72 | −1.76 | −1.25 | −1.73 | −0.86 | −1.71 | 0.89 | 1790 |
| 1791 | 2.74 | 1.29 | 1.23 | 1.34 | −1.21 | −1.25 | −1.20 | −0.14 | −0.74 | −0.60 | −0.79 | −0.53 | 1791 |
| 1792 | 1.06 | −0.38 | 0.03 | 1.70 | −1.11 | −0.93 | −0.07 | 0.27 | −1.53 | −1.13 | −0.14 | 1.05 | 1792 |
| 1793 | 0.52 | 1.59 | 0.03 | −1.40 | −1.61 | −1.70 | 0.67 | −0.65 | −1.68 | 0.98 | −0.17 | 1.60 | 1793 |
| 1794 | −0.21 | 2.09 | 2.58 | 2.59 | −0.76 | −0.43 | 1.52 | −0.87 | −1.14 | −0.54 | 0.41 | −2.08 | 1794 |
| 1795 | −4.52 | −1.53 | −0.92 | 0.85 | −1.88 | −0.18 | −2.29 | −0.08 | 1.51 | 2.39 | 0.37 | 2.87 | 1795 |
| 1796 | 4.72 | 1.76 | −0.99 | 1.00 | −0.63 | −0.50 | −0.91 | 0.02 | 0.64 | −0.80 | −0.46 | −2.07 | 1796 |
| 1797 | 0.84 | 0.52 | −0.18 | 0.81 | 0.52 | −1.18 | 1.38 | 0.01 | −0.78 | −0.60 | 0.32 | 1.59 | 1797 |
| 1798 | 1.45 | 1.73 | 0.31 | 1.22 | 0.11 | 0.77 | −0.05 | 0.36 | 0.19 | 0.68 | −0.17 | −3.49 | 1798 |
| 1799 | −2.11 | −2.00 | −1.77 | −2.19 | −1.68 | −1.83 | −1.47 | −1.08 | −0.72 | −0.63 | 0.59 | −3.54 | 1799 |
| 1800 | −0.65 | −1.76 | −1.97 | 2.08 | 1.85 | −2.10 | −1.32 | 0.04 | 0.50 | 0.02 | 1.12 | −0.46 | 1800 |
| 1801 | 1.97 | −0.59 | 1.61 | 0.26 | 0.68 | −1.43 | −0.76 | 0.32 | 0.45 | 1.16 | 0.53 | 0.47 | 1801 |
| 1802 | −0.75 | 0.24 | 0.56 | 0.55 | −1.10 | −0.28 | −1.69 | 1.08 | 0.03 | 1.15 | 0.54 | 1.19 | 1802 |
| 1803 | −3.04 | −2.29 | 0.00 | 2.06 | −1.55 | −0.92 | 1.43 | 0.75 | −1.11 | 0.06 | 0.29 | 0.43 | 1803 |
| 1804 | 3.30 | 0.13 | −0.92 | −0.84 | 1.35 | 0.26 | 0.03 | −0.20 | 1.57 | 0.62 | −1.79 | −2.84 | 1804 |
| 1805 | −1.22 | −0.36 | −0.07 | −0.56 | −2.16 | −1.97 | −1.18 | 0.05 | 1.47 | −2.00 | −1.69 | 0.94 | 1805 |
| 1806 | 3.14 | 1.58 | 0.25 | −1.95 | 1.79 | −0.52 | 0.13 | 0.67 | 1.41 | 0.23 | 2.52 | 4.12 | 1806 |
| 1807 | 2.36 | 1.74 | −1.32 | −0.37 | 1.09 | −0.17 | 1.64 | 2.53 | −1.40 | 1.63 | −0.15 | 0.84 | 1807 |
| 1808 | 1.19 | 0.07 | −1.71 | −2.02 | 2.07 | −0.46 | 2.62 | 1.64 | 0.24 | −1.35 | −0.05 | −1.50 | 1808 |
| 1809 | . . | . . | . . | −2.53 | 1.30 | −1.03 | −0.47 | 0.09 | −0.27 | −1.32 | −0.99 | 0.68 | 1809 |
| 1810 | −1.94 | −1.39 | −0.36 | −0.41 | −1.76 | −0.96 | 0.05 | −0.07 | 0.99 | −0.63 | −0.03 | 1.06 | 1810 |
| 1811 | −2.75 | 0.55 | 1.41 | 1.16 | 2.75 | 1.53 | 0.47 | −0.30 | −0.49 | 2.40 | 1.80 | 1.05 | 1811 |
| 1812 | 0.81 | 1.20 | −1.21 | −2.48 | 0.16 | −0.68 | −1.28 | −0.56 | −0.62 | 0.46 | −2.11 | −4.00 | 1812 |
| 1813 | −0.84 | 1.53 | 0.16 | 0.04 | 0.85 | −0.32 | −0.12 | −0.91 | −0.75 | −1.32 | −0.76 | −1.31 | 1813 |
| 1814 | −3.33 | −4.20 | −2.89 | 1.27 | −2.01 | −1.86 | 0.44 | −0.66 | −0.72 | −1.44 | −0.17 | 0.17 | 1814 |
| 1815 | −2.69 | 0.96 | 2.23 | 0.59 | 0.59 | −0.08 | −1.63 | −0.77 | −0.54 | 0.07 | −0.97 | −1.90 | 1815 |
| 1816 | 0.52 | −1.64 | −0.78 | −0.28 | −1.48 | −2.28 | −1.31 | −1.85 | −1.14 | −0.12 | −2.06 | −0.45 | 1816 |
| 1817 | 2.36 | 2.31 | 0.19 | −2.12 | −1.38 | 0.84 | −0.88 | −1.30 | 0.69 | −3.16 | 1.83 | −0.67 | 1817 |
| 1818 | 1.96 | −0.40 | 0.40 | −0.21 | −0.56 | 1.69 | 0.99 | −0.64 | −0.36 | −0.34 | 0.74 | −1.22 | 1818 |

The numbers without sign must be subtracted; those with the sign — must be added.

## XC.

### Holland. — Zwanenburg (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1819 | 1.47 | 1.04 | 0.68 | 0.84 | 0.91 | 0.50 | 0.56 | 1.12 | 0.55 | −0.79 | −1.18 | −2.18 | 1819 |
| 1820 | −2.89 | −1.49 | −1.21 | 0.72 | 0.12 | −1.71 | −1.06 | −0.11 | −0.93 | −0.81 | −1.84 | −1.59 | 1820 |
| 1821 | −0.67 | −1.32 | −0.16 | 1.66 | −1.24 | −1.91 | −1.81 | −0.14 | 0.72 | 0.20 | 1.72 | 2.08 | 1821 |
| 1822 | 2.64 | 1.93 | 2.26 | 0.40 | 1.53 | 1.65 | 0.24 | −0.19 | −0.88 | 0.74 | 1.99 | −2.95 | 1822 |
| 1823 | −6.29 | −0.94 | 0.11 | −1.19 | 0.44 | −1.88 | −0.89 | 0.12 | −0.37 | −0.66 | 0.90 | 1.65 | 1823 |
| 1824 | 2.30 | 0.20 | −0.22 | −0.78 | −0.47 | −0.40 | −0.19 | 0.00 | 1.03 | 0.36 | 1.52 | 2.59 | 1824 |
| 1825 | 2.63 | 0.60 | −1.42 | 0.43 | 0.12 | 0.00 | −0.04 | −0.36 | 1.20 | 1.04 | 1.03 | 1.70 | 1825 |
| 1826 | −2.57 | 0.97 | 0.87 | 0.17 | −0.59 | 1.52 | 2.12 | 2.01 | 0.30 | 1.95 | 0.16 | 1.99 | 1826 |
| 1827 | −0.65 | −3.83 | 0.58 | 0.93 | 0.40 | −0.24 | 0.14 | −0.55 | −0.14 | 0.88 | −0.91 | 2.79 | 1827 |
| 1828 | 0.75 | −0.75 | 1.05 | 0.43 | 0.49 | 0.70 | 0.79 | −0.64 | 0.43 | 0.24 | −0.18 | 1.96 | 1828 |
| 1829 | −3.35 | −2.47 | −1.43 | −0.45 | 0.10 | −0.37 | −0.42 | −1.35 | −1.52 | −0.43 | −1.61 | −5.77 | 1829 |
| 1830 | −2.70 | −4.01 | 0.50 | 0.75 | 0.13 | −1.45 | 0.59 | −1.17 | −1.45 | 0.34 | 1.00 | −1.80 | 1830 |
| 1831 | −1.07 | 0.04 | 1.24 | 1.61 | −0.10 | −0.09 | 0.90 | 0.66 | −0.14 | 3.16 | 0.66 | 1.72 | 1831 |
| 1832 | −0.77 | −1.34 | −0.43 | 0.55 | −1.49 | −0.07 | −1.74 | −0.12 | −0.64 | 0.48 | −1.37 | 0.72 | 1832 |
| 1833 | −2.12 | 1.33 | −1.62 | −0.68 | 2.22 | 0.92 | −0.48 | −2.08 | −0.99 | 0.11 | 0.44 | 3.07 | 1833 |
| 1834 | 4.21 | 0.40 | 1.15 | −0.87 | 1.31 | 0.87 | 1.80 | 1.00 | 0.86 | 0.68 | −0.31 | 1.42 | 1834 |
| 1835 | 1.21 | 1.81 | 0.47 | −0.76 | −1.09 | 0.92 | 0.47 | 0.07 | −0.22 | −0.77 | −1.44 | −0.44 | 1835 |
| Means. | 0.99 | 3.14 | 3.86 | 6.80 | 10.12 | 12.45 | 13.97 | 14.13 | 12.30 | 8.61 | 4.84 | 2.16 | Means. |

## XCI. England. — London.

Degrees of Reaumur.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1794 | −0.96 | 2.72 | 1.23 | 1.64 | −0.99 | −0.43 | 1.83 | −0.38 | −1.35 | −0.61 | 0.36 | −1.10 | 1794 |
| 1795 | −5.04 | −2.08 | −1.26 | −0.23 | −0.46 | −1.98 | −0.04 | 0.11 | 1.76 | 1.61 | −0.88 | 2.46 | 1795 |
| 1796 | 4.42 | 0.50 | −1.00 | 1.10 | −1.26 | −1.00 | −1.28 | −0.51 | 1.23 | −1.45 | −0.97 | −3.76 | 1796 |
| 1797 | −0.01 | −1.44 | −1.51 | −0.45 | −0.70 | −1.56 | 0.62 | −0.82 | −0.97 | −1.34 | −0.44 | 0.93 | 1797 |
| 1798 | −3.44 | −0.28 | −0.12 | 1.41 | 0.44 | 1.31 | −0.10 | 0.88 | −0.11 | 0.09 | −1.24 | −2.39 | 1798 |
| 1799 | −1.00 | −1.05 | −1.74 | −1.94 | −1.39 | −1.34 | −0.79 | −1.40 | −1.19 | −1.02 | 0.13 | −2.79 | 1799 |
| 1800 | 0.59 | −2.04 | −1.70 | 1.14 | 0.66 | −1.37 | 0.66 | 1.23 | 0.42 | −0.86 | −0.15 | −0.24 | 1800 |
| 1801 | 1.64 | −0.08 | 1.26 | −0.35 | −0.10 | −0.09 | −0.48 | 0.76 | 0.88 | 0.33 | −1.08 | −1.37 | 1801 |
| 1802 | −1.21 | 0.11 | −0.04 | 1.14 | −1.50 | −0.66 | −2.20 | 1.74 | 0.49 | 0.23 | −0.89 | −0.56 | 1802 |
| 1803 | −0.92 | −1.03 | 0.51 | 0.88 | −1.12 | −0.89 | 0.97 | 0.41 | −1.77 | −0.40 | −0.31 | 0.98 | 1803 |
| 1804 | 3.39 | −0.73 | 0.00 | −0.95 | 1.80 | 1.07 | −0.57 | −0.20 | 1.16 | 0.66 | 0.68 | −1.52 | 1804 |
| 1805 | −0.52 | 0.04 | 0.34 | −0.20 | −1.38 | −1.49 | −0.89 | 0.60 | 1.15 | −1.06 | −1.17 | 0.08 | 1805 |
| 1806 | 2.27 | 1.27 | −0.23 | −1.21 | 1.00 | 0.64 | −0.06 | 0.38 | 0.16 | 0.54 | 2.11 | 3.64 | 1806 |
| 1807 | 0.64 | 0.54 | −1.80 | −0.14 | 1.05 | −0.34 | 1.07 | 1.36 | −1.61 | 1.44 | −1.60 | −1.19 | 1807 |
| 1808 | 0.64 | −1.01 | −1.80 | −1.43 | 1.99 | 0.02 | 1.87 | 0.82 | −0.55 | −1.76 | 0.58 | −1.32 | 1808 |
| 1809 | −0.11 | 2.36 | 0.65 | −2.05 | 1.23 | −0.38 | −0.75 | −1.09 | −0.24 | −0.08 | −1.33 | 0.72 | 1809 |

The numbers without sign must be subtracted; those with the sign — must be added

## XCI.

### England. — London (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1810 | −0.47 | 0.01 | 0.38 | 0.12 | −1.44 | 0.20 | −0.44 | −0.16 | 1.32 | 0.95 | 0.32 | −0.03 | 1810 |
| 1811 | −1.09 | 0.85 | 1.54 | 1.64 | 2.03 | 0.51 | 0.36 | −0.51 | 0.83 | 2.50 | 1.29 | −0.16 | 1811 |
| 1812 | 0.42 | 1.43 | −0.68 | −1.56 | −0.19 | −1.09 | −1.24 | −1.89 | −0.64 | −1.10 | −0.75 | 0.90 | 1812 |
| 1813 | −0.51 | 1.34 | 0.87 | −0.81 | 0.12 | −0.96 | −0.97 | −1.00 | −0.99 | −1.05 | −0.84 | −1.01 | 1813 |
| 1814 | −3.80 | −2.21 | −2.55 | 1.06 | −1.66 | −2.03 | −0.04 | −0.91 | −0.72 | −1.10 | −0.75 | 0.90 | 1814 |
| 1815 | −1.49 | 1.34 | 1.94 | 0.44 | 1.19 | 0.24 | −0.53 | −0.07 | 2.48 | 0.55 | −1.42 | −0.83 | 1815 |
| 1816 | 0.64 | −0.70 | −0.64 | −0.50 | −0.99 | −1.27 | −2.35 | −1.18 | 0.96 | 0.28 | −1.24 | −0.48 | 1816 |
| 1817 | 1.84 | 2.05 | 0.25 | −0.63 | −1.75 | 0.77 | −1.46 | −2.60 | −0.81 | −1.76 | 2.14 | −0.70 | 1817 |
| 1818 | 1.67 | −1.32 | 0.03 | 0.04 | −0.06 | 2.24 | 2.40 | 1.98 | 2.30 | 2.06 | 3.20 | −0.08 | 1818 |
| 1819 | 2.29 | 0.85 | 1.36 | 1.37 | 0.88 | −0.69 | 0.36 | 1.58 | 0.70 | 3.08 | −0.75 | −0.74 | 1819 |
| 1820 | −1.44 | −0.66 | 0.25 | 1.68 | −0.01 | −0.74 | −0.71 | −1.18 | −0.99 | −0.96 | −0.22 | 0.59 | 1820 |
| 1821 | 1.04 | −0.97 | 0.87 | 2.08 | −1.26 | −1.80 | −1.55 | 0.47 | 1.28 | 0.32 | 2.32 | 2.32 | 1821 |
| 1822 | 2.16 | 2.19 | 2.78 | 0.48 | 1.45 | 1.57 | 0.36 | 0.29 | −0.24 | 1.04 | 2.36 | −1.14 | 1822 |
| 1823 | −1.40 | 0.19 | 0.16 | −0.10 | 2.16 | 0.33 | 0.14 | 0.78 | 0.39 | −0.56 | 0.54 | 0.55 | 1823 |
| 1824 | 0.78 | 2.41 | −0.73 | −0.94 | −1.48 | −1.40 | 0.00 | −0.29 | 0.48 | −0.03 | 1.38 | 1.08 | 1824 |
| 1825 | 1.31 | −0.21 | −1.17 | 1.28 | 0.08 | −0.03 | 1.47 | 0.38 | 1.63 | 0.32 | −0.84 | 0.59 | 1825 |
| 1826 | −1.49 | 1.61 | . . | 1.46 | 1.16 | 1.97 | 1.69 | 1.67 | 0.30 | 1.28 | −1.11 | 1.19 | 1826 |
| 1827 | −0.96 | −3.19 | 0.74 | 0.39 | −0.08 | −0.40 | 0.74 | −0.73 | 0.21 | 0.84 | −0.28 | 1.99 | 1827 |
| 1828 | 1.73 | 0.54 | 1.00 | 0.28 | 0.70 | 0.88 | 0.36 | −0.62 | 0.52 | −0.16 | 0.65 | 2.37 | 1828 |
| 1829 | −1.76 | −0.24 | −1.08 | −0.85 | 0.50 | 0.35 | −0.48 | −1.22 | −1.41 | −1.16 | −1.60 | −3.14 | 1829 |
| 1830 | −2.31 | −2.17 | 1.98 | 1.15 | −1.39 | −1.09 | 0.65 | −1.09 | −1.37 | 0.32 | 0.63 | −2.12 | 1830 |
| 1831 | −0.73 | 1.01 | 1.16 | 1.21 | −0.21 | 0.55 | 1.49 | 1.29 | −0.04 | 2.39 | −0.08 | 1.21 | 1831 |
| 1832 | 0.13 | −0.86 | −0.42 | 0.35 | −0.70 | 0.57 | −0.20 | 0.18 | −0.06 | 0.52 | 0.47 | 1.08 | 1832 |
| 1833 | −0.64 | 1.45 | −1.68 | −0.10 | 2.72 | 0.66 | −0.13 | −1.31 | −1.41 | 0.24 | 0.16 | 2.21 | 1833 |
| 1834 | 3.73 | 0.48 | 1.16 | −0.48 | 1.59 | 1.20 | 1.29 | 0.76 | 0.70 | 0.10 | 0.45 | 0.35 | 1834 |
| 1835 | 0.82 | 0.81 | −0.22 | 0.30 | −0.12 | 0.71 | 0.87 | 1.09 | 0.21 | −0.90 | 0.05 | −1.76 | 1835 |
| 1836 | 0.80 | −0.99 | 0.94 | −1.12 | −1.28 | 0.48 | 0.18 | −1.11 | −1.50 | −1.14 | −0.55 | 0.28 | 1836 |
| 1837 | 0.73 | 0.74 | −2.22 | −2.79 | −2.01 | 0.04 | 0.05 | −0.16 | −0.75 | 0.21 | −0.57 | 1.17 | 1837 |
| 1838 | −2.93 | −2.57 | 0.18 | −1.50 | −0.88 | 0.02 | −0.31 | −0.42 | −0.92 | 0.10 | −0.68 | −0.03 | 1838 |
| 1839 | 0.73 | 0.14 | −1.08 | −2.48 | −1.24 | 0.66 | −0.35 | −0.73 | −1.06 | −0.52 | 0.67 | −0.21 | 1839 |
| 1840 | 1.27 | −0.50 | −1.97 | −0.01 | 0.14 | 1.02 | −0.77 | 0.73 | −1.10 | −1.32 | 0.60 | −2.41 | 1840 |
| 1841 | −0.38 | −1.41 | 2.58 | 0.61 | 2.08 | 2.17 | −1.02 | −0.02 | 0.16 | −0.01 | 0.40 | 1.06 | 1841 |
| 1842 | −1.02 | 0.81 | 1.47 | −0.43 | 0.59 | 2.84 | 0.18 | 2.11 | 0.19 | −1.70 | 0.36 | 2.50 | 1842 |
| Means. | 2.38 | 3.81 | 5.00 | 7.30 | 10.46 | 12.92 | 14.26 | 14.07 | 12.06 | 8.88 | 5.51 | 3.81 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## XCII.

### Scotland. — Kinfauns Castle.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1814 | −4.71 | −1.63 | −1.73 | 0.56 | −2.46 | −2.36 | −0.60 | −1.12 | −0.34 | −1.16 | −1.61 | −1.46 | 1814 |
| 1815 | −1.69 | 1.13 | 0.16 | −0.03 | 0.95 | 0.24 | −0.12 | 0.23 | 0.27 | 0.74 | −1.68 | −2.47 | 1815 |
| 1816 | −0.24 | −1.60 | −1.49 | −1.58 | −0.74 | −0.60 | −0.96 | −0.53 | −0.99 | −0.24 | −1.12 | −1.84 | 1816 |
| 1817 | 1.60 | 1.29 | −0.44 | 0.33 | −1.12 | 0.80 | −0.43 | −1.11 | 0.18 | −2.22 | 1.78 | −1.38 | 1817 |
| 1818 | 0.51 | −1.03 | −1.41 | −1.59 | 1.03 | 1.43 | 0.85 | −0.22 | −0.15 | 2.34 | 2.54 | 0.25 | 1818 |
| 1819 | 0.85 | −0.88 | 0.67 | −0.20 | −0.36 | −0.85 | 0.07 | 2.00 | 0.30 | −0.32 | −2.35 | −2.60 | 1819 |
| 1820 | −2.43 | 0.95 | 0.33 | 1.10 | 0.20 | −0.12 | 0.39 | −0.26 | −0.36 | −1.20 | 0.15 | 0.36 | 1820 |
| 1821 | 0.55 | 0.97 | 0.26 | 1.12 | −1.09 | −0.45 | −0.01 | 0.84 | 1.44 | 0.83 | 0.38 | 0.73 | 1821 |
| 1822 | 1.85 | 1.28 | 1.08 | 0.79 | 0.97 | 2.04 | 0.50 | 0.26 | −0.81 | 0.48 | 1.38 | −0.61 | 1822 |
| 1823 | −0.91 | −1.69 | −0.16 | −0.60 | 0.63 | −1.01 | −0.92 | −0.85 | −0.15 | −0.56 | 2.02 | −0.04 | 1823 |
| 1824 | 2.64 | 1.20 | −0.56 | 0.39 | 0.18 | 0.26 | 0.43 | 0.03 | 0.24 | −2.16 | −0.16 | 0.35 | 1824 |
| 1825 | 1.94 | 0.84 | 0.45 | 0.82 | −0.09 | 0.31 | 1.59 | 1.53 | 1.85 | 1.79 | −0.32 | 0.80 | 1825 |
| 1827 | 0.68 | −0.77 | 0.02 | 0.73 | 0.51 | 0.38 | 0.16 | 0.37 | 1.48 | 2.48 | −0.99 | 2.23 | 1827 |
| 1828 | 2.50 | 1.44 | 1.63 | 0.69 | 1.20 | 1.23 | 0.93 | 1.03 | 1.23 | 1.10 | 2.05 | 2.73 | 1828 |
| 1829 | −0.38 | 0.96 | 0.42 | −0.48 | 0.87 | 1.00 | −0.12 | −0.44 | −1.02 | 0.34 | −0.19 | 0.02 | 1829 |
| 1830 | 0.40 | −0.22 | 2.07 | 0.87 | 0.60 | −0.63 | 0.50 | −1.13 | 0.11 | 1.33 | 0.92 | −0.89 | 1830 |
| 1832 | 1.91 | 1.27 | 0.92 | 1.22 | −0.19 | 0.50 | 0.24 | 0.93 | 1.35 | 1.53 | −0.56 | 0.40 | 1832 |
| 1833 | −1.40 | 0.51 | −0.41 | 0.32 | 2.79 | 0.59 | 0.67 | −0.98 | −0.24 | 0.53 | 0.12 | 0.57 | 1833 |
| 1834 | 2.23 | 0.97 | 1.05 | 0.51 | 1.01 | 0.53 | 0.93 | 0.34 | 0.28 | 0.49 | 0.14 | 0.57 | 1834 |
| 1835 | −0.27 | 0.72 | −0.08 | 0.23 | −0.58 | 0.20 | −0.17 | 1.09 | −0.10 | −1.10 | −0.31 | −0.34 | 1835 |
| 1836 | 0.59 | −0.67 | −0.70 | −0.81 | 0.10 | −0.54 | −1.16 | −1.09 | −1.67 | −0.86 | −0.94 | −0.05 | 1836 |
| 1837 | −0.07 | 0.20 | −2.26 | −2.35 | −1.70 | −0.05 | 0.52 | −1.13 | −1.32 | 0.23 | −1.18 | 1.74 | 1837 |
| 1838 | −2.58 | −4.61 | −0.83 | −1.44 | −1.75 | −1.03 | −0.04 | −0.24 | −0.53 | −0.55 | 2.73 | 0.48 | 1838 |
| 1839 | −0.90 | −0.79 | −1.56 | −1.24 | −1.18 | −0.45 | −0.34 | −0.79 | −0.64 | −0.17 | 0.11 | −0.35 | 1839 |
| 1840 | 0.65 | −0.26 | −0.07 | 1.00 | −0.72 | −0.40 | −1.30 | 0.21 | −1.29 | −0.63 | −0.17 | −0.58 | 1840 |
| 1841 | −2.19 | −0.09 | 2.25 | −0.28 | 0.51 | −1.07 | −0.83 | −0.20 | 0.51 | −1.52 | −1.94 | −0.49 | 1841 |
| 1842 | −1.17 | 0.49 | 0.35 | −0.07 | 0.48 | 0.02 | −0.83 | 1.24 | 0.32 | −1.52 | −0.81 | 1.81 | 1842 |
| Means. | 1.77 | 2.74 | 3.87 | 5.71 | 8.13 | 10.58 | 11.76 | 11.28 | 9.52 | 6.72 | 4.35 | 2.96 | Means. |

## XCIII. Finland. — Torneå.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1801 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | −0.01 | −1.67 | 1801 |
| 1802 | −0.57 | −0.17 | −0.15 | 0.10 | −2.88 | −0.66 | −2.03 | −1.60 | −1.60 | 1.30 | −2.10 | −4.06 | 1802 |
| 1803 | −3.50 | −0.90 | −0.13 | 1.57 | 1.69 | −0.44 | −0.58 | 0.93 | −0.90 | 1.18 | 0.71 | −3.67 | 1803 |
| 1804 | −2.50 | −4.82 | −2.34 | 1.99 | 1.50 | −0.97 | 0.78 | −0.70 | −0.21 | 1.19 | 1.46 | −4.01 | 1804 |
| 1805 | 3.36 | −2.94 | −1.15 | −0.79 | −1.56 | −2.90 | −1.03 | 0.62 | −1.34 | −4.62 | −2.83 | −2.98 | 1805 |
| 1806 | 2.91 | 1.91 | −0.03 | 2.02 | 1.00 | −1.18 | −1.90 | 2.00 | 1.20 | 0.13 | −0.97 | 0.74 | 1806 |
| 1807 | −3.40 | 1.94 | −1.25 | −2.57 | −1.93 | −0.61 | 0.34 | 0.89 | −1.41 | −2.30 | −0.20 | −0.92 | 1807 |
| 1808 | 1.80 | −1.50 | 0.19 | −2.31 | 1.14 | 2.65 | 0.58 | −0.11 | −0.51 | 3.53 | 2.24 | −3.74 | 1808 |
| 1809 | −7.19 | −3.99 | −2.74 | −3.78 | −1.91 | 0.62 | −0.50 | 1.16 | −0.34 | −0.25 | −1.67 | 8.07 | 1809 |
| 1810 | −2.18 | −2.36 | −2.41 | −2.45 | −6.45 | −0.68 | −2.13 | −0.68 | −1.34 | −1.23 | −4.13 | −2.20 | 1810 |
| 1811 | 2.98 | −2.74 | 3.64 | −2.04 | −0.69 | 0.42 | −0.91 | −2.66 | −1.05 | −1.90 | −0.10 | −2.06 | 1811 |
| 1812 | 1.18 | 1.85 | −3.37 | −1.39 | 0.55 | −2.94 | −2.53 | −1.20 | −2.85 | −0.78 | −4.18 | −1.15 | 1812 |
| 1813 | 1.32 | 1.15 | 1.70 | 1.88 | −0.71 | −1.58 | 1.87 | 0.08 | 1.88 | −2.89 | 3.65 | −1.43 | 1813 |

The numbers without sign must be subtracted; those with the sign — must be added.

## XCIII.

### Finland. — Torneå (*continued*).

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1814 | −7.01 | 2.71 | −1.85 | 0.92 | −0.59 | 2.44 | 4.65 | 4.46 | 2.60 | 0.44 | −0.15 | −4.50 | 1814 |
| 1815 | 1.22 | 3.16 | 0.66 | 5.27 | 3.22 | 5.58 | 4.70 | 5.03 | 4.02 | 3.38 | 4.30 | 4.82 | 1815 |
| 1816 | 2.27 | −8.23 | −4.25 | 0.50 | −3.05 | −0.12 | 0.18 | −0.41 | 1.97 | 0.16 | 1.17 | 2.29 | 1816 |
| 1817 | 3.54 | −2.13 | −2.78 | 0.19 | 2.42 | −1.14 | 0.65 | −1.34 | −0.36 | −1.14 | −0.07 | −2.85 | 1817 |
| 1818 | 3.46 | −3.34 | −1.07 | −2.61 | −3.48 | −0.92 | 2.98 | −2.55 | 0.09 | 1.08 | 2.89 | 5.83 | 1818 |
| 1819 | 4.47 | −0.15 | −0.50 | −2.07 | 0.23 | 1.46 | 2.90 | 2.22 | 1.04 | −4.58 | −3.62 | −2.15 | 1819 |
| 1820 | −5.74 | −0.22 | −0.63 | −1.32 | −0.73 | 1.62 | 0.13 | −0.17 | 0.18 | −2.17 | −1.94 | −2.67 | 1820 |
| 1821 | −2.18 | 1.12 | 0.50 | 0.83 | 1.24 | −3.70 | −2.44 | −1.32 | −0.58 | 3.58 | −1.52 | −4.13 | 1821 |
| 1822 | 0.13 | 6.44 | 5.68 | 4.22 | 1.67 | −1.39 | −0.89 | 1.75 | −0.14 | 0.47 | −2.05 | 4.46 | 1822 |
| 1823 | −4.01 | −1.08 | 4.15 | 0.66 | 0.87 | −0.43 | −0.09 | −0.73 | −0.86 | 2.06 | −1.38 | 1.26 | 1823 |
| 1824 | 0.71 | 4.20 | 1.75 | −0.22 | −0.40 | 0.29 | −0.89 | −0.73 | 1.25 | −2.18 | −1.01 | −0.96 | 1824 |
| 1825 | 3.99 | 1.42 | 1.83 | 1.78 | −0.29 | −0.43 | −1.53 | −0.17 | 6.34 | 2.14 | 2.35 | 3.20 | 1825 |
| 1826 | 1.99 | 4.70 | 4.99 | 0.50 | 2.65 | 1.56 | 2.28 | 1.70 | −0.70 | 2.67 | 3.23 | 3.74 | 1826 |
| 1827 | 0.03 | 0.00 | 0.59 | −2.13 | 2.39 | 1.79 | −2.00 | −1.64 | 1.21 | −1.53 | −0.56 | 5.68 | 1827 |
| 1828 | −0.50 | −0.84 | −1.77 | −0.66 | 2.84 | 0.18 | −1.73 | −0.73 | −2.86 | 1.18 | 0.50 | 1.69 | 1828 |
| 1829 | 1.26 | −4.27 | −2.69 | −2.53 | 1.26 | −0.31 | 0.30 | −1.82 | 0.38 | −1.78 | −0.53 | 2.86 | 1829 |
| 1830 | 0.99 | 0.80 | 2.08 | −0.54 | −1.10 | −0.66 | −0.89 | −1.73 | −0.88 | −0.03 | 3.44 | −1.22 | 1830 |
| 1831 | −3.98 | −0.07 | −2.31 | 2.01 | 0.98 | 1.98 | 0.81 | 0.79 | −0.54 | 0.01 | 2.99 | 1.69 | 1831 |
| 1832 | 5.26 | 8.25 | 3.64 | 2.92 | 0.10 | 0.51 | −1.11 | −1.22 | −3.67 | 2.86 | . . | . . | 1832 |
| Means. | −12.55 | −10.76 | −7.19 | −1.62 | 4.01 | 10.59 | 13.05 | 10.81 | 6.22 | 0.26 | −6.27 | −10.32 | Means. |

## XCIV. North America. — Albany, N. Y.

Degrees of Reaumur.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1826 | 1.92 | 2.44 | 1.65 | −1.02 | 3.23 | 1.07 | 0.72 | 1.09 | 1.57 | 1.46 | 0.81 | 0.35 | 1826 |
| 1827 | −2.91 | 1.07 | 1.15 | 1.62 | −0.02 | 0.05 | 0.55 | 0.08 | 0.43 | 1.14 | −1.72 | 0.77 | 1827 |
| 1828 | 2.80 | 4.52 | 2.10 | −0.88 | 0.76 | 2.66 | −0.41 | 1.33 | 0.35 | −0.31 | 0.76 | 3.17 | 1828 |
| 1829 | −0.21 | −2.27 | −0.87 | 0.12 | 2.09 | 0.03 | −1.54 | −0.42 | −1.93 | 0.92 | 0.50 | 3.63 | 1829 |
| 1830 | 0.28 | −0.11 | 1.41 | 3.64 | −0.21 | −0.92 | 0.81 | 0.27 | 0.19 | 1.42 | 3.83 | 4.71 | 1830 |
| 1831 | −1.30 | −1.03 | 2.77 | 1.89 | 1.07 | 2.11 | 0.32 | 1.01 | 1.00 | 1.52 | 0.63 | −4.94 | 1831 |
| 1832 | 0.18 | −0.87 | 0.16 | −1.29 | −1.35 | 0.19 | −0.34 | −0.31 | 0.53 | 0.67 | 1.15 | 0.76 | 1832 |
| 1833 | 2.34 | −1.34 | −1.15 | 1.75 | 1.55 | −2.35 | −1.06 | −1.47 | −0.55 | −0.55 | −0.61 | 0.18 | 1833 |
| 1834 | −1.18 | 3.73 | 0.67 | 0.68 | −0.05 | −1.12 | 1.59 | −0.03 | 0.27 | −1.31 | −0.36 | −1.13 | 1834 |
| 1835 | −1.06 | −1.50 | −0.98 | −1.59 | −0.57 | −0.34 | −0.43 | −0.90 | −2.14 | 1.45 | 0.31 | −3.06 | 1835 |
| 1836 | −0.35 | −3.89 | −3.48 | −2.27 | −0.95 | −1.30 | 0.20 | −2.39 | −0.39 | −3.06 | −0.62 | −0.92 | 1836 |
| 1837 | −3.40 | −0.72 | −1.94 | −2.02 | −1.23 | 0.07 | −0.95 | −0.98 | −0.60 | −0.89 | 0.33 | −0.49 | 1837 |
| 1838 | 3.34 | −4.01 | 0.97 | −3.07 | −1.26 | 1.78 | 0.31 | 0.27 | 0.36 | −0.68 | −1.47 | −2.11 | 1838 |
| 1839 | −0.25 | 1.62 | 0.14 | 0.79 | −0.79 | −1.79 | 0.15 | −0.14 | 0.41 | 0.99 | −0.94 | −0.19 | 1839 |
| 1840 | −3.32 | 3.14 | 0.60 | 1.32 | 0.96 | −0.14 | 0.94 | 0.81 | −0.91 | 0.28 | 0.28 | −1.26 | 1840 |
| 1841 | 1.95 | −0.72 | −1.19 | −2.58 | −1.13 | 1.90 | 0. | 1.23 | 0.88 | −1.72 | −0.49 | 0.86 | 1841 |
| 1842 | 2.03 | 3.15 | 2.06 | 0.62 | −1.96 | −0.98 | 0.28 | 0.13 | −1.09 | −0.12 | −1.00 | −1.69 | 1842 |
| 1843 | 2.65 | −3.06 | −4.26 | −0.62 | −0.62 | −0.64 | −0.55 | 0.64 | 0.85 | −1.24 | −1.11 | 0.93 | 1843 |
| 1844 | −3.74 | −0.15 | 0.27 | 2.97 | 0.47 | −0.29 | −0.60 | −0.19 | 0.72 | 0.02 | −0.20 | 0.47 | 1844 |
| Means. | −3.58 | −3.08 | 1.28 | 7.04 | 12.33 | 16.02 | 17.80 | 16.86 | 13.06 | 7.64 | 2.70 | −1.65 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## XCV.

### North America. — Salem, Mass.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1787 | 0.40 | −1.37 | 0.24 | −0.24 | −0.61 | −0.84 | −1.53 | −0.28 | −1.13 | −1.00 | 0.58 | 0.07 | 1787 |
| 1788 | −1.38 | −2.15 | −0.32 | −0.47 | −0.28 | −1.39 | 0.14 | −0.17 | 0.87 | −1.00 | 2.03 | −1.60 | 1788 |
| 1789 | 0.17 | −2.81 | −0.65 | −0.47 | −1.94 | 0.61 | −0.31 | 0.05 | −0.47 | −2.56 | 0.47 | 1.18 | 1789 |
| 1790 | 1.17 | −1.04 | −1.32 | −1.47 | −0.50 | −0.50 | −0.75 | −1.50 | −1.02 | −0.56 | −0.97 | −2.82 | 1790 |
| 1791 | 0.17 | −1.48 | 0.90 | 0.64 | 1.50 | 1.16 | −0.08 | 0.16 | −0.69 | −2.23 | −0.42 | 0.07 | 1791 |
| 1792 | −2.94 | −0.37 | 1.79 | 0.87 | 1.61 | −0.84 | −0.64 | −0.28 | −1.80 | 0.77 | 0.92 | −1.15 | 1792 |
| 1793 | 1.03 | 0.70 | 1.42 | 1.51 | 2.55 | 2.07 | 0.59 | 0.75 | 0.37 | −0.09 | 0.07 | −0.10 | 1793 |
| 1794 | 0.95 | −0.25 | 1.91 | 1.19 | 1.16 | 0.11 | 0.52 | 0.58 | 0.75 | −1.26 | −0.16 | 4.35 | 1794 |
| 1795 | 0.20 | −0.50 | 0.54 | 0.21 | 0.39 | 0.12 | −0.31 | 1.85 | 1.04 | 1.24 | 0.36 | 1.51 | 1795 |
| 1796 | 1.18 | 0.12 | −0.37 | 1.17 | −0.11 | 0.40 | 0.39 | 0.80 | −0.06 | −0.55 | −1.26 | −3.02 | 1796 |
| 1797 | −1.15 | 2.24 | 0.55 | −0.26 | −1.25 | 0.41 | 1.40 | −0.45 | −0.64 | −0.83 | −1.72 | −2.52 | 1797 |
| 1798 | 0.68 | −0.89 | 0.54 | 0.76 | 1.44 | 0.60 | 0.46 | 2.29 | 0.83 | 0.81 | −1.57 | −3.03 | 1798 |
| 1799 | 0.28 | 0.08 | 0.31 | 0.51 | 0.63 | 0.58 | 0.45 | 0.99 | 0.27 | −0.16 | −0.53 | −0.53 | 1799 |
| 1800 | 0.31 | 0.24 | −0.31 | 1.92 | −0.12 | 1.22 | 1.15 | 0.11 | 0.04 | 0.43 | −0.93 | 1.63 | 1800 |
| 1801 | 0.40 | 0.46 | 1.51 | 0.21 | 1.69 | 0.08 | 0.35 | 0.49 | 1.41 | 0.96 | 0.17 | 0.30 | 1801 |
| 1802 | 3.79 | −0.16 | 0.76 | 0.31 | −1.34 | 0.13 | 0.13 | 0.88 | 1.19 | 1.87 | 1.23 | 1.19 | 1802 |
| 1803 | 1.12 | 2.15 | 0.67 | 0.38 | −0.81 | 0.53 | −0.08 | 1.09 | −0.24 | 0.96 | −0.71 | 1.99 | 1803 |
| 1804 | −0.48 | 0.08 | −0.48 | −0.98 | 1.55 | 0.20 | −0.25 | −0.44 | 0.28 | −1.05 | 0.16 | −1.76 | 1804 |
| 1805 | −1.46 | 1.02 | 1.92 | 1.45 | 0.91 | 0.11 | 1.40 | 0.82 | 1.23 | −0.82 | 0.13 | 3.24 | 1805 |
| 1806 | 0.48 | 1.60 | −1.83 | −2.28 | −0.44 | −0.19 | −1.12 | −0.77 | −0.52 | −0.04 | 0.15 | −0.06 | 1806 |
| 1807 | −1.05 | −1.13 | −1.30 | −0.31 | −0.80 | −0.62 | 0.05 | 0.00 | −1.08 | 0.22 | −0.65 | 2.45 | 1807 |
| 1808 | 0.13 | 1.41 | 1.55 | 0.37 | −0.74 | 0.04 | −0.15 | −0.86 | 0.54 | −0.72 | 0.69 | 0.72 | 1808 |
| 1809 | −1.15 | −1.73 | −1.36 | 0.31 | −0.24 | −0.42 | −1.90 | −0.76 | −0.95 | 3.00 | −2.19 | 2.04 | 1809 |
| 1810 | 0.11 | 0.95 | −0.68 | 0.70 | 0.84 | 0.04 | −0.93 | −0.39 | 0.46 | −0.12 | −0.24 | −0.34 | 1810 |
| 1811 | 0.30 | 0.14 | 1.69 | −0.01 | 0.65 | 0.43 | 0.16 | 0.14 | 0.58 | 1.74 | 0.67 | −0.34 | 1811 |
| 1812 | −1.51 | −1.16 | −2.68 | −1.05 | −3.22 | −2.04 | −2.13 | −1.64 | −2.07 | −0.30 | −0.90 | −0.73 | 1812 |
| 1813 | −1.09 | −0.34 | −2.55 | 0.08 | −1.46 | −0.95 | −1.17 | 0.44 | 1.02 | −0.62 | 0.83 | −0.70 | 1813 |
| 1814 | −0.73 | 0.80 | −0.51 | 1.08 | 0.76 | −1.58 | −0.30 | −0.94 | −0.57 | −0.07 | 0.39 | −1.78 | 1814 |
| 1815 | −0.93 | −1.98 | 0.28 | −1.47 | −1.49 | −0.16 | 1.12 | −1.82 | −0.50 | −0.69 | 1.07 | −0.45 | 1815 |
| 1816 | −0.16 | 0.07 | −2.14 | −0.44 | −1.36 | −2.36 | −2.49 | −1.31 | −1.77 | 0.17 | 1.79 | 0.31 | 1816 |
| 1817 | −0.71 | −3.48 | −1.43 | −0.73 | −0.44 | −1.65 | −0.52 | −0.76 | 0.18 | −0.70 | 0.78 | 0.68 | 1817 |
| 1818 | −0.51 | −3.56 | 0.14 | −2.31 | −0.42 | 1.17 | 0.85 | −0.01 | −0.84 | 0.61 | 1.92 | −1.94 | 1818 |
| 1819 | 2.45 | 4.91 | −2.30 | −1.06 | −0.23 | 1.33 | 0.64 | 0.59 | 1.63 | 0.64 | 1.26 | −0.43 | 1819 |
| 1820 | −1.51 | 1.00 | −0.22 | −0.07 | −0.23 | 0.51 | 1.95 | 0.26 | 1.52 | −0.17 | −0.98 | −2.49 | 1820 |
| 1821 | −2.75 | 1.50 | −0.80 | −0.97 | −0.37 | 0.36 | −1.08 | 0.83 | −0.11 | −0.05 | 0.42 | −1.31 | 1821 |
| 1822 | −1.60 | −0.50 | 1.64 | −0.87 | 1.77 | 0.09 | 0.44 | 0.06 | 1.84 | 0.75 | 0.96 | 0.12 | 1822 |
| 1823 | 0.37 | −1.99 | −0.99 | 0.20 | −1.19 | −0.42 | −0.19 | 0.35 | −1.63 | −0.58 | −1.72 | 0.52 | 1823 |
| 1824 | 2.28 | 0.47 | −0.11 | 0.62 | −0.84 | −0.59 | −0.14 | −1.08 | 0.12 | 0.21 | −0.61 | 1.43 | 1824 |
| 1825 | 1.30 | 1.27 | 2.16 | 1.49 | 0.69 | 1.74 | 2.36 | −0.12 | −1.05 | 0.70 | −0.14 | 0.62 | 1825 |
| 1826 | 0.96 | 1.11 | 0.10 | −1.05 | 2.95 | 0.04 | 1.56 | −0.13 | 0.78 | 0.23 | 0.19 | 0.55 | 1826 |
| 1827 | −1.49 | 0.52 | 0.64 | 1.56 | −0.03 | −0.60 | −0.35 | −0.82 | −0.28 | 1.13 | −2.74 | 0.01 | 1827 |
| 1828 | 2.42 | 4.05 | 1.10 | −0.97 | −0.68 | 1.06 | 0.36 | 0.96 | 0.37 | −0.19 | 1.17 | 2.04 | 1828 |
| Means. | −2.84 | −1.85 | 1.54 | 6.36 | 11.05 | 15.61 | 17.97 | 17.17 | 13.80 | 8.56 | 3.53 | −0.63 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

## XCVI.

### Iceland. — Reikiavik.

For Reducing the Monthly and Yearly Means of Single Years to the Means derived from Series of Years.

Degrees of Reaumur.

| Year. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | |
| 1823 | 1.80 | −0.56 | 0.40 | 2.09 | −0.60 | 0.06 | 2.44 | 1.76 | 0.84 | −1.50 | 0.18 | −0.86 | 1823 |
| 1824 | −0.32 | 0.61 | −0.05 | 2.16 | 2.95 | 4.63 | 3.12 | 1.53 | −0.73 | −2.37 | −3.64 | −3.99 | 1824 |
| 1825 | −1.07 | −0.40 | 3.04 | 0.98 | 0.50 | 0.33 | 1.70 | 0.66 | 2.34 | 1.68 | −0.81 | −0.92 | 1825 |
| 1826 | −0.19 | 2.84 | 2.15 | −0.79 | 1.58 | −1.10 | −0.75 | −0.18 | 1.24 | 1.12 | 0.36 | 1.17 | 1826 |
| 1827 | −0.72 | 1.93 | −3.80 | −0.86 | 0.67 | 0.86 | 0.14 | 1.73 | 0.64 | 2.29 | 2.26 | 0.88 | 1827 |
| 1828 | 1.98 | 2.48 | 1.54 | 1.29 | 2.37 | 0.53 | 3.15 | 3.98 | 3.07 | 3.26 | 0.94 | 2.77 | 1828 |
| 1829 | 1.02 | −0.09 | 0.20 | 0.56 | 0.79 | 0.26 | 1.21 | 2.21 | −0.20 | −1.16 | 0.03 | 1.86 | 1829 |
| 1830 | 1.89 | −0.58 | −1.22 | −0.72 | 2.44 | 0.52 | −0.80 | 0.68 | 0.85 | 2.09 | −0.35 | −2.60 | 1830 |
| 1831 | 0.28 | −0.95 | 2.58 | 1.39 | −1.76 | 1.44 | −1.89 | −1.85 | −0.37 | 0.95 | −0.76 | 1.45 | 1831 |
| 1832 | 0.71 | −0.48 | −1.77 | 0.17 | −2.20 | −1.87 | −2.80 | −2.94 | −2.59 | −0.42 | 1.22 | −0.29 | 1832 |
| 1833 | 1.41 | −0.13 | 1.93 | −0.21 | −0.57 | −0.40 | −1.96 | −2.14 | −1.22 | −0.79 | 0.31 | −1.64 | 1833 |
| 1834 | −0.43 | 0.10 | 0.73 | 0.14 | −1.35 | −1.99 | −1.81 | −2.41 | −1.44 | −1.13 | 0.22 | 2.76 | 1834 |
| 1835 | −4.08 | −1.92 | −1.55 | −1.32 | −2.35 | −1.97 | −1.62 | −0.38 | −0.64 | −2.41 | 1.58 | 1.30 | 1835 |
| 1836 | −1.86 | −3.24 | −2.00 | −3.01 | −0.37 | −0.94 | −0.59 | −2.68 | −1.80 | −1.67 | −1.52 | −1.95 | 1836 |
| 1837 | −0.42 | 0.43 | −2.23 | −1.91 | −2.07 | −0.32 | 0.40 | .. | .. | .. | .. | .. | 1837 |
| Means. | −1.00 | −1.60 | −1.07 | 1.84 | 5.54 | 8.67 | 10.78 | 9.27 | 6.42 | 2.19 | −0.60 | −1.15 | Means. |

## XCVII. Greenland. — Godthaab.

Degrees of Reaumur.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1796 | .. | .. | .. | .. | .. | .. | .. | .. | .. | −2.52 | 1.51 | 2.19 | 1796 |
| 1797 | 0.91 | −2.08 | −0.73 | −1.96 | 1.14 | 0.27 | 1.40 | 1.31 | 0.77 | 1.02 | 2.22 | 0.87 | 1797 |
| 1798 | −1.30 | 0.53 | 3.98 | 0.08 | 0.37 | −0.39 | 0.39 | 0.07 | −0.37 | −0.67 | 0.83 | −0.08 | 1798 |
| 1799 | −0.40 | 3.08 | −1.87 | 0.47 | 0.37 | −0.71 | −0.47 | −0.72 | 0.62 | −0.43 | −0.91 | 4.72 | 1799 |
| 1800 | 2.75 | 0.22 | 2.32 | −0.68 | 1.52 | 1.05 | 0.35 | 0.88 | −0.42 | 0.48 | 0.05 | 0.07 | 1800 |
| 1801 | −0.86 | 2.63 | 0.00 | −1.00 | −2.86 | −1.61 | 0.89 | 0.92 | −0.39 | 0.19 | 0.22 | 1.94 | 1801 |
| 1802 | 1.85 | −2.99 | −3.76 | −2.68 | −0.44 | .. | .. | .. | .. | .. | .. | .. | 1802 |
| 1816 | .. | .. | .. | .. | .. | .. | 0.09 | −0.98 | −0.12 | −0.15 | −0.01 | −6.91 | 1816 |
| 1817 | −1.55 | −2.46 | −4.17 | 0.37 | −1.32 | −0.79 | −1.63 | −0.28 | −0.41 | −1.65 | −0.52 | −1.73 | 1817 |
| 1818 | −5.58 | −5.13 | −4.00 | 2.56 | −0.90 | −0.84 | 0.52 | 0.15 | −0.71 | −1.97 | −1.82 | −0.42 | 1818 |
| 1819 | −2.74 | 0.94 | −0.35 | 0.98 | −0.91 | −0.97 | −3.78 | −2.29 | −2.30 | 1.78 | 1.38 | 3.15 | 1819 |
| 1820 | 4.16 | 0.14 | 0.35 | −2.15 | 0.97 | 0.66 | −0.96 | −1.57 | −0.72 | −0.06 | 1.60 | 1.19 | 1820 |
| 1821 | 0.04 | 0.42 | 1.30 | 1.00 | −0.07 | 0.68 | .. | .. | .. | .. | .. | .. | 1821 |
| 1841 | .. | .. | .. | .. | .. | .. | .. | .. | 0.45 | 0.14 | −0.27 | 0.23 | 1841 |
| 1842 | 1.13 | −1.15 | −1.12 | 1.56 | 2.03 | 0.37 | 0.89 | 0.34 | 1.39 | 1.95 | −0.37 | −1.37 | 1842 |
| 1843 | 0.11 | 4.74 | 4.65 | 2.18 | 1.18 | 1.16 | 1.52 | 0.72 | 1.57 | 1.66 | −2.89 | −3.93 | 1843 |
| 1844 | −0.13 | 0.40 | −0.51 | −3.10 | −1.29 | 0.79 | 0.78 | 1.39 | 0.66 | 0.19 | −1.08 | 0.01 | 1844 |
| 1845 | 1.54 | 0.76 | 3.98 | 2.34 | 0.24 | 0.32 | .. | .. | .. | .. | .. | .. | 1845 |
| Means. | −8.72 | −8.64 | −7.29 | −4.44 | 0.07 | 3.15 | 4.41 | 3.93 | 1.62 | −0.96 | −4.47 | −6.45 | Means. |

The numbers without sign must be subtracted; those with the sign — must be added.

# CORRECTIONS

FOR

# FORCE OF VAPOR AND RELATIVE HUMIDITY.

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## HOURLY CORRECTIONS FOR PERIODIC VARIATIONS,

OR

## TABLES

FOR REDUCING THE MEANS OF THE OBSERVATIONS TAKEN AT ANY HOUR OF THE DAY TO THE TRUE MEAN FORCE OF VAPOR AND RELATIVE HUMIDITY OF THE DAY, OF THE MONTH, AND OF THE YEAR.

ENGLAND. — GREENWICH. *Lat.* 51° 29′ N.; *Long.* 0° 0′.

Corrections to be applied to the Means of the Hours of Observation, or Sets of Hours, to obtain the true Mean *Force of Vapor* for the respective Months. (GLAISHER.)

English Inches.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. | Inch. |
| Midn. . . | .006 | .006 | .008 | .017 | .026 | .031 | .028 | .025 | .024 | .018 | .010 | .009 | .017 |
| 1 | .011 | .008 | .010 | .021 | .028 | .037 | .031 | .031 | .030 | .020 | .012 | .010 | .021 |
| 2 | .015 | .010 | .011 | .024 | .031 | .043 | .036 | .035 | .035 | .021 | .015 | .010 | .024 |
| 3 | .015 | .011 | .013 | .027 | .032 | .048 | .038 | .039 | .037 | .023 | .017 | .011 | .026 |
| 4 | .015 | .013 | .015 | .029 | .031 | .047 | .037 | .040 | .040 | .025 | .019 | .011 | .027 |
| 5 | .015 | .014 | .016 | .029 | .027 | .037 | .031 | .038 | .040 | .023 | .021 | .011 | .025 |
| 6 | .014 | .015 | .016 | .025 | .019 | .022 | .019 | .029 | .033 | .021 | .021 | .010 | .020 |
| 7 | .013 | .014 | .014 | .016 | .007 | .008 | .007 | .014 | .022 | .018 | .018 | .009 | .013 |
| 8 | .010 | .010 | .010 | .005 | −.005 | −.004 | −.004 | .000 | .010 | .011 | .012 | .007 | .005 |
| 9 | .007 | .006 | .005 | .005 | −.016 | −.015 | −.014 | −.012 | −.005 | .005 | .005 | .005 | −.002 |
| 10 | .002 | .000 | −.003 | −.013 | −.024 | −.027 | −.019 | −.021 | −.019 | −.005 | −.004 | .001 | −.010 |
| 11 | −.004 | −.005 | −.007 | −.020 | −.028 | −.036 | −.025 | −.027 | −.027 | −.009 | −.010 | −.004 | −.017 |
| Noon. . . | −.007 | −.009 | −.012 | −.026 | −.030 | −.042 | −.029 | −.030 | −.030 | −.015 | −.017 | −.007 | −.021 |
| 1 | −.008 | −.013 | −.013 | −.027 | −.030 | −.045 | −.033 | −.032 | −.030 | −.018 | −.019 | −.008 | −.023 |
| 2 | −.007 | −.015 | −.013 | −.027 | −.028 | −.043 | −.034 | −.034 | −.029 | −.017 | −.020 | −.008 | −.023 |
| 3 | −.007 | −.012 | −.012 | −.025 | −.026 | −.039 | −.033 | −.031 | −.027 | −.014 | −.016 | −.008 | −.021 |
| 4 | −.007 | −.010 | −.010 | −.020 | −.021 | −.035 | −.028 | −.027 | −.021 | −.009 | −.010 | −.007 | −.017 |
| 5 | −.004 | −.006 | −.006 | −.014 | −.015 | −.025 | −.021 | −.020 | −.017 | −.006 | −.005 | −.005 | −.012 |
| 6 | −.002 | −.004 | −.002 | −.006 | −.010 | −.017 | −.016 | −.015 | −.010 | −.004 | .000 | −.003 | −.007 |
| 7 | −.001 | −.001 | .002 | .001 | −.004 | −.007 | −.007 | −.006 | −.003 | .003 | .004 | −.001 | −.002 |
| 8 | .000 | .001 | .004 | .005 | .005 | .005 | .004 | .004 | .004 | .005 | .006 | .001 | .004 |
| 9 | .000 | .003 | .005 | .007 | .013 | .015 | .010 | .010 | .008 | .008 | .008 | .004 | .007 |
| 10 | .001 | .004 | .007 | .010 | .017 | .023 | .017 | .015 | .013 | .011 | .009 | .005 | .011 |
| 11 | .002 | .005 | .008 | .014 | .022 | .029 | .024 | .020 | .018 | .014 | .010 | .006 | .014 |
| 6. 6 | .006 | .005 | .007 | .009 | .005 | .003 | .001 | .007 | .012 | .008 | .010 | .004 | .006 |
| 7. 7 | .006 | .006 | .008 | .009 | .001 | .000 | .000 | .004 | .009 | .011 | .011 | .004 | .005 |
| 8. 8 | .005 | .005 | .007 | .005 | .000 | .000 | .000 | .002 | .007 | .008 | .009 | .004 | .005 |
| 9. 9 | .003 | .004 | .005 | .006 | −.002 | .000 | −.002 | −.001 | .002 | .006 | .007 | .004 | .003 |
| 10.10 | .001 | .002 | .002 | −.002 | −.003 | −.002 | −.001 | −.003 | −.003 | .003 | .002 | .003 | .000 |
| 7. 2. 9 | .002 | .001 | .002 | −.001 | −.003 | −.007 | −.006 | −.003 | .000 | .003 | .002 | .002 | −.001 |
| 6. 2. 8 | .002 | .000 | .002 | .001 | −.001 | −.005 | −.004 | −.000 | .003 | .003 | .002 | .001 | .000 |
| 6. 2.10 | .003 | .001 | .003 | .003 | .002 | .001 | .001 | .003 | .006 | .005 | .003 | .002 | .003 |
| 6. 2. 6 | .002 | −.001 | .000 | −.003 | −.006 | −.013 | −.010 | −.007 | −.002 | .000 | .000 | −.000 | −.003 |
| 7. 2 | .003 | −.000 | .000 | −.005 | −.011 | −.017 | −.014 | −.010 | −.003 | .000 | −.001 | .000 | −.005 |
| 8. 2 | .001 | −.002 | −.001 | −.011 | −.017 | −.023 | −.019 | −.017 | −.009 | −.003 | −.004 | −.000 | −.009 |
| 8. 1 | .001 | −.001 | −.001 | −.011 | −.017 | −.025 | −.018 | −.016 | −.010 | −.004 | −.004 | −.000 | −.009 |
| 7. 1 | .002 | .000 | .000 | −.005 | −.012 | −.018 | −.013 | −.009 | −.004 | −.000 | −.000 | .000 | −.005 |
| 9.12.3.9 | −.002 | −.003 | −.003 | −.010 | −.015 | −.020 | −.016 | −.016 | −.013 | −.004 | −.005 | −.001 | −.009 |

The numbers without sign must be added; those with the sign — must be subtracted.

## XCIX.

ENGLAND. — GREENWICH. *Lat.* 51° 29′ N.; *Long.* 0° 0′.

Corrections to be applied to the Means of the Hours of Observation, or Sets of Hours to obtain the true Mean *Humidity* for the respective Months. (GLAISHER.)

Thousandths.

| Hours. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Midn. . . | −.013 | −.021 | −.063 | −.095 | −.087 | −.105 | −.091 | −.096 | −.080 | −.053 | −.018 | −.011 | −.061 |
| 1 | .002 | −.021 | −.065 | −.106 | −.100 | −.114 | −.095 | −.104 | −.080 | −.059 | −.009 | −.012 | −.064 |
| 2 | .004 | −.026 | −.066 | −.116 | −.108 | −.125 | −.107 | −.113 | −.085 | −.066 | −.011 | −.017 | −.069 |
| 3 | −.003 | −.033 | −.067 | −.123 | −.113 | −.132 | −.116 | −.117 | −.091 | −.070 | −.020 | −.019 | −.075 |
| 4 | −.013 | −.036 | −.068 | −.126 | −.114 | −.138 | −.120 | −.123 | −.097 | −.075 | −.030 | −.024 | −.080 |
| 5 | −.019 | −.035 | −.066 | −.125 | −.106 | −.139 | −.120 | −.123 | −.098 | −.077 | −.030 | −.024 | −.080 |
| 6 | −.021 | −.034 | −.063 | −.112 | −.085 | −.107 | −.097 | −.107 | −.097 | −.071 | −.033 | −.026 | −.071 |
| 7 | −.020 | −.030 | −.055 | −.080 | −.059 | −.065 | −.055 | −.061 | −.080 | −.058 | −.031 | −.025 | −.052 |
| 8 | −.020 | −.020 | −.035 | −.065 | −.024 | −.015 | −.005 | −.020 | −.047 | −.037 | −.021 | −.018 | −.027 |
| 9 | −.017 | −.007 | −.003 | −.034 | .018 | .035 | .041 | .030 | .000 | −.009 | −.008 | −.007 | .003 |
| 10 | −.004 | .009 | .031 | −.015 | .051 | .078 | .080 | .070 | .042 | .025 | .008 | .008 | .032 |
| 11 | .011 | .028 | .060 | .022 | .083 | .100 | .104 | .102 | .082 | .060 | .027 | .022 | .058 |
| Noon. . . | .031 | .045 | .084 | .070 | .110 | .123 | .114 | .127 | .115 | .088 | .040 | .033 | .082 |
| 1 | .054 | .058 | .100 | .132 | .126 | .137 | .119 | .142 | .131 | .109 | .050 | .046 | .100 |
| 2 | .059 | .065 | .106 | .151 | .125 | .135 | .123 | .145 | .132 | .113 | .054 | .048 | .105 |
| 3 | .048 | .065 | .104 | .147 | .118 | .123 | .121 | .138 | .126 | .108 | .047 | .036 | .098 |
| 4 | .036 | .053 | .087 | .128 | .108 | .113 | .111 | .120 | .103 | .089 | .032 | .024 | .084 |
| 5 | .021 | .032 | .063 | .110 | .091 | .099 | .095 | .100 | .071 | .055 | .018 | .013 | .064 |
| 6 | .007 | .009 | .038 | .088 | .074 | .078 | .062 | .071 | .044 | .030 | .005 | .004 | .042 |
| 7 | −.005 | −.010 | .010 | .059 | .052 | .049 | .025 | .036 | .009 | .007 | −.005 | −.003 | .019 |
| 8 | −.014 | −.023 | −.010 | .020 | .022 | .010 | −.015 | .000 | −.015 | −.011 | −.012 | −.005 | −.004 |
| 9 | −.016 | −.029 | −.032 | −.030 | −.018 | −.025 | −.040 | −.038 | −.040 | −.025 | −.017 | −.007 | −.026 |
| 10 | −.019 | −.030 | −.048 | −.058 | −.050 | −.060 | −.068 | −.067 | −.058 | −.039 | −.020 | −.008 | −.044 |
| 11 | −.018 | −.036 | −.060 | −.080 | −.075 | −.085 | −.080 | −.085 | −.071 | −.048 | −.020 | −.009 | −.055 |
| 6. 6 | −.007 | −.012 | −.012 | −.012 | −.005 | −.015 | −.017 | −.018 | −.027 | −.020 | −.014 | −.011 | −.015 |
| 7. 7 | −.012 | −.020 | −.023 | −.010 | −.004 | −.008 | −.015 | −.012 | −.035 | −.026 | −.018 | −.014 | −.017 |
| 8. 8 | −.017 | −.021 | −.023 | −.022 | −.001 | −.003 | −.010 | −.010 | −.031 | −.024 | −.016 | −.011 | −.016 |
| 9. 9 | −.016 | −.018 | −.018 | −.032 | .000 | .005 | .000 | −.004 | −.020 | −.017 | −.012 | −.007 | −.012 |
| 10.10 | −.011 | −.010 | −.009 | −.037 | .000 | .009 | .006 | .001 | −.008 | −.007 | −.006 | .000 | −.006 |
| 7. 2. 9 | .008 | .002 | .006 | .014 | .016 | .015 | .009 | .015 | .004 | .010 | .002 | .005 | .009 |
| 6. 2. 8 | .008 | .003 | .011 | .019 | .021 | .013 | .004 | .013 | .016 | .010 | .003 | .006 | .010 |
| 6. 2.10 | −.006 | .000 | −.002 | −.006 | −.003 | −.010 | −.014 | −.009 | −.008 | .001 | .000 | .005 | −.003 |
| 6. 2. 6 | .015 | .013 | .027 | .042 | .038 | .035 | .029 | .036 | .026 | .024 | .009 | .009 | .025 |
| 7. 2 | .019 | .017 | .026 | .036 | .033 | .035 | .034 | .042 | .026 | .027 | .012 | .011 | .026 |
| 8. 2 | .019 | .022 | .036 | .043 | .050 | .060 | .059 | .062 | .042 | .038 | .016 | .015 | .039 |
| 8. 1 | .017 | .019 | .032 | .034 | .051 | .061 | .057 | .061 | .042 | .036 | .014 | .014 | .037 |
| 7. 1 | .017 | .014 | .023 | .026 | .033 | .036 | .032 | .041 | .025 | .026 | .009 | .010 | .024 |
| 9.12.3.9 | .011 | −.018 | .038 | .038 | .032 | .064 | .059 | .064 | .050 | .040 | .016 | .014 | .037 |

The numbers without sign must be added; those with the sign — must be subtracted.

# METEOROLOGICAL TABLES.

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## VI.

## MISCELLANEOUS TABLES,

USEFUL IN

## TERRESTRIAL PHYSICS AND METEOROLOGY.

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# I.

## POSITIONS OF THE PRINCIPAL OBSERVATORIES.

[From the American Nautical Almanac.]

(*North Latitudes and West Longitudes are considered as positive.*)

| Place. | Latitude. | Longitude from Washington in Time. | Longitude from Washington in Arc. | Longitude from Greenwich in Arc. |
|---|---|---|---|---|
| | ° ′ ″ | h. m. s. | ° ′ ″ | ° ′ ″ |
| Åbo, | +60 26 56.8 | − 6 37 20.0 | 260 40 0.6 | 337 42 48.6 |
| Altona, | 53 32 45.3 | 5 47 57.4 | 273 0 39.8 | 350 3 27.8 |
| Athens, | 37 58 20 | 6 43 6.4 | 259 13 24.2 | 336 16 12.2 |
| Berlin, | 52 30 16.7 | 6 1 46.1 | 269 33 28.1 | 346 36 16.1 |
| Bilk, | 51 12 25 | 5 35 16.1 | 276 10 58.1 | 353 13 46.1 |
| Bonn, | 50 43 45.0 | 5 36 35.7 | 275 51 5.1 | 352 53 53.1 |
| Breslau, | 51 6 56.0 | 6 16 21.2 | 265 54 42.0 | 342 57 30.0 |
| Brussels, | 50 51 10.7 | 5 25 38.8 | 278 35 18.0 | 355 38 6.0 |
| Cambridge (Eng.), | 52 12 51.8 | 5 8 34.7 | 282 51 18.9 | 359 54 6.9 |
| Cambridge (Mass.), | +42 22 48.6 | 0 23 41.5 | 354 4 36.9 | 71 7 24.9 |
| Cape of Good Hope, | −33 56 3 | 6 22 7.2 | 264 28 12.3 | 341 31 0.3 |
| Christiania, | +59 54 43.7 | − 5 51 6.0 | 272 13 30.6 | 349 16 18.6 |
| Cincinnati, | 39 5 54 | + 0 29 46.9 | 7 26 42.8 | 84 29 30.8 |
| Copenhagen, | 55 40 53.0 | − 5 58 30.5 | 270 22 22.5 | 347 25 10.5 |
| Cracow, | 50 3 50.0 | 6 28 2.4 | 262 59 23.4 | 340 2 11.4 |
| Dorpat, | 58 22 47.1 | 6 55 5.8 | 256 13 33.6 | 333 16 21.6 |
| Dublin, | 53 23 13 | 4 42 49.2 | 289 17 42.0 | 6 20 30.0 |
| Durham, | 54 46 6.4 | 5 1 53.2 | 284 31 42.0 | 1 34 30.0 |
| Edinburgh, | 55 57 23.2 | 4 55 28.2 | 286 7 57.0 | 3 10 45.0 |
| Florence, | 43 46 40.8 | 5 53 12.9 | 271 41 47.1 | 348 44 35.1 |
| Geneva, | 46 11 58.8 | − 5 32 48.9 | 276 47 46.8 | 353 50 34.8 |
| Georgetown, | 38 54 26.1 | + 0 0 6.2 | 0 1 33.0 | 77 4 21.0 |
| Göttingen, | 51 31 47.9 | − 5 47 57.3 | 273 0 40.5 | 350 3 28.5 |
| Gotha, | 50 56 5.2 | 5 51 6.9 | 272 13 17.1 | 349 16 5.1 |
| Greenwich, | 51 28 38.2 | 5 8 11.2 | 282 57 12.0 | 0 0 0 |
| Hamburg, | 53 33 7 | − 5 48 4.8 | 272 58 48.6 | 350 1 36.6 |
| Hudson, | 41 14 42.6 | + 0 17 32.1 | 4 23 0.9 | 81 25 48.9 |
| Kasan, | 55 47 23.1 | − 8 24 43.1 | 233 49 13.1 | 310 52 1.1 |
| Königsberg, | 54 42 50.4 | 6 30 11.6 | 262 27 6.6 | 339 29 54.6 |
| Kremsmünster, | 48 3 23.8 | 6 4 44.6 | 268 48 50.7 | 345 51 38.7 |
| Leipsic, | 51 20 20.7 | 5 57 39.7 | 270 35 4.5 | 347 37 52.5 |
| Leyden, | 52 9 28.2 | 5 26 8.6 | 278 27 50.6 | 355 30 38.6 |
| Liverpool, | 53 24 47.7 | 4 56 11.1 | 285 57 13.7 | 3 0 1.7 |
| London, | 51 31 29.8 | 5 7 34.1 | 283 6 28.5 | 0 9 16.5 |
| Madras, | +13 4 9.2 | −10 29 8.2 | 202 42 57.0 | 279 45 45.0 |

| Place. | Latitude. | Longitude from Washington in Time. | Longitude from Washington in Arc. | Longitude from Greenwich in Arc. |
|---|---|---|---|---|
| | ° ′ ″ | h. m. s. | ° ′ ″ | ° ′ ″ |
| Mannheim, | +49 29 12.9 | −5 42 2.7 | 274 29 19.5 | 351 32 7.5 |
| Markree, | 54 10 31.7 | 4 34 22.8 | 291 24 18.0 | 8 27 6.0 |
| Marseilles, | 43 17 49 | 5 29 40.2 | 277 34 57.2 | 354 37 45.2 |
| Milan, | 45 28 0.7 | 5 44 57.8 | 273 45 32.4 | 350 48 20.4 |
| Modena, | 44 38 52.8 | 5 51 55.2 | 272 1 12.5 | 349 4 0.5 |
| Moscow, | 55 45 19.8 | 7 38 28.5 | 245 22 52.7 | 322 25 40.7 |
| Munich, | 48 8 45 | 5 54 37.6 | 271 20 35.4 | 348 23 23.4 |
| Naples, | 40 51 46.6 | 6 5 12.1 | 268 41 58.1 | 345 44 46.1 |
| Olmütz, | 49 35 40.0 | 6 17 11.3 | 265 42 10.5 | 342 44 58.5 |
| Oxford, | 51 45 36.0 | 5 3 8.6 | 284 12 51.0 | 1 15 39.0 |
| Padua, | 45 24 2.5 | 5 55 40.2 | 271 4 56.6 | 348 7 44.6 |
| Palermo, | +38 6 44 | −6 1 36.7 | 269 35 50.1 | 346 38 38.1 |
| Paramatta, | −33 48 49.8 | +8 47 42.6 | 131 55 38.3 | 208 58 26.3 |
| Paris, | +48 50 13.2 | −5 17 32.7 | 280 36 50.1 | 357 39 38.1 |
| St. Petersburg, | 59 56 29.7 | 7 9 24.7 | 252 38 49.8 | 329 41 37.8 |
| Philadelphia, | 39 57 7.5 | 0 7 33.6 | 358 6 35.4 | 75 9 23.4 |
| Prague, | 50 5 18.5 | 6 5 53.2 | 268 31 42.6 | 345 34 30.6 |
| Pulkowa, | 59 46 18.7 | 7 9 29.9 | 252 37 31.9 | 329 40 19.9 |
| Rome, | 41 53 54 | 5 58 5.9 | 270 28 31.5 | 347 31 19.5 |
| San Fernando, | +36 27 45 | 4 43 22.1 | 289 9 29.1 | 6 12 17.1 |
| Santiago, | −33 26 24.8 | 0 25 52.3 | 353 31 55.5 | 70 34 43.5 |
| Senftenberg, | +50 5 10.1 | 6 14 1.1 | 266 29 43.1 | 343 32 31.1 |
| Vienna, | 48 12 35.5 | 6 13 43.7 | 266 34 4.1 | 343 36 52.1 |
| Washington, | 38 53 39.3 | 0 0 0 | 0 0 0 | 77 2 48.0 |
| Wilna, | +54 40 59.1 | −6 49 23.0 | 257 39 15.5 | 334 42 3.5 |

## II. TO CONVERT PARTS OF THE EQUATOR IN ARC INTO SIDI REAL TIME, OR TO CONVERT TERRESTRIAL LONGITUDE IN ARC INTO TIME.

DEGREES.

| Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. |
| 1 | 0 4 | 41 | 2 44 | 81 | 5 24 | 121 | 8 4 | 161 | 10 44 | 201 | 13 24 |
| 2 | 0 8 | 42 | 2 48 | 82 | 5 28 | 122 | 8 8 | 162 | 10 48 | 202 | 13 28 |
| 3 | 0 12 | 43 | 2 52 | 83 | 5 32 | 123 | 8 12 | 163 | 10 52 | 203 | 13 32 |
| 4 | 0 16 | 44 | 2 56 | 84 | 5 36 | 124 | 8 16 | 164 | 10 56 | 204 | 13 36 |
| 5 | 0 20 | 45 | 3 0 | 85 | 5 40 | 125 | 8 20 | 165 | 11 0 | 205 | 13 40 |
| 6 | 0 24 | 46 | 3 4 | 86 | 5 44 | 126 | 8 24 | 166 | 11 4 | 206 | 13 44 |
| 7 | 0 28 | 47 | 3 8 | 87 | 5 48 | 127 | 8 28 | 167 | 11 8 | 207 | 13 48 |
| 8 | 0 32 | 48 | 3 12 | 88 | 5 52 | 128 | 8 32 | 168 | 11 12 | 208 | 13 52 |
| 9 | 0 36 | 49 | 3 16 | 89 | 5 56 | 129 | 8 36 | 169 | 11 16 | 209 | 13 56 |
| 10 | 0 40 | 50 | 3 20 | 90 | 6 0 | 130 | 8 40 | 170 | 11 20 | 210 | 14 0 |
| 11 | 0 44 | 51 | 3 24 | 91 | 6 4 | 131 | 8 44 | 171 | 11 24 | 211 | 14 4 |
| 12 | 0 48 | 52 | 3 28 | 92 | 6 8 | 132 | 8 48 | 172 | 11 28 | 212 | 14 8 |
| 13 | 0 52 | 53 | 3 32 | 93 | 6 12 | 133 | 8 52 | 173 | 11 32 | 213 | 14 12 |
| 14 | 0 56 | 54 | 3 36 | 94 | 6 16 | 134 | 8 56 | 174 | 11 36 | 214 | 14 16 |
| 15 | 1 0 | 55 | 3 40 | 95 | 6 20 | 135 | 9 0 | 175 | 11 40 | 215 | 14 20 |
| 16 | 1 4 | 56 | 3 44 | 96 | 6 24 | 136 | 9 4 | 176 | 11 44 | 216 | 14 24 |
| 17 | 1 8 | 57 | 3 48 | 97 | 6 28 | 137 | 9 8 | 177 | 11 48 | 217 | 14 28 |
| 18 | 1 12 | 58 | 3 52 | 98 | 6 32 | 138 | 9 12 | 178 | 11 52 | 218 | 14 32 |
| 19 | 1 16 | 59 | 3 56 | 99 | 6 36 | 139 | 9 16 | 179 | 11 56 | 219 | 14 36 |
| 20 | 1 20 | 60 | 4 0 | 100 | 6 40 | 140 | 9 20 | 180 | 12 0 | 220 | 14 40 |
| 21 | 1 24 | 61 | 4 4 | 101 | 6 44 | 141 | 9 24 | 181 | 12 4 | 221 | 14 44 |
| 22 | 1 28 | 62 | 4 8 | 102 | 6 48 | 142 | 9 28 | 182 | 12 8 | 222 | 14 48 |
| 23 | 1 32 | 63 | 4 12 | 103 | 6 52 | 143 | 9 32 | 183 | 12 12 | 223 | 14 52 |
| 24 | 1 36 | 64 | 4 16 | 104 | 6 56 | 144 | 9 36 | 184 | 12 16 | 224 | 14 56 |
| 25 | 1 40 | 65 | 4 20 | 105 | 7 0 | 145 | 9 40 | 185 | 12 20 | 225 | 15 0 |
| 26 | 1 44 | 66 | 4 24 | 106 | 7 4 | 146 | 9 44 | 186 | 12 24 | 226 | 15 4 |
| 27 | 1 48 | 67 | 4 28 | 107 | 7 8 | 147 | 9 48 | 187 | 12 28 | 227 | 15 8 |
| 28 | 1 52 | 68 | 4 32 | 108 | 7 12 | 148 | 9 52 | 188 | 12 32 | 228 | 15 12 |
| 29 | 1 56 | 69 | 4 36 | 109 | 7 16 | 149 | 9 56 | 189 | 12 36 | 229 | 15 16 |
| 30 | 2 0 | 70 | 4 40 | 110 | 7 20 | 150 | 10 0 | 190 | 12 40 | 230 | 15 20 |
| 31 | 2 4 | 71 | 4 44 | 111 | 7 24 | 151 | 10 4 | 191 | 12 44 | 231 | 15 24 |
| 32 | 2 8 | 72 | 4 48 | 112 | 7 28 | 152 | 10 8 | 192 | 12 48 | 232 | 15 28 |
| 33 | 2 12 | 73 | 4 52 | 113 | 7 32 | 153 | 10 12 | 193 | 12 52 | 233 | 15 32 |
| 34 | 2 16 | 74 | 4 56 | 114 | 7 36 | 154 | 10 16 | 194 | 12 56 | 234 | 15 36 |
| 35 | 2 20 | 75 | 5 0 | 115 | 7 40 | 155 | 10 20 | 195 | 13 0 | 235 | 15 40 |
| 36 | 2 24 | 76 | 5 4 | 116 | 7 44 | 156 | 10 24 | 196 | 13 4 | 236 | 15 44 |
| 37 | 2 28 | 77 | 5 8 | 117 | 7 48 | 157 | 10 28 | 197 | 13 8 | 237 | 15 48 |
| 38 | 2 32 | 78 | 5 12 | 118 | 7 52 | 158 | 10 32 | 198 | 13 12 | 238 | 15 52 |
| 39 | 2 36 | 79 | 5 16 | 119 | 7 56 | 159 | 10 36 | 199 | 13 16 | 239 | 15 56 |
| 40 | 2 40 | 80 | 5 20 | 120 | 8 0 | 160 | 10 40 | 200 | 13 20 | 240 | 16 0 |

## DEGREES.

| Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. | ° | h. m. |
| 241 | 16 4 | 261 | 17 24 | 281 | 18 44 | 301 | 20 4 | 321 | 21 24 | 341 | 22 44 |
| 242 | 16 8 | 262 | 17 28 | 282 | 18 48 | 302 | 20 8 | 322 | 21 28 | 342 | 22 48 |
| 243 | 16 12 | 263 | 17 32 | 283 | 18 52 | 303 | 20 12 | 323 | 21 32 | 343 | 22 52 |
| 244 | 16 16 | 264 | 17 36 | 284 | 18 56 | 304 | 20 16 | 324 | 21 36 | 344 | 22 56 |
| 245 | 16 20 | 265 | 17 40 | 285 | 19 0 | 305 | 20 20 | 325 | 21 40 | 345 | 23 0 |
| 246 | 16 24 | 266 | 17 44 | 286 | 19 4 | 306 | 20 24 | 326 | 21 44 | 346 | 23 4 |
| 247 | 16 28 | 267 | 17 48 | 287 | 19 8 | 307 | 20 28 | 327 | 21 48 | 347 | 23 8 |
| 248 | 16 32 | 268 | 17 52 | 288 | 19 12 | 308 | 20 32 | 328 | 21 52 | 348 | 23 12 |
| 249 | 16 36 | 269 | 17 56 | 289 | 19 16 | 309 | 20 36 | 329 | 21 56 | 349 | 23 16 |
| 250 | 16 40 | 270 | 18 0 | 290 | 19 20 | 310 | 20 40 | 330 | 22 0 | 350 | 23 20 |
| 251 | 16 44 | 271 | 18 4 | 291 | 19 24 | 311 | 20 44 | 331 | 22 4 | 351 | 23 24 |
| 252 | 16 48 | 272 | 18 8 | 292 | 19 28 | 312 | 20 48 | 332 | 22 8 | 352 | 23 28 |
| 253 | 16 52 | 273 | 18 12 | 293 | 19 32 | 313 | 20 52 | 333 | 22 12 | 353 | 23 32 |
| 254 | 16 56 | 274 | 18 16 | 294 | 19 36 | 314 | 20 56 | 334 | 22 16 | 354 | 23 36 |
| 255 | 17 0 | 275 | 18 20 | 295 | 19 40 | 315 | 21 0 | 335 | 22 20 | 355 | 23 40 |
| 256 | 17 4 | 276 | 18 24 | 296 | 19 44 | 316 | 21 4 | 336 | 22 24 | 356 | 23 44 |
| 257 | 17 8 | 277 | 18 28 | 297 | 19 48 | 317 | 21 8 | 337 | 22 28 | 357 | 23 48 |
| 258 | 17 12 | 278 | 18 32 | 298 | 19 52 | 318 | 21 12 | 338 | 22 32 | 358 | 23 52 |
| 259 | 17 16 | 279 | 18 36 | 299 | 19 56 | 319 | 21 16 | 339 | 22 36 | 359 | 23 56 |
| 260 | 17 20 | 280 | 18 40 | 300 | 20 0 | 320 | 21 20 | 340 | 22 40 | 360 | 24 0 |

## MINUTES.

| ′ | m. s. | ′ | m. s. | ′ | m. s. | ′ | m. s. | ′ | m. s. | ′ | m. s. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 4 | 11 | 0 44 | 21 | 1 24 | 31 | 2 4 | 41 | 2 44 | 51 | 3 24 |
| 2 | 0 8 | 12 | 0 48 | 22 | 1 28 | 32 | 2 8 | 42 | 2 48 | 52 | 3 28 |
| 3 | 0 12 | 13 | 0 52 | 23 | 1 32 | 33 | 2 12 | 43 | 2 52 | 53 | 3 32 |
| 4 | 0 16 | 14 | 0 56 | 24 | 1 36 | 34 | 2 16 | 44 | 2 56 | 54 | 3 36 |
| 5 | 0 20 | 15 | 1 0 | 25 | 1 40 | 35 | 2 20 | 45 | 3 0 | 55 | 3 40 |
| 6 | 0 24 | 16 | 1 4 | 26 | 1 44 | 36 | 2 24 | 46 | 3 4 | 56 | 3 44 |
| 7 | 0 28 | 17 | 1 8 | 27 | 1 48 | 37 | 2 28 | 47 | 3 8 | 57 | 3 48 |
| 8 | 0 32 | 18 | 1 12 | 28 | 1 52 | 38 | 2 32 | 48 | 3 12 | 58 | 3 52 |
| 9 | 0 36 | 19 | 1 16 | 29 | 1 56 | 39 | 2 36 | 49 | 3 16 | 59 | 3 56 |
| 10 | 0 40 | 20 | 1 20 | 30 | 2 0 | 40 | 2 40 | 50 | 3 20 | 60 | 4 0 |

## SECONDS.

| ″ | s. | ″ | s. | ″ | s. | ″ | s. | ″ | s. | ″ | s. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.067 | 11 | 0.733 | 21 | 1.400 | 31 | 2.067 | 41 | 2.733 | 51 | 3.400 |
| 2 | 0.133 | 12 | 0.800 | 22 | 1.467 | 32 | 2.133 | 42 | 2.800 | 52 | 3.467 |
| 3 | 0.200 | 13 | 0.867 | 23 | 1.533 | 33 | 2.200 | 43 | 2.867 | 53 | 3.533 |
| 4 | 0.267 | 14 | 0.933 | 24 | 1.600 | 34 | 2.267 | 44 | 2.933 | 54 | 3.600 |
| 5 | 0.333 | 15 | 1.000 | 25 | 1.667 | 35 | 2.333 | 45 | 3.000 | 55 | 3.667 |
| 6 | 0.400 | 16 | 1.067 | 26 | 1.733 | 36 | 2.400 | 46 | 3.067 | 56 | 3.733 |
| 7 | 0.467 | 17 | 1.133 | 27 | 1.800 | 37 | 2.467 | 47 | 3.133 | 57 | 3.800 |
| 8 | 0.533 | 18 | 1.200 | 28 | 1.867 | 38 | 2.533 | 48 | 3.200 | 58 | 3.867 |
| 9 | 0.600 | 19 | 1.267 | 29 | 1.933 | 39 | 2.600 | 49 | 3.267 | 59 | 3.933 |
| 10 | 0.667 | 20 | 1.333 | 30 | 2.000 | 40 | 2.667 | 50 | 3.333 | 60 | 4.000 |

## III. TO CONVERT SIDEREAL TIME INTO PARTS OF THE EQUATOR IN ARC, OR TO CONVERT TIME INTO TERRESTRIAL LONGITUDE IN ARC.

### Hours.

| Time. | Arc. | Time. | Arc | Time. | Arc. | Time. | Arc. | Time. | Arc. | Time. | Arc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| h. | ° | h. | ° | h. | ° | h. | ° | h. | ° | h. | ° |
| 1 | 15 | 5 | 75 | 9 | 135 | 13 | 195 | 17 | 255 | 21 | 315 |
| 2 | 30 | 6 | 90 | 10 | 150 | 14 | 210 | 18 | 270 | 22 | 330 |
| 3 | 45 | 7 | 105 | 11 | 165 | 15 | 225 | 19 | 285 | 23 | 345 |
| 4 | 60 | 8 | 120 | 12 | 180 | 16 | 240 | 20 | 300 | 24 | 360 |

### Minutes.

| m. | ° ′ | m. | ° ′ | m. | ° ′ | m. | ° ′ | m. | ° ′ | m. | ° ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 15 | 11 | 2 45 | 21 | 5 15 | 31 | 7 45 | 41 | 10 15 | 51 | 12 45 |
| 2 | 0 30 | 12 | 3 0 | 22 | 5 30 | 32 | 8 0 | 42 | 10 30 | 52 | 13 0 |
| 3 | 0 45 | 13 | 3 15 | 23 | 5 45 | 33 | 8 15 | 43 | 10 45 | 53 | 13 15 |
| 4 | 1 0 | 14 | 3 30 | 24 | 6 0 | 34 | 8 30 | 44 | 11 0 | 54 | 13 30 |
| 5 | 1 15 | 15 | 3 45 | 25 | 6 15 | 35 | 8 45 | 45 | 11 15 | 55 | 13 45 |
| 6 | 1 30 | 16 | 4 0 | 26 | 6 30 | 36 | 9 0 | 46 | 11 30 | 56 | 14 0 |
| 7 | 1 45 | 17 | 4 15 | 27 | 6 45 | 37 | 9 15 | 47 | 11 45 | 57 | 14 15 |
| 8 | 2 0 | 18 | 4 30 | 28 | 7 0 | 38 | 9 30 | 48 | 12 0 | 58 | 14 30 |
| 9 | 2 15 | 19 | 4 45 | 29 | 7 15 | 39 | 9 45 | 49 | 12 15 | 59 | 14 45 |
| 10 | 2 30 | 20 | 5 0 | 30 | 7 30 | 40 | 10 0 | 50 | 12 30 | 60 | 15 0 |

### Seconds.

| s. | ′ ″ | s. | ′ ″ | s. | ′ ″ | s. | ′ ″ | s. | ′ ″ | s. | ′ ″ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 15 | 11 | 2 45 | 21 | 5 15 | 31 | 7 45 | 41 | 10 15 | 51 | 12 45 |
| 2 | 0 30 | 12 | 3 0 | 22 | 5 30 | 32 | 8 0 | 42 | 10 30 | 52 | 13 0 |
| 3 | 0 45 | 13 | 3 15 | 23 | 5 45 | 33 | 8 15 | 43 | 10 45 | 53 | 13 15 |
| 4 | 1 0 | 14 | 3 30 | 24 | 6 0 | 34 | 8 30 | 44 | 11 0 | 54 | 13 30 |
| 5 | 1 15 | 15 | 3 45 | 25 | 6 15 | 35 | 8 45 | 45 | 11 15 | 55 | 13 45 |
| 6 | 1 30 | 16 | 4 0 | 26 | 6 30 | 36 | 9 0 | 46 | 11 30 | 56 | 14 0 |
| 7 | 1 45 | 17 | 4 15 | 27 | 6 45 | 37 | 9 15 | 47 | 11 45 | 57 | 14 15 |
| 8 | 2 0 | 18 | 4 30 | 28 | 7 0 | 38 | 9 30 | 48 | 12 0 | 58 | 14 30 |
| 9 | 2 15 | 19 | 4 45 | 29 | 7 15 | 39 | 9 45 | 49 | 12 15 | 59 | 14 45 |
| 10 | 2 30 | 20 | 5 0 | 30 | 7 30 | 40 | 10 0 | 50 | 12 30 | 60 | 15 0 |

### Tenths of Seconds.

| s. | ″ | s. | ″ | s. | ″ | s. | ″ | s. | ″ | s. | ″ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.01 | 0.15 | 0.18 | 2.70 | 0.35 | 5.25 | 0.52 | 7.80 | 0.69 | 10.35 | 0.86 | 12.90 |
| 0.02 | 0.30 | 0.19 | 2.85 | 0.36 | 5.40 | 0.53 | 7.95 | 0.70 | 10.50 | 0.87 | 13.05 |
| 0.03 | 0.45 | 0.20 | 3.00 | 0.37 | 5.55 | 0.54 | 8.10 | 0.71 | 10.65 | 0.88 | 13.20 |
| 0.04 | 0.60 | 0.21 | 3.15 | 0.38 | 5.70 | 0.55 | 8.25 | 0.72 | 10.80 | 0.89 | 13.35 |
| 0.05 | 0.75 | 0.22 | 3.30 | 0.39 | 5.85 | 0.56 | 8.40 | 0.73 | 10.95 | 0.90 | 13.50 |
| 0.06 | 0.90 | 0.23 | 3.45 | 0.40 | 6.00 | 0.57 | 8.55 | 0.74 | 11.10 | 0.91 | 13.65 |
| 0.07 | 1.05 | 0.24 | 3.60 | 0.41 | 6.15 | 0.58 | 8.70 | 0.75 | 11.25 | 0.92 | 13.80 |
| 0.08 | 1.20 | 0.25 | 3.75 | 0.42 | 6.30 | 0.59 | 8.85 | 0.76 | 11.40 | 0.93 | 13.95 |
| 0.09 | 1.35 | 0.26 | 3.90 | 0.43 | 6.45 | 0.60 | 9.00 | 0.77 | 11.55 | 0.94 | 14.10 |
| 0.10 | 1.50 | 0.27 | 4.05 | 0.44 | 6.60 | 0.61 | 9.15 | 0.78 | 11.70 | 0.95 | 14.25 |
| 0.11 | 1.65 | 0.28 | 4.20 | 0.45 | 6.75 | 0.62 | 9.30 | 0.79 | 11.85 | 0.96 | 14.40 |
| 0.12 | 1.80 | 0.29 | 4.35 | 0.46 | 6.90 | 0.63 | 9.45 | 0.80 | 12.00 | 0.97 | 14.55 |
| 0.13 | 1.95 | 0.30 | 4.50 | 0.47 | 7.05 | 0.64 | 9.60 | 0.81 | 12.15 | 0.98 | 14.70 |
| 0.14 | 2.10 | 0.31 | 4.65 | 0.48 | 7.20 | 0.65 | 9.75 | 0.82 | 12.30 | 0.99 | 14.85 |
| 0.15 | 2.25 | 0.32 | 4.80 | 0.49 | 7.35 | 0.66 | 9.90 | 0.83 | 12.45 | 1.00 | 15.00 |
| 0.16 | 2.40 | 0.33 | 4.95 | 0.50 | 7.50 | 0.67 | 10.05 | 0.84 | 12.60 | | |
| 0.17 | 2.55 | 0.34 | 5.10 | 0.51 | 7.65 | 0.68 | 10.20 | 0.85 | 12.75 | | |

## IV. FOR CONVERTING SIDEREAL TIME INTO MEAN SOLAR TIME, AND MEAN TIME INTO SIDEREAL TIME.

| HOURS. | | | MINUTES. | | | | | | SECONDS. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | Mean Time. | Sidereal Time. | Minutes. | Mean Time. | Sidereal Time. | Minutes. | Mean Time. | Sidereal Time. | Seconds. | Mean or Sidereal Time. | Seconds. | Mean or Sidereal Time. |
| | m s. | m. s. | | s. | s. | | s. | s. | | s. | | s. |
| 1 | 0 9.83 | 0 9.86 | 1 | 0.16 | 0.16 | 31 | 5.08 | 5.09 | 1 | 0.00 | 31 | 0.09 |
| 2 | 0 19.66 | 0 19.71 | 2 | 0.33 | 0.33 | 32 | 5.24 | 5.26 | 2 | 0.01 | 32 | 0.09 |
| 3 | 0 29.49 | 0 29.57 | 3 | 0.49 | 0.49 | 33 | 5.41 | 5.42 | 3 | 0.01 | 33 | 0.09 |
| 4 | 0 39.32 | 0 39.43 | 4 | 0.66 | 0.66 | 34 | 5.57 | 5.59 | 4 | 0.01 | 34 | 0.09 |
| 5 | 0 49.15 | 0 49.28 | 5 | 0.82 | 0.82 | 35 | 5.75 | 5.75 | 5 | 0.01 | 35 | 0.10 |
| 6 | 0 58.98 | 0 59.14 | 6 | 0.98 | 0.99 | 36 | 5.90 | 5.91 | 6 | 0.02 | 36 | 0.10 |
| 7 | 1 8.81 | 1 9.00 | 7 | 1.15 | 1.15 | 37 | 6.06 | 6.08 | 7 | 0.02 | 37 | 0.10 |
| 8 | 1 18.64 | 1 18.85 | 8 | 1.31 | 1.31 | 38 | 6.23 | 6.24 | 8 | 0.02 | 38 | 0.10 |
| 9 | 1 28.47 | 1 28.71 | 9 | 1.47 | 1.48 | 39 | 6.39 | 6.41 | 9 | 0.03 | 39 | 0.11 |
| 10 | 1 38.30 | 1 38.57 | 10 | 1.64 | 1.64 | 40 | 6.55 | 6.57 | 10 | 0.03 | 40 | 0.11 |
| 11 | 1 48.13 | 1 48.42 | 11 | 1.80 | 1.81 | 41 | 6.72 | 6.74 | 11 | 0.03 | 41 | 0.11 |
| 12 | 1 57.96 | 1 58.28 | 12 | 1.97 | 1.97 | 42 | 6.88 | 6.90 | 12 | 0.03 | 42 | 0.12 |
| 13 | 2 7.78 | 2 8.13 | 13 | 2 13 | 2.14 | 43 | 7.05 | 7.06 | 13 | 0.04 | 43 | 0.12 |
| 14 | 2 17.61 | 2 17.99 | 14 | 2.29 | 2.30 | 44 | 7.21 | 7.23 | 14 | 0.04 | 44 | 0.12 |
| 15 | 2 27.44 | 2 27.85 | 15 | 2.46 | 2.46 | 45 | 7.37 | 7.39 | 15 | 0.04 | 45 | 0.12 |
| 16 | 2 37.27 | 2 37.70 | 16 | 2.62 | 2.63 | 46 | 7.54 | 7.56 | 16 | 0.04 | 46 | 0.13 |
| 17 | 2 47.10 | 2 47.56 | 17 | 2.79 | 2.79 | 47 | 7.70 | 7.72 | 17 | 0.05 | 47 | 0.13 |
| 18 | 2 56.93 | 2 57.42 | 18 | 2.95 | 2.96 | 48 | 7.86 | 7.89 | 18 | 0.05 | 48 | 0.13 |
| 19 | 3 6.76 | 3 7.27 | 19 | 3.11 | 3.12 | 49 | 8.03 | 8.05 | 19 | 0.05 | 49 | 0.13 |
| 20 | 3 16.59 | 3 17.13 | 20 | 3.28 | 3.29 | 50 | 8.19 | 8.21 | 20 | 0.06 | 50 | 0.14 |
| 21 | 3 26.42 | 3 26.99 | 21 | 3.44 | 3.45 | 51 | 8.36 | 8.38 | 21 | 0.06 | 51 | 0.14 |
| 22 | 3 36.25 | 3 36.84 | 22 | 3.60 | 3.61 | 52 | 8.52 | 8.54 | 22 | 0.06 | 52 | 0.14 |
| 23 | 3 46.08 | 3 46.70 | 23 | 3.77 | 3.79 | 53 | 8.68 | 8.71 | 23 | 0.06 | 53 | 0.15 |
| 24 | 3 55.91 | 3 56.56 | 24 | 3.93 | 3.94 | 54 | 8.85 | 8.87 | 24 | 0.07 | 54 | 0.15 |
| 25 | 4 5.74 | 4 6.41 | 25 | 4.10 | 4.11 | 55 | 9.01 | 9.04 | 25 | 0.07 | 55 | 0.15 |
| 26 | 4 15.57 | 4 16.27 | 26 | 4.26 | 4.27 | 56 | 9.17 | 9.20 | 26 | 0.07 | 56 | 0.15 |
| 27 | 4 25.40 | 4 26.13 | 27 | 4.42 | 4.43 | 57 | 9.34 | 9.36 | 27 | 0.07 | 57 | 0.16 |
| 28 | 4 35.23 | 4 35.98 | 28 | 4.59 | 4.60 | 58 | 9.50 | 9.53 | 28 | 0.08 | 58 | 0.16 |
| 29 | 4 45.06 | 4 45.84 | 29 | 4.75 | 4.76 | 59 | 9.67 | 9.69 | 29 | 0.08 | 59 | 0.16 |
| 30 | 4 54.89 | 4 55.69 | 30 | 4.92 | 4.93 | 60 | 9.83 | 9.86 | 30 | 0.08 | 60 | 0.16 |

# V.

## CORRECTION OF THE TIME OBTAINED BY OBSERVATION OF THE SUN, IN ORDER TO HAVE THE TRUE TIME OF THE CLOCK.

| Day of Month. | Jan. Add. | Feb. Add. | Mar. Add. | Apr. Add. | Apr. Subt. | May. Subt. | June. Subt. | June. Add. | July. Add. | Aug. Add. | Sept. Subt. | Oct. Subt. | Nov. Subt. | Dec. Subt. | Dec. Add. | Day of Month. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | |
| 1 | 4 | 14 | 13 | 4 | . . | 3 | 3 | . . | 3 | 6 | 0 | 10 | 16 | 11 | . . | 1 |
| 2 | 4 | 14 | 12 | 4 | . . | 3 | 2 | . . | 4 | 6 | 0 | 11 | 16 | 10 | . . | 2 |
| 3 | 5 | 14 | 12 | 3 | . . | 3 | 2 | . . | 4 | 6 | 1 | 11 | 16 | 10 | . . | 3 |
| 4 | 5 | 14 | 12 | 3 | . . | 3 | 2 | . . | 4 | 6 | 1 | 11 | 16 | 10 | . . | 4 |
| 5 | 6 | 14 | 12 | 3 | . . | 4 | 2 | . . | 4 | 6 | 1 | 12 | 16 | 9 | . . | 5 |
| 6 | 6 | 14 | 12 | 2 | . . | 4 | 2 | . . | 4 | 6 | 2 | 12 | 16 | 9 | . . | 6 |
| 7 | 7 | 14 | 11 | 2 | . . | 4 | 2 | . . | 4 | 5 | 2 | 12 | 16 | 8 | . . | 7 |
| 8 | 7 | 15 | 11 | 2 | . . | 4 | 1 | . . | 5 | 5 | 2 | 12 | 16 | 8 | . . | 8 |
| 9 | 8 | 15 | 11 | 2 | . . | 4 | 1 | . . | 5 | 5 | 3 | 13 | 16 | 7 | . . | 9 |
| 10 | 8 | 15 | 11 | 1 | . . | 4 | 1 | . . | 5 | 5 | 3 | 13 | 16 | 7 | . . | 10 |
| 11 | 9 | 15 | 10 | 1 | . . | 4 | 1 | . . | 5 | 5 | 3 | 13 | 16 | 6 | . . | 11 |
| 12 | 9 | 15 | 10 | 1 | . . | 4 | 1 | . . | 5 | 5 | 4 | 13 | 16 | 6 | . . | 12 |
| 13 | 9 | 15 | 10 | 1 | . . | 4 | 0 | . . | 5 | 5 | 4 | 14 | 16 | 5 | . . | 13 |
| 14 | 10 | 14 | 9 | 0 | . . | 4 | 0 | . . | 5 | 4 | 5 | 14 | 15 | 5 | . . | 14 |
| 15 | 10 | 14 | 9 | 0 | . . | 4 | 0 | . . | 6 | 4 | 5 | 14 | 15 | 4 | . . | 15 |
| 16 | 10 | 14 | 9 | 0 | . . | 4 | 0 | . . | 6 | 4 | 5 | 14 | 15 | 4 | . . | 16 |
| 17 | 11 | 14 | 9 | 0 | . . | 4 | 0 | . . | 6 | 4 | 6 | 15 | 15 | 3 | . . | 17 |
| 18 | 11 | 14 | 8 | . . | 1 | 4 | . . | 1 | 6 | 4 | 6 | 15 | 15 | 3 | . . | 18 |
| 19 | 11 | 14 | 8 | . . | 1 | 4 | . . | 1 | 6 | 3 | 6 | 15 | 14 | 2 | . . | 19 |
| 20 | 11 | 14 | 8 | . . | 1 | 4 | . . | 1 | 6 | 3 | 7 | 15 | 14 | 2 | . . | 20 |
| 21 | 12 | 14 | 7 | . . | 1 | 4 | . . | 1 | 6 | 3 | 7 | 15 | 14 | 1 | . . | 21 |
| 22 | 12 | 14 | 7 | . . | 2 | 4 | . . | 2 | 6 | 3 | 7 | 15 | 14 | 1 | . . | 22 |
| 23 | 12 | 14 | 7 | . . | 2 | 4 | . . | 2 | 6 | 2 | 8 | 16 | 13 | 0 | . . | 23 |
| 24 | 12 | 13 | 6 | . . | 2 | 3 | . . | 2 | 6 | 2 | 8 | 16 | 13 | 0 | . . | 24 |
| 25 | 13 | 13 | 6 | . . | 2 | 3 | . . | 2 | 6 | 2 | 8 | 16 | 13 | 0 | . . | 25 |
| 26 | 13 | 13 | 6 | . . | 2 | 3 | . . | 2 | 6 | 2 | 9 | 16 | 12 | . . | 1 | 26 |
| 27 | 13 | 13 | 5 | . . | 2 | 3 | . . | 3 | 6 | 1 | 9 | 16 | 12 | . . | 1 | 27 |
| 28 | 13 | 13 | 5 | . . | 3 | 3 | . . | 3 | 6 | 1 | 9 | 16 | 12 | . . | 2 | 28 |
| 29 | 14 | 13 | 5 | . . | 3 | 3 | . . | 3 | 6 | 1 | 10 | 16 | 11 | . . | 2 | 29 |
| 30 | 14 | . . | 4 | . . | 3 | 3 | . . | 3 | 6 | 0 | 10 | 16 | 11 | . . | 3 | 30 |
| 31 | 14 | . . | 4 | . . | . . | 3 | . . | . . | 6 | 0 | . . | 16 | . . | . . | 3 | 31 |

# VI.

## TABLE FOR COMPUTING TERRESTRIAL SURFACES.

THE tables under No. VI. were published by Delcros in the *Annuaire Météorologique de la France pour* 1850, p. 65 *et seq.*

The formula from which they have been computed reads as follows : —

$$S = \frac{a\,b\,\pi}{90} \left\{ \begin{array}{l} \sin \tfrac{1}{2}\phi \cos (L + \tfrac{1}{2}\phi) \\ -\tfrac{1}{3}\left[2 \cdot \left(\frac{a-b}{a+b}\right) + \left(\frac{a-b}{a+b}\right)^2\right] \sin (\phi + \tfrac{1}{2}\phi) \cos [3L + (\phi + \tfrac{1}{2}\phi)] \\ +\tfrac{1}{5}\left[3 \cdot \left(\frac{a-b}{a+b}\right)^2 + \left(\frac{a-b}{a+b}\right)^3\right] \sin (2\phi + \tfrac{1}{2}\phi) \cos [5L + (2\phi + \tfrac{1}{2}\phi)] \\ - \text{etc.}\,; \end{array} \right.$$

in which $a = \frac{1}{2}$ great axis of the globe ; $b = \frac{1}{2}$ small axis ; L = the latitude of the lower limit of a quadrilateral surface ; L′ = the latitude of the upper limit of the same ; $\phi = L' - L$ ; S = the area of a quadrilateral surface of one degree in longitude ; $\pi$ = the ratio of the circumference to the diameter.

Substituting the numerical values, the quarter of the meridian being = 10,000,724 legal metres ; the $\frac{1}{2}$ great axis, or $a$, = 6,376,989 metres ; the $\frac{1}{2}$ small axis, or $b$, = 6,356,323 metres ; the ratio of the axis $\frac{1}{308.64}$ ; and making $\phi = 1°$ nonagesimal, the formula becomes,

$$S = \left\{ \begin{array}{l} 224.996360 \cos (\ L + 0° 30') \\ -0.730851 \cos (3L + 1° 30') \\ +0.001784 \cos (5L + 2° 30') \\ -0.000004 \cos (7L + 3° 30') \\ + \text{etc.} \end{array} \right.$$

The first three terms of the formula give the results with sufficient accuracy.

In order to avoid too large a number of figures, the results are given in square miles, the linear base of which is a mile equal to $\frac{1}{15}$ of the mean degree of the meridian. That mile is thus $= \left(\frac{10000724}{90 \times 15}\right) = 7407.942$ metres. In order to convert the results into new geographical miles, of which 60 = 1°, multiply by 16, log = 1.2041200 ; into common French leagues, 25 = 1°, multiply by 2.777778, log = 0.4436975 ; into nautical leagues, 20 = 1°, multiply by 1.777778, log = 0.2498775 ; into English statute miles, 69.163 = 1°, by 21.711034, log = 1.3366868.

### USE OF THE TABLES.

Table I., which gives the number of square miles contained in the quadrilateral surfaces of one degree in latitude and longitude, successively from the equator to the pole, will be more frequently used. Table II. has been computed for maps on a smaller scale ; and Tables III. and IV. for maps of very small scale, covering large areas, in which surfaces of one degree could not be estimated with sufficient accuracy. If the scale is large enough to have the minutes traced on, then Table V. is to be used.

For computing a surface by Table I., which may serve as an example for all the others, find first the lowest parallel circle which crosses, on the map, the surface to be estimated ; suppose it is 40° lat. N., and the zone within 40° and 41° lat. N. contains four integral degrees of longitude, that is, four surfaces of one degree each way ; then in the first column of the table, on the line beginning with latitude 40°, and in the vertical column headed 4, take the value of these four surfaces, viz. 685.88. Then take likewise the value of the number of surfaces between 41° and 42° lat. N., and so on. The fractional parts left outside of the integral degrees are best estimated, with the compass, in decimals, the values of which can be found in the columns of the multiples, by properly moving the decimal point to the left. Having taken them in that way, and summing them up with all the integral surfaces, we obtain the total surface required.

TABLE I. QUADRILATERAL SURFACES OF 1 DEGREE IN LATITUDE AND IN LONGITUDE ON THE TERRESTRIAL ELLIPSOID.

| Limiting LATITUDES. | | Multiples of these Quadrilateral Surfaces from 1 to 9. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Inf. | Sup. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0 | 1 | 224.259 | 448.52 | 672.78 | 897.04 | 1121.29 | 1345.55 | 1569.81 | 1794.07 | 2018.33 |
| 1 | 2 | 224.192 | 448.38 | 672.58 | 896.77 | 1120.96 | 1345.15 | 1569.35 | 1793.54 | 2017.73 |
| 2 | 3 | 224.059 | 448.12 | 672.18 | 896.24 | 1120.30 | 1344.36 | 1568.42 | 1792.47 | 2016.53 |
| 3 | 4 | 223.860 | 447.72 | 671.58 | 895.44 | 1119.30 | 1343.16 | 1567.02 | 1790.88 | 2014.74 |
| 4 | 5 | 223.594 | 447.19 | 670.78 | 894.37 | 1117.97 | 1341.56 | 1565.16 | 1788.75 | 2012.34 |
| 5 | 6 | 223.261 | 446.52 | 669.78 | 893.05 | 1116.31 | 1339.57 | 1562.83 | 1786.09 | 2009.35 |
| 6 | 7 | 222.863 | 445.73 | 668.59 | 891.45 | 1114.31 | 1337.18 | 1560.04 | 1782.90 | 2005.76 |
| 7 | 8 | 222.398 | 444.80 | 667.19 | 889.59 | 1111.99 | 1334.39 | 1556.78 | 1779.18 | 2001.58 |
| 8 | 9 | 221.867 | 443.73 | 665.60 | 887.47 | 1109.33 | 1331.20 | 1553.07 | 1774.93 | 1996.80 |
| 9 | 10 | 221.270 | 442.54 | 663.81 | 885.08 | 1106.35 | 1327.62 | 1548.89 | 1770.16 | 1991.43 |
| 10 | 11 | 220.607 | 441.21 | 661.82 | 882.43 | 1103.03 | 1323.64 | 1544.25 | 1764.85 | 1985.46 |
| 11 | 12 | 219.878 | 439.76 | 659.63 | 879.51 | 1099.39 | 1319.27 | 1539.15 | 1759.02 | 1978.90 |
| 12 | 13 | 219.084 | 433.17 | 657.25 | 876.34 | 1095.42 | 1314.50 | 1533.59 | 1752.67 | 1971.76 |
| 13 | 14 | 218.225 | 436.45 | 654.67 | 872.90 | 1091.12 | 1309.35 | 1527.57 | 1745.80 | 1964.02 |
| 14 | 15 | 217.300 | 434.60 | 651.90 | 869.20 | 1086.50 | 1303.80 | 1521.10 | 1738.40 | 1955.70 |
| 15 | 16 | 216.311 | 432.62 | 648.93 | 865.24 | 1081.55 | 1297.86 | 1514.17 | 1730.48 | 1946.80 |
| 16 | 17 | 215.257 | 430.51 | 645.77 | 861.03 | 1076.28 | 1291.54 | 1506.80 | 1722.05 | 1937.31 |
| 17 | 18 | 214.138 | 428.28 | 642.41 | 856.55 | 1070.69 | 1284.83 | 1498.97 | 1713.10 | 1927.24 |
| 18 | 19 | 212.955 | 425.91 | 638.87 | 851.82 | 1064.78 | 1277.73 | 1490.69 | 1703.64 | 1916.60 |
| 19 | 20 | 211.709 | 423.42 | 636.13 | 846.84 | 1058.54 | 1270.25 | 1481.96 | 1693.67 | 1905.38 |
| 20 | 21 | 210.399 | 420.80 | 631.20 | 841.59 | 1051.99 | 1262.39 | 1472.79 | 1683.19 | 1893.59 |
| 21 | 22 | 209.025 | 418.05 | 627.08 | 836.10 | 1045.13 | 1254.15 | 1463.18 | 1672.20 | 1881.23 |
| 22 | 23 | 207.589 | 415.18 | 622.77 | 830.36 | 1037.95 | 1245.54 | 1453.12 | 1660.71 | 1868.30 |
| 23 | 24 | 206.090 | 412.18 | 618.27 | 824.36 | 1030.45 | 1236.54 | 1442.63 | 1648.72 | 1854.81 |
| 24 | 25 | 204.529 | 409.06 | 613.59 | 818.12 | 1022.65 | 1227.18 | 1431.71 | 1636.24 | 1840.76 |
| 25 | 26 | 202.907 | 405.81 | 608.72 | 811.63 | 1014.53 | 1217.44 | 1420.35 | 1623.25 | 1826.16 |
| 26 | 27 | 201.223 | 402.45 | 603.67 | 804.89 | 1006.11 | 1207.34 | 1408.56 | 1609.78 | 1811.00 |
| 27 | 28 | 199.477 | 398.95 | 598.43 | 797.91 | 997.39 | 1196.86 | 1396.34 | 1595.82 | 1795.30 |
| 28 | 29 | 197.672 | 395.34 | 593.02 | 790.69 | 988.36 | 1186.03 | 1383.70 | 1581.38 | 1779.05 |
| 29 | 30 | 195.806 | 391.61 | 587.42 | 783.23 | 979.03 | 1174.84 | 1370.64 | 1566.45 | 1762.26 |
| 30 | 31 | 193.881 | 387.76 | 581.64 | 775.52 | 969.40 | 1163.29 | 1357.17 | 1551.05 | 1744.93 |
| 31 | 32 | 191.897 | 383.79 | 575.69 | 767.59 | 959.48 | 1151.38 | 1343.28 | 1535.17 | 1727.07 |
| 32 | 33 | 189.854 | 379.71 | 569.56 | 759.41 | 949.27 | 1139.12 | 1328.98 | 1518.83 | 1708.68 |
| 33 | 34 | 187.753 | 375.51 | 563.26 | 750.01 | 938.76 | 1126.52 | 1314.27 | 1502.02 | 1689.77 |
| 34 | 35 | 185.594 | 371.19 | 556.78 | 742.38 | 927.97 | 1113.57 | 1299.16 | 1484.75 | 1670.35 |
| 35 | 36 | 183.379 | 366.76 | 550.14 | 733.52 | 916.89 | 1100.27 | 1283.65 | 1467.03 | 1650.41 |
| 36 | 37 | 181.107 | 362.21 | 543.32 | 724.43 | 905.53 | 1086.64 | 1267.75 | 1448.86 | 1629.96 |
| 37 | 38 | 178.780 | 357.56 | 536.34 | 715.12 | 893.90 | 1072.68 | 1251.46 | 1430.24 | 1609.02 |
| 38 | 39 | 176.397 | 352.79 | 529.19 | 705.59 | 881.98 | 1058.38 | 1234.78 | 1411.18 | 1587.57 |
| 39 | 40 | 173.960 | 347.92 | 521.88 | 695.84 | 869.80 | 1043.76 | 1217.72 | 1391.68 | 1565.64 |
| 40 | 41 | 171.469 | 342.94 | 514.41 | 685.88 | 857.34 | 1028.81 | 1200.28 | 1371.75 | 1543.22 |
| 41 | 42 | 168.925 | 337.85 | 506.77 | 675.70 | 844.62 | 1013.55 | 1182.47 | 1351.40 | 1520.22 |
| 42 | 43 | 166.328 | 332.66 | 498.98 | 665.31 | 831.64 | 997.97 | 1164.30 | 1330.62 | 1496.95 |
| 43 | 44 | 163.680 | 327.36 | 491.04 | 654.72 | 818.40 | 982.08 | 1145.76 | 1309.44 | 1473.12 |
| 44 | 45 | 160.980 | 321.96 | 482.94 | 643.92 | 804.90 | 965.88 | 1126.86 | 1287.84 | 1448.82 |

TABLE I. (*Continued.*) QUADRILATERAL SURFACES OF 1 DEGREE IN LATITUDE AND IN LONGITUDE ON THE TERRESTRIAL ELLIPSOID.

| Limiting LATITUDES. | | Multiples of these Quadrilateral Surfaces from 1 to 9. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Inf. | Sup. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 45 | 46 | 158.231 | 316.46 | 474.69 | 632.92 | 791.15 | 949.39 | 1107.62 | 1265.85 | 1424.08 |
| 46 | 47 | 155.432 | 310.86 | 466.30 | 621.73 | 777.16 | 932.59 | 1088.02 | 1243.46 | 1398.89 |
| 47 | 48 | 152.584 | 305.17 | 457.75 | 610.34 | 762.92 | 915.51 | 1068.09 | 1220.67 | 1373.26 |
| 48 | 49 | 149.689 | 299.38 | 449.07 | 598.75 | 748.44 | 899.13 | 1047.82 | 1197.51 | 1347.20 |
| 49 | 50 | 146.746 | 293.49 | 440.24 | 586.98 | 733.73 | 880.48 | 1027.22 | 1173.97 | 1320.71 |
| 50 | 51 | 143.757 | 287.51 | 431.27 | 575.03 | 718.78 | 862.54 | 1006.30 | 1150.06 | 1293.81 |
| 51 | 52 | 140.723 | 281.45 | 422.17 | 562.89 | 703.61 | 844.34 | 985.06 | 1125.78 | 1266.51 |
| 52 | 53 | 137.644 | 275.29 | 412.93 | 550.58 | 688.22 | 825.86 | 963.51 | 1101.15 | 1238.80 |
| 53 | 54 | 134.522 | 269.04 | 403.57 | 538.09 | 672.61 | 807.13 | 941.65 | 1076.17 | 1210.70 |
| 54 | 55 | 131.357 | 262.71 | 394.07 | 525.43 | 656.78 | 788.14 | 919.50 | 1050.86 | 1182.21 |
| 55 | 56 | 128.150 | 256.30 | 384.45 | 512.60 | 640.75 | 768.90 | 897.05 | 1025.20 | 1153.35 |
| 56 | 57 | 124.903 | 249.81 | 374.71 | 499.61 | 624.51 | 749.42 | 874.32 | 999.22 | 1124.13 |
| 57 | 58 | 121.616 | 243.23 | 364.85 | 486.46 | 608.08 | 729.69 | 851.31 | 972.92 | 1094.54 |
| 58 | 59 | 118.289 | 236.58 | 354.87 | 473.16 | 591.45 | 709.74 | 828.03 | 946.32 | 1064.61 |
| 59 | 60 | 114.926 | 229.85 | 344.78 | 459.70 | 574.63 | 689.55 | 804.48 | 919.41 | 1034.33 |
| 60 | 61 | 111.525 | 223.05 | 334.58 | 446.10 | 557.63 | 669.15 | 780.68 | 892.20 | 1003.73 |
| 61 | 62 | 108.089 | 216.18 | 324.27 | 432.35 | 540.44 | 648.53 | 756.62 | 864.71 | 972.80 |
| 62 | 63 | 104.618 | 209.24 | 313.85 | 418.47 | 523.09 | 627.71 | 732.32 | 836.94 | 941.56 |
| 63 | 64 | 101.113 | 202.23 | 303.34 | 404.45 | 505.56 | 606.68 | 707.79 | 808.90 | 910.02 |
| 64 | 65 | 97.575 | 195.15 | 292.73 | 390.30 | 487.88 | 585.45 | 683.03 | 780.60 | 878.18 |
| 65 | 66 | 94.007 | 188.01 | 282.02 | 376.03 | 470.03 | 564.04 | 658.05 | 752.05 | 846.06 |
| 66 | 67 | 90.408 | 180.82 | 271.22 | 361.63 | 452.04 | 542.45 | 632.85 | 723.26 | 813.67 |
| 67 | 68 | 86.779 | 173.56 | 260.34 | 347.12 | 433.90 | 520.68 | 607.46 | 694.23 | 781.01 |
| 68 | 69 | 83.123 | 166.25 | 249.37 | 332.49 | 415.61 | 498.74 | 581.86 | 664.98 | 748.11 |
| 69 | 70 | 79.439 | 158.88 | 238.32 | 317.76 | 397.20 | 476.64 | 556.08 | 635.52 | 714.95 |
| 70 | 71 | 75.730 | 151.46 | 227.19 | 302.92 | 378.65 | 454.38 | 530.11 | 605.84 | 681.57 |
| 71 | 72 | 71.996 | 143.99 | 215.99 | 287.99 | 359.98 | 431.98 | 503.98 | 575.97 | 647.97 |
| 72 | 73 | 68.239 | 136.48 | 204.72 | 272.96 | 341.20 | 409.44 | 477.68 | 545.91 | 614.15 |
| 73 | 74 | 64.460 | 128.92 | 193.38 | 257.84 | 322.30 | 386.76 | 451.22 | 515.68 | 580.14 |
| 74 | 75 | 60.659 | 121.32 | 181.98 | 242.64 | 303.30 | 363.96 | 424.62 | 485.28 | 545.94 |
| 75 | 76 | 56.839 | 113.68 | 170.52 | 227.36 | 284.20 | 341.04 | 397.88 | 454.72 | 511.55 |
| 76 | 77 | 53.001 | 106.00 | 159.00 | 212.00 | 265.00 | 318.00 | 371.00 | 424.00 | 477.01 |
| 77 | 78 | 49.145 | 98.29 | 147.43 | 196.58 | 245.72 | 294.87 | 344.01 | 393.16 | 442.30 |
| 78 | 79 | 45.272 | 90.54 | 135.82 | 181.09 | 226.36 | 271.63 | 316.91 | 362.18 | 407.45 |
| 79 | 80 | 41.386 | 82.77 | 124.16 | 165.54 | 206.93 | 248.31 | 289.70 | 331.08 | 372.47 |
| 80 | 81 | 37.485 | 74.97 | 112.46 | 149.94 | 187.43 | 224.91 | 262.40 | 299.88 | 337.37 |
| 81 | 82 | 33.572 | 67.14 | 100.72 | 134.29 | 167.86 | 201.43 | 235.01 | 268.58 | 302.15 |
| 82 | 83 | 29.649 | 59.30 | 88.95 | 118.59 | 148.24 | 177.89 | 207.54 | 237.19 | 266.84 |
| 83 | 84 | 25.715 | 51.43 | 77.15 | 102.86 | 128.58 | 154.29 | 180.01 | 205.72 | 231.44 |
| 84 | 85 | 21.773 | 43.55 | 65.32 | 87.09 | 108.87 | 130.64 | 152.41 | 174.19 | 195.96 |
| 85 | 86 | 17.824 | 35.65 | 53.47 | 71.30 | 89.12 | 106.95 | 124.77 | 142.59 | 160.42 |
| 86 | 87 | 13.869 | 27.74 | 41.61 | 55.48 | 69.35 | 83.22 | 97.09 | 110.96 | 124.82 |
| 87 | 88 | 9.910 | 19.82 | 29.73 | 39.64 | 49.55 | 59.46 | 69.37 | 79.28 | 89.19 |
| 88 | 89 | 5.947 | 11.89 | 17.84 | 23.79 | 29.74 | 35.68 | 41.63 | 47.58 | 53.53 |
| 89 | 90 | 1.983 | 3.97 | 5.95 | 7.93 | 9.91 | 11.90 | 13.88 | 15.86 | 17.84 |

TABLE II. QUADRILATERAL SURFACES OF 2 DEGREES IN LATITUDE AND IN LONGITUDE ON THE TERRESTRIAL ELLIPSOID.

| Limiting LATITUDES. | | Multiples of these Quadrilateral Surfaces from 1 to 9. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Inf. | Sup. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0 | 2 | 896.903 | 1793.81 | 2690.71 | 3587.61 | 4484.51 | 5381.42 | 6278.32 | 7175.22 | 8072.13 |
| 2 | 4 | 895.838 | 1791.68 | 2687.51 | 3583.35 | 4479.19 | 5375.03 | 6270.87 | 7166.71 | 8062.54 |
| 4 | 6 | 893.710 | 1787.42 | 2681.13 | 3574.84 | 4468.55 | 5362.26 | 6255.97 | 7149.68 | 8043.39 |
| 6 | 8 | 890.520 | 1781.04 | 2671.56 | 3562.08 | 4452.60 | 5343.12 | 6233.64 | 7124.16 | 8014.68 |
| 8 | 10 | 886.272 | 1772.54 | 2658.82 | 3545.09 | 4431.36 | 5317.63 | 6203.91 | 7090.18 | 7976.45 |
| 10 | 12 | 880.969 | 1761.94 | 2642.91 | 3523.88 | 4404.85 | 5285.82 | 6166.79 | 7047.76 | 7928.72 |
| 12 | 14 | 874.617 | 1749.23 | 2623.85 | 3498.47 | 4373.09 | 5247.70 | 6122.32 | 6996.94 | 7871.55 |
| 14 | 16 | 867.221 | 1734.44 | 2601.66 | 3468.88 | 4336.11 | 5203.33 | 6070.55 | 6937.77 | 7804.99 |
| 16 | 18 | 858.789 | 1717.58 | 2576.37 | 3435.16 | 4293.95 | 5152.74 | 6011.52 | 6870.31 | 7729.10 |
| 18 | 20 | 849.328 | 1698.66 | 2547.98 | 3397.31 | 4246.64 | 5095.97 | 5945.30 | 6794.63 | 7643.95 |
| 20 | 22 | 838.848 | 1677.70 | 2516.54 | 3355.39 | 4194.24 | 5033.09 | 5871.94 | 6710.78 | 7549.63 |
| 22 | 24 | 827.359 | 1654.72 | 2482.08 | 3309.44 | 4136.80 | 4964.16 | 5791.51 | 6618.87 | 7446.23 |
| 24 | 26 | 814.872 | 1629.74 | 2444.62 | 3259.49 | 4074.36 | 4889.23 | 5704.11 | 6518.98 | 7333.85 |
| 26 | 28 | 811.400 | 1602.80 | 2404.20 | 3205.60 | 4007.00 | 4808.40 | 5609.80 | 6411.20 | 7212.60 |
| 28 | 30 | 786.956 | 1573.91 | 2360.87 | 3147.83 | 3934.78 | 4721.74 | 5508.69 | 6295.65 | 7082.61 |
| 30 | 32 | 771.555 | 1543.11 | 2314.67 | 3086.22 | 3857.78 | 4629.33 | 5400.89 | 6172.44 | 6944.00 |
| 32 | 34 | 755.213 | 1510.43 | 2265.64 | 3020.85 | 3776.06 | 4531.28 | 5286.49 | 6041.70 | 6796.92 |
| 34 | 36 | 737.946 | 1475.89 | 2213.84 | 2951.78 | 3689.73 | 4427.68 | 5165.62 | 5903.57 | 6641.51 |
| 36 | 38 | 719.773 | 1439.55 | 2159.32 | 2879.09 | 3598.87 | 4318.64 | 5038.41 | 5758.19 | 6477.96 |
| 38 | 40 | 700.713 | 1401.43 | 2102.14 | 2802.85 | 3503.57 | 4204.28 | 4904.99 | 5605.71 | 6306.42 |
| 40 | 42 | 680.787 | 1361.57 | 2042.36 | 2723.15 | 3403.93 | 4084.72 | 4765.51 | 5446.29 | 6127.08 |
| 42 | 44 | 660.016 | 1320.03 | 1980.05 | 2640.06 | 3300.08 | 3960.09 | 4620.11 | 5280.13 | 5940.14 |
| 44 | 46 | 638.423 | 1276.85 | 1915.27 | 2553.69 | 3192.11 | 3830.54 | 4468.96 | 5107.38 | 5745.81 |
| 46 | 48 | 616.032 | 1232.06 | 1848.10 | 2464.13 | 3080.16 | 3696.19 | 4312.23 | 4928.26 | 5544.29 |
| 48 | 50 | 592.869 | 1185.74 | 1778.61 | 2371.48 | 2964.34 | 3557.21 | 4150.08 | 4742.95 | 5335.82 |
| 50 | 52 | 568.960 | 1137.92 | 1706.88 | 2275.84 | 2844.80 | 3413.76 | 3982.72 | 4551.68 | 5120.64 |
| 52 | 54 | 544.332 | 1088.66 | 1632.99 | 2177.33 | 2721.66 | 3265.99 | 3810.32 | 4354.65 | 4898.99 |
| 54 | 56 | 519.014 | 1038.03 | 1557.04 | 2076.06 | 2595.07 | 3114.09 | 3633.10 | 4152.11 | 4671.13 |
| 56 | 58 | 493.037 | 986.07 | 1479.11 | 1972.15 | 2465.18 | 2958.22 | 3451.26 | 3944.29 | 4437.33 |
| 58 | 60 | 466.430 | 932.86 | 1399.29 | 1865.72 | 2332.15 | 2798.58 | 3265.01 | 3731.44 | 4197.87 |
| 60 | 62 | 439.228 | 878.46 | 1317.68 | 1756.91 | 2196.14 | 2635.37 | 3074.59 | 3513.82 | 3953.05 |
| 62 | 64 | 411.461 | 822.92 | 1234.38 | 1645.84 | 2057.30 | 2468.76 | 2880.23 | 3291.69 | 3703.15 |
| 64 | 66 | 383.164 | 766.33 | 1149.49 | 1532.66 | 1915.82 | 2298.99 | 2682.15 | 3065.32 | 3448.48 |
| 66 | 68 | 354.374 | 708.75 | 1063.12 | 1417.50 | 1771.87 | 2126.24 | 2480.62 | 2834.99 | 3189.36 |
| 68 | 70 | 325.124 | 650.25 | 975.37 | 1300.50 | 1625.62 | 1950.75 | 2275.87 | 2601.00 | 2926.12 |
| 70 | 72 | 295.453 | 590.91 | 886.36 | 1181.81 | 1477.27 | 1772.72 | 2068.17 | 2363.63 | 2659.08 |
| 72 | 74 | 265.398 | 530.80 | 796.20 | 1061.59 | 1326.99 | 1592.39 | 1857.79 | 2123.19 | 2388.59 |
| 74 | 76 | 234.998 | 469.99 | 704.99 | 939.99 | 1174.99 | 1409.99 | 1644.98 | 1879.98 | 2114.98 |
| 76 | 78 | 204.290 | 408.58 | 612.87 | 817.16 | 1021.45 | 1225.74 | 1430.03 | 1634.32 | 1838.61 |
| 78 | 80 | 173.316 | 346.63 | 519.95 | 693.26 | 866.58 | 1039.90 | 1213.21 | 1386.53 | 1559.85 |
| 80 | 82 | 142.115 | 284.23 | 426.34 | 568.46 | 710.57 | 852.69 | 994.80 | 1136.92 | 1279.03 |
| 82 | 84 | 110.728 | 221.46 | 332.18 | 442.91 | 553.64 | 664.37 | 775.09 | 885.82 | 996.55 |
| 84 | 86 | 79.195 | 168.39 | 237.59 | 316.78 | 395.98 | 475.17 | 554.37 | 633.56 | 712.76 |
| 86 | 88 | 47.559 | 95.12 | 142.68 | 190.24 | 237.79 | 285.35 | 332.91 | 380.47 | 428.03 |
| 88 | 90 | 15.860 | 31.72 | 47.58 | 63.44 | 79.30 | 95.16 | 111.02 | 126.88 | 142.74 |

TABLE III. QUADRILATERAL SURFACES OF 5 DEGREES IN LATITUDE AND IN LONGITUDE ON THE TERRESTRIAL ELLIPSOID.

| Limiting LATITUDES. | | Multiples of these Quadrilateral Surfaces from 1 to 9. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Inf. | Sup. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0 | 5 | 5599.821 | 11199.64 | 16799.46 | 22399.29 | 27999.11 | 33598.93 | 39198.75 | 44798.57 | 50398.39 |
| 5 | 10 | 5558.288 | 11116.58 | 16674.87 | 22233.15 | 27791.44 | 33349.73 | 38908.02 | 44466.31 | 50024.60 |
| 10 | 15 | 5475.466 | 10950.93 | 16426.40 | 21901.87 | 27377.33 | 32852.80 | 38328.27 | 43803.73 | 49279.20 |
| 15 | 20 | 5351.846 | 10703.69 | 16055.54 | 21407.39 | 26759.23 | 32111.08 | 37462.93 | 42814.77 | 48166.62 |
| 20 | 25 | 5188.165 | 10376.33 | 15564.49 | 20752.66 | 25940.82 | 31128.99 | 36317.15 | 41505.32 | 46693.48 |
| 25 | 30 | 4985.425 | 9970.85 | 14956.27 | 19941.70 | 24927.12 | 29912.55 | 34897.97 | 39883.40 | 44868.82 |
| 30 | 35 | 4744.891 | 9485.78 | 14234.67 | 18979.57 | 23724.46 | 28469.35 | 33214.24 | 37959.13 | 42704.02 |
| 35 | 40 | 4468.110 | 8936.22 | 13404.33 | 17872.44 | 22340.55 | 26808.66 | 31276.77 | 35744.88 | 40212.99 |
| 40 | 45 | 4156.909 | 8313.82 | 12470.73 | 16627.64 | 20784.54 | 24941.45 | 29098.36 | 33255.27 | 37412.18 |
| 45 | 50 | 3813.408 | 7626.82 | 11440.22 | 15253.63 | 19067.04 | 22880.45 | 26693.86 | 30507.26 | 34320.67 |
| 50 | 55 | 3440.013 | 6880.03 | 10320.04 | 13760.05 | 17200.06 | 20640.08 | 24080.09 | 27520.10 | 30960.12 |
| 55 | 60 | 3039.419 | 6078.84 | 9118.26 | 12157.68 | 15197.09 | 18236.51 | 21275.93 | 24315.35 | 27354.77 |
| 60 | 65 | 2614.598 | 5229.20 | 7843.80 | 10458.39 | 13072.99 | 15687.59 | 18302.19 | 20916.79 | 23531.39 |
| 65 | 70 | 2168.779 | 4337.56 | 6506.34 | 8675.12 | 10843.89 | 13012.67 | 15181.45 | 17350.23 | 19519.01 |
| 70 | 75 | 1705.427 | 3410.85 | 5116.28 | 6821.71 | 8527.13 | 10232.56 | 11937.99 | 13643.42 | 15348.84 |
| 75 | 80 | 1228.213 | 2456.43 | 3684.64 | 4912.85 | 6141.07 | 7369.28 | 8597.49 | 9825.71 | 11053.92 |
| 80 | 85 | 740.973 | 1481.95 | 2222.92 | 2963.89 | 3704.86 | 4445.84 | 5186.81 | 5927.78 | 6668.76 |
| 85 | 90 | 247.668 | 495.34 | 743.00 | 990.67 | 1238.34 | 1486.01 | 1733.68 | 1981.34 | 2229.01 |

TABLE IV. QUADRILATERAL SURFACES OF 10 DEGREES IN LATITUDE AND IN LONGITUDE ON THE TERRESTRIAL ELLIPSOID.

| Limiting ATITUDES. | | Multiples of these Quadrilateral Surfaces from 1 to 9. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| nf. | Sup. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
| 0 | 10 | 22316.220 | 44632.44 | 66948.66 | 89264.88 | 111581.10 | 133897.32 | 156213.54 | 178529.76 | 200845.98 |
| 10 | 20 | 21654.626 | 43309.25 | 64963.88 | 86618.50 | 108273.13 | 129927.76 | 151582.38 | 173237.01 | 194891.63 |
| 20 | 30 | 20347.180 | 40694.36 | 61041.54 | 81388.72 | 101735.90 | 122083.08 | 142430.26 | 162777.44 | 183124.62 |
| 30 | 40 | 18426.004 | 36852.01 | 55278.01 | 73704.02 | 92130.02 | 110556.02 | 128982.03 | 147408.03 | 165834.04 |
| 40 | 50 | 15940.634 | 31881.27 | 47821.90 | 63762.54 | 79703.17 | 95643.80 | 111584.44 | 127525.07 | 143465.71 |
| 50 | 60 | 12958.864 | 25917.73 | 38876.59 | 51835.46 | 64794.32 | 77753.18 | 90712.05 | 103670.91 | 116629.78 |
| 60 | 70 | 9566.755 | 19133.51 | 28700.26 | 38267.02 | 47833.77 | 57400.53 | 66967.28 | 76534.04 | 86100.79 |
| 70 | 80 | 5867.281 | 11734.56 | 17601.84 | 23469.12 | 29336.40 | 35203.69 | 41070.97 | 46938.25 | 52805.53 |
| 80 | 90 | 1977.282 | 3954.56 | 5931.85 | 7909.13 | 9886.41 | 11863.69 | 13840.97 | 15818.26 | 17795.54 |

TABLE V. MEAN QUADRILATERAL SURFACES OF 1, 10, 20, AND 30 MINUTES IN LATITUDE AND IN LONGITUDE DEDUCED FROM EACH QUADRILATERAL OF 1 DEGREE IN TABLE I.

| Limiting LATITUDES. | | Mean Surfaces measuring in Latitude and in Longitude. | | | | Limiting LATITUDES. | | Mean Surfaces measuring in Latitude and in Longitude. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inf. | Sup. | 1′. | 10′. | 20′. | 30′. | Inf. | Sup. | 1′. | 10′. | 20′. | 30′. |
| 0 | 1 | 0.0623 | 6.229 | 24.918 | 56.065 | 45 | 46 | 0.0440 | 4.395 | 17.581 | 39.558 |
| 1 | 2 | 0.0623 | 6.228 | 24.910 | 56.048 | 46 | 47 | 0.0432 | 4.318 | 17.270 | 38.858 |
| 2 | 3 | 0.0622 | 6.224 | 24.895 | 56.015 | 47 | 48 | 0.0424 | 4.238 | 16.954 | 38.146 |
| 3 | 4 | 0.0622 | 6.218 | 24.873 | 55.965 | 48 | 49 | 0.0416 | 4.158 | 16.632 | 37.422 |
| 4 | 5 | 0.0621 | 6.211 | 24.844 | 55.898 | 49 | 50 | 0.0408 | 4.076 | 16.305 | 36.686 |
| 5 | 6 | 0.0620 | 6.202 | 24.807 | 55.815 | 50 | 51 | 0.0399 | 3.993 | 15.973 | 35.939 |
| 6 | 7 | 0.0619 | 6.191 | 24.763 | 55.716 | 51 | 52 | 0.0391 | 3.909 | 15.636 | 35.181 |
| 7 | 8 | 0.0618 | 6.178 | 24.711 | 55.599 | 52 | 53 | 0.0382 | 3.823 | 15.294 | 34.411 |
| 8 | 9 | 0.0616 | 6.163 | 24.652 | 55.467 | 53 | 54 | 0.0374 | 3.737 | 14.947 | 33.630 |
| 9 | 10 | 0.0615 | 6.146 | 24.586 | 55.317 | 54 | 55 | 0.0365 | 3.649 | 14.595 | 32.839 |
| 10 | 11 | 0.0613 | 6.128 | 24.512 | 55.152 | 55 | 56 | 0.0356 | 3.560 | 14.239 | 32.038 |
| 11 | 12 | 0.0611 | 6.108 | 24.431 | 54.970 | 56 | 57 | 0.0347 | 3.470 | 13.878 | 31.226 |
| 12 | 13 | 0.0609 | 6.086 | 24.343 | 54.771 | 57 | 58 | 0.0338 | 3.378 | 13.513 | 30.404 |
| 13 | 14 | 0.0606 | 6.062 | 24.247 | 54.556 | 58 | 59 | 0.0329 | 3.286 | 13.143 | 29.572 |
| 14 | 15 | 0.0604 | 6.036 | 24.144 | 54.325 | 59 | 60 | 0.0319 | 3.192 | 12.770 | 28.731 |
| 15 | 16 | 0.0601 | 6.009 | 24.035 | 54.078 | 60 | 61 | 0.0310 | 3.098 | 12.392 | 27.881 |
| 16 | 17 | 0.0598 | 5.979 | 23.917 | 53.814 | 61 | 62 | 0.0300 | 3.002 | 12.010 | 27.022 |
| 17 | 18 | 0.0595 | 5.948 | 23.793 | 53.534 | 62 | 63 | 0.0291 | 2.906 | 11.624 | 26.154 |
| 18 | 19 | 0.0592 | 5.915 | 23.662 | 53.239 | 63 | 64 | 0.0281 | 2.809 | 11.235 | 25.278 |
| 19 | 20 | 0.0588 | 5.881 | 23.523 | 52.927 | 64 | 65 | 0.0271 | 2.710 | 10.842 | 24.394 |
| 20 | 21 | 0.0584 | 5.844 | 23.378 | 52.600 | 65 | 66 | 0.0261 | 2.611 | 10.445 | 23.502 |
| 21 | 22 | 0.0581 | 5.806 | 23.225 | 52.256 | 66 | 67 | 0.0251 | 2.511 | 10.045 | 22.602 |
| 22 | 23 | 0.0577 | 5.766 | 23.065 | 51.897 | 67 | 68 | 0.0241 | 2.411 | 9.642 | 21.695 |
| 23 | 24 | 0.0572 | 5.725 | 22.899 | 51.523 | 68 | 69 | 0.0231 | 2.309 | 9.236 | 20.781 |
| 24 | 25 | 0.0568 | 5.681 | 22.725 | 51.132 | 69 | 70 | 0.0221 | 2.207 | 8.827 | 19.860 |
| 25 | 26 | 0.0564 | 5.636 | 22.545 | 50.727 | 70 | 71 | 0.0210 | 2.104 | 8.414 | 18.933 |
| 26 | 27 | 0.0559 | 5.590 | 22.358 | 50.306 | 71 | 72 | 0.0200 | 2.000 | 8.000 | 17.999 |
| 27 | 28 | 0.0554 | 5.541 | 22.164 | 49.869 | 72 | 73 | 0.0190 | 1.896 | 7.582 | 17.060 |
| 28 | 29 | 0.0549 | 5.491 | 21.964 | 49.418 | 73 | 74 | 0.0179 | 1.791 | 7.162 | 16.115 |
| 29 | 30 | 0.0544 | 5.439 | 21.756 | 48.952 | 74 | 75 | 0.0168 | 1.685 | 6.740 | 15.165 |
| 30 | 31 | 0.0539 | 5.386 | 21.542 | 48.470 | 75 | 76 | 0.0158 | 1.579 | 6.315 | 14.210 |
| 31 | 32 | 0.0533 | 5.330 | 21.322 | 47.974 | 76 | 77 | 0.0147 | 1.472 | 5.889 | 13.250 |
| 32 | 33 | 0.0527 | 5.274 | 21.095 | 47.463 | 77 | 78 | 0.0137 | 1.365 | 5.461 | 12.286 |
| 33 | 34 | 0.0522 | 5.215 | 20.861 | 46.938 | 78 | 79 | 0.0126 | 1.258 | 5.030 | 11.318 |
| 34 | 35 | 0.0516 | 5.155 | 20.622 | 46.399 | 79 | 80 | 0.0115 | 1.150 | 4.598 | 10.346 |
| 35 | 36 | 0.0509 | 5.094 | 20.375 | 45.845 | 80 | 81 | 0.0104 | 1.041 | 4.165 | 9.371 |
| 36 | 37 | 0.0503 | 5.031 | 20.123 | 45.277 | 81 | 82 | 0.0093 | 0.933 | 3.730 | 8.393 |
| 37 | 38 | 0.0497 | 4.966 | 19.864 | 44.695 | 82 | 83 | 0.0082 | 0.824 | 3.294 | 7.412 |
| 38 | 39 | 0.0490 | 4.900 | 19.600 | 44.099 | 83 | 84 | 0.0071 | 0.714 | 2.857 | 6.429 |
| 39 | 40 | 0.0483 | 4.832 | 19.329 | 43.490 | 84 | 85 | 0.0060 | 0.605 | 2.419 | 5.443 |
| 40 | 41 | 0.0476 | 4.763 | 19.052 | 42.867 | 85 | 86 | 0.0049 | 0.495 | 1.980 | 4.456 |
| 41 | 42 | 0.0469 | 4.692 | 18.769 | 42.231 | 86 | 87 | 0.0039 | 0.385 | 1.541 | 3.467 |
| 42 | 43 | 0.0462 | 4.620 | 18.481 | 41.582 | 87 | 88 | 0.0028 | 0.275 | 1.101 | 2.477 |
| 43 | 44 | 0.0455 | 4.547 | 18.187 | 40.920 | 88 | 89 | 0.0017 | 0.165 | 0.661 | 1.487 |
| 44 | 45 | 0.0447 | 4.472 | 17.887 | 40.245 | 89 | 90 | 0.0006 | 0.055 | 0.220 | 0.496 |

# ERRATA IN THE FIRST EDITION.

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A, page 7, line below the title, instead of $(32 + \frac{4}{5}\, x°)$ read $(32 + \frac{9}{5}\, x°)$.

A, " 21, on the line beginning with 30, in the last four columns,

| | | | | |
|---|---|---|---|---|
| instead of | 100.75 | 100.97 | 101.20 | 101.42 |
| read | 100 85 | 101.07 | 101.30 | 101.52. |

B, " 7, on the line beginning with 23°, second column, instead of 20.410, read 20.888.

B, " 23, on the line beginning with 12°, third column, instead of 5.87, read 5.37.

B, " 30–32, at the head of each first column, Temperature of the Air, add "in Centigrade degrees."

B, " 40, Table II., first part, on the line beginning with 60, column headed 7, instead of 24.11,01, read 24.9,01.

B, " " Table II., first part, on the line beginning with 70, column headed 5, instead of 27.4,47, read 27.8,47 ; and column headed 8, instead of 28.11,77, read 28.9,77.

B, " " Table II., second part, on the line beginning with 70, column headed 5, instead of 328.47, read 332.47.

B, " 41, Table III., line beginning with 20, the five last columns,

| | | | | | |
|---|---|---|---|---|---|
| instead of | 63.54 | 66.08 | 68.62 | 71.16 | 73.70, |
| read | 63.50 | 66.04 | 68.58 | 71.12 | 73.66. |

B, " " Table III, line beginning with 200, column headed 3, instead of 515.11, read 515.61.

B, " 42, Table V., line beginning with 180, column headed 7, instead of 516.21, read 506.21.

B, " 43, Table VI., first part, on line beginning with 70, column headed 2, instead of 76.635, read 76.735.

B, " " Table VI., second part, on line beginning with 7, the last eight columns,

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| instead of | 0.6483 | 0.6572 | 0 6661 | 0 6750 | 0.6839 | 0.6927 | 0.7016 | 0.7105, |
| read | 0.6395 | 0.6483 | 0.6572 | 0 6661 | 0.6750 | 0.6839 | 0.6927 | 0.7016. |

B, " 43, Table VI., second part, on line beginning with 12, column headed 5, instead of 1.1018, read 1.1102.

C, " 11, on line beginning with 26.5 inches, column headed 6, instead of 674.41, read 674.61.

C, " " on line of 27.1 inches, column headed 1, instead of 688.38, read 688.58.

C, " 12, on line of 30.5 inches, column headed 2, instead of 778.20, read 775.19.

C, " 39 and 41, at the head of table, instead of "Tenths of Degrees," read "English Inches."

D, " 28, 29, and 30, head of page, instead of "Tenths of a Degree," read "Hundredths of a Degree."

D, " 35, note at the bottom, instead of "Geology," read "Geodesy."

D, " 36, on line beginning with 160, columns headed 8 and 9, instead of 550.19 and 553.47, read 551.19 and 554.47.

D, " 36, on line beginning with 260, columns headed 2, 3, 5, and 6,

| | | | | |
|---|---|---|---|---|
| instead of | 860.59 | 863.87 | 879.43 | 882.72, |
| read | 859.60 | 862.88 | 869.44 | 872.72. |

D, " 37, on line beginning with 620, column headed 4, instead of 2048.28, read 2047.28.

D, " " " " 770, " 0, " 2526.39, " 2526.29.

D, " 38, " " " 880, " 5, " 2903.69, " 2903.60.

D, " " " " " 890, " 6, " 2939.79, " 2939.69.

D, " " " " " 930, " 5, " 3069.64, " 3067.64.

D, " " " " " 990, " 4, " 3261.71, " 3261.21.

D, " " " " " 990, " 5, " 3264.59, " 3264.49.

D, " 39, on line beginning with 1380, columns headed 3, 4, 5, 6, 7, 8,

| | | | | | | |
|---|---|---|---|---|---|---|
| instead of | 4537.28 | 4540.56 | 4543.85 | 4547.13 | 4550.41 | 4553.69, |
| read | 4537.48 | 4540.76 | 4544.05 | 4547.33 | 4550 61 | 4553.89. |

D, " 40, on line beginning with 1610, column headed 5, instead of 5292.65, read 5298.65.

D, " 44, Table X., on line beginning with 3, column headed 6, instead of 21.0205, read 23.0205.

D, " 45, Table XII., on line beginning with column 0, column headed 5, instead of 0.83333, read 0.08333.

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