


## ALMANAC CATALOGUE

## Z OD I AC AL STARS.

PRINTED FOR THE USE OF

THE AMERICAN EPHEMERIS AND NAUTICAL ALMANAC.


BUREAU OF NAVIGATION, WASHINGTON.
1864.
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University of California.
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Welch, BIGELOW, AND Company,
CAMBRIDGE.
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## PREFACE.

The Almanac Catalogue of Zodiacal Stars has been prepared and published under the direction of the Bureau of Navigation, Navy Department.

The selection and arrangement of the stars was made by Mr. Joun Downes, Assistant Nautical Almanac.

The Catalogue contains all the stars, to the $6 \frac{1}{2}$ magnitude inclusive, which, from their positions, are liable to be occulted by the moon: stars of the smaller magnitudes belonging to important clusters are also included. It embraces a zone extending to eight degrees of latitude on each side of the ecliptic; and consequently contains many stars which do not come within the limits of occultation, but which, from their proximity to the moon's path, may be required for moon-culminations.

A large proportion of the stars belonging to clusters have been selected from authorities which do not give the constants of reduction to apparent places. The constants, in these cases, have been computed by the formula given in the Introduction.

These computations, as well as the reductions to a common epoch, have been made in the Nautical Almanac Office, by Mr. G. W. Hil, under the direction of the Superintendent, who has conducted the work through the press.

Nautical Almanac Office, Cambridge, Mass., Feb. 11, 1864.
(2)

##  <br> ZODIACALSTARS.

## INTRODUCTION.

The present catalogue has been prepared with a view to facilitating the computer's labor in some of the departments of the American Ephemeris and Nautical Almanac Office; especially in the preparation of the lists of occultations, and in the selection of stars proper to be observed in connection with the moon's transit. Another object has been to furnish a catalogue which, from its size and cheapness, will be more accessible to computers than the larger and more expensive catalogues, which are rarely to be met with excepting in the libraries connected with scientific associations. Of these, the catalogue in most general use in this country is that of the British Association, - a heavy quarto, which comes to us at a price which many computers cannot well afford to pay. The present catalogue, which will answer every purpose cqually well with the more costly works in the reduction of occultations and moon-culminations, forms a handy little pamphlet which can be freely circulated among computers at a very trifing expense. Another advantage of the small cost and size of the work is, that new editions can be issued at short intervals, with such corrections of the stars' places as may be derived from new observations.

The places of the stars have been derived from the following authorities. Wherever they are found in the Greenwich Twelve-Year Catalogue, their mean right ascensions and declinations have been reduced to the epoch 1850 from that work. As this catalogue consists of two distinct catalogues, giving for the same star, in most cases, different places, as deduced from an unequal number of observations, weights proportionate to the number of observations in each were allowed in combining the results. Whenever, as was frequently the case, one of the coördinates was wanting, its place was supplied from the British Association Catalogue, which was the one used next in order of preference. With the exception of the places derived from the Twelve-Year Catalogue, and those of the smaller stars grouped in clusters, most of the places were taken from this (The British Association Catalogue), as were also the precessions, secular variations, and proper motions used in reducing the places from the Twelve-Year Catalogue. In some cases, however, where the stars' places were given only approximately, or where they rest only on the authority of Lacaille, the places have been determined from Oeltzen's Argelander's Southern Zones.

The stars of the Pleiades group, not found in the Twelve-Year Catalogue, have been reduced from Bessel's places, given in the Astronomische Untersuchungen, Band I. All the stars quoted by the numbers of Rumieer and Lalande, and the hour and number of Weisse, are reduced from these respective authorities. Wherever the precessions and secular variations have not been given, they have been computed for this work. All stars, to the $6 \frac{1}{2}$ magnitude, and situated within eight degrees of the ecliptic, are supposed to be given in this catalogue. In general, stars smaller than those of the $6 \frac{1}{2}$ magnitude are not given. It is only where they are grouped in clusters, as in the Pleiades, Hyades, and a few smaller groups,
that the smaller stars are included. In these cases they are given to the 9 th or 10 th magnitude. In some instances, the more interesting multiple stars are also given to the smaller magnitudes.

## Mean Places of the Stars.

The mean right ascensions and declinations of the stars are given in this catalogue for the epoch 1850 . For any other time, these coördinates may be computed by means of the annual variations which are given for each star. These variations are composed of the annual precessions and proper motions. In most catalogues the precession and proper motion are treated separately in the reductions. As the precessions are themselves variable quantities, they will sometimes require correction for the secular variation, which is the variation of precession in one hundred years. The combined precession and proper motion being affected by the same variation, and nearly in the same degree (the only difference being the very slight change which takes place in the proper motion), the annual variations will require the same corrections.

Denoting by $t_{0}$, the epoch of the catalogue,
$t$, the time for which the mean place is required,
$v$, the annual variation in right ascension,
$\Delta p$, its secular variation,
$v^{\prime}$, the annual variation in declination,
$\Delta p^{\prime}$, its secular variation,
then $t-t_{0}$ will be the interval for which the whole variation must be computed, and that value of the annual variation must be employed which corresponds to the middle of this interval. Or, denoting by $v_{0}$ the annual variation for the epoch $t_{0}$, we must take

$$
\begin{aligned}
v & =v_{0}+\frac{\Delta p}{200}\left(t-t_{0}\right) \\
v^{\prime} & =v_{0}^{\prime}+\frac{\Delta p^{\prime}}{200}\left(t-t_{0}\right)
\end{aligned}
$$

Then, denoting by
$a_{0}$ the mean right ascension at the epoch $t_{0}$,
a " " " time $t$,
$\delta_{0} \quad$ " declination at the epoch $t_{0}$,
$\delta$ " " " time $t$,
we shall have

$$
\begin{aligned}
& a=a_{0}+v\left(t-t_{0}\right) \\
& \delta=\delta_{0}+v^{\prime}\left(t-t_{0}\right) .
\end{aligned}
$$

Example. Let the mean right ascension and declination of 32 Tauri, star No. 174, be required for the beginning of the year 1864.

Taking $a_{0}, \delta_{0}, v_{0}, v_{0}^{\prime}, \Delta p, \Delta p^{\prime}$ from the catalogue, we have


## INTRODUCTION.

## Apparent Places of the Stars.

When a star's mean place has been computed for the beginning of the year, the apparent place for any time, $\tau$, within the year can be computed by the method which Bessel has given in his Tabula Regiomontanc, from the logarithms of the constants $a, b, c, d, a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}$, given for each star in the catalogue, and the logarithms of $A, B, C, D$, given in the Nautical Almanac for every day in the year.

Let $\boldsymbol{a}^{\prime}$ be the apparent right ascension, $\delta^{\prime}$ the apparent declination, $\mu$ the proper motion in right ascension, $\mu^{\prime}$ the proper motion in declination, and $\tau$ the fraction of the year corresponding to a given date, and we shall have

$$
\left.\begin{array}{l}
x=A a+B b+C c+D d+\frac{1}{15} E+\tau \mu \\
x^{\prime}=A a^{\prime}+B b^{\prime}+C c^{\prime}+D d^{\prime}+\tau \mu^{\prime}
\end{array}\right\}(\mathbf{A})
$$

for which the logarithms of $A, B, C, D$, and the residual $E$, must be taken for the given date. The value of $\frac{1}{15} E$ can never exceed $0^{\circ} .0034$, and can seldom be required. Then

$$
\begin{aligned}
& a^{\prime}=a+x \\
& \delta^{\prime}=\delta+x^{\prime}
\end{aligned}
$$

In consequence of an interchange of letters which has been made in the notation of Bessel's formulæ by the late English astronomer Baily, it will be necessary, in order that the computer may not be misled, to give the formulæ for computing $A, B, C, D, a, b, c, d^{\prime} a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}$. The arrangement of the letters is according to Bessel's notation.
$\mathrm{A}=\tau-0.34236 \sin \Omega+0.00410 \sin 2 \Omega-0.02519 \sin 2 \odot+0.00294 \sin (\odot+$ $82^{\circ} 34^{\prime}$ ).
$\mathrm{B}=-9^{\prime \prime} .2235 \cos \Omega+0^{\prime \prime} .0896 \cos 2 \Omega-0^{\prime \prime} .5508 \cos 2 \odot-0^{\prime \prime} .0093 \cos (\odot+$ $280^{\circ} 21^{\prime}$ ).
$\mathrm{C}=-20^{\prime \prime} .4451 \cos \omega \cos \odot$.
$\mathrm{D}=-20^{\prime \prime} .4451 \sin \odot$.
$\mathrm{E}=-0^{\prime \prime} .0483 \sin \Omega+0^{\prime \prime} .0015 \sin 2 \Omega-0^{\prime \prime} .0035 \sin 2 \odot$.
$a=3^{8} .07201+1^{8} .33701 \sin a \tan \delta$.
$b=\frac{1}{15} \cos a \tan \delta$.
$c=\frac{1}{15} \cos a \sec \delta$.
$d=\frac{1}{15} \sin a \sec \delta$.
$a^{\prime}=20^{\prime \prime} .0551 \cos a$.
$b^{\prime}=-\sin a$.
$c^{\prime}=\tan \omega \cos \delta-\sin a \sin \delta$.
$d^{\prime}=\cos a \sin \delta$.
$\mu=$ the annual proper motion in right ascension.
$\mu^{\prime}=$ the annual proper motion in declination.
$\tau=$ the time reckoned from the moment when the sun's mean longitude was $280^{\circ}$, as expressed in fractional parts of a tropical year.
$\odot=$ the sun's true longitude.
$\Omega=$ the longitude of the moon's ascending node.
$\omega=$ the obliquity of the ecliptic.
$a=$ the star's mean right ascension for the beginning of the year.
$\delta=$ the star's mean declination for the beginning of the year.
$a^{\prime}=$ the star's apparent right ascension at the time $\tau$.
$\delta^{\prime}=$ the star's apparent declination at the time $\tau$.

In Baily's notation Bessel's $A$ is replaced by $C, B$ by $D, C$ by $A$, and $D$ by $B$; the letters $a, b, c, d, a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}$, being interchanged in the same manner, to the no small inconvenience of the computer, who, whenever he employs an unfamiliar catalogue, or an unfamiliar ephemeris, must first consult the special formulæ to ascertain how the $a, b, c, d, a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}$, of the former are to be combined with the $A, B, C, D$ of the latter.* This notation is employed in the British Nautical Almanac and the British Association Catalogue, and more recently in the Connaissance des Temps. It is also employed in the American Ephemeris from its commencement to the year 1864, inclusive. In making some changes in the American Ephemeris for future years, commencing with 1865 , it has been very properly decided to give the notation as Bessel gave it.

The computer will therefore bear in mind, that, for years previous to 1865 , in the use of the American Ephemeris with the present catalogue, Baily's notation must be employed. The same notation must also be adopted for the British and French Ephemerides. Instead of equations (A), therefore, we must use

$$
\left.\begin{array}{l}
x=C a+D b+A c+B d+\tau \mu \\
x^{\prime}=C a^{\prime}+D b^{\prime}+A c^{\prime}+B d^{\prime}+\tau \mu^{\prime} \tag{B}
\end{array}\right\}
$$

With the American Ephemeris after 1864, the Astronomisches Jahrbuch, Berlin, the Almanaque Nautico, Cadiz, and probably other European Ephemerides, equations (A) must be employed.

The logarithms of $A, B, C, D$ are given in the American Ephemeris for the Washington mean midnight of every day of the year. Where great precision is necessary, and the time for which the star's place is required, differs by several hours from Washington mean midnight, it may be necessary to interpolate between the values of $\operatorname{logs} A, B, C, D$ for the given date and those of the preceding or following date.

## Arrangement of the Articles of the Catalogue.

The first column of the left-hand page contains the number of the star as referred to this catalogue.

The second column contains the stars' names arranged in the order of their right ascensions. Whenever no name is given, the name of the constellation, or of the catalogue from which the star's elements were taken, is given.

The third column contains the star's magnitude, generally as given in the authorities which have furnished the other elements.

The fourth column contains the star's mean right ascension referred to the epoch 1850 .
The fifth column contains the annual variation of the star's right ascension. This variation is composed of the star's geometrical annual precession in right ascension and its annual proper motion in right ascension.

The sixth column contains the secular variation of the precession in right ascension, and consequently of the annual variation; and represents the change which takes place in this element in one hundred years.

The seventh column contains the star's annual proper motion in right ascension, or the annual change which takes place in the star's right ascension independently of the geometrical precession.

* We regret this derangement of Bessel's notation the more, when we consider the slight grounds on which it was made. BaILX's reasons for the change are given in the following note from the British Association Catalogue: "It may be proper here to state, that, in the choice of characters to represent different quantities, I have thought it desirable that we should as much as possible make them serve the purpose of an artificial memory. It is on this account that I have made $\mathbf{A}, \mathbf{B}$ represent the quantity by which the ABerration is determined; C , the quantity by which preCession is determined; and D the quantity by which the Deviation, or (as it is now more generally called) the nutation, is determined." - B. A. C., page 34.


## INTRODUCTION.

The four next columns, eighth to eleventh inclusive, contain corresponding elements of the star's declination.

In the first column of the right-hand page the ordinal numbers are repeated to prevent mistaking the line corresponding to that of the star on the left-hand page.

The following eight columns, from the second to the ninth inclusive, contain the logarithms of $a, b, c, d, a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}$, for computing the star's apparent place for any day, as explained on page $v$.

The tenth and eleventh columns contain reference numbers to the British Association and Twelve-Year Catalogues.

Examples of Reduction.
Example 1. To compute the apparent right ascension and declination of $\phi$ Aquarii, star No. 1043 for October 30, 1865.


For 1865, equations (A).


Example 2. To compute the apparent right ascension and declination of $\mathbf{A}^{\prime}$ Ophiuchi, star No. 790, for July 1, 1864.

$$
\begin{aligned}
& t-t_{0}=14 . \quad \tau=\frac{1}{2} \text { year. }
\end{aligned}
$$

For 1864, equations (B).

$$
\begin{array}{rccc}
\log _{s} a, b, c, d+0.5700 & +7.8864 & -8.2388 & -8.8595 \\
\operatorname{logs} C, D, A, B+9.8797 & +0.8412 & +0.5339 & -1.3032 \\
\log _{s} a^{\prime}, b^{\prime}, c^{\prime}, d^{\prime}-0.6694 & +9.9879 & -8.6365 & +9.0148 \\
\operatorname{logs} C a, D b, A c, B d+0.4497 & +8.7276 & -8.7727 & +0.1627 \\
\log S a^{\prime}, D b^{\prime}, A c^{\prime}, B d^{\prime}-0.5491 & +0.8291 & -9.1704 & -0.3180 \\
C a+2.816 & & C a^{\prime}-3.54 \\
D b+0.053 & D b^{\prime}+6.75 \\
A c-0.059 & A c^{\prime}-0.15 \\
B a^{\prime}+1.454 & B d^{\prime}-2.08 \\
\tau \mu-0.016 & \tau \mu^{\prime}-0.57 \\
x+4.248 & x^{\prime}+0.41 \\
a^{\prime} 177^{\mathrm{m} 3} 3.474 & \delta^{\prime}-26^{\circ} 23^{\prime} 57^{\prime \prime} .67
\end{array}
$$

During the present year a survey of the cluster Præsepe in the constellation Cancer will be made at the National Observatory. This fine cluster is supposed to contain upwards of sixty stars from the 7 th to the 10 th magnitude. When the survey is completed, these stars will be included in this catalogue.

## ALMANAC CATALOGUE

OF

## Z ODIACALSTARS.

| Na | Name. | Mage | Meañ Kight <br> Ascension <br> 380 " 0 . | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 18500 . \end{aligned}$ | Annual Variation. | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 34 Piscinn | 6 | $\begin{array}{llll}\text { u } & \text { in } & \\ 0 & 8 \\ 0 & 19.76\end{array}$ | +3.077 | $+0.0055$ | $+0.004$ | $+101837.9$ | $+20.00$ | $-0^{\prime \prime} .005$ | -0.05 |
| 2 | B.A.C. 17 | 6.2 | 0238.16 | +3.076 | $-0.0030$ | +0.007 | -6 455.6 | +20.03 | -0.005 | -0.02 |
|  | 35 Pisc., $p r$. | 6. | $\begin{array}{llll}0 & 7 & 15.40\end{array}$ | +3.084 | $+0.0046$ | $+0.007$ | + 75915.6 | +20.01 | -0.014 | $-0.04$ |
|  | 36 Piscium | $6 \frac{1}{2}$ | 0 | +3.077 | $+0.0044$ | 0.000 | + 72427.3 | +20.06 | $-0.017$ | $+0.02$ |
| 5 | B.A.C. 57 | $6 \frac{1}{2}$ | 0105.37 | +3.067 | +0.0010 | $-0.005$ | + 05115.9 | +20.03 | $-0.020$ | $-0.01$ |
| 6 | $d$ Piscium | $5 \frac{1}{2}$ | 01252.90 | +3.085 | $+0.0046$ | $+0.005$ | + 72124.6 | $+20.07$ | -0.025 | $+0.05$ |
| 7 | B.A.C. 81 | $6 \frac{1}{2}$ | 01649.73 | +3.052 | $-0.0006$ | -0.013 | - 3253.9 | $+19.90$ | -0.033 | $-0.10$ |
|  | 44 Piscium | 6 | 01742.90 | $+3.075$ | $+0.0016$ | $+0.002$ | + 1631.7 | $+20.00$ | $-0.035$ | 0.00 |
| 9 | 45 Piscium | 6 | 01758.02 | +3.086 | $+0.0046$ | $+0.003$ | + 65141.4 | +19.94 | -0.035 | -0.05 |
| 10 | 10 Ceti | 6 | 01855.83 | +3.077 | $+0.0006$ | +0.008 | - 05251.7 | +19.99 | $-0.037$ | 0.00 |
| 11 | 12 Ceti | 6 | 02222.96 | +3.063 | -0.0012 | $+0.003$ | -4 4712.4 | $+19.95$ | -0.044 | $-0.01$ |
| 12 | 51 l'isc., | $6 \frac{1}{2}$ | 02439.64 | +3.089 | $+0.0046$ | $+0.003$ | + 6739.2 | +20.01 | -0.048 | $+0.07$ |
| 13 | B.A.C. 142 | 61 | - $027 \quad 9.07$ | +3.109 | $+0.0083$ | $+0.003$ | +1232 48.7 | +19.95 | -0.054 | +0.03 |
| 14 | 13 Ccti | $5 \frac{1}{2}$ | 02731.68 | +3.085 | $-0.0007$ | $+0.027$ | - 4259.8 | +19.88 | $-0.053$ | -0.03 |
| 15 | 14 Ceti | $6 \frac{1}{2}$ | 02750.82 | +3.076 | +0.0009 | +0.009 | - 11949.8 | +19.77 | $-0.054$ | -0.14 |
| 16 | B.A.C. 149 | 6 | $\begin{array}{lll}0 & 28 & 9.57\end{array}$ | +3.107 | $+0.0083$ |  | +12 2325.4 | +19.90 | $-0.056$ |  |
| 17 | 53 Piscium | 6 | 02858.68 | +3.117 | $+0.0094$ | $+0.003$ | +142420.6 | +19.92 | $-0.057$ | $+0.02$ |
| 18 | 15. Ceti | $6 \frac{1}{2}$ | 03024.46 | $+3.063$ | $+0.0010$ | -0.004 | - 11944.5 | +19.86 | $-0.059$ | $-0.02$ |
| 19 | B.A.C. 174 | 6 | 0334.02 | $+3.040$ | -0.0008 | -0.013 | -5 1031.6 | +19.98 | -0.064 | $+0.13$ |
| 20 | B.A.C. 205 | 6 | 03746.13 | +3.056 | $-0.0007$ | $+0.006$ | - 52711.4 | +19.71 | $-0.073$ | -0.07 |
| 21 | 58 Piscium | 6 | 03912.19 | +3.120 | $+0.0082$ | $+0.004$ | +11 918.1 | +19.82 | $-0.077$ | $+0.06$ |
| 22 | 60 Piscium | 6 | 03938.34 | +3.097 | $+0.0053$ | +0.002 | + 55517.3 | +19.76 | -0.078 | 0.00 |
| 23 | 62 Piscium | 6 | 04030.71 | +3.104 | +0.0057 | +0.007 | + 62851.4 | +19.78 | $-0.079$ | +0.04 |
| 24 | B.A.C. 221 | 6 | 04030.96 | +3.128 | $+0.0046$ | +0.039 | + 43029.4 | +18.56 | $-0.079$ | -1.18 |
| 25 | ¢ Piscium | 4t | 04054.19 | +3107. | +0.0058 | +0008 | + 6463.7 | +19.73 | $-0.080$ | $-0.01$ |
| 26 | 20 Ceti | $5 \frac{1}{2}$ | 04520.59 | +3.064 | +0.0015 | $+0.002$ | -15735.3 | +19.67 | $-0.088$ | +0.01 |
| 27 | B.A.C. 269 | 62 | 0502.43 | +3.132 | $+0.0097$ | -0.005 | +12 $53 \quad 2.2$ | +19.53 | -0.099 | $-0.05$ |
| 28 | B.A.C. 274 | $6 \frac{1}{2}$ | 0523.41 | +3.104 | +0.0058 | $+0.003$ | + 54020.7 | +19.50 | -0.102 | $-0.04$ |
| 29 | $\varepsilon$ Piscium | 2 | $055 \quad 9.75$ | +3.114 | $+0.0067$ | +0.004 | + 7452.6 | +19.50 | -0.108 | $+0.02$ |
| 30 | 26 C | $6{ }^{2}$ | $056 \quad 5.94$ | +3.084 | +0.0034 | +0.010 | $+03340.9$ | +19.39 | -0.109 | $-0.07$ |
| 31 | 73 Piscium | $6 \frac{1}{2}$ | 0576.55 | +3.105 | +0.0056 | +0.006 | $+451 \quad 0.9$ | +19.42 | -0.111 | $-0.02$ |
| 32 | 72 Pisciun | $6{ }^{2}$ | 05710.68 | +3.158 | +0.0108 | +0.004 | +14 817.6 | +19.48 | -0.114 | $+0.05$ |
| 33 | 77 Pisc.., pr. | 7 | $058 \quad 3.97$ | +3.099 | +0.0053 | +0.004 | + 4629.5 | +19.31 | -0.113 | -0.11 |
| 34 | 75 Pisciam | $6 \frac{1}{2}$ | 05840.51 | +3.148 | $+0.0097$ | +0.004 | +12 96.4 | +19.48 | -0.116 | $+0.08$ |
| 35 | 29 Ceti | $6 \frac{1}{2}$ | 1015.78 | +3.088 | +0.0039 | +0.010 | + 11227.5 | +18.91 | -0.117 | 46 |
| 36 | $e$ Piscium | $5 \frac{1}{2}$ | 03877 | +3.083 | +0.0058 | -0.017 | + 45117.8 | +19.17 | -0.118 | -0.19 |
| 37 | B.A.C 341 | 6 | 121487 | +3.184 | $+0.0115$ | +0.018 | +145221.2 | +19.15 | -0.124 | $-0.17$ |
| 38 | 33 Ceti | 6 | 1250.68 | $+3.083$ | +0.0042 | +0.002 | + 13846.6 | +19.32 | -0.122 | +0.01 |
| 39 | 35 Ceti | $6 \frac{1}{2}$ | $1 \begin{array}{lll}1 & 4 & 49.35\end{array}$ | +3.072 | $+0.0043$ | $-0.010$ | +14041.2 | +19.12 | -0.125 | -0.14 |
| 40 | $\zeta$ Piscium, $\eta$ | $4 \frac{1}{2}$ | $1 \quad 553.84$ | +3.129 | +0.0071 | +0.013 | $+64651.1$ | +19.17 | -0.129 | $-0.06$ |
| 41 | 87 Piscinm | $6 \frac{1}{2}$ | $\begin{array}{llll}1 & 6 & 9.95\end{array}$ | +3.174 | +0.0119 | $-0.001$ | +15 2015.4 | +19.20 | -0.132 | $-0.03$ |
| 42 | 88 Piscium | $6 \frac{1}{2}$ | $1 \begin{array}{lll}1 & 654.49\end{array}$ | +3.111 | $+0.0067$ | -0.001 | + 6123.6 | +19.21 | -0.131 | 0.00 |
| 43 | $f$ Piscium | $6{ }^{2}$ | $110 \quad 3.97$ | +3.090 | $+0.0051$ | $-0.001$ | + 24924.0 | +19.12 | -0.136 | $-0.01$ |
| 44 | B.A.C. 408 | $6 \frac{1}{2}$ | 114.57 .63 | +3.091 | +0.0060 | -0.009 | + 3578.9 | +18.95 | -0.145 | -0.04 |
| 45 | 94 Pisciun | 5 | 11836.06 | +3.225 | +0.0144 | +0.004 | +182743.3 | +18.88 | $-0.158$ | -0.01 |
| 46 | B.A.C. 433 | $6 \frac{1}{2}$ | ${ }^{1} 1846.91$ | +3.065 +3.15 | +0.0035 | +0.004 | $-11045.3$ | +18.88 | -0.151 |  |
| 47 | 96 Piscium $\mu$ Piscium | $6{ }^{6}$ | $\begin{array}{llll}1 & 21 & 13.69 \\ 1 & 22 & 1973\end{array}$ | +3.125 +3.137 | +0.0076 +0.0070 | +0.001 +0.022 | + 631 +5.2 +5226 | +18.77 +18.60 | -0.158 -0.160 | -0.04 -0.18 |
| 49 | ${ }^{\mu}{ }^{\mu}$ Piscium | $4 \frac{1}{2}$ 3 | 12219.73 1 1 2327.80 | +3.137 +3.200 | +0.0070 +0.0121 | +0.022 +0.006 | +5226.6 $+\quad 143414.9$ | +18.60 +18.76 | -0.160 | -0.18 +0.02 |
| 50 | B.A.C. 469 | 6 | 12642.82 | +3.245 | +0.0142 | $+0.017$ | +174136.0 | +18.52 | -0.174 | $-0.12$ |
| 51 | 101 Piscium | 6 | 12745.61 | +3.196 | $+0.0119$ | +0.002 | +1353 35.1 | +18.62 | -0.174 | $+0.02$ |
| 5 | B.A.C. 477 | 6 | 12748.31 | +3.231 | +0.0136 | +0.011 | +163954.1 | +18.67 | -0.176 | $+0.07$ |
| 53 | B.A.C. 481 | $6 \frac{1}{2}$ | 12812.20 | +3.132 | +0.0080 | +0.001 | +65234.9 | +18.62 | -0.171 | $+0.03$ |
| 54 | $\pi$ Piscium | $6{ }^{2}$ | 1299.15 | +3.171 | $+0.0104$ | -0.002 | +1122 21.8 | +18.64 | -0.176 | $+0.08$ |
| 55 | 104 Piscium | $6 \frac{1}{2}$ | 13113.58 | +3.203 | $+0.0118$ | $+0.008$ | +133124.6 | +18.50 | -0.181 | $+0.01$ |
| 56 | 105 Piscium | 6 | 13135.69 | +3.222 | $+0.0131$ | $+0.006$ | +15 3834.8 | +18.47 | $-0.183$ | 0.00 |
| 57 | $\checkmark$ Piscium | $4 \frac{1}{2}$ | 13337.69 | +3.117 | $+0.0071$ | +0.002 | + 44334.7 | +18.38 | -0.180 | -0.02 |
| 58 | - Piscium | 4 | 13728.66 | +3.162 | +0.0091 | $+0.010$ | + 8242.8 | +18.31 | -0.190 | +0.04 |
|  | 3 Arietis | $6 \frac{1}{2}$ | 13827.13 | +3.239 | $+0.0140$ | $+0.002$ | $+163933.3$ | +18.24 | -0.197 | $+0.01$ |
| 60 | 4 Arietis | $6 \frac{1}{2}$ | $140 \quad 3.20$ | +3.241 | $+0.0137$ | $+0.006$ | +161227.8 | +18.21 | $-0.200$ | +0.04 |


| No. | Logarithms of |  |  |  |  |  |  |  | B.A.C. | $\begin{aligned} & \text { No. } \\ & \text { T.Y.C. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 1 | $+0.4876$ | +8.0837 | +8.8310 | $+6.8326$ | +1.3022 | -8.0076 | $+9.6286$ | +9.2528 | 14 | 7 |
| 2 | +0.4870 | -7.8515 | +8.8263 | +6.8870 | +1.3022 | -8.0607 | $+9.6362$ | -9.0251 | 17 |  |
|  | +0.4881 | $+7.9708$ | +8.8279 | +7.3286 | +1.3020 | $-8.5005$ | +9.6288 | +9.1427 | 36 | 10 |
| 4 | +0.4882 | +7.9376 | +8.8272 | +7.4149 | +1.3019 | $-8.5874$ | +9.6287 | +9.1100 | 44 |  |
| 5 | $+0.4874$ | +6.9971 | +8.8235 | +7.4675 | +1.3018 | -8.6436 | $+9.6367$ | +8.1731 | 57 |  |
| 6 | $+0.4886$ | +7.9342 | +8.8268 | +7.5772 | +1.3015 | -8.7497 | $+3.6266$ | +9.1067 | 66 | 16 |
| 7 | +0.4865 | -7.5491 | +8.8234 | +7.6900 | +1.3011 | -8.8655 | +9.6408 | $-8.7246$ | 81. |  |
| 8 | +0.4875 | +7.1094 | +8.8227 | +7.7117 | +1.3009 | -8.8877 | +9.6359 | +8.2854 | 87 | 21 |
| 9 | +0.4890 | +7.9030 | +8.8257 | +7.7209 | +1.3009 | -8.8939 | +9.6248 | +9.0759 -8.155 | 89 | 22 |
| 10 | +0.4870 | -7.0092 | +8.8225 | $+7.7405$ | +1.3007 | -8.9165 | $+9.6387$ | -8.1853 | 95 | 25 |
| 11 | +0.4857 | -7.7448 | +8.8234 | +7.8145 | +1.3002 | -8.9891 | $+9.6440$ | -8.9194 | 12 | 28 |
| 12 | +0.4894 | +7.8522 | +8.8239 | +7.8574 | +1.2997 | -9.0310 | $+9.6233$ | +9.0258 | 129 |  |
| 13 | +0.4922 | +8.1683 | +8.8314 | +7.9070 | +1.2992 | $-9.0726$ | +9.5998 | +9.3339 | 142 |  |
| 14 | $+0.4855$ | -7.7089 | +8.8221 | +7.9037 | $+1.2991$ | $-9.0785$ | $+9.6453$ | -8.8837 | 145 | 32 |
| 15 | $+0.4867$ | -7.1867 | +8.8208 | +7.9076 | +1.2990 | -9.0835 | +9.6401 | -8.3627 | 147 |  |
| 16 | $+0.4923$ | +8.1624 | $+8.8309$ | $+7.9225$ | +1.2989 | -9.0884 | $+9.5995$ | $+9.3283$ | 49 |  |
| 17 | +0.4933 | +8.2301 | +8.8343 | +7.9385 | +1.2987 | $-9.1008$ | $+9.5898$ | +9.3924 | 156 | 36 |
| 18 | +0.4866 | -7.1856 | +8.8202 | +7.9456 | +1.2984 | -9.1215 | $+9.6404$ | -8.3616 | 163 |  |
| 19 | +0.4848 | -7.7764 | +8.8211 | +7.9834 | $+1.2977$ | -9.1577 | $+9.6486$ | -8.9507 | 174 |  |
| 20 | +0.4843 | -7.7978 | $+8.8200$ | +8.0409 | $+1.2963$ | -9.2150 | +9.6509 | -8.9719 | 205 |  |
| 21 | $+0.4935$ | +8.1125 | $+8.8258$ | $+8.0632$ | $+1.2958$ | $-9.2310$ | +9.5943 | $+9.2803$ | 213 | 44 |
| 22 | +0.4906 | +7.8332 | +8.8197 | +8.0620 | $+1.2957$ | $-9.2358$ | +9.6169 | +9.0070 | 216 |  |
| 23 | +0.4910 | +7.8725 | +8.8199 | +8.0718 | +1.2954 | $-9.2451$ | +9.6142 | +9.0458 | 220 |  |
| 24 | +0.4898 | $+7.7139$ | +8.8184 | +8.0704 | +1.2954 | -9.2452 | $+9.6220$ | +8.8886 | 221 | 47 |
| 25 | +0.4912 | +7.8914 | +8.8200 | +8.0762 | $+1.2953$ | -9.2493 | $+9.6128$ | $+9.0644$ | 222 | 50 |
| 26 | $+0.4860$ | -7.3496 | +8.8156 | +8.1177 | +1.2937 | -9.2935 | $+9.6439$ | -8.5254 | 242 | 56 |
| 27 | +0.4965 | +8.1728 | +8.8245 | +8.1707 | +1.2918 | $-9.3357$ | +9.5737 | +9.3378 | 269 |  |
| 23 | +0.4914 | +7.8097 | +8.8147 | +8.1786 | +1.2909 | $-9.3526$ | +9.6123 | +8.9836 | 274 |  |
| 29 | +0.4928 | +7.9054 | +8.8145 | +8.2045 | +1.2895 | -9.3773 | $+9.6035$ | +9.0782 | 288 | 66 |
| 30 | +0.4877 | +6.8017 | +8.8108 | +8.2084 | $+1.2891$ | -9.3844 | $+9.6350$ | +7.9778 | 295 | 68 |
| 31 | $+0.4912$ | +7.7390 | $+8.8118$ | +8.2175 | +1.2886 | -9.3920 | +9.6144 | +8.9135 | 303 |  |
| 32 | +0.4988 | +8.2115 | +8.8236 | +8.2298 | +1.2886 | $-9.3925$ | +9.5569 | +9.3742 | 305 |  |
| 33 | +0.4906 | +7.6661 | +8.8109 | +8.2241 | +1.2881 | $-9.3991$ | +9.6178 | +8.8411 | 311 |  |
| 34 | +0.4974 | +8.1426 | +8.8194 | +8.2373 | +1.2878 | -9.4035 | +9.5693 | $+9.3089$ | 316 |  |
| 35 | $+0.4883$ | $+7.1327$ | +8.8088 | +8.2389 | +1.2870 | -9.4149 | $+9.6319$ | +8.3086 | 324 |  |
| 36 | +0.4914 | +7.7376 | $+8.8101$ | $+8.2430$ | +1.2868 | -9.4175 | $+9.6131$ | $+8.9121$ | 328 | 72 |
| 37 | +0.5005 | +8.2319 | $+8.8225$ | +8.2673 | +1.2860 | $-9.4286$ | +9.5447 | +9.3932 | 341 |  |
| 38 | +0.4387 | +7.2659 | $+8.8076$ | $+8.2567$ | $+1.2857$ | -9.4326 | +9.6294 | +8.4418 | 344 |  |
| 39 | +0.4888 | $+7.2731$ | +8.8065 | +8.2698 | +1.2846 | -9.4457 | $+9.6290$ | +8.4490 | 359 |  |
| 40 | $+0.4936$ | +7.8809 | +8.8088 | +8.2797 | +1.2840 | -9.4527 | +9.5992 | $+9.0539$ | 368 | 86 |
| 41 | $+0.5017$ | +8.2437 | $+8.8213$ | +8.2941 | +1.2839 | -9.4544 | $+9.5356$ | $+9.4041$ | 370 |  |
| 42 | +0.4931 | +7.8412 | +8.8077 | +8.2856 | +1.2834 | -9.4591 | +9.6024 | $+9.0147$ | 373 |  |
| 43 | +0.4900 | +7.4963 | +8.8038 | +8.3030 | $+1.2816$ | -9.4785 | +9.6218 | +8.6718 | 388 |  |
| 44 | +0.4914 | +7.6397 | +8.8013 | +8.3318 | +1.2786 | -9.5069 | $+9.6136$ | +8.8147 | 408 |  |
| 45 | +0.5080 | +8.3214 | +8.8208 | +8.3736 | +1.2762 | $-9.5267$ | $+9.4844$ | +9.4746 | 431 |  |
| 46 | +0.4859 | -7.1112 | +8.7978 | $+8.3517$ | $+1.2760$ | -9.5277 | +9.6442 | -8.2872 | 433 |  |
| 47 | +0.4947 | +7.8540 | +8.7989 | +8.3671 | +1.2744 | $-9.5404$ | +9.5931 | +9.0272 | 442 |  |
| 48 | +0.4934 | +7.7682 | +8.7972 | +8.3718 | +1.2736 | $-9.5460$ | $+9.6012$ | +8.9424 | 448 | 121 |
| 49 | +0.5044 | +8.2093 | +8.8087 | +8.3898 | +1.2728 | -9.5517 | +9.5190 | +9.3712 | 453 | 124 |
| 50 | +0.5090 | +8.2959 | +8.8131 | +8.4125 | $+1.2704$ | $-9.5675$ | $+9.4787$ | +9.4509 | 469 |  |
| 51 | $+0.5044$ | $+8.1846$ | +8.8042 | +8.4093 | +1.2696 | $-9.5725$ | $+9.5206$ | $+9.3478$ | 476 |  |
| 52 | $+0.5079$ | +8.2694 | +8.8099 | +8.4152 | +1.2695 | $-9.5727$ | +9.4893 | +9.4249 | 477 |  |
| 53 | +0.4957 | +7.8723 | +8.7941 | $+8.4016$ | $+1.2692$ | $-9.5745$ | +9.5864 | +9.0452 | 481 |  |
| 54 | +0.5014 | +8.0937 | +8.7988 | +8.4115 | +1.2685 | -9.5790 | +9.5448 | +9.2612 | 488 | 137 |
| 55 | $+0.5045$ | +8.1697 | +8.8008 | +8.4245 | $+1.2669$ | -9.5884 | +9.5202 | +9.3336 | 496 |  |
| 56 | +0.5074 | $+8.2354$ | +8.8047 | +8.4304 | +1.2666 | -9.5901 | +9.4955 | +9.3951 | 500 |  |
| 57 | $+0.4934$ | +7.7040 | +8.7881 | +8.4245 | +1.2649 | -9.5991 | +9.6018 | +8.8786 | 518 | 145 |
| 58 | $+0.4986$ | +7.9527 | $+8.7881$ | +8.4442 | $+1.2617$ | -9.6156 | +9.5670 | +9.1241 | 537 | 152 |
| 5 | +0.5102 | +8.2586 | +8.8012 | +8.4621 | +1,2609 | -9.6196 | +9.4717 | +9.4160 | 538 | 155 |
| 60 | +0.5099 | +8.2445 | +8.7988 | $+8.4677$ | +1.2595 | -9.6262 | +9.4752 | +9.4030 | 546 |  |

## CATALOGUE OF

| No. | Name. | Mag. | $\underset{\text { Mscension }}{\substack{\text { Mean } \\ \text { Asht }}}$ 1850.0. | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | $\begin{gathered} \text { Secular } \\ \text { Variation. } \end{gathered}$ | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 . \end{aligned}$ | Annual Variation. | $\begin{aligned} & \text { Secular } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 61 | B.A.C. 5 | $6 \frac{1}{2}$ |  | +3.103 | $+0.0064$ | +0.003 | +256 4.7 | +18.14 | -0.192 | ${ }_{0}^{1 \prime} 0.01$ |
| 62 | 54 Ceti | 62 | 14254.75 | +3.171 | $+0.0104$ | -0.005 | $+101752.6$ | +18.00 | -0.201 | $-0.07$ |
| 63 | $\gamma^{1}$ Arietis | $4 \frac{1}{2}$ | 14518.38 | +3.277 | $+0.0153$ | $+0.007$ | +183321.7 | +17.89 | -0.212 | -0.09 |
| 64 | $\gamma^{2}$ Arietis | $3 \frac{1}{2}$ | 14518.40 | +3.279 | $+0.0153$ | +0.009 | +183330.8 | +17.88 | -0.212 | $-0.09$ |
| 65 | $\xi$ Piscium | 4 | 14547.57 | +3.099 | $+0.0064$ | $+0.003$ | + 22640.3 | +17.91 | $-0.201$ | -0.05 |
| 66 | B.A.C. 632 | 6 | 15529.63 | +3.282 | +0.0148 | +0.007 | +173152.2 | +17.60 | -0.231 | +0.04 |
| 67 | 15 Arietis | 6 | 2219.16 | $+3.310$ | +0.0158 | +0.008 | +184726.8 | +17.27 | -0.245 | 0.00 |
| 68 | 64 Ceti | $6 \frac{1}{2}$ | $2 \begin{aligned} & 2\end{aligned} \quad 326.37$ | +3.156 | +0.0095 | -0.009 | + 75155.4 | +17.12 | -0.237 | $-0.10$ |
| 69 | $\eta$ Arietis | $5 \frac{1}{2}$ | $2{ }_{2} 424.71$ | +3.341 | $+0.0170$ | +0.012 | +20 3012.5 | +17.17 | 0.251 | 0.00 |
| 70 | $\xi^{1}$ Ceti | 4 $\frac{1}{2}$ | $2 \begin{array}{lll}2 & 5 & 3.21\end{array}$ | +3.169 | $+0.0097$ | -0.001 | $+8826.2$ | +17.12 | -0.240 | $-0.02$ |
| 71 | $\theta$ Arietis | $5 \frac{1}{2}$ | 2947.40 | +3.325 | +0.0161 | $+0.004$ | +19 1216.9 | +16.95 | $-0.260$ | $+0.03$ |
| 72 | B.A.C. 728 | $6 \frac{1}{2}$ | 21512.05 | +3.203 | +0.0108 |  | +10 93.5 | $+1667$ | -0.258 |  |
| 73 | B.A.C. 741 | $6{ }^{4}$ | 21629.83 | +3.191 | $+0.0103$ | +0.001 | +9157.2 | +16.51 | -0.261 | $-0.09$ |
| 74 | $\xi$ Arietis | $5 \frac{1}{2}$ | 21646.97 | $+3.205$ | $+0.0107$ | $+0.003$ | + 95541.3 | +16.54 | -0.263 | -0.05 |
| 75 | B.A.C. 755 | 6 | 21843.24 | $+3.207$ | +0.0108 | +0.004 | +9539.9 | +16.36 | -0.266 | -0.13 |
| 76 | $\xi^{2} \mathrm{C}$ | 4 | 22011.34 | +3.182 | +0.0097 | $+0.006$ | $+7476.0$ | +16.42 | $-0.266$ | 00 |
| 77 | 26 Arietis | $6 \frac{1}{2}$ | 22214.23 | +3.347 | +0.0161 | +0.006 | +19 1112.2 | +16.31 | -0.283 | -0.01 |
| 78 | 27 Arietis | 6 | 22235.61 | +3.314 | $+0.0147$ | $+0.005$ | +17 215.3 | +16.26 | $-0.281$ | -0.04 |
| 79 | 29 Arietis | $6 \frac{1}{2}$ | 22441.42 | +3.273 | +0.0132 | 0.000 | +14 $22 \quad 2.9$ | +16.22 | -0.282 | +0.03 |
| 80 | B.A.C. 782 | $6 \frac{1}{2}$ | 22513.92 | +3.340 | $+0.0155$ | $+0.009$ | +181257.4 | $+16.20$ | -0.288 | +0.04 |
| 81 | B | 6 | 2 27-7.92 | +3.168 | +0.0092 | +0.002 | $+64858.0$ | +15.94 | -0.277 | -0.12 |
| 82 | 31 Arietis | $5 \frac{1}{2}$ | 22827.47 | +3.259 | +0.0117 | +0.020 | +114741.4 | +15.94 | -0.285 | $-0.05$ |
| 83 | B.A.C. 800 | $6 \frac{1}{2}$ | ${ }_{2}^{2} 2838.72$ | +3.174 | +0.0094 | $+0.003$ | + 7430.0 | $+16.00$ | -0.279 | +0.02 |
| 84 | $\nu$ Arietis | $5 \frac{1}{2}$ | ${ }^{2} 3018.44$ | +3.392 | $+0.0174$ | $+0.003$ | +21 1834.6 | $+15.86$ | -0.301 | -0.03 |
| 85 | $\mu$ Arietis | $5 \frac{1}{2}$ | 23354.98 | +3368 | $+0.0161$ | $+0.005$ | $+19229.1$ | +15.69 | $-0.305$ | $-0.01$ |
|  | B.A.C. 83 | 0 | 23424.72 | +3.218 | $+0.0100$ | $-0.001$ | $+10553.5$ | +15.61 | -0.293 | $-0.06$ |
| 87 | - Arietis | $6 \frac{1}{2}$ | 23617.50 | +3.294 | $+0.0133$ | $+0.003$ | +14 4019.4 | $+15.50$ | -0.303 | $-0.07$ |
| 88 | 38 Arietis | $5^{2}$ | ${ }_{2}^{2} 3647.54$ | +3.259 | $+0.0117$ | +0.012 | +114841.1 | $+15.47$ | $-0.209$ | -0.07 |
| $89$ | ${ }_{40}^{\mu}$ Ceti | 4 | 2 2 2 ${ }^{2} 500.37$ | +3.232 | $+0.0105$ | +0.020 | + 92839.5 | +15.49 | -0.296 | -0.05 |
| 90 | 40 Arie | 6 | 2408.03 | +3.349 | $+0.0150$ | $+0.005$ | +173927.5 | +15.43 | -0.314 | $+0.07$ |
| 91 | $\pi$ Arietis, | $5{ }^{\frac{1}{2}}$ | 24055.73 | $+3.335$ | $+0.0145$ | $+0.003$ | $+165014.7$ | +15.35 | -0.314 | $+0.04$ |
| 92 | $\sigma$ Arietis |  | 24313.06 | +3.299 | +0.0132 | $+0.003$ | +14 2738.1 | +15.15 | -0.314 | -0.03 |
| 93 | $e^{1}$ Arietis | ${ }^{7 \frac{1}{2}}$ | 24631.37 | $+3.350$ | $+0.0146$ | $+0.006$ | $+17723.2$ | +15.05 | -0.324 | $+0.66$ |
| 94 | $\varrho^{2}$ Arietis | 6 | ${ }_{2}^{2} 4723.25$ | +3.358 | +0.0149 | $+0.002$ | +174315.3 | +14.95 | -0.327 | $+0.01$ |
| 95 | $\rho^{3}$ Arietis | 6 | 24758.57 | +3.374 | +0.0147 | +0.023 | +1725 17.5 | +14.74 | -0.327 | -0.17 |
| 96 | 47 Arietis | 6 | 24930.76 | +3.419 | $+0.0162$ | $+0.019$ | $+20348.5$ | +14.77 | $-0.334$ | -0.05 |
| 97 | - Arietis, | $4 \frac{1}{2}$ | 25038.59 | +3.418 | $+0.0166$ | $+0.004$ | +20 4413.1 | +14.75 | -0.337 | 0.00 |
| 98 | $2 . \mathrm{Ceti}$ | $5 \frac{1}{2}$ | 25141.03 | +3.213 | $+0.0099$ | $+0.009$ | + 81824.7 | +14.70 | -0.318 | $+0.01$ |
| 99 | 52 Arietis, | $6 \frac{1}{2}$ | ${ }_{2}^{2} 5639.47$ | $+3.500$ | $+0.0191$ | +0.002 | $+24402.3$ | +14.36 | -0.356 | $-0.03$ |
| 100 | 53 Arietis | 6 | 25859.34 | +3.362 | +0.0143 | $-0.002$ | $+171750.5$ | +14.24 | -0.345 | 0.00 |
| 101 | 54 Arieti | $6 \frac{1}{2}$ | 25951.45 | +3.385 | $+0.0149$ | $+0.003$ | +181256.0 | +14.17 | $-0.349$ | $-0.02$ |
| 102 | $\delta$ Arietis | $4 \frac{1}{4}$ | $\begin{array}{llll}3 & 3 & 3.56\end{array}$ | +3.418 | $+0.0153$ | $+0.015$ | +19 920.2 | +14.00 | -0.356 | +0.01 |
| 103 | B.A.C. 987 | $6 \frac{1}{2}$ | $\begin{array}{llll}3 & 3 & 8.05\end{array}$ | +3.284 | +0.0117 | $+0.001$ | $+122833.6$ | +14.02 | -0.343 | $+0.03$ |
| 104 | $\zeta$ Arietis | $4 \frac{1}{2}$ | $\begin{array}{llll}3 & 6 & 17.18 \\ 3 & 18\end{array}$ | +3.434 | +0.0160 | +0.001 | $+20296.1$ | +13.73 | $-0.364$ | $-0.06$ |
| 105 | B.A.C. 1032 | $6 \frac{1}{2}$ | 31214.58 | +3.440 | $+0,0154$ | $+0.008$ | +195746.9 | +13.30 | $-0.372$ | $-0.10$ |
| 106 | $\tau^{1}$ Arietis | 5 | 31234.43 | +3.449 | +0.0158 | $+0.004$ | $+20369.9$ | +13.33 | -0.374 | $-0.05$ |
| 107 | $\tau^{2}$ Arietis | 6 | 3147.91 | +3.438 | +0.0154 | $-0.001$ | +20 125.6 | +13.26 | $-0.376$ | -0.02 |
| 108 | 64 Arietis | 6 | 31527.47 | +3.525 | $+0.0178$ | $+0.002$ | +24 1119.1 | $+13.13$ | -0.387 | $-0.06$ |
| 109 | 65 Arictis | 6 | 31547.44 | +3.444 | $+0.0154$ | $+0.001$ | $+20160.0$ | +13.15 | -0.379 | -0.02 |
| 110 | 66 Arietis | $6 \frac{1}{2}$ | 31940.93 | +3.494 | $+0.0165$ | $+0.004$ | +22 1659.6 | +12.82 | -0.389 | -0.09 |
| 111 | $s$ Tauri | 6 | 32212.98 | +3.272 | $+0.0105$ | $+0.004$ | +10 493.4 | $+12.70$ | -0.368 | $-0.04$ |
| 112 | $f$ Tauri | 4 | 32235.92 | +3.304 | +0.0112 | $+0.006$ | +1225 6.5 | +12.72 | -0.372 | 0.00 |
| 113 | 7 Tauri, tr. | 6 | 32534.11 | +3.538 | +0.0171 | $+0.003$ | +23 5724.8 | +12.48 | -0.403 | $-0.03$ |
| 114 | B.A.C. 1096 | $6 \frac{1}{2}$ | $\begin{array}{llll}3 & 25 & 35.57\end{array}$ | +3.376 | $+0.0134$ | -0.021 | +1720.14.1 | +12.13 | -0.387 | -0.38 |
| 115 | 9 Tauri | 6 | $\begin{array}{lll}3 & 28 & 9.14\end{array}$ | +3.512 | $+0.0162$ | 0.000 | +22 4239.2 | +12.30 | -0.404 | $-0.04$ |
| 116 | 11 Tauri | 6 | 33149.21 | $+3.568$ | $+0.0173$ | +0.003 | +245024.1 | $+12.03$ | -0.415 | $-0.05$ |
| 117 | 13 Tauri | $6 \frac{1}{2}$ | 33340.23 | +3.446 | +0.0140 | +0.001 | +19 1257.8 | +11.94 | -0.403 | $-0.01$ |
| 118 | 14 Tauri | 7 | $\begin{array}{llll}3 & 35 & 7.31 \\ 3 & 35 & 5.77\end{array}$ | +3.458 | $+0.0138$ | +0.012 | +1911 13.3 | +11.83 | -0.406 | -0.02 |
| 120 | $q$ Pleiadum $b$ $b$ Pleiadum | 5 ${ }_{4}^{1}$ | 3 3 3 355358.77 | +3.554 +3.548 | +0.0164 +0.0163 | +0.006 | +234848.4 +23 +2815. | +11.75 | -0.419 | $-0.05$ |

# ZODIACAL STARS. 

| No. | LOGARItIMS OF |  |  |  |  |  |  |  | B.A.C. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 61 | +0.4913 | +7.4904 | +8.7812 | +8.4531 | +1.2589 | -9.6287 | +9.6145 | $+8.6659$ | 551 |  |
| 62 | +0.5019 | +8.0379 | +8.7856 | +8.4686 | +1.2569 | -9.6376 | +9.5433 | $+9.2070$ | 561 |  |
| 63 | $+0.5145$ | +8.3023 | +8.7995 | +8.4940 | $+1.2547$ | -9.6469 | +9.4319 | $+9.4552$ | 572 | 168 |
| 64 | $+0.5145$ | +8.3023 | +8.7995 | +8.4940 | $+1.2547$ | $-9.6469$ | +9.4317 | +9.4552 | 573 | 166 |
| 65 | +0.4908 | $+7.4063$ | $+8.7763$ | +8.4731 | +1.2542 | $-9.6488$ | $+9.6176$ | +8.5820 | 574 | 169 |
| 66 | $+0.5152$ | +8.2658 | +8.7869 | +8.5284 | +1.2446 | $-9.6838$ | $+9.4286$ | +9.4212 | 632 |  |
| 67 | +0.5188 | +8.2907 | $+8.7827$ | +8.5542 | $+1.2372$ | $-9.7065$ | +9.3925 | +9.4430 | 665 |  |
| 68 | +0.5004 | +7.8979 | +8.7617 | +8.5381 | +1.2359 | $-9.7101$ | +9.5559 | $+9.0699$ | 672 |  |
| 69 | +0.5223 | +8.3293 | +8.7849 | $+8.5655$ | +1.2348 | -9.7131 | +9.3533 | +9.4770 | 682 | 193 |
| 70 | +0.5011 | +7.9112 | +8.7602 | +8.5435 | +1.2341 | $-9.7152$ | $+9.5516$ | +9.0829 | 684 | 195 |
| 71 | +0.5212 | +8.2922 | +8.7751 | +8.5784 | +1.2285 | $-9.72 .96$ | $+9.3679$ | $+9.4434$ | 707 | 204 |
| 72 | $+0.5056$ | +7.9964 | $+8.7503$ | $+8.5760$ | +1.2218 | $-9.7453$ | +9.5173 | +9.1657 | 728 |  |
| 73 | +0.5038 | +7.9432 | +8.7473 | $+8.5783$ | +1.2202 | $-9.7490$ | $+9.5321$ | $+9.1138$ | 741 |  |
| 74 | +0.5054 | +7.9846 | +8.7480 | +8.5802 | +1.2198 | $-9.7498$ | $+9.5193$ | +9.1541 | 745 |  |
| 75 | +0.5056 | +7.9802 | +8.7455 | $+8.5855$ | $+1.2173$ | $-9.7551$ | +9.5183 | +9.1498 | 755 |  |
| 76 | $+0.5018$ | +7.8728 | +8.7410 | $+8.5870$ | $+1.2153$ | $-9.7591$ | $+9.5468$ | +9.0449 | 760 | 212 |
| 77 | $+0.5239$ | +8.2758 | +8.7591 | +8.6133 | +1.2126 | -9.7646 | +9.3401 | $+9.4271$ | 769 |  |
| 78 | +0.5198 | +8.2202 | +8.7533 | $+8.6089$ | +1.2121 | $-9.7655$ | +9.3876 | +9.3768 | 771 | 214 |
| 79 | +0.5149 | +8.1394 | +8.7447 | +8.6087 | +1.2092 | $-9.7710$ | +9.4376 | +9.3017 | 780 | 217 |
| 80 | $+0.5226$ | +8.2475 | +8.7525 | +8.6187 | +1.2085 | $-9.7724$ | +9.3562 | $+9.4012$ | 2 |  |
| 81 | $+0.5006$ | +7.8050 | $+8.7306$ | +8.6043 | +1.2058 | $-9.7773$ | $+9.5561$ | $+8.9780$ | 89 |  |
| 82 | +0.5104 | +8.0454 | +8.7349 | $+8.6138$ | +1.2039 | $-9.7806$ | $+9.4793$ | $+9.2122$ | 98 |  |
| 83 | +0.5012 | +7.8192 | +8.7287 | +8.6083 | +1.2036 | -9.7811 | $+9.5518$ | +8.9919 | 0 |  |
| 84 | +0.5300 | +8.3141 | +8.7537 | $+8.6399$ | +1.2012 | $-9.7852$ | $+9.2617$ | $+9.4594$ | 808 | 226 |
| 85 | $+0.5267$ | +8.2636 | +8.7429 | +8.6432 | +1.1959 | $-9.7940$ | $+9.3075$ | +9.4144 | 5 | 230 |
| 86 | $+0.5078$ | +7.9675 | $+8.7236$ | +8.6258 | +1.1951 | $-9.7951$ | $+9.5022$ | $+9.1368$ | 30 |  |
| 87 | +0.5174 | +8.1320 | +8.7284 | +8.6379 | $+1.1923$ | $-9.7996$ | + 9.4153 | $+9.2937$ | 842 |  |
| 89 | $+0.5115$ | +8.0336 | +8.7225 | +8.6339 | $+1.1915$ | $-9.8007$ | +9.4704 | $+9.2004$ | 844 | 237 |
| 89 | +0.5067 | +7.9357 | +8.7191 | +8.6307 | +1.1914 | $-9.8008$ | +9.5104 | $+9.1058$ | 45 | 238 |
| 90 | $+0.5243$ | +8.2108 | +8.7289 | +8.6532 | $+1.1863$ | -9.8084 | +9.3393 | $+9.3660$ | 867 |  |
| 91 | $+0.5227$ | +8.1876 | $+8.7257$ | +8.6531 | $+1.1850$ | $-9.8102$ | $+9.3585$ | $+9.3447$ | 870 | 244 |
| 92 | +0.5180 | +8.1144 | +8.7170 | $+8.6531$ | +1.1813 | $-9.8152$ | $+9.4099$ | $+9.2765$ | 881 | 247 |
| 93 | +0.5243 | +8.1862 | +8.7172 | $+8.6660$ | +1.1758 | -9.8224 | +9.3406 | $+9.3426$ | 898 |  |
| 94 | +0.5258 | +8.2006 | +8.7171 | +8.6692 | +1.1743 | -9.8242 | +9.3228 | $+9.3555$ | 901 |  |
| 95 | +0.5252 | +8.1917 | +8.7154 | +8.6698 | $+1.1733$ | -9.8255 | $+9.3300$ | +9.3474 | 903 | 249 |
| 96 | $+0.5314$ | +8.2549 | $+8.7196$ | $+8.6798$ | +1.1707 | -9.8287 | $+9.2465$ | $+9.4038$ | 913 | 251 |
| 97 | $+0.5332$ | +8.2686 | +8.7195 | +8.6840 | $+1.1687$ | $-9.8310$ | +9.2199 | $+9.4156$ | 921 | 254 |
| 98 | +0.5056 | +7.8530 | +8.6932 | +8.6616 | $+1.1669$ | $-9.8331$ | +9.5198 | $+9.0245$ | 929 |  |
| 99 | +0.5439 | +8.3417 | +8.7212 | +8.7085 | $+1.1580$ | -9.8431 | +9.0154 | $+9.4762$ | 957 |  |
| 100 | $+0.5268$ | +8.1686 | +8.6954 | $+8.6916$ | +1.1536 | -9.8476 | +9.3118 | $+9.3246$ | 966 | 266 |
| 101 | +0.5291 | $+8.1910$ | $+8.6960$ | +8.6955 | +1.1520 | -9.8492 | $+9.2817$ | $+9.3447$ | 971 |  |
| 102 | $+0.5319$ | +8.2083 | +8.6923 | +8.7039 | +1.1458 | $-9.8552$ | +9.2425 | $+9.3597$ | 986 | 271 |
| 103 | $+0.5162$ | +8.0123 | +8.6778 | +8.6896 | +1.1457 | $-9.8553$ | +9.4296 | +9.1780 | 987 |  |
| 104 | $+0.5357$ | +8.2335 | +8.6895 | +8.7134 | +1.1395 | $-9.8611$ | +9.1827 | $+9.3813$ | 999 | 275 |
| 105 | +0.5355 | +8.2091 | +8.6758 | +8.7223 | +1.1272 | -9.8715 | +9.1872 | $+9.3583$ | 1032 |  |
| 106 | +0.5372 | $+8.2233$ | $+8.6769$ | +8.7247 | +1.1265 | $-9.8721$ | $+9.1587$ | $+9.3707$ | 1034 | 282 |
| 107 | +0.5365 | +8.2107 | $+8.6725$ | $+8.7262$ | +1.1232 | -9.8747 | +9.1717 | $+9.3592$ | 1045 |  |
| 108 | +0.5469 | +8.2945 | +8.6819 | +8.7407 | +1.1203 | -9.8769 | +8.9410 | $+9.4306$ | 1052 | 8 |
| 109 | $+0.5369$ | +8.2086 | +8.6691 | +8.7291 | +1.1196 | -9.8774 | +9.1641 | $+9.3570$ | 1053 | 286 |
| 110 | +0.5428 | +8.2453 | +8.6664 | +8.7414 | +1.1110 | -9.8838 | $+9.0473$ | $+9.3877$ | 1069 | 293 |
| 111 | $+0.5143$ | +7.9081 | $+8.6347$ | +8.7194 | $+1.1052$ | -9.8877 | +9.4492 +9.4108 | +9.0764 +9.1547 | 1084 |  |
| 112 | $+0.5183$ | +7.9689 | +8.6363 | +8.7225 | +1.1044 | -9.8883 | +9.4108 | +9.1347 | 1087 | 296 |
| 113 | +0.5484 | +8.2668 | +8.6582 | +8.7559 | +1.0974 | -9.8929 | +8.8993 | $+9.4038$ | 1095 | 298 |
| 114 | $+0.5311$ | +8.1134 | +8.6392 | +8.7370 | +1.0973 | $-9.8929$ | +9.2586 | +9.2693 | 1096 |  |
| 115 | $+0.5455$ | +8.2346 | +8.6479 | $+8.7557$ | +1.0912 | -9.8968 | +8.9818 | +9.3757 | 1107 | 301 |
| 116 | $+0.5520$ | +8.2693 | +8.6460 | +8.7682 | +1.0821 | -9.9021 | +8.7672 | +9.4032 | 1126 | 304 |
| 117 | $+0.5372$ | +8.1414 | +8.6240 | +8.7535 | +1.0775 | -9.9047 | +9.1629 | +9.2926 | 1135 |  |
| 118 | $+0.5373$ | +8.1370 | +8.6202 | $+8.7555$ | +1.0737 | -9.9067 | +9.1608 | +9.2882 | 1140 |  |
| 119 | +0.5500 | +8.2382 | +8.6320 | +8.7704 | +1.0717 | -9.9078 | +8.8476 | +9.3756 | 1146 | 312 |
| 120 | +0.5495 | +8.2343 | +8.6313 | +8.7699 | +1.0715 | $-9.9079$ | +8.8645 | +9.3724 | 1147 | 313 |


| No. | Name. | Mag. | Mean Right Ascension 1850.0 . | Annual Variation. | $\begin{gathered} \text { Secular } \\ \text { Variation. } \end{gathered}$ | Proper Motion | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | Annual Variation. | Secular Varia tion. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 121 | $m$ Pleiadum | 7 | $\begin{array}{llll}\text { h } & \text { m } & \\ 3 & 36 & 13.27\end{array}$ | +3.562 | $+0.0166$ | $+0.001$ | $+24^{\circ} 21^{\prime} 50{ }^{\prime \prime} .3$ | +11.66 | -0.420 | -0.11 |
| 122 | $e$ Pleiadum | 5 | 33617.22 | +3.557 | $+0.0164$ | +0.004 | +23 5931.6 | +11.75 | -0.420 | -0.02 |
| 123 | 1 Pleiadum | 8 | 33632.26 | $+3.543$ | $+0.0161$ |  | +23 3340.0 | +11.75 | -0.419 |  |
| 124 | 2 Pleiadum | $8 \frac{1}{2}$ | 33639.20 | +3.553 | $+0.0163$ |  | +23 5922.7 | +11.74 | $-0.420$ |  |
| 125 | 3 Pleiadum | 9 | 33641.49 | +3.544 | $+0.0162$ |  | +23 3633.6 | +11.74 | -0.419 |  |
| 126 | 4 Pleiadum | 8 | 33643.00 | +3.550 | $+0.0163$ |  | +235142.8 | +11.74 | -0.420 |  |
| 127 | 5 Pleiadum | 9 | 33644.31 | +3.557 | $+0.0165$ |  | +24 9 13.7 | +11.74 | $-0.420$ |  |
| 123 | 6 Pleiadum | 9 | 33646.76 | +3.549 | $+0.0163$ |  | +23 4854.8 | +11.73 | -0.419 |  |
| 129 | c Pleiadum | 5 | 33654.50 | +3.555 | $+0.0163$ | $+0.004$ | +2353 41.0 | +11.68 | -0.420 | $-0.04$ |
| 130 | 7 Pleiadum | 8 | 33657.77 | +3.544 | $+0.0161$ |  | +23 3357.8 | $+11.72$ | -0.419 |  |
| 131 | B.A.C. 1155 | 7 | 33658.22 | +3.541 | $+0.0156$ | $+0.017$ | +22 4027.5 | +11.61 | -0.417 | -0.11 |
| 132 | $k$ Pleiadum | $7 \frac{1}{2}$ | 33659.17 | +3.565 | $+0.0164$ | +0.009 | +24 454.9 | +11.69 | -0.421 | $-0.03$ |
| 133 | $l$ Pleiadum | $7 \frac{1}{2}$ | $\begin{array}{llll}3 & 37 & 7.19\end{array}$ | +3.557 | $+0.0164$ | +0.002 | +24 323.3 | +11.71 | -0.421 | 0.00 |
| 134 | 8 Pleiadum | 82 | 33715.27 | +3.548 | +0.0162 |  | +23 4323.5 | +11.69 | -0.420 |  |
| 135 | 9 Pleiadum | $8 \frac{1}{2}$ | 33721.55 | +3.548 | +0.0162 |  | $+23435.0$ | $+11.69$ | -0.420 |  |
| 136 | $d$ Pleiadum | 5 | 33725.92 | +3.549 | $+0.0160$ | $+0.006$ | +232836.5 | +11.66 | -0.420 | -0.03 |
| 137 | 10 Pleiadum | 8 | 33732.54 | +3.550 | +0.0162 |  | +23 471.3 | +11.68 | -0.421 |  |
| 138 | 11 Pleiadum | $8 \frac{1}{2}$ | 33745.10 | +3.547 | $+0.0161$ |  | +23 3757.4 | +11.66 | -0.420 |  |
| 139 | 12 Pleiadum | $7 \frac{1}{2}$ | 3384.15 | +3.582 | $+0.0164$ | +0.025 | +24 32.2 | +11.58 | -0.422 | $-0.06$ |
| 140 | 13 Pleiadum | $8 \frac{1}{2}$ | 33810.22 | +3.545 | $+0.0160$ |  | +23 3133.7 | +11.63 | -0.420 |  |
| 141 | 14 Pleiadum | 9 | 33816.19 | $+3.540$ | $+0.0159$ |  | +23 1748.9 | +11.63 | -0.419 |  |
| 142 | 15 Pleiadum | $8 \frac{1}{2}$ | 33822.08 | +3.548 | $+0.0161$ |  | +233933.9 | +11.62 | -0.420 |  |
| 143 | 16 Pleiadum | $9 \frac{1}{2}$ | 33823.31 | +3.541 | $+0.0159$ |  | +23 2054.6 | +11.62 | -0.419 |  |
| 144 | 17 Pleiadum | 8 | 33824.63 | +3.539 | $+0.0158$ |  | +2315 25.9 | $+11.62$ | -0.419 |  |
| 145 | 18 Pleiadum | 8 | 33824.81 | +3548 | $+0.0161$ |  | +23 4013.4 | $+11.62$ | -0.421 |  |
| 146 | $p$ Pleiadum | $7 \frac{1}{2}$ | 33826.48 | +3.548 | $+0.0160$ | 0.000 | +23 3852.0 | +11.50 | -0.422 | $-0.12$ |
| 147 | 19 Pleiadum | 8 | 33827.52 | $+3.540$ | +0.0159 |  | +23 $20 \quad 5.4$ | $+11.61$ | -0.421 |  |
| 148 | 20 Pleiadum | 8 | 33827.94 | $+3.559$ | $+0.0163$ |  | +24 711.8 | +11.61 | -0.423 |  |
| 149 | 21 Pleiadum | $8 \frac{1}{2}$ | 33830.25 | +3.560 | +0.0164 |  | +241118.4 | $+11.61$ | -0.423 |  |
| 150 | 22 Pleiadum | 8 | 33830.60 | $+3.543$ | $+0.0158$ |  | +23 2646.4 | $+11.61$ | -0.422 |  |
| 151 | 23 Pleiadum | $8 \frac{1}{2}$ | 33833.80 | +3.538 | +0.0158 |  | +23 1236.4 | +11.61 | $-0.421$ |  |
| 152 | 24 Pleiadum | 8 | 33834.31 | $+3.556$ | +0.0161 | $+0.004$ | +23 4914.7 | +11.56 | -0.423 | -0.05 |
| 153 | y Tauri | 3 | 33834.56 | +3.552 | +0.0160 | $+0.004$ | +23 3813.3 | $+11.56$ | -0.422 | $-0.05$ |
| 154 | 25 Pleiadum | ${ }^{8 \frac{1}{2}}$ | 3 3848.71 3 | +3.537 | $+0.0157$ |  | +23 831.7 | +11.59 | -0.421 |  |
| 155 | 26 Pleiadum | 9 | 33849.80 | $+3.536$ | +0.0157 |  | +23 432.0 | $+11.59$ | -0.421 |  |
| 156 | 27 Pleiadum | $8 \frac{1}{2}$ | 33914.13 | +3.554 | $+0.0161$ |  | +23 518.4 | +11.55 | $-0.423$ |  |
| 157 | 23 Pleiadum | 7 | 33928.50 | +3.533 | $+0.0156$ | $+0.003$ | +22 5721.0 | +11.48 | -0.421 | $-0.06$ |
| 158 | 29 Pleiadum | 8 | 33934.54 | +3.559 | +0.0161 | $+0.004$ | +235254.0 | +11.51 | -0.424 | $-0.02$ |
| 159 | $s$ Pleiadum | $7 \frac{1}{2}$ | 3402.68 | +3.544 | +0.0158 | $+0.003$ | +23 2338.7 | $+11.50$ | -0.423 |  |
| 160 | $f$ Pleiadum | $4 \frac{1}{2}$ | 34015.05 | $+3.552$ | +0.0159 | +0.003 | +23 3525.6 | +11.44 | -0.424 | $-0.05$ |
| 161 | $h$ Pleiadum | $5 \frac{1}{2}$ | 34016.21 | +3.555 | $+0.0160$ | +0.004 | +23 4027.3 | +11.44 | -0.425 | -0.04 |
| 162 | 30 Pleiadum | $8 \frac{1}{2}$ | 34018.54 | +3.560 | $+0.0157$ | +0.014 | +23 2528.8 | +11.44 | -0.424 | -0.04 |
| 163 | 31 Pleiadum | 8 | 34020.92 | +3.557 | $+0.0161$ |  | +23 55.59 .7 | +11.48 | -0.424 |  |
| 164 | 32 Pleiadum | 8 | 34025.95 | +3.562 | $+0.0161$ | $+0.005$ | +23 555.5 | +11.38 | $-0.426$ | $-0.09$ |
| 165 | 33 Pleiadum | $8 \frac{1}{2}$ | 34030.57 | +3.554 | $+0.0160$ |  | $+2347 \quad 7.2$ | $+11.47$ | -0.425 |  |
| 166 | 34 Pleiadum | $7 \frac{1}{2}$ | 34050.02 | +3.553 | $+0.0156$ | +0.011 | +23 155.6 | +11.49 | -0.424 | $+0.05$ |
| 167 | 35 Pleiadum | $9^{2}$ | 34050.70 | $+3.554$ | $+0.0160$ |  | +23 4656.8 | +11.44 | -0.425 |  |
| 168 | 36 Pleiadum | 9 | 34059.47 | $+3.554$ | +0.0159 |  | +23 4521.1 | $+11.43$ | -0.425 |  |
| 169 | 37 Pleiadum | 8 | 3410.93 | +3.562 | $+0.0160$ | $+0.005$ | +23 539.9 | +11.14 | -0.426 | -0.29 |
| 170 | 38 Pleiadum | 8 | 3413.85 | +3.551 | $+0.0157$ | +0.005 | +23 2323.8 | +11.49 | -0.425 | $+0.06$ |
| 171 | B.A.C. 1192 | 62 | 34118.47 | $+3.601$ | $+0.0167$ | +0.015 | +25 719.4 | +11.16 | -0.430 | $-0.25$ |
| 172 | 39 Pleiadum | 8 | 34131.47 | $+3.561$ | $+0.0161$ |  | +24 27.8 | +11.39 | -0.427 |  |
| 173 | 40 Pleiadum | $7 \frac{1}{2}$ | 34157.45 | $+3.549$ | $+0.0157$ | -0.001 | +23 3016.4 | +11.39 | -0.427 | $+0.03$ |
| 174 | 32 Tauri | 6 | $\begin{array}{lll}3 & 48 & 0.77\end{array}$ | +3.531 | $+0.0145$ | $+0.006$ | +22 232.0 | +10.78 | -0.431 | -0.14 |
| 175 | 33 'Tauri | 6 | 34810.63 | +3.548 | +0.0148 | +0.007 | +22 449.1 | $+10.90$ | $-0.433$ | $-0.01$ |
| 176 | B.A.C. 1240 | 6 | 35210.60 | +3.441 | $+0.0121$ | $+0.007$ | +17 4559.2 | $+10.59$ | -0.425 | $-0.03$ |
| 177 | $\lambda$ Tauri | 31 | 35222.49 | +3.315 | +0.0097 | +0.002 | +12 344.2 | +10.61 | -0.410 | $+0.01$ |
| 178 179 | 36 Tauri Weis.III. 1085 | 8 | 3 <br> 3 <br> 3 <br> 3 554685.75 | +3.575 +3.369 | +0.0148 +0.0104 | +0.002 | +23 4121.1 | +10.38 | -0.446 | $+0.01$ |
| 180 | $\Lambda^{1}$ Tauri | 42 | 3 <br> 3 <br> 3 <br> 55 | +3.369 +3.534 | +0.0104 +0.0137 | $+0.008$ | +143638.1 <br> +2140 | +10.34 +10.28 | -0.421 | $-0.06$ |


| No. | Logaritims of |  |  |  |  |  |  |  | $\begin{aligned} & \text { No. } \\ & \text { B.A.C. } \end{aligned}$ | T.Y. ${ }_{\text {No. }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 121 | $+0.5516$ | +8.2485 | +8.6331 | $+8.7727$ | $+1.0709$ | $-9.9083$ | +8.7875 | $+9.3841$ | 1149 | 315 |
| 122 | +0.5505 | +8.2408 | +8.6316 | +8.7715 | $+1.0707$ | -9.9084 | +8.8274 | $+9.3777$ | 1151 | 316 |
| 123 | +0.5493 | +8.2312 | +8.6295 | +8.7704 | $+1.0700$ | -9.9087 | +8.8683 | +9.3695 |  |  |
| 124 | $+0.5506$ | +8.2397 | $+8.6306$ | $+8.7719$ | +1.0697 | -9.9088 | +8.8256 | +9.3766 |  |  |
| 125 | +0.5495 | +8.2319 | $+8.6293$ | $+8.7708$ | $+1.0696$ | -9.9089 | +8.8624 | $+9.3700$ |  |  |
| 126 | +0.5502 | +8.2370 | +8.6301 | +8.7716 | $+1.0696$ | -9.9089 | +8.8381 | $+9.3743$ |  |  |
| 127 | +0.5510 | +8.2423 | +8.6310 | +8.7727 | $+1.0695$ | $-9.9090$ | +8.8068 | +9.3792 |  |  |
| 123 | +0.5501 | +8.2359 | +8.6297 | +8.7715 | +1.0694 | -9.9090 | $+8.8321$ | $+9.3734$ |  |  |
| 129 | +0.5504 | +8.2372 | +8.6997 | +8.7720 | $+1.0691$ | -9.9092 | +8.8338 | $+9.3744$ | 1154 | 318 |
| 130 | +0.5495 | +8.2302 | $+8.6284$ | +8.7710 | +1.0689 | $-9.9093$ | $+8.8653$ | $+9.3685$ |  |  |
| 131 | $+0.5470$ | +8.2115 | +8.6255 | $+8.7681$ | +1.0689 | $-9.9093$ | +8.9425 | $+9.3527$ | 1155 |  |
| 132 | $+0.5509$ | +8.2408 | +8.6301 | +8.7728 | +1.0689 | $-9.9093$ | +8.8136 | +9.3773 | 1156 |  |
| 133 | +0.5509 | +8.2399 | +8.6297 | $+8.7 \% 29$ | $+1.668$ | $-9.9095$ | +8.8156 | $+9.3766$ | 1157 |  |
| 134 | +0.5500 | +8.2326 | +8.6230 | +8.7719 | $+1.0680$ | $-9.9097$ | +8.8480 | +9.3704 |  |  |
| 135 | $+0.5500$ | +8.2324 | +8.6278 | +8.7720 | +1.0679 | $-9.9098$ | +8.8475 | $+9.3702$ |  |  |
| 136 | $+0.5493$ | +8.2272 | +8.6269 | $+8.7714$ | +1.0677 | $-9.9099$ | $+8.8704$ | $+9.3658$ | 1161 | 320 |
| 137 | +0.5502 | +8.2332 | +8.6276 | +8.7725 | +1.0675 | -9.9101 | +8.8403 | +9.3708 |  |  |
| 138 | +0.5498 | +8.2295 | +8.6265 | +8.7723 | +1.0668 | -9.9104 | +8.8538 | $+9.3676$ |  |  |
| 139 | +0.5510 | +8.2373 | +8.6271 | +8.7741 | $+1.0660$ | -9.9108 | +8.8089 | +9.3739 | 1163 |  |
| 140 | +0.5496 | +8.2262 | +8.6251 | +8.7725 | +1.0658 | -9.9109 | +8.8618 | +9.3646 |  |  |
| 141 | $+0.5490$ | +8.2212 | +8.6241 | $+8.7720$ | +1.0655 | -9.9111 | $+8.8821$ | $+9.3603$ |  |  |
| 142 | $+0.5500$ | +8.2284 | +8.6250 | +8.7732 | $+1.6652$ | -9.9112 | +8.8477 | $+9.3664$ |  |  |
| 143 | +0.5491 | $+8.2220$ | +8.6239 | +8.7722 | +1.0652 | -9.9112 | +8.8769 | +9.3610 |  |  |
| 144 | +0.5489 | +8.2199 | $+8.6235$ | +8.7719 | $+1.0651$ | $-9.9112$ | +8.8856 | $+9.3592$ |  |  |
| 145 | +0.5500 | +8.2285 | +8.6249 | +8.7734 | $+1.0651$ | $-9.9113$ | +8.8458 | +9.3664 |  |  |
| 146 | $+0.5500$ | $+8.2281$ | $+8.6248$ | $+8.7733$ | +1.0650 | $-9.9113$ | +8.8482 | $+9.3661$ | 1164 | 321 |
| 147 | +0.5491 | +8.2215 | +8.6237 | +8.7723 | $+1.0650$ | $-9.9113$ | +8.8777 | $+9.3605$ |  |  |
| 148 | +0.5513 | +8.2376 | +8.6263 | +8.7749 | +1.0650 | -9.9113 | +8.7985 | +9.3740 |  |  |
| 149 | $+0.5515$ | +8.2389 | +8.6264 | +8.7752 | +1.6649 | -9.9114 | +8.7903 | $+9.3751$ |  |  |
| 150 | +0.5494 | +8.2236 | +8.6239 | +8.7727 | +1.0648 | -9.9114 | +8.8674 | $+9.3623$ |  |  |
| 151 | +0.5488 | +8.2185 | +8.6229 | +8.7719 | $+1.0647$ | -9.9114 | +8.8892 | $+9.3580$ |  |  |
| 152 | $+0.5505$ | +8.2313 | +8.6250 | +8.7740 | +1.0647 | -9.9115 | $+8.8300$ | +9.3687 | 1165 |  |
| 153 | $+0.5500$ | $+8.2275$ | +8.6244 | +8.7734 | $+1.0646$ | $-9.9115$ | +8.8488 | $+9.3655$ | 1166 | 322 |
| 154 | +0.5436 | $+8.2167$ | +8.6223 | $+8.7720$ | $+1.0643$ | $-9.9117$ | +8.8939 | $+9.3564$ |  |  |
| 155 | +0.5485 | +8.2150 | +8.6218 | +8.7719 | $+1.0640$ | $-9.9118$ | +8.8994 | $+9.3549$ |  |  |
| 156 | $+0.5507$ | +8.2300 | +8.6232 | $+8.7751$ | $+1.0627$ | $-9.9124$ | $+8.8215$ | $+9.3673$ |  |  |
| 157 | $+0.5482$ | +8.2109 | +8.6198 | +8.7725 | +1.0623 | $-9.9127$ | +8.9047 | $+9.3511$ |  |  |
| 158 | $+0.5508$ | +8.2298 | +8.6225 | +8.7756 | $+1.6620$ | -9.9128 | +8.8169 | +9.3670 | 1171 |  |
| 159 | +0.5495 | +8.2184 | +8.6196 | +8.7745 | $+1.0607$ | $-9.9134$ | +8.8636 | $+9.3573$ | 1173 |  |
| 160 | $+0.5501$ | +8.2220 | +8.6197 | +8.7755 | $+1.0601$ | -9.9137 | +8.8426 | $+9.3602$ | 1176 | 326 |
| 161 | $+0.5504$ | +8.2237 | $+8.6199$ | +8.7758 | $+1.0601$ | $-9.9137$ | $+8.8338$ | $+9.3616$ | 1177 | 327 |
| 162 | $+0.5497$ | +8.2184 | +8.6190 | $+8.7750$ | $+1.0600$ | -9.9138 | +8.8585 | +9.3571 | 1178 |  |
| 163 | +0.5511 | +8.2287 | +8.6205 | $+8.7767$ | +1.0599 | $-9.9138$ | $+8.8061$ | +9.3658 |  |  |
| 164 | +0.5511 | +8.2282 | $+8.6203$ | +8.7768 | $+1.0596$ | $-9.9139$ | $+8.8069$ | $+9.3653$ | 1182 |  |
| 165 | $+0.5507$ | +8.2202 | +8.6196 | +8.7764 | $+1.0595$ | -9.9140 | $+8.8213$ | +9.3628 |  |  |
| 166 | $+0.5493$ | +8.2134 | $+8.6170$ | +8.7752 | $+1.0586$ | $-9.9145$ | $+8.8722$ | $+9.3527$ | 1186 |  |
| 167 | +0.5508 | +8.2943 | +8.6187 | +8.7769 | +1.0586 | $-9.9145$ | +8.8188 | +9.3619 |  |  |
| 168 | +0.5507 | +8.2234 | +8.6183 | +8.7771 | $+1.0582$ | $-9.9147$ | +8.8103 | +9.3610 |  |  |
| 169 | +0.5511 | +8.2260 | +8.6186 | +8.7775 | +1.0581 | $-9.9147$ | $+8.8069$ | +9.3632 | 1187 |  |
| 170 | +0.5497 | +8.2156 | +8.6169 | $+8.7759$ | $+1.0579$ | -9.9148 | $+8.8573$ | +9.3545 | 11 |  |
| 171 | +0.5546 | +8.2500 | $+8.6221$ | +8.7822 | +1.0572 | -9.9151. | $+8.6415$ | +9.3829 | 1192 | 330 |
| 172 | +0.5516 | +8.2276 | +8.6177 | +8.7787 | $+1.0567$ | $-9.9154$ | +8.8859 | $+9.3643$ |  |  |
| 173 | +0.5502 | +8.2156 | +8.6148 | +8.7775 | $+1.0555$ | -9.9159 | +8.8414 | $+9.3540$ | 1195 |  |
| 174 | +0.5471 | +8.1673 | +8.5529 | +8.7805 | $+1.0383$ | $-9.9236$ | +8.9415 | $+9.3104$ | 1221 |  |
| 175 | +0.5491 | +8.1818 | +8.5946 | $+8.7829$ | +1.0378 | $-9.9238$ | +8.8802 | $+9.3227$ | 1223 |  |
| 176 | $+0.5358$ | +8.0533 | +8.5688 | +8.7738 | +1.0259 | $-9.9286$ | +9.1887 | +9.2082 | 1240 | 341 |
| 177 | +0.5203 | +7.8768 | +8.5567 | +8.7625 | +1.0253 | -9.9289 | +9.3927 | +9.0432 | 1241 | 342 |
| 178 | +0.5530 | +8.1799 | $+8.5759$ | +8.7945 | $+1.0160$ | -9.9324 | +8.7292 | +9.3177 | 1253 |  |
| 179 | +0.5275 | +7.9525 | +8.5507 | +8.7710 | +1.0145 | -9.9328 | +9.3092 | $+9.1143$ |  |  |
| 180 | +0.5472 | +8.1354 | +8.5681 | +8.7886 | +1.0146 | -9:9329 | +8.9390 | +9.2797 | 1257 | 344 |

## CATALOGUE OF

| No. | Name. | Mag. | Mean Right Ascension 1850.0 | $\underset{\text { Annual }}{\text { Varia- }}$ tion. | Secular Variation. | Proper Motion. | $\begin{gathered} \text { Mean } \\ \text { Declination } \\ 1850.0 . \end{gathered}$ | $\begin{gathered} \text { Annual } \\ \begin{array}{c} \text { Varia- } \\ \text { tion. } \end{array} \end{gathered}$ | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 181 | $\mathrm{A}^{2}$ Tauri | 6 |  | $+3.541$ | $\left.\begin{array}{\|c} 8 \\ +0.0136 \end{array} \right\rvert\,$ | $\begin{gathered} 8 \\ +0.016 \end{gathered}$ | +21 $35{ }^{\circ} 58.6$ | +10.19 | -0.441 | $-{ }^{\prime \prime} .10$ |
| 182 | Weis.111. 1108 | 8 | $\begin{array}{llll}3 & 57 & 6.57\end{array}$ | +3.354 | +0.0102 |  | +13 5228.3 | +10.24 | -0.421 |  |
| 183 | 41 Tauri | 6 | 35724.91 | +3.668 | $+0.0165$ | $+0.006$ | +27 1130.8 | +10.20 | $-0.459$ | -0.02 |
| 184 | $\psi$ Tauri | $5 \frac{1}{2}$ | 35744.78 | +3.699 | $+0.0174$ | +0.001 | +28 35 28.5 | +10.22 | -0.464 | +0.02 |
| 185 | Weis.III. 1127 | 8 | 35757.56 | +3.358 | +0.0102 |  | $+135919.1$ | +10.18 | -0.422 |  |
| 186 | Weis.III. 1133 | 9 | $\begin{array}{lll}3 & 58 & 8.10\end{array}$ | +3.357 | $+0.0101$ |  | +135744.5 | +10.17 | -0.422 |  |
| 187 | Weis.III. 1135 | $9 \frac{1}{2}$ | 35810.78 | +3.357 | $+0.0101$ |  | +13 5726.1 | +10.16 | -0.422 |  |
| 188 | B.A.C. 1272 | 6 | $3 \begin{array}{llll}3 & 59 & 24.35\end{array}$ | +3.428 | $+0.0113$ | $+0.005$ | +16564.9 | $+10.66$ | -0.432 | $-0.01$ |
| 189 | Lal. 7671 | 8 | $4{ }^{4} 0$ | +3.422 | +0.0112 |  | +165331.5 | $+10.02$ | $-0.432$ |  |
| 190 | Lal. 7677 | 8 | $4 \quad 0 \quad 14.43$ | +3.422 | $+0.0112$ |  | +165327.9 | +10.01 | -0.433 |  |
| 191 | $\omega^{1}$ Tauri | 6 | 4026.02 | +3.484 | +0.0122 | +0.010 | $+191229.3$ | $+9.94$ | -0.439 | -0.06 |
| 192 | B.A.C. 1275 | $6 \frac{1}{2}$ | $4 \quad 039.36$ | +3.349 | $+0.0096$ | +0.011 | +125946.9 | + 9.94 | -0.422 | $-0.04$ |
| 193 | Lal. 7702 | $9 \frac{1}{2}$ | $4{ }_{4}^{4} 0447.77$ | +3.420 | $+0.0111$ |  | +164545.5 | $+9.93$ | -0.433 |  |
| 194 | $p$ Tauri | 6 | 4142.42 | +3.643 | $+0.0155$ | +0.003 | +26 57.7 | + 9.90 | $-0.462$ | 0.00 |
| 195 | Weisse IV. 24 | 9 | $4 \quad 213.11$ | +3.379 | $+0.0102$ |  | +145027.6 | $+9.86$ | -0.429 |  |
| 196 | Lal. 7753 | $7 \frac{1}{2}$ | 4.224 .45 | +3.394 | $+0.0105$ |  | +15 $33 \quad 5.7$ | $+9.84$ | $-0.431$ |  |
| 197 | B.A.C. 1281 | ${ }^{2}$ | $4 \quad 230.39$ | +3.417 | $+0.0107$ | $+0.007$ | +16158.0 | $+9.90$ | $-0.433$ | $+0.06$ |
| 198 | Weisse IV. 30 | 9 | 4234.53 | +3.359 | $+0.0099$ |  | +13531.1 | + 9.83 | -0.427 |  |
| 199 | Rumk. 1103 | ) | 4240.43 | +3.385 | $+0.0104$ |  | +15 1359.3 | + 9.81 | -0.430 |  |
| 200 | Rumk. 1108 | 9 | $4 \quad 344.53$ | +3.370 | $+0.0100$ |  | +14 3238.9 | + 9.74 | $-0.430$ |  |
| 201 | Rumk. 1110 |  | 355.30 | +3.424 | $+0.0109$ |  | +165313.3 | $+9.73$ | -0.437 |  |
| 202 | B A.C. 1289 | 7 | $4 \quad 357.97$ | $+3.546$ | $+0.0132$ | +0.002 | +22 127.6 | + 9.78 | -0.452 | $+0.05$ |
| 203 | Rumk. 1114 | 9 | $44_{4}^{4} 13.51$ | +3.365 | $+0.0099$ |  | +141442.1 | + 9.70 | $-0.430$ |  |
| 204 | Rumk 1115 | 9 | $4 \quad 5 \quad 5.22$ | +3.364 | $+0.0098$ |  | +14 1020.1 | +9.63 | -0.430 |  |
| 205 | Rumk. 1123 | $8 \frac{1}{2}$ | $4 \quad 5 \quad 40.09$ | +3372 | $+0.0099$ |  | +14 3033.2 | + 9.58 | -0.432 |  |
| 206 | Rumk. 1125 | $8 \frac{1}{2}$ | 4553.04 | $+3.365$ | +0.0097 |  | +14 952.8 | + 9.57 | -0.431 |  |
| 207 | Rumk. 1126 | $8 \frac{1}{2}$ | $4 \quad 5 \quad 57.31$ | $+3.365$ | $+0.0098$ |  | +14 1427.1 | + 9.56 | -0.431 |  |
| 208 | 48 T'auri | 6 | $4 \begin{array}{lll}4 & 75.71\end{array}$ | +3.397 | $+0.0100$ | $+0.010$ | +15 1114.9 | + 9.42 | -0.435 | $-0.05$ |
| 209 | Rumk. 1136 | 6 | 4816.61 | +3.403 | $+0.0102$ |  | $+155018.5$ | + 9.38 | -0.439 |  |
| 210 | $\omega^{2}$ Tauri | $5 \frac{1}{2}$ | 4828.64 | $+3.507$ | $+0.0120$ | +0.001 | $+201217.2$ | + 9.32 | -0.452 | $-0.06$ |
| 211 | Lal. 8006 | a | $4 \quad 917.95$ | +3.354 | $+0.0093$ |  | +132738.2 | + 9.31 | $-0.433$ |  |
| 212 | 51 Tauri | 7 | 4930.97 | +3.542 | $+0.0124$ | +0.012 | +21 1230.8 | + 9.30 | -0.456 | 0.00 |
| 213 | Weis. IV. 190 | 9 | $4 \begin{array}{llll}4 & 9 & 57.32\end{array}$ | +3.370 | $+0.0095$ |  | +141057.8 | + 9.26 | -0.436 |  |
| 214 | Lal. 8031 | 9 | $410 \quad 0.31$ | $+3.443$ | +0.0107 |  | +172626.1 | $+9.26$ | -0.445 |  |
| 215 | 53 Tauri | $6 \frac{1}{2}$ | 41035.91 | $+3.525$ | $+0.0121$ | $+0.004$ | $+204630.8$ | + 9.19 | $-0.456$ | -0.02 |
| 216 | 56 Tauri | $6 \frac{1}{2}$ | 41044.34 | +3.541 | $+0.0123$ | $+0.005$ | +212427.8 | $+9.19$ | -0.458 | $-0.01$ |
| 217 | Weis. IV. 214 |  | 411679 | $+3.374$ | $+0.0095$ |  | +14 1924.4 | + 9.17 | -0.438 |  |
| 218 | $\varphi$ Tauri | 5 | 4118.15 | +3.673 | $+0.0150$ | $-0.003$ | +265915.7 | +9.13 | -0.477 | -0.04 |
| 219 | $\gamma$ Tauri | 8 | 41115.72 | +3.407 | $+0.0098$ | +0.012 | +15 1538.6 | + 9.14 | -0.441 | $-0.02$ |
| 220 | Weis. IV. 218 | 8 | 41117.61 | +3.365 | $+0.0093$ |  | +13 $55 \quad 2.0$ | $+9.16$ | $-0.437$ |  |
| 221 | 55 Tauri | 7 | 41120.02 | +3.426 | $+0.0101$ | $+0.011$ | +16 925.4 | $+9.13$ | -0.443 | $-0.03$ |
| 222 | $h$ Tauri | $5 \frac{1}{2}$ | 41131.22 | +3.371 | $+0.0092$ | $+0.011$ | $+1340 \quad 8.7$ | + 9.13 | $-0.436$ | $-0.01$ |
| 223 | 58 Tauri | 6 | 4126.23 | +3.394 | $+0.0095$ | $+0.010$ | $+144350.3$ | $+9.05$ | -0.440 | -0.05 |
| 224 | B.A.C. 1335 | $6 \frac{1}{2}$ | 41226.83 | +3.370 | $+0.0090$ | $+0.013$ | $+13305.8$ | $+9.05$ | -0.437 | -0.02 |
| 225 | B.A.C. 1337 | 7 | 41241.13 | +3.541 | $+0.0118$ | $+0.020$ | +20 40.43 .1 | $+8.97$ | -0.458 | -0.08 |
| 226 | Lal. 8122 | 9 | 41243.47 | +3.455 | +0.0107 |  | +175422.5 | $+9.05$ | -0.450 |  |
| 227 | B.A.C. 1338 | 7 | 41245.20 | +3.538 | $+0.0119$ | $+0.013$ | +20 4934.9 | $+9.12$ | -0.459 | $+0.07$ |
| 228 | Rumk. 1161 |  | 41249.36 | +3.437 | +0.0104 |  | +171254.9 | + 9.04 | -0.448 |  |
| 223 | Rumk. 1162 | 6 | 41250.34 | +3.457 | +0.0107 |  | +18 323.8 | $+9.04$ | -0.450 |  |
| 230 | Rumk. 1163 | 8 | 41257.34 | +3.420 | $+0.0101$ |  | +162642.8 | $+9.03$ | -0.445 |  |
| 231 | Lal. 8135 | $7 \frac{1}{2}$ | $413 \quad 6.40$ | +3.369 | $+0.0092$ |  | +14 259.1 | $+9.02$ | -0.439 |  |
| 232 | $\chi_{13}$ Tauri | $5 \frac{1}{2}$ | 41327.66 | +3.640 | $+0.0139$ | $+0.005$ | +25 1612.9 | $+8.95$ | -0.474 | -0.04 |
| 233 | 13.A.C. 1342 | 7 | 41333.73 | $+3.524$ | +0.0116 | $+0.007$ | +20 2736.6 | $+8.83$ | -0.459 | -0.15 |
| 234 | 60 Tauri | $6 \frac{1}{2}$ | 41336.65 | +3.372 | $+0.0091$ | +0.010 | $+13436.7$ | $+8.97$ | -0.439 | -0.01 |
| 235 | Weis. IV. 284 | 9 | 41410.20 | +3.382 | $+0.0093$ |  | +1433 5.0 | + 8.94 | -0.442 |  |
| 236 | Weis. IV. 286 | 8 | 41414.00 | +3.385 | $+0.0094$ |  | +14 4155.7 | + 8.93 | -0.442 |  |
| 237 | ${ }^{1}$ T Tauri | 4 | 41417.33 | +3.450 | $+0.0103$ | $+0.009$ | +17 $11 \quad 9.8$ | $+8.91$ | -0.449 | -0.02 |
| 238 | Rumk. 1169 |  | 41419.09 | +3.524 | +00117 |  | +20 5111.3 | $+8.93$ | -0.460 |  |
| 239 240 | B.A.C. 1347 | 8 | 41426.85 | +3.615 | +0.0132 | +0.010 | +24 313.5 | +8.91 | -0.471 |  |
| 240 | 63 Tauri | 6 | 41448.95 | +3.434 | $+0.0099$ | $+0.010$ | +1625 24.4 | $+8.8$ | -0.448 | $+0.01$ |


| No. | Logarithms of |  |  |  |  |  |  |  | $\begin{aligned} & \text { No. } \\ & \text { B.A.C. } \end{aligned}$ | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 181 | $+0.5472$ | +8.1319 | +8.5659 | +8.7891 | +1.0126 | $-9.9336$ | +8.9425 | $+9.2764$ | 1260 | 345 |
| 182 | $+0.5256$ | +7.9249 | +8.5451 | +8.7711 | +1.0103 | $-9.9343$ | +9.3326 | $+9.0881$ |  |  |
| 183 | +0.5637 | +8.2120 | +8.5821 | +8.8094 | $+1.0096$ | -9.9347 | +7.8573 | +9.3672 | 1262 |  |
| 184 | +0.5630 | +8.2666 | $+8.5867$ | +8.8154 | $+1.0085$ | -9.9350 | +8.4928 | +9.3862 | 1265 |  |
| 185 | $+0.5261$ | +7.9258 | +8.5425 | +8.7723 | +1.0078 | $-9.9353$ | +9.3279 | +9.0888 |  |  |
| 186 | $+0.5260$ | +7.9243 | $+8.5419$ | +8.7724 | +1.0073 | -9.9355 | $+9.3288$ | $+9.0874$ |  |  |
| 187 | $+0.5260$ | +7.9241 | +8.5418 | +8.7724 | $+1.0069$ | $-9.9355$ | +9.3289 | $+9.0872$ |  |  |
| 188 | +0.5344 | +8.0084 | +8.5441 | $+8.7800$ | $+1.0031$ | -9.9369 | $+9.2127$ | +9.1652 | 1272 | 348 |
| 189 | +0.5343 | +8.0051 | +8.5418 | +8.7807 | $+1.0010$ | -9.9376 | +9.2136 | +9.1620 |  |  |
| 190 | $+0.5343$ | +8.0045 | +8.5412 | $+8.7808$ | +1.0004 | -9.9378 | +9.2134 | +9.1614 |  |  |
| 191 | $+0.5409$ | $+8.0635$ | $+8.5463$ | +8.7868 | $+0.9998$ | $-9.9380$ | +9.0955 | $+9.2147$ | 1274 |  |
| 192 | +0.5235 | +7.8840 | +8.5320 | +8.7734 | +0.9990 | $-9.9383$ | $+9.3574$ | $+9.0488$ | 1275 | 349 |
| 193 | $+0.5340$ | +7.9991 | +8.5391 | +8.7812 | +0.9986 | -9.9384 | +9.2181 | +9.1563 |  |  |
| 194 | $+0.5611$ | +8.2071 | +8.5639 | $+8.8100$ | $+0.9955$ | -9.9394 | +7.8692 | +9.3365 | 1279 |  |
| 195 | $+0.5238$ | +7.9387 | +8.5303 | +8.7786 | +0.9938 | $-9.9399$ | +9.2931 | $+9.1001$ |  |  |
| 196 | $+0.5307$ | $+7.9594$ | +8.5311 | +8.7802 | +0.9932 | -9.9401 | $+9.2659$ | $+9.1193$ |  |  |
| 197 | $+0.5328$ | +7.9792 | +8.5323 | +8.7819 | +0.9929 | $-9.9402$ | +9.2373 | +9.1376 | 1281 |  |
| 198 | +0.5262 | +7.9073 | +8.5272 | +8.7771 | +0.9926 | $-9.9403$ | +9.3266 | $+9.0705$ |  |  |
| 199 | $+0.5296$ | +7.9491 | $+8.5295$ | $+8.7799$ | +0.9923 | $-9.9404$ | +9.2779 | $+9.1096$ |  |  |
| 200 | $+0.5276$ | +7.9244 | $+8.5245$ | $+8.7796$ | +0.9887 | -9.9415 | +9.3022 | $+9.0863$ |  |  |
| 201 | $+0.5345$ | $+7.9919$ | +8.5289 | $+8.7848$ | $+0.9880$ | -9.9417 | $+9.2074$ | +9.1489 |  |  |
| 202 | $+0.5494$ | +8.1165 | +8.5425 | +8.7986 | $+0.9879$ | $-9.9418$ | +8.8710 | $+9.2597$ | 1289 |  |
| 203 | +0.5270 | +7.9133 | +8.5223 | $+8.7795$ | +0.9870 | -9.9421 | $+9.3123$ | $+9.0759$ |  |  |
| 204 | $+0.5269$ | +7.9080 | +8.5192 | $+8.7803$ | +0.9840 | -9.9429 | +9.3040 | $+9.0707$ |  |  |
| 205 | +0.5279 | +7.9167 | +8.5178 | $+8.7815$ | +0.9820 | -9.9435 | +9.3012 | $+9.0787$ |  |  |
| 206 | +0.5270 | +7.9050 | $+8.5164$ | $+8.7811$ | +0.9813 | -9.9438 | +9.3133 | $+9.0677$ |  |  |
| 207 | $+0.5270$ | +7.9072 | +8.5163 | +8.7813 | $+0.9810$ | -9.9439 | +9.3106 | $+9.0697$ |  |  |
| 208 | $+0.5298$ | $+7.9268$ | +8.5133 | +8.7842 | +0.9765 | -9.9452 | +9.2804 | +9.0878 | 1302 | 358 |
| 209 | +0.5319 | +7.9474 | +8.5113 | +8.7869 | +0.9728 | -9.9462 | $+9.2463$ | +9.1067 |  |  |
| 210 | +0.5448 | +8.0597 | +8.5214 | +8.7979 | $+0.9721$ | $-9.9464$ | +9.0086 | +9.2082 | 1311 | 359 |
| 211 | $+0.5256$ | $+7.8699$ | $+8.5029$ | $+8.7832$ | $+0.9692$ | $-9.9472$ | $+9.3342$ | $+9.0339$ |  |  |
| 212 | +0.5478 | +8.0790 | +8.5205 | +8.8018 | +0.9684 | -9.9475 | +8.9248 | $+9.2246$ | 1316 |  |
| 213 | +0.5276 | +7.8911 | $+8.5019$ | +8.7852 | +0.9668 | $-9.9479$ | +9.3084 | +9.0538 |  |  |
| 214 | +0.5369 | +7.9855 | $+8.5087$ | +8.7923 | +0.9666 | -9.9479 | $+9.1706$ | +9.1411 |  |  |
| 215 | +0.5467 | +8.0652 | +8.5153 | +8.8016 | +0.9644 | $-9.9485$ | +8.9571 | +9.2121 | 1321 |  |
| 216 | +0.5486 | $+8.0790$ | +8.5167 | $+8.8036$ | $+0.9639$ | -9.9487 | +8.9015 | $+9.2240$ | 1324 |  |
| 217 | $+0.5282$ | $+7.8913$ | +8.4979 | +8.7866 | +0.9625 | $-9.9490$ | +9.3020 | $+9.0537$ |  |  |
| 218 | +0.5654 | +8.1911 | +8.5342 | +8.8230 | +0.9625 | -9.9490 | -8.2279 | $+9.3171$ | 1326 |  |
| 219 | +0.5309 | +7.9196 | +8.4993 | $+8.7887$ | +0.9620 | -9.9492 | +9.2662 | $+9.0801$ | 1328 | 362 |
| 220 | $+0.5270$ | +7.8777 | +8.5965 | +8.7861 | +0.9619 | -9.9432 | +9.3165 | +9.0408 |  |  |
| 221 | $+0.5334$ | +7.9454 | +8.5009 | +8.7907 | +0.9617 | -9.9492 | +9.2284 | +9.1040 | 1329 |  |
| 222 | +0.5263 | $+7.8687$ | +8.4952 | +8.7858 | +0.9611 | -0.9494 | $+9.3251$ | +9.0323 | 1330 |  |
| 223 | +0.5294 | +7.9004 | +8.4951 | $+8.7884$ | +0.9589 | $-9.9500$ | +9.2858 | +9.0620 | 1332 |  |
| 224 | $+0.52 .59$ | +7.8597 | +8.4915 | +8.7864 | $+0.9576$ | $-9.9503$ | $+9.3300$ | $+9.0236$ | 1335 |  |
| 225 | $+0.5467$ | +8.0553 | +8.5073 | +8.8034 | $+0.9567$ | -9.9505 | +8.9586 | $+9.2024$ | 1337 |  |
| 226 | $+0.5385$ | $+7.9876$ | +8.4998 | +8.7961 | $+0.9566$ | -9.9506 | $+9.1415$ | $+9.1421$ |  |  |
| 227 | $+0.5471$ | +8.0584 | +8.5075 | +8.8039 | $+0.9565$ | $-9.9506$ | $+8.9460$ | $+9.2051$ | 1338 |  |
| 223 | $+0.5362$ | +7.9690 | +8.4978 | $+8.7945$ | +0.9562 | $-9.9507$ | +9.1770 | +9.1252 |  |  |
| 229 | +0.5387 | $+7.9911$ | +8.4997 | $+8.7965$ | $+0.9561$ | $-9.9507$ | +9.1331 | +9.1452 |  |  |
| 230 | $+0.5340$ | +7.9475 | $+8.4955$ | $+8.7929$ | +0.9557 | $-9.9508$ | +9.2133 | $+9.1054$ |  |  |
| 231 | +0.5275 | $+7.8752$ | +8.4900 | $+8.7880$ | $+0.9551$ | -9.9509 | $+9.3099$ | $+9.0381$ |  |  |
| 232 | +0.5605 | $+8.1495$ | +8.5192 | +8.8189 | +0.9538 | $-9.9513$ | +8.0334 | +9.2819 | 1341 |  |
| 233 | +0.5461 | +8.0469 | +8.5034 | +8.8036 | +0.9534 | -9.9514 | +8.9736 | +9.1947 | 1342 |  |
| 234 | $+0.5267$ | +7.8625 | $+8.4875$ | +8.7879 | $+0.9532$ | -9.9514 | +9.3212 | $+9.0260$ | 1343 |  |
| 235 | +0.5292 | +7.8870 | +8.4869 | +8.7900 | +0.9511 | $-9.9520$ | $+9.2902$ | $+9.0490$ |  |  |
| 236 | $+0.5296$ | +7.8914 | +8.4870 | +8.7904 | $+0.9509$ | $-9.9520$ | +9.2845 | $+9.0530$ |  |  |
| 237 | +0.5367 | +7.9627 | +8.4922 | +8.7958 | $+0.9507$ | $-9.9521$ | +9.1761 | +9.1190 | 1346 | 364 |
| 238 | +0.5470 | +8.0531 | +8.5017 | +8.8054 | $+0.9505$ | -9.9521 | +8.9381 | +9.1997 |  |  |
| 239 240 | +0.5569 | +8.1214 | +8.5112 | $+8.8156$ | +0.9500 | -9.9522 | +8.4942 | +9.2580 +9.0978 | $1347$ | 365 |
| 240 | +0.5345 | +7.9398 | +8.4884 | +8.7946 | +0.9486 | $-9.9526$ | +9.2117 | +9.0978 | 1350 |  |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | $\begin{aligned} & \text { Secular } \\ & \text { Variation. } \end{aligned}$ | Proper | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 . \end{aligned}$ | Annual tion. | $\begin{aligned} & \text { Secular } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 241 | B.A.C. 1351 | $6 \frac{1}{2}$ | $\begin{array}{lll} \hline \mathrm{h} & \mathrm{~m} & { }^{8} \\ 4 & 14 & 52.74 \end{array}$ | 8 +3.421 | $+0.0099$ | s | +16 1630.9 | +8.88 | -0.447 | " |
| 242 | 62 Tauri | $7^{2}$ | 41457.46 | +3.607 | +0.0131 | $+0.004$ | +23 5649.7 | +8.86 | -0.471 | $-0.01$ |
| 243 | Weis. IV. 306 | 9 | 4153.66 | +3.377 | $+0.0092$ |  | +1418 55.2 | +8.87 | -0.442 |  |
| 244 | $\delta^{2}$ Tauri | 6 | 41527.15 | $+3.451$ | $+0.0101$ | $+0.011$ | +17 530.5 | $+8.83$ | $-0.450$ | 0.00 |
| 245 | Weis. IV. 320 | 8 | 41543.19 | $+3.379$ | $+0.0092$ |  | +142423.6 | +8.82 | $-0.443$ |  |
| 246 | Lal. 8249 | $7 \frac{1}{2}$ | 41544.48 | +3.431 | $+0.0100$ |  | +16 4343.1 | +8.81 | -0.449 |  |
| 247 | Lal. 8256 | 8 | 41550.68 | +3.427 | $+0.0099$ |  | +1632 4.2 | +8.81 | -0.449 |  |
| 248 | Rumk. 1180 | 7 | 4160.35 | +3.471 | $+0.0107$ |  | +1833 43.0 | +8.78 | -0.455 |  |
| 249 | B.A.C. 1361 | 6 | 41613.11 | +3.477 | $+0.0107$ |  | $+184134.6$ | $+8.77$ | -0.456 |  |
| 250 | $x^{1}$ Tauri | $5 \frac{1}{2}$ | 41625.87 | +3.559 | $+0.0120$ | $+0.004$ | +215646.1 | +8.71 | -0.466 | $-0.05$ |
| 251 | $x^{2}$ Tauri | $6 \frac{1}{2}$ | 41629.25 | +3.563 | +0.0119 | $+0.010$ | +21 5110.7 | +8.73 | -0.466 | -0.02 |
| 252 | $\delta^{3}$ Tauri | 5 | 41648.95 | $+3.464$ | +0.0102 | $+0.012$ | +1734 50.9 | +8.74 | -0.453 | $+0.01$ |
| 253 | 70 Tauri | 1 | 417 | $+3.416$ | $+0.0095$ | $+0.009$ | +153535.2 +29 | $+8.69$ | -0.448 | $-0.02$ |
| 254 | $\nu^{1}$ Taufi | 4 $\frac{1}{2}$ | 41720.28 | +3.579 | $+0.0121$ | +0.010 | +22 287.1 | +8.66 | -0.469 | -0.03 |
| 255 | Lal. 8311 | 8 | 41733.20 | $+3.395$ | $+0.0093$ |  | +151047.5 | +8.66 | -0.446 |  |
| 256 | Rumk. 1188 | $6 \frac{1}{2}$ | 41733.65 | +3.395 | $+0.0093$ |  | +15 1043.6 | $+8.66$ | -0.446 |  |
| 257 | Rumk. 1189 |  | 41747.65 | $+3.425$ | $+0.0098$ |  | +16 3031.1 | $+8.65$ | -0.451 |  |
| 258 | 71 'Tauri | 6 | 41748.19 | +3.410 | $+0.0093$ | $+0.010$ | +15 1622.5 | +8.61 | -0.447 | $-0.04$ |
| 259 | liumk. 1192 |  | 41754.48 | $+3.432$ | $+0.0099$ |  | +164834.5 | +8.64 | -0.452 |  |
| 260 | $\pi$ Tauri | 5 | 4188.11 | $+3.380$ | $+0.0090$ | 0.000 | +142211.5 | +8.59 | -0.445 | -0.03 |
| 261 | Rumk. 1195 |  | 41815.77 | +3.477 | $+0.0106$ |  | $+184644.5$ | $+8.61$ | -0.458 |  |
| 262 | $\nu^{2}$ Tauri | 6 | 41819.63 | +3.579 | $+0.0121$ | +0.004 | +22 3914.2 | +8.62 | -0.471 | +0.01 |
| 263 | Ruink. 1197 |  | 41824.65 | +3.457 | +0.0102 |  | +175151.0 | +8.60 | -0.456 |  |
| 264 | Rumk. 1198 | 6 | 4.1833 .49 | +3.396 | +0.0092 |  | +15 1042.4 | +8.59 | -0.448 |  |
| 265 | Rumk. 1200 |  | 419 | +3397 | +0.0092 |  | $+151454.3$ | +8.55 | -0.448 |  |
| 266 | B.A.C. 1373 | 7 | 4196.99 | +3.555 | $+0.0115$ | $+0.013$ | +21 1655.8 | +8.59 | $-0.467$ | $+0.04$ |
| 267 | Rumk. 1203 |  | 41946.27 | $+3.414$ | $+0.0094$ |  | +15 5743.4 | +8.49 | $-0.451$ |  |
| 263 | $\varepsilon$ Tauri | $3 \frac{1}{2}$ | 41951.79 | +3.494 | $+0.0105$ | $+0.010$ | +18 5035.0 | +8.47 | -0.460 | -0.02 |
| 269 | 75 Tauri | 6 | 41952.26 | +3.421 | +0.0094 | $+0.003$ | +16 16110.2 | +8.53 | -0.452 | +0.04 |
| 270 | 76 Tauri | 7 | 41953.89 | +3.394 | +0.0089 | +0.012 | +14 2468 | +8.42 | -0.447 | $-0.06$ |
| 271 | $\theta^{1}$ Tauri | 4 ${ }^{1}$ | 4200.55 | +3.413 | $+0.0093$ | +0.003 | +15 3728.5 | +8.47 | $-0.451$ | -0.01 |
| 272 | $\theta^{2}$ Tauri | $4 \frac{1}{2}$ | 4206.18 | +3.420 | $+0.0093$ | +0.012 | +15 320.0 | +8.46 | -0.451 | $-0.01$ |
| 273 | Weis. IV. 428 | 8 | 42018.98 | +3.384 | +0.0089 |  | +142853.6 | +8.45 | -0.448 |  |
| 274 | liumk. 1210 |  | 42024.83 | +3.411 | $+0.0093$ |  | $+154923.9$ | +8.44 | -0.451 |  |
| 275 | Rumk. 1212 | 6 | 42041.08 | +3.443 | $+0.0098$ |  | $+171236.7$ | +8.42 | -0.456 |  |
| 276 | Rumk 1214 |  | 42049.64 | $+3.451$ | $+0.0099$ |  | +173140.8 | +8.41 | -0.457 |  |
| 277 | Ramk. 1215 | 7 | 42050.95 | +3.452 | $+0.0099$ |  | +173331.3 | +8.41 | -0.457 |  |
| 278 | B.A.C. 1388 | 7 | 42130.36 | $+3.506$ | $+0.0105$ | $+0.005$ | $+193030.8$ | +8.29 | -0.464 | $-0.07$ |
| 279 | 80 Tauri | 6 | 42135.76 | +3.411 | $+0.0091$ | +0.008 | +15 1819.3 | +8.32 | -0.451 | -0.03 |
| 280 | B.A.C. 1391 | 5 | 42158.61 | $+3.427$ | +0.0092 | +0.011 | +15 5146.6 | +8.31 | -0.453 | $-0.01$ |
| 281 | 81 Tauri | $5 \frac{1}{2}$ | 4225.94 | $+3.418$ | $+0.0091$ | $+0.013$ | +15 2140.6 | +8.28 | -0.452 | $-0.03$ |
| 282 | 83 Tauri | 6 | 42210.95 | +3.370 | +0.0084 | +0.010 | +1323 38.1 | +8.28 | -0.446 |  |
| 283 | B.A.C. 1394 | 7 | 42212.23 | +3.424 | $+0.0092$ | +0.008 | +154921.9 | +8.42 | -0.454 | $+0.12$ |
| 234 | W4 Tauri ${ }^{\text {Weis. IV. } 476}$ | 7 | 4.2236 .69 4.224226 | +3.397 +3.383 | +0.0088 +0.0087 | +0.005 | +144632.4 +142136.6 | +8.18 +8.26 | -0.451 -0.450 | -0.09 |
| 285 | Weis. IV. 476 | 9 | 42242.26 | +3.383 | +0.0087 |  | +142136.6 | +8.26 |  |  |
| 286 | Rumk. 1227 | 7 | 42248.42 | +3.405 | $+0.0090$ |  | +15 2913.9 | +8.25 | -0.453 |  |
| 287 | Weis. IV. 488 | 91 | 42316.52 | +3.383 | +0.0086 |  | +1420 7.1 | +8.22 | -0.450 |  |
| 288 | 85 Tauri | 6 | 42317.91 | +3.416 | +0.0090 | +0.007 | +15 3129.8 | +8.15 | -0.454 | -0.06 |
| 290 | Rumk. 1233 |  | 4 <br> 4 | +3.454 +3.453 | +0.0092 +0.0096 |  | +16 <br> +17 <br> +17 | +8.14 | -0.460 |  |
| 291 | Rumk. 1234 |  | 42415.28 | +3.489 | $+0.0101$ |  | +19 19135.7 | +8.13 | -0.465 |  |
| 292 | Rumk. 1235 |  | 42415.38 | +3.411 | $+0.0090$ |  | +15 4057.2 | +8.13 | -0.455 |  |
| 293 | B.A.C. 1406 | 7 | $425 \quad 3.38$ | +3.424 | $+0.0090$ | +0.002 | +16 6010.7 | +8.04 | -0.457 | $-0.03$ |
| 294 | O Tanri | 5 | 42520.42 | +3.402 | +0.0085 | $+0.014$ | +14 3127.1 | +8.02 | -0.453 -0.453 | -0.03 |
| 295 | Lal. 8587 | 9 | 42526.59 | +3.393 | $+0.0086$ |  | +144540.8 | +8.02 | -0.453 |  |
| 296 | Weis. IV. 533 | 9 | 42527.15 | $+3.396$ | $+0.0086$ |  | +145039.2 | +8.04 | -0.454 |  |
| 297 | Weis. IV. 541 | 9 | 42548.82 | +3.391 | +0.0085 |  | +14 3920.9 | +8.02 | -0.453 |  |
| 298 | Rumk. 1238 | 10 | 42552.40 | +3.423 | $+0.0090$ |  | +161130.9 | +8.00 | -0.458 |  |
| 299 | Lal. 8599 | 9 | $426 \quad 1.42$ | +3.456 | $+0.0094$ |  | +17261.8 | +8.00 | -0.462 |  |
| 300 | Weis. IV. 549 | $8 \frac{1}{2}$ | $426 \quad 2.98$ | +3.404 | $+0.0088$ |  | +151112.8 | +8.00 | $-0.455$ |  |


| No. | LOGARITHMS OF |  |  |  |  |  |  |  | $\begin{gathered} \text { No. } \\ \text { B.A.C. } \end{gathered}$ | T. N N.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 241 | +0.5341 | +7.9354 | +8.4878 | +8.7943 | $+0.9484$ | -9.9526 | $+9.2183$ | +9.0937 | 1351 |  |
| 242 | +0.5567 | +8.1173 | +8.5089 | +8.8157 | +0.9481 | $-9.9527$ | +8.5132 | +9.2543 | 1353 |  |
| 243 | +0.5285 | + 7.8762 | +8.4831 | +8.7904 | +0.9477 | -9.9528 | +9.2981 | +9.0386 |  |  |
| 244 | +0.5365 | +7.9557 | +8.4875 | $+8.7967$ | $+0.9462$ | $-9.9532$ | +9.1787 | +9.1122 | 1356 | 366 |
| 245 | +0.5238 | $+7.8766$ | +8.4807 | +8.7912 | +0.9451 | -9.9534 | +9.2940 | $+9.0388$ |  |  |
| 246 | +0.5354 | $+7.9447$ | +8.4855 | $+8.7961$ | +0.9451 | $-9.9534$ | $+9.1959$ | $+9.1020$ |  |  |
| 247 | $+0.5349$ | $+7.9389$ | +8.4847 | +8.7958 | +0.9447 | $-9.9535$ | +9.2049 | +9.0067 |  |  |
| 248 | $+0.5405$ | +7.9918 | +8.4889 | +8.8008 | +0.9440 | $-9.9537$ | +9.0978 | +9.1447 |  |  |
| 249 | +0.5413 | +7.9943 | +8.4884 | $+8.8013$ | +0.9432 | -9.9539 | +9.0896 | +9.1468 | 1361 |  |
| 250 | +0.5509 | +8,0693 | +8.4967 | $+8.8106$ | +0.9424 | $-0.9541$ | +8.8215 | +9.2127 | 1362 |  |
| 251 | $+0.5506$ | +8.0671 | +8.4962 | +8.8104 | +0.9422 | -9.9541 | +8.8319 | +9.2108 | 1363 |  |
| 252 | $+0.5381$ | +7.9634 | +8.4833 | +8.7991 | +0.9409 | -9.9544 | +9.1514 | +9.1187 | 1365 | 369 |
| 253 | +0.5323 | +7.9073 | +8.4779 | +8.7948 | +0.9399 | -0.9546 | $+9.2453$ | $+9.0671$ | 1366 |  |
| 254 | +0.5526 | +8.0771 | +8.4948 | +8.8131 | +0.9388 | $-9.9549$ | +8.7521 | +9.2189 | 1367 | 370 |
| 255 | +0.5308 | +7.8931 | +8.4751 | +8.7944 | +0.9380 | -9.9551 | $+9.2617$ | $+9.0538$ |  |  |
| 256 | +0.5308 | +7.8931 | +8.4751 | +8.7944 | $+0.9380$ | $-9.9551$ | $+9.2617$ | $+9.0538$ |  |  |
| 257 | +0.5347 | +7.9306 | +8.4770 | +8.7975 | +0.9370 | $-9.9553$ | +9.2033 | +9.0884 |  |  |
| 258 | $+0.5315$ | +7.8949 | +8.4743 | +8.7948 | $+0.9370$ | $-9.9553$ | +9.2577 | $+9.0554$ | 1369 | 371 |
| 259 | $+0.5356$ | +7.9384 | +8.4772 | +8.7983 | $+0.9366$ | -9.9554 | +9.1887 | +9.0955 |  |  |
| 260 | $+0.5239$ | $+7.8659$ | +8.4712 | +8.7933 | $+0.9357$ | -9.9556 | +9.2j29 | +9.0282 | 1370 |  |
| 261 | $+0.5412$ | $+7.9884$ | $+8.4806$ | $+8.8034$ | +0.9351 | $-9.9557$ | +9.0796 | +9.1407 |  |  |
| 262 | +0.5532 | +8.0771 | +8.4915 | +8.8146 | +0.9349 | -9.9558 | +8.7210 | $+9.2183$ | 1371 |  |
| 263 | +0.5387 | +7.9645 | +8.4777 | +8.8012 | +0.9346 | -9.9559 | +9.1332 | $+9.1191$ |  |  |
| 264 | +0.5310 | +7.8891 | +8.4711 | +8.7953 | +0.9340 | -9.9560 | $+9.2606$ | +9.0498 |  |  |
| 265 | +0.5311 | +7.8892 | +8.4693 | +8.7959 | +0.9320 | -9.9564 | +9.2571 | +9.0497 |  |  |
| 266 | $+0.5432$ | +8.0440 | +8.4841 | $+8.8111$ | $+0.9317$ | $-9.9565$ | +8.8808 | +9.1894 | 1373 |  |
| 267 | +0.5333 | +7.9072 | +8.4679 | +8.7981 | +0.9291 | -9.9571 | +9.2255 | +9.0662 |  |  |
| 268 | +0.5421 | +7.9835 | +8.4743 | +8.8050 | $+0.1288$ | -9.9572 | +9.0723 | +9.1357 | 1376 | 373 |
| 263 | +0.5338 | +7.9085 | +8.4676 | +8.7983 | +0.5287 | -9.9572 | +9.2227 | $+9.0674$ | 1377 | 374 |
| 270 | +0.52.91 | $+7.8599$ | +8.4641 | +8.7950 | +0.9286 | -9.9572 | +9.2898 | $+9.0221$ | 1378 |  |
| 271 | $+0.5327$ | $+7.8965$ | +8.4662 | $+8.7976$ | +0.9281 | $-9.9573$ | +9.2401 | +9.0562 | 1380 | 375 |
| 272 | +0.5324 | +7.8934 | +8.4656 | +8.7974 | +0.9278 | -9.9574 | +9.2438 | $+9.0534$ | 1381 | 378 |
| 273 | +0.5294 | +7.8607 | +8.4626 | +8.7955 | +0.9270 | $-9.9575$ | $+9.2864$ | +9.0227 |  |  |
| 274 | +0.5329 | $+7.9006$ | +8.4649 | +8.7983 | $+0.9265$ | -9.9576 | +9.2309 | +9.0599 |  |  |
| 275 | +0.536. | +7.9381 | +8.4670 | +8.8017 | +0,9254 | -9.9579 | +9.1643 | +9.0943 |  |  |
| 276 | +0.5379 | +7.9459 | $+8.4671$ | +8.8026 | +0.9248 | $-9.9580$ | $+9.1473$ | +9.1014 |  |  |
| 277 | +0.5381 | +7.9467 | +8.4671 | $+8.8027$ | +0.9247 | $-9.9586$ | +9.1456 | +9.1020 |  |  |
| 278 | +0.5442 | +7.9931 | +8.4694 | +8.8082 | +0.9220 | -9.9586 | +9.0228 | $+9.1435$ | 1388 |  |
| 279 | +0.5319 | +7.8805 | +8.4590 | +8.7983 | +0.9216 | -9.9587 | +9.2519 | +9.0409 | 1390 | 379 |
| 230 | +0.5336 | +7.8953 | +8.4586 | $+8.7998$ | +0.9200 | -9.9590 | +9.2271 | +9.0545 | 1391 | 380 |
| 231 | +0.5321 | +7.8801 | $+8.4570$ | $+8.7988$ | $+0.9195$ | -9.9591 | $+9.2490$ | $+9.0404$ | 1392 | 381 |
| 282 | +0.5264 | +7.8177 | +8.4529 | +8.7951 | +0.9192 | -9.9592 | +9.3249 | +8.9818 | 1393 |  |
| 283 | +0.5335 | +7.8932 | +8.4576 | +8.7999 | +0.9191 | $-9.9592$ | +9.2287 | +9.0525 | 1394 |  |
| 234 | +0.5305 | +7.8603 | +8.4537 | +8.7981 | +0.9174 | -9.9596 | +9.2723 | +9.0218 | 1395 |  |
| 285 | +0.5243 | +7.8470 | +8.4525 | +8.7973 | $+0.9170$ | -9.9596 | +9.2886 | +9.0093 |  |  |
| 286 | +0.5321 | +7.8809 | +8.4543 | +8.7997 | +0.9166 | -9.9597 | +9.2426 | $+9.0409$ |  |  |
| 237 | $+0.5293$ | +7.8442 | $+8.4500$ | +8.7978 | $+0.9146$ | -9.9601 | $+9.2885$ | $+9.0065$ |  |  |
| 288 | +0.5327 | +7.8799 | +8.4523 | +8.8002 | +0.9145 | $-9.9601$ | +9.2403 | $+9.0399$ | 1402 | 383 |
| 283 | +0.5345 | +7.8994 | +8.4519 | +8.8022 | +0.9125 | -9.9605 | +9.2059 | $+9.0578$ |  |  |
| 290 | $+0.5332$ | +7.9329 | +8.4539 | +8.8053 | +0.9115 | -9.9607 | +9.1414 | $+9.0883$ |  |  |
| 291 | $+0.5427$ | +7.9698 | +8.4565 | $+8.8093$ | +0.9104 | -9.9609 | $+9.0502$ | +9.1215 |  |  |
| 292 | $+0.5329$ | $+7.8805$ | +8.4486 | +8.8013 | +0.9104 | -9.9610 | $+9.2323$ | +9.0401 |  |  |
| 233 | +0.5342 | $+7.8863$ | +8.4459 | +8.8027 | +0.9070 | -9.9616 | $+9.2170$ | +9.0452 | 1406 |  |
| 294 | +0.5299 | $+7.8409$ | +8.4416 | +8.7939 | +0.9058 | -9.9619 | $+9.2797$ | +9.0029 | 1409 | 388 |
| 295 | $+0.5306$ | $+7.8478$ | +8.4416 | +8.8004 | $+0.9053$ | -9.9619 | +9.2700 | $+9.0093$ |  |  |
| 296 | +0.5310 | +7.8503 +78809 | +8.4417 | +8.8006 | +0.9053 | -9.9619 | $+9.2666$ | $+9.0116$ |  |  |
| 297 | $+0.5303$ | +7.8429 | +8.4398 | +8.8005 | +0.9037 | -9.9622 | $+9.2740$ | $+9.0046$ |  |  |
| 298 | $+0.5344$ | +7.8881 | +8.4427 | +8.8038 | +0.9035 | -9.9623 | +9.2070 | $+9.0466$ |  |  |
| 299 | +0.5386 | +7.9215 | +8.4449 | +8.8068 | +09028 | -9.9624 | +9.1438 | $+9.0771$ |  |  |
| 300 | +0.5320 | $+7.8681$ | +8.4398 | +8.8018 | $+0.9027$ | -9.3624 | +0.2517 | +9.0187 |  |  |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | $\begin{array}{\|c\|} \text { Secular } \\ \text { Variation. } \end{array}$ | Proper <br> Motion | $\begin{gathered} \text { Mean } \\ \text { Declination } \\ \text { 1850.0. } \end{gathered}$ | Annual Varia tion. | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 301 | Lal. 8610 | 8 | $\begin{array}{lll} \mathrm{h} & \mathrm{~m} & 8 \\ 4 & 26 & 21^{8} .20 \end{array}$ | +3.438 | $+0.0092$ | ${ }^{8}$ | $+16{ }^{\circ} 411^{\prime \prime} 1.1$ | +7.96 | $-0.460$ | " |
| 302 | Lal. 8613 | 8 | 42624.22 | +3.443 | +0.0092 |  | +1653 9.4 | +7.96 | $-0.461$ |  |
| 303 | B.A.C. 1417 | 7 | 42655.25 | $+3.501$ | $+0.0101$ | -0.006 | +19340.7 | +7.88 | -0.470 | -0.04 |
| 304 | $\alpha$ 'Thuri | 1 | 42719.09 | $+3.436$ | +0.0089 | +0.008 | $+161211.0$ | +7.74 | -0.460 | $-0.15$ |
| 305 | Weis. IV. 613 | 8 | 42815.05 | $+3.400$ | $+0.0084$ |  | $+14575.0$ | +7.80 | $-0.457$ |  |
| 306 | Lal. 8677 | 8 | 42822.99 | $+3.400$ | $+0.0084$ |  | +145712.2 | $+7.80$ | $-0.45 \%$ |  |
| 307 | Lal. 8678 | 8 | 42330.84 | $+3.476$ | +0.0095 |  | +1814 42 | +7.79 | $-0.467$ |  |
| 308 | Weis. IV. 629 | 8 | $429 \quad 0.00$ | +3.398 | +0.0083 |  | +145020.2 | $+7.75$ | -0.457 |  |
| 309 | 89 Tauri | - | 42934.71 | +3.430 | $+0.0086$ | $+0.012$ | +15 4340.9 | $+7.71$ | $-0.469$ | 0.00 |
| 310 | Weis. IV. 641 | 9 | 42947.37 | +3.467 | $+0.0084$ |  | +15 1238.8 | $+7.69$ | -0.459 |  |
| 311 | Lal. 8714 | 9 | 42947.18 | +3.482 | $+0.0095$ |  | +182544.0 | $+7.69$ | -0.469 |  |
| 312 | ${ }^{1}{ }^{1}$ Tauri | $5 \frac{1}{2}$ | 43035.68 | +3.420 | $+0.0084$ | $+0.006$ | +15 2956.6 | $+7.55$ | $-0.460$ | $-0.08$ |
| 313 | $\pi^{2}$ Tauri | $5 \frac{1}{2}$ | 43042.03 | +3.426 | $+0.0084$ | +0.010 | +15 3656.7 | $+7.61$ | -0.461 | -0.01 |
| 314 | Rumk. 1241 |  | 43117.60 | +3.428 | $+0.0086$ |  | +161319.3 | $+7.57$ | -0.463 |  |
| 315 | $c^{2}$ Tauri | $5 \frac{1}{2}$ | 43142.69 | +3.336 | $+0.0073$ | +0.004 | +115358.8 | $+7.57$ | -0.450 | +0.03 |
| 316 | Rumk. 1243 | 8 | 43148.50 | +3.428 | $+0.0086$ |  | +16 1259.1 | $+7.53$ | $-0.463$ |  |
| 317 | B.A.C. 1444 | 6 | 43156.83 | +3.746 | +0.0131 | +0.007 | +28 199.7 | +7.48 | $-0.506$ | -0.04 |
| 318 | Rumk. 1246 | 7 | 43253.39 | +3.449 | $+0.0087$ |  | $+1773.5$ | $+7.43$ | $-0.467$ |  |
| 319 | Rumk. 1247 |  | 43254.46 | +3.433 | +0.0085 |  | +1624 43.2 | +7.43 | $-0.465$ |  |
| 320 | Rumk. 1251 |  | 43313.10 | +3.484 | 40.0092 |  | +1832 23.1 | +7.41 | $-0.472$ |  |
| 321 | $\tau$ Tauri | $4 \frac{1}{2}$ | 43314.84 | +3.592 | $+0.0106$ | $+0.003$ | +22 3951.7 | +7.41 | $-0.486$ | 0.00 |
| 322 | Rumk. 1254 |  | 43332.52 | +3.433 | +0.0085 |  | +162322.5 | +7.39 | $-0.465$ |  |
| 323 | Rumk. 1255 |  | 43335.67 | +3.416 | $+0.0082$ |  | +154042.7 | +7.38 | -0.463 |  |
| 324 | Rumk. 1256 | ${ }^{7}{ }^{\frac{1}{2}}$ | 43335.88 | +3.379 | $+0.0078$ |  | +1423.0 | +7.38 | -0.458 |  |
| 325 | Rumk. 1258 | 6 | 4346.28 | +3482 | $+0.0091$ |  | +1826 0.0 | +7.34 | -0.473 |  |
| 326 | Lal. 8852 | $9 \frac{1}{2}$ | 43419.17 | +3.452 | $+0.0086$ |  | +17 1723.7 | $+7.32$ | $-0.469$ |  |
| 327 | Lal. 8856 | $8 \frac{1}{2}$ | 43426.93 | +3.409 | $+0.0080$ |  | +15 1151.9 | +7.31 | $-0.463$ |  |
| 328 | Rumk. 1263 | $9 \frac{1}{2}$ | 43550.90 | +3.420 | +0.0082 |  | +154627.7 | +7.20 | -0.463 |  |
| 329 | Rumk. 1265 | 6 | 43614.62 | +3.387 | $+0.0076$ |  | +142035.5 | +7.17 | $-0.462$ |  |
| 330 | Lal. 8914 | 8 | 43648.25 | +3.502 | $+0.0090$ |  | +19 251.2 | $+7.12$ | $-0.477$ |  |
| 331 | Lal. 8927 | $8 \frac{1}{2}$ | 43710.04 | +3.499 | $+0.0089$ |  | +185358.4 | $+7.09$ | $-0.477$ |  |
| 332 | Rumk. 1268 | $8 \frac{1}{2}$ | 43716.67 | +3.418 | $+0.0079$ |  | +1539 4.0 | +7.08 | -0.466 |  |
| 333 | Rumk. 1269 | $6 \frac{1}{2}$ | 43720.31 | +3.486 | +0.0088 |  | +183116.1 | +7.08 | -0.476 |  |
| 334 | Lal. 8933 | 9 | 43720.46 | +3.497 | +0.0089 |  | +185120.4 | $+7.08$ | -0.477 |  |
| 335 | B.A.C. 1468 | 6 | 43731.41 | +3.491 | $+0.0088$ | $+0.003$ | +182730.8 | $+6.96$ | -0.476 | -0.10 |
| 336 | Rumk. 1274 |  | 43756.47 | +3.408 | $+0.0077$ |  | +15 1142.7 | $+7.02$ | $-0.445$ |  |
| 337 | Lal. 8950 | $8 \frac{1}{2}$ | 4384.18 | +3.390 | $+0.6075$ |  | +141910.0 | +7.62 | -0.463 |  |
| 338 | Rumk. 1275 |  | 43812.98 | +3.404 | $+0.0077$ |  | +15 128.5 | +7.C2 | -0.465 |  |
| 339 | Rumk. 1276 |  | 43823.30 | $+3.480$ | $+0.0086$ |  | +181245.7 | $+6.98$ | -0.465 |  |
| 340 | Rumk. 1278 |  | 43911.07 | +3.402 | $+0.0076$ |  | +145456.9 | $+6.93$ | $-0.466$ |  |
| 341 | B.A.C. 1478 | $7 \frac{1}{2}$ | 43955.41 | +3.503 | $+0.0085$ | $+0.013$ | +18 2717.9 | $+6.47$ | $-0.478$ | $-0.40$ |
| 342 | liumk. 1283 | $7^{2}$ | $440 \cdot 2.75$ | +3.437 | $+0.0079$ |  | +1622 3.1 | +6.86 | -0.471 |  |
| 343 | Rumk. 1285 | 7 | 44024.87 | +3.418 | $+0.0076$ |  | +153541.2 | +6.83 | -0.469 |  |
| 344 | Rumk. 1286 | $7 \frac{1}{2}$ | 44056.41 | +3.419 | $+0.0076$ |  | +15 3723.0 | +6.77 | -0.469 |  |
| 345 | 96 Tauri | 6 | 441 - 9.47 | +3.426 | $+0.0076$ | $+0.003$ | +153815.7 | +6.68 | -0.470 | -0.08 |
| 346 | Ruık. 1239 |  | 44123.64 | +3.412 | $+0.0075$ |  | +15 1557.7 | $+6.73$ | $-0.469$ |  |
| 347 | liumk. 1294 |  | 44211.61 | +3.428 | $+0.0076$ |  | +15 5652.0 | +6.67 | -0.471 |  |
| 348 | $i$ Tauri | $5 \frac{1}{2}$ | 44236.20 | +3.502 | $+0.0083$ | $+0.007$ | +1834 46.5 | +6.61 | -0.481 | -0.04 |
| 349 | Rumk. 1297 | 7 | 44249.37 | +3.410 | $+0.0073$ |  | +15 1022.4 | +6.62 | -0.469 |  |
| 350 | Rumk. 1298 | 71 | 44251.55 | +3.420 | $+0.0074$ |  | +153713.7 | +6.61 | -0.471 |  |
| 351 | Rumk. 1299 | $7 \frac{1}{2}$ | $443 \quad 9.72$ | +3.464 | $+0.0079$ |  | +1725 53.5 | +6.59 | -0.477 |  |
| 352 | Rumk. 1300 |  | 44315.42 | +3.462 | +0.0079 |  | +172244.0 | +6.58 | -0.477 |  |
| 353 | Rumk. 1301 | 6 | 44317.03 | +3.492 | +0.0082 |  | +1834 45.5 | +6.58 | -0.481 |  |
| 354 | lumk. 1302 | 7 | 44318.41 | +3.490 | +0.0082 |  | +182923.5 | +6.58 | -0.481 |  |
| 355 | B. A.C. 1518 | 6 | $447 \quad 7.72$ | +3.645 | +0.0097 |  | +24 2044.9 | +6.27 | $-0.505$ |  |
| 356 | B.A.C. 1526 | 6 | 44842.71 | +3.462 | $+0.0072$ | $+0.004$ | +165450.3 | $+6.13$ | $-0.480$ | -0.01 |
| 357 | 99 Tauri | $6 \frac{1}{2}$ | 44842.93 | +3.634 | +0.0092 | +0.004 | +23 4234.3 | +6.11 | $-0.514$ | $-0.03$ |
| 358 | $k$ Tauri | $5 \frac{1}{2}$ | 44858.90 | +3.663 | $+0.0096$ | $+0.004$ | +24 4849.2 | +6.03 | -0.508 | $-0.09$ |
| 359 | B.A.C. 1537 | -6 ${ }_{5}$ | 4 50 23.62 <br> 4 54 8.02 | +3.390 +3.581 | +0.0064 +0.0080 | -0.006 +0.009 | +141832.8 +212214.1 | +5.96 +5.65 | -0.473 -0.500 | $=0.03$ -0.04 |


| No. | LOGARITHMS OF |  |  |  |  |  |  |  | B.A.C. | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | $c$ | $d$ | $a^{\prime}$ | 6 | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 301 | $+0.5363$ | +7.9008 | +8.4417 | $+8.8053$ | $+0.9014$ | $-9.9627$ | $+9.1825$ | $+9.0572$ |  |  |
| 302 | $+0.5369$ | +7.9051 | +8.4420 | +8.8058 | +0.9012 | $-9.4627$ | +9.1722 | $+9.0620$ |  |  |
| 303 | +0.5450 | +7.9713 | +8.4464 | +8.8129 | +0.8989 | $-9.9632$ | $+9.0052$ | $+9.1216$ | 1417 |  |
| 304 | +0.5350 | +7.88\%1 | +8.4364 | $+8.8050$ | +0.8971 | -9.9635 | +9.2047 | +9.04\%6 | 1420 | 392 |
| 305 | +0.5315 | +7.8412 | +8.4236 | +8.8031 | $+0.8930$ | -9.9642 | +9.2592 | $+9.0024$ |  |  |
| 306 | $+0.5315$ | +7.8407 | +8.4290 | $+8.8032$ | $+0.8924$ | $-9.9643$ | $+9.2590$ | $+9.0018$ |  |  |
| 307 | $+0.5411$ | +7.9313 | +8.4359 | $+8.8107$ | $+0.8918$ | -9.9644 | $+9.0929$ | +9.0850 |  |  |
| 308 | +0.5312 | +7.8344 | +8.4269 | $+8.8035$ | $+0.8896$ | $-9.9648$ | +9.2631 | +8.9958 |  |  |
| 309 | +0.5338 | +7.8583 | +8.4252 | $+8.8058$ | $+0.8870$ | $-9.9653$ | +9.2240 | +9.0178 | 1432 |  |
| 310 | +0.5324 | +7.8421 | +8.4232 | +8.8049 | +0.8860 | $-9.9654$ | +9.2ะ66 | $+9.0027$ |  |  |
| 311 | $+0.5418$ | $+7.9305$ | +8.4306 | $+8.8122$ | $+0.8860$ | $-9.9654$ | +9.0782 | $+9.0837$ |  |  |
| 312 | +0.5332 | +7.8470 | +8.4201 | +8.8061 | $+0.8823$ | -9.9661 | $+9.2330$ | +9.0070 | 1436 |  |
| 313 | +0.5336 | +7.8499 | +8.4199 | +8.8064 | +0.8818 | -9.9662 | +9.2276 | +9.0097 | 1437 |  |
| 314 | +0.5350 | +7.8646 | +8.4184 | +8.8082 | +0.8791 | -9.9666 | +9.1986 | +9.6230 |  |  |
| 315 | +0.5227 | +7.7226 | +8.4083 | +8.8003 | +0.8772 | -9.9669 | $+9.3683$ | +8.8892 | 1442 | 396 |
| 316 | $+0.5350$ | +7.8620 | $+8.4160$ | +8.8086 | $+0.8767$ | -9.9670 | $+9.1982$ | $+9.6205$ |  |  |
| 317 | +0.5727 | +8.12!2 | +8.4531 | +8.8464 | $+0.8761$ | $-9.6671$ | -8.7619 | $+9.2500$ | 1444 | 398 |
| 318 | +0.5377 | +7.8818 | +8.4130 | +8.8114 | +0.8716 | $-9.5678$ | +9.15c4 | +9.0382 |  |  |
| 319 | +0.5357 | +7.8634 | +8.4113 | +8.8098 | +0.8715 | -9.6679 | +9.1871 | +9.0204 |  |  |
| 320 | +0.5421 | +7.91г2 | +8.4149 | +8.8152 | $+0.8700$ | -9.9681 | +9.0644 | +9.0701 |  |  |
| 321 | $+0.5550$ | +8.0123 | $+8.4265$ | +8.8269 | $+0.8699$ | $-0.6681$ | +8.6274 | $+9.1535$ | 1449 | 400 |
| 322 | +0.5357 | +7.8587 | +8.4082 | +8.8103 | +0.8685 | -9.. 683 | +9.2040 | +9.6168 |  |  |
| 323 | +0.5335 | +7.8382 | +8.4064 | +8.8088 | +0.6682 | -9.5684 | $+9.2215$ | $+8.9078$ |  |  |
| 324 | +0.5238 | +7.7878 | +8.4031 | +8.8055 | +0.8682 | -9.664 | +9.2912 | +8.95( 7 |  |  |
| 325 | +0.5418 | $+7.9103$ | +8.4104 | +8.8155 | +0.6658 | -9.668' | +9.698 | $+9.635$ |  |  |
| 326 | +0.5381 | $+7.8724$ | +8.4059 | +8.8123 | +0.8647 | $-9.9689$ | +9.1535 | $+9.6290$ |  |  |
| 327 | +0.5326 | +7.8198 | +8.4013 | +8.8084 | +0.e641 | $-9.9690$ | +9.2422 | +8.9805 |  |  |
| 328 | +0.5340 | +7.8300 | +8.3157 | $+8.8106$ | +0.8573 | -9.9700 | +9.2129 | +8.9894 |  |  |
| 32. | +0.52.98 | +7.7848 | +8.3008 | +8.8080 | $+0.8553$ | -9.9703 | $+9.2766$ | +8.9471 |  |  |
| 330 | +0.5442 | +7.9121 | +8.3987 | +8.8191 | $+0.8526$ | -9.9707 | $+9.0216$ | $+9.0640$ |  |  |
| 331 | +0.5439 | +7.9069 | $+8.3965$ | $+8.8190$ | +0.8507 | $-9.9710$ | $+9.0317$ | +9.0589 |  |  |
| 332 | +0.5338 | +7.8193 | $+8.3883$ | +8.8114 | +0.8502 | -9.9711 | $+9.2187$ | +8.9790 |  |  |
| 333 | +0.5423 | $+7.8966$ | +8.3047 | +8.8181 | +0.8499 | $-9.5711$ | +9.0579 | +9.C4C6 |  |  |
| 334 | +0.5437 | +7.9050 | +8.3955 | $+8.8190$ | +0.8499 | -9.9711 | $+9.0345$ | $+9.0571$ |  |  |
| 335 | +0.5426 | +7.8941 | +8.3936 | $+8.8181$ | +0.8490 | -9.9713 | +9.6618 | $+9.6473$ | 1468 |  |
| 336 | +0.5325 | $+7.8025$ | $+8.3840$ | $+8.8109$ | +0.8468 | $-9.9715$ | $+0.2387$ | $+8.5631$ |  |  |
| 337 | +0.5302 | $+7.7749$ | +8.3816 | +8.8093 | +0.8462 | -9.9716 | $+9.2759$ | +8.9372 |  |  |
| 338 | +0.5320 | +7.7959 | +8.3823 | $+8.8108$ | + 0.8455 | -9.9717 | $+9.2460$ | $+8.9569$ |  |  |
| 33:) | $+0.5416$ | +7.8835 | +8.3886 | +8.8181 | +0.8446 | -0.9719 | $+9.6765$ | +9.0373 |  |  |
| 340 | +0.5317 | +7.7876 | +8.3771 | +8.8112 | $+0.8405$ | -9.9724 | $+9.2458$ | +8.9489 |  |  |
| 341 | $+0.5428$ | $+7.8818$ | +8.3813 | +8.8198 | $+0.8367$ | -0.9729 | + 0.0577 | $+9.0349$ | 1478 |  |
| 342 | $+0.5362$ | +7.8256 | +8.3757 | +8.8149 | $+0.8360$ | -9.9730 | +9.1805 | +8.9837 |  |  |
| 343 | +0.5338 | +7.8016 | +8.3721 | +8.8135 | +0.8341 | -9.9733 | +9.2180 | +8.614 |  |  |
| 344 | +0.5339 | +7.7996 | +8.3694 | +8.8139 | +0.8314 | -9.9736 | $+9.2161$ | +8.9594 |  | 403 |
| 345 | +0.5344 | +7.7989 | +8.3683 | +8.8141 | +0.8302 | -9.9738 | +9.2154 | +8.9586 | 1485 | 404 |
| 346 | $+0.5330$ | $+7.7867$ | +8.3662 | $+8.8135$ | +0.8289 | -9.9739 | $+9.2421$ | +8.9472 |  |  |
| 347 | $+0.5350$ | +7.8024 | +8.3634 | +8.8154 | $+0.8247$ | -9.9745 | $+9.1991$ | +8.9614 |  |  |
| 348 | +0.5434 | +7.8707 | +8.3674 | +8.8219 | $+0.8225$ | $-9.9748$ | +9.0442 | $+9.0235$ | 1493 | 405 |
| 349 | +0.5328 | +7.7762 | +8.3584 | $+8.8142$ | +0.8213 | -9.9749 | +9.2350 | $+8.9369$ |  |  |
| 350 | +0.5340 | +7.7893 | +8.3591 | $+8.8152$ | +0.8211 | -9.9749 | +9.2142 | +8.9491 |  |  |
| 331 | $+0.5396$ | +7.8381 | +8.3616 | +8.8195 | $+0.8105$ | $-9.9751$ | $+9.1177$ | $+8.9937$ |  |  |
| 352 | +0.5393 | +7.8361 | +8.3609 | +8.8204 | +0.8189 | -9.9752 | $+9.1207$ | $+8.9419$ |  |  |
| 353 | +0.5431 | +7.8670 | $+8.3627$ | +8.8224 | +0.8188 | -9.9752 | +9.0429 | +9.0198 |  |  |
| 354 | +0.5428 | +7.8646 | +8.3634 | +8.8222 | +0.8186 | $-9.9752$ | $+9.0491$ | $+9.0177$ |  |  |
| 355 | +0.5617 | $+7.9745$ | +8.3594 | +8.8420 | +0.7973 | -9.9777 | +7.5798 | +9.1102 | 1518 |  |
| 356 | +0.5388 | +7.7927 | +8.3289 | +8.8218 | +0.7880 | $-9.9786$ | $+9.1405$ | $+8.9496$ | 1526 |  |
| 357 | +0.5599 | +7.9523 | +8.3480 | +8.8409 | +0.7880 | -9.9786 | +8.1614 | $+9.0901$ | 1527 |  |
| 358 | +0.5634 | +7.9731 | +8.3502 | +8.8448 | +0.7864 | -9.9788 | -7.7634 | $+9.1071$ | 1528 | 411 |
| 359 | +0.5310 | +7.7058 | +8.3129 | +8.8173 | +0.7775 | -9.9797 | +9.2662 | +8.8682 | 1537 |  |
| 360 | +0.5530 | +7.8689 | +8.3073 | +8.8367 | +0.7547 | -9.9818 | +8.7372 | +9.0141 | 1551 | 417 |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascensiont } \\ & 1850.0 . \end{aligned}$ | $\begin{aligned} & \text { Anual } \begin{array}{c} \text { Varia- } \\ \text { Varion. } \end{array} \end{aligned}$ | $\begin{gathered} \text { Secular } \\ \text { Variation. } \end{gathered}$ | Proper Motion. | $\begin{gathered} \text { Mean } \\ \text { Decllnation } \\ 1850.0 . \end{gathered}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | $\begin{aligned} & \text { Secular } \\ & \text { Yaria- } \\ & \text { tion. } \end{aligned}$ | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 361 | 11 Orionis | 5 | $\begin{array}{lll} \hline \mathrm{h} & \mathrm{~m} & \mathrm{~s} \\ 4 & 56 & 0.08 \end{array}$ | $\begin{array}{r} 8 \\ +3.424 \end{array}$ | $\begin{gathered} 8 \\ +0.0062 \end{gathered}$ | +0.004 | $+15^{\circ} 11^{1} 2{ }^{\frac{11}{3}} .0$ | $+5.49$ | -0.479 | -0.04 |
| 362 | B.A.C. 1563 | $6{ }^{\frac{1}{2}}$ | 45641.90 | +3.529 | +0.0071 | 0.000 | +1935 40.3 | +5.39 | -0.495 | $-0.08$ |
| 36 | $m$ Tauri | $5 \frac{1}{2}$ | 45835.47 | $+3.546$ | $+0.0067$ | +0.045 | +18 2619.5 | +5.34 | -0.492 | +0.03 |
| 364 | $l$ Tauri | $5 \frac{1}{2}$ | 45856.01 | +3.547 | $+0.0071$ | $+0.001$ | +20 1254.0 | +5.23 | -0.499 | $-0.05$ |
| 365 | 105 Tauri | 6 | 45857.53 | +3.582 | +0.0074 | +0.003 | +2130 8.1 | +5.32 | $-0.504$ | $+0.64$ |
| 366 | 103 Tauri | 6 | 45858.52 | +3.651 | +0.0082 | +0.004 | +24 343.0 | +5.33 | -0.513 | $+0.05$ |
| 367 | 15 Orionis | $5 \frac{1}{2}$ | $\begin{array}{llll}5 & 1 & 7.03\end{array}$ | +3.430 | +0.0057 | +0.003 | +15 243.3 | $+5.12$ | - $\mathbf{i} .483$ | +0.62 |
| 368 | B.A.C. 1601 | $6 \frac{1}{2}$ | $\begin{array}{llll}5 & 3 & 5.05\end{array}$ | +3.450 | $+0.0056$ | +0.011 | +15 5116.5 | +4.83 | -0.486 | $-0.10$ |
| 369 | $n$ Tauri | 6 | 51016.03 | +3.602 | +0.0062 | +0.006 | +215611.7 | +4.37 | -0.512 | $+0.05$ |
| 370 | B.A.C. 1648 | $6 \frac{1}{2}$ | 51134.46 | +3.761 | +0.0074 | +0.001 | +27 4758.4 | +4.15 | $-0.536$ | $-0.06$ |
| 371 | B. A.C. 1649 | $6 \frac{1}{2}$ | 51140.42 | +3.810 | $+0.0079$ | +0.002 | +29 2439.4 | +4.08 | -0.543 | $-0.12$ |
| 372 | B.A.C. 1651 | 62 | $\begin{array}{lll}5 & 12 & 5.13\end{array}$ | +3.542 | $+0.0056$ | +0.004 | +19-3923.1 | $+4.09$ | $-0.505$ | $-0.07$ |
| 373 | 111 Tauri | 6 | 51540.41 | +3.498 | +0.0047 | $+0.020$ | +17 1424.1 | $+3.90$ | -0.498 | +0.04 |
| 374 | $\beta$ Tauri | 2 | 51648.80 | +3.791 | $+0.0068$ | +0.008 | +28 2830.6 | $+3.57$ | 0.542 | $-0.19$ |
| 375 | 113 Tauri | 6 | 51725.91 | +3.468 | +0.0044 | +0.007 | +163343.9 | +3.71 | -0.496 | $+0.01$ |
| 376 | 115 'Tauri | $5 \frac{1}{2}$ | 51825.21 | +3.495 | $+0.0046$ | +0.001 | +174941.9 | +3.62 | -0.501 | 0.00 |
| 377 | - 'Tauri | 6 | 51837.61 | +3.602 | +0.0052 | $+0.005$ | +214812.6 | +3.63 | -0.516 | +0.03 |
| 378 | 116 Tauri | 6 | 5. 1988.65 | +3.447 | +0.0041 | $+0.005$ | +15 4432.2 | +3.54 | -0.494 | -0.02 |
| 379 | 117 Tauri | 6 | 51919.39 | +3.483 | +0.0043 | +0.007 | +17 635.6 | +3.49 | -0.499 | -0.05 |
| 380 | B.A.C. 1709 | $6 \frac{1}{2}$ | 5208.99 | +3.804 | $+0.0065$ | +0.002 | +29 340.3 | +3.42 | -0.546 | $-0.05$ |
| 381 | 119 Tauri | $5 \frac{1}{2}$ | 52325.31 | +3.516 | $+0.0041$ | $+0.004$ | +182838.8 | $+3.20$ | $-0.506$ | $+0.01$ |
| 38 | B.A.C. 1728 | $6 \frac{1}{2}$ | 52332.86 | +3.473 | +0.0038 |  | +165626.5 | +3.18 | -0.500 |  |
| 383 | B.A.C. 1733 | $6 \frac{1}{2}$ | 52443.80 | +3.558 | +0.0042 | -0.0 | +20 2141.5 | +2.97 | $-0.513$ | -0.10 |
| 384 | 120 Tauri | 6 | 52444.31 | +3.518 | +0.0039 | +0.00 | +182541.0 | $+3.13$ | $-0.506$ | $+0.66$ |
| 385 | 121 Tauri | 6 | 52617.65 | $+3663$ | $+0.0046$ | +0.005 | +23 $56 \quad 5.3$ | +2.92 | -0.528 | -0.02 |
| 386 | B.A.C. 1746 | $6 \frac{1}{2}$ | 52630.81 | $+3.760$ | $+0.0052$ | $-0.001$ | +2733 35.0 | $+2.86$ | $-0.543$ | $-0.06$ |
| 387 | 122 'lauri | 6 | 52821.68 | +3.482 | $+0.0033$ | +0.008 | +165636.0 | +2.76 | -0.502 | 0.00 |
| 388 | ¢Tauri | $3 \frac{1}{2}$ | 52840.96 | +3.585 | +0.0038 | +0.005 | +21 245.6 | +2.71 | -0.517 | -0.02 |
| -389 | 26 Aurigæ | 6 | $5 \begin{array}{lll}5 & 29 & 0.33\end{array}$ | +3.846 | $+0.0053$ | $-0.002$ | +30 2351.8 | $+2.69$ | $-0.556$ | $-0.01$ |
| 390 | B.A.C. 1772 | 6 | 52946.19 | +3.809 | $+0.0049$ |  | +29 724.6 | +2.64 | -0.551 |  |
| 391 | B.A.C. 1774 | $6 \frac{1}{2}$ | 5308.36 | +3.643 | $+0.0040$ | $+0.003$ | +23 1354.6 | $+2.58$ | -0.526 | -0.03 |
| 392 | 125 Tauri | 6 | 53026.63 | +3.718 | +0.0042 | +0.006 | +25 4826.8 | $+2.57$ | -0.537 | $-0.01$ |
| 393 | 126 Tauri | $5 \frac{1}{2}$ | 53237.69 | +3.468 | +0.0029 | $+0.005$ | +16 $27 \quad 7.1$ | +2.41 | -0.501 | $+0.02$ |
| 394 | 128 'Tauri | 6 | 53614.79 | $+3.455$ | +0.0024 | $+0.003$ | +16 163.8 | +2.16 | $-0.501$ | +0.08 |
| 395 | 129 Tauri | 6 | 53878.97 | +3.451 | +0.0022 | $+0.005$ | +15 4531.9 | $+1.93$ | -0.500 | +0.02 |
| 396 | 130 Tauri | 6 | 53841.51 | $+3.496$ | +0.0023 | $+0.001$ | $+17404.1$ | $+1.86$ | $-0.508$ | 0.00 |
| 397 | B.A.C. 1835 | $6 \frac{1}{2}$ | 53925.39 | +3.572 | $+0.0025$ | $-0.005$ | +20 4842.1 | $+1.69$ | -0.520 | $-0.11$ |
| 398 | 132 Thari | $5 \frac{1}{2}$ | 53948.76 | +3.683 | $+0.0028$ | $+0.005$ | +24 3042.1 | $+1.75$ | $-0.534$ | -0.01 |
| 399 | 136 Tauri | 5 | 54354.04 | $+3.771$ | +0.0025 | $+0.004$ | +273415.4 | $+1.35$ | $-0.548$ | -0.06 |
| 400 | $\chi^{1}$ Orionis | 4, | 54530.03 | +3.552 | +0.0017 | -0.011 | +20 1435.3 | +1.17 | -0.519 | $-0.10$ |
| 401 | $\chi^{2}$ Orionis | 6 | $\begin{array}{llll}5 & 46 & 4.05\end{array}$ | +3.554 | $+0.0017$ | $+0.005$ | +19 4254.9 | $+1.23$ | $-0.517$ | $+0.01$ |
| 402 | B.A.C. 1882 | $6 \frac{1}{2}$ | $547 \quad 2.07$ | $+3.807$ | +0.0022 | $-0.001$ | +285445.0 | $+1.12$ | $-0.555$ | $-0.01$ |
| 403 | 139 Tauri | $5 \frac{1}{2}$ | 54841.35 | +3.725 | +0.0017 | $+0.005$ | +25 5547.3 | $+0.99$ | -0.542 | 0.00 |
| 404 | 141 Tauri | 6 | 55238.12 | +3.623 | $+0.0010$ | $+0.002$ | +22 2328.0 | +0.64 | -0.528 | 0.00 |
| 405 | B.A.C. 1930 | $6 \frac{1}{2}$ | 55412.54 | +3.496 | $+0.0007$ |  | $+173940.1$ | $+0.51$ | -0.510 |  |
| 406 |  | 5 | 55434.74 | +3.559 | +0.0007 | $+0.010$ | +19 4113.9 | +0.43 | $-0.517$ | $-0.04$ |
| 407 | 1 Geminor. | 5 | $555 \quad 0.15$ | +3.648 | $+0.0006$ | $+0.003$ | +23 1557.4 | $+0.33$ | -0.532 | -0.11 |
| 408 | $\chi^{4}$ Orionis | 5 | 5550.77 | +3.565 | $+0.0006$ | $+0.004$ | +20 812.0 | +0.40 | -0.519 | -0.04 |
| 409 | 2 Geminor. | $6 \frac{1}{2}$ | 55739.96 | +3.658 | +0.0004 | +0.002 | +23 3849.5 | $+0.15$ | -0.533 | -0.05 |
| 410 | B.A.C. 1970 | $6 \frac{1}{2}$ | $6 \quad 029.68$ | +3.610 | $-0.0000$ | $-0.007$ | +22 1235.7 | -0.03 | -0.527 | $+0.01$ |
| 411 | 3 Geminor. | 6 | $\begin{array}{llll}6 & 0 & 37.47\end{array}$ | $+3.648$ | $-0.0000$ | $+0.006$ | +23 756.2 | $-0.07$ | -0.531 | $-0.02$ |
| 412 | 5 Geminor. | 6 | $6 \quad 220.32$ | +3.682 | -0.0004 | +0.004 | +24 2650.6 | -0.29 | $-0.536$ | $-0.08$ |
| 413 | 68 Orionis | 6 | $\begin{array}{llll}6 & 3 & 8.34\end{array}$ | +3.560 | $-0.0004$ | $+0.008$ | +19 496.6 | -0.34 | $-0.518$ | -0.06 |
| 414 | 6 Geminor. | 6 | $\begin{array}{llll}6 & 3 & 13 & 31\end{array}$ | +3.638 | -0.0004 | +0.002 | +22 5612.0 | -0.30 | -0.530 | -0.02 |
| 415 | $f^{1}$ Orionis | 6 | $6 \quad 324.33$ | +3.461 | -0.0003 | $+0.003$ | +16 935.9 | -0.28 | -0.504 | $+0.02$ |
| 416 | * Aurigæ | 41 | 650549.14 | +3.828 | -0.0009 | 0.000 | +29 3251.2 | -0.80 | -0.558 | -0.29 |
| 417 | $\eta$ Geminor. | 32 | 6 | +3.624 | -0.0008 | -0.002 | +22 3241.8 | $-0.52$ | $-0.529$ | $-0.01$ |
| 418 | 71 Orionis | $5 \frac{1}{2}$ | $\begin{array}{llll}6 & 6 & 1.39\end{array}$ | +3.534 | -0.0007 | $-0.002$ | +19 125.9 | -0.79 | -0.516 | $-0.26$ |
| 419 | ${ }^{\prime 2}$ Orionis | 6 3 | $\begin{array}{llll}6 & 6 & 46.30 \\ 6 & 13 & 53.13\end{array}$ | +3.466 +3.636 | -0.0007 -0.0018 | $+0.007$ | +1611 <br> +16.6 <br> +2235 | -0.54 -1.34 | -0.504 -0.528 | +0.05 -0.13 |


| No. | LOGARITHMS OF |  |  |  |  |  |  |  | No. | T.Y.c. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 361 | +0.5340 | +7.6980 | $+8.2797$ | +8.8222 | +0.7426 | -9.9828 | $+9.2225$ | $+8.8587$ | 1557 | 420 |
| 362 | $+0.5476$ | +7.8110 | +8.2855 | $+8.8330$ | $+0.7379$ | $-9.9832$ | $+8.9350$ | +8.9612 | 1563 |  |
| 363 | +0.5441 | +7.7697 | +8.2696 | +8.8310 | +0.7251 | -9.9842 | +9.0282 | +8.9229 | 1568 |  |
| 364 | $+0.5497$ | +7.8105 | $+8.2720$ | +8.8359 | +0.7227 | -9.9844 | +8.8686 | +8.9590 | 1570 |  |
| 365 | $+0.5537$ | $+7.8397$ | $+8.2755$ | $+8.8397$ | +0.7225 | -9.9844 | +8.7007 | +8.9844 | 1571 |  |
| 366 | $+0.5619$ | +7.8940 | $+8.2836$ | +8.8478 | $+0.7224$ | -9.9844 | +7.4624 | $+9.0306$ | 1572 | 421 |
| 367 | +0.5349 | $+7.6690$ | +8.2448 | $+8.8253$ | +0.7072 | -9.9855 | $+9.2082$ | $+8.8292$ | 1591 | 426 |
| 368 | +0.5364 | $+7.6678$ | +8.2313 | $+8.8272$ | +0.6928 | -9.9865 | +9.1838 | +8.8271 | 1601 |  |
| 369 | $+0.5559$ | +7.7620 | +8.1896 | +8.8462 | $+0.6353$ | -9.9897 | $+8.5763$ | $+8.9054$ | 1637 | 436 |
| 370 | $+0.5759$ | $+7.8676$ | +8.1988 | +8.8674 | +0.6239 | -9,9902 | -8.8579 | +8.9904 | 1648 |  |
| 371 | $+0.5807$ | + 7.8958 | $+8.2046$ | $+8.8741$ | $+0.6230$ | $-9.9903$ | $-9.0095$ | +9.0119 | 1649 |  |
| 372 | +0.5487 | +7.6939 | $+8.1671$ | +8.8404 | +0.6193 | -9.9904 | +8.9009 | $+8.8440$ | 1651 |  |
| 373 | $+0.5413$ | $+7.5995$ | +8.1276 | $+8.8357$ | +0.5860 | -9.9918 | +9.0920 | +8.7556 | 1671 |  |
| 374 | +0.5778 | +7.8308 | +8.1525 | $+8.8722$ | $+0.5748$ | -9.9922 | -8.9385 | +8.9509 | 1681 | 453 |
| 375 | $+0.5393$ | $+7.5636$ | +8.1087 | $+8.8348$ | +0.5686 | -9.9925 | +9.1329 | $+8.7213$ | 1689 |  |
| 376 | $+0.5433$ | +7.5876 | +8.1016 | $+8.8381$ | $+0.5585$ | -9.9928 | +9.0492 | +8.7423 | 1692 |  |
| 377 | $+0.5559$ | +7.6802 | +8.1103 | $+8.8490$ | +0.5564 | -9.9929 | $+8.5740$ | +8.8240 | 1695 | 456 |
| 378 | +0.5368 | +7.5228 | $+8.0893$ | $+8.8336$ | +0.5510 | -9.9931 | +9.1781 | +8.6822 | 1701 |  |
| 379 | $+0.5410$ | +7.5591 | +8.0905 | +8.8367 | +0.5491 | -9.9931 | +9.0976 | +8.7155 | 1702 |  |
| 380 | +0.5801 | +7.8068 | $+8.1204$ | +8.8758 | +0.5403 | -9.9034 | -8.9961 | +8.9245 | 1709 |  |
| 381 | +0.5455 | +7.5491 | $+8.0481$ | $+8.8413$ | $+0.5034$ | -9.9944 | +8.9943 | +8.7022 | 1726 | 462 |
| 332 | +0.5407 | +7.5074 | +8.0429 | $+8.8377$ | +0.5019 | -9.9945 | +9.1052 | +8.6642 | 1728 |  |
| 383 | +0.5516 | +7.5790 | +8.0374 | $+8.8468$ | +0.4877 | -9.9948 | $+8.7993$ | +8.7270 | 1733 |  |
| 384 | +0.5454 | +7.5320 | +8.0321 | +8.8416 | +0.4876 | -9.9948 | +8.9970 | +8.6852 | 1734 | 465 |
| 385 | $+0.5632$ | +7.6371 | +8.0289 | +8.8582 | +0.4682 | -9.9953 | -7.6721 | +8.7742 | 1742 |  |
| 386 | $+0.5753$ | +7.7046 | +8.0394 | $+8.8716$ | $+0.4654$ | $-9.9954$ | -8.8633 | $+8.8284$ | 1746 |  |
| 387 | +0.5408 | +7.4464 | +7.9818 | $+8.8390$ | +0.4409 | -9.9959 | +9.1018 | +8.6032 | 1764 |  |
| 388 | +0.5539 | +7.5434 | +7.9881 | $+8.8498$ | $+0.4365$ | -9.9959 | $+8.6920$ | +8.6895 | 1767 | 474 |
| 389 | +0.5852 | +7.7221 | +8.0180 | +8.8841 | +0.4320 | -9.9960 | -9.1042 | +8.8340 | 1768 |  |
| 3.9 | +0.5808 | +7.6889 | +8.0016 | +8.8788 | +0.4212 | -9.9962 | -9.0145 | +8.8063 | 1772 |  |
| 391 | $+0.5611$ | +7.5703 | +7.9743 | +8.8569 | $+0.4159$ | -9.9963 | +7.8865 | +8.7097 | 1774 |  |
| 392 | +0.5696 | +7.6177 | +7.9788 | +8.8659 | +0.4115 | -9.9964 | -8.6128 | +8.7481 | 1778 | 478 |
| 393 | +0.5394 | +7.3703 | +7.9182 | $+8.8390$ | $+0.3783$ | -9.9969 | +9.1303 | +8.5282 | 1792 |  |
| 394 | +0.5381 | +7.2967 | +7.8559 | +8.8388 | +0.3170 | -9.9977 | +9.1541 | +8.4556 | 1810 |  |
| 395 | $+0.5373$ | +7.2534 | +7.8195 | +8.8386 | +0.2811 | -9,9980 | +9.1682 | +8.4128 | 1821 | 487 |
| 396 | +0.5434 | +7.2948 | +7.8126 | $+8.8430$ | $+0.2700$ | -9.9981 | $+9.0465$ | +8.4499 | 1828 |  |
| 397 | $+0.5535$ | +7.3564 | +7.8058 | +8.8515 | $+0.2548$ | -9.9983 | +8.7135 | +8.5032 | 1835 |  |
| 398 | $+0.56 .56$ | +7.4272 | +7.8093 | +8.8632 | $+0.2465$ | -9.9983 | -8.2672 | +8.5623 | 1837 | 493 |
| 399 | $+0.5760$ | +7.3880 | +7.7225 | +8.8752 | +0.1485 | -9.9989 | -8.8865 | +8.5117 | 1863 | 502 |
| 400 | +0.5518 | +7.1915 | +7.6524 | +8.8507 | +0.1031 | -9.9991 | +8.7917 | +8.3399 | 1876 | 506 |
| 401 | $+0.5501$ | +7.1618 | +7.6337 | $+8.8493$ | +0.0858 | -9.9992 | $+8.8561$ | +8.3117 | 1880 |  |
| 402 | $+0.5807$ | +7.3185 | +7.6341 | +8.8810 | $+0.0546$ | -9,9993 | $-9.0120$ | +8.4368 | 1882 |  |
| 403 | +0.5705 | +7.2039 | +7.5631 | +8.8695 | $+9.9954$ | -9.9995 | -8.6665 | +8.3339 | 1896 | 515 |
| 404 | +0.5588 | +6.9456 | +7.3647 | +8.8577 | +9.8090 | -9.9998 | +8.3096 | +8.0876 | 1925 | 520 |
| 405 | $+0.5436$ | +6.7294 | +7.2474 | +8.8447 | +9.7048 | -9.9999 | + 9.0422 | $+7.8845$ | 1930 |  |
| 406 | $+0.5501$ | +6.7518 | $+7.2243$ | $+8.8500$ | $+9.6764$ | -9.9999 | $+8.8561$ | $+7.9017$ | 1934 |  |
| 407 | +0.5617 | +6.7957 | +7.1991 | $+8.8607$ | +9.6406 | -9.9999 | +7.5798 | $+7.9350$ | 1938 | 521 |
| 408 | +0.5515 | +6.7258 | +7.1889 | +8.8512 | $+9.6398$ | -9.9999 | +8.8007 | +7.8745 | 1939 | 522 |
| 409 | +0.5630 | +6.4730 | +6.8698 | +8.8620 | $+9.3100$ | $-0.0000$ | $-7.5563$ | +7.6110 | 1951 | 526 |
| 410 | +0.5583 | -5.7688 | -6.1913 | +8.8574 | -8.6362 | $-0.0000$ | +8.3766 | -6.9114 | 1970 |  |
| 411 | +0.5613 | -5.8906 | -6.2964 | $+8.8603$ | -8.7383 | -0.0000 | +7.7924 | -7.0303 | 1971 | 529 |
| 412 | $+0.5657$ | -6.4904 | $-6.8735$ | +8.8647 | -9.3110 | $-0.0000$ | -8.2742 | -7.6257 | 1981 |  |
| 413 | +0.5505 | -6.5175 | $-6.9873$ | +8.8504 | -9.4391 | $-0.0000$ | +8.8407 | -7.6671 | 1986 | 532 |
| 414 | +0.5607 | -6.5984 | -7.0076 | +8.8596 | -9.4502 | -0.0000 | +8.0000 | $-7.7387$ | 1987 |  |
| 415 | +0.5388 | -6.4580 | -7.0134 | +8.8414 | -9.4742 | $-0.0000$ | $+9.1415$ | $-7.6165$ | 1989 |  |
| 416 | +0.5830 | -6.9822 | $-7.2892$ | $+8.8843$ | -9.7070 | -9.9999 | $-9.0626$ | -8.0978 | 2001 | 534 |
| 417 | $+0.5594$ | -6.8469 | -7.2632 | $+8.8533$ | -9.7070 | -9.9999 | +8.2430 | $-7.9885$ | 2002 | 535 |
| 418 | $+0.5485$ | $-6.7854$ | $-7.2683$ | $+8.8486$ | -9.7217 | -9.9999 | +8.9085 | $-7.9366$ | 2004 | 536 |
| 419 | +0.5389 | -6.7572 | $-7.3120$ | +8.8413 +8.8578 | -9.7727 | -9.9998 | +9.1405 |  | 2009 |  |
| 420 | +0.5594 | -7.2251 | -7.6407 | +8.8578 | -0.0843 | -9.9992 | +8.2406 | -8.3665 | 2047 | 550 |


| No. | Name. | Nag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | Annual Variation. | Secular Varia-Varia- tion. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 421 | 15 Geminor. | 8 | $\begin{array}{lll} \hline \mathrm{h} & \mathrm{~m} & { }^{\mathrm{g}} \\ 6 & 18 & 49.01 \end{array}$ | +3.579 | -0.0023 |  | +200 $52^{\prime} \quad 5.3$ | -1.65 | -0.520 | " |
| 422 | 15 Geminor. | 6 | 61850.15 | +3.579 | $-0.0023$ | 0.000 | +2052 35.3 | -1.69 | -0.520 | -0.04 |
| 423 | 48 Aurigæ | $5 \frac{1}{2}$ | 61855.44 | $+3.860$ | $-0.0032$ | $+0.002$ | +3034 47.3 | -1.69 | -0.561 | $-0.04$ |
| 424 | 16 Geminor | 6 | 6191.41 | $+3.572$ | $-0.0023$ | +0.001 | +203450.0 | $-1.70$ | -0.519 | $-0.04$ |
| 425 | $\nu$ G | $4 \frac{1}{2}$ | $620 \quad 3.35$ | +3.566 | $-0.0024$ | $+0.003$ | +20 186.7 | -1.78 | -0.518 | $-0.03$ |
| 426 | B.A.C. 2097 | $6 \frac{1}{2}$ | 62054.06 | $+3.790$ | -0.0033 | $+0.002$ | +28 1819.5 | -1.93 | -0.550 | -0.10 |
| 427 | 19 Geminor. | $6 \frac{1}{2}$ | 62259.83 | +3.455 | -0.0024 | +0.003 | +16 014.7 | -2.00 | $-0.501$ | $+0.01$ |
| 423 | 49 Aurigæ | $5 \frac{1}{2}$ | 62545.18 | +3.784 | -0.0041 | $+0.003$ | +28 81.5 | -2.27 | -0.548 | -0.02 |
| 429 | 23 Geminor. | $6 \frac{1}{2}$ | 62720.94 | +3.478 | -0.0029 | $+0.004$ | +165451.2 | -2.37 | $-0.503$ | +0.02 |
| 430 | B.A.C. 2154 | $6 \frac{1}{2}$ | 62815.44 | +3.692 | -0.0039 | +0.011 | +24 4232.0 | $-2.57$ | -0.533 | $-0.10$ |
| 431 | 53 Auriga | $6 \frac{1}{2}$ | 62852.10 | $+3.809$ | -0.0047 | 0.000 | +29 624.1 | -2.56 | -0.551 | -0.04 |
| 432 | $\gamma$ Geminor. | $2 \frac{1}{2}$ | 6292.74 | +3.469 | $-0.0031$ | $+0.005$ | +16 3120.7 | -2.56 | -0.501 | -0.02 |
| 433 | 54 Auriym | 6 | $630 \quad 5.44$ | +3.788 | $-0.0048$ | $+0.001$ | +28 2324.4 | -2.67 | -0.548 | $-0.04$ |
| 434 | 26 Geminor | $5 \frac{1}{2}$ | 63340.17 | +3.499 | $-0.0037$ | $+0.004$ | +17 4713.1 | -3.01 | -0.504 | $-0.07$ |
| 435 | $\varepsilon$ Gemino | $3 \frac{1}{2}$ | 63442.13 | $+3.700$ | $-0.0050$ | $+0.005$ | +25 1627.3 | -3.05 | -0.533 | -0.02 |
| 436 | 28 Geminor. | 6 | 63515.09 | +3.810 | -0.0058 | $+0.003$ | +29 71.5 | -3.10 | -0.549 | -0.03 |
| 437 | 33 Geminor. | 6 | 64111.71 | +3.459 | -0.0043 | $+0.002$ | +16 2210.1 | -3.53 | -0.496 | $+0.06$ |
| 438 | $d$ Geminor. | 6 | 64233.58 | +3.607 | $-0.0053$ | +0.007 | +2155 59.6 | $-3.72$ | -0.516 | -0.02 |
| 439 | B.A.C. 2238 | 6 | 64254.07 | +3.649 | $-0.0057$ |  | +23 4626.4 | $-3.73$ | $-0.523$ |  |
| 440 | 37 Geminor. | 6 | 6465.09 | $+3.696$ | -0.0065 | -0.001 | +25 3328.3 | -4.00 | -0.528 | $+0.01$ |
| 441 | 39 Geminor. | $6 \frac{1}{2}$ | 64932.52 | $+3.706$ | $-0.0072$ | $-0.009$ | $+261623.5$ | $-4.20$ | $-0.529$ | +0.10 |
| 442 | 40 Geminor. | $6 \frac{1}{2}$ | 65012.03 | +3.711 | $-0.0072$ | $+0.001$ | +26 644.3 | -4.35 | -0.528 | $+0.01$ |
| 443 | 41 Gemiuor | $6 \frac{1}{2}$ | 65138.51 | +3.453 | $-0.0053$ | +0.002 | +161655.4 | -4.44 | -0.491 | $+0.04$ |
| 444 | $\omega$ Geminor. | c | 65316.24 | +3.664 | -0.0072 | $+0.003$ | +2425 27.1 | $-4.63$ | -0.520 | -0.01 |
| 445 | B.A.C. 2301 | $6 \frac{1}{2}$ | 65358.18 | +3823 | $-0.0088$ | $+0.014$ | +29 3459.1 | -5.40 | -0.540 | $-0.72$ |
| 446 | $\zeta$ Gem | 4 | 65512.57 | $+3.567$ | $-0.0065$ | $+0.004$ | +20 $47 \quad 7.8$ | -4.80 | -0.505 | -0.01 |
| 447 | 44 Geminor. | $6 \frac{1}{2}$ | 65616.38 | +3.620 | $-0.0072$ | $+0.003$ | +22 5124.5 | $-4.90$ | $-0.512$ | -0.02 |
| 448 | 45 Geminor. | 0 | 65945.74 | +3.447 | $-0.0060$ | +0.002 | +16 959.0 | -5.24 | $-0.485$ | $-0.07$ |
| 449 | $\tau$ Geminor. | $4 \frac{1}{2}$ | $7 \quad 135.20$ | +3.831 | -0.0103 | +0.002 | +30 297.9 | -5.39 | -0.538 | $-0.06$ |
| 450 | 47 Geminor | 6 | 724.62 | +3.732 | -0.0092 | +0.002 | +27 553.0 | -5.39 | $-0.524$ | $-0.02$ |
| 451 | 48 Geminor | 6 | $7 \quad 319.38$ | +3.657 | $-0.0085$ | $+0.004$ | +24 2229.0 | -5.48 | $-0.513$ | $-0.01$ |
| 452 | 51 Geminor | 6 | $7 \quad 445.34$ | +3.454 | -0.0066 | +0.005 | +162431.1 | -5.58 | -0.483 | +0.01 |
| 453 | 52 Geminor | 6 | 7531.25 | +3.679 | -0.0090 | $+0.006$ | +25 820.9 | $-5.82$ | -0.514 | $-0.16$ |
| 454 | 53 Geminor. | 3 | 76634.83 | +3.758 | -0.0102 | +0.002 | +28 911.6 | -5.75 | -0.525 | 0.00 |
| 455 | $\lambda$ Geminor. | $3 \frac{1}{2}$ | $7 \quad 928.22$ | +3.458 | $-0.0070$ | +0.002 | +164822.3 | -5.99 | -0.481 | 0.00 |
| 456 | ס Geminor. | $3 \frac{1}{2}$ | $711 \quad 9.67$ | +3.597 | -0.0088 | $+0.005$ | +22 1512.5 | -6.14 | -0.499 | $-0.01$ |
| 457 | 56 Geminor. | $5 \frac{1}{2}$ | $713 \quad 5.63$ | +3.553 | -0.0085 | +0.002 | +20 4320.3 | -6.29 | -0.492 | 0.00 |
| 458 | A Geminor. | $5 \frac{1}{2}$ | 71419.59 | $+3.671$ | -0.0102 | 0.000 | +25 201.8 | -6.41 | -0.507 | -0.02 |
| 459 | B.A.C. 2432 | $6 \frac{1}{2}$ | 71421.69 | $+3.500$ | $-0.0080$ | $+0.004$ | +18 3323.8 | -6.52 | $-0.483$ | -0.13 |
| 460 | 59 Geminor. | $6 \frac{1}{2}$ | 71513.08 | +3.744 | $-0.0113$ | +0.003 | +275520.8 | -6.45 | $-0.517$ | $+0.02$ |
| 461 | - Geminor. | 4 | 71624.30 | +3.742 | $-0.0116$ | $-0.003$ | +28 527.5 | -6.65 | -0.516 | -0.09 |
| 462 | 63 Geminor | $5 \frac{1}{2}$ | 71849.95 | $+3.572$ | $-0.0095$ | $-0.001$ | +214450.3 | -6.84 | -0.491 | $-0.08$ |
| 463 | $b^{1}$ Geminor. | $5 \frac{1}{2}$ | 71959.26 | +3.753 | -0.0121 | $+0.002$ | +28 2521.4 | -6.90 | -0.514 | -0.04 |
| 464 | $b^{2}$ Geminor. | $5 \frac{1}{2}$ | 72028.71 | +3.747 | $-0.0121$ | +0.003 | +28 1314.8 | -6.91 | $-0.513$ | -0.01 |
| 465 | B.A.C. 2472 | 6 | 72119.70 | +3.745 | $-0.0123$ | +0.002 | +281318.2 | -6.6! | -0.512 | +0.28 |
| 466 | 68 Geminor | $5 \frac{1}{2}$ | $725 \quad 2.65$ | $+3.433$ | $-0.0083$ | +0.002 | +16841.0 | -7.23 | -0.466 | +0.04 |
| 467 | $\checkmark$ Geminor | $4 \frac{1}{2}$ | 72640.44 | +3.714 | -0.0125 | +0.004 | +271327.0 | -7.49 | -0.503 | -0.08 |
| 468 | B.A.C. 2514 | $6 \frac{1}{2}$ | $730 \quad 7.77$ | +3.632 | -0.0118 | -0.003 | +243325.0 | -7.76 | -0.490 | $-0.07$ |
| 469 | $f$ Geminor. | 6 | 73048.62 | +3.477 | $-0.0093$ | $+0.005$ | +18 040.5 | -7.73 | -0.467 | $+0.01$ |
| 470 | B.A.C. 2537 | $6 \frac{1}{2}$ | 73327.33 | +3.380 | -0.0082 | $+0.007$ | +13 4935.4 | -8.02 | -0.452 | $-0.07$ |
| 471 | $\sigma$ Geminor. | 5 | 73355.80 | +3.764 | $-0.0143$ | +0.007 | +29 1429.2 | $-8.23$ | -0.503 | -0.24 |
| 472 | c Geminor. | ) | 73457.64 | +3.675 | $-0.0130$ | +0.004 | +26 810.8 | -8.08 | -0.490 | $-0.01$ |
| 473 | * Geminor. | $3{ }^{\frac{1}{2}}$ | 73523.14 | +3.634 | -0.0124 | 0.000 | +24 4510.5 | -8.16 | -0.485 | -0.05 |
| 474 | $\beta$ Geminor. | 112 | $736 \quad 7.81$ | +3.682 | $-0.0142$ | -0.048 | +28231.1 | -8.23 | -0.497 | $-0.06$ |
| 475 | $g$ Geminor. | $5 \frac{1}{2}$ | 73726.02 | +3.485 | -0.0103 | -0.002 | +1852 16.5 | -8.31 | -0.463 | -0.04 |
| 476 | 84 Geminor | 61 | $744 \quad 6.38$ | $+3.578$ | -0.0124 | $+0.004$ | $+2243 \quad 3.1$ | -8.73 | $-0.468$ | $+0.07$ |
| 477 | if Geminor | 5 | 74418.61 | +3.688 | -0.0146 | $+0.002$ | $+27856.6$ | -8.85 | -0.483 | $-0.03$ |
| 478 | 85 Geminor. | $6 \frac{1}{2}$ | 74654.29 | +3.513 | -0.0116 | +0.001 | +201631.5 | -9.06 | -0.457 | -0.04 |
| 479 | 1 Caneri | 6 | 74828.23 | +3.420 | $-0.0101$ | $+0.004$ | +1611 11.1 | -9.14 | -0.443 | 0.00 |
| 48 | $\omega^{\prime}$ Caneri | 6 | 75150.95 | +3.646 | $-0.0146$ | $+0.004$ | $+254756.8$ | $-9.39$ | -0.469 | +0.01 |


| No. | Logaritims of |  |  |  |  |  |  |  | Not | N.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | $c$ | d | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 421 | +0.5537 | -7.3196 | -7.7677 | $+8.8519$ | -0.2165 | -9.9985 | +8.7016 | -8.4662 |  | 554 |
| 422 | $+0.5537$ | -7.3196 | -7.7677 | +8.8519 | -0.2165 | -9.9985 | +8.7016 | -8.4662 | 2080 | 555 |
| 423 | +0.5864 | -7.5118 | -7.8053 | +8.8875 | -0.2186 | -9.9985 | $-9.1252$ | -8.6229 | 2082 | 556 |
| 424 | +0.5528 | -7.3171 | -7.7712 | +8.8511 | -0.2208 | -9.9985 | $+8.7482$ | -8.4646 | 2084 |  |
| 425 | +0.5519 | $-7.3336$ | $-7.7933$ | +8.8501 | -0.2437 | $-9.9983$ | +8.7882 | -8.4818 | 2090 | 560 |
| 426 | +0.5784 | $-7.5145$ | $-7.8386$ | $+8.8774$ | -0.2616 | -9.9982 | -8.9547 | $-8.6353$ | 2097 |  |
| 427 | +0.5381 | $-7.2823$ | -7.8419 | +8.8389 | $-0.3030$ | $-9.9978$ | $+9.1547$ | $-8.4412$ | 2111 |  |
| 423 | +0.5776 | -7.6017 | -7.9282 | +8.8758 | $-0.3519$ | $-9.9973$ | -8.9340 | $-8.7232$ | 2133 | 574 |
| 429 | +0.5409 | -7.3827 | -7.9189 | $+8.8400$ | -0.3780 | -9.9969 | +9.1014 | -8.5395 | 2149 |  |
| 430 | +0.5660 | $-7.5766$ | $-7.9555$ | $+8.8623$ | $-0.3921$ | -9.9967 | $-8.3139$ | $-8.7110$ | 2154 |  |
| 431 | $+0.5808$ | -7.6687 | -7.9816 | +8.8791 | -0.4013 | -9.9966 | -9.0145 | -8.7861 | 2161 |  |
| 432 | +0.5396 +0.5783 | -7.3979 | -7.9440 | +8.8387 +8.8758 | -0.4040 | -9.9965 | +9.1268 +8.9523 | -8.5557 | 2163 2170 | 579 |
| 433 | +0.5783 +0.5434 | -7.6737 | -7.9966 | +8.8758 +8.8405 | -0.4192 | -9.9963 -9.9953 | -8.9523 +9.0453 | -8.7941 | 2170 2191 |  |
| 434 | +0.5434 +0.5676 | -7.4957 | -8.0107 | +8.8405 +8.8626 | 二0.4677 | -9.9953 -9.9950 | +9.0453 -8.4728 | -8.6505 | 2191 2194 | $584$ |
| 436 | +0.5805 | -7.7550 | -8.0679 | $+8.8774$ | -0.4875 | -9.9948 | -9.0078 | -8.8725 |  |  |
| 437 | +0.5387 | $-7.5442$ | -8.0942 | $+8.8348$ | -0.5546 | -9.9930 | $+9.1433$ | $-8.7023$ | 2228 |  |
| 438 | +0.5563 | -7.6952 | -8.1229 | +8.8490 | $-0.5685$ | -9.9925 | +8.5502 | -8.8386 | 2233 |  |
| 439 | +0.5622 | $-7.7376$ | -8.1322 | $+8.8548$ | -0.5720 | -9.9924 | +7.0000 | -8.8752 | 2238 |  |
| 440 | $+0.5679$ | -7.8040 | -8.1691 | $+8.8598$ | -0.6027 | -9.9912 | -8.4942 | $-8.9353$ | 2254 |  |
| 441 | $+0.5700$ | -7.8487 | -8.2027 | $+8.8610$ | $-0.6336$ | -9.9898 | -8.6355 | -8.9775 | 5 |  |
| 442 | +0.5694 | -7.8513 | -8.2077 | +8.8602 | -0.6393 | -9.9895 | -8.6010 | -8.9806 | 2278 | 611 |
| 443 | +0.5330 | -7.6386 | -8.1908 | +8.8306 | -0.6514 | -9.9889 | +9.1563 | -8.7969 | 2285 |  |
| 444 | +0.5637 | -7.8435 | -8.2270 | +8.8528 | -0.6646 | -9.9882 | $-7.8633$ | -8.9788 | 2299 | $617$ |
| 445 | +0.5808 | -7.9460 | -8.2525 | +8.8724 | -0.6702 | -9.9879 | -9.0116 | -9.0614 | 2301 | 622 |
| 446 | +0.5519 | -7.7808 | -8.2308 | $+8.8404$ | -0.6799 | $-9.9873$ | +8.7860 | -8.9277 | 2305 | 626 |
| 447 | +0.5584 | -7.8345 | -8.2452 | +8.8462 | -0.6880 | -9.9868 | +8.3636 | $-8.9751$ | 2313 |  |
| 448 | +0.5372 | -7.6975 | -8.2027 | +8.8265 | -0.7135 | -9.9851 | +9.1697 | -8.8560 | 2330 |  |
| 449 | +0.5831 | -8.0179 | -8.3126 | $+8.8726$ | $-0.7263$ | $-9.9841$ | $-9.0611$ | $-9.1294$ | 2340 | 638 |
| 450 | +0.5717 | -7.9604 | -8.3018 | +8.8583 | -0.7297 | $-9.9839$ | -8.7210 | -9.0859 | 2343 | 40 |
| 451 | +0.5627 | -7.9159 | $-8.3003$ | $+8.8477$ | -0.7381 | -9.9832 | $-7.2553$ | $-9.0515$ | 2350 |  |
| 452 | +0.5377 | -7.7383 | $-8.2873$ | +8.8244 | -0.7475 | -9.9824 | +9.1614 | -8.8963 | 2362 | 647 |
| 453 | $+0.5650$ | -7.9456 | -8.3174 | +8.8491 | -0.7525 | -9.9820 | -8.1673 | -9.0785 | 2364 |  |
| 454 | +0.5747 | -8.0094 | -8.3356 | $+8.8600$ | -0.7593 | -9.9814 | -8.8420 | -9.1308 | 2374 |  |
| 455 | $+0.5386$ | $-7.7790$ | -8.3178 | +8.8226 | $-0.7772$ | -9.9797 | $+9.1443$ | -8.9361 | 2398 | 659 |
| 456 | +0.5553 | -7.9209 | -8.3426 | +8.8363 | -0.7873 | $-9.9787$ | +8.6128 | -9.0634 | 2410 | 661 |
| 457 | +0.5503 | -7.8981 | $-8.3493$ | +8.8305 | -0.7985 | $-9.9775$ | +8.8445 | -9.0451 | 2423 |  |
| 458 | +0.5647 | -8.0025 | -8:3711 | +8.8446 | -0.8055 | -9.9768 | -8.1271 | -9.1347 | 2431 |  |
| 45!) | +0.5436 | -7.8534 | -8.3506 | +8.8238 | -0.8057 | $-9.9767$ | +9.0406 | -9.0063 | 2432 |  |
| 460 | +0.5730 | -8.0565 | -8.3860 | $+8.8538$ | -0.8105 | $-9.9762$ | -8.7774 | -9.1788 | 2440 | 663 |
| 461 | +0.5734 | $-8.0661$ | -8.3932 | $+8.8537$ | -0.8171 | -9.9754 | -8.7938 | -9.1878 | 2442 |  |
| 462 | +0.5530 | -7.9527 | -8.3839 | +8.8298 | -0.8301 | -9.9738 | +8.7348 | -9.0967 | 2460 | 673 |
| 463 | $+0.5741$ | -8.0913 | -8.4137 | +8.8527 | -0.8362 | $-9.9730$ | -8.8169 | -9.2116 | 2467. |  |
| 464 | $+0.5734$ | -8.0902 | -8.4154 | +8.8515 | -0.8388 | -9.9727 | -8.7896 | -9.2113 | 2469 |  |
| 465 | $+0.5733$ | -8.0945 | -8.4198 | +8.8509 | -0.8431 | -9.9721 | -8.7853 | $-9.2157$ | 2472 |  |
| 466 | $+0.5355$ | $-7.8450$ | -8.4009 | $+8.8108$ | $-0.8617$ | $-0.9694$ | +9.1976 | $-9.0036$ | 2486 | 679 |
| 467 | +0.5694 | $-8.1026$ | -8.4422 | +8.8431 | -0.8695 | -9.9682 | -8.5944 | -9.2277 | 2493 | 680 |
| 468 | $+0.5605$ | -8.0672 | -8.4485 | $+8.8306$ | -0.8857 | $-9.9655$ | +8.0334 | -9.2021 | 2514 |  |
| 469 | +0.5405 | -7.9225 | -8.4323 | $+8.8107$ | -0.8888 | $-9.9650$ | +9.1055 | $-9.0768$ | 2519 | 685 |
| 470 | +0.5280 | -7.8134 | -8.4350 | +8.7995 | -0.9005 | $-9.9628$ | +9.3054 | $-8.9767$ | 2537 |  |
| 471 | $+0.5749$ | $-8.1724$ | $-8.4835$ | $+8.8456$ | $-0.9026$ | $-9.9625$ | -8.8407 | -9.2893 | 2540 |  |
| 472 | +0.5648 | -8.1196 | -8.4756 | +8.8324 | -0.9071 | $-9.9616$ | -8.1335 | -9.2488 | 2549 | 691 |
| 473 | +0.5604 | -8.0944 | -8.4725 | +8.8270 | -0.9089 | $-9.9613$ | +8.0453 | -9.2286 | 2551 | 692 |
| 474 | +0.5718 | -8.1665 | -8.4894 | +8.8402 | -0.9121 | $-9.9606$ | -8.7193 | -9.2869 | 2555 | 693 |
| 475 | +0.5424 | -7.9731 | $-8.4633$ | +8.8074 | -0.9176 | -9.9595 | +9.0641 | -9.1252 | 2558 | 694 |
| 476 | $+0.5531$ | $-8.0880$ | -8.5012 | +8.8126 | -0.9445 | -9.9536 | +8.7267 | $-9.2291$ | 2613 |  |
| 477 | +0.5666 | -8.1769 | -8.5177 | +8.8280 | -0.9453 | -9.9534 | -8.3766 | -9.3023 | 2617 | 707 |
| 478 | +0.5455 | -8.0444 | -8.5046 | +8.8026 | -0.9552 | -9.9509 | +8.9895 | -9.1927 | 2632 |  |
| 479 | +0.5335 | -7.9455 | $-8.5003$ | +8.7909 | -0.9610 | -9.9494 | +9.2271 | -9.1041 | 2639 | 709 |
| 480 | +0.5613 | -8.1793 | $-8.5406$ | +8.8156 | -0.9733 | -9.9461 | +9.7993 | -9.3098 | 2657 |  |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varial } \\ & \text { tion. } \end{aligned}$ | $\begin{gathered} \text { Secular } \\ \text { Variation. } \end{gathered}$ | Proper Motion. | $\begin{gathered} \text { Mean } \\ \text { Declination } \\ 1850.0 \text {. } \end{gathered}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 481 | 3 Cancri | 6 | $\begin{array}{lll} \hline \mathrm{h} & \mathrm{~m} & { }^{8} \\ 7 & 52 & 11.30 \end{array}$ | +3.449 | -0.0109 | $+0.001$ | $+17^{\circ} 42^{\prime} 55.4$ | -9.47 | -0.444 | ${ }_{0}^{1 / .04}$ |
| 482 | $\omega^{2}$ Cancri | $6 \frac{1}{2}$ | 75240.57 | +3.638 | -0.0146 | +0.005 | +25 2949.7 | 9.48 | $-0.467$ | -0.01 |
| 483 | 5 Cancri | 6 | 75257.06 | $+3.430$ | -0.0107 | +0.002 | +165152.0 | 9.45 | -0.440 | $+0.04$ |
| 484 | 6 Cancri | 5 | 75417.73 | +3.702 | $-0.0162$ | +0.002 | +28 1236.2 | 9.66 | 0.474 | $-0.07$ |
| 485 | 7 Cancri | $6 \frac{1}{2}$ | 75458.81 | +3.554 | -0.0133 | -0.002 | +22 2916.7 | 9.61 | 0.455 | +0.04 |
| 486 | B.A.C. 26 | 6 | 7564.85 | +3.479 | $-0.0119$ |  | +19 1544.7 | 9.73 | -0.444 |  |
| 487 | 8 Cancri | 6 | 75642.93 | +3.353 | $-0.0097$ | +0.001 | +13 3229.2 | $-9.83$ | -0.427 | -0.05 |
| 488 | $\mu^{1}$ Cancri | 6 | 75724.59 | +3.568 | -0.0138 | +0.001 | +23 333.8 | - 9.84 | -0.453 | -0.01 |
| 489 | $\mu^{2}$ Cancri | 5 | 75855.89 | $+3.545$ | -0.0134 | +0.005 | +22 052.1 | -9.97 | -0.448 | -0.02 |
| 490 | 12 Cancri | 6 | $8 \quad 019.21$ | +3.363 | -0.0101 | +0.002 | +14 423.9 | -10.10 | -0.424 | $-0.05$ |
| 491 | $\psi^{1}$ Cancrí | $6 \frac{1}{2}$ | 8818.68 | $+3.641$ | -0.0158 | 0.000 | +261654.0 | -10.14 | -0.459 | -0.03 |
| 492 | $\psi^{2}$ Cancri | 4 | 88 | +3.630 | -0.0157 | $-0.002$ | +25 5731.1 | -10.47 | -0.457 | -0.34 -0.06 |
| 493 | B.A.C. 2731 | $6 \frac{1}{2}$ | $\begin{array}{llll}8 & 1 & 26.97 \\ 8 & 3 & 369\end{array}$ | +3.433 +3.455 | -0.0115 | 0.000 +0.009 | +17 +18 +18 $\mathbf{5} 9.9 .9$ | -10.20 -10.41 | -0.432 | -0.06 -0.11 |
| 494 | $\zeta^{1}$ Cancri | $4 \frac{1}{2}$ | $\begin{array}{lll}8 & 3 & 36.25 \\ 8 & 3 & 36.59\end{array}$ | +3.455 +3.450 | -0.0119 -0.0119 | +0.009 +0.005 | +18 +18 +18 538.0 | -10.41 -10.63 | -0.431 -0.431 | -0.11 -0.33 |
| 495 | $\zeta^{2}$ Cancri | $7 \frac{1}{2}$ | $8 \quad 336.59$ | +3.450 | -0.0119 | +0.005 | +18 538.9 | -10.63 | $-0.431$ | -0.33 |
| 496 | $y$ Cancri | 6 | 81056.76 | $+3.666$ | -0.0176 | $+0.005$ | +27 4158.3 | -11.22 | -0.449 | $-0.37$ |
| 497 | B.A.C. 2788 | $6 \frac{1}{2}$ | 81135.85 | +3.523 | -0.0140 | $+0.017$ | +21 134.8 | -10.87 | -0.429 | $+0.02$ |
| 498 | 2 Cancri | 6 | 81136.51 | +3.582 | -0.0158 | 0.000 | +24 2925.0 | -10.93 | -0.439 | -0.04 |
| 499 | $d^{1}$ Cancri | - | 81446.14 | +3.450 | -0.0130 | 0.000 | $+184835.0$ | -11.13 | -0.419 | 0.00 |
| 500 | $d^{2}$ Cancri | 6 | 81720.16 | +3.409 | -0.0126 | -0.011 | +1732 11.0 | -11.45 | -0.412 | 0.14 |
| 501 | $\varphi^{2} \mathrm{C}$ | 6 | 81742.52 | +3.641 | -0.0181 | -0.002 | +1725 16.8 | -11.35 | -0.438 | $-0.01$ |
| 502 | 27 Cancri | $6 \frac{1}{2}$ | 81826.00 | $+3.330$ | $-0.0107$ | +0.002 | +13 844.2 | $-11.51$ | $-0.399$ | -0.12 |
| 503 | $v^{2}$ Cancri | $6 \frac{1}{2}$ | 81942.74 | +3.573 | $-0.0165$ | 0.000 | +24 3818.1 | -11.56 | -0.427 | -0.08 |
| 504 | 29 Cancri | 6 | 82014.91 | $+3.360$ | -0.0114 | +0.002 | +14 4212.2 | -11.59 | -0.401 | -0.07 |
| 505 | $v^{3}$ Cancrí | 6 | 82237.93 | $+3565$ | -0.0167 | -0.003 | +24 3455.2 | -11.79 | -0.423 | $-0.10$ |
| 506 | - Can | 6 | $823 \quad 2.23$ | $+3.435$ | $-0.0135$ | -0.001 | +18 3551.2 | -11.77 | -0.407 | $-0.05$ |
| 507 | B.A.C. 285 | $6 \frac{1}{2}$ | $823 \quad 4.55$ | $+3.453$ | -0.0138 | $-0.0012$ | +19 2920.8 | -11.76 | -0.409 | -0.04 |
| 508 | $\eta$ Cancri | 6 | 8241.65 | $+3.486$ | $-0.0147$ | +0.001 | +205648.3 | -11.82 | -0.411 | $-0.03$ |
| 509 | B.A.C. 2872 | $6 \frac{1}{2}$ | 82526.15 | +3.329 | $-0.0113$ | -0.005 | +13 461.4 | -11.88 | -0.392 | $+0.01$ |
| 510 | 35 Cancri | $6 \frac{1}{2}$ | 82641.75 | $+3.463$ | -0.0145 | 0.000 | $+2061.2$ | -12.05 | -0.405 | $-0.07$ |
| 51 | B.A.C. 2886 | $7 \frac{1}{2}$ | $827 \quad 6.92$ | $+3.465$ | $-0.0146$ | 0.001 | $+20170.5$ | $-12.07$ | -0.405 | $-0.06$ |
| 512 | B.A.C. 2899 | 7 | 82910.09 | +3.445 | $-0.0144$ | -0.008 | $+1947 \quad 7.8$ | $-12.15$ | -0.401 | 0.00 |
| 513 | B.A.C. 2906 | $7 \frac{1}{2}$ | 83029.27 | +3.475 | -0.0147 | $+0.015$ | +201156.7 | -12.32 | -0.400 | $-0.08$ |
| 514 | B.A.C. 2907 | 8 | 83032.31 | +3.471 | $-0.0146$ | +0.013 | $+20654.5$ | -12.32 | -0.399 | $-0.07$ |
| 515 | 38 Cancri | 7 | $831 \quad 5.19$ | +3.461 | -0.0148 | -0.001 | $+2018 \quad 8.6$ | -12.34 | $-0.399$ | $-0.66$ |
| 516 | B.A.C. 291 |  | 83113.89 | +3.452 | -0.0146 | $-0.005$ | +20 418.2 | $-12.09$ | -0.398 | $+0.20$ |
| 517 | 39 Cancri | 6 | 83128.25 | $+3.463$ | -0.0149 | $-0.003$ | +20 $42 \quad 0.0$ | $-12.33$ | -0.399 | $-0.02$ |
| 518 | 40 Cancri | 6 | 83133.46 | +3.464 | -0.0149 | -0.001 | +20 2949.4 | -12.30 | $-0.399$ | $+0.02$ |
| 519 | B.A.C. 2919 | 7 | 83145.37 | +3.463 | -0.0148 | $+0.004$ | +20 1143.8 | -12.40 | -0.398 | -0.07 |
| 520 | : Cancri | $6 \frac{1}{2}$ | 83150.33 | +3.454 | $-0.0147$ | -0.002 | +20 413.5 | - 12.38 | $-0.397$ | -0.04 |
| 521 | 42 Cancri | $6 \frac{1}{2}$ | $832 \quad 6.17$ | $+3.467$ | -0.0148 | $+0.008$ | +20 1444.5 | -12.40 | $-0.397$ | -0.05 |
| 522 | B.A.C. 2925 | $6 \frac{1}{2}$ | 83219.80 | +3.455 | -0.0148 | -0.001 | +20 624.9 | -12.42 | $-0.397$ | -0.05 |
| 523 | B.A.C. 2927 | 8 | 83235.77 | +3.479 | -0.0152 | $+0.005$ | +21023.3 | -12.31 | -0.399 | +0.08 |
| 524 | B.A.C. 2931 |  | 83312.71 | +3.460 | -0.0150 | -0.001 | +20 2415.6 | $-12.51$ | -0.396 | -0.08 |
| 525 | $\gamma$ Cancri | $4 \frac{1}{2}$ | 83435.89 | +3.488 | $-0.0160$ | $-0.005$ | +22 015.3 | $-12.50$ | $-0.398$ | +0.03 |
| 526 | $A^{\prime}$ Cancri | 6 | 83456.02 | $+3.317$ | $-0.0114$ | $+0.001$ | +13 1255.9 | -12.54 | $-0.377$ | $+0.01$ |
| 527 | d Cancri | 4 | $836 \quad 0.26$ | +3.425 | -0.0142 | $+0.003$ | +18 $42 \quad 7.0$ | -12.87 | -0.388 | -0.24 |
| 528 | $b$ Cancri | $6 \frac{1}{2}$ | 83636.30 | +3.206 | -0.0104 | +0.001 | +10 3715.2 | -12.69 | $-0.369$ | -0.03 |
| 529 | $\mathrm{A}^{2}$ Cancri | 6 | 83842.42 | +3.298 | -0.0113 | -0.004 | +12 3924.1 | -12.86 | $-0.371$ | $-0.06$ |
| 530 | 54 Cancri | $6 \frac{1}{2}$ | 84239.91 | +3.353 | $-0.0130$ | $-0.007$ | +15 5411.8 | $-13.00$ | -0.372 | $+0.07$ |
| 531 | 60 Caneri | 6 | 84743.85 | +3.288 | $-0.0114$ | $+0.002$ | +12 1145.0 | $-13.40$ | $-0.357$ | 0.00 |
| 532 | ${ }^{1}$ Cancri | 6 | 84852.60 | +3.359 | -0.0132 | $+0.006$ | +15 5340.5 | -13.44 | $-0.362$ | +0.04 |
| 533 | $0^{2}$ Cancri | 6 | 84912.19 | +3.362 | -0.0134 | $+0.005$ | +16 913.8 | -13.44 | -0.362 | $+0.06$ |
| 534 | B.A.C. 3053 | 6 | 84936.33 | +3.244 | $-0.0105$ |  | + 95739.1 | -13.52 | -0.349 |  |
| 535 | $\alpha$ Cancri | 4 | 85016.72 | +3.293 | -0.0116 | $+0.005$ | +12 $26 \quad 6.2$ | -13.60 | -0.353 | -0.0 |
| 536 | $v$ Cancri | 6 | 85357.59 | $+3.525$ | $-0.0189$ | +0.001 | +25 217.5 | -13.87 | $-0.373$ | $-0.07$ |
| 537 | ${ }^{\times}$Cancri | 5 | 85937.15 | +3.262 | $-0.0133$ | $+0.003$ | +11 167.3 | -14.13 | -0.333 | $+0.03$ |
| 53 | 75 Cancri | $6 \frac{1}{2}$ | 85957.13 | +3.549 | $-0.0208$ | $-0.009$ | +27 1448.1 | $-14.57$ | $-0.367$ | -0.39 |
| 5 | $\xi$ Cancri | 6 | 043.63 | +3.466 | $-0.0176$ | $+0.002$ | +223855.7 | -14.21 | -0.356 -0.335 | +0.02 -0.13 |
|  | B.A.C. 3122 | $6 \frac{1}{2}$ | 136.87 | +3.271 | $-0.0117$ | -0.00 | $+121021.2$ | -14.41 | -0.335 | -0.13 |


| No. | Logarithms of |  |  |  |  |  |  |  | B.A.C. | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 481 | +0.5375 | -8.0006 | -8.5173 | +8.7908 | -0.9745 | $-9.9457$ | $+9.1608$ | -9.1556 | 2659 | 712 |
| 482 | +0.5602 | -8.1764 | -8.5424 | +8.8137 | -0.9762 | $-9.9453$ | +8.0864 | $-9.3080$ | 2663 |  |
| 4 | +0.5350 | -7.9806 | -8.5180 | $+8.7880$ | -0.9772 | $-9.9450$ | +9.2033 | $-9.1376$ | 2664 | 713 |
| 484 | $+0.5683$ | -8.2331 | -8.5585 | +8.8224 | -0.9819 | -9.9436 | $-8.5146$ | $-9.3543$ | 2672 | 716 |
| 485 | +0.5510 | -8.1230 | -8.5403 | +8.8012 | -0.9843 | -9.9429 | +8.8169 | -9.2647 | 2676 |  |
| 486 | $+0.5415$ | -8.0532 | -8.5348 | $+8.7907$ | -0.9881 | -9.9417 | $+9.0835$ | $-9.2042$ | 2683 |  |
| 487 | +0.5253 | -7.8937 | -8.5242 | $+8.7772$ | -0.9902 | -9.9411 | $+9.3375$ | -9.0575 | 2690 | 717 |
| 488 | +0.5523 | -8.1434 | -8.5505 | +8.8004 | -0.9926 | -9.9403 | +8.7627 | $-9.2833$ | 2700 | 719 |
| 489 | +0.5490 | -8.1261 | -8.5522 | $+8.7955$ | -0.9977 | -9.9387 | +8.8854 | $-9.2693$ | 2714 |  |
| 490 | +0.5264 | -7.9230 | $-8.5372$ | +8.7743 | -1.0022 | $-9.9372$ | $+9.3233$ | -9.0859 | 2720 | 722 |
| 491 | $+0.5612$ | -8.2202 | -8.5740 | +8.8076 | -1.0049 | $-9.9363$ | $+7.8261$ | $-9.3489$ | 2727 |  |
| 492 | +0.5602 | -8.2149 | -8.5737 | +8.8061 | -1.0058 | $-9.9360$ | +8.0569 | $-9.3448$ | 2730 |  |
| 493 | +0.5357 | -8.0251 | $-8.5481$ | +8.7803 | -1.0059 | $-9.9359$ | +9.1909 | -9.1807 | 2731 |  |
| 494 | +0.5373 | -8.0488 | $-8.5565$ | +8.7795 | -1.0128 | -9.9335 | +9.1644 | -9.2028 | 2744 | 729 |
| 495 | $+0.5372$ | -8.0486 | -8.5565 | +8.7794 | -1.0128 | -9.9335 | +9.1647 | -9.2027 | 2745 | 730 |
| 496 | $+0.5636$ | -8.2771 | $-8.6098$ | +8.8017 | $-1.0352$ | -9.9249 | $-7.8325$ | $-9.4003$ | 2786 |  |
| 497 | $+0.5449$ | -8.1479 | -8.5893 | +8.7785 | -1.0372 | -9.9241 | +9.0026 | -9.2935 | 2788 |  |
| 498 | +0.5541 | -8.2174 | -8.5998 | +8.7889 | -1.0372 | -9.9241 | +8.6703 | -9.3525 | 2789 | 745 |
| 499 | +0.5378 | -8.1003 | -8.5918 | +8.7679 | -1.0463 | -9.9201 | +9.1538 | -9.2525 | 2799 | 751 |
| 500 | +0.5340 | -8.0749 | -8.5959 | +8.7614 | -1.0535 | -0.9169 | $+9.2175$ | -9.2303 | 2816 | 752 |
| 501 | $+0.5614$ | -8.2912 | -8.6280 | $+8.7921$ | -1.0545 | $-9.9164$ | $+7.7243$ | $-9.4156$ | 2817 | 756 |
| 502 | +0.5221 | -7.9466 | -8.5898 | +8.7509 | -1.0565 | -9.9154 | +9.3718 | -9.1112 | 2826 |  |
| 503 | +0.5531 | -8.2432 | -8.6232 | +8.7791 | -1.0600 | -9.9138 | +8.7210 | -9.3778 | 2833 |  |
| 504 | $+0.5260$ | -8.0021 | -8.5476 | +8.7514 | -1.6615 | -9.9130 | $+9.3263$ | -9.1637 | 2836 | 757 |
| 505 | $+0.5524$ | -8.2499 | -8.6308 | +8.7750 | -1.0679 | -9.9098 | $+8.7528$ | -0.3847 | 2850 |  |
| 506 | $+0.5360$ | -8.1176 | -8.6139 | +8.7565 | -1.0689 | $-9.9093$ | $+9.1833$ | $-9.2704$ | 2853 | 758 |
| 507 | +0.5334 | -8.1396 | -8.6163 | +8.7588 | $-1.0690$ | -9.9092 | +9.1411 | $-9.2901$ | 2854 |  |
| 508 | +0.5422 | -8.1762 | -8.6229 | +8.7615 | -1.0715 | -9.9079 | +9:0648 | $-9.3226$ | 2862 | 762 |
| 509 | $+0.5230$ | -7.9860 | -8.6095 | +8.7425 | -1.0752 | -9.9060 | +9.3615 | $-9.1495$ | 2872 |  |
| 510 | +0.5395 | -8.1635 | -8.6274 | +8.7554 | -1.0784 | -9.9042 | +9.1202 | $-9.3123$ | 2880 |  |
| 511 | $+0.5399$ | -8.1689 | -8.6289 | $+8.7553$ | -1.0795 | $-9.9036$ | $+9.1119$ | $-9.3171$ | 2886 |  |
| 512 | +0.5382 | -8.1623 | $-8.6327$ | $+8.7510$ | -1.0846 | $-9.9007$ | +9.1430 | -9.3119 | 2899 |  |
| 513 | $+0.5391$ | -8.1753 | -8.6371 | +8.7502 | -1.0879 | -9.8988 | +9.1265 | $-9.3238$ | 2906 |  |
| 514 | $+0.5389$ | $-8.1735$ | -8.6370 | +8.7499 | -1.0880 | -9.8987, | +9.1310 | $-9.3222$ | 2907 |  |
| 515 | +0.5393 | -8.1792 | -8.6389 | $+8.7496$ | -1.0893 | $-9.8979$ | +9.1229 | $-9.3274$ | 2913 |  |
| 516 | +0.5386 | -8.1741 | -8.6386 | $+8.7488$ | $-1.0857$ | $-9.8977$ | +9.1348 | $-9.3230$ | 2914 |  |
| 517 | +0.5398 | -8.1855 | -8.6405 | +8.7497 | -1.0903 | -9.8973 | +9.1123 | $-9.3331$ | 2917 | 769 |
| 518 | $+0.5397$ | -8.1848 | -8.6406 | +8.7495 | -1.0905 | $-9.8972$ | $+9.1146$ | $-9.3325$ | 2918 | 770 |
| 519 | +0.5389 | -8.1783 | -8.6402 | +8.7484 | -1.0910 | -9.8969 | +9.1303 | -9.3269 | 2919 |  |
| 520 | $+0.5386$ | -8.1756 | -8.6401 | $+8.7479$ | -1.0912 | -9.8968 | $+9.1367$ | $-9.3245$ | 2022 |  |
| 521 | $+0.5390$ | $-8.1803$ | -8.6412 | $+8.7480$ | -1.0918 | $-9.8964$ | $+9.1287$ | $-9.3287$ | 2924 |  |
| 522 | +0.5386 | -8.1776 | -8.6414 | +8.7473 | -1.0924 | -9.8960 | +9.1364 | $-9.3264$ | 2325 |  |
| 523 | $+0.5409$ | -8.1990 | -8.6446 | +8.7494 | -1.0930 | $-9.8957$ | +9.0906 | $-9.3453$ | 2927 |  |
| 524 | $+0.5392$ | -8.1867 | -8.6443 | $+8.7468$ | -1.0945 | -9.8947 | $+9.1242$ | $-9.3347$ | 2931 |  |
| 525 | $+0.5432$ | -8.2260 | -8.6523 | +8.7494 | -1.0978 | -9.8926 | +0.0402 | -9.3692 | 2937 | 775 |
| 526 | $+0.5206$ | -7.9910 | -8.6319 | $+8.7277$ | -1.0986 | -9.8921 | $+9.3878$ | $-9.1555$ | 2942 |  |
| 527 | $+0.5343$ | -8.1527 | -8.6467 | +8.7377 | -1.1015 | $-9.8903$ | +9.2093 | $-9.3053$ | 2953 | 777 |
| 528 | $+0.5139$ | -7.8973 | -8.6317 | +8.7210 | -1.1025 | $-9.8896$ | +9.4527 | -9.0658 | 2958 |  |
| 524 | $+0.5187$ | -7.9804 | -8.6397 | +8.7209 | $-1.1074$ | -9.8863 | +9.4062 | -9.1458 | 2970 | 780 |
| 530 | $+0.5263$ | -8.0927 | -8.6549 | +8.7208 | -1.1162 | -9.8800 | +9.3214 | -9.2518 | 2995 |  |
| 531 | $+0.5166$ | $-7.9836$ | -8.6588 | $+8.7054$ | $-1.1272$ | $-9.8715$ | $+9.4265$ | -9.1498 | 3035 | 787 |
| 532 | $+0.5254$ | -8.1057 | -8.6682 | +8.7104 | -1.1296 | -9.8696 | +9.3316 | -9.2649 | 3047 | 792 |
| 533 | +0.5260 | -8.1139 | -8.6694 | +8.7104 | -1.1303 | -9.8690 | $+9.3243$ | -9.2724 | 3052 | 70 |
| 534 | +0.5111 | -7.8974 | -8.6594 | +8.6988 | -1.1311 | -9.8683 | +9.4767 | $-9.0669$ | 3053 |  |
| 535 | +0.5169 | -7.9976 | -8.6645 | +8.7014 | -1.1325 | -9.8671 | +9.4236 | -9.1634 | 3055 | 794 |
| 536 | +0.5470 | -8.3311 | -8.7045 | $+8.7274$ | -1.1400 | $-9.8606$ | $+8.9355$ | $-9.4643$ | 3079 |  |
| 537 | $+0.5131$ | -7.9721 | -8.6811 | +8.6826 | -1.1510 | $-9.8502$ | +9.4582 | -9.1398 | 3111 | 803 |
| 538 | $+0.5512$ | -8.3851 | -8.7244 | +8.7246 | -1.1516 | -9.8496 | +8.7924 | $-9.5101$ | 3113 |  |
| 539 | +0.5396 | -8.2452 | -8.7096 | +8.7069 | -1.1531 | $-9.8481$ | +9.1109 | -9.4364 | 3117 | 804 |
| 540 | +0.5150 | -8.0103 | -8.6863 | +8.6802 | -1.1547 | $-9.8464$ | +9.4412 | $-9.1765$ | 3122 |  |


| No. | Name. | Mag. | Mean Right Ascension 1850.0. | Annual Variation. | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | Annual Variation. | Secular Variation. | Proper <br> Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 541 | 79 Cancri | 6 | $\begin{array}{lll}\mathrm{h} & \mathrm{m} & \mathrm{s} \\ 9 & 1 & 43.40\end{array}$ | 8 +3.468 | -0.0176 | 8. +0.007 | $+22^{\circ} 36^{\prime} \quad \stackrel{\prime \prime}{5} .0$ | -14.30 | -0.354 | $-0.01$ |
| 542 | 80 Cancri | 6 | $9 \quad 330.90$ | $+3.380$ | -0.0152 | $-0.005$ | +1839 21.3 | -14.40 | -0.344 | 0.00 |
| 543 | $\pi^{1}$ Caneri | $6 \frac{1}{2}$ | $\begin{array}{llll}9 & 4 & 4.81\end{array}$ | +3.297 | -0.0135 | $-0.033$ | $+153551.5$ | -14.15 | $-0.337$ | +0.28 |
| 544 | B.A.C. 3138 | 6 | $\begin{array}{llll}9 & 5 & 2.78\end{array}$ | $+3.447$ | -0.0172 | $+0.005$ | +215356.6 | $-14.50$ | $-0.347$ | -0.01 |
| 545 | $\pi^{2}$ Cancri | 6 | 9656.63 | +3.325 | -0.0136 | $-0.001$ | $+153339.1$ | $-14.58$ | -0.332 | +0.02 |
| 546 | 83 Cancrí | 6 | 91036.13 | +3.361 | -0.0152 | -0.008 | +1820 16.5 | -14.98 | -0.331 | -0.16 |
| 547 | B.A.C. 3202 | $6 \frac{1}{2}$ | 91530.59 | $+3.204$ | $-0.0100$ | $+0.004$ | + 82114.6 | $-15.21$ | $-0.307$ | $-0.10$ |
| 548 | a) Leonis | 6 | 92025.30 | +3.223 | $-0.0107$ | $+0.006$ | + 9424.5 | $-15.43$ | $-0.301$ | $-0.04$ |
| 549 | 3 Leonis | $6 \frac{1}{2}$ | 92029.73 | $+3.199$ | -0.0103 | $-0.005$ | + 85022.4 | $-15.43$ | $-0.300$ | $-0.04$ |
| 550 | $\xi$ Leonis | 6 | 92351.38 | +3.245 | -0.0118 | -0.004 | +115740.7 | $-15.64$ | -0.298 | $-0.06$ |
| 551 | $h$ Leonis | 6 | 92354.87 | +3.228 | -0.0111 | $+0.003$ | $+102227.5$ | -15.63 | -0.296 | $-0.05$ |
| 552 | 7 Leonis | $6 \frac{1}{2}$ | 92740.68 | +3.292 | $-0.0136$ | 0.000 | +15 242.9 | $-15.86$ | -0.296 | $-0.07$ |
| 553 | 8 Leonis | $6 \frac{1}{2}$ | 92845.62 | +3.323 | -0.0148 | 0.000 | $+17 \quad 633.2$ | $-15.77$ | $-0.297$ | $+0.07$ |
| 554 | 10 Leonis | $5 \frac{1}{2}$ | 92917.41 | $+3.176$ | $-0.0096$ | $-0.002$ | + 73022.3 | $-15.85$ | $-0.283$ | +0.02 |
| 555 | B.A.C. 32 | $6 \frac{1}{2}$ | 93029.37 | +3.388 | $-0.0172$ | $+0.006$ | +205819.6 | $-15.92$ | -0.299 | $+0.02$ |
| 556 | - Leonis | $3 \frac{1}{2}$ | 9338.46 |  | -0.0111 | $+0.008$ | +10 3419.3 | -16.13 | -0.281 | $-0.05$ |
| 557 | B.A.C. 3336 | $5 \frac{1}{2}$ | 93815.18 | +3.171 | $-0.0095$ |  | + 72356.1 | $-16.34$ | $-0.268$ | -0.05 |
| 558 | 18 Leonis | 6 | 93818.22 | +3.243 | -0.0121 | $+0.001$ | +122955.3 | -16.27 | -0.274 | $+0.07$ |
| 559 | B.A.C. 3345 | 6 | 93929.33 | +3.238 | $-0.0119$ | $+0.002$ | +12 718.8 | -16.57 | $-0.272$ | $-0.17$ |
| 560 | B.A.C. 3380 | 6 | 94550.20 | +3.157 | -0.0091 |  | $+63945.5$ | -16.72 | -0.254 |  |
| 561 | B.A.C. 3398 | 6 | 94828.64 | $+3.192$ | -0.0105 | $-0.002$ | $+93826.7$ | $-16.84$ | -0.253 | 0.00 |
| 562 | $\nu$ Leonis | 5 | $\begin{array}{lll}9 & 50 & 8.89\end{array}$ | +3.240 | -0.0124 | $+0.002$ | $+13928.9$ | $-16.93$ | $-0.254$ | $-0.01$ |
| 563 | B.A.C. 340 | 6 | 95010.57 | +3.187 | -0.0102 | +0.002 | + 9138.3 | $-16.99$ | $-0.249$ | $-0.07$ |
| 564 | $\pi$ Leonis | 5 | 95217.01 | +3.182 | $-0.0100$ | $+0.002$ | $+84541.6$ | -17.05 | -0.245 | $-0.03$ |
| 565 | B.A.C. 3438 | $6 \frac{1}{2}$ | 95657.29 | +3139 | -0.0084 |  | $+54345.8$ | $-17.23$ | $-0.234$ |  |
| 566 | 14 Sextan | 6 | 95856.63 | +3.144 | $-0.0086$ | $-0.002$ | $+62026.3$ | $-17.29$ | $-0.231$ | +0.03 |
| 567 | $\eta$ Leonis | $3 \frac{1}{2}$ | 95988.85 | $+3.285$ | -0.0149 | $+0.002$ | +172930.7 | -17.32 | $-0.241$ | +0.01 |
| 568 | A Leonis | 5 | 95956.28 | +3.194 | -0.0109 | $-0.003$ | $+104350.5$ | -17.42 | $-0.233$ | -0.05 |
| 569 | $a$ Leonis | $1 \frac{1}{2}$ | 10 | +3.206 | $-0.0120$ | -0.015 | +124153.2 | -17.39 | $-0.234$ | 0.00 |
| 570 | 16 Sextanti | 6 | $\begin{array}{lll}10 & 1 & 23.15\end{array}$ | +3.153 | $-0.0089$ | $+0.002$ | $+65418.2$ | $-17.42$ | -0.247 | +0.01 |
| 571 | 34 Leonis | 6 | $10 \quad 334.04$ | +3.242 | -0.0128 | $+0.008$ | +14 5135.1 | $-17.63$ | -0.229 | $-0.11$ |
| 572 | B.A.C. 3506 | 6 | $\begin{array}{llll}10 & 8 & 5.54\end{array}$ | +3.285 | $-0.0154$ | $+0.005$ | +1829 7.1 | $-17.71$ | $-0.224$ | 0.00 |
| 573 | 37 Leonis | 6 | $10 \quad 8 \quad 37.37$ | +3.235 | -0.0129 | $+0.003$ | $+142826.8$ | -14.77 | $-0.220$ | $-0.04$ |
| 574 | B.A.C. 3529 | 6 | 101241.15 | +3.147 | $-0.0087$ |  | + 7111.1 | $-17.90$ | $-0.207$ |  |
| 575 | 23 Sextantis | 6 | 101317.12 | +3.106 | -0.0066 | $+0.003$ | $+3231.8$ | $-17.91$ | $-0.203$ | +0.01 |
| 576 | 42 Leonis | 6 | 101345.96 | +3.237 | $-0.0135$ | $-0.002$ | $+154349.7$ | $-17.95$ | $-0.211$ | $-0.01$ |
| 577 | B.A.C. 3538 | $6 \frac{1}{2}$ | 101419.40 | $+3.166$ | $-0.0100$ | $-0.007$ | + 9433.0 | -18.07 | $-0.206$ | $-0.11$ |
| 578 | 43 Leonis | 6 | $10 \quad 15 \quad 9.43$ | +3.146 | -0.0087 | $-0.000$ | $+7188.7$ | -18.09 | $-0.203$ | $-0.10$ |
| 579 | 44 Leonis | 6 | 101720.72 | +3.161 | -0.0099 | -0.007 | + 93243.3 | $-18.20$ | $-0.200$ | -0.12 |
| 580 | B.A.C. 3562 | $6 \frac{1}{2}$ | $10 \quad 1741.33$ | +3.175 | $-0.0099$ | $+0.007$ | $+9325.0$ | $-18.29$ | $-0.199$ | $-0.20$ |
| 581 | 45 Leonis | 6 | 101943.31 | $+3.179$ | -0.0104 | $+0.003$ | $+103129.6$ | $-18.18$ | -0.196 | -0.01 |
| 582 | B.A.C. 3579 | 6 | 102047.25 | +3.221 | $-0.0130$ | $-0.001$ | $+15626.9$ | $-18.25$ | $-0.197$ | $-0.04$ |
| 583 | B.A.C. 3592 | 6 | $\begin{array}{llll}10 & 22 & 0.76\end{array}$ | +3.093 | $-0.0060$ |  | + 21554.4 | -18.25 | -0.187 |  |
| 584 | $i$ Leonis | 6 | 102411.11 | +3.217 | -0.0128 | $+0.002$ | +145415.6 | -18.37 | $-0.190$ | -0.04 |
| 585 | @ Leonis | 4 | 102454.58 | +3.171 | -0.0099 | $+0.005$ | $+10 \quad 435.7$ | $-18.39$ | $-0.186$ | $-0.04$ |
| 586 | 48 Leonis | 6 | 102658.26 | +3.141 | -0.0086 | $-0.001$ | + 74327.6 | -18.40 | $-0.181$ | $+0.03$ |
| 587 | 49 Leonis | 6 | $\begin{array}{llll}10 & 27 & 9.97\end{array}$ | $+3.158$ | $-0.0095$ | 0.000 | + 92523.4 | -18.48 | $-0.182$ | -0.05 |
| 588 | 50 Leonis | $6 \frac{1}{2}$ | $10 \quad 3051.49$ | $+3.230$ | $-0.0138$ | $+0.005$ | +165427.4 | -18.58 | $-0.178$ | -0.02 |
| 589 | 33 Sextantis | 6 | 103346.44 | +3.057 | -0.0039 | $-0.005$ | -05716.5 | -18.79 | -0.164 | -0.14 |
| 590 | 34 Sextautis | 6 | 103452.56 | +3.105 | $-0.0065$ | $-0.003$ | + 42154.7 | -18.70 | -0.165 | -0.01 |
| 591 | 35 Sext. pr: | $6 \frac{1}{2}$ | 103533.52 | $+3.119$ | $-0.0071$ | $+0.002$ | $+53159.7$ | $-18.77$ | -0.164 | $-0.06$ |
| 592 | 36 Sextantis | 6 | 103725.57 | $+3.096$ | $-0.0059$ | -0.002 | $+31631.4$ | -18.77 | -0.159 | 0.00 |
| 593 | 37 Sextantis | 6 | 103816.89 | +3.132 | -0.0079 | $+0.003$ | + 7943.6 | -18.84 | $-0.159$ | -0.05 |
| 594 | $k$ Leonis | 6 | 103828.30 | +3.188 | $-0.0123$ | $-0.007$ | +14 595.9 | -18.90 | $-0.162$ | $-0.10$ |
| 595 | $l$ Leonis | 5 | 104122.05 | $+3.163$ | -0.0101 | $+0.002$ | $+112015.3$ | -18.88 | $-0.155$ | +0.01 |
| 596 | B.A.C. 3726 | 6 | 104431.22 | +3.084 | -0.0049 |  | + 14919.5 | -18.98 | $-0.145$ |  |
| 597 | 55 Leonis | 6 | 104759.43 | +3.093 | $-0.0046$ | $+0.011$ | + 13210.0 | $-19.07$ | -0.139 | 0.00 |
| 598 | $d$ Leonis | 5 | 105248.71 | +3.104 | $-0.0058$ | $+0.003$ | + 42517.9 | -19.25 | $-0.131$ | $-0.05$ |
| 599 | c Leonis | 5 | 105258.15 | +3.119 | $-0.0071$ | +0.002 | + 65421.8 | $-19.24$ | $-0.131$ | $-0.04$ |
| 600 | $p^{2}$ Leonis | 6 | 105556.03 | +3.075 | $-0.0038$ | $-0.001$ | + 04821.5 | -19.31 | $=0.124$ | $-0.03$ |


| No. | Logaritums of |  |  |  |  |  |  |  | B.A.C. | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 541 | +0.5392 | -8.2961 | -8.7114 | +8.7048 | -1.1550 | -9.8462 | $+9.1169$ | -9.4374 | 3123 | 805 |
| 542 | $+0.5296$ | -8.2084 | -8.7034 | +8.6901 | -1.1583 | $-9.8427$ | $+9.2753$ | $-9.3610$ | 3129 |  |
| 543 | $+0.5224$ | -8.1269 | $-8.6973$ | +8.6818 | $-1.1593$ | -9.8416 | $+9.3642$ | $-9.2266$ | 3132 |  |
| 544 | +0.5368 | -8.2870 | $-8.7153$ | +8.6962 | -1.1611 | $-9.8397$ | $+9.1605$ | -9.4305 | 3138 |  |
| 545 | $+0.5219$ | -8.1309 | -8.7024 | $+8.6760$ | -1.1645 | $-9.8359$ | +9.3696 | -9.2108 | 3147 |  |
| 546 | $+0.5275$ | -8.2130 | -8.7152 | $+8.6750$ | -1.1709 | $-9.8284$ | $+9.3010$ | $-9.3665$ | 3171 | 815 |
| 547 | $+0.5051$ | -7.8678 | -8.7055 | +8.6466 | -1.1792 | $-9.8180$ | $+9.5235$ | -9.0392 | 3202 |  |
| 548 | $+0.5075$ | -7.9420 | -8.7151 | +8.6373 | -1.1871 | $-9.8071$ | $+9.5047$ | -9.1118 | 3227 |  |
| 549 | $+0.5057$ | -7.9007 | -8.7141 | +8.6361 | -1.1873 | $-9.8070$ | $+9.5189$ | $-9.0716$ | 3228 |  |
| 550 | $+0.5118$ | -8.0403 | -8.7237 | $+8.6326$ | -1.1925 | $-9.7992$ | $+9.4684$ | -9.2068 | 3250 | 832 |
| 551 | $+0.5085$ | -7.9769 | -8.7214 | +8.6301 | -1.1926 | -9.7991 | $+9.4962$ | -9.1458 | 3251 | 833 |
| 552 | $+0.5175$ | -8.1494 | $-8.7351$ | $+8.6292$ | $-1.1983$ | $-9.7901$ | +9.4133 | -9.3103 | 3272 |  |
| 553 | $+0.5215$ | -8.2098 | -8.7412 | $+8.6311$ | -1.1999 | -9.7875 | $+9.3700$ | $-9.3663$ | 3278 |  |
| 554 | $+0.5022$ | -7.8421 | -8.7261 | +8.613૪ | -1.2007 | -9.7862 | $+9.5446$ | -9.0145 | 32 c 6 |  |
| 555 | $+0.5291$ | -8.3076 | -8.7539 | +8.6369 | -1.2024 | -9.7832 | +9.2739 | -9.4540 | 3292 |  |
| 556 | $+0.5078$ | -7.9989 | $-8.7353$ | +8.6079 | -1.2062 | -9.7766 | $+9.5009$ | -9.1675 | 3312 | 841 |
| 557 | +0.5012 | -7.8484 | $-8.7386$ | $+8.5908$ | -1.2133 | $-9.7633$ | $+9.5511$ | -9.0209 | 3336 |  |
| 55 | $+0.5109$ | -8.0807 | -8.7454 | $+8.5975$ | -1.2133 | $-9.7632$ | $+9.4747$ | -9.2464 | 3337 | 847 |
| 559 | $+0.5100$ | -8.0686 | -8.7464 | $+8.5937$ | -1.2149 | $-9.7000$ | +9.4822 | -9.2349 | 3345 |  |
| 560 | +0.4993 | -7.8123 | -8.7478 | +8.5692 | -1.2231 | -9.7424 | $+9.5646$ | -8.9855 | 3380 |  |
| 561 | $+0.5043$ | -7.9782 | $-8.7543$ | $+8.5648$ | -1.2264 | -9.7347 | +9.5275 | -9.1481 | 3398 |  |
| 562 | $+0.5103$ | -8.1189 | -8.7617 | +8.5652 | -1.2284 | -9.7298 | +9.4777 | -9.2835 | 3406 | 855 |
| 56 | $+0.5031$ | -7.9512 | -8.7556 | +8.5590 | -1.2285 | -9.7297 | +9.5371 | -9.1219 | 3407 |  |
| 564 | $+0.5024$ | -7.9406 | -8.7578 | +8.5524 | -1.2310 | -9.7234 | +9.5420 | -9.1115 | 3415 | 857 |
| 565 | $+0.4968$ | $-7.7595$ | -8.7602 | +8.5349 | -1.2364 | -9.7088 | +9.5806 | $-8.9334$ | 3438 |  |
| 566 | $+0.4977$ | -7.8062 | -8.7630 | $+8.5290$ | $-1.2386$ | $-9.7024$ | $+9.5747$ | -8.9796 | 3449 | 862 |
| 567 | $+0.5162$ | -8.2590 | -8.7811 | -8.5462 | -1.2388 | -9.7017 | +9.4193 | -9.4146 | 3453 | 863 |
|  | $+0.5048$ | -8.0390 | -8.7690 | $+8.5307$ | -1.2397 | -9.6992 | +9.5228 | -9.2075 | 3457 | 864 |
| 569 | $+0.5080$ | -8.1147 | -8.7726 | +8.5324 | -1.2402 | $-9.6977$ | +9.4967 | -9.2800 | 3459 | 866 |
| 570 | +0.4984 | -7.8461 | -8.7661 | $+8.5215$ | -1.2413 | -9.6944 | +9.5697 | -9.0190 | 3463 |  |
| 571 | $+0.5097$ | -8.1650 | -8.7785 | $+8.5242$ | -1.2436 | $-9.6871$ | $+9.4806$ | -9.3279 | 3475 |  |
| 572 | +0.5159 | -8.2941 | -8.7930 | +8.5182 | -1.2483 | -9.6713 | $+9.4198$ | -9.4472 | 3506 |  |
| 573 | $+0.5094$ | $-8.1823$ | -8.7845 | $+8.5073$ | -1.2488 | $-9.6694$ | $+9.4822$ | -9.3444 | 3510 |  |
| 574 | $+0.4979$ | -7.8750 | -8.7779 | +8.4818 | -1.2528 | -9.6545 | $+9.5731$ | $-9.0476$ | 3529 |  |
| 575 | $+0.4917$ | $-7.5005$ | -8.7756 | +8.4767 | $-1.2533$ | -9.65\%2 | +9.6124 | -8.6760 | 3532 |  |
| 576 | +0.5104 | -8.2252 | -8.7921 | +8.4909 | -1.2538 | $-9.6504$ | +9.4720 | $-9.3847$ | 3534 |  |
| 577 | $+0.5014$ | -8.0096 | $-8.7823$ | +8.4785 | -1.2543 | -9.6483 | +9.5473 | -9.1795 | 3538 |  |
| 578 | +0.4978 | -7.8845 | -8.7803 | +8.4726 | -1.2551 | -9.6451 | $+9.5732$ | -9.0571 | 3544 | 881 |
| 57. | $+0.5008$ | -8.0044 | -8.7849 | +8.4666 | -1.2571 | -9.6366 | +9.5517 | -9.1745 | 3561 | 885 |
| 580 | $+0.5007$ | $-8.0043$ | -8.7852 | +8.4652 | -1.2574 | -9.6352 | $+9.5521$ | -9.1744 | 3562 |  |
| 581 | $+0.5019$ | -8.0500 | $-8.7883$ | $+8.4583$ | $-1.2593$ | $-9.6271$ | +9.5432 | -9.2187 | 3575 | 890 |
| 50 | $+0.5081$ | -8.2132 | -8.7972 | +8.4619 | -1.2602 | -9.6227 | +9.4909 | $-9.3740$ | 3579 |  |
| 583 | +0.4903 | -7.3801 | $-8.7833$ | +8.4419 | -1.2613 | -9.6177 | $+9.6203$ | $-8.5559$ | 3592 |  |
| 585 | +0.5072 | -8.2099 | -8.7997 | +8.4473 | -1.2631 | -9.6085 | $+9.4983$ | $-9.3712$ | 3606 |  |
| 585 | $+0.5006$ | -8.0351 | -8.7922 | +8.4361 | -1.2637 | -9.6054 | $+9.5524$ | $-9.2044$ | 3609 | 896 |
| 586 | +0.4972 | -7.9195 | -8.7911 | +8.4243 | $-1.2654$ | -9.5964 | $+9.5762$ | -9.0916 | 3621 | 899 |
| 587 | +0.4994 | -8.0073 | -8.7932 | +8.4254 | -1.2656 | $-9.5956$ | $+9.5606$ | -9.1775 | 3622 |  |
| 588 | +0.5085 | -8.2730 | -8.8094 | $+8.4220$ | -1.2685 | -9.5789 | +9.4842 | $-9.4299$ | 3643 |  |
| 58 | $+0.4861$ | +7.0142 | -8.7925 | $+8.3891$ | -1.2707 | -9.5652 | $+9.6435$ | +8.1902 | 3663 |  |
| 590 | +0.4924 | -7.6759 | -8.7945 | +8.3850 | -1.2716 | -9.5598 | $+9.6076$ | -8.8508 | 3667 | 908 |
| 591 | +0.4938 | -7.7800 | -8.7958 | $+8.3824$ | $-1.2721$ | $-9.5565$ | $+9.5990$ | $-8.9540$ | $36 \sim 2$ |  |
| 592 | +0.4910 | -7.5528 | -8.7958 | +8.3718 | -1.2734 | -9.5472 | +9.6161 | -8.7282 | 3684 | 911 |
| 593 | +0.4954 | -7.8949 | -8.7991 | +8.3702 | -1.2740 | -9.5429 | +9.5878 | $-9.0676$ | 3690 | 912 |
| 594 | +0.5045 | -8.2234 | -8.8109 | +8.3809 | -1.2741 | -9.5419 | $+9.5173$ | -9.3845 | 3693 | 914 |
| 595 | +0.4998 | -8.1000 | -8.8064 | +8.3593 | -1.2761 | -9.5269 | $+9.5556$ | $-9.2675$ | 3708 | 916 |
| 596 | +0.4892 | -7.3026 | -8.8001 | $+8.3339$ | -1.2782 | $-9.5098$ | $+9.6268$ | -8.4784 | 3726 |  |
| 597 | $+0.4888$ | -7.2305 | -8.8023 | +8.3141 | -1.2804 | -9.4900 | $+9.6289$ | -8.4065 | 3749 |  |
| 59 | +0.4914 | -7.6933 | $-8.8063$ | +8.2861 | -1.2833 | -9.4609 | $+9.6132$ | -8.8681 | 3768 | 925 |
| 599 | +0.4938 | -7.8883 | -8.8082 | +8.2869 | -1.2834 | -9.4599 | $+9.5978$ | -9.0612 | 3769 | 926 |
| 600 | +0.4880 | -6.9550 | -8.8068 | +8.2647 | $-1.2850$ | -9.4408 | +9.6335 | -8.1311 | 3782 |  |


| No. | Name. | Mag. | Mean Right Ascension 1850.0. | Annual Variation. | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 . \end{aligned}$ | Annual <br> Variation. | Secular Variation. | Proper <br> Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 |  | 5 | $\begin{array}{cccc}\text { h } & \text { m } & \\ 10 & 57 & 16.61\end{array}$ | +3.103 | -0.0077 | $\begin{array}{\|c} 8 \\ -0.019 \end{array}$ | - 844.1 | $-19.39$ | -0.123 |  |
| 602 | $p^{3}$ Leonis | 6 | 105915.07 | +3.063 | -0.0047 | $-0.025$ | + 2468.0 | -19.45 | $-0.118$ |  |
| 603 | $p^{4}$ Leonis | 7 | $\begin{array}{llll}11 & 134.29\end{array}$ | +3.072 | -0.0029 | $+0.004$ | - 03119.3 | -19.46 | $-0.113$ | $-0.05$ |
| 604 | $p^{5}$ Leonis | 5 | $11 \quad 65.02$ | +3.086 | $-0.0033$ | $+0.011$ | + 04445.6 | -19.55 | -0.105 | $-0.05$ |
| 605 | B.A.C. 3836 | 6 | 111611.04 | $+3.087$ | -0.0045 |  | $+3410.6$ | -19.51 | $-0.105$ |  |
| 606 | B.A.C. 3837 | $6 \frac{1}{2}$ | $11 \quad 614.05$ | +3.127 | -0.0076 | $+0.008$ | + 85251.1 | -19.63 | -0.106 | -0.12 |
| 607 | $n$ Leonis | 6 | $\begin{array}{llll}11 & 8 & 0.85\end{array}$ | +3.149 | $-0.0105$ | $+0.003$ | +14 727.5 | -19.58 | $-0.103$ | -0.04 |
| 608 | B.A.C. 384 | 6 | $\begin{array}{llll}11 & 8 & 7.46\end{array}$ | +3.145 | -0.0102 | $+0.001$ | +13 3956.8 | -19.54 | $-0.103$ | 0.00 |
| 609 | ¢ Leonis | $4 \frac{1}{2}$ | $\begin{array}{llll}11 & 9 & 2.12\end{array}$ | +3.053 | -0.0014 | $-0.003$ | -24957.4 | $-19.61$ | -0.098 | -0.05 |
| 610 | 75 Leonis | 6 | 11934.37 | $+3.093$ | -0.0042 | $+0.008$ | + 2504.7 | -19.75 | $-0.098$ | $-0.18$ |
| 611 | 76 Leoni | 6 | 1111113.27 | $+3.087$ | -0.0040 | $+0.004$ | $+22820.5$ | $-19.67$ | $-0.095$ | $-0.07$ |
| 612 | $\sigma$ Leonis | 4 | 111323.98 | +3.099 | $-0.0062$ | $-0.004$ | +6511.8 | $-19.66$ | -0.091 | $-0.02$ |
| 613 | ¢ Leonis | 4 | $\begin{array}{llll}11 & 16 & 5.83\end{array}$ | +3.137 | $-0.0085$ | $+0.015$ | +112118.5 | -19.75 | -0.087 | -0.06 |
| 614 | 79 Leonis | 6 | 111620.42 | +3.085 | -0.0035 | $+0.004$ | + 21349.1 | -19.72 | $-0.085$ | $-0.03$ |
| 615 | B.A.C. 3882 | $6 \frac{1}{2}$ | 111712.04 | +3.126 | $-0.0090$ | $+0.001$ | +121516.8 | -19.74 | -0.085 | $-0.03$ |
| 616 | $\tau$ Leonis | 5 | 1112013.31 | +3.091 | -0.0041 | $+0.005$ | $+34054.1$ | -19.78 | $-0.078$ | $-0.03$ |
| 617 | $e$ Leonis | 5 | 112239.02 | $+3.066$ | -0.0010 | $+0.004$ | -21036.2 | -19.84 | $-0.073$ | $-0.05$ |
| 618 | 89 Leonis | 6 | 112641.34 | +3.076 | -0.0039 | -0.008 | + 35334.5 | -19.97 | -0.065 | $-0.13$ |
| 619 | $v$ Leonis | $4 \frac{1}{2}$ | 1112916.06 | +3.074 | -0.0017 | $+0.003$ | + 0013.3 | $-19.87$ | $-0.060$ | $+0.01$ |
| 620 | $\omega$ Virginis | $6 \frac{1}{2}$ | 113043.38 | +3.098 | -0.0064 | 0.000 | + 85750.1 | -19.94 | -0.058 | $-0.05$ |
| 621 | B.A.C. 397 | $6 \frac{1}{2}$ | $11 \begin{array}{ll}11 & 3615.47\end{array}$ | $+3.059$ | $+0.0016$ | $+0.003$ | $-55038.6$ | $-20.10$ | $-0.046$ | $-0.15$ |
| 622 | $\xi$ Virginis | 5 | 113733.03 | +3.097 | -0.0061 | $+0.005$ | + 9529.9 | $-20.00$ | $-0.044$ | $-0.04$ |
| 623 | $v$ Virginis | $4 \frac{1}{2}$ | 113888.96 | $+3.093$ | $-0.0052$ | $+0.006$ | + 72210.7 | $-20.16$ | $-0.043$ | $-0.20$ |
| 624 | $A^{1}$ Virginis | $5 \frac{1}{2}$ | 1114012.71 | +3.092 | $-0.0059$ | $+0.003$ | + 9442.4 | $-20.00$ | $-0.039$ | -0.02 |
| 625 | B.A.C. 3996 | 6 | 114125.51 | +3082 | -0.0043 |  | $+6138.9$ | -19.99 | $-0.036$ |  |
| 626 | $\beta$ Virginis | $3 \frac{1}{2}$ | 114252.90 | +3.128 | $-0.0024$ | $+0.053$ | + 23644.9 | $-20.28$ | $-0.034$ | $-0.28$ |
| 627 | B.A.C. 4006 | 6 | 114322.37 | $+3.074$ | $+0.0014$ | $+0.011$ | - 42959.0 | $-20.10$ | $-0.032$ | $-0.10$ |
| 628 | $A^{2}$ Virginis | 6 | 114721.26 | +3.081 | -0.0056 | $-0.002$ | $+91639.1$ | -20.05 | $-0.025$ | $-0.02$ |
| 629 | B.A.C. 4043 | $6 \frac{1}{2}$ | 115122.83 | +3.055 | -0.0012 | $-0.017$ | + 12154.8 | -19.98 | $-0.017$ | +0.06 |
| 630 | $b$ Virginis | $6{ }^{2}$ | 115215.91 | $+3.078$ | -0.0027 | $+0.004$ | + 42926.2 | $-20.08$ | -0.015 | $-0.06$ |
| 631 | $\pi$ Virginis | 4 $\frac{1}{2}$ | 115311.16 | $+3.079$ | $-0.0013$ | +0.003 | + 72723 | $-20.10$ | $-0.013$ | $-0.05$ |
| 632 | 10 Virginis | 6 | 12 2 20.11 | $+3.074$ | $-0.0013$ | $+0.004$ | + 24424.5 | -20.28 | +0.004 | $-0.23$ |
| 633 | 11 Virginis | 6 | 12 | $+3.061$ | $-0.0034$ | $-0.008$ | +63830.7 | -20.03 | $+0.005$ | $+0.02$ |
| 634 | B.A.C. 4104 | $6 \frac{1}{2}$ | $12 \quad 359.78$ | $+3.064$ | -0.0024 | $-0.005$ | + 45324.2 | -20.19 | +0.008 | -0.14 |
| 635 | 13 Virginis | 6 | 121058.96 | $+3.075$ | $+0.0006$ | $+0.004$ | + 0248.8 | -20.09 | $+0.022$ | -0.06 |
| 636 | $\eta$ Virg | $3 \frac{1}{2}$ | 121213.90 | $+3.067$ | $+0.0006$ | $-0.003$ | $+0101.4$ | $-20.07$ | $+0.024$ | -0.04 |
| 637 | c Virginis | 5 | 121243.99 | $+3.049$ | $-0.0015$ | $-0.016$ | $+4853.5$ | $-20.09$ | $+0.025$ | $-0.07$ |
| 638 | 17 Virginis | 6 | 121454.43 | $+3.051$ | $-0.0023$ | $-0.010$ | + 6825.7 | -20.08 | $+0.029$ | $-0.07$ |
| 639 | B.A.C. 4200 | $6 \frac{1}{2}$ | $12 \quad 2089.71$ | +3.062 | $+0.0031$ | $-0.016$ | - 3472.9 | -20.01 | $+0.039$ | -0.03 |
| 640 | B.A.C. 4225 | $6 \frac{1}{2}$ | 122355.93 | $+3.069$ | $+0.0036$ | -0.012 | $-41327.2$ | $-19.93$ | $+0.047$ | +0.02 |
| 641 | $q$ Vir | 6 | $12 \quad 26 \quad 2.47$ | +3.091 | $+0.0060$ | $-0.003$ | - 83726.3 | -19.90 | +0.051 | $+0.03$ |
| 642 | ${ }^{\text {f }}$ Virginis | 6 | $12 \quad 29 \quad 4.06$ | +3.085 | +0.0042 | 0.000 | - 5020.0 | $-19.98$ | $+0.057$ | -0.09 |
| 643 | B.A.C. 4255 | $6 \frac{1}{2}$ | 123100.73 | +3.078 | $+0.0035$ | $-0.004$ | - 33248.8 | $-19.83$ | +0.061 | +0.04 |
| 644 | $\chi$ Virginis | 5 | 123130.74 | +3.094 | $+0.0055$ | 0.000 | $-7107.4$ | -19.91 | $+0.062$ | -0.04 |
| 645 | B.A.C. 4259 | 6 | 123138.53 | +3.103 | $+0.0056$ | +0.009 | - 71220.2 | -20.01 | $+0.662$ | -0.15 |
| 046 | $\gamma$ Virginis | $2 \frac{1}{2}$ | $1234 \quad 3.70$ | +3.040 | $+0.0022$ | -0.033 | -03733.8 | -19.85 | $+0.066$ | $-0.02$ |
| 647 | 28 Virginis | 6 | 123412.59 | +3.099 | $+0.0054$ | $+0.005$ | - 64025.7 | -19.85 | +0.067 | -0.02 |
| 648 | B.A.C. 4277 | 6 | 123555.41 | +3.073 | +0.0024 |  | - 04454.8 | -19.81 | $+0.070$ |  |
| 649 | B.A.C. 4294 | $6 \frac{1}{2}$ | 123948.38 | +3.088 | $+0.0050$ | $-0.005$ | - 52847.9 | $-19.75$ | $+0.078$ | 0.00 |
| 650 | B.A.C. 4312 | $6 \frac{1}{2}$ | 124334.81 | $+3.106$ | $+0.0075$ | $-0.007$ | - 93115.4 | -19.76 | $+0.086$ | -0.07 |
| 651 | 37 Virginis | 6 | 124358.92 | +3.055 | +0.0004 | $+0.002$ | $+35224.6$ | -19.67 | $+0.085$ | $+0.02$ |
| 652 | 38 Virginis | 6 | 124530.51 | $+3.072$ | +0.0039 | $-0.011$ | - 24412.8 | $-19.69$ | $+0.089$ | -0.03 |
| 653 | $\psi$ Virginis | 5 | 124633.41 | +3.116 | $+0.0071$ | $+0.004$ | - 84323.4 | $-19.66$ | $+0.052$ | $-0.02$ |
| 654 | $k$ Virginis | 6 | 125156.16 | +3.088 | +0.0044 | $+0.002$ | -3 010 | $-19.51$ | +0.101 | +0.03 |
| 655 | 46 Virginis | $6 \frac{1}{2}$ | 125252.75 | $+3.085$ | +0.0042 | $+0.001$ | - 23335.6 | -19.45 | +0.103 | +0.07 |
| 656 | 48 Virginis | 6 | 125610.83 | $+3.085$ | $+0.0046$ | $-0.002$ | -25115.3 | -19.48 | $+0.109$ | -0.02 |
| 657 | B.A.C. 4382 | $6 \frac{1}{2}$ | 125832.49 | +3.156 | +0.0109 | 0.000 | $-14641.9$ | -19.40 | $+0.116$ | 0.00 |
| 658 | $g$ Virginis | 6 | $\begin{array}{lll}13 & 0 & 2.60\end{array}$ | $+3.137$ | $+0.0086$ | $+0.006$ | -95613.7 | -19.40 | +0.118 | -0.03 |
| 659 | B.A.C. 4394 | $5 \frac{1}{2}$ | 130043.47 | +3.121 | $+0.0076$ |  | - 81048.4 | -19.36 | +0.119 |  |
| 660 | 50 Virginis | 6 | 13154.61 | +3.135 | $+0.0083$ | $+0.004$ | - 93141.2 | -19.38 | +0.122 | $-0.05$ |


| No. | LOGARITHMS OF |  |  |  |  |  |  |  | B.A.C. | $\begin{aligned} & \text { No. } \\ & \text { T.Y.C. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | 6 | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 601 | +0.4945 | -7.9632 | -8.8118 | +8.2601 | -1.2858 | -9.4318 | +9.5925 | -9.1349 | 3788 | 934 |
| 602 | $+0.4896$ | $-7.4930$ | -8.8090 | +8.2427 | -1.2868 | -9.4183 | +9.6241 | -8.6685 | 3798 | 936 |
| 603 | +0.4868 | +6.7692 | $-8.8097$ | +8.2\% 2 | -1.2880 | -9.4017 | $+9.6397$ | +7.9452 | 3816 |  |
| 604 | +0.4878 | -6.9258 | -8.8118 | +8.1914 | $-1.2901$ | $-9.3674$ | +9.6344 | -8.1019 | 3832 | 938 |
| 605 | $+0.4896$ | -7.5412 | -8.8125 | +8.1913 | -1.2901 | -9.3667 | +9.6241 | -8.7167 | 3836 |  |
| 606 | +0.4941 | -8.0057 | -8.8171 | +8.1955 | -1.2902 | $-9.3663$ | $+9.5943$ | -9.1765 | 37 | 940 |
| 607 | +0.4978 | -8.2134 | -8.8260 | +8.1892 | -1.2910 | $-9.3520$ | $+9.5634$ | -9.3762 | 3843 | 941 |
| 608 | +0.4974 | -8.1986 | -8.8252 | +8.1875 | -1.2910 | -9.3511 | $+9.5667$ | $-9.3622$ | 3845 |  |
| 609 | +0.4852 | $+7.5075$ | -8.8136 | +8.1679 | -1.2914 | $-9.3435$ | +9.6477 | +8.6830 | 3848 | 942 |
| 610 | $+0.4893$ | $-7.5081$ | -8.8138 | +8.1634 | -1.2916 | -9.3390 | $+9.6259$ | -8.6836 | 3850 | 943 |
| 611 | $+0.4889$ | -7.4493 | -8.8144 | +8.1491 | -1.2923 | $-9.3248$ | $+9.6279$ | -8.6250 | 3857 |  |
| 612 | +0.4918 | $-7.8946$ | -8.8180 | +8.1322 | -1.2932 | $-9.3052$ | +9.6094 | -9.0676 | 3862 | 948 |
| 613 | +0.4944 | -8.1187 | -8.8245 | +8.1121 | -1.2942 | -9.2796 | $+9.5888$ | -9.2862 | 3877 | 949 |
| 614 | +0.4886 | -7.4065 | -8.8163 | +8.1015 | -1.2943 | -9.2772 | $+9.6296$ | -8.5823 | 3879 | 950 |
| 615 | +0.4948 | -8.1532 | -8.8263 | +8.1026 | -1.2946 | -9.2687 | $+9.5851$ | -9.3192 | 3882 |  |
| 616 | +0.4893 | -7.6259 | -8.8182 | +8.0621 | -1.2957 | -9.2372 | $+9.6253$ | -8.8011 | 3900 | 955 |
| 617 | +0.4861 | +7.3979 | -8.8184 | +8.0344 | -1.2964 | -9.2102 | +9.6434 | +8.5737 | 3916 | 959 |
| 618 | +0.4891 | -7.6521 | -8.8203 | +7.9858 | -1.2976 | -9.1609 | +9.6266 | -8.8:272 | 3930 |  |
| 619 | +0.4872 | -4.6517 | -8.8200 | +7.9500 | -1.2983 | -9.1261 | +9.6375 | -5.8278 | 3946 | 964 |
| 620 | +0.4910 | -8.0183 | -8.8257 | +7.9344 | -1.2987 | -9.1052 | +9.6115 | -9.1891 | 3954 |  |
| 6 | $+0.4852$ | +7.8317 | -8.823 | +7.8407 | -1.2999 | -9.0146 | $+9.6456$ | +9.0055 | 75 |  |
| 622 | +0.4902 | -8.0260 | -8.8273 | +7.8197 | -1.3001 | -8.9903 | $+9.6160$ | -9.1966 | 3979 |  |
| 623 | $+0.4896$ | -7.9337 | -8.8255 | +7.8061 | -1.3002 | -8.9786 | +9.6214 | -9.1062 | 3982 | 970 |
| 624 | +0.4898 | -8.0258 | -8.8278 | $+7.7651$ | -1.3006 | -8.9357 | +9.6179 | -9.1964 | 3989 |  |
| 625 | +0.4838 | -7.8461 | -8.8249 | +7.7346 | -1.3008 | -8.9083 | +9.6264 | -9.0198 | 3996 |  |
| 6 | $+0.4879$ | -7.4816 | -8.82 | +7.6972 | -1.3010 | -8.87 | $+9.6336$ | $-8.6572$ | 4002 | 975 |
| 6 | +0.4862 | +7.7187 | -8,8941 | $+7.6855$ | -1.3011 | $-8.8603$ | +9.6418 | +8.8935 | 4006 |  |
| 623 | $+0.4889$ | -8.0364 | -8.8290 | +7.5712 | -1.3016 | -8.7415 | $+9.6226$ | -9.2068 | 4027 |  |
| 629 | +0.4874 | -7.2008 | -8.8237 | +7.3993 | -1.3019 | -8.5752 | $+9.6364$ | -8.3768 | 4043 |  |
| 630 | +0.4877 | -7.7187 | $-8.8250$ | $+7.3533$ | -1.3020 | -8.5280 | $+9.6335$ | -8.8935 | 4049 | 983 |
| 631 | $+0.4880$ | $-7.9403$ | -8.8274 | $+7.3006$ | $-1.3020$ | $-8.4730$ | $+9.6298$ | $-9.1127$ | 4052 | 984 |
| 632 | +0.4871 | -7.5039 | -8.8244 | -6.7657 | -1.3022 | +7.9413 | +9.6374 | -8.6795 | 4094 |  |
| 633 | +0.4870 | -7.8300 | -8.8268 | -6.8491 | -1.3022 | +8.0222 | +9.6358 | -9.0632 | 4096 |  |
| 634 | +0.4869 | $-7.7560$ | -8.8254 | -7.0666 | -1.3022 | +8.2411 | $+9.6374$ | -8.9305 | 4104 | $996{ }^{*}$ |
| 635 | +0.4872 | $-5.7369$ | -8.8234 | -7.5043 | -1.3017 | +8.6804 | $+9.6375$ | -6.9130 | 4137 | 1000 |
| 63 | +0.4872 | -6.2885 | -8.8233 | -7.5510 | -1.3016 | +8.7271 | $+9.6377$ | $-7.4646$ | 4145 | 1002 |
| 637 | +0.4865 | -7.6838 | -8.8244 | -7.5696 | $-1.3016$ | +8.7445 | $+9.6403$ | -8.8587 | 4151 | 1005 |
| 638 | +0.4859 | -7.8547 | -8.8255 | -7.6393 | -1.3013 | +8.8129 | $+9.6420$ | -9.0283 | 4168 |  |
| 639 | +0.4883 | $+7.6427$ | -8.8232 | -7.7687 | -1.3005 | +8.9438 | $+9.6306$ | +8.8179 | 4200 |  |
| 640 | +0.4887 | $+7.6899$ | -8.8227 | -7.8431 | -1.2999 | +9.0180 | +9.6285 | +8.8649 | 4225 |  |
| 641 | +0.4905 | +8.0019 | -8.8260 | -7.8834 | -1.2994 | +9.0546 | $+9.6150$ | $+9.1731$ | 4230 | 1013 |
| 642 | +0.4893 | +7.7629 | -8.8221 | -7.9276 | -1.2987 | +9.1021 | $+9.6246$ | +8.9373 | 4247 |  |
| 643 | +0.4888 | +7.6122 | -8.8208 | -7.9548 | -1.2982 | $+9.1300$ | +9.6282 | +8.7875 | 4255 |  |
| 644 | +0.4905 | +7.9194 | -8.8232 | -7.9643 | -1.2981 | +9.1369 | +9.6165 | +9.0921 | 4257 |  |
| 645 | +0.4905 | +7.9216 | -8.8232 | -7.9661 | -1.2981 | +9.1387 | +9.6162 | $+9.0943$ | 4259 |  |
| 646 | +0.4875 | +6.8577 | -8.8191 | -7.9944 | -1.2974 | +9.1705 | $+9.6358$ | $+8.0337$ | 4268 | 1020 |
| 647 | +0.4905 | +7.8873 | -8.8220 | $-7.9992$ | -1.2974 | +9.1124 | +9.6167 | +9.0604 | 4269 |  |
| 648 | $+0.4876$ | +6.9347 | $-8.8186$ | -8.0174 | -1.2969 | $+9.1934$ | $+9.6354$ | +8.1108 | 4277 |  |
| 649 | +0.4904 | +7.7993 | -8.8193 | -8.0635 | -1.2956 | +9.2376 | +9.6186 | +8.9734 | 4294 |  |
| 650 | +0.4932 | +8.0406 | -8.8220 | -8.1064 | $-1.2943$ | +9.2765 | $+9.5985$ | $+9.2107$ | 4312 |  |
| 651 | +0.4848 | -7.6465 | -8.8169 | -8.1053 | -1.2942 | +9.2804 | $+9.6492$ | $-8.8216$ | 4314 |  |
| 602 | +0.4890 | +7.4947 | -8.8158 | -8.1195 | -1.2936 | +9.2951 | $+9.6275$ | +8.6703 | 4323 | 1029 |
| 653 | +0.4930 | +8.0008 | -8.8199 | -8.1338 | -1.2932 | $+9.3048$ | +9.6002 | +9.1718 | 4330 | 1031 |
| 654 | +0.4895 | $+7.5321$ | $-8.8133$ | -8.1761 | -1.2910 | +9.3516 | $+9.6249$ | $+8.7076$ | 4352 |  |
| 655 | +0.4892 | +7.4627 | -8.8127 | -8.1836 | -1.2906 | +9.3592 | $+9.6267$ | +8.6383 | 4358 |  |
| 606 | $+0.4895$ | +7.5085 | -8.8113 | -8.2095 | -1.2890 | +9.3850 | +9.6246 | +8.6840 | 4373 |  |
| 657 | +0.4991 | $+8.2100$ | -8.2229 | -8.2398 | -1.2879 | $+9.4026$ | +9.5555 | $+9.3727$ | 4382 |  |
| 658 | +0.495\% | +8.0524 | -8.8154 | -8.2438 | -1.2871 | +9.4133 | +9.5830 | +9.2219 | 4391 | 1047 |
| 659 | +0.4943 | +7.9661 | -8.8129 | -8.2464 | -1.2868 | +9.4181 | +9.5936 | +9.1377 | 4394 |  |
| 660 | +0.4956 | +8.0328 | -8.8139 | -8.2562 | -1.2862 | +9.4263 | +9.5841 | +9.2028 | 4397 |  |


| No. | Name. | Mag. | Mean Right Ascension 1850.0. | Annual Variation. | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | Annual Variation. | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | h m s <br> 13 2 11.25 | +3.101 | $+0.0058$ | $+0.001$ | 44412.9 | $-19.37$ | +0.121 |  |
| 661 | $\theta$ Virginis tr. | 4 $\frac{1}{2}$ | $\begin{array}{rrr}13 & 2 & 11.20 \\ 13 & 4 & 4.86\end{array}$ | +3.101 +3.181 | +0.0058 +0.0119 | +0.001 +0.009 | $\begin{array}{rrrr}4 & 44 & 12.9 \\ 15 & 23 & 17.1\end{array}$ | -19.38 | +0.121 +0.128 |  |
| 663 | B:A.C. 4441 | 6 | $\begin{array}{llll}13 & 9 & 34.33\end{array}$ | $+3.176$ | $+0.0118$ |  | $\underline{-14} 445$ | -19.14 | $+0.138$ |  |
| 664 | 58 Virginis | 6 | $\begin{array}{llll}13 & 9 & 35.99\end{array}$ | +3.136 | $+0.0088$ | -0.003 | - 94519.2 | -19.18 | $+0.137$ | -0.04 |
| 665 | 65 Virginis | 6 | 131532.72 | $+3.102$ | $+0.0061$ | 0.000 | - $4 \quad 8 \quad 14.9$ | -19.00 | $+0.146$ | 0.02 |
| 666 | 66 Virginis | 6 | 131644.98 | +3.116 | $+0.0063$ | $+0.012$ | - 42240.1 | -18.96 | $+0.149$ | $-0.02$ |
| 667 | $\alpha$ Virginis | 1 | 131717.78 | +3.152 | +0.0095 | 0.000 | -10 2236.6 | -18.98 | $+0.152$ | $-0.05$ |
| 668 | B.A.C. 4488 | $6 \frac{1}{2}$ | $\begin{array}{lllll}13 & 18 & 4.27\end{array}$ | +3.201 | +0.0129 | $+0.002$ | $-164399.9$ | -18.83 | $+0.156$ | +0.07 |
| 669 | $i$ Virginis | 5 | 131848.23 | +3.161 | $+0.0104$ | -0.005 | -11 51530.5 | -18.92 | $+0.156$ | -0.04 |
| 670 | 69 Virginis | $5 \frac{1}{2}$ | 131927.43 | +3.190 | +0.0124 | -0.004 | -15 1139.6 | -18.91 | $+0.158$ | $-0.05$ |
| 671 | $l^{2}$ Virginis |  | $13 \quad 2410.30$ | +3.116 | +0.0071 | $-0.001$ | -52846.7 | -18.77 | $+0.163$ | $-0.05$ |
| 672 | 75 Virginis | 6 | 132451.19 | +3.196 | $+0.0122$ | -0.001 | -14 3524.5 | -18.80 | $+0.169$ | $-0.10$ |
| 673 | $h$ Virginis | 5 | $\begin{array}{llll}13 & 25 & 4.38\end{array}$ | +3.151 | $+0.0092$ | 0.000 | - 92325.4 | -18.73 | $+0.167$ | -0.04 |
| 674 | B.A.C. 4531 | 6 | 132642.84 | +3.182 | $+0.0110$ | $+0.002$ | -12 2636.1 | $-18.70$ | +0.171 | -0.06 |
| 675 | 80 Virginis | 6 | 132743.33 | +3.114 | $+0.0068$ | $+0.003$ | -43750.1 | -18.55 | $+0.170$ | $+0.05$ |
| 676 | $m$ Virginis | 6 | 133344.63 | $+3.141$ | +0.0087 | -0.004 | -756 39.8 | -18.39 | +0.182 | $+0.01$ |
| 677 | 83 Virginis | 6 | 133624.75 | $+3.225$ | +0.0131 | $+0.004$ | -15 2524.3 | -18.37 | +0.192 | $-0.06$ |
| 678 | 85 Virginis | 6 | 133730.95 | +3.219 | $+0.0128$ | 0.000 | $-150048.1$ | -18.38 | $+0.194$ | $-0.11$ |
| 679 | 86 Virginis | 6 | 133757.13 | +3.186 | +0.0109 | $+0.001$ | $-114022.3$ | -18.25 | $+0.193$ | 0.00 |
| 680 | 87 Virginis | 6 | $13 \quad 3916.36$ | +3.248 | $+0.0142$ | $+0.005$ | $\begin{array}{llll}-17 & 6 & 25.7\end{array}$ | -18.27 | $+0.199$ | $-0.07$ |
| 681 | B.A.C. 4591 | 6 | 133917.94 | +3.159 | $+0.0095$ |  | - 85720.8 | -18.20 | +0.193 |  |
| 682 | B.A.C. 4604 | $6 \frac{1}{2}$ | 134054.54 | $+3.102$ | $+0.0060$ | $+0.011$ | -2 526.8 | -18.18 | +0.192 | -0.04 |
| 683 | 89 Virginis | $5 \frac{1}{2}$ | 134143.75 | +3.246 | +0.0144 | -0.004 | -17 23 5.7 | -18.16 | $+0.204$ | -0.05 |
| 684 | B.A.C. 4679 | $6 \frac{2}{2}$ | 135620.29 | +3.239 | $+0.0129$ | $+0.003$ | -14 1451.4 | -17.56 | +0.22? | $-0.03$ |
| 685 | 94 Virginis | 6 | 135821.57 | +3167 | +0.0095 | $+0.002$ | - 81024.3 | -17.42 | $+0.228$ | $+0.02$ |
| 686 | 95 Virginis | 6 | 135847.21 | +3.164 | $+0.0097$ | $-0.007$ | - 83541.6 | $-17.40$ | $+0.229$ | $+0.02$ |
| 687 | 96 Virginis | $6 \frac{1}{2}$ | $\begin{array}{llll}14 & 1 & 1.51\end{array}$ | +3.188 | $+0.0103$ | $+0.003$ | -93717.3 | -17.32 | +0.234 | 0.00 |
| 688 | B.A.C. 4700 | $5 \frac{1}{2}$ | $14 \quad 239.31$ | +3.256 | $+0.0137$ | $-0.005$ | -15 3528.6 | $-17.31$ | $+0.243$ | $-0.06$ |
| 689 | $\times$ Virginis | $4 \frac{1}{2}$ | $\begin{array}{llll}14 & 4 & 54.01\end{array}$ | +3.195 | $+0.0104$ | $+0.007$ | - 93424.1 | -17.14 | -0.241 | +0.01 |
| 690 | B.A.C. 4720 | $6 \frac{1}{2}$ | $14 \quad 632.93$ | +3.120 | $+0.0083$ | -0.015 | - 51454.2 | -17.06 | 240 | $+0.02$ |
| 691 | B.A.C. 47 | 6 | $14 \begin{array}{lll}14 & 7 & 8.80\end{array}$ | $+3.301$ | $+0.0150$ | $+0.008$ | -17 29.952 .2 | $-17.06$ | $+0.253$ | -0.01 |
| 692 | $i$ Virginis | 4 | $\begin{array}{llll}14 & 8 & 9.33\end{array}$ | +3.142 | +0.0083 | $+0.006$ | -5 1655.1 | -17.41 | $+0.243$ | $-0.41$ |
| 693 | B.A.C. 4739 | 6 | 141020.41 | $+3.305$ | +0.0153 |  | $-181815.4$ | -16.90 | $+0.260$ |  |
| 694 | $\lambda$ Virginis | $4 \frac{1}{2}$ | 141110.01 | $+3.237$ | $+0.0121$ | $+0.004$ | $-124041.0$ | -16.84 | $+0.255$ | $+0.03$ |
| 695 | 2 Libræ | 6 | 141521.65 | $+3.217$ | $+0.0113$ | $+0.001$ | $-11134.9$ | -16.75 | $+0.261$ | -0.09 |
| 696 | 106 Virginis | 6 | $14 \quad 2047.38$ | $+3.156$ | +0.0089 | $+0.001$ | -61325.3 | $-16.44$ | $+0.265$ | $-0.05$ |
| 697 | 5 Libre | 6 | 143741.91 | +3.297 | $+0.0134$ | +0.002 | -14 4927.9 | $-15.52$ | +0.305 | $-0.03$ |
| 698 | B.A.C. 4888 | $6 \frac{1}{2}$ | 144039.54 | +3.448 | $+0.0188$ |  | $-233723.6$ | $-15.33$ | $+0.324$ |  |
| 699 | $\alpha^{1}$ Lihræ | 6 | 144223.90 | $+3.307$ | +0.0136 | $-0.003$ | -15 $22 \begin{array}{ll}12.9\end{array}$ | $-15.30$ | $+0.314$ | $-0.07$ |
| 700 | $\alpha^{2}$ Libra | $2 \frac{1}{2}$ | 144235.30 | $+3.309$ | $+0.0136$ | $-0.002$ | $-152454.8$ | -15.29 | $+0.315$ | -0.07 |
| 701 | B.A.C. 489 | 6 | 144311.93 | +3.335 | +0.0146 | $-0.005$ | -17 946.2 | $-15.35$ | $+0.318$ | -0.17 |
| 702 | 12 Libræ | 6 | 144538.02 | +3.467 | +0.0190 | $+0.002$ | $\begin{array}{llll}-24 & 1 & 27.8\end{array}$ | $-15.07$ | $+0.334$ | -0.03 |
| 703 | $\xi^{1}$ Libræ | 6 | 144614.60 | $+3.245$ | $+0.0114$ | $-0.003$ | -11 17170.5 | -15.06 | +0.314 | -0.05 |
| 704 | $\xi^{2}$ Libræ | 6 | 144838.12 | +3.245 | $+0.0112$ | $+0.003$ | -10 $48 \quad 4.4$ | -14.90 | $+0.317$ | $-0.03$ |
| 705 | B.A.C. 4923 | 6 | 144842.76 | $+3478$ | $+0.0167$ | +0.068 | $-2044 \quad 3.1$ | $-16.54$ | $+0.334$ | $-1.68$ |
| 706 | 18 Libræ | $6 \frac{1}{2}$ | $14 \quad 5047.37$ | $+3.239$ | $+0.0110$ | 0.000 | -10 3215.1 | $-14.86$ | $+0.320$ | -0.12 |
| 707 | 20 Libræ | $3 \frac{1}{2}$ | 145518.10 | $+3.496$ | +0.0192 | 0.000 | -24 4119.5 | -14.50 | $+0.353$ | -0.03 |
| 708 | $\nu^{1}$ Libræ | 5 | 145816.19 | +3.335 | +0.0135 | $+0.001$ | -15 $40 \begin{array}{lll}16.8\end{array}$ | -14.32 | $+0.341$ | -0.03 |
| 709 | $x^{2}$ Libræ | $6 \frac{1}{2}$ | 145827.15 | $+3.335$ | $+0.0136$ | $-0.003$ | -15 5359.0 | $-14.29$ | +0.342 | -0.01 |
| 710 | B.A.C. 4984 | 6 | $\begin{array}{llll}15 & 1 & 7.21\end{array}$ | $+3.488$ | $+0.0180$ | $+0.006$ | -23 2427.5 | $-14.15$ | $+0.361$ | -0.04 |
| 711 | $4^{1}$ Libræ | $4 \frac{1}{2}$ | 15.340 .81 | +3.407 | $+0.0153$ | $+0.002$ | $\begin{array}{llll}-19 & 13 & 13.0\end{array}$ | $-13.97$ | $+0.357$ | -0.02 |
| 712 | $1^{2}$ Librre | $6 \frac{1}{2}$ | 15.487 .11 | $+3.404$ | $+0.0152$ | 0.000 | -19 4930.2 | $-13.78$ | +0.358 | $+0.10$ |
| 713 | B.A.C. 5006 | 6 | $15 \quad 500.92$ | $+3.524$ | +0.0194 | $-0.010$ | -25 3736.0 | $-13.71$ | +0.372 | $+0.16$ |
| 714 | B.A.C. 5008 | $6 \frac{1}{2}$ | $\begin{array}{llll}15 & 5 & 6.45\end{array}$ | $+3.257$ | $+0.0107$ | $+0.008$ | -10 2622.0 | $-13.96$ | +0.342 | $-0.10$ |
| 715 | B.A.C. 5023 | 6 | 15741.81 | $+3.453$ | $+0.0167$ | -0.009 | -21 $50 \quad 26.0$ | -13.79 | $+0.369$ | $-0.09$ |
| 716 | 28 Libræ | 6 | $1512 \quad 23.92$ | $+3.390$ | $+0.0141$ | $+0.003$ | $-173636.2$ | $-13.46$ | +0.368 | $-0.07$ |
| 717 | $0^{1}$ Libræ | 6 | 151238.61 | $+3.343$ | $+0.0127$ | $+0.005$ | $\begin{array}{llll}-15 & 0 & 12.9\end{array}$ | -13.31 | +0.363 | $+0.07$ |
| 718 | $0^{2}$ Libræ | 6 | 151440.25 | $+3.333$ | $+0.0125$ | +0.001 | -14 3541.6 | -13.24 | $+0.365$ | +0.01 |
| 719 | B. A.C. 5070 | 6 | 151538.78 | $+3.279$ | +0.0111 | $-0.003$ | -1149 49.5 | -13.27 | $+0.361$ | -0.09 |
| 720 | $\zeta^{1}$ Libræ | 4 | 151948.27 | $+3.374$ | $+0.0130$ | $+0.006$ | -1611 22.9 | -12.94 | $+0.376$ | -0.04 |


| No. | LOGARITHMS OF |  |  |  |  |  |  |  | $\begin{gathered} \text { No. } \\ \text { B.A.C. } \end{gathered}$ | T. ${ }_{\text {No. }}^{\text {No. }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | $c$ | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{1}$ | $d^{\prime \prime}$ |  |  |
| 661 | +0.4914 | +7.7261 | -8.8092 | $-8.2536$ | -1.2860 | $+9.4282$ | +9.6132 | +8.9007 | 4401 | 1049 |
|  | +0.5014 | +8.2464 | -8.8226 | -8.2807 | $-1.2850$ | +9.4409 | +9.5381 | +9.4066 | 4418 | 1052 |
| 663 | +0.5019 | +8.2241 | -8.8181 | $-8.3140$ | -1.2819 | $+9.4756$ | $+9.5361$ | $+9.3856$ | 4441 |  |
| 664 | +0.4968 | +8.0339 | -8.8099 | -8.3060 | -1.2819 | $+9.4757$ | $+9.5763$ | $+9.2087$ | 4442 |  |
| 665 | +0.4916 | +7.6593 | -8.8010 | -8.3352 | $-1.2782$ | +9.5101 | +9.6122 | +8.8342 | 4477 |  |
| 666 | $+0.4920$ | $+7.6831$ | -8.8004 | -8.3419 | -1.2774 | $+9.5168$ | +9.6102 | +8.8579 | 4478 |  |
| 667 | +0.4985 | +8.0615 | -8.8059 | -8.3508 | $-1.2770$ | $+9.5197$ | $+9.5650$ | $+9.2304$ | 4480 | 1061 |
| 668 | +0.5051 | +8.2379 | -8.8155 | -8.3651 | $-1.2765$ | +9.5239 | +9.5112 | +9.4167 +9.980 | 4488 |  |
| 669 | +0.5005 | +8.1224 | -8.8072 | -8.3612 | $-1.2760$ | +9.5278 | +9.5501 | +9.2890 +0.3918 | 4492 |  |
| 670 | +0.5043 | +8.2312 | -8.8127 | -8.3706 | $-1.2756$ | +9.5312 | +9.5181 | +9.3918 | 4494 | 1065 |
| 671 | +0.4937 | +7.7759 | -8.7959 | -8.3811 | -1.2723 | $+9.5552$ | $+9.5996$ | $+8.9500$ | 4516 | 1070 |
| 672 | +0.5047 | +8.2089 | -8.8077 | -8.3967 | -1.2718 | $+9.5585$ | +9.5169 | +9.3708 | 4520 |  |
| 673 | +0.4984 | +8.0118 | -8.7991 | $-8.3894$ | -1.2716 | +9.5596 | +9.5669 | +9.1820 | 4521 | 1072 |
| 674 | +0.5024 | +8.1358 | -8.8024 | -8.4017 | -1.2704 | +9.5675 | +9.5368 | +9.3015 | 4531 |  |
| 675 | +0.4929 | +7.6998 | -8.7927 | -8.3976 | -1.2696 | +9.5723 | +9.6046 | +8.8744 | 4535 |  |
| 676 | +0.4976 | +7.9312 | -8.7907 | -8.4277 | -1.2648 | $+9.5996$ | $+9.5738$ | +9.1031 | 65 | 1082 |
| 677 | +0.5080 | +8.2250 | -8.8002 | -8.4509 | -1.2626 | $+9.6111$ | $+9.4909$ | $+9.3852$ | 4574 |  |
| 678 | +0.5077 | +8.2118 | -8.7984 | -8.4547 | -1.2617 | +9.6157 | +9.4946 | +9.3728 | 4582 |  |
| 679 | +0.5031 | +8.0981 | -8.7921 | -8.4505 | -1.2613 | +9.6175 | $+9.5329$ | $+9.2651$ | 4585 | 1091 |
| 680 | +0.5110 | +8.2701 | -8.8015 | -8.4665 | -1.2601 | +9.6230 | +9.4643 | +9.4265 | 4590 |  |
| 68 | +0.4996 | $+7.9793$ | -8.7871 | -8.4523 | -1.2601 | $+9.6231$ | $+9.5604$ | $+9.1500$ | 4591 | 1093 |
| 682 | +0.4902 | +7.3428 | $-8.7807$ | -8.4538 | $-1.2587$ | $+9.6296$ | $+9.6213$ | +8.5186 | 4604 |  |
| 683 | $+0.5119$ | +8.2753 | $-8.8000$ | -8.4771 | $-1.2580$ | +9.6329 | +9.4561 | +9.4311 | 4608 | 1102 |
| 684 | + +0.5100 | +8.1701 | -8.7789 | -8.5242 | -1.2437 | +9.6867 | +9.4786 | $+9.3326$ | 4679 |  |
| 685 | +0.5004 | +7.9204 | $-8.7677$ | -8.5219 | -1.2415 | $+9.6935$ | +9.5556 | +9.0921 | 4688 | 1122 |
| 68 | $+0.5012$ | +7.9422 | -8.7677 | -8.5238 | -1.2411 | $+9.6950$ | $+9.5504$ | $+9.1133$ | 4690 |  |
| 687 | +0.5031 | +7.9895 | -8.7665 | -8.5324 | $-1.2386$ | +9.7023 | +9.5362 | $+9.1595$ | 4698 |  |
| 688 | +0.5133 | +8.2042 | -8.7748 | -8.5478 | -1.2368 | +9.7076 | +9.4486 | $+9.3640$ | 4700 |  |
| 689 | +0.5035 | + 7.9830 | -8.7620 | -8.5447 | -1.2343 | +9.7147 | $+9.5336$ | +9.1530 | 4716 | 1131 |
| 690 | +0.4962 | +7.7172 | -8.7559 | -8.5455 | -1.2324 | +9.7198 | +9.5846 | +8.8914 |  |  |
| 69 | $+0.5175$ | $+8.2520$ | -8.7739 | -8.5661 | -1.2317 | $+9.7216$ | +9.4074 | $+9.4075$ | 4722 |  |
| 692 | +0.4964 | +7.7181 | -8.7540 | $-8.5504$ | -1.2305 | +9.7247 | +9.5835 | +8.8923 | 4727 | 1135 |
| 693 | +0.5191 | +8.2618 | $-8.7714$ | -8.5770 | -1.2278 | +9.7312 | +9.3911 | +9.4160 | 4739 |  |
| 694 | +0.5097 | +8.1008 | -8.7594 | -8.5678 | -1.2270 | +9.7332 | $+9.4839$ | $+9.2662$ | 4743 | 1146 |
| 695 | +0.5073 | +8.0330 | -8.7514 | -8.5778 | -1.2216 | +9.7458 | +9.5045 | $+9.2010$ | 4765 | 1 |
|  | +0.4989 | +7.77 | 8.7388 | -8.5872 | -1.2145 | $+9.7607$ | $+9.5669$ | +8.9474 | 4795 |  |
| 697 | +0.5179 | +8.1345 | -8.7265 | -8.6414 | $-1.1901$ | +9.8028 | +9.4099 | +9.2959 | 4868 | 1181 |
| 698 | $+0.5376$ | +8.3481 | -8.7452 | $-8.6715$ | -1.1854 | $+9.8096$ | $+9.1430$ | +9.4862 | 4888 |  |
| 699 | +0.5198 | +8.1435 | -8.7201 | $-8.6532$ | $-1.1826$ | $+9.8134$ | +9.3908 | +9.3037 | 4894 | 1191 |
| 700 | +0.5199 | +8.1445 | -8.7199 | -8.6537 | $-1.1823$ | +9.8139 | +9.3897 | $+9.3047$ | 489 | 1192 |
|  | +0.5238 | +8.1927 | -8.7228 | -8.6589 | -1.1813 | +9.8152 | $+9.3460$ | $+9.3490$ | 4896 |  |
| 702 | +0.5397 | +8.3481 | $-8.7383$ | -8.6837 | $-1.1773$ | +9.8205 | +9.1042 | +9.4848 | 4913 |  |
| 703 | $+0.5116$ | +7.9980 | -8.7064 | -8.6542 | $-1.1763$ | +9.8218 | +9.4710 | +9.1656 | 4915 |  |
| 704 | +0.5108 | +7.9744 | -8.7017 | -8.6585 | -1.1722 | +9.8269 | $+9.4778$ | +9.1428 | 4922 | 1201 |
| 705 | +0.5328 | +8.2719 | $-8.7228$ | -8.6800 | -1.1721 | $+9.8270$ | +9.2258 | +9.4189 | 4923 | 1202 |
| 706 | $+0.5105$ | $+7.9597$ | -8.6976 | -8.6626 | -1.1685 | +9.8313 | $+9.4809$ | +9.1284 | 4935 |  |
| 707 | +0.5436 | $+8.3446$ | -8.7237 | -8.7059 | $-1.1604$ | +9.8404 | $+9.0216$ | +9.4791 | 4950 | 1212 |
| 708 | +0.5229 | +8.1247 | -8.6931 | -8.6865 | $-1.1550$ | +9.8462 | +9.3583 | $+9.2843$ | 4970 |  |
| 709 | $+0.5235$ | +8.1309 | -8.6933 | -8.6874 | -1.1546 | $+9.8465$ | +9.3522 | +9.2901 | 4.71 |  |
| 710 | +0.5418 | +8.3077 | -8.7086 | -8.7128 | -1.1496 | +9.8516 | $+9.0641$ | $+9.4464$ | 4984 |  |
| 711 | +0.5322 | +8.2087 | -8.6912 | -8.7052 | -1.1446 | +9.8564 | +9.2388 | + 0.3598 | 4995 | 1225 |
| 712 | $+0.5320$ | +8.2030 | -8.6887 | -8.7068 | -1.1424 | +9.8584 | +9.2411 | +9.3545 | 5003 |  |
| 713 | +0.5483 | +8.3446 +7.9289 | -8.7087 | -8.7277 | -1.1420 | +9.8588 +9.8590 | +8.8971 +9.4711 | +9.4758 +9.0977 | 5006 5008 |  |
| 714 | +0.5117 | +7.9289 | -8.6708 | -8.6901 | -1.1418 | +9.8590 +9.8636 | +9.4711 +9.1176 | +9.0977 +9.4050 | 5008 5023 |  |
| 715 | +0.5393 | +8.2612 | -8.6907 | -8.7199 | -1.1366 | $+9.8636$ | +9.1176 | +9.4050 | 5023 |  |
| 716 | +0.5298 | +8.1502 | -8.6694 | -8.7165 | -1.1269 | $+9.8718$ | $+9.2751$ | $+9.3054$ | 5055 | 1238 |
| 717 | +0.5234 | +8.0762 | -8.6631 | -8.7111 | -1.1264 | +9.8722 | +9.3547 | $+9.2372$ | 5057 | 1239 |
| 718 | +0.5227 | +8.0594 | -8.6580 | -8.7137 | -1.1220 | +9.8756 | +0.3632 | +9.2212 | 5063 |  |
| 719 | +0.5161 | +7.9627 | -8.6509 | -8.7104 | $-1.1199$ | +9.8772 | +9.4319 | +9.1295 | 5070 |  |
| 720 | +0.5273 | +8.0953 | -8.6500 | $-8.7254$ | -1.1107 | +9.8839 | + 9.3084 | +9.2538 | 5089 | 1251 |



| No. | logaritims of |  |  |  |  |  |  |  | $\xrightarrow[\text { B.A.C. }]{\substack{\text { No. }}}$ | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 721 | +0.5294 | +8.1126 | -8.6487 | -8.7291 | -1.1078 | $+9.8860$ | +9.2819 | +9.2695 | 5096 | 1254 |
| 722 | +0.5290 | +8.1062 | -8.6469 | -8.7296 | -1.1064 | $+9.8870$ | +9.2869 | +9.2635 | 5099 | 1256 |
| 723 | $+0.5274$ | +8.0870 | -8.6443 | $-8.7290$ | -1.1052 | +9.8878 | $+9.3075$ | +9.2458 | 5100 |  |
| 724 | +0.5355 | +8.1636 | -8.6475 | $-8.7392$ | -1.1011 | $+9.8905$ | +9.1901 | +9.3149 | 5109 |  |
| 725 | +0.5284 | +8.0888 | -8.6396 | $-8.7330$ | -1.1000 | +9.8912 | +9.2954 | +9.2470 | 5112 | 1260 |
| 726 | $+0.5235$ | +8.0212 | -8.6290 | -8.7328 | -1.0936 | +9.8953 | $+9.3553$ | $+9.1837$ | 5134 | 1264 |
| 727 | +0.5356 | +8.1397 | -8.6315 | $-8.7476$ | $-1.0860$ | $+9.8999$ | $+9.1901$ | +9.2920 | 5161 | 1274 |
| 728 | +0.5478 | +8.2395 | -8.6419 | $-8.7625$ | -1.0831 | +9.9015 | $+8.9186$ | +9.3786 | 5166 | 1276 |
| 729 | +0.5370 | +8.1416 | -8.6249 | $-8.7529$ | -1.0784 | +9.9042 | +9.1652 | $+9.2929$ | 5176 | 1279 |
| 730 | $+0.5269$ | +8.0278 | -8.6095 | -8.7468 | -1.0724 | +9.9075 | +9.3162 | +9.1885 | 5190 | 1283 |
| 731 | $+0.5513$ | +8.2443 | -8.6309 | $-8.7732$ | -1.0691 | $+9.9092$ | $+8.7966$ | $+9.3803$ | 5197 |  |
| 732 | +0.5552 | +8.2515 | -8.6209 | -8.7836 | $-1.05 .4$ | $+9.9160$ | +8.6064 | +9.3839 | 5232 | 1291 |
| 733 | +0.5546 | +8.2359 | -8.6120 | $-8.7856$ | -1.0480 | +9.9194 | +8.6464 | $+9.3697$ | 5250 | 1295 |
| 734 | +0.5401 | +8.1240 | -8.5959 | -8.7695 | -1.0480 | +9.9194 | +9.1082 | $+9.2738$ | 5251 | 1296 |
| 735 | +0.5524 | +8.2190 | $-8.6083$ | -8.7832 | -1.0471 | +9.9198 | $+8.7559$ | $+9.3556$ | 5253 | 1297 |
| 736 | +0.5508 | +8.2074 | -8.6063 | $-8.7815$ | -1.0469 | $+9.9199$ | $+8.8195$ | +9.3459 | 5254 |  |
| 737 | +0.5549 | +8.2360 | -8.6107 | -8.7866 | -1.0464 | +9.9201 | +8.6263 | +9.36!5 | 5255 |  |
| 738 | +0.5309 | +8.0334 | $-8.5856$ | $-8.7619$ | -1.0461 | $+9.9202$ | +9.2629 | +9.1917 | 5257 | 1298 |
| 739 | +0.5545 | +8.2314 | -8.6088 | -8.7866 | -1.0451 | $+9.9207$ | +8.6484 | +9.3655 | 5260 | 1299 |
| 740 | $+0.5576$ | +8.2492 | -8.6102 | -8.7913 | -1.0428 | +9.9217 | +8.4298 | $+9.3796$ | 5265 | 1301 |
| 741 | +0.5431 | +8.1301 | -8.5849 | $-8.7775$ | -1.0347 | $+9.9251$ | $+9.0457$ | $+9.2777$ | 5281 |  |
| 742 | +0.5541 | +8.2121 | -8.5!60 | -8.7901 | -1.0336 | +9.9255 | +8.6730 | +9.3475 | $52 \tau 6$ |  |
| 743 | +0.5578 | +8.2367 | -8.5999 | -8.7948 | -1.0331 | +9.9258 | +8.4133 | +9.3676 | 5289 | 1307 |
| 744 | +0.5248 | +7.9464 | -8.5675 | -8.7625 | $-1.0330$ | $+9.9258$ | $+9.3418$ | $+9.1697$ | 5290 | 1308 |
| 745 | $+0.5312$ | +8.0084 | -8.5657 | -8.7696 | -1.0267 | $+9.9283$ | +9.2603 | $+9.1671$ | 5304 | 1313 |
| 746 | $+0.5579$ | +8.2185 | -8.5854 | $-8.7993$ | -1.0194 | $+9.9311$ | $+8.4031$ | $+9.3503$ | 5314 |  |
| 747 | +0.5409 | $+8.0800$ | -8.5588 | -8.7832 | -1.0118 | $+9.9339$ | +9.0941 | +9.2307 | 5329 | 1318 |
| 748 | +0.5409 | $+8.0799$ | -8.5588 | -8.7832 | -1.0118 | $+9.9339$ | $+9.0945$ | +9.2306 | 5330 | 1319 |
| 749 | +0.5518 | +8.1641 | -8.5687 | -8.7949 | -1.0104 | $+9.9344$ | $+8.7796$ | +9.3035 | 5335 |  |
| 750 | $+0.5436$ | +8.0964 | -8.5570 | -8.7870 | -1.0076 | $+9.9354$ | $+9.0362$ | +9.2447 | 5337 |  |
| 751 | $+0.5442$ | +8.0992 | $-8.5557$ | $-8.7882$ | $-1.0057$ | $+9.9360$ | $+9.0212$ | $+9.2470$ | 5342 | 1324 |
| 752 | $+0.5601$ | +8.2128 | -8.5722 | -8.8064 | -1.0045 | $+9.9364$ | +8.1038 | +9.3429 | 5347 |  |
| 753 | $+0.5525$ | +8.1575 | -8.5605 | $-8.7981$ | -1.0019 | $+9.9373$ | +8.7513 | +9.2.67 | 5354 |  |
| 754 | $+0.5672$ | +8.2389 | -8.5670 | -8.8188 | -0.9912 | $+9.9408$ | -8.4281 | $+9.3609$ | 5380 |  |
| 755 | $+0.5657$ | +8.2237 | -8.5648 | -8.8170 | -0.9009 | +9.9408 | -8.2695 | $+9.3536$ | 5381 | 1329 |
| 756 | $+0.5408$ | +8.0503 | -8.5364 | -8.7895 | -0.9902 | $+9.9411$ | +9.0973 | $+9.2019$ | 5383 | 1330 |
| 757 | $+0.5408$ | +8.0505 | -8.5364 | -8.7895 | -0.9902 | +9.9411 | +9.0969 | +9.2021 | 5382 | 1331 |
| 758 | $+0.5466$ | +8.0910 | -8.5364 | -8.7965 | -0.9848 | $+9.9427$ | +8.9581 | +9.2372 | 5395 |  |
| 759 | +0.5385 | $+8.0180$ | -8.5247 | $-8.7900$ | -0.9809 | $+9.9439$ | +9.1421 | $+9.1720$ | 5408 |  |
| 760 | +0.5689 | +8.2219 | -8.5469 | -8.8259 | -0.9702 | +9.9469 | -8.5611 | $+9.3430$ | 5429 |  |
| 761 | $+0.5558$ | +8.1269 | -8.5210 | -8.8120 | -0.9607 | $+9.9495$ | +8.5775 | $+9.2644$ | 5445 |  |
| 762 | $+0.5602$ | +8.1538 | -8.5242 | -8.8174 | $-0.9590$ | +9.9500 | +8.1072 | +9.2864 | 5447 | 1346 |
| 763 | +0.5735 | +8.2186 | -8.5283 | -8.8363 | -0.9470 | +9.9530 | -8.7889 | +9.3350 | 5464 |  |
| 764 | +0.5440 | +8.0218 | -8.4945 | -8.8031 | $-0.9467$ | $+9.9530$ | $+9.0265$ | +9.1718 | 5467 | 1349 |
| 765 | +0.5543 | +8.0933 | $-8.4997$ | -8.8144 | $+0.9417$ | $+9.9542$ | $+8.6646$ | $+9.2331$ | 5477 |  |
| 766 | $+0.5398$ | +7.9712 | -8.4786 | -8.8018 | -0.9349 | $+9.9558$ | $+9.1196$ | +9.1252 | 5489 | 1354 |
| 767 | $+0.5640$ | +8.1390 | -8.4957 | -8.8281 | $-0.9273$ | $+9.9575$ | $-7.9590$ | +9.2684 | 5498 | 1356 |
| 768 | +0.5601 | +8.1097 | -8.4873 | -8.8241 | -0.9237 | $+9.9582$ | +8.1239 | $+9.2438$ | 5501 | 1358 |
| 769 | +0.5348 | +7.9048 | -8.4571 | -8.8012 | -0.9176 | $+9.9595$ | +9.2074 | $+9.0631$ | 5516 5519 |  |
| 770 | +0.5493 | +8.0237 | -8.4667 | -8.8143 | -0.9147 | $+9.9601$ | +8.8797 | +9.1656 | 5519 | 1366 |
| 771 | +0.5706 | $+8.1460$ | -8.4759 | -8.8404 | -0.9005 | +9.9629 | $-8.6637$ | +9.2684 | 5539 | 1371 |
| 772 | +0.53:2 | + 7.8905 | -8.4137 | -8.8122 | -0.8715 | +9.9679 | +9.1323 | +9.0462 | 5579 | 1386 |
| 773 | +0.572. | +8.1099 | $-8.4351$ | -8.8488 | -0.8584 | $+9.9699$ | -8.7694 | $+9.2310$ | 5603 |  |
| 774 | +0.5636 | +8.0435 | --8.4135 | -8.8389 | -0.8482 | $+9.9714$ | -7.8389 | +9.1760 +91464 | 5614 5633 | 1394 |
| 775 | +0.5611 | +8.0109 | -8.3953 | -8.8379 | -0.8331 | +9.9734 | +7.8573 | +9.1464 | 5633 |  |
| 776 | $+0.5619$ | $+8.0064$ | -8.3875 | -8.8396 | -0.8246 | $+9.9745$ | +7.4150 | +9.1412 | 5641 |  |
| 777 | +0.5484 | +7.8983 | -8.3609 | -8.8274 | -0.8117 | $+9.9760$ | +8.9096 | +9.0469 | 5663 |  |
| 778 | +0.5582 | +7.9599 | -8.3634 | -8.8376 | -0.8049 | $+9.9768$ | +8.3856 | +9.0992 | 6680 |  |
| 779 | $+0.5376$ | +7.7908 | -8.3359 | -8.8201 | -0.7958 | +9.9778 | +9.1617 | +8.9485 | 5695 |  |
| 780 | $+0.5572$ | +7.9412 | -8.3510 | $-8.8376$ | -0.7936 | +9.9781 | +8.4713 | +9.0816 | 5698 |  |


| No. | Name. | Mag. | Mean Right Ascension 1850.0. | Annual Variation. | Secular Variation. | - Proper <br> Motion. | Mean Declination 1850.0 | Annual <br> Variation. | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 781 | B.A.C. 5700 | $6 \frac{1}{2}$ | $\begin{array}{ccc} \hline h & m & 8 \\ 16 & 48 & 15.32 \end{array}$ | +3.510 | . 0080 | 0.006 | $-191750.7$ | 6.21 |  |  |
| 782 | В.А.C. 5709 | 6 | 165046.88 | +3.662 | +0.0094 | 0.000 | -24 5139.0 | -6.13 | +0.510 | 0.16 |
| 783 | 26 Ophiuchi | 6 | 165058.60 | $+3.660$ | $+0.0094$ | $+0.001$ | -24 $45 \quad 23.0$ | -6.09 | $+0.510$ | -0.14 |
| 784 | 29) Ophiuchi | 6 | 16534.98 | $+3.502$ | $+0.0073$ | -0.001 | -18 3932.0 | -5.76 | $+0.185$ | $+0.01$ |
| 785 | B.A.C. 5758 | 6 | 165714.76 | $+3.575$ | +0.0076 | $+0.001$ | -21 212.4 | $-5.50$ | $+0.502$ | $-0.08$ |
| 786 | B.A.C. 5768 | $6 \frac{1}{2}$ | 165912.63 | $+3.821$ | $+0.0101$ |  | -30 11126.7 | -5.26 | $+0.538$ |  |
| 787 | B.A.C. 5771 | $6 \frac{1}{2}$ | 165932.46 | $+3.472$ | +0.0064 | -0.003 | $-17 \quad 2425.7$ | $-5.38$ | +0.489 | $-0.15$ |
| 788 | $\eta$ Ophiuchi | $2 \frac{1}{2}$ | $17 \quad 146.75$ | $+3.435$ | +0.0057 | $+0.005$ | $-1532 \quad 2.4$ | -4.92 | $+0.484$ | $+0.12$ |
| 789 | 29 Scorpii | $6 \frac{1}{2}$ | $17 \quad 453.94$ | $+3.725$ | +0.0082 | -0.002 | -26 4756.7 | $-4.90$ | $+0.528$ | -0.12 |
| 790 | $A^{1}$ Ophiuchi | $5 \frac{1}{2}$ | $17 \quad 678.65$ | $+3.683$ | +0.0079 | -0.032 | -26 $22 \quad 37.3$ | -5.81 | $+0.527$ | $-1.14$ |
| 791 | $\mathrm{A}^{2}$ Ophiuchi | 6 | 176687 | $+3.683$ | $+0.0079$ | -0.032 | -26 2233.5 | -5.81 | $+0.527$ | $-1.14$ |
| 792 | B.A.C. 5809 | $6 \frac{1}{2}$ | $17 \quad 616.94$ | +3.822 | $+0.0089$ |  | $-30$ | -4.66 | +0.542 | -1.14 |
| 793 | 38 Ophiuchi | $6 \frac{1}{2}$ | $17 \quad 820.60$ | $+3.718$ | $+0.0075$ | $-0.001$ | -26 2728.4 | -4.57 | $+0.529$ | $-0.09$ |
| 794 | 39 Ophinchi | 6 | $17 \quad 852.05$ | $+3.654$ | $+0.0069$ | 0.000 | $\begin{array}{lll}-24 & 7 & 5.2\end{array}$ | -4.44 | $+0.520$ | 0.00 |
| 795 | B.A.C. 5831 | 6 | $\begin{array}{llll}17 & 8 & 57.63\end{array}$ | $+3.657$ | $+0.0069$ | $+0.008$ | $-2354 \quad 7.3$ | -4.55 | $+0.519$ | -0.12 |
| 796 | B.A.C. 5839 | $6 \frac{1}{2}$ | 171119.55 | $+3.486$ | $+0.0053$ | $+0.001$ | -17 3540.6 | $-4.27$ | $+0.497$ | $-0.03$ |
| 797 | $\xi$ Ophiuchi | 5 | 17121.04 | $+3.592$ | $+0.0058$ | +0.021 | $-205647.9$ | -4.36 | $+0.510$ | $-0.19$ |
| 798 | $\theta$ Ophiuchi | $3 \frac{1}{2}$ | 171247.98 | $+3.670$ | $+0.0066$ | $+0.003$ | $-2450509.4$ | -4.15 | $+0.525$ | $-0.05$ |
| 799 | 43 Ophiuchi | 6 | 171355.54 | $+3.770$ | $+0.0072$ | $+0.003$ | -27 5926.4 | -4.01 | $+0.538$ | 0.00 |
| 800 | B.A.C. 5866 | 6 | 171543.78 | $+3.571$ | $+0.0054$ | $-0.011$ | -21 1746.1 | $-3.93$ | $+0.513$ | $-0.08$ |
| 801 | $b$ Ophiuchi | 5 | $17 \quad 1712.69$ | $+3.660$ | $+0.0057$ | $+0.004$ | $-24$ | $-3.80$ | $+0.524$ | $-0.08$ |
| 802 | $d$ Ophiuchi | 4 | 171746.77 | $+3.819$ | $+0.0070$ | -0.002 | -29 4332.9 | $-3.87$ | $+0.548$ | $-0.20$ |
| 803 | B.A.C. 5884 | $6 \frac{1}{2}$ | $\begin{array}{llll}17 & 18 & 4.07\end{array}$ | +3.821 | +0.0069 | +0.064 | -29 3533.3 | -4.01 | +0.547 | $-0.36$ |
| 804 | $c^{2}$ Ophiuchi | 5 | $17 \quad 2215.92$ | $+3.660$ | $+0.0051$ | $+0.007$ | -23 5027.5 | -3.31 | $+0.526$ | $-0.02$ |
| 805 | B.A.C. 5909 | $6 \frac{1}{2}$ | 172225.71 | +3.717 | $+0.0055$ | $-0.001$ | -26 8 58.0 | $-3.36$ | $+0.535$ | $-0.09$ |
| 806 | B.A.C. 5948 | $6 \frac{1}{2}$ | 172859.87 | $+3.428$ | $+0.0031$ | $-0.009$ | -15 2828.3 | $-2.78$ | $+0.497$ | $-0.07$ |
| 807 | 5 Serpentis | $3 \frac{1}{2}$ | 172359.96 | $+3.433$ | +0.0031 | 0.000 | $-151755.9$ | $-2.75$ | +0.4 6 | $-0.05$ |
| 808 | B.A.C. 5954 | 6 | $17{ }^{17} 2944.27$ | $+3.603$ | $+0.0038$ | $+0.002$ | -21 493.5 | $-2.56$ | $+0.521$ | $+0.08$ |
| 809 | 58 Ophiuchi | 5 | 173426.69 | $+3.594$ | $+0.0032$ | $-0.003$ | -21 3616.5 | -2.16 | $+0.521$ | $+0.07$ |
| 810 | 3 Sagittarii | 5 | $17 \quad 3878.11$ | $+3.767$ | $+0.0034$ | -0.004 | $-27 \quad 46 \quad 4.6$ | -1.91 | $+0.548$ | 0.00 |
| 811 | B.A.C. 6924 | $6 \frac{1}{2}$ | 174058.34 | $+3.751$ | $+0.0029$ | $+0.001$ | $\begin{array}{llll}-27 & 0 & 25.9\end{array}$ | $-1.69$ | $+0.545$ | $-0.03$ |
| 812 | 63 Ophiuchi | $6 \frac{1}{2}$ | 174540.33 | $+3.693$ | $+0.0020$ | $+0.004$ | $-245112.1$ | -1.42 | $+0.537$ | $-0.17$ |
| 813 | B.A.C. 6060 | $6 \frac{1}{2}$ | 174785.71 | $+3.518$ | $+0.0015$ | $-0.006$ | -18 $46 \begin{array}{lll}10.7\end{array}$ | -1.15 | $+0.513$ | -0.62 |
| 814 | B.A.C. 606:3 | $6 \frac{1}{2}$ | 174714.76 | +3.782 | $+0.0020$ |  | $\begin{array}{llll}-28 & 2 & 13.6\end{array}$ | -1.12 | $+0.551$ |  |
| 815 | B.A.C. 6065 | 6 | $17 \quad 4741.34$ | $+3.442$ | $+0.0013$ | $-0.006$ | -15 4654.6 | -1.27 | $+0.502$ | $-0.19$ |
| 816 | B.A.C. 6772 | $6 \frac{1}{2}$ | $17 \quad 497.89$ | $+3.803$ | $+0.0018$ |  | -28 4357.8 | $-0.95$ | $+0.554$ |  |
| 817 | B.A.C. 6074 | 5 | 174927.22 | $+3.852$ | +0.0018 | $+0.003$ | $-301355.7$ | -1.00 | $+0.561$ | $-0.08$ |
| 818 | 4 Sagittarii | 5 | 175038.11 | $+3.661$ | +0.0012 | $+0.001$ | -23 4748.3 | -0.83 | $+0.533$ | -0.01 |
| 819 | B.A.C. 6081 | 6. | 17514.84 | $+3.564$ | $+0.0011$ | $-0.001$ | $-2019195$ | -0.92 | $+0.520$ | -0.14 |
| 820 | 6 Sagittarii | 6 | 175240.26 | $+3.482$ | $+0.0008$ | $-0.001$ | $\begin{array}{llll}-17 & 8 & 44.8\end{array}$ | -0.64 | $+0.508$ | 0.00 |
| 821 | B.A.C. 6088 | 6 | 17.5249 .21 | $+3.628$ | $+0.0010$ | $-0.004$ | $-224616.1$ | $-0.71$ | $+0.529$ | -0.08 |
| 822 | 7 Sagittarii | 6 | $17 \quad 5339.58$ | $+3.672$ | +0.0008 | $-0.001$ | -24 $16 \begin{array}{ll}33.4\end{array}$ | $-0.58$ | $+0.536$ | -0.02 |
| 823 | B.A.C. 6098 | 6 | 175340.39 | $+3.574$ | +0.0008 | $-0.003$ | -20 4352.8 | -0.70 | $+0.521$ | $-0.15$ |
| 824 | 9 Sagittarii | $4 \frac{1}{2}$ | 175440.59 | $+3.676$ | +0.0008 | 0.000 | $-242129.2$ | -0.48 | $+0.536$ | $-0.01$ |
| 825 | $\gamma^{1}$ Sagittarii | 4 | 175566.54 | $+3840$ | $+0.0007$ | $+0.011$ | -29 $3453.0{ }^{\circ}$ | -0.48 | $+0.558$ | $-0.08$ |
| 826 | $\gamma^{2}$ Sagittarii | $3 \frac{1}{2}$ | 175610.56 | $+3.858$ | $+0.0007$ | $+0.002$ | -30 $2 \overline{5} 12.4$ | $-0.57$ | $+0.562$ | -0.23 |
| 827 | B.A.C. 6120 | $6 \frac{1}{2}$ | 175717.17 | $+3.808$ | $+0.0004$ | $+0.015$ | -28 $22 \quad 8.2$ | $-0.18$ | $+0.553$ | $+0.6$ |
| 828 | B.A.C. 6127 | 5 | $17 \quad 5834.97$ | $+3.795$ | $+0.0002$ | $-0.001$ | -28 $28 \quad 2.9$ | -0.23 | $+0.554$ | $-0.11$ |
| 829 | B.A.C. 6145 | 6 | $\begin{array}{lll}18 & 0 & 25.57\end{array}$ | $+3.867$ | $+0.0000$ | $+0.001$ | -30 $44 \begin{array}{lll}51.7\end{array}$ | -0.09 | $+0.564$ | $-0.13$ |
| 830 | B.A.C. 6161 | 6 | $18 \quad 234.11$ | $+3.658$ | -0.0004 | 0.000 | -23 4331.1 | +0.16 | $+0.534$ | $-0.07$ |
| 831 | $\mu^{1}$ Sagittarii | 4 | $18 \quad 447.56$ | +3.587 | -0.0006 | $+0.001$ | -21 5133.9 | $+0.43$ | $+0.523$ | $+0.01$ |
| 832 | 15 Sagittarii | 5 | $18 \quad 615.86$ | +3.578 | -0.0008 | $+0.001$ | $-2046$ | +0.59 | +0.522 | +0.04 |
| 833 | 16 Sagittarii | 6 | 186617.63 | +3.574 | $-0.0008$ | $+0.006$ | $-202538.7$ | +0.58 | $+0.520$ | $-0.03$ |
| 834 | B.A C. 6190 | $6 \frac{1}{2}$ | $18 \quad 752.87$ | $+3.802$ | -0.0013 |  | -28 4144.8 | $+0.69$ | $+0.554$ |  |
| 835 | B.A.C. 6191 | $6 \frac{1}{2}$ | $\begin{array}{llll}18 & 7 & 53.63\end{array}$ | $+3.805$ | $-0.0013$ | $+0.014$ | -28 1943.0 | +0.50 | $+0.553$ | $-0.19$ |
| 836 | B A.C. 6194 | $5 \frac{1}{2}$ | $\begin{array}{llll}18 & 8 & 39.99\end{array}$ | $+3.759$ | -0.0013 | $+0.005$ | -27 529.8 | +0.70 | $+0.547$ | $-0.06$ |
| 837 | ${ }^{8}$ Sagittarii | $3 \frac{1}{2}$ | 181123.43 | +3.842 | $-0.0020$ | $+0.004$ | $-295310.5$ | +0.94 | $+0.559$ | $-0.06$ |
| 838 | B.A.C. 6210 | 6 | 181130.76 | $+3.458$ | -0.0012 | $+0.007$ | $-155317.7$ | $+1.01$ | $+0.503$ |  |
| 839 | B.A.C. 6217 | $6 \frac{1}{2}$ | 181217.56 | $+3.693$ | -0.0017 |  | -24 58833.1 | +1.08 | $+0.538$ |  |
| 840 | B.A.C. 6220 | $6 \frac{1}{2}$ | 181230.77 | $+3.795$ | $-0.0023$ |  | -28 2943.7 | +1.09 | $+0.553$ |  |


| No. | Logaritims of |  |  |  |  |  |  |  |  | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 781 | $+0.5461$ | $+7.8567$ | -8.3275 | -8.8274 | -0.7907 | +9.9784 | +8.9786 | +9.0076 | 5700 |  |
| 782 | +0.5637 | +7.6632 | -8.3395 | $-8.8460$ | -0.7756 | +9.9799 | -7.8865 | $+9.0971$ | 5709 |  |
| 783 | +0.56:34 | +7.16600 | -8.3380 | -8.8458 | -0.7745 | $+9.9800$ | -7.7634 | +9.0942 | 5711 |  |
| 784 | +0.5444 | $+7.8116$ | -8.3065 | -8.8286 | $-0.7614$ | +9.9812 | +9.0204 | +8.9642 | 5723 |  |
| 785 | $+0.5531$ | +7.8480 | -8.2868 | $-8.8383$ | -0.7342 | $+9.9835$ | $+8.7300$ | +8.9932 | 5758 |  |
| 786 | $+0.5822$ | $+8.0072$ | -8.3058 | $-8.8718$ | $-0.7208$ | $+9.9845$ | $-9.0422$ | $+9.1200$ | 5768 |  |
| 787 | +0.5410 | $+7.7364$ | -8.2605 | -8.8290 | -0.7185 | +9.9847 | +9.0980 | +8.8921 | 5771 |  |
| 788 | $+0.5353$ | +7.6681 | -8.2403 | -8.8259 | -0.7024 | $+9.9858$ | +9.2011 | +8.8280 | 5781 | 1442 |
| 739 | +0.5713 | +7.9041 | -8.2501 | -8.8606 | -0.6790 | $+9.9873$ | -8.7042 | +9.0308 | 5800 | 1450 |
| 790 | $+0.5700$ | +7.8864 | -8.2388 | -8.8595 | -0.6694 | +9.9879 | -8.6365 | $+9.0148$ | 5808 | 1452 |
| 791 | $+0.5700$ | $+7.8864$ | -8.2388 | $-8.8595$ | -0.6694 | $+9.9879$ | -8.6365 | +9.0148 | 5808 | 1453 |
| 792 | $+0.5893$ | $+7.9518$ | -8.2525 | -8.8744 | -0.6682 | $+9.9880$ | $-9.0453$ | $+9.6653$ | 5809 |  |
| 793 | +0.5704 | +7.8701 | -8.2212 | -8.8608 | -0.6515 | +9.9889 | -8.6609 | +8.9381 | 5822 |  |
| 794 | +0.5628 | +7.8198 | -8.2085 | $-8.8527$ | -0.6471 | +9.9891 | -7.3802 | +8.9562 | 5827 | 1463 |
| 795 | $+0.5621$ | +7.8146 | -8.2070 | -8.8520 | -0.6463 | +9.9891 | +7.1761 | +8.9517 | 5831 | 1465 |
| 796 | $+0.5422$ | $+7.6504$ | -8.1700 | -8.8348 | -0.6275 | $+9.9901$ | $+9.0730$ | $+8.8057$ | 5839 | 1467 |
| 797 | +0.5528 | $+7.7240$ | -8.1713 | -8.8440 | -0.6199 | $+9.9904$ | +8.7451 | +8.8710 | 5844 | 1471 |
| 798 | +0.5655 | +7.8002 | -8.1768 | -8.8568 | -0.6129 | +9.9907 | -8.2430 | +8.9341 | 5851 | 1474 |
| 799 | $+0.5760$ | +7.8498 | -8.1783 | -8.6691 | -0.6026 | $+9.9912$ | -8.8848 | +8.9718 | 5857 |  |
| 800 | +0.5541 | +7.6980 | -8.1379 | -8.8465 | -0.5854 | +9.9919 | +8.6803 | +8.8434 | 5866 |  |
| 801 | $+0.5631$ | $+7.7417$ | -8.1319 | -8.8557 | -0.5708 | $+9.9924$ | -7.5798 | +8.8784 | 5876 | 1482 |
| 802 | +0.5822 | $+7.8434$ | -8.1481 | -8.8778 | -0.5651 | +9.9926 | -9.0438 | +8.9582 | 5881 |  |
| 803 | +0.5817 | $+7.8381$ | -8.1446 | $-8.8773$ | -0.5622 | $+9.9527$ | -9.0342 | +8.9535 | 5884 |  |
| 804 | +0.5627 | $+7.6838$ | -8.0772 | -8.8567 | -0.5168 | +9,9941 | $-7.2553$ | +8.8211 | 5907 | 1496 |
| 805 | +0.5703 | +7.7277 | -8.0835 | -8.8649 | -0.5149 | $+9.9941$ | $-8.6561$ | +8.8569 | 5909 |  |
| 806 | +0.5362 | +7.3961 | -7.9699 | -8.8360 | -0.4321 | $+9.9960$ | +9.1870 | $+8.5561$ | 5948 | 1510 |
| $81 \sim$ | $+0.5357$ | +7.3908 | -7.9694 | -8.8356 | -0.4321 | $+9.9960$ | $+9.1965$ | +8.5512 | 5949 | 1509 |
| 808 | +0.5564 | +7.5458 | -7.9757 | -8.8524 | -0.4217 | $+9.9962$ | +8.5378 | +8.68:6 | 5954 |  |
| 809 | $+0.5559$ | $+7.4680$ | -7.9019 | -8.8528 | -0.3486 | $+9.9973$ | +8.5752 | +8.6125 | 5987 | 1522 |
| 810 | $+0.5765$ | +7.5245 | -7.8562 | -8.8751 | -0.2814 | +9.9980 | -8.9020 | $+8.6475$ | 6008 | 1527 |
| 811 | $+0.5740$ | +7.4499 | -7.7928 | -8.8726 | $-0.2209$ | +9.9985 | -8.8189 | +8.5759 | 6024 |  |
| 812 | +0.5669 | +7.2854 | -7.6618 | -8.8653 | -0.0579 | +9.9992 | -8.4099 | +8.4193 | 6053 |  |
| 813 | +0.5471 | +7.1055 | -7.5980 | -8.8470 | -0.0526 | $+9.9993$ | +8.9523 | +8.2579 | 6060 |  |
| 814 | $+0.5777$ | +7.2955 | -7.6234 | -8.8775 | -0.0475 | $+9.9993$ | -8.9360 | +8.4174 | 6063 |  |
| 815 | +0.5376 | +7.0050 | -7.5705 | -8.8400 | -0.0321 | $+9.9994$ | +9.1644 | +8.1644 | 6065 |  |
| 816 | $+0.5801$ | $+7.2387$ | -7.5568 | -8.8805 | -9.9781 | +9.9995 | -8.9987 | $+8.3577$ | 6072 |  |
| 817 | +0.5853 | +7.2520 | -7.5500 | -8.8869 | -9.9649 | +9.9995 | $-9.1076$ | +8.3646 | 6074 | 1540 |
| 818 | $+0.5634$ | $+7.0795$ | -7.4737 | -8.8621 | $-9.9134$ | +9.9996 | -7.7782 | +8.2170 | 6077 | 1541 |
| 819 | $+0.5521$ | +6.9826 | -7.4419 | -8.8515 | -9.8922 | $+9.9997$ | $+8.7767$ | +8.1308 | 6081 |  |
| 820 | +0.5419 | $+6.8181$ | -7.3486 | -8.8434 | $-9.8071$ | +9.9998 | $+9.0792$ | +7.9745 | 6086 | 1547 |
| 821 | $+0.5601$ | +6.9429 | -7.3552 | -8.8589 | $-9.7982$ | +9.9998 | +8.1206 | +8.0838 | 6088 | 1548 |
| 2 | +0.5651 | +6.9199 | -7.3059 | -8.8640 | -9.7440 | +9.9998 | -8.1875 | +8.0558 | 6097 | 1556 |
| 823 | $+0.5535$ | +6.8430 | -7.2940 | $-8.8528$ | -9.7432 | +9.9998 | $+8.7160$ | +7.9900 | 6098 | 1557 |
| 824 | $+0.5653$ | +6.8456 | $-7.2303$ | -8.8643 | -9.6681 | +9.9999 | -8.2305 | +7.9812 | 6102 | 1559 |
| 825 | $+0.5831$ | +6.8765 | -7.1831 | -8.8845 | -9.6008 | +9.9999 | -9.0652 | +7.9920 | 6107 |  |
| 826 | +0.5861 | +6.8149 | -7.1105 | -8.8882 | $-9.5245$ | +9.9999 | -9.1209 | $+7.9267$ | 6115 | 1562 |
| 827 | +0.5789 | +6.6296 | -6.9528 | -8.8794 | -9.3755 | $+0.0000$ | -8.9699 | +7.7501 | 6120 |  |
| 823 | +0.5793 | +6.3492 | $-6.6710$ | -8.8799 | $-9.0933$ | $+0.0000$ | -8.9786 | $+7.4693$ | 6127 |  |
| 829 | +0.5873 | -5.8683 | +6.1596 | -8.8897 | $+8.5721$ | $+0.0000$ | -9.1408 | $-6.9786$ | 6145 |  |
| 830 | +0.5633 | -6.5164 | +6.9118 | -8.8622 | $+9.3518$ | +0.0000 | -7.6990 | -7.6542 | 6161 |  |
| 831 | $+0.5546$ | -6.7307 | +7.1746 | -8.8539 | $+9.6227$ | $+9.9999$ | +8.6542 | $-7.8767$ | 6168 | 1578 |
| 32 | +0.5536 | $-6.8397$ | +7.2900 | -8.8529 | +9.7332 | +9,9998 | $+8.7110$ | -7.9866 | 6178 | 1582 |
| 833 | +0.5525 | -6.8336 | +7.2908 | -8.8520 | +9.7409 | +9.9998 | +8.7619 | -7.9815 | 6180 |  |
| 834 | +0.5800 | -7.0985 | +7.4171 | -8.8806 | $+9.8385$ | +9.9997 | $-8.9965$ | -8.2177 | 6190 |  |
| 835 | +0.5787 | -7.0926 | +7.4163 | -8.8791 | +9.8392 | +9.9997 | -8.9647 | $-8.2133$ | 6191 |  |
| 836 | +0.5745 | -7.1104 | $+7.4520$ | -8.8741 | $+9.8798$ | $+9.9997$ | -8.8370 | $-8.2360$ | 6194 |  |
| 837 | +0.5841 | $-7.2796$ | +7.5821 | -8.8854 | +9.9n84 | $+9.9995$ | $-9.0846$ | -8.3937 | 6209 | 1587 |
| 838 | +0.5379 | -6.9760 | +7.5416 | -8.8403 | +0.0030 | $+9.9995$ | $+9.1584$ | -8.1382 | 6210 |  |
| 839 | +0.5673 | -7.2218 | $+7.5962$ | -8.8659 | +0.0318 | +9.9994 | -8.4518 | -8.3552 | 6217 |  |
| 840 | +0.5793 | -7.2954 | +7.6168 | -8.8793 | +0.0390 | +9.9994 | -8.9777 | -8.4154 | 6220 |  |


| No. | Name. | Mag. | Mean Right Ascension 1850.0. | Annual <br> Variation. | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | Annual Variation. | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | B.A.C. 6239 | 6 | $\begin{array}{ccc} \mathrm{h} \quad \mathrm{~m} & { }^{8} \\ 18 & 15 & 23.15 \end{array}$ | +3.863 | -8.0027 | ${ }^{8}$ | 39.8 |  |  |  |
| 842 | 21 Sayittarii | 5 | 181624.94 | +3.863 +3.574 | -0.0020 | +0.002 | -20 $47 \begin{array}{lll}30 & 0.1\end{array}$ | 42 | U |  |
| 843 | B.A.C. 6249) | 6 | $1817 \begin{array}{lll}17 & 3.27\end{array}$ | $+3.855$ | -0.0029 |  | -30 2816.9 | +1.49 | $+0.561$ |  |
| 844 | B.A.C. 6260 | $6 \frac{1}{2}$ | 181813.88 | +3.837 | $-0.0031$ |  | -29 544.1 | +1.59 | +0.558 |  |
| 845 | $\lambda$ Sagittarii | 3 | $18 \quad 1843.17$ | $+3.707$ | $-0.0027$ | $+0.001$ | -25 2957.3 | +1.41 | $+0.539$ | $-0.23$ |
| 846 | B.A.C. 6267 | 6 | $\begin{array}{llll}18 & 19 & 11.32\end{array}$ | +3501 | -0.0021 |  | $-17 \cdot 5311.0$ | +1.68 | +0.509 |  |
| 847 | B.A.C. 6287 | 6 | 182122.63 | $+3.519$ | -0.0024 | -0.005 | -18 493.9 | +1.78 | $+0.512$ | $-0.09$ |
| 848 | B.A.C. 6292 | 6 | 182231.03 | $+3.513$ | -0.0026 | $-0.016$ | -18 5954.0 | +1.70 | $+0.512$ | -0.27 |
| 849 | B A.C. 69 ! 3 | $6 \frac{1}{2}$ | 182237.06 | +3.529 | -0.0025 | $+0.017$ | -18 2137.1 | +1.06 | $+0.510$ | -0.62 |
| 850 | B.A.C. 62.34 | 6 | 182238.88 | $+3.509$ | -0.0025 | $-0.007$ | -1830 <br> 1.6 | $+1.89$ | $+0.510$ | -0.09 |
| 851 | B.A.C. 6310 | $6 \frac{1}{2}$ | 182437.12 | +3.869 | -0.0043 |  | -30 5917.5 | $+2.15$ | $+0.561$ |  |
| 852 | 24 Sagittarii | 6 | 182443.74 | +3.668 | -0.0034 | $+0.002$ | -24 81817.0 | +2.16 | $+0.532$ | 0.00 |
| 853 | B.A.C. 6336 | $6 \frac{1}{2}$ | 182855.60 | $+3.593$ | -0.0036 | $-0.001$ | -21 310.0 | +2.38 | $+0.520$ | -0.14 |
| 854 | B.A.C. 6:343 | 6 | 182923.20 | +3.654 | -0.0040 | $+0.003$ | -23 3738.9 | +2.59 | +0.525 | $+0.03$ |
| 855 | B.A.C. 6347 | $6 \frac{1}{2}$ | 182956.71 | $+3.588$ | -0.0037 | $+0.004$ | -21 1015.4 | +2.27 | $+0.518$ | $-0.34$ |
| 856 | 26 Sagittarii | 6 | 183242.60 | $+3.666$ | -0.0044 | $+0.007$ | -23 58 4.5 | +2.84 | $+0.528$ | -0.01 |
| 857 | B.A.C. 6369 | 6 | $18 \quad 3536.34$ | +3.636 | -0.0050 | $+0.005$ | -25 9129.8 | +2.82 | $+0.532$ | $-0.28$ |
| 858 | $\varphi$ Sagittarii | $3 \frac{1}{2}$ | $18 \quad 3616.97$ | +3.758 | $-0.0055$ | $+0.011$ | -27 8122.8 | +3.13 | $+0.540$ | -0.03 |
| 859 | 28 Sagittarii | 6 | 183717.93 | +3.624 | -0.0048 | $+0.006$ | $-223235.4$ | +3.26 | $+0.521$ | $+0.01$ |
| 860 | 29 Sagittarii | 6 | $18 \quad 4045.91$ | $+3.565$ | -0.0049 | $+0.003$ | $-202923.5$ | +3.55 | $+0.511$ | 0.00 |
| 861 |  | 6 | 184149.48 | +3.612 | $-0.0053$ | $+0.001$ | -22 1942.7 | +3.61 | $+0.518$ | $-0.03$ |
| 862 | B.A.C. 6414 | $6 \frac{1}{2}$ | $1843 \quad 5.87$ | +3.857 | $-0.0074$ |  | -30 5420.7 | +3.75 | +0.553 |  |
| 863 | 31 Sagittarii | 6 | 1843 | $+3.609$ | -0.0055 | $+0.005$ | -22 $\quad 5 \quad 31.3$ | +3.73 | $+0.516$ | -0.02 |
| 864 | 33 Sagittarii | 6 | $18 \quad 45$ | $+3.594$ | -0.0056 | $+0.006$ | $\begin{array}{llll}-21 & 32 & 14.0\end{array}$ | +3.96 | $+0.513$ | +0.04 |
| 865 | $\nu^{1}$ Sagittarii | 5 | $18 \quad 45 \quad 6.64$ | +3.627 | -0.0058 | $+0.002$ | -22 5525.9 | +3.93 | +0.519 | +0.01 |
| 866 | $\checkmark$ Sagittarii | 21 | $1845 \quad 57.77$ | $+3.729$ | $-0.0068$ | $+0.006$ | -26 2838.8 | +3.92 | $+0.532$ | -0.08 |
| 867 | $\nu^{2}$ Sayittarii | 5 | $1846,2.95$ | +3.632 | $-0.0060$ | +0.009 | -22 $51 \quad 9.8$ | +4.02 | $+0.518$ | +0.02 |
| 863 | B.A.C. 6147 | 6 | 184652.53 | $+3.460$ | -0.0048 |  | -16 3313.1 | +4.08 | +0.494 |  |
| 869 | B.A.C. 6448 | 6 | 184655.82 | $+3.643$ | -0.0062 | 0.007 | -23 2129.0 | +4.11 | $+0.519$ | $+0.03$ |
| 870 | $\xi^{1}$ Sagittarii | 6 | 184825.59 | $+3.569$ | -0.0059 | $+0.001$ | $-205048.9$ | +4.21 | $+0.509$ | 0.00 |
| 871 | $\overbrace{}^{2}$ Sagittarii | 4 | 184846.65 | +3.583 | -0.0060 | $+0.003$ | $-211755.0$ | +4.24 | $+0.510$ | 0.00 |
| 872 | B.A.C. 6485 | $6 \frac{1}{2}$ | $18 \quad 5234.97$ | +3.612 | -0.0068 | $-0.009$ | $-2254$ | +4.57 | +0.514 | $+0.01$ |
| 873 | ¢ Sagittarii | 32 | $\begin{array}{llll}18 & 53 & 3.77\end{array}$ | +3.828 | -0.0088 | $+0.003$ | $\begin{array}{lll}-30 & 5 & 20.5\end{array}$ | $+4.57$ | $+0.543$ | -0.03 |
| 874 | B.A.C. 6490 | $6 \frac{1}{2}$ | $18 \quad 5316.73$ | +3.678 | -0.0075 | $-0.001$ | -25 $\quad 259.4$ | +4.32 | $+0.522$ | $-0.30$ |
| 875 | - Sagittarii | 4 | 185541.44 | $+3.600$ | $-0.0069$ | $+0.006$ | -21 5720.9 | +4.80 | $+0.509$ | $-0.03$ |
| 876 | B..A.C. 6519 | 6 | $18 \quad 57 \quad 5.78$ | +3.439 | $-0.0057$ |  | -15 5252.1 | $+4.95$ | $+0.486$ |  |
| 877 | $\tau$ Sargittarii | $3 \frac{1}{2}$ | 185734.27 | $+3.755$ | $-0.0088$ | -0.001 | -27 53 12.6 | +4.76 | $+0.531$ | $-0.23$ |
| 878 | B.A.C. 6524 | $6 \frac{1}{2}$ | 185756.72 | $+3.606$ | $-0.0074$ | $-0.007$ | $-2243121.1$ | +4.98 | $+0.510$ | $-0.04$ |
| 879 | B.A.C. 6536 | 6 | 185927.80 | +3.535 | $-0.0067$ | $+0.006$ |  | $+5.15$ | +0.497 |  |
| 880 | B.A.C. 6539 | 6 | 185938.68 | +3.572 | $-0.0072$ |  | $\begin{array}{llll}-21 & 13 & 4.7\end{array}$ | $+5.16$ | $+0.503$ |  |
|  | $\pi$ Sagittar | 3 | $19 \quad 0 \quad 50.33$ | $+3.575$ | $-0.0073$ | $+0.002$ | -21 $15 \begin{array}{lll}-24.6\end{array}$ | $+5.27$ | $+0.503$ | $+0.01$ |
| 882 | B.A.C. 6549 | $6 \frac{1}{2}$ | $19 \quad 0 \quad 54.14$ | +3.823 | -0.0101 |  | $-301422.8$ | $+5.27$ | $+0.538$ |  |
| 883 | B.A.C. 6554 | $6 \frac{1}{2}$ | 191488.66 | $+3.806$ | -0.0100 |  | -29 4424.4 | +5.34 | +0.535 |  |
| 884 | B.A.C. 6561 | 6 | $19 \quad 3 \quad 29.95$ | +3.581 | -0.0078 | -0.007 | $-2154$ | $+5.45$ | $+0.503$ | $-0.04$ |
| 885 | B.A.C. 6362 | $6 \frac{1}{2}$ | $19 \quad 359.14$ | $+3.694$ | -0.0092 | -0.008 | $-269813.1$ | +5.37 | $+0.519$ | -0.16 |
| 886 | B.A.C. 6569 | 6 | $\begin{array}{llll}19 & 5 & 10.97\end{array}$ | $+3.796$ | -0.0105 |  | -29 2922.3 | $+5.63$ | $+0.531$ |  |
| 887 | $\psi$ Sagittarii | 5 | $19 \quad 620.44$ | +3.687 | $-0.0093$ | $+0.005$ | $-253033.8$ | +5.74 | $+0.515$ | +0.01 |
| 888 | B.A.C. 6576 | 6 | $19 \quad 624.61$ | +3.655 | -0.0089 | +0.002 | -24 2551.1 | $+5.50$ | $+0.511$ | $-0.23$ |
| 839 | d Sagittarii | 5 | 19 8 51.27 | $+3.519$ | -0.0076 | +0.003 |  | $+5.98$ | $+0.490$ | $+0.04$ |
| 890 | B.A.C. 6590 | 6 | 191026.84 | +3.417 | -0.0069 | -0.014 | $\begin{array}{lllll}-15 & 47 & 34.4\end{array}$ | $+5.63$ | $+0.477$ | -0.44 |
| 891 | B.A.C. 6607 | 6 | 191138.49 | $+3.594$ | -0.0090 | $-0.008$ | -22 4038.5 | $+6.10$ | $+0.500$ | $-0.07$ |
| 892 | ${ }^{1}$ Sagittarii | 4 | 191257.99 | $+3.489$ | $-0.0078$ | +0.003 | $\begin{array}{lll}-18 & 7 & 28.7\end{array}$ | +6.34 | $+0.483$ | $+0.66$ |
| 893 | $\varrho^{2}$ Sagittarii | $5 \frac{1}{2}$ | 19135 | $+3.508$ | -0.0079 | $+0.011$ | -18 $34 \begin{array}{lll}18 & 53.0\end{array}$ | +6.26 | $+0.484$ | $-0.03$ |
| 894 | $v$ Sagittarii | ${ }^{4}{ }^{2}$ | $\begin{array}{lll}19 & 13 & 8.01\end{array}$ | +3.446 | $-0.0073$ | $+0.006$ | -16 <br> -13 <br> 13 | $+6.25$ | $+0.476$ | $-0.04$ |
| 895 | B.A.C. 6628 | 6 | $\begin{array}{llll}19 & 15 & 8.99\end{array}$ | $+3.753$ | -0.0114 | $+0.005$ | $-288859.7$ | $+6.47$ | $+0.518$ | $+0.01$ |
| 896 | B.A.C. 6631 | $6 \frac{1}{2}$ | 191536.72 | +3.789 | $-0.0121$ |  | -29 3535.1 | $+6.50$ | $+0.523$ |  |
| 897 | $\chi^{1}$ Sagittarii | 6 | $1916 \quad 8.46$ | $+3.659$ | -0.0103 | +0.004 | $-244739.9$ | +6.46 | $+0.504$ | $-0.08$ |
| 898 | $\chi^{2}$ Sagittarii | $6 \frac{1}{2}$ | 191615.33 | +3.654 | -0.0102 | +0.002 | $-2442 \quad 6.3$ | $+6.39$ | $+0.503$ | $-0.16$ |
| 899 | $\chi^{3}$ Sagittarii | 6 | 191624.71 | +3.642 | $-0.0100$ | $+0.002$ | -24 -25 | +6.60 | +0.502 | +0.04 |
| 900 | 50 Sagittarii | 6 | 191722.25 | $+3.587$ | -0.0094 | $+0.005$ | -22 421.3 | $+6.49$ | $+0.493$ | -0.15 |


| No. | Logarithms or |  |  |  |  |  |  |  | $\begin{gathered} \text { No. } \\ \text { B.A.C. } \end{gathered}$ | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 841 | +0.5873 | -7.4263 | +7.7167 | -8.8891 | +0.1288 | $+9.9990$ | -9.1418 | -8.5363 | 6239 |  |
| 842 | $+0.5530$ | $-7.2541$ | +7.7074 | $-8.8515$ | $+0.1570$ | +9.9989 | $+8.744$ | -8.4914 | 6247 | 1598 |
| 843 | $+0.5860$ | -7.4648 | +7.7597 | $-8.8873$ | +0.1735 | +9.9988 | -9.11¢6 | -8.5764 | 6249 |  |
| 844 | +0.5840 | -7.4835 | +7.7859 | -8.8845 | +0.2022 | $+9.9986$ | -9.0814 | -8.5976 | 6260 |  |
| 845 | +0.5689 | $-7.4139$ | +7.7799 | $-8.8670$ | +0.2137 | +9.9986 | -8.5729 | -8.5455 | 6263 | 1602 |
| 846 | +0.5441 | $-7.2551$ | $+7.7678$ | -8.8439 | $+0.2246$ | $+9.9985$ | +9.0290 | -8.4097 | 6267 | 1603 |
| 847 | +0.5471 | -7.3255 | $+7.8169$ | -8.8459 | +0.2714 | +9.9981 | +8.9523 | -8.4778 | 6287 |  |
| 848 | $+0.5476$ | -7.3525 | +7.8399 | -8.8461 | +0.2939 | +9.9979 | +8.9360 | -8.5043 | 6292 |  |
| 849 | $+0.5456$ | -7.3385 | $+7.8402$ | -8.8445 | +0.2958 | $+9.9979$ | +8.9030 | -8.4919 | 6293 |  |
| 850 | $+0.5460$ | -7.3426 | +7.8411 | -8.8448 | +0.2963 | +9.9979 | +8.9809 | -8.4956 | 6294 | 1611 |
| 851 | +0.5876 | -7.6327 | $+7.9210$ | -8.8883 | $+0.3325$ | +9.9975 | -9.1457 | -8.7419 | 6310 |  |
| 8 | +0.5642 | -7.5075 | +7.8958 | -8.8611 | +0.3344 | $+9.9975$ | -8.6253 | -8.6438 | 6312 |  |
| 853 | $+0.5555$ | -7.5196 | +7.9552 | -8.8518 | +0.4022 | $+9.9965$ | +8.5999 | -8.6644 | 6336 | 1624 |
| 854 | +0.5624 | -7.5716 | +7.9687 | -8.8584 | +0.4090 | $+9.9964$ | $+6.0000$ | -8.7057 | 6343 | 1627 |
| 855 | +0.5544 | -7.5269 | +7.9692 | -8.8506 | +0.4172 | $+9.9963$ | +8.6684 | -8.6726 | 6347 | 1628 |
| 856 | $+0.5634$ | $-7.6249$ | +8.0161 | -8.8586 | $+0.4553$ | $+9.9956$ | $-7.7482$ | -8.7618 | 56 | 1635 |
| 857 | +0.5671 | $-7.68 .3$ | +8.0568 | -8.8619 | +0.4918 | +9.9947 | $-8.4346$ | -8.8181 | 6369 |  |
| 858 | $+0.5737$ | $-7.7314$ | +8.0723 | -8.8691 | $+0.5000$ | +9.9945 | $-8.8082$ | $-8.8569$ | 6371 | 1637 |
| 859 | +0.5585 | -7.6517 | +8.0680 | -8.8527 | $+0.5118$ | $+9.9942$ | +8.3522 | -8.7932 | 6380 |  |
| 860 | $+0.5517$ | -7.6443 | +8.1001 | -8.8454 | $+0.5501$ | $+9.9931$ | +8.7924 | $-8.7320$ | 6399 | 1649 |
| 861 | $+0.5576$ | $-7.6963$ | +8.1166 | -8.850 | $+0.5611$ | $+9.9927$ | +8.4440 | -8.8385 | 6467 |  |
| 62 | +0.5862 | -7.8728 | +8.1621 | -8.8827 | +0.5739 | $+9.9923$ | $-9.1212$ | -8.9823 | 6414 |  |
| 63 | $+0.5567$ | -7.7043 | $+8.1290$ | -8.8493 | $+0.5742$ | $+9.9923$ | +8.5132 | -8.8473 | 6415 | 1650 |
| 864 | +0.5549 | -7.7107 | +8.1459 | -8.8469 | $+0.5928$ | $+9.9916$ | $+8.6405$ | -8.8554 | 6432 |  |
| 865 | +0.5593 | -7.7415 | +8.1510 | -8.8512 | +0.5935 | +9.9915 | $+8.2480$ | -8.8818 | 6434 | 1654 |
| 86 | $+0.5709$ | -7.8205 | +8.1714 | -8.8632 | $+0.6015$ | +9.9912 | -8.6857 | -8.9485 | 6440 | 1655 |
| 867 | $+0.5590$ | -7.7488 | +8.1595 | -8.8506 | $+0.6013$ | +9.9912 | +8.2878 | -8.8893 | 6441 | 1656 |
| 86 | $+0.5390$ | -7.6050 | +8.1504 | -8.8331 | $+0.6103$ | +9.9908 | $+9.1370$ | -8.7627 | 6447 |  |
| 869 | $+0.5606$ | -7.7675 | $+8.1693$ | -8.8519 | $+0.6105$ | +9.9908 | $+8.0086$ | -8.9065 | 6448 |  |
| 870 | +0.5525 | -7.7263 | +8.1750 | -8.8436 | $+0.6239$ | +9.9902 | +8.7604 | -8.8730 | 6454 |  |
| 871 | $+0.5539$ | -7.7396 | $+8.1794$ | $-8.8447$ | $+0.6270$ | $+9.9901$ | $+8.6929$ | $-8.8849$ | 6461 | 1661 |
| 872 | +0.5583 | $-7.8065$ | +8.2164 | $-8.8480$ | +0.6591 | $+9.9885$ | +8.3202 | -8.9469 | 6485 |  |
| 87 | +0.5826 | -7.9477 | $+8.2475$ | -8.8750 | $+0.6630$ | $+9.9883$ | -9.0512 | -9.0669 | 6489 | 1671 |
| 874 | +0.565\% | -7.8560 | $+8.2293$ | -8.8550 | $+0.6647$ | $+9.9882$ | -8.2765 | -8.0892 | 6450 |  |
| 875 | +0.5555 | --7.8107 | +8.2379 | -8.8437 | $+0.6835$ | +9.9871 | $+8.5977$ | -8.9541 | 6507 | 1674 |
| 876 | $+0.5365$ | -7.6700 | +8.2328 | -3.8272 | +0.6942 | $+9.9864$ | $+9.1824$ | -8.8292 | 6519 |  |
| 877 | +0.5747 | $-7.9429$ | +8.2730 | $-8.8637$ | +0.6977 | +9.9862 | -8.8414 | -9.c654 | 6521 | 1679 |
| 878 | +0.5578 | -7.8441 | $+8.2572$ | -8.8450 | $+0.7004$ | $+9.9860$ | +8.4200 | -8.0851 | 6524 |  |
| 879 | +0.5476 | -7.7827 | +8.2588 | -8.8348 | $+0.7114$ | $+9.9852$ | +8.9345 | -8.9331 | 6536 | 1686 |
| 880 | +0.5529 | -7.8235 | +8.2649 | -8.8395 | $+0.7127$ | $+9.9851$ | $+8.7388$ | -8.5691 | 6539 |  |
| 881 | $+0.5530$ | -7.8328 | $+8.2734$ | -8.8390 | $+0.7211$ | $+9.9845$ | +8.7372 | -8.9783 | 6548 | 1687 |
| 882 | +0.5824 | -8.0088 | +8.3067 | -8.8719 | $+0.7215$ | $+9.9845$ | $-9.0453$ | -9.1214 | 6549 |  |
| 883 | +0.5805 | -8.0062 | +8.3108 | -8.8692 | +0.7278 | $+9.9840$ | -9.0043 | -9.1210 | 6554 |  |
| 884 | $+0.5548$ | -7.8652 | +8.2935 | $-8.8396$ | +0.7392 | $+9.9831$ | +8.6415 | -9.0087 | 6561 |  |
| 885 | +0.5684 | -7.9553 | +8.3111 | -8.8537 | $+0.7425$ | $+9.9829$ | -8.5340 | $-9.0845$ | 6562 |  |
|  | $+0.5794$ | -8.0245 | +8.3323 | -8.8664 | $+0.7503$ | $+9.9822$ | -8.9768 | $-9.1403$ | 6569 |  |
| 887 | $+0.5661$ | -7.9581 | +8.3240 | $-8.8500$ | $+0.7577$ | $+9.5816$ | -8.3222 | -9.c897 | 6575 |  |
|  | $+0.5626$ | -7.9372 | +8.3206 | -8.8462 | +0.7582 | $+9.5815$ | -7.1139 | -9.C725 | 6576 |  |
| 889 | +0.5460 | $-7.8374$ | $+8.3200$ | -8.828\% | $+0.7734$ | $+9.9801$ | $+8.9706$ | -8.9886 | 6584 | 1694 |
| 890 | $+0.5354$ | $-7.7563$ | +8.3214 | -8.8198 | $+0.7830$ | +9.9792 | +9.1992 | -8.9157 | 6590 | 1701 |
| 891 | $+0.5566$ | -7.9328 | +8.3467 | -8.8373 | +0.7901 | $+9.9784$ | +8.5250 | $-9.6740$ | 6607 |  |
| 892 | +0.5424 | -7.8345 | +8.3416 | -8.8236 | +0.7978 | $+9.9776$ | $+9.0682$ | -8.9885 | 6619 | 1716 |
| 893 | +0.5438 | $-7.8468$ | +8.3435 | -8.8247 | +0.7986 | $+9.9775$ | $+9.0362$ | -8.9c96 | 6620 | 1717 |
| 894 | $+0.5366$ | -7.7846 | +8.3382 | -8.8191 | +0.7988 | $+9.9775$ | +9.1798 | -8.9430 | 6621 | 1718 |
| 895 | $+0.5738$ | -8.0603 | +8.3865 | -8.8548 | +0.8102 | $+9.9762$ | -8.8062 | $-9.1817$ | 6628 |  |
| 896 | $+0.5785$ | -8.0886 | +8.3951 | -8.8605 | $+0.8127$ | $+9.9759$ | -8.9528 | -9.2040 | 6631 |  |
| 897 | $+0.5628$ | -8.0019 | +8.3793 | -8.8415 | +0.8156 | $+9.9756$ | -7.3979 | -9.1360 | 6633 | 1723 |
| 898 | $+0.5625$ | -8.0007 | +8.3796 | -8.8411 | $+0.8163$ | $+9.9755$ | -6.9031 | -9.1351 | 6634 |  |
| 899 | +0.5611 | -7.9925 | +8.3789 | -8.8394 | $+0.8171$ | $+9.9754$ | $+7.8808$ | -9.1285 | 6636 |  |
| 900 | +0.5542 | -7.9520 | +8.3771 | -8.8317 | +0.8223 | $+9.9748$ | $+8.6776$ | -9.0951 | 6638. |  |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varia. } \\ & \text { tion. } \end{aligned}$ | $\begin{aligned} & \text { Secular } \\ & \text { Variation. } \end{aligned}$ | Proper Motion. | $\begin{gathered} \text { Mean } \\ \text { Declination } \\ \text { 1850.0. } \end{gathered}$ | $\begin{gathered} \text { Annual } \\ \text { Varia- } \\ \text { tion. } \end{gathered}$ | Secular Variation. | Proper Motlon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 901 | B.A.C. 6639 | 6 | $\begin{array}{\|ccc\|} \hline{ }^{\mathrm{h}} & \mathrm{~m} & \mathrm{~s} \\ 19 & 17 & 27.38 \end{array}$ | 8.8 <br> +3.804 | -0.0125 | $+0.004$ | $\begin{array}{llll}-30 & 2 & 6.8\end{array}$ | $+6.46$ | +0.523 | -0.19 |
| 902 | B.A.C. 6643 | - | 191738.74 | +3.414 | $-0.0074$ | -0.003 | -15 2046.1 | + 6.56 | +0.470 | -0.11 |
| 903 | B.A.C. 6658 | 6 | 191921.51 | +3.495 | $-0.0085$ |  | -18 3926.4 | + 6.81 | +0.480 |  |
| 904 | B.A.C. 6666 | - | 192034.99 | $+3.712$ | $-0.0117$ | $-0.006$ | -27 1716.9 | + 6.78 | +0.509 | $-0.13$ |
| 905 | B.A.C. 6671 | 6 | 192159.45 | $+3.558$ | -0.0097 | $-0.009$ | -21 378.3 | +6.92 | +0.487 | $-0.10$ |
| 90 | B.A.C. 6699 | $6 \frac{1}{2}$ | 192637.41 | +3.611 | -0.0110 | $-0.003$ | -23 3754.1 | + 7.41 | +0.490 | +0.01 |
| 907 | $h^{1}$ Sagittarii | 6 | 192654.88 | $+3.655$ | $-0.0115$ | $+0.004$ | -25 2333.2 | + 7.41 | $+0.495$ | $-0.02$ |
| 908 | $h^{2}$ Sagittarii | $4 \frac{1}{2}$ | $\begin{array}{llllll}19 & 27 & 34.38\end{array}$ | +3.663 | -0.0117 | $+0.008$ | -25 1233.9 | + 7.48 | +0.495 | 0.00 |
| 909 | B.A.C. 6727 | $6 \frac{1}{2}$ | 19315.90 | +3.618 | -0.0115 | $+0.005$ | -23 4557.7 | + 7.8 | +0.4 | $+0.09$ |
| 910 | $e^{1}$ Sagittarii | 6 | 19327.42 | +3.445 | -0.0090 | +0.007 | -16 3756.5 | + 7.85 | +0.460 | 0.00 |
|  | $e^{2}$ | 5 | 193356.10 | +3.440 | -0.0091 | $+0.007$ | -16 2813.8 | +8.03 | +0.459 | +0.04 |
| 912 | B.A.C. 6746 | 6 | 193459.79 | +3.420 | $-0.0090$ | $+0.003$ | -15 4849.5 | + 7.81 | +0.456 | -0.27 |
| 913 | $f$ Sagittarii | 5 | 193736.49 | $+3.508$ | $-0.0107$ | -0.009 | $-20 \quad 70.8$ | + 8.26 | $+0.467$ | $-0.03$ |
| 914 | B.A.C. 6776 | $6 \frac{1}{2}$ | 193937.07 | $+3.372$ | -0.0088 | $-0.003$ | $\begin{array}{llll}-14 & 4 & 4.1\end{array}$ | +8.37 | +0.446 | $-0.08$ |
| 915 | 57 Sagittarii | $5 \frac{1}{2}$ | 194328.69 | $+3.498$ | -0.0109 | $+0.003$ | -19 2517.3 | +8.69 | +0.459 | $-0.06$ |
| 9 | $\omega^{\omega}$ Sagittar | 5 | 194638.65 | $+3.689$ | -0.0146 | +0.018 | -26 4133.8 | + 9.10 | +0.479 | $+0.10$ |
| 917 | $b$ Sagittari | 5 | 194744.09 | $+3.696$ | $-0.0152$ | $+0.003$ | -27 3344.7 | + 9.09 | +0.480 | +0.01 |
| 918 | $g$ Sagittarii | $5 \frac{1}{2}$ | 194926.41 | +3.411 | -0.0100 | $+0.002$ | -15 5387.2 | + 9.17 | +0.442 | $-0.05$ |
| 919 | A Sagittarii | 5 | 194948.36 | +3.667 | $-0.0149$ | $+0.002$ | -26 3549.1 | +9.29 | +0.474 | $+0.04$ |
| 920 | B.A.C. 6864 | 6 | 195228.63 | $+3.578$ | $-0.0134$ | $+0.003$ | $-238840.3$ | + 9.39 | +0.460 | -0.06 |
| 921 | c Sagitt | 5 | 19 | $+3.705$ | $-0.0161$ | $+0.006$ | -28 719.0 | $+9.58$ | +0.475 | $+0.05$ |
| 92 | 63 Sagittari | 6 | 195334.22 | +3.368 | -0.0097 | +0.003 | -14 251.0 | + 9.61 | +0.432 | $+0.07$ |
| 0 | B.A.C. 6878 | $6 \frac{1}{2}$ | 195450.47 | +3.558 | $-0.0136$ | -0.011 | $-231040.3$ | + 9.62 | +0.457 | -0.01 |
| 924 | B.A.C. 6889 | 6 | 19568.19 | +3.537 | -0.0131 | $+0.005$ | -21 4357.6 | + 9.68 | +0.451 | -0.05 |
| 925 | 65 Sagittarii | 6 | 19575.69 |  | $-0.0095$ | 0.000 | $\begin{array}{llll}-13 & 5 & 1.9\end{array}$ | + 9.84 | +0.425 | $+0.03$ |
| 926 | $\stackrel{5}{1}^{1}$ Capricorni | 6 | $20 \quad 339.00$ | +3.333 | $-0.0098$ | $+0.001$ | -12 4957.7 | $+10.30$ | +0.417 | 0.00 |
| 927 | $5^{2}$ Capricorni | 6 | 20.484 .29 | +3.352 | $-0.0099$ | +0.016 | -13 $\begin{array}{llll}13 & 5 & 5.7\end{array}$ | +10.18 | +0.417 | -0.15 |
| 92 | B.A.C. 6947 | - | $20 \quad 555.42$ | +3.757 | $-0.0171$ | $+0.093$ | -27 2828.8 | +10.31 | +0.456 | $-0.16$ |
| 929 | 3 Capricorni | $6 \frac{1}{2}$ | $\begin{array}{llll}20 & 8 & 4.37\end{array}$ | +3.332 | -0.0100 | $+0.004$ | -12 4727.8 | +10.69 | +0.412 | +0.06 |
| 930 | 4 Capricorni | 6 | $\begin{array}{llll}20 & 9 & 12.34\end{array}$ | +3.539 | $-0.0144$ | $+0.006$ | -22 $16 \quad 6.9$ | $+10.67$ | +0.436 | $-0.05$ |
| 931 | $\alpha^{1}$ Capricorni | $3 \frac{1}{2}$ | $\begin{array}{llll}20 & 9 & 19.77\end{array}$ | +3.334 | $-0.0102$ | $+0.003$ | -12 584.1 | $+10.75$ | +0.410 | $+0.02$ |
| 932 | $\alpha^{2}$ Capricorni | $3 \frac{1}{2}$ | $\begin{array}{llll}20 & 9 & 43.67\end{array}$ | +3.339 | -0.0102 | $+0.008$ | $\begin{array}{llll}-13 & 0 & 20.7\end{array}$ | $+10.79$ | +0.410 | +0.03 |
| 933 | $\sigma$ Capricorni | $5 \frac{1}{2}$ | 201043.96 | +3.477 | -0.0132 | $+0.006$ | -19 3455.8 | +10.86 | +0.426 | $+0.03$ |
| 934 | $\nu$ Capricorni |  | 201220.30 | +3.337 | -0.0105 | $+0.003$ | -13 131366 | +10.94 | +0.407 | $-0.01$ |
| 935 | B.A.C. 6992 | 612 | 201220.65 | +3.379 | $-0.0113$ | $+0.003$ | -15 151514.0 | +10.94 | +0.413 | $-0.01$ |
| 936 | $\beta$ Capricorni | 3 | 201234.70 | $+3.380$ | -0.0113 | $+0.004$ | $\begin{array}{llll}-15 & 15 & 3.4\end{array}$ | +11.01 | $+0.412$ | $+0.04$ |
| 937 | $\pi$ Capricorni | 5 | 201843.78 | +3.446 | -0.0132 | $+0.003$ | -18 4157.1 | +11.46 | $+0.413$ | +0.05 |
| 938 | $\varrho$ Capricorni | 5 | 202017.89 | +3.433 | -0.0131 | 0.000 | -18 181819.4 | +11.55 | +0.410 | $+0.03$ |
| 939 | B.A.C. 7043 | $6 \frac{1}{2}$ | 202026.24 | +3.421 | $-0.0130$ | -0.003 | -17 5532.0 | +11.53 | +0.409 | 0.00 |
| 940 | B.A.C. 7049 | 6 | 202042.83 | +3.531 | $-0.0156$ | $-0.001$ | $-225312.9$ | +11.51 | +0.421 | $-0.04$ |
| 941 | - Capricorni | 6 | 202117.67 | $+3.450$ | -0.0136 | $+0.002$ | $\begin{array}{llll}-19 & 4 & 30.0\end{array}$ | +11.58 | +0.410 | -0.02 |
| 942 | B.A.C. 7063 | 6 | 202239.77 | +3.373 | -0.0119 |  | $\begin{array}{llll}-15 & 33 & 9.7\end{array}$ | +11.70 | $+0.400$ |  |
| 943 | B.A.C. 7077 | 6 | 202355.77 | +3.574 | $-0.0173$ | $-0.011$ | -25 2649.0 | +11.66 | $+0.423$ | $-0.12$ |
| 944 | B.A.C. 7097 | 6 | $20 \quad 27 \quad 2.75$ | +3.397 | $-0.0129$ | -0.002 | $\begin{array}{lllll}-17 & 2 & 14.0\end{array}$ | +11.88 | $+0.397$ | $-0.12$ |
| 945 | B.A.C. 7108 | $6 \frac{1}{2}$ | 202855.78 | +3.581 | $-0.0178$ |  | $-25 \quad 3737.0$ | +12.13 | $+0.416$ |  |
| 946 | $\tau^{1}$ Capr | 6 | 202856.19 | +3.374 | -0.0124 | $+0.005$ | -15 3946.2 | $+12.15$ | $+0.391$ | $+0.01$ |
| 947 | $\tau^{2}$ Capricorni | 5 | 203052.75 | +3.365 | $-0.0123$ | +0.002 | -15 2838.5 | +12.24 | +0.388 | $-0.03$ |
| 948 | $v$ Capricorni | $5 \frac{1}{2}$ |  | +3.426 | -0.0139 | $-0.001$ | -18 3946.1 | +12.36 | +0.395 | +0.05 |
| 949 | B.A.C. 7145 | $6 \frac{1}{2}$ | $2032 \quad 6.39$ | $+3.379$ | $-0.0130$ | $-0.007$ | -16 3914.0 | +12.35 | +0.389 | 0.00 |
| 950 | B.A.C. 7147 | $6 \frac{1}{2}$ | 203226.33 | +3.596 | $-0.0187$ |  | -26 3137.6 | +12.38 | $+0.413$ |  |
| 951 | $\psi$ Capricorn | 41 | 203712.31 | $+3.570$ | -0.0185 | $-0.001$ | -25 4822.0 | $+12.55$ | +0.403 |  |
| 952 | 17 Capricorn | 6 | 203727.89 | $+3.495$ | $-0.0161$ | $+0.006$ | -22 319.0 | $+12.72$ | +0.393 | 0.00 |
| 953 954 | B.A.C. 7197 | 6 | 203936.09 | $+3.513$ | $-0.0170$ | +0.001 | -23 1649.9 | +12.68 | +0.393 | -0.18 |
| 955 | B.A.C. 7205 | 6 | 204028.71 | +3.418 +3.573 | -0.0143 | -0.004 | -18 461952.1 | +12.80 +12.80 | +0.382 +0.397 | -0.12 |
| 956 | B.A.C. 7209 | 63 | 204049.52 | +3.411 | -0.0143 | -0.003 | -18 $35 \quad 6.3$ | +12.86 | $+0.380$ | $-0.09$ |
| 957 | B.A.C. 7221 | $6 \frac{1}{2}$ | 204225.44 | +3.322 | $-0.0117$ | $+0.015$ | -13 5146.6 | +12.96 | $+0.366$ | -0.09 |
| 958 | B.A.C. 7237 | 6 | 204412.85 | +3.538 | $-0.0180$ | +0.011 | -24 2028.8 | +13.06 | $+0.388$ | -0.11 |
| 959 | B.A.C. 7242 | 6 | 204452.94 | $+3.286$ | $-0.0112$ | -0.001 | -12 81814 | +13.20 | +0.361 | -0.02 |
| 960 | 19 Capricorni | 6 | 204619.05 | +3.405 | $-0.0145$ | 0.000 | -18 2913.4 | +13.35 | +0.372 | +0.04 |


| No. | LOgarithms of |  |  |  |  |  |  |  | B.A.C. | $\begin{aligned} & \text { No. } \\ & \text { T.Y.C. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | 6 | c | $d$ | $a^{\prime}$ | ${ }^{1}$ | $c^{\prime}$ | $d^{\prime \prime}$ |  |  |
| 901 | $+0.5798$ | -8.1066 | +8.4071 | -8.8613 | +0.8228 | $+9.9747$ | $-8.9845$ | $-9.2200$ | 6639 | 1727 |
| 902 | +0.5336 | $-7.7840$ | +8.3613 | -8. 8143 | +0.8238 | $+9.9746$ | +9.2276 | -8.9443 | 6643 | 1728 |
| 903 | +0.5435 | -7.8831 | +8.3781 | -8.8208 | +0.8329 | $+9.9734$ | +9.0426 | $-9.0357$ | 6658 |  |
| 904 | +0.5703 | -8.0735 | +8.4122 | -8.8477 | +0.8393 | +9.9726 | $-8.6503$ | -9.1984 | 6666 |  |
| 905 | +0.5523 | -7.9662 | +8.3999 | $-8.8272$ | $+0.8465$ | $+9.9716$ | +8.7657 | -9.1106 | 6671 |  |
| 906 | $+0.5580$ | -8.0320 | $+8.4290$ | -8.8302 | $+0.8693$ | $+9.9682$ | $+8.3979$ | -9.1701 | 6699 |  |
| 907 | +0.5624 | -8.0619 | +8.4352 | -8.8348 | +0.8707 | $+9.9680$ | -6.0000 | -9.1951 | 6704 | 1750 |
| 908 | +0.5628 | -8.0633 | $+8.4390$ | -8.8349 | +0.8738 | $+9.9675$ | $-7.4150$ | $-9.2009$ | 6706 | 1751 |
| 909 | +0.5579 | -8.0555 | +8.4502 | -8.8271 | $+0.8901$ | $+9.9648$ | +8.4082 | -9.1931 | 6727 |  |
| 910 | +0.5363 | $-7.8916$ | +8.4349 | $-8.8064$ | $+0.8947$ | $+9.9639$ | +9.1830 | $-9.0491$ | 6733 | 1758 |
| 911 | $+0.5357$ | -7.8951 | +8.4425 | -8.8046 | $+0.9027$ | $+9.9625$ | $+9.1937$ | -9.0530 | 6742 | 1763 |
| 912 | +0.5337 | $-7.8811$ | +8.4457 | -8.8022 | +0.9072 | $+9.9616$ | $+9.2256$ | $-9.0404$ | 6746 |  |
| 913 | +0.5461 | -8.0038 | +8.4673 | $-8.8106$ | $+0.9183$ | $+9.9594$ | $+8.9745$ | -9.1526 | 6760 | 1766 |
| 914 | +0.5232 | -7.8473 | +8.4615 | -8.7947 | $+0.9266$ | $+9.9576$ | +9.3021 | $-9.0101$ | 6776 |  |
| 915 | +0.5434 | -8.0110 | +8.4892 | -8.8035 | $+0.9420$ | +9.9541 | $+9.0418$ | $-9.1616$ | 6803 | 1775 |
| 916 | $+0.5648$ | -8.1773 | $+8.5248$ | -8.8240 | $+0.9542$ | $+9.9512$ | $-8.1367$ | -9.3044 | 6823 | 1780 |
| 917 | $+0.5673$ | -8.1976 | $+8.5323$ | -8.8264 | +0.9583 | +9.9501 | -8.4440 | $-9.3214$ | 6832 | 1783 |
| 918 | +0.5326 | -7.9405 | +8.5032 | $-8.7893$ | +0.9646 | $+9.9485$ | $+9.2413$ | $-9.0996$ | 6840 | 1786 |
| 919 | +0.5640 | -8.1872 | +8.5362 | -8.8206 | $+0.9659$ | $+9.9481$ | -7.9685 | $-9.3147$ | 6842 | 1787 |
| 920 | +0.5532 | -8.1281 | +8.5337 | -8.8058 | $+0.9755$ | $+9.9455$ | +8.7185 | $-9.2678$ | 6864 |  |
| 921 | +0.5681 | -8.2885 | $+8.5551$ | -8.8230 | $+0.9789$ | $+9.9445$ | -8.5065 | $-9.3500$ | 6870 | 1792 |
| 9122 | +0.5270 | -7.8994 | $+8.5143$ | -8.7814 | +0.9794 | +9.9443 | +9.3170 | -9.0623 | 6871 |  |
| 923 | +0.5525 | -8.1336 | +8.5415 | -8.8030 | +0.9838 | +9.9430 | +8.7521 | -9.2737 | 6878 |  |
| 924 | $+0.5486$ | -8.1105 | +8.5420 | -8.7976 | +0.9883 | +9.9417 | +8.8993 | -9.2546 | 6889 |  |
| 925 | +0.5240 | -7.8795 | +8.5246 | -8.7760 | $+0.9915$ | $+9.9407$ | $+9.3526$ | -9.0441 | 6894 |  |
| 926 | $+0.5227$ | -7.8922 | $+8.5456$ | $-8.7684$ | $+1.0130$ | +9.9335 | $+9.3664$ | $-9.0573$ | 6935 |  |
| 927 | +0.5233 | -7.9011 | +8.5473 | -8.7683 | +1.0143 | $+9.9330$ | $+9.3604$ | $-9.0658$ | 6938 |  |
| 928 | +0.5639 | -8.2578 | +8.5937 | $-8.8067$ | $+1.0201$ | +9.9309 | -7.9294 | -9.3819 | 6947 |  |
| 929 | +0.5922 | -7.9044 | +8.5593 | -8.7632 | $+1.0267$ | +9.9283 | +9.3720 | $-9.0696$ | 6956 |  |
| 930 | +0.5482 | -8.1640 | +8.5854 | -8.7846 | +1.0301 | $+9.9270$ | +8.9101 | -9.3064 | 6971 |  |
| 931 | $+0.5225$ | -7.9144 | $+8.5634$ | -8.7620 | +1.0304 | $+9.9268$ | +9.3679 | -9.0792 | 6972 | 1814 |
| 932 | $+0.5226$ | -7.9169 | +8.5646 | $-8.7616$ | $+1.0316$ | +9.9264 | $+9.3672$ | $-9.0817$ | 6974 | 1816 |
| 933 | +0.5404 | -8.1074 | +8.5822 | -8.7749 | $+1.0346$ | +9.9251 | +9.1031 | $-9.2577$ | 6981 | 1818 |
| 934 | +0.5230 | -7.9322 | +8.5727 | -8.7588 | +1.0393 | +9.9232 | $+9.3631$ | $-9.0966$ | 6991 | 1820 |
| 935 | $+0.5234$ | -7.9967 | +8.5766 | -8.7627 | $+1.0393$ | +9.9232 | $+9.2973$ | -9.1572 | 6992 | 1821 |
| 936 | $+0.5284$ | -7.9973 | +8.5773 | -8.7624 | $+1.0400$ | $+9.9229$ | $+9.2978$ | -9.1578 | 6995 | 1822 |
| 937 | +0.5363 | -8.1086 | +8.6026 | -8.7625 | +1.0574 | $+9.9150$ | +9.1688 | $-9.2611$ | 7031 | 1831 |
| 933 | $+0.5356$ | -8.1029 | $+8.6059$ | -8.7954 | $+1.0616$ | $+9.9130$ | $+9.1903$ | -9.2564 | 7042 | 1833 |
| 939 | $+0.5346$ | -8.0935 | $+8.6053$ | $-8.7583$ | $+1.0620$ | $+9.9128$ | $+9.2071$ | $-9.2480$ | 7043 |  |
| 940 | $+0.5480$ | -8.2098 | $+8.6200$ | -8.7719 | +1.0627 | +9.9124 | +8.9138 | $-9.3503$ | 7049 |  |
| 941 | $+0.5375$ | -8.1248 | $+8.6105$ | -8.7601 | +1.0643 | $+9.9116$ | $+9.1569$ | $-9.2764$ | 7054 |  |
| 942 | $+0.5280$ | -8.0342 | +8.6059 | -8.7498 | $+1.0680$ | +9.9097 | +9.3017 | -9.1941 | 7063 |  |
| 943 | +0.5545 | -8.2704 | $+8.6373$ | -8.7763 | +1.0713 | $+9.9081$ | +8.6454 | -9.4022 | 7077 |  |
| 944 | $+0.5313$ | -8.0873 | +8.6204 | $-8.7471$ | $+1.0793$ | $+9.9037$ | +9.2558 | $-9.2439$ | 7097 | 1837 |
| 945 | $+0.5540$ | -8.2866 | +8.6506 | -8.7699 | +1.0840 | $+9.9010$ | $+8.6721$ | -9.4177 | 7108 |  |
| 946 | $+0.5275$ | -8.0535 | +8.6222 | -8.7414 | $+1.0840$ | $+9.9010$ | $+9.3075$ | $-9.2131$ | 7110 |  |
| 947 | +0.5268 | -8.0529 | +8.6266 | -8.7381 | $+1.0888$ | +9.8982 | +9.3162 | $-9.2129$ | 7127 | 1847 |
| 948 | +0.5349 | -8.1406 | +8.6355 | -8.7446 | $+1.0904$ | $+9.8973$ | $+9.2000$ | $-9.2933$ | 7134 | 1848 |
| 949 | +0.5296 | -8.0894 | $+8.6321$ | $-8.7389$ | +1.0918 | +9.8964 | $+9.2788$ | $-9.2469$ | 7145 |  |
| 950 | $+0.5558$ | -8.3125 | $+8.6626$ | -8.7681 | +1.0926 | $+9.8959$ | +8.5682 | -9.4403 | 7147 | 1851 |
| 951 | $+0.5528$ | $-8.3100$ | $+8.6712$ | -8.7582 | $+1.1039$ | $+9.8886$ | +8.7308 | $-9.4405$ | 7177 | 1857 |
| 952 | +0.5428 | -8.2338 | +8.6592 | $-8.7452$ | $+1.1045$ | $+9.8882$ | +9.0488 | -9.3769 | 7179 |  |
| 953 | +0.5455 | -8.2648 | +8.6680 | -8.7457 | +1.1094 | +9.8849 | $+8.9796$ | $-9.4040$ | 7197 |  |
| 954 | +0.5338 | -8.1624 | +8.6554 | -8.7320 | $+1.1100$ | +9.8844 | +9.2164 | $-9.3149$ | 7202 |  |
| 955 | $+0.5535$ | -8.3274 | +8.6804 | $-8.7551$ | +1.1111 | +9.8837 | +8.6955 | $-9.4559$ | 7205 |  |
| 956 | $+0.5333$ | -8.1605 | $+8.6571$ | -8.7301 | +1.1122 | $+9.8829$ | +9.2251 | $-9.3133$ | 7209 |  |
| 957 | +0.5194 | -8.0041 | +8.6439 | $-8.7157$ | +1.1157 | +9.8804 | +9.3992 | $-9.1687$ | 7221 | 1867 |
| 958 | +0.5474 | -8.2368 | +8.6818 | -8.7418 | +1.1196 | +9.8774 | +8.9274 | -9.4325 | 7237 |  |
| 959 | +0.5168 | -7.9753 | +8.6526 | -8.7101 | +1.1211 | $+9.8763$ | +9.4252 | -9.1416 | 7242 |  |
| 960 | +0.5321 | -8.1700 | +8.6689 | -8.7208 | +1.1242 | +9.8739 | +9.2416 | -9.3231 | 7249 |  |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Aseension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{gathered} \text { Annual } \\ \text { Yaria- } \\ \text { tion. } \end{gathered}$ | Secular Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 . \end{aligned}$ | Annual tion tion | Secular Variation. | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 961 | 7 Aquarii | 6 | $\begin{array}{\|ccc\|} \hline \mathrm{h} & \mathrm{~m} & \mathrm{~s} \\ 20 & 48 & 47.35 \end{array}$ | $+3.251$ | -0.0105 | +0.001 | $-101611.6$ | +13.46 | +0.351 | 0.01 |
| 962 | 20 Capricorni | 6 | 20514.49 | +3.426 | $-0.0153$ | +0.006 | -19 3650.7 | +13.57 | +0.366 | -0.05 |
| 963 | 8 Aquarii | 6 | 205139.96 | $+3.307$ | $\underline{0} 0.0122$ | $-0.001$ | -13 3748.0 | +13.73 | +0.353 | +0.07 |
| 964 | 21 Capricorni | 6 | 205224.89 | +3.390 | -0.0146 | 0.000 | -18 642.6 | +13.73 | +0.361 | +0.03 |
| 965 | 9 Aquarii | 6 | 205251.93 | +3.318 | $-0.0125$ | +0.002 | -14 644.2 | +13.79 | +0.352 | +0.06 |
| 966 | $\eta$ Capricorni | $5 \frac{1}{2}$ | 205551.59 | +3.430 | $-0.0160$ | +0.001 | -20 2640.7 | +13.90 | $+0.360$ | $-0.02$ |
| 967 | o Capricorni | 4 | 205730.54 | +3.387 | $-0.0146$ | +0.009 | -17 4930.0 | +14.00 | +0.352 | $-0.03$ |
| 968 | $\chi$ Capricorni | 6 | 205957.60 | +3.453 | $-0.0170$ | +0.004 | -21 4733.5 | +14.20 | +0.356 | $+0.02$ |
| 969 | 27 Capricorni | 6 | ${ }_{21} 21058.07$ | $+3.447$ | -0.0167 | +0.012 | -21 $\begin{array}{llll} & 9 & 16.7\end{array}$ | $+14.15$ | $+0.353$ | +0.09 |
| 970 | $\checkmark$ Aquarii | 4, ${ }^{2}$ | 21125.03 | $+3.276$ | -0.0116 | $+0.006$ | -11 5832.8 | +14.28 | +0.335 | +0.01 |
| 971 | $\uparrow$ Capricorni | 6 | $\begin{array}{llll}21 & 7 & 5.28\end{array}$ | +3.428 | $-0.0170$ | +0.001 | -21 1612.4 | +14.68 | $+0.342$ | $+0.07$ |
| 972 | 29 Capricorni |  | 21726.34 | +3.334 | $-0.0137$ | +0.005 | -15 4729.3 | +14.66 | +0.332 | +0.03 |
| 973 | 30 Capricorni | 6 | 21932.20 | +3.377 | -0.0153 | +0.002 | -18 3632.0 | +14.83 | +0.333 | +0.07 |
| 974 | 31 Capricorni | $6 \frac{1}{2}$ | ${ }_{21}^{21} 95151.71$ | +3.371 | -0.0151 | $+0.005$ | $\begin{array}{lll}-18 & 5 & 12.9\end{array}$ | +14.86 | +0.332 | $+0.08$ |
| 975 | - Capricorni | $4 \frac{1}{2}$ | 211353.46 | +3.357 | -0.0148 | +0.007 | -17 2810.2 | $+15.07$ | +0.324 | +0.06 |
| 97 | B.A.C. 7413 | 6 | 211424.21 | $+3.461$ | -0.0184 | $+0.009$ | -23 1819.2 | +15.05 | $+0.333$ | $+0.01$ |
| 977 | 17 Aquarii | 6 | 211453.69 | +3.222 | -0.0107 | $-0.003$ | -9 5723.5 | +15.02 | +0.310 | -0.05 |
| 978 | 33 Capricorni | 6 | 211538.76 | +3.416 | -0.0173 | $-0.001$ | -21 297.2 | $+15.05$ | +0.328 | $-0.07$ |
| 979 | 18 Aquarii | 6 | $2115 \quad 59.53$ | +3.291 | -0.0126 | $+0.009$ | $\begin{array}{lll}-13 & 31 & 3.1\end{array}$ | $+15.20$ | +0.314 | $+0.06$ |
| 980 | 19 Aquarii | 6 | $2117 \quad 9.12$ | $+3.231$ | -0.0110 | $+0.001$ | $\begin{array}{lll}-10 & 23 & 3.6\end{array}$ | $+15.03$ | +0.307 | -0.17 |
|  | $\succ \mathrm{C}$ | 4 | $2118 \quad 5.65$ | +3.443 | -0.0184 | $+0.003$ | -23 $31 \begin{array}{lll} & 27.7\end{array}$ | +15.31 | $+0.326$ | $+0.05$ |
| 982 | 35 Capricorni | 6 | 211844.25 | +3.419 | -0.0176 | +0.002 | -21 5028.7 | $+15.30$ | +0.322 | +0.01 |
| 983 | $b$ Capricorni | $5 \frac{1}{2}$ | 21 2) 9.89 | +3.439 | $-0.0181$ | $+0.013$ | -22 2722.2 | +15.41 | +0.321 | $+0.04$ |
| 984 | B.A.C. 7487 | $6 \frac{1}{2}$ | $2126 \quad 5.62$ | +3.291 | $-0.0130$ | $+0.011$ | -14 8147.7 | +15.73 | +0.298 | +0.03 |
| 985 | 37 Capricorni | 6 | 212625.33 | +3.387 | -0.0170 | +0.002 | -20 415.59 .6 | $+15.76$ | +0.307 | +0.04 |
| 986 | £ Capricor | $4 \frac{1}{2}$ | 212840.45 | +3.375 | $-0.0166$ | $+0.004$ | $\begin{array}{llll}-20 & 8 & 6.5\end{array}$ | $+15.86$ | +0.302 | $+0.02$ |
| 987 | \% Aquarii | $4 \frac{1}{2}$ | ${ }_{21}^{21} 2945.78$ | +3.202 | -0.0101 | $+0.009$ | -83126.7 | $+15.89$ | +0.284 | -0.01 |
| 988 | $\gamma$ Capricur | $3 \frac{1}{2}$ | 213146.39 | +3.341 | -0.0149 | +0.019 | -17 2013.2 | $+16.02$ | +0.292 | $+0.01$ |
| 989 | 42 Capricorni | 6 5 | 21 21 3423.23 | +3.273 | -0.0134 | -0.007 | -14 4247.3 | $+15.83$ | +0.286 | -0.26 |
| 990 | * Capricorni |  | 2134 |  |  |  | 32. |  |  | +0.02 |
| 991 | B.A.C. 7550 | 6 | $\begin{array}{llll}21 & 34 & 49.53 \\ 21 & 34 & 53.11\end{array}$ | +3.359 | $-0.0169$ | -0.004 | -20 1814.5 | $+16.01$ | +0.290 | -0.15 |
|  | 44 | 6 | 21 21 21 | +3.287 +3.287 | -0.0136 | +0.003 -0.001 | $\begin{array}{llll}-15 & 4 & 59.8 \\ -15 & 26 & 7.8\end{array}$ | +16.20 +16.04 | +0.283 |  |
| 994 | $c^{1}$ Capricorni | 6 | 21370.25 | +3.208 | -0.0107 | $+0.003$ | -946 9.7 | +16.29 | +0.273 | +0.01 |
| 995 | $c^{2}$ Capricorni | $6 \frac{1}{2}$ | 213815.89 | +3.209 | -0.0108 | $+0.002$ | - 95756.3 | +16.34 | +0.271 | 0.00 |
| 996 | a Capricorni | $5 \frac{1}{2}$ | 213827.34 | +3.240 | -00119 | $+0.004$ | $\begin{array}{llll}-12 & 3 & 18.5\end{array}$ | +16.37 | $+0.273$ | $+0.02$ |
| 997 | § Capricorni | 3 | 213845.30 | +3.323 | -0.0146 | +0.019 | -16 481818 | $+16.12$ | +0.279 | -0.25 |
| 998 | $\mu$ Capricorni | 5 | $\begin{array}{llll}21 & 45 & 6.74\end{array}$ | +3.285 | -0.0131 | +0.026 | $\begin{array}{llll}-14 & 15 & 18.1\end{array}$ | +16.72 | +0.264 | +0.04 |
| 999 | B.A.C. 7620 | - | 214535.00 | +3.215 | -0.0113 |  | $\begin{array}{lll}-11 & 0 & 52.4\end{array}$ | $+16.70$ | $+0.260$ |  |
| 1000 | B.A.C. 7650 | $6 \frac{1}{2}$ | 215021.49 | +3.150 | -0.0088 | $+0,00$ | -6.6.80.0 | +16.80 | +0.246 | 0.13 |
| 1001 | 29 Aquarii | 6 | 215413.64 | +3.235 | $-0.0151$ | $+0.002$ | $\begin{array}{llll}-17 & 41 & 3.2\end{array}$ | $+17.19$ | $+0.251$ | $+0.08$ |
| 10 | 30 Aquarii | $5 \frac{1}{2}$ | 215522.88 | +3.167 | -0.0091 | +0.008 | - 714420 | +17.18 | +0.238 | +0.02 |
| 100 | ¢ Aquarii | 4 | 215819.76 | +3.252 | -0.0132 | $+0.005$ | -14 35 42.3 | +1725 | $+0.240$ | $-0.05$ |
| 1004 | 35 Aquarii | C | 22.045 .04 | +3.304 | $-0.0160$ | +0.001 | -19 $15 \begin{array}{ll}15 & 3.4\end{array}$ | +17.42 | +0.240 | +0.02 |
| 1005 | $e^{1}$ Aquarii | 6 | $22 \quad 231.38$ | +3.208 | -0.0114 | +0.003 | -11 $33 \begin{array}{ll}13 & 23\end{array}$ | $+17.53$ | +0.229 | +0.05 |
| 1006 | $e^{2}$ Aquarii | O | $22 \quad 236.11$ | +3.222 | $-0.0117$ | $+0.008$ | -12 1759.6 | +17.52 | $+0.230$ | +0.04 |
| 100 | B.A.C. 7726 | $6 \frac{1}{2}$ | 22.244 .25 | +3.129 | -0.0079 | +0.001 | -5 016.2 | +17.28 | +0.223 | -0.21 |
| 100 | 42 Aquarii | 6 | $22 \quad 8 \quad 45.73$ | +3.221 | -0.0124 | 0.000 |  | +17.78 | +0.219 | +0.04 |
| 1009 | ${ }^{\text {a }}$ Aquarii | $4 \frac{1}{2}$ | 22854.84 | +3.175 | $-0.0096$ | +0.011 | - 83141.4 | +17.70 | +0.215 | 0.00 |
| 1010 | B.A.C. 7774 | 6 | $22 \quad 8.57 .22$ | +3.175 | -0.0102 | . 003 | -9 $97 \quad 9.1$ | $+17.73$ | +0.216 | -0.02 |
| 1011 | 44 Aquarii | 6 | $\begin{array}{llll}22 & 9 & 16.49\end{array}$ | +3.137 | $-0.0083$ | 0.000 | -6 688 | +17.81 | +0.213 | $+0.05$ |
| 1012 | 45 Aquarii | 6 | 221057.56 | +3.233 | -0.0126 | $+0.009$ | -14 $\begin{array}{lll}-1 & 10.4\end{array}$ | +17.88 | $+0.215$ | +0.05 |
| 10 | $\varrho$ Aquarii | $5 \frac{1}{2}$ | 221218.17 | $+3.165$ | $-0.0095$ | $+0.003$ | - 83419.6 | +17.93 | +0.209 | $+0.05$ |
| 1014 | 51. Aquarii | 6 | 221617.89 | +3.130 | -0.0079 | +0.002 | - 53538.8 | +18.02 | +0.199 | $-0.02$ |
| 10 | 50 Aquarii | 6 | 221624.63 | +3.223 | -0.0126 | +0.004 | -14 1715.6 | +18.08 | +0.2 | +0.04 |
| 1016 | B.A.C. 7818 | $6 \frac{1}{2}$ | 221825.06 | $+3.271$ | -0.0145 | $+0.020$ | $\begin{array}{llll}-17 & 30 & 7.2\end{array}$ | +18.17 | $+0.203$ | $+0.05$ |
| 101 | 53 Aquarii | c | $2218 \quad 25.47$ | +3.267 | -0.0145 | +0.016 | -17 3010.0 | +18.16 | $+0.203$ | $+0.04$ |
| 1018 | B.A.C. 7835 | $6 \frac{1}{2}$ | 222159.98 | +3.217 | -0.0121 | +0.011 |  | +18.25 | +0.194 |  |
| 1019 | 56 Aquarii | 6 | 222214.68 | +3.227 | -0.0131 | $+0.004$ | -15 $21 \quad 2.6$ | +18.25 | +0.194 | -0.01 |
| 10 | o Aquarii | $4 \frac{1}{2}$ | 222242 | +3.184 | 001 | +0.0 | -11 2637 | +18.36 | $+0.1$ | +0.08 |


| No. | Logaritims of |  |  |  |  |  |  |  | B.A.C. | T.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | $c$ | $d$ | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 961 | +0.5119 | -7.9092 | $+8.6581$ | -8.7007 | +1.1294 | $+9.8697$ | +9.4697 | -9.0783 | 7261 |  |
| 962 | +0.5341 | -8.2077 | +8.6818 | -8.7156 | +1.1341 | +9.8658 | $+9.2106$ | $-9.3578$ | 7270 |  |
| 963 | +0.5196 | -8.0417 | +8.6694 | -8.701t | +1.1353 | +9.8647 | $+9.3064$ | $-9.2054$ | 7279 |  |
| 964 | +0.5302 | -8.1732 | $+8.6806$ | -8.7094 | +1.1368 | +9.8634 | $+9.2683$ | $-9.3272$ | 7282 |  |
| 965 | +0.52u6 | -8.0598 | $+8.6728$ | -8.6998 | +1.1378 | $+9.8626$ | +9.3860 | $-9.2226$ | 7288 |  |
| 966 | $+0.5352$ | -8.2369 | $+8.6937$ | -8.7094 | +1.1437 | +9.8572 | $+9.1909$ | $-9.3847$ | 7305 | 1881 |
| 967 | +0.5287 | -8.1759 | $+8.6900$ | -8.6994 | +1.1469 | +9.8542 | +9.2885 | $-9.3306$ | 7322 | 1882 |
| 463 | +0.5376 | -8.2752 | +8.7055 | -8.7057 | $+1.1516$ | $+9.8496$ | +9.1471 | -9.4191 | 7335 | 1885 |
| 969 | +0.5359 | -8.2629 | +8.7055 | $-8.7019$ | $+1.1535$ | +9.8476 | +9.1778 | $-9.4087$ | 7343 |  |
| 970 | $+0.5145$ | -8.0026 | +8.6856 | $-8.6803$ | $+1.1544$ | +9.8468 | +9.4451 | $-9.1692$ | 7344 | 1888 |
| 971 | +0.5349 | -8.2767 | +8.7171 | -8.6902 | +1.1647 | +9.8356 | +9.1929 | -9.4221 | 7371 |  |
| 972 | +0.5223 | -8.1386 | +8.7038 | -8.6755 | +1.1654 | $+9.8349$ | +9.3646 | -9.2979 | 7374 | 1892 |
| 973 | +0.5283 | -8.2180 | +8.7141 | -8.6779 | +1.1690 | +9.8306 | +9.2905 | $-9.3708$ | 7390 |  |
| 974 | +0.5271 | $-8.2053$ | +8.7133 | -8.6759 | $+1.1696$ | $+9.8300$ | $+9.3066$ | $-9.3594$ | 7391 |  |
| 975 | +0.5250 | -8.1961 | +8.7187 | -8.6659 | $+1.1765$ | $+9.8215$ | $+9.3322$ | $-9.3517$ | 7407 | 1900 |
| 976 | $+0.5380$ | -8.3333 | $+8.7360$ | $-8.6813$ | +1.1774 | +9.8204 | $+9.1367$ | -9.4724 | 7413 |  |
| 977 | +0.5086 | -7.9443 | +8.7065 | -8.6498 | +1.1782 | $+9.8193$ | $+9.4960$ | $-9.1138$ | 7415 |  |
| 978 | +0.5336 | -8.2962 | +8.7324 | -8.6729 | +1.1794 | $+9.8177$ | $+9.2125$ | -9.4410 | 7425 |  |
| 979 | +0.5161 | -8.0826 | +8.7139 | -8.6531 | +1.1800 | +9.8170 | $+9.4289$ | $-9.2465$ | 7427 |  |
| 980 | +0.5093 | -7.9666 | +8.7108 | -8.6455 | $+1.1819$ | $+9.8144$ | $+9.4904$ | -9.1356 | 7435 |  |
| 981 | $+0.5366$ | -8.3342 | $+8.7413$ | -8.6724 | +1.1834 | $+9.8123$ | $+9.1617$ | $-9.4741$ | 7445 | 1902 |
| 989 | +0.5337 | -8.3091 | +8.7385 | -8.6672 | +1.1845 | +9.8109 | $+9.2098$ | -9.4528 | 7447 |  |
| 983 | +0.5347 | -8.3247 | +8.7427 | -8.6659 | +1.1867 | $+9.8077$ | $+9.1926$ | -9.4666 | 7460 |  |
| 984 | +0.5159 | -8.1191 | +8.7310 | -8.6312 | +1.1959. | +9.7939 | +9.4293 | $-9.2818$ | 7487 |  |
| 985 | +0.5296 | -8.2166 | +8.7472 | -8.6462 | +1.1964 | $+9.7931$ | +9.2691 | -9.4435 | 7490 | 1913 |
| 986 | $+0.5278$ | -8.2857 | $+8.7488$ | $-8.6390$ | $+1.1998$ | $+9.7877$ | $+9.2929$ | $-9.4344$ | 7506 | 1922 |
| 987 | +0.5042 | -7.8988 | +8.7279 | -8.6138 | +1.2013 | $+9.7850$ | +9.5299 | -9.0701 | 7514 | 1923 |
| 98 | $+0.5214$ | -8.2203 | +8.7461 | -8.6241 | +1.2042 | +9.7800 | $+9.3705$ | -9.3762 | 7525 | 1926 |
| 989 | $+0.5159$ | -8.1475 | +8.7427 | -8.6143 | +1.2065 | $+9.7760$ | +0.4283 | -9.3091 | 7537 |  |
| 990 | $+0.5254$ | -8.2798 | $+8.7553$ | -8.6234 | +1.2078 | $+9.7737$ | +9.3228 | $-9.4301$ | 7543 | 1931 |
| 991 | +0.5268 | -8.2984 | $+8.7581$ | -8.6240 | +1.2086 | +9.7723 | $+9.3045$ | -9.4467 | 7550 |  |
| 992 | +0.5164 | -8.1609 | +8.7456 | -8.6113 | +1.2086 | $+9.7721$ | +9.4233 | -9.3218 | 7551 |  |
|  | +0.5169 | -8.1727 | +8.7476 | -8.6095 | +1.2099 | $+9.7697$ | +9.4178 | -9.3328 | 7556 |  |
| 994 | +0.5058 | -7.9692 | +8.7396 | -8.5968 | $+1.2116$ | $+9.7666$ | $+9.5167$ | $-9.1390$ | 7563 |  |
| 995 | +0.5061 | $-7.9797$ | $+8.7416$ | -8.5938 | $+1.2133$ | +9.7633 | +9.5147 | -9.1492 | 7573 |  |
| 996 | +0.5100 | -8.0647 | +8.7449 | -8.5963 | $+1.2135$ | +9.7627 | +9.4822 | $-9.2311$ | 7577 |  |
| ! 9 | +0.5190 | $-8.2156$ | +8.7546 | $-8.6048$ | +1.2139 | +9.7619 | $+9.3950$ | $-9.3728$ | 7580 | 1942 |
| 995 | +0.5131 | -8.148 | +8.7575 | -8.5819 | +1.2222 | +9.7444 | $+9.4532$ | -9.3113 -9.2017 | 7618 7620 | 1952 |
| 1000 | +0.4980 | $-7.7816$ | +8.7529 | $-8.5556$ | +1.2287 | +9.7292 | $+9.5731$ | $-8.9552$ | 7650 |  |
| 1001 | +0.5176 | -8.2585 | $+8.7760$ | -8.5623 | +1.2333 | +9.7174 | +9.4065 | -9.4136 | 7666 |  |
| 1002 | +0.4995 | $-7.8605$ | +8.7598 | -8.5412 | +1.2346 | $+9.7138$ | +9.5627 | $-9.0331$ | 7670 | 1964 |
| 1003 | $+0.5115$ | -8.1752 | +8.7739 | -8.5426 | +1.2379 | $+9.7044$ | $+9.4660$ | -9.3371 | 7691 | 1969 |
| 1004 | +0.5189 | -8.3054 | +8.7873 | -8.5454 | +1.2406 | $+9.6965$ | +9.3906 | -9.4565 | 7711 | 1973 |
| 1005 | +0.5058 | -8.0748 | +8.7731 | $-8.5234$ | +1.2425 | $+9.6906$ | $+9.5144$ | -9.2420 | 7719 |  |
| 1006 | +0.5070 | -8.1028 | $+8.7743$ | -8.5243 | +1.2426 | $+9.6903$ | $+9.5046$ | -9.2688 | 7722 |  |
| 1007 | +0.4953 | -7.7067 | +8.7661 | -8.5154 | $+1.2427$ | $+9.6899$ | +9.5906 | -8.8812 | 7526 |  |
| 1008 | +0.5080 | -8.1535 | +8.7829 | -8.5051 | +1.2489 | +9.6689 | +9.4946 | -9.3173 | 7771 |  |
| 1009 | +0.5002 | --7.9467 | +8.7756 | -8.4971 | +1.2491 | $+9.6683$ | $+9.5564$ | -9.1180 | 7773 | 1993 |
| 1010 | +0.5022 | -8.0075 | +8.7772 | -8.4985 | +1.2491 | $+9.6682$ | +.9.5421 | -9.1773 | 7774 |  |
| 1011 | $+0.4966$ | -7.8024 | +8.7736 | -8.4934 | +1.2494 | $+9.6670$ | $+9.5820$ | $-8.9760$ | 7776 |  |
| 1012 | +0.5084 | -8.1713 | +8.7860 | -8.4980 | +1.2511 | +9.6609 | +9.4911 | -9.3342 | 7781 |  |
| 1013 | +0.5000 | -7.9523 | +8.7790 | -8.4847 | +1.2524 | $+9.6559$ | +9.5582 | $-9.1235$ | 7784 | 1997 |
| 1014 | +0.4953 | -7.7689 | +8.7799 | -8.4667 | +1.2562 | $+9.6407$ | $+9.5903$ | $-8.9429$ | 7805 | 2003 |
| 1015 | +0.5078 | -8.1839 | +8.7916 | -8.4778 | +1.2563 | $+9.6403$ | $+9.4951$ | $-9.3464$ | 7806 |  |
| 1016 | $+0.5121$ | -8.2785 | $+8.8004$ | -8.4768 | +1.2581 | $+9.6323$ | $+9.4547$ | $-9.4340$ | 7818 | 2007 |
| 1017 | +0.5121 | -8.2786 | +8.8004 | -8.4768 | $+1.2581$ | $+9.6323$ | +9.4547 | -9.4341 | 7819 | 2008 |
| 1018 | +0.5059 | -8.1693 | $+8.7954$ | -8.4541 | +1.2612 | $+9.6177$ | $+9.5100$ | -9.3329 | 7835 |  |
| 1019 | +0.5082 | -8.2217 | +8.7989 | -8.4564 | +1.2615 | +9.6167 | +9.4900 | $-9.3820$ | 7836 |  |
| 1020 | +0.5027 | -8.0898 | +8.7923 | -8.4474 | +1.2619 | +9.6148 | +9.5361 | $-9.2572$ | 7840 | 2018 |


| No. | Name. | Mag. | $\begin{aligned} & \text { Mean Right } \\ & \text { Ascension } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varial } \\ & \text { tion. } \end{aligned}$ | Secular Variation Variation. | Proper Motion. | $\begin{aligned} & \text { Mean } \\ & \text { Declination } \\ & 1850.0 \text {. } \end{aligned}$ | $\begin{aligned} & \text { Annual } \\ & \text { Varial } \\ & \text { tion. } \end{aligned}$ | $\begin{aligned} & \text { Secular } \\ & \text { Varia- } \\ & \text { tion. } \end{aligned}$ | Proper Motion. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1021 | 58 Aquarii | 6 |  | +3.189 | ${ }^{8}$ | $+0.006$ | -1140 18.4 | +18.32 | +0.189 | +0.01 |
| 1022 | 60 Aquarii | $6 \frac{1}{2}$ | $22 \quad 2618.99$ | $+3.097$ | -0.0058 | $+0.005$ | -2 2038.7 | +18.42 | +0.179 | +0.02 |
| 1023 | 61 Aquarii | $6 \frac{1}{2}$ | 222743.89 | +3.242 | -0.0148 | -0.001 | -18 1356.9 | +18.44 | +0.185 | $-0.01$ |
| 1024 | $\times$ Aquarii | 5 | 222959.08 | +3.114 | $-0.0070$ | $-0.001$ | -5 500.6 | +18.44 | +0.174 | $-0.09$ |
| 1025 | 64 Aquarii | $6 \frac{1}{2}$ | 223122.33 | +3.168 | -0.0101 | $+0.001$ | -10 4822.4 | +18.59 | +0.174 | $+0.02$ |
| 1026 | 67 Aquarii | 6 | 223524.07 | +3.136 | -0.0084 | 0.000 | -74445.2 | +18.75 | $+0.165$ | $+0.05$ |
| 1027 | $\boldsymbol{\tau}^{1}$ Aquarii | 6 | 223944.65 | +3.194 | -0.0122 | +0.002 | -14 5044.7 | +18.85 | +0.160 | $+0.01$ |
| 1028 | 70 Aquarii | 6 | 224036.43 | +3.168 | -0.0101 | $+0.006$ | -11 2045.7 | $+18.90$ | +0.157 | $+0.04$ |
| 1029 | $\tau^{2}$ Aquarii | 4 | 224138.70 | +3.187 | -0.0119 | +0.001 | -14 2258.2 | +18.90 | +0.156 | +0.01 |
| 1030 | 2 Aquarii | 4 | 224447.09 | +3.133 | -0.0083 | $-0.001$ | - 82234.8 | +19.05 | +0.147 | $+0.66$ |
| 1031 | 74 Aquarii | 6 | 224534.67 | +3.169 | $-0.0105$ | $+0.004$ | -12 2443.7 | +19.04 | $+0.147$ | $+0.03$ |
| 1032 | 78 Aquarii | 6 | 224645.46 | +3.130 | $-0.0081$ | 0.000 | - 75958.0 | +19.06 | +0.143 | $+0.02$ |
| 1033 | 1 Piscium | 6 | 224719.00 | +3.076 | $-0.0038$ | $+0.007$ | + 0160.4 | +19.03 | +0.140 | -0.03 |
| 1034 | 2 Piscium | $6 \frac{1}{2}$ | 225146.27 | +3.078 | $-0.0035$ | +0.008 | + 0942.8 | +19.05 | +0.131 | $-0.12$ |
| 1035 | 3 Piscium | 6 | 225256.28 | +3.080 | $-0.0039$ | $+0.005$ | - 0375.7 | +19.22 | +0.129 | $+0.02$ |
| 1036 | 81 Aquar | 6 | 225335.85 | +3.125 | $-0.0076$ | $+0.002$ | -75150.8 | +19.28 | +0.130 | $+0.06$ |
| 1037 | 82 Aquarii | 6 | 225445.15 | +3.120 | $-0.0074$ | +0.001 | -72238.1 | +19.26 | +0.128 | +0.01 |
| 1038 | $h^{1}$ Aquarii | 6 | 225720.49 | +3.138 | -0.0079 | $+0.013$ | -830 5.6 | +19.37 | +0.123 | $+0.06$ |
| 1039 | $h^{2}$ Aquarii | 7 | 225730.43 | +3.133 | -0.0078 | $+0.008$ | - 83342.6 | +19.38 | +0.123 | +0.07 |
| 1040 | $h^{3}$ Aquarii | 7 | 22584.21 | +3.130 | -0.0079 | +0.004 | - 84440.6 | +19.37 | +0.122 | +0.04 |
| 1041 | $h^{4}$ Aquarii | $7 \frac{1}{2}$ | 225924.11 | +3.133 | -0.0078 | $+0.010$ | -830 3.0 | +19.40 | +0.119 | +0.04 |
| 1042 | A l'iscium | $5 \frac{1}{2}$ | 23 0 59.97 | +3.074 | -0.0025 | +0.011 | + 11846.7 | +19.54 | +0.114 | +0.15 |
| 1043 | ¢ Aquarii | $4 \frac{1}{2}$ | $23 \quad 633.14$ | +3.114 | $-0.0065$ | $+0.006$ | - 65124.3 | +19.35 | +0.105 | -0.16 |
| 1044 | B.A.C. 8094 | 6 | $23 \quad 750.77$ | +3.093 | $-0.0051$ |  | - 41842.3 | +19.54 | +0.102 |  |
| 1045 | $\psi^{1}$ Aquarii | $4 \frac{1}{2}$ | $\begin{array}{llll}23 & 8 & 1.59\end{array}$ | +3.151 | -0.0081 | +0.028 | - 95415.0 | +19.54 | +0.102 | . 00 |
| 10 | $x$ Aquarii | $5 \frac{1}{2}$ | $\begin{array}{llll}23 & 9 & 4.33\end{array}$ | +3.115 | -0.0073 | 0.000 | -8 3234.7 | +19.60 | $+0.100$ | $+0.04$ |
| 10 | $\gamma$ Piscium | ${ }^{2}$ | $23-923.35$ | +3.110 | -0.0016 | +0.052 | +22748.9 | +19.61 | +0.098 | +0.04 |
| 1048 | $\psi^{2}$ Aquarii | 4, | $\begin{array}{llll}23 & 10 & 6.54\end{array}$ | +3.128 | -0.0080 | $+0.006$ | $\begin{array}{lll}-10 & 0 & 2.8\end{array}$ | +19.56 | $+0.098$ | -0.02 |
| 1049 | $\psi^{3}$ Aquarii |  | 231119.28 | +3.128 | -0.0083 | +0.005 | -10 2547.8 | +19.62 | +0.006 | $+0.02$ |
| 1050 | 96 Aquarii | $5 \frac{1}{2}$ | 231137.19 | $+3.116$ | -0.0058 | +0.016 | - 55635.4 | +19.64 | +0.095 | $+0.03$ |
| 1051 | B.A.C. 8134 | $6 \frac{1}{2}$ | ${ }_{23}^{23} 1337.58$ | +3.096 | -0.0054 |  | - 52933.0 | +19.65 | +0.091 |  |
| 1052 | B.A.C. 8152 | $6 \frac{1}{2}$ | ${ }_{2}^{23} 1550.03$ | +3.066 | -0.0027 | -0.007 | - 03156.6 | +19.60 | $+0.086$ | $-0.08$ |
| 105 | \% Piscium | $4 \frac{1}{2}$ | 231914.61 | +3.079 | -0.0021 | $+0.010$ | + 0266.2 | +19.64 | $+0.079$ | -0.10 |
| 1054 | 9 Piscium | 6 | 231933.74 | $+3.072$ | -0.0020 | +0.003 | + 01757.6 | +19.69 | $+0.079$ | -0.05 |
| 1055 | 11 Piscium | $6 \frac{1}{2}$ | 232145.01 | $+3.081$ | $-0.0034$ | 0.000 | -2 2656.9 | +19.79 | $+0.075$ | $+0.01$ |
| 1056 | 14 Piscium | $6 \frac{1}{2}$ | 232626.21 | $+3.085$ | $-0.0030$ | $+0.007$ | -2 $2 \times 431.4$ | +19.85 | $+0.666$ | $+0.01$ |
| 1057 | 13.A.C. 8214 | $6 \frac{1}{2}$ | 232747.62 | +3.088 | $-0.0061$ | -0.010 | -8 1738.1 | +19.82 | +0.063 | -0.04 |
| 1058 | 15 l'iscium | $6 \frac{1}{2}$ | 232748.60 | +3.068 | -0.0016 | -0.001 | + 0293.4 | +19.81 | +0.063 | -0.05 |
| 1059 | 16 Piscium | 6 | 232844.14 | +3.064 | -0.0011 | -0.003 | + 11613.6 | +19.97 | +0.661 | +0.10 |
| 1060 | 2 Piscium | 5 | 233423.56 | +3.064 | -0.0009 | -0.004 | + 05717.5 | +19.80 | +0.050 | -0.13 |
| 1061 | 19 Piscium | 6 | 233843.87 | +3.067 | $+0.0002$ | +0.002 | + 23920.3 | +19.99 | +0.041 | +0.02 |
| 1062 | 20 Piscium | 6 | 234013.75 | $+3.085$ | $-0.0030$ | +0.007 | - 33543.0 | +20.00 | +0.039 | +0.02 |
| 1063 | B.A.C. 8274 | 61 | 234049.63 | $+3.100$ | -0.0049 | $-0.015$ | - 71246.6 | +19.91 | +0.038 | -0.08 |
| 1064 | B.A.C. 8276 | $6 \frac{1}{2}$ | 23418.63 | +3.058 | -0.0004 | $-0.010$ | + 12259.5 | +19.97 | $+0.037$ | -0.02 |
| 1065 | 21 Piscium | 6 | 234146.76 | $+3.073$ | -0.0009 | +0.003 | + 01432.0 | +19.91 | +0.036 | $-0.08$ |
| 1066 | 22 Piscium | 6 | 234417.30 | +3.071 | +0.0002 | $+0.004$ | +2 550.8 | +20.03 | +0.031 | $+0.02$ |
| 1067 | 24 Piscium | $6 \frac{1}{2}$ | 234513.32 | +3.086 | -0.0029 | +0.009 | - 35914.6 | $+20.03$ | +0.029 | $+0.02$ |
| 1068 | 25 Piscium | $6 \frac{1}{2}$ | 234523.81 | +3.070 | -0.0001 | +0.001 | + 11526.3 | +20.03 | +0.629 | +0.02 |
| 1069 | B.A.C. 8311 | $6 \frac{1}{2}$ | 23475.85 | +3.058 | -0.0011 | -0.014 | - 04330.2 | +19.06 | +0.c25 | -0.06 |
| 1070 | 26 Piscium | 6 | 23 47. 27.56 | +3.068 | +0.0025 | +0.005 | + 61415.5 | 20 | +0.024 | +0.02 |
| 1071 | 27 Piscium | $5 \frac{1}{2}$ | 235059.55 | $+3.072$ | -0.0028 | $-0.003$ | -42318.1 | +19.92 | $+0.018$ | $-0.12$ |
| 1072 | ${ }^{\text {c) }}$ Piscium | 4 | 235136.63 | +3.080 | $+0.0026$ | +0.015 | +6158.1 | +19.96 | +0.016 | $-0.08$ |
| 1073 | 29 Piscium | $5 \frac{1}{2}$ | 23 54-8.17 | +3.075 | -0.0023 | +0.002 | - 35144.5 | $+20.07$ | $+0.012$ | +0.02 |
| 1074 | 30 Piscium | 5 | $2354-15.96$ | +3.082 | -0.0039 | $+0.007$ | -6 6052.0 | $+20.03$ | $+0.011$ | $-0.02$ |
| 1075 | $c^{1}$ Piscium | 6 | 2354 -43.37 | +3.065 | $+0.0040$ | -0.001 | + 8718.7 | +20.04 | +0.010 | -0.01 |
| 1076 | $c^{2}$ Piscium | 6 | 23 54-49.95 | +3.065 | $+0.0037$ | -0.002 | + 7399.2 | $+20.02$ | $+0.010$ | -0.03 |
| 1077 | B. A.C. 8365 | 6 $\frac{1}{2}$ | 235722.47 | +3.076 | -0.0008 | $+0.005$ | - 1209.7 | $+19.97$ | $+0.005$ | $-0.08$ |
| 1078 | 33 Piscium | 5 | 235739.38 | +3.076 | $-0.0035$ | $+0.004$ | - 63248.8 | +20.10 | $+0.005$ | $+0.05$ |

ZODIACAL STARS.

| No. | LOGARITHMS OF |  |  |  |  |  |  |  | $\begin{aligned} & \text { No. } \\ & \text { B.A.C. } \end{aligned}$ | N.Y.C. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$ | $b$ | c | d | $a^{\prime}$ | $b^{\prime}$ | $c^{\prime}$ | $d^{\prime}$ |  |  |
| 1021 | +0.5029 | -8.0995 | $+8.7935$ | -8.4434 | $+1.2627$ | +9.6105 | +9.5347 | $-9.2665$ | 7849 |  |
| 1022 | +0.4903 | -7.3987 | +8.7869 | -8.4236 | +1.2649 | +9.5993 | +9.6205 | -8.5744 | 7863 |  |
| 1023 | +0.5110 | -8.3055 | +8.8101 | -8.4394 | $+1.2660$ | +9.5931 | +9.4618 | $-9.4592$ | 7870 |  |
| 1024 | +0.4935 | $-7.7315$ | $+8.7912$ | -8.4085 | $+1.2678$ | +9.5829 | +9.6009 | $-8.9059$ | 7884 | 2027 |
| 1025 | $+0.5006$ | -8.0713 | +8.7984 | -8.4082 | +1.2689 | +9.5765 | $+9.5510$ | -9.2397 | 7890 |  |
| 1026 | $+0.4964$ | -7.9272 | +8.7976 | -8.3852 | +1.2719 | $+9.5573$ | +9.5814 | -9.0993 | 7921 |  |
| 1027 | +0.5041 | -8.2201 | +8.8115 | -8.3740 | +1.2750 | $+9.5354$ | $+9.5206$ | $-9.3814$ | 7949 |  |
| 1028 | +0.4999 | -8.0998 | +8.8059 | -8.3634 | +1.2756 | +9.5309 | +9.5547 | $-9.2673$ | 7952 |  |
| 1029 | +0.5032 | -8.2070 | +8.8119 | -8.3631 | +1.2763 | +9.5254 | +95278 | $-9.3693$ | 7954 | 2046 |
| 1030 | +0.4961 | $-7.9681$ | +8.8048 | $-8.3369$ | +1.2784 | $+9.5083$ | $+9.5824$ | -9.1396 | 7970 | 2054 |
| 1031 | $+0.5003$ | -8.1432 | +8.8109 | -8.3380 | $+1.2789$ | $+9.5039$ | $+9.5505$ | -9.3090 | 7974 |  |
| 1032 | +0.4955 | -7.9491 | +8.8056 | -8.3253 | +1.2797 | +9.4972 | $+9.5866$ | -9.1210 | 7981 |  |
| 1033 | +0.4870 | +6.4682 | +8.8017 | -8.3179 | +1.2800 | +9.4939 | $+9.6389$ | +7.6443 | 7985 | 2058 |
| 1034 | +0.4871 | +6.2556 | +8.8044 | -8.2913 | +1.2827 | $+9.4674$ | +9.6383 | +7.4317 | 8005 |  |
| 1035 | +0.4878 | -6.8384 | $+8.8051$ | -8.2840 | $+1.2834$ | $+9.4601$ | $+9.6343$ | -8.0144 | 8012 | 2067 |
| 1036 | $+0.4946$ | -7.9457 | +8.8095 | -8.2839 | +1.2837 | +9.4559 | $+9.5920$ | $-9.1177$ | 8016 |  |
| 1037 | +0.4941 | -7.9183 | +8.8097 | -8.2760 | +1.2844 | $+9.4485$ | $+9.5958$ | -9.0907 | 8020 |  |
| 1038 | +0.4948 | -7.9821 | +8.8123 | -8.2601 | +1.2858 | $+9.4314$ | $+9.5903$ | -9.1534 | 8035 |  |
| 1039 | +0.4948 | $-7.9853$ | +8.8124 | -8.2590 | +1.2859 | $+9.4303$ | $+9.5900$ | $-9.1565$ | 8038 |  |
| 1040 | $+0.4949$ | -7.9949 | +8.8129 | -8.2554 | +1.2862 | +9.4264 | +9.5892 | -9.1659 | 8041 |  |
| 1041 | +0.4945 | -7.9831 | +8.8134 | -8.2459 | +1.2869 | +9.4172 | +9.5917 | $-9.1544$ | 8050 |  |
| 1042 | +0.4861 | +7.1696 | +8.8095 | -8.2299 | +1.2877 | +9.4059 | +9.6432 | +8.3456 | 8060 |  |
| 1043 | +0.4925 | -7.8921 | +8.8151 | -8.1908 | $+1.2903$ | $+9.3638$ | +9.6056 | $-9.0650$ | 8085 | 2086 |
| 1044 | +0.4904 | -7.6899 | +8.8138 | $-8.1785$ | +1.2909 | $+9.3533$ | +9.6188 | -8.8648 | 8094 |  |
| 1045 | +0.4946 | -8.0547 | +8.8192 | -8.1823 | $+1.2910$ | $+9.3518$ | +9.5897 | -9.2243 | 8095 | 2087 |
| 1046 | +0.4935 | -7.9898 | $+8.8180$ | -8.1720 | +1.2914 | +9.3432 | $+9.5981$ | -9.1611 | 81 C 2 |  |
| 1047 | +0.4854 | +7.4471 | +8.8136 | -8.1648 | $+1.2915$ | $+9.3405$ | +9.6464 | +8.6228 | 8105 | 2088 |
| 1048 | +0.4944 | -8.0599 | +8.8202 | -8.1650 | +1.2919 | +9.3344 | $+9.5910$ | -9.2294 | 8109 | 2089 |
| 1049 | +0.4945 | $-8.0790$ | +8.8212 | $-8.1565$ | +1.2923 | +9.3253 | $+9.5894$ | $-9.2478$ | 8116 | 2092 |
| 1050 | +0.4913 | $-7.8316$ | +8.8165 | $-8.1475$ | +1.2925 | +9.3212 | $+9.6127$ | $-9.0053$ | 8119 | 2093 |
| 1051 | +0.4909 | -7.7979 | $+8.8170$ | -8.1290 | +1.2933 | +9.3031 | $+9.6157$ | $-8.9720$ | 8134 |  |
| 1052 | +0.4876 | $-6.7840$ | +8.8158 | -8.1062 | +1.2941 | +9.2822 | +9.6356 | -7.9601 | 8152 |  |
| 1053 | $+0.4870$ | +6.6974 | +8.8170 | -8.0716 | +1.2953 | +9.2477 | +9.6388 | +7.8735 | 8169 | 2100 |
| 1054 | +0.4871 | +6.5337 | +8.8171 | -8.0683 | +1.2954 | +9.2444 | +9.6384 | +7.7098 | 8170 | 2101 |
| 1055 | +0.4887 | -7.4776 | +8.8183 | -8.0448 | $+1.2961$ | +9.2204 | +9.6293 | -8.6533 | 8183 |  |
| 1056 | +0.4882 | -7.3784 | +8.8195 | -7.9883 | +1.2976 | $+9.1641$ | $+9.6319$ | $-8.5542$ | 8205 |  |
| 1057 | +0.4911 | -7.9833 | +8.8242 | -7.9748 | +1.2979 | +9.1463 | +9.6119 | -9.1548 | 8214 |  |
| 1058 | +0.4 ¢\% 0 | $+6.7465$ | +8.8196 | $-7.9700$ | +1.2979 | $+9.1461$ | $+9.6386$ | +7.9226 | 8215 |  |
| 1059 | +0.4867 | +7.1660 | +8.8200 | $-7.9576$ | +1.2982 | $+9.1335$ | +9.6404 | +8.3420 | 8218 | 2114 |
| 1060 | +0.4869 | +7.0434 | $+8.8213$ | $-7.8712$ | +1.2995 | +9.0472 | $+9.6393$ | +8.2194 | 8243 | 2122 |
| 1061 | $+0.4864$ | $+7.4884$ | +8.8225 | -7.7913 | +1.3004 | $+8.9669$ | +9.6413 | $+8.6640$ | 8262 |  |
| 1062 | +0.4882 | -7.6204 | +8.8232 | $-7.7600$ | +1.3006 | +8.9353 | +9.6311 | -8.7957 | 8271 | 2127 |
| 1063 | +0.4892 | $-7.9247$ | +8.8258 | $-7.7494$ | +1.3007 | +8.9220 | +9.6233 | $-9.0973$ | 8274 |  |
| 1064 | +0.4869 | +7.2053 | +8.8226 | $-7.7388$ | +1.3008 | +8.9148 | $+9.6393$ | +8.3813 | 8276 |  |
| 1065 | $+0.4872$ | $+6.4486$ | +8.8225 | $-7.7239$ | $+1.3009$ | +8.8999 | +9.6378 | +7.6247 | 8281 |  |
| 1066 | $+0.4867$ | $+7.3867$ | $+8.8232$ | -7.6599 | +1.3012 | $+8.8357$ | $+9.6397$ | +8.5625 | 8295 |  |
| 1067 | +0.4881 | -7.6663 | +8.8241 | -7.6341 | +1.3013 | +8.8091 | +9.6319 | -8.8413 | 8302 |  |
| 1068 | +0.4870 | +7.1644 | $+8.8231$ | -7.6280 | +1.3013 | +8.8040 | $+9.6388$ | +8.3404 | 8303 |  |
| 1069 | +0.4874 | -6.9255 | +8.8233 | $-7.5742$ | $+1.3015$ | $+8.7503$ | $+9.6367$ | -8.1015 | 8311 |  |
| 1070 | +0.4861 | $+7.8619$ | +8.8258 | $-7.5644$ | $+1.3016$ | +8.7379 | $+9.6408$ | +9.0354 | 8312 |  |
| 1071 | +0.4878 | -7.7086 | +8.8249 | -7.4194 | +1.3019 | +8.5942 | +9.6332 | -8.8834 | 8328 | 2136 |
| 1072 | +0.4865 | +7.8477 | +8.8260 | -7.3897 | +1.3019 | +8.5634 | +9.6389 | +9.0213 | 8331 | 2138 |
| 1073 | +0.4876 | -7.6532 | +8.8248 | -7.2327 | +1.3021 | +8.4078 | +9.6348 | -8.8283 | 8346 | 2143 |
| 1074 | +0.4878 | -7.9033 | +8.8269 | $-7.2250$ | +1.3021 | +8.3980 | $+9.6313$ | -9.0763 | 8349 | 2144 |
| 1075 | +0.4866 | +7.9783 | +8.8282 | -7.1904 | +1.3021 | +8.3621 | +9.6364 | $+9.1500$ | 8353 |  |
|  | +0.4866 | +7.9521 | +8.8277 | $-7.1809$ | +1.3021 | $+8.3531$ | $+9.6366$ | $+9.1243$ | 8354 |  |
| 1077 | +0.4873 | -7.1917 | +8.8240 | $-6.8831$ | +1.3022 | $+8.0590$ | $+9.6370$ | -8.3677 | 8365 |  |
| 1078 | +0.4875 | -7.8837 | $+8.8267$ | $-6.8360$ | +1.3022 | +8.0092 | $+9.6334$ | -9.0570 | 8368 | 2153 |



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(2)

THIS BOOK IS DUE ON THE LAST DATE
AN INIIIAI FINE OF 25 CENTS WILL BE ASSESSED FOR FATE DUE. THE PENALTY THIS BOOK ON THE DA CENTS ON THENTH DAY WILL INCREASE $\$ 1.00$ ON




