Зис. К

CATALOGUE

OF

STARS NEAR THE ECLIPTIC,

OBSERVED

AT MARKREE DURING THE YEARS 1848, 1849, & 1850,

AND WHOSE

PLACES ARE SUPPOSED TO BE HITHERTO UNPUBLISHED.

VOL. I.

CONTAINING 14,888 STARS.

Printed at the Expense of Her Majesty's Government, on the recommendation of the Royal Society.

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1851.

ERRATA,

Detected while the Work was in the Press.

Page.	α.	δ.	
	h. m. s.	° ′	
53	2 8 12	+14 22.2	in Rümker.
55	2 43 13	14 27.8	in B. A. C.
61	4 15 58	20 45.4	in Rümker.
,,	4 16 56	20 47.4	do.
,,	4 18 17	20 38.7	do.
62	4 21 16	20 38.8	do.
,,	4 56 35	22 50.9	in Bessel's Zones.
69	7 15 2	22 27.9	should be 7 14 57 22 29.0
73	4 14 19	20 51.0	in Rümker.
74	4 37 4	+20 59.1	in Bessel's Zones.
76	–	–	*dele* "See Note on observations."
94	18 22 8	—23 26.0	should be 18 22 13 —23 24.9, it is therefore 34164 Hist. Celeste Cat.
103	19 47 50	19 32.4	should be 19 47 40 —19 30.2
104	19 53 19	19 7.2	mark doubtful.
110	20 39 49	17 9.4	do.
114	21 10 46	17 22.5	do.
118	20 44 59	15 26.6	do.
122	22 2 39	8 47.9	do.
125	22 36 12	7 54.6	should be 22 36 7 —7 53.4
127	23 57 39	—2 42.7	mark doubtful.
131	4 8 53	+19 11.2	in Bessel's Zones.
136	2 53 51	19 18.0	mark doubtful.
137	3 14 31	19 25.4	in Bessel's Zones.
,,	3 17 4	20 53.6	mark doubtful.
139	4 6 10	23 19.3	do.
140	4 16 35	23 15.4	in Bessel's Zones.
146	5 6 12	21 36.4	mark doubtful.
149	7 18 52	19 43.1	should be 7 18 47 19 44.3
162	10 34 33	9 19.3	,, 10 34 4 9 11.9
164	11 35 21	6 24.7	,, 11 35 16 6 25.9
167	10 21 22	+8 35.0	,, 10 21 17 8 33.8, it is therefore 20326 Hist. Celeste Cat.
183	20 20 32	—20 17.5	mark doubtful.
185	20 49 35	19 30.2	do.
186	20 56 29	21 26.7	should be 20 56 24 —21 27.8
190	22 23 53	11 0.9	mark doubtful.
191	22 32 28	12 51.8	should be 22 32 33 —12 53.1
192	22 50 37	11 4.2	,, 22 50 32 11 5.4
197	22 38 8	9 24.3	,, 22 38 3 9 25.5
198	22 46 39	9 22.1	,, 22 46 34 9 23.3
,,	22 55 28	10 47.9	,, 22 45 26 —10 48.2
206	23 1 14	3 38.0	mark doubtful.
207	23 30 12	—3 30.9	do.

ABBREVIATIONS.

N.	. . north.	*f.*	. . following or followed.
S.	. . south.	:	. . doubtful.
B.	. . brightest or brighter.	::	. . very doubtful.
L.	. . largest or larger.	M. C.	. observed subsequently with Meridian Circle.
p.	. . preceding or preceded.		

INTRODUCTION.

THE secondary design in attempting the somewhat laborious work which is commenced in the following catalogue was, to obtain an increased number of points, from whence, by ocular triangulation, stars to the twelfth magnitude inclusive, might be, with sufficient accuracy, interpolated in maps prepared for the purpose.

The primary object however was, to furnish ultimately to astronomers such charts of the ecliptic portion of the heavens as would very much facilitate the research, now so general, of such planetary bodies as may be within the reach of our present optical apparatus.

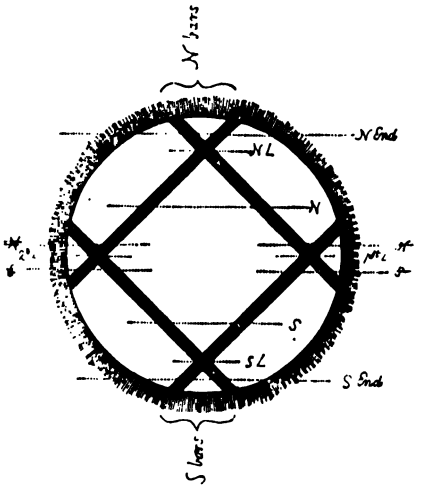
With regard to the limits assigned to the work, it seemed to us to be desirable that but one telescope, and one magnifying power should be used; but those so selected, as that any extra-Uranian planet which may exist might be detected, without extending the labour so far as to render it almost interminable.

With these views we ultimately resolved upon the large Equatorial as the instrument, and its comet eye-piece with a magnifying power of about 80, which is presumed to show about $12\frac{1}{2}$ or 13th magnitude as its minimum visibile. In this eye-piece is fixed one of the square-bar micrometers projected by Mr. Graham, First Assistant at this Observatory. It was originally intended for extra-meridian observations of faint objects, comets especially, but while he was mapping those stars which could be seen in the Cometen-sucher by interpolation in existing maps, it occurred to him that the work might be advanced by making use of the square-bar micrometer with the large Equatorial. He was requested to make the experiment, and having made a favorable report, we decided upon the change in our proceedings.

A sufficiently accurate map for purposes of discovery being the ultimate object of the present undertaking, *approximate* places only are pretended to be assigned to the stars composing the Catalogue. It may, nevertheless, be desired that some intimation should be given as to the mode of obtaining these approximate places, and also that the probable errors of results from known stars should be mentioned, for the purpose of enabling a judgment to be passed upon the degree of

accuracy attainable by means of the micrometer employed. Mr. Graham has therefore given the following description of the instrument:—

"The want of some means for determining differences of right ascension and declination with the lowest power used in the large Equatorial, had been long found a serious drawback; when, after having examined a comet, for instance, with an instrument of such power, we were obliged to have recourse to one vastly inferior, in order to ascertain the place with any approach to accuracy. This, in an uncertain climate, is a very hazardous expedient, and one which, in not a few instances, from clouds, want of light in the object, or want of altitude, we have had to forego, and to content ourselves with very rough circle readings, or make the most we could of the times of crossing the field of view. It was thought desirable to encumber the field as little as possible with lines or bars, and to keep clear the central part, that most favorable for ascertaining peculiarities of structure in the celestial body. The circular micrometer first suggested itself. This has the decided advantage of requiring no previous adjustment, and, for instruments not parallactically mounted, will not soon be superseded; but a single circle, without any additional fixtures, is nearly useless for declination throughout the greater part of its extent. In fact, through one-half of the diameter, the tangent makes with it an angle less than 30°; and through seven-tenths an angle less than 45°. The well-known rhomboidal reticule of Bradley seemed only faulty in not giving the lines sufficient inclination for the differences of declination, we could see no objection to their being placed at right angles. A glance at the sketch here given will show that, in common with Bradley's, differences of declination to the full extent of the diameter of the field can be obtained with the greatest facility.



"Being intended exclusively for faint objects, artificial illumination was out of the question. Steel bars had been used here in the ordinary screw-micrometer adapted to the Cometen-sucher, and they were unhesitatingly preferred to spider's lines or fine wires. The square-bar micrometer is then a reticule consisting of four steel bars, fixed on a brass plate, and forming a square, whose mean diagonal is about three-fourths the diameter of the field of view. The breadth of the bars, that is, of the sides next the eye, is about one-twentieth of an inch; their thickness much less. A small hole drilled through one of them, beyond the angle of the square, enables the observer to note the position of the micrometer."

Here it may be stated, that the steel bars are placed in the focus of the eye-piece, and that the adjustment is effected by turning the eye-piece, until a quick star bisects the opposite angles of the diagonal; or, as Mr. Graham expresses it, "until a fixed star, if made to bisect the right-hand angle, after entering the field of view, would, without the influence of refraction, bisect the left-hand angle before passing out." When thus adjusted, we call the angle *apparently* north, or apparently nearest the north pole of the heavens, 'north angle,' and, of course, the opposite angle 'south angle.'* When a star passes exactly along the horizontal diagonal, or centrally, we say either 'middle first,' 'middle second,' or, 'first angle,' 'second angle.' The two bars intersecting in the north angle, we call north bars,† and the other two south bars. If a star passes the north bars to the north of 'north angle,' we say 'north end;' if to the south of 'north angle,' simply 'north.' In the same way, touching the south bars, if the star passes to the southward of the 'south angle,' we name it 'south end;' if to the north of 'south angle,' only 'south.' In those cases where a star does not bisect either 'north angle' or 'south angle,' and yet so as an immersion at the first bar and an emersion at the second might be obtained, we reject the observation, inasmuch as the interval between the times of disappearance behind the first bar and reappearance from behind the second is very different according to the difference of the magnitudes of the stars. This rule equally applies to what we call 'middle first' and 'middle second,' or 'first angle' and 'second angle.' There remain still two cases to be noticed, one to the north and the other to the south of the diagonal passing through first and second angles. A star may pass the two bars which intersect at the 'first angle,' and to the north of that angle. In this instance the observer calls out 'north first' (written N); if to the south of that angle, he says 'south first' (written S). In like manner near the

* We beg here to refer to the diagram.

† 'Apparent' is always to be understood in this description.

'second angle' he calls out either 'north second' (written ♓), or 'south second' (written ♋), as the case may be.

Having settled upon the notation, our mode of observation is easily disposed of. The large Equatorial being in the open air, there is no clock within the hearing of the observer. The Second Assistant, Mr. Robertson, is therefore placed at the sidereal clock in the Meridian-circle room, whose business it is to note the times and whatever particulars are mentioned by the observer. The immersion and emersion at each of two intersecting bars are, as before intimated, essentially necessary for determining the relative position of a star; excepting in the case in which that star precisely bisects an angle. The stars are numbered only accidentally in the order of right ascension, for we take them in the order in which they are occulted by the first bar which is observed to meet them. The signals are given by calling out the number of the star at each immersion and emersion, most frequently four times, never more; for when a star can be conveniently observed crossing four bars, near the first and second angles, it is always designated by a new number at the two last bars; the note-book being previously ruled to admit of only four times for each star.* The numbers used to designate the stars are one, two, three, &c., to ten; and at the first bar the observer says, 'one, one,' 'two, two,' &c., and repeats it at the second. Having got through ten, the series recommences, to avoid using other than monosyllables. After the first bar has been passed by a star, the observer calls out, as soon as convenient, the bars crossed or in progress, with the magnitude of the star, and occasional particulars of the more remarkable objects. The distance from the sidereal clock to the centre of Equatorial pier being only 46 feet, the assistant has no difficulty in hearing the observer. Perhaps it should be added, that when several stars are in progress together across the field, which of a fine night is almost constantly the case, considerable attention is required to preserve in the mind of the observer the number he has assigned to each until they shall have passed the second bars. It is not improbable that default in this respect may prove to be one of the chief sources of error in the Catalogue. The average number of stars taken per minute of time occupied by the observations up to the present day $=2\cdot07$. For adjacent zones having the same right ascension, the instrument is altered in declination 20 minutes. The diameter of the field of view being upwards of 25 minutes, the zones overlap at least 5 minutes, so that the same star is often forthcoming in several zones. As already remarked, we *seldom deviate* from the ecliptic more than about 3°. The following detail of the method of

* In the Catalogue these cases are notified by (4).

reducing the observations is contributed by the projector of the micrometer:—

"We at once see by a reference to the diagram, that if the micrometer be precisely adjusted, the mean of the times of crossing two bars forming an angle, is, omitting the influence of refraction, the time of crossing an hour-circle passing through that angle; and that the difference between this time and the star's right ascension is a quantity constant for the zone, due allowance being made for the rate of the clock. This first correction (C_1) will be the same for the bars crossing in north and south angle. For those intersecting in first angle it will be greater by half the diagonal reduced to time and divided by cos δ; in our instrument $41^s{\cdot}36 \div \cos \delta$. For those intersecting in second angle it will be less by the same quantity. A second correction (C_2) will be owing to the star's apparent change of declination, consequent upon the variation in the refraction during the interval between the times of crossing the two bars. A third correction (C_3) is requisite if the first and second angles be not precisely in the same parallel of declination. Lastly, a fourth correction may be necessary in the event of the figure of the micrometer deviating in any sensible degree from a square, so as to affect the right ascension observations. This fourth correction, thanks to the artist, Mr. Spencer of Dublin, we have not found it necessary to take into the account.

"C_2 is generally avoided by placing the telescope near the meridian: in other circumstances $\frac{D^s}{2 \cos \delta} r \sin 2p$ must be subtracted from the mean of the times of crossing the two north bars, (viz., those which intersect in north angle,) and the same quantity must be added for south bars. For first or second bars (viz., those intersecting in first or second angle) no correction is required on this head.

D^s=half diagonal in time=$41^s{\cdot}36$ in our micrometer.

r=increment of refraction for $1''$ increment in zenith distance, which can be easily obtained from almost any refraction table. We commonly use Ivory's as given in Mr. Baily's Astronomical Tables.

p the parallactic angle.

"For C_3 remark where a star of known declination (δ') has been observed crossing both north and south bars at the same transit. Apply C_3 when necessary; call the mean of the times of crossing north bars, N; of south bars, S; let

$$x = \tfrac{1}{2}(N - S) \cos \delta'.$$

"To the mean of the times of crossing

N bars add, S bars subtract $\left\} \frac{x}{\cos \delta} - \frac{2x}{D^s} t,\right.$ $\not{N}$ or $\not{S}$ add, S or $\not{S}$ subtract $\left\} \frac{2x}{D^s} t,\right.$

where t is half the interval between the times of crossing the two bars.

If δ may be regarded constant these become

$$\tfrac{1}{2}(N-S) - \frac{N-S}{\tfrac{1}{2}(n+s)}t, \quad \text{and} \quad \frac{N-S}{\tfrac{1}{2}(n+s)}t, \quad \text{where } n \text{ and } s$$

are half the intervals between the times in which the same star crosses north and south bars respectively. It need scarcely be remarked, that we call the time of crossing a bar the mean between the immersion and emersion at that bar. t is to be regarded negative when the star crosses north end or south end.

"For C_1 we must have recourse to the Catalogues. By the aid of the rough circle-readings there is little difficulty in detecting the catalogued stars which have been taken in the set. The apparent right ascensions of these stars for the night of observation being obtained, and increased or diminished by the rate of the clock from the commencement of the zone, the mean of the times of the star's transit across the bars is corrected by C_2 and C_3, and, in case the star was observed across the first or second pair of bars, by $\frac{41'36}{\cos\delta}$, the time it would take to pass over half the diagonal; then the corrected right ascension diminished by this corrected time of transit across an hour-circle through the centre of the micrometer, will give the C_1. To facilitate the reductions of the catalogued stars, and the determination of the mean places for 1850·0 of the observed stars, a table is made, by the aid of the constants in the Nautical Almanac, which gives at a glance, for the mean declination and for every ten minutes of right ascension, the reduction to 1850·0 from the apparent place at the time of observation. This table is made to include the allowance for the rate of the clock. C_1 is thus obtained from every known star, using in their order B. A. Catalogue, Rümker's, Bessel's Zones, Piazzi, and Lalande. The mean value of C_1 deduced from these, is then incorporated into the table already spoken of, to save a second addition. The correction now to be derived from this table, with C_3, and the time of crossing half the diagonal in the cases referred to, is all that is usually requisite for obtaining, from the mean of the times of crossing the bars, the mean right ascension of the star for 1850·0.

"For obtaining the declination, the necessary elements are the declination of the centre, and the difference between the star's declination and that of the centre; the latter including corrections for refraction, (C_2) position of the micrometer (C_3), and shape of micrometer. We have considered it lawful to forego the last correction, as has been already stated, and we use a mean value for the two diagonals. Their respective values are 20′ 41″·6 and 20′ 40″·0, we therefore use 20′ 40″·8. The error consequent on this is far within the probable error of observation, as will be seen.

"The uncorrected difference between the star's declination and that of

the centre depends upon the interval (t) between the times of crossing the two bars. For the first or second pair of bars it is simply

$$r = 15t \cos \delta.$$

For north or south it is

$$D''—r = 10' 20''{\cdot}4—r.$$

For north end or south end take r negative. The C_2 is now to be applied to r. This for the first or second pair of bars is

$$r\, r \cos 2\, p;$$

For north or south it is

$$—D''\, r \cos^2 p. + r\, r \cos 2\, p.$$

For north end or south end take r negative. We have thus the difference corrected for refraction, between the star's declination and that of the centre. For first or second pair of bars

$$r + r\, r \cos 2\, p = r\,(1 + r \cos 2\, p).$$

For north or south

$$D'' + D''\, r \cos^2 p — r — r\, r \cos 2\, p.$$

For north end or south end

$$(D'' + r)\,(1 + r \cos 2\, p).$$

When the stars are taken near the meridian p. vanishes, and these expressions become for first or second pair of bars

$$r\,(1 + r).$$

For north or south

$$(D''—r)\,(1 + r).$$

For north end or south end

$$(D''+ r)\,(1 + r).$$

In reducing the zones, we use for each zone a fictitious semi-diagonal

$$D''\,(1 + r \cos 2\, p).$$

and for the constant multiplier of t

$$15 \cos \delta\,(1 + r \cos 2\, p).$$

which effectually takes C_2 into the account.

"A slight error in the position of the micrometer affects the declinations of those stars only which were taken across the first or second pair of bars. In the former case the declination must be increased by $15\, x$; in the latter it must be diminished by the same quantity.

"For the declination of the centre we must again have recourse to the catalogued stars, and proceed by a method precisely analogous to that by which we obtained C_1 for the right ascensions.

"That our mode of conveying the signals is rough, we freely admit, and that the observations, depending as they do upon two persons, do not possess all the accuracy of which the method is capable, is conceded; yet a probable error in right ascension of $0^s{\cdot}288$ and in declination of $4''{\cdot}27$ deduced from 1345 known stars, taken in 155 sets of observations, shows that the results fully answer the purposes for which they are intended."

A few additional remarks may possibly not be unacceptable, although perhaps somewhat out of place here, viz. :—

The hour and declination circles of the Equatorial are read off at the beginning and end of each set of observations, to assist in detecting any change that might take place in the position of the telescope by accident or otherwise, as well as to assist in identifying the known stars.

The calculations are carried out to $0^{s}.01$ and $0''.1$; and the probable errors mentioned at the conclusion of Mr. Graham's description of his micrometer, have reference to the results in this form, and not to that now given to the public.

The observations have been made by myself and Mr. Graham, the great majority by the latter, and the reductions and formation of the Catalogue by the same observers, assisted by Mr. Robertson.

It may be well also to add that, on each of two nights more than 500 stars were noted. The charts, which are in progress, are on a scale which gives an area sixteen times that of the Berlin Maps, all the stars being entered from the Catalogues, and not from other maps. The magnitudes of the stars for 1st to 12th inclusive, will be recognised with the greatest ease by the figuring arranged by Mr. Graham.

EDWARD J. COOPER.

MARKREE CASTLE, *August* 1, 1850.

APPROXIMATE MEAN PLACES,

FOR JANUARY 1, 1850,

OF

949 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1848, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	8	18 19 12	—21 19.6	9	9½	18 38 24	—21 17.6
9	9	19 51	21 5.0	9	9½	39 0	21 7.2
9	9½	23 24	21 7.1	19	9	39 30	21 30.5
9	9	24 38	21 0.7	19	10	39 47	21 21.6
9	10	26 28	21 5.6	9	10½	40 32	21 2.4
9	9	26 33	21 20.1	9	9½	40 40	21 3.1
9	9½	27 50	21 6.9	19	9	41 23	21 19.9
19	8	28 42	21 32.1	19	10	41 51	21 21.5
9	9	29 30	21 17.6	9	11	42 14	21 6.3
9	10	30 32	21 8.7*	9	8	42 41	21 4.2
9	9	30 34	21 1.9	19	10½	42 46	21 17.6
9	9	31 6	21 5.5	19	10½	43 9	21 20.7
19	9½	31 10	21 20.5	9	8½	43 23	21 4.0
19	10	31 12	21 28.1	19	8	43 27	21 18.7
9	11	32 17	21 17.9	19	8½	44 25	21 29.6*
19	10	32 28	21 27.5	9	8	44 41	21 13.8*
9	9½	32 51	21 3.3	9	8½	45 13	21 6.6*
19	8	33 1	21 27.5	19	9	45 26	21 29.1*
9 19	9	33 35	21 18.1	19	10	45 54	21 33.9
19	9	34 21	21 27.8	19	11	47 13	21 18.3
19	10½	35 19	21 33.8	19	11	47 22	21 21.9
19	11	35 21	21 24.1	9	10	47 36	21 3.8
19	9½	35 57	21 30.6	19	9	47 44	21 19.8
19	11	36 51	21 23.9	19	8	48 40	21 20.4
19	8½	18 37 6	—21 20.3	19	10	18 49 45	—21 28.1

* Double.

* August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	18 49 46	—21 18.1	29	9½	18 59 58	—20 26.0
9	10½	50 4	21 15.9	29	8½	19 0 10	20 13.9
19	10	50 5	21 26.6	8	10	0 27	21 14.4
19	10½	50 25	21 32.5	17	12	0 44	20 50.5
9	10	51 6	21 5.3	28	11	0 57	19 51.6
9	9½	51 11	21 2.2*	19	8	1 28	21 17.4::
17	11	51 28	20 51.6	19	9	1 35	21 33.6
19	10	51 35	21 29.5	28	9	1 35	21 53.9
17	9½	51 44	20 49.6*	29	9½	1 45	20 20.4
17	10	52 18	20 57.4	29	9½	1 52	20 17.7
17	10½	52 37	20 50.7	8	9	2 0	21 6.1
19	10½	52 41	21 33.6	29	8½	2 6	20 12.7
9	8½	52 52	21 8.4	17	8½	2 7	20 47.4:
17	10½	53 21	20 52.9	28	9½	2 17	19 56.6
19	8	53 22	21 29.1	29	9½	2 19	20 24.9
19	8	53 38	21 22.2	8 9 17	9	2 22	21 2.7
17	8½	53 39	20 51.5	9	11	2 24	21 13.6
19	9	54 15	21 17.6	28	10½	2 24	20 1.7
19	10	54 41	21 19.8	19	8	2 25	21 21.7
17	8½	54 46	20 47.4:	19	9	2 30	21 30.6
17	8	54 57	20 54.0	8	8	3 5	21 19.7
17	10	55 18	21 2.5	28	9	3 5	19 55.9
19	10½	55 24	21 23.6	29	10	3 7	20 12.1
19	9	55 34	21 23.4	17	11	3 26	20 58.2
19	9	55 57	21 22.8	17	10	3 32	20 58.0
19	9½	56 28	21 22.3	29	10½	3 47	20 16.9
17	11½	56 34	21 2.8	28	9	3 48	19 55.2
17	10	56 56	21 1.9	29	10	3 48	20 28.3
19	9	57 8	21 24.4	8 9	9	3 53	21 5.7
17	9	57 28	20 49.6	19	9	4 8	21 28.4
19	9	57 38	21 25.3	9 19	9	4 9	21 18.3
19	9½	57 50	21 30.0	19	8½	4 17	21 22.2
19	10	59 4	21 17.7	17	9	4 25	20 54.6
19	10½	59 12	21 27.9	29	10½	4 40	20 26.5
29	11½	18 59 55	—20 15.6	29	10½	19 4 53	—20 26.4

* August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	10	19 5 4	—20 1.2	17	9	19 10 12	—20 58.3*
28	10½	5 4	20 7.6	9	8	10 23	21 9.6*
19	8	5 5	21 27.1	17	10	10 28	20 53.7
17	8	5 8	20 59.3	9	10	10 29	21 17.0
29	9½	5 10	20 10.3	19	9	10 29	21 33.6
28	8½	5 17	19 52.9	29	9½	10 31	20 12.3
19	8	5 42	21 29.3	9	10	10 33	21 13.9
19	8	5 56	21 28.2	29	9½	11 15	20 10.5
29	9½	6 0	20 17.0	29	10	11 32	20 21.3
17	9½	6 3	20 57.3	19	9	11 33	21 32.0
9	12	6 7	21 6.8	8 9	9	11 43	21 13.9
17	8½	6 18	20 49.2:	29	11½	12 1	20 22.4
29	10	6 21	20 16.9:	8 9	10	12 5	21 13.8
9	9	6 24	21 17.4	17	8	12 7	20 58.0
19	8	6 28	21 16.3	8 9	10	12 25	21 13.9
29	11½	6 46	20 14.9	17	11	12 35	20 54.6
17	10	6 51	20 57.4	29	11	12 55	20 15.8
19	9	6 57	21 33.7	9	10	13 8	21 5.6
29	11½	7 18	20 14.9	17	9	13 10	20 48.6
19	9	7 30	21 31.7	19	9½	13 10	21 33.9
17	9	7 31	20 54.5	8	10½	13 14	21 0.8
17	10	7 38	20 51.0	19	8½	13 17	21 28.1
19	9	7 41	21 33.2	29	10½	13 22	20 17.5
9	8½	7 53	21 2.0	19	9	13 29	21 34.0
29	11½	8 11	20 27.3	17	7	13 47	20 55.2
17	8	8 22	20 57.8	17	9	13 51	20 48.6
17	10	8 25	20 47.3	8 9	9	13 52	21 2.7
29	11½	8 31	20 24.0	8 9 17	8	14 6	21 3.9
29	10½	8 38	20 10.0	19	8½	14 17	21 31.8
19	9	8 55	21 25.7	29	8½	14 22	20 14.0
9	11	9 8	21 16.5	29	11	14 39	20 12.2
19	9½	9 25	21 27.2	9	11	14 48	21 8.4
29	11½	9 36	20 27.0	19	9	14 51	21 30.7:
17	11½	9 50	20 59.3	8 9	10	15 28	21 5.5
29	12	19 9 51	—20 21.7	19	9	19 15 34	—21 31.2

* August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	9½	19 15 43	—20 26.6 *	21	11	19 20 48	—21 46.7
17	10	15 56	20 52 5	29	12½	20 50	20 25.2
29	9½	16 2	20 14.2	19	8½	20 59	21 18.1
8 17	9	16 11	21 0.2	29	11	21 15	20 24.8
19	9½	16 33	21 33.4	21	10	21 16	21 43.4
29	10	16 45	20 16.3	19	11	21 18	21 20.8
29	10	16 49	20 16.8	8	7½	21 29	21 8.5
9	9	16 57	21 13.5	8 17	10½	21 34	21 3.5
8	9	17 3	21 8.3	29	11	21 42	20 13.9
8 9	10	17 11	21 0.9	19	9½	22 4	21 30.5
17	9	17 22	20 52.7	21	8	22 6	21 44.7
29	10½	17 22	20 24.4	28	10	22 10	19 58.6
19	9	17 27	21 22.2	28	10	22 10	20 4.0
21	10	17 55	21 35.6	28	10	22 12	19 53.1
17	11	18 7	21 0.0	17	10	22 26	21 4.1
9	11	18 11	21 3.6	17	11	22 31	20 54.0
8	8½	18 14	21 11.4	8	8	22 39	21 11.4
29	11	18 23	20 26.7	19 21	10½	22 50	21 32.3
29	9	18 27	20 15.3	19 21	11	22 59	21 33.1
21	10	18 36	21 45.3	29	10	23 0	20 26.4
19	10	18 43	21 32.1	29	10	23 12	20 28.4
8 9	8	18 50	21 1.2	29	10	23 23	20 28.2
19	9½	19 6	21 26.7:	28	10	23 32	20 8.0
21	10	19 14	21 31:0	28	9	23 42	19 51.5
21	10	19 17	21 40.9	28	10	23 44	20 7.3
29	11	19 22	20 22.0	21	12	23 52	21 45.4
29	10	19 27	20 28.5	29	10½	23 55	20 11.8
21	10	19 35	21 34.4	17	10	24 0	20 54.6
9 19	9	19 42	21 17.4	8	10½	24 2	21 5.1
8	9½	19 48	21 6.3	19	10½	24 5	21 27.8
19	10	19 51	21 19.3	29	10	24 21	20 23.7
9	9	19 57	21 12.4	19	10	24 26	21 27.1
17	12	20 6	20 51.2	28	10	24 26	19 52.7
29	10	20 12	20 23.8	21	12	24 34	21 38.5
17	12	19 20 19	—21 0.6	19	10	19 24 48	—21 21.4

* September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10	19 24 53	—21 24.7	19	9½	19 29 49	—21 23.3
21	10½	24 58	21 35.1	19	11	30 4	21 17.5
28	9	25 3	20 2.9	8 9 17	9	30 28	21 3.1
8	9	25 8	21 15.1	21	9	30 37	21 40.4:
28	10	25 11	20 7.9	8 9	10	30 54	21 6.4:
28	8	25 22	19 53.3	21	.	31 0	21 41.1::
8	9	25 26	21 16.9	19	9½	31 2	21 20.4
29	10	25 33	20 28.1*	19	10½	31 4	21 31.5
29	10½	25 37	20 25.6	8	10	31 19	21 5.1
21	10	25 39	21 42.2	17	10½	31 26	20 47.3
21	9	26 0	21 35.1	29	10½	31 31	20 25.6
29	9½	26 4	20 29.9*	28	12	31 40	19 54.2
28	10	26 14	20 6.2	29	10½	31 42	20 26.6
17	10	26 18	20 48.7	19	10½	31 54	21 17.3
21	11	26 30	21 37.2	8	7	31 58	21 10.8
28	9	26 31	20 6.5	28	8	32 4	19 52.8
28	9	26 53	20 5.7	29	9½	32 13	20 23.0
8	8½	26 59	21 14.8	29	9½	32 41	20 25.7*
19	11	27 1	21 22.7	28	8	32 42	19 58.3
19 21	9	27 15	21 33.8	29	10½	32 42	20 23.8
28	8½	27 19	19 55.1	19	11	32 45	21 30.6
28	9½	27 54	19 51.6	17	11½	32 53	20 52.7
29	10½	28 1	20 23.1	19	11	33 1	21 32.0
29	11	28 6	20 22.3	9	9	33 3	21 12.3
8	9½	28 15	21 5.6	28	10	33 4	19 52.4
21	9	28 18	21 38.1	29	10½	33 12	20 13.5
19	10½	28 19	21 29.5	8 17	9	33 13	21 2.2
29	9½	28 28	20 14.3	9	9½	33 13	21 4.5
21	9½	28 47	21 39.9::	28	9	33 14	19 59.4
28	10½	28 52	20 3.6	19	9	33 23	21 30.3
8	8	28 54	21 8.6	17	10	33 45	21 5.0
28	11	28 54	19 52.2	29	8½	33 52	20 17.5
19	9½	29 17	21 20.2	19	10½	34 3	21 33.7
28	12	29 18	19 51.8	29	10½	34 5	20 11.9
17	11	19 29 41	—21 3.5	8 9 17	9	19 34 18	—21 1.3

* September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	9	19 34 22	—20 9.4	29	9½	19 40 21	—20 22.4
19	9½	34 53	21 30.8	19	11	40 24	21 25.8
29	11	34 56	20 22.2	8 9	10	40 26	21 5.4
9	9½	35 11	21 18.9	9	11	40 33	21 12.0
28	10	35 12	20 7.6	29	11½	40 39	20 23.4
8	9½	35 18	21 6.5	19	8½	40 40	21 18.1
28	9	35 23	20 6.7	19	8	40 44	21 21.6
29	11	35 23	20 22.3	8 9	9	40 55	21 6.9
8	8	35 36	21 8.4	29	11	41 9	20 22.6
29	9½	35 40	20 22.6	28	10½	41 26	19 52.8
28	9	35 43	20 3.3	19	11	41 44	21 19.9
19	10	35 44	21 27.0	8	10	41 47	21 2.2
19	10½	35 47	21 16.4	9	11	41 53	21 4.1
17	9½	35 49	20 49.6	29	12½	41 55	20 14.2
17	9	35 52	20 49.4	28	11	42 10	19 54.1
8	9	35 57	21 10.4	29	11½	42 19	20 16.0
9	12	36 8	21 4.7	19	8	42 31	21 31.4
29	8½	36 12	20 16.8	8	10½	42 36	21 4.6
28	9	36 25	19 54.1	8 9	10	42 45	21 1.1
29	11½	36 51	20 26.1	29	9½	42 52	20 14.0
17	10	36 54	20 50.4	19	9½	43 6	21 26.4
17	10½	36 59	20 58.4	28	9½	43 7	20 4.4
28	10	37 6	19 53.7	9	10	43 16	21 17.6
19	8	37 13	21 18.1	29	9½	43 18	20 21.1
19	10	37 14	21 22.2	8	9½	43 20	21 2.4
8	9½	37 20	21 5.6	28	8	43 26	20 5.9
29	–	37 37	20 13 0	8 9	9	44 3	21 4.9
8	8	37 47	21 16.9	19	9	44 7	21 33.5
19	8	37 47	21 15.9	29	10	44 9	20 16.4
29	9½	38 14	20 10.7	29	10½	44 19	20 27.1
28	11	38 45	20 7.5	28	8½	44 33	20 7.3
19	10	39 27	21 20.5	29	10	44 36	20 13.5
28	9½	39 32	20 1.7::	19	8½	44 48	21 20.4
29	10½	39 43	20 20.3*	9	11½	45 12	21 5.9
29	10½	19 39 50	—20 20.7	8 9	10	19 45 40	—21 5.5

* S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	10	19 45 47	—21 33.8	28	9½	19 50 23	—19 55.9
29	10½	45 47	20 14.9	29	11½	50 44	20 26.6:
29	11½	45 47	20 12.5	17	10	50 53	20 47.0
19 22	8½	46 0	21 34.3	28	10½	50 57	20 4.7
29	9½	46 0	20 28.9	29	11½	51 11	20 25.0
19	10	46 14	21 28.9	29	12½	51 15	20 24.8
8 9 17	10	46 28	21 0.7	19	9	51 19	21 20.9
19	10	46 54	21 21.2	28	10	51 25	19 57.2
29	10	47 8	20 15.7	17	11	51 47	20 50.8
8	9	47 13	21 13.7*	29	–	51 47	20 15.5
17	9	47 14	20 53.1*	8	9½	51 52	21 2.3
29	11	47 34	20 18.4	17	10½	52 1	20 53.3
8 9	10	47 35	21 17.7	9	10	52 13	21 7.0
29	10½	47 36	20 16.7	19	10	52 19	21 34.5
17	11	47 37	20 51·1	29	11	52 23	20 23.6
19	10	47 37	21 20.7	29	11½	52 51	20 23.7
17	9	47 56	20 52.2	17	10½	53 12	21 3.9
8 9	10½	48 38	21 14.3	29	10	53 13	20 9.8
19	10½	48 39	21 32.0†	17	10½	53 16	20 53.2
29	9½	48 40	20 10.1	22	8½	53 21	21 42.6
28	8½	48 42	19 55.2	29	11½	53 23	20 23.4
28	10½	48 51	20 5.2	8	10	53 25	21 12.5
8	10½	48 57	21 15.0	19 22	7½	53 25	21 30.0
28	10½	49 3	20 7.1	8	9½	54 0	21 14.3
29	11	49 23	20 26.5	29	10	54 17	20 10.6
19	10½	49 28	21 26.4	29	10½	54 21	20 25.7
29	–	49 34	20 25.3	22	10½	54 22	21 31.9
28	10½	49 41	20 8.6	22	10½	54 29	21 32.3
29	–	49 43	20 25.5	22	10½	54 38	21 32.7
19	11	49 56	21 21.9	29	11	55 4	20 26.5
9	11½	50 4	21 15.6	9	12	55 7	21 19.1
17	10	50 15	21 3.4	17	8	55 31	20 50.4
29	9	50 15	20 29.2‡	29	11	55 32	20 23.5
22	9	50 20	21 32.6	17	7½	56 0	20 57.2
19	11	19 50 23	—21 22.2	22	9	19 56 8	—21 30.0

* August, 1849. † S. of double. ‡ September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
23	9½	19 56 8	—21 34.6	23	12½	20 2 24	—21 45.4
9	11	56 11	21 4.0	23	9½	2 28	21 32.6
29	10½	56 29	20 14.2	29	11½	2 42	20 15.2
29	9½	56 29	20 12.6	29	9½	2 59	20 12.0
29	10½	56 33	20 14.7	17	10	3 5	20 59.8
23	11½	56 41	21 50.1	17	10	3 7	20 56.9
9	11	56 50	21 13.2	17	9½	3 9	20 48.1
17	8	57 4	20 57.5	23	9½	3 12	21 48.9†
23	9½	57 20	21 45.8	22	9½	3 14	21 44.6†
29	11	57 31	20 13.8	29	9½	3 15	20 18.5
29	11	57 45	20 26.5	22	9½	3 47	21 41.5
23	11	57 47	21 43.8	29	10½	4 14	20 17.8
29	9½	57 49	20 11.9	17	10½	4 16	20 53.6
17	8	58 3	20 59.1	22	9½	4 43	21 46.6
23	12	58 5	21 33.2	17	10	4 53	20 51.7
9	10	58 7	21 4.4	22	9	5 14	20 45.1
22	10	58 34	21 41.1	19	11	5 33	21 17.8
17	11	58 36	20 50.1	29	11½	5 36	20 27.6
22	9	58 50	21 40.7	19	10½	6 7	21 32.6
29	10	59 1	20 17.6	29	9½	6 7	20 9.9
29	9½	59 13	20 13.1	19	10	6 28	21 22.8
23	9½	59 19	21 34.7	29	10½	6 34	20 26.7
22 23	9	59 29	21 42.4:	17	8	6 39	20 56.7
29	11	20 0 8	20 10.6	17	10	6 49	20 53.8
23	11	0 9	21 40.2	19	11	6 52	21 34.2
29	11	0 15	20 12.6	9	9	7 5	21 6.8
23	9½	0 20	21 45.3	17	9½	7 15	20 53.6
17	9	1 0	20 47.7*	17	10	7 32	20 59.9
29	11	1 24	20 18.3	19	9½	8 1	21 23.1
29	11	1 31	20 14.6	19	10½	8 13	21 20.2
17	9	1 40	20 54.8	9	10	8 35	21 17.5
29	10½	1 41	20 10.8	17	9½	8 41	20 51.9
22 23	9	1 47	21 45.3	19	10½	8 57	21 34.1
22 23	8½	2 4	21 44.7	19	10½	9 45	21 29.2
9	9½	20 2 5	—21 17.3	17	11	20 9 47	—20 48.1

* September, 1849. † August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	20 9 57	—21 16.8	19	9	20 16 26	—21 28.5
19	10½	10 8	21 23.8	17	9	16 30	20 47.7:
17	11	10 20	20 59.5	9 19	10	16 42	21 16.9
19	10	10 53	21 22.5	26 29	9½	16 50	20 9.8
17	9½	11 5	20 54.0	29	8½	17 16	20 12.0
19	11	11 6	21 16.7	17	9	17 22	20 56.6
9	9	11 21	21 19.3	17	10	18 21	20 52.6
9	10½	11 22	21 14.9	26 29	8½	18 25	20 20.3
17	9½	11 45	20 53.8	26 29	8½	18 26	20 13.0
17	9	11 47	21 0.4	19	10½	18 29	21 18.8
9 19	9	12 1	21 16.1	26 29	9	18 38	20 10.6
9	11	12 19	21 16.0	26	10	18 49	20 20.6
26	9½	12 40	20 24.3	19 22	10	19 14	21 34.3
26	9½	12 47	20 19.6	17	8½	19 23	20 47.6†
19	11½	12 57	21 27.8	17	8	19 40	20 51.0
26	10½	12 57	20 13.2	9 17	9	19 46	21 4.2
19	12	12 58	21 33.6	22	9	19 49	21 37.2
17	10½	12 59	20 51.0	26	7½	19 58	20 10.9
17	9	13 43	20 46.2	9	12	20 8	21 14.6
19	10½	13 43	21 30.6	22	10	20 11	21 42.5
26	6½	13 45	20 15.1	22	10	20 25	21 45.0
17	9	14 11	20 47.4*	26	8	20 28	20 12.9
19	10	14 19	21 31.1	9	10½	20 29	21 7.9
9	9	14 20	21 8.2*	17	9½	20 38	20 47.5
17	8	14 48	21 0.5	19	11	20 39	21 30.3
26	8	14 55	20 21.9	9	7	20 46	21 14.3
26	8½	15 6	20 23.4†	26	10½	20 47	20 12.1
17	10	15 10	21 0.6	22	7½	20 53	21 37.0
19	11	15 11	21 30.0	22	8	21 19	21 45.4
26	8	15 23	20 15.2	17	10½	21 20	20 51.2
19	9½	15 36	21 33.4	26	7	21 37	20 14.8
17	11	15 44	20 50.3	17	8	21 41	20 46.7
29	10½	15 54	20 27.5	26	7½	21 52	20 25.2
26 29	8½	16 5	20 11.3	19	10½	22 4	21 20.2
17	11	20 16 8	—20 50.3	19	10½	20 22 22	—21 15.9

* August, 1849. † September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	10	20 22 32	—20 25.9	31	11	20 31 15	—18 58.2
26	9	22 41	20 17.8	26	9½	31 16	20 11.9
31	12	23 3	19 6.3	17	10	31 36	20 57.0
26	9	23 14	20 23.8	31	11	31 39	18 58.4
22	9	23 18	21 35.4	31	10	32 0	19 4.3
19 22	10	23 19	21 32.0	26	10	32 14	20 24.3
31	11	23 24	19 7.9*	31	11	32 21	18 51.0
31	13	23 29	19 3.8	26	10	32 36	20 22.7
31	11	24 7	19 4.8	31	11	32 53	18 52.5
19	11	24 10	21 26.3	17	11	33 20	20 53.3
17	11½	24 17	21 2.2	26	9	33 21	20 21.2
31	13	24 35	19 6.0	17	11	33 45	20 46.9
19	10	24 44	21 24.1	26	10	34 13	20 27.3
22	10	24 51	21 45.8	26	10	34 24	20 13.1
31	10	24 58	18 52.7	31	9	35 2	19 9.7::
17	7	25 13	21 2.7	26	10	35 6	20 22.6
31	12	25 34	19 2.8	17	10	35 7	21 3.0
31	11	26 9	18 58.9	31	11	35 8	18 54.4
17	11	26 12	21 4.0	31	11	35 10	19 1.1
19	10	26 25	21 32.9	26	11	35 33	20 20.7
17	10	26 33	20 54.6	17	10	35 43	20 56.7
17	12	26 52	20 50.0	26	9	35 52	20 21.6
31	11	27 21	18 50.3	31	12	36 0	18 55.1
31	12	28 17	18 56.6	31	12	36 31	19 3.9
31	12	28 41	18 54.1	26	9	36 37	20 16.8
17	12	29 8	20 51.6	26	9	37 0	20 22.9
31	12	29 15	18 58.3	31	13	37 9	18 54.1
26	10	29 29	20 28.3*	31	9	37 27	18 50.5
17	11	29 30	20 55.2	17	10	37 43	21 5.1
26	10	29 39	20 23.6	26	7½	37 57	20 12.6
31	9	29 54	19 9.7::	26	9	38 16	20 10.4
26	11½	30 0	20 24.6	31	9	38 19	19 10.9
26	8	30 56	20 11.5:	26	9	38 21	20 15.8
26	9½	31 9	20 12.2	26	10	38 47	20 14.4:
26	10	20 31 10	—20 16.0	31	12	20 39 39	—19 6.2

* September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	20 39 48	—20 13.0	26	9	20 48 35	—20 8.0
17	11	40 4	21 2.9	26	10	48 39	20 12.2
31	11	40 5	18 56.2	17	11½	48 48	20 57.6
31	12	40 56	18 56.1	17	11	49 8	20 59.8
17	11	41 2	20 59.1	26	10	49 34	20 23.8
17	11½	41 10	21 0.2	17	10½	49 40	20 57.1
31	12	41 25	19 5.7	29	11½	49 42	20 27.5
31	11	41 29	18 59.9	26	10	50 2	20 23.7†
26	9	41 41	20 9.8	29	9½	50 18	20 13.2
26	9	41 54	20 14.6	29	11	50 21	20 20.7
31	10	42 29	19 8.7	29	9½	50 40	20 26.5
28	8½	42 32	20 8.9*	26 28	10	50 46	20 9.7
31	12	42 37	18 58.2	17	9½	51 9	21 3.2
28	9	42 46	19 58.9	26 29	8	51 24	20 11.2
31	11	42 55	19 6.8	31	12	51 47	19 8.2
17	11	42 56	20 59 0	23	10½	51 56	21 38.1
17	9½	43 11	20 49.7	26	11	52 9	20 9.9:
26	9	43 17	20 12.1	17	11	52 20	21 2.3
31	11	43 19	18 55.2	26	11	52 24	20 26.1
28	9	43 37	19 56.4	29	11½	52 25	20 18.1
31	11	43 43	18 53.5	29	11	52 40	20 16.9
28	9	44 3	20 7.9	23	10½	52 42	21 50.0
31	9	44 15	19 11.0	26 29	10	53 14	20 15.0
31	9	44 25	19 10.2	31	12	53 18	19 2.8
26	10	44 29	20 26.1	23	12½	53 29	21 35.7
26	9	45 1	20 19.8	31	12	53 29	18 57.2:
31	9	45 11	18 56.5	31	12	53 34	19 6.7::
26	9	45 21	20 9.2	23	11	53 36	21 47.3
26	9	45 31	20 21.3	26	9	53 41	20 9.7
26	10	46 25	20 19.6	17	11	53 53	21 0.1
17	10	46 50	20 50.3	17	10½	54 0	21 1.3
28	9½	46 59	20 5.3	26	10	54 2	20 23.7
26	8	47 5	20 23.3	29	9½	54 24	20 13.8
26 28	9	47 44	20 8.9	31	10	54 30	18 59.7
26 28	10	20 47 54	—20 9.3	17	9½	20 54 31	—20 49.6

* September, 1849. † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	18 49 46	—21 18.1	29	9½	18 59 58	—20 26.0
9	10½	50 4	21 15.9	29	8½	19 0 10	20 13.9
19	10	50 5	21 26.6	8	10	0 27	21 14.4
19	10½	50 25	21 32.5	17	12	0 44	20 50.5
9	10	51 6	21 5.3	28	11	0 57	19 51.6
9	9½	51 11	21 2.2*	19	8	1 28	21 17.4::
17	11	51 28	20 51.6	19	9	1 35	21 33.6
19	10	51 35	21 29.5	28	9	1 35	21 53.9
17	9½	51 44	20 49.6*	29	9½	1 45	20 20.4
17	10	52 18	20 57.4	29	9½	1 52	20 17.7
17	10½	52 37	20 50.7	8	9	2 0	21 6.1
19	10½	52 41	21 33.6	29	8½	2 6	20 12.7
9	8½	52 52	21 8.4	17	8½	2 7	20 47.4:
17	10½	53 21	20 52.9	28	9½	2 17	19 56.6
19	8	53 22	21 29.1	29	9½	2 19	20 24.9
19	8	53 38	21 22.2	8 9 17	9	2 22	21 2.7
17	8½	53 39	20 51.5	9	11	2 24	21 13.6
19	9	54 15	21 17.6	28	10½	2 24	20 1.7
19	10	54 41	21 19.8	19	8	2 25	21 21.7
17	8½	54 46	20 47.4:	19	9	2 30	21 30.6
17	8	54 57	20 54.0	8	8	3 5	21 19.7
17	10	55 18	21 2.5	28	9	3 5	19 55.9
19	10½	55 24	21 23.6	29	10	3 7	20 12.1
19	9	55 34	21 23.4	17	11	3 26	20 58.2
19	9	55 57	21 22.8	17	10	3 32	20 58.0
19	9½	56 28	21 22.3	29	10½	3 47	20 16.9
17	11½	56 34	21 2.8	28	9	3 48	19 55.2
17	10	56 56	21 1.9	29	10	3 48	20 28.3
19	9	57 8	21 24.4	8 9	9	3 53	21 5.7
17	9	57 28	20 49.6	19	9	4 8	21 28.4
19	9	57 38	21 25.3	9 19	9	4 9	21 18.3
19	9½	57 50	21 30.0	19	8½	4 17	21 22.2
19	10	59 4	21 17.7	17	9	4 25	20 54.6
19	10½	59 12	21 27.9	29	10½	4 40	20 26.5
29	11½	18 59 55	—20 15.6	29	10½	19 4 53	—20 26.4

* August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	10	19 5 4	—20 1.2	17	9	19 10 12	—20 58.3*
28	10½	5 4	20 7.6	9	8	10 23	21 9.6*
19	8	5 5	21 27.1	17	10	10 28	20 53.7
17	8	5 8	20 59.3	9	10	10 29	21 17.0
29	9½	5 10	20 10.3	19	9	10 29	21 33.6
28	8½	5 17	19 52.9	29	9½	10 31	20 12.3
19	8	5 42	21 29.3	9	10	10 33	21 13.9
19	8	5 56	21 28.2	29	9½	11 15	20 10.5
29	9½	6 0	20 17.0	29	10	11 32	20 21.3
17	9½	6 3	20 57.3	19	9	11 33	21 32.0
9	12	6 7	21 6.8	8 9	9	11 43	21 13.9
17	8½	6 18	20 49.2:	29	11½	12 1	20 22.4
29	10	6 21	20 16.9:	8 9	10	12 5	21 13.8
9	9	6 24	21 17.4	17	8	12 7	20 58.0
19	8	6 28	21 16.3	8 9	10	12 25	21 13.9
29	11½	6 46	20 14.9	17	11	12 35	20 54.6
17	10	6 51	20 57.4	29	11	12 55	20 15.8
19	9	6 57	21 33.7	9	10	13 8	21 5.6
29	11½	7 18	20 14.9	17	9	13 10	20 48.6
19	9	7 30	21 31.7	19	9½	13 10	21 33.9
17	9	7 31	20 54.5	8	10½	13 14	21 0.8
17	10	7 38	20 51.0	19	8½	13 17	21 28.1
19	9	7 41	21 33.2	29	10½	13 22	20 17.5
9	8½	7 53	21 2.0	19	9	13 29	21 34.0
29	11½	8 11	20 27.3	17	7	13 47	20 55.2
17	8	8 22	20 57.8	17	9	13 51	20 48.6
17	10	8 25	20 47.3	8 9	9	13 52	21 2.7
29	11½	8 31	20 24.0	8 9 17	8	14 6	21 3.9
29	10½	8 38	20 10.0	19	8½	14 17	21 31.8
19	9	8 55	21 25.7	29	8½	14 22	20 14.0
9	11	9 8	21 16.5	29	11	14 39	20 12.2
19	9½	9 25	21 27.2	9	11	14 48	21 8.4
29	11½	9 36	20 27.0	19	9	14 51	21 30.7:
17	11½	9 50	20 59.3	8 9	10	15 28	21 5.5
29	12	19 9 51	—20 21.7	19	9	19 15 34	—21 31.2

* August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
28	11	21 25 20	—20 7.9	29	10	21 51 9	—20 14.5
31	13	25 33	18 56.4	29	9	51 14	20 11.1
31	11	26 0	19 3.6	29	10½	52 30	20 14.3
28	8	26 6	19 51.4	29	10½	52 47	20 12.7
28	11	27 9	19 51.9	29	11	53 32	20 26.5
31	12	27 11	19 7.1	29	10	54 15	20 22.4
31	9	28 1	19 3.6	29	11	54 17	20 12.8
31	10	28 8	18 49.7	29	11	55 41	20 16.8
28	10½	28 14	19 59 0	29	11	56 14	20 17.7
28	10½	28 22	19 59.4	29	8	57 54	20 12.7
28	9	28 45	20 7.1	29	8	58 32	20 20.5
31	11	29 39	19 0.3	29	11	22 0 4	20 20.6
31	11	29 47	18 49.2	29	11	0 29	20 16.2
28	9½	31 8	19 53.3	29	11	0 59	20 14.9
28	11	31 9	19 53.8	29	10½	1 44	20 23.3
31	10	31 11	18 47.1	29	11	2 6	20 16.5
28	8½	32 38	19 57.6	29	8	2 37	20 16.2
28	9½	34 28	20 3.7	29	9	3 17	20 16.2
29	10	44 59	20 23.1	29	11	4 1	20 22.1
29	10	45 22	20 17.2	29	10	5 43	20 11.5
29	10	45 30	20 14.8	29	9½	6 42	20 15.3
29	12	45 55	20 12.0	29	8	6 57	20 25.3
29	9	46 59	20 20.8	29	9½	7 7	20 20.0
29	11	47 6	20 15 8	29	8	7 20	20 23.0
29	10	47 15	20 11.1	29	10	8 4	20 21.6
29	10	48 2	20 10.9	29	10	8 28	20 24.3
29	8	48 8	20 9.5	29	10	8 40	20 12.2
29	11	48 44	20 27.6	29	8½	9 9	20 8.7
29	10	49 24	20 10.2	29	8	22 10 16	—20 21.6
29	10	21 49 46	—20 16.1				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

734 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1848, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	12	19 11 8	—20 33.4	2	10	19 29 2	—20 41.8
2	10	11 12	20 30.3	2	12	29 28	20 34.4
2	10½	11 44	20 33.4	2	10	29 37	20 20.7
2	11	12 28	20 34.0	2	12	30 28	20 34.1
2	11½	12 49	20 34.6	2	11	30 50	20 26.2
2	10½	13 11	20 32.1	2	7½	31 13	20 21.2
2	10½	13 15	20 37.0	2	10½	31 54	20 21.3
2	9½	13 41	20 35.9	2	10½	32 11	20 30.5
2	9½	13 54	20 36.4	2	9	32 12	20 22.9
2	11½	14 51	20 23.8	2	11	34 0	20 32.7*
2	10½	15 11	20 23.4	2	10	34 35	20 30.9*
2	10	15 21	20 34.9*	2	–	35 27	20 30.8
2	10½	16 26	20 32.2	2	10½	37 12	20 35.3*
2	10½	16 38	20 31.1	2	9½	37 39	20 31.8*
2	10½	16 43	20 24.2:	2	10	38 37	20 28.6*
2	10½	17 2	20 30.2*	2	12	38 43	20 20.8
2	11	19 29	20 32.3	2	11	39 46	20 26.6*
2	12	19 29	20 21.5	2	10	41 7	20 34.5*
2	10	20 18	20 38.0†	2	11½	41 41	20 31.6
2	10½	20 55	20 31.6*	2	11	42 8	20 22.9
2	12	21 24	20 35.1	2	11	42 25	20 34.6*
2	10	22 11	20 22.0	2	10½	43 25	20 37.6*
2	11	22 49	20 31.2	2	11½	43 27	20 26.8
2	11½	23 33	20 26.4	2	9	43 53	20 20.0
2	11	23 41	20 33.5*	2	11½	44 49	20 38.2
2	11	24 48	20 35.1	2	10	45 59	20 28.8
2	9	25 31	20 20.0	2	9	46 38	20 23.1
2	11½	26 29	20 33.7	2	9	47 2	20 32.0
2	10	28 9	20 31.9*	2	12	47 54	20 31.7
2	9	19 28 22	—20 41.7*	2	12	19 48 41	—20 28.1

* September, 1849.

† A 10th Mag. p. September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10½	19 48 54	—20 19.9	2	10½	20 2 20	—20 26.3
2	10	49 13	20 19.9	2	12	2 28	20 25.7
2	9½	49 54	20 19.6	25	10	2 30	19 24.2*
2	11	50 19	20 21.5	22	10½	2 47	19 34.3*
2	10½	50 44	20 33.7*	2	10	2 57	20 35.6*
2	10	51 0	20 36.8*	2	9	3 5	20 40.3*
2	11½	51 42	20 37.1*	25	11	3 6	19 35.1*
2	12	52 9	20 37.8	22	9	3 19	19 22.3*
2	12	52 50	20 33.5	2	12	3 44	20 19.8
2	11	53 21	20 30.5*	22	11½	4 25	19 25.1
2	11	54 3	20 26.4	2	9	4 39	20 20.0
2	10½	55 43	20 32.5	22	11	5 36	19 29.1
2	10½	55 45	20 39.7*	22	10	6 2	19 21.6
2	11½	56 24	20 33.0	2	12	6 28	20 35.6
2	9	57 36	20 20.3	18	9½	6 39	19 11.3*
2	9	57 44	20 34.1*	18	10	7 3	19 16.2
25	11	58 31	19 40.4*	18	8½	7 3	19 21.9
25	11½	58 37	19 39.6*	2	9½	7 47	20 32.7
25	12	58 41	19 27.4	2	10½	7 56	20 38.2
2	10	58 56	20 25.2	18	10	8 0	19 10.7
25	9	59 8	19 37.5	2	9	8 34	20 24.9
22	10	59 20	19 45.1	2	12	9 25	20 36.3
2	10½	59 39	20 20.2	2	12	9 52	20 24.6
22	12	20 0 4	19 40.4	18	11	10 46	19 21.5
2	10½	0 13	20 20.0	2	8	10 51	20 22.6
25	12	0 15	19 28.9	2	10	10 54	20 20.9:
25	11½	0 25	19 26.6	2	9½	11 13	20 22.5:
22 25	12	0 40	19 36.6*	18	8	11 41	19 3.2
2	11½	0 57	20 32.4	2	9	11 46	20 25.8
22	10	1 0	19 41.7*	18	8	12 1	19 5.7
22	11½	1 1	19 36.3*	18	9	13 18	19 22.6
2	11½	1 11	20 36.9	2	11	13 27	20 32.8*
25	11	1 46	19 37.9	25	11	13 31	19 34.0*
25	12	1 49	19 27.9	25	11	13 41	19 25.4
2	10	20 2 15	—20 20.5	18	8	20 13 44	—19 9.5

* September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	10	19 45 47	—21 33.8	28	9½	19 50 23	—19 55.9
29	10½	45 47	20 14.9	29	11½	50 44	20 26.6:
29	11½	45 47	20 12.5	17	10	50 53	20 47.0
19 22	8½	46 0	21 34.3	28	10½	50 57	20 4.7
29	9½	46 0	20 28.9	29	11½	51 11	20 25.0
19	10	46 14	21 28.9	29	12½	51 15	20 24.8
8 9 17	10	46 28	21 0.7	19	9	51 19	21 20.9
19	10	46 54	21 21.2	28	10	51 25	19 57.2
29	10	47 8	20 15.7	17	11	51 47	20 50.8
8	9	47 13	21 13.7*	29	–	51 47	20 15.5
17	9	47 14	20 53.1*	8	9½	51 52	21 2.3
29	11	47 34	20 18.4	17	10½	52 1	20 53.3
8 9	10	47 35	21 17.7	9	10	52 13	21 7.0
29	10½	47 36	20 16.7	19	10	52 19	21 34.5
17	11	47 37	20 51.1	29	11	52 23	20 23.6
19	10	47 37	21 20.7	29	11½	52 51	20 23.7
17	9	47 56	20 52.2	17	10½	53 12	21 3.9
8 9	10½	48 38	21 14.3	29	10	53 13	20 9.8
19	10½	48 39	21 32.0†	17	10½	53 16	20 53.2
29	9½	48 40	20 10.1	22	8½	53 21	21 42.6
28	8½	48 42	19 55.2	29	11½	53 23	20 23.4
28	10½	48 51	20 5.2	8	10	53 25	21 12.5
8	10½	48 57	21 15.0	19 22	7½	53 25	21 30.0
28	10½	49 3	20 7.1	8	9½	54 0	21 14.3
29	11	49 23	20 26.5	29	10	54 17	20 10.6
19	10½	49 28	21 26.4	29	10½	54 21	20 25.7
29	–	49 34	20 25.3	22	10½	54 22	21 31.9
28	10½	49 41	20 8.6	22	10½	54 29	21 32.3
29	–	49 43	20 25.5	22	10½	54 38	21 32.7
19	11	49 56	21 21.9	29	11	55 4	20 26.5
9	11½	50 4	21 15.6	9	12	55 7	21 19.1
17	10	50 15	21 3.4	17	8	55 31	20 50.4
29	9	50 15	20 29.2‡	29	11	55 32	20 23.5
22	9	50 20	21 32.6	17	7½	56 0	20 57.2
19	11	19 50 23	—21 22.2	22	9	19 56 8	—21 30.0

* August, 1849. † S. of double. ‡ September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
23	9½	19 56 8	—21 34.6	23	12½	20 2 24	—21 45.4
9	11	56 11	21 4.0	23	9½	2 28	21 32.6
29	10½	56 29	20 14.2	29	11½	2 42	20 15.2
29	9½	56 29	20 12.6	29	9½	2 59	20 12.0
29	10½	56 33	20 14.7	17	10	3 5	20 59.8
23	11½	56 41	21 50.1	17	10	3 7	20 56.9
9	11	56 50	21 13.2	17	9½	3 9	20 48.1
17	8	57 4	20 57.5	23	9½	3 12	21 48.9†
23	9½	57 20	21 45.8	22	9½	3 14	21 44.6†
29	11	57 31	20 13.8	29	9½	3 15	20 18.5
29	11	57 45	20 26.5	22	9½	3 47	21 41.5
23	11	57 47	21 43.8	29	10½	4 14	20 17.8
29	9½	57 49	20 11.9	17	10½	4 16	20 53.6
17	8	58 3	20 59.1	22	9½	4 43	21 46.6
23	12	58 5	21 33.2	17	10	4 53	20 51.7
9	10	58 7	21 4.4	22	9	5 14	20 45.1
22	10	58 34	21 41.1	19	11	5 33	21 17.8
17	11	58 36	20 50.1	29	11½	5 36	20 27.6
22	9	58 50	21 40.7	19	10½	6 7	21 32.6
29	10	59 1	20 17.6	29	9½	6 7	20 9.9
29	9½	59 13	20 13.1	19	10	6 28	21 22.8
23	9½	59 19	21 34.7	29	10½	6 34	20 26.7
22 23	9	59 29	21 42.4:	17	8	6 39	20 56.7
29	11	20 0 8	20 10.6	17	10	6 49	20 53.8
23	11	0 9	21 40.2	19	11	6 52	21 34.2
29	11	0 15	20 12.6	9	9	7 5	21 6.8
23	9½	0 20	21 45.3	17	9½	7 15	20 53.6
17	9	1 0	20 47.7*	17	10	7 32	20 59.9
29	11	1 24	20 18.3	19	9½	8 1	21 23.1
29	11	1 31	20 14.6	19	10½	8 13	21 20.2
17	9	1 40	20 54.8	9	10	8 35	21 17.5
29	10½	1 41	20 10.8	17	9½	8 41	20 51.9
22 23	9	1 47	21 45.3	19	10½	8 57	21 34.1
22 23	8½	2 4	21 44.7	19	10½	9 45	21 29.2
9	9½	20 2 5	—21 17.3	17	11	20 9 47	—20 48.1

* September, 1849. † August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	20 9 57	—21 16.8	19	9	20 16 26	—21 28.5
19	10½	10 8	21 23.8	17	9	16 30	20 47.7:
17	11	10 20	20 59.5	9 19	10	16 42	21 16.9
19	10	10 53	21 22.5	26 29	9½	16 50	20 9.8
17	9½	11 5	20 54.0	29	8½	17 16	20 12.0
19	11	11 6	21 16.7	17	9	17 22	20 56.6
9	9	11 21	21 19.3	17	10	18 21	20 52.6
9	10½	11 22	21 14.9	26 29	8½	18 25	20 20.3
17	9½	11 45	20 53.8	26 29	8½	18 26	20 13.0
17	9	11 47	21 0.4	19	10½	18 29	21 18.8
9 19	9	12 1	21 16.1	26 29	9	18 38	20 10.6
9	11	12 19	21 16.0	26	10	18 49	20 20.6
26	9½	12 40	20 24.3	19 22	10	19 14	21 34.3
26	9½	12 47	20 19.6	17	8½	19 23	20 47.6†
19	11½	12 57	21 27.8	17	8	19 40	20 51.0
26	10½	12 57	20 13.2	9 17	9	19 46	21 4.2
19	12	12 58	21 33.6	22	9	19 49	21 37.2
17	10½	12 59	20 51.0	26	7½	19 58	20 10.9
17	9	13 43	20 46.2	9	12	20 8	21 14.6
19	10½	13 43	21 30.6	22	10	20 11	21 42.5
26	6½	13 45	20 15.1	22	10	20 25	21 45.0
17	9	14 11	20 47.4*	26	8	20 28	20 12.9
19	10	14 19	21 31.1	9	10½	20 29	21 7.9
9	9	14 20	21 8.2*	17	9½	20 38	20 47.5
17	8	14 48	21 0.5	19	11	20 39	21 30.3
26	8	14 55	20 21.9	9	7	20 46	21 14.3
26	8½	15 6	20 23.4†	26	10½	20 47	20 12.1
17	10	15 10	21 0.6	22	7½	20 53	21 37.0
19	11	15 11	21 30.0	22	8	21 19	21 45.4
26	8	15 23	20 15.2	17	10½	21 20	20 51.2
19	9½	15 36	21 33.4	26	7	21 37	20 14.8
17	11	15 44	20 50.3	17	8	21 41	20 46.7
29	10½	15 54	20 27.5	26	7½	21 52	20 25.2
26 29	8½	16 5	20 11.3	19	10½	22 4	21 20.2
17	11	20 16 8	—20 50.3	19	10½	20 22 22	—21 15.9

* August, 1849. † September, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	21 7 58	—15 23.8*	29	10½	21 19 56	—14 59.0
2	10½	8 1	20 24.5	29	10½	20 5	14 58.2
22	12	8 37	15 27.8*	29	11	20 6	15 11.3
22	11	8 45	15 22.2*	29	10½	21 37	14 53.3
2	10½	8 48	20 38.3	29	11	21 49	14 59.7
22	11	9 33	15 37.5	29	11	23 17	15 1.3
2	10	9 49	20 32.6	29	12	23 48	15 9.8
22	11	9 57	15 25.5*	29	9½	24 10	14 54.6
22	11	10 6	15 36.2	29	11	24 52	15 6.9
2	9½	10 24	20 21.5	29	12	25 25	14 59.3
22	12	10 25	15 35.4	29	10	25 50	15 1.2
2	11	11 17	20 31.8	29	11	25 51	14 56.7
22	11	11 43	15 23.7	29	11	26 58	14 57.3
2	11	11 46	20 33.9	29	11	27 32	15 3.7
2	9½	11 47	20 27.0	29	10	27 35	15 12.5
22	11	12 9	15 28.1	29	10½	28 15	15 5.9
22	12	12 31	15 23.6	29	10	28 28	14 58.1
22	11	12 32	15 20.9	29	10	29 33	14 58.5
2	11	12 43	20 37.1:	29	11	29 43	15 2.9
2	12	13 23	20 31.7	22	11	29 44	15 38.7
22	8	13 32	15 36.6	29	11	29 57	15 6.4
2	10	13 36	20 34.2	22	11	30 28	15 34.3
22	9	13 49	15 33.4	29	11	30 38	14 56.4
22	9	14 18	15 24.2*	22	11	31 8	15 26.8
2	10½	14 43	20 34.3	29	12	31 47	14 59.0
22	11	15 18	15 40.3	29	10½	32 8	14 55.0
2	10½	16 20	20 20.2	22	11	32 19	15 20.9:
29	10	16 38	15 13.3*	29	11	33 0	14 59.8
2	10	17 10	20 34.8	29	11	33 15	15 6.1
29	10	17 27	15 0.4:	29	11	33 23	15 9.2
29	11	17 36	14 58.1	29	13	34 10	15 9.0
29	–	18 1	14 56.9	22	11	34 44	15 25.1
29	10	18 8	15 8.7*	29	9	34 54	15 14.8
29	11	18 51	14 51.0	29	10	35 29	15 7.8
29	10	21 19 28	—14 56.3	29	11	21 35 45	—14 59.5

*October, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
29	12	21 36 24	—15 4.3	22	9½	21 49 25	—15 17.3
22	11	37 6	15 27.1	2	11	49 32	20 28.5:
22	11	37 8	15 34.3	2	11	49 41	20 37.5
22	11	37 15	15 22.0	22	11	49 47	15 37.8
29	10½	37 15	15 2.9	22	10	50 11	15 41.8
29	10	37 30	14 57.9	2	11	50 17	20 31.7:
29	11	37 31	14 56.0	2	10½	50 23	20 32.5
22	11	38 44	15 24.1	22	9	51 9	15 30.5
29	11	39 54	14 56.9	22	11	51 20	15 27.2
29	12	40 17	14 57.9	22	10	51 23	15 36.4:
22	11	40 20	15 24.1	29	11	51 34	14 52.4
29	9	40 23	14 51.5	29	10½	51 39	15 0.5
29	10	40 40	14 51.1	22	10½	52 7	15 30.8
29	11	40 58	15 5.7	22	10	52 12	15 21.6
22	11	41 1	15 33.3	22	10½	52 47	15 27.4
2	11	41 48	20 32.4	22	10½	52 56	15 22.2
2	11	42 1	20 32.2	29	11	53 42	15 2.0
29	10	42 3	14 51.6	22	8	54 0	15 41.8
2	9	42 11	20 24.2	2	10	54 56	20 34.9
2	11	42 20	20 31.7	2	10	59 29	20 25.1
22	8	42 57	15 29.9	29	10	22 22 10	9 26.0
29	12	42 59	15 8.7	29	9½	22 18	9 23.2
22	9	43 21	15 26.0	29	8½	22 43	9 36.2
29	11	43 29	15 6.2	29	8½	23 3	9 36.6
29	11	43 37	15 7.3	29	13	27 18	9 27.0
2	9	44 14	20 30.9	29	10½	27 29	9 27.7
2	10½	44 28	20 32.1	29	9½	28 6	9 38.6
22	10	44 42	15 22.9	29	8½	28 56	9 20.9
2	10	45 21	20 20.1	29	12	28 59	9 24.8
2	11	45 31	20 18.7	29	10	30 0	9 19.2
29	10	45 54	14 58.1	29	10½	31 39	9 25.4
29	11	45 58	15 8.2	29	9	31 55	9 20.9
29	11	46 38	15 5.1	29	9½	32 40	9 34.9
2	10½	47 7	20 37.0	29	9	32 45	9 42.9
2	9½	21 48 8	—20 21.6	29	9½	22 33 23	—9 35.9

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	22 34 2	—9 26.6	29	11	22 53 34	—9 21.7*
29	11	34 27	9 23.7	4	11	53 54	6 57.4
29	10½	35 15	9 33.9:	4	–	54 7	6 46.8
29	10	35 47	9 21.4	4	11	54 10	6 52.5
29	11	35 59	9 21.1	29	10	54 46	9 26.7
29	10½	36 4	9 21.2	4	9	55 12	7 10.3
29	10	37 5	9 24.7	4	9	55 12	6 51.8
29	10	37 40	9 29.2	29	9½	55 14	9 37.0
29	8	37 49	9 20.9	4	9	56 24	7 7.9
29	12	43 37	9 20.0	4	11	56 51	6 51.8
29	11	44 35	9 21.1	4	12	57 1	6 52.2
29	12	45 2	9 22.9	4	10	57 31	7 7.5
29	12	45 7	9 23.8	4	11	58 9	7 7.6
29	11½	46 4	9 23.0	4	10	58 13	7 1.5
4	9½	46 49	7 5.2	4	11½	59 22	7 3.9
29	9	46 53	9 35.0	4	11	59 38	6 52.5
29	10½	47 24	9 29.7	4	9½	23 0 21	6 49.7
29	8	47 50	9 35.4	4	9½	0 41	6 50.5
29	11	48 12	9 36.6	4	10½	0 42	6 57.0
29	9½	48 48	9 19.0	4	10	1 19	7 6.9
4	9	48 55	7 7.1	4	10½	2 3	7 3.5
4	11	49 10	7 6.3	29	11	2 46	4 45.1
29	9	49 34	9 35.6	29	10	2 55	4 39.6
29	11	50 29	9 26.5	29	11	3 8	4 54.7
29	10½	50 45	9 31.7	4	10½	3 10	6 50.4
29	11	50 45	9 21.3	29	10	3 21	4 41.1
4	10	51 11	7 7.6	4	10½	3 34	7 7.3
4	9	51 31	7 5.5:	4	10	4 17	6 53.0
29	9	51 42	9 21.4	4	12	4 38	7 5.8
4	9½	52 14	7 5.8	29	11	4 45	4 36.1
4	10	52 18	6 55.1	4	10½	4 47	6 49.9
4	10	52 22	6 53.5	4	10	5 37	7 1.7
29	10	52 36	9 32.4	4	9½	5 57	7 7.4†
29	10	52 53	9 19.0	4	9	6 2	7 3.7
29	10½	22 53 29	—9 21.9	29	10½	23 6 23	—4 35.8

* P? of a double. The other 10½.

† ? 98 Weise.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	12	23 6 31	—4 48.9	18	10	23 19 57	—1 52.7
4	10	7 12	7 5.0	18	10	20 10	1 46.1
29	11½	7 40	4 49.2	29	10½	20 32	4 37.6
4	10	7 49	7 6.8	18	9½	20 49	1 49.7
4	11	7 53	7 7.5	29	10½	21 5	4 41.4
29	12	8 3	4 38.7	29	10½	21 9	4 54.7
29	11	8 13	4 38.2	29	12	21 17	4 42.8
29	12	8 58	4 54.0	18	10	21 45	1 48.2
29	10	9 18	4 33.1	29	9½	21 49	4 35.7
4	10½	9 32	6 51.1	18	10	22 35	1 56.4
4	9½	9 37	6 56.2	29	10	22 35	4 40.0
4	11	10 26	7 1.8	18	11	22 57	2 4.6
4	10½	10 36	6 49.5	29	11	22 59	4 39.1
4	9½	11 13	7 6.9	18	10½	23 57	1 54.6
4	9½	11 39	7 2.5	18	11	23 57	2 7.8
4	9½	11 54	6 51.2	29	10½	24 51	4 35.5
4	11	12 42	7 9.2	29	11½	25 4	4 35.1
4	11	12 56	7 0.7:	18	10	25 12	2 5.5
29	11½	14 33	4 47.1	18	9½	25 18	1 54.0
29	11	14 42	4 38.2	29	–	25 40	4 54.7
29	10	15 12	4 49.6	29	9	25 57	4 48.3
29	11	16 21	4 45.1	18	9½	25 57	1 52.7
29	11	16 28	4 40.3	29	10½	26 16	4 50.0
29	10½	16 31	4 34.5	29	10½	26 36	4 48.8
29	–	16 58	4 51.3	18	10½	27 7	1 52.4
29	11	17 24	4 55.3	18	11	27 29	1 52.3
29	12	17 50	4 35.9	18	10½	27 32	2 0.3
29	12	18 5	4 37.5	18	10½	27 56	1 52.2
18	10	18 29	1 57.4	29	11	28 4	4 39.9
29	10½	18 43	4 47.6	18	9½	28 39	2 4.5
18	10	18 45	1 56.5	29	11½	28 42	4 46.8
29	10	18 57	4 40.9	18	11	29 2	2 0.2
29	12	19 11	4 40.7*	29	11	29 10	4 40.0
29	12	19 36	4 42.6	29	11½	29 31	4 45.4
18	10	23 19 52	—2 9.4	29	7	23 30 28	—4 35.2

* F7 of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	8	23 30 52	—4 52.2	18	11	23 41 57	—1 47.7
29	8	31 26	4 51.2	29	11½	42 4	4 35.5
18	11	31 28	2 1.8	18	10½	42 6	1 52.7*
18	10	31 33	2 5.2	29	11½	42 29	4 41.6
18	10	31 50	2 4.6	18	11	43 4	1 51.1
18	9½	32 25	2 3.6	18	10½	43 9	1 59.4
18	10½	33 2	1 54.4	29	11	43 21	4 49.1
18	11	33 10	1 47.0	18	10	43 46	2 3.6
18	11	33 28	1 49.6	29	12	43 47	4 46.3
18	10½	34 32	1 49.9	18	11	43 55	2 3.0
18	10½	34 36	1 48.5	29	11½	43 57	4 48.1
18	11	35 32	1 49.2	29	10	44 31	4 41.0
18	10½	35 40	1 53.5	29	10	44 34	4 34.2
18	10	36 0	1 44.8	18	10	44 43	1 46.1
29	11	36 5	4 36.9	18	11	44 43	1 50.0
29	12	36 6	4 42.0	18	9	44 47	2 0.1
29	12	36 30	4 40.0	29	10½	45 38	4 48.7
18	10½	36 39	1 48.1	29	10½	45 42	4 36.8
18	10½	36 52	1 48.2	29	10½	46 16	4 46.2
18	10½	37 17	1 49.9	29	11	46 38	4 50.7
29	9	37 29	4 31.9	29	11	47 7	4 35.6
29	11	38 7	4 43.2	18	10	47 22	2 3.5
29	11	38 8	4 49.0	29	11	47 55	4 46.0
29	11	38 13	4 51.4	29	10½	48 8	4 41.4
18	10	38 52	1 51.4	18	10½	48 10	1 50.6
18	11	38 52	2 0.0	29	11	48 29	4 43.3
18	10	39 8	2 5.5	29	9	48 30	4 48.7
29	10½	39 13	4 43.1	18	11	49 10	1 48.2
29	9	39 41	4 44.3	29	10	49 32	4 38.3
29	11½	40 1	4 34.7	18	11	49 51	1 56.2
18	10	40 20	2 6.6	29	10	49 58	4 43.5
29	11	40 59	4 41.3	29	10	50 2	4 35.9
18	11	41 20	1 51.3:	18	9½	50 11	1 51.9
29	12	41 21	4 38.1	18	9½	50 16	1 59.9
29	11	23 41 26	—4 35.0	18	10	23 50 39	—1 58.7

* November, 1848.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	23 51 12	−4 35.9	29	11	1 17 20	+10 6.2
29	9	51 28	4 40.5	29	10	18 22	9 48.4
29	11	51 52	4 43.0	29	11½	19 37	9 54.3
18	9	52 10	2 2.3*	29	11	20 11	10 1.7:
18	11½	53 10	2 0.4*	29	10	20 35	9 50.8
18	9	54 1	1 58.7*	29	9	21 33	9 53.7
18	10	54 13	1 51.7*	29	9	21 45	10 0.4
18	11	54 43	1 51.9	29	9½	22 5	9 53.9
18	9½	55 37	1 50.1*	29	11	24 36	9 52.9
18	9½	56 26	1 54.8	29	10	25 45	9 50.7
18	9	56 32	1 47.5	29	11	26 49	10 9.1
18	11	57 55	2 6.2*	29	8½	27 20	10 8.0
18	11	58 8	−2 0.9	29	9½	28 2	10 9.1
29	11	0 34 6	+5 13.6	29	9½	28 30	10 2.8
29	12	34 24	5 18.3	29	10½	29 24	10 1.4
29	12	34 32	5 24.3	29	11	30 35	9 54.4
29	10	34 43	5 18.9	29	12	30 41	9 54.7
29	11	35 18	5 21.8	29	9	31 32	9 53.9
29	11	36 25	5 23.1	29	9½	1 31 43	+10 8.1
29	11	36 47	5 25.1				
29	10½	37 40	5 22.2				
29	12	37 45	5 12.9				
29	11	38 51	5 16.9				
29	9	41 3	5 8.6				
29	10½	1 16 56	+10 3.3				

* November, 1848.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,009 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1848, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	10	21 11 0	—15 10.3*	14	8½	21 33 8	—13 4.4
27	10	11 2	14 51.4	24	10½	33 33	14 11.9
27	9	11 18	15 0.8	27	11	33 35	14 52.4
27	11	11 38	14 52.2	14	9	33 50	13 4.1
27	11	11 41	14 51.2	18	11	34 0	12 11.1
27	10½	11 54	15 2.9	24	10	34 7	14 10.1
27	11	13 4	14 52.5	18	11½	34 16	12 5.7
27	10	13 8	14 59.3	18	12	34 22	12 25.9
27	11	13 18	14 53.2	23	12	34 23	11 35.0
27	11	14 31	15 10.6*	18	11	34 27	12 20.0
27	11	14 38	15 5.8	23	11½	34 30	11 38.4
27	8	14 41	15 1.9†	18	11½	34 31	12 6.0
27	12	15 7	15 5.3	27	10½	34 33	14 53.7
27	11	15 22	15 3.7	23	12	34 34	11 31.7
27	9	16 22	14 52.1	18	12	34 41	12 23.6
27	10	16 45	15 0.1	18	11½	34 48	13 10.4
27	10½	19 55	14 55.8	23	10	34 54	11 19.4
27	10	19 57	15 3.7	14	9½	35 14	13 3.1
27	10	20 26	14 57.0	27	10	35 14	14 51.0
27	10½	20 48	15 1.2	14	8½	35 23	12 56.7
27	12½	26 15	14 55.2	25	12	35 30	14 6.4
27	12	26 36	14 55.5	27	10	35 33	14 52.5
27	10½	27 34	15 6.0	18	12	35 37	12 8.8
27	11	29 3	15 1.6	18	12½	35 49	13 10.8
27	11	29 4	14 59.3	18	12	35 50	13 6.2
27	10	29 53	14 58.6	19	11	35 52	11 37.9
27	10	30 40	14 51.1	19	11	35 57	11 41.1
27	11	31 27	15 7.0	18	12	36 5	13 12.2
27	11	32 22	15 0.1	18	11	36 7	12 8.3
27	11	21 32 23	—14 53.4	6 10 18	11	21 36 11	—12 22.6

* October, 1849.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
23 25	8	21 36 14	—11 27.7	18	11	21 38 20	—12 1.5
24 25	11½	36 15	11 21.3	18	11	38 21	13 46.7
23	11	36 25	11 31.1	23 24	8½	38 23	11 30.4
6 10	11	36 32	12 39.2	27	10	38 23	14 59.6
18	10	36 38	12 1.3	24	11	38 24	11 40.1
14 18	11½	36 40	13 8.9	19	11½	38 25	13 59.0
19	12	36 46	11 47.3	23 25	11	38 35	11 19.4
23 25	11	36 50	11 20.2	6 10 14	9½	38 43	12 37.8
18	12	36 52	13 36.6	18	11	38 48	13 16.6
19	12	36 52	11 51.5	14	10½	38 50	13 5.2
18	10	36 53	12 5.7	14	10½	38 50	13 6.2
23 24 25	10½	37 1	11 25.0	18	10	38 50	13 11.9
6	11	37 5	12 48.2	18	11	38 59	13 29.0
6	11	37 7	12 48.6	19	10½	39 4	14 11.7
19	12	37 8	13 50.4	24	11	39 9	11 25.2
18	–	37 10	13 21.7	23 24	11	39 11	11 27.5
25	11	37 10	14 18.8	6	11	39 12	12 30.5:
18	7½	37 13	13 28.2	6 10 14	10	39 17	12 40.2
6 10 18	11½	37 22	12 20.1	19	11	39 17	11 51.4
19	11	37 26	11 44.4	19	12	39 17	14 3.1
27	9½	37 26	14 57.1	18 19	10½	39 21	13 36.1
18	12	37 27	12 24.5	19	11	39 21	11 50.0
14	9	37 32	13 3.3	14	12	39 26	12 39.8
19	12	37 34	13 45.2	24	10	39 29	14 25.9
10	11½	37 40	12 31.3:	19	10½	39 30	13 43.4
14	8	37 40	13 13.1	27	11	39 30	14 53.3
19	11	37 43	13 52.2	18	11½	39 41	13 14.0
14	9½	37 44	12 57.4	18	11	39 43	12 21.3
18	11	37 47	11 55.4	18	10½	39 48	11 58.0
27	11	37 51	14 57.6	18	10½	39 49	11 58.2
19	11	38 5	11 51.8	19	12	39 53	14 5.4
24	11	38 6	11 33.5	18 19	11	39 56	13 41.4
6 10	11	38 9	12 41.6*	19	10½	39 56	14 0.8
19	11	38 13	11 50.2	6	10	40 2	12 51.6
19	11½	21 38 14	—14 9.5	10 14	10½	21 40 4	—12 31.1*

* Mean of 3.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10 14	11	21 40 4	—12 36.3	19	10	21 41 46	—13 42.2
18	12	40 8	13 18.3	6 14	12	41 47	12 37.2
23 25	10½	40 10	11 17.3	23	11	41 47	11 26.4
18	11	40 16	11 57.2	14	10½	41 48	12 54.2
23	12	40 18	11 19.6	19	12	41 53	11 57.5
25	12	40 18	14 23.0	23 25	11	41 53	11 28.2
18	10½	40 23	12 19.0	14 18	10½	41 55	13 7.7
19 24	9½	40 27	11 39.4	19	10	41 57	11 43.3
25	10	40 28	11 8.2	23	11	41 58	11 32.3
18	11	40 39	13 22.9	19 25	11	42 1	14 7.8
19	11½	40 40	11 48.2	19	11	42 12	14 9.2
19	11	40 41	11 49.1	18	12	42 13	13 27.0
25	10½	40 42	14 26.1	19	12	42 15	12 2.5
24	10	40 45	14 25.2	23 24	10	42 22	11 36.0
27	11	40 45	14 53.3	19	11	42 23	13 54.4
18	12	40 46	12 12.0	14 18	11	42 34	13 7.2
18 19	10½	40 46	11 52.9	18	12	42 36	12 9.2
24	11½	40 47	11 21.7	24 25	10	42 39	14 22.3
18 19	11	40 49	13 39.7	23 24	10	42 42	11 26.7
19	10	40 56	11 41.8	18 19	11	42 45	12 2.9
18	12	40 58	12 10.5	6	10½	42 50	12 53.4
10	11	41 1	12 27.3	18	12	42 50	12 9.9::
19	12	41 7	11 49.3	14	9½	42 51	12 53.0
24	12	41 13	11 38.0	19 24 25	11	42 55	14 10.7
19	11	41 14	12 12.2	14	10	42 56	12 54.8
18	12	41 24	12 22.0	18	10½	42 58	13 4.5
19 24 25	11	41 31	14 6.0	19	12	42 58	11 38.7
18	12	41 34	13 20.3	19	12	43 0	11 39.9
27	10	41 35	14 51.2	27	12	43 12	15 8.5
25	11	41 36	14 10.7	18	11	43 15	13 13.3
24	12	41 40	11 27.0	10 14	11	43 16	12 33.7
6	11	41 41	12 48.6	24 25	10	43 21	14 15.9
18 19	10	41 43	13 37.0	23 24 25	10½	43 22	11 25.3
19	10½	41 44	13 45.2	10 14 18	10½	43 25	12 21.1
10 14 18	11	21 41 45	—12 22.0	6	11	21 43 27	—12 50.9

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
18	10½	21 43 32	—13 29.8
18	12	43 33	12 22.4
19	12	43 36	11 59.6
24	11	43 39	11 20.9
14	12	43 42	12 25.9
19	9	43 45	11 44.0
23	10½	43 45	11 20.8
18	11	43 46	13 12.5
23	–	43 51	11 34.5
18 19	10	43 56	11 57.8*
6 10 14	10	44 9	12 37.5
14	9½	44 15	12 58.4
18	10½	44 17	13 13.8
19	11	44 24	14 3.7
23 24	11	44 25	11 37.2
19	11½	44 28	14 10.9
24	11	44 39	11 25.9
18	9½	44 42	12 17.1
18	9	44 42	12 13.7
19	10	44 43	11 43.3
23	11½	44 43	11 36.1
18	12	44 51	12 7.3
19	11	44 55	11 53.1
6 14	11	44 56	12 55.8
19	9½	44 56	12 12.2
19	11	44 59	13 59.2
18	12	45 1	13 37.2
18	10½	45 4	12 6.6
23	11	45 12	11 40.9
18	12½	45 13	13 12.4
24 25	10½	45 17	14 9.6
19	10½	45 21	11 47.3
24	11	45 28	11 21.5
25	11	45 28	14 13.6
27	11	21 45 41	—14 52.6
24 25	10	21 45 43	—14 13.1
18	11	45 44	13 36.6
24	11	45 50	11 29.1
24 25	10½	45 50	14 19.0
6	11½	45 53	12 44.0
6	10½	45 53	12 47.1
23 24 25	9½	45 59	11 25.3
14	11	46 3	12 55.0
19	10½	46 5	11 50.2
24	11	46 10	11 22.4†
23 24	10½	46 15	11 25.7
18	12	46 19	13 7.5
18 19	9½	46 19	12 3.7
10	10½	46 22	12 22.8†
27	9	46 29	14 59.2::
18	12	46 43	12 11.8
19	10	46 43	12 2.5
19	11	46 55	11 46.8
19 24	10	47 1	11 39.2
24	9	47 3	11 25.9
24	9	47 12	11 23.5
14	9	47 15	13 6.8
23	11	47 15	11 23.7
24	9½	47 16	11 29.3†
25	12	47 28	14 15.9
18 19	10	47 33	11 51.4*
27	10½	47 39	14 59.1
24 25	11	47 41	14 17.6
27	9	47 42	14 52.1
24 25	10½	47 48	14 22.4
24	11	47 49	14 14.8
6	11	47 53	12 40.9
19	10	47 54	14 3.0
18 19	9	47 57	11 57.6
14	9	21 47 58	—13 4.7

* Mean of 3. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6 10	12	21 48 1	—12 37.3	25	11	21 50 24	—11 8.5
18	10	48 2	13 18.5	19	11	50 25	11 37.7
19 24	10	48 2	11 37.4	24	11½	50 27	14 22.5
24	10	48 7	11 34.0	24	10	50 32	11 35.6
18	11½	48 17	13 36.7	19	11	50 39	13 44.6
24 25	9½	48 20	14 18.4	19	11	50 45	13 54.9*
18 19	10½	48 22	11 57.6	18	11	50 50	11 58.2
24	10	48 23	11 24.6	18 19	8½	50 59	11 59.6
27	10½	48 23	15 6.1	14	10	51 2	13 3.7
18	11	48 26	13 33.2	24	10	51 2	11 32.4
18	11	48 27	12 0.0	19	12	51 8	11 52.0
19	10	48 29	12 7.6	10	11	51 16	12 22.6
14 18	10½	48 31	13 8.5	18	11½	51 17	12 5.9
27	10	48 49	15 6.7	19	12	51 20	11 57.8
6	11	48 51	12 55.5	24	10½	51 33	11 23.5
18 19	10	48 56	13 41.5	25	11	51 34	14 11.0
27	11	48 58	14 54.0	25	11	51 37	11 17.6
24	10½	49 2	11 20.8*	24	10½	51 40	11 24.5
18 19	11	49 7	11 51.6†	19	11	51 41	14 5.3
6 14	10	49 8	12 54.3	18	11	51 42	13 10.1
19	10	49 9	11 47.6	25	11	51 59	14 16.7
18	11	49 10	13 21.9	25	11	52 5	11 18.6
25	10½	49 14	14 14.0	6	9½	52 8	12 56.2
19	11	49 16	14 3.0	18	10½	52 11	12 17.4
25	10½	49 16	14 16.1	19	12	52 16	11 59.0
19	10	49 24	11 41.0	6 14	10½	52 17	12 42.6
18 19	11	49 32	11 54.3	18	11	52 20	12 17.2
27	8	49 33	14 47.9	18 19	10	52 23	12 7.5†
18	12	49 37	13 8.6	18	11	52 26	12 17.7
25	11½	49 41	14 20.7	19	12	52 30	13 43.4
18 19	11	49 46	13 44.4	18	11	52 45	12 9.9
19	11½	49 56	12 4.6	18	11	52 47	13 31.6
19	8	50 5	11 50.7	14	12	52 49	12 37.4
27	10	50 17	14 55.6	18	11	52 59	13 33.4
10	10½	21 50 18	—12 36.3	14	11	21 53 3	—12 26.6

* (4). † Mean of 3.

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
19		11½	21 53 3	—13 56.8	18		12	21 55 48	—13 13.1
14		10	53 9	13 9.8	25		10½	55 55	14 14.0
19		11½	53 10	13 56.2	25		10	55 55	11 20.1
25		11	53 17	14 24.3	19		10	56 0	13 33.9
19		11	53 19	13 55.3*	18		10	56 1	12 12.8
25		11	53 23	14 11.5	19		11	56 1	13 53.2
18		12	53 30	12 22.0	25		11	56 1	14 19.1
18		11	53 58	12 10.0*	18		10½	56 3	12 6.9*
18		11	53 58	12 8.6*	14	18	9½	56 5	13 8.4
6	14	10½	54 1	12 42.4	18	19	10	56 7	11 57.4
18		9	54 13	12 12.3	18		11	56 9	13 17.4
18	19	12	54 13	13 44.1	19		10	56 10	11 45.2
18		11	54 16	12 22.3	25		10	56 13	11 21.8
19		12	54 16	13 39.7	14		10½	56 17	12 57.9
18		11	54 20	12 21.7	19		11	56 19	13 59.2
25		11	54 25	14 16.4	14		12	56 24	12 30.4
18		11	54 26	13 20.3	18		9½	56 28	12 8.3*
14	18	10	54 31	13 8.2	18		11	56 39	13 27.2
18		10	54 39	12 12.7	18		9½	56 45	12 11.0*
25		11	54 41	14 16.3	19		10½	56 53	11 49.8
6	14	9½	54 43	12 55.8	14		11½	56 54	12 33.4
25		12	54 44	14 7.3	14		12	56 58	12 27.0
19		10	54 46	14 2.8	14		9	57 2	13 9.7
14		11	54 53	12 23.1	19		11	57 7	13 59.5
19		11	54 54	11 51.2	24		11	57 19	11 28.3
14		11	54 57	12 22.4	25		11	57 20	14 22.9
19		11	54 57	13 52.2	18		12½	57 20	12 20.8
19		12	54 58	11 55.1	14		11	57 51	12 40.6
18		10	55 0	12 10.3*	14		10½	57 52	12 38.2
18		9½	55 13	12 12.1*	24		9½	57 53	11 27.4
19		12	55 18	11 47.2	14		11	57 54	13 4.8
6	14	11	55 20	12 39.9	18		11	57 54	12 22.0
19		9½	55 23	11 53.4	24		9	57 54	11 31.8
25		11	55 32	14 10.9	18		12	58 5	12 17.3
6		10	21 55 43	—12 47.8	24		11	21 58 6	—11 26.3

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	12	21 58 10	—12 23.6	18	11½	22 0 31	—13 32.4
25	10	58 10	14 16.9	14	10½	0 39	13 5.3
19	11½	58 18	14 6.1	19	10	0 41	12 4.6
18	10½	58 19	13 28.8	14 18	9½	0 47	13 10.0
19	10	58 25	11 46.6	25	10½	0 48	14 18.0
25	10½	58 29	14 15.1	19	11	1 4	11 50.3
19	11	58 36	13 59.3	19	11	1 6	13 53.3
14	9½	58 37	13 4.5	18	10	1 8	13 39.3
18	10½	58 39	12 8.1*	25	9	1 8	11 15.5†
19	11	58 40	12 8.5*	19	12	1 9	11 47.4
19	11½	58 47	11 47.2	18	10	1 18	13 28.8
19	11	58 49	11 53.1	24	12	1 23	11 26.2
25	11½	58 51	14 19.8	25	11	1 28	14 22.2
19	12	58 55	12 2.2	14	10½	1 29	12 55.4
19	12	58 58	12 3.0	25	9½	1 37	14 20.2
19	11	59 0	11 42.3	19	10	1 39	13 51.9
24	10½	59 23	11 25.3	19	10½	1 42	12 8.6
25	11	59 25	14 11.7	19 24	10	1 47	11 41.7
14	12	59 27	12 34.9	24	11	1 52	11 27.7
18	11½	59 28	12 20.5	19	11	1 59	11 47.1
19	11½	59 30	13 52.7	14	11	2 5	12 26.7
18	11	59 37	13 43.2	14 18	10	2 9	13 8.6
24	10½	59 42	11 27.9	19	11	2 9	12 6.7
18	11	59 47	12 9.0	25	11	2 19	14 11.3
19 24	10	59 58	11 39.5	25	12	2 20	11 8.0
24	10	59 58	11 33.3	14	12	2 21	12 33.0
25	9	22 0 0	14 18.5	19	10	2 34	11 48.1
18	11	0 3	12 10.8	25	10	2 34	11 12.9
14	10½	0 4	12 36.8	19	11	2 38	11 54.2
19 24	10	0 9	11 39.0	14 18	10	2 45	12 24.4
19	11	0 13	12 8.0	19	10½	2 45	13 50.1
19	11	0 14	14 6.6	25	11	2 46	14 20.9
25	11	0 16	14 18.2	19	11	2 47	13 44.3
25	10½	0 26	11 23.4	19	11	2 54	11 40.3
18	12	22 0 28	—13 6.7	19	10	22 3 0	—13 58.0

* Suspect to be the same. † (4).

s. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	10	21 3 3	—11 7.4	25	10½	22 5 14	—14 20.6
	11	22 3 7	12 54.0	6	10½	5 18	12 50.9
	11	3 7	13 51.4	18 19	10½	5 19	13 45.0
	10½	3 15	14 9.4*	24	8	5 28	11 29.6
	11	3 18	11 34.7	14	9½	5 33	13 7.1
	12	3 19	12 5.2	18 19	10	5 33	12 1.9
	10	3 21	13 57.7	25	10½	5 33	14 20.4
	10½	3 22	13 20.3	19	11½	5 36	13 39.4
	11	3 24	13 55.2	24	11	5 40	11 24.1
	11	3 31	14 22.8	25	10	5 42	11 10.6
	10	3 35	12 5.4	19	10	5 45	13 57.5
	11	3 35	11 33.5	19	8	5 46	13 35.3
	11	3 48	11 26.6	18	9	5 52	13 25.1
	12	3 57	12 50.3	6	11	6 1	12 53.4
19	11	4 3	12 3.9†	19	10½	6 1	14 5.0
	11½	4 12	11 57.9	6	11½	6 5	12 55.8
	10½	4 16	13 47.4	24	11	6 9	11 26.3
	10½	4 22	13 3.2	19	12	6 12	12 1.9
	10	4 22	14 9.8	19	10	6 14	11 58.0
	11	4 27	12 19.5	19	11½	6 14	11 47.1
	10	4 28	13 20.9	18 19	11	6 20	12 5.5
[illegible]9	10	4 38	12 8.9‡	14	10	6 23	13 9.5
	10	4 39	11 38.9	25	10½	6 31	14 19.0
	8	4 45	14 12.3	19	12	6 32	11 40.3
	12	4 47	13 44.3	19	12	6 36	11 39.5
	11½	4 47	11 41.3	18	12	6 45	13 30.1
24	10½	4 50	11 39.3	18	11	6 47	12 14.1
19	9	4 58	13 45.7	19	11½	7 0	13 45.9
	11	4 59	13 11.3	19	12	7 0	13 54.0
	10	5 0	11 36.4	19	10½	7 6	13 57.9
14	9½	5 4	12 53.8	6	12	7 9	12 38.4
	10½	5 8	11 54.8†	25	10½	7 9	14 20.3
	11	5 10	14 0.3	18	12	7 11	12 21.5
	11	5 13	13 23.4	24	9	7 13	11 32.7
	12	22 5 13	—13 45.7	14	11	22 7 14	—13 7.7

* A 10½ Mag. s. p. † (4). ‡ Mean of 3.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
19	10	22 7 16	—13 44.7
18	10½	7 17	13 29.0
19	11	7 22	13 52.6
24 25	10	7 24	11 19.2
24	12	7 28	11 26.5
19	11	7 37	14 0.1::
18	11	7 40	13 20.0
18	10	7 43	13 16.3
18	10	7 49	13 24.4
18	12	7 53	11 56.3:
18	10½	7 54	12 21.5
25	11	7 56	14 11.5
18	12	7 57	11 55.7
19	10	8 6	13 44.4
24	11	8 14	11 27.7
25	11	8 20	14 14.1:
24	8	8 30	11 30.3
18	11	8 36	12 1.3
25	11	8 36	14 15.8
19	12	8 42	11 58.6
25	11½	8 46	14 6.9
25	8½	8 47	11 10.5
18 19	9½	8 48	13 45.9
14	10½	9 3	12 52.1:
24	10	9 3	11 22.9
18	10½	9 4	13 17.4
14	9	9 8	12 51.8:
19	10	9 11	14 0.4
24	10	9 16	11 21.6
19	12	9 18	13 53.8
19	10½	9 24	12 0.7
18	10½	9 26	12 6.9
19	9	9 26	13 48.1
19	10½	9 32	13 57.8
18	10½	22 9 33	—13 30.1
24	9	22 9 40	—11 31.4
18	10½	9 46	12 7.6*
25	11	9 46	14 22.1
19	11	9 53	13 54.2*
18 19	11	10 3	11 53.8†
19	11	10 3	11 51.8‡
19	11	10 6	11 48.6
19	10	10 12	13 40.8
25	10	10 19	11 13.8
25	11	10 33	14 18.7
25	11½	10 39	14 20.1
19	10	10 40	13 51.4:
25	9½	10 43	14 24.2
18	11	10 46	12 0.0
14	12	10 48	12 30.1
18	11	10 54	12 22.5
14	10	10 57	13 2.2
18	11½	10 57	13 12.5
19	12	10 57	11 41.8
14 18	10	10 58	13 7.8
19	10½	11 0	12 2.4
18	11	11 2	12 3.8
18	11½	11 2	12 7.1
19	12	11 2	13 52.2
19	11	11 3	14 7.6
19	11½	11 4	11 55.5
18	11	11 6	12 19.9
18	11½	11 9	13 30.4
14	11	11 12	12 59.1
18	11	11 16	13 30.2
25	10½	11 22	14 24.6
14	11½	11 25	12 30.8
24	11½	11 33	11 31.9
19	11	11 35	13 51.1
18	10½	22 11 36	—13 14.4

* (4). † Mean of 3. ‡ (4) Triple.

Days.	Obs.	Mag.	α.	δ.	Days.	Obs.	Mag.	α.	δ.
			h. m. s.	° ′				h. m. s.	° ′
31		12	22 11 40	—9 24.9	18	19	10½	22 13 50	—13 39.2
24		11½	11 46	11 31.4	19		10½	13 50	11 57.7
18	19	11½	11 49	13 38.1	19		9	13 52	11 54.9
19		10	11 55	13 50.9	19		10½	13 53	13 45.1
19		11½	11 58	13 49.0	24		10	13 55	11 36.7
18		10	12 2	13 23.5	6		10	14 12	12 58.8
18		10	12 8	13 18.8	19		12	14 13	13 38.8
19		10	12 12	11 41.3	31		10½	14 19	9 22.8
25		10½	12 16	14 13.6:	19		10	14 31	13 59.9
25		10	12 16	14 9.4	19		12	14 34	13 44.9
25		11	12 24	14 10.1	25		11	14 35	14 13.3:
31		11	12 25	9 20.0	19		12	14 36	11 38.9
18	19	11	12 29	11 56.6	19	25	10½	14 36	14 11.4
18		12½	12 34	12 11.8	31		10	14 37	9 15.0
25		11	12 34	14 8.1	19		12	14 38	13 44.5
18	19	10½	12 40	11 56.9	24		12	14 50	11 26.0
19		12	12 42	11 44.4	19		11	15 5	11 55.3
19		10	12 43	11 43.2	19		10½	15 6	11 51.8
18		12½	12 49	12 11.1	31		10	15 24	9 15.3
25		10	12 54	14 20.2	19	25	10½	15 27	14 4.7
31		11	13 0	9 9.6	19	25	10½	15 28	14 10.7
14		10	13 1	12 29.0	19		10	15 36	11 56.9
14		10	13 3	12 30.3	18		11½	15 45	13 29.7
18		11	13 6	13 8.5	6		9½	15 47	12 43.2
19		12	13 8	11 40.8	24		11	15 51	11 23.9
31		11	13 10	9 18.4	19		10½	16 6	14 6.2
18		12½	13 13	12 11.3	31		11	16 10	9 12.4
19		10	13 24	13 40.0	25		11	16 42	14 24.1
19		11	13 24	11 51.3	19		12	16 47	13 45.4
31		11	13 29	9 10.8	24		11	16 51	11 26.0
18		10	13 33	12 23.1	24		10	16 58	11 39.4
19		10½	13 33	11 54.1	19		10	17 6	12 5.0
24		10	13 33	11 24.1	19		11	17 22	11 56.4
18		10	13 39	13 23.0	19		11	17 24	11 54.0
18		11	22 13 49	—13 15.4	19		10	22 17 39	—11 56.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	11	22 19 38	—11 58.3	31	10½	22 29 49	—9 15.2
19	11½	20 7	12 4.2	31	10	30 4	7 51.9*
31	11	20 12	9 8.4	27	11	30 6	8 28.2
19	11½	20 14	12 4.4	31	11	30 28	7 52.3*
19	10	20 33	12 7.4	27	9	30 33	8 26.3
31	11	20 53	9 15.4	31	10½	30 38	9 14.4
31	11	20 54	9 6.4	31	10	30 44	8 6.7
19	11	21 6	11 59.5	31	10	30 54	7 55.0*
31	11	21 17	9 9.2	27	9½	31 5	8 23.8
19	9	22 26	11 48.2	27	10	31 26	8 24.8
31	11	22 51	9 21.8	31	11	31 28	9 8.0:
31	10	23 12	9 9.5	27	11	31 46	8 24.5
31	10½	23 15	9 20.2	31	11	32 14	9 21.4
31	10½	23 36	9 18.4	27	9	32 18	8 17.0
31	10	23 56	9 7.5	27	11	32 37	8 18.5
27	11	23 57	8 16.2	31	9	32 45	9 17.8†
27	11	24 7	8 12.0	31	10½	32 45	9 6.3
27	11	24 8	8 13.5	27	10	33 13	8 14.8
27	11	25 1	8 14.1	31	11	33 15	9 21.5
31	10	25 19	7 57.8*	27	11	33 19	8 13.7
31	10	25 48	7 57.3*	31	10	33 38	9 19.5
27	11	25 55	8 14.0	27	10½	33 52	8 19.0
27	10½	26 13	8 24.3	31	11½	34 33	9 14.2
27	10½	26 24	8 24.7	27	12	35 21	8 17.0
31	9½	26 25	8 1.7*	27	11	35 39	8 16.2
31	9	26 35	7 49.4::	27	11	35 50	8 14.9
27	10½	27 9	8 28.7	31	10½	36 7	7 53.4
27	10½	27 23	8 26.2	31	10½	36 8	7 56.3*
31	10	27 35	7 57.3	27	8	36 50	8 22.9‡
27	9	28 1	8 24.0	31	9	37 3	8 4.9*
27	11	28 12	8 12.1	27	10	37 30	8 22.2
27	8	29 7	8 19.9	31	12	37 36	7 58.1
31	10½	29 13	7 57.3	31	12	37 45	7 56.6
27	10	29 15	8 11.0	27	9	38 15	8 18.6†
31	11	22 29 23	—7 52.6	31	10	22 38 27	—7 54.1*

* October, 1849. † (4). ‡ Supposed to be 44474 HC.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
31	10	22 39 2	−7 54.8*	31	10½	22 47 38	−8 1.8
27 31	9	39 4	8 10.8	27	11	47 59	8 28.0
31	10′	39 9	8 1.8*	27	11	48 0	8 24.3
31	10′	39 22	8 1.7	31	10	48 16	8 2.6
27	8½	39 37	8 13.3	31	10	48 32	7 57.9
31	10	39 58	8 9.3*	27	11	49 6	8 26.6
27	8½	40 8	8 16.6	27	9	49 25	8 21.9†
27	11	40 46	8 13.8	31	10	50 23	8 5.4
27	9	40 48	8 21.9	27	11	50 33	8 17.0
27	10	40 52	8 14.8:	31	11	51 2	8 1.4
31	9½	40 59	8 2.5	31	11	51 14	7 59.6
31	10	41 19	8 0.5	27	10½	51 32	8 22.3
27	9	41 21	8 27.3:	27	8½	51 52	8 11.8
27	9	41 37	8 26.3::	31	8	51 54	8 12.0‡
31	10	41 50	9 12.9	31	9	52 48	7 52.3
31	9	42 31	7 53.2	31	9	52 51	8 0.5
27	9	42 47	8 16.5	31	10	53 32	8 4.4
31	10	42 58	8 0.5	27	12	53 46	8 16.5
31	10	43 5	8 0.5	27	11	53 58	8 13.8
31	10½	43 22	9 14.5	27	11	54 23	8 23.3
31	10½	43 23	9 15.8	27	10½	55 12	8 23.9
27	12	43 54	8 9.5	31	10	55 15	7 58.8§
31	10½	44 31	7 54.7	31	9	55 17	7 54.3
31	10	44 34	7 52.7	27	11½	55 46	8 25.0
31	10	45 7	7 57.8	27	11	56 13	8 15.8
27	10	45 9	8 21.5	31	10	56 14	7 58.3
31	10	45 10	9 11.4	31	11	56 14	7 54.8
31	10½	45 21	7 48.7	27	10	56 18	8 19.9
31	12	45 30	9 14.4	31	11	56 28	7 53.1
31	11	45 44	9 13.5	31	10	57 0	8 7.7
31	11	46 15	9 18.7	27	11	58 28	8 23.7
31	9	46 40	9 8.8	31	10	23 39 50	+0 11.7
31	10½	46 41	8 6.3	31	9	41 25	−0 0.4
27	10½	47 6	8 18.2	31	9½	41 34	+0 3.0
31	9	22 47 22	−8 1.1	31	11	23 41 51	−0 4.7

* October, 1849. † (4). ‡ ? Same as preceding. § P. of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
31	10½	23 42 52	—0 2.7	31	11	0 0 34	+0 2.8
31	10½	42 56	—0 5.7	31	9	1 0	+0 3.2
31	10	43 33	+0 6.8	31	9	2 53	—0 3.5
31	10	43 40	+0 4.6	31	10	3 14	—0 2.6
31	11	44 38	+0 5.9	31	10½	3 50	—0 7.5*
31	11	44 51	+0 7.1	31	10	3 57	—0 1.4
31	11	44 54	+0 5.9	31	10	4 31	+0 5.0
31	10½	45 33	—0 7.4	31	11	5 25	+0 9.6
31	10	46 2	+0 10.8	31	8	5 51	+0 1.0
31	11	46 22	+0 7.5	31	11	6 4	+0 9.6
31	10	46 27	+0 7.9	31	8	6 20	+0 2.4
31	10	47 2	+0 10.1	31	11	6 34	+0 2.3
31	9	47 53	—0 8.3	31	11	7 18	—0 3.0
31	10½	47 54	+0 6.9	31	11	8 21	—0 0.8
31	9	48 41	+0 1.2	31	11	9 7	+0 10.3
31	11	49 9	—0 1.1	31	10	9 9	—0 3.6
31	10	49 12	+0 3.6	31	10	9 25	+0 2.5
31	10	50 27	+0 9.9	31	10	10 7	—0 2.8
31	10	50 31	+0 8.3	31	9	10 19	+0 2.8
31	10	50 48	—0 0.9::	31	10	10 26	—0 7.0
31	10	51 27	+0 1.8	31	11	11 25	+0 6.5
31	9½	51 51	+0 3.1	31	10	11 45	+0 5.4
31	10½	52 48	—0 5.9	31	9	12 16	+0 2.3
31	11	53 13	—0 9.1	31	9	12 20	+0 9.7
31	11	55 47	—0 5.2	31	10	12 36	+0 1.3
31	11	55 57	—0 4.0	28	10	12 46	+3 10.3
31	8	56 10	—0 3.5	31	10	12 48	+0 10.8
31	8½	56 38	+0 2.7	31	9	13 12	+0 5.1
31	10½	57 25	—0 6.2	28	10½	13 13	+3 8.1
31	11	57 37	—0 8.5	31	9½	13 22	+0 10.1
31	9½	58 22	—0 0.9	28	10½	14 3	+3 7.6
31	9	59 38	—0 8.5*	28	12	14 5	+3 2.2
31	9	59 49	+0 2.9	28	11	14 32	+3 8.5
31	8	0 0 14	—0 2.6	28	9	15 28	+2 56.1
31	9	0 0 25	+0 7.1	28	9	0 15 35	+2 52.9

* October, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
31	10½	0 15 39	+0 7.7	28	11	0 31 32	+2 52.8
28	12	15 53	2 58.3	28	9½	32 40	3 3.0
28	10	15 57	3 6.6	28	10½	33 30	2 54.7
31	11½	16 52	0 6.0	28	10½	35 18	2 52.3
31	12	17 15	0 7.5	28	10½	36 1	2 56.9
31	9	17 29	0 6.6	28	11	36 19	2 54.4
31	10	18 27	0 6.4	28	10	37 3	3 0.6
31	10	18 40	0 5.9	28	10½	37 5	3 5.8
31	10	18 46	0 3.0	28	9	37 10	2 53.1
28	11	18 47	+3 3.0:	28	11	38 9	2 57.9
31	10½	18 55	—0 0.9	28	9½	38 25	2 56.6
31	10½	19 16	+0 4.3	28	11	40 32	3 7.1
28	11	20 0	2 55.9	28	11	41 27	3 4.2
28	11	20 9	3 1.8	28	9	41 44	2 54.3
28	11½	20 51	3 7.3	28	11	41 52	2 55.8
28	11½	21 27	3 3.3	31	10½	1 48 27	12 42.3
28	10½	21 33	2 50.8	31	10½	48 57	12 42.1
28	10	22 33	3 0.6	31	9½	49 17	12 38.8
28	12	22 57	3 3.5	31	11	50 29	12 33.7
28	10½	23 35	3 2.3	31	11	50 33	12 31.4
28	11½	23 59	3 3.0	31	10	51 26	12 31.0
28	12	25 31	3 7.7	31	11	51 36	12 37.2
28	10	26 58	3 0.6	31	10	52 0	12 33.0
28	11	27 5	2 56.1	31	11½	52 40	12 49.0
28	11	27 7	2 51.5	31	11	53 20	12 32.6
28	10½	28 34	3 6.7	31	11	53 22	12 35.2
28	11	28 40	2 52.8	31	11	53 32	12 48.0::
28	10½	29 11	3 9.7	31	12	59 11	12 32.6
28	10	29 31	2 52.5	31	11	59 21	12 46.5
28	11	29 56	2 55.9	31	10	2 0 48	12 42.6
28	11	30 13	2 52.1	31	12	1 0	12 47.7
28	11½	30 20	2 51.6	31	9	1 10	12 48.9*
28	11	31 7	2 52.5	31	10	1 39	12 41.9
28	10	31 16	3 2.7	31	10	2 22	12 47.2
28	11	0 31 31	+3 2.4	31	11	2 3 4	+12 45.7

* *f.* by 9th Mag.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	°
31	11	2 3 25	+12 44.1	31	11	2 13 39	+12 46.0
31	8	3 47	12 48.4	31	11	14 8	12 33.5
31	11	4 44	12 42.1	31	11	14 13	12 38.0
31	12	4 55	12 37.3	31	10½	14 56	12 49.2
31	11	5 0	12 44.5	31	10½	15 10	12 48.5
31	9	5 32	12 43.0	31	11	15 36	12 47.1
31	10	7 3	12 37.3	31	11	17 26	12 47.6
31	9½	7 20	12 37.7	31	8	18 8	12 50.3
31	10½	7 25	12 36.7	31	11	19 7	12 38.0
31	10	7 46	12 39.0	31	11	19 22	12 36.2
31	10	8 5	12 34.0	31	8	19 44	12 44.8
31	10½	8 39	12 49.2	31	12	20 45	12 46.0
31	11	9 15	12 41.5	31	12	20 52	12 33.3
31	10½	9 16	12 42.5	31	10½	21 28	12 46.8
31	11	10 8	12 48.1	31	10½	21 44	12 45.8
31	10	10 42	12 48.8	31	11	22 41	12 34.6
31	12	11 2	12 44.3	31	10	23 24	12 46.6:
31	12	11 21	12 45.8	31	9	23 24	12 49.6
31	11	12 21	12 51.8	31	10	2 24 16	+12 47.6
31	11	2 13 35	+12 41.0				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

70 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1848, AT MARKREE.

Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
	10	23 23 30	−1 55.2	22	11	0 0 51	−1 55.6
	10	23 32	2 1.8	14	11	1 1	+1 43.7
	11	26 26	2 9.8	22	9½	1 11	−1 58.5
	11	27 0	2 3.9	22	10½	1 33	−2 5.8
	11½	27 28	2 8.9	14	10	1 37	+1 37.7
	10	41 43	2 9.4	14	9	2 9	+1 51.7
	10½	41 48	1 57.8	22	11	2 24	−2 8.8
	–	41 56	2 9.1	14	10	2 59	+1 49.9
	12	44 27	2 3.4	22	9	3 9	−1 54.3
	12	46 31	2 8.1*	14	9	3 33	+1 49.6
	11½	47 26	2 6.3	14	11	3 41	+1 45.8
	11	48 22	1 49.4	14	11	4 5	+1 42.6
	11	49 8	2 6.8	22	9	4 7	−1 55.3
	11	49 32	2 5.8	14	10	5 43	+1 36.2
	11	49 40	1 55.6	14	9	6 52	1 36.4
	9	50 45	1 55.1*	14	10	7 7	1 44.9
	11	51 58	1 51.6	22	11	15 29	3 37.0
	12	53 45	2 2.3	22	11	15 34	3 46.7
	11	54 18	2 3.8	22	11	16 27	3 45.2
	12	55 20	1 55.7	22	11	16 50	3 47.1
	10	56 5	2 10.1	22	11	17 31	3 49.7
	11	57 14	1 59.7†	22	10	17 45	3 51.4
	10½	57 56	2 6.0	22	10½	18 18	3 37.2
	11	59 56	−1 52.1	22	11	22 11	3 34.8
	11	59 58	+1 44.0	22	11	22 50	3 38.3
	11	0 0 0	−2 6.7:	22	11	23 6	3 39.5
	11	0 6	−1 51.2	22	11	23 17	3 40.3
	11	0 21	+1 36.6	22	10½	24 8	3 54.7‡
	11	0 38	−1 55.6	22	10½	24 25	3 44.0†
	11	0 0 51	+1 42.3	22	11	0 25 19	+3 40.4

* Double. † (4). ‡ S. of two.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	0 25 51	+3 50.8	22	11	0 40 41	+3 42.4
22	10½	27 7	3 44.4	29	11	41 20	5 48.0
22	10	27 8	3 49.9	29	10	41 29	5 58.7
22	11	28 4	3 47.9	22	11	41 40	3 40.4
22	11	28 29	3 50.2	29	8	41 44	6 2.4
22	11	28 58	3 48.6	29	11	41 46	5 45.0
22	10	29 43	3 44.1*	22	10½	42 25	3 42.6
22	10	30 0	3 41.7*	29	8	42 27	5 54.4
22	10	30 33	3 44.5*	22	10	42 43	3 44.7
22	11	31 47	3 47.9	22	11	42 46	3 39.7
22	11*	32 0	3 49.7	22	11½	43 7	3 37.8
22	11	32 27	3 38.8	22	10½	43 14	3 38.2
22	11	33 25	3 42.2	22	11	43 32	3 38.5
22	10	34 12	3 47.8	22	10	44 2	3 35.0
22	9½	34 36	3 55.8	29	9	44 15	6 4.5:
22	10½	35 15	3 49.6	29	11	44 23	5 59.2
22	11	35 34	3 52.8	29	11	44 40	5 51.9
29	12	35 58	5 47.7	29	10½	45 7	5 51.8
29	11	36 1	5 48.9	22	11	45 35	3 46.7
29	7 or 10	36 48	5 54.7	22	11	45 38	3 44.1
29	10	36 49	5 51.7	22	11	45 48	3 40.4
22	12	36 51	3 36.6	29	9	46 8	5 58.5
29	9	36 52	5 51.0	29	11½	46 11	6 4.3
29	9	36 55	6 4.9	22	11	46 15	3 48.2
22	10½	37 38	3 54.8	22	11	46 38	3 48.3
29	9½	37 59	6 4.8	29	10½	46 42	5 54.2†
22	10½	38 9	3 49.6	29	11	46 58	5 52.1
29	11	38 17	5 44.6	22	10½	47 15	3 38.9
29	12	38 59	6 2.7	29	11	47 22	5 49.3
29	11	39 3	5 48.8	22	11	48 16	3 50.5:
22	11	39 4	3 51.9	29	10	48 44	5 53.4
29	11	39 42	6 2.5	29	10	49 19	5 52.5†
29	11	40 13	5 51.3	29	10	49 27	6 2.3†
22	10½	40 21	3 47.8	29	11	50 14	6 3.4
22	11	0 40 35	+3 38.3	22	11	0 50 15	+3 44.6

* (4). † December, 1848.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	11	0 50 24	+3 42.8*	20	11	1 5 56	+8 22.9
22	9½	50 37	3 45.3*	20	11	6 14	8 13.0‡
22	11	51 27	3 42.2	29	10	6 29	6 4.8†
29	11	51 39	6 3.1	20	9½	7 42	8 27.3‡
29	11	51 52	5 56.1	20	10	7 48	8 20.1
29	11	52 28	6 2.2	20	10	7 59	8 14.6
22	10½	52 59	3 47.7	20	10	8 49	8 15.8‡
29	10	53 5	6 4.8	20	9	10 14	8 15.7‡
22	11	53 8	3 34.7	20	10	10 34	8 13.6‡
22	12	53 13	3 37.5	20	10½	10 41	8 20.0
29	9½	53 30	5 52.3	20	11	11 20	8 23.0‡
29	8	54 0	5 56.8†	20	9	11 41	8 26.6‡
22	10	54 30	3 48.2:	20	11	12 15	8 18.6
22	10	54 30	3 34.6	20	10½	12 44	8 17.1
22	10	54 49	3 37.6	20	10	13 8	8 25.8
22	10	54 55	3 36.5	20	11	17 55	8 11.6‡
29	11	54 58	5 55.1	20	11	19 27	8 17.0
29	11	56 31	6 0.2	20	11	19 29	8 14.5‡
29	11	56 40	5 48.9	20	9	20 5	8 15.1‡
29	10½	57 52	5 50.5	20	10	20 15	8 22.7
29	10½	57 55	5 48.2	20	10	20 29	8 27.3‡
29	12	59 39	5 54.6	20	10	20 41	8 25.8
29	12	59 49	5 48.9	20	10	22 18	8 19.6
29	11	1 0 6	5 56.8†	20	9½	24 17	8 27.9‡
29	9	0 58	5 54.4†	20	11	24 21	8 24.8‡
29	9	1 5	6 4.5	20	10½	24 39	8 22.6‡
29	8	2 47	5 57.0*	20	8	26 3	8 13.2‡
20	12	3 45	8 17.6‡	20	9	26 10	8 14.6‡
20	10½	3 53	8 17.3‡	20	10	30 38	8 17.0
20	12	4 12	8 25.8	29	11	30 58	11 15.2
29	11	4 12	5 53.6	29	10	31 12	11 26.2
20	11½	4 13	8 14.0‡	29	10	31 47	11 21.4
20	12	4 55	8 29.1‡	29	11⅓	32 21	11 19.3
20	12	4 59	8 30.0	29	10½	32 40	11 17.7
29	9	1 4 59	+5 58.9	29	9	1 33 10	+11 20.2

* (4). † December, 1848. ‡ December, 1849.

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
29	10	1 33 36	+11 18.5	29	11	1 53 53	+11 16.3
29	9	34 4	11 11.4	29	10	54 57	11 10.2
29	9	34 37	11 15.0	29	10	55 6	11 20.7
29	10½	35 38	11 21.6	29	11	55 34	11 24.6
29	10½	35 52	11 21.0*	29	10½	55 48	11 26.0:
29	11	35 55	11 29.1	29	10	56 8	11 24.3
29	10	36 28	11 23.1	29	10½	57 7	11 23.7
29	8	37 33	11 31.5	29	11	57 21	11 27.0
29	10	38 2	11 7.8	29	10	57 30	11 27.2
29	10	38 20	11 12.4	29	11	57 51	11 30.6
29	9	39 37	11 10.7	29	10	58 10	11 28.1
29	9	39 45	11 15.8	29	11	58 27	11 14.0
29	9	39 49	11 31.1	29	11	58 44	11 13.1
29	11	41 13	11 18.3	29	9	59 29	11 23.1
29	9½	41 21	11 25.4	29	10	59 46	11 14.2
29	10	41 25	11 16.4	29	10	2 22 10	14 39.5
29	10	41 38	11 11.8	29	10	22 22	14 37.5
29	12	42 49	11 25.7	29	11	22 38	14 49.0
29	11	43 25	11 21.1	29	10	23 39	14 45.4
29	12	43 42	11 14.6	29	11	24 18	14 45.4
29	11	44 24	11 29.1	29	11	24 22	14 46.1
29	11	44 38	11 23.5	29	10	24 52	14 48.8
29	11	44 59	11 25.3	29	10	24 52	14 39.6
29	9½	45 6	11 11.3	29	11	26 5	14 45.9
29	10½	45 56	11 24.4	29	10	27 40	14 35.6
29	11	47 7	11 15.2	29	10½	27 43	14 41.1
29	11	47 55	11 21.2	29	10	28 20	14 38.4
29	11	49 20	11 25.0:	29	10½	29 9	14 48.6‡
29	10½	49 35	11 12.6	29	11	29 29	14 44.3
29	11	49 51	11 13.1	29	10½	29 45	14 45.3‡
29	11½	50 34	11 25.0	29	10	29 50	14 36.7
29	11	52 22	11 22.9	29	11	31 10	14 53.4
29	10½	52 28	11 14.7†	29	10	31 39	14 52.0
29	10½	52 44	11 15.8	29	11	31 54	14 47.6
29	10	1 52 51	+11 27.3	29	10½	2 32 32	+14 45.8‡

* N. of Double. † Small Star S. of this. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10	2 32 57	+14 47.1	29	11	2 59 10	+14 45.7
29	10	34 10	14 47.1	29	9	59 22	14 44.8
29	11	34 57	14 40.3	29	11	59 25	14 37.9
29	11	36 52	14 46.1	29	10	3 1 6	14 39.7
29	11	36 53	14 50.5	29	10	1 25	14 47.5
29	11	37 47	14 44.3	30	11	4 39 19	22 47.5
29	9	40 20	14 47.2	30	11	39 22	22 42.1
29	10	40 37	14 34.9	30	11	39 26	22 47.7
29	11	42 2	14 41.4	30	11	39 52	22 37.2
29	10	42 13	14 36.3	30	9	40 30	22 55.4
29	10	43 4	14 36.6	30	9	41 25	22 45.7
29	10½	43 17	14 39.5	30	12	41 38	22 40.6
29	11	43 33	14 41.7	30	9	42 25	22 43.3*†
29	9	45 38	14 48.8	30	8½	43 43	22 53.9
29	10	46 0	14 52.9	30	10	44 33	22 33.9
29	11	46 15	14 51.3	30	8	44 37	22 50.0
29	9	47 38	14 45.5*	30	10½	44 43	22 34.8
29	9	47 55	14 45.4*	30	8	45 52	22 49.1
29	11	49 20	14 47.9	30	9	46 20	22 42.9
29	10	49 52	14 48.4	30	11	46 46	22 44.7
29	10½	50 34	14 46.4	30	11	47 4	22 35.1
29	9	50 52	14 38.7	30	10½	47 56	22 37.7
29	9	50 58	14 35.5	30	9	48 7	22 48.5
29	12	52 9	14 47.2	30	9	48 20	22 35.3
29	11	53 11	14 45.9	30	10	49 6	22 47.2
29	11	53 22	14 46.3	30	10	49 29	22 46.4
29	11	53 28	14 53.2	30	10	49 41	22 40.4*
29	10½	55 13	14 48.9	30	12	51 11	22 35.2
29	11½	55 35	14 38.8	30	10	51 46	22 37.9
29	10	55 59	14 52.1	30	9	52 38	22 42.9*
29	10	56 1	14 48.0	30	9	52 47	22 45.4
29	10	56 54	14 47.3	30	10	52 55	22 53.0
29	11	57 6	14 40.9	30	9½	52 59	22 40.2*
29	10	57 17	14 47.6	30	9	54 15	22 31.7
29	11	2 57 35	+14 46.3	30	10	4 54 53	+22 32.7

* (4). † Pd. by a 9th Mag.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	10	4 56 30	+22 40.6	30	12	5 15 28	+22 38.8
30	10	56 34	22 42.8	30	10	15 32	22 50.1
30	10	56 49	22 38.5	30	9½	15 46	22 49.8
30	11	56 59	22 33.2	30	11	17 0	22 36.6
30	10½	58 5	22 34.7	30	11	17 1	22 37.9
30	10½	58 17	22 38.6	30	10	17 2	22 41.2‡
30	10	58 20	22 49.9	30	11	17 5	22 33.4
30	11	59 36	22 37.4	30	9	17 47	22 52.5§
30	10	5 0 1	22 41.0	30	9	17 55	22 49.7
30	11	0 5	22 44.8	30	10	19 3	22 48.1
30	10	0 43	22 49.7	30	11	19 10	22 41.5
30	10	0 50	22 49.8	30	10½	19 43	22 37.9
30	11	1 19	22 54.1	30	12	29 50	23 19.3
30	10	1 41	22 51.7	30	11	30 12	23 22.4
30	8	2 8	22 52.5:	30	11	31 8	23 16.5
30	11	2 30	22 43.1*	30	10½	31 9	23 18.6
30	11	4 29	22 38.7	30	11	31 30	23 18.0
30	10	4 45	22 43.1†	30	10½	31 38	23 26.4
30	10	5 5	22 45.2	30	10	32 46	23 20.4
30	10	5 32	22 38.6	30	11	33 28	23 18.1
30	11	6 0	22 43.3	30	11	33 55	23 29.4
30	10½	7 41	22 34.5	30	11	34 49	23 29.3
30	10½	7 54	22 46.5	30	10	35 47	23 20.2
30	10	8 17	22 36.5	30	10½	35 59	23 25.0
30	11	9 3	22 50.5	30	10	36 15	23 19.2
30	11½	10 9	22 46.8	30	10	36 16	23 25.9
30	10½	10 23	22 38.2	30	10	37 16	23 15.2
30	11	11 8	22 37.3	30	11	37 24	23 26.0
30	10	11 42	22 40.1	30	11	37 33	23 27.7
30	10	12 14	22 47.4	30	10	38 49	23 20.9
30	11	13 32	22 33.8	30	10	39 0	23 18.9
30	10½	13 35	22 39.2	30	10½	39 6	23 17.8
30	11	13 41	22 40.5:	30	10	40 21	23 24.1
30	11	15 20	22 40.2	30	11	40 46	23 25.1
30	12	5 15 23	+22 37.5	30	10	5 41 36	+23 28.5

* Brightest of a cluster. † (4). ‡ N. of double. § December, 1848.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	10	5 41 57	+23 25.6	30	11	6 4 33	+23 23.6
30	10	42 7	23 24.4	30	11	4 37	23 30.8
30	11	43 47	23 22.7	30	11	5 39	23 19.2
30	11	43 48	23 20.0	30	10½	6 18	23 15.5
30	10	44 33	23 24.7	30	–	6 59	23 14.0
30	9	44 33	23 13.0	30	12	8 3	23 21.9
30	10	45 54	23 28.7	30	11	8 44	23 20.8
30	10	46 2	23 23.0*	30	11	8 52	23 18.5
30	10	46 37	23 14.9	30	11	9 8	23 20.3
30	9	48 7	23 23.5*	30	10½	9 50	23 19.4
30	10½	48 7	23 11.4	30	10½	10 35	23 20.6
30	10	48 30	23 32.3	30	10½	10 47	23 19.1
30	10	49 40	23 30.6	30	10½	10 53	23 19.2
30	11½	49 58	23 19.0	30	11	11 25	23 22.5
30	10½	50 46	23 21.9	30	11	13 36	23 17.5
30	10	51 59	23 19.5	30	10½	13 50	23 20.3
30	10	52 1	23 17.3	30	11	14 8	23 25.9
30	10½	53 31	23 12.3	30	11	14 19	23 30.3
30	10½	53 32	23 20.7*	30	10½	14 25	23 31.1
30	10	54 11	23 15.7	30	10	14 56	23 33.2
30	11	55 54	23 28.1	30	9	15 36	23 13.6
30	11	56 2	23 14.8	30	10	17 4	23 25.8
30	11	57 47	23 30.0	30	10½	18 35	23 27.0
30	11	57 52	23 28.2	30	10	18 44	23 32.3
30	10½	58 56	23 31.6	30	10	19 0	23 30.6
30	10	59 19	23 22.9	30	10	19 42	23 30.4
30	11	59 44	23 30.0	30	11	19 53	23 20.1
30	12	6 1 52	23 15.3	30	11	21 13	23 21.1
30	11½	2 7	23 28.9	30	11	21 15	23 26.7
30	10	6 2 47	+23 27.9	30	11	6 21 49	+23 23.8

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,534 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1848, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	11	0 15 3	+3 22.7	14	10½	0 29 4	+3 19.8*
14	9	15 13	3 22.0*	14	11	30 17	3 27.4
14	11	15 50	3 16.8	14	11	30 20	3 26.0
14	11	16 41	3 14.6	14	10	30 24	3 29.1
14	11	17 2	3 17.4	14	9	31 11	3 25.7
14	10	17 31	3 20.9	14	10½	31 11	3 14.8
14	11	17 44	3 12.5	8	9½	31 54	3 58.7
14	9	18 18	3 16.9	14	10½	31 54	3 19.7
14	9	18 19	3 27.2	14	10½	31 59	3 18.6
14	11	19 21	3 14.0	8	10½	32 12	3 55.2
14	9	20 6	3 23.1	14	10	32 21	3 12.5
14	9	20 27	3 16.9	8	10½	32 28	3 55.8
14	11	20 34	3 14.5	14	11	32 58	3 29.8
14	10	21 5	3 12.0	14	10½	33 37	3 24.3
14	10	21 18	3 29.6	14	10½	33 44	3 26.3
14	10½	22 8	3 18.7	8	9½	33 45	3 59.0
14	10½	22 22	3 13.6	14	10	34 2	3 22.7
14	9	23 4	3 22.5	8	9	34 37	3 59.2*
14	9	23 26	3 18.3	8	9½	35 6	4 2.1
14	11	23 42	3 17.6	14	10½	35 10	3 22.2
14	9	24 30	3 18.8	14	10½	35 12	3 18.7
14	10	24 34	3 11.3	14	10½	35 13	3 11.8
8	11	24 58	3 54.9	14	9	36 38	3 18.0
14	10½	25 5	3 12.0	14	10	36 47	3 25.2
14	11	26 0	3 29.5	14	10	37 16	3 14.1
14	10	26 9	3 26.0	8	10	37 19	4 0.7
8	10	26 21	4 3.3	14	10	37 26	3 29.5
14	8	27 35	3 16.0	8	10	37 58	4 0.7
8	10	28 10	4 6.0	14	10½	38 5	3 25.5
8	10	0 28 56	+3 51.4	8	8	0 39 6	+4 1.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	9	0 39 7	+4 8.0	22	11	0 49 50	+6 8.1
14	10	39 14	3 15.0	27	11	49 59	6 25.1
14	10	39 45	3 17.6	14	10½	50 6	3 14.1:
14	10	39 52	3 19.7	27	11	50 6	6 27.6
14	10½	39 56	3 28.3:	27	9½	50 18	6 25.3
14	10	41 27	3 11.3	14	10½	50 26	3 17.4
8	9	41 54	4 4.4	27	9	50 27	6 29.5
14	9	42 0	3 28.1	14	7½	50 34	3 29.1
14	10½	42 5	3 8.8	14	7½	50 58	3 23.9
14	11	43 2	3 17.9	14	10	51 41	3 16.7
14	11	43 28	3 27.0	27	10	51 47	6 13.4
27	10	44 8	6 21.4	14	9	51 55	3 10.0
27	10½	44 8	6 9.4	27	11	51 57	6 14.2
14	10	44 47	3 20.9	14	10	52 0	3 17.4
27	10	45 3	6 30.3	27	10	52 6	6 11.4
27	11	45 4	6 24.5	22	10	52 28	6 9.4
14	10½	45 14	3 12.6	27	9½	52 43	6 29.0
8	8	45 30	3 56.3	27	11	52 51	6 24.0
27	11	45 48	6 29.3	14	11	53 2	3 19.7
14	11	46 9	3 17.9	14	11½	53 9	3 25.8
14	10½	46 27	3 13.4	27	12	53 52	6 24.8
14	11	46 28	3 25.0	14	9	54 8	3 30.7
22	11	46 30	6 3.1	14	10	54 10	3 25.0
27	10½	46 44	6 25.0	27	10	54 32	6 23.0
27	11	47 2	6 26.4	22 27	8½	54 43	6 11.5
27	10½	47 17	6 25.0	22	10½	54 59	6 9.3
14	11	47 29	3 25.8	22	10½	55 0	6 5.2
14	11	47 44	3 24.4	27	10	55 5	6 25.6
22	10½	47 54	5 58.4	22	9	55 7	6 2.0
27	11	48 13	6 26.4	27	9	55 19	6 31.0
14	11	48 32	3 23.0	27	10	56 5	6 26.6
27	10	48 54	6 10.3	27	11	56 12	6 25.9
14	11	49 0	3 17.0	22	10	56 29	6 5.6
27	11	49 16	6 16.8	27	12	57 29	6 25.7
14	10	0 49 29	+3 26.8	22	11	0 57 34	+5 52.0

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
22	9	0 57 46	+5 58.4
27	11	57 47	6 23.3
27	11	57 48	6 27.4
22	11	58 10	6 10.0
27	10½	58 27	6 13.5
22	11	58 47	5 53.5
27	11	58 49	6 25.5
27	11½	58 57	6 25.1
27	11	59 20	6 23.9
22	12	59 42	5 56.8
27	10	59 58	6 14.9
27	10	1 0 2	6 12.5
22 27	9	0 28	6 11.6
27	11	1 4	6 12.6
27	11	1 37	6 28.7
27	10½	2 7	6 26.3
22	11	2 23	5 55.7::
27	9½	2 32	6 18.1
22	11	2 34	5 57.5
27	10½	2 46	6 24.3
27	11	3 22	6 16.7
22	12	3 37	5 53.7
27	9	4 11	6 18.8*
22	11	4 15	5 54.3
22	10	4 32	5 58.0†
27	11	4 38	6 23.3
22	9	4 52	5 51.6
22	11	5 10	6 3.8
27	11	5 54	6 14.2
22	8	5 58	6 5.3
22 27	8½	5 58	6 10.0
27	10½	5 59	6 13.9
27	10	6 41	6 22.3
22	10	6 51	5 56.1
27	11	1 8 10	+6 28.6

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
22	11	1 8 15	+5 53.2
27	11	8 41	6 27.9
27	11	8 54	6 21.1
22	10	9 18	5 58.7
22	10½	9 24	6 3.2
22	10½	9 36	6 2.7
22	10½	9 38	6 4.8
27	9	9 46	6 21.5*
22	10½	9 57	6 6.1
27	11½	10 31	6 16.9
22	11½	11 17	6 6.9
22	10	11 23	6 2.7
27	12	11 44	6 25.9
27	9	12 25	6 18.9*
27	11	12 43	6 17.5
27	10½	12 51	6 12.9
27	10	13 59	6 14.1
27	10	14 18	6 22.1
27	10½	14 40	6 26.2
27	9	14 41	6 19.2
27	10	14 56	6 13.4
27	10	15 43	6 28.1
27	9	16 13	6 25.3
27	9½	16 39	6 22.2
27	9	16 48	6 19.9
27	9	16 52	6 9.4
27	9	16 53	6 13.3:
27	10½	18 34	6 28.4
27	9	18 49	6 31.0
27	11	19 36	6 11.7
27	10	20 10	6 25.2
27	10	20 20	6 14.5
27	10	21 35	6 15.7
27	9½	22 46	6 17.3
27	10	1 23 1	+6 32.4

* (4). † F. of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	11	1 33 25	+11 34.5	14	10½	1 44 24	+11 49.1
14	10½	34 1	11 48.5	27	10	44 33	12 0.9
14	9	34 15	11 53.5:	27	10½	44 52	11 53.5
14	9	35 3	11 48.7	27	9	45 58	11 54.5
27	9½	35 14	12 0.2	27	10½	46 8	12 10.5
14	11	35 32	11 35.5	14	10½	46 12	11 38.0
14	10	35 50	11 38.2	14	10	46 20	11 41.9
14	11	36 4	11 38.3	27	10½	46 45	12 6.0
14 27	9	36 15	11 53.1	14	11	46 48	11 45.1
14	11	37 21	11 36.7	14	10	47 44	11 45.6
14	10	37 34	11 36.3	27	10	47 52	11 58.8
27	11	37 44	12 7.3	27	10½	47 54	11 53.6
14	11	37 58	11 38.8	27	10½	48 9	11 53.0
27	10	38 44	12 5.9	14	10	48 34	11 44.4
14	11	39 14	11 40.8	27	10½	49 3	12 2.8
14	11	39 22	11 36.7	27	10	49 32	12 4.4
14	11	39 47	11 33.4	14	10½	49 55	11 36.9
27	10	39 51	11 58.0	14	9	50 2	11 41.5
14	9	39 58	11 34.6	27	10½	50 2	12 9.6
27	11	40 7	11 59.8	27	10½	51 15	12 2.0
27	10½	40 41	12 3.3*	27	11	51 18	12 5.4
14	11	40 50	11 45.8	27	11	52 4	12 2.2
14	11	41 0	11 32.8	14	11	52 5	11 33.8
27	10½	41 38	12 6.9	27	10½	52 11	12 4.3
14	10½	42 15	11 42.7†	27	11	52 11	12 6.8
14	10½	42 20	11 39.1†	14	11½	52 39	11 37.6
14	11	42 27	11 50.4:	14	11½	52 45	11 33.8
27	9	42 54	12 1.8‡	27	11	53 3	12 7.1
27	9½	42 59	12 9.9	14	10	53 26	11 53.3
27	10	43 44	12 11.3	14	10	53 27	11 52.2
14	10	44 8	11 47.7	27	10	53 35	12 7.8
27	11	44 10	11 59.8	27	11	54 16	11 58.5
27	10	44 13	11 51.8	27	10½	54 17	12 8.4
14	10	44 14	11 41.0	14	10	54 18	11 49.5
14	10½	1 44 18	+11 48.8	14	11	1 54 21	+11 42.8

* Double. † (4). ‡ Small Star p.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	9	1 54 40	+11 50.5	19	9	2 1 50	+14 8.8
27	11	55 31	12 8.0	14	10	1 59	11 37.9
27	11	55 38	12 2.3	27	10½	2 3	11 57.3
14	10	55 44	11 42.7	14	10	2 9	11 41.5
27	10½	55 49	12 4.3	18	10½	2 14	14 25.8
14	9½	56 12	11 52.6	27	9	2 36	12 2.0*
14	10	56 15	11 45.8	19	11½	2 43	14 4.2
14	10	56 35	11 48.5	18	10	3 1	14 17.3
27	11	56 58	12 6.4	14	10	3 2	11 39.6
14	10½	57 43	11 39.6	14	10	3 31	11 42.2
14	10½	58 3	11 40.2	19	10	3 32	13 55.4
27	11	58 4	12 5.2	19	10	3 42	14 5.4
14	9	58 10	11 43.2	18	10	4 5	14 25.0
27	10	58 17	12 7.0	18	10	4 12	14 29.4
27	9	58 31	12 4.4	14	11	4 15	11 32.0
14	10	58 40	11 45.1	27	10	4 26	12 11.9
14	11	58 54	11 44.2	19	–	4 32	13 50.6::
27	9	58 55	12 8.8	27	10	4 33	11 59.9
14	10	59 34	11 46.3	19	10	4 47	13 52.8:
27	10½	59 38	12 9.2	14	11	4 49	11 38.2
27	10½	59 39	12 5.8	14	11½	4 59	11 35.9
27	10½	59 52	12 1.9	14	10½	5 10	11 34.7
19	11	2 0 12	13 51.3	19	10½	5 24	13 56.6
14	10	0 13	11 35.6	14	10	5 25	11 47.3
14	10½	0 25	11 45.7	18	10	5 26	14 23.9
14	11	0 25	11 47.6	19	9	5 27	14 7.0
27	11½	0 43	12 9.9	27	10	5 48	12 4.8
18	9½	1 3	14 22.8	27	11	5 52	12 8.9
19	11	1 6	14 3.4	19	9	6 2	13 56.7
27	11	1 6	12 9.5	18	9	6 6	14 24.1
19	11	1 15	14 6.8	18	10	6 17	14 23.3
19	10½	1 30	14 1.2	14	11	6 17	11 37.2
27	10½	1 32	12 10.7	27	10½	6 18	12 2.7
19	11	1 38	14 6.4	18	11	6 37	14 26.9
18	10½	2 1 42	+14 17.7	19	10	2 6 42	+13 55.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	9	2 6 48	+11 34.1	14	10	2 11 35	+11 51.4
19	11	6 52	14 8.3	14	11	11 37	11 38.1
27	11	6 54	12 5.9	18	11	11 51	14 12.1
27	10	6 59	12 0.5	19	12	12 4	14 5.4
14	8	7 21	11 42.2	14	10	12 19	11 45.8
18	9	7 33	14 17.0	14	9	12 27	11 33.7
27	11	7 48	11 55.6	18	11½	12 27	14 19.2
19	10	7 50	14 7.4	27	9	12 29	12 6.4
19	10	7 55	14 1.7	19	10½	12 30	14 9.4
18	9	8 12	14 22.2	27	10	12 33	12 10.3
14	11	8 15	11 47.6	14	10	12 34	11 32.3:
18	11	8 20	14 21.8*	27	11½	12 43	12 3.1
19	10½	8 24	14 1.6	18	11½	12 50	14 18.2
27	10	8 31	11 55.2†	19	10	13 10	14 6.3
14	11	8 43	11 36.9	19	9	13 32	14 3.0
18	10	9 5	14 17.6	19	11	13 34	14 6.3
14	10	9 19	11 48.1	14	9	13 48	11 34.4
27	11	9 27	11 57.2	14	10½	13 57	11 46.3
14	11	9 36	11 39.9	18	10	13 58	14 15.6
18	9	9 39	14 13.0	14	11	14 2	11 33.4
19	10	9 53	14 5.8	18	10	14 7	14 28.4
27	10	9 55	12 8.8	18	10½	14 8	14 29.1
19	10	10 5	14 6.1	14	9	14 34	11 52.6
18	9½	10 8	14 11.7	19	9	14 34	14 8.6
14	9	10 38	11 40.0	18	10	14 35	14 8.5
14	11	10 43	11 38.5	18	10½	14 49	14 10.7
19	11	10 45	14 8.6	18	9	15 15	14 10.0
18	11	10 50	14 24.5	14	11	15 16	11 38.3
14	9	10 54	11 30.0	18	11	15 34	14 28.1‡
18	11	10 54	14 22.7	19	9½	15 52	14 2.5
19	10	11 0	14 1.4	18	11	16 22	14 26.4
19	9½	11 7	13 50.9	18	11	17 20	14 23.1
27	10½	11 8	11 55.4	19	10	17 45	14 9.4
18	9	11 12	14 12.9	19	10½	18 31	13 54.4
27	10½	2 11 34	+12 7.0	18	9	2 18 42	+14 24.2§

* (4). † Small Star p. ‡ P. of a double. § A 10½ mag. p.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10	2 18 56	+14 19.3	22	9	2 28 30	+15 48.4
19	10	19 0	14 6.3	22	11½	28 38	15 43.3
18	10	19 27	14 13.4	19	10	28 44	13 57.7
19	10	19 42	13 49.9	19	10	28 44	13 54.6
18	9½	19 48	14 28.2	18	9	29 3	14 21.7
19	9	20 15	14 5.7	22	11	29 31	15 39.3
18	10½	20 19	14 27.1	19	8	30 2	14 7.7
19	10½	20 34	14 3.5	22	11	30 16	15 42.2
18	10½	20 44	14 10.9	18	9	30 19	14 18.8
19	10	21 36	+13 56.0	22	9	30 38	15 42.8*
18	11	21 44	14 24.5	22	10½	30 41	15 35.0
18	9	22 24	14 24.8	19	10	30 58	13 52.0
18	11	22 23	14 22.3	19	11	31 12	13 54.4
19	11	22 43	14 7.8	18	11	31 47	14 28.3
18	10	22 46	14 25.0	19	10	31 58	14 8.5
19	10	22 47	13 58.2*	18	12	32 2	14 24.2
18	10½	23 0	14 14.9	22	8	32 29	15 33.2
19	10½	23 45	14 1.6:	18	10	32 34	14 21.5†
18	10½	23 54	14 16.9	18	10½	32 42	14 17.7
19	10	24 9	13 52.4	19	10½	32 54	13 53.9
18	11	25 28	14 27.1	22	10	33 14	15 45.8
19	10	25 28	14 4.6	19	10	33 25	13 58.6
18	11	25 29	14 23.8	18	10	33 30	14 17.5
19	8	25 29	14 1.2*	19	10	33 31	13 58.7
19	10½	26 27	13 53.1	18	9½	34 1	14 22.6
18	11	26 29	14 15.4	22	10	34 5	15 31.8
18	10	26 47	14 16.2	18	11½	34 19	14 12.2
22	9	27 0	15 51.7	22	11	34 40	15 35.1
18	11	27 6	14 15.5	18	9	34 51	14 16.1
22	11½	27 7	15 46.4	22	9½	35 3	15 44.9
18	11	27 29	14 12.3:	19	10	35 7	14 10.9
18	11	28 2	14 26.6	18	11	35 16	14 17.4
22	10½	28 2	15 48.9	22	9	35 27	15 45.7
18	11	28 17	14 25.2	22	9	35 28	15 48.6
19	11	2 28 23	+13 58.6	19	9½	2 35 37	+13 53.1

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	9	2 35 39	+14 9.1	14	10	2 43 1	+16 58.5‡
18	8½	35 51	14 16.5	18	6	43 13	14 27.8
22	11	36 12	15 43.4	22	11	43 20	15 32.8
19	8	36 47	14 5.3	22	10½	43 26	15 44.4
19	–	36 54	13 57.0	22	8	43 32	15 52.8
19	8	37 4	14 7.8	14	11	43 55	16 56.3
19	8½	37 10	13 57.0	22	9	44 27	15 32.2
22	11	37 25	15 39.8	14	9	44 30	17 1.7
22	11	37 36	15 48.5	14	9	44 36	16 51.4
22	8½	37 50	15 42.4*	14	10	45 26	17 5.5
22	10	37 50	15 48.9	14	10	45 28	16 55.6
22	9	38 5	15 48.0	14	11	45 31	16 58.3
19	10	38 11	14 2.4:	22	11	45 49	15 35.7
18	10½	38 29	14 28.5	22	10	46 8	15 40.1
19	9	38 29	14 9.3	22	10	46 8	15 36.2
18	10½	38 45	14 27.2	14	10	46 55	16 51.1‡
18	10½	39 19	14 22.1	22	10½	47 5	15 40.3
18 19	8	39 31	14 10.9	14	10	47 8	17 3.5
18	10	39 43	14 17.8	22	9½	47 10	15 35.6
22	10	39 54	15 38.7	22	11	48 5	15 39.5
22	10	39 55	15 35.1	22	10	48 24	15 50.2
19	11	39 58	13 58.0	14	10½	48 32	17 2.0
22	9	40 6	15 34.2	14	10½	49 0	17 7.7
22	10	40 18	15 47.4	22	10	49 6	15 47.0§
18	10½	40 20	14 13.6	22	10	49 18	15 47.1
22	10	40 27	15 46.8	14	10½	49 21	17 3.1
19	9	40 54	14 7.5	14	11	49 28	17 5.3
18	11	41 37	14 18.7	14	9	50 23	16 54.3
22	10½	41 41	15 43.9	22	11½	50 32	15 46.9
22	9	42 4	15 30.9	22	10	50 41	15 47.0
18	10	42 6	14 16.5†	22	11	50 50	15 47.9
22	10½	42 7	15 41.9	22	10½	51 10	15 37.9
22	11	42 18	15 40.5	14	10	51 27	17 8.7
18	9½	42 49	14 24.2	22	11	51 57	15 33.4
14	11	2 42 54	+16 53.5	22	10½	2 52 24	+15 35.8

* (4). † Brightest of 3. ‡ Small Star p. § Close double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	10	2 52 43	+16 52.2	18	10	2 59 58	+18 47.3
14	10	52 51	17 5.5	22	10	3 0 3	15 35.7
22	8	53 19	15 43.3*	18	10	0 4	18 37.4
22	11	53 19	15 45.2	14	9	0 20	17 10.6
14	10	53 42	16 57.6	22	10½	0 27	15 45.4
22	11	53 46	15 39.9	14	11	0 29	17 7.0
22	11	53 57	15 46.6	14	10½	0 34	17 5.1
14	11	54 16	17 4.3	22	9½	0 59	15 46.9
14	10	54 42	16 55.8	14	10	1 7	17 10.7
22	10	54 54	15 35.6	18	9	1 17	18 35.6
22	11	55 14	15 36.5	22	11	1 36	15 37.0
14	12	55 26	16 52.3	18	11	1 42	18 44.0
14	11	55 46	16 52.9	22	10	1 56	15 32.0 †
22	10½	55 59	15 44.6	18	11	2 3	18 40.6
14	10½	56 2	17 6.8	18	10	2 5	18 36.2 ‡
14	10	56 21	17 3.8	18	10	2 14	18 44.9
22	11½	56 39	15 43.1:	14	12	2 32	17 5.2
22	11	56 44	15 37.3	14	11	2 35	17 10.3
22	10½	56 50	15 33.1	22	11	2 57	15 50.1
14	10½	56 54	17 7.7	22	10	3 1	15 38.7
14	10½	57 7	16 58.9	18	9	3 16	18 44.1
18	10	57 48	18 47.8	22	10½	3 30	15 44.9
22	11	57 48	15 46.4	18	10	3 39	18 43.3
18	10	57 57	18 42.6	14	11	3 50	16 58.3
22	11	57 59	15 46.6	18	10½	3 55	18 44.7
14	9	58 17	16 53.4	14	10	4 13	16 54.0
18	10½	58 20	18 43.6	22	9	4 16	15 35.0
18	10	58 23	18 40.6	18	9	4 29	18 37.5
22	11	58 24	15 45.9	14	10½	4 42	16 59.6
18	8	58 39	18 47.0	14	10	4 48	17 1.6
22	10½	58 39	15 50.6	22	10	4 50	15 49.8
14	10	59 25	17 2.1	18	10	4 52	18 34.3
22	11	59 39	15 40.1	22	11	5 9	15 47.0
18	11	59 49	18 37.2	14	11½	5 52	17 3.5
22	10½	2 59 52	+15 45.9	19	9	3 5 59	+18 11.2

* (4). † S. of 2. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	11	3 6 2	+17 7.1	14	10	3 12 33	+16 59.4
22	10	6 10	15 39.4	14	10	13 1	17 4.4
18	9	6 13	18 36.6	19	10	13 10	18 16.9
18	10½	6 17	18 34.0	18	12	13 47	18 34.9
22	11	6 18	15 40.3	18	12	13 51	18 33.5
14	11	6 21	17 5.4	14	9	14 3	16 55.1
14	10	6 58	17 2.0	19	10	14 6	18 11.0
22	11	7 5	15 44.0	18	10	14 19	18 41.2
18	11	7 30	18 44.6	14	10	14 29	16 56.0
19	10	7 34	18 11.2	19	9	14 38	18 23.1
19	10	7 34	18 19.3	19	11	14 39	18 13.1
18	10	7 47	18 35.6*	18	10	14 41	18 33.8
14	11	7 48	16 55.7	14	9	14 44	17 0.0†
14	10	7 51	16 58.2	19	11½	14 51	18 12.6
14	11	8 42	16 49.5	18	9	15 6	18 36.4
18	11	8 44	18 30.2	19	11	15 9	18 14.7
19	12	9 3	18 25.4	14	9	15 52	17 12.0
19	12	9 10	18 27.9	18	11	15 52	18 31.0
19	10½	9 27	18 12.0	19	10½	15 57	18 14.1
14	11	9 33	17 1.6	18	9	16 0	18 31.5
18	11	9 35	18 42.4	18	11	16 14	18 30.2
18	9	9 39	18 32.8	19	11	16 26	18 17.0
18	11	9 52	18 45.1	18	9½	16 34	18 45.9
19	10	10 8	18 26.9	14	11½	16 42	16 56.2
19	10	10 14	18 28.0	19	9	16 53	18 21.9†
19	11	10 22	18 14.9	14	11	17 4	16 51.7
14	11	10 32	17 1.3	19	11	17 7	18 21.8::
14	11	10 57	17 3.1	14	11	17 14	16 53.9‡
14	10	11 4	17 6.2	18	12	17 20	18 37.4
18 19	11	11 10	18 31.5	19	10	17 31	18 26.3
19	9	12 13	18 27.6	14	10½	17 38	17 1.9
14	10½	12 17	17 4.0	18	10½	17 39	18 37.2
19	9	12 19	18 22.3	18	10½	18 0	18 36.0
18	11	12 21	18 33.8	19	9	18 38	18 29.1
14	10½	3 12 28	+17 4.4	14	10½	3 18 44	+17 2.6

* P. of 2. † (4). ‡ Small Star close.

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
18	11	3 18 48	+18 30.2
18	9	18 58	18 39.7
18 19	9½	19 16	18 32.3
14	11	19 20	17 8.4
14	11	19 23	17 6.3
18	11	19 27	18 31.0
14	10	19 57	16 55.2
18	12	20 16	18 44.4
18	11	20 30	18 45.7
19	11	20 52	18 11.5:
19	11	20 53	18 24.4
14	11	20 56	16 52.5
18	11	20 59	18 29.9
14	11	21 20	16 59.1
18	11	21 24	18 47.8
18	11	21 37	18 43.3
18	11	21 39	18 45.8
19	11½	22 14	18 17.0
18	9½	22 19	18 37.1
22	11	22 22	19 37.8
22	11	22 36	19 35.8
19	11	22 38	18 24.0
22	10½	22 40	19 34.2
18	11	23 2	18 36.2
19	10	23 24	18 21.4
18	12	23 30	18 35.2
19	10	23 38	18 28.7
19	19	24 3	18 18.5*
18	10	24 12	18 31.0
19	10	24 21	18 19.2
18	11	24 50	18 41.3
19	10	24 50	18 25.7
18	11	25 3	18 42.0
22	10½	25 4	19 47.6
18	11	3 25 5	+18 46.7

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
22	10½	3 25 6	+19 39.5
22	11	25 32	19 45.8
19	8	26 0	18 22.2
18	10½	26 2	18 32.8
19	10	26 10	18 27.7
18	10½	26 26	18 43.5
22	9	26 30	19 42.9
18	10½	26 38	18 43.8
22	10	26 44	19 43.7
18	10½	26 47	18 44.9
19	10	26 58	18 13.9
22	10	27 11	19 43.[illegible]
22	11	27 14	19 48.[illegible]
18	9	27 25	18 50.[illegible]
19	11	27 53	18 25.[illegible]
22	11½	27 53	19 34.2
18	11	28 9	18 29.9
18	10½	28 14	18 34.9
19	9	28 14	18 21.3
19	9	28 15	18 21.3
18	11	28 16	18 38.1
22	11	28 20	19 38.7
19	9	28 23	18 26.6
19	10	28 24	18 15.2
18	10½	28 45	18 44.6
22	11	28 57	19 38.9
18	10½	29 0	18 42.9:
18	10½	29 21	18 43.9
22	9	29 24	19 44.5
19	11	29 47	18 16.0
19	11	29 56	18 24.6
22	10½	29 58	19 43.0
22	10	30 2	19 33.2
18	12	30 24	18 31.9
18	11	3 30 28	+18 34.7

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11	3 30 55	+18 36.4	19	11	3 36 22	+18 29.5
	11	30 55	19 44.1	19	9	36 42	18 29.1
	10	30 59	19 36.5	19	11	36 47	18 27.3
	11	31 5	18 25.3	*22	11	36 49	19 33.6
	11	31 9	18 27.7	18	11	36 50	18 42.7
	11	31 12	19 34.3	22	11	37 13	19 45.6
	10	31 20	18 45.1	22	10	37 29	19 50.3
	10	31 30	18 46.6	19	10	37 47	18 18.0
	9	32 15	19 53.1:*	18 19	10	37 48	18 29.7
	11	32 18	18 11.5	19	10	37 53	18 35.6
	9	32 34	19 43.7	18	11	38 18	18 29.9
	11	32 39	19 47.5	22	10½	38 27	19 49.5
	11½	32 46	18 12.4	18	11½	38 42	18 32.1:
	11	32 49	18 37.2	18	9	38 42	18 48.8
	10	33 5	18 36.8	22	10	38 44	19 45.4
	11	33 20	18 42.7	19	9	39 4	18 26.1
	10½	33 29	18 21.6	19	10½	39 15	18 25.6
	10½	33 30	18 25.9	22	11	39 47	19 33.7
	11	33 49	18 38.7	18	10½	39 49	18 46.8
	11	33 49	19 37.9	18	11	39 54	18 42.3
	10½	34 8	19 39.2	19	10	40 7	18 22.3
	10	34 28	18 32.2:	22	10½	40 15	19 37.6
	9	34 33	18 22.3	18	10	40 23	18 32.0
	10	34 47	18 38.5	19	11	40 38	18 25.1
	10½	35 2	18 24.3	19	10½	40 39	18 22.5
	9	35 20	18 25.1	18	10	40 47	18 36.5
	11	35 24	18 17.4	22	11	40 53	19 52.3
	10	35 33	19 48.1	22	9½	40 57	19 45.1
	11	35 36	19 40.7	22	11	41 41	19 43.8
	10	35 40	18 36.5	18	11	41 54	18 48.5
	10	35 41	18 13.7	18	10	41 56	18 46.0
	10	35 48	18 41.0	22	10½	42 2	19 35.2
	10	35 52	19 45.3	19	10	42 4	18 21.9
	11	35 53	18 42.0†	19	11	42 10	18 24.0
	10½	3 36 4	+18 48.1	22	11	3 42 33	+19 44.1‡

* January, 1849. † Small Star N. *f.* ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11½	3 42 47	+18 30.9	22	10	3 48 46	+19 46.6
22	10	43 18	19 39.9	18	10	49 11	18 29.7
18	10½	43 31	18 36.7	14	10	49 13	20 37.3
18	10½	43 59	18 35.0	18	11	49 23	18 43.3
22	10	44 0	19 43.3	14	11	49 25	20 42.4
18	10	44 13	18 43.7	14	10	49 40	20 36.4
22	10	44 16	19 44.8	14	10	50 0	20 42.5
22	9	44 19	19 45.5	22	9	50 1	19 43.9
19	9	44 37	18 14.5	22	10½	50 3	19 38.1
14	11	44 39	20 39.3	18	10	50 35	18 48.4
18	11½	44 54	18 31.1	18	11	50 49	18 48.6
22	10	45 1	19 45.0	14	10	51 17	20 44.3
19	11	45 14	18 20.9	14	11	51 21	20 31.4
14	10½	45 21	20 41.3	22	11½	51 29	19 43.3
22	10	45 29	19 49.0	14	11	51 30	20 41.0†
14	10	45 38	20 38.4	22	11	51 50	19 41.2
18	12	45 40	18 36.1	22	10½	52 2	19 43.7
14	10½	45 42	20 42.6	14	12	53 28	20 32.1
14	11½	45 52	20 33.6	14	9	54 0	20 37.8
22	10	46 7	19 49.0*	14	11	54 9	20 48.9
18	8½	46 9	18 44.1	14	11	54 12	20 44.9
14	10	46 13	20 32.6	22	11	54 49	19 37.0
18	11	46 30	18 36.3	22	11	55 11	19 37.2
14	10½	46 51	20 30.9	22	9	55 24	19 33.3
22	10	47 3	19 50.5*	22	11	56 33	19 45.3
14	11	47 4	20 34.1	22	11	56 35	19 44.7
18	9	47 29	18 47.0	14	–	56 38	20 30.3
22	10½	47 30	19 43.1	22	10½	56 41	19 50.3*
14	11	47 49	20 39.1	14	9	56 54	20 48.9
18	11	47 50	18 41.4	14	9	57 31	20 42.8
18	10	48 1	18 45.6	22	10	57 54	19 50.9
18	10½	48 4	18 42.8	22	11	57 56	19 45.0
22	9	48 11	19 38.7	14	9½	58 7	20 40.8†
22	8½	48 30	19 49.9	14	11	58 30	20 30.1
22	10	3 48 34	+19 45.4	22	11	3 58 37	+19 46.5

* January, 1849. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	10	3 58 44	+20 32.0	28	10	4 10 15	+21 33.5
22	9½	59 7	19 48.3	28	10	10 36	21 30.7
22	11	59 58	19 40.8	14	10	10 43	20 44.8
22	11	4 0 5	19 37.4	28	10	11 22	21 27.3†
22	9	0 11	19 46.2	28	11	11 43	21 37.1
14	10	0 37	20 33.8	28	11	11 46	21 36.3
14	10	1 9	20 44.0	14	11	11 51	20 33.9
14	9½	1 17	20 47.9	14	11	11 59	20 37.5
14	11	1 32	20 44.7	28	10	12 17	21 26.3†
14	11	2 0	20 32.7	28	9½	12 41	21 38.9
14	10	2 45	20 36.7	14	10	13 24	20 36.5
14	10	3 4	20 29.4*	28	11	13 32	21 26.9†
14	9	3 17	20 40.5	28	11½	14 3	21 21.8
28	10½	3 47	21 25.3	28	11	14 38	21 22.3†
28	11	4 4	21 20.1	28	11	14 59	21 24.8
14	9½	5 8	20 40.6	14	10	15 0	20 34.4
28	10	5 47	21 26.9†	28	10½	15 2	21 21.9†
14	10	5 56	20 45.4	14	9	15 58	20 45.4
14	11	6 38	20 41.6	28	11	16 5	21 23.4
14	11	6 45	20 48.3	28	11½	16 33	21 32.5
28	11	7 4	21 32.8	28	11	16 40	21 31.8
28	11	7 8	21 32.6	14	8	16 56	20 47.4
14	10	7 40	20 44.6	28	11	17 1	21 33.9
28	8	7 40	21 31.9	28	10½	17 4	21 22.3
14	10	7 44	20 37.7	14	11	17 32	20 32.2
28	11	7 46	21 34.7	14	10	17 56	20 34.1
28	11	8 11	21 35.6	28	11	18 3	21 35.2
28	11	8 12	21 36.7	14	8	18 17	20 38.7
14	11	8 19	20 36.0	28	9	18 20	21 38.3
28	9	8 25	21 29.7	28	11	19 19	21 27.9
14	10	8 39	20 42.4	28	11½	19 25	21 36.9
14	10	8 54	20 41.6	14	11	19 33	20 32.9
14	10	9 8	20 35.8	14	10	19 34	20 32.0
28	11	9 36	21 28.6	14	10	19 35	20 42.0
28	11	4 9 58	+21 28.0	28	11	4 19 37	+21 27.3

* January, 1849. † January, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
14	11	4 20 12	+20 46.4	28	10	4 33 33	+21 36.7
28	10½	20 31	21 41.7	28	9	33 48	21 23.9‡
14	10	21 6	20 31.1	28	9½	34 9	21 26.7‡
14	11	21 15	20 35.9	28	9	34 50	21 31.8‡
14	8	21 16	20 38.8	28	11	35 1	21 33.7
14	11	21 16	20 34.9	28	11	36 53	21 28.1
14	10	21 18	20 32.4	28	9½	37 13	21 18.5‡
28	10	21 33	21 37.5:	28	11	37 28	21 32.6*
28	11	21 36	21 31.5	28	11	38 27	21 30.5
28	12	21 42	21 31.5	28	11	38 54	21 33.7
28	10	21 44	21 35.6	28	10½	39 59	21 23.3‡
28	10	22 23	21 30.7	28	10	40 42	21 25.1
28	11	23 1	21 26.9	28	10	41 40	21 36.9:*
28	11	23 9	21 27.0	28	10½	41 50	21 25.4‡
28	10	24 2	21 34.6*	28	11	42 1	21 23.7‡
28	10	24 29	21 20.6	18	9	52 27	22 52.6
28	11	25 31	21 32.9	18	10½	52 56	23 3.9
28	10½	25 32	21 28.2†	22	10	53 10	22 11.8
28	10	25 32	21 18.0‡	18	10½	53 11	23 6.5
28	10	25 43	21 18.3‡	18	11	53 14	23 8.2
28	11	27 2	21 23.1	22	10	53 38	22 18.0
28	10½	27 52	21 22.6‡	22	11	53 47	22 27.4
28	10½	28 12	21 24.0	18	10	54 7	22 55.1
28	11	28 16	21 23.3	22	10	54 8	22 24.2
28	10	28 29	21 22.1‡	18	10	54 29	23 8.7
28	10	28 42	21 25.3‡	18	11	54 44	23 6.4
28	11	29 15	21 37.9	22	10½	54 49	22 12.6
28	11	29 38	21 20.0	22	9	54 57	22 18.8
28	10½	29 43	21 35.1*	18	10	55 2	23 9.4
28	11½	30 8	21 37.1	18	10	55 17	23 6.8
28	10	31 20	21 38.6*	22	11	55 23	22 15.8
28	11	31 32	21 35.8*	22	10½	55 34	22 15.0
28	11	32 20	21 36.5	18	11	55 54	22 51.3
28	10½	32 38	21 21.5‡	18	7	56 35	22 50.9
28	10	4 32 49	+21 23.2	18	11	4 56 36	+23 6.9

* January, 1849. † (4). ‡ January, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	10	4 56 37	+22 27.2	18	11	5 9 10	+22 57.3
18	11	56 43	23 3.3	18	11	9 25	23 7.1
22	10	56 47	22 24.6	22	10	9 26	22 20.7
22	9	56 59	22 16.3	22	11½	9 38	22 12.8
22	10	57 47	22 12.4	22	11½	9 47	22 14.5
18	9½	57 54	22 53.9	18	10	10 49	23 3.3
22	9	58 10	22 11.2	18	11	10 50	22 52.4
18	9	58 34	23 4.6	22	11½	10 57	22 17.1
22	11½	58 48	22 25.9	22	12	11 19	22 19.2
18	12	58 51	22 57.5	18	10	11 22	23 3.1
22	11	59 5	22 25.7	22	11½	11 22	12 15.3
22	10	59 17	22 26.4	18	10	11 25	23 8.3
22	9	5 0 28	22 18.3	18	10½	12 20	23 7.7†
22	10½	0 32	22 15.2	18	9½	12 43	23 7.8
22	10½	2 4	22 29.5	22	12	12 51	22 14.2‡
18	9	2 5	22 54.8	18	9	13 0	22 47.9
22	10½	2 20	22 24.4	22	11	13 48	22 13.0
22	11	4 55	22 20.0	22	11½	14 6	22 17.8
22	11	5 10	22 22.0*	22	11	14 6	22 25.4
18	10	5 36	22 56.8	18	10	15 5	22 57.8
18	10	6 9	23 0.1	22	9	15 18	22 9.6§
22	10	6 26	22 10.4	18	10	15 19	22 59.6
18	10½	6 49	22 57.6	18	11	15 31	22 52.5
18	9	6 49	23 0.1	18	10	15 43	22 58.8
22	10	6 52	22 25.3	22	11	16 27	22 23.5
22	10½	6 58	22 26.6	22	11	16 45	22 21.7
22	11	7 22	22 15.6	18	11	16 59	22 56.1
18	11	7 33	22 57.8	18	9	17 26	22 54.5
18	11	7 38	22 57.4	22	10	17 36	22 23.6
22	11	7 46	22 12.2	22	10	17 41	22 25.0
18	11	8 8	22 54.8	22	10	17 48	22 12.1
22	9	8 28	22 24.4	22	9	18 0	22 15.3
22	10	8 40	22 26.8	18	12	18 40	22 55.7
18	11	8 43	23 1.2	18	12	19 32	23 9.2
22	10	5 9 6	+22 21.0	18	10½	5 19 35	+23 9.0

* (4). † Small Star N. ‡ Double. § January, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
22	12	5 20 5	+22 13.7	22	9	5 28 2	+22 24.6
22	11	20 15	22 15.4	22	9	28 7	22 29.1
18	11½	20 35	23 7.7	18	10½	28 15	23 1.0::
18	11½	20 37	23 8.7	22	9	28 21	22 21.6
18	11	20 47	23 9.0	22	8	28 56	22 22.2
22	11	20 57	22 24.5	22	9	29 25	22 19.1*
18	11	21 22	22 53.1	18	11	29 52	22 54.7
18	11	21 37	22 52.8	22	10	30 6	22 13.7
22	8½	21 39	22 14.9	18	10	30 25	23 1.2
22	10½	21 54	22 12.0	22	8	30 59	22 26.8
18	9	21 58	23 5.5	22	9	31 26	22 21.7
18	10	22 3	23 8.6	18	11	31 32	23 7.6
18	10	22 31	22 55.0	22	9	31 55	22 11.0
22	9	22 45	22 28.4	18	11½	31 59	22 54.7
22	10	22 51	22 24.4	18	9½	32 26	22 56.4
22	9	23 12	22 27.8:	22	10½	32 43	22 16.9
18	10	23 24	22 59.1*	22	10½	32 54	22 17.8
18	10	24 5	23 6.9	18	10	32 57	22 54.9
18	10	24 30	23 3.6	18	10	33 1	22 55.8
22	9	24 41	22 20.8	22	8	33 12	22 17.3
22	10	24 42	22 28.6	18	–	33 14	23 5.5::
22	8	24 58	22 18.7	18	11	33 25	22 55.7
22	10	25 11	22 26.6	18	11	33 31	22 57.0
22	10½	25 19	22 12.9	18	10	34 35	22 54.7
18	11	25 34	23 7.2	22	10	34 40	22 15.4
18	11	25 43	23 5.7	22	10	34 46	22 18.2
22	8	25 54	22 27.7	22	10	34 59	22 13.4
18	10	26 32	22 58.4	18	9	35 33	22 56.8
18	11	26 50	22 57.6	18	9	35 42	23 4.5
22	11	27 2	22 12.5:	22	10½	35 51	22 25.3
22	10	27 4	22 15.5	22	10	36 0	22 15.3
18	10½	27 48	23 4.6	22	9	36 46	22 24.8
22	9	27 52	22 21.1	18	10	37 14	22 58.3
18	10½	27 57	23 3.4	18	10	37 20	23 3.3
18	10½	5 28 1	+23 5.5	22	10	5 37 40	+22 10.5

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10	5 37 48	+22 53.5	18	9	5 45 28	+22 55.2
18	9	38 5	23 6.6	14	10	45 40	23 43.1
22	11	38 31	22 17.7	18	10½	45 59	22 55.0
22	10	39 9	22 12.3	14	11	46 5	23 33.6
22	9	39 21	22 20.9	18	9	46 12	22 52.5
18	11	39 32	23 4.1	22	11	46 19	22 13.3
22	9	39 44	22 11.4	14	10½	46 20	23 35.3
22	9	39 48	22 25.6	14	11	46 31	23 35.4
18	10½	39 49	23 10.0	18	10	46 31	23 5.9
18	10	39 58	23 6.7	14	11	46 44	23 36.0
18	9	40 47	22 55.5	22	10	46 54	22 18.7
22	11	40 51	22 14.2	18	10½	46 56	23 8.5
18	9	40 53	22 54.4	22	10	46 57	22 19.2
22	9	40 59	22 30.4	14	11	47 9	23 35.5
22	9	41 19	22 26.6	22	10	47 19	22 18.1
18	10	41 26	23 5.4	22	9	47 27	22 25.3
22	9	41 43	22 25.0	14	10	47 37	23 31.7
18	10	41 58	23 7.1	18	9	47 42	23 5.2
18	11	42 22	22 59.7	14	9½	48 3	23 37.2
22	10	42 25	22 24.1	18	11	48 9	23 1.5
14	10	42 35	23 49.6	18	10½	48 20	23 5.1
22	9	42 55	22 25.6	22	10	48 22	22 10.1
14	11	43 5	23 46.0	18	9	48 23	23 7.4
22	10	43 39	22 24.7	22	11	48 28	22 13.5
22	9	43 42	22 13.6	14	10	48 30	23 31.9†
18	10	43 50	23 6.9	14	10	48 31	23 40.3
14	10	43 54	23 41.1*	22	10	48 42	22 13.1
18	10	43 56	22 57.7	18	12	49 18	22 53.9
18	10	44 5	23 5.2	22	10	49 22	22 13.0
22	9½	44 8	22 15.8	22	10	49 35	22 23.8
14	11	44 10	23 41.0	22	11	49 42	22 24.2
14	10	44 17	23 33.8	18	11	49 59	22 52.7
22	9	44 33	22 12.5	18	10	50 1	23 1.5
22	10	44 35	22 12.2	14	10	50 9	23 48.5
14	10½	5 44 45	+23 41.6	14	10	5 50 19	+23 44.3

* (4).

† *f.* of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11	5 50 25	+23 10.0	22	9	5 56 31	+22 16.6
22	10	50 30	22 10.3*	18	11	56 32	23 2.3
18	11	50 38	23 8.5	18	11	56 36	22 56.2
22	10	50 40	22 11.8	14	10	57 24	23 47.0
18	11	51 19	23 7.0	18	10½	57 32	23 2.2
22	10	51 36	22 21.8	14	11	57 48	23 45.1
22	9	51 45	22 17.9	22	11	57 57	22 21.5
14	10½	51 47	23 34.0	22	10½	58 1	22 25.8
14	10½	51 49	23 44 7	18	10	58 6	23 1.6
22	9½	51 57	22 16.2	22	9	58 7	22 25.9
18	11	52 14	22 54.9	18	10½	58 43	22 59.6
18	9	52 21	23 7.9	18	10½	58 47	22 59.5
18	9	52 40	23 7.7	14	9	58 48	23 40.9
22	10½	52 55	22 13.2	22	10	59 19	22 13.2
14	10	53 0	23 35.7†	14	9½	59 24	23 41.8
18	12	53 8	22 55.8	18	9½	59 24	22 59.4
22	10½	53 9	22 16.1	22	9	59 31	22 28.7
22	10	53 35	22 13.5	22	10	6 0 22	22 27.0
18	9	53 48	22 57.9	14	11½	0 36	23 35.2§
14	11	54 5	23 41.0	18	10	1 13	23 9.2
14	11	54 11	23 37.2	14	10	1 15	23 34.3
18	10	54 16	23 2.3	18	10	1 15	23 6.2
14	10	54 18	23 48.6	22	10	1 20	22 23.6
22	10	54 21	22 13.5	14	9½	1 23	23 47.6
22	10	54 30	22 13.0	22	8	1 43	22 23.1
14	11	54 40	23 42.0	22	9	1 58	22 25.4
18	10	55 12	22 56.9	22	9	2 16	22 25.2
22	10	55 17	22 11.3:	18	10	2 22	23 2.1
22	10	55 44	22 12.2	18	10½	2 31	23 3.1
14	10	55 46	23 43.9	14	10½	2 38	23 42.0
22	9	55 51	22 18.9‡	18	11	3 5	23 5.1
14	10½	55 56	23 40.7	22	9	3 31	22 22.2
14	10	56 22	23 43.1	22	9	3 32	22 29.1
14	10	56 24	23 32.6	14	10	3 47	23 38.0
18	9	5 56 24	+23 0.5	22	9	6 3 50	+22 29.7

* January, 1849. † *p.* of 2. ‡ (4). § *f.* of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11½	6 4 14	+23 5.4	14	9	6 19 40	+23 40.4
14	9	4 19	23 39.8	14	9	19 53	23 30.2
18	10	4 20	23 8.1	14	10	20 44	23 39.1
18	11	4 35	23 6.6	14	10	20 59	23 34.2
14	10	4 40	23 30.6	14	10	21 52	23 47.5
18	10	5 9	23 7.3	14	11	22 31	23 32.9
18	10	5 29	22 56.6	14	11	23 24	23 31.1
14	10	5 34	23 33.8	14	10½	23 56	23 38.2
14	10	5 35	23 46.9	14	11	23 59	23 30.4
14	10	5 57	23 36.5	14	11	24 31	23 36.4
18	11	6 31	22 55.0	14	10	25 2	23 41.0
18	10	6 46	22 57.4	14	10½	27 4	23 35.2
14	10	6 50	23 49.5	14	10½	27 7	23 36.9
14	10	7 4	23 34.9	14	10	27 11	23 47.0
14	10	7 8	23 39.1*	14	10½	27 13	23 35.1
18	10½	7 12	23 3.2	14	9	28 33	23 38.1
18	10½	7 12	22 59.7	18	9	28 34	22 50.1
18	–	7 54	23 1.5	14	8	28 45	23 43.5
18	10	8 4	22 59.8	18	11	29 28	23 8.4
14	10	8 22	23 50.1	18	11	29 29	22 56.5
14	10	8 26	23 44.8	14	10	29 57	23 45.5
18	9	8 53	22 59.7	18	10	29 59	23 5.4
18	10	9 34	23 3.7	14	9	30 14	23 34.3
14	10	10 35	23 40.2†	14	11	30 23	23 43.9
14	10	11 58	23 41.6	14	10	30 35	23 45.9
14	10	12 0	23 46.8	18	10½	30 39	22 58.0
14	10	12 13	23 39.9	18	10	30 44	23 7.9
14	10½	13 34	23 44.0	18	9½	31 8	23 5.3
14	10	13 50	23 34.5	18	9½	31 25	23 2.8
14	10½	14 15	23 35.0	14	9½	31 55	23 32.9
14	11	17 0	23 48.0	18	10	31 55	22 51.2
14	9½	17 21	23 46.8	14	10	32 18	23 44.0‡
14	10	18 16	23 47.3	14	10	32 42	23 33.6
14	10½	18 49	23 42.9	14	11	33 11	23 46.2
14	9	6 18 59	+23 30.4	18	10	6 33 26	+23 4.5

* Small Star close. † (4). ‡ *p.* of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10½	6 33 45	+23 4.7	18	10	6 45 18	+23 9.8
14	10	34 7	23 44.4	18	11	45 55	22 51.7
14	10	34 31	23 34.2	18	11	46 29	23 5.8
18	10	34 37	23 6.7	18	10	46 43	23 3.9
14	10	34 40	23 35.0	18	10	47 7	23 8.6
14	10	34 55	23 31.3	18	10	48 5	22 57.3
18	10	35 21	22 58.0	18	10½	48 10	22 55.2
18	11	36 44	22 57.2	18	9	48 22	22 54.7
18	10	37 6	22 56.5	18	11	49 35	23 2.9
18	11	37 40	22 54.4	18	9	49 57	23 4.5
14	11	37 57	23 43.5	18	10	49 57	22 51.6:
14	11	38 15	23 33.3	18	10	51 7	22 50.6
14	11	38 42	23 35.9	18	9½	51 8	22 56.6
18	10	38 46	23 3.7	18	10	51 20	22 56.1
18	10½	38 52	22 54.6	18	8½	51 43	23 8.6
14	10	39 21	23 35.9	18	10	52 28	22 54.3
14	10	39 44	23 37.0	18	9	52 41	22 48.1
18	11	40 7	23 6.0	18	12	53 26	22 50.7
14	11	40 8	23 39.1	18	12	53 49	22 51.7
14	10	40 22	23 41.9*	18	10	54 5	22 51.5
18	11	40 59	22 54.4	18	11½	54 42	22 51.3
18	10	41 3	23 9.7	18	12	54 45	22 54.6
18	11	41 13	23 6.0	18	9	55 31	22 58.8::
14	11	41 30	23 33.5	18	10	55 55	23 5.9
14	11	41 46	23 33.1	18	8	56 17	22 51.2
14	11	42 3	23 35.1	18	10	57 32	23 5.2
18	9	42 10	22 56.5	18	10	57 51	23 8.4
18	10½	42 41	22 57.0	18	11	59 9	23 3.6
18	10	42 46	23 5.6	18	11	7 0 18	23 5.4
14	11	43 20	23 34.3	18	10	0 50	23 5.9
14	10½	43 23	23 47.5	18	10	0 53	23 8.9
14	10	43 54	23 35.9	18	10	2 34	22 54.8
18	10½	44 1	23 5.9	18	10	2 37	22 52.6
14	11	44 6	23 30.1	18	9	3 39	22 51.9
18	9	6 44 39	+23 4.3	18	10	7 4 1	+23 11.4

* Small Star p.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10	7 4 19	+23 2.9	18	11	7 18 31	+23 5.5
18	9	4 20	23 11.8	14	10	18 40	22 26.5
18	11	5 15	23 10.0	14	8	18 43	22 26.4
18	11	5 23	23 6.4	18	10	18 50	23 2.3
18	9	5 35	22 59.7	14	10	19 7	22 24.6
18	11½	5 40	23 8.5	14	10½	19 37	22 28.8
18	10	7 13	22 55.1	18	11	19 39	23 5.4
14	11	7 47	22 13.6	14	11	20 23	22 16.3
18	9½	7 47	22 57.5	14	11	20 30	22 16.7
14	11	8 30	22 25.9	14	11	20 46	22 26.6
14	10	8 30	22 28.8*	18	10	21 2	22 56.0
18	10	8 40	23 6.7	18	11	22 21	23 8.9
14	10½	9 3	22 26.7	18	11	22 26	23 6.4
14	11	9 16	22 12.9	18	10½	23 8	23 5.0
18	9½	9 59	22 58.8	18	9	23 31	23 6.8
18	10	10 4	22 57.1	18	9	24 4	22 52.1
18	11	10 12	22 59.0	18	9½	24 31	23 9.0
18	10	10 57	23 1.9	18	10	25 28	23 7.3
14	10	11 3	22 25.8	18	11½	26 50	22 56.5
18	10	11 43	23 8.4	18	11	27 9	22 55.9
14	10	12 25	22 8.3	18	9	28 4	22 54.6
14	11	12 33	22 17.4	18	9	29 18	23 8.9
18	11	12 42	23 3.6	18	11½	29 25	22 57.6
14	10	13 8	22 27.4	18	10	29 55	23 5.4
18	9	14 7	23 6.2	18	10	30 12	22 55.1
18	12	14 47	23 5.3	18	10	30 34	22 56.7
14	11	15 2	22 27.9	18	11	31 17	22 57.6
18	9½	15 10	23 7.0	18	9½	31 44	23 4.3
14	11	15 41	22 14.4	18	10	32 25	23 5.6
18	10	15 50	23 9.3	18	11	33 57	22 53.5
14	11	15 51	22 19.3	18	10½	34 5	22 59.4
18	10	16 3	23 5.7	18	9	34 37	23 3.9
14	11	16 7	22 23.3	18	11	35 32	22 54.0
14	10	16 36	22 21.6	18	10	35 36	22 59.4
18	11	17 18	22 58.1	18	9	37 35	22 54.3
14	10	17 34	22 14.5	18	11	38 58	22 57.2
18	11	7 17 57	+23 3.8	18	10½	7 39 4	+22 50.0

* March, 1849.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

959 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	3 19 18	+19 19.0*	30	10	3 32 36	+20 6.4
2	11	19 25	19 14.3	30	10	33 32	20 3.1
2	9½	19 36	19 15.0*	2	9	33 37	19 22.4
2	9	19 43	19 19.0†	30	10	33 46	20 4.7
2	11	19 52	19 26.0	2	10	33 56	19 22.9
2	10	21 9	19 11.4*	30	10½	35 0	20 3.5
2	11½	21 16	19 23.1*	30	10½	35 17	20 2.4
2	10	21 20	19 26.9*	30	11	35 14	20 9.6
2	11	22 46	19 8.6	2	9	36 13	19 21.3‖
2	11	24 7	19 16.3*	2	11	36 36	19 21.7
2	11	24 11	19 15.8*	2	11	36 37	19 17.4
2	10½	24 45	19 15.1*	30	11	36 46	19 57.8
2	10½	24 53	19 12.8	2	9	36 53	19 24.3
2	9	26 19	19 18.3‡	30	11	37 1	19 58.4
2	10½	26 55	19 25.4*	30	10	37 15	19 50.8
2	10½	26 57	19 26.8*	2	10½	37 45	19 14.0
2	11	27 40	19 10.8	2	11	38 0	19 11.8
2	10½	28 16	19 11.1*	26	10½	38 1	20 12.4
2	10½	28 46	19 29.6	30	11	38 7	20 7.4
2	10	29 7	19 30.1*	26	11	38 8	20 12.9
2	10½	29 8	19 27.3*	26	9	38 17	20 19.1
2	10	30 4	19 24.4*	30	11	38 22	20 3.3
2	10	30 6	19 13.7*	30	10	38 45	20 6.8
2	10	30 7	19 25.9*	2	11	38 51	19 26.3
2	10	30 39	19 16.8*	2	11	38 58	19 25.0
2	11	30 54	19 11.6§	26	10	39 5	20 21.3
2	11	30 55	19 11.2	30	11	39 5	20 3.8
30	10	31 5	20 6.4	2	10	39 16	19 28.1
30	12	31 13	20 7.1	26	11	39 24	20 22.1
30	11	3 31 33	+20 7.6	30	10½	3 39 26	+20 4.9

* Jan. 1850. † (4). Jan. 1850. ‡ Reddish, 1st of 2. (4). Jan. 1850. § Nov. 1849. ‖ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	3 39 30	+19 24.7	26	9	3 45 13	+20 8.5
30	11	39 34	20 6.9	26	10	45 14	20 22.1
26	11	39 49	20 24.5	30	9	45 14	20 9.2
26	10	39 51	20 19.6	2	10	45 15	19 27.1
26	11	40 1	20 24.8	2	10½	45 27	19 22.0
2	10½	40 4	19 15.5	2	11	45 32	19 26.9
26	10	40 25	20 20.3	2	10	45 52	19 23.7
2	11	40 32	19 27.6	30	11	46 8	19 55.6
26	10½	40 43	20 17.7	2	11	46 13	19 13.7
30	10½	40 46	20 0.0	26	9	46 13	20 26.3
30	10½	40 53	20 3.6*	30	11	46 16	19 56.9
2	10½	41 19	19 17.4	26	10	46 34	20 14.6
26	10	41 20	20 15.8	2	10½	46 41	19 18.5
2	11	41 33	19 16.0	30	10	46 52	19 52.6
26	9	41 43	20 29.2	2	10½	46 53	19 32.7
2	11½	41 51	19 28.4	2	10½	46 55	19 32.0
30	10	41 55	19 55.4	30	11	47 0	19 58.3
2	11	42 2	19 21.7:	26	10	47 19	20 12.6
30	10	42 8	19 56.6	26	10½	47 27	20 13.5
26	9	42 17	20 29.2	2	9	47 49	19 17.1
26	10½	42 20	20 26.0	2	11	48 0	19 27.4
30	10	42 25	20 5.7	30	10	48 13	20 8.9
2	10	42 37	19 28.1	2	9	48 25	19 22.8
30	10½	43 18	20 6.8	2	9	48 32	19 11.7
26	10	43 23	20 15.9	26	11	48 36	20 14.0
26	11	43 26	20 30.9	26	10	48 37	20 12.7
26	10½	43 27	20 22.3::	2	11	49 46	19 12.9
26	11	44 8	20 13.7	30	11	50 3	19 56.4
30	12	44 19	20 6.4	30	11	50 5	19 57.8
30	11	44 24	20 6.6	2	10	50 6	19 18.4
26	11	44 25	20 15.6	30	10	50 13	20 2.3
26	9½	44 45	20 28.7	2	9½	50 24	19 11.2
26	10	44 52	20 18.4	26	12	50 28	20 13.2
30	10	44 52	20 4.2	26	11	50 37	20 27.3
2	11½	3 45 10	+19 27.1	2	10	3 50 42	+19 12.4:

* S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	11	3 50 49	+19 56.9	2	10	3 58 13	+19 11.0
2	10	50 50	19 9.1*	26	12	58 37	20 29.0
30	10	50 55	20 1.0	26	10½	58 52	20 17.6
26	10	50 56	20 26.9	26	10½	58 57	20 28.8
2	9	51 51	19 22.4	26	11	59 50	20 28.0
30	9	51 54	19 57.1	26	10	59 54	20 16.6
2	11	51 55	19 16.8	26	11	4 0 1	20 28.9
30	10	51 56	19 52.4	26	11	1 9	20 24.7
26	12	52 3	20 15.3	26	11	1 12	20 18.1
2	11	52 15	19 19.5	26	10	1 32	20 15.1
26	10½	52 31	20 27.1	26	11	3 5	20 17.2
26	10	52 35	20 22.3	26	10½	4 45	20 11.9
2	9	52 48	19 23.2	26	10	6 9	20 15.5
26	9½	52 49	20 10.8	26	10	6 36	20 21.4
2	11	53 18	19 27.1	26	9½	7 42	20 16.1
26	11	53 18	20 29.9	26	11	7 44	20 19.5
30	10	53 20	19 56.1	26	11	7 48	20 27.6
26	10	53 28	20 28.8	26	11	8 1	20 27.1
26	12	54 7	20 13.3	26	10	9 34	20 29.8
2	11	54 17	19 27.2	26	10½	9 39	20 22.7
26	11	54 18	20 26.4	2	11	10 7	22 8.5
2	11	54 24	19 24.7	2	11½	10 30	22 5.1
2	11	55 1	19 20.9	2	11	10 51	22 5.5
26	10	55 1	20 14.7	26	10½	11 9	20 18.7
2	9	55 5	19 23.4	2	10	11 11	22 7.9
26	10½	55 24	20 14.3	26	10½	11 17	20 24.6
2	10	55 43	19 19.8	26	11½	11 29	20 25.9
2	11	55 50	19 26.9	3	9½	11 57	20 53.0†
2	11	55 51	19 29.6	3	11	12 9	20 48.6
2	11½	56 31	19 27.7	2	10	12 19	21 55.5
26	11	57 1	20 19.7	3	10	12 22	20 49.3†
26	11	57 4	20 13.7	26	11	12 39	20 12.4:
2	10½	57 15	19 12.1	2	10½	12 45	21 59.3
2	9	57 33	19 27.9	2	10	12 47	21 57.4
26	11	3 57 48	+20 11.0	3	11	4 13 23	+21 4.4

* November, 1849. † January, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	10	4 13 37	+21 9.5*	3	11	4 22 30	+20 53.7
26	10½	13 38	20 21.7	2	10½	22 36	21 53.4
2	11	14 0	22 9.9	15	9	22 37	21 49.5
2	12	14 15	21 5.9	3	11	22 44	20 53.4
3	9	14 19	20 50.0	3	10	22 50	20 58.1
3	8½	14 30	21 1.4	2	11	23 9	21 52.7
3	9	14 55	21 2.6*	3	11½	23 41	20 52.1
3	10	15 11	21 4.9*	15	10	23 51	21 46.6
2	12	14 22	21 57.0	2	10	24 0	22 4.1
2	11½	15 44	21 54.4	15	12	24 2	21 41.8
3	10½	15 55	21 4.2	3	9	24 5	21 5.8
3	10½	16 28	21 0.8	2	10	24 31	21 56.1
2	10	16 29	21 53.7	3	10	24 44	20 49.8
3	10½	16 54	21 4.4	15	10	24 46	21 48.6
3	10½	18 7	21 9.9*	2	11	25 13	22 2.9
3	10	18 23	21 10.2	3	9	25 13	21 1.4
3	10½	18 24	21 9.3	15	10	25 15	21 51.3
2	10½	18 31	21 55.0	3	10½	25 23	21 7.2*
2	11½	18 44	21 55.5	15	11½	25 36	21 38.8
2	9	19 17	21 59.6	2	11	25 59	21 54.9
3	11	19 27	21 10.6	15	8½	26 4	21 38.8
2	10	19 31	22 6.1	3	11	26 12	21 3.3
2	10	20 1	21 53.2	3	10	26 20	20 51.3
2	10½	20 19	22 8.4	3	10	26 23	21 4.1
3	11	20 27	20 53.6	3	10	26 28	20 51.2
3	10	20 44	20 52.9	3	9	27 2	21 9.2
2	11	21 0	22 9.9	2	11	27 19	21 58.1
2	11	21 7	21 56.1	2	10	27 27	21 58.6
3	11	21 8	20 52.3	2	10½	27 27	22 2.8
3	9½	21 26	21 3.1	3	11	27 37	20 52.7
3	10	21 58	20 54.3	15	10½	27 39	21 41.8
2	10½	21 59	21 50.7	3	11	27 49	20 52.0
3	11	22 3	20 53.1	3	11	28 8	20 53.3
2	10	22 16	21 58.3	15	10	28 8	21 43.7†
2	10½	4 22 22	+21 52.1	15	10	4 28 17	+21 45.6

* January, 1850.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	4 28 36	+21 43.7	3	11	4 35 26	+20 57.0
2	10	28 55	22 12.2	2	9½	35 38	22 10.2
2	11	29 15	21 52.9	2	10½	35 42	22 3.5
3	9	29 40	20 49.8	15	11	35 49	21 36.8
3	9	29 46	20 55.3	3	10	36 13	20 55.1
15	10	29 53	21 45.3	15	11	36 18	21 44.3
2	10	30 3	22 1.2	2	11	36 26	22 6.4
3	11	30 14	21 1.3	3	11	36 28	20 56.0
2	11	30 21	22 3.3*	3	8	37 4	20 59.1
3	10½	30 37	21 7.5	3	9	37 8	21 3.5
15	11	30 39	21 46.6	3	8½	37 25	20 53.1
15	9	30 42	21 43.7	2	10½	37 26	21 55.3
2	9	30 57	21 58.6	15	10½	37 26	21 48.6
2	9½	31 10	21 58.6	2	11	37 45	22 4.0
3	10	31 15	20 46.7	2	9½	37 48	22 3.8
3	10	31 27	20 46.9	15	11	38 12	21 37.5
3	9½	31 36	20 48.8	15	10	38 18	21 47.8
15	11	31 49	21 47.6	3	10	38 27	20 51.6
2	10½	31 52	22 3.2	3	10½	38 34	21 0.6
2	10	32 23	22 7.4	15	9½	38 54	21 40.5
2 15	10	32 30	21 54.0	15	9	39 5	21 53.7
3	9	32 49	20 52.2	3	11	39 43	20 54.2
3	9	32 55	20 59.1†	3	9	39 48	20 49.8
15	10	32 56	21 51.2	15	11	40 22	21 40.8
15	11	33 5	21 51.4	2	11	40 34	22 2.9*
2	10	33 13	21 56.3	2	10	40 48	22 7.7
3	9	33 18	20 50.6	3	11	40 51	21 3.0
2	11	33 41	21 57.3	3	11	41 25	21 0.0
15	11	33 48	21 47.2	3	9	41 26	20 49.0
3	11	34 7	20 53.1	2	12	41 28	22 8.7
15	9½	34 20	21 43.3†	2	10	41 33	22 12.2
3	11	34 36	21 2.2	3	11	42 1	21 7.3
2	11	34 51	21 58.9	15	10½	42 22	21 37.1
2	11	35 2	21 57.8	3	10	42 50	20 54.0
2	11	4 35 9	+21 52.9	3	9	4 42 53	+20 55.4

* Double. † (4).

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	12	4 42 57	+22 5.1	2	11	4 48 32	+21 50.9
15	10	43 2	21 51.7	3	10	48 36	21 6.8
	10	43 5	21 40.4	2	10½	48 51	21 51.2
	10½	43 8	21 0.1	15	10	48 51	21 52.2
	9½	43 20	21 3.3	15	10	48 54	21 35.1
	9½	43 22	22 0.6	15	11	49 28	21 36.6
	9	43 32	21 48.6	3	10	49 39	21 6.1
	9	43 57	20 52.4	3	10	49 46	20 52.9
	9	44 5	21 59.0	15	11	49 52	21 39.2
	9	44 9	21 38.1	15	11	49 54	21 35.6
	11	44 12	21 49.8	3	10	50 24	20 48.9
	11	44 15	21 48.7	3	11	50 40	20 52.6
	10	44 29	21 59.9	15	10	50 51	21 41.8
	11	44 45	20 54.3	15	10	50 55	21 49.1
	11	44 46	21 55.5	3	9½	51 7	20 51.2
	11½	45 0	20 52.2	15	9	51 21	21 44.6
	11½	45 23	20 52.6	15	11	51 33	21 32.2
	12	45 29	22 8.7:	15	10½	52 7	21 52.3
	9	45 30	21 30.0*	3	9	52 13	20 48.5
	9	45 42	21 6.6	3	11	52 14	20 59.3
	11	45 49	22 10.4	3	11	52 15	21 1.8
	10	46 15	21 4.1	15	10	52 50	21 32.8
	10	46 21	20 53.1	15	10	52 58	21 34.7:
	10	46 53	21 37.9	15	10½	52 59	21 44.9
	10½	47 5	21 0.0	15	9½	53 29	21 49.8
	10	47 9	21 44.9	3	9½	54 17	20 57.0†
	11	47 13	21 7.1	3	10	54 29	21 3.2
	9	47 19	22 3.2	3	10	54 37	20 59.6†
	10	47 27	21 48.0	15	11	54 42	21 37.3
	11	47 41	21 55.8	15	–	54 59	21 40.2
	10	47 45	21 6.0	15	10	55 0	21 38.7
	9½	47 49	21 43.8	15	10	55 8	21 36.1
	10	48 2	20 54.9	15	10	55 43	21 41.8‡
	11	48 16	21 50.4	15	11½	56 17	21 44.0
	10½	4 48 28	+21 57.2	15	10	4 56 17	+21 45.3

* Double. † (4). ‡ S. of 2.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	
		h. m. s.	° ′			h. m. s.	
15	10	4 57 13	+21 50.4	2	10	5 31 52	+21
15	11	57 31	21 46.4	2	9	32 33	21
15	9	57 55	21 35.4	2	10	32 38	22
15	9½	58 22	21 44.1	2	10½	32 52	22
15	9	58 32	21 49.7	2	10½	32 58	22
15	10	58 51	21 35.8	2	11	32 59	22
15	10	5 0 7	21 39.7	2	10½	33 31	22
15	11	0 9	21 41.0*	2	9	34 19	22
15	9½	0 48	21 43.2	3	11½	34 50	24
2	10½	15 12	21 59.5	3	10½	35 7	24
2	10½	16 19	21 57.9	2	9	35 11	21
2	10	16 40	22 2.6	3	11	35 18	24
2	10½	17 54	21 53.4	3	10½	35 26	24
2	10	19 30	22 11.8	2	9½	35 52	21
2	11	19 36	21 57.6	2	11	36 0	22
2	10½	20 26	22 8.5	3	8	36 3	24
2	10½	20 37	22 8.0	3	11	36 44	24
2	10	21 44	21 57.8	2	9	37 8	22
2	11	23 0	22 6.9	3	10½	37 24	24
2	11½	23 18	21 56.8	3	10	37 26	24
2	11	23 41	21 58.2	3	10½	37 30	24
2	11	23 51	22 4.8	3	10	37 55	24
2	11	24 32	22 5.2	2	9	38 9	21
2	10	24 49	22 9.6	3	11	38 33	24
2	11	24 53	22 7.2	2	11	38 40	21
2	9	28 4	22 1.0	3	9½	38 45	24
2	11	28 55	21 59.9	2	9½	38 54	21
2	11	29 16	22 1.5	3	11	39 10	24
2	11	29 28	21 57.1	3	9	39 22	24
2	11	29 32	21 59.4	2	10	39 39	21
2	10	29 59	22 3.4	2	10	39 59	21
2	10½	30 8	22 2.1	2	10	40 16	22
2	11	30 10	22 5.6	3	10½	40 24	24
2	9	31 22	22 12.5	3	10½	40 26	24
2	11	5 31 27	+22 5.1	2	12	5 40 57	+21

* Double.

† v. red. See note on Observations

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	9½	5 41 1	+22 2.8	3	12	5 48 53	+24 28.5
3	10	41 14	24 20.9	19	9	49 23	24 46.6
2	10½	41 15	21 52.0	2	11	49 28	21 54.0
3	11½	41 19	24 26.2	3	11	49 32	24 24.1
3	11	41 30	24 26.7	3	11	49 36	24 26.9
3	10½	41 46	24 24.6	19	12	49 52	24 46.7
3	10	42 12	24 26.8	19	11	49 57	24 50.8
2	11	42 49	22 7.4	2	10½	50 30	22 10.4
2	10	43 9	22 7.9	3	10	50 30	24 14.3
2	10	43 21	21 53.3	2	11	50 31	22 5.7
3	10	43 25	24 10.9	2	11	50 31	22 7.0
2	11	44 1	22 7.7	19	11	50 55	24 30.6
2	10	44 13	21 52.6	2	9	51 8	21 59.5
2	9	44 18	22 2.1	2	9	51 18	22 1.8
3	11	44 30	24 16.0	3	10½	51 21	24 21.3
2	10	45 0	22 4.2	19	10	51 21	24 45.9
3	10	45 7	24 17.4	2	9½	51 23	21 54.7
3	11	45 34	24 18.8	3	10	51 33	24 14.9
2	10	45 47	21 52.8	19	10½	51 51	24 46.2
3	11	45 53	24 23.5	3	11	52 1	24 25.7
3	11	46 8	24 26.2	3	10	52 6	24 24.1
2	10½	46 12	21 53.9	3	10½	52 30	24 25.9
19	11	46 36	24 46.4	2	11	52 36	21 54.3
2	10	46 59	22 6.5	19	11	52 37	24 32.9
3	10½	47 1	24 27.1	19	11	52 52	24 46.4
3	10½	47 2	24 29.0	19	11	52 55	24 32.8
19	11	47 13	24 41.9	2	11	52 58	21 52.4
19	11	47 18	24 36.9	3	11	53 8	24 24.6
2	11	47 25	21 53.8	2	11	53 10	21 52.1
3	10	47 29	24 23.3	19	10½	53 13	24 46.0
19	10	47 51	24 35.7	3	11	53 59	24 21.5
2	11	47 54	21 56.7	3	10	54 0	24 17.1
3	11	48 15	24 10.3	3	10	54 4	24 12.7
2	10	48 24	21 55.8	19	12	54 9	24 49.1
19	9½	5 48 26	+24 44.3	19	11	5 54 25	+24 49.6

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	5 54 58	+21 54.9	19	10½	6 0 45	+24 38.3
3	11	55 7	24 28.2:	15	10	0 52	21 42.8
19	12	55 24	24 37.5	3	11	1 2	24 26.1
3	10	55 27	24 21.6	19	10½	1 16	24 33.5
2	10	55 42	21 53.3:	2	11	1 22	22 10.1
19	10½	55 45	24 32.1	2	10	1 24	21 58.9
19	12	55 48	24 45.1	2	11	1 25	22 10.2
2	9	55 50	22 1.7*	2	10½	1 34	21 58.2
2	10	56 12	21 51.0	3	10½	1 46	24 21.7
15	10	56 33	21 53.3	3	10½	2 8	24 22.7
3	10	56 35	24 18.9	2	11	2 18	22 3.7
3	10	57 21	24 27.4	15	10	2 42	21 39.5
19	12	57 31	24 45.4	2	10½	2 55	22 4.1
15	10½	57 32	21 47.0	15	10	3 1	21 40.3
2	9½	57 34	22 1.6	3	11	3 12	24 29.8
3	10	57 35	24 28.6	3	10	3 31	24 16.2
15	11	57 39	21 48.6	15	9	3 36	21 43.7
3	9½	57 44	24 19.3	3	9	3 37	24 27.5
19	10½	57 45	24 33.2	2	12	3 42	21 52.5
15	10	58 33	21 46.5	2	11	3 49	21 58.3
3	10	58 36	24 12.1	2	10½	4 7	21 56.1
3	10	58 36	24 10.6	3	10½	4 28	24 10.6
15	10½	58 37	21 48.2	15	11	4 45	21 36.6
3	10	58 43	24 14.8	3	10	4 57	24 20.0
2	10	59 15	22 6.7	3	11	5 2	24 29.0
19	11	59 33	24 37.7	2	10½	5 7	21 51.5
2	11	59 53	22 9.8	15	11	5 13	21 37.2
15	10	59 55	21 38.7	2	11½	5 16	21 56.9
2	9	6 0 1	22 4.5	3	10½	5 20	24 26.7
3	8	0 4	24 26.8::	2	11	5 36	21 56.3
19	10	0 6	24 38.2*	3	10½	5 37	24 27.4
19	10	0 8	24 35.8	3	11	6 29	24 14.3
2	10	0 25	21 54.2	15	10	6 43	21 46.0
3	10	0 33	24 9.6	3	11	6 48	24 25.4
15	9	6 0 45	+21 50.2	2	11	6 6 57	+21 49.4

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	9	6 6 57	+24 15.1	2	11	6 13 18	+21 52.6
	11	7 9	21 57.0	2	9½	13 22	22 2.5
	10	7 18	24 12.5	15	11	13 32	21 37.8
	10	7 46	21 58.9	15	10½	13 44	21 45.6
	10	8 9	22 7.1	3	11	13 56	24 16.6
	10½	8 36	24 22.0	19	10	13 57	24 36.4
•	11	8 50	21 43.5	3	11	13 59	24 15.9
	10	8 59	21 45.5	15	10	14 1	21 33.0
	10	9 5	21 53.6	3	11	14 26	24 13.0
	11	9 9	24 36.1	2	10½	14 43	22 6.0
	11	9 23	24 32.1	15	10	15 3	21 50.1
	10	9 25	21 53.1:	3	10½	15 4	24 24.1
	9½	9 32	21 42.4	15	10½	15 4	21 48.0
	10	9 40	21 52.9	19	10	15 20	24 50.0
	11	10 6	21 45.5	3	10	15 25	24 29.7
15	9	10 8	21 48.1	19	11	15 36	24 47.0
	10½	10 20	24 26.6	15	10	16 8	21 34.1
	11½	10 25	24 16.6	15	10	16 12	21 41.0
	9	10 43	22 10.0	2	10	16 13	22 6.1
	11	10 48	22 8.6	15	9	16 23	21 39.6
	10	10 52	24 16.9	2	9	16 25	21 59.3
	8	10 53	24 37.4	15	10½	16 35	21 37.3*
	11	11 5	21 59.5	3	10½	16 40	24 23.1
	9	11 8	21 34.6	3	10	16 58	24 24.2
	10	11 17	24 33.6	19	10	17 5	24 47.7
	10	11 22	24 26.6	15	10½	17 10	21 43.0
	10½	11 59	21 42.7	3	9	17 44	24 18.4
	10½	12 4	22 1.8	3	10	17 49	24 26.2
	10	12 4	24 26.5	2	9	18 9	22 7.8
19	9½	12 7	24 28.5	19	10½	18 9	24 35.7
	11	12 23	22 5.9	2	9	18 14	22 4.2
	10	12 53	24 24.1	3	10	18 14	24 17.3
	11	12 53	21 43.5	19	10	18 18	24 37.0
	9½	13 4	24 18.3	3	9	18 34	24 24.9
	10½	6 13 7	+21 37.1	2	9	6 18 35	+21 58.8

* Double.

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
15	11½	6 18 54	+21 45.2
15	11	19 18	21 46.9
15	11	19 19	21 43.0
15	9½	19 38	21 40.5
15	10	19 56	21 40.2
2	12	20 0	22 2.7
2	10	20 18	21 50.1
3	10	20 32	24 27.2
3	11	20 37	24 21.0
15	11	20 52	21 40.5
3	10	20 53	24 26.1
2	11	21 13	21 51.6
15	9½	21 14	21 46.7
3	11	21 19	24 13.2
2	10½	21 20	21 57.4
2	9	21 24	21 51.5
3	10	21 32	24 12.6
3	9	21 39	24 28.9
15	11	21 41	21 44.2
15	11	22 7	21 42.9
2	9	22 8	21 58.9
2	10	22 14	21 54.1
3	11	22 18	24 26.6:
3	10	22 21	24 25.3
3	11	22 33	24 13.7
3	12	22 58	24 11.6:
15	11	23 8	21 48.4
2	10	23 21	22 7.5
2	11	23 34	22 7.2
3	12	23 45	24 12.1
2	11	23 46	22 8.2
3	9	23 50	24 23.7
15	10	23 54	21 45.3
15	10½	23 54	21 31.8
15	10½	6 23 55	+21 34.4
2	10	6 24 21	+22 7.5
2	10	24 33	21 57.8
2	10	24 37	22 7.9
3	10	24 38	24 10.2
3	10	25 0	24 17.0
3	9	25 37	24 15.4
3	9½	25 44	24 24.4
2	9	26 15	22 3.9
2	9½	26 28	22 2.6
2	9½	26 43	22 1.1
15	10½	27 0	21 36.9
15	10	27 5	21 50.7
2	10½	27 6	22 2.2
3	11	27 22	24 27.3
3	9	27 30	24 17.3
3	11	27 38	24 14.1
2	10½	27 48	21 52.4
15	11½	28 4	21 47.1
2	9	28 23	22 8.4
3	11	28 38	24 25.9
15	11	28 48	21 33.5
3	9½	29 17	24 28.3
3	11	29 58	24 16.7
15	11	30 0	21 33.9
2	11	30 3	22 4.2
15	11	30 3	21 36.0
3	11	30 4	24 14.1
3	11	30 4	24 12.0
15	11	30 17	21 36.1
3	11	30 29	24 11.5
3	9	30 46	24 9.1
15	11	31 4	21 31.7
2	10½	31 29	21 57.5
2	10½	31 44	21 57.0
2	11	6 31 58	+22 2.9

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	9	6 32 3	+24 12.8	3	11	6 46 30	+24 26.0
	10½	32 11	24 21.4	3	9	47 24	24 24.1
	11	32 24	21 37.3	3	10	48 33	24 27.1
	10	32 32	21 48.7	3	10	48 36	24 27.6
	11	33 3	24 26.6	3	10	49 9	24 27.5
	10	33 25	24 14.8	3	11	49 19	24 29.5
	11	33 48	21 39.5	3	11	50 10	24 21.6
	9	33 51	24 16.4	3	9½	50 12	24 15.3
	10	34 0	21 43.9	3	11	50 17	24 11.6
	11	34 1	24 10.8	3	10	51 20	24 28.1
	10	34 28	21 42.2*	3	11½	51 50	24 16.5
	9	35 8	24 28.9	3	11½	51 52	24 15.3
	8½	35 25	24 14.2	3	10	52 26	24 20.6†
	12	35 54	24 20.0	3	12	54 38	24 27.1
	9	36 28	24 16.6	3	12	55 30	24 28.5
	10	36 39	21 40.6	3	12	55 37	24 29.0
	11	36 47	24 15.0	3	9½	56 25	24 26.6
	11	36 59	21 42.1	3	9	57 14	24 21.5†
	9½	37 17	21 40.9	3	10	57 45	24 12.0
	10½	37 26	21 39.3	3	10	57 52	24 17.2
	9	37 40	24 18.2	15	10	57 58	21 49.5
	9	37 58	24 25.0	3	8	58 9	24 23.7
	12	37 58	24 29.6	15	10	58 43	21 42.5
	10½	40 30	24 23.4	3	10½	58 54	24 8.3
	10½	40 33	24 26.1	15	9	58 58	21 48.3
	11	40 34	24 20.0	15	10	59 1	21 42.5
	8½	41 7	24 20.7	15	10	59 34	21 41.8
	11	42 1	24 22.9	3	11	59 54	24 11.8‡
	10	42 8	24 20.0	15	10	59 58	21 44.0
	11	43 33	24 24.0	15	10	7 0 5	21 46.3
	10½	43 55	24 23.2	3	11	0 23	24 23.4
	10	44 3	24 19.4	15	11	0 45	21 50.1
	10½	45 1	24 18.1	3	10½	0 48	24 25.7
	9	45 15	24 20.8:	3	10½	1 49	24 10.5
	11½	6 46 15	+24 12.1:	3	10½	7 2 6	+24 17.3

* Double (4). † (4). ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	11	7 3 9	+21 48.1	15	10½	7 25 19	+21 42.8
15	11	5 3	21 41.8	15	10½	25 45	21 39.7
15	10½	5 32	21 37.5	26	10½	25 46	21 18.4
15	10	5 40	21 45.0	15	9	26 17	21 34.9
15	10½	5 42	21 42.9	15	10½	27 5	21 44.7
15	11	6 38	21 48.5	26	10	27 28	21 28.2
15	10	7 24	21 40.5	26	10	27 30	21 20.3
15	10	7 34	21 48.1:	26	10	27 50	21 23.9
15	8	7 52	21 42.2*	26	9½	27 51	21 13.1
15	11	8 26	21 43.3	26	10½	28 57	21 25.2
15	10½	9 44	21 45.8	26	10	29 6	21 11.6
15	10½	10 4	21 37.9	26	10½	29 57	21 25.7
15	10	10 18	21 46.2	26	10½	30 5	21 23.6
15	11	11 20	21 49.2	26	10½	30 5	21 25.3
15	11	11 22	21 44.8	26	10	30 27	21 13.7
15	9½	12 23	21 43.9†	26	11	31 8	21 29.2
15	9	12 44	21 35.0	26	11	31 12	21 14.9
15	11	13 47	21 46.0	26	11½	32 33	21 15.2
15	9	14 45	21 35.8	26	11	32 36	21 17.6
15	9½	14 51	21 47.5	26	10	32 38	21 12.3
15	10	15 20	21 45.3	26	10	32 56	21 15.1
15	11	16 16	21 49.5	26	11	34 10	21 24.4
15	11	16 22	21 36.6	26	10½	34 23	21 12.4
15	11	16 51	21 33.5	26	10	34 46	21 23.5
15	11	17 10	21 34.9	26	11	35 6	21 29.6
15	10	19 28	21 47.2	26	10	36 12	21 15.0
26	10	22 12	21 15.3	26	9	36 26	21 13.3
26	10	22 14	21 7.3‡	26	9	36 28	21 25.6
26	10	22 21	21 22.4	26	12	37 36	21 10.9:
15	9	22 45	21 49.9	26	10½	38 17	21 26.1:
26	10	22 56	21 23.5	26	10½	38 22	21 22.0
26	10	23 20	21 18.3	26	9½	38 57	21 10.8
15	9	23 41	21 39.5	26	11	39 40	21 26.7
26	10	24 3	21 26.8	26	12	40 28	21 28.2
26	10½	7 25 7	+21 10.8	26	12	7 40 55	+21 27.4§

* (4). † Largest of a double. ‡ March, 1850. § Double.

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	10	7 42 17	+21 13.4	26	11	8 2 30	+21 12.7
	9½	42 30	21 12.8	26	9	3 16	21 30.1
	10	42 32	21 19.5	26	9½	3 31	21 23.7
	11	44 35	21 13.1	26	10½	25 23	18 21.6
	10	44 45	21 18.9	26	10	25 34	18 27.2
	11	44 50	21 14.2	26	10½	26 13	18 16.4
	10	45 57	21 13.8	26	10	27 26	18 23.2
	11	46 12	21 11.3	26	10	27 37	18 16.6
	11	46 34	21 13.2	26	10	28 6	18 15.5
	11	47 26	21 18.7	26	10½	28 28	18 13.7
	9	47 26	21 12.4	26	9½	29 14	18 21.0*
	12	48 22	21 26.1	26	11	39 30	18 12.0
	11	49 9	21 27.5	26	10	29 41	18 16.9
	11	51 9	21 13.9	26	11	31 37	18 22.7
	11	51 23	21 13.4	26	11	31 39	18 10.9
	9½	52 43	21 28.2	26	10	31 42	18 23.8
	11	53 53	21 20.9	26	10½	32 4	18 28.1
	10½	54 4	21 24.0	26	10½	32 20	18 26.4
	12	55 30	21 27.1	26	11	33 17	18 13.5
	11	56 27	21 13.9	26	10	34 48	18 20.5
	10	57 3	21 28.2	26	10	34 55	18 29.0
	11	58 1	21 29.0	26	11	35 7	18 22.5
	11	58 33	21 25.6	26	11	35 36	18 25.4
	11	58 48	21 25.5	26	10	35 41	18 26.4
	9½	59 52	21 17.3	26	10	45 34	18 14.3
	10	59 55	21 12.0	26	10	45 50	18 19.9
	11	8 0 0	21 15.8	26	11	46 30	18 12.5
	12	1 5	21 13.0	26	10	46 58	18 26.2
	11	1 5	21 11.0	26	9	8 47 22	+18 13.9
	10	8 1 14	+21 11.6				

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

502 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	6 33 37	+22 37.8	9	10	6 50 49	+22 44.1
9	10	34 17	22 38.1*	9	10	50 52	22 46.9
9	9½	34 42	22 36.4	9	10	51 42	22 47.7
9	9	35 21	22 43.5	9	10	52 20	22 37.8
9	11	36 24	22 32.6	9	11	52 22	22 33.6
9	10½	36 26	22 37.5	9	10	52 41	22 48.2
9	11	38 5	22 33.7	9	10	52 43	22 35.3
9	11	38 21	22 30.6	9	10	53 7	22 46.9
9	9½	39 19	22 30.5	9	12	53 59	22 32.2
9	10	39 29	22 41.5	9	9	54 14	22 38.1*
9	10	39 36	22 44.3	9	11	54 46	22 31.5
9	12	41 9	22 47.1	9	–	55 32	22 27.8
9	11	41 19	22 48.7	9	10½	56 4	22 46.2
9	11	42 14	22 46.7	9	11	56 41	22 38.2
9	11	42 38	22 44.6	9	12	57 19	22 48.5
9	10	42 58	22 31.3	9	9	58 18	22 35.9
9	11	43 55	22 38.2	9	11	59 4	22 35.5
9	10	43 58	22 38.4	9	11	59 41	22 34.7
9	10½	43 58	22 31.9	9	10½	7 0 7	22 35.8
9	10½	44 9	22 41.7	9	8	0 43	22 35.9
9	11	45 19	22 33.6	9	11	0 47	22 45.9
9	11½	46 32	22 38.0	9	11½	1 27	22 30.9
9	11	46 43	22 30.3	9	11	1 28	22 36.2
9	11	46 56	22 31.4	9	11	2 7	22 44.7
9	10½	47 35	22 31.1	9	10½	2 59	22 39.8
9	11	48 12	22 49.2	9	11	3 0	22 31.4†
9	11	48 24	22 47.3	9	10	4 15	22 31.0
9	7	49 9	22 39.8	9	10½	4 45	22 37.4
9	10½	50 1	22 34.3	9	10½	5 21	22 40.9
9	10	6 50 17	+22 36.7	9	11	7 5 40	+22 42.5

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	7 7 13	+22 36.3	9	8	7 35 46	+22 48.7
9	12	8 30	22 37.2	9	10	36 6	22 34.9
9	11	8 32	22 35.4	9	10½	37 32	22 34.2
9	11	9 26	22 32.7	9	11½	37 41	22 35.4
9	10	10 9	22 48.5	9	11	39 17	22 40.6
9	9	11 7	22 40.9	9	10	39 26	22 39.8
9	11	11 40	22 34.0	9	10	39 36	22 44.6
9	11	13 9	22 48.5	9	9½	40 10	22 36.6
9	10	15 1	22 41.5	9	9	42 2	22 30.9
9	11	15 6	22 39.1*	9	10	43 59	22 39.8
9	11	16 46	22 37.4	9	11	45 2	22 37.1
9	11	16 59	22 37.4	9	11	45 30	22 45.9
9	9½	17 16	22 46.1	9	11	45 58	22 35.4
9	10	18 27	22 41.1	9	10½	47 9	22 46.4
9	10½	19 23	22 41.2*	9	11	47 10	22 35.4
9	9	19 37	22 32.7	9	10	47 41	22 42.8
9	10	20 32	22 39.8	9	11	49 17	22 47.6
9	11	21 37	22 42.2	9	11	49 25	22 47.8
9	12	22 15	22 36.6	9	11	49 30	22 48.7
9	9	22 23	22 35.7	9	11	50 34	22 38.0
9	9	22 59	22 37.3	9	10	51 49	22 47.0:
9	10	23 18	22 30.9	9	10	52 29	22 46.1
9	10	23 23	22 39.8	9	10	52 36	22 46.3
9	11	25 9	22 38.7	9	11	52 55	22 46.2:
9	11	25 32	22 34.6	9	11	53 51	22 40.7
9	11	25 40	22 39.8	9	11	54 21	22 41.5
9	11	26 44	22 43.4	9	11½	56 15	22 37.3
9	11	27 1	22 45.3	9	11½	56 19	22 36.5
9	11	29 0	22 35.1	9	10	56 26	22 48.0
9	9	29 35	22 38.5*	9	9	57 40	22 29.9
9	10½	31 28	22 39.8	9	10	57 54	22 41.1
9	10	31 53	22 44.9	9	10	58 42	22 40.3
9	11	32 10	22 46.1	24	10	10 15 0	8 48.7
9	11	33 48	22 38.3*	24	12	15 53	9 3.8
9	10½	7 34 10	+22 37.8*	24	12	10 16 6	+9 8.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
24	11	10 16 21	+8 59.2	20	11	10 29 52	+7 55.9
24	10	17 13	8 53.7	24	11	30 8	8 52.7
24	10	17 25	8 59.9*	20	11	30 43	7 50.5
24	10	17 36	9 4.7	24	9	30 46	8 55.4
24	11	17 49	8 53.0	24	10	30 58	9 10.1
24	10	18 57	9 6.8	20	7	31 5	8 8.3
24	10	19 30	9 0.3	20	11	31 34	8 5.7
24	11½	19 33	8 52.5	24	10½	31 44	9 1.2
24	11	19 46	8 50.9	24	12	32 1	9 2.0
24	9	20 17	9 6.5	24	9	32 59	8 52.7
24	10	20 48	8 50.4	20	12	33 4	7 57.2
24	9	21 7	9 7.7	24	9½	33 4	9 3.5
24	11	21 55	8 55.8	24	9	33 41	8 59.2*
24	12	22 15	8 54.5	24	12	33 45	9 7.8
24	11	22 24	8 52.0	20	11	33 50	8 1.2*
24	11	23 23	9 4.0	24	12	34 47	9 0.2
24	10½	23 29	8 53.7	24	9	34 58	9 9.2
24	11	23 41	8 55.5	24	12	35 39	9 2.4
24	10	23 53	8 55.7	20	11½	35 50	7 51.1
24	11	24 33	8 55.5	20	10	35 54	7 54.6
24	10	25 0	8 57.2	24	9	36 18	9 0.5*
24	11	25 2	8 54.3	24	12	36 20	8 49.1:†
24	11	25 12	8 51.6	20	10	37 0	7 48.1
24	11	26 5	9 3.0	24	9	37 14	8 55.8=
24	11	26 12	9 5.1	24	9	37 19	8 59.9
24	11	26 18	9 7.5:	20	10	37 22	8 5.1
20	10	26 20	7 55.0	20	10	38 1	8 3.5
20	11	26 41	7 56.2	20	11	38 1	7 58.9
24	10	27 26	8 59.2	20	11½	38 3	8 8.2
20	11	27 42	8 2.2	24	10	38 6	9 0.0
20	11	27 45	8 2.4	24	11	39 10	9 5.1
24	10	28 31	8 56.9	20	11	39 18	7 54.6
24	10½	28 39	8 57.9	20	9	39 23	8 10.9
20	11	29 18	7 54.1	20	10	39 32	7 56.1
20	10½	10 29 31	+8 7.9	24	9	10 40 12	+9 8.4

*(4). † April, 1850.

Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
	11½	10 40 19	+8 54.2	24	10	10 49 40	+8 49.6‡
	10	40 34	8 2.7	24	11	50 7	8 57.6
	9½	40 39	7 53.4	20	10½	50 45	8 2.5*
	9	40 40	7 48.1	20	10½	51 0	8 4.3
	11	41 9	9 6.3	20	9½	52 46	7 51.2
	11	41 29	8 8.4	20	12	53 36	8 7.6
	11	41 45	9 3.4	20	12	53 42	8 6.1
	12	42 14	8 5.3	20	10	53 54	8 9.2:
	11½	42 38	8 53.6	20	9	54 23	8 13.2
	10	43 24	8 0.2	20	11	55 9	7 58.7*
	11	43 26	9 5.9:	20	10	55 56	8 6.9
	11	43 42	9 6.2	20	11	55 58	7 59.1*
	10	43 45	7 53.9	20	9	58 21	8 8.0:
	10½	43 54	9 4.8	20	12	11 0 38	8 5.9
	11	44 8	7 57.5	20	11	0 51	7 52.5
	10	44 22	8 4.4	20	11	1 16	7 48.3
	8	44 35	9 0.5*	20	10½	1 38	8 8.7
	11	44 37	9 6.0	20	10½	2 29	8 6.3
	12	45 26	9 3.3	20	10	2 35	7 52.8
	11	46 15	8 56.2	20	11½	4 12	7 55.1
	11	46 21	8 52.8	20	11	5 29	7 58.5
	9	46 30	8 48.0	20	10	5 51	8 7.9
	11	46 31	7 55.3	20	10	33 20	0 48.4
	9	46 35	8 51.5	20	12	33 49	1 7.1
	10	46 48	7 54.6	20	10	34 42	0 52.0
	8	47 12	7 53.6†	20	10	34 58	0 56.1
	12	47 13	9 6.3	20	11	36 30	0 56.4
	12	47 35	9 4.9	20	10	36 45	1 8.7
	11	47 39	9 8.1	20	11	37 49	1 1.4
	9	48 22	7 59.5*	20	11½	37 58	0 49.6
	12	48 43	8 51.8	20	11½	38 2	0 50.5
	10	48 47	8 1.7	20	10½	38 45	0 51.2
	8	48 48	8 3.8	20	10	39 1	0 51.8
	9	48 50	8 54.3	20	10	39 36	0 47.0
	12	10 49 2	+8 52.5	20	11	11 39 38	+0 54.3

* (4). † Largest of a close double. ‡ April, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	9	11 39 39	+0 56.2	30	11	11 56 57	−0 57.2*
20	11	40 33	1 1.0	20	9	57 1	+1 3.5
20	10½	40 45	1 7.3	20	10	58 9	+0 58.2
20	11	40 48	0 52.9	20	10	58 25	+0 57.8
20	10½	41 37	1 4.6	20	10	58 26	+0 50.6
20	11	42 21	1 4.7	30	11½	58 41	−1 1.6:
20	11	43 33	1 3.5	30	10	58 54	−0 52.1
20	11	43 49	0 57.2*	30	10	12 0 4	−0 51.4
20	9	44 33	1 6.6	20	11	0 11	+0 53.1
20	9	44 34	1 5.0	20	10	0 47	+0 50.7
20	9½	45 20	0 53.1	30	10	0 59	−0 53.0
20	11	45 47	0 50.7	30	10½	1 46	−0 59.1
20	10	46 33	0 51.4	30	10½	2 3	−0 56.6
20	10	46 45	0 56.6	30	10	2 3	−1 0.6
20	10½	47 24	0 57.9*	20	11	2 39	+1 8.3
20	11	47 47	1 4.9	20	11	2 49	+1 4.7
20	10½	47 55	1 1.4	20	10½	3 13	+0 50.0
20	10	48 11	1 1.4	30	9	3 37	−1 6.0
20	9	49 43	0 57.0	20	10	3 41	+1 7.5
20	10	50 27	1 0.9*	30	10	3 45	−0 51.0
20	10	50 52	+0 52.4	30	9	4 24	−1 0.2
30	10½	51 20	−1 3.1	30	10½	4 24	−1 3.6
20	8	51 38	+0 51.3	20	11	4 58	+0 57.2†
30	10½	51 40	−0 49.1	20	11	6 10	+1 8.7
20	9	51 51	+1 0.1	20	10	6 57	+1 7.0
30	12	51 57	−0 49.4	20	10	7 7	+0 54.0
20	11	53 50	+0 57.2	30	12	7 30	−0 54.7
20	8	54 14	+0 55.7	30	11	7 45	−0 57.0
20	8	54 19	+0 55.7	20	10	8 28	+1 6.4
20	9	54 46	+1 0.6*	30	10½	9 4	−0 51.6
30	9	54 51	−0 44.3	30	10½	9 14	−0 51.0
30	11	56 44	−1 1.5	20	10	9 36	+1 1.1
20	10	56 52	+0 55.9	30	11	9 36	−1 4.0
20	11	56 52	+1 5.7	30	10	10 0	−1 5.1
30	11	11 56 54	−0 49.1	30	8	12 10 22	−0 59.4

* (4). † Larger of double. (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	11	12 11 5	—1 0.4	30	11	12 29 58	—1 0.1
30	11½	11 8	1 4.5	30	10	39 54	6 18.8
30	11	11 12	0 56.6*	30	11	41 22	6 16.0
30	11	11 42	1 1.4	30	10½	41 26	6 11.7
30	10	12 42	0 58.1	30	11	42 10	6 14.2
30	10	12 58	0 50.0	30	10	43 14	6 14.3
30	11	13 3	0 45.3	30	9	43 29	6 7.5
30	10½	13 19	0 48.6	30	10	44 16	6 15.0
30	10	14 47	0 57.0	30	10½	44 39	6 27.3
30	11	15 3	1 2.3	30	10½	45 42	6 9.4
30	9½	15 29	1 5.0	30	12	45 52	6 16.0
30	11	15 45	0 48.8	30	9	46 8	6 14.3
30	10½	16 19	0 50.5	30	11	46 33	6 21.4
30	11	16 45	1 3.7	30	11	46 59	6 21.1
30	11	17 36	1 3.0	30	11½	47 29	6 25.7
30	9½	17 58	0 46.7	30	9	47 47	6 24.5
30	10	18 30	1 1.8	30	11	48 19	6 24.8
30	9	18 36	0 54.3	30	9½	48 42	6 22.7
30	11	18 56	1 2.7	30	10½	49 25	6 13.5
30	10	19 24	0 55.1	30	10	49 50	6 14.8
30	11½	19 45	0 47.9	30	10	51 25	6 18.0*
30	11	20 49	0 58.8	30	10	51 32	6 18.0*
30	9	20 50	1 8.5	30	11	51 40	6 9.4
30	10	21 4	1 2.8	30	10½	53 49	6 9.3
30	12	21 58	1 0.8	30	10½	54 46	6 27.3
30	11	22 13	1 1.9	30	12	55 2	6 26.6
30	10	22 35	0 59.3	30	10	55 12	6 27.8
30	11	24 39	1 3.8	30	10	55 34	6 31.4
30	11	24 59	1 4.3	30	10	55 38	6 28.6
30	11	26 59	0 50.2	30	10½	56 6	6 29.4
30	11	27 6	0 51.9	30	10½	56 26	6 26.7
30	11	28 22	0 52.2	30	10	57 6	6 21.9
30	11	28 25	0 52.8	30	11	57 29	6 12.2
30	11	29 48	0 57.1	30	9	57 55	6 21.2
30	11	12 29 49	—0 52.1	30	10	12 59 11	—6 23.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	10½	12 59 20	—6 9.6	30	10	13 21 4	—6 14.7
30	11½	59 59	6 11.7	30	11	37 20	12 9.3
30	10	13 0 45	6 21.5	30	10½	37 53	12 2.0
30	12	0 51	6 23.3	30	10½	38 27	12 1.3
30	9	1 46	6 24.7	30	11	39 0	11 58.6
30	9½	2 24	6 19.5*	30	11	39 13	11 53.2
30	10	2 59	6 21.6	30	11	39 46	11 55.5
30	12	3 11	6 26.2	30	8	41 45	11 48.1
30	11	4 1	6 10.6	30	11	41 53	11 58.7*
30	10	4 34	6 27.4	30	10	42 7	11 56.4*
30	11	5 22	6 30.1	30	11	43 54	11 56.1
30	11	5 28	6 19.6	30	9½	44 28	11 53.4
30	11	5 57	6 16.9	30	9	44 43	11 52.5
30	11½	5 59	6 12.8	30	9	45 0	11 57.9
30	11	8 18	6 22.0	30	10	47 29	11 56.8*
30	11	8 46	6 18.0*	30	10	47 42	11 49.0
30	11	9 1	6 22.0	30	10½	48 43	11 50.0
30	11	9 33	6 16.5	30	10	49 9	11 48.5
30	10	10 50	6 10.2	30	11	50 9	11 50.9
30	11	10 56	6 12.5	30	9	50 17	11 53.4
30	9	11 37	6 15.7	30	10	51 17	11 59.9
30	11	11 53	6 15.3	30	10	51 36	11 56.6
30	10	12 14	6 21.7	30	10	53 22	12 3.8
30	11	12 44	6 20.6†	30	10	53 32	12 10.5
30	10½	12 54	6 21.8	30	10	54 49	11 54.9
30	10½	13 21	6 29.4	30	10	54 54	11 59.5
30	11½	14 59	6 22.7	30	10	55 1	12 2.3
30	11	15 16	6 11.9	30	9	55 8	11 53.6
30	11	16 15	6 28.6	30	10	56 12	11 54.6
30	10	16 16	6 21.0:	30	11	57 41	11 52.9
30	9	17 16	6 22.4	30	11	58 0	11 51.1
30	10	18 27	6 18.8	30	11	14 0 3	11 56.0
30	11	19 41	6 20.3	30	10½	0 12	12 4.5
30	11	19 54	6 14.4	30	9½	1 48	12 6.9:
30	9	13 20 12	—6 14.6	30	10	14 1 57	—12 7.9

* (4). † Small Star p.

. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	10	14 2 1	—11 59.5:	30	11	14 10 2	—12 3.7
	10	2 22	12 7.6	30	11	10 41	11 55.5
	10	2 41	12 0.2	30	11	11 22	11 54.7
	9	3 57	11 48.8	30	10	12 46	11 52.4
	10	4 3	12 2.9	30	9½	13 2	11 54.9
	10	4 44	11 45.4	30	12	13 16	11 53.7
	9	5 5	11 48.9	30	9	14 5	11 51.4
	10	6 38	11 55.8*	30	10	15 20	11 51.4
	11	7 57	11 55.4	30	10	15 29	12 1.1
	11	8 29	12 3.3	30	10	16 4	11 51.1
	10	14 9 55	—11 57.9	30	11	14 16 45	—12 0.8

* (4).

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
10	9	18 5 26	—23 12.9
11	9½	5 42	23 5.3
10	10½	6 12	23 28.8
11	9	6 12	23 10.8
10	8	6 24	23 9.4
11	10	6 55	23 4.5
11	10	7 18	23 2.8
10	8	7 31	23 15.7
11	10	7 43	23 1.5
10	8½	7 51	23 20.2
10	8½	7 58	23 15.4
11	10½	8 1	23 1.9
10	9	9 10	23 28.0
11	10	9 20	23 5.8
10 11	9	9 45	23 7.1
11	10	9 56	23 0.2*
10	10	10 23	23 21.9
10	9	10 40	23 13.0
10	9	11 8	23 17.3
11	10½	11 18	22 53.0
10	10	11 59	23 22.9
11	10	11 59	22 59.0*
11	11	12 10	23 4.3
10	8	12 52	23 20.3*
10	9½	12 52	23 17.9
11	10	14 27	23 7.8
11	10	14 30	23 7.0
10	9	14 34	23 24.2
10	10	14 47	23 19.8
11	11	15 3	23 6.8
12	10½	15 31	22 30.9
10	9	15 35	23 10.8
10	9½	15 41	23 21.1
12	10½	15 49	22 32.9
10	10	18 15 53	—23 11.3
10	9	18 15 56	—23 9.5
11	11	16 24	23 1.9
12	10	16 45	22 46.0
12	9½	17 10	22 44.1
11	10½	17 40	22 59.5
11	10½	17 59	22 57.0*
10	10½	18 30	23 22.6
12	10	18 31	22 42.6
12	10½	18 52	22 29.9
10	10	19 2	23 24.8
10	11	19 9	23 25.7
10	10½	20 9	23 26.3
10	11	20 25	23 25.2
12	10½	20 25	22 34.2
12	10	20 32	22 33.5
11	12	20 41	23 3.6
10	10	22 0	23 20.8
10	8	22 8	23 26.0
11	10	22 16	23 4.6†
11	10	22 27	22 59.4‡
11	10	22 37	22 54.9
11	10	22 57	23 2.3†
12	9½	23 0	22 43.6
12	11	23 43	22 41.0
10	10	23 47	23 12.0
11	11	24 6	22 53.5
11	9	24 7	22 54.8†
12	8½	24 18	22 43.4
10	10	24 33	23 10.6
11	10½	24 41	22 56.9
12	8½	24 47	22 32.1
10	9½	25 2	23 26.9
10	10	25 12	23 11.3
11	10½	25 23	23 4.1
12	11½	18 25 31	—22 45.0

* (4). † August, 1849. ‡ (4). August, 1849.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

353 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	10	17 39 0	—23 16.9	11	10½	17 56 19	—23 0.6†
10 11	9½	48 7	23 7.3	10	9	56 38	23 30.9
10	10	48 13	23 14.3	10	9	56 57	23 29.6
11	10	48 32	22 53.0	11	12	57 44	23 3.4
10	9½	48 37	23 27.8	10	9	57 56	23 10.0:
11	9	48 50	22 57.1	10	10	58 4	23 20.4
11	10	49 26	22 46.1	11	10	58 6	23 2.9
10	10	49 51	23 21.9	11	10	58 7	23 4.7
10	10	49 57	23 12.6	10	9	58 20	23 20.4
11	10	50 12	23 4.2	10	9	58 37	23 21.3
11	9	50 35	22 55.8	10	7	58 39	23 7.1
11	10	50 53	22 51.2:	11	8	58 44	22 53.5
10	10	51 4	23 16.0	11	9½	58 59	23 7.5
11	9	51 23	23 0.9	10	10½	59 42	23 26.9
11	10½	51 34	23 6.3	10	—	59 53	23 20.1
11	10	51 40	23 3.1	10	9½	18 0 0	23 27.1
10	10	51 45	23 29.6	11	8	0 12	22 54.4
10	10	52 6	23 27.4	11	11	0 19	23 5.7
10 11	8	52 38	23 10.0	10	9	0 25	23 27.0
10	10	53 5	23 17.7	10	8	0 41	23 27.3
10	10	53 31	23 14.7	11	10½	0 47	23 3.6
11	10½	53 53	22 51.9	10	9	1 9	23 25.9
11	10	54 9	22 49.5	11	10	1 47	22 55.4
10 11	8½	54 31	23 8.2:	10	9½	2 1	23 22.6
10	8½	54 36	23 26.3	11	11	2 12	23 4.7
10	9½	54 42	23 17.9*	10	10	3 15	23 13.8
11	8	54 51	22 50.0	11	11	3 34	22 54.4‡
10	9½	55 10	23 27.8	11	10½	4 33	23 6.1
11	11	55 26	22 51.0:	10 11	9	4 35	23 8.1
11	10½	17 56 12	—22 50.8	10	9	18 5 24	—23 25.6

*(4). † Small Star p. ‡ Small Star N.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	9	18 44 43	—23 12.6	11	10	18 54 24	—23 7.5
10	11	44 44	23 10.7	12	9	55 10	22 46.4
12	10½	45 0	22 34.1	11	10	55 12	23 0.5†
10	8	45 11	22 51.9*	10	11	55 20	23 21.5
10	10½	45 42	23 28.6	12	10½	55 35	22 36.5
12	10	46 30	22 27.0	12	10½	55 51	22 33.1
12	11	47 20	22 36.6	12	10	56 14	22 31.5
12	11	47 30	22 31.5	10	9	56 47	23 17.8
11	10	48 11	23 3.7†	12	11½	56 48	23 0.0
12	10½	48 27	22 30.6	11	11	56 51	23 0.8†
11	10½	49 5	23 0.2	12	10½	56 53	22 30.3
12	11½	49 11	22 44.4	11	10½	57 5	23 2.7
12	7	49 22	22 43.4	12	9	57 19	22 49.1
11	9	49 28	22 51.4:	11	10½	57 27	23 0.3†
11	8	49 41	23 0.2‡	10	8	57 28	23 28.6
12	10	49 47	22 40.2	12	10	57 49	22 46.5
10	9	49 53	23 16.8	11	10	58 1	23 5.5
10	9½	50 6	23 14.9	12	10	58 24	22 43.3
12	11	50 13	22 30.1	11	9½	58 29	23 6.4†
12	11	50 19	22 32.9	10	9	58 50	23 21.7
11	10	50 41	23 8.7	12	9½	58 58	22 35.8:
12	11	51 2	22 27.6	10	9½	59 9	23 24.2
12	11	51 28	22 45.5	11	10½	59 21	22 54.2†
12	11	51 30	22 48.5	12	11	59 47	22 41.1
11	9	51 33	23 4.3†	12	11	59 54	22 35.4
10	9½	51 34	23 28.8	11	10	19 0 27	22 49.3
11	9½	51 56	23 1.6†	12	8	0 30	22 36.6‡
11	10	52 12	23 6.4†	10	9	0 31	23 25.4
10	8½	52 20	23 26.1	10	11	0 47	23 16.6
12	10	52 47	22 31.9	11	11	0 49	22 59.3
11	9	52 50	23 4.6†	12	10½	1 18	22 39.8
12	10½	53 31	22 46.7	11	11	1 23	22 55.8
10	11	53 37	23 22.4	11	11	1 23	23 3.4
10	11	53 41	23 13.2	12	10½	1 25	22 43.4
10	9½	18 54 0	—23 10.4	11	11	19 1 55	—23 5.3

* A 9th N*f*. August, 1849. † August, 1849. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	12	18 25 42	—22 44.7	10	9	18 34 35	—23 22.3
11	9½	26 6	22 56.8*	11	6	34 40	22 48.6*
10	10	26 13	23 10.4	11 12	8½	34 56	22 45.6*
10	11	26 13	23 10.1	10	10	35 19	23 24.7
12	9	26 23	22 30.6	11	10½	35 46	22 53.9
11	9	26 44	22 50.4*	12	12	36 8	22 30.5
10	10	26 52	23 10.8	11	10	36 30	22 55.0†
10	8½	27 16	23 28.6	12	11	36 34	22 30.0
12	12	27 22	22 44.5	11	10	37 0	22 52.8*
12	12	27 27	22 41.2	10	11	37 19	23 23.8
11	10	27 30	22 56.4	10	11	37 43	23 15.1
10	11	28 20	23 16.9:	11	10½	37 50	22 52.2
10	10	28 31	23 15.1:	12	9½	37 52	22 44.3
12	9	28 49	22 33.4	10	11	38 0	23 20.8
12	12	29 19	22 43.6	11	9	38 8	22 55.3*
11 12	9½	29 35	22 49.9*	11	10½	38 10	22 50.2
11	8	29 50	23 4.1*	11	10	39 7	23 3.8*
12	9½	30 17	22 29.2	12	9½	39 12	22 34.0
11	10	30 42	23 3.1*	12	10½	39 55	22 50.1*
10	10½	31 6	23 21.0	12	11	40 40	22 29.6
12	9	31 8	22 47.6	10	9	40 44	23 31.4
12	11	31 13	22 40.0	12	11½	40 45	22 35.0
10	10	31 39	23 16.3	10	10½	41 10	23 30.6
11	11	31 49	23 3.5	11	7	41 31	22 59.4‡
11	11	31 56	23 0.1	12	9	41 54	22 45.0
12	12	32 1	22 33.5	11 12	10	41 56	22 48.0
11	10½	32 3	23 6.2*	10	9	42 2	23 13.1
10	10	32 9	23 11.8	12	9½	42 21	22 29.6
10	9	33 7	23 16.1	12	10	42 33	22 26.9
10	8	33 8	23 25.9	10	11	43 2	23 10.8
11	10½	33 25	23 1.0*	11	11	43 16	22 59.8
10	9½	33 28	23 12.7	11	10	43 27	23 2.9*
12	11	33 30	22 42.9:	10	11	43 29	23 12.2
11	10	33 53	23 3.8*	12	9½	43 55	22 34.8
12	8	18 34 18	—22 44.6::	11	11	18 43 57	—23 2.5

* August, 1849. † A 10½ N, August, 1849. ‡ (4). August, 1849.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	10½	19 20 41	—23 2.4*	10	10	19 22 32	—23 15.3
10	10	20 47	23 16.5	11	8	23 26	23 3.4*
11	10	21 22	22 47.9*	10	9	24 37	23 18.0†
10	10	21 58	23 25.9	10	11	24 41	23 14.4
10	10	22 3	23 12.8	10	9½	26 8	23 10.9
11	11	22 5	22 54.2*	10	9½	19 26 11	—23 22.5
11	11½	19 22 21	—22 55.4				

* September, 1849. † (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

19 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	18 25 0	—22 54.9	7	11	18 48 46	—22 53.1
7	9½	27 12	22 59.1	7	10	49 42	23 2.8
7	9½	28 43	23 0.8	7	10	49 55	22 52.1
7	10	30 34	23 3.2	7	9½	53 23	22 49.3
7	10½	40 50	22 51.5	7	9½	53 33	22 49.8
7	10	44 23	23 3.0	7	9	54 23	23 7.5
7	10	44 26	23 5.0	7	7	54 41	22 55.4
7	10	47 0	23 6.6	7	8½	56 58	23 4.2
7	10	47 33	22 49.8	7	9	18 57 59	—23 2.0
7	10	18 48 36	—22 54.1				

All the Stars taken on this night, with the exception of the few here given, appear in other Catalogues, or elsewhere in this Catalogue.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,151 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	10	19 2 32	—22 6.5	4	11	19 13 25	—22 21.3
3	10	3 7	22 2.5	3	10	13 33	21 51.9
7	11	3 30	22 48.8	4	10	13 42	22 9.3
3	9	3 41	21 58.5*	5	10	13 47	20 42.5
3	9	6 10	21 59.4	7	10½	14 4	23 4.7
3	9	7 0	21 54.7	7	10½	14 23	22 50.0
7	10½	8 40	22 50.8	4	10½	14 30	22 25.7
7	10½	8 41	22 48.7	3	9	14 44	22 1.9
3	8	8 43	21 52.5	3	10	14 52	22 4.9†
3	8	9 56	21 58.1	4	10½	14 58	22 9.3
3	10½	10 11	22 3.9	3	8	15 2	22 2.2
7	10½	10 36	23 2.9	5	9	15 3	20 29.0
4	8	11 28	22 8.1	7	9	15 36	22 52.9
3	10½	11 37	22 1.8	5	11	15 41	20 29.6
3	9	11 53	21 56.4	3	11	15 42	21 48.9
3	8	11 57	21 48.4	4	9½	16 2	22 9.6
3	8	11 58	22 4.4	5	10	16 38	20 41.2
4	9	12 3	22 20.9	7	7	16 43	22 48.8
5	10	12 15	20 45.4	3	11	16 47	22 1.0
7	11	12 16	22 52.8	3	11	16 57	21 54.6
4	10	12 17	22 4.0	5	10	16 57	20 34.4
5	10	12 25	20 44.3	5	10½	17 1	20 27.0
7	9	12 25	22 53.1	4	9	17 2	22 19.2
5	10½	12 26	20 34.9*	3	10	17 6	21 53.8
5	10½	12 50	20 44.3	4	8	17 21	22 13.8
3	8	12 56	21 55.2	4	11	17 22	22 21.4
4	11	13 11	22 21.8	7	11	17 30	23 2.7
7	10	13 15	22 48.7	7	11	17 35	23 5.3
4	9	13 18	22 21.0	4	9½	17 46	22 21.7
3	10	19 13 23	—21 53.5	3	9½	19 17 47	—21 58.9

* (4).

† An 11th Mag. *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	10½	19 20 41	—23 2.4*	10	10	19 22 32	—23 15.3
10	10	20 47	23 16.5	11	8	23 26	23 3.4*
11	10	21 22	22 47.9*	10	9	24 37	23 18.0†
10	10	21 58	23 25.9	10	11	24 41	23 14.4
10	10	22 3	23 12.8	10	9½	26 8	23 10.9
11	11	22 5	22 54.2*	10	9½	19 26 11	—23 22.5
11	11½	19 22 21	—22 55.4				

* September, 1849. † (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

19 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	18 25 0	—22 54.9	7	11	18 48 46	—22 53.1
7	9½	27 12	22 59.1	7	10	49 42	23 2.8
7	9½	28 43	23 0.8	7	10	49 55	22 52.1
7	10	30 34	23 3.2	7	9½	53 23	22 49.3
7	10½	40 50	22 51.5	7	9½	53 33	22 49.8
7	10	44 23	23 3.0	7	9	54 23	23 7.5
7	10	44 26	23 5.0	7	7	54 41	22 55.4
7	10	47 0	23 6.6	7	8½	56 58	23 4.2
7	10	47 33	22 49.8	7	9	18 57 59	—23 2.0
7	10	18 48 36	—22 54.1				

All the Stars taken on this night, with the exception of the few here given, appear in other Catalogues, or elsewhere in this Catalogue.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,151 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
3	10	19 2 32	−22 6.5	4	11	19 13 25	−22 21.3
3	10	3 7	22 2.5	3	10	13 33	21 51.9
7	11	3 30	22 48.8	4	10	13 42	22 9.3
3	9	3 41	21 58.5*	5	10	13 47	20 42.5
3	9	6 10	21 59.4	7	10½	14 4	23 4.7
3	9	7 0	21 54.7	7	10½	14 23	22 50.0
7	10½	8 40	22 50.8	4	10½	14 30	22 25.7
7	10½	8 41	22 48.7	3	9	14 44	22 1.9
3	8	8 43	21 52.5	3	10	14 52	22 4.9†
3	8	9 56	21 58.1	4	10½	14 58	22 9.3
3	10½	10 11	22 3.9	3	8	15 2	22 2.2
7	10½	10 36	23 2.9	5	9	15 3	20 29.0
4	8	11 28	22 8.1	7	9	15 36	22 52.9
3	10½	11 37	22 1.8	5	11	15 41	20 29.6
3	9	11 53	21 56.4	3	11	15 42	21 48.9
3	8	11 57	21 48.4	4	9½	16 2	22 9.6
3	8	11 58	22 4.4	5	10	16 38	20 41.2
4	9	12 3	22 20.9	7	7	16 43	22 48.8
5	10	12 15	20 45.4	3	11	16 47	22 1.0
7	11	12 16	22 52.8	3	11	16 57	21 54.6
4	10	12 17	22 4.0	5	10	16 57	20 34.4
5	10	12 25	20 44.3	5	10½	17 1	20 27.0
7	9	12 25	22 53.1	4	9	17 2	22 19.2
5	10½	12 26	20 34.9*	3	10	17 6	21 53.8
5	10½	12 50	20 44.3	4	8	17 21	22 13.8
3	8	12 56	21 55.2	4	11	17 22	22 21.4
4	11	13 11	22 21.8	7	11	17 30	23 2.7
7	10	13 15	22 48.7	7	11	17 35	23 5.3
4	9	13 18	22 21.0	4	9½	17 46	22 21.7
3	10	19 13 23	−21 53.5	3	9½	19 17 47	−21 58.9

* (4).

† An 11th Mag. *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10	19 17 54	—20 29.4	7	10½	19 25 6	—22 52.6
3	7½	18 11	21 55.1	7	9	25 8	22 57.9
3	11	18 32	22 0.7	3	9	25 9	21 51.2
4	11	18 49	22 22.8	4	8	25 11	22 25.3
7	10½	19 8	22 50.0	4	10	25 17	22 14.7
5	11	19 12	20 42.5	3	10½	25 25	22 4.6
5	11	19 17	20 39.8	5	10	26 13	20 29.4
7	11	19 37	23 5.7	3	10½	26 26	22 2.6
7	8	19 44	22 56.1	5	10½	26 31	20 31.1
5	10½	20 3	20 44.2	3	10	26 38	22 1.7
3	11	20 28	21 59.0	4	11	26 44	22 14.8
4	11	20 28	22 9.6	3	10½	26 45	22 1.9
4	10	20 53	22 9.2	7	11	26 48	22 54.8
3	10	20 59	21 58.7	7	10	26 51	22 51.6
5	10	21 7	20 39.9	7	10½	26 53	22 49.3
4	9	21 12	22 16.8*	7	8½	27 4	22 49.8
3	9½	22 18	22 2.3	5	9	27 25	20 23.6
5	10½	22 18	20 39.1†	5	12	27 50	20 35.4
3	8	22 24	21 56.7	3	9	28 4	21 49.1
4	10	22 26	22 4.4	3	11	28 7	21 51.6
3	10	22 29	22 6.1	7	9½	28 7	23 2.3
5	9½	22 39	20 43.8	5	10	28 12	20 30.2
7	11	22 39	23 0.2	7	11	28 19	23 5.7
5	10	23 35	20 43.7	7	11	28 21	23 2.4
7	11	23 57	22 52.1	7	10½	28 27	22 58.6
4	8	23 59	22 18.9	3 4	9	28 33	22 3.7
7	11	24 0	23 6.3	4	11	28 40	22 16.8
3	11	24 5	21 52.2.	3	10	29 5	22 6.7
5	10½	24 8	20 44.9	7	11	29 22	23 6.7
3	11	24 9	21 59.6	5	10	29 24	20 30.2
3	11	24 14	21 52.2	7	–	29 27	22 56.2
5	10	24 48	20 47.8	7	11	29 30	22 55.5
5	10	24 48	20 34.8	7	10	29 32	23 2.0
4	11	24 50	22 11.1	3	9½	29 36	21 47.9
7	9½	19 25 5	—23 3.5	5	10	19 29 42	—20 38.3

* (4). † A 10½ S.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11	19 29 46	—20 29.2	11	11	19 33 12	—19 19.6
3	9½	29 53	21 52.5	3	10	33 17	21 59.0*
5	9	30 13	20 23.6	5	12	33 35	20 31.2
7	8	30 16	22 54.6	7	11	33 53	23 2.0
4	11	30 41	22 20.1	11	9	34 0	19 25.1
7	8	30 46	23 3.9	3	7	34 6	21 49.7
5	11½	30 48	20 45.6	4	10	34 8	22 20.0
3	9	30 50	21 56.5	18	11½	34 9	22 42.8
3	10½	30 51	22 2.0	5	11	34 11	20 30.2
5	11	30 54	20 45.0	7	10½	34 15	22 59.4
[illegible]	11	30 54	19 19.7	11	10	34 19	19 13.4
[illegible]	9	30 58	19 22.5	18	10	34 24	22 33.5
4	10	30 59	22 12.6	11	10	34 30	19 10.9
7	8	31 3	22 54.8	7	10½	34 31	23 0.6
[illegible]	11	31 13	19 23.0	11	10	34 37	19 10.6
[illegible]8	11	31 15	22 47.3	18	11	34 38	22 37.2
[illegible]8	11	31 15	22 48.3	4	9	34 42	22 16.8*
7	8	31 25	23 4.7	7	7½	34 49	22 48.0
[illegible]	9½	31 25	19 15.5	11	9	34 49	19 22.8
5	12	31 38	20 41.8	18	11	34 54	22 41.0
18	10½	31 49	22 32.1	4	10	35 9	22 4.3
5	11	31 50	20 41.2	18	9	35 16	22 35.6
18	10½	32 0	22 35.3	11	10	35 19	19 26.9
7 18	8	32 5	22 45.6	7	7½	35 21	22 48.3
7	10½	32 10	23 4.0	18	10	35 33	22 36.6
5	10	32 10	20 45.3	11	10½	35 43	19 18.7
11	9½	32 11	19 11.3	5	10	35 57	20 47.2
5	9½	32 23	20 41.9	18	10	36 0	22 41.2
4	10	32 46	22 19.8	4	11	36 2	22 22.2
11	10½	32 49	19 20.6	5	11	36 11	20 34.9*
3	8	32 51	21 53.8	18	9	36 12	22 43.9
4	11	32 57	22 18.8	11	10	36 25	19 22.0
7 18	10	32 58	22 47.6	11	10	36 30	19 19.6
7 18	10	33 0	22 49.0	4	10½	36 31	22 21.5
3	10½	19 33 8	—21 54.6	4	11	19 36 34	—22 21.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	9	19 36 36	—19 12.4	18	11	19 40 2	—22 38.4
7	9½	36 42	22 53.0	5	11	40 27	20 41.8
11	10½	36 58	19 11.4	11	9	40 27	19 24.2
18	11	37 18	22 31.7	4	10½	40 46	22 12.1
4	10	37 28	22 7.5	11	11	40 53	19 21.7
18	11	37 35	22 34.1	5	11	41 7	20 33.6
5	10½	37 52	20 30.5	5	10½	41 12	20 28.4
11	9½	37 53	19 14.9	11	9	41 15	19 25.0
18	10½	37 56	22 44.5	18	9	41 20	22 35.7
7	11	38 1	23 3.6	7	11	41 21	23 2.0
18	10½	38 2	22 44.6	11	9	41 25	19 15.5*
4	10	38 8	22 6.7	18	10	41 27	22 32.6
11	10	38 18	19 15.4	4	10½	41 42	22 16.2
7	11	38 20	23 2.4	18	10	41 44	22 35.3
7	11	38 28	23 2.3	7	8½	41 54	23 1.8
3	9	38 32	22 0.0	11	10	42 3	19 8.3:
11	7	38 35	19 6.2	7	11	42 11	22 48.2
4	8	38 36	22 11.3	7 18	11½	42 15	22 47.7
7	11	38 41	23 2.8	11	9½	42 27	19 16.6
3	10	38 46	21 56.0	18	9	42 35	22 45.6
18	10	38 48	22 41.2	5	10	42 36	20 29.9
11	10	38 55	19 15.6	18	10½	42 46	22 46.5
18	9	39 6	22 32.4	3	8	42 58	22 6.2
4	10	39 13	22 22.1	5	10	43 15	20 37.9
18	11	39 14	22 30.8	11	9	43 15	19 9.5
5	12	39 18	20 27.9	5	10	43 30	20 43.8
7	9½	39 19	22 55.2	11	9	43 38	19 9.3
3	10	39 22	21 58.2	18	10	43 41	22 42.0
5	12	39 27	20 32.3	18	9	43 45	22 35.6
4	9½	39 34	22 23.4	7	10	43 46	22 51.4
11	9	39 40	19 10.1	7	10	43 49	22 48.1
18	10½	39 51	22 50.0	7	10	43 53	22 52.9
4	10	39 55	22 20.5	18	10	43 57	22 42.2
18	10	39 59	22 43.7	18	10½	44 5	22 41.1
7	10	19 40 1	—22 59.0	4	11	19 44 9	—22 14.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10½	19 44 12	—22 42.2	4	10	19 47 0	—22 21.5
11	9	44 14	19 5.0	8	10½	47 3	19 36.7
3	10	44 16	21 48.5*	5	11	47 5	20 44.1
3	10	44 16	21 48.3*	11	9	47 15	19 16.8†
11	11	44 21	19 6.8	18	11	47 17	22 43.7
5	10½	44 43	20 44.9	8	10½	47 18	19 36.5
7	10	44 45	22 48.9	11	10½	47 20	19 17.8
4	10½	44 48	22 8.7	5	11	47 29	20 39.6
5	10	44 55	20 44.6	5	11	47 30	20 45.5
7 18	9½	45 6	22 51.4	11	11	47 37	19 23.9
8	9	45 30	19 42.1	7	8	47 43	23 6.3
18	11	45 30	22 47.6	18	9	47 46	22 45.7
3	10½	45 31	22 0.8	4	10	47 49	22 23.9
11	10½	45 32	19 13.8	8	11	47 50	19 32.5
18	11	45 32	22 41.3	8	11	47 53	19 30.4
3	10½	45 38	21 49.5	7	11	47 54	22 52.9
5	11	45 38	20 44.7	18	11	48 21	22 32.3
8	11	45 40	19 43.0	8	10	48 24	19 32.5
4	9	45 41	22 7.5	8	10	48 33	19 31.3
11	8½	45 48	19 19.3	11	10	48 40	19 14.1
7	10	45 49	23 0.1	8	10	48 42	19 30.7
11	10	45 54	19 21.5	5	10½	48 45	20 42.0
11	10	45 58	19 24.5	18	11	48 49	22 42.8
18	10½	45 58	22 32.6	11	10	48 52	19 15.0
4	10	46 5	22 7.1	7	11	49 3	22 50.1
5	10	46 9	20 39.9	11	11	49 4	19 14.2
11	10	46 11	19 24.2	11	11½	49 8	19 14.3
5	9½	46 23	20 43.9	8	9	49 13	19 46.2
8	10	46 23	19 36.5	8	10½	49 18	19 39.3
4	9	46 24	22 7.9:	3	10	49 29	22 2.4
3	9	46 30	21 52.2	7	9	49 30	22 59.4
18	9	46 30	22 37.1	18	8	49 40	22 39.0†
18	9	46 32	22 31.4	7	9	49 46	23 1.0
3	8	46 40	21 53.4*	11	11	49 48	19 20.3
7 18	9	19 46 59	—22 48.6	11	10	19 50 5	—19 7.2

* Not same.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	9	19 50 14	—22 37.4	4	10	19 52 58	—22 21.8
4	11	50 18	22 18.8	18	10	53 5	22 37.8
4	10½	50 19	22 9.5	8	10	53 15	19 42.8
4	8	50 21	22 19.4	18	10	53 17	22 32.1
5	11	50 23	20 34.9	7	11	53 19	22 51.1
7	10	50 28	22 48.6	11	10½	53 19	19 7.2
8	10	50 29	19 42.6	18	10	53 24	22 33.5
8	10	50 32	19 38.4	19	11	53 41	19 7.5
7	10½	50 52	23 5.3	19	10	53 42	19 2.1*
11	10½	50 52	19 10.4	5	10½	53 48	20 39.6
18	10	50 56	22 38.5	11	11	53 57	19 23.2
19	10½	50 56	18 58.5	7	11	53 58	22 54.3
8	11½	50 59	19 40.6	19	10	53 59	19 2.1
7	9	51 8	23 4.8	8	9	54 0	19 31.9
8	11½	51 8	19 44.0	11	11	54 3	19 17.2
11	10½	51 9	19 15.1	4	10	54 6	22 13.9
4	9	51 11	22 10.4	18	10½	54 14	22 31.6
11	10	51 26	19 19.6	19	8	54 14	18 57.3
19	10½	51 29	19 1.1	7	11½	54 20	22 53.9
19	10½	51 32	19 1.6	8	12	54 20	19 31.6
11	10½	51 39	19 15.5	18	12	54 24	22 31.9
5	11	51 43	20 38.3	19	10	54 29	18 56.1
11	10	51 51	19 12.6	7	11½	54 34	22 55.1
19	10	51 55	18 57.7	11	10½	54 34	19 12.8
18	10	51 58	22 37.5	11	10½	54 38	19 8.5
18	10½	51 58	22 31.5	5	11	54 45	20 29.9
8	10½	52 2	19 28.5	5	11	54 48	20 38.1
19	10	52 8	19 9.2	8	10½	54 50	19 28.1
18	10½	52 9	22 35.4	11	9	54 56	19 22.4
7	10½	52 12	22 53.2	18	9	54 58	22 51.7
4	10½	52 21	22 6.4	11 19	9	55 11	19 12.2
11	12	52 42	19 23.1	4	9	55 14	22 23.4:
11	12	52 44	19 23.4	4	10	55 23	22 13.0:
18	10½	52 54	22 40.7	19	10	55 25	18 53.2
8	10½	19 52 55	—19 42.3	11	10	19 55 26	—19 21.0

* (4).

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
4	10	19 55 38	—22 20.7	11	10½	19 58 15	—19 12.9†
18	9	55 39	22 33.8	6	10	58 19	19 52.2
6	9	55 50	19 58.3*	18	9½	58 30	22 28.0
5	10	55 51	20 40.7	7	11	58 35	23 4.2
8	11	52 52	19 43.3	4	10	58 41	22 23.6
19	10½	55 55	19 3.5	11	10½	58 41	19 12.5
7	9	56 0	22 48.4	19	10½	58 41	18 58.9
11	9½	56 5	19 19.5	7	11	58 47	22 56.3
6	9	56 7	19 56.1*	11	10½	58 48	19 13.7
5	10	56 11	20 40.4	19	11	58 55	18 58.7
8	9	56 16	19 40.6	19	11	59 0	18 53.6
8	11	56 16	19 30.7	11	11½	59 4	19 15.5
6	10	56 21	19 59.8	18	10½	59 6	22 47.4
7	9	56 28	23 3.1	5	10½	59 8	20 34.7
11 19	7½	56 32	19 7.7	5	11	59 28	20 32.0
7	9	56 44	23 0.8	6	11	59 30	19 59.7
7	9	56 45	22 51.9	5	11	59 32	20 30.1
18	11	56 49	22 30.1	18	11	59 33	22 38.9
18	11	56 51	22 36.4	18	12	59 45	22 41.0
19	11	56 52	19 6.1	19	9½	59 48	18 48.7
8	9½	57 14	19 46.9	18	10	59 53	22 47.1
18	10	57 20	22 41.5*	18	10½	59 56	22 43.9
11	10	57 23	19 8.9	18	10	59 59	22 47.6
5	10	57 26	20 32.4	6	11	20 0 1	19 51.8
19	10½	57 35	18 51.8	8	11½	0 13	19 41.3
11	10½	57 36	19 9.4	6	10½	0 25	19 53.3
5	10	57 38	20 33.2	5	9½	0 30	20 24.1
11	11	57 38	19 16.6	6	8	0 36	19 50.6:
18	10½	57 45	22 33.7	11	9	0 40	19 17.7*
8	10½	57 50	19 38.8	19	10½	0 44	18 48.9
8	10	57 57	19 36.8	11	10	0 59	19 19.4
7	12	58 1	23 2.1	4	11	1 5	22 22.1
19	10	58 1	18 51.7	5	10½	1 10	20 40.6
18	10	58 2	22 45.2	19	10½	1 15	18 53.4
8	11	19 58 6	—19 43.7	11	9½	20 1 17	—19 15.2

* (4).

† Larger of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	11	20 1 17	—22 36.2	6 8	10½	20 4 11	—19 49.5
18	11	1 19	22 45.8*	6	10½	4 23	19 58.5
18	10	1 22	22 39.6	5	11	4 24	20 40.2
6	9	1 23	20 4.6	18	11	4 27	22 33.6
8	9	1 28	19 41.5	18	9	4 27	22 30.3
4	10	1 45	22 25.4	8	10	4 33	19 46.3
18	10	1 51	22 37.5	18	10	4 36	22 34.7
6	11	1 56	19 50.0	19	11	4 48	19 2.1
19	10½	2 6	19 4.2	5	11	4 53	20 35.0
18	10	2 23	22 35.2	19	8	4 57	18 49.0
5	8	2 26	20 42.2	11	11	5 2	19 10.3
6	10	2 31	20 5.6	19	8	5 4	18 51.2
5	9	2 39	20 34.8	5	10½	5 12	20 39.9
6	10½	2 39	19 58.8	5	10½	5 13	20 39.0
19	10	2 42	19 4.8	11	11	5 15	19 10.6
19	11	2 46	19 0.7	18	8	5 27	22 29.2
5	8	2 51	20 39.5	18	11	5 32	22 34.6
8	11	2 58	19 38.1	8	12	5 39	19 36.2
6	11	3 11	20 5.0	11	9	5 39	19 24.7
8	11	3 17	19 38.6	18	9	5 44	22 29.2
18	11	3 21	22 29.8	6	11	5 46	19 52.5
11	11	3 23	19 19.5	6	10	5 55	20 5.6
18	10½	3 23	22 40.9	11	9	5 58	19 14.7
18	11	3 25	22 38.1	19	11	5 58	18 48.6
19	11	3 25	18 52.2	8	11	5 59	19 32.1
5	9	3 26	20 41.6	8	10	5 59	19 47.0
19	10½	3 33	18 53.8	6	11	6 8	19 54.5
8	11	3 36	19 45.8	19	9½	6 21	18 49.2
19	11	3 43	18 58.5	19	9½	6 57	18 53.8
19	11	3 49	19 0.8	19	10½	7 41	18 50.7
19	10½	3 56	18 51.6	19	10	7 45	19 2.5
11	10½	4 1	19 14.5	19	10½	7 50	19 3.4
11	10	4 4	19 11.3	19	9	7 59	18 51.6
8	10	4 6	19 43.4	19	11	8 34	18 49.7
11	9	20 4 8	—19 9.5	19	11	20 9 14	—18 49.0

* Small Star S *f*.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	10	20 11 32	—19 37.4	19	9	20 18 38	—19 1.0
6	10	12 28	19 48.2	19	10½	18 42	19 5.6
8	12	12 54	19 32.5	8	10½	18 47	19 29.7
8	11	13 2	19 30.9	19	10	18 54	19 4.3
8	11	13 7	19 31.5	5	11	19 30	20 48.2
6	11	13 15	19 48.4	6 8	10	19 31	19 49.2
5	10	13 38	20 40.6	19	11	19 41	18 50.7
5	10	13 39	20 42.2	6	10½	19 46	20 1.5
6	10	13 53	19 52.2	8	10	19 51	19 31.9
8	11	14 3	19 31.2	6	10	20 9	19 57.1
8	10½	14 22	19 33.6	5	11	20 10	20 29.3
6	9	14 30	20 0.2	19	10½	20 33	19 8.5
6	8½	15 4	19 54.3	19	11	20 47	19 7.0
8	11	15 5	19 47.8	19	11	20 54	18 58.9
5	9½	15 10	20 42.5	6	10	20 56	19 52.2:
6	10	15 17	20 0.1	6	10	21 2	19 56.0
5	10	15 23	20 30.4	8	8	21 6	19 35.0
6	10	15 24	19 55.1	8	11	21 7	19 38.1
19	10	15 25	18 49.0	6	9½	21 11	20 3.0
19	9½	15 37	18 50.5	5	11	21 20	20 40.5
6	8½	15 46	19 54.8	3	10	21 29	18 21.3
5	9	16 16	20 29.4	3	10	21 29	18 22.1
8	10	16 41	19 36.8	19	10½	21 30	18 54.5
8	11	16 44	19 35.1	8	11	21 31	19 41.7
19	8	16 52	18 51.7	3	10	21 33	18 25.4
8	11	16 54	19 34.6	19	11	22 15	18 52.0
6	11	17 23	20 5.5	19	11	22 22	18 52.5
8	11	17 39	19 28.3	19	9	22 31	18 47.2
6	10	17 55	20 0.6	3	10	22 34	18 23.2
8	11½	18 8	19 43.8	3	9	22 45	18 23.6
8	9	18 9	19 46.6	5	10	22 43	20 31.8
5	11	18 30	20 36.9	17	7	22 49	17 38.4
19	10	18 33	19 2.6	18	10½	22 57	17 17.3
6	10	18 37	20 5.2	8	11	23 2	19 48.5
5	10½	20 18 38	—20 43.5	5	11	20 23 3	—20 31.9

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
18	10	20 23 4	—17 13.6	8	11	20 26 15	—19 35.6
8	11	23 13	19 48.3	17	10	26 22	17 32.2
4	9½	23 22	17 51.7*	4	10	26 24	17 50.9
6	10½	23 22	19 49.6	5	9	26 24	20 39.5
19	11½	23 29	29 8.7	18	11	26 42	17 12.1
18	9½	23 31	17 17.1	17	10½	26 43	17 40.7
6 8	10½	23 34	19 50.0	3	8	26 52	18 17.9
4	11	23 44	17 54.5*	17	9	27 7	17 32.3
8	9½	23 44	19 46.8	4 17	8½	27 8	17 44.4
17	8	23 45	17 30.3	8	10½	27 12	19 42.8
19	11	23 45	19 0.1	6	11	27 25	20 3.3
3	11	23 52	18 26.1	18	10	27 44	17 17.6
5	9½	23 56	20 37.5	18	11	27 51	17 23.7
18	11	24 5	17 14.2	18	11	27 52	17 22.9
19	11	24 6	18 50.4	4	10	28 0	18 2.8
18	10	24 7	17 16.1	5	10½	28 0	20 34.5
6 8	10½	24 10	19 47.7	5	10½	28 3	20 40.8
5	9	24 12	20 35.2	18	9	28 11	17 22.9
19	11	24 17	18 51.2	17	11	28 17	17 34.3
3	10½	24 25	18 21.7	17	9	28 20	17 31.8::
6 8	9½	24 26	19 48.6	18	9	28 23	17 16.3
18	11	24 32	17 12.7	6	9½	28 29	19 57.9
17	9	24 39	17 28.6	5	9½	28 38	20 32.7
4	10	24 55	17 59.5	6 8	9½	28 51	19 46.1
19	9	25 3	18 54.0	3	9	28 52	18 17.8†
4	10	25 4	17 59.5*	4	9	29 8	18 4.4::*
6	10	25 8	19 49.5	5	9½	29 13	20 35.2:
8	11	25 11	19 45.6	18	10½	29 21	17 11.8
18	10	25 14	17 13.3	4	9	29 27	17 49.7*
19	10	25 14	18 55.8	8	11	29 31	19 29.2
18	10	25 16	17 16.1	4	10	29 33	17 51.9:
19	9	25 22	18 56.0	17	10½	29 35	17 42.3
18	10½	25 27	17 25.7	4	9	29 39	18 1.3*
17	9½	25 42	17 46.5	6	9	29 40	20 4.9
18	9	20 26 4	—17 25.5	18	10	20 29 41	—17 12.4

* October, 1849. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11	20 29 42	—20 30.0	17	10	20 32 29	—17 35.7
17	10½	29 45	17 43.0	19	10	32 30	16 54.5
3	9½	30 9	18 23.0	19	10	32 40	16 53.8
18	10	30 10	17 16.8	3	9	32 42	18 12.6
8	10	30 19	19 43.3	18	8½	32 43	17 14.3
6	11	30 27	19 48.3:	18	9	32 48	17 13.3
3	9½	30 33	18 12.6	3	9	32 49	18 7.7*
6	10	30 37	19 51.8	3	9	3 58	18 9.6
17	10	30 44	17 34.9:	6	10	33 0	19 59.3
8	10	30 54	19 31.9	8	10	33 0	19 34.9
17	10½	30 56	17 32.7	8	9½	33 9	19 35.1
18	9½	31 0	17 14.0	5	11	33 15	20 30.4
18	10	31 3	17 18.9	17	10	33 16	17 36.2
18	10	31 3	17 21.2	18	10½	33 30	17 27.1
19	11	31 6	16 52.2	8	11	33 33	19 34.7
5	10	31 11	20 39.8	6	9	33 34	19 49.9
5	10½	31 13	20 42.0	19	10½	33 37	17 6.0
3	10	31 28	18 15.8	3	9½	33 43	18 11.7
19	10	31 31	16 50.3	17	8	33 44	17 36.5†
18	10	31 32	17 27.9	19	10½	33 48	16 54.8
18	11	31 36	17 24.4	19	11	33 48	17 9.5
8	11½	31 42	19 38.6	18	11	33 54	17 24.6
19	11	31 42	17 1.7	5	9	34 11	20 32.6
8	10½	31 50	19 41.7	5	10	34 12	20 45.0
4	–	31 51	17 49.9	3	10	34 15	18 19.2
17	10	31 52	17 33.8	19	9	34 15	16 52.8
5	10	32 1	20 41.4	4	11	34 19	18 2.1
17	11	32 1	17 33.9	3	10	34 20	18 25.5*
18 19	9	32 1	17 12.0	6	8½	34 21	20 1.1
5	10½	32 9	20 42.0	5	9	34 26	20 45.4
17 18	9	32 15	17 26.3	17	9	34 35	17 15.9
8	11	32 24	19 38.3	6	9½	34 40	20 1.4
3	8	32 27	18 19.4	17	10	34 49	17 33.0
4	9	32 28	17 54.5*	3	10	34 51	18 18.5
8	11	20 32 28	—19 32.9	6	9	20 34 51	—20 1.0

* October, 1849.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	9	20 34 53	—17 50.5	17	10½	20 37 31	—17 33.7
17	9	34 53	17 22.5	4	8	37 46	17 49.1
8	11	34 59	19 45.0	18	10	37 52	17 15.0
19	10	35 4	16 47.7	18	9	37 55	17 25.7
8	10½	35 6	19 46.2	4	9	37 56	18 2.5
17	10½	35 13	17 45.5	19	12	37 57	17 3.9
5	10	35 20	20 30.2	19	10	37 59	17 5.1
3	9	35 23	18 15.2	5	8½	38 1	20 34.3†
18	9	35 24	17 17.9	18	8½	38 4	17 14.4
19	10	35 28	17 8.5	17	6	38 6	17 42.3
4	10	35 32	17 47.7	19	10	38 8	16 48.8
5	10	35 32	20 44.5	8	10½	38 10	19 38.5
19	10	35 41	16 55.0	5	9	38 16	20 40.5
18 19	9½	35 42	17 12.2	18	10	38 17	17 28.1
18	9	35 45	17 9.7:	17	9½	38 39	17 45.9
3	9½	35 46	18 18.8	3	11	38 42	18 12.7
3	9½	35 46	18 23.8	4	9½	38 44	17 50.0
17	11	35 46	17 30.5	6	10	38 57	20 1.7
17 18	10	36 18	17 29.2	18	10	39 7	17 16.5
4	10½	36 20	17 48.8	19	10½	39 23	17 1.9
8	11	36 21	19 42.2	19	9½	39 31	17 0.7
19	9	36 27	16 53.1	19	8	39 41	17 2.8
17	9	36 33	17 39.3*	17 18	9½	39 41	17 28.1
17	10	36 33	17 30.0	8	11	39 42	19 29.8
18	11½	36 33	17 13.0	18	10	39 43	17 20.8
18	11	36 36	17 16.8	18	7	39 46	17 17.0
4	10	36 47	17 59.7	19	8	39 47	17 4.0
18	9	36 53	17 12.6	19	10	39 49	17 9.4
19	9½	36 53	17 8.6	8	11	39 53	19 31.8
5	11	36 54	20 42.5	19	8	40 3	17 9.3
4	10	36 57	18 3.0	17	9	40 5	17 30.6
19	11	37 3	16 50.7	6	11	40 7	19 58.5
3	10½	37 17	18 16.0	6	10	40 8	20 1.4
17	10½	37 28	17 41.8	3	10½	40 12	18 12.2
5	9	20 37 30	—20 40.2	17	9	20 40 27	—17 45.3

* (4). † Looked for twice with Circle, but could not be found.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	11	20 40 28	—19 27.7	8	11	20 43 51	—19 44.2
8	11	40 31	19 30.7	8	11	43 55	19 45.7
17 18	9	40 37	17 29.8	17	9	43 56	17 37.1
4	9	40 39	17 51.1	3	10	44 5	18 16.7
17	9	40 44	17 37.5	17	10	44 9	17 32.0
18	9½	40 56	17 10.6	18	11½	44 11	17 27.7
19	10½	41 8	17 2.8	8	10	44 12	19 31.2
3	9	41 15	18 18.9	3	11	44 20	18 14.0
3	9	41 15	18 8.6	19	12	44 21	17 7.2
19	10	41 16	17 6.4	3 4	7½	44 28	18 7.0
8	11½	41 37	19 45.8	6	11	44 28	19 47.6
19	10	41 40	17 6.1	17	8	44 29	17 33.8
17	10	41 55	17 36.5	4	8	44 49	17 52.5
18	10	41 57	17 8.8*	19	11	45 1	16 52.8
17	11	42 2	17 43.4	3	9	45 2	18 27.0
18	10½	42 3	17 12.7	19	10½	45 3	17 6.8
8	10	42 6	13 31.5	19	11½	45 4	16 54.9
8	11	42 14	19 30.3	18	11	45 12	17 29.8
4	6	42 29	17 50.7†	17 18	9	45 14	17 26.7
3	8	42 31	18 18.9	4 17	8½	45 18	17 47.9
8	11	42 33	19 31.2	8	10½	45 18	19 32.9
18	10½	42 33	17 27.8	18	9	45 23	17 17.0
19	8	42 40	16 58.1‡	19	11	45 38	17 9.5
6	11	42 42	19 58.9	19	11	45 51	16 53.5
6	10	42 47	19 58.9	8	8	46 0	19 24.9
4	9½	42 57	18 1.5	4	10½	46 5	18 0.0
4	9½	42 58	18 3.2	18	9	46 15	17 14.9
18	11	42 59	17 29.1	17	9½	46 16	17 44.8
6	10½	43 21	20 0.7	17	10	46 20	17 37.5
17	9	43 26	17 28.0	4	10½	46 21	18 3.8
19	11	43 30	17 4.3§	17	10	46 21	17 39.1
18	11	43 33	17 20.1	3	8	46 22	18 10.4
18	9	43 36	17 28.1	18	9	46 41	17 13.9
3	10	43 37	18 14.5	19	10	46 45	16 52.0
18	10	20 43 47	—17 16.2	19	10	20 46 50	—16 53.6

* Double. † Taken on 17th but marked doubtful. ‡ (4). § Largest of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	9	20 46 55	—19 30.6	3	8	20 50 36	—18 26.3†
18	9	46 55	17 14.0	18	11	50 54	17 29.1
18	10	47 0	17 21.2*	18	10½	51 7	17 23.9
18	10½	47 0	17 17.8	3	10½	51 11	18 23.7
18	10	47 9	17 14.4	4	8	51 11	18 2.7
8	9	47 11	19 35.6	3	10½	51 29	18 21.7
17	6	47 20	17 40.8*	4	8	51 33	17 52.0
19	11	47 21	17 8.4	17	11	51 40	17 37.3
3	11	47 24	18 24.4:	18	9½	51 45	17 15.0
17	11	47 25	17 32.1	17	11	51 54	17 37.1
17	11	47 31	17 40.4	17	11	51 59	17 35.2
17	11	47 38	17 32.8	19	9½	52 3	16 56.8
3	11	47 43	18 24.7	3	8	52 7	18 14.6
19	10	47 51	16 57.2	18	10½	52 8	17 14.0
3	10½	47 53	18 25.8	17	9	52 9	17 39.7
19	11	48 9	17 4.5	4	9½	52 11	17 54.0
19	11	48 21	17 4.6	19	10	52 17	16 58.6
18	9	48 23	17 16.0	19	10	52 18	16 58.6
4	8	48 28	18 5.3	18	11	52 25	17 15.7
19	10	48 29	16 58.1	18	11	52 28	17 22.1
17	10	48 30	17 39.4	18	10	52 37	17 15.4
3	9	48 54	18 25.0	18	10	52 59	17 24.9
18	9	48 57	17 17.4	3	11	53 28	18 25.3
18	9½	49 2	17 16.3	19	11	53 39	17 6.0
3	8	49 4	18 18.4*	17	10½	53 47	17 34.4
18 19	10½	49 5	17 10.6	17	10½	53 48	17 49.8
17	10½	49 35	17 34.7	19	11	53 48	17 5.5
19	11	49 37	16 50.7	3	9	54 1	18 11.2
18	9	49 47	17 16.1	17	10½	54 17	17 30.4
17	7	49 55	17 35.4	18	10½	54 20	17 23.7
4	10	49 56	18 5.0	18	11	54 33	17 22.3
18	11	49 59	17 26.9	19	11½	54 36	17 6.5
17	11½	50 20	17 41.7	18	10	55 18	17 21.6*
19	9	50 20	16 59.1*	19	9	55 18	17 3.1
17	11	20 50 22	—17 41.7	17	10	20 55 20	—17 43.9

*(4).

† October, 1849.

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	10	20 55 23	—17 45.9	19	10½	20 59 50	—17 11.7
	10	55 24	17 22.7	19	11	59 58	16 58.3
	8½	55 27	17 57.8	17	10	21 0 3	17 35.0‡
	10	55 42	16 51.2	19	11	0 8	16 59.2
	11	55 44	17 33.4	4	9	0 18	17 52.9
	10½	55 46	16 53.4	4	10	0 50	18 0.4
4	6½	55 55	18 7.3	10	10½	0 57	17 2.4
	8½	55 57	17 1.0*	17	10	1 4	17 36.1
	10½	56 11	17 17.1	17	11	1 12	17 29.9
	10	56 19	17 47.4	4	9	1 32	17 51.8
	8½	56 42	16 48.5†	18	11	1 36	17 22.6
	10	56 45	17 45.7	19	10	1 44	16 50.3
	10½	56 57	18 5.3	18	11½	1 54	17 28.7
	10	57 8	17 44.4	17	11	2 3	17 36.5
	9½	57 10	17 37.5	17	9	2 3	17 30.7
	10	57 16	17 2[illegible]4	17	11	2 7	17 26.5
	9	57 26	17 18.3*	4	8½	2 19	18 4.8
	11	57 37	16 48.5	18	9½	2 19	17 11.5
	10	57 41	18 18.2	18	9½	2 26	17 13.7
	9	57 55	17 25.8	18	9½	2 32	17 27.8
	10	58 18	17 8.5	18	11½	2 37	17 21.5
	10½	58 26	17 28.5	19	10	2 52	17 0.1
	11	58 41	17 7.9	19	11	3 5	17 0.1
	11	58 54	17 10.4	19	11	3 5	17 4.7
17	9½	58 59	17 47.6	19	10½	3 13	17 7.1
19	9½	59 2	17 7.7	17	9	3 49	17 32.0
	9	59 4	17 4.9	18	10	3 57	17 12.0
	10	59 11	17 6.4	17	11	4 8	17 38.4::
	7	59 19	18 3.2	18	11	4 12	17 15.3
	10	59 29	18 8.2	18 19	9½	4 27	17 11.7
	10	59 30	17 3.8	17	9½	4 47	17 38.4
	11	59 34	17 19.5	18	11	5 8	17 21.6
	11½	59 41	17 11.0	17	9	5 9	17 39.5
	10	59 42	17 29.9	19	10½	5 18	16 58.0
	9	20 59 49	—17 19.6	18	9	21 5 20	—17 27.6

* (4). † October, 1849. ‡ An 11th Mag. N.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	10½	21 5 21	—17 1.9*	18	11	21 10 45	—17 26.1
18	9	5 39	17 18.5*	18	11	10 46	17 22.5
18	12	5 39	17 26.5	19	9	10 56	17 8.3
18 19	9½	6 35	17 11.6	18	9	11 15	17 24.5
19	11	6 51	17 11.8	19	9	11 50	17 6.1
19	10	7 2	16 59.4	17	9	11 57	17 38.4
17	11	7 7	17 46.1	19	9	12 1	16 51.1
18	10½	7 12	17 10.7	19	9½	12 6	16 51.1
17	9	7 14	17 43.5	19	10½	12 11	17 4.9
19	10	7 20	16 54.0	17	9	12 19	17 42.8
18	11	7 22	17 15.1	18	10	12 22	17 30.4
18	10½	8 0	17 14.4	18	11	12 29	17 26.7
18 19	10½	8 1	17 11.2	18	11	12 36	17 23.6
19	10½	8 8	17 7.5	17	9	12 48	17 42.2
18	10½	8 22	17 11.0	17	10	12 50	17 36.2
17	10	8 26	17 36.1	17	10½	13 25	17 32.4
17	10	8 35	17 35.2	19	8	13 30	16 53.9
18 19	11	8 50	17 8.8	17	10	13 45	17 40.3
17	10½	8 53	17 46.6	19	10	13 55	17 1.9
18	11	8 53	17 8.7:	18 19	9½	14 23	17 10.5
19	10½	9 2	17 6.4	18	10½	14 54	17 10.7
17	10½	9 7	17 36.9	18	10	15 18	17 20.1
18 19	9½	9 31	17 10.4	19	11	15 30	17 5.9
18	12	9 32	17 14.0	18	10	15 36	17 10.7
17	10½	9 35	17 47.4	19	10	15 40	17 6.5
18	9½	10 3	17 22.5	19	11	15 46	16 51.3
18	9	10 4	17 14.1	18	10	15 55	17 24.1
19	11	10 21	17 1.6	17	9	16 44	17 41.4
19	10	10 21	16 51.6	17	10½	16 44	17 44.0
19	11	10 25	17 2.9	19	9	16 51	17 2.7
17	11	10 26	17 35.6†	19	9	17 1	16 52.1
19	11	10 31	16 53.4	18	10	17 15	17 26.2
17	10	10 34	17 44.3	18	10	17 32	17 10.9
19	11	10 35	16 56.6	17	10½	17 38	17 38.4
17	10	21 10 38	—17 42.0	19	11	21 17 42	—17 7.2

*(4).

† A 10th p.

Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
	10	21 17 44	—16 51.3	18	9	21 21 48	—17 21.8*
	10½	17 47	17 22.5	19	11	22 9	17 1.3
	10	18 8	17 18.3	19	11	22 14	17 1.3
18	9	18 13	17 29.1	18	11	22 51	17 10.9
	10½	18 23	17 5.2	19	10	29 0	17 8.7
	9½	18 33	17 11.2	19	11	29 9	16 58.3
	9	18 46	17 4.7	19	10½	29 31	17 7.3
	9½	19 6	17 14.2	19	11	30 42	16 54.5
	9½	19 15	17 11.5	19	12	31 5	16 56.8
	10	19 21	17 8.5	19	11	31 38	17 4.3
	9	19 36	17 14.3	19	10½	31 38	17 2.5
	9	19 44	16 53.4	19	11	31 44	17 6.0
	10½	19 53	17 8.2	19	10½	31 47	17 9.9
	9	19 54	17 14.6	19	11	33 6	17 6.6
	10	20 6	17 3.8	19	10½	33 10	17 9.3:
	11	20 26	17 13.6	19	11	33 17	16 58.4
	9½	20 26	16 58.0	19	11	34 27	17 1.3:
	11½	20 38	17 16.8	19	10½	34 33	16 54.5
	11	21 0	16 53.0	19	11	34 35	17 1.9
	10	21 28	17 18.4*	19	10½	21 34 50	—16 53.8
	10	21 21 44	—16 56.3				

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

864 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	20 1 6	—18 8.3	2	10	20 13 28	—17 49.4
2	10½	1 12	17 55.9	2	9	13 53	17 56.9*
2	10	2 13	17 59.9*	2	10	14 5	17 56.3
2	11	2 28	17 52.3†	2	9½	14 21	18 4.4
2	10½	3 15	17 57.4	1	11	14 28	18 44.4
2	10	4 27	18 0.1	1	9½	14 57	18 41.6
2	11	4 27	17 58.1	2	9½	15 32	17 47.1
2	10½	4 45	17 52.4	2	10	16 1	18 1.1
1	10	4 52	18 42.2	2	10	16 2	18 10.0
2	8	5 22	18 7.4	2	9	16 13	18 3.3
2	10	5 38	17 57.7*	1	11	17 35	18 26.1
1	8	5 50	18 32.6	2	11	17 42	17 50.1
2	11	6 38	17 55.5	2	7	17 59	17 51.7
1	10	6 47	18 44.0	1	10½	18 20	18 42.9
2	10½	7 19	18 6.4	2	11½	18 32	17 54.6‡
1	10	8 18	18 29.4	1	10	19 16	18 32.5
2	10	9 1	18 0.3	1	10	19 50	18 28.3
1	10	9 11	18 30.6	2	8	19 52	17 49.4
2	10	9 20	18 8.0	2	12	19 57	17 54.5
1	10	9 21	18 40.4	1	11	20 42	18 46.1
2	10	9 23	18 5.5	1	10	20 58	18 42.8
2	9	9 50	18 1.6	2	9	21 3	17 53.9
2	8	11 9	17 57.2	1	11	21 9	18 48.5
2	11	11 22	18 8.4	2	9	21 28	18 1.5
2	10½	11 24	18 0.6	2	11	21 29	18 4.2
2	8	11 33	17 57.9*	2	9	21 53	17 52.6
2	9½	12 5	17 53.0	1	11	22 4	18 41.9
1	7½	12 16	18 37.3	1	10	22 20	18 41.4
2	10½	12 57	18 5.2	2	11	22 56	18 7.1
1	10½	20 13 28	—18 48.5	1	11	20 25 56	—18 25.6

* (4). † S. of double. ‡ An 11½ N.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
1	10	20 26 2	—18 26.9	5	10½	20 35 55	—16 37.5
1	10	27 21	18 28.5	5	11	36 9	16 27.9
1	11	27 44	18 48.5	10	11	36 25	16 22.1
2	10	27 46	17 52.6	5	9	36 47	16 34.5
2	10	28 0	18 2.8	10	8	36 49	16 20.2†
1	11	29 2	18 40.0	1	11	36 54	18 32.8
1	11	29 20	18 30.1	5	11½	37 12	16 31.6
1	10	29 55	18 34.1	5	11½	37 18	16 34.4
1	11	30 26	18 30.8	5	11½	37 47	16 31.8
1	10	32 2	18 44.1	1	11	37 56	18 43.2
5	11	32 12	16 33.4	1	10½	38 3	18 29.1
5	12	32 15	16 35.2	10	11	38 15	16 23.0
5	11½	32 42	16 35.7	5	11	38 40	16 34.5
10	11	32 45	16 22.9	5	9	38 56	16 28.4
1	10	32 55	18 30.2	1	10½	39 12	18 28.3
10	11	32 56	16 23.8	5	9½	39 17	16 39.8†
10	10	33 5	16 27.0*	5	9	39 26	16 48.5
5	9	33 8	16 33.3	12	11½	40 27	15 20.3
5	10	33 9	16 27.1*	8	10	40 30	18 39.4
1	9½	33 27	18 24.6	10	11	40 43	16 27.8
10	10½	33 46	16 13.0	10	11	40 47	16 26.3
5	10½	33 47	16 33.2	5	11	40 48	16 45.7
10	9½	33 55	16 14.6	5	11	40 59	16 45.1
5	9½	34 10	16 35.9	5	11	41 14	16 43.0
10	8	34 13	16 12.0	8	10	41 14	18 39.4
5 10	8½	34 19	16 26.5	5	10	41 24	16 45.3
5	10	34 42	16 38.0	10	11	41 34	16 28.4
10	9½	34 46	16 17.7	10	10	41 35	16 24.1
5	10½	35 18	16 44.8	1 8	10½	41 37	18 39.6
5	10	35 24	16 42.3	10	10½	41 37	16 9.8
10	9	35 24	16 20.6	12	11	41 49	15 25.7
5	11	35 29	16 46.2	12	9	42 16	15 15.2
1	11	35 39	18 33.4	12	10½	42 17	15 15.9
10	11	35 46	16 17.7	8	10	42 18	18 47.2
1	11	20 35 54	—18 31.0	10	10½	20 42 29	—16 26.4

* 30 October, 1850. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	11	20 42 31	—15 23.6	12	11	20 46 14	—15 14.2
10	10½	42 33	16 24.3	12	10½	46 18	15 10.5
5	11	42 34	16 33.1	10	11	46 20	16 26.2
12	10½	42 49	15 23.1	12	11	46 20	15 11.2
5	10½	42 52	16 35.4	12	10½	46 22	15 9.5
5	10½	42 54	16 30.2	10	11	46 27	16 23.7
8	10½	42 57	18 31.1	5	9½	46 45	16 41.7
10	9½	43 3	16 17.7	5	9	47 0	16 36.9*
12	11	43 32	15 19.4	10	10	47 3	16 10.0
8	10½	43 37	18 47.8	5	12	47 10	16 41.2
12	10	43 42	15 7.9	10	11	47 10	16 19.9
10	10	43 47	16 13.8	12	9	47 10	15 10.8
8	10	43 48	18 30.9	5	10½	47 18	16 40.7
12	11	43 48	15 13.0	8	11	47 25	18 35.7
5	9	43 51	16 33.2	8	10½	47 25	18 41.6
5	10	43 51	16 30.5	10	11	47 31	16 9.5
10	10½	43 54	16 19.8	8	10½	47 38	18 29.6
12	11	43 54	15 8.6	12	10	47 40	15 14.8†
10	10	44 13	16 22.6	12	11	47 47	15 13.5
5	10½	44 26	16 41.2	10	11	47 57	16 17.6
10	9½	44 37	16 25.7	12	10½	48 13	15 13.3
10	10½	44 43	16 25.4	10	9	48 40	16 13.3‡
10	11	44 58	16 17.5	8	11	48 41	18 51.1
12	10½	44 59	15 26.6	10	9	48 46	16 17.1*
5	11	45 3	16 41.3	5	12	48 57	16 43.4
5	10½	45 4	16 36.1	12	11	49 12	15 14.6
12	10	45 12	15 26.4	8	11	49 14	18 46.4
8	10	45 17	18 39.7	12	11	49 14	15 13.9
12	11	45 18	15 27.7	8	11	49 23	18 41.4
12	10	45 36	15 7.9	8	11	49 29	18 40.7
8	10½	45 49	18 43.9	12	10½	49 32	15 13.4
12	11	45 49	15 10.1	5	10	49 36	16 27.1
8	10½	45 53	18 37.7	12	11	49 43	15 13.8
8	11	45 57	18 43.8	12	9½	49 51	15 15.0
8	9	20 46 12	—18 42.8	8	11	20 50 2	—18 41.0

* (4). † Several smaller Stars round this. ‡ Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	11	20 50 8	—18 42.3	12	11	20 53 39	—15 9.7
5	10	50 17	16 33.8	10	11	53 41	16 26.0
10	11	50 18	16 21.4	10	10½	53 53	16 29.4
5	10	50 22	16 45.2	5	11	54 1	16 39.7
8	11	50 25	18 40.6	8	9	54 1	18 33.0
5	10½	50 31	16 32.9	5	11	54 2	16 42.7
10	8	50 33	16 17.3*	10	9	54 19	16 24.6
10	8	50 34	16 12.1	12	11½	54 23	15 26.9
12	11	50 36	15 12.7	10	9	54 38	16 7.9
5	11	50 37	16 45.3	12	10	54 39	15 11.2
10	10	50 40	16 20.0	5	11	54 41	16 34.0
12	11	50 44	15 9.0	10	10	54 53	16 14.6
12	11	50 57	15 10.8	8	10	55 21	18 42.0
12	11	51 10	15 13.9	8	10	55 28	18 43.7
8	10	51 22	18 33.2	5	11	55 31	16 39.9
8	9½	51 39	18 28.2	5	10½	55 39	16 48.3
12	10	51 47	15 23.8	8	9	55 39	18 50.0
12	9½	51 47	15 27.6	12	11	55 44	15 21.9
5	10	51 55	16 29.2	12	9½	55 49	15 11.6
10	8½	52 1	16 20.4	5	10½	55 51	16 44.0
5	10	52 12	16 32.7	10	8½	56 0	16 22.7
12	10	52 13	15 16.1	10	8	56 10	16 13.6
8	10	52 17	18 31.8	5	10½	56 27	16 36.1
10	9	52 23	16 24.8	10	8½	56 28	16 21.5
8	9	52 24	18 29.0	5	10	56 35	16 29.7
8	10½	52 28	18 45.4	10	9	56 38	16 11.9
5	10	52 29	16 32.9	10	10	56 44	16 17.9
5	10½	52 33	16 31.5	5	10	56 45	16 35.0
10	11	52 36	16 24.0	8	11	56 55	18 34.8
10	10	52 42	16 22.1	12	10	56 59	15 21.0
12	10½	52 48	15 16.9	8	12	57 4	18 36.9
8	10	53 13	18 31.2	8	11	57 19	18 45.2
5	12	53 19	16 34.1	8	11	57 23	18 39.4
8	9	53 25	18 44.4	5	10	57 28	16 44.9
10	9	20 53 38	—16 7.9	8	10½	20 57 45	—18 46.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	10½	20 57 56	—16 27.7	12	10	21 3 19	—15 10.6
5	9	58 12	16 40.3	8	11	3 22	18 48.9
12	10	58 13	15 14.3	8	9½	3 36	18 48.9
12	11½	58 19	15 23.5	10	12	4 4	16 25.0
10	9	58 27	16 10.0	5	12	4 17	16 44.0
5 10	9	58 31	16 29.4	5 10	9	4 21	16 27.6
5	10	58 36	16 36.6	12	11½	4 26	15 12.6
8	11	58 45	18 42.0	8	11	5 8	18 42.4
12	11	59 1	15 7.1	5	11½	5 9	16 43.8
12	10	59 10	15 15.3	8	9½	5 30	18 37.5
8	10½	59 12	18 39.5	5	11	5 34	16 43.4
5	11	59 47	16 32.6	12	10½	5 42	15 9.4
12	11	21 0 15	15 16.9	5	11	5 44	16 45.2
8	10½	0 20	18 38.1	8	9½	5 48	18 35.2
12	10½	0 36	15 10.1	10	11	5 54	16 19.8
8	12	0 45	18 40.6	8	9½	5 55	18 45.1
10	10	0 52	16 19.5	5	11	6 1	16 46.1
12	11	1 8	15 10.6	10	11	6 17	16 11.0
10	10½	1 9	16 17.0	12	10½	6 32	15 18.2
12	11	1 18	15 25.3	10	11	6 38	16 24.6
5	10½	1 19	16 43.9	8	10	6 52	18 40.5
12	11	1 25	15 21.5	10	9	6 53	16 21.0
10	10½	1 26	16 15.8	5	11	6 57	16 41.0
10	11	1 32	16 20.9	5	9	7 5	16 36.0
8	11	1 44	18 48.0	5	8½	7 14	16 42.6
8	10	1 53	18 36.8	10	11	7 41	16 26.8
8	10	1 56	18 37.6	10	11	7 47	16 22.4
5	9½	2 15	16 46.8	10	11	7 55	16 23.7
5	10½	2 19	16 43.8	8	11	8 9	18 44.9
8	9	2 19	18 50.6	5	11	8 14	16 50.2
12	11	2 34	15 29.8	5	12	8 23	16 43.4
10	11	2 38	16 25.8	10	10½	8 33	16 22.1
10	11	2 40	16 18.2	12	11½	8 49	15 23.7
5	9	3 1	16 38.0*	5	10	8 55	16 35.9
8	9	21 3 2	—18 38.6	5	11½	21 8 56	—16 46.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	10	21 9 4	—18 42.2	12	10½	21 13 51	—15 13.1
8	10	9 8	18 43.1	8	9	13 54	18 35.3
5	11½	9 15	16 45.8	10	12	13 54	16 23.2
5	10	9 26	16 45.1	10	10½	13 58	16 12.7
12	10	9 43	15 13.8	5	11	14 0	16 39.6
10	10½	10 0	16 31.4	5	10½	14 4	16 41.3
8	11	10 6	18 33.4	10	11	14 6	16 15.5
5 10	11	10 15	16 30.9	8	9½	14 8	18 39.8
12	10½	10 23	15 16.8	8	11	14 9	18 47.7
5	11	10 34	16 36.1	12	10½	14 37	15 15.7
8	10	10 37	18 39.4	8	9½	14 53	18 30.3
5	11	10 44	16 37.2	12	9	14 55	15 27.7
8	10	10 49	18 32.2	10	10	15 3	16 20.4
10	10½	10 50	16 10.3	5	12	15 4	16 29.6
12	11	10 55	15 11.9	5	10	15 14	16 31.0
5	10	11 4	16 34.3	5	11	15 16	16 41.7
10	11	11 7	16 15.2	8	11	15 16	18 39.8
8	9½	11 18	18 37.6	12	10½	15 19	15 29.8
12	11½	11 24	15 27.8	8	10	15 43	18 35.4
12	10	11 27	15 15.4	12	11½	15 47	15 16.7
8	11	11 43	18 47.4	12	12	15 58	15 16.5
10	10½	11 43	16 14.9	5	9	16 2	16 42.2
10	10½	11 44	16 12.6	8	10	16 7	18 34.5
10	10½	11 50	16 10.4	10	10	16 11	16 16.0
8	11	12 14	18 47.2	8	10	16 14	18 39.4
12	10	12 26	15 15.4	10	10	16 36	16 9.5
12	11	12 54	15 23.6	8	10½	16 38	18 36.2
8	9½	12 56	18 45.3	5	9½	16 39	16 37.3
10	11	13 6	16 19.7	10	11	16 55	16 19.0
12	9½	13 6	15 11.8	10	11	17 1	16 27.2
8	9	13 12	18 32.4	5	12	17 5	16 46.3
5	8½	13 29	16 36.6*	5	11	17 22	16 45.2
10	10	13 36	16 20.5	5	12	17 34	16 44.6
5	12	13 37	16 36.1	8	9½	17 48	18 33.7
10	10	21 13 45	—16 20.8	5	11	21 17 55	—16 44.4

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	21 18 0	—16 19.8	10	10½	21 59 17	—8 1.8
10	11	18 1	16 27.2	10	10½	59 20	8 8.6
12	11	18 4	15 23.7	10	10	59 39	8 1.0
12	11	18 6	15 24.7	10	9	22 0 1	8 5.0
12	11½	18 8	15 20.9	5	11	0 24	7 25.6
5	11	18 9	16 44.1	12	10	0 42	8 30.1
8	9	18 10	18 31.3	12	10	0 49	8 36.4
8	9	18 35	18 41.9	10	11	1 5	8 3.1*
5	9½	18 48	16 37.5	10	11	1 9	8 5.5
10	11	18 58	16 17.2	12	10	1 11	8 49.1
5	11	19 5	16 40.5	5	11	1 16	7 26.3
5	11	19 20	16 41.8	12	10½	1 20	8 35.7
10	10	19 25	16 9.8	5	10½	1 36	7 9.6
10	10½	19 44	16 17.4	12	10½	1 51	8 45.5
5	10½	19 48	16 39.9	8	11	1 57	7 38.7
5	10	19 59	16 40.9	12	11	2 9	8 46.7
12	11	20 8	15 27.3	8	11½	2 16	7 35.9
10	11½	20 15	16 21.8	5	12	2 26	7 22.8
10	11½	20 15	16 25.6	10	10½	2 34	8 10.5
12	11	20 18	15 20.4	5	12	2 35	7 20.6
5	10½	20 19	16 48.1	8	11½	2 36	7 36.7
12	10½	20 29	15 23.2	12	10	2 39	8 47.9
10	11	20 33	16 24.3	12	10	2 51	8 37.2
12	10½	20 35	15 19.1	10	10½	2 55	7 50.3
10	10½	21 17	16 20.8	5	11	3 2	7 24.3
10	10	21 27	16 9.8	8	10	3 11	7 31.1
12	10½	21 56	15 14.6	5	10½	3 13	7 20.9
10	11	22 4	16 15.9	5	10½	3 15	7 24.0
12	9	22 4	15 29.4	12	10	3 19	8 44.9
10	9	22 42	16 30.5	8	10	3 31	7 43.5
12	9	22 52	15 10.2	10	11	3 47	8 4.5
10	10	23 9	16 12.7	10	10	3 59	8 2.3
10	10½	23 27	16 26.9	10	11	4 1	8 4.9
10	10½	23 33	16 21.1	10	10	4 10	7 54.6
10	11	21 59 0	—8 5.7	5	10½	22 4 23	—7 22.6

* *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10½	22 4 23	—8 42.6	5	10	22 10 35	—7 23.2
5	10½	4 30	7 12.7	10	10	10 42	8 1.4
12	12	4 54	8 44.4	5	11	10 43	7 23.3
8	11	5 14	7 44.8	10	11½	10 52	8 3.7
8	10	5 17	7 31.1	12	11	10 54	8 35.7
10	11	5 28	8 8.9	10	10	11 7	7 57.4
5	10½	5 39	7 21.8	10	11	11 20	8 4.4
8	11	5 43	7 43.2	10	11	11 25	8 1.6
12	9	5 49	8 33.0	5	11	11 33	7 10.9
5	10½	5 51	7 20.2*	12	11	12 1	8 45.1
12	10	5 58	8 32.7	12	11	12 1	8 30.8
12	10	6 1	8 38.9*	12	11	12 4	8 32.3
8	10	6 14	7 34.3	5	10½	12 7	7 15.2
10	10½	6 20	7 54.6	12	11	12 17	8 40.6
8 10	10	6 25	7 47.6	5	10½	12 28	7 10.2
10	11	6 37	7 57.6	8	11	12 41	7 46.9
10	10½	6 58	8 2.9	10	9½	12 42	7 53.3
10	10	6 59	8 7.5	10	11	12 51	7 55.6
5 8	10	7 24	7 29.8	12	12	12 55	8 40.8
12	11	7 28	8 48.0	10	10	13 2	7 54.7
5	12	7 33	7 29.3	8	11½	13 15	7 44.5
10	11	7 46	8 8.1	5	10½	13 17	7 19.6
12	11	8 6	8 32.1	5	9½	13 21	7 11.3
10	9½	8 7	8 4.8	10	11	13 25	7 55.5
12	11	8 10	8 34.1	5	10	13 36	7 23.1
10	11	8 13	7 58.5	10	11	13 48	7 56.0
5	11½	8 40	7 20.8	8	10½	13 53	7 36.3
5	11½	8 45	7 27.5	10	10	14 5	7 56.4
8	10	8 54	7 31.9	10	11	14 15	8 3.5
10	11	9 7	7 59.5	8	10	14 21	7 46.7
12	9	9 11	8 20.0	12	10½	14 27	8 46.6
5	10½	9 25	7 21.6	10	10½	14 29	7 56.4
5	10	9 31	7 21.2	12	10	14 29	8 31.2
10	10	9 36	7 50.1	8	11½	14 39	7 45.3
12	11½	22 9 40	—8 47.8	12	11	22 14 39	—8 39.0*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	22 14 48	—7 59.5	12	11	22 18 50	—8 48.8
10	11	14 57	8 0.3	8	9	19 10	7 37.3
12	11	15 2	8 38.4	5	10½	19 16	7 14.6
8	10	15 4	7 43.6	10	10	19 24	8 0.2
8	11	15 12	7 30.1	8	10	19 26	7 44.6
10	11	15 18	7 59.5	12	10½	19 26	8 44.4
8	9½	15 27	7 31.1	10	10	19 32	7 56.6
5	10	15 40	7 22.2	5	10½	19 36	7 25.3
12	11	15 47	8 37.8	12	11	19 46	8 32.4
8	10	16 0	7 40.9	8	10	19 50	7 40.4
5	10	16 3	7 13.5	12	11	19 57	8 48.0
5	11½	16 12	7 14.0	5	10	20 4	7 24.3
8	10½	16 20	7 31.3	8	10	20 14	7 47.6
12	11	16 31	8 45.6	12	10	20 30	8 47.4
10	10½	16 33	7 51.0	12	10	20 31	8 31.3
10	10½	16 40	8 8.4	5	11	20 34	7 28.0
12	9	16 40	8 51.8	12	11	20 47	8 37.9
5	10	16 52	7 12.0	8	11	20 51	7 42.9
8	9½	16 57	7 29.5	8	10	21 2	7 38.6
5	10½	17 2	7 9.4	5	11	21 3	7 24.0
5	10	17 3	7 12.2	8	9½	21 4	7 41.5
8	9	17 17	7 29.5	8	10	21 11	7 46.4
12	11	17 17	8 47.3	5	10½	21 25	7 20.7
10	10	17 19	7 53.0	10	10	21 33	8 5.9
10	10	17 29	8 5.6	10	10	21 35	8 5.6
12	10	17 47	8 42.1*	10	10½	21 38	7 59.5
10	10½	17 51	8 1.0	12	12	21 46	8 50.3
8	10½	17 58	7 31.7	8	10	21 58	7 46.5
8	10	18 1	7 38.6	10	10	22 9	8 9.8
5	11	18 16	7 25.0	10	11½	22 18	8 6.5
8	11	18 21	7 31.4	8	11	22 26	7 33.8
5	11	18 31	7 8.8	12	10	22 33	8 46.5
12	10	18 31	8 43.3	8	11	22 34	7 32.5
10	11	18 34	7 55.5	10	11	22 46	8 4.6
10	11	22 18 50	—8 6.4	12	11	22 22 49	—8 33.2

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10½	22 22 53	—8 36.5	5	11	22 28 55	—7 12.4
5	11	22 58	7 25.3	8	11½	29 7	7 45.2
5 8	10	23 16	7 26.5	10	11	29 7	8 6.4
10	9½	23 21	7 51.1	10	11	29 11	8 5.7
5	10½	23 26	7 14.0	8	9½	29 23	7 35.2
8	9	23 42	7 46.0	5	11	30 7	7 15.5
8	9	23 55	7 37.6*	5	11½	30 9	7 14.8
12	12	24 0	8 47.9	8	10	30 21	7 46.3
10	11	24 3	8 5.3	5	11	30 55	7 14.7
5	10	24 4	7 10.9	10	10½	31 9	8 5.9
10	12	24 4	8 6.5	8	10	31 36	7 31.7
8	9½	24 5	7 48.0	8	9½	31 39	7 38.0
12	12	24 18	8 49.1	8	9	31 45	7 45.5
8	9½	24 27	7 43.0	8	9½	31 56	7 45.8
8	11	25 8	7 45.6	5	11	32 5	7 24.4
12	10½	25 24	8 47.6	10	11	32 21	7 54.9
12	9	25 37	8 38.7	8	10	32 23	7 44.8
12	10	25 39	8 46.6	10	11	32 25	7 56.8
10	10	25 43	8 7.7	5	11	32 36	7 23.3
5	10	25 52	7 13.1	5	10½	32 44	7 27.8
8	9½	26 9	7 37.1	10	10½	33 7	8 7.0†
5	9½	26 31	7 21.1	5	11	33 35	7 24.9
8	9	26 31	7 33.8	8	11	33 35	7 47.4
8	11	26 34	7 39.3	8	10	33 56	7 32.8
5	11	26 48	7 19.9	5	10	33 57	7 20.6
5 8	9½	26 55	7 30.2	10	11	34 18	8 3.9
5	11	27 0	7 20.3	10	11	34 52	8 3.1
12	10	27 8	8 39.9	8	10	34 53	7 41.3
12	11	27 11	8 34.9	5	10½	35 2	7 9.2
8	11	27 32	7 44.8	5	10½	35 6	7 13.0
8	8	27 55	7 31.5	5	10	35 22	7 9.8
5	11	28 19	7 6.0	10	10	35 49	7 56.5
8	11	28 21	7 29.4	8	10	36 4	7 46.0
8	9	28 36	7 40.1	10	10	36 12	7 54.6
5	11½	22 28 45	—7 10.1	8	10	22 36 30	—7 42.4

* (4). † Double.

Days. Obs.	Mag.	α.	δ	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10½	22 36 40	—7 27.6	8	9	22 44 38	—7 44.5
8	10	36 48	7 39.6	8	11	44 41	7 40.4
8	10	36 52	7 43.3	5	10	44 44	7 14.9
10	11½	36 55	8 8.3	5	11	44 55	7 9.5
5	10	37 21	7 26.0	5	10	46 12	7 23.9
8	10	37 36	7 39.4	5	11	46 33	7 21.4
8	10½	37 43	7 45.3	5	11	46 41	7 21.3
5	10½	37 54	7 6.1	5	10½	46 59	7 25.2
5	10½	38 31	7 6.8	5	9½	48 6	7 17.5*
8	10	39 7	7 34.0	5	9	48 32	7 20.7
10	10	39 22	7 57.2	5	11	50 22	7 22.4
8	11½	39 25	7 43.0	8	9½	57 1	7 26.0
8	11½	39 27	7 41.3	8	10	57 35	7 28.3
5	11	39 34	7 12.1	8	11	58 1	7 34.0
8	10	39 43	7 46.1	8	11½	59 1	7 35.4
5	9	40 15	7 20.5	8	10½	59 5	7 32.9
5	10½	40 35	7 19.9	8	12	23 0 6	7 31.6
5	10½	40 41	7 9.7	8	8½	0 11	7 25.9
8	11	40 45	7 33.5	8	9	0 52	7 48.4
8	11	40 47	7 37.1	8	9	1 7	7 36.9
8	9	40 54	7 29.1	8	12	1 21	7 29.7
8	11	40 56	7 36.1	8	11½	2 16	7 32.6
5	10½	41 42	7 26.8	8	10	2 34	7 35.3
8	10	41 53	7 31.0	8	10	2 41	7 36.2
8	10	42 3	7 28.8	8	11	3 24	7 32.0
8	10	42 5	7 34.1	8	10½	4 0	7 31.6
5	10	42 35	7 12.3	8	10½	4 23	7 29.0
5	10	42 48	7 6.5	8	9½	5 8	7 46.1
5	10	42 55	7 23.9	8	11	5 20	7 40.1
8	9½	42 58	7 45.9	8	10½	6 10	7 41.2
8	9½	43 3	7 44.5	8	10	6 53	7 34.2
5	10	43 25	7 26.2	8	10	6 58	7 31.7
8	9	43 49	7 45.6	8	9½	7 57	7 29.4
8	11	44 21	7 43.5	8	11	8 2	7 43.2
5	11	22 44 31	—7 9.8	8	11½	23 9 32	—7 45.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
8	12	23 9 49	—7 40.8	15	10½	0 5 19	—2 37.5
15	9½	51 57	2 36.8	15	10½	5 22	2 44.4
15	11	51 37	2 44.6	8	9	5 54	0 21.8
15	10½	52 18	2 37.9	8	10	6 2	0 19.4
15	10	52 28	2 35.6	8	9	7 2	0 25.4
15	11	52 45	2 42.1	8	9½	7 16	0 11.9
15	9½	52 48	2 46.3	15	9½	7 41	2 39.7
15	9	54 3	2 48.3	15	11	8 12	2 31.6
15	11	54 6	2 45.4	15	10½	8 15	2 44.2
15	10	54 36	2 41.2	15	10	8 21	2 32.9
15	8	55 20	2 44.4	8	9½	8 57	0 26.6
15	10	56 24	2 42.3	15	10	9 5	2 41.0
15	10½	56 29	2 36.1	8	8½	9 40	0 14.3
15	10	56 40	2 43.8	15	10	9 48	2 48.4
15	10	56 43	2 48.0	8	9	10 22	0 21.1
15	11	57 39	2 47.2	8	8	10 23	0 13.1
15	10	58 36	2 43.0	8	9	10 41	0 18.6
15	11½	58 47	2 46.4	8	10	12 42	0 9.0
15	9½	59 0	2 44.7	8	9½	12 47	0 18.9
15	11	59 46	2 36.9	8	10½	13 3	0 9.0
8	10½	0 0 35	0 9.5	15	11	13 47	2 44.4
8	10	0 36	0 9.5	8	10½	13 55	0 21.0
15	11	0 47	2 35.1	8	9½	13 56	0 9.8
15	10	0 58	2 30.1	15	11	15 21	2 44.7
15	10½	1 0	2 36.6	8	10	15 27	0 21.4
15	9½	1 38	2 46.2	15	10	15 32	2 48.3
8	10½	1 40	0 12.0	15	10	15 34	2 41.7
15	11	2 6	2 47.0	15	10½	15 41	2 43.4
15	10	2 14	2 30.5	15	10	16 26	2 48.8
8	9½	2 15	0 7.0	15	11	16 58	2 43.4
15	11	2 33	2 51.0	15	11	18 5	2 45.0
15	9	3 22	2 49.5	8	11	18 18	0 19.3
8	10½	4 13	0 10.2	8	11	18 21	0 19.3
15	11	4 43	2 38.7	15	10	18 22	2 34.4
15	10	0 5 8	—2 43.0	8	9	0 18 24	—0 23.5

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	0 18 29	—2 37.4	8	9	0 23 9	—0 9.9
15	10	18 46	2 38.4	15	10	23 34	2 37.5
15	9	19 10	2 45.6	8	8½	23 56	0 12.7
15	10	19 34	2 42.9	8	9	24 6	0 25.0
15	10½	19 46	2 43.3	15	9	24 26	2 38.6*
15	10	20 42	2 39.7	8	9	24 54	0 25.8
8	9	21 0	0 10.7	8	10	25 16	0 20.4
15	10	21 5	2 31.8	8	9	25 18	0 25.6
8	9	21 6	0 6.4	8	9	26 10	0 18.3*
8	10	21 10	0 9.2	8	9	26 24	0 20.2
15	11	22 0	2 31.1	8	10	27 34	0 9.9
15	11	22 12	2 33.8	8	10	27 37	0 10.8
15	11	22 18	2 33.3	8	10	28 38	0 12.1
8	10	22 28	0 7.8	8	9	28 59	0 6.7
15	11	22 35	2 32.3	8	11	29 27	0 8.7
8	10	22 42	0 10.1	8	11	29 54	0 25.7
8	10	0 22 43	—0 14.0	8	9	0 30 16	—0 23.4

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

209 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
2	10	23 15 46	+1 10.3	2	11	23 18 12	+1 14.8
2	10	15 50	1 15.2	2	9	19 19	1 18.4
2	11	15 55	1 17.6	2	11	19 28	1 12.5
2	11	15 58	1 8.3	2	11	19 39	1 12.3
2	12	23 17 18	+1 25.1	2	11	23 20 37	+1 27.7

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
2	11½	23 20 52	+1 26.0	23	10½	1 43 6	+13 9.3
2	10	21 22	1 25.9	23	11	43 31	13 25.0
2	10	22 22	1 8.9	23	11	43 46	13 11.4
2	10	22 23	1 27.0	23	8	44 47	13 26.1
2	9½	22 40	1 10.2	23	10	44 51	13 29.2
2	10	23 5	1 10.9	23	11	46 0	13 22.9
2	10½	24 14	1 18.2*	23	11	46 1	13 20.8
2	10½	26 25	1 15.1	23	10	46 34	13 21.2
2	10	28 17	1 24.4	23	9	46 51	13 25.5
2	10	29 29	1 28.2	23	10½	47 24	13 21.0
2	11	30 18	1 25.4	23	10½	48 22	13 19.6
2	9	30 47	1 25.4*	23	10½	48 43	13 26.4
2	10	32 25	1 21.3*	23	10	48 58	13 19.1
2	10	32 33	1 21.6	23	10	50 42	13 19.6
2	11	32 41	1 11.1	23	10	50 52	13 15.6
2	11	32 42	1 11.6	23	12	51 56	13 12.8
2	11	34 15	1 16.0	23	10½	52 10	13 14.2
2	9½	35 6	1 25.1	23	10	53 1	13 31.8
2	10½	35 9	1 20.7	23	10½	53 40	13 24.1
2	10	36 18	1 24.4	23	10	53 50	13 22.5
2	11	36 31	1 9.6	23	11	53 53	13 26.4
2	10	37 28	1 28.2	23	10	54 18	13 23.2
2	10½	37 55	1 20.5	23	10	55 51	13 27.7
2	10	38 34	1 15.7	23	11	56 0	13 27.5
2	10½	39 24	1 21.1	23	10½	56 36	13 10.9
2	10	40 3	1 11.8	23	11	56 48	13 24.5
2	11	40 8	1 12.5	23	11	57 17	13 13.0
2	11	41 23	1 20.6	23	10½	57 56	13 18.2
2	10½	41 31	1 12.3	23	11	59 18	13 21.4*
2	10	42 5	1 13.2	23	11	59 24	13 11.5
2	10	42 11	1 12.0	23	11½	2 0 28	13 30.0
2	11	43 15	1 28.0	23	9	1 50	13 18.8*
23	10½	1 41 22	13 27.9	23	9½	1 52	13 16.8
23	9½	41 58	13 28.8†	23	12	2 31	13 21.8
23	11	1 42 29	+13 11.2	23	10	2 2 33	+13 23.6

* (4). † Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
23	11½	2 3 17	+13 20.5	23	11	3 14 23	+19 2.2
23	11	3 24	13 16.8	23	10	14 35	19 4.6
23	10½	4 53	13 13.4	23	11	15 49	19 6.4
23	11	5 40	13 22.7	23	9	16 7	18 52.0
23	11	5 46	13 25.6	23	9	16 27	18 58.5*
23	11	5 47	13 30.0	23	9	17 13	18 57.3
23	10½	6 4	13 27.8	23	11½	18 7	18 51.7
23	11½	6 55	13 12.5	23	11	19 33	19 10.0
23	11	7 45	13 9.3	23	11	19 38	19 7.3
23	11½	8 10	13 28.8:	23	11	19 54	19 2.7
23	10	8 42	13 14.6	23	10½	20 32	18 56.6
23	11½	10 0	13 23.6	23	11½	20 54	18 53.5
23	11	10 9	13 27.2	23	10	21 37	19 5.9
23	11½	10 12	13 18.7	23	10	21 53	18 51.8
23	10½	10 47	13 17.8	23	10	22 1	18 58.2
23	11	12 21	13 18.1	23	11	23 7	18 54.6
23	11½	21 54	13 24.5	23	10	23 20	18 55.3
23	11	22 7	13 21.7*	23	11	23 44	18 52.5
23	10	22 46	13 17.3	23	10½	24 17	18 53.5
23	12	25 28	13 27.1	23	12	25 9	19 8.8
23	11½	25 32	13 28.0	23	11	26 0	19 7.2
23	12	26 49	13 26.8	23	11	26 11	19 3.2
23	10	28 7	13 21.4	23	11	27 4	19 5.8
23	10	28 10	13 28.2	23	12	28 23	18 55.3
23	9	28 17	13 21.4	23	9	28 28	18 58.1
23	11	31 50	13 14.4	23	12	28 38	19 9.2†
23	10	32 19	13 13.1	23	10	29 6	18 51.9
23	9	32 46	13 13.8	23	11	30 26	19 9.2
23	9	33 2	13 19.7	23	11½	30 37	19 3.7
23	10½	33 22	13 16.4	23	11	30 48	19 3.7
23	11	34 34	13 21.3	23	11	30 53	19 4.3
23	10	34 41	13 23.6	23	10	32 29	19 7.9
23	9	38 25	13 12.3	23	11	33 28	18 50.0
23	10	3 13 25	18 52.6	23	11½	34 26	19 10.7
23	11	3 14 13	+19 5.7	23	11	3 34 41	+19 2.2

* (4).

† January, 1850.

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11	3 35 50	+19 6.9	23	11	3 51 50	+18 53.3
	10	36 22	19 5.1	23	11	51 53	18 53.8
	11	37 4	19 5.4	23	11	53 10	19 1.6
	12	37 15	19 5.8	23	11	53 14	19 6.1
	12	37 33	19 6.6	23	10½	53 36	18 59.3
	10	37 36	19 8.5	23	10	54 2	19 7.3
	11	39 3	18 59.5	23	11½	54 35	18 54.1
	11	39 6	19 3.4	23	9½	54 56	19 2.2
	11	39 15	18 55.1	23	9½	55 23	19 2.2*
	11½	40 26	18 54.0	23	11½	57 22	19 1.4
	9	40 39	19 4.5	23	10½	57 23	19 4.5
	11	42 2	18 55.1	23	10	57 49	19 6.0
	11	42 24	18 55.4	23	11	59 11	19 5.4†
	10½	42 40	18 51.5	23	11	59 21	19 0.3
	11½	42 41	18 55.5	23	11	4 0 31	19 1.8
	11	43 21	18 56.2	23	10	0 35	18 54.7
	11	44 1	19 1.4	23	11	3 16	18 51.6
	11	44 4	19 4.4	23	9½	4 0	18 56.4:
	11	45 0	19 4.8	23	9	6 12	18 55.6
	10½	45 8	19 7.6	23	10½	6 21	19 4.6
	11	45 47	19 8.9	23	10	7 27	19 3.5
	9½	46 27	19 6.6	23	9	7 35	19 12.0
	11½	46 58	18 57.9	23	8	8 53	19 11.2
	10	48 49	18 55.9	23	9	10 30	19 6.5
	11	49 8	19 7.3	23	9	11 5	18 57.2
	10½	49 45	19 3.6	23	9	11 9	19 9.1
	11	49 52	19 9.6	23	8	11 29	18 52.1
	10	50 12	19 6.5	23	9	11 57	18 53.1
	11	50 34	19 6.4	23	10	4 12 7	+19 8.8
	10½	3 51 6	+19 6.4				

* (4).

† An 11th Mag. N. p.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

260 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1849, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
29	10½	0 4 58	+2 16.0	19	9½	0 55 26	+8 10.5
29	12	6 9	2 14.5	19	11	55 29	8 19.9
29	11½	6 10	2 15.1	19	9	55 51	8 13.8
29	10	7 48	2 18.7	19	9½	56 15	8 11.8
29	11½	8 33	2 18.4	19	11	56 17	8 14.5
29	10½	10 16	2 15.2	19	12	57 28	8 14.8
29	10	10 40	2 19.0*	19	12	57 41	8 30.2
29	10½	11 31	2 18.6	19	12	57 44	8 17.0
29	11	12 11	2 27.5	19	11½	58 58	8 24.5
29	11½	14 10	2 25.5†	19	10½	59 23	8 31.3
29	10½	15 32	2 17.1	19	11½	1 0 8	8 22.3
29	10	15 56	2 23.8	19	10½	0 36	8 29.3
29	11	16 3	2 22.4	19	11	1 18	8 13.6
29	10	17 12	2 23.5	19	9	1 31	8 13.0
29	9½	18 56	2 31.3	19	10	1 42	8 15.3
29	9½	19 10	2 31.8	19	9½	2 17	8 16.4
29	10	20 50	2 9.4	19	12	3 13	8 18.2
29	11	21 30	2 14.7	19	10½	5 15	8 8.8
29	10½	21 36	2 27.7	19	10	6 41	8 23.8
29	10	23 21	2 10.0	19	10	7 2	8 19.2
29	11	24 24	2 16.0	19	11	7 26	8 27.4
29	11	24 40	2 27.7	19	10	7 42	8 24.4
29	11	24 56	2 25.5	19	12	9 51	8 12.1
29	9	25 43	2 9.1	19	10	10 24	8 8.4
29	11	26 7	2 32.1	19	11½	11 36	8 24.0
29	9	27 31	2 23.3	19	11	11 55	8 25.9
19	10½	52 43	8 29.2	19	9	12 42	8 20.9
19	9½	52 46	8 17.1	19	11	13 16	8 24.4
19	9½	53 23	8 23.3	19	11½	14 41	8 22.4
19	11½	0 54 17	+8 21.4	19	11	1 15 2	+8 23.2

* (4).

† Small Star S. p.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	11½	1 17 21	+8 15.7	19	11	1 42 54	+8 18.8
19	10½	18 9	8 30.9	19	12	43 35	8 12.3
19	10½	18 13	8 21.7	19	10½	43 47	8 10.4
19	11½	19 54	8 15.5	19	11	44 50	8 12.2
19	11½	20 8	8 17.3	19	11	45 18	8 15.8
19	10	20 57	8 10.1	19	10	45 29	8 14.7
19	11½	21 34	8 25.8	19	10	46 0	8 30.2
19	10½	22 12	8 18.2*	19	10½	46 1	8 22.2
19	11	25 12	8 10.5	19	9	46 54	8 27.1
19	10	27 2	8 24.3	19	11	46 58	8 28.0
19	10½	27 8	8 11.2	19	10½	47 50	8 26.2
19	10	28 8	8 11.8	19	10½	48 7	8 25.0
19	12	28 21	8 13.0	19	11½	48 13	8 23.4
19	11½	28 27	8 11.1	19	10½	48 29	8 22.1
19	11	29 23	8 7.7	19	10	49 38	8 23.7
19	10	29 29	8 6.9	19	10	50 19	8 13.9
19	11	29 34	8 18.4	19	11	50 48	8 23.8†
19	12	31 22	8 18.1	19	11	50 58	8 25.5
19	12	31 22	8 16.3	19	11	52 14	8 21.5‡
19	11	32 14	8 12.2	19	11	52 15	8 26.8
19	10	32 58	8 21.9	19	11	52 29	8 27.5
19	12	35 42	8 15.4	19	11	2 29 31	17 49.3
19	11	35 51	8 14.1	19	11½	30 7	17 33.7
19	10½	35 55	8 14.6	19	11½	30 9	17 35.0
19	11	36 7	8 15.3	19	11½	30 24	17 39.0
19	10	37 26	8 19.3	19	10	30 54	17 43.2
19	10	37 44	8 15.5	19	11	31 16	17 42.3
19	10	39 1	8 11.0	19	10	31 16	17 44.1
19	11½	39 19	8 17.0	19	10½	32 1	17 31.8
19	11	39 50	8 13.1	19	10	32 23	17 50.4
19	11	39 51	8 14.7	19	10	52 50	17 32.9
19	11	39 54	8 29.1	19	12	32 57	17 32.3
19	11½	41 21	8 21.9	19	11	34 3	17 48.9
19	10	41 26	8 20.6*	19	11	34 6	17 48.2
19	10½	1 42 43	+8 28.5	19	10½	2 34 45	+17 46.1

* (4). † Small Star S. p. ‡ S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	11½	2 35 1	+17 42.9	19	10	2 54 49	+17 35.4
19	11½	35 21	17 37.4	19	10	54 57	17 43.2
19	11½	35 23	17 36.2	19	11	55 9	17 31.5
19	10	36 3	17 36.2	19	11	55 17	17 32.2
19	11½	36 27	17 34.2	19	10½	56 3	17 34.6
19	10	37 4	17 47.7	19	11	56 13	17 36.9
19	9½	37 6	17 49.4	19	12	56 27	17 33.4
19	10	38 1	17 30.8	19	10	56 49	17 46.8
19	9	38 4	17 39.0	19	9	57 44	17 35.9
19	9	38 20	17 36.8	19	11	58 0	17 48.6
19	10	39 2	17 28.9	19	12	58 35	17 30.8
19	9	40 1	17 32.0	19	11	58 46	17 35.7
19	10	40 23	17 39.2	19	9½	59 19	17 36.2
19	10	41 39	17 44.2	19	11	59 36	17 45.5
19	10½	41 56	17 44.4	19	11½	3 0 42	17 32.9
19	11½	43 1	17 42.2	19	12	0 52	17 32.9
19	12	43 2	17 46.0	19	9½	1 14	17 32.9
19	10	43 33	17 43.0	19	11½	2 27	17 38.6
19	9	44 20	17 43.9	19	10	2 32	17 50.4
19	12	44 31	17 48.0	19	12	2 38	17 33.9
19	9	44 37	17 43.0	19	10½	3 37	17 41.9*
19	12	44 49	17 46.4	19	10	3 47	17 33.9
19	11	45 29	17 48.1	19	9½	4 22	17 41.2
19	10	45 46	17 45.6	19	10	4 27	17 44.1
19	11	48 44	17 51.1	19	10½	5 39	17 43.4
19	11	49 18	17 45.6	19	9	6 25	17 38.0
19	9	50 32	17 34.5	19	11	6 31	17 30.7
19	11	50 44	17 45.4	19	10	7 26	17 28.7
19	10	51 37	17 28.1	19	11	8 0	17 44.8
19	9½	52 25	17 37.4	19	10½	8 36	17 42.7
19	10	52 31	17 46.5	19	10	9 1	17 28.1
19	9½	53 12	17 33.2	19	11	9 44	17 48.8
19	9½	53 25	17 44.8	19	10	9 57	17 31.8
19	9	53 48	17 44.3	19	11	10 44	17 35.9†
19	9	2 53 53	+17 50.9	19	10½	3 11 40	+17 43.1

* (4).

† Small Star N. *f.*

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
19	11½	3 12 3	+17 47.8	19	10	3 33 31	+17 45.4
19	11½	12 18	17 45.8	19	10	33 39	17 51.2
19	11	13 21	17 37.4	19	11½	34 24	17 46.4
19	10½	14 16	17 46.7	19	11	35 12	17 37.3
19	11	14 51	17 43.9	19	11	35 43	17 40.8†
19	10	15 28	17 46.1	19	11	37 3	17 48.5
19	11	15 30	17 36.1	19	11	37 51	17 42.8
19	10	16 31	17 40.0	19	10	38 21	17 35.6
19	10	18 42	17 39.3*	19	8½	38 21	17 48.9
19	10½	19 11	17 42.2	19	9	38 53	17 50.4
19	10½	19 18	17 43.1	19	11	39 58	17 31.9
19	11	20 25	17 34.3	19	10½	40 15	17 38.9
19	11	20 52	17 35.0	19	9	41 3	17 49.7
19	11	21 18	17 48.3	19	9	41 23	17 48.5
19	11	23 24	17 49.0	19	10½	41 42	17 43.7
19	9	23 57	17 48.0	19	9	43 29	17 40.8
19	10	23 57	17 32.0	19	9	44 22	17 41.2†
19	9	24 33	17 51.2	19	9	44 25	17 33.7
19	10	25 19	17 34.2	19	9	45 0	17 33.8
19	11	28 9	17 31.0	19	10	45 58	17 34.8
19	11	28 17	17 35.9	19	11	46 52	17 44.4
19	10	28 34	17 47.4	19	11½	47 5	17 37.9
19	9	28 50	17 42.5	19	11½	47 25	17 35.1
19	10½	29 32	17 43.0	19	9	48 55	17 47.5
19	11½	30 52	17 44.7	19	10	49 19	17 34.4
19	11½	30 55	17 43.6	19	8	49 39	17 52.0
19	10	31 15	17 37.0	19	12	50 48	17 48.0
19	9½	32 9	17 36.8	19	11	51 6	17 40.1
19	12	32 39	17 37.1	19	10	51 34	17 32.6
19	10	3 33 28	+17 43.2	19	10	3 52 0	+17 46.4

* (4). A 12th Mag. *f*.

† (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

676 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10	2 47 16	+19 18.4	9	10	2 59 11	+19 23.0
9	11	48 7	19 29.1	9	9	3 0 32	19 27.1
9	9½	48 34	19 29.4	9	11	1 1	19 25.2
9	11	48 52	19 11.0	9	8	1 12	19 25.6
9	9	49 3	19 24.7	9	11	1 19	19 22.2
9	11	49 12	19 8.5	9	11	1 20	19 23.4
9	11	50 31	19 22.4	9	11	1 26	19 28.3
9	7	50 39	19 23.1	9	12	2 48	19 29.6†
9	9	50 56	19 27.8	9	10	3 27	19 10.3
9	10½	51 53	19 18.3	9	10	3 47	19 19.3
9	11	52 5	19 13.0	9	11	4 25	19 22.2
9	11	52 6	19 15.0	9	11	4 29	19 24.4
9	10	52 34	19 14.3	9	11	5 20	19 23.8
9	10	53 24	19 18.4:	9	10½	5 44	19 28.1
9	10½	53 51	19 18.0	9	10	6 15	19 24.7
9	10	53 52	19 19.9*	9	10	6 18	19 30.5:
9	10	53 58	19 27.6	9	10	6 25	19 13.7:
9	9½	54 7	19 29.8	9	9½	6 34	19 23.7
9	9	54 37	19 12.5	9	10	7 27	19 31.7
9	10½	55 10	19 13.8	9	10	7 55	19 27.2
9	10	55 42	19 29.3	9	11	8 30	19 24.3
9	10	55 45	19 18.1	9	10	8 54	19 16.4
9	10	56 0	19 31.0	9	11	8 55	19 18.7
9	10½	57 9	19 22.5	9	11	9 10	19 16.5
9	10	57 18	19 18.0	9	10½	9 39	19 17.3
9	10	57 20	19 25.3	9	10½	9 42	19 18.3
9	10½	58 6	19 19.0	9	9	10 0	19 11.6:
9	10	58 12	19 22.3	9	9	10 16	19 27.3
9	10	58 30	19 19.9	9	9	10 54	19 10.3
9	10	2 58 47	+19 14.2	9	11	3 13 19	+19 15.5

* (4).

† S. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	3 13 51	+19 19.5	15	10	3 23 24	+20 54.6
9	11	14 20	19 25.4	15	11	23 35	20 55.2
15	9	14 31	21 1.6	15	11	23 38	20 55.1
9	11	14 32	19 24.5	15	9	23 52	21 7.2
9	11	14 32	19 27.8	9	11½	24 3	19 11.1
9	7	15 25	19 22.2	15	9	24 27	21 9.5
9	11	15 36	19 26.8	9	9	25 7	19 25.5
9	10	15 52	19 18.9	15	10½	25 21	20 59.3*
9	11	15 53	19 15.2	15	10	25 27	20 51.7
15	11	16 0	20 54.7	15	10½	25 33	21 0.2
15	11	16 11	21 8.6	15	9½	26 5	20 56.2
15	10½	17 4	20 53.6	15	11½	27 1	20 53.0
15	10½	17 9	20 54.2	15	10½	27 9	21 9.0
15	10	17 10	20 56.0	9	11	27 18	19 13.8
9	10	17 12	19 26.3	15	11	28 1	20 51.6†
9	11	17 22	19 24.2	15	11	28 44	21 8.4
15	10	17 48	21 7.3	15	11	29 45	21 4.2
9	10½	17 54	19 23.9	15	11	29 46	21 6.9
15	9	18 2	20 55.2	15	10	29 48	21 8.4
9	10½	18 10	19 24.6	9	11	30 19	19 16.8
15	10	18 14	21 5.4	9	11	31 13	19 14.5
15	10	18 19	20 54.8	9	11	31 14	19 11.8
9	10½	18 54	19 19.8	15	10½	31 15	20 57.0
15	10	19 10	21 5.9	9	11	31 21	19 18.0
15	11	19 15	20 54.6	9	9½	31 22	19 19.3
15	11½	19 50	20 56.3	15	10½	31 23	21 2.1*
15	11½	20 0	20 54.3	9	10½	32 6	19 27.8
15	10	20 57	21 3.4	15	11	33 19	21 2.0*
15	10	20 57	20 56.9	15	10½	33 25	21 2.6*
15	9	21 34	21 4.3	15	10	33 39	20 59.4*
15	11½	21 52	20 58.7	15	10½	34 46	20 55.2
15	10	22 25	21 4.1	15	11	35 51	21 3.3
15	10	22 29	21 4.3	15	11	35 54	21 3.3
9	11½	22 32	19 29.4	15	12	36 4	21 4.5
15	11½	3 22 42	+21 5.7	15	10	3 36 36	+21 3.8

* (4).

† Brightest of 3.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	9½	3 36 43	+20 59.6*	16	11	3 49 55	+21 20.5
15	6½	37 38	20 57.8	15	10	50 10	20 57.7
15	9	37 59	20 54.8:	15	10	50 11	20 59.3
15	10	38 9	20 53.4	15	10½	50 24	21 8.0
15	11	39 7	20 52.0	16	10½	50 26	21 18.6
15	11	39 56	21 0.0	16	10½	50 53	21 22.9
15	11	41 9	21 2.6	15	10	51 12	20 56.5
15	11	41 20	21 2.9	15	10	51 17	20 56.3
15	11	41 28	21 2.7	16	11	51 18	21 23.1
15	10½	42 0	20 58.0	16	10	51 46	21 17.0
15	10½	42 4	20 55.8	16	9	51 46	21 26.1
15	11	42 36	20 54.6	16	10	52 2	21 25.0
15	12	43 51	21 3.5	15	11	52 25	21 8.4
15	11½	44 3	21 7.7	15	11	52 33	21 3.7
15	11½	44 6	21 3.3	15	11	52 47	21 3.7
16	10	44 15	21 12.5	15	11	52 51	20 54.7
15	11	44 33	21 4.1	16	11½	53 10	21 15.1
16	9½	44 51	21 19.3	16	10½	53 24	21 11.7
15	11	45 15	21 7.8	16	10	53 34	21 16.4
16	9½	45 25	21 22.0	15	11	53 54	20 53.4
15	10	45 41	20 56.5	15	11	54 6	20 54.3
15	11	46 31	20 49.7	15	11½	54 14	20 53.8
15	12	46 32	20 54.3	16	10	54 34	21 10.7
15	11	46 33	20 49.6	16	11	54 46	21 8.3
16	10	47 3	21 25.6	15 16	10½	54 56	21 7.8
15	11	47 14	20 53.1	15	10½	55 24	21 8.5
16	10	47 16	21 10.0	9	10	55 26	23 24.0
16	10½	47 30	21 15.2	15	10½	55 30	20 59.3
15	11	47 35	20 58.0	9	10½	55 37	23 16.3
15	11	47 46	20 58.8	16	9½	55 38	21 22.2
15	11	47 53	21 8.9	9	10½	55 51	23 24.1::
15	11	49 2	21 12.0	15	10½	55 51	21 4.3
16	10	49 12	21 24.8	15	11	55 56	21 3.6
16	10½	49 26	21 21.1	9	10	56 5	23 23.4
15	9½	3 49 50	+21 7.0	15	11	3 56 19	+20 55.9

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
[illegible]6	11	3 56 29	+21 9.7	9	11	4 3 29	+23 18.5
[illegible]6	9½	56 39	21 30.9	15	11½	3 33	21 8.5
[illegible]6	10	56 43	21 20.8	15	11	4 3	20 52.3
[illegible]6	11½	57 5	21 13.4	16	11	4 4	21 11.6:
[illegible]5	11	57 6	20 56.9	16	12	4 18	21 13.2
[illegible]5	11	57 26	20 51.6	15	11½	4 36	20 53.5
9	10½	57 39	23 16.2	16	11	4 40	21 13.5
[illegible]5	12	58 5	20 51.9	9	10	4 54	23 19.0
16	12	58 9	21 10.5	15	11	5 31	21 2.6
16	10	58 33	21 12.6	15	11	5 38	21 4.1
16	11	58 47	21 7.2	9	10½	5 42	23 19.0*
15	10	59 4	20 58.8	16	11	5 48	21 14.3
15	10	59 12	20 57.3	16	11	5 53	21 15.3
15 16	9	59 23	21 8.9	9	10	6 11	23 11.2
15 16	9	59 26	21 6.8	9	10	6 20	23 19.3
16	9	59 39	21 10.3	15 16	9½	6 21	21 9.5
16	11½	4 0 39	21 21.6	9	10	6 41	23 22.5
15	11½	0 42	21 4.0	16	11½	6 43	21 20.9
15	9½	1 3	21 2.3*	15	9	7 59	21 2.2
16	11	1 5	21 20.8	15	12	8 13	20 55.2
16	10½	1 6	21 12.8	16	11	8 18	21 12.8
15	9½	1 14	20 58.2	16	11	8 21	21 15.8
15 16	10½	1 19	21 8.5	15	11	8 24	21 2.3
16	10	2 17	21 14.5	9	11	8 43	23 21.3
9	11	2 20	23 25.9	9	12	9 1	23 12.0
9	11	2 27	23 25.4	16	11½	9 9	21 13.2:
15	11½	2 30	21 8.2	16	10½	9 18	21 11.0
16	11	2 30	21 11.9	15	11	9 42	20 59.3
15	11	2 34	21 8.5	16	10½	9 42	21 13.7
16	9	2 35	21 27.4	9	10	9 55	23 18.5
15	12	2 45	21 8.6	9	10½	10 5	23 24.3
9	11	2 50	23 19.3	16	10	10 5	21 20.9
9	10	2 58	23 14.7	9	10	10 7	23 22.9
16	10½	3 3	21 15.1	9	10½	10 14	23 17.0
9	10	4 3 9	+23 18.2	9	10	4 10 31	+23 15.1

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	12	4 11 29	+21 9.2	9	12	4 21 35	+23 12.7
16	11	11 33	21 13.0	16	11	22 11	21 13.2
15	9	11 58	20 53.2	16	11	22 12	21 8.9
9	11	12 4	23 18.5	9	10	22 25	23 21.3
16	11½	12 6	21 17.2	9	11	22 40	23 9.9†
15	11½	12 17	20 56.1	9	10½	23 9	23 12.7
9	10	12 31	23 10.6	9	10	23 23	23 12.8
15	11	12 34	20 56.2	9	10	23 59	21 27.7
9	10½	13 41	23 18.2	16	12	24 4	21 21.1
9	10	13 53	23 21.6	16	11½	24 21	21 25.0
9	9	14 10	23 27.2	16	11½	24 24	21 28.3
15	10	14 11	21 2.3	9	10½	24 33	23 18.4
9	11	14 15	23 18.7	9	10	24 43	23 10.8
16	11	14 48	21 18.7	9	11½	24 52	23 12.4
9	10	14 52	23 12.2	16	10½	25 2	21 10.7
15	9	14 54	21 2.6*	16	11	25 52	21 10.0
15	11	16 10	20 49.3	9	9	26 36	23 18.2
15	11	16 19	20 49.0	9	11	26 43	23 26.5
9	11	16 27	23 18.1	9	9½	26 57	23 30.5
9	10	16 35	23 15.4	9	11	27 0	23 23.6
9	11	17 32	23 12.2	9	9½	27 0	23 25.0
9	11	17 45	23 12.6	9	10½	28 9	23 15.2
9	10	17 51	23 12.2	9	11	28 23	23 22.9
16	11	18 0	21 10.1	9	9½	28 36	23 28.4
16	11	18 22	21 13.4	16	11	28 42	21 25.4
9	11	19 0	23 8.3	9	10	29 11	23 29.1
16	10½	19 24	21 9.3	9	11	30 1	23 25.8
9	11½	19 30	23 12.0	16	11½	30 2	21 23.1
16	11	19 35	21 13.6	9	11	30 9	23 24.2
9	10	19 54	23 17.4	16	11½	30 26	21 14.7
16	11	20 12	21 18.7	16	10	30 29	21 19.6
9	11	20 21	23 23.8	16	10½	30 31	21 13.9
16	10½	20 23	21 12.6	9	10½	30 53	23 18.6
16	11	21 0	21 16.2	9	10	31 10	23 11.3
9	11½	4 21 35	+23 14.9	16	12	4 31 53	+21 11.5

* Not dup. of January 3, 1849.

† Double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	12	4 32 6	+21 13.1	16	11	4 41 20	+21 14.9
16	11	32 33	21 21.1	15	11	41 47	23 40.5
9	9½	32 39	23 13.3	9	11½	42 6	23 13.9
9	11	32 41	23 18.3	9	11½	42 17	23 14.3
9	9	32 47	23 16.1	9	11	42 18	23 21.3
16	10	32 56	21 10.4	16	10	42 21	21 14.3
9	11	33 44	23 16.8	16	11	42 34	21 14.8
9	11½	34 33	23 13.6	9	10	42 38	23 14.1
9	12	35 24	23 17.2	15	10	42 48	23 49.5
9	11½	35 36	23 14.3	16	11	42 48	21 14.7
9	11	35 40	23 18.8	15	10	43 3	23 47.4
16	11	35 47	21 12.0	16	11	43 16	21 14.7
16	10½	36 14	21 19.8	9	12	43 20	23 11.9
16	10	36 41	21 10.6	16	12	43 46	21 26.4
9	10½	36 48	23 13.7	9	10	43 50	23 15.6
9	11	37 0	23 10.5	9	10	43 57	23 14.0
16	10½	37 47	21 16.4	15	11½	44 0	23 30.6
16	10½	37 59	21 13.7	15	11	44 7	23 36.4
9	10½	38 31	23 14.4	16	12	44 27	21 10.2
9	10½	39 1	23 25.3	16	11	44 43	21 14.1
16	10	39 8	21 20.1	9	11½	44 59	23 17.1
9	9	39 11	23 29.9	15	10	44 59	23 38.6
15	10½	39 21	23 36.1	9	10	45 5	23 15.5
16	10	39 22	21 21.0	15	10	45 12	23 43.7
16	11	39 28	21 22.7	16	11	45 18	21 25.3
15	11	40 1	23 44.7	16	11	45 28	21 25.1
9	12	40 2	23 25.5	16	9	45 29	21 29.9
9	12	40 14	23 25.4	16	10	45 54	21 28.3
16	11	40 25	21 10.0	16	10	46 7	21 25.3
9	10	40 27	23 14.2	9	9	46 17	23 25.5
9	10½	40 35	23 15.8	9	10	46 25	23 13.3
15	10½	40 36	23 38.1*	9	11	46 30	23 17.8
15	10½	40 50	23 40.7::	16	11½	46 40	21 22.8
16	11	40 52	21 12.5	9	9½	46 46	23 14.2
9	10½	4 41 18	+23 12.6	15	11	4 46 54	+23 35.9

* (4).

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
15	11½	4 47 2	+23 43.4
16	11	47 9	21 23.9
15	11½	47 33	23 41.0
16	11½	47 38	21 20.9
15	10	47 43	23 48.1
9	9½	48 0	23 10.0
9	11½	48 17	23 17.8
15	9½	48 28	23 48.3
16	11	48 34	21 9.3
9	9	48 50	23 23.0
16	10½	48 52	21 17.4
9	9	48 59	23 21.0
9	9½	49 1	23 28.3
16	11	49 6	21 24.6
9	11	49 8	23 17.8
15	10	49 31	23 43.6
15	10	49 33	23 41.5
9	10	49 38	23 20.9
16	11	49 53	21 17.4
9	10	49 56	23 21.5
16	11	50 2	21 12.0
15	11½	50 5	23 46.8
16	11½	50 5	21 10.7
9	10	50 30	23 16.0
9	11	50 40	23 17.5
16	12	51 7	21 23.2
16	11	51 9	21 26.3
15	10	51 14	23 41.8
15	11½	51 15	23 38.4
9	10½	51 17	23 11.5::
15	10	51 22	23 42.1
15	9½	51 32	23 37.1
15	10	51 36	23 46.5
16	10½	51 38	21 10.7
9	10½	4 52 0	+23 13.1
16	10	4 52 1	+21 14.2
9	10	52 7	23 22.9
16	11	52 11	21 29.7
9	11½	52 24	23 19.6
16	11½	52 38	21 9.8
9	9	52 40	23 28.3
15	11½	52 45	23 31.2
15	10½	53 30	23 40.2
16	9½	53 35	21 17.3
9	10	53 42	23 18.0
9	10	53 56	23 12.5
9	10	54 2	23 25.2
9	9½	54 10	23 26.2
15	11	54 17	23 30.3
15	11	54 18	23 35.7
16	11	54 18	21 11.0
9	10	55 9	23 25.8
15	11	55 16	23 32.4
16	10	55 24	21 25.7
9	9	55 29	23 26.1
9	9	55 50	23 21.3*
15	11	55 51	23 32.3
16	11	55 56	21 22.1
16	11	55 57	21 18.7
16	10½	56 2	21 9.0
16	10½	56 32	21 25.1
15	10	56 42	23 39.2
16	10	56 50	21 20.5
16	10	56 59	21 22.7
9	10	57 15	23 17.3
9	12	57 34	23 17.5
15	11	57 49	23 33.1
15	12	57 57	23 37.1
9	10	58 0	23 21.7
15	12	4 58 0	+23 38.3

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	4 58 12	+23 16.7	16	12	5 5 7	+21 10.7
16	11	58 15	21 13.6	15	11½	5 13	23 29.8
15	10	58 19	23 38.1	15	11½	5 22	23 35.9
15	10	58 28	23 35.3	15	9	5 48	23 45.5
16	11	58 31	21 12.1	16	10½	5 58	21 12.7
16	11½	58 37	21 16.9	15	10	6 1	23 36.8
9	10	58 42	23 28.5	16	10	6 10	21 13.2
9	10½	59 19	23 17.2	16	11	6 49	21 17.1
16	10½	59 19	21 21.8	15	11	7 9	23 44.9
15	9½	59 27	23 32.0	16	11½	7 10	21 14.9
9	10	59 43	23 14.8	15	11½	7 19	23 46.6
9	10½	59 49	23 27.2	15	10	7 42	23 45.3
16	11½	59 49	21 11.1	15	10	7 52	23 47.9
16	11	5 0 30	21 10.7	16	11½	8 15	21 11.2
9	11	0 41	23 27.3	16	10	8 22	21 18.7
15	10½	0 43	23 44.2	15	10	8 52	23 40.6
9	11½	0 55	23 27.2	16	11	9 3	21 10.5:
15	10½	1 5	23 34.1	15	11	9 7	23 32.4
15	10½	1 16	23 49.5	15	11	9 22	23 34.8
9	11	1 18	23 27.7	16	10	9 25	21 7.0
16	11½	1 35	21 25.0	16	10½	9 28	21 9.9
16	10	1 45	21 21.5	15	11	9 38	23 36.8
16	11	1 54	21 14.4	16	10½	9 57	21 7.0
15	11	2 21	23 37.9	15	10	10 8	23 34.1
15	10½	2 30	23 29.7	16	10	10 23	21 27.3
16	9½	2 45	21 19.8*	16	9½	10 39	+21 25.5
15	10½	2 56	23 34.7	16	11½	11 12	21 14.7
16	11	2 57	21 26.8	16	11½	11 12	21 13.2
15	10½	3 16	23 35.7	15	10	11 18	23 37.1
16	10½	3 32	21 14.2	15	11	11 31	23 38.2
15	9½	3 33	23 42.7	15	9½	11 34	23 34.9
15	11	4 10	23 31.1	16	10½	11 37	21 23.5
16	11	4 18	21 26.1	15	11	11 52	23 35.7
16	10	4 27	21 29.0	16	11	11 52	21 16.5
15	11	5 4 38	+23 29.9	15	11	5 12 38	+23 30.4

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	11½	5 13 4	+21 13.3	15	11	5 20 58	+23 32.7
16	11	13 13	21 19.7	15	11	21 10	23 35.0
15	11	13 16	23 28.8	16	11	21 12	21 14.9
15	11½	13 26	23 33.8	16	11	21 21	21 28.2
15	9½	13 41	23 34.4	15	11	21 46	23 40.9
16	10	14 0	21 16.1	16	11	21 47	21 23.7
16	10½	14 7	21 16.6	16	11	21 54	21 17.0
15	11	14 34	23 42.0	15	9½	22 40	23 44.5
16	10	14 42	21 24.7	15	11	23 3	23 40.8
15	11½	14 49	23 45.8	15	11	23 11	23 42.5
15	12	15 3	23 45.3*	15	11	23 30	23 30.1
15	11	15 19	23 44.3	16	10	23 41	21 14.0
15	10	15 39	23 48.1	16	11	23 44	21 8.9
16	9	15 42	21 22.0	16	10	23 45	21 15.1
16	11½	15 49	21 24.4	16	10½	23 51	21 13.7
15	10½	16 4	23 49.5	15	12	23 57	23 47.8
16	11	16 20	21 17.7	16	10½	24 2	21 15.6
15	11	16 39	23 42.2	16	11	24 9	21 20.9
15	10	16 51	23 36.9	16	10	24 16	21 18.7
16	11	16 51	21 13.6	15	10	24 20	23 20.2
16	11½	17 7	21 14.9	15	10	24 29	23 29.5
16	11½	17 15	21 13.6	15	11	25 24	23 30.7
15	10½	17 22	23 42.4	15	10½	25 29	23 39.2
16	11	17 30	21 24.7	16	10	25 56	21 12.1
15	10½	17 36	23 45.9	15	10½	26 20	23 43.1
16	11	18 8	21 27.4	16	10	26 29	21 11.4
16	9½	18 27	21 20.9	15	11½	26 34	23 41.3
16	10	19 2	21 17.4	15	10½	26 59	23 36.2
15	11½	19 18	23 31.9	15	10	26 59	23 44.3
15	11	19 22	23 48.0	15	9	27 14	23 30.1
16	10½	19 31	21 17.5	16	11	28 9	21 8.3
16	11	19 42	21 25.8	16	10½	28 13	21 20.4
16	11	19 51	21 21.3	16	10	28 31	21 7.3
15	9	20 3	23 34.0	15	10	28 35	23 34.1
16	11	5 20 53	+21 13.0	16	11	5 30 9	+21 13.0

* *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	11	5 30 13	+23 41.5	16	10	5 38 0	+21 10.5
16	12	30 18	21 12.7	15	11	38 9	23 32.3
15	9	30 28	23 30.2	16	10	38 19	21 12.9
15	9	30 41	23 36.6	15	9½	38 28	23 35.2
16	11	30 41	21 24.4	16	10	38 36	21 15.5
16	9½	31 8	21 24.0	15	9½	38 37	23 35.5
15	10	31 33	23 36.9	15	10	39 21	23 38.6*
15	10	31 35	23 44.2	16	11	39 41	21 26.1
15	10	31 50	23 44.9	15	10	39 59	23 42.1
15	10	32 7	23 46.0	15	9	39 59	23 49.5
16	10	32 35	21 26.3	16	10	40 21	21 26.6
16	10	32 52	21 17.7	15	9	40 34	23 39.2
15	10	33 0	23 46.9	16	11	40 38	21 25.7
16	10	33 15	21 18.0	16	11	40 53	21 24.1
15	11	33 33	23 45.4	15	11	41 31	23 38.5
15	11	33 35	23 48.8	16	11½	41 43	21 12.7†
16	9	33 50	21 18.7	16	11½	41 44	21 15.7
16	9	34 12	21 19.6	16	11½	41 47	21 12.8
15	10½	34 22	23 32.3	16	11	42 49	21 10.0
15	10	34 33	23 39.2	16	10	42 54	21 14.5
15	11	35 1	23 32.5	16	10½	43 34	21 14.7
16	–	35 25	21 17.7	16	11	43 54	21 26.6
15	11	35 51	23 45.8	16	11	43 56	21 17.1
16	9	36 4	21 24.4	16	11	44 57	21 30.7
16	10	36 16	21 12.7	16	11	45 2	21 28.2
15	9½	37 0	23 44.0	16	10½	45 44	21 23.6
15	11	37 27	23 45.3	16	11½	45 59	21 20.4
16	9½	5 37 47	+21 8.3	16	11	5 46 19	+21 7.5

* S. of double.

† S. p. of double.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

47 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	11	5 1 53	+21 27.1	12	10	5 15 47	+21 37.3
12	10	2 20	21 31.9	12	10	16 26	21 43.2
12	9½	2 53	21 35.6	12	9	16 54	21 38.7
12	10	3 54	21 37.0*	12	10½	17 50	21 34.4
12	9½	3 54	21 47.0	12	11	18 16	21 30.8
12	11	4 18	21 37.4	12	10½	19 3	21 48.0
12	10	5 34	21 43.9	12	10	19 12	21 47.5
12	11	6 1	21 31.4	12	10	19 22	21 46.4
12	11	6 12	21 36.4	12	11	20 28	21 40.7
12	11	6 18	21 29.9	12	10	20 29	21 43.8
12	10½	6 40	21 29.2	12	11	20 40	21 43.1
12	11	7 34	21 31.0	12	11	21 17	21 37.3
12	9	8 18	21 37.3	12	9	21 24	21 31.3
12	9	8 38	21 30.6	12	9½	22 0	21 35.7
12	9	9 16	21 40.0	12	10½	22 19	21 35.3
12	10	10 19	21 35.3	12	10½	22 23	21 34.2
12	10½	10 41	21 33.4	12	11	22 33	21 34.2
12	11½	12 24	21 37.6	12	9½	22 58	21 39.9
12	11	13 13	21 35.4	12	11	23 45	21 34.5
12	10	13 28	21 40.5*	12	11	24 2	21 29.7
12	10½	13 52	21 31.0	12	10½	24 52	21 35.5
12	11	14 53	21 32.1	12	10½	25 7	21 41.0
12	11	14 56	21 38.7	12	11	5 25 18	+21 41.6
12	10½	5 15 13	+21 30.7				

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,340 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	11	6 25 46	+20 52.1	9	11	6 39 31	+20 47.5
9	10½	26 14	21 8.6	9	9½	39 33	20 56.8
9	10½	26 41	21 1.7	9	10½	39 52	20 58.2*
9	10	26 53	21 6.6	9	11	40 38	20 53.9
9	10	28 8	20 55.7	9	11	41 43	21 0.5
9	10	28 9	21 3.8	9	10½	41 50	21 4.2
9	10½	28 9	21 6.2	9	9½	42 2	20 58.0
9	11	29 24	21 0.1	9	10	42 27	21 4.6
9	11½	29 53	21 0.2	9	10	42 31	21 0.0
9	11	29 58	20 56.7	9	10	42 39	21 6.5
9	11	30 0	20 55.5	9	11	43 2	21 5.5
9	10	30 19	21 1.0	9	11	43 23	21 7.2
9	11½	30 25	21 2.2	9	10½	43 51	20 53.0
9	10	30 41	20 54.6	9	11	44 13	20 53.4
9	10	30 45	20 54.7	9	10½	44 33	21 7.2
9	10½	31 31	21 6.2	9	9½	44 46	21 3.1
9	10	31 55	21 6.3	9	10½	44 58	21 4.3
9	10	32 48	20 50.5	9	10½	46 7	20 55.2
9	10	32 52	21 1.0	9	10	46 26	20 58.9
9	10	32 55	21 2.5	9	10	46 39	20 57.0
9	11½	33 58	21 3.7	9	9½	46 56	20 55.5
9	10	34 11	21 4.8	9	11	48 24	20 52.0
9	10	34 16	21 5.4	9	11	48 26	20 47.8
9	9½	34 54	21 6.0	9	11	48 59	21 6.5
9	11	36 36	20 56.2	9	10	49 53	21 3.5
9	11	36 37	20 52.3	9	10½	49 54	21 5.0
9	11	36 43	20 57.1	9	10	50 3	20 59.0
9	9	37 32	20 59.8*	9	11½	51 12	20 58.5
9	9½	38 9	20 56.3	9	11	51 49	20 53.2
9	10	6 39 15	+21 0.6	9	11	6 51 54	+21 0.8

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	11	6 51 57	+20 53.2	15	10	7 6 43	+19 49.2
9	10½	52 13	21 2.9	15	11½	6 52	19 38.3
9	10	53 59	20 56.2	15	11½	7 0	19 39.2
9	10½	54 41	21 2.4	9	11½	7 6	20 56.3
9	11	55 51	21 5.1	9	10½	7 15	20 57.8
9	10½	56 14	20 56.3	9	9½	7 20	21 6.2
9	11½	56 32	20 55.5	15	10½	8 8	19 35.7
9	11	56 59	20 55.0	9	11½	8 20	21 7.1
9	11	57 2	20 55.1	9	12	8 30	21 0.9
9	10	57 44	20 49.4	15	10½	8 52	19 50.3
9	10	58 10	21 9.3	15	10	9 12	19 45.5
9	10	58 28	20 57.0	15	11	10 17	19 33.3
9	9½	58 31	21 7.3	15	11	10 31	19 43.7
9	10½	58 44	20 54.4	15	11	10 34	19 37.3
9	11½	58 58	20 54.1	15	11	10 49	19 36.6
9	11	7 0 2	21 3.9	15	11	11 6	19 37.3
9	11	0 49	20 53.6	15	10	12 39	19 38.7
9	11	1 6	20 51.6	15	11	12 59	19 33.5:
9	9	1 25	21 6.1	15	10½	13 20	19 31.6
9	11	1 36	21 0.3	15	11	14 24	19 44.9
9	11	1 46	21 4.8	15	11	14 34	19 50.7
9	11	2 9	21 5.4	15	11	14 43	19 45.5
9	11½	3 11	21 2.7	15	10½	15 6	19 48.7
9	11½	3 17	21 3.2	15	10½	15 22	19 40.2
9	11	3 24	21 7.9	15	9½	15 35	19 35.3
9	10½	4 14	20 47.6	15	10	16 24	19 32.5
9	11½	4 32	20 57.6	15	11	16 45	19 30.8
9	11	4 55	20 53.4	15	10½	17 14	19 48.0
9	11	5 9	21 4.6	12	10½	17 16	20 51.5
15	10½	5 29	19 29.4	15	11½	17 33	19 45.9
15	11	5 36	19 36.6	15	9	17 51	19 35.7
15	10½	5 45	19 48.1	12	11	17 52	21 6.2
9	11	5 49	20 49.5	15	10½	18 3	19 34.5
9	11	5 52	20 52.3	12	11	18 8	20 57.2
15	12	7 6 33	+19 40.5	12	10	7 18 12	+21 6.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10	7 18 23	+21 6.6	15	10	7 25 42	+19 48.2
15	9	18 33	19 29.3	15	10	25 49	19 32.9
15	10	18 52	19 43.1	12	10	25 52	21 4.7
15	10	19 7	19 49.6	12	10	26 6	20 49.7
12	10	19 9	21 9.1	15	11	26 6	19 39.5
12	10	19 15	21 0.3	15	10½	26 10	19 50.7
12	11	19 33	21 5.8	15	11	26 45	19 46.4
12	10½	20 12	21 6.1	12	10½	27 0	20 50.5
12	10½	20 21	21 7.7	12	11	27 29	20 49.3
15	11½	20 40	19 32.1	15	11½	27 30	19 32.8
15	11	20 45	19 35.7	15	9	27 40	19 33.7
15	11½	20 46	19 37.6	12	10	28 6	20 52.0
15	10	20 59	19 33.6	12	10½	28 30	21 5.0
12	8½	21 24	20 57.6*	15	11	28 33	19 35.2
12	11	21 37	21 0.5	12	10½	28 43	21 4.5
15	10½	21 46	19 36.0	15	10	28 46	19 32.7
15	11½	22 9	19 38.7	15	10½	28 50	19 34.6
15	10½	22 34	19 38.2	15	9½	28 51	19 36.0
15	11	22 49	19 48.0	12	11	29 5	20 52.9
12	11	22 56	21 7.9	12	10	29 29	20 55.3
12	11	23 1	21 8.1	15	10	29 40	19 32.1
15	11	23 5	19 33.8	12	10	29 55	21 1.7
12	10½	23 26	20 51.8	15	10	30 0	19 37.5
15	10½	23 29	19 34.1	15	11	30 3	19 35.4
15	10½	23 42	19 34.7	15	10½	30 13	19 33.6
15	10½	23 43	19 32.2	15	11	30 25	19 33.2
12	10½	24 17	21 2.5	12	9	30 36	21 10.6
12	10½	24 36	21 5.5	12	12	31 22	20 53.2
12	10½	24 38	21 2.9	15	9½	31 35	19 38.7
12	11	24 44	21 3.7	12	11	31 36	20 55.3
15	11	24 47	19 32.3	15	11½	31 37	19 49.2
15	11½	24 54	19 33.4	15	11	31 48	19 50.2
15	10½	24 56	19 40.2	12	11	32 24	21 1.6
15	10	25 34	19 29.8	12	10	32 25	20 49.2
12	11	7 25 40	+21 4.6	12	10½	7 32 32	+20 57.8

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	7 32 47	+19 50.2	12	11	7 40 49	+20 46.7
12	11	32 54	20 56.8	12	11	41 26	20 53.6
15	11	33 10	19 48.1	12	11	41 29	20 51.5
15	11½	33 27	19 49.9	12	11	41 56	20 48.4
12	9	33 49	20 47.6	15	11	42 14	19 36.1
12	10	34 8	20 50.8	15	10	42 24	19 44.2
12	11	34 21	21 6.8	12	10	42 42	21 5.0
12	9	34 25	21 9.1	12	11	42 51	20 52.9
12	11	35 19	20 54.4	12	10½	43 9	20 54.9
12	11	35 20	21 4.3	12	9	43 56	20 59.9
12	10	35 23	21 0.8	12	9	44 6	20 55.7
12	11½	35 41	21 1.2	12	10½	44 20	21 6.1
15	9½	35 42	19 38.4	12	10½	44 26	21 4.4
15	9½	35 47	19 33.3	15	11½	45 0	19 39.4
15	9	36 1	19 35.8	12	10½	45 3	21 0.7
15	11	36 54	19 46.4	15	10	45 7	19 46.5
15	11	37 1	19 44.9	15	10½	45 7	19 31.6
15	10½	37 8	19 44.5	12	11	45 27	20 54.3
15	11½	37 15	19 44.0	12	10½	45 47	20 54.0
12	–	37 20	20 57.3	12	11	46 0	20 48.4
12	10½	37 21	21 2.1	15	11	46 18	19 38.2
12	10	37 21	20 47.8*	12	10½	46 36	21 6.3
12	11	37 26	20 57.1	12	10½	46 49	20 52.2
12	10½	37 29	21 1.2	15	10	47 6	19 29.1
12	10½	37 29	21 2.5	12	10½	47 15	21 4.4
15	9½	37 57	19 37.0	12	10½	47 29	21 1.8
15	9	38 32	19 34.6	12	10½	47 32	21 5.2
15	9	38 36	19 38.8	15	9	47 35	19 34.5
15	10	38 46	19 32.1	15	10	47 40	19 30.3
12	9½	38 58	20 53.4	15	12	48 15	19 50.6
12	11	39 18	20 51.3	12	10½	48 18	21 3.0
15	11½	39 36	19 47.5	12	10½	48 25	21 4.1†
15	9½	39 44	19 50.6	12	11	48 33	21 4.2
15	10½	40 22	19 46.0	12	10	48 42	21 2.5
15	9	7 40 46	+19 34.9	15	9½	7 49 38	+19 47.3

* *f.* of double.

† L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
15	10	7 49 48	+19 52.7	16	10	7 56 40	+16 55.6
12	11	50 5	20 55.6	12	10	56 51	20 52.4
12	9½	50 7	20 57.3	12	10	56 55	20 50.9
12	10½	50 24	20 56.2	15	9	57 16	19 48.6
15	10½	50 38	19 38.8	15	10	57 26	19 28.6
15	11½	50 46	19 35.4	15	9½	57 31	19 43.5
15	11	50 49	19 44.1	16	10½	57 40	16 53.7
12	10	50 55	20 50.7	12	12	57 49	20 54.0
12	11	51 24	20 50.5	15	11	57 57	19 48.0
15	10½	51 56	19 33.4	12	9½	58 0	20 51.2
12	9	52 2	20 52.3	12	12	58 20	20 52.8
15	11	52 6	19 38.0	16	10	58 51	17 2.3
12	10	52 16	21 5.7	16	10½	59 4	16 56.7
15	10	52 17	19 30.8	15	11	59 8	19 38.4
12	9	52 56	20 51.4	16	10½	59 12	6 57.8
12	10	53 19	20 57.5	16	11	59 24	17 3.0
12	11½	53 35	20 52.7	15	11	59 31	19 44.6:
15	11	53 39	19 41.8	12	11	8 0 2	20 52.7†
12	11	54 1	20 53.3	12	9½	0 15	20 58.3
15	10½	54 1	19 32.5	16	9	0 16	17 10.8
15	11	54 17	19 39.9	16	10½	0 20	16 52.6
12	10	54 26	20 51.6*	12	10	0 35	20 49.3
15	11½	54 30	19 34.4	15	11½	0 55	19 39.5
15	11	54 41	19 35.7	15	11½	1 2	19 38.9
16	11	54 46	16 57.1	16	9	1 6	16 59.7
16	11	54 48	16 55.9	15	10	1 10	19 47.0
15	11½	54 56	19 36.2	16	11½	1 31	17 3.7
16	11	54 56	17 3.6	12	10	1 32	21 2.0
12	10	55 20	20 55.0	12	10	1 41	21 2.8
12	11	55 28	21 4.2	12	10½	1 42	20 56.9
12	11	55 47	21 3.1	16	11½	1 47	17 5.8
15	11½	56 7	19 45.4	16	11	1 54	17 7.4
15	11½	56 8	19 34.2	12	10	2 0	21 3.1
15	11	56 27	19 33.6	12	10	2 5	21 4.5
16	10	7 56 37	+16 51.5	15	11	8 2 29	+19 45.2

* Largest of 3.

† Largest of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	°
15	11	8 2 31	+19 42.8	12	10	8 9 13	+20 56.0
12	11	2 36	20 59.5	12	10	9 15	20 55.7
16	10	2 56	17 2.0*	15	10	9 32	19 51.5
15	11½	2 59	19 45.2	15	10	9 42	19 50.2
16	11	3 2	16 54.4	16	10	9 45	17 3.8
15	10½	3 21	19 33.3	16	10½	9 49	17 2.3
12	12	3 23	20 52.5	15	10	9 59	19 41.2
16	10	3 27	16 56.4	16	10½	10 1	16 52.9
16	10½	3 36	17 9.4	15	10	10 6	19 46.2
12	12	3 45	20 51.5	12	11	10 36	20 51.3
12	10	4 15	20 50.3	12	10	10 37	20 49.0
15	11½	4 16	19 46.5	15	10	10 47	19 39.4
12	10½	4 24	21 1.5	16	11	11 1	16 56.7
12	11	4 29	20 50.8	12	10	11 6	20 54.3
15	11½	4 46	19 43.1	16	11½	11 15	17 10.4
16	12	4 49	17 4.8	15	9	11 50	19 43.1
15	11½	5 2	19 39.1	16	10½	12 3	17 4.3
15	10½	5 15	19 40.4	16	10	12 9	16 55.5
12	11	5 23	21 7.4	16	10	12 13	17 8.6
12	11	5 27	21 4.5	15	10½	12 35	19 44.8
15	10½	5 29	19 37.7	12	10	12 47	21 9.1
12	11	6 21	20 52.6	12	10½	12 50	20 59.4
12	12	6 40	21 5.3	12	10	13 3	20 58.8
15	11	6 48	19 39.3	12	10½	13 9	20 50.9
15	10½	6 57	19 39.1	16	10½	13 15	16 52.7
15	12	7 6	19 33.5	12	11	13 20	20 59.9
15	11½	7 20	19 38.8	15	11½	13 37	19 46.6
16	11	7 43	16 53.0	16	12	13 38	16 55.8
12	10½	7 50	20 52.1	12	11½	13 39	20 50.7
16	10	7 57	16 58.3	16	11	13 39	17 10.5
12	11½	8 1	20 57.4	15	11	13 46	19 49.9
12	11½	8 14	20 58.8	16	11	14 26	16 57.6
12	11	8 19	20 51.9	12	11½	14 32	21 1.8
15	10½	8 56	19 53.4†	16	10	14 32	16 50.6
12	9	8 9 7	+20 46.3	16	11	8 14 39	+17 10.5

* Largest of double.

† S. *f.* of double.

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11	8 15 10	+19 42.8	16	10½	8 18 40	+17 8.3
	10½	15 10	19 45.7	16	11	18 40	17 11.3
	11	15 15	19 42.4	16	10½	18 48	17 10.2
	11½	15 22	16 24.0	27	10	18 56	16 41.5
	11½	15 25	16 52.3	12	12	19 2	20 59.6
	11½	15 37	19 43.0	15	10½	19 3	19 39.8
	11	15 38	16 29.1	12	12	19 10	21 0.9
	10	15 40	16 44.9	12	12	19 13	20 50.3
	12	15 50	16 51.6	27	9	19 20	16 44.3
	10	15 55	21 0.1	15	12	19 29	19 33.0
	11	15 55	19 45.4	26	10½	19 47	16 20.3
	10	15 59	20 48.4	15	12	19 58	19 32.3
	10½	16 6	16 26.8	15	11½	20 29	19 29.4
	11	16 24	16 41.5	15	11	20 43	19 37.2
	12	16 26	17 5.5	26	11	20 51	16 10.9
	11	16 30	17 5.4	12	11½	21 2	20 57.0
	9½	16 36	16 10.6	27	11	21 4	16 37.2
	10	16 38	16 23.2	12	11½	21 6	20 52.0
	11	16 42	16 34.9	26	9	21 10	16 9.9
	11	16 48	16 58.2	16	11	21 20	17 2.1
	9½	16 48	16 17.6	15	11	21 22	19 36.5
	10½	16 57	19 38.9	27	10½	21 29	16 37.8
	10½	17 7	16 59.0	27	11	21 30	16 34.6
	11½	17 16	20 50.0	16	11	21 31	17 2.3
	11½	17 19	17 2.3	15	10½	21 41	19 47.5
	10½	17 28	20 55.8	16	12	21 41	17 5.1
	9½	17 45	21 8.0	16	10½	21 49	17 7.3
	10	17 51	20 53.8	16	10½	21 56	17 4.4
	11	17 51	19 45.2	26	9½	22 0	16 11.7
	10½	17 57	21 4.9	15	10	22 6	19 43.5
	10	18 9	16 37.4	26	10	22 10	16 18.8*
	10½	18 17	16 24.0	15	11	22 15	19 47.5
	10½	18 19	16 43.5	12	11	22 19	20 55.2
	10½	18 21	16 41.7	26	10	22 21	16 24.8
	8½	8 18 23	+16 16.4	12	10	8 22 36	+21 0.6

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	10	8 22 36	+16 23.3	15	11½	8 26 4	+19 44.7
12	11	22 41	21 2.0	16	10	26 5	17 6.3
16	10	22 41	17 9.3	26	10½	26 23	16 16.7
16	10½	22 42	16 56.5	15	9	26 33	19 39.7
27	10	22 57	16 44.0	15	10	26 34	19 41.2
27	11	23 13	16 19.2	12	10½	27 2	20 53.2
26	11	23 17	16 10.5	16	9½	27 3	17 10.2
15	10	23 26	19 37.6	15	10	27 12	19 41.2
15	10	23 28	19 50.6	26	10½	27 12	16 11.8
12	11	23 32	21 2.1	27	10	27 12	16 44.7
16	11½	23 49	17 4.6	16	12	27 16	17 5.9
27	8½	23 51	16 43.0	16	12	27 18	17 9.2
26	9	23 57	16 17.1	16	11½	27 35	17 10.2
16	10	24 0	17 0.1	27	10½	27 36	16 42.8
26	8	24 12	16 14.6	27	11	27 51	16 43.4
27	11	24 13	16 34.8	27	10½	28 3	16 44.6
16	11½	24 19	16 59.5*	26	11½	28 24	16 10.1
12	10	24 35	20 51.3	12	11	28 25	20 58.1
16	11	24 37	16 59.4	15	10½	28 26	19 32.5
12	9½	24 45	20 58.3	15	11	28 27	19 40.4
16	10	24 53	16 56.0	16	10	28 35	17 3.7
15	11	24 59	19 49.6	27	11	29 5	16 33.6
27	11½	25 4	16 29.8	15	10	29 6	19 39.0
12	10½	25 13	20 49.0	16	11½	29 6	17 2.4
27	11½	25 13	16 34.4	27	11	29 10	16 32.6
15	10	25 23	19 46.3	15	11½	29 19	19 48.1
27	11	25 29	16 39.2	26	9	29 19	16 30.2
16	10	25 47	16 57.0:	27	10	29 19	16 32.7
12	10½	25 48	21 4.6	15	11½	29 20	19 45.3
16	11½	25 50	17 5.0:	12	10½	29 27	20 53.9‡
27	11	25 55	16 44.2	12	11	29 28	20 57.5
12	12	25 56	21 5.2†	26	9½	29 43	16 22.5
26	10½	25 59	16 15.1	16	9½	30 9	16 57.2
15	11	26 0	19 42.8	15	10½	30 19	19 43.1
16	10	8 26 1	+17 3.7	16	12	8 30 19	+17 5.0

* S. *f.* of double. † *f.* of double. ‡ *L.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
16	10	8 30 25	+17 7.2	27	9½	8 33 11	+16 51.5
15	11	30 29	19 34.0	15	11	33 12	19 39.7
12	11½	30 35	20 52.0	15	11½	33 19	19 47.4
15	9½	30 35	19 28.6	12	11	33 57	21 5.3
26	11	30 36	16 15.5	12	12	34 9	21 6.5
12	11½	30 41	20 54.5	12	11	34 22	20 52.2
12	12	30 43	20 58.8	16	11	34 31	17 2.5
27	10½	30 44	16 37.4	12	10½	34 34	20 51.8
12	12	30 53	20 53.3	15	11½	34 50	19 37.3
26	10	30 56	16 21.3*	16	11½	34 50	17 2.5
16	10	30 57	17 4.2	12	11	35 30	20 48.4
26	11	31 11	16 27.0	15	11½	35 38	19 33.5
15	10½	31 17	19 50.3	12	10½	35 50	20 50.8
12	10½	31 37	21 5.6	15	11½	35 56	19 34.3
16	11	31 38	16 52.5	16	10	36 0	16 56.8
15	8	31 44	19 52.5	16	11	36 3	16 51.5
12	10½	31 49	20 50.3	16	11½	36 8	16 55.8
27	11½	31 56	16 37.7	15	11	36 13	19 35.1
15	9½	31 57	19 43.3	12	11	36 17	20 53.7
15	8½	32 4	19 45.3	12	10	36 26	20 53.9
26	11½	32 9	16 11.1†	12	10	36 52	21. 3.3
15	9½	32 10	19 50.2	15	11	36 55	19 37.6
27	11½	32 11	16 43.5	16	10½	36 59	16 55.6
12	9	32 13	20 47.8	16	10½	37 8	16 56.8
16	8	32 27	17 1.7*	12	10	37 11	21 7.1
16	11	32 33	17 8.6	16	10½	37 13	17 4.5
26	10½	32 40	16 8.8	16	11½	37 33	17 2.8
12	11	32 47	21 9.1	15	10	37 38	19 47.7
26	8	32 49	16 15.2	27	11½	37 45	16 35.0
27	11	32 51	16 43.7	27	9½	37 55	16 34.6
26	10½	32 52	16 11.1	15	11	38 6	19 46.7‡
15	9½	33 1	19 40.3	26	10	38 39	16 25.9
15	10½	33 10	19 47.9	16	10	38 48	16 56.6
27	9	33 10	16 47.6	27	11	38 51	16 44.7
27	10½	8 33 11	+16 42.3	27	11	8 38 52	+16 37.5

* (4). † N. of double. ‡ S. *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11½	8 38 55	+16 48.9	26	9	8 42 22	+16 18.4
12	11	38 56	21 9.1	12	10	42 32	21 1.1
15	11½	39 5	19 36.6	16	9	42 46	17 9.0
26	11½	39 5	16 21.3	16	10	43 0	17 6.4
16	12½	39 6	16 58.9	12	9½	43 3	21 2.5
16	11	39 10	17 7.8	16	11½	43 8	17 11.3
16	10	39 22	17 3.4	15	12	43 15	19 43.8
16	12	39 25	17 1.9	15	10½	43 20	19 43.3
15	11½	39 27	19 35.3	15	11½	43 23	19 47.9
27	10½	39 30	16 44.9	12	11	43 26	20 50.8
12	11	39 33	20 54.1	27	12	43 28	16 32.3
12	10½	39 37	20 55.5	26	12	43 52	16 28.3
15	10½	39 45	19 44.3	12	10½	43 55	21 8.1
26	11	39 48	16 25.4	12	11	44 1	21 7.8
26	9	39 50	16 16.6	16	9½	44 2	16 54.0
12	11½	39 56	20 55.4	15	9	44 8	19 39.9
26	10½	40 1	16 25.3	12	10½	44 9	20 58.8
26	10½	40 18	16 23.7	16	9½	44 11	17 0.1
15	10	40 19	19 36.6	27	11½	44 23	16 46.1
16	12	40 26	17 8.3	26	8	44 31	16 22.8
27	11	40 31	16 41.7	27	11½	44 34	16 46.0
16	12	40 38	17 7.3	27	10½	44 34	16 33.9
27	10	40 38	16 48.7	15	9	44 42	19 40.4
12	10	40 51	21 2.5	12	10	44 50	21 4.9
27	10½	41 0	16 44.3	15	11	44 58	19 34.9
27	11	41 2	16 42.2	26	11½	45 6	16 25.1
26	11½	41 4	16 24.6	12	11	45 15	21 5.2
27	10½	41 33	16 37.0	27	11	45 17	16 40.7
16	11	41 42	16 58.9	12	9	45 25	20 47.5
16	12	41 45	16 59.8	26	11½	45 42	16 15.5
16	10	41 48	16 52.4	12	9	45 44	21 9.1
15	11	42 2	19 47.2	15	10	45 47	19 29.7
26	11	42 2	16 28.0	26	11	45 48	16 12.7
26	10½	42 17	16 26.3	12	11	45 56	21 8.3
12	10	8 42 22	+20 55.9	15	11	8 46 23	+19 35.8

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11½	8 46 27	+19 49.7	15	12	8 51 46	+19 42.8
	11	46 29	21 6.4	26	10	51 51	16 24.5
	11	46 41	19 39.5	27	11	51 52	16 48.2
	9½	46 46	16 47.4	12	12	52 2	20 49.8
	11½	46 48	19 50.4	15	10½	52 3	19 39.7
	10	46 49	16 35.5	27	11½	52 10	16 48.8
	10	46 56	21 9.7	12	10	52 11	21 0.4
	11½	47 36	20 54.9	26	10	52 11	16 20.4
	10½	47 47	19 50.7::	27	10	52 25	16 43.1
	11	47 49	20 54.3	27	10½	52 43	16 44.8
	11	47 52	20 57.8	12	10	52 46	20 53.4
	11	47 52	16 26.5	15	11½	53 3	19 32.2
	11	48 5	16 29.0	26	10½	53 19	16 18.1
	11	48 6	19 34.8	15	11	53 24	19 32.4
	10	48 11	19 33.5	26	10½	53 27	16 27.7
	11	48 20	16 37.0*	26	10½	53 33	16 20.9::
	11	48 29	16 49.3	26	10½	53 46	16 12.4
	10	48 30	19 18.7†	27	10½	53 58	16 41.7
	7	48 54	16 51.3	26	11½	54 2	16 12.3
	7	49 10	16 48.7	27	10½	54 11	16 40.9
	9	49 12	21 3.2	27	11	54 22	16 37.0
	11	49 14	19 39.2	12	11½	54 23	20 57.5
	10	49 23	16 18.5	15	11	54 24	19 47.3
	10	49 43	16 41.1	26	10	54 39	16 11.6
	11	49 50	19 32.0	15	11	54 51	19 44.6
	10½	49 58	20 57.4:	15	10½	54 54	19 47.7
	10½	50 9	16 13.8	12	12	54 56	21 4.1
	10	50 40	21 1.6	27	10½	55 1	16 40.9
	10½	50 40	16 11.1	26	10½	55 11	16 22.6
	11½	51 20	16 15.4	27	11	55 26	16 41.5
	11½	51 27	16 16.4	12	11½	55 29	21 6.6
	11	51 31	16 33.3	15	9½	55 36	19 49.8
	11	51 35	19 43.2	12	11½	55 42	21 7.0
	11½	51 40	16 43.8	26	9½	55 51	16 25.2
	9	8 51 45	+19 30.8	27	11	8 55 54	+16 35.8

* S. *f.* of double. † (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	11	8 56 23	+20 54.0	26	10½	9 3 32	+16 22.9
15	11	56 32	19 37.7	26	10	3 56	16 18.1
15	10½	56 47	19 39.4	27	11	4 5	16 47.9
12	11	56 52	21 6.2	27	11	4 14	16 34.7
12	11	56 56	21 3.5	26	11½	4 47	16 16.4
15	10½	57 6	19 38.3	26	11	4 51	16 24.5
27	11	57 16	16 35.2	26	10½	5 22	16 48.7
12	10½	57 42	20 56.7	26	11½	6 18	16 12.3
26	11	58 1	16 25.6*	27	11	6 39	16 49.3
12	11	58 3	20 56.6	26	11	6 49	16 16.8
15	11	58 6	19 32.4	26	11	6 54	16 13.5
12	11	58 8	20 51.7	27	10½	6 59	16 46.9
12	9	58 13	20 56.1	26	10	7 16	16 28.6
26 27	10	58 20	16 28.5	27	10½	8 38	16 43.7
26	10	58 24	16 20.4	27	10	8 51	16 35.9
15	10½	58 25	19 33.3	26	10	9 3	16 16.8
15	10½	58 35	19 34.3	26	11½	9 14	16 26.7
27	11½	59 20	16 31.6	27	9½	9 23	16 46.6
27	11½	59 27	16 42.6	27	10½	10 3	16 32.6
27	11	59 27	16 42.8	26	10	10 15	16 24.2
26	11	59 29	16 12.5	27	11	10 51	16 50.5
15	9½	9 0 6	19 47.2	27	11	11 7	16 37.9
26	11½	0 12	16 12.1	26	11	11 10	16 13.3
26	11½	0 50	16 22.0	27	8	11 43	16 33.9
15	11	0 53	19 36.1	27	12	12 21	16 38.6
26	8	1 7	16 25.2	27	12	12 24	16 41.7
15	11	1 10	19 34.2	26	9	12 27	16 17.1
27	11	1 12	16 47.5	26	9	13 41	16 12.9
27	11	1 30	16 38.9†	26	9	13 46	16 21.6
15	11	1 58	19 48.1	27	10	14 2	16 35.6
26	11	2 16	16 15.4	27	9½	14 48	16 42.9
26	11	2 36	16 26.0	27	10	15 3	16 48.1
27	11½	2 57	16 33.2	26	11	15 14	16 11.4
27	11	3 6	16 49.4	27	11½	15 23	16 42.5
27	10	9 3 29	+16 48.8	27	11½	9 16 53	+16 47.1

* S. *p.* of double.

† (4).

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11	9 17 20	+16 42.5	27	9	9 39 57	+16 29.8
	10½	17 52	16 43.8	27	11	41 28	16 46.3
	10½	18 13	16 28.7	27	11	42 21	16 47.8
	9	20 3	16 45.6	27	11	42 38	16 46.8
	9½	20 28	16 32.8	27	9½	44 7	16 36.6
	10	20 34	16 30.5	27	10½	45 10	16 43.0
	10	20 58	16 42.3	27	10	45 19	16 44.2
	9½	21 51	16 32.3	27	8	45 21	16 31.2
	9	22 40	16 42.9	27	6	46 15	16 44.5
	9	22 59	16 41.2*	27	11	46 31	16 49.1
	9	23 1	16 36.8	27	11	47 30	16 44.7
	11½	23 20	16 36.0	27	11	48 14	16 30.5
	10½	24 27	16 29.0	13	9	58 3	9 41.5
	8½	25 7	16 45.1	13	11	58 21	9 33.7
	11	25 46	16 48.5	13	10½	58 39	9 37.8
	10½	27 42	16 32.4	13	10	59 14	9 43.3
	11	27 47	16 34.2	12 13	10½	10 0 1	9 33.1
	11	29 0	16 52.1	13	11½	0 5	9 32.4
	11	29 5	16 48.2	12	10½	0 27	9 12.3
	11	30 52	16 38.5	12	10½	0 38	9 12.7
	10	31 29	16 37.6	13	12	0 46	9 34.4
	10	31 51	16 42.7	13	12	0 58	9 35.2
	10	32 25	16 42.3	13	11	1 6	9 46.9
	9½	32 59	16 51.1	13	11	1 7	9 35.6
	11	33 47	16 33.6	12	11	1 53	9 19.7
	9	34 50	16 31.0	12	8	1 53	9 10.1
	11	35 31	16 36.8	13	10½	2 8	9 44.0
	11	35 33	16 34.0	13	10	2 11	9 40.7
	10	36 19	16 30.6	13	11½	2 16	9 44.8
	11	36 55	16 33.6	13	11½	2 27	9 45.6
	10	38 0	16 36.9	12	9½	2 50	9 16.0
	11	38 4	16 48.5	12	10	3 7	9 19.7*
	11	38 17	16 42.9	13	9	3 18	9 40.6
	10	38 36	16 44.0	12 13	9½	3 24	9 27.4
	11	9 39 15	+16 43.2	12	11½	10 3 39	+9 16.6

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	10½	10 4 19	+9 44.1	13	10½	10 12 5	+9 39.1†
13	11½	4 46	9 42.4	12	11½	12 13	9 22.7
12	10½	4 47	9 19.5	13	9	12 28	9 40.5†
13	12	4 48	9 47.5	13	11	12 44	9 33.7
12	11	5 9	9 17.7	13	8½	13 32	9 33.3
12	11	5 26	9 25.4	13	7	13 48	9 49.3
13	10½	5 41	9 42.7	12	11	13 59	9 11.6
13	11	5 44	9 30.3	13	11½	14 46	9 43.9
12	10	5 48	9 26.3	13	11½	14 47	9 45.9
12 13	10	6 28	9 28.5	12	11	14 57	9 27.2
12	9½	6 33	9 21.7	12	10½	15 2	9 30.7
12	9½	6 35	9 8.8	20	10½	15 13	7 12.7
13	10½	6 49	9 32.7	12	11	15 15	9 24.5
13	10	6 56	9 30.9	20	11	15 47	7 25.9
13	10	7 18	9 51.1*	12	11	15 49	9 17.0
12	11	7 32	9 14.3	12	11½	16 0	9 11.9
12	11½	7 40	9 8.2	13	10½	16 3	9 32.9
13	11	7 40	9 46.4	13	12	16 13	9 47.2
13	11	8 11	9 37.0	13	11	16 20	9 41.2
13	11	8 15	9 35.9	13	10	16 45	9 31.0
13	10	8 31	9 42.4	12	10½	16 54	9 22.2
12	10	8 41	9 22.5	12	9½	17 18	9 21.7
12	9	8 45	9 30.5	12	11	17 24	9 24.9
12	10½	8 48	9 21.0	12	11	17 34	9 24.4
12	11	8 54	9 26.2	13	11	17 43	9 41.9
13	10	9 49	9 32.9	13	12	17 52	9 38.9
13	10½	9 57	9 32.2	12	10	18 7	9 22.7
12	10	10 32	9 22.4	12	10	18 8	9 24.5
12 13	11	10 32	9 27.7	20	9½	18 37	7 11.4
13	12	10 43	9 31.3	20	11½	18 52	7 16.3
12	11	10 58	9 18.0	20	11	18 58	7 21.7
12 13	10	11 3	9 31.2	13	10½	19 4	9 45.4
12	11	11 23	9 23.5	12	10½	19 6	9 17.3
20	11½	11 39	7 10.6	13	10	19 9	9 32.0
20	10	10 11 58	+7 20.1	20	10	10 19 10	+7 16.7

* April, 1850.

† (4).

Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′
13	11½	10 19 52	+9 34.5
20	11	20 7	7 19.5
13	12	20 9	9 33.7
13	11	20 14	9 40.5
13	11	20 15	9 38.8
12	10½	20 20	9 11.7
12	12	20 25	9 14.8
20	10½	20 37	7 21.9
13	10	20 46	9 40.8
12	11	20 58	9 11.8
12	10½	21 2	9 13.6
13	11	21 10	9 38.1
20	11	21 19	7 9.2
12	11	21 27	9 23.0
13	11	21 36	9 34.0
12	11½	21 38	9 13.0
13	9½	21 47	9 42.2
20	9½	21 49	7 30.4
20	11	21 53	7 27.5
12	11	22 6	9 18.3
13	11½	22 6	9 36.0
20	10	22 11	7 10.3
12	10½	22 54	9 24.1
13	11	22 58	9 46.0
20	10	23 16	7 23.3
12 13	9	23 18	9 32.9
20	11½	23 21	7 25.9
20	10½	23 32	7 22.1
13	11	23 35	9 46.5
13	11½	23 50	9 47.1
13	10	23 54	9 48.1
12	10½	24 5	9 17.2
20	11	24 13	7 16.0
12	10	24 20	9 19.1
20	12	10 24 30	+7 13.5
12	10½	10 24 32	+9 23.8
20	10	24 32	7 17.3
20	12	24 32	7 12.6
12 13	10½	24 49	9 31.2
13	10½	24 49	9 33.0
12	11	24 51	9 18.2
12	10	25 10	9 18.2
13	10	25 26	9 36.4
20	9	25 30	7 8.4
13	11	25 36	9 32.9
13	11	25 50	9 34.3
12 13	9	26 2	9 31.2
13	10½	26 4	9 33.9
20	11	26 17	7 18.0
20	11	26 21	7 28.1
20	10	26 35	7 22.1
12	11	26 46	9 21.0
20	10½	27 7	7 7.2
12	11½	27 53	9 29.8
20	11	28 0	7 11.3
13	11½	28 5	9 35.6
20	11½	28 32	7 11.1
12	11	28 41	9 9.8
13	11½	28 41	9 30.0
20	10	29 1	7 23.8
20	12	29 14	7 31.0
12	9	29 23	9 11.3
13	9½	29 25	9 49.2
12	10	29 32	9 25.0
12	11½	29 39	9 24.5
12	11½	29 43	9 24.9
20	12	29 43	7 28.6
13	10½	29 46	9 41.8
13	9	30 11	9 32.4
13	11	10 30 26	+9 41.5

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	11	10 30 28	+9 26.2	12	10½	10 35 35	+9 10.6
20	11	30 29	7 11.4	13	11½	35 52	9 45.3
13	11	30 47	9 37.4	12	10	36 5	9 28.2
12	12	30 48	9 13.4	20	11	36 20	7 18.2‡
13	10½	30 55	9 35.5	12	10	36 21	9 26.2
20	11½	30 55	7 7.6	20	10	36 23	7 29.9
13	10½	31 6	9 34.8	20	10½	36 34	7 24.1
12	11	31 14	9 17.1	20	10½	36 43	7 26.9
13	10	31 22	9 33.9	20	9	37 18	7 22.0
20	9	31 37	7 32.0	12	10½	37 25	9 19.3
20	12	31 57	7 25.1	12	10	37 35	9 14.0
20	11	32 1	7 23.1	12	11½	37 42	9 9.4
12	9	32 16	9 9.2	20	12	38 0	7 12.4
12	10	32 22	9 23.9	12 13	11½	38 10	9 28.5
12	11	32 22	9 16.2	20	11	38 33	7 29.4
20	9	32 25	7 24.0	12	10½	38 43	9 30.7
13	9	32 33	9 41.3	12	10	38 55	9 19.0‡
13	10½	32 45	9 36.0	13	9	39 8	9 45.1
12	10	32 53	9 14.5	12	10	39 24	9 29.3
13	11	32 54	9 34.9	13	11½	39 24	9 31.5
20	12	33 4	7 13.3	20	11	39 30	7 10.2
13	11	33 12	9 36.2*	13	11	40 3	9 31.7
20	12	33 12	7 13.2	13	12	40 10	9 42.6
12	7½	33 13	9 28.4	20	11	40 11	7 24.1
20	11½	33 13	7 18.6	13	11	40 19	9 47.1
13	9	34 1	9 39.1	12	11	40 24	9 23.7
12	11	34 15	9 17.8	12	9	40 25	9 8.8
13	10½	34 24	9 51.0	20	10½	40 30	7 26.2
12	10	34 33	9 19.3	20	10½	40 39	7 31.7
13	9	34 40	9 50.0:	12 13	9½	40 56	9 27.6
20	9	34 42	7 27.3†	20	10½	41 20	7 12.3
12	9½	34 57	9 27.4	13	9½	41 35	9 30.8
12	11	35 5	9 21.8	12	11½	41 49	9 24.4
20	11½	35 23	9 17.9	20	11	41 52	7 12.2
20	11	10 35 30	+7 13.0	12	10½	10 41 55	+9 13.3

* N. of double. † L. of double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10	10 41 56	+9 12.4	12	9	10 47 58	+9 22.1
20	11	42 6	7 12.3	20	11	48 0	7 14.9
13	11	42 8	9 50.1	20	11	48 3	7 11.5
20	11	42 31	7 11.0	13	10	48 14	9 31.6
12	11	42 49	9 13.2	20	10	48 42	7 18.5*
13	11	42 55	9 43.1	13	10	48 49	9 35.2
20	10	43 3	7 15.5	12	12	48 58	9 19.0
12	9	43 4	9 13.7	13	10	49 5	9 49.3
13	11½	43 27	9 39.1	20	11	49 13	7 11.7
12	10	43 30	9 19.4*	20	10	49 19	7 16.9
20	11½	43 44	7 10.5	20	9	49 21	7 11.8
20	9	43 49	7 22.6	13	10	49 28	9 43.4
12	11	44 0	9 19.9	12	11½	49 54	9 23.4
13	11	44 10	9 38.8	13	10	49 59	9 49.3
20	11	44 19	7 13.4	12	12	50 5	9 28.3
13	10	44 36	9 43.1	13	10	50 13	9 36.1
13	11½	44 37	9 41.5	12	11	50 14	9 28.1
12	11	44 44	9 12.8	20	11	50 21	7 27.4
20	10	44 48	7 23.7	13	10½	50 44	9 44.1
12	11	44 53	9 29.1	13	11	50 45	9 45.4
20	11½	45 19	7 13.6	12	11½	51 9	9 28.4
13	10½	45 23	9 40.9	20	10½	51 9	7 27.2
20	11	45 24	7 29.9	12	11½	51 15	9 27.3
12	11	45 27	9 16.9	13	11½	51 21	9 41.8
12	11	45 47	9 18.2	20	11	51 58	7 16.5
12	12	46 3	9 12.2	20	10½	51 59	7 28.9
20	11½	46 13	7 25.6	12 13	10½	52 22	9 29.5
20	11½	46 24	7 25.3	13	9½	52 22	9 43.8
20	9½	46 36	7 21.0*	12	9½	52 42	9 22.5
12	11	46 48	9 12.7	12	11	52 42	9 22.7
20	10½	47 3	7 27.4	20	10	52 47	7 17.8
13	11½	47 4	9 31.6	12	10	52 50	9 25.0
13	11½	47 6	9 32.3	12	10½	52 50	9 13.9
12	10	47 33	9 18.1	12	10	52 52	9 11.6
20	10	10 47 57	+7 20.8	13	11	10 52 56	+9 49.2

*(4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
20	11	10 52 57	+7 28.6:	13	11½	10 58 59	+9 49.0
12	10	53 5	9 21.7	12	10½	59 0	9 27.1
20	10	53 6	7 26.2	20	10	59 11	7 25.3
13	10½	53 48	9 47.0	13	9	59 26	9 37.9
20	11	54 1	7 21.4*	20	10	59 36	7 10.0
12	10½	54 3	9 28.9	12 13	10	59 38	9 32.4
20	11½	54 29	7 16.5	12	9	11 0 0	9 11.5
13	11½	54 39	9 40.8	20	10½	0 5	7 13.5
13	10½	54 54	9 34.0	12	11½	0 7	9 22.8
13	10½	55 3	9 41.0	12	9	0 21	9 21.7
13	11	55 21	9 37.1	12	11½	0 54	9 19.1
12	10	55 25	9 21.7	13	10	0 59	9 36.7
13	11	55 32	9 31.3	13	10½	1 5	9 43.0
20	10½	56 5	7 23.9	13	12	1 13	9 35.7
20	10½	56 8	7 14.3	13	10	1 38	9 37.2
20	11½	56 16	7 14.2	12	10	1 45	9 11.2
12	11	56 17	9 28.3	13	10	2 2	9 39.7
12	11	56 23	9 25.3	13	10	2 22	9 37.7
13	10½	56 30	9 46.8	13	10	2 45	9 47.5
20	10½	56 32	7 24.2	12	10½	32 26	6 10.7
12	11½	56 36	9 28.4	12	11	32 31	6 16.6
20	11½	56 42	7 14.4	12	9½	32 44	6 27.7
13	10½	56 44	9 43.1	12	11	33 39	6 18.8
13	11	57 16	9 47.7	12	11	34 54	6 27.0
20	10½	57 21	7 25.9	12	11	34 58	6 28.5
12	10½	57 31	9 14.4	12	11	35 21	6 24.7
20	10½	57 33	7 27.0	12	11	35 24	6 29.7
13	11½	58 0	9 43.7	12	11	35 26	6 20.2
12	11	58 7	9 14.2	12	10	36 36	6 16.0
12	10	58 17	9 13.6	12	10	36 39	6 27.0
13	11½	58 18	9 47.4	12	10	36 39	6 29.6
12	9½	58 25	9 18.3	12	11	37 28	6 16.0
13	11½	58 32	9 46.8	12	11	38 48	6 8.9
13	11½	58 50	9 48.6	12	9	39 9	6 21.8
20	12	10 58 51	+7 17.5	12	9	11 40 15	+6 27.9

* (4).

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
12	11	11 41 33	+6 18.3	12	11	11 57 58	+6 10.7
12	11	41 46	6 9.8	12	11½	59 19	6 24.8
12	10	42 40	6 16.4	12	11	59 24	6 24.5
12	10	42 42	6 19.2	12	11½	59 46	6 17.5
12	11	42 43	6 14.2	12	10	12 0 14	6 12.2
12	11	42 55	6 12.8	12	11	0 17	6 18.6
12	11	43 19	6 16.5	12	11	0 50	6 8.8
12	11½	45 1	6 27.5	12	10	1 35	6 18.5
12	10	45 2	6 29.8	12	11	2 15	6 14.9
12	10½	46 29	6 24.9	12	10½	2 18	6 17.6
12	11	46 36	6 15.0	12	11	2 44	6 30.5
12	11	46 54	6 13.5	12	11	3 28	6 14.4
12	11½	47 24	6 17.5	12	11½	4 21	6 25.8
12	11	47 47	6 9.8	12	11	4 22	6 19.1
12	11	48 6	6 19.5*	12	11½	4 25	6 26.5
12	11	48 13	6 28.5	12	10	4 44	6 28.2
12	10	48 20	6 27.6	12	10	5 26	6 20.2
12	10	48 49	6 13.6	12	11	5 28	6 29.1
12	10½	49 9	6 22.1	12	11	5 30	6 27.4
12	11	49 39	6 13.1	12	10	5 44	6 20.2
12	10½	49 40	6 12.3	12	12	6 1	6 22.0
12	11	51 2	6 11.3	12	11	8 8	6 27.8
12	11	51 10	6 22.5	12	11	8 18	6 23.9
12	10½	51 59	6 24.7	12	10	8 21	6 28.7
12	11	52 6	6 18.3	12	10½	8 33	6 23.0
12	10½	52 29	6 23.0	12	10	8 47	6 12.5
12	11	52 38	6 16.6	12	10	9 32	6 13.0
12	11	53 43	6 11.2	12	10	10 1	6 31.9
12	11	54 23	6 32.2	12	10	10 31	6 32.8
12	10	55 31	6 12.0	12	10	10 59	6 11.7
12	11	56 35	6 21.7	12	11½	11 6	6 12.2
12	11	56 44	6 22.1	12	11	11 54	6 30.5
12	11	56 54	6 22.3	12	10	12 17	6 22.1
12	11	57 5	6 26.7	12	10	13 34	6 19.1
12	10½	11 57 35	+6 23.0	12	10½	12 13 58	+6 27.2

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	10	12 14 39	+6 28.4	12	11	12 19 52	+6 8.6
12	10½	15 15	6 17.9	12	10	22 27	6 8.5
12	10	15 37	6 11.9	12	10	22 47	6 16.6
12	11	16 48	6 17.9	12	9	23 5	6 20.7
12	10½	16 50	6 16.6	12	11	23 21	6 16.2
12	11	17 1	6 28.5	12	11	24 20	6 32.8
12	11	17 6	6 18.2	12	10	25 37	6 26.1
12	10	18 4	6 27.9	12	10	27 8	6 31.5
12	11	18 20	6 17.8	12	10	28 20	6 22.6
12	10½	12 18 33	+6 24.0	12	10	12 28 48	+6 22.6

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

249 STARS NEAR THE ECLIPTIC,

OBSERVED IN APRIL, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
12	9	9 48 48	+10 7.8	12	10	9 54 57	+9 51.8
12	11	48 49	10 0.7	12	9	56 4	9 50.7
12	9	49 21	9 46.0	12	11	57 5	9 58.0
12	9	49 37	9 52.3*	12	8½	58 12	9 56.3
12	9	49 49	10 4.7	12	9	58 15	9 55.3
12	10	50 37	9 55.5	12	11	58 18	9 53.4
12	11	50 56	9 52.8	12	11	10 4 50	9 58.1
12	10	51 18	10 5.5	12	11	5 2	9 59.0
12	8	51 38	10 2.1	12	9	6 10	10 6.6
12	9	51 47	9 48.5	12	11	7 16	9 52.7
12	10½	52 3	9 52.3	10	9	11 18	8 42.8
12	10	52 48	10 5.0	10	10	11 20	8 27.9
12	11	52 54	10 6.9	10	8½	11 36	8 49.7
12	10	54 20	10 8.4	10	11	12 34	8 38.5
12	11	9 54 44	+9 54.0	10	11	10 12 54	+8 35.1

* N. largest of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	10 12 56	+8 32.5	10	8	10 43 39	+8 43.8
10	10	12 59	8 42.4	10	11½	43 50	8 42.1
10	10	14 6	8 35.5	10	11	44 48	8 43.5
10	9	14 38	8 31.8	10	10½	44 50	8 43.9
10	9	15 10	8 40.6	10	9	45 7	8 45.4
10	11½	15 30	8 35.8	10	11	45 17	8 34.2
10	11	16 35	8 32.6	10	10½	46 9	8 44.5
10	11	17 17	8 34.7	10	10½	46 14	8 43.3
10	10	17 46	8 47.4	10	10½	46 30	8 42.3
10	9½	17 56	8 41.4	10	9	46 32	8 48.6
10	12	19 0	8 47.4	10	10½	46 46	8 44.0
10	11½	19 21	8 47.5	10	11	48 13	8 46.5
10	10½	20 31	8 45.6	10	11	48 21	8 46.8
10	10½	20 34	8 48.4	10	11½	48 21	8 48.7
10	8	21 22	8 35.0	10	11	48 57	8 32.2:
10	10	22 52	8 32.5	10	11	49 11	8 32.0
10	9½	23 38	8 45.1	10	10	49 40	8 36.6
10	11½	24 0	8 48.2	10	9	50 4	8 48.4
10	11	36 15	8 49.3	17	9	50 14	3 56.1
10	9	36 53	8 32.4	17	11	50 36	4 7.1
10	10	37 1	8 43.9	17	11	50 41	4 3.8
10	9	37 20	8 27.6	10	–	50 53	8 47.6
10	11	38 24	8 48.1	10	10	51 0	8 46.6
10	11	38 30	8 49.2	17	9	51 1	3 57.2
10	10½	39 14	8 34.6	17	10½	51 13	4 9.8
10	10½	39 35	8 41.3	10	10	51 14	8 43.2
10	11	39 35	8 47.2	10	10½	52 0	8 48.1
10	9½	39 49	8 33.7	17	10	52 4	3 53.8
10	9	40 16	8 41.6	17	10½	52 19	3 59.3
10	10	40 36	8 41.2	10	11	52 22	8 33.0
10	10½	40 52	8 36.1	17	10	52 31	3 53.0
10	11	42 4	8 49.4	17	10½	52 38	3 59.2:
10	11	42 47	8 46.1	10	11	52 46	8 48.9
10	10½	43 24	8 39.3	17	10	52 49	3 56.1
10	8½	10 43 36	+8 50.5:	10	11	10 53 39	+8 39.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	10 53 44	+8 48.2	17	10	11 2 12	+3 53.3
17	11	53 45	3 52.6	17	8½	2 23	4 10.5
10	10½	53 53	8 50.0	10	11	2 57	8 45.3
10	11½	54 42	8 34.8	17	11	2 58	4 14.2
17	11½	54 55	3 57.3	10	10½	3 13	8 42.5*
17	8	54 58	3 55.7	17	10½	3 34	3 54.0
17	8½	55 16	4 7.4	17	9½	3 39	4 41.2
10	11	55 35	8 37.1	10	10	3 48	8 30.2
10	10	55 43	8 49.0	17	10	4 5	4 9.8
10	11	56 8	8 39.0	17	10	4 39	4 12.1
17	11½	56 13	3 56.6	10	11	5 18	8 46.3
10	10	56 42	8 37.7	17	11	5 22	3 57.5
17	10½	56 43	4 1.7	17	11	5 33	3 54.0
10	11	56 54	8 45.5	17	9	5 36	4 1.7
17	10½	57 3	3 58.9	10	11	6 12	8 43.2
10	11	57 6	8 37.2	10	10½	6 55	8 47.2
10	11	57 22	8 37.0	10	10½	7 27	8 43.3
17	10	57 38	4 1.7	10	10	7 51	8 36.2
10	10½	58 0	8 34.9	10	10	7 57	8 36.0
17	10½	58 13	4 9.4	10	11½	8 12	8 50.9
10	9	58 28	8 39.7	10	10	8 17	8 42.3
10	10½	58 29	8 44.5	10	10	9 15	8 45.5
17	11	58 50	4 10.3	10	9½	9 23	8 33.8
10	10½	58 56	8 42.4*	10	11½	10 29	8 35.8
10	9½	59 16	8 44.9	10	11½	10 39	8 33.9
17	10	59 26	4 9.9	10	12	11 13	8 31.9
17	11	59 50	3 53.0	10	11	11 42	8 43.2
10	11	11 0 9	8 41.9	10	9	12 59	8 50.1
17	10½	0 9	4 6.5	10	10½	13 4	8 37.3
10	10½	0 10	8 28.9	10	11	13 43	8 30.9
17	10½	1 2	3 55.7	10	8½	13 56	8 39.4*
10	11	1 13	8 43.4	10	11	14 4	8 33.2
10	11	1 28	8 52.9	17	10½	19 2	4 3.3
17	11	1 36	3 51.4	17	10	19 30	4 7.4
10	11	11 2 12	+8 44.2	17	9	11 19 32	+3 59.8*

* (4).

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
17	8½	11 19 33	+4 13.9	17	10½	11 36 7	+4 10.6
17	10½	20 1	3 53.0	17	11½	37 3	4 4.9
17	11	20 56	3 56.1	17	11	37 12	4 5.9†
17	10½	21 4	4 2.5	17	11	37 30	4 7.6
17	9½	21 44	3 57.3	17	10½	38 7	3 50.0
17	10½	22 35	3 53.4	17	10½	38 19	3 59.4
17	9	23 11	4 8.3	17	11	38 25	3 55.6
17	9	23 59	3 49.9	17	9	39 20	3 56.8
17	10	24 9	3 50.0	17	10	39 28	3 52.5
17	10	24 45	4 8.1	17	9	40 11	+3 53.5
17	10	24 47	3 59.6	10	11	52 57	−2 28.3
17	10½	25 2	4 8.7	10	10	54 2	2 21.1
17	10	25 18	4 1.7	10	11	55 55	2 27.3
17	10	26 36	4 3.2	10	10½	56 31	2 28.6
17	10	26 46	4 0.8*	10	9	56 43	2 19.1
17	11	28 13	3 54.3	10	10½	56 46	2 26.3
17	9½	28 24	3 57.1	10	11½	58 20	2 15.7
17	10	29 11	3 59.7	10	12	58 36	2 14.0
17	10	29 19	3 57.4	10	11	12 0 16	2 17.4
17	10	29 28	3 51.9	10	10	0 24	2 12.6
17	12	30 20	4 9.0	10	11	0 36	2 18.1
17	10	30 48	4 4.3	10	9	0 49	2 8.8
17	11	31 20	3 55.4	10	10	1 11	2 26.5
17	10½	31 21	2 58.3	10	11½	2 9	2 20.8
17	9	32 2	3 51.9	10	11	3 2	2 25.9
17	9	32 29	3 53.2	10	8½	3 12	2 18.4*
17	10	32 44	4 7.8	10	9	3 42	2 22.5
17	9½	32 48	4 6.4	10	11	5 9	2 20.7
17	8½	33 29	3 51.8	10	11	5 21	2 20.9
17	9½	33 34	3 57.3	10	11	5 41	2 15.1
17	11	34 51	4 6.1	10	10	6 39	2 32.0
17	11	34 51	4 9.3	10	10	7 4	2 20.2
17	11	34 53	4 11.5	10	10	7 49	2 23.6
17	11	34 55	4 3.3	10	11	9 2	2 23.7
17	8	11 35 49	+4 3.8	10	8½	12 10 30	−2 11.9

* (4).

† N. *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	11	12 10 45	—2 13.7	10	11	12 13 54	—2 30.8
10	9½	11 35	2 27.5	10	11	14 7	2 28.5
10	11½	12 20	2 14.1	10	10	14 34	2 12.2
10	11	12 25	2 13.7	10	10½	12 14 51	—2 15.0
10	9	12 13 22	—2 7.8				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

172 STARS NEAR THE ECLIPTIC,

OBSERVED IN MAY, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	9½	13 42 57	—14 37.4	6	10	14 0 26	—14 48.6
6	11½	45 28	14 32.7	6	9	0 59	14 51.1
6	8	45 50	14 35.8	6	8½	1 19	14 52.1
6	11	45 51	14 45.8	6	9	1 32	14 51.1
6	10½	47 15	14 45.0:	6	8	2 0	14 32.4
6	10½	47 26	14 36.1	6	10½	2 11	14 27.3
6	10	47 54	14 41.0	6	8½	2 43	14 29.1
6	10	48 43	14 45.7	6	8	3 4	14 30.1
6	10	48 44	14 42.9	6	8½	3 49	14 34.4
6	11½	49 44	14 33.3	6	11	3 49	14 50.9
6	10½	49 54	14 34.2	6	8	3 59	14 37.6
6	8	50 24	14 43.2	6	11½	5 4	14 49.0
6	10	50 42	14 31.1	6	11	5 13	14 44.5
6	8	51 34	14 37.4*	6	9	6 13	14 38.7*
6	10	52 32	14 40.5*	6	9	6 39	14 38.2*
6	9	53 24	14 35.7	6	11½	6 40	14 33.3
6	9	53 28	14 39.5	6	11½	6 50	14 41.6
6	11	59 35	14 36.0	6	9½	7 43	14 31.3
6	10½	14 0 17	14 44.2	6	10	8 6	14 26.9
6	10	14 0 19	—14 40.7	6	10½	14 8 24	—14 32.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	11½	14 9 8	—14 34.0	6	10½	14 27 14	—14 38.9
6	10	9 30	14 46.9	6	11	27 16	14 32.8
6	9	9 51	14 33.4	6	9	27 17	14 46.5
6	10½	10 28	14 47.1	6	10½	27 23	14 46.2
6	9½	10 59	14 49.0	6	10	27 56	14 30.8
6	8	11 3	14 32.5	6	9	28 41	14 47.3
6	11	11 33	14 48.4	6	9	28 55	14 51.3
6	9	12 0	14 49.1	6	10½	29 41	14 42.2
6	9½	12 9	14 41.8	6	10	29 41	14 45.7
6	10½	12 14	14 46.5	6	10	30 33	14 27.3
6	10	14 40	14 34.3	6	11	30 42	14 27.9
6	8½	15 36	14 33.6	6	9	31 55	14 37.3*
6	11	15 54	14 32.0	6	9	32 11	14 38.3*
6	11	16 20	14 32.5	6	10½	32 20	14 40.2
6	9½	17 12	14 31.9	6	11	32 42	14 42.7
6	9½	17 14	14 32.1	6	9	34 24	14 30.1
6	10½	17 32	14 40.6	6	11½	34 25	14 36.3
6	11	18 28	14 35.7	6	11½	34 25	14 32.9
6	11	18 29	14 37.6	6	8½	35 15	14 37.2
6	8	19 5	14 37.4	6	11	35 37	14 47.3
6	9	19 24	14 28.4	6	11	35 47	14 47.6
6	10½	19 25	14 35.5	6	10	35 52	14 38.4
6	9½	19 59	14 33.9	6	10	37 4	14 45.8
6	10	20 9	14 46.9	6	10	37 5	14 47.4
6	11	20 56	14 29.2	6	10	38 13	14 46.3
6	11	21 0	14 46.2	6	10½	38 22	14 45.0
6	11½	22 18	14 46.7	6	10½	39 54	14 48.1
6	11½	22 27	14 41.3	6	10	40 16	14 49.1
6	11	22 58	14 46.4	6	9½	40 36	14 47.2
6	10	23 1	14 44.1	6	10	41 46	14 44.2
6	11	23 45	14 48.4	6	10½	42 24	14 46.7
6	8½	24 18	14 43.6	6	11	50 22	14 48.6
6	9½	25 34	14 38.0	6	11	51 27	14 40.7
6	10	25 39	14 48.5	6	11	51 50	14 48.0
6	9	14 25 48	—14 43.0	6	11	14 52 53	—14 46.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	10½	19 44 25	—18 22.5*	25	11	19 53 21	—18 18.6
25	12	44 32	18 15.9	25	10	53 53	18 18.9*
25	10	44 44	18 17.4*	25	9½	56 20	18 12.1*
25	10½	45 15	18 20.3*	25	9½	56 40	18 25.1*
25	11½	47 0	18 22.1*	25	10	56 51	18 16.0
25	9½	47 47	18 28.1	25	9	57 0	18 7.4*
25	10	48 1	18 18.8†	25	10	58 11	18 12.6*
25	9	49 37	18 23.5	25	9	58 21	18 15.0‡
25	11	50 46	18 14.2*	25	11	59 8	18 20.3*
25	11½	50 54	18 28.1*	25	11	59 58	18 13.0*
25	10½	52 1	18 21.5*	25	8	20 2 41	18 15.7‡
25	9½	52 6	18 21.8	25	11	3 44	18 12.4*
25	11	19 52 40	—18 27.8*	25	9	20 4 16	—18 22.1*

* September, 1850. † (4). ‡ M. C. September, 1850.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

183 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	19 12 17	—19 31.7	26	8	19 16 55	—19 27.8
26	11	12 34	19 30.1	26	10½	18 1	19 48.1
26	10	13 3	19 37.6	26	9	18 43	19 30.0
26	10½	13 39	19 46.0	26	8	19 16	19 38.4*
26	11	14 16	19 30.1	26	10	19 44	19 41.5
26	10½	15 8	19 35.7	26	10	19 51	19 34.8
26	10	15 8	19 41.4	26	9½	20 51	19 33.7
26	10	15 33	19 43.0	26	9½	20 53	19 47.7
26	10½	15 40	19 45.8	26	10½	21 46	19 33.0
26	10	19 16 44	—19 40.1	26	11	19 22 46	—19 31.7

* (4). M.C.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

86 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
1	10	17 42 33	—23 50.0	1	8	18 0 27	—23 35.1
1	9	43 1	23 50.0	1	8½	0 38	23 39.8*
1	11	45 1	23 42.5	1	8	1 22	23 35.0
1	10	45 26	23 37.6	1	11	2 26	23 44.5
1	10	45 52	23 30.6	1	11	3 34	23 34.2
1	10	47 49	23 42.7	1	9	3 39	23 35.8
1	10	48 28	23 42.8	1	10	4 4	23 33.0
1	10	48 31	23 40.5	1	10	4 4	23 29.8
1	9½	48 34	23 42.0	1	10	4 37	23 39.3
1	7	49 10	23 40.7	1	10	4 44	23 47.6
1	11	49 39	23 29.1	1	9	5 11	23 42.4
1	10½	50 14	23 31.0	1	9½	5 41	23 48.1
1	10½	50 47	23 47.4	1	10	6 24	23 46.5
1	10	51 15	23 32.7	1	9	6 39	23 50.9
1	8	52 2	23 32.4	1	10	6 43	23 36.0
1	10	52 30	23 44.5	1	10½	7 11	23 30.7
1	10½	52 58	23 44.0	1	9	9 11	23 31.1
1	10½	53 59	23 30.7	1	10	9 25	23 33.5
1	9½	54 5	23 33.1	1	9½	10 7	23 46.0
1	10	54 39	23 31.3	1	10	10 26	23 44.6
1	9½	54 52	23 46.2	25	10½	19 35 49	18 10.3†
1	9	55 40	23 35.7	25	10	37 37	18 23.3†
1	8	55 47	23 41.9	25	9	37 45	18 22.3‡
1	11	55 57	23 41.9	25	11	38 13	18 22.8†
1	11	56 14	23 43.1	25	10	39 11	18 23.0†
1	8	56 20	23 43.1	25	10½	40 1	18 11.8†
1	11	58 12	23 28.8	25	10	41 28	18 13.9†
1	9	58 58	23 42.2	25	11½	41 31	18 17.8
1	10½	59 32	23 40.5	25	11½	42 36	18 16.6
1	10½	17 59 44	—23 41.1	25	11½	19 42 56	—18 28.7†

* (4). † September, 1850. ‡ M. C. September, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
25	10½	19 44 25	—18 22.5*	25	11	19 53 21	—18 18.6
25	12	44 32	18 15.9	25	10	53 53	18 18.9*
25	10	44 44	18 17.4*	25	9½	56 20	18 12.1*
25	10½	45 15	18 20.3*	25	9½	56 40	18 25.1*
25	11½	47 0	18 22.1*	25	10	56 51	18 16.0
25	9½	47 47	18 28.1	25	9	57 0	18 7.4*
25	10	48 1	18 18.8†	25	10	58 11	18 12.6*
25	9	49 37	18 23.5	25	9	58 21	18 15.0‡
25	11	50 46	18 14.2*	25	11	59 8	18 20.3*
25	11½	50 54	18 28.1*	25	11	59 58	18 13.0*
25	10½	52 1	18 21.5*	25	8	20 2 41	18 15.7‡
25	9½	52 6	18 21.8	25	11	3 44	18 12.4*
25	11	19 52 40	—18 27.8*	25	9	20 4 16	—18 22.1*

* September, 1850. † (4). ‡ M. C. September, 1850.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

183 STARS NEAR THE ECLIPTIC,

OBSERVED IN AUGUST, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11	19 12 17	—19 31.7	26	8	19 16 55	—19 27.8
26	11	12 34	19 30.1	26	10½	18 1	19 48.1
26	10	13 3	19 37.6	26	9	18 43	19 30.0
26	10½	13 39	19 46.0	26	8	19 16	19 38.4*
26	11	14 16	19 30.1	26	10	19 44	19 41.5
26	10½	15 8	19 35.7	26	10	19 51	19 34.8
26	10	15 8	19 41.4	26	9½	20 51	19 33.7
26	10	15 33	19 43.0	26	9½	20 53	19 47.7
26	10½	15 40	19 45.8	26	10½	21 46	19 33.0
26	10	19 16 44	—19 40.1	26	11	19 22 46	—19 31.7

* (4). M.C.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
26	11½	19 24 1	—19 46.5	26	9	19 41 4	—19 44.0
26	11	24 45	19 34.5	26	9½	41 44	19 30.5
26	11½	25 27	19 34.9	26	10½	41 57	19 38.5
26	10½	26 11	19 41.0	26	11	43 47	19 38.1
26	11	26 30	19 38.2	26	9	43 54	19 45.2†
26	10	26 49	19 48.0	26	9	44 27	19 38.7*
26	9	27 6	19 43.3	26	9½	44 31	19 42.0
26	11½	27 6	19 47.8	26	10	45 50	19 50.6
26	10	28 22	19 38.0*	26	11	48 13	19 35.2
26	9	29 17	19 32.4	26	11½	48 27	19 33.2
26	11	29 56	19 33.2	26	10	51 50	19 27.5
26	10	30 0	19 40.7	26	10	52 1	19 35.3
26	8½	31 1	19 34.0†	26	11	53 27	19 41.7
26	9½	31 2	19 30.5	5	9	21 2 51	16 6.3‡
26	12	31 50	19 45.3	5	12	3 2	16 4.3
26	12	31 56	19 31.0	5	11	3 23	16 5.1‡
26	11½	33 6	19 30.7	5	10½	4 9	16 7.7‡
26	11	33 53	19 31.3	5	10½	4 11	16 2.4
26	11	34 13	19 35.7	5	10½	4 12	16 0.7§
26	8	34 28	19 27.7	5	11	4 29	16 5.5‡
26	10½	35 12	19 33.8	5	9	5 58	15 56.2
26	11	35 22	19 31.1	5	10	5 36	15 55.9‡
26	10½	36 13	19 29.6	5	10½	6 7	16 4.3‡
26	11	36 28	19 34.8	5	10½	6 12	16 0.5
26	10½	36 50	19 32.6	5	9½	7 8	15 53.1
26	11	37 12	19 44.4	5	10	7 37	15 56.5
26	10	37 44	19 45.1	5	12	8 47	16 6.3
26	10½	38 7	19 32.8	5	12	8 58	15 59.5
26	10½	38 23	19 37.9	5	11½	9 30	15 53.6
26	8	39 2	19 34.5	5	11	9 32	15 50.6
26	10½	39 23	19 34.0	5	10½	10 21	16 6.5
26	10	39 45	19 43.0	5	9	10 27	16 5.7
26	10½	40 20	19 43.2	5	11	11 7	16 3.1
26	11	40 33	19 41.9	5	9	11 30	16 2.5
26	11	19 40 42	—19 41.3	5	11	21 12 21	—15 58.3*

* (4). † M. C. ‡ September, 1850. § N. *f.* of double, September, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9½	19 21 40	—23 53·7	7	10½	19 29 43	—23 52.1
7	11	21 52	23 51.8	6	10½	29 52	23 30.3
7	9	22 2	23 50.7	7	11½	29 55	23 56.3
6	10½	22 10	23 52.6	7	11½	30 2	23 54.6
7	8½	22 13	23 55.4*	6	11	30 3	23 33.0
6	10	22 39	23 33·5	7	11	30 10	24 9.3
7	10	22 39	23 53.2	5	10½	30 13	18 37.4
7	9	22 55	23 53.0	5	11	30 38	18 36.5
7	11	23 16	23 58.3	6	11	30 58	23 44.8
6	10	23 21	23 32.3	6	10	31 6	23 40.0
7	12	23 35	24 7.2:	5	10	31 36	18 39.2†
7	11	24 5	23 57·9	5	11	31 46	18 28.0
6	10½	24 11	23 45.0	7	10	31 50	23 58.1
6	11	24 25	23 34.4	7	10½	31 58	23 55.6
6	10	24 46	23 42.5	7	10	32 2	23 57.0
7	10½	24 54	23 55·9	5	11	32 3	18 49.2
7	10	24 54	23 48.9	6	9½	32 6	23 37.6
7	11	25 8	23 48.3	7	10½	32 15	24 3.0
6	8	25 15	23 38.6†	7	10½	32 36	23 55.0
6	9	25 49	23 41.7†	7	10	33 4	23 55·7
7	12	26 8	24 11.1	5	10½	33 17	18 42.0
7	11	26 29	24 1.5	5	12	33 19	18 49.6
7	11½	27 31	23 57.6	5	11½	33 44	18 52.2
7	10½	27 36	24 1.3†	6	10	53 51	23 42.5
6	11	27 46	23 45.5	6	11	33 54	23 47.2
6	9	27 46	23 30.5	5	9½	34 9	18 32.8
7	11½	27 56	23 53.6	7	10½	34 11	24 3.8
7	10	28 28	24 2.3	5	10½	34 12	18 31.4
7	10	28 49	24 11.3‡	6	11	34 14	23 42.1
6	11	28 51	23 42.9	7	9	34 22	23 57.8†
6	9½	28 56	23 32.7	7	8½	34 39	23 55.7§
5	11	29 2	18 43.0	5	10½	34 54	18 49.1‖
5	11	29 4	18 48.2	7	11½	35 0	23 52.3
5	11	29 9	18 45.1	13	11	35 4	18 10.0
6	10	19 29 13	—23 34.9	13	11½	19 35 13	—18 14.5

* M. C. † (4). ‡ *f.* of double. § *p.* of double. M. C. ‖ *f.* of 3. Same Mag.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11½	19 35 34	—18 47.1	6	9	19 39 25	—23 28.4
7	10	35 39	24 7.1	7	10	39 30	24 12.6
5	11	35 40	18 48.1	5	11½	39 33	18 46.1
7	11	35 43	24 0.7	7	9½	39 43	24 3.2
7	10	35 48	24 8.4	13	11½	40 19	18 26.3
6	9½	35 51	23 37.2	5	10½	40 22	18 46.6
5	11	35 52	18 34.8	6	11	40 23	23 49.7
6	8	35 57	23 37.1	5	10½	40 42	18 43.8
13	11	36 1	18 10.0	5	11	40 43	18 48.2
5	11	36 4	18 34.8	13	11½	40 54	18 29.1
7	10	36 26	24 3.8	7	11½	40 55	24 2.7
5	10½	36 47	18 49.0	5	10½	40 56	18 43.0
5	10½	36 50	18 36.5	7	11	40 56	24 3.9
13	9	36 55	18 6.7	7	11	40 58	24 1.5:
13	11	36 57	18 23.5	6	11	41 17	23 43.3
6	11	37 3	23 46.4	7	10	41 24	23 58.9
6	11	37 9	23 48.9	6	11½	41 33	23 42.6
6	11	37 12	23 42.4	13	8	41 33	18 19.6*
7	9	37 14	23 56.0	13	11	41 44	18 22.2
5	11	37 19	18 47.6	6	11	41 47	23 37.2
7	10½	37 27	24 6.6	6	9	42 7	23 44.2
7	10½	37 44	24 5.2	5	11½	42 13	18 38.5
5 13	9½	37 45	18 30.7	6	10	42 35	23 37.2
13	11	37 49	18 18.2	5	10	42 40	18 41.4*
6	9	38 11	23 44.5	7	11½	42 43	24 5.6
5	11	38 18	18 46.0	5	12	42 44	18 48.5
7	10½	38 29	24 7.3	6	10½	42 46	23 30.7
5	10½	38 33	18 43.0	7	12	42 46	24 4.6
7	11	38 33	23 52.9	6	10½	42 54	23 30.4
5	10	38 37	18 46.5	7	10½	43 3	24 3.0
6	10½	39 0	23 38.4	13	9½	43 39	18 22.3
6	10½	39 11	23 35.3	7	11	43 45	23 56.7
6	10	39 11	23 31.1	5	9	43 53	18 43.3
5	9	39 13	18 46.1:	6	8½	43 53	23 33.1
13	10½	19 39 23	—18 30.3	6	11½	19 43 59	—23 36.7

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	10½	19 44 0	—23 32.1	6	10	19 48 39	—23 51.7
6	10½	44 1	23 32.6	5	10	48 40	18 41.3
7	9½	44 14	24 5.0	13	10	49 5	18 15.3
5	11	44 24	18 35.6	13	11½	49 12	18 21.6
7	10	44 34	23 54.1	7	10	49 13	24 3.2
5	12	44 35	18 32.9	5	9½	49 24	18 41.0
13	11	44 37	18 17.7	7	11	49 24	24 3.6
6	10	44 44	23 37.8	6	11½	49 27	23 49.0
7	11½	45 12	23 55.4	13	11	49 27	18 20.9
7	11½	45 25	23 54.2	5	11½	49 33	18 45.8
7	11½	45 48	23 58.0	6	11	49 38	23 42.9
7	11	45 52	23 57.2	13	11	49 38	18 21.4
7	10	45 52	23 55.9	7	10	49 39	24 4.4
6	10	45 56	23 27.6	7	11	49 41	24 1.1
7	9	46 36	24 5.8*	5	8	49 54	18 46.9
6	11	46 41	23 37.0	5	11	50 12	18 45.0
6	10½	46 43	23 33.9	13	10½	50 15	18 23.0
6	11½	47 7	23 45.6	13	9	50 24	18 21.7
13	11	47 11	18 20.7	6	10½	50 26	23 38.0
6	11	47 13	23 45.7	6	10½	50 30	23 44.8
7	11	47 14	23 55.3	7	9½	50 46	24 4.9
7	11½	47 16	23 57.2	7	9½	50 57	24 7.4
13	11	47 33	18 14.0	5	10½	51 5	18 37.3
5	11	47 34	18 43.8	6	9½	51 9	23 38.1
6	10½	47 38	23 44.0	6	10	51 33	23 32.0
5	11½	47 40	18 44.5	7	12	51 37	23 51.9
13	11	47 40	18 12.9	13	10	51 44	18 10.2
13	11½	47 42	18 13.9	5	8	52 3	18 41.6
6	10½	47 47	23 44.0	5	11	52 4	18 31.3
7	11½	47 51	24 2.5	7	11	52 14	24 2.3
6	9½	48 0	23 47.0	7	11	52 15	24 7.3
5	9	48 9	18 38.3†	6	11½	52 25	23 47.0
7	9	48 11	24 4.2	5	11	52 32	18 27.4
5	9	48 19	18 45.3	5	11	52 34	18 42.2
7	10	19 48 22	—24 7.5	13	11	19 52 34	—18 26.8

* M. C.

† (4).

Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
	11½	19 52 35	—23 51.8	13	11	19 57 45	—18 25.6
	11	52 44	23 43.2	7	9	57 49	24 1.6
	11	52 47	18 28.7	7	10	57 49	24 3.5
	9	52 54	23 31.5	6	10½	58 12	23 44.2
	11½	53 3	23 43.5	13	11	58 12	18 21.9
	9	53 22	23 53.3	5	11	58 36	18 47.4
	11	53 29	23 44.8	7	9	58 42	23 54.4
	11½	53 47	23 55.7	6	9½	58 43	23 49.6
	11	53 58	24 1.9	5	10½	58 44	18 41.9*
	11	54 1	18 19.0	6	11	58 47	23 36.0
	9½	54 5	23 39.0*	7	9	58 47	23 54.5
	11	54 8	18 37.6	7	9	58 48	24 2.1*
	11	54 10	18 38.2	5	11½	59 6	18 43.2
	9½	54 10	18 35.0	7	11	59 39	24 9.0
	11½	54 14	18 36.0	6	10	59 42	23 50.4
	9½	54 16	24 3.8	13	11½	59 44	18 23.4
	11	54 26	18 26.8	6	9½	59 52	23 38.2*
	11	54 39	18 6.7	5	11½	20 0 15	18 49.2
	9	54 48	23 59.1	5	10½	0 18	18 44.4
	11	54 57	23 33.7	5	11	0 44	18 48.6
	11	54 58	18 41.8	7	10½	0 45	23 57.9
	8	55 7	23 38.4*	7	10½	0 47	23 56.8
	11	55 9	23 33.6	6	11	0 50	23 33.9
	11	55 28	23 35.3	13	11½	0 58	18 24.9
	10½	55 37	23 52.8	7	11	1 1	23 57.2
	12	55 43	23 56.7	13	11	1 7	18 26.6
	11	55 48	18 16.6	6	11	1 14	23 45.7
	12	56 4	18 48.7	7	11	1 36	23 55.8
	10½	56 8	23 57.3	5	11½	1 42	18 31.7
	11	56 15	18 26.0	6	9½	1 45	23 44.3
	10	56 25	23 33.8	5	11	1 49	18 34.2
	11½	56 36	23 48.5	13	11	1 58	18 28.2
	11½	56 42	18 52.2	6	9	2 9	23 33.6
	11½	56 53	18 47.1	5	10½	2 18	18 50.6
	10½	19 57 38	—23 43.3	6	10	20 2 25	—23 34.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10½	20 2 34	—18 37.1	7	10½	20 10 39	—20 26.1
6	11	3 20	23 42.4	13	10½	10 51	18 21.7
6	10½	3 21	23 47.4	7	11	11 5	20 22.0
6	9½	3 25	23 48.6	13	11	11 5	18 21.5
5	8	3 42	18 34.2	13	11½	12 19	18 25.2
6	9	3 48	23 41.6	13	11	12 27	18 20.9
13	11½	3 53	18 22.0	7	11	12 38	20 10.3
13	11	4 19	18 17.3	13	11	13 5	18 24.7
6	10	4 27	23 37.1	13	10	13 53	18 17.9
6	9	4 28	23 33.6	13	11	14 15	18 24.7
5	11½	4 34	18 49.5	13	11	14 23	18 21.8
6	11	4 51	23 33.9	13	11	14 30	18 11.6
6	10	5 11	23 40.8	13	11½	15 32	18 14.3
6	11½	5 12	23 45.7	13	11½	15 37	18 26.9
6	10	5 22	23 31.6	13	11	15 46	18 26.0
5	9	5 37	18 34.7	13	11	15 57	18 24.5
13	11	5 55	18 28.1	13	10	17 0	18 21.1
13	11	6 1	18 25.3	13	9½	17 3	18 12.8
13	11	6 41	18 13.4	13	9½	17 4	18 11.2
5	11½	7 18	18 35.9	13	9	17 4	18 15.2
13	10	7 19	18 10.8	7	11	17 11	20 13.6
7	8	7 32	20 28.6	7	9	17 16	20 12.1
13	10	7 53	18 25.0	13	11	17 54	18 24.1
13	11	7 59	18 27.7	13	10½	18 1	18 16.9
13	10½	8 7	18 21.9	13	9	18 27	18 16.4
7	11½	8 27	20 31.7	7	12	19 19	20 28.7
13	11	8 57	18 10.5	13	10½	19 37	18 22.6
7	9½	9 6	20 14.6	13	10½	19 42	18 23.5
13	9	9 19	18 16.1	7	10	20 33	20 13.0
7	10	9 51	20 13.6	7	10½	21 24	20 14.3
7	9	9 54	20 9.5	7	11	21 33	20 15.0
13	11	10 11	18 14.2	13	10	21 42	18 31.9
7	10½	10 23	20 14.7	7	12	22 3	20 24.2
13	11½	10 25	18 14.2	13	11½	22 16	18 26.2
13	11½	20 10 36	—18 12.8	13	11	20 23 25	—18 15.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
13	11	20 23 30	—18 16.6	5	10	20 30 25	—15 56.5
7	11½	23 43	20 29.1	7	11	30 32	20 17.5
7	12	24 39	20 12.3	6	11½	31 0	21 22.8
7	11	24 50	20 11.2	7	10½	31 9	20 18.6*
5	12	25 32	15 59.1	6	11	31 21	21 21.3
7	10½	25 44	20 9.5	6	9	31 30	21 29.1
5	9	25 58	16 0.0	5	10½	31 36	15 56.1
7	10½	25 58	20 12.0	5	10½	31 47	15 53.5
7	11	26 0	20 19.1	6	11	32 15	21 28.5
7	11	26 2	20 16.2	6	11	32 20	21 27.5
5	10	26 18	16 4.5	5	11½	32 53	16 7.2
7	11½	26 29	20 12.3	6	11½	33 2	21 29.1
7	11½	26 40	20 13.3	6	9½	33 3	21 25.2
13	10	26 57	18 16.3	5	11	33 34	16 1.8
13	9	27 0	18 14.3	6	10½	33 42	21 24.9
7	10½	27 5	20 21.0	6	11	33 44	21 26.3
13	10	27 17	18 23.2	7	10	33 50	20 17.7
5	10½	27 37	15 57.3	5	11½	34 12	16 4.8
6	11	27 52	21 20.8	5	11½	34 17	16 3.0
5	10	27 53	15 57.9	6	11	34 27	21 10.5
5	9	27 58	16 3.1	6	9	34 32	21 20.5
7	12	28 32	20 11.0	6	11	34 46	21 16.9
7	9½	28 38	20 10.1	5	10	34 47	16 10.5
5	10½	28 58	16 11.2	5	10	34 54	16 1.8
7	11	29 1	20 14.9	6	10½	35 11	21 14.0
6	10½	29 10	21 9.6	7	10½	35 14	20 13.8
6	10½	29 12	21 13.7	5	10	36 4	16 1.3
5	9	29 30	16 0.7	6	11½	36 14	21 22.2
6	10½	29 31	21 18.1	21	11	36 25	15 33.5†
6	11½	29 37	21 13.5	6	10½	36 28	21 27.4
5	11	29 47	15 55.0	5	10½	36 39	16 10.7
5	11	29 59	15 54.5	6	10	37 4	21 23.7
6	11½	30 1	21 13.3	6	10	37 8	21 30.9
7	10½	30 5	20 25.5	21	10½	37 43	15 35.6
5	11	20 30 13	—15 55.5	6	11½	20 37 48	—21 25.3

* (4).

† An 11th Mag. p.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11	20 38 2	—15 49.7	5	11½	20 42 7	—15 59.1
5	11	38 4	16 5.2	6	11½	42 8	21 13.2
6	10	38 6	21 17.5	5 21	10	42 30	15 50.6
21	11	38 8	15 39.4	21	9½	42 43	15 49.1
7	10	38 29	20 22.8	6	11	42 45	21 32.1
6	10½	38 30	21 10.4	5	10½	42 47	15 55.2
6	11	38 51	21 18.7	21	11	43 2	15 48.5
7	10	38 52	20 25.6	6	9	43 4	21 24.6
7	10½	38 53	20 19.9	5	10½	43 10	16 6.4
5	8½	39 3	16 9.4	7	9	43 23	20 24.1
5	10	39 4	15 53.1	21	10	43 37	15 41.0
6	10½	39 5	21 29.3	7	11½	43 39	20 13.9
5	10	39 18	16 0.6	6	12	43 45	21 22.5
6	10	39 26	21 24.2	6	10	43 49	21 14.4
5	10	39 33	16 8.2	5	11½	43 51	16 5.9
5	10	39 52	16 5.4	6	10	43 59	21 26.2
7	8	40 15	20 24.1	5	10½	44 1	16 0.4
7	11	40 21	20 27.9	21	11	44 2	15 39.8
7	9½	40 26	20 24.1	5	10	44 4	16 2.7
6	8½	40 35	21 10.3	7	9½	44 4	20 17.0
6	10	40 36	21 27.2	5	11	44 12	15 51.8
21	10½	40 39	15 44.9	21	11	44 22	15 33.6
5	11	40 43	16 3.8	21	10	44 27	15 36.8
7	11	40 43	20 25.3	6	12	44 48	21 29.2
5	11	40 44	16 9.4	6	10	44 49	21 26.2
5	11	40 45	16 7.5	6	12:	45 8	21 28.6
21	11½	40 46	15 34.2	5	11½	45 10	16 8.1
6	10½	41 2	21 11.6	13	11½	45 11	19 41.9
7	11	41 20	20 28.2	7	12	45 15	20 10.8
7	8	41 25	20 16.4	5	11½	45 28	15 49.3
6	11½	41 50	21 15.2	7	10½	45 31	20 28.9
7	8½	41 56	20 7.3	6	9½	45 34	21 26.9
21	10	41 56	15 45.4	21	11½	45 46	15 43.4
5	11	42 0	15 51.7	5	9½	46 5	16 4.1
5 21	11	20 42 2	—15 47.1	7	10½	20 46 6	—20 27.3

Days. Obs.	Mag.	α. h. m. s.	δ. ° ′	Days. Obs.	Mag.	α. h. m. s.	δ. ° ′
5	11	20 46 10	—16 7.9	5	10	20 50 4	—16 2.9
5	9½	46 21	16 6.4	13	9	50 10	19 42.5:
7	10	46 34	20 31.3	6	11½	50 12	21 26.6
6	11	46 45	21 32.4	7	11	50 15	20 27.9
6	11	46 51	21 21.9	5	11	50 16	16 8.7
5	11	47 3	16 10.3	13	9	50 25	19 44.4
7	11½	47 3	20 28.5	21	11½	50 38	15 32.3
7	11	47 15	20 28.5	6	11	50 45	21 11.2
13	9	47 32	19 36.1	5	12	50 58	16 10.4
21	11	47 36	15 41.0	7	10½	51 5	20 12.4
5	8½	47 38	15 52.4	5	12	51 14	16 8.1
21	11	47 41	15 41.0	7	10½	51 20	20 25.3
5	11½	47 58	21 15.2	6	11	51 26	21 24.6
5	10	48 4	16 2.2	6	10½	51 30	21 26.1
6	11½	48 6	21 21.3	21	10½	51 32	15 28.8
7	11	48 15	20 28.6	13	9	51 36	19 36.3
5	11	48 16	16 7.0	13	9	51 45	19 37.0
5	11½	48 18	16 2.1	7	11	51 59	20 28.8
6	12	48 22	21 24.0	6	11½	52 1	21 26.3
7	10	48 28	20 13.4	5	10	52 5	16 1.1
6	11½	48 30	21 23.7	5	11	52 10	16 1.8
6	11	48 30	21 25.3	5	11½	52 18	16 2.5
7	11	48 51	20 11.7	21	11	52 19	15 31.1
13	9	48 57	19 29.5	6	11	52 25	21 24.3
21	11	49 11	15 44.4	6	11	52 39	21 23.6
21	11	49 21	15 43.1	5	11½	52 48	16 2.2
6	9½	49 25	21 18.1	5	9½	52 49	15 54.4
5	12	49 27	16 3.2	13	8½	52 56	19 29.9
6	12	49 29	21 27.7	13	12	53 5	19 31.5
5	11	49 31	15 54.4	13	9	53 27	19 49.8*
7	10½	49 35	20 14.2	6	11½	53 34	21 28.6
13	11	49 35	19 30.2	7	10½	53 34	20 27.6
13	10	49 42	19 46.1	6	11½	53 37	21 32.1
21	8½	49 42	15 44.2	5	10½	53 45	15 55.6
5	11½	20 49 55	—16 1.8	21	11	20 53 48	—15 31.7

* A 10½ S. close.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	9	20 53 54	—21 21.4	6	9½	20 58 45	—21 21. ♓*
6	11½	53 55	21 31.1	5	10	59 6	15 53. ♒
21	11	54 10	15 33.4	6	12	59 9	21 24. ♑
5	8	54 13	16 3.5	5	10	59 10	16 1. ♒
13	11½	54 18	19 44.1	13	9	59 32	19 35. ♒
21	10	54 42	15 46.4	13	9	59 32	19 31.5
7	10½	54 56	20 12.0	5	11½	21 0 4	15 50.8
13	11	55 4	19 31.0	6	10	0 11	21 13.3
21	9	55 10	15 45.1	6	11½	0 14	21 15.1
6	8	55 18	21 20.0	6	11½	0 16	21 11.9
5	9	55 20	15 50.7	21	11	0 21	15 36.6
13	11	55 21	19 43.3	6	11½	0 35	21 16.3
5	11	55 27	16 3.2	13	10½	0 36	19 49.1
13	11	55 38	19 39.9	13	11	1 22	19 43.4
13	11	55 56	19 35.9	6	9½	1 31	21 28.3
13	11	56 2	19 44.9	5	11	1 32	16 1.5
5	10	56 29	15 51.1	5	11	1 33	16 4.9
6	10	56 29	21 26.7	6	10½	1 42	21 27.0
5	9½	56 48	15 53.4	21	11	1 47	15 43.7
6	11½	56 50	21 28.6	5	12	1 48	16 6.7
13	9	57 1	19 40.5	13	11	1 48	19 32.7
13	10½	57 2	19 28.6	5	11	2 6	16 3.5
6	11½	57 11	21 27.7	13	11	2 9	19 35.1
5	10½	57 18	16 6.6	6	9½	2 12	21 9.6
13	11	57 27	19 30.1	6	10	2 15	21 14.6
21	11	57 36	15 35.1	6	10½	2 25	21 11.6
5	11	57 54	15 49.4	13	9	2 31	19 36.6
5	11	57 56	15 51.2	21	10½	2 32	15 40.1
13	10½	58 6	19 45.8	13	11	3 13	19 29.9
21	10	58 13	15 44.4	13	11	3 22	19 39.2
6	9	58 26	21 21.0*	21	10	3 27	15 41.0
5	8	58 27	15 48.0	6	12	3 33	21 27.2
13	10½	58 31	19 46.9	13	11	3 35	19 34.3
6	9	58 32	21 29.3†	13	10	3 37	19 49.2
13	9½	20 58 32	—19 33.1	6	10	21 3 56	—21 27.4

* (4). † M. C.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
6	9½	21 4 14	—21 26.6	13	11½	21 10 33	—19 32.0
13	10	4 15	19 48.2	6	9	10 50	21 16.0
6	11½	4 24	21 17.8	13	10½	11 6	19 45.0
6	10½	4 28	21 31.1	13	9	11 52	19 33.9
13	10½	4 39	19 33.1	13	9½	12 2	19 33.8
6	10	4 41	21 18.6	13	10	12 19	19 34.0
13	10	4 46	19 46.3	13	11	12 23	19 34.6
21	11	5 5	15 40.3	13	10½	12 26	19 31.8
5	10	5 7	15 51.7	13	9	13 4	19 49.0
21	11	5 9	15 43.1	13	11½	13 38	19 45.0
13	9	5 18	19 36.0	13	11½	13 47	19 47.0
13	10½	5 28	19 44.0	13	11½	14 1	19 40.0
13	9	5 39	19 28.2	13	10½	14 8	19 48.2
21	10½	5 41	15 45.4	13	10	14 27	19 30.3
5	11	5 55	16 5.4	13	10	14 45	19 44.0
6	10½	5 56	21 10.8	13	10	16 30	19 38.7*
5	11	6 3	16 6.1	13	10	16 31	19 42.0
13	11	6 26	19 39.6	13	8½	16 32	19 35.5*
6	11½	6 51	21 16.0	13	10	17 13	19 40.2
13	10½	7 2	19 40.3	13	10	18 10	19 27.4
13	11	7 16	19 37.8	13	10½	18 31	19 45.9
13	11	7 40	19 42.8	13	7½	18 37	19 42.2
6	11½	8 7	21 24.2	13	12	19 11	14 45.1
6	11½	8 10	21 24.0	13	9	19 21	19 49.7
6	11	8 15	21 28.7	13	10½	19 47	19 44.6
13	11	8 22	19 41.3	13	10	20 4	19 31.2
13	9	8 47	19 31.2	13	10½	21 9	19 28.8
13	10½	8 58	19 36.2	13	10	21 44	19 40.5
13	10½	9 15	19 32.1	13	11½	22 23	19 30.3
6	11½	9 32	21 29.7	13	11	22 31	19 27.4
13	11	9 33	19 30.6	13	11½	22 50	19 28.4
6	11	9 47	21 21.5	9	11	34 54	11 24.0
6	10½	9 57	21 27.7	9	11	34 59	11 23.2
13	11	10 26	19 31.1	9	11½	35 41	11 25.0
6	10½	21 10 27	—21 23.2	9	11	21 36 1	—11 15.2

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	21 36 16	—11 21.7	9	10	21 49 5	—11 20.0
5	11½	37 31	11 0.6	5	10½	49 35	11 5.0
9	11	38 44	11 15.5	9	11½	49 44	11 19.2
5	11	38 59	10 54.1	5	9	49 49	10 59.8
5	9	39 4	10 50.0	9	11	49 53	11 17.0
9	11	39 10	11 21.6	5	11½	50 6	10 54.3
9	11	39 19	11 19.9*	5	10	50 34	10 54.8
5	10½	39 31	11 1.6	9	11½	51 8	11 26.4
9	11½	40 6	11 10.8	5	11½	51 25	10 55.2
5	11	40 17	11 4.5	9	10½	51 50	11 22.2
5	10½	40 44	10 54.0	5	11½	52 11	11 1.8
9	10½	41 23	11 9.2	9	11½	52 38	11 21.4
9	10½	42 20	11 12.9	5	11	52 41	10 59.8
5	10	42 22	11 4.1	5	10½	52 50	10 55.2
9	11	42 24	11 10.0	5	11	53 0	11 0.9
5	10½	42 25	11 5.7	9	12	53 25	11 14.7
5	11½	42 44	11 5.9	5 9	9	53 48	11 10.3
5	11½	43 50	11 7.5	9	11	54 19	11 25.6
5	11½	43 51	11 2.1	9	11½	54 33	11 12.3
5	9	44 29	10 54.9	5	11½	34 35	11 3.8
5	10	44 34	11 4.5	5	12	54 35	11 6.1
5	11½	46 5	10 55.2	9	10	54 46	11 22.7
5	10½	46 17	10 54.2	5	10	55 0	11 1.1
5	10	46 44	11 7.9	9	11	55 29	11 23.2
9	11	47 4	11 10.4	5	10½	55 37	10 56.0
9	10½	47 8	11 17.1	9	11	55 45	11 22.5
5	10	47 15	10 54.4†	5	11	56 8	10 55.6
9	10½	47 30	11 12.8	5	11	56 20	11 1.3
5	11	47 36	11 5.5	5	10½	56 27	10 54.3
9	9	47 53	11 8.4	9	11½	56 30	11 22.3
5	9½	47 58	11 3.0	5	10	56 39	10 52.5
5	10	48 12	11 5.4	5	11	57 6	10 48.2
5	11½	48 53	10 51.7	9	11½	57 41	11 26.0
9	10½	48 57	11 18.8	5	9	57 47	11 0.2
5	10½	21 49 0	—10 51.0	5	12	21 58 1	—10 56.3

*(4).

† Largest of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	10½	21 58 20	—11 3.4	9	10½	22 7 49	—11 11.8
5	11	58 30	11 2.1	5	11	7 53	10 51.3
5	10	58 51	11 0.2	12	11	7 57	13 4.9
5	9	59 48	10 46.1*	12	12	8 3	13 0.4
9	10	22 0 12	11 30.6	12	11½	8 9	13 8.8
5	11	0 30	11 2.5	5	10	8 16	11 7.3
9	10½	0 38	11 30.3	12	10	8 16	12 59.1
5	9½	1 16	10 57.7†	12	10½	8 44	12 50.4
9	11	1 49	11 12.3	5	11	8 50	11 5.0
5	10	1 57	10 55.8	9	10	9 4	11 23.2
5	9½	2 11	10 59.8†	5	10½	9 32	10 49.7
9	11	2 11	11 12.6	12	11½	9 32	12 59.5
9	10½	2 13	11 26.1	5	12	9 45	10 50.5
5	11	3 5	11 5.1	12	12	9 56	13 1.6
9	10½	3 18	11 23.7	9	10	9 57	11 26.1
9	11	3 46	11 8.6	12	12½	10 7	13 0.1
5	10½	4 9	11 1.9	12	11	10 31	12 50.1
5	11	4 18	10 58.6	9	10½	10 43	11 12.4
5	9½	4 19	10 51.5	5	11	10 47	10 55.3
5	10	4 19	10 58.6	5	10	10 47	10 53.7
5	9½	4 21	10 47.0*	9	10	11 3	11 19.2
9	11	4 37	11 21.2	9	11	11 8	11 20.5
5	11	5 43	11 0.2	5	11	11 19	11 3.0
9	11	6 5	11 9.3	5	11	11 27	10 59.6
9	11	6 10	11 12.7	9	10½	11 39	11 22.9
12	11½	6 19	13 0.4	9	10	11 50	11 21.8
12	10	6 23	13 6.1	12	11½	12 7	12 53.0
5	9	6 27	10 51.2*	12	8	12 12	12 44.9
12	12	6 34	12 59.2	5	10	12 29	10 58.6
5	10½	6 39	11 3.9	5	11	12 43	11 4.4
5	9	6 52	10 52.6	9	10	12 56	11 15.2
9	11	7 8	11 11.9	9	10½	13 0	11 12.7
5	10½	7 10	11 2.9	5	12	13 6	11 1.0
5	9	7 33	10 51.2*	9	11½	13 12	11 13.2
9	10½	22 7 46	—11 18.5	5	12	22 13 19	—11 1.6

* October, 1850. † (4).

Days. Obs.	Mag.	α	δ	Days. Obs.	Mag.	α	δ
		h. m. s.	° ′			h. m. s.	° ′
9	11	22 13 19	—11 12.4	5	10	22 21 32	—11 4.1
12	9½	13 22	12 56.3*	5	11½	21 35	11 7.4
12	9	13 25	12 45.6	9	10½	21 45	11 9.8
12	11	13 33	12 51.1	12	10	21 45	12 58.9
9	10½	14 34	11 9.0	5	9	22 9	10 50.0
12	12½	14 54	12 50.7	12	11½	22 9	12 54.5
9	11	15 2	11 17.9	9	10½	22 20	11 16.0
9	10½	15 57	11 14.7	12	10	22 30	13 2.8
12	11	16 0	13 1.2	5	10½	22 40	11 11.2
12	11	16 1	13 5.5	5	10	22 41	11 1.5
5	11½	16 7	10 54.7	5	10	22 51	11 7.8
5	11½	16 27	10 53.8	12	9	23 26	12 55.6‡
9	11	16 27	11 15.1	12	10½	23 39	13 0.1
5	10½	16 38	11 1.4	9	10½	23 45	11 24.5
12	11	16 55	13 8.4::	12	10½	23 47	13 1.9
5	11	17 7	10 54.6	12	10½	23 48	12 46.0
9	10½	17 41	11 29.3	5	10½	23 53	11 0.9
9	9½	17 54	11 9.3	5	10½	23 56	10 59.9
5	12	18 20	10 51.2	9	11	24 4	11 13.1
5	9	18 29	10 45.8†	5	11	24 27	11 1.1
9	9	18 31	11 15.9	9	10½	24 33	11 16.1
5	11	18 32	10 47.5†	5	11½	24 45	10 47.0
9	11	18 50	11 22.5	9	11	25 11	11 12.4
9	9	18 52	11 23.2	5	10	25 24	11 5.5
12	11½	19 34	13 3.7	5	10½	25 31	11 3.4
5 9	11	19 36	11 9.7	12	11	25 31	12 50.4
5	11½	19 48	11 0.8	12	10	25 32	13 0.8
5	11½	19 55	11 0.6	9	11½	25 49	11 26.1
5 9	9	19 55	11 6.0	12	10	25 49	12 50.8
9	10	20 33	11 22.8	9	10	25 50	11 7.5
12	11½	20 33	12 51.3	5	9	25 56	10 51.7†
5	10½	20 37	11 2.1	5	11	26 21	10 52.3
12	10½	20 56	12 49.0	5	9	26 26	11 1.4
12	10½	21 8	12 51.0	9	11	26 26	11 26.1§
9	11	22 21 29	—11 11.9	12	9½	22 26 42	—12 50.5

* ? 270 Weisse. † October, 1850. ‡ (4). § *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	10½	22 27 5	—11 24.6	5	10	22 33 56	—11 0.1
5	11	27 41	10 46.7*	9	10	34 0	11 23.6
5	10½	28 4	10 51.6	12	10	34 6	12 52.0
5	12	28 20	11 6.8	9	9	34 18	11 9.0
12	8	28 21	12 48.2	12	11	34 24	13 4.4
9	11½	28 30	11 16.2	5	10	34 48	11 1.8
9	11	28 37	11 20.2	9	11	34 49	11 9.0
9	10½	29 12	11 20.3	9	10	35 1	11 27.3
9	10	29 12	11 14.4	12	10	35 6	13 4.9
5	10	29 26	11 5.4	5	11	35 8	11 0.6
12	9	29 30	12 48.5	9	9	35 38	11 21.5
5	10	29 35	10 52.8	9	11	35 53	11 22.6
9	10½	29 41	11 25.4	12	10	35 53	12 59.3
9	11½	30 26	11 24.6	12	9	36 8	12 55.7
5	11½	30 27	11 1.2	5	11½	36 14	11 7.6
9	10½	30 33	11 21.3	5 9	9½	36 44	11 7.6
5	11	30 45	10 51.4	9	9½	36 47	11 10.5
5	11½	30 48	11 1.0	5	11	36 51	11 0.2
12	12	30 53	12 50.4	5	11	37 17	10 52.5
12	12	31 5	12 50.0	9	11	37 46	11 11.4
9	11½	31 17	11 23.1	5 9	9½	37 58	11 11.1
9	11½	31 20	11 21.9	5	9½	38 1	10 49.3
12	10	31 22	12 52.0	9	11½	38 5	11 11.1
9	11½	31 29	11 25.6	9	9	38 8	11 19.3
12	8	31 46	13 4.1	9	9½	39 4	11 19.6
9	10	32 4	11 18.7	9	10	39 6	11 10.0
12	10	32 24	12 47.7	9	10	39 10	11 20.8
5	12	32 26	11 3.2	5	11	39 25	11 0.8
12	10	32 28	12 51.8	9	10	39 28	11 24.0
5	10	32 45	10 54.0	9	11½	39 39	11 16.6
5	9½	32 53	11 4.3	5	10½	40 15	10 55.1
9	9	33 5	11 12.2	5	9½	40 42	11 4.2
9	10	33 7	11 15.2	5	10½	40 44	11 0.2
9	10	33 37	11 12.5	5	10	41 0	10 51.2
5	12	33 43	11 4.4	9	9½	41 45	11 26.3
9	10	33 45	11 8.2	5	10	41 46	10 55.0
12	10	22 33 51	—13 2.5	5	9	22 42 14	—11 3.6

* October, 1850.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5 9	10	22 42 32	—11 5.3	9	10½	22 51 16	—11 26.4
5	11	42 38	10 46.0	9	11	51 24	11 18.8
9	11	42 49	11 19.2	5	11½	51 28	11 5.0
9	10	43 9	11 16.4	9	10½	51 29	11 23.5
9	11	43 15	11 9.1	9	11	51 38	11 23.5
5	11	43 26	10 52.9	9	10	51 45	11 25.0
5	11½	43 34	11 1.4	9	11	52 3	11 12.4
5	11½	43 35	10 51.8	9	10	52 59	11 16.8*
9	9	43 38	11 24.4	9	9½	53 24	11 19.7*
5	11½	43 42	11 1.5	9	9½	53 27	11 21.8
5	10	44 17	10 49.8	12	10½	23 23 15	1 19.8
9	11	44 23	11 11.4	12	12	23 36	1 20.3
9	11	44 46	11 16.0	12	11½	23 42	1 24.4
5	11½	45 18	11 9.9	12	9½	24 8	1 8.0
9	11½	45 18	11 21.2	12	9	24 15	1 4.7
5	11½	45 37	11 7.2	12	12	24 40	1 23.5
5	10½	46 10	10 51.8	12	12½	24 42	1 28.1
5	11	46 27	10 52.3	12	10½	25 27	1 12.1
9	11½	46 52	11 14.0	12	10	25 27	1 4.8
5	10	47 3	11 2.0	12	8	26 26	1 15.1*
9	10½	47 19	11 24.1	12	12	26 32	1 23.8
9	10	47 29	11 20.0	12	11	27 22	1 25.5
9	10½	47 35	11 25.9	12	9	27 42	1 27.6
5	9	47 44	10 49.7	12	11½	28 31	1 25.4
5	10½	47 58	10 57.2	12	11	28 36	1 18.4
9	10½	48 0	11 25.6	12	11½	29 6	1 8.7
5	12	48 12	11 7.9	12	11	29 29	1 11.6
9	9½	49 15	11 19.7*	12	11	29 44	1 11.9
9	10	49 17	11 22.9	12	10½	30 6	1 18.9
9	10	49 18	11 16.1*	12	11	30 9	1 21.8
5	12	49 40	11 8.1	12	11	30 29	1 22.5
5	11½	50 12	11 4.6	12	11½	31 7	1 6.7
5	9	50 30	11 4.0	12	8	32 10	1 10.7
5	11	50 37	11 4.2	12	11½	32 14	1 15.6
9	11	50 38	11 12.0†	12	10½	32 35	1 17.2
5	10	22 51 14	—10 47.1	12	10½	23 32 40	—1 18.1

* (4). † An 11th Mag. S. P.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

637 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	11	21 27 0	—15 30.7	4	8	21 44 41	—10 31.7
5	9½	27 42	15 15.1	4	10½	44 52	10 32.6
5	11	27 43	15 19.5	4	10	45 0	10 37.5
5	10½	28 27	15 28.5	4	10½	45 15	10 36.2
5	10½	28 53	15 30.9	4	10	45 30	10 38.4
5	10½	29 12	15 30.2	5	10½	45 38	15 19.8
5	10	29 28	15 29.5	5	11½	45 52	15 16.1
5	11½	29 58	15 26.1	4	11½	46 51	10 51.9
5	11	30 25	15 26.7	4	9	47 7	10 30.3
5	11	30 28	15 28.2	5	10½	47 14	15 33.8
5	11	30 44	15 29.3	4	10½	47 26	10 46.7
5	10½	30 47	15 26.5	4	12	47 50	10 45.9
5	12	31 38	15 16.2	4	10	47 53	10 47.9
5	10	31 39	15 15.1	9	8½	48 18	10 12.9
5	11	32 30	15 30.7	5	11	48 20	15 13.5
5	10½	32 34	15 14.9	4	11	48 34	10 47.8
5	10½	34 17	15 25.8	4	12	48 36	10 45.4
5	10½	34 23	15 27.6	5	10	48 36	15 17.2
5	11	36 21	15 22.2	4	10½	48 50	10 47.8
5	10	37 39	15 18.6	4	10½	48 52	10 45.5:
5	10½	39 27	15 13.9	9	11	48 55	10 16.9
5	11	40 28	15 28.8	5	11½	48 59	15 13.1*
5	12	40 34	15 29.7	9	12	49 4	10 14.3
5	10½	41 22	15 30.5	4	10	49 23	10 46.1
5	–	41 55	15 24.8	9	11	49 37	10 14.9
5	10½	42 6	15 11.1	4	10½	49 46	10 47.4
5	11	42 59	15 22.6	5	10½	50 3	15 23.6
5	–	43 22	15 16.6	5	10	50 15	15 17.0
5	9½	43 23	15 12.6	9	10½	50 16	10 14.5
5	11	21 44 10	—15 27.2	4	11	21 50 23	—10 29.9

* *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	11	21 50 40	—10 31.4	4	11	21 56 2	—10 46.8
9	11½	50 43	10 25.1	9	9	56 6	10 9.0
9	10½	50 45	10 22.6	5	11	56 27	15 24.9
5	11	50 53	15 11.1	4	11	56 28	10 45.7
9	8	51 6	10 28.6	4	11	56 32	10 48.3
4	9½	51 40	10 34.9	9	9	56 52	10 11.1
9	10½	51 47	10 29.3	9	10	56 56	10 17.9
9	11½	51 56	10 27.0	9	10	57 3	10 17.8
9	9½	52 17	10 15.2	9	11½	57 5	10 14.9
4	11	52 25	10 36.9	4	11	57 29	10 33.8
4	10	52 25	10 35.6	9	9	57 32	10 16.3
4	10½	52 27	10 50.6	4	11	57 38	10 36.4
9	11	52 37	10 12.2	4	9½	57 41	10 30.4
9	10½	53 3	10 12.2	5	10	57 51	15 22.4*
4	10½	53 14	10 41.2	9	9½	57 58	10 28.4
9	10½	53 27	10 15.3	5	11	58 9	15 21.0
4	10	53 28	10 46.9	4	10	58 26	10 43.3
9	11	53 37	10 14.8	5	10	58 28	15 29.3
4	10	53 39	10 32.8	9	10	58 31	10 18.0
5	10½	53 48	15 23.0*	9	11½	58 39	10 24.2
9	11	53 53	10 15.3	4	10½	58 51	10 33.4
5	10½	53 57	15 29.4	9	10½	58 55	10 26.3
9	11½	54 14	10 15.0	5	12	59 26	15 14.5
9	9	54 20	10 12.5	4	10½	59 28	10 31.5
4	9	54 26	10 27.7	9	9	59 55	10 24.1
9	11	54 27	10 14.3	9	9½	22 0 8	10 18.5
4	11	55 5	10 49.6	9	12	0 34	10 25.1
5	10	55 15	15 25.3	4	10½	0 38	10 32.7
9	12	55 17	10 24.9	9	9	0 41	10 22.1
5	10½	55 21	15 24.5	4	10	0 49	10 46.2
4	11½	55 26	10 31.0	4	10	1 1	10 38.4*
9	10½	55 28	10 14.6	9	10½	1 2	10 21.3
4	9	55 42	10 33.5	9	11½	1 2	10 23.3
9	9	55 45	10 14.8	9	10	1 13	10 28.4
5	12	21 55 57	—15 24.1	5	12	22 1 41	—15 28.4

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
4	9	22 1 47	—10 41.9	9	11½	22 11 4	—10 29.2
5	12	2 17	15 30.4	9	10½	11 9	10 31.9
9	9	2 34	10 14.5	4	10½	12 5	10 37.5†
5	12	2 40	15 29.5	9	10½	12 10	10 21.8
5	9½	3 7	15 34.1	9	10½	12 23	10 17.0
9	10½	3 17	10 18.2	4	10	12 29	10 35.7
4 9	9	3 20	10 27.0	4	9	12 35	10 42.1
9	9	3 41	10 23.8	9	11	12 40	10 17.0
9	11	3 41	10 29.2	4	10	13 0	10 36.3
4	11	4 11	10 42.7	4	9	13 19	10 36.2
5	10½	4 20	15 26.6	4	9½	13 30	10 39.8
4	10½	4 27	10 42.7	4	9	13 47	10 39.2
9	11	4 45	10 23.2	9	9½	13 56	10 13.3
9	11½	4 52	10 14.4	5	11	14 6	9 30.2
9	11½	5 3	10 15.9	9	10	14 48	10 14.4
4	9	5 10	10 45.1	9	12	14 51	10 17.1
9	11	5 19	10 14.7	5	12	15 17	9 12.2
4	11	5 27	10 33.6	4	11	15 19	10 43.1
4	11½	5 41	10 33.8	9	10½	15 26	10 13.7
4	11½	5 43	10 35.3	5	12	15 27	9 21.2
9	11	6 35	10 17.3	4	9	15 50	10 29.9
9	10½	6 53	10 24.5	4	9	15 51	10 34.6
4	9	7 3	10 46.4	5	10½	16 24	9 26.7
9	9½	7 29	10 21.2*	9	10	16 26	10 16.9
4	8½	8 5	10 37.8	5	11½	16 50	9 27.5
9	11	8 58	10 13.2	9	10	17 9	10 11.1
9	11	9 27	10 25.8	5	12	17 18	9 24.1
9	11	9 55	10 23.0	4	10	17 20	10 43.1
9	11½	10 2	10 23.2	5	9	17 40	9 15.6
9	11½	10 10	10 29.7	5	11	17 40	9 25.9
4	10½	10 28	10 48.4	5	11	17 42	9 22.1
4	10½	10 44	10 43.4	9	10	17 42	10 20.4
4	10½	10 47	10 45.8	9	11½	17 53	10 25.8
4	11	10 54	10 45.8	4	9½	18 11	10 32.6
9	10	22 10 58	—10 19.2	5	11	22 18 12	—9 22.5

* (4).

† Largest of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	11½	22 18 17	—10 23.0	4	9½	22 24 4	—10 47.1
9	10½	18 22	10 26.5	4	10½	24 5	10 44.7
5	12	18 43	9 17.1	9	11	24 14	10 18.9
9	12	19 15	10 10.9	5	11½	24 22	9 11.2
9	11	19 22	10 10.5	9	9½	24 26	10 23.8
4	11½	19 34	10 32.8	5	12	24 28	9 22.1
5	12	19 34	9 16.2	5	11	24 34	9 11.0
4	10	19 40	10 30.9	4	10½	25 24	10 29.7
5	12½	19 52	9 15.6	5	11	25 34	9 15.8
5	12½	19 57	9 14.1	4	11½	25 35	10 34.7
5	12½	19 58	9 11.8	9	9	25 39	10 26.8
9	11	20 0	10 26.0	5	11½	25 48	9 14.4
9	11	20 1	10 24.4	9	9½	25 54	10 23.1
9	10	20 6	10 19.1	5	9	25 55	9 8.5
9	11½	20 7	10 17.5	5	9½	26 49	9 23.0
9	11	20 21	10 12.5	5	12	26 49	9 13.2
5	10½	20 38	10 31.5	9	10	26 57	10 18.2
4	9½	21 8	10 42.7	4	10	26 59	10 48.6
4	10	21 20	10 43.2	9	11	27 0	10 14.3
9	11	21 56	10 10.4	4	7	27 26	10 32.0
5	12	22 12	9 16.9	4	12	28 29	10 47.4
4	10½	22 16	10 32.3	4	9	28 16	10 44.5
9	11	22 20	10 11.2	9	11	28 21	10 26.8
5	12	22 24	9 15.8	4	12	28 27	10 47.7
9	11½	22 26	10 14.4	5	12	28 39	9 13.5
4	9½	22 33	10 32.6	9	9	29 2	10 9.6
5	10	22 42	9 28.3	4	11½	29 11	10 34.3
4	9	22 55	10 46.1	9	11	29 25	10 13.6
9	9½	23 9	10 14.7	5	9	29 32	9 17.7
9	11	23 17	10 24.6	4	11	29 37	10 38.3
9	8	23 22	10 26.0	4	9	29 41	10 32.9
9	9½	23 26	10 11.1	9	11½	29 41	10 26.8
5	11	23 38	9 32.3	9	10½	29 52	10 28.0
4	11	23 44	10 44.3	4	9	30 6	10 36.6
9	11	22 23 48	—10 20.9	9	10½	22 30 27	—10 27.8

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	9½	22 30 28	—10 14.8	5	11	22 37 46	—9 24.7
5	11	30 31	9 17.7	5	11½	38 8	9 24.3
4	10½	30 59	10 36.0	4	9	38 10	10 45.3
9	9½	31 5	10 25.4	9	10½	38 28	10 16.9
4	11½	31 9	10 36.1	5	11	38 31	9 23.5
4	11½	31 12	10 34.0	9	8	38 54	10 28.5
5	12	31 25	9 14.3	4	10½	39 3	10 45.4
4	11½	32 47	10 38.0	4	9	39 30	10 34.5:
9	9	32 48	10 28.5	4	11	39 31	10 44.0
4	10	33 0	10 37.2	9	11	39 37	10 14.7
4 9	10	33 10	10 27.9	9	11	39 43	10 25.6
9	9	33 11	10 22.7	5	11½	39 47	9 25.7
4 9	9	33 16	10 26.6	5	11	39 48	9 19.8*
9	9	33 48	10 28.5	9	10½	39 49	10 28.5
4	12	33 55	10 44.7	4	10	39 52	10 31.2
9	10½	33 58	10 29.7	9	11½	40 31	10 27.1
4	11½	34 0	10 46.1	4 9	11	40 32	10 31.2
5	12	34 9	9 13.6	9	10	40 35	10 18.7
5	12	34 10	9 14.7	4	11	40 41	10 33.9
9	10½	34 26	10 23.1	5	11	40 44	9 29.4
5	12	34 54	9 10.9	4	9	41 16	10 38.5*
9	10½	34 57	10 25.1	4	10½	41 35	10 46.4
9	11	34 58	10 17.5	5	11½	41 44	9 12.5
9	10½	35 18	10 26.2	9	10½	41 52	10 31.4
4	11½	35 30	10 39.2	5	10	41 53	9 27.4
4	10½	35 52	10 35.3	4 9	10½	42 17	10 31.1
4 9	9	35 53	10 30.4	9	11	42 27	10 18.6
4	11½	35 59	10 39.9	5	10	42 40	9 11.6
4	10	36 7	10 37.7	9	10	42 48	10 11.8
4	10	36 41	10 35.1	4	11	42 51	10 37.8
9	11	36 49	10 8.9	9	11	42 56	10 12.1
5	11	36 55	9 28.8	4	11	43 3	10 34.4
9	11	37 10	10 13.8	9	11	43 22	10 21.2
4	10½	37 18	10 48.9	9	9	43 24	10 21.0
9	10	22 37 41	—10 11.7	4	10	22 43 34	—10 34.1

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	o ′			h. m. s.	o ′
4	10	22 43 36	—10 37.0	4	10½	22 49 11	—10 46.9
9	10	44 48	10 16.1	5	12	49 16	9 27.8
9	10½	45 1	10 17.5	9	9½	49 21	10 14.9
9	11	45 3	10 12.3	9	12	49 36	10 27.1
4	9	45 11	10 48.9	4	10	50 0	10 40.3
9	10	45 14	10 14.1	5	12	50 4	9 12.7
9	11	45 16	10 18.0	4	10	50 7	10 36.8
4	12	55 28	10 47.9	5	12	50 28	9 13.9
4	10	45 40	10 43.0	9	9	50 33	10 23.5
5	12	46 2	9 11.4	4	11½	50 40	10 37.5
9	11½	46 21	10 25.5	5	11½	50 43	9 12.5
4	11	46 23	10 44.3	5	9	50 46	9 15.3
5	11	46 39	9 22.1	4	10	50 48	10 41.8
5	11	46 45	9 11.9	5	9½	50 52	9 10.8
4	11½	46 47	10 30.9	9	11	51 3	10 25.3
9	11	46 49	10 13.5	9	10	51 4	10 18.8
5	12	46 59	9 16.7	5	10	51 24	9 17.5
5	11	47 1	9 18.9	9	11½	51 24	10 26.0
5	11	47 6	9 14.3	5	12	51 37	9 20.6
9	10	47 9	10 15.8:	9	9	51 39	10 27.6
9	11	47 11	10 26.6:	9	11½	52 28	10 11.0
9	9	47 25	10 25.7	9	11½	52 30	10 17.4
4	12	47 36	10 45.3	5	11½	53 10	9 21.0
4	11½	47 38	10 45.6	5	12	53 21	9 21.2
9	9	47 41	10 27.5	9	11	53 25	10 13.9
5	10	47 59	9 29.1	5	11½	53 36	9 21.9
4	11½	48 2	10 43.2	5	11½	53 37	9 20.8
5	10	48 8	9 25.0	9	10	54 32	10 11.0
9	11	48 14	10 11.5	9	10	55 11	10 21.3
4	9	48 34	10 45.6	9	9	55 15	10 22.6
9	12	48 35	10 12.7	9	11	55 20	10 12.8
5	10	48 43	9 31.0	5	12	55 25	9 16.7
9	10	48 43	10 13.7	9	10	55 44	10 24.7
4	10	48 51	10 48.3	5	12	55 53	9 14.1
9	10	22 49 3	—10 15.6	5	9½	22 56 5	—9 13.3

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
5	12	22 56 16	—9 14.4	5	12½	23 4 46	—9 22.8
5	10	56 53	9 20.7	5	11½	5 2	9 27.8
5	10½	56 56	9 23.0	11	11	5 33	7 13.3
11	10	57 27	7 22.3	11	11½	5 35	7 6.3
5	11	57 32	9 23.2	11	9	5 49	7 9.7
11	11	57 37	7 18.8	11	10	7 0	7 9.2
5	12	58 31	9 30.9	11	10	7 1	7 13.8
11	10	58 39	7 14.2	11	9½	7 24	7 16.5
11	11	58 42	7 14.0	11	9½	7 34	7 17.2
11	11	58 46	7 10.2	11	11	8 48	7 7.5
11	11	59 3	7 18.7	11	11	9 31	7 8.3
11	11	59 14	7 22.6	11	9½	9 41	7 13.9
5	11	59 20	9 26.7	11	11½	9 49	7 13.6
11	11	59 20	7 13.7	11	11	9 58	7 12.9
5	11	59 22	9 19.8	11	10	10 1	7 17.8
5	11	59 24	9 23.2	11	11½	11 18	7 10.5
5	10	59 41	9 27.9	11	8	11 25	7 9.8
11	10	23 0 15	7 9.5	11	10	12 6	7 16.6
11	10	0 26	7 8.9	11	10	14 37	7 18.3
5	11	0 35	9 26.4	11	9½	15 12	7 19.6
5	12	0 35	9 29.2	11	9½	16 51	7 14.5
11	10½	0 39	7 20.1*	11	11	17 33	7 10.1
11	10	0 44	7 19.0	11	12	18 38	7 5.7
5	11½	0 52	9 22.7	11	10½	19 0	7 2.6
5	11	1 4	9 24.2	11	9½	19 41	7 20.4
11	10½	1 36	7 3.6	11	11	19 46	7 10.8
11	11	2 21	7 21.8	11	11	19 50	7 26.6
5	11½	2 34	9 18.3	11	9½	20 28	7 9.0
11	9½	2 42	7 17.7	11	10½	20 51	7 10.2
5	11½	2 49	9 14.9	11	9½	20 56	7 9.6
11	9	2 56	7 12.3	11	9½	21 15	7 27.9†
11	11½	3 2	7 14.3	11	10	23 3	7 17.6
11	10	3 23	7 20.6	11	11	23 9	7 6.0
5	11	3 32	9 8.6	11	10½	24 10	7 27.0
11	10	23 4 12	—7 12.5	11	10	23 24 48	—7 11.1

* An 11½ Mag. *f.*

† S. *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	10½	23 25 6	−7 15.9*	10	10	1 18 12	+9 33.1†
11	10½	25 14	7 21.0	10	11	18 41	9 15.2
10	11½	1 4 27	+9 14.8	10	9	18 41	9 30.0
10	10	4 46	9 22.9	10	11	18 48	9 21.2
10	12	4 49	9 14.4	10	10	19 5	9 21.8
10	10½	5 58	9 24.7	10	10½	19 8	9 14.2
10	10½	6 38	9 24.9	10	11½	20 51	9 25.5
10	10	6 46	9 13.9	10	12	21 12	9 24.4
10	10	7 8	9 23.0	10	10	21 28	9 21.6
10	10	7 21	9 21.8	10	11	21 33	9 18.8
10	11	7 50	9 17.5	10	9	22 40	9 21.4*
10	11	8 0	9 15.2	10	11	23 5	9 28.2
10	9	8 25	9 27.5	10	11½	23 18	9 13.9
10	10½	8 53	9 27.4	10	10	23 23	9 21.7
10	10½	9 6	9 27.9	10	10½	25 3	9 26.7
10	11	10 20	9 22.1	10	10	25 5	9 27.1
10	10	10 24	9 10.8	10	10½	25 42	9 11.5
10	11	10 47	9 21.6	10	10	26 8	9 30.7
10	9	10 49	9 11.0	10	10	26 21	9 27.4
10	10	11 5	9 19.6	10	10	26 45	9 26.4
10	10	11 17	9 19.7	10	10½	26 58	9 27.9
10	11½	12 34	9 12.5	10	10½	27 1	9 23.9
10	11½	12 36	9 13.5	10	10	27 34	9 22.8‡
10	12	13 50	9 13.2	10	10	29 25	9 19.9
10	11½	13 53	9 18.0	10	10	29 39	9 11.2
10	10	14 6	9 11.1	10	9	29 53	9 19.3*
10	9½	14 42	9 12.9	10	9	29 53	9 14.6
10	11½	15 0	9 11.9	10	11½	31 11	9 25.7
10	9	15 37	9 26.5	10	9	31 12	9 11.9
10	11½	15 43	9 25.6	10	12	31 34	9 13.2
10	9	15 54	9 25.1	10	10	32 58	9 19.2
10	10½	16 0	9 20.4	10	10	33 15	9 10.0
10	9½	16 1	9 27.8	10	11	34 0	9 27.0
10	11½	17 13	9 30.0	10	10	34 25	9 24.7
10	11	1 17 20	+9 29.2	10	10	1 35 25	+9 29.5

* (4). † December, 1850. ‡ 10th Mag. about 2′ S. Same Rt. Asc.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	9½	1 35 39	+9 21.6	10	11½	1 47 33	+9 29.9
10	9	35 55	9 25.4	10	11	47 49	9 12.3
10	11	35 56	9 27.5	10	9	47 53	9 18.7
10	11	36 20	9 25.2	10	11	48 32	9 21.1
10	12	37 32	9 13.6	10	9	48 41	9 15.2
10	9	37 33	9 20.4	10	10½	49 50	9 9.3
10	11½	37 41	9 12.5	10	11	50 32	9 16.5
10	10	38 42	9 18.1	10	10	50 34	9 21.5
10	10	38 48	9 25.5	10	11	51 20	9 16.5
10	9	39 3	9 23.4	10	10½	52 5	9 12.8
10	10	39 3	9 15.2	10	9	52 5	9 18.1
10	11½	39 59	9 14.3	10	11	52 14	9 18.6
10	11½	40 6	9 16.2	10	11	52 21	9 17.0
10	10	40 10	9 13.6	10	9½	52 38	9 14.1
10	11½	40 19	9 14.9	10	11	53 41	9 26.3
10	11	40 29	9 14.5	10	11	53 46	9 25.9
10	11½	41 52	9 19.3	10	11½	53 50	9 27.4
10	12	41 58	9 26.2	10	10	54 2	9 27.9
10	12	42 4	9 26.9*	10	8½	54 44	9 14.6
10	9	42 22	9 25.7	10	11	54 52	9 28.0
10	10	42 23	9 13.0	10	10½	55 5	9 24.5
10	8	43 29	9 24.3	10	10½	55 5	9 27.7
10	11	43 39	9 22.9	10	11	56 31	9 18.7
10	10	43 46	9 22.7	10	12½	58 47	9 16.2
10	10	43 49	9 24.8	10	12½	58 47	9 14.8
10	10½	44 2	9 23.0	10	10	59 27	9 10.6
10	10	44 45	9 28.6	10	10½	59 39	9 14.9
10	10	45 25	9 27.0	10	11½	59 56	9 15.4
10	11½	45 38	9 15.7	10	10½	2 0 15	9 13.2
10	10½	45 43	9 15.3	10	10	0 55	9 27.4
10	11	46 6	9 14.6	10	9	1 21	9 20.4
10	11	46 15	9 15.9	10	9	1 39	9 21.4†
10	10	46 33	9 13.8	10	9½	1 39	9 17.0
10	11	46 36	9 15.3	10	9	2 40	9 28.7
10	8	1 47 6	+9 27.1	10	11	2 2 46	+9 29.4

* Inst. shaken by wind.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
10	10½	2 3 25	+9 26.9	10	10	2 7 16	+9 8.9
10	10½	4 27	9 16.4	10	10½	7 50	9 18.2
10	10½	4 35	9 18.1	10	9½	8 6	9 16.3
10	10½	4 54	9 28.8	10	10	8 17	9 15.9
10	11	5 28	9 22.3	10	10½	9 27	9 17.3
10	9	5 55	9 16.6	10	10	9 37	9 16.4
10	10½	6 2	9 22.8	10	10	9 38	9 28.1
10	8½	6 3	9 24.5	10	8	2 9 39	+9 24.1
10	11	2 7 4	+9 14.3				

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

230 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	12	23 52 52	+1 50.1	27	10	23 59 40	+2 0.4*
27	11½	53 31	1 56.2	27	10½	0 0 44	2 0.0*
27	11	53 34	2 6.2	27	9½	0 47	2 10.7
27	11½	54 6	1 57.0	27	11	0 55	2 8.0
27	10	54 44	1 58.9	27	9½	1 17	2 6.6
27	10	55 23	2 10.4	9	11½	1 34	2 31.0
27	11½	55 28	2 5.0	9	10½	1 44	2 22.7
27	10½	56 2	1 54.5	9	10½	2 29	2 14.8
27	12	57 8	2 8.4	9	11	2 40	2 18.3
27	9½	57 34	2 10.4	9	10	3 1	2 20.4
27	10	57 41	2 7.5	27	9½	3 31	1 57.6
27	10	58 12	1 56.0	9	9	3 45	2 21.8
27	10	58 30	1 50.1	9	10	4 21	2 21.6
27	10	58 39	1 56.9	27	10	4 24	2 2.2
27	9½	23 59 24	+2 9.1	27	11	0 4 30	+2 8.0

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	10½	0 4 46	+1 57.4	9	10½	0 23 39	+2 25.0
9	12	5 3	2 17.1	9	11½	24 3	2 24.5
9	11½	6 7	2 14.7	9	10	26 7	2 28.3
27	11	6 7	2 2.4	9	11	26 42	2 11.7
9	12	6 27	2 13.5	9	11	27 2	2 12.1
9	12	6 29	2 14.7	9	11	27 6	2 15.6
27	11	7 34	1 57.6	9	10	27 29	2 16.0
27	11	7 39	1 52.0	9	11½	27 31	2 16.0
9	9	7 50	2 24.0	9	11	28 16	2 16.6
9	11½	8 29	2 18.2	9	12	28 35	2 14.1
9	11½	8 36	2 18.6	9	10	29 8	2 20.3
27	11	8 48	1 56.6	9	11	29 11	2 17.5
27	11	8 58	1 52.8	9	11	29 20	2 23.1
27	9½	9 40	2 3.1	9	10	30 9	2 10.9
27	9½	10 9	2 5.2	9	10	30 30	2 15.8
9	9½	10 19	2 20.7*	9	11½	31 50	2 13.1
27	11	10 28	1 56.2	9	11½	32 0	2 13.9
9	12	13 9	2 12.3	9	12	32 54	2 14.3
9	12	13 16	2 12.9	9	11	33 11	2 25.5
9	12	13 25	2 12.2	9	10	34 9	2 13.0
9	12	14 9	2 25.2	9	12	34 28	2 14.2
9	11½	14 18	2 10.2	9	11½	34 38	2 13.3
9	11½	15 9	2 15.5	9	10½	35 24	2 26.3
9	12	15 52	2 16.8	9	10½	35 26	2 25.0
9	11½	16 14	2 15.8	9	10½	35 30	2 23.3
9	11	17 51	2 27.8	9	12½	37 12	2 27.1
9	11½	18 27	2 32.0	9	7	37 13	2 22.8
9	9½	18 55	2 31.2	9	10	38 42	2 23.4
9	11½	19 43	2 10.7	9	10½	39 24	2 18.2
9	11	20 9	2 13.1	9	10	40 23	2 11.5
9	11½	20 30	2 14.4	9	10	40 47	2 16.8
9	11½	21 28	2 24.8	9	10	41 51	2 28.4
9	12	22 51	2 21.1	9	10	42 42	2 13.1
9	11½	22 59	2 22.2	9	10½	43 6	2 26.7
9	11½	0 23 7	+2 25.9	9	11½	0 43 39	+2 16.5

* (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
9	11½	0 43 50	+2 15.8	9	10	0 54 8	+2 10.5
9	8	43 53	2 24.3	9	9	54 23	2 13.7
9	12	45 11	2 16.7	9	9	54 51	2 31.4
9	10	45 16	2 16.8*	9	10½	55 11	2 27.4
9	9	46 29	2 11.9	27	11	55 11	7 45.9
9	10½	47 37	2 12.8†	27	12	55 32	7 49.6
27	10	47 52	7 49.3	9	9½	55 51	2 24.3
9	11	48 8	2 29.0	27	9	56 8	7 40.8
27	9	48 38	7 30.6	27	10	56 21	7 49.3
9	11	49 4	2 15.8	27	10	56 45	7 45.6
9	10	49 8	2 15.1	27	11	56 55	7 37.6
9	11	49 8	2 10.7	27	11½	58 18	7 38.2
27	10½	49 14	7 38.0	27	11	58 22	7 36.9
27	11	49 27	7 36.3	27	11	59 46	7 38.1
27	11	49 40	7 49.0	27	10	1 0 16	7 50.8
27	11½	50 27	7 36.0	27	12	0 18	7 39.1
9	11½	50 45	2 21.4	27	11½	1 6	7 50.9
9	10	50 49	2 14.9	27	8½	1 34	7 48.8
9	12	30 51	2 15.9	27	11½	2 57	7 48.1
27	11	50 55	7 47.6	27	10½	3 4	7 48.1
9	10½	51 8	2 15.3	27	9½	5 11	7 35.3
27	11	51 8	7 47.4	27	9½	5 15	7 41.2
27	11	51 27	7 34.3	27	12	7 3	7 35.7
27	11	51 34	7 39.1	27	12	7 38	7 40.2
9	11½	51 39	2 11.8	27	11	8 0	7 48.0
27	11	51 39	7 34.3	27	9½	9 2	7 51.7
27	9	51 58	7 40.6	27	11	9 20	7 49.8
9	9	52 52	2 7.5	27	11	10 18	7 35.5
9	11	52 58	2 16.2	27	11	10 23	7 38.0
27	8	53 36	7 38.4	27	10	11 17	7 34.5
27	9	53 48	7 40.0‡	27	9½	11 22	7 38.7
9	10	53 49	2 8.4	27	11	12 21	7 34.5
9	11½	53 53	2 21.0	27	10½	12 30	7 34.0
27	12	54 1	7 48.2	27	7	14 1	7 45.8
27	10½	0 54 7	+7 47.1	27	10½	1 14 12	+7 43.9

* Largest of double. † Close double. ‡ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
27	11	1 14 22	+7 38.8	27	10	1 30 1	+7 39.2
27	11	14 50	7 37.8	27	9½	30 16	7 34.6
27	9	15 16	7 40.3	27	9½	30 23	7 34.9
27	11	15 48	7 49.7	27	11	30 27	7 38.0
27	10	15 50	7 44.5	27	9½	31 47	7 33.9
27	11	16 18	7 49.5	27	9½	31 51	7 40.0
27	10	16 50	7 49.7	27	9½	33 6	7 51.2
27	9½	17 11	7 35.6	27	9½	33 21	7 43.2
27	10	17 28	7 51.0	27	11	33 22	7 48.0
27	11	18 10	7 33.8	27	9½	34 5	7 35.0
27	11	18 17	7 45.6	27	10½	34 48	7 48.0
27	10	19 30	7 45.4	27	9½	35 1	7 39.8
27	9	19 53	7 52.9	27	9½	35 29	7 48.2
27	11	20 59	7 39.6	27	11½	35 54	7 44.8
27	11	21 1	7 38.7	27	8½	36 56	7 40.6
27	10½	21 10	7 47.9	27	11½	37 31	7 38.8
27	9	22 21	7 40.1	27	6	37 49	7 48.4
27	9	22 30	7 32.9	27	11½	38 5	7 47.3
27	10	22 36	7 39.8	27	11	38 10	7 44.7
27	9	23 28	7 43.6*	27	11½	39 37	7 51.4
27	11	23 41	7 50.8	27	11½	39 47	7 48.1
27	11	23 47	7 43.4	27	10	41 5	7 45.6
27	11	25 14	7 40.8	27	10½	41 13	7 33.8
27	11	25 35	7 39.5	27	9½	41 25	7 33.0
27	9½	26 7	7 37.6	27	11	42 29	7 29.8
27	11	26 19	7 35.2	27	12	42 37	7 37.1
27	9½	27 28	7 34.3	27	11½	43 40	7 51.2
27	9	28 14	7 38.4	27	9	45 45	7 43.2*
27	9	28 14	7 53.8	27	11½	45 59	7 48.6
27	9	1 29 53	+7 38.4	27	10½	1 48 30	+7 36.8

* (4).

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

1,131 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1850, AT MARKREE.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	22 56 32	−3 46.5	7	11	23 9 34	−3 46.5
7	10	56 39	3 35.3	7	9	9 54	3 40.4
7	12	56 41	3 31.9	7	9½	9 55	3 44.6
7	9	56 45	3 40.4	7	10½	10 23	3 39.5
7	9½	56 55	3 33.5	7	10	11 7	3 44.7
7	9	57 12	3 43.7	7	11	11 16	3 34.8
7	10½	57 56	3 49.5	7	10	12 2	3 45.2
7	9½	58 14	3 42.2	7	10	12 13	3 45.9
7	10½	58 31	3 38.4	7	12	13 24	3 47.9
7	10½	59 51	3 49.3	7	9½	13 41	3 52.9
7	9	23 0 12	3 48.5	7	10½	14 19	3 47.9
7	9	1 14	3 38.0	7	10½	14 27	3 50.7
7	10	1 21	3 42.8*	7	11½	15 25	3 45.6
7	10½	1 23	3 43.2	7	9	15 39	3 46.2
7	10½	1 36	3 47.9	7	11½	16 23	3 31.1
7	11½	2 41	3 48.7	7	11	16 40	3 49.3
7	11	2 49	3 46.2	7	10½	17 31	3 41.7
7	11	3 9	3 45.1	7	9½	17 47	3 45.0
7	9½	3 11	3 38.6	7	10½	17 55	3 39.3*
7	9½	3 32	3 44.0	7	9	18 3	3 37.4
7	9½	3 40	3 48.2	7	9½	19 1	3 31.6
7	9	4 31	3 48.1†	7	9	19 11	3 44.1
7	11½	4 57	3 45.1	7	11	19 37	3 45.6
7	9½	5 32	3 33.0	7	12	19 45	3 45.3
7	12	6 6	3 33.6	7	9½	21 3	3 44.3
7	9½	6 14	3 34.3	7	9½	21 20	3 42.9
7	9½	6 38	3 34.7	7	9	21 30	3 52.1
7	11	9 1	3 37.8	7	10½	21 59	3 30.0
7	9	9 13	3 44.5	7	11	22 38	3 36.6
7	11½	23 9 26	−3 44.9	7	10½	23 22 42	−3 33.4

* (4).

† S. *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	10½	23 23 0	−3 39.2*	7	10	23 41 52	−3 49.6
7	11	25 3	3 49.5	7	9	42 44	3 49.1
7	10	25 56	3 41.5	7	10	0 59 8	+9 38.9
7	9	25 58	3 33.2	7	10	1 0 20	9 48.5
7	10	26 9	3 36.7	7	10	0 20	9 50.9
7	10	26 16	3 39.8*	7	9	1 7	9 45.6
7	10	27 28	3 28.9	7	10½	1 24	9 36.6
7	10	27 34	3 29.0	7	10½	1 28	9 35.9
7	11	28 59	3 44.2	7	9½	2 24	9 32.0
7	11½	29 10	3 48.9	7	12	2 42	9 33.0
7	10½	30 12	3 30.9†	7	11½	3 32	9 43.5
7	10	30 22	3 31.0	7	10	3 42	9 47.7
7	9	30 26	3 42.5	7	10	4 28	9 44.3
7	9	31 4	3 35.5	7	9½	5 32	9 45.8
7	10½	32 9	3 41.6	7	11	6 11	9 35.8
7	10	33 8	3 41.2*	7	11	6 23	9 33.3
7	11½	33 50	3 47.8	7	9½	6 25	9 42.4
7	11½	34 43	3 31.9	7	11	6 51	9 37.7
7	10½	34 56	3 47.4	7	11½	8 0	9 36.0
7	11	35 14	3 32.2	7	10½	8 15	9 36.1
7	10	35 31	3 33.6	7	9½	8 26	9 31.8
7	9	36 14	3 45.3	7	11½	9 21	9 36.9
7	11	36 21	3 49.7	7	10	9 49	9 38.0*
7	11	36 25	3 44.4	7	11	10 7	9 36.2
7	10	36 48	3 30.8	7	10	11 0	9 32.5
7	11½	37 43	3 46.6	7	10	11 19	9 33.7
7	10	37 56	3 46.4	7	10½	11 49	9 33.9
7	10½	37 57	3 49.3	7	10½	12 24	9 37.8
7	9	38 40	3 31.2	7	10	12 27	9 44.8
7	11	39 18	3 36.9	7	10	12 29	9 48.4
7	11	39 23	3 50.1	7	10	12 41	9 45.8
7	11	39 32	3 42.8	7	9½	12 55	9 47.4
7	9	40 3	3 34.8	7	9½	12 58	9 47.2
7	10	41 6	3 48.1	7	11	13 58	9 41.9
7	10	23 41 46	−3 47.4	7	9	1 14 3	+9 43.1

* (4). † L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9½	1 14 7	+9 34·3	7	10	1 29 59	+9 37·3
7	9½	14 19	9 44·7	7	10	30 7	9 35·8
7	10½	14 23	9 45·5	7	12	31 12	9 48·0
7	11	15 9	9 31·1	7	9½	31 46	9 33·7
7	11	15 13	9 32·6	7	9½	31 56	9 34·1
7	11½	16 4	9 46·0	7	10	32 4	9 45·8
7	11	16 7	9 46·8	7	9½	32 10	9 47·3
7	9½	17 0	9 30·9	7	10	32 23	9 42·4
7	10½	17 32	9 31·2	7	10½	33 6	9 34·2
7	11	17 59	9 35·8	7	9½	33 22	9 46·0
7	11	19 6	9 45·0	7	9½	34 29	9 43·6
7	11	19 17	9 42·2	7	12	34 39	9 47·9
7	9½	20 46	9 40·5	7	8½	35 35	9 42·8
7	10½	20 56	9 42·4	7	10	35 43	9 44·4
7	10	21 0	9 38·7*	7	10	35 52	9 31·0
7	11	21 23	9 36·5	7	11½	35 56	9 35·1
7	11	21 40	9 36·3	7	10	36 49	9 31·4
7	10	22 43	9 35·8	7	–	37 0	9 39·8†
7	10	22 49	9 33·0	7	10	37 50	9 37·7
7	9½	22 59	9 44·5	7	9½	38 6	9 35·2
7	11	23 4	9 33·9	7	9	38 25	9 38·1
7	9½	23 13	9 34·6	7	11½	39 2	9 45·5
7	11	23 45	9 32·1	7	11	39 16	9 43·5
7	10	24 4	9 33·8	7	10	39 43	9 39·8
7	10	24 29	9 43·1	7	11	40 24	9 33·4
7	10	25 15	9 31·3	7	11½	41 24	9 43·7
7	10	25 44	9 51·2	7	10	41 33	9 49·1
7	10	25 51	9 46·4	7	10½	41 46	9 41·8
7	9½	26 9	9 30·4	7	11½	41 50	9 43·1
7	9½	26 19	9 44·7	7	9½	42 16	9 45·6
7	11	27 6	9 36·2	7	11	42 32	9 34·8
7	11	27 43	9 42·4	7	10	42 54	9 45·8
7	9½	28 35	9 36·1	7	11	43 17	9 33·0
7	9½	29 2	9 33·8	7	10½	43 47	9 45·9
7	10½	1 29 58	+9 34·2	7	11½	1 43 58	+9 48·2

* (4).

† A cluster.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	1 44 22	+9 48.5	7	9½	2 0 56	+9 49.2
7	11	44 29	9 47.3	7	12	1 4	9 48.1
7	10	45 40	9 31.2	7	11	1 33	9 32.6
7	10	46 4	9 31.5	7	11	2 15	9 42.2
7	9½	46 38	9 27.8	7	11	2 28	9 49.0
7	11	47 27	9 46.5	7	10½	2 42	9 44.0
7	11½	47 41	9 44.9	7	11½	20 9	16 33.4
7	11½	47 45	9 49.0	7	11	21 49	16 45.2
7	9½	49 6	9 30.7	7	9	22 9	16 48.9
7	10	49 11	9 46.6	7	11	23 3	16 33.4
7	9	49 11	9 40.9*	7	9½	23 32	16 53.7
7	11	50 29	9 44.1	7	11	23 33	16 39.8
7	11	50 43	9 48.1	7	11	23 34	16 37.5
7	11	50 56	9 39.7:	7	10	24 47	16 39.6
7	11½	51 14	9 42.3	7	9	25 8	16 37.7
7	10	51 27	9 34.8	7	10½	25 31	16 38.7
7	11	51 37	9 33.3	7	10	25 40	16 40.5
7	9½	52 7	9 30.8	7	11	26 36	16 38.7
7	9½	52 39	9 48.8	7	10½	26 36	16 34.5
7	10	53 22	9 44.7	7	9	26 46	16 51.0
7	9½	53 22	9 48.7	7	9	27 22	16 47.3
7	9½	53 57	9 49.5	7	9	27 29	16 32.8
7	9½	54 45	9 44.0	7	11	28 11	16 51.7
7	9½	54 57	9 40.9	7	11	28 19	16 49.0
7	9½	55 2	9 33.8	7	11	28 29	16 50.8:
7	9½	55 11	9 32.3	7	10	28 49	16 30.4:
7	10	56 37	9 47.5	7	11½	29 9	16 36.9
7	9	56 59	9 39.8	7	9	29 12	16 50.5
7	9	57 14	9 48.1	7	9½	29 31	16 33.0
7	9½	57 31	9 45.5	7	10	29 48	16 38.8
7	9½	58 33	9 37.7	7	10	30 15	16 49.6
7	9½	58 38	9 36.8	7	10	30 17	16 47.4
7	11	59 25	9 38.9	7	10	30 29	16 49.9†
7	10	2 0 0	9 32.3	7	9	31 51	16 37.1
7	10	2 0 10	+9 35.4	7	9	2 32 9	+16 50.4

* (4).

† N. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	2 32 13	+16 45.8	7	9	2 43 39	+16 41.0†
7	9½	32 15	16 40.6	11	8	43 54	18 6.3*
7	9½	32 53	16 37.8	7	10	44 4	16 38.5
7	11½	33 26	16 35.1	7	8½	44 6	16 34.1
7	11	33 43	16 48.8	11	10½	44 17	18 8.4:
7	8½	34 6	16 48.2	11	11½	44 28	18 8.6
7	11	34 40	16 45.9	11	10	45 2	18 0.5
7	9	34 53	16 45.4	7	11½	45 3	16 48.2
7	11	35 1	16 33.4	11	11	45 16	18 7.7
7	11	35 56	16 34.3	11	11	45 21	18 1.2
7	9½	36 22	16 33.9	11	11	45 22	18 8.0:
7	10½	36 56	16 35.5	11	8½	45 24	18 1.5
7	9½	37 10	16 46.2	7	9½	45 39	16 40.8
7	11	37 59	16 33.8	7	9½	45 49	16 33.3
7	9	37 59	16 32.6	7	10½	46 2	16 36.7
11	8	39 9	17 52.7*	7	9	46 11	16 34.1
7	9	39 57	16 48.9	11	9½	46 19	17 52.0
11	11	40 7	17 54.6	7	9	46 54	16 33.6
11	11½	40 8	17 55.7	7	11	46 58	16 37.0
11	11½	40 21	17 53.7	11	9	47 3	18 10.1
7	9	41 6	16 47.8	11	10	47 42	17 52.6
11	10	41 17	18 6.3	7	11½	48 6	16 47.7
11	11	41 18	18 6.2	7	9	48 13	16 42.2
7	11	41 54	16 37.2	11	11½	48 39	17 58.4†
11	10	42 9	17 54.6	11	10½	48 44	17 51.1
11	11	42 16	18 4.8	11	11	48 51	18 0.6
7	10	42 23	16 47.6	11	11	48 57	18 4.8
11	10	42 25	17 52.1	7	10	49 0	16 47.9
7	9	42 27	16 50.0	7	10	49 58	16 44.3
7	11	42 30	16 47.7	7	10	50 4	16 45.7
11	11	42 30	18 3.7	7	10	50 6	16 44.3
7	10	42 35	16 41.6	7	11	50 9	16 50.7
11	11	43 21	18 8.4	11	10½	50 50	17 58.4
11	11	43 30	18 7.9	11	11	51 0	18 2.1
11	11	2 43 38	+18 6.5	11	11½	2 51 5	+17 58.8

* M. C.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	8	2 51 8	+18 8.6*	7	9	2 57 54	+16 31.9
11	10	51 22	18 3.0	11	9½	58 6	18 3.1
11	9	51 25	18 1.5	7	9½	58 7	16 38.8
7	12	51 33	16 48.9	7	9	58 15	16 48.1
7	10	51 39	16 51.1	11	11	58 18	18 8.3
11	8½	52 8	18 2.0	11	11	58 22	18 6.2
11	10	52 11	17 53.4	7	8½	59 0	16 29.4
7	11	52 17	16 49.8	7	10	59 2	16 33.0
7	11	52 28	16 47.9	11	9	59 16	18 8.6
11	10	52 42	17 56.8	11	9	59 29	17 51.1‡
11	9	52 45	17 55.4	7	11	59 35	16 51.5
7	11	52 56	16 46.4	7	11	59 47	16 50.2
7	10	53 7	16 47.5	11	10	3 0 13	17 51.0§
11	10	53 50	17 51.7	7	9	0 18	16 37.0
7	11	53 54	16 32.7	7	9½	0 20	16 34.6
7	8½	54 18	16 51.3	7	11½	0 33	16 35.1
11	11	54 27	17 51.6	11	10	0 33	17 52.8
11	11	54 32	17 52.7	11	10	0 53	17 55.5
7	11½	54 40	16 50.4	11	10	0 54	17 53.0
7	11	55 6	16 31.9	7	10	1 52	16 44.3
7	11	55 13	16 39.4	11	11	2 8	17 55.1
11	10	55 24	18 2.7	11	10½	2 20	18 1.3‖
7	10	55 36	16 48.7	11	9	2 31	17 50.5*
11	10½	55 40	17 53.9†	11	11	2 40	18 1.4‖
11	10	55 46	17 52.4	7	9½	2 49	16 38.7
7	10	55 49	16 44.5	7	9	3 12	16 45.6
11	9	55 50	18 2.1*	11	11	3 36	18 7.7
11	10½	55 53	17 53.2	11	9½	3 48	17 50.8
7	10	56 41	16 50.1	7	11½	4 20	16 46.0
11	10	56 51	18 1.0	7	10½	4 27	16 48.9
7	11	56 54	16 47.6	11	10½	4 35	17 55.9
11	11	56 56	18 7.6	11	10½	4 37	17 51.4
7	11	57 7	16 47.6	11	10½	4 59	17 51.4
11	9	57 11	18 6.4	11	10½	5 19	18 9.3
7	9½	2 57 20	+16 34.9	7	12	3 5 28	+16 37.0

* M. C. † *p.* of double. ‡ L. of double. § *f.* of double. ‖ (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
7	9	3 5 45	+16 49.0	7	9½	3 13 46	+16 45.9
11	11	5 46	17 51.1	7	9½	13 46	16 35.3
7	9	5 52	16 36.9	11	9½	14 3	17 57.7
11	9½	5 52	17 52.5	11	11	14 10	17 57.4
7	10½	6 11	16 38.0	11	11	14 10	17 56.0
7	10½	6 25	16 35.4	7	11	14 15	16 47.3
11	9	6 35	18 2.6	11	10½	14 28	17 52.3
7	9	7 9	16 50.1	7	9½	14 30	16 47.2
11	11	7 11	17 53.3	11	10½	14 41	18 4.3
11	8½	7 15	17 55.6*	7	8½	15 1	16 37.2
7	9½	7 22	16 47.7	11	8	15 8	18 1.1
11	10	7 38	18 4.6	11	10	16 16	17 54.1
7	11	7 45	16 47.8	11	11	16 20	18 1.1
7	9	7 52	16 35.7	11	10	16 36	17 58.1
11	11	8 4	17 50.6	11	11	18 13	17 50.3
11	9½	9 11	18 5.5	11	11	18 14	17 52.6
11	9	9 14	18 3.8	11	10½	18 21	18 0.5
7	11½	9 26	16 33.4	11	11	18 43	17 56.9
11	10	9 50	18 1.9	11	9	18 51	17 50.3*
7	9	9 52	16 35.2	11	9	19 36	17 57.4
11	11	9 59	17 58.6†	11	11	20 11	17 52.7
7	11	10 7	16 35.7	11	11	20 25	18 2.4
7	10	10 21	16 47.9	11	11½	20 36	18 2.7
7	9	10 37	16 47.3	11	11½	21 13	18 4.0
7	12	11 15	16 48.0	11	11½	21 15	18 3.9
11	11	11 38	18 2.6	11	10	22 6	17 51.1
11	10½	11 41	18 3.8	11	10½	22 28	18 9.0
7	10	12 8	16 35.1	11	11	22 35	18 5.8
7	10	12 18	16 45.4	11	9½	22 41	18 0.6†
11	11	12 23	18 2.8‡	11	10½	59 33	19 54.6
7	10	12 34	16 36.3	11	10½	59 34	20 3.6
7	9	12 35	16 40.8	11	11	59 35	20 1.2†
11	10	12 35	17 51.5	11	9	4 0 10	19 59.1†
7	9½	12 54	16 47.2	11	10½	0 27	20 6.9
11	8	3 13 20	+17 58.6*	11	10	4 1 17	+20 7.6

* M. C. † (4). ‡ N. *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	11½	4 2 13	+19 52.9	11	10	4 18 38	+20 2.3
11	10½	2 16	19 55.1	11	11	18 49	19 57.8
11	10	2 33	19 52.7	11	9	20 2	19 53.6
11	9½	3 14	20 6.0	11	12	20 13	19 55.5
11	10	3 32	20 10.0	11	10½	20 25	19 54.4
11	10	4 2	19 48.7	11	10	20 59	19 58.6
11	10	4 19	19 53.0	11	10	21 7	19 58.7
11	10	5 9	19 53.8	11	10	21 11	19 54.6
11	11	5 38	19 56.2	11	11	21 15	19 51.7
11	10½	5 48	20 9.2	11	11	22 49	19 49.2
11	11	6 14	20 9.4	11	11	23 44	20 2.1
11	9½	6 53	19 58.6	11	8½	23 54	19 48.7
11	10	7 14	20 10.8	11	9½	24 59	20 5.2
11	9	7 59	19 54.0	11	11	25 2	19 57.8
11	10	8 8	19 53.0	11	9½	25 34	20 1.3*
11	11	8 45	20 9.2	11	10	25 46	19 58.1
11	12	9 22	19 52.6	11	8½	26 53	20 9.9
11	9	9 34	19 59.2	11	10	27 52	19 57.5
11	11½	9 39	19 56.0	11	10	27 59	19 56.6
11	11	9 57	19 53.7	11	10½	28 0	19 57.5
11	10	10 24	20 0.5	11	10	29 23	20 4.4
11	9	11 56	20 5.2	11	10½	29 32	19 51.8
11	10	12 9	19 51.1	11	11	29 44	19 51.8
11	10	12 39	20 9.9	11	9½	29 49	20 1.6*
11	10	13 11	20 11.9	11	10	30 16	19 52.8
11	11	13 31	20 5.1	11	9½	30 36	20 5.0
11	11	13 37	20 11.9	11	9	31 20	19 57.3
11	11	14 9	19 54.0	11	11	31 57	20 3.2
11	10½	14 39	20 5.5	11	9	32 2	20 3.3
11	10½	14 39	20 5.7	11	8½	32 37	19 59.0*
11	11	16 4	19 54.4	11	11	32 48	19 56.3
11	10	16 54	19 48.5	11	10	33 31	19 51.3
11	10	17 53	20 9.0	11	8½	33 52	19 55.7
11	10	18 15	19 54.3	11	8½	34 17	19 57.2†
11	10	4 18 20	+19 56.3	11	9½	4 34 58	+20 1.4

* (4).

† N. *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	21	4 35 1	+19 56.0	11	9½	4 49 28	+19 57.3
11	9	35 11	19 51.8	11	9½	49 38	19 57.8
11	9½	35 17	20 1.6	11	9½	49 53	19 58.0
11	10½	36 38	19 54.5	11	11½	49 58	19 58.7
11	11½	36 41	19 54.0	11	9	50 52	20 11.9
11	11	37 35	20 7.0	11	12	51 37	19 56.8
11	11	37 36	20 5.8	11	10	51 37	19 53.3
11	10	37 40	20 6.7	11	12	51 51	19 57.2
11	9½	38 12	20 1.9	11	9	51 57	20 3.0
11	9½	38 17	19 59.9	11	9	52 20	19 58.9
11	9½	38 19	20 10.0*	11	9½	52 31	20 7.0
11	10	39 49	19 57.4	11	11½	53 16	19 52.7
11	11	39 54	19 59.1	11	11½	54 0	20 8.7
11	9½	39 54	20 5.4	11	9½	54 4	20 2.4
11	10½	39 56	20 8.7	11	11	54 41	20 7.2
11	9½	40 6	20 5.3	11	9½	54 54	19 58.8
11	10	41 38	19 56.5	11	10	55 8	19 54.7
11	9½	41 48	19 58.7	11	9½	55 31	20 7.5
11	10	42 0	19 53.2	11	11½	56 45	20 7.8
11	9½	42 4	19 57.3	11	11½	56 51	20 8.6
11	9½	42 18	19 57.8	11	11½	57 9	20 6.3
11	9½	42 24	20 2.6	11	11	57 26	20 7.8
11	11½	42 49	20 2.5	11	10½	58 37	20 8.0
11	10½	44 38	20 0.5	11	9½	58 48	20 1.7†
11	10	44 38	19 54.1	11	11	58 48	20 4.2
11	–	44 39	19 59.2	11	11	58 50	20 6.5
11	–	44 54	19 59.3	11	9½	5 0 24	20 3.1
11	8½	45 9	20 3.4	11	9½	0 37	20 10.9
11	10	45 19	19 54.3	11	9½	0 42	19 59.4†
11	10	45 32	19 55.2	11	10	0 54	19 53.4
11	9	46 18	20 8.7	11	10	1 56	20 12.4
11	9½	47 5	20 4.1	11	10	2 32	19 51.3
11	11	47 45	20 4.9	11	9½	3 7	19 55.9
11	11	48 19	19 55.9	11	9½	3 22	19 56.4
11	11	4 48 23	+20 7.1	11	9½	5 3 40	+19 59.5†

* S. p. of double.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	9½	5 4 50	+20 1.6*	11	10	5 17 17	+19 54.8
11	9	5 21	19 58.8	30	11	17 46	20 23.3
11	10	5 27	20 6.0	30	9	18 8	20 25.3
11	10	5 30	20 6.2	11	9	18 25	19 51.8
11	10	6 41	19 56.1	11	9	18 36	19 55.9
11	11½	7 39	19 55.6	30	10	18 43	20 19.9†
11	11	8 17	19 58.3	30	10	18 49	20 24.8
11	11	8 27	19 58.9	11	10	18 51	19 51.4
11	9½	8 51	20 8.3	11	9½	18 59	19 57.6
11	11½	8 52	19 56.3	11	9½	19 12	19 58.7
11	9½	9 4	20 4.7	30	11	19 16	20 13.7
11	11	9 55	19 53.1	30	11	20 20	20 18.3
11	9½	10 21	20 6.3	11	11	20 44	19 55.4
11	11½	11 8	20 1.5	30	12	20 51	20 20.1
11	11	12 37	20 4.8	11	11½	21 50	20 6.7
11	11	12 37	20 8.1	11	10½	21 50	20 7.9
11	11	12 38	20 7.3	30	12	22 6	20 28.3
11	11	12 44	20 9.8	30	10	22 20	20 32.2
30	10½	13 13	20 14.4	30	11	22 43	20 29.0
30	10½	13 13	20 29.4	11	11	22 59	19 56.9
11	9	13 33	19 54.4	30	10	23 19	20 18.1
11	11½	13 35	19 54.1	30	11	23 24	20 12.4
30	10	13 47	20 17.2	30	10½	23 33	20 24.0
11	9	14 0	19 58.6	11	10½	23 34	20 8.0
30	11	14 10	20 25.1	11	10	23 47	20 6.8
11	11	14 12	19 58.0	30	11	23 55	20 16.6
11	9½	14 21	20 7.1	11	9½	24 47	19 53.4
30	9½	14 31	20 25.5	11	11	25 5	20 9.1
11	9½	15 52	20 16.7	30	11	25 16	20 24.0
11	10	16 3	20 4.7	11	9½	25 23	20 9.6
11	10½	16 5	19 54.1	11	9½	25 39	20 3.7
30	10½	16 9	20 16.4	11	8½	26 7	20 8.1‡
30	10	16 36	20 16.6	11	10	26 12	20 3.8
11	10½	16 59	19 53.3	11	10½	26 16	20 7.8
11	10½	5 17 3	+19 55.1	30	11	5 26 36	+20 18.4

* (4). † L. of 3. ‡ M. C.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	11	5 26 40	+20 12.5	30	12	5 33 29	+20 25.4
30	9½	26 50	20 19.9	30	12	33 36	20 25.7
30	9½	27 6	20 20.9	30	10	33 56	20 23.6
11	11	27 27	20 6.2	11	8½	34 0	19 57.2
30	9½	27 27	20 27.2	11	11	34 14	20 3.6
30	9½	27 33	20 14.3	11	9½	34 22	20 5.1
11	11	27 37	20 5.2	30	8½	34 42	20 25.8
11	10	27 42	20 6.6	30	10½	34 52	20 11.9
11	10½	27 44	20 8.3	11	11½	35 7	20 8.4
30	10½	28 20	20 13.3	30	9	35 26	20 28.7
30	11	28 42	20 19.2	11	10	35 27	20 8.4
30	11½	28 47	20 17.5	11	11	35 46	20 7.5
30	9	29 6	20 16.6	11	11	35 47	20 7.5
30	9½	29 13	20 27.7	30	10	35 53	20 26.0
11	9½	29 25	19 55.2	11	10	36 10	20 7.7
30	11	29 31	20 26.1	11	9½	36 29	20 6.6
11	8½	29 40	19 54.1	11	11	36 42	20 7.3
11	8½	29 45	19 56.5	30	11½	36 42	20 29.0
11	8½	30 2	19 56.3	30	10	36 44	20 22.8*
30	9½	30 51	20 20.3	11	8½	37 5	20 9.3
30	11	30 54	20 22.4	11	11	37 14	19 51.6
30	9	31 10	20 23.6	11	8½	37 44	19 52.7
30	9	31 11	20 22.5	30	9½	37 50	20 15.3
30	10	31 14	20 26.7	30	11½	37 58	20 14.5
30	10½	31 24	20 28.0	11	9½	38 24	20 2.8
11	10	31 27	20 3.6	11	10	38 37	20 6.2
11	11	31 41	19 59.7	30	10½	38 52	20 29.4
11	10	31 49	20 4.3	30	9½	39 0	20 28.1
11	11	31 56	19 59.7	11	10½	39 10	20 5.9
30	10	32 5	20 31.3	30	11	39 12	20 19.9
11	9½	32 43	19 54.1	30	9	39 16	20 16.2
11	9	33 14	19 59.1	11	10½	39 35	19 51.9
30	11	33 15	20 21.9	11	11	39 38	19 55.1
30	10½	33 20	20 25.7	11	8½	39 58	19 52.1
11	10	5 33 24	+19 58.8	30	10½	5 40 18	+20 29.2

* L. of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	11	5 40 24	+20 9.7	30	10½	5 54 21	+20 15.3
30	10	40 37	20 28.2	30	10½	54 56	20 17.8
11	11½	40 45	20 6.9	30	9½	55 20	20 28.3
11	8½	40 53	20 8.9	30	9	55 21	20 23.3
11	11	41 7	20 8.5	30	9	55 33	20 26.6
11	9½	41 33	20 7.4	30	9	56 23	20 27.3
30	8	41 34	20 23.5	30	10½	56 41	20 13.8
30	11	41 38	20 17.0	30	10½	57 8	20 15.6
30	11	41 53	20 18.4	30	10	57 32	20 26.1
30	9	42 2	20 18.5	30	9½	57 46	20 28.1
30	9	42 7	20 21.6	30	9	57 51	20 28.3
11	10	42 11	20 3.6	30	10	58 26	20 13.1
30	9	42 44	20 24.7	30	11	58 26	20 12.4
30	9½	42 58	20 23.1	30	9	58 45	20 11.8
30	11	43 28	20 15.3	30	10	59 40	20 27.5
30	11	43 42	20 15.6	30	9	59 43	20 26.1
30	10½	44 49	20 17.8	30	11½	6 0 2	20 28.0
30	10½	44 49	20 16.8	30	10½	0 17	20 28.0
30	11	46 31	20 24.8	30	10½	0 29	20 28.7
30	11	46 34	20 28.8	30	11½	1 23	20 24.7
30	10½	47 16	20 9.9	30	11	1 23	20 27.4
30	10½	47 26	20 8.5	30	11½	1 27	20 25.9
30	10	48 22	20 14.4	30	9½	1 51	20 25.5
30	9	48 37	20 20.1	30	9	2 9	20 23.9
30	10	48 38	20 18.7	30	9	2 34	20 23.5
30	10½	48 54	20 16.9	30	10	2 36	20 12.0
30	11	50 4	20 26.4	30	10½	3 17	20 25.7
30	11	50 14	20 25.1	30	10½	3 32	20 26.4
30	10½	50 26	20 24.8	30	11	3 40	20 26.9
30	10½	51 46	20 24.6	30	9	4 9	20 26.0
30	11	51 58	20 22.4	30	10½	4 27	20 27.0
30	9	52 8	20 13.2	30	10	4 32	20 27.1
30	10½	52 16	20 24.9	30	10½	4 44	20 28.2
30	10	54 1	20 22.5	30	10½	5 44	20 11.7
30	10	5 54 18	+20 23.8	30	10	6 5 45	+20 16.6

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	9½	6 6 18	+20 15.2	30	8½	6 22 42	+20 24.9
30	11	7 9	20 16.5	30	10½	22 59	20 29.2
30	11	7 17	20 15.0	30	10	24 9	20 21.0
30	11	7 32	20 16.0	30	10½	24 9	20 19.2
30	10½	8 22	20 15.7	30	9	24 12	20 10.1
30	10½	8 35	20 15.4	30	11	25 35	20 14.1
30	9	8 46	20 18.4	30	11½	25 48	20 14.2
30	9	9 22	20 20.1	30	11½	26 1	20 15.3
30	11	9 58	20 17.9	30	11½	26 58	20 29.4
30	11½	10 1	20 16.0	30	9	27 5	20 28.8
30	10½	11 13	20 29.2	30	9½	27 40	20 27.3
30	11½	11 58	20 16.7	30	9½	27 41	20 26.2
30	9½	12 10	20 18.1*	30	9	27 54	20 27.9
30	10	12 50	20 11.5	30	11½	28 45	20 16.1
30	10	13 6	20 11.4	30	10	28 49	20 13.0
30	11½	13 40	20 30.4	30	11½	28 57	20 16.3
30	11	14 17	20 15.0	30	10	29 38	20 30.3
30	9½	14 44	20 16.2	30	11½	29 49	20 27.3
30	11	15 2	20 17.3	30	10½	30 54	20 19.9
30	11½	15 8	20 16.1	30	10	31 3	20 17.9
30	11	16 13	20 15.4	30	10½	31 30	20 12.9
30	11	16 23	20 12.8	30	9	31 31	20 22.4
30	9½	17 21	20 16.4	30	9	31 32	20 19.3
30	9½	17 24	20 15.5	30	8½	33 4	20 15.5
30	9½	17 34	20 15.3	30	8	33 37	20 18.9
30	10	18 22	20 26.9	30	9	33 41	20 19.1
30	10½	18 40	20 13.9	30	9	33 41	20 26.1
30	8½	19 4	20 25.9	30	10½	34 8	20 17.6
30	11	19 17	20 14.2†	30	10½	34 32	20 19.2
30	11	19 57	20 28.4	30	9	34 58	20 9.6
30	10½	20 19	20 23.1	30	10½	35 46	20 14.9
30	10½	20 30	20 28.6	30	10½	36 15	20 15.8
30	10	21 2	20 16.4	30	11	36 29	20 15.6
30	10½	21 58	20 28.7	30	9	36 30	20 13.0
30	11½	6 22 12	+20 29.6	30	11½	6 36 50	+20 15.2

* *p.* of double.

† *f.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	11½	6 37 6	+20 12.8	30	8	6 53 57	+20 29.2
30	10½	38 0	20 23.2	30	10	54 18	20 31.4
30	11	38 1	20 12.6	30	9	54 27	20 20.0
30	10½	38 38	20 14.8	30	10½	55 14	20 10.1
30	10½	38 53	20 17.7	30	9½	56 0	20 27.6
30	11	39 7	20 17.6	30	9½	56 0	20 30.6
30	9	39 26	20 15.1	30	9½	56 25	20 30.6
30	10	40 50	20 13.8	30	9	56 49	20 12.9
30	10	41 8	20 24.6	30	11	57 19	20 12.9
30	10½	41 20	20 25.8	30	11	57 25	20 15.6
30	10½	41 20	20 26.3	30	11	57 29	20 13.0
30	10	42 41	20 13.3	30	10½	58 38	20 30.3
30	9	42 57	20 22.6	30	11	58 57	20 29.4
30	9	43 14	20 25.9	30	9	59 31	20 14.8
30	10	43 21	20 30.0	30	12	59 44	20 15.2
30	10	43 45	20 23.9	30	9	7 1 1	20 15.0
30	10	44 12	20 26.8	30	8	1 28	20 14.1
30	9½	44 34	20 28.2	30	12	1 56	20 13.0
30	11	45 25	20 29.3	30	11	2 22	20 23.9†
30	11	45 31	20 27.1	30	11	2 23	20 27.2
30	11	45 36	20 29.0	30	10	3 26	20 15.1
30	9	46 11	20 30.0	30	10	3 45	20 17.5
30	9	46 49	20 16.2	30	12	4 42	20 14.5
30	9	47 11	20 16.4	30	10	4 45	20 17.8
30	9½	47 12	20 15.8	30	11½	4 55	20 26.8‡
30	9½	47 22	20 22.2	30	9	6 11	20 30.1
30	9	48 21	20 22.9	30	11½	6 29	20 11.7::
30	9½	48 36	20 11.9	30	11½	6 59	20 18.4
30	10	48 36	20 22.8*	30	11	7 0	20 16.5
30	8	49 55	20 19.7	30	11	7 48	20 30.6
30	10½	50 23	20 25.6	30	11	8 15	20 29.0
30	11	50 31	20 23.0*	30	11½	8 24	20 28.2
30	9	51 44	20 22.5*	30	10½	8 24	20 30.1
30	9½	52 27	20 22.7*	30	9	8 42	20 19.9
30	9½	6 53 12	+20 14.0	30	9½	7 8 55	+20 22.7

* (4). † *b.* of 3. ‡ *p.* of double.

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
30	9	7 9 38	+20 21.9	30	10	8 0 26	+20 12.3
30	9	10 6	20 29.9	11	9	0 36	19 57.0
30	10½	10 45	20 28.5	11	11	0 42	19 57.0
30	9	11 6	20 29.2	11	10	0 43	19 55.3
30	11	11 47	20 13.7	30	9½	0 57	20 27.3
30	9	13 14	20 22.7*	30	11	1 24	20 27.8
30	9½	14 8	20 30.2	30	11	1 35	20 22.4
30	9	14 11	20 25.4	11	10	1 44	19 50.7
30	9	14 34	20 27.3	11	10½	2 17	20 8.7
30	10½	17 0	20 29.6	11	8½	2 33	19 58.0
11	11	51 8	20 6.4	11	10	3 2	20 5.1
11	11	51 22	19 57.9	30	10	3 2	20 24.6
11	10	51 57	19 59.8†	30	9	3 7	20 44.7
11	9½	52 11	19 58.4	11	10½	3 21	20 5.8
11	10	53 19	19 54.0	30	10½	3 30	20 23.1
11	8½	54 37	20 13.8	11	9½	3 31	20 8.5
11	9½	55 1	20 8.4	11	9½	3 42	20 8.0
11	10	55 20	19 53.6	11	9½	4 21	19 54.6
11	9½	55 36	19 55.5	30	10	4 38	20 26.1
11	10	55 41	20 7.7	11	11	4 47	20 6.8
11	9½	56 20	19 52.7	11	10	4 52	20 10.5
11	10	57 2	20 6.8	30	10	5 1	20 29.7
11	10	57 4	20 3.7	11	10	5 37	20 7.7
11	10	57 16	20 4.4	11	9½	6 0	19 58.0
30	11	57 24	20 27.7	11	9½	6 2	20 9.0
11	8½	57 43	20 7.9	30	10	6 7	20 27.9
30	10	58 5	20 27.9	30	10	6 8	20 18.7
11	10	58 34	20 3.6	11	9½	6 37	20 8.9
11	9	58 38	19 54.6	30	10½	6 40	20 26.2
30	11	58 41	20 30.5	30	9½	7 1	20 25.4
11	9½	58 46	19 53.3	11	10	7 24	20 9.9
11	9½	58 46	19 59.6	11	9½	7 28	20 3.6
11	10½	58 47	19 58.6	11	30 9½	7 39	20 10.8
30	11	59 21	20 10.0	30	9	7 49	20 20.1
30	9	7 59 44	+20 33.4	30	9	8 8 11	+20 20.0

* (4) L. of double.

† (4).

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	11	8 8 17	+19 56.4	30	11	8 17 20	+20 31.4
11	9½	8 35	19 58.9	30	10½	17 39	20 25.9
11	10	8 51	20 5.4	11	10	18 36	19 59.3
30	11	8 53	20 20.3	11 30	8½	18 45	20 13.5
30	8	9 9	20 17.7	11	10	19 20	20 5.1
11	8½	9 11	20 9.3	11	10	19 42	20 4.4
30	9½	9 33	20 13.6	30	10½	19 57	20 14.0
11	10	9 57	20 6.8	11	10	20 0	20 1.8
11	10½	10 13	20 8.3	30	10½	20 8	20 8.9
11	10½	10 25	19 58.7	11	9½	20 35	19 58.4
11	10½	10 31	19 56.8	30	11	20 40	20 12.7
11	8½	10 35	20 10.2	11	9½	21 23	19 57.9
30	11	10 36	20 18.3	11	10½	21 24	20 9.6
30	11	10 52	20 18.8	11	9½	22 17	20 3.3
30	10	10 58	20 15.4	11	11	22 29	20 8.1
11	11	11 20	20 9.6	30	10½	22 46	20 21.8
30	10	11 36	20 19.9	30	9	22 48	20 23.1*
11	10½	11 56	20 4.9	30	11	22 53	20 29.9
11	11	11 59	20 7.7	11	10	22 56	20 10.4
30	11	13 32	20 16.9	30	9	23 12	20 23.2*
11	9½	13 34	20 8.5	11	10	23 36	20 9.4
30	11	13 45	20 15.1	11	10½	24 9	19 53.6
30	11	13 48	20 16.8	30	10	24 37	20 12.4
11	10	14 11	20 3.6	11	10½	24 42	20 11.4
11	11	14 24	19 57.2	30	10½	25 24	20 16.1
11	11	14 44	20 6.1	11	9	25 37	20 2.8
30	–	14 58	20 28.9	30	10½	25 37	20 16.6
30	10	15 5	20 26.5	30	10½	25 40	20 18.0
11	9	15 18	19 54.4	30	9½	25 45	20 16.8
11	11	15 32	19 53.0	11	10	26 36	20 3.1*
30	10½	15 51	20 12.1	11	11	26 40	20 9.0
30	9½	16 5	20 12.2	11	10	26 55	20 8.5
11	10	16 13	19 59.3	30	11½	27 58	20 14.9
11	10	16 51	19 55.1	30	10	28 3	20 12.1:
30	9	8 16 56	+20 25.3	30	10½	8 28 8	+20 16.7

Days. Obs.	Mag.	α.	δ.	Days. Obs.	Mag.	α.	δ.
		h. m. s.	° ′			h. m. s.	° ′
11	10½	8 28 9	+19 55.1	30	10	8 33 41	+20 15.2
11	10½	28 21	19 58.0	11	8	34 8	20 6.9
11	8½	28 24	20 7.3	30	9½	34 43	20 18.1
11	10	29 37	20 4.3	30	9½	35 17	20 14.2
11	9½	29 55	19 59.2	30	10	36 11	20 14.1
30	11	29 58	20 14.0	30	10½	36 55	20 29.2
30	10½	31 23	20 19.8	30	8	37 40	20 15.1
30	10	31 27	20 15.3	30	9	38 40	20 29.2
30	10	31 41	20 18.7	30	9	39 4	20 17.8
30	11	32 48	20 28.4	30	11	8 39 31	+20 12.9
30	11	8 33 19	+20 13.2				

NOTE.—No dependence whatever can be placed on the Magnitudes given in the last set, taken this month, as it was hazy during the entire time.

INDEX.

DECLINATION NORTH.

DECLINATION SOUTH.

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