KG
11365
859

1888phot..rpt..0008--

HENRY DRAPER MEMORIAL

Reductions of
Photographic Observations.
No. 35.

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1888phae.proj..860F

ICG-11365,859

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Obs. brightness 5.2

M.P. 8.1 ~~5.2~~ 5.4

Cm. ~~2.9~~ 27 +2

5.4

	1881 M.P.	Obs. Br	Mean Cm		Estim. Br.	A	A − Mean
+82° 748	8.3	6.7	6.3	+4	6.3	6.3	0
82° 743	7.6	5.8	5.6	+2	5.6	7.6	0
82° 700	8.5	6.9	6.5	+4	6.7	8.7	+2
85° 409	8.1	5.5	5.3	+2	5.5	8.3	+2
85° 383	6.6	3.7	4.0	−3	4.3	6.9	+3
85° 45	10.0	6.4	7.4	−10	~~7.3~~ 6.5	9.1	(−9)
87° 205	9.0	5.8	5.8	−2	5.4	8.6	−4
88° 4	8.4	4.8	4.6	+2	4.6	8.4	0
87° 180	9.8	6.5	6.8	−3	6.4	9.4	−4

~~7.6 + 1~~

~~6.7 + 1.1 = 7.8 — 4.8 — 3.0~~

6.9 + 1.1 = 8.0

75
80
85
90

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1888phar.proj..869F

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1888phae.proj..860f

28.4 +81 7
32.2 +87 11
30.3 +80 34
} 9 hours

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ICG 11365: 859

Rule for F and K Lines.

1 When the intensity of the K line is estimated 10 or equal to that of the H line insert H in the column. Thus.- K = H; H. K = 1.0 H; H.

2 When the intensity is less than 1.0 insert the number in the column. Thus.- K = .5 H, 5

3 When greater than 1.0 insert a B. Thus.- K = 1.1 H, B. K = 1.5 H; B

4 Underline other symbols when the F line is present. K = H, F; $\underline{H}$
K = .5 $H^{F}_{.}$; $\underline{5}$. K = 1.5 $H^{F}_{.}$; $\underline{B}$

5 When the F line is present and the K line wanting insert an F in the column.

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1888phae.proj..860

7 1/2
25
175
12 1/2
187 1/2
25
935
374
13
4688

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Rule for entering Dbl. Stars in Revised Draper Catalogue.

In the case of double stars the fainter component receives a separate line and number in the catalogue when it is brighter than the magnitude 8.0.

This is also done when it is fainter than 8.0, provided that it differs by one magnitude or less from the brighter star.

If it differs by more than one magnitude, do not enter the fainter star in catalogue, but write r for remark against the brighter star.

8.0 } both entered in cat.
9.0 }

6.8 } " " " "
8.0 }

8.0 }
9.1 }. Enter r against 8.0 star 9.1 not entered.

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Notes on Book 35

P 175 6.1 ~ 6.0 ✓

185 +80 30 ≈ −1 from 71 = 70 ✓

131 { 6.6 / 6.7 } ? ✓

127 { 6.9 / 7.0 } ✓

123 6.0 ~ 7.0 6.8 ~ 6.8 ✓

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1888phar.1201...80F

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"	1729	88
"	1791	92
"	1899	102
"	3044	112
"	2014	122
"	2509	134
"	2673	144
"	2661	152
"	2563	158
"	2552	162
"	1702	168
"	3128	172

+85°

For reduction of these plates one value has been derived from D.C. Magns. and a further correction from a grouping of Diff.

Another value of the constant is to be derived by taking the diff. between the M.P. Magn. in Table I, Vol. XX/XXI, Col. by Table XX Vol. XX/XXI pt I p. 86, and the obs. brs. for stars of classes A and B having K recorded N, or K = .5 H or less. ~~This can only be carried as far~~ ~~north as +85 29~~ As Table XX does not go beyond ~~that~~ Dec. +85° 29' a curve has been drawn from which the correction between Decs 85° 29' and 89° 0' may be read directly

+75°

Groups diff between Obs. brs and M.P. Magn + (Cor. δ +abs) (in B. 47 p. 112), according to each degree of dec for 1900. 81 30 to 82 29 = 82° &c. (omitting values enclosed in parenthes

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St. Lt. {6.1 / 5.5 Fog. m & c. 6.0 5.8 Fog. ch. 6.9 Bot mv. 312

Sept. 14, 1888.

Plate No 2220 Spc.

V.	H.	Type.	Remark.	Lines	K.	Focus	Other Lines	V	H	V	H
										°	m
21.6	16.1	I		4	N	1	—	10.8	32.2	+1.5	57.5
20.0	10.5	II?		2	K=H	1	—	10.0	21.0	2.3	68.7
20.0	14.1	I		6	N	2	F	10.0	28.2	2.3	61.5
21.0	16.4	I		7	?	3	—	10.5	32.8	1.8	56.9
20.0	18.4	I		6	N	3	—	10.0	36.8	2.3	52.9
20.8	19.7	I?		4	N	1	—	10.4	39.4	1.9	50.3
19.7	6.8	I		5	K=H	1	—	9.8	13.6	2.5	76.1
19.4	7.7	I		3	N	1	—	9.7	15.4	2.6	74.3
19.4	14.2	III?		2	K=H	1	—	9.7	28.4	2.6	61.3
19.4	15.9	I		5	N	1	—	9.7	31.8	2.6	57.9
19.5	16.2	I		4	N	1	—	9.8	32.4	2.5	57.3
19.1	16.8	III?		2	K=H	1	—	9.6	33.6	2.7	56.1
19.1	18.2	I?		3	N	1	—	9.6	36.4	2.7	53.3
19.8	18.7	I		4	N	1	—	9.9	37.4	2.4	52.3
19.1	19.4	I		4	N	1	—	9.6	38.8	2.7	50.9
19.4	19.6	I		4	N	1	—	9.7	39.2	2.6	50.5
19.5	20.2	I		4	N	1	—	9.8	40.4	2.5	49.3
19.6	23.0	I		4	N	1	—	9.8	46.0	2.5	43.7
18.5	7.9	I		4	K=H	1	—	9.2	15.8	3.1	73.9
18.9	8.8	I		6	N	1	—	9.4	17.6	2.9	72.1
18.4	9.2	III		2	K=H	3	—	9.2	18.4	3.1	71.3
18.4	10.4	I		3	N	1	—	9.2	20.8	3.1	68.9
18.0	12.4	II?	2422	2	K=H	1	Seen.	9.0	24.8	3.3	64.9
18.1	13.2	I		4	N	1	—	9.0	26.4	3.3	63.3
18.7	14.6	I?		3	N	1	—	9.4	29.2	2.9	60.5
18.6	14.8	I?		3	N	1	—	9.3	29.6	3.0	60.1
18.9	18.0	I		4	N	1	—	9.4	36.0	2.9	53.7
18.2	19.8	I		5	N	2	F	9.1	39.6	3.2	50.1

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No. Dri	RA,	Dec.	Magn.	M.	V.	Br.
1670	6h 57.1m	+1 24′	8.9	89.3	12.2	6.9
1623	7 9.1	+2 8	7.9	30.1	12.1	6.9
1576	7 1.6	+2 29	7.8	29.8	12.5	6.4
1665	6 56.8	+1 42	6.8	89.6	12.2	5.4
1502	6 52.9	+2 8	7.8	89.7	12.1	5.6
1610	6 50.2	+1 41	8.2	89.6	12.1	6.8
1664	7 16.5	+2 16	8.0	30.1 ~~29.1~~	12.1	6.9
1654	7 14.7	+2 25	8.0	30.1	12.1	7.0
1573	7 1.2	+2 34	8.7	29.6	12.3	7.0 / 7.2
1540	6 57.8	+2 28	8.7	89.6	12.2	6.8
1535	6 57.1	+2 28	8.7	89.5	12.3	7.0
1530	6 56.0	+2 39	7.5	89.6	12.2	6.5 / 6.6
1499	6 52.7	+2 43	8.1	89.1	12.3	6.9
1498	6 52.1	+2 18	8.6	89.5	12.2	
~~1576~~	~~7 1.6~~	~~+2 29~~	~~7.8~~	—	—	6.9
1484	6 50.7	+2 35	8.8	89.5	12.2	7.1
1483	6 50.4	+2 29	8.0	89.6	12.2	6.6
1473	6 49.2	+2 23	8.6	89.6	12.2	7.0
1482	6 48.7	+2 18	8.3	89.7	12.1	6.7
1652	7 14.1	+2 57	8.3	29.9	12.2	6.9
1644	7 12.5	+2 42	8.3	30.1	12.1	6.5
1640	7 11.8	+2 59	6.5	30.2	12.2	6.1 / 6.3
1624	7 9.3	+2 60	8.8	30.1	12.2	7.2
1597	7 5.4	+3 10	8.4	30.2	12.2	6.7
1584	7 3.6	+3 25	7.0	30.0	12.4	6.6
1565	7 0.8	+2 53	8.3	30.0	12.3	7.0
1559	7 0.4	+2 55	9.0	30.0	12.2	7.1
1503	6 56.8	+2 51	9.0			
1499	6 52.7	+2 43	8.1			6.7
1477	6 49.9	+3 4	8.1	89.5	12.2	6.5

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Sept. 11. 1888.

Plate 2220.

V.	H.	Type	No. Rem.	No. Lines	K.	Focus	Letter Lines		V	H	V	H
18.5	22.1	III?		2	K=H	1	–		9.2	44.2	3.1	45.5
18.7	22.8	I?		3	K	2	–		9.4	45.6	2.9	44.1
18.0	22.8	I		5	K	3	–		9.0	45.6	3.3	44.1
17.0	8.0	I		5	K	1	–		8.5	16.0	3.8	73.7
17.0	8.5	I?		2	K	1	–		8.5	17.0	3.8	72.7
17.5	10.5	I		6	K	1	–		8.8	21.0	3.5	68.7
17.8	10.6	I?		3	K	1	–		8.9	21.2	3.4	68.5
17.7	11.7	III?	243	2	K=H	3	F?	Veen.	8.8	23.4	3.5	66.3
17.6	13.2	II?		2	K=H	2	–		8.8	26.4	3.5	63.3
17.2	14.1	I?		5	K=H	1	–		8.6	28.2	3.7	61.5

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Dr. No.	R.A. h	m	Dec. °	′	Magn.	H.	V.	Br.
1548	6	45.4	+ 2	55	8.0	89.6	121	6.8 } 7.0 }
1437	6	44.0	+ 2	49	7.0	89.6	122	6.5
1437	6	44.1	+ 3	13	7.0	89.7	122	5.6
1657	7	14.3	+ 3	47	8.7	30.3	123	7.1
1649	7	13.1	+ 3	51	7.5	30.1	123	6.6
1625	7	9.1	+ 3	27	8.6	30.1	122	6.5
1621	7	8.8	+ 3	27	8.8	30.0	123	6.7
1609	7	6.7	+ 3	21	6.0	30.1	122	5.6 } 5.8 }
1584	7	3.6	+ 3	25	7.0	30.0	122	6.5
1573	7	1.9	+ 3	36	9.0	30.1	122	6.8

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Sept. 12, 1888.

Plate 2220

r.	H.	Type.	Rem. No.	Lines No.	K	Focus	Other Lines	V	H	V	H
17.0	14.7	I		5	H	1	—	8.5	29.4	3.8	60.3
17.2	14.7	I		5	H	1	—	8.6	29.4	3.7	60.3
17.0	15.6	III?		3	K=H	1	F	8.5	31.2	3.8	58.5
17.6	17.0	I		6	H	2	—	8.8	34.0	3.5	55.7
17.0	17.3	II?		2	K=H	1	—	8.5	34.6	3.8	55.1
17.9	18.0	I		4	H	1	—	9.0	36.0	3.3	53.7
17.2	18.1	I		4	H	1	—	8.6	36.2	3.7	53.5
17.4	18.7	I		5	H	2	—	8.7	37.4	3.6	52.3
17.4	20.3	I?		3	H	1	—	8.7	40.6	3.6	49.1
17.7	20.4	I?		5	H	1	—	8.8	40.8	3.5	48.9
17.0	21.0	II?		2	K=H	1	—	8.5	42.0	3.8	47.7
17.6	21.2	I		4	K=H	1	—	8.8	42.4	3.5	47.3
17.2	21.8	I		4	K=H	1	—	8.6	43.6	3.7	46.1
17.5	22.3	I		4	H	1	—	8.8	44.6	3.5	45.1
16.7	8.5	I		7	H	3	—	8.4	17.0	3.9	72.7
16.5	12.4	III?		2	K=H	1	—	8.2	24.8	4.1	64.9
16.6	13.1	I		6	H	1	—	8.3	26.2	4.0	63.5
16.3	15.0	I		3	H	1	—	8.2	30.0	4.1	59.7
16.1	15.8	IIa?	244	2	K=H	1	Seen	8.0	31.6	4.3	58.1
16.6	15.9	IIa?	245	2	K=H	1	Seen	8.3	31.8	4.0	57.9
16.4	16.4	I		4	H	1	—	8.2	32.8	4.1	56.9
16.1	16.5	I?		4	K=H	1	—	8.0	33.0	4.3	56.7
16.5	17.2	III		2	K=H	1	—	8.2	34.4	4.1	55.3
16.9	19.1	IIIb	246	2	K=H	3	Seen	8.4	38.2	3.9	51.5
16.3	19.5	III		2	K=H	1	—	8.2	39.0	4.1	50.7
16.8	20.5	II?		2	K=H	1	—	8.4	41.0	3.9	48.7
15.2	8.3	I		4	H	1	—	7.6	16.6	4.7	73.7
15.6	8.3	I		3	H	1	—	7.8	16.6	4.5	73.7

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Nro.	R. A.	Dec.	Mag.	Th.	V.	Br.
1563	7h 0.8	+3 45	8.6	30.2	12.3	7.0
						6.9
1547	6 58.7	+ 3 57	8.9	89.9	12.3	7.0 / 7.2
1522	6 55.5	+ 3 28	8.3	89.5	12.2	6.5
1516	6 54.9	+ 3 42	8.5	89.5	12.2	6.9
1508	6 53.5	+ 3 15	8.9	89.5	12.2	6.9
1502	6 53.3	+ 3 43	9.0	89.5	12.3	7.2
1494	6 52.1	+ 3 33	8.6	89.5	12.3	
~~1488~~	~~6 51.3~~	~~+ 3 48~~	~~6.9~~	~~88.7~~		6.4
1488	6 48.8	+ 3 47	8.5			
1469	6 48.8	+ 3 23	8.6			7.1
1466	6 48.7	+ 3 19	8.5	89.5	12.1	
~~1461~~	~~6 47.6~~	~~+ 3 39~~	~~8.6~~	~~88.4~~		6.7
1461	6 47.6	+ 3 39	8.6	89.6	12.1	6.9
1458	6 47.2	+ 3 25	8.5	89.6	12.2	6.8
1459	6 46.0	+ 3 35	8.8	89.6	12.2	6.9
1445	6 45.0	+ 3 25	8.8	89.6	12.2	7.2
1649	7 13.1	+ 3 51	7.5	30.1	12.2	5.7
1596	7 5.3	+ 3 59	8.2	30.1	12.2	7.0 / 7.3
1587	7 3.9	+ 3 56	8.5	30.1	12.2	6.6
1590	6 59.5	+ 4 9	9.0	89.5	12.4	7.1
1579	6 58.0	+ 4 10	8.0	89.6	12.3	6.7
1539	6 57.8	+ 3 55	8.9	89.6	12.3	6.8
1569	6 56.9	+ 4 4	8.4	89.7	12.3	6.8
1566	6 56.7	+ 4 14	8.0	89.7	12.2	6.8
1519	6 55.2	+ 3 60	7.9	89.6	12.2	6.8 / 7.1
1488	6 51.3	+ 3 48	6.9	89.5	12.2	6.0 / 6.2
1522	6 50.7	+ 4 5	7.7	89.7	12.3	6.9 / 7.1
1468	6 48.8	+ 3 47	8.5	89.8	12.2	6.7
1676	7 14.6	+ 4 43	9.0	31.2	12.4	7.0
1673	7 14.5	+ 4 27	8.5	31.1	12.2	7.1

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Sept. 12, 1888.

Plate 2220

V.	H.	Type.	No. Rem.	No. Lines.	K.	Focus.	Other Lines.	V	H	V'	H
15.9	9.5	I		4	N	1	—	8.0	19.0	4.3	70.7
15.9	9.6	I		5	N	1	—	8.0	19.2	4.3	70.5
15.0	9.7	I		4	N	1	—	7.5	19.4	4.8	70.3
15.5	11.8	I?		3	N	1	—	7.8	23.6	4.5	66.1
15.2	12.3	I		4	N	1	—	7.6	24.6	4.7	65.1
15.7	14.5	I		3	N	1	—	7.8	29.0	4.5	60.7
15.2	14.6	I		5	K=H	1	—	7.6	29.2	4.7	60.5
15.0	16.4	I		7	N	2	F?	7.5	32.8	4.8	56.9
14.5	6.1	I		3	N	1	—	7.2	12.2	5.1	77.5
14.0	7.1	I		3	N	1	—	7.0	14.2	5.3	75.5
14.7	7.7	I?		2	N	1	—	7.4	15.4	4.9	74.3
14.2	9.3	I		3	N	1	—	7.1	~~19.6~~ 18.6	5.2	79.1
14.4	11.4	II		2	K=H	1	F?	7.2	22.8	5.1	66.9
14.8	11.8	IIa?	247	2	K=H	1	F? Seen	7.4	23.6	4.9	66.1
14.4	12.7	I		4	N	1	—	7.2	25.4	5.1	64.3
14.1	13.0	II?		2	K=H	1	—	7.0	26.0	5.3	63.7
14.3	15.1	I		10	N	3	F.	7.2	30.2	5.1	59.5
14.5	17.7	I		10	K=3 H	3	F	7.2	35.4	5.1	54.3
14.0	19.4	I?		3	N	1	—	7.0	38.8	5.3	50.9
14.8	21.1	III		2	K=H	1	—	7.4	42.2	4.9	47.5
14.2	21.2	I		5	N	1	—	7.1	42.4	5.2	47.3
14.2	23.4	I		3	N	1	—	7.1	46.8	5.2	42.9
13.4	11.6	I		4	N	2	—	6.7	23.2	5.6	66.5
13.1	12.8	II?		2	K=H	1	—	6.6	25.6	5.7	64.1
13.0	15.6	I		6	N	1	—	6.5	31.2	5.8	58.5
13.0	17.7	I		7	N	3	—	6.5	35.4	5.8	54.3
13.8	21.5	I		3	N	2	—	6.9	43.0	5.4	46.7
13.9	22.7	II?		2	K=H	2	—	7.0	45.4	5.3	44.3

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Nro.	R.A.	Dec.	Magn.	M.	V.	Br.
1656	7h. 11.0	+4 12	8.3	30.7	123	7.0
1654	7 10.9	+4 19	8.2	30.1	123	6.8
1653	7 10.6	+4 37	8.9	30.0	121	7.0
1631	7 6.6	+4 27	8.7	30.2	122	7.2
1623	7 5.5	+4 35	9.0	30.1	122	7.2
1599	7 1.0	+4 24	7.8	30.0	122	6.8
1598	7 0.9	+4 38	8.7	30.1	122	6.6
1567	6 56.7	+4 47	8.2	89.5	123	6.0
1652	7 17.8	+5 1	8.0	30.0	122	7.0
1642	7 15.9	+5 9	8.7	30.1	122	7.2
1677	7 14.6	+4 56	8.4	30.0	123	7.2
~~1622~~	7 11.5	+5 4	8.7	30.1	122	7.2
1602	7 7.3	+5 3	8.1	30.1	122	6.7
1627	7 6.4	+4 49	8.1	30.0	122	6.8
1582	7 4.7	+5 3	8.5	30.1	122	6.9
1576	7 4.0	+5 11	8.4	30.0	122	7.1
1543	6 59.4	+5 8	6.5	89.6	123	5.4
1513	6 54.0	+5 1	7.0	89.4	122	5.8
1494	6 50.8	+5 19	8.7	89.6	123	6.9
1506	6 47.4	+4 49	8.6	89.6	122	7.6 / 7.3
1469	6 47.1	+5 5	8.9	89.5	122	6.9
1439	6 42.8	+5 5	8.7	89.6	122	6.9
1597	7 6.9	+5 31	8.0	30.1	122	6.4
1580	7 4.4	+5 43	6.5	30.0	123	6.5
1535	6 58.3	+5 44	8.8	89.5	122	6.6
1514	6 54.2	+5 46	7.0	89.6	123	5.8
1465	6 46.6	+5 18	8.1	89.6	122	6.5
1448	6 44.1	+5 16	7.2	89.5	123	6.0

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V.	H.	Type.	No. Rem.	No. Lines.	K.	Focus.	Other Lines	V	H	V	H
12.8	10.8	I		5	K	1	—	6.4	21.6	5.9	68.1
12.0	10.8	I		5	K	1	—	6.0	21.6	6.3	68.1
12.4	11.2	I		6	K	2	—	6.2	22.4	6.1	67.3
12.8	11.4	I		4	K	1	—	6.4	22.8	5.9	66.9
12.4	12.2	I		4	K	1	—	6.2	24.4	6.1	65.3
12.8	13.0	I		8	K	3	—	6.4	26.0	5.9	63.7
12.6	13.5	II^{a}?	248	2	K=H	1	Seen	6.3	27.0	6.0	62.7
12.0	13.6	I		6	K	1	—	6.0	27.2	6.3	62.5
12.2	14.1	I		3	K	1	—	6.1	28.2	6.2	61.5
12.9	15.6	I		6	K	1	—	6.4	31.2	5.9	58.5
12.3	15.7	II^{a}?	249	2	K=H	1	Seen	6.2	31.4	6.1	58.3
12.3	16.3	III?		2	K=H	1	—	6.2	32.6	6.1	57.3
12.4	16.7	I		5	K	1	—	6.2	33.4	6.1	56.3
12.1	18.8	I		3	K	1	—	6.0	37.6	6.3	52.1
12.1	20.4	I		6	K	2	—	6.0	40.8	6.3	48.9
12.3	21.0	II?		2	K=H	2	—	6.2	42.0	6.1	47.7
12.8	21.4	I?		5	K	1	—	6.4	42.8	5.9	46.9
12.4	23.1	II^{a}?	250	2	K=H	2	Seen	6.2	46.2	6.1	43.5
12.8	23.5	I		4	K=H	2	—	6.4	47.0	5.9	42.7
11.5	8.5	III^{b}?	251	2	K=H?	1	Seen	5.8	17.0	6.5	72.7
11.4	9.8	I?		5	K	1	—	5.7	19.6	6.6	70.1
11.3	12.9	I		4	K=H	1	—	5.6	25.8	6.7	63.9
11.6	13.2	I		3	K	1	—	5.8	26.4	6.5	63.3
11.9	13.6	I		6	K	2	—	6.0	27.2	6.3	62.5
11.4	13.7	I		4	K	1	—	5.7	27.4	6.6	62.3
11.8	13.8	I?		4	K	1	—	5.9	27.6	6.4	62.1
11.2	14.2	I		5	K=H	1	—	5.6	28.4	6.7	61.3
11.8	15.4	I		6	K	2	—	5.9	30.8	6.4	58.9

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No. Bul.	RA	Dec.	Magn.	H.	V.	Bx.
1610	7 8.5	+5 51	8.8	30.1	12.3	6.9
1589	7 8.3	+6 10	8.5	29.9	12.2	6.9
1585	7 7.5	+6 4	7.7	29.9	12.3	6.3
1601	7 7.3	+5 47	8.8	30.1	12.2	7.0
1588	7 5.5	+6 2	8.8	29.9	12.2	7.1
1577	7 4.1	+5 54	6.0	30.1	12.3	5.3
1549	7 2.8	+6 4	8.6	29.8	12.4	7.0
1548	7 2.7	+6 19	8.3	29.9	12.3	6.6
1539	7 1.7	+6 9	8.9	29.9	12.3	7.3
1532	6 58.0	+5 50	8.8	89.2	12.3	6.6
1514	6 56.2	+6 6	8.3	89.6	12.3	6.8
1508	6 56.9	+6 8	8.1	89.5	12.3	7.0 7.2
1503	6 56.1	+6 5	8.5	89.5	12.3	6.8
1471	6 51.9	+6 7	8.9	89.5	12.1	7.3
1443	6 48.7	+6 12	8.5	89.5	12.2	6.3
1437	6 47.5	+6 5	8.4	89.5	12.3	6.5
1486	6 46.7	+5 50	8.5	89.5	12.2	6.5
1405	6 43.3	+6 1	7.5	89.5	12.2	6.2
1434	6 42.5	+5 50	7.5	89.5	12.2	5.9
1621	7 13.2	+6 30	7.9	30.2	12.3	6.7 6.9
1600	7 10.5	+6 33	8.5	30.1	12.3	6.5
1561	7 4.3	+6 36	8.9	30.1	12.2	7.1
1556	7 3.7	+6 27	9.0	30.1	12.2	7.1
1548	7 2.7	+6 19	8.3	29.9	12.3	6.3
1547	7 2.6	+6 32	9.0	30.0	12.2	6.9
1542	7 2.3	+6 20	8.9	29.9	12.2	7.2
1538	7 1.6	+6 40	8.3	30.0	12.3	6.8
1519	6 58.8	+6 21	8.5	89.6	12.3	6.4

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V.	H.	Type.	No. Rem.	No. Lines	K.	Focus.	Other Lines	V	H	V	H
11.0	17.2	I		4	N	1	—	5.5	34.4	6.8	55.3
11.1	17.9	I		4	N	1	—	5.6	35.8	6.7	53.9
11.0	19.7	I		6	N	2	F?	5.5	39.4	6.8	50.3
11.7	22.4	III		3	K=H	1	F	5.8	44.8	6.5	44.9
11.6	23.6	I		6	N	2	—	5.8	47.2	6.5	42.6
10.4	6.0	II		2	K=H	1	—	5.2	12.0	7.1	77.7
10.0	7.0	I		5	K=H	1	—	5.0	14.0	7.3	75.7
10.0	7.4	I		5	K=H	1	—	5.0	14.8	7.3	74.9
10.8	10.3	I		8	N	3	F?	5.4	20.6	6.9	69.1
10.5	11.4	I		5	N	1	—	5.2	22.8	7.1	66.9
10.5	13.1	I		4	K=H	1	—	5.2	26.2	7.1	63.5
10.4	14.1	I		4	N	1	—	5.2	28.2	7.1	61.5
10.8	16.3	I?		5	K=H?	1	—	5.4	32.6	6.9	57.1
10.8	16.9	I		4	K=H	1	—	5.4	33.8	6.9	~~56.1~~ 55.9
10.3	17.0	I		4	K=H	1	—	5.2	34.0	7.1	55.7
10.0	17.5	I		5	N	1	—	5.0	35.0	7.3	54.7
10.3	17.9	III		2	K=H	1	—	5.2	35.8	7.1	53.9
10.8	18.1	I		4	K=H	1	—	5.4	36.2	6.9	53.5
10.7	19.4	I		3	N	1	—	5.4	38.8	6.9	50.9
10.8	21.3	I		6	K=.5H	2	—	5.4	42.6	6.9	47.1
10.1	21.3	I		4	N	1	—	5.0	42.6	7.3	47.1
10.8	21.6	II?		2	K=H	1	—	5.4	43.2	6.9	46.5
10.4	21.7	I?		3	N	1	—	5.2	43.4	7.1	46.3
9.2	6.8	I		3	N	1	—	4.6	13.6	7.7	76.1
9.9	7.4	I		4	K=H	1	—	5.0	14.8	7.3	74.9
9.8	9.1	II[a]	252	2	K=1.2H	3	F, 2 Sleeve	4.9	18.2	7.4	71.5
9.6	11.8	I		6	N	2	—	4.8	23.6	7.5	66.1
9.7	13.4	I		3	N	1	—	4.8	26.8	7.5	62.9

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No.	R.A.	Dec.	Magn.	π.	ν.	Br.
	6					7.2
1483	6h 53.8	+6 41	8.5	89.6	12.3	6.7
1459	6 50.1	+6 44	8.0	89.5	12.2	6.0
1416	6 44.7	+6 23	8.5	89.5	12.2	6.9 / 7.1
1397	6 42.3	+6 25	7.8	89.5	12.2	5.9
1663	7 18.1	+6 60	8.0	30.1	12.2	7.0
1711	7 16.0	+7 13	8.5	30.0	12.3	6.8
1709	7 15.3	+7 14	8.5	30.1	12.2	6.9
1594	7 9.5	+6 56	6.9	30.1	12.3	5.6
1583	7 7.2	+6 58	8.4	30.0	12.2	6.8
1560	7 4.0	+6 59	8.4	30.2	12.2	6.9
1616	7 1.8	+7 5	8.0	30.1	12.3	6.9
1509	6 57.0	+6 52	8.6	89.6	12.3	6.7
1501	6 55.8	+6 52	8.7	89.6	12.3	
~~1572~~	~~6 55.5~~	~~+7 4~~	~~8.7~~			6.9
1572	6 55.7	+7 4	8.7	89.7	12.3	7.0
1565	6 54.6	+7 14	8.7	89.6	12.2	6.8
1558	6 53.8	+7 8	8.3	89.6	12.3	6.9 / 7.2
1479	6 53.3	+6 49	8.8	89.5	12.2	7.2
1459	6 50.1	+6 44	8.0	88.9	12.1	7.3
1432	6 48.9	+6 54	7.9	89.5	12.3	6.0
1505	6 48.9	+7 13	8.7	89.5	12.2	6.9
1427	6 48.3	+6 52	7.6	89.5	12.3	6.6
1426	6 48.2	+6 60	8.3	89.6	12.2	6.8
1712	7 16.5	+7 34	8.5	30.1	12.2	7.0
1709	7 15.3	+7 14	8.5	30.1	12.2	7.8
1684	7 12.0	+7 24	7.3	30.2	12.3	5.6
1646	7 6.4	+7 28	8.0	30.0	12.3	6.3
	7					7.2

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V.	H.	Type.	Rem.	No. Lines.	K.	Focus.	No. Other Lines.	V	H	V	H
9.4	13.9	I		3	N	1	—	4.7	27.8	7.6	61.9
9.9	14.8	IIa?	253	2	K=H	1	Seen	5.0	29.6	7.3	60.1
9.2	15.0	IIIb.c	254	3	K=1.2H	3	B. Seen	4.6	30.0	7.7	59.7
9.8	16.0	I		5	N	1	—	4.9	32.0	7.4	57.7
9.6	19.0	I		9	N	3	F?	4.8	38.0	7.5	51.7
9.0	19.3	I		9	K=2H	3	F	4.5	38.6	7.8	51.1
9.4	21.2	I		5	N	2	—	4.7	42.4	7.6	47.3
8.0	8.9	I		4	N	1	—	4.0	17.8	8.3	71.9
8.5	10.1	I		6	N	2	—	4.2	20.2	8.1	69.5
8.9	11.0	I		4	N	1	—	4.4	22.0	7.9	67.7
8.2	11.1	IIIb?,	255	2	K=H	2	F? Seen	4.1	22.2	8.2	67.5
8.1	11.6	I		6	N	2	—	4.0	23.2	8.3	66.5
8.8	13.9	III		2	K=H	1	—	4.4	27.8	7.9	61.9
8.5	14.7	I		7	N	3	—	4.2	29.4	8.1	60.3
8.9	15.3	I		4	K=H	1	—	4.4	30.6	7.9	59.1
8.6	15.8	III		2	K=H	1	—	4.3	31.6	8.0	58.1
8.0	17.5	I		4	N	1	—	4.0	35.0	8.3	54.7
8.0	17.7	I		4	N	1	—	4.0	35.4	8.3	54.3
8.3	20.7	I		4	K=H	1	—	4.2	41.4	8.1	48.3
8.7	21.3	I		3	N	1	—	4.4	42.6	7.9	47.1
8.6	22.3	I		5	N	2	—	4.3	44.6	8.0	45.1
8.4	22.4	II?		2	K=H	1	—	4.2	44.8	8.1	44.9
8.6	22.9	I?		4	N	1	—	4.3	45.8	8.0	43.9
8.5	23.7	II		2	K=H	1	—	4.2	27.4	8.1	62.3
7.8	9.2	I?		3	N	1	—	3.9	18.4	8.4	71.3
7.1	9.6	II?		2	K=H	1	—	3.6	19.2	8.7	70.5
7.8	16.4	I		4	N	2	—	3.9	32.8	8.4	56.9
7.8	16.6	II		2	K=H	1	—	3.9	33.2	8.4	56.5

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No.		R. A.	Dec.	Magn.	H.	W.	Br.
1620	7h	2.3	+7 34	8.6	30.1	123	7.3
1610	7	0.4	+7 20	8.7	30.0	123	6.9
1607	7	0.0	+7 42	8.9	30.0	123	5.9 6.1
1588	7						
1588	6						6.8
1544	6	51.5	+7 31	7.0	89.5	123	5.5
1538	6	50.8	+7 49	7.0	89.4	123	5.7
1508	6	47.1	+7 35	8.5	89.5	123	6.3
1740	7	12.2	+8 16	8.5	30.0	123	7.0
1723	7	9.9	+8 3	8.5	30.1	123	6.5
1655	7	7.9	+7 51	8.9	29.9	122	7.0
1712	7	7.8	+8 14	6.8	30.0	123	6.3 6.6
1708	7	6.7	+8 17	8.2	29.9	123	6.2
1618	7	2.1	+7 37	7.0	29.9	124	6.6 6.9
1663	7	0.5	+8 6	7.6	29.9	123	5.7
1600	6	58.9	+7 51	8.6	89.5	122	7.2
1642	6	57.9	+8 4	8.1	89.5	124	7.0 7.3
1618	6	54.5	+8 20	8.3	89.5	123	6.7
1613	6	54.0	+8 18	8.6	89.4	123	6.8
1564	6	47.9	+8 6	8.8	89.3	123	7.0
1504	6	46.8	+7 53	8.6	89.4	123	7.2
1493	6	44.8	+7 60	8.1	89.4	123	6.2
1541	6	44.6	+8 4	8.2	89.4	123	6.8
1483	6	43.6	+7 36	8.7	89.4	122	6.7
1467	6	41.9	+7 60	8.14			
1516	6	41.8	+8 5	8.7			6.9
	7						7.3
1735	7	10.9	+8 45	7.7	30.1	124	6.6
1635	6	56.6	+8 28	8.2	89.4	124	6.3
1632	6	56.1	+8 27	8.0	89.3	129	6.8

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Y.	H.	Type.	Rem. No.	Lines	K.	Fours.	Other Lines	V	H	V	H
7.6	20.8	I		8	N	3	—	3.8	41.6	8.5	48.1
7.6	22.2	I		8	K=.8H	3	F?	3.8	44.4	8.5	45.8
6.2	8.2	I		3	N	1	—	3.1	16.4	9.2	73.3
6.6	8.7	I?		4	K=H	1	—	3.3	17.4	9.0	72.3
6.5	9.3	I		4	K=H	1	—	3.2	18.6	9.1	71.1
6.4	11.5	I		4	N	1	—	3.2	23.3	9.1	66.4
6.6	13.6	I		5	N	2	—	3.3	27.2	9.0	62.5
6.0	13.6	II?		2	K=H	1	—	3.0	27.2	9.3	62.5
6.5	14.3	II		2	K=H	1	—	3.2	28.6	9.1	61.1
6.0	15.9	III b?	256	2	K=H	2	Seen	3.0	31.8	9.3	57.9
6.6	16.0	I		5	K=.5H?	1	—	3.3	32.0	9.0	57.7
6.8	17.0	I		4	N	2	—	3.4	34.0	8.9	55.7
6.0	17.0	I		8	K=.2H	3	—	3.0	34.0	9.3	55.7
6.2	17.1	?		2?	K=H	2	—	3.1	34.2	9.2	55.5
6.9	17.4	III		2	K=H	2	—	3.4	34.8	8.9	54.9
6.9	18.0	I		4	K=H	1	—	3.4	36.0	8.9	53.7
16.0	20.1	I		4	K=H	1	—	8.0	40.2	4.3	49.5
6.8	20.5	III		2	K=H	2	—	3.4	41.0	8.9	48.7
6.5	20.7	I?		3	N	1	—	3.2	41.4	9.1	48.3
6.2	20.7	I		4	N	1	—	3.1	41.4	9.2	48.3
6.9	23.7	I		5	N	2	—	3.4	47.4	8.9	42.3
5.5	6.2	II?		2	K=2.0H	3	—	2.8	12.4	9.5	77.3
5.8	6.7	I		5	N	1	—	2.9	13.4	9.4	76.3
5.6	10.1	II?		2	K=H	2	—	2.8	20.2	9.5	69.5
5.6	10.2	I?		3	N	1	—	2.8	20.4	9.5	69.3
5.2	10.5	I		8	K=.2H?	2	F	2.6	21.0	9.7	68.7
5.5	10.7	I		4	K=H	1	—	2.8	21.4	9.5	68.3
5.2	11.2	I		6	K=H	2	—	2.6	22.4	9.7	67.3

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1888phae.proj..860F

No. Dir.	R.A.	Dec.	Magn.	M.	r. 12.3	Br.
1562	6h 47.7	+8 30	6.8	89.3	~~13.9~~	5.4
1543	6 44.9	+8 33	6.2	89.3	12.4	5.3
1623	7 13.6	+9 10	8.5	30.0	12.3	7.2
1619	7 12.6	+9 2	8.7	30.0	12.3	7.2
1613	7 11.4	+9 21	8.3	30.0	12.2	7.1
1579	7 6.7	+9 11	8.2	30.0	12.4	6.8
1547	7 2.7	+9 1	8.1	29.9	12.3	6.5
1549	7 2.8	+9 18	8.5	30.0	12.3	6.9
1537	7 1.4	+9 5	8.7	30.0	12.3	7.0
1510	6 57.7	+9 24	6.6	89.5	12.4	6.0 / 6.4
1640	6 57.6	+8 59	8.8	89.6	12.3	6.6
1629	6 55.5	+8 56	8.2	89.5	12.4	6.5
1495	6 55.4	+9 21	6.5	89.4	12.4	5.3
1492	6 55.3	+9 14	7.7	89.5	12.3	6.3
1619	6 54.6	+8 53	8.2	89.4	12.3	6.4 / 6.6
1608	6 53.5	+8 50	8.5	89.5	12.2	6.7
1513	6 48.8	+4 8	9.0	89.0	12.1	7.1 ?
1568	6 48.3	+8 55	7.5	89.3	12.3	6.5 / 6.7
1442	6 47.9	+9 3	7.7	89.1	12.2	6.6
1439	6 47.8	+9 10	8.3	89.2	12.3	6.6
1517	6 42.0	+8 48	8.0	89.4	12.2	6.4
1643	7 17.7	+9 34	3.4	30.1	12.4	5.6
1635	7 16.7	+9 23	8.0	30.1	12.3	6.7
1603	7 9.7	+9 33	7.3	29.9	12.4	6.2
1601	7 9.6	+9 28	8.5	30.0	12.3	6.8
1597	7 9.1	+9 43	7.8	30.1	12.3	6.1
	7	+				6.7
1583	7 7.6	+9 45	7.7	30.0	12.4	6.2

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Sept. 13, 1888.

Plate 222

Mr.	M	Type	No. Rem.	No. Lines.	K.	Trans.	No. Lines.	Obs.	V	H	V	H
5.2	12.0	III		2	K=H	1	—		2.6	24.0	9.7	65.7
5.7	12.8	I		5	H	1	—		2.8	25.6	9.5	64.1
5.5	13.5	I		6	H	2	—		2.8	27.0	9.5	62.7
5.6	14.0	III^{b}?	257	2	K=H	1	Seen		2.8	28.0	9.5	61.7
5.5	19.4	I?		2	H	1	—		2.8	38.8	9.5	50.9
5.0	19.8	I		4	K=H	1	—		2.5	39.6	9.8	50.1
5.0	21.0	I		4	K=H	1	—		2.5	42.0	9.8	47.7
5.2	21.2	I		4	K=H	1	—		2.6	42.4	9.7	47.3
5.4	22.8	III		2	K=H	1	—		2.7	45.6	9.6	44.1
5.6	23.3	I		4	K=H	1	—		2.8	46.6	9.5	43.1
5.0	23.9	III		2	K=H	1	—		2.5	47.8	9.8	41.9
4.4	7.6	I		5	H	1	—		2.2	15.2	10.1	74.5
4.8	8.6	II^{a}?	258	2	K=H	2	Seen		2.4	17.2	9.9	72.5
4.4	15.2	II^{a}?	259	2	K=H	2	Seen		2.2	30.4	10.1	59.3
4.8	19.1	I		3	H	1	—		2.4	38.2	9.9	51.5
4.4	20.4	I		9	H	3	F		2.2	40.8	10.1	48.9
4.5	22.0	I		3	H	1	—		2.2	44.0	10.1	45.7
3.6	6.5	I		3	H	1	—		1.8	13.0	10.5	76.7
3.5	6.8	III		2	K=H	2	—		1.8	13.6	10.5	76.1
3.5	7.8	I		5	H	1	—		1.8	15.6	10.5	74.1
3.7	8.5	I		6	H	2	—		1.8	17.0	10.5	72.7
3.2	9.3	I		5	H	2	—		1.6	18.6	10.7	71.7
3.5	9.5	I		6	K=5H?	2	—		1.8	19.0	10.5	70.7
3.8	12.7	III?		2	K=H	1	—		1.9	25.4	10.4	64.3
3.1	13.0	II^{a}?	260	2	K=H	1	Seen		1.6	26.0	10.7	63.7
3.9	13.4	II?		2	K=H	1	—		2.0	26.8	10.3	62.9
3.6	15.6	I		4	H	1	—		1.8	31.2	10.5	58.5
3.0	18.2	III?		2	K=H	1	—		1.5	36.4	10.8	53.3

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No.	R.A.	Dec.	Magn.	Th.	r.	Br.
1571	7h 5.9	+9 43	8.0	29.9	12.3	6.8
						7.1
1560	7 4.4	+9 28	9.0	30.0	12.3	6.9
1550	7 2.9	+9 37	8.0	29.9	12.4	6.1
1539	7 1.9	+9 32	7.4	29.9	12.3	6.5
						6.9
1460	6 50.5	+9 30	8.9	89.3	12.3	7.3
1456	6 49.8	+9 47	8.7	89.4	12.3	6.8
1435	6 47.2	+9 50	8.5	89.2	12.3	6.8
1432	6 47.0	+9 41	8.7	89.4	12.3	6.8
1414	6 43.6	+9 37	7.7	89.2	12.3	6.6
						6.9
1404	6 42.7	+9 26	8.6	89.3	12.2	7.0
1396	6 41.4	+9 45	8.3	89.2	12.3	6.9
						7.1
1516	7 14.9	+10 7	8.5	30.1	12.4	6.6
1620	7 12.9	+9 55	7.6	30.1	12.3	6.5
1416	6 39.1	+10 6	8.4	89.5	12.3	6.5
1464	6 51.2	+9 55	9.0	89.4	12.3	7.3
1335	6 48.4	+10 8	6.1	89.2	12.3	5.2
1424	6 45.2	+9 58	9.0	89.2	12.2	7.3
1526	7 17.1	+10 26	8.7	30.1	12.3	7.5
1525	7 16.4	+10 31	7.5	30.0	12.3	6.6
						6.8
1513	7 14.5	+10 32	8.5	30.1	12.3	7.0
1505	7 13.0	+10 28	7.8	30.0	12.3	6.3
1494	7 11.4	+10 42	7.7	30.0	12.3	6.5
1490	7 11.1	+10 34	7.0	30.1	12.4	6.3
1453	7 4.5	+10 26	8.0	29.9	12.3	6.9
						7.1
1448	7 3.8	+10 45	8.2	29.8	12.4	7.8
1439	7 2.4	+10 20	8.9	29.2	12.3	7.5
1413	6 58.3	+10 29	8.5	89.5	12.3	6.9
1370	6 53.0	+10 30	7.2	89.4	12.3	6.8
						7.2

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Sept. 13, 1888.

Plate 2220

V.	H.	Type.	No. Rem. Lines.	No. Str. Lines.	K.	Focus	Other Lines	V	H	V	H
3.0	22.0	I		6	N	2	—	1.5	44.0	10.8	45.7
2.8	5.8	I		5	N	2	—	1.4	11.6	10.9	78.1
2.2	6.5	I		3	N	1	—	1.1	13.0	11.2	76.7
2.2	7.1	I		5	N	2	—	1.1	14.2	11.2	75.5
2.6	7.2	I		3	N	1	—	1.3	14.4	11.0	75.3
2.6	8.2	I		3	N	1	—	1.3	16.4	11.0	73.3
2.7	9.8	I		3	N	1	—	1.4	19.6	10.9	70.1
2.1	11.5	II?		2	K=H	1	—	1.0	23.0	11.8	66.7
2.8	12.1	III?		3	K=H	2	F	1.4	24.2	10.9	65.5
2.5	14.7	I		6	K=2H	2	—	1.2	29.4	11.1	60.3
2.3	15.4	I?		4	N	1	—	1.2	30.8	11.1	58.9
2.5	16.9	III	b.c. 261	2	K=H	3	B. Seen?	1.2	33.8	11.1	55.9
2.4	19.9	II?		2	K=H	1	—	1.2	39.8	11.1	49.9
2.4	20.7	I?		3	N	1	—	1.2	41.4	11.1	48.3
2.1	21.4	I		5	N	1	—	1.0	42.8	11.3	46.9
2.4	22.0	III	b 262	2	K=H	2	Seen	1.2	44.0	11.1	45.7
1.9	10.4	I		6	N	2	F	1.0	20.8	11.3	68.9
1.8	15.9	I		6	N	2	=	0.9	31.8	11.4	57.9
1.5	20.3	I		4	N	2	—	0.8	40.6	11.5	49.1
1.6	22.5	I		4	N	1	—	0.8	45.0	11.5	44.7

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No. Diu.	R. A. 4h	Dec.	Mag.	M.	r.	Br.
1310	6 45.2	+10 46	7.7	89.2	12.3	6.1
1532	7 18.5	+10 54	7.0	29.1 (3/0)	12.3	5.9
1580	7 17.2	+11 12	8.7	29.2 (3/0)	12.3	·
1574	7 16.0	+11 11	7.7	30.2	12.3	·
1521	7 13.8	+10 59	8.2	30.2	12.3	7.0
1566	7 13.7	+11 1	8.5	30.1	12.3	6.9
1486	7 10.5	+10 57	8.6	30.1	12.4	7.0
1514	7 7.0	+11 15	8.1	30.0	12.2	·
1538	7 5.8	+10 56	7.5	30.0	12.3	6.5 6.7
1467	7 0.5	+11 9	7.5	29.9	12.4	·
1447	6 58.8	+11 10	8.5	89.6	12.4	·
1428	6 55.6	+11 9	8.0	89.4	12.4	·
1377	6 49.4	+11 10	8.0	89.2	12.4	·
1364	6 48.0	+11 7	8.8	89.4	12.3	·
1355	6 46.4	+11 14	8.1	89.2	12.2	·
1344	6 45.3	+11 10	6.8	89.3	12.2	·
1527	7 9.2	+11 23	8.0	30.0	12.4	·
1439	6 57.8	+11 26	8.0	89.6	12.3	·
1370	6 48.8	+11 35	8.0	89.4	12.4	·
1333	6 44.3	+11 30	8.0	89.3	12.3	·

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St Lt. 6.3 Fog m & cl. 8.0-6.8 Fog. cl. 6.8 Bot No. 267

Sept. 13, 1888.

Plate 2047

V.	H.	Type.	Rem.	No. Lines.	K.	Four	Other Lines	V	H	V	H
22.4	18.4	I		9	K=.2H ?	3	F	11.2	36.8	1.0	35.0
21.6	13.1	I		5	N	2	—	10.8	26.2	1.4	45.6
21.3	15.1	II ?		2	K=H	1	—	10.6	30.2	1.6	41.6
21.6	21.3	II^a	263	2	K=H	2	Seen	10.8	42.6	1.4	39.2
20.0	13.7	III ?		2	K=H	1	—	10.0	27.4	2.2	48.4
16.4	11.3	I		5	K=H	1	—	8.2	22.6	4.0	49.2
6.5	13.8	I		6	K=.5H	2	—	3.2	27.6	9.0	44.2
14.9	19.5	II^a	264	3	K=1.2H	4	F. Seen	7.4	39.0	4.8	32.8
12.0	6.2	I ?		4	K=H	1	—	6.0	12.2	6.2	59.6
12.4	9.1	II^a ?	265	2	K=H	1	Seen	6.2	18.2	6.0	53.6
12.4	10.1	II^a	266	3	K=H	4	F. Seen	6.2	20.2	6.0	51.6
11.9	12.2	I		6	N	3	—	6.0	24.4	6.2	47.4
11.6	18.5	I		7	K=.2H	3	—	5.8	37.0	6.4	34.8
9.0	8.6	I		6	K=H	3	—	4.5	17.2	7.7	54.6
9.5	12.0	I		5	N	2	—	4.8	24.0	7.4	47.8
9.6	15.4	I ?		5	K=H	2	F ?	4.8	30.8	7.4	41.0
8.1	8.6	I		5	K=H	2	—	4.0	17.2	8.2	54.6
7.5	14.1	III ?		1	N	1	—	3.8	28.2	8.4	43.6
6.0	11.6	I		4	K=H	1	—	3.0	23.2	9.2	48.6
6.8	19.5	I		5	N	3	—	3.4	39.0	8.8	32.8
5.8	16.8	I		5	K=.5H ?	2	—	2.9	33.6	9.3	38.2
5.5	17.8	III^b ?	267	1	N	2	Seen	2.8	35.6	9.4	36.2
4.2	13.5	I		8	K=.5H	3	—	2.1	27.0	10.1	44.8
3.5	9.9	I		4	N	2	—	1.8	19.8	10.4	52.0
3.0	11.0	I		5	N	2	—	1.5	22.0	10.7	49.8
2.2	13.3	I		4	K=H	1	—	1.1	26.6	11.1	45.2

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No.	R.A.	Dec.	Mag.	H.	V.	Bkgd
5037	23h 34.7	+ 0 59	4.6	71.5	12.2	5.0
4792	45.7	+ 1 16	7.2	71.9	12.1	6.2
4773	41.4	+ 1 24	7.7	71.6	12.0	7.0
4743	29.0	+ 1 18	6.8	71.6	12.1	6.5
4725	44.6	+ 2 8	6.5	72.0	12.1	6.8 / 7.2
4909	49.4	+ 3 55	7.2	72.0	12.1	6.8
		+				6.4
5035	32.5	+ 4 51	4.2	71.5	12.2	4.6
5242	39.7	+ 6 4	7.8	71.9	12.1	7.0
5247	54.0	+ 5 38	8.0	72.2	12.2	7.0
5227	51.9	+ 6 4	4.4	72.1	12.3	4.5
5216	47.7	+ 6 16	6.8	72.1	12.3	5.6
5183	34.6	+ 6 27	6.5	71.6	12.2	5.6
5121	55.1	+ 7 41	6.3	72.3	12.2	5.6
5101	48.2	+ 7 25	7.0	72.2	12.2	6.3
5085	40.8	+ 7 27	6.8	71.6	12.2	6.5
5160	55.0	+ 8 8	6.7	72.2	12.1	6.1
5127	44.0	+ 8 30	6.5	72.2	12.3	6.9 / 7.3
5300	48.9	+ 9 13	7.5	72.1	12.2	7.0
5095	32.5	+ 8 52	6.0	71.5	12.3	5.8
5277	38.0	+ 9 23	6.5	71.6	12.2	6.2
5268	36.0	+ 9 31	5.0	71.6	12.3	6.5 / 7.2
5004	45.3	+ 10 8	6.0	72.3	12.2	5.3
5017	52.4	+ 10 28	7.0	72.2	12.3	6.5
5013	50.4	+ 10 40	7.0	72.4	12.2	6.4
5068	45.6	+ 11 7	7.3	72.3	12.2	

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1888phae.proj..860F

St. Lt. 6.8 F. M. + b. 7.4 – 7.0 F. ch. 7.5 Box No. 198.

R.A. $23^h 40^m$ Dec. +86.8

April 18, 1888.

Plate 1881.

		V.	H.	Type.	Rem.	No. Lines.	Nr. K.	Form	Lines	Later.	Br + Const.	Corr. Br.	
0	30	21.9	7.6	A	.	3	N	1	—		6.7	6.5	1
		21.1	12.2	F	333	2	K=H	7	seen		6.3	6.1	0
		20.3	14.6	A	.	4	K=.5H	1	—		6.5	6.3	2
		20.0	15.0	A	.	7	K=.2H	2	—		5.6	5.6	2
		19.5	18.9	K	334	2	K=H	3	seen	bright	5.3 / 5.8	5.3 / 5.8	2
		19.0	19.0	A	.	3	N	1	—		6.7	6.7	2
		18.8	11.8	A	.	8	K=.2H	4	—		4.6	4.6	0
		19.0	12.8	A	.	3	N	1	—		7.0	7.0	0
		18.6	21.9	F	335	2	K=H	1	seen		6.3	6.8	2
		17.3	7.4	H	.	3	K=H	1	F		6.6 / 6.8	6.6 / 6.8	1
		17.0	11.8	A	.	6	K=.2H	2	—		5.6	5.7	0
		17.0	12.9	F	336	2	K=H	1	seen		6.3	6.4	0
		17.6	16.9	A	.	4	N	1	—		6.7	6.8	2
		17.4	17.8	K	337	2	K=H	3	seen	bright	5.1 / 5.6	5.2 / 5.7	2
		16.6	13.9	F	338	2	K=H	1	seen		6.7	6.8	0
		16.3	19.4	A	.	4	N	1	—		6.3	6.4	2
		16.2	21.3	A	.	3	N	1	—		6.2	6.3	2
		15.0	10.2	E	.	2	K=H	1	—		6.8	7.1	1
		15.3	12.4	A	.	3	N	1	—		6.9	7.2	0
		15.6	14.3	A	.	4	K=H	1	—		6.9	7.2	2
		15.4	17.3	K	339	2	K=H	2	seen		5.8 / 6.4	6.1 / 6.7	2
		15.4	16.6	H	.	2	K=H	1	—		6.8 / 7.1	7.1 / 7.4	2
		~~14.4~~	~~13.3~~	~~A~~		~~4~~	~~K=H~~		~~—~~				
		14.0	15.5	A	.	6	K=.8H	3	—		5.5	5.7	2
		14.4	15.7	H	.	2	K=H	1	—		6.9 / 7.1	7.2 / 7.4	2
		13.6	9.7	H	.	2	K=H	1	—		6.4 / 6.6	6.7 / 6.9	1
		12.8	12.4	K	340	3	K=1.5H	5	seen	bright	4.4 / 4.8	4.6 / 5.0	0
0	50	14.4	13.3	A	.	3	N	1	—		6.9	7.2	0

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Cor. 2 tabs, east, in blue = green
Vol XXXI
Ed. I. S. 20.
Mean − 2
Dreer 6

D. M.	R.A. h. m.	Dec.	Mag.	R.A. 1900	Dec.	Diff.	R.	M. Phys. Tables I + Cor. 2 tabs.
1 26 + 80.7	50 1 25.0	+80° 41	7.4	1 29.6	+80 55	3	6.9	6.3
0 30 + 81.7	13 0 29.0	+81 42	6.5	0 32.8	+81 56	12	6.5	5.9
23 56 + 82.2	748 23 55.4	+82 10	7.0	23 57.6	+82 25	12	6.7	6.1
23 51 + 82.4	743 23 49.7	+82 23	6.0	23 51.7	+82 38	8	5.8	5.2
22 49 + 82.4	703 22 47.9	+82 23	5.0	22 47.9	+82 37	6	5.5	4.9
22 45 + 82.5	700 22 44.1	+82 30	8.0	22 43.9	+82 44	4	6.0	5.4
0 42 + 82.9	20 0 41.6	+82 55	6.5	0 45.5	+83 10	12	6.9	6.3
0 26 + 82.8	14 0 24.6	+82 50	8.3	0 27.9	+83 5	4	4.8	4.2
22 4 + 82.2	674 22 3.3	+82 10	8.0	22 2.0	+82 23	16	7.2	6.6
1 56 + 82.8	57 1 55.1	+82 52	7.0	2 1.4	+83 6	11	6.5	5.9
0 49 + 83.8	20 0 48.4	+83 49	7.0	0 52.8	+84 4	13	6.8	6.2
0 27 + 83.8	9 0 26.3	+83 53	7.8	0 29.8	+84 8	6	5.8	5.2
23 15 + 83.5	647 23 12.7	+83 27	8.0	23 13.2	+83 42	4	6.5	5.9
22 56 + 83.6	640 22 55.4	+83 34	5.0	22 55.2	+83 49	12	6.9	6.3
0 9 + 84.2	3 0 7.8	+84 9	8.0	0 10.6	+84 24	5	5.2	4.7
22 23 + 83.7	630 22 22.5	+83 46	7.0	22 20.9	+84 0	4	5.8	5.2
21 54 + 83.4	618 21 52.7	+83 22	7.2	21 50.3	+83 35	12	6.9	6.3
1 28 + 84.5	29 1 27.5	+84 29	8.0	1 33.9	+84 43	5	5.2	4.7
0 41 + 84.7	15 0 40.9	+84 40	8.2	0 45.3	+84 55	4	5.8	5.2
23 59 + 84.6	546 23 59.1	+84 36	8.2	0 1.4	+84 51	12	6.9	6.3
22 55 + 84.6	517 22 54.2	+84 36	6.5	22 53.5	+84 50	5	5.2	4.7
22 30 + 84.3	509 22 29.2	+84 19	7.2	22 27.5	+84 33	4	5.8	5.2
~~0 27 + 85.2~~	~~11 0 25.4~~	~~+85 10~~	~~8.8~~	~~0 29.2~~	~~+85 25~~		7.0	6.4
23 30 + 85.4	403 23 29.7	+85 28	7.8	23 30.4	+85 38	12	6.9	6.3
23 27 + 85.2	400 23 25.8	+85 13	8.0	23 26.3	+85 27	11	7.1	6.5
1 51 + 85.0	41 1 50.8	+85 2	7.7	1 53.8	+85 16	4	6.2	5.6
0 51 + 85.5	19 0 49.7	+85 29	5.0	0 54.9	+85 43	12	5.0	4.4
0 26 + 85.2	11 0 25.4	+85 10	8.8	0 29.2	+85 25	10	7.1	6.5

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Plate 1881

2

V.	H.	Type	No.	Rem.	No. Lines	K.	Focus.	Lines		
14.0	15.5	A			6	K=.8 H	2	—	5.8	5.8
14.3	15.6	H?			2	K=H	1	—	6.8 / 7.1	
13.6	9.7	H?			2	K=H	1	—	6.6 / 6.8	
13.8	12.4	K			3	K=1.5 H	4	F. Br. Seen.	4.4 / 4.8	
13.1	14.5	A			7	K=.2 H	3	—	5.3	5.3
13.4	15.5	F	341		3	K=H	1	F. Seen.	6.2	6.4
13.5	15.6	A?			7	K=H	3	F.	5.1	5.3
13.2	17.9	I?	342		2	K=H	1	Seen	6.4 / 6.8	6.6 / 7.0
13.4	18.0	A			9	K	4	F.	4.1	4.3
12.8	6.4	I	343		2	K=2 H	3	—	5.1 / 5.4	5.4 / 5.7
12.4	8.5	A			3	K	1	—	7.0	7.3
12.9	9.0	A			5	K=.5 H?	2	—	6.2	6.5
12.0	12.7	K	344		3	K=H	3	F. Br. Seen.	5.6 / 6.1	5.7 / 6.2
12.4	14.4	A			3	K	1	—	6.4	6.6
11.9	11.4	A?			4	K=H	1	—	6.6	6.8
11.9	15.2	A			9	K=.5 H	4	F.	4.5	4.6
11.5	16.5	A			3	K	1	—	6.4	6.5
11.1	18.1	A			3	K	1	—	6.7	6.8
10.0	6.1	F?	345		3	K=H	2	F. Seen	5.4	5.7
11.5	22.7	E?			3	K=H	1	F	6.3	6.6
12.2	23.7	F	346		2	K=H	1	Seen	6.3	6.4
11.5	23.7	A			4	K	2	—	5.5	5.6
10.8	10.2	A			3	K	1	—	6.4	6.5
10.6	18.7	A			6	K=.3 H	2	—	5.6	5.7
10.5	24.0	A			3	K	1	—	6.7	7.0
9.9	8.5	F?	347		2	K=H	4	Seen	4.5	4.7
9.0	12.5	A			4	K=H	1	—	6.8	6.8
9.1	13.1	H			2	K=H	1	—	7.0 / 7.4	7.0 / 7.4

Recorded Above

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D.M. No.	R.A. 1855	Dec.	Mag.	R.A. 1900	Dec.	D.C. Mean	Diff.	Bc.			
									5.7	5.1	
									7.6	6.4	
									7.3	6.7	
									6.8	6.2	
									7.0	6.4	
									4.6	4.0	
									5.0	4.4	
23 52	+85.9	409	23h 52.8m	+85° 54'	8.0	23h 54.7m	+86° 9'		5.4	5.5	4.9
23 28	+85.7	401	23 27.2	+85 46	8.0	23 27.5	+86 0		6.0	6.4	5.8
23 24	+85.6	399	23 24.2	+85 37	7.5	23 24.4	+85 37		5.4	5.3	4.7
22 26	+85.5	384	22 24.7	+85 29	6.5	22 21.7	+85 43		6.6	7.0	6.0 6.4
22 25	+85.4	383	22 24.2	+85 23	5.0	22 21.3	+85 38		4.0	4.3	3.7
2 58	+84.4	59	2 58.8	+84 23	6.0	3 8.4	+84 34		5.1	5.3 5.6	4.7 5.0
2 30	+85.2	R 418	2 29.4		8.8			R			
2 32	+85.2	50	2 30.9	+85 16	8.8	2 41.0	+85 28		6.0	7.2	6.6
2 15	+85.2	45	2 14.2	+85 10	8.6	2 23.3	+85 22		5.8	6.4	5.8
0 52	+86.4	17	0 52.8	+86 22	7.5	0 58.6	+86 37		5.7	5.8 6.3	5.2 5.7
23 55	+86.2	847	23 55.3	+86 14	8.6	23 57.3	+86 29		6.4	6.6	6.0
1 34	+86.2	25	1 31.6	+86 13	8.8	1 40.2	+86 26		6.3	6.8	6.2
23 29	+86.5	844	23 27.8	+86 30	6.0	23 27.7	+86 45		4.8	4.7	4.1
22 48	+86.5	835	22 45.6	+86 32	8.0	22 48.3	+86 46		6.5	6.6	6.0
21 54	+86.4	824	21 52.8	+86 20	8.2	21 46.4	+86 33		6.5	6.9	6.3
3 53	+85.2	63	3 52.4	+85 10	6.5	4 3.1	+85 17		5.5	5.6	5.0
20 32	+84.7	463	20 31.0	+84 40	7.2	20 24.3	+84 49		5.8	6.5	5.9
20 32	+84.1	462	20 30.0	+84 5	7.0	20 24.4	+84 14		5.8	6.5	5.9
20 20	+84.3	451	20 20.0	+84 14	7.0	20 14.0	+84 23		5.3	5.7	5.1
2 21	+86.4	39	2 20.2	+86 25	8.6	2 32.2	+86 37		6.2	6.6	6.0
21 30	+86.4	819	21 27.7	+86 26	7.0	21 19.6	+86 37		5.7	5.8	5.2
20 1	+84.5	445	20 0.5	+84 24	8.5	19 53.8	+84 32		6.4	6.9	6.3
3 20	+86.2	87	3 19.5	+86 11	6.0	3 32.6	+86 20		5.1	4.7	4.1
1 39	+87.7	15	1 35.6	+87 47	8.2	1 47.6	+88 0	R		6.5	5.9
1 9	+87.7	12	1 7.1	+87 48	8.0	1 18.0	+88 3	R		7.6	6.6 7.0

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r.	H.	Type.	Rem.	No. Lines	K.	Focus.	Other Lines		
9.8	14.7	A		3	K	1	—	7.0	7.0
9.9	16.3	A		6	K=3H	2	—	5.4	5.4
9.6	18.1	H?		2	K=H	1	—	6.9 7.1	7.0 7.2
8.2	12.4	E?		2	K=H	1	—	7.0	7.0
8.0	13.5	E?	348	3	K=H?	5	F. Seen	B	B
8.5	13.6	A		10	K=2H	3	F.	4.6	4.6
8.2	18.3	H		2	K=H	1	—	7.1 7.4	7.1 7.4
8.8	21.9	H?		2	K=H	1	—	7.1 7.4	7.3 7.6
7.4	5.6	A?		5	K=H?	3	—	5.1	5.3
7.8	6.3	E?	349	2	K=H	2	Seen	5.2	5.4
7.9	7.1	A		4	K=H	1	—	6.2	6.4
7.7	8.2	H		2	K=H	1	—	7.0 7.3	7.1 7.4
7.4	10.9	A?		4	K=H	1	—	6.8	6.8
7.7	12.9	A		5	K=H	1	F.	6.4	6.3
7.8	14.2	H?		2	K=H	1	—	6.7 6.9	6.6 6.8
7.3	15.3	A		4	K=H	1	—	6.7	6.6
7.0	18.7	A		4	K=H	1	—	6.3	6.3
7.3	19.7	A		3	K	1	—	6.3	6.4
7.0	21.0	H		3	K=H	1	F.	6.1 6.6	6.2 6.7
6.2	16.2	H		3	K=H	2	F.	6.0	5.9 6.1
6.2	21.2	H		2	K=H	1	—	6.5 6.8	6.6 6.9
5.3	7.8	H?		2	K=H	2	—	5.8 6.4	5.9 6.5
5.9	13.9	A?		3	K	1	—	6.7	
5.4	16.9	H		2	K=H	1	—	6.6 6.8	6.5 6.7
5.4	17.8	E	350	2	K=H	1	Seen	6.3	6.3
5.7	19.5	A?		3	K	1	—	6.4	6.5
5.8	20.4	A?		4	K=1.5H	4	—	4.1	4.2
5.8	21.1	A?		8	K	5	—	B	B

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D.M. No.	R.A. h.	R.A. m.	Dec.	Mag.	R.A. 1900	Dec.	Mean Bre.	Diff.		
23 41 +87.5	217	23	42.4	+87 32	8.5	23 28	87 47	8.0	7.2	8	6.6
22 32 +87.4	205	22	30.8	+87 21	7.5	22 24.2	+87 35	7.1	5.6	16	5.0
21 30 +86.9	318	21	26.4	+86 57	8.0	21 16.3	+87 8	7.1	7.3	9	6.5 / 6.7
1 59 +88.1	11	1	58.9	+88 3	8.8	2 17.6	+88 16	7.8	7.2	6	6.6
1 51 +88.6	8	1	6.5	+88 32	2.0	1 22.0	+88 46	4.0	B		
0 41 +88.2	4	0	45.5	+88 15	7.5	1 35.8	+88 29	6.5	4.8	18	4.2
20 42 +87.5	187	20	41.3	+87 29	8.0	20 25.1	+87 39	6.7	7.3 / 7.6		6.7 / 7.0
19 43 +85.7	329	19	44.0	+85 47	8.4	19 33.8	+85 53	R	7.3 / 7.6	6	6.7 / 7.0
4 55 +85.5	78	4	55.1	+85 32	7.0	5 9.9	+85 36	6.6	5.3	13	4.7
4 40 +85.7	74	4	41.0	+85 45	6.0	4 36.3	+85 50	6.8	5.4	15	4.8
4 30 +86.1	66	4	30.2	+86 4	8.0	4 46.3	+86 10	7.8	6.4	10	5.8
4 19 +86.6	65	4	19.8	+86 37	8.3	4 38.1	+86 44		7.2 / 7.5		6.6 / 5.9
3 40 +87.8	33	3	38.7	+87 54	8.5	19 4.9	+88 2	7.9	7.0	9	6.4
1 50 +88.5	9	1	51.1	+88 29	8.0	2 14.2	+88 42	7.8	6.6	10	6.0
0 18 +88.6	2	0	11.0	+88 38	8.8	0 16.0	+88 52		6.9 / 7.1		6.3 / 6.5
22 30 +88.7	131	22	30.6	+88 44	8.7	22 12.3	+88 58	8.0	6.9	11	6.3
19 39 +87.6	181	19	36.1	+87 36	8.0	19 13.7	+87 42	7.8	6.5	13	5.9
19 33 +87.1	180	19	30.8	+87 4	8.0	19 14.5	+87 10	7.7	6.5	13	5.9
19 3 +86.5	282	19	1.6	+86 31	7.0	18 47.7	+86 35	7.6	6.8	13	5.7 / 6.2
20 18 +88.8	112	20	8.5	+88 52	6.5	20 22.5	+88 59	7.4	6.7	18	5.6
18 39 +86.5	275	18	40.2	+86 30	8.2	18 26.2	+86 32	7.9	7.0	13	6.1 / 6.4
5 49 +86.7	79	5	48.0	+86 46	7.0	5 8.2	+86 46	7.3	6.6	14	5.4 / 6.0
2 0 +89.5	3	1	49.6	+89 29	8.8	3 18.7	+89 41		6.9		6.3
18 38 +88.7	105	18	34.4	+88 43	8.5	17 51.2	+88 46		6.8 / 7.0		6.2 / 6.4
18 28 +88.3	104	18	24.3	+88 14	8.0	17 53.7	+88 16	7.8	6.5	13	5.9
18 28 +87.5	169	18	24.2	+87 24	8.1	18 4.3	+87 26	7.7	6.6	12	6.0
18 28 +86.9	272	18	24.4	+86 59	6.0	18 7.1	+87 0	6.8	4.3	22	3.7
18 20 +86.6	269	18	19.1	+86 36	4.5	18 4.5	+86 37	5.0	B		

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r.	H.	Type.	Nebs.	Rem.	Nos. Lines	R.	Focus.	Letter. Lines		
5.8	23.0	A ?			4	K=H	2	—	6.1	6.3
4.2	8.9	K		351	2	K=H	3	—	5.0 5.6	5.1 5.7
4.5	12.5	A			9	K=3H	3	—	5.0	4.9
4.8	20.4	A ?			4	K=H	1	—	6.4	6.5
2.0	13.5	A			4	K	1	—	.	.
2.1	14.6	F		352	2	K=H	3	Seen	.	.
2.3	17.9	H			2	K=H	1	—	.	.

R.A. 3h 25m. Dec. +86.5

St Lt. 5.0 F M.C. 7.5 7.3 Plate 1900 F. Ch. 7.7 Box No. 231

22.0	14.2	A			5	K=5H	1	—	6.9	6.7
21.8	11.5	A ?			4	K=H	1	—	7.4	7.2
21.6	14.3	A			5	K	2	F.	6.8	6.1
22.0	19.3	A			7	K=3H	3	—	5.5	5.3
6.0 6.4	21.6	21.1	M ?	353	21	K=H	21	Seen	6.5 7.0	6.3 6.8
21.7	23.5	A ?			3	K	1	—	7.3	7.1
~~20.2~~	~~15.3~~	~~A~~			~~7~~	~~K~~	~~2~~	~~F.~~		
20.0	15.7	A			3	K	1	—	7.5	7.3
20.3	23.5	A			6	K=5H	2	—	6.4	6.2
20.5	23.8	A			5	K	3	—	5.5	5.3
19.3	18.6	I		354	3	K=H	1	F.	7.0 7.3	7.0 7.3
18.2	8.2	F ?		355	2	K=H	1	Seen	7.0	7.0
18.5	12.2	A			6	K	2	—	6.2	6.2
18.6	12.4	A ?			2	K	1	—	7.4	7.4
18.9	14.0	K		356	3	K=1.2H	3	F. Br. Seen.	5.5 5.7	5.5 5.7
18.4	15.9	B		357	6	K	2	Seen	6.4	6.4
18.7	16.6	A			4	K	1	—	7.0	7.0
18.2	17.4	H			2	K=H	1	—	7.6 8.0	7.6 8.0
17.0	10.6	A			8	K	3	F.	5.6	5.6

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D.M. No.	R.A. h m	Dec.	Mag.	R.A. 1900	Dec.	Diff.	Br.	
18 20 +85.7	294 18	18.1 +85 40	7.5	18 7.2	+85 41	6.0	6.3	5.7
6 30 +87.3	~~5 41 5 22.0 +87 18 7.9~~			5 45.6	+87 20		5.2 5.8	4.6 5.2
7 1 +89.1	13 7	3.7 +89 2	7.0	7 58.0	+88 58	6.9	5.2	4.6
17 50 +86.9	263 17 264 17	48.6 +86 58 49.1 +86 58	9.2 8.5	17 32.6	+86 58	7.6 R	6.6	6.0
10 58 +88.5	64 10	53.0 +88 26	7.5	11 4.2	+88 11	7.1		
12 18 +88.5	71 12	14.4 +88 30	6.5	12 14.4	+88 15	6.7		
15 28 +87.7	143 15	26.0 +87 47	7.0	15 9.4	+87 37	7.5		

Mean +5 Mean −3

3 56 +81.3	150 3	55.7 +81 15	7.9	4 3.6	+81 23	6	6.4	6.1
4 32 +81.4	168 4	31.0 +81 23	8.5	4 39.5	+81 29	8	6.9	6.6
3 55 +81.6	147 3	53.8 +81 36	7.5	4 2.0	+81 44	2	5.8	5.5
2 51 +80.8	97 2	49.6 +80 54	5.5	2 36.2	+81 5	2	5.0	4.7
2 28 +80.8	86 2	27.2 +80 50	5.9	2 33.3	+81 21	6	6.0 6.5	5.7 6.2
2 4 +80.1	70 2	3.3 +80 3	7.7	2 8.6	+80 16	11	6.8	6.5
3 31 +82.3	101 3	30.5 +82 17	8.4	3 38.8	+82 26	6	7.0	6.7
1 54 +80.7	65 1	52.6 +80 46	6.7	1 57.9	+80 59	5	5.9	5.6
1 53 +80.6	64 1	51.8 +80 36	6.1	1 57.1	+80 49	2	5.0	4.7
2 48 +82.4	76 2	46.8 +82 20	8.0	2 54.2	+82 31	6	6.5 6.8	6.2 6.5
5 31 +82.7	152 5	30.2 +82 42	7.6	5 40.3	+82 44	5	6.5	6.2
4 27 +82.9	125 4	27.1 +82 56	8.5	4 37.0	+83 2	9	5.7	5.4
4 25 +83.0	121 4	24.2 +83 2	8.5	4 34.1	+83 8	11	6.9	6.6
3 59 +82.9	113 3	58.5 +82 59	5.0	4 8.0	+83 6	0	5.0 5.2	4.7 4.9
3 25 +83.1	91 3	24.8 +83 5	7.3	3 33.7	+83 14	2	5.9	5.6
3 16 +82.8	90 3	14.9 +82 52	8.2	3 23.4	+83 2	5	6.5	6.2
2 59 +82.9	82 2	59.9 +82 60	7.5	3 8.1	+83 11	11	7.1 7.5	6.8 7.2
5 1 +83.7	141 5	0.6 +83 43	7.1	5 11.8	+83 47	3	5.0	4.7

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Plate 1900

T.	H.	Type	No. Rem.	No. Lines	K.	Focus.	Nucl.	Other		
17.1	10.9	E?		2	K=H	1	—		7.7	7.8
									7.0	7.1
17.4	13.3	I	358	2	K=H	1	—		7.3	7.4
17.9	14.2	A		12	K	5	F		4.5	4.6
17.2	17.1	A		3	K	1	—		7.3	7.4
									6.8	6.8
17.0	19.9	I	359	3	K=H	2	F. Seen		7.4	7.4
16.9	20.6	F?	360	2	K=H	1	Seen		7.0	7.0
									6.3	6.3
17.0	21.1	K	361	2	K=H	3	Seen		6.7	6.7
16.1	13.2	E?		2	K=H	1	—		7.7	7.8
									7.0	7.1
16.5	14.0	H		3	K=H	1	F		7.6	7.7
16.2	15.4	A		4	K=H	1	—		7.3	7.4
15.7	9.1	E?		2	K=H	1	—		7.4	7.5
15.1	11.7	A		3	K	1	—		7.4	7.7
15.6	12.8	A		7	K=3H	2	—		6.1	6.4
15.3	13.5	A		2	K	1	—		7.8	8.1
15.0	15.6	A?		3	K	1	—		7.8	8.1
									5.4	5.7
15.7	16.7	K	362	3	K=1.5H	3	F. Br. Seen		6.6	5.9
15.9	18.0	F?	363	2	K=H	1	Seen		7.4	7.5
									6.1	6.4
14.1	10.6	K?	364	3	K=H	3	F. Br. Seen		6.8	7.1
14.4	11.6	A		3	K	1	—		7.6	7.9
14.0	13.5	A		4	K=H	1	—		7.1	7.4
14.5	13.6	E		2	K=H	1	—		7.6	7.9
14.5	14.1	F	365	3	K=H	3	F. Seen		5.7	6.0
14.7	18.9	E?		2	K=H	1	—		7.6	7.9
									7.3	7.4
14.4	20.7	H		3	K=H	1	—		7.5	7.6
									6.7	7.0
13.4	17.8	I	366	3	K=H	2	F. Seen		6.9	7.2
									7.1	7.4
13.8	10.6	H		2	K=H	1	—		7.4	7.7
13.5	17.7	A		9	K=1H	4	F		5.0	5.2
									7.5	7.7
13.6	12.1	H		2	K=H	1	—		7.7	7.9

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Bc.	
4 55	+83.7	137	4	53.8	+83 39	8.7	5	4.9	+83 43		7.2	6.9
4 12	+83.7	114	4	11.0	+83 43	7.4	4	21.5	+83 50		6.5 6.8	6.2 6.5
3 55	+83.5	104	3	55.1	+83 26	5.0	4	5.0	+83 34		4.0	3.7
3 0	+83.5	79	3	0.1	+83 30	8.2	3	8.8	+83 41	R	6.8	6.5
2 15	+83.2	56	2	13.3	+83 11	8.0	2	20.4	+83 24		6.3 6.9	6.0 6.6
2 4	+83.0	54	2	8.1	+83 0	8.9	2	9.6	+83 13		6.5	6.2
1 56	+82.8	51	1	55.1	+82 52	7.0	2	1.4	+83 6		5.8 6.2	5.5 5.9
4 13	+84.4	85	4	12.8	+84 19	9.0	4	24.3	+84 26		7.2	6.9
3 58	+84.1	78	3	58.1	+84 7	7.5	4	8.1	+84 15		6.95 7.13	6.2 6.8
3 30	+84.3	69	3	28.1	+84 13	8.8	3	28.3	+84 22		6.8	6.5
5 35	+84.1	114	5	34.4	+84 4	8.9	5	46.3	+84 6		6.9	6.6
4 46	+84.7	97	4	45.5	+84 41	8.8	4	58.2	+84 41		6.9	6.6
4 21	+84.6	88	4	21.2	+84 26	7.7	4	33.4	+84 42	2	5.6	5.3
4 8	+84.7	83	4	7.5	+84 41	9.1	4	19.5	+84 48		7.3	7.0
3 19	+84.8	65	3	18.9	+84 47	8.9	3	29.9	+84 57		7.3	7.0
2 58	+84.4	59	2	57.8	+84 23	6.0	3	8.4	+84 34	2	4.9 5.1	4.6 4.8
2 37	+84.1	48	2	36.7	+84 0	9.2	2	45.3	+84 15	7	6.9	6.6
5 16	+85.2	80	5	16.0	+85 6	6.0	5	29.9	+85 9	4	5.65 6.35	5.3 6.0
4 53	+85.1	77	4	52.3	+85 6	9.0	5	6.0	+85 10		7.1	6.8
4 8	+85.4	66	4	7.8	+85 22	8.5	4	21.4	+85 29		6.6	6.3
4 2	+85.1	64	4	4.6	+85 8	9.0	4	17.5	+85 15		7.1	6.8
3 52	+85.2	63	3	52.4	+85 10	6.5	4	5.1	+85 17	5	5.2	4.9
2 12	+84.4	42	2	11.4	+84 25	8.5	2	19.6	+84 38		7.1	6.8
1 39	+84.0	34	1	39.2	+84 2	8.1	1	45.6	+84 16	7	6.8 7.0	6.5 6.7
2 15	+85.2	45	2	14.2	+85 10	8.6	2	23.3	+85 22	8	6.2 6.45	5.9 6.1
5 18	+85.2	81	5	20.4	+85 14	8.0	5	34.7	+85 17	2	6.6 6.9	6.3 6.6
4 54	+85.5	78	4	55.1	+85 32	7.0	4	9.9	+85 36	21	4.5	4.2
4 42	+85.5	75	4	45.1	+85 32	8.5	4	59.8	+85 37		7.0 7.2	6.7 6.9

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r.	H.	Type.	No. Rem.	No. Lines	K.	Focus.	Other Lines		
13.2	12.3	F?	367	3	K=.8H	3	F Seen	5.3	5.5
13.0	13.1	A		3	H	1	—	7.7	7.9
13.5	17.3	A		5	K=H	1	—	7.0	7.3
13.5	17.4	A		3	H	1	—	7.5	7.8
13.5	18.1	A		6	K=.2H	2	—	6.2	6.5
13.2	19.0	I	368	3	K=H	2	F.	6.4 / 6.6	6.7 / 6.9
13.4	20.6	A		6	K=.8H	2	—	6.8	7.1
13.6	20.7	A		3	H	1	—	7.3	7.6
13.4	22.0	A?		4	K=H	1	—	7.7	7.8
13.0	22.9	A		6	K=.8H	3	F.	5.5	5.6
12.3	8.3	A?		4	K=H	1	—	7.5	7.8
12.7	12.7	A		6	H	2	—	6.1	6.3
Recorded alone.	13.1	A		3	H	1	—		
12.4	13.2	A		3	H	1	—	7.7	7.9
12.4	15.1	F	369	3	K=H	5	Seen	4.8	5.0
12.0	23.6	F	370	3	K=H	2	Seen	6.2	6.3
11.2	18.7	F	371	3	K=H	2	F	6.9	7.2
11.4	12.8	F?		2	K=H	1	—	7.6	7.7
11.5	13.2	F?	372	2	K=H	1	Seen	7.4	7.5
11.8	14.5	A		4	K=H	1	—	7.4	7.5
11.4	16.7	F	373	3	K=H	2	F. Seen	6.6	6.7
11.4	17.0	A		3	H	1	—	7.6	7.7
11.8	19.3	A		3	H	1	—	7.6	7.8
11.0	18.3	A?		6	K=H	2	F.	6.5	6.7
11.0	20.4	K?	374	3	K=2H	5	F.	B	B
11.4	21.5	H		3	K=H	1	F	7.4 / 7.7	7.7 / 8.0
11.7	21.9	A		6	K=H	1	F	6.8	7.1
11.8	22.7	A?		4	K=H	1	—	7.2	7.5

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No.	Zone	Dec.	Mag.	R.A. (1900) h. m.	Dec.	Mean	Diff.	Br.	
4	39	+85.7	74	4 41.0	+85° 46	6.0	4 56.3	+85 50	4.5
4	19	+85.9	68	4 19.1	+85 54	9.5	4 34.8	+86 18	7.2 6.9
2	29	+85.3	48	2 29.4	+85 15	8.8	2 39.4	+85 27	6.5 6.2
2	30	+85.3	50	2 30.9	+85 16	8.8	2 41.0	+85 28	7.0 6.7
2	14	+85.2	45	2 14.2	+85 10	8.6	2 23.3	+85 22	5.7 5.4
1	51	+85.0	41	1 50.8	+85 2	7.7	1 58.8	+85 16	6.1 5.6 5.8
1	28	+84.5	29	1 27.5	+84 29	8.0	1 33.9	+84 43	6.3 6.0
1	29	+84.3	30	1 28.6	+84 20	9.0	1 34.9	+84 34	6.8 6.5
1	9	+83.9	30	1 8.6	+83 58	9.3	1 13.9	+84 12	7.2 6.9
0	50	+83.8	20	0 48.4	+83 49	7.0	0 52.8	+84.4	5.0 4.7
6	25	+85.4	101	6 25.6	+85 22	8.9	6 40.1	+85 20	7.0 6.7
4	30	+86.1	66	4 30.2	+86 4	8.0	4 46.3	+86 10	5.6 5.3
4	20	+85.9	69	4 20.2	+85 54	9.4	4 35.5	+86 1	7.1
4	20	+86.2	64	4 18.4	+86 12	9.2	4 34.8	+86 18	7.2 6.9
3	20	+86.2	51	3 19.5	+86 11	6.0	3 33.6	+86 20	4.3 4.0
0	25	+83.8	9	0 26.3	+83 53	7.8	0 39.8	+84 8	5.7 5.4
6	30	+85.9	105	6 35.0	+85 57	8.2			
1	40	+86.7	38	1 40.8	+85 45	9.0	1 49.2	+85 59	6.4 6.1
4	37	+86.6	67	4 32.2	+86 39	8.7	4 50.8	+86 44	7.1 6.8
4	20	+86.6	65	4 19.8	+86 37	8.3	4 38.1	+86 44	6.9 6.6
3	39	+86.5	54	3 36.3	+86 32	8.9	3 52.6	+86 41	6.9 6.6
2	23	+86.4	39	2 20.2	+86 25	8.6	2 32.2	+86 37	6.1 5.8
2	19	+86.3	38	2 13.7	+86 21	9.0	2 25.2	+86 33	7.1 6.8
1	28	+85.5	32	1 24.8	+85 32	9.0	1 32.1	+85 46	7.1 6.8
1	34	+86.2	25	1 31.6	+86 13	8.8	1 40.2	+86 26	6.0 5.7
0	49	+85.5	19	0 49.7	+85 29	5.0	0 54.9	+85 43	B.
0	39	+84.8	14	0 39.8	+84 55	8.6	0 44.2	+85 10	6.9 6.6 6.9
0	41	+84.6	15	0 40.9	+84 40	8.2	0 45.3	+84 55	6.3 6.0
0	35	+84.3	13	0 33.9	+84 16	9.0	0 37.8	+84 30	6.7 6.4

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Plate 1900

T.	H.	Type	No. Rem.	No. Lines	K.	Focus	Other Lines.		
11.5	22.9	H?		2	K=H	1	—	7.3 7.5	7.6 7.8
11.4	23.1	E?		2	K=H	1	—	7.5	7.6
16.3	9.5	E?		2	K=H	1	—	7.6	7.8
10.8	10.8	K	375	2	K=H	3	Br. Seen	6.0 6.4	6.1 6.5
10.0	19.0	K	376	3	K=H	3	F	5.6 6.2	5.7 6.3
10.0	21.0	H		2	K=H	1	—	7.2 7.4	7.4 7.6
10.5	21.5	A		5	K=H	1	F	7.0	7.3
10.1	23.1	F?	377	2	K=H	1	—	7.1	7.4
10.9	23.7	A		5	K=H	2	—	6.4	6.5
9.0	5.7	F	378	2	K=H	2	Seen	6.1	6.4
9.5	7.4	I	379	3	K=H	2	Seen	6.6 6.9	6.8 7.1
9.4	10.4	K?	380	3	K=H	4	F.	5.2 5.9	5.3 6.0
9.1	14.1	A		4	K=H	1	—	7.0	7.0
9.9	15.5	A?		4	K=H	1	—	7.3	7.3
9.5	19.7	A		4	K=H	1	—	7.1	7.3
9.2	22.4	A		4	K=H	1	—	7.2	7.5
9.1	23.4	H		3	K=H	1	—	7.2 7.5	7.5 7.8
9.6	24.0	H?		2	K=H	1	—	7.3 7.5	7.6 7.8
9.1	24.1	A		3	K	1	—	7.3	7.6
8.0	11.1	A		3	K	1	—	7.3	7.3
8.8	15.2	H		3	K=H	1	F	7.3 7.7	7.3 7.7
8.3	15.6	A?		4	K=H	1	—	7.1	7.1
8.2	16.0	F?	381	2	K=H	1	Seen	7.4	7.4
8.5	16.3	A		6	K=8H	2	—	6.3	6.3
8.1	16.7	H?		2	K=H	1	—	7.2 7.6	7.2 7.6
8.3	17.3	A?		3	K	1	—	7.2	7.2
8.5	20.3	A		6	K=H	2	—	6.5	6.7
8.8	20.9	A		10	K=2H	3	F.	5.3	5.5

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DM No.	R.A. h.	Dec.	Mag.	R.A. 1900	Dec	D.C. Mean	Diff.	Br.	
0 25	+84.4	10 0 25.3	+84° 18	8.5 ✓	0 28.8	+84 33			6.8 6.5
0 23	+84.3	9 0 23.3	+84 11	9.0 ✓	0 26.7	+84 26			7.0 6.7
6 32	+86.5	96 6 31.8	+86 31	8.5 ✓	6 50.2	+86 29			7.1 6.8
5 50	+86.8	79 5 48.0	+86 46	7.0 ✓	6 8.2	+86 46	5.9 7.33	4 X9	5.5 5.2 5.9 5.6
0 52	+86.4	17 0 52.8	+86 22	7.5 ✓	0 58.6	+86 37	5.7 7.89	6 X0	5.1 4.8 5.7 5.4
0 22	+85.6	9 0 22.5	+85 31	8.3 ✓	0 26.2	+85 46	6.04	7	6.7 6.4 6.9 6.6
0 28	+85.2	11 0 25.4	+85 10	8.8 ✓	0 29.2	+85 25	6.1 7.32	4 ✓ X	6.5 6.2
23 59	+84.6	546 23 59.1	+84 36	8.2 ✓	0 1.4	+84 51	6.04	6 ✓	6.6 6.3
0 8	+84.2	3 0 7.8	+84 9	8.0 ✓	0 10.6	+84 24	5.78 6.2	2 ✓ 6 X8	5.9 5.6
8 12	+85.6	128 8 12.7	+85 33	7.5 ✓	8 25.6	+85 25	7.43 6.5	4 X7	5.6 5.3 6.1 5.8
7 39	+86.2	113 7 37.2	+86 6	7.2 ✓	7 52.5	+86 0	7.85	X	6.4 6.1
6 32	+87.3	51 6 31.1	+87 15	5.0 ✓	6 53.9	+87 12	6.84	2 X1	4.7 4.4 5.4 5.1
3 40	+87.8	33 3 38.7	+87 54	8.5 ✓	4 4.9	+88 2	7.79	X4	6.5 6.2
2 41	+87.4	26 2 41.0	+87 22	8.7 ✓	2 58.5	+87 33			6.8 6.5
0 30	+86.2	9 0 32.5	+86 9	8.6 ✓	0 37.2	+86 23 6.64	7.84	2 X2	6.6 6.3
23 50	+85.1	406 23 49.1	+85 6	8.8 ✓	23 50.8	+85 21	6.04	7 ✓	6.7 6.4
23 38	+84.6	536 23 38.2	+84 39	8.2 ✓	23 39.4	+84 54			6.7 6.4 7.0 6.7
23 43	+84.4	539 23 42.5	+84 16	8.1 ✓	23 44.0	+84 31	6.00		6.8 6.5 7.0 6.7
23 32	+84.4	533 23 32.8	+84 22	8.7 ✓	23 33.8	+84 37	6.14	7 ✓	6.8 6.5
6 48	+88.0	39 6 47.0	+88 1	8.5 ✓	7 16.8	+87 58	8.02	X2	6.8 6.5
2 30	+87.9	33 2 30.6	+87 57	8.7 ✓	2 51.9	+88 9			6.8 6.5 7.2 6.9
1 59	+88.1	11 1 58.9	+88 3	8.8 ✓	2 17.6	+88 16	7.81	X2	6.6 6.3
1 40	+87.9	16 1 40.0	+87 59	8.8 ✓	1 56.0	+88 13			6.9 6.6
1 38	+87.7	15 1 35.6	+87 47	8.2 ✓	1 49.6	+88 0	7.64	X8	5.8 5.5
1 7	+87.8	12 1 7.1	+87 48	8.0 ✓	2 18.0	+88 3	7.81	X1	6.7 6.4 7.1 6.8
0 53	+87.5	9 0 53.5	+87 29	8.8 ✓	0 59.6	+87 44			6.7 6.4
23 56	+86.3	347 23 55.3	+86 14	8.6 ✓	23 57.3	+86 29 6.64	7.80	4 X8	6.0 5.7
23 54	+85.9	409 23 52.8	+85 57	8.0 ✓	23 54.7	+86 9 8.54	7.75	6 X0	4.8 4.5

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r.	H.	Type.	No. Rem.	No. Lines	K.	Focus.	Filter. Lines			
8.0	21.5	F	382	3	K=H	2	Seen	6.2	6.4	2
8.0	21.9	A?		7	K=8H	3	F	5.4	5.6	2
8.4	22.2	A		6	?	2	F	5.8	6.0	2
8.4	22.6	H		2	K=H	1	—	7.0 / 7.1	7.3 / 7.4	2
7.4	9.1	A		3	K	1	—	7.3	7.4	8
(Recorded above.)	7.9	11.1	A		3	K	1	—			
7.9	15.1	F?	383	2	K=H	2	Seen	6.3	6.2	2
7.3	15.7	F?	384	2	K=H?	5	F. Seen.	B	B	1
7.4	16.3	A		10	K=2H	4	F.	5.0	5.0	
7.4	17.8	A		3	K	1	—	7.2	7.2	
7.0	18.1	A		5	K=H	1	—	7.1	7.1	2
7.5	20.1	A?		11	K=.8H	5	F	4.7	4.8	2
7.4	24.2	H		3	K=H	2	F	5.8 / 6.3	6.1 / 6.6	2
6.3	8.8	A		5	K=H	2	F	6.9	7.0	
6.4	12.3	A		9	K=.3H	3	F	5.3	5.2	
6.4	15.9	I	385	2	K=H	1	Seen	7.0 / 7.3	6.9 / 7.2	
6.2	20.5	A		5	K	2	F.	6.3	6.4	2
5.3	6.7	A		3	K	1	—	6.8	7.0	
5.8	8.2	H		2	K=H	1	—	6.9 / 7.2	7.0 / 7.3	
5.1	8.7	H		2	K=H	1	—	7.3 / 7.7	7.3 / 7.7	
5.0	10.9	E?	386	2	K=H	1	—	7.2	7.2	
5.8	14.2	A		3	K	1	—	7.3		
5.3	16.2	A		4	K	1	—	7.1	7.0	
5.7	18.9	A		7	K=.3H	2	—	5.7	5.7	
5.1	19.5	I	387	2	K=H	1	Seen	7.0	7.1	
5.8	22.7	H		3	K=H	2	F	6.3 / 6.8	6.5 / 7.0	
5.8	22.9	A		8	K	5	F	B	B	
4.7	7.2	A		3	K	1	—	7.0	7.1	

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	DC. Mean	Diff.	Bc.	
23 28 +86.8	401	23 27.2	+85 46	8.0	23 27.5	+86 0	7.33	16	5.7 5.4
23 25 +86.6	399	23 24.2	+85 37	7.5	23 24.4	+85 52	6.7	18	4.9 4.6
23 29 +85.4	403	23 29.7	+85 23	7.8	23 30.4	+85 38	6.87	16	5.3 5.0
23 26 +85.3	400	23 25.8	+85 13	8.0	23 26.3	+85 27	6.0	5	6.5 6.2 / 6.6 6.3
8 5 +87.4	68	8 6.2	+87 23	8.8	8 26.2	+87 15			6.8 6.5
2 20 +88.4	13	2 17.7	+88 22	8.5	2 42.2	+88 35	7.85	20	5.8 5.5
1 9 +88.6	8	1 6.5	+88 32	2.0	1 22.0	+88 46	4.4		B
0 45 +88.3	4	0 45.5	+88 15	7.5	0 53.6	+88 29	6.55	21	4.5 4.2
0 5 +87.6	1	0 4.5	+87 36	9.0	0 7.3	+87 51			6.7 6.4
23 39 +87.6	217	23 42.4	+87 32	8.5	23 42.8	+87 47	8.0	14	6.6 6.3
23 29 +86.5	344	23 27.8	+86 30	6.0	23 27.7	+86 45	8.37	21	4.2 3.9
22 55 +87.6	617	22 54.2	+84 36	6.5	22 53.5	+84 50	5.55	34	5.3 5.0 / 5.8 5.5
9 0 +87.5	78	9 0.8	+87 29	8.0	9 18.0	+87 18	7.71	13	6.4 6.1
7 1 +89.1	13	7 3.7	+89 2	7.0	7 58.0	+88 58	6.9	21	4.8 4.5
0 10 +88.6	2	0 11.0	+88 38	8.8	0 16.0	+88 52			6.5 6.2 / 6.8 6.5
22 45 +86.5	335	23 45.6	+86 32	8.0	22 42.3	+86 46	7.6	18	5.8 5.5
9 49 +86.5	143	9 47.4	+86 32	8.6	9 58.2	+86 19	7.75	15	6.3 6.0
9 30 +87.3	83	9 29.9	+87 16	7.7	9 44.0	+87 4	8.0	16	6.4 6.1 / 6.7 6.4
9 50 +87.9	85	9 47.8	+87 59	8.5	10 4.0	+87 47			6.8 6.5 / 7.2 6.9
9 59 +88.6	60	9 59.6	+88 36	8.5	10 19.4	+88 23	7.9	12	6.7 6.4
1 59 +89.5	3	1 49.6	+89 29	8.8	3 18.7	+89 41			6.8 6.5
22 30 +88.7	131	22 30.6	+88 44	8.7	22 12.3	+88 58	8.0	14	6.6 6.3
22 30 +87.4	205	22 30.8	+87 21	7.5	22 24.2	+87 35	7.45	20	5.2 4.9
22 8 +87.1	201	22 7.0	+87 6	8.2	21 59.2	+87 19	7.85	13	6.5 6.2
22 25 +85.5	384	22 24.7	+85 29	6.5	22 21.7	+85 43	6.6	2	5.8 5.5 / 6.3 6.0
22 25 +85.4	383	22 24.2	+85 23	6.0	22 21.3	+85 36	5.3 / 6.4	1	B
10 10 +86.7	152	10 8.5	+86 48	8.4	10 18.6	+86 34	7.8	13	6.5 6.2

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April 18, 1889.
Plate 1900.

v.	M.	Type	No. Rem	No. Lines	K.	Focus.	Letter Lines		
4.0	15.6	I	388	3	K=H	2	F	6.3 7.0	6.2 6.9
4.6	21.0	A		3	K	1	—	6.9	7.0
4.7	22.1	A		3	K	1	—	7.4	7.6
3.3	~~6.4~~ 6.7	A		3	K	1	—	7.1	7.3
3.8	5.9	A		3	K	1	—	6.2	6.4
3.2	6.7	A?		5	K=.5H	2	—	6.1	6.3
3.4	11.2	F?	389	3	K=H	4	Seen	5.4	5.4
3.0	15.2	H		2	K=H	1	—	7.3 7.6	7.2 7.5
3.9	20.7	A		6	K	3	F	6.0	6.1
2.4	6.9	A		4	K=H	2	—	.	.
2.0	9.0	F	390	3	K=H	3	F. Seen	.	.
2.9	9.7	A		7	K=.5H	2	—	6.9	6.9
2.6	11.5	H		2	K=H	1	—	7.3 7.8	7.3 7.8
2.2	15.7	A?		4	K=H	1	—	.	.
2.0	17.5	A		3	K	1	—	.	.

R.A. 7h 28m Dec. +86.7

St. Lt. 6.0 F.M. 6.6 7 6.5 Plate 2015 F. Ch. 7.1 Box No. 224

21.8	10.3	F	391	3	K=H	2	F. Seen	6.1	5.9
21.0	11.5	A		4	K=H	1	—	7.0	6.8
21.4	18.4	A		7	K	3	—	5.6	5.4
20.3	8.8	M?	392	2	K=1.5H	3	Br. Seen	5.5 6.1	5.3 5.9
20.6	16.7	A?		4	K=H	1	—	7.1	6.9
19.0	20.8	A		7	K=.1H	3	—	6.0	5 6.8
19.3	14.2	A		8	K=.1H	3	—	5.5	5.5
19.3	17.6	M?	393	2	K=1.2H	3	Br. Seen	5.8 6.5	5.8 6.5
~~19.0~~	~~20.8~~	~~A~~		~~7~~	~~K=.5H~~	~~3~~	~~—~~		
18.2	9.3	A		8	K=.3H	2	—	6.6	6.6

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D.M. No.	R.A.	Dec.	Mag.	R.A.	Dec	Mean	Diff.	Bre.	
20 19 +88.8	112	20	8.5	+ 88 52	6.5 ✓	19 22.5	+ 88 39 ✓ 7.4	x6	5.8 {5.5 6.2}
21 54 +86.4	324	21	52.8	+86 20	8.2 ✓	21 46.4	+ 86 33 ✓ 7.8	x5	6.4 6.1
21 57 +85.7	367	21	55.8	+ 85 46	8.5 ✓	21 50.9	+ 85 59		6.9 6.6
10 44 +86.3	159	10	50.4	+86 20	8.3 ✓	10 57.0	+86 5 ✓ 6.4	2	6.6 6.3
~~20 42 +87.5~~	~~187~~	~~20~~	~~41.8~~	~~+87 29~~	~~8.0 ✓~~	20 25.1	+ 87 39	6.5 8	
10 34 +86.1	154	10	33.4	+ 86 8	8.2 ✓	10 40.7	+ 85 54 ✓ 7.8	21	5.7 5.4
10 58 +86.4	161	10	56.2	+86 26	7.2 ✓	11 2.3	+ 86 11 ✓ 7.2	5.9 3 x6	5.6 5.3
12 18 +88.5	71	12	14.4	+ 88 30	6.5 ✓	12 14.4	+ 88 15 ✓ 6.7	x8	4.9 4.6
18 33 +88.7	105	18	34.4	+ 88 43	8.5 ✓	17 51.2	+ 88 46		6.8 {6.5 6.8} 7.1
21 28 +86.4	319	21	27.7	+ 86 26	7.0 ✓	21 19.6	+ 86 37 ✓ 7.4	5.7 2 x6	5.5 5.2
11 24 +86.4	170	11	23.8	+ 86 25	7.0 ✓	11 28.3	+ 86 10 ✓ 7.3		
12 18 +87.2	107	12	12.6	+ 87 14	6.5 ✓	12 13.7	+ 87 0 ✓ 6.8		
10 0 11 51.2 +87 48 9.0 ✓									
11 53 +87.7	101	11	51.6	+ 87 48	8.0 ✓	11 54.6	+ 87 33 ~~✓ 7.5~~	R x6	~~6.4~~ 6.1 ~~5.8~~
13 19 +88.4	76	13	12.2	+ 88 26	8.0 ✓	13 4.5	+ 88 11		6.8 {6.5 7.3 7.0}
18 27 +88.3	104	18	24.8	+ 88 14	8.0 ✓	17 53.7	+ 88 16 ✓ 7.8		
19 39 +87.6	181	19	36.1	+ 87 36	8.0 ✓	19 15.7	+ 87 42 ✓ 7.8		

mean +.2
~~mean -.4~~

8 51 +81.4	282	8	49.2	+ 81 24	6.7 ✓	8 56.3	+ 81 14 ~~✓ 6.0~~ 7.1	8	5.9 ~~5.5~~
8 36 +81.8	273	8	35.2	+ 81 49	7.6 ✓	8 42.8	+ 81 40 ~~✓ 6.1~~	7	6.8 6.4
6 58 +81.5	242	6	57.6	+ 81 30	6.3 ✓	7 6.4	+ 81 26 ~~✓ 5.6~~	7	5.4 5.0
9 16 +81.9	302	9	16.0	+ 81 58	4.3 ✓	9 22.8	+ 81 46 ~~✓ 4.3~~	8	5.3 {4.9 5.9 5.5}
7 18 +82.0	213	7	18.8	+ 82 0	7.0 ✓	7 27.7	+ 81 55 ~~✓ 5.8~~	11	6.9 6.5
6 14 +82.2	177	6	13.8	+ 82 13	6.7 ✓	6 23.4	+ 82 12 ~~✓ 5.7~~	6	5.8 5.4
7 56 +82.8	235	7	56.0	+ 82 52	6.5 ✓	8 5.2	+ 82 44 ~~✓ 4.8~~	5	5.3 4.9
7 1 +82.7	201	7	0.3	+ 82 40	5.5 ✓	7 10.0	+ 82 30 ~~✓ 4.9~~ 5.0	6	5.6 5.2 6.3 5.9
6 14 +									~~5.9~~
9 19 +83.2	262	9	19.0	+ 83 0	7.5 ✓	9 26.4	+ 82 49 ✓ 5.7	7	6.4 6.0

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April, 18, 1889
Plate 2015

v.	H.	Type.	No. Rem.	No. Lines	K.	Focus	Other Lines		
18.6	10.6	A?		3	K	1	—	7.3	7.3
18.2	10.7	E		2	K=H	1	—	7.0	7.0
18.4	11.9	F	394	2	K=H	2	Seen	6.2	6.2
18.5	12.1	H		3	K=H	1	F	7.0 7.4	7.0 7.4
18.0	14.3	F	395	2r	K=H	1	Seen	7.0	7.0
17.2	7.4	H		2	K=H	1	—	7.1 7.4	7.1 7.4
17.4	10.0	F	396	2	K=H	2	Seen	6.5	6.5
17.9	10.3	A		3	K	1	—	7.1	7.1
17.6	10.7	A		3	K	1	—	7.3	7.3
17.4	11.5	A		3	K	1	—	7.4	7.5
17.4	11.7	H?		2	K=H	1	—	7.4 7.6	7.5 7.7
17.0	17.7	A		4	K=H	1	—	7.0	7.1
5.15 16.4	6.6	F	397	2	K=H	3	Seen	5.1	5.1

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1888phae.proj..860F

	D.M.	R.A.	Dec.	Mag.		R.A. (1900)	Dec.	Mean	Diff.	Br.		
8	56	+82.9	265	8h 56.2m	+82° 56′	8.8 ✓	9	4.21	+82 46	6.4	7 ✓	7.1	6.7	. .
8	55	+83.2	243	8 54.9	+83 12	8.3 ✓	9	3.1	+83 2	6.9	6 ✓	6.8	6.4	
8	37	+83.3	233	8 35.8	+83 17	7.0 ✓	8	44.5	+83 8	6.6	4 ✓	6.0	5.6	
8	34	+83.2	232	8 33.0	+83 15	7.0 ✓	8	41.8	+83 1	6.7	6 ✓	6.8 7.2	{6.4 6.8	
7	54	+83.5	307	7 53.7	+83 22	8.2 ✓	8	3.6	+83 25	6.3	5 ✓	6.8	6.4	
9	54	+83.1	280	9 53.1	+83 6	7.1 ✓	9	5.9	+82 53	6.3	6 ✓	6.9 7.2	{6.5 6.8	
9	13	+83.6	256	9 12.5	+83 33	7.2 ✓	9	20.5	+83 22	5.7	6 ✓	6.3	5.9	
9	4	+83.3	248	9 3.5	+83 18	8.4 ✓	9	11.5	+83 7	8.4	5 ✓	6.9	6.5	. .
8	59	+83.5	245	8 58.7	+83 30	8.6 ✓	9	7.1	+83 19			7.1	6.7	. .
8	46	+83.7	238	8 45.0	+83 42	9.0 ✓	8	54.0	+83 32			7.2	6.8	. .
8	40	+83.7	236	8 40.0	+83 44	8.5 ✓	8	49.1	+83 34			7.2 7.4	{6.8 7.0	
6	49	+83.7	182	6 48.1	+83 43	8.2 ✓	6	59.2	+83 40			6.8	6.4	
10	14	+83.3	297	10 13.0	+83 18	8.2 ✓	10	19.0	+83 44	4.0	9 ✓	4.9	4.5	

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1888phae.proj..860F

April 20, 1889.
Plate 2015 Gelatine

0 30

ν	H.	Type	Rem.	No. Lines	K.	No. Lines	Focus		
16.2	7.2	I	398	3	K=H	1	F.	6.8 / 7.1	6.8 / 7.1
16.4	9.6	A?		5	K=H	1	F.	6.8	6.9
16.0	10.8	H		2	K=H	1	—	7.0 / 7.3	7.1 / 7.4
16.9	11.4	A		3	K	1	—	7.1	7.2
16.4	11.6	A		4	K	1	—	6.9	6.0
16.8	12.6	F?	399	2	K=H	1	—	7.2	7.3
16.2	12.8	F	400	3	K=H	2	F. Seen	6.7	6.8
16.2	14.4	F	401	3	K=H	1	F Seen	7.0	7.1
16.2	14.9	A		10	K=2H	3	F	5.5	5.6
16.5	15.4	H		2	K=H	1	—	7.5 / 7.8	7.6 / 7.9
16.6	22.7	F	402	3	K=H	1	F. Seen.	6.9	6.9
15.8	9.2	E?		2	K=H	1	—	7.0	7.1
15.5	10.4	C?		4	K=H	1	—	6.9	7.0
15.5	12.0	A?		11	K=H	3	F.	5.5	5.8
15.3	13.8	E?		2	K=H	1	—	7.0	7.3
15.5	15.1	A		6	K	2	—	6.2	6.5
15.9	16.6	I?	403	2	K=H	1	Seen	7.1 / 7.4	7.2 / 7.5
14.7	7.7	A?		4	K=H	1	—	7.3	7.4
14.9	9.2	K?	404	2	K=H	2	Br. Seen	6.5 / 7.1	6.6 / 7.2
14.3	10.2	F	405	2	K=H	1	Seen	7.0	7.3
14.2	10.4	H		2	K=H	1	—	6.8 / 7.1	7.1 / 7.4
14.8	12.1	E		2	K=H	1	—	7.3	7.6
14.5	12.4	A		5	K=H	1	—	7.0	7.3
14.0	13.5	F		3	K=1.2H.	3	F. Seen	6.4	6.7
14.5	14.0	A		3	K	1	—	7.6	7.9
14.1	17.9	H		2	K=H	1	—	7.4 / 7.7	7.7 / 8.0
14.5	18.2	H?		3	K=H	2	F	6.7 / 6.8	7.0 / 7.1
13.6	8.7	A		10	K=5H	4	F	4.9	5.2

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1888phcaz.pg1..800F

D. M.	h. R.A. m	Dec.	Mag.	h. R.A. 1900 m	Dec.	Mean		Bz.	
10 6	+ 83.5	287	10 5.4	+ 83 32	6.8	10 11.7	+ 83 19	7	6.6 {6.2 6.9 {6.5
9 25	+ 83.9	263	9 24.6	+ 83 59	8.0	9 32.6	+ 83 47	4	6.6 6.2
9 7	+ 84.4	206	9 5.8	+ 84 22	8.0	14.9	+ 84 11	4	6.8 {6.4 7.1 {6.7
8 49	+ 83.9	239	8 48.0	+ 83 55	9.0	8 57.6	+ 83 45		6.9 6.5
8 49	+ 84.3	199	8 47.2	+ 84 13	8.6	8 56.6	+ 84 3		6.7 6.3
8 27	+ 84.1	187	8 25.6	+ 84 4	9.2	8 37.0	+ 83 55		7.0 6.6
8 26	+ 84.4	186	8 25.1	+ 84 25	8.0	35.4	+ 84 16	4	6.5 6.1
7 52	+ 84.5	173	7 50.7	+ 84 27	8.8	8 1.9	+ 84 20		6.8 6.4
7 41	+ 84.5	169	7 41.6	+ 84 28	6.0	7 53.1	+ 84 21	4	5.3 4.9
7 27	+ 84.3	163	7 28.7	+ 84 17	9.0	40.1	+ 84 11		7.3 {6.9 7.6 {7.2
5 30	+ 82.7	152	5 30.2	+ 82 42	7.6	5 40.3	+ 82 44	7	6.7 6.3
9 38	+ 84.2	222	9 36.5	+ 84 10	8.0	9 44.3	+ 83 57	4	6.8 6.4
9 18	+ 84.5	212	9 15.2	+ 84 29	8.5	9 24.0	+ 84 18	3	6.7 6.3
8 45	+ 84.7	196	8 44.3	+ 84 46	6.0	8 54.5	+ 84 35	2	5.3 4.9
8 5	+ 84.8	179	8 2.8	+ 84 55	8.3	8 15.5	+ 84 47	3	6.8 6.4
7 33	+ 84.7	168	7 33.6	+ 84 47	7.8	7 45.8	+ 84 41	2	6.0 5.6
7 1	+ 84.5	152	7 1.6	+ 84 29	8.0	7 13.7	+ 84 25		6.9 {6.5 7.2 {6.8
10 10	+ 84.4	237	10 10.1	+ 84 17	8.5	10 16.8	+ 84 4	5	7.1 6.7
9 45	+ 84.6	225	9 44.7	+ 84 37	6.5	9 52.6	+ 84 25	4	6.3 {6.9 6.9 {6.5
9 29	+ 85.1	151	9 28.4	+ 85 3	8.5	9 37.5	+ 84 51	1	6.8 6.4
9 27	+ 85.2	150	9 25.4	+ 85 9	8.0	9 34.7	+ 84 57	3	6.6 {6.2 6.9 {6.5
8 41	+ 85.0	135	8 42.6	+ 85 3	9.0	8 53.3	+ 84 53		7.1 6.7
8 39	+ 85.2	132	8 36.9	+ 85 15	8.2	8 48.2	+ 85 6	2	6.8 6.4
8 14	+ 85.6	128	8 12.7	+ 85 33	7.5	8 25.6	+ 85 25	0	6.2 6.8
7 58	+ 85.3	126	7 56.8	+ 85 15	9.0	8 8.8	+ 85 8		7.4 7.0
6 21	+ 85.1	99	6 22.5	+ 85 3	9.0	6 36.3	+ 85 1		7.2 {6.8 7.5 {7.1
6 21	+ 84.7	135	6 20.9	+ 84 48	8.2	6 34.1	+ 84 47	3	6.5 {6.1 6.5 {6.2
10 9	+ 84.9	234	10 7.8	+ 84 59	5.0	10 15.2	+ 84 46	3	4.7 4.3

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1888phae.proj...860F

April 20, 1889
Plate 20/5

T	H.	Type	No. Rem.	No. Lines	K.	Focus.	Lines		
13.3	11.4	H		2	K=H	1	—	7.4 7.8	7.6 8.0
13.2	11.9	H		2	K=H	1	—	7.1	7.3
13.0	14.6	H	409	3	K=1.2H	2	F. Seen	6.6	6.8
13.5	17.5	A		4	K=H	1	—	7.2	7.5
13.1	20.0	H		2	K=H	1	—	7.2	7.5
13.9	22.7	A		6	K	2	—	5.8	5.9
12.0	10.1	H?		2	K=H	1	—	7.3	7.5
12.9	12.8	H		2	K=H	1	—	7.1 7.5	7.3 7.7
12.6	13.8	A?		3	K	1	—	7.2	7.4
12.8	16.7	H	408	2	K=H	1	Seen	6.7	6.9
12.0	17.6	A?		4	K=H	1	—	7.3	7.5
12.5	20.0	H		2	K=H	1	—	6.9 7.1	7.2 7.4
12.5	20.21	K?		2	K=H	2	Br. Seen	6.1 6.8	6.4 7.1
12.0	21.8	A	409	3	K	1	—	7.2	7.5
11.0	7.0	H		3	K=H	2	F	6.4 6.7	6.7 7.0
11.3	9.1	H		3	K=H	2	—	6.7	6.9
11.9	9.6	A?		4	K=H	1	—	6.9	7.1
11.9	10.3	A		4	K	1	—	7.1	7.4
11.4	10.8	A		6	K=.5H	2	—	6.6	6.8
11.6	15.7	H		3	K=H	2	F.	6.6	6.7
11.6	15.8	A		4	K	1	—	6.7	6.8
11.6	16.4	H		2	K=H	1	—	7.1	7.3
11.4	16.9	A		4	K=H	1	—	7.3	7.5
11.4	20.3	A		8	K=.1H	3	F	5.2	5.4
11.5	22.2	A		3	K	1	—	7.4	7.7
11.4	22.6	A		5	K	2	—	6.1	6.4
10.0	7.0	A?		3	K	1	—	7.0	7.2
10.6	8.9	H		3	K	1	—	6.7	6.9

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1888phae.proj..860F

D.M. No.	R.A. h. m.	Dec.	Mag.	R.A. 1900	Dec.	D.C. Mean	Diff.		Br.	
9 9	+85.7	147 9 8.5	+85° 43	8.5 ✓	9 19.5	+85 32			7.2	{6.8 7.2}
8 59	+85.8	142 8 57.0	+85 49	8.5 ✓	9 8.7	+85 38			7.6	
7 39	+86.1	113 7 37.2	+86 6	7.2 ✓	7 52.5	+86 0 ✓	6.5 17.85	1 XX	6.9	6.5
6 25	+85.4	101 6 25.6	+85 22	8.9 ✓	6 40.1	+85 20			6.4	6.0
5 30	+84.9	112 5 30.0	+84 57	9.0 ✓	5 43.6	+84 59			7.0	6.6
5 1	+83.7	141 5 0.6	+83 43	7.1 ✓	5 11.8	+83 47 ✓	5.34	3 ✓	7.0	6.6
9 55	+85.9	155 9 54.7	+85 60	8.7 ✓	10 4.0	+85 47			5.6	5.2
8 35	+86.1	126 8 33.7	+86 7	8.0 ✓	8 47.2	+85 58			7.1	6.7
8 5	+86.3	120 8 4.9	+86 17	8.5 ✓	8 19.8	+86 9			6.9	{6.5 6.9}
6 38	+85.9	105 6 35.0	+85 57	8.2 ✓	6 51.1	+85 57	5		7.3	
6 6	+86.1	86 6 6.2	+86 4	8.9 ✓	6 23.0	+86 4			7.0	6.6
5 21	+85.2	81 5 20.4	+85 14	8.0 ✓	5 34.7	+85 17 ✓	6.35 4	3 ✓	6.5	6.1
5 18	+85.1	80 5 16.0	+85 6	6.0 ✓	5 29.9	+85 9 ✓	5.95 6.0	1 ✓	7.1	6.7
4 45	+84.6	97 4 45.5	+84 41	8.8 ✓	4 58.2	+84 46			6.7	{6.3 6.5}
11 20	+85.5	183 11 20.0	+85 30	7.5 ✓	11 24.4	+85 15 ✓	6.28	0	6.9	
10 35	+86.2	154 10 33.4	+86 8	8.2 ✓	10 40.7	+85 54 ✓	6.5 7.83	0 XX	5.9	{5.5 6.2}
10 12	+85.9	160 10 11.5	+85 58	8.5 ✓	10 19.9	+85 45 ✓	6.6 7.84	1 XX	6.6	
9 52	+85.2	154 9 51.3	+85 9	8.9 ✓	9 59.6	+84 56			7.0	6.6
9 50	+86.5	143 9 47.4	+86 22	8.6 ✓	9 58.2	+86 19 ✓	6.4 7.75	0 XX	6.9	6.5
6 54	+86.6	103 6 52.9	+86 39	8.2 ✓	7 11.6	+86 38 ✓	6.2 7.60	2 XX	6.4	6.0
6 53	+86.6	102 6 51.9	+86 37	9.1 ✓	7 10.4	+86 33			6.4	6.0
6 32	+86.5	96 6 31.8	+86 31	8.5 ✓	6 50.2	+86 29			6.5	6.1
6 19	+86.5	91 6 16.5	+86 30	9.0 ✓	6 35.0	+86 29			6.9	6.5
4 54	+85.5	78 4 55.1	+85 22	7.0 ✓	5 9.9	+85 36 ✓	5.3 6.69	3 XX	7.1	6.7
4 32	+84.6	90 4 31.3	+84 41	9.1 ✓	4 43.8	+84 47			5.0	4.6
4 21	+84.6	88 4 21.2	+84 36	7.7 ✓	4 33.1	+84 42 ✓	5.77 8	1 ✓	7.2	6.8
11 40	+85.8	191 11 41.7	+85 48	8.4 ✓	11 45.1	+85 33			5.9	5.5
10 51	+86.4	159 10 50.4	+86 20	8.3 ✓	10 57.0	+86 5 ✓	6.4 7.74	1 XX	6.8	6.4
									6.3	6.1

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April, 20, 1889
Plate 20/5

V.	H.	Type.	No. Rem	No. Lines	K	Fours	Lines.	Other.		
10.3	8.9	A		7	K=8H	3	—		5.6	5.8
10.6	10.5	A		6	K=H	2	—		6.7	6.8
10.3	11.8	H		2	K=H	1	—		6.7 7.0	6.8 7.1
10.6	12.1	H		2	K=H	1	—		7.3 7.6	7.4 7.7
10.0	12.6	A?		5	K=H	2	—		6.5	6.6
10.4	13.8	F?	410	2	K=H	1	Seen		7.0	7.1
10.4	15.9	K?	411	3	K=1.2H	3	F. Br. Seen.		5.2 5.9	5.3 6.0
10.6	17.4	K	412	3	K=H	2	F. Br. Seen		6.0 6.4	6.1 6.5
10.0	20.1	A		5	K	2	—		6.1	6.3
10.7	20.3	A		7	K=1H	3	—		5.5	5.7
10.0	21.7	A?		4	K=H	1	—		7.1	7.4
10.1	22.2	A		3	K	1	—		7.4	7.7
9.1	6.7	A		4	K=H	1	—		6.7	6.9
9.8	7.7	A		3	K	1	—		7.2	7.4
9.5	8.0	H?		2	K=H	1	—		7.0 7.2	7.2 7.4
9.8	8.3	F	413	2	K=H	2	Seen		5.8	6.0
9.2	12.3	F?	414	2	K=H	1	Seen		7.4	7.4
9.3	13.8	A		4	K=H	1	—		7.5	7.5
9.5	16.1	F	415	2	K=H	1	Seen		7.0 7.2	7.0 7.3
9.6	16.4	A		4	K=H	1	—		7.1	7.2
9.3	17.3	H		2	K=H	1	—		7.2 7.6	7.3 7.7
9.0	19.4	A?		4	K=H	1	—		6.9	7.0
(Recorded above)		~~9.9 20.0 A~~		~~6~~	~~K~~	~~2~~	~~—~~			
9.3	20.1	A		3	K	1	—		7.3	7.5
9.8	20.5	A		4	K	1	—		7.1	7.3
9.8	22.4	F	416	3	K=H	2	F. Seen		5.5	5.8
8.5	6.8	A		4	K=H	1	—		6.9	7.1
1 50	8.9	7.7	F	417	3	K=1.5H	3	F Seen	5.2	5.4

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D.M.Yr.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	A.C. Mean	Diff.	Br.	
10 58 +86.5	161	10 56.2	+86 26	7.2	11 2.5	+86 11	5.9 7.2 6.4	X8 1	5.4	5.0
10 9 +86.7	152	10 8.5	+86 48	8.4	10 18.6	+86 34	7.8	X3	6.5	6.1
9 30 +87.3	83	9 29.9	+87 16	7.7	9 44.0	+87 4	8.0	15	6.5 6.8	6.1 6.4
9 15 +87.1	80	9 14.5	+87 6	8.5	9 29.0	+86 54			7.1 7.4	6.7 7.0
9 0 +87.5	78	9 0.8	+87 29	8.0	9 18.0	+87 18	7.7	14	6.3	5.9
8 4 +87.4	68	8 6.2	+87 23	8.8	8 26.2	+87 15			6.8	6.4
6 30 +87.3	51	6 31.1	+87 15	5.0	6 53.9	+87 12	6.8	18	5.0 5.7	4.6 5.3
5 50 +86.7	79	5 48.0	+86 46	7.0	6 8.2	+86 46	5.9 7.7 6.2	1 X6	5.8 6.2	5.4 5.8
4 30 +86.1	66	4 30.2	+86 4	8.0	4 46.3	+86 10	7.5	3 X5	5.9	5.5
4 40 +85.7	74	4 41.0	+85 45	6.0	4 56.3	+85 50	5.6 7.8	3 X6	5.3	4.9
4 8 +85.4	65	4 7.8	+85 22	8.5	4 21.4	+85 29			6.9	6.5
4 4 +85.2	64	4 4.6	+85 8	9.0	4 17.5	+85 15			7.2	6.8
12 5 +85.9	196	12 4.6	+85 53	8.2	12 6.6	+85 38	6.4 6.37	1	6.5	6.1
11 38 +86.2	171	11 34.8	+86 9	8.6	11 38.8	+85 54			7.0	6.6
11 39 +86.4	172	11 36.4	+86 20	8.2	11 40.2	+86 5	6.6 8.0	2 X2 4	6.8 7.0	6.4 6.6
11 28 +86.5	170	11 23.8	+86 25	7.0	11 28.3	+86 10	6.0 7.2	X7	5.6	5.2
9 27 +87.8	82	9 23.0	+87 49	8.9	9 40.4	+87 37			7.2	6.8
8 1 +87.8	67	8 2.9	+87 54	9.1	8 27.2	+87 47			7.3	6.9
6 8 +87.6	46	6 10.0	+87 33	8.5	6 35.6	+87 32	8.1	13	6.8 7.0	6.4 6.6
6 0 +87.4	45	6 0.1	+87 24	8.9	6 24.4	+87 24	8.1	12	6.9	6.5
5 25 +87.3	41	5 22.0	+87 18	7.9	5 45.6	+87 20			7.6 7.4	6.6 7.0
4 20 +86.6	65	4 19.8	+86 37	8.3	4 38.1	+86 44			6.7	6.3
~~4 20 +86.2~~									~~5.8~~	
4 20 +86.2	64	4 18.4	+86 12	9.2	4 34.8	+86 18			7.1	6.7
4 20 +85.9	69	4 20.2	+85 54	9.4	4 35.5	+86 1			6.9	6.5
3 53 +85.2	63	3 52.4	+85 10	6.5	4 5.1	+85 17	5.5 6.7	2 X4	5.3	4.9
12 20 +86.1	180	12 19.3	+86 7	8.4	12 20.4	+85 52	5.6 6.8	1 6	6.7	6.3
11 58 +86.4	176	11 57.4	+86 24	8.7	11 59.8	+86 8	6.98	20	5.0	4.6

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April 22 1889.

Plate 2015.

23 45

T.	H.	Type.	Rem.	Nor. Lines	K.	Prom.	Other Lines.		
8.5	7.8	A		5	K=H	1	—	7.0	7.2
8.5	9.0	E		3	K=H	1	F.	7.0	7.1
8.8	12.1	H		3	K=H	1	F.	7.0 7.2	7.0 7.2
8.0	15.7	A		3	K	1	—	7.1	7.1
8.0	20.1	A		4	K=H	1	—	6.9	7.0
8.8	22.8	E?		2	K=H	1	—	7.2	7.5
7.8	7.4	A		8	K=.5H	3	—	5.7	5.9
7.8	9.0	F?	458	3	K=H	3	Seen	5.0	5.1
7.4	9.9	H		2	K=H	1	—	7.0 7.2	7.1 7.3
7.7	10.2	A		8	K	2	—	6.1	6.1
7.7	11.7	A		9	K	3	—	5.5	5.5
7.7	12.5	F	459	2	K=H	1	Seen	6.9	6.9
7.2	14.2	H		2	K=H	1	—	7.4 7.7	7.3 7.6
7.7	14.3	A?		4	K=H	1	—	7.4	7.3
7.2	14.4	A		10	K=3H	3	F.	5.3	5.2
7.0	17.7	E	460	3	K=H	1	F. Seen	6.8	6.8
7.1	19.9	E?		2	K=H	1	—	7.3	7.4
7.9	21.0	F?	461	3	K=H	3	F. Seen	4.8	5.0
6.0	5.9	E		2	K=H	1	—		
6.0	8.5	E		2	K=H	1	—	6.7	6.9
6.5	8.9	E?		2	K=H	1	—	6.9	7.0
6.0	10.8	H		3	K=H	1	F. Seen	6.6 6.7	6.6 6.7
6.8	11.2	F	462	3	K=H	3	F. Seen	4.9	4.9
6.2	19.0	E?		2	K=H	1	—	6.9	6.9
6.2	20.1	E?		2	K=H	1	—	7.1	7.2
6.2	19.9	A		3	K	1	—	7.0	7.1
5.0	6.7	F?	463	3	K=H	2	F. Seen	5.9	6.1
5.2	9.9	F?	464	3	K=H	1	F. Seen	7.0	7.0

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.	
12 8 +86.5	177	12 5.0	+86 31	8.5	12 7.0	+86 16			6.8 6.4
11 45 +87.0	99	11 44.2	+87 2	8.8	11 47.7	+86 47			6.8 6.4
9 48 +87.9	85	9 47.8	+87 59	8.5	10 4.0	+87 47			6.8 6.4 7.0 6.6
5 40 +88.4	35	5 40.9	+88 20	9.0	6 17.9	+88 21			6.9 6.5
3 39 +86.5	54	3 36.3	+86 32	8.9	3 52.6	+86 41			6.7 6.3
3 28 +85.2	57	3 26.4	+85 11	8.5	3 38.4	+85 20			7.0 6.6
12 39 +86.5	182	12 34.7	+86 32	6.5	12 36.6	+86 17	6.0	5	5.5 5.1
12 13 +87.2	107	12 12.6	+87 14	6.5	12 13.7	+87 0	5.4	6	4.8 4.4
12 9 +87.7	104	12 6.6	+87 44	8.2	12 8.2	+87 29			6.8 6.4 7.0 6.6
11 53 +87.7	100 101	11 51.2 11 51.6	+87 48 +87 48	9.0 8.0	11 54.6	+87 33		R	5.9 5.5
10 58 +88.5	64	10 53.0	+88 26	7.5	11 4.2	+88 11		18	5.3 4.9
9 59 +88.6	60	9 59.6	+88 36	8.5	10 19.4	+88 23		12	6.7 6.3
7 31 +89.1	15	7 27.8	+89 2	9.2	8 19.2	+88 54			7.1 6.8 7.5 7.1
7 29 +88.7	43	7 24.4	+88 48	9.2	8 8.0	+88 42			7.2 6.8
7 1 +89.1	13	7 8.7	+89 2	7.0	7 38.0	+88 58		18	5.1 4.7
3 39 +87.8	33	3 38.7	+87 54	8.5	4 4.9	+88 2		13	6.6 6.2
3 11 +86.8	49	3 9.9	+86 50	9.5	3 26.4	+87 0			7.1 6.7
3 20 +86.2	51	3 19.5	+86 11	6.0	3 33.6	+86 20	5.1	5	4.6 4.2
13 38 +86.0	193	13 35.7	+86 1	7.5	13 32.4	+85 47	6.3	21	6.5
13 30 +87.3	122	13 30.5	+87 19	8.8	13 25.1	+87 5		13	6.5 6.1
13 1 +87.4	115	13 1.4	+87 26	8.4	12 58.2	+87 12			6.7 6.3
13 18 +88.4	76	13 12.2	+88 26	8.0	13 4.5	+88 11			6.4 6.0 6.5 6.1
12 19 +88.5	71	12 14.4	+88 30	6.5	12 14.4	+88 15		20	4.7 4.3
2 41 +87.4	26	2 41.0	+87 22	8.7	2 58.5	+87 33			6.7 6.3
2 35 +86.8	43	2 35.5	+86 57	8.9	2 49.9	+87 1			6.9 6.5
2 34 +86.9	43	2 35.3	+86 57	8.9	2 50.3	+87 9			6.8 6.4
14 6 +86.4	201	14 5.1	+86 27	7.5	13 59.4	+86 14	61	4	5.7 5.3
14 7 +88.0	80	14 4.9	+88 1	8.6	13 53.6	+87 48			6.8 6.4

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April 22, 1889
Plate 2015

V.	H.	Type	No. Rem.	No. Lines	K.	Focus	Lines	Other.		
5.6	10.5	F	465	2	K=H	1	Seen		6.8	6.8
5.7	12.2	H		2	K=H	1	—		7.1 7.4	7.0 7.3
5.5	12.9	A		3	K	1	—		7.0	6.9
5.6	13.5	F?	466	2	K=H	1	Seen		7.0	6.9
5.2	14.9	A		6	K=H	1	—		6.8	
5.2	16.9	F	467	3	K=H	2	F. Seen		6.2	6.1
5.5	17.1	A?		4	K=H	1	—		6.6	6.5
5.2	17.7	E		2	K=H	1	—		6.7	6.7
5.0	17.9	F	468	2	K=H	1	— Seen		6.9	6.9
5.9	17.9	H		2	K=H	1	—		7.0 7.2	7.0 7.2
5.9	21.0	A		4	K=H	2	—		6.0	6.1
5.7	21.1	E		2	K=H	1	—		7.1	7.2
5.9	23.5	A		5	K=H	2	—		5.9	6.2
4.7	10.1	A		4	K	1	—		6.7	6.7
4.0	15.4	A		3	K	1	—		7.1	7.0
4.0	16.3	E		3	K=H	1	—		6.8	6.7
4.8	16.7	E?		3	K=H	5	F.		B.	B.
4.2	17.2	A		6	K	3	F		5.3	5.3
4.4	18.1	H		3	K=H	1	F		6.8 7.1	6.8 7.1
4.8	18.3	A		5	K=H	2	F		6.1	6.1
4.4	21.4	F?	469	2	K=H	2	Seen		6.5	6.7
4.9	23.8	F	470	3	K=H	2	F		6.3	6.6
3.5	7.2	I	471	3	K=H	2	F Seen		6.2 6.4	6.4 6.6
3.5	7.6	E		2	K=H	1	—		7.4	7.5
3.1	9.4	E?		3	K=H	1	F		6.7	6.8
3.6	9.7	H		3	K=H	2	F		6.5 6.8	6.5 6.8
6.0 6.2 6.4 3.0	14.0	M?	472	3	K=H	2	F Seen		6.2 6.6	6.1 6.5
3.2	15.4	A		7	K=H	1	F		6.8	6.7

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No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.	
						8,0			
13 40	+88.3	77	13 36.7	+88 18	8.5	13 21.8	+88 4	7.9	14	6.6	6.2
13 1	+89.2	22	13 3.9	+89 9	8.7	12 51.6	+88 54			6.9 7.2	6.5 6.8
13 0	+89.5	21	12 59.3	+89 28	8.8	12 42.4	+89 14			6.8	6.4
11 0	+89.7	18	11 8.4	+89 44	8.9	11 35.3	+89 29			6.8	6.4
1 58	+89.5	3	1 49.6	+89 29	8.8	3 18.7	+89 41			6.6	6.2
1 52	+88.5	9	1 51.1	+88 29	8.0	2 14.2	+88 42	7.6	16	6.0	5.6
2 20	+88.4	13	2 17.1	+88 22	8.5	2 42.2	+88 35	7.8	14	6.4	6.0
1 59	+88.1	11	1 58.9	+88 3	8.8	2 17.6	+88 16	7.8	13	6.5	6.1
1 40	+87.9	16	1 40.0	+87 59	8.8	1 56.0	+88 13			6.7	6.3
2 30	+87.9	23	2 30.6	+87 57	8.7	2 51.9	+88 9			6.8 7.0	6.4 6.6
2 20	+86.5	39	2 20.2	+86 25	8.6	2 32.2	+86 37	7.6	18	5.8	5.4
21 14	+86.4	38	21 13.7	+86 21	9.0	2 25.2	+86 33			6.9	6.5
2 15	+85.2	45	2 14.2	+85 10	8.6	2 23.3	+85 22	7.9	14	5.7	5.3
14 32	+88.1	86	14 32.6	+88 4	8.5	14 18.1	+87 52	8.0	15	6.5	6.1
23 24	+89.0	88	23 21.3	+89 1	9.0	23 11.0	+89 16			6.9	6.5
0 11	+88.6	2	0 11.0	+88 38	8.8	0 16.0	+88 52			6.6	6.2
1 8	+88.6	8	1 6.5	+88 32	2.0	1 22.0	+88 46	4.4		7.3	
0 45	+88.3	4	0 45.5	+88 15	7.5	0 55.6	+88 29	6.5	15	5.1	4.7
1 5	+87.8	12	1 7.1	+87 48	8.0	1 18.0	+88 13	7.8	12	6.6 6.9	6.2 6.5
1 33	+87.7	15	1 35.6	+87 47	8.2	1 49.6	+88 0	7.6	17	5.9	5.5
1 30	+86.2	25	1 31.6	+86 13	8.8	1 40.2	+86 26	7.7	15	6.3	5.9
1 51	+85.0	41	1 50.8	+85 2	7.7	1 58.8	+85 16	7.9	14	6.1	5.7
14 59	+86.5	217	14 58.5	+86 33	6.8	14 49.6	+86 22	7.6	16	6.0 6.2	5.6 5.8
14 58	+86.7	215	14 57.0	+86 46	8.6	14 47.6	+86 35			7.2	6.8
15 42	+87.5	147	15 43.2	+87 32	7.9	15 27.3	+87 23	7.8	13	6.5	6.1
15 29	+87.7	143	15 26.0	+87 47	7.0	15 9.4	+87 37	7.5	13	6.3 6.6	5.9 6.2
20 12	+88.8	112	20 8.5	+88 52	6.5	19 22.5	+88 39	7.9	14	6.0 6.4	5.6 6.0
22 30	+88.7	131	22 30.6	+88 44	8.7	22 12.3	+88 58	8.0	14	6.6	6.2

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April 22.

No. Plate 2015

	τ	H	Type	Rem. Lines	K.	Rem. Lines			
	3.0	15.8	A		3	K	1	—	7.2 7.1
	3.0	17.1	E		2	K=H	1	—	7.2 7.2
	3.0	18.0	F	473	3	K=H	1	F, Seen	6.8 6.8
	3.8	18.6	A:		4	K=H	1	—	6.8 6.8
	3.1	19.3	A		3	K	1	—	7.4
	3.0	20.4	A		3	K	1	—	7.1 7.2
	3.2	20.8	H		3	K=H	3	—	5.7 5.8 6.0 6.1
	3.4	21.3	E:		2	K=H	1	—	7.1 7.3
	2.7	6.4	E		2	K=H	2	—	6.5 6.7
	2.7	10.4	E 2		2	K=H	1	—	7.0 7.0
	2.4	11.8	E:		2	K=H	1	—	. .
	2.0	12.4	E	474	3	K=H	2	F	6.6 6.6
	2.4	13.4	E		2	K=H	1	—	. .
	2.5	14.1	H		2	K=H	1	—	. .
	2.2	14.2	A		4	K=H	1	—	. .
	2.6	14.3	E		2	K=H	1	—	6.8 6.7
	2.1	15.8	A 2		3	K 2	1	—	. .
	2.5	17.9	A		4	K	1	—	. .
	2.5	21.0	A:		4	K=H	1	—	. .
0	30	2.7	22.5	H:		3	K=H	3	F 4.9 5.1 5.5 5.7

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	D.C. Mean	Diff.		
22 42 +88.5	133	22	43.2	+88 30	9.2	22 30.9	+88 44		7.0 6.6
23 41 +88.1	139	23	44.1	+88 2	9.0	23 44.2	+88 17		7.0 6.6
0 5 +87.6	1	0	4.5	+87 36	9.0	0 7.2	+87 51		6.6 6.2
0 52 +87.5	9	0	51.5	+87 29	8.8	0 59.6	+87 44		6.6 6.2
0 33 +87.0	6	0	33.4	+87 2	9.2	0 38.9	+87 17		7.2 6.8
0 44 +86.5	14	0	43.2	+86 32	8.8	0 48.9	+86 47		6.9 6.5
0 52 +86.4	17	0	52.8	+86 22	7.5	0 58.6	+86 37	2	5.5 5.1
1 5 +86.2	21	1	4.1	+86 10	8.8	1 10.8	+86 25	3	5.8 5.4
15 15 +86.0	221	15	14.6	+86 4	8.1	15 6.4	+85 54	2	6.9 6.5
16 31 +87.8	151	16	26.7	+87 51	8.9	16 5.5	+87 45	3	6.3 5.9
17 32 +88.2	160	17	38.2	+88 13	8.8	17 6.0	+88 11		6.8 6.4
18 21 +88.2	164	18	24.3	+88 14	8.0	17 53.7	+88 16	14	6.4 6.0
19 30 +88.5	110	19	25.6	+88 24	8.8	18 48.3	+88 40		
20 20 +88.5	114	20	17.2	+88 34	8.0	19 43.3	+88 42		
20 22 +88.4	115	20	24.2	+88 26	8.8	19 54.0	+88 35		
20 39 +88.6	117	20	34.6	+88 41	var.	19 58.6	+88 50		6.6 6.2
22 10 +88.2	130	22	10.8	+88 10	8.6	21 57.7	+88 23		
23 41 +87.5	217	23	42.4	+87 32	8.5	23 42.8	+87 47		
0 30 +86.2	9	0	32.5	+86 9	8.6	0 37.2	+86 23	2	4.7 4.3
0 50 +85.5	19	0	49.7	+85 29	5.0	0 54.9	+85 43	11	5.3 4.9

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58

57.2.4.8 F.M. 6.7.3-7.0 F.L. 7.1 Rot No. 547

R.A. 11h 30m Dec. +869

April 28, 1889

Plate 2561

23 15

r	H.	Type	No. Rem.	Lines	K.	Focus	Other Lines		
22.0	10.9	A		7	K=H ?	2	F	5.8,	5.6
21.7	8.6	H ?		2	K=H	1	—	6.5 6.9	6.3 6.7
21.9	14.5	H		2	K=H	1	—	6.7 7.1	6.5 6.9
21.2	16.6	A		6	N	3	F	5.6	5.4
21.5	20.7	A		6	N	2	F	6.1	5.9
21.2	21.1	H		3	K=H	1	F.	6.7 7.0	6.5 6.8
20.0	13.7	I	539	2	K=H	2	Seen	6.4 7.0	6.2 6.8
19.6	17.9	H		2	K=H	1	—	6.7 6.9	6.5 6.7
18.2	11.0	H		2	K=H	1	—	6.8 7.2	6.8 7.2
18.2	15.0	A ?		3	N	1	—	7.2	7.2
18.4	20.2	A ?		4	K=H	1	—	7.1	7.1
17.3	10.8	F ?	540	2	K=H	1	Seen	7.1	7.1
17.4	19.9	F	541	3	K=1.2 H	4	F. Seen	4.8	4.8
5.2 5.7 6.2 17.5	24.5	M ?	542	3	K=H	3	F. Seen	5.1 5.9	4.9 5.7
16.8	8.2	I	543	3	K=H	3	F. Seen	5.6 6.0	5.6 6.0
16.2	9.6	H		3	K=H	1	F.	6.5 6.8	6.6 6.9
16.6	11.6	A		8	N	5	F	B	B
16.2	12.2	F ?	544	2	K=H	1	Seen	6.4	6.5
16.8	20.2	H		2	K=H	1	—	6.4 6.7	6.4 6.7
16.0	23.0	A		4	N	1	—	6.4	6.4
15.2	10.3	F	545	2	K=H	1	Seen	6.5	6.6
15.0	22.6	F	546	3	K=H	2	F Seen	6.2	6.2
6.5 6.7 14.3	15.5	M ?	547	2	K=H	1	Seen	6.4 6.8	6.7 7.1
14.0	18.3	H ?		3	K=H	1	F.	6.3 6.7	6.6 7.0
14.4	18.7	A		9	K=5H	4	F	4.4	4.7
14.4	20.0	H ?		3	K=H	2	F. Seen	6.2 6.9	6.3 7.0
14.0	21.0	A ?		3	N	1	—	6.8	6.9
14.8	21.5	F	548	3	K=H	1	F. Seen	6.7	6.8

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Mean −.1
~~Mean −.6~~

D.M.	R.A.	Dec.	Mag.	R.A. (1900)	Dec.	Mean	Diff.	Br.		
12 41 +81.4	402	12 40.8	+81 25	6.3	12 41.8	+81 10	~~5.82~~ ~~4.87~~ ~~6.45~~	10	5.9	5.3
13 13 +81.2	416	13 11.2	+81 14	6.3	13 11.5	+81 0	~~5.37~~ ~~6.86~~	11	6.6 7.0	6.0 6.4
11 54 +81.6	389	11 52.6	+81 40	6.2	11 55.1	+81 25	~~5.90~~ ~~5.78~~	9	6.8 7.2	6.2 6.6
11 22 +81.9	373	11 21.4	+81 56	6.2	11 24.9	+81 41	~~4.80~~ ~~6.00~~	9	5.7	5.1
10 30 +81.2	349	10 28.9	+81 11	6.2	10 33.6	+80 57	~~3.13~~ ~~6.67~~	11	6.2	5.6
10 21 +81.2	343	10 20.8	+81 14	6.2	10 25.7	+81 1	~~5.78~~	11	6.8 7.1	6.2 6.5
12 5 +82.5	356 ~~357~~	12 4.4 ~~4.9~~	+82 31 ~~+82 31~~	6.7 ~~6.9~~	12 6.5 ~~12 7.0~~	+82 16 ~~+82 16~~	~~3.88~~	7	6.5 7.1	5.9 6.5
10 58 +82.5	325	10 58.0	+82 31	7.0	11 2.2	+82 17	6.96	8	6.8 7.0	6.2 6.4
12 54 +83.3	369	12 52.8	+83 18	7.5	12 53.2	+83 3	6.20	7	6.9 7.3	6.3 6.7
11 43 +83.5	339	11 42.3	+83 28	8.0	11 45.2	+83 13	6.34	10	7.3	6.7
10 18 +82.7	307	10 17.8	+82 46	8.2	10 23.4	+82 32	6.23	10	7.2	6.6
12 59 +83.7	373	12 58.8	+83 43	8.3	12 58.9	+83 28	6.14	10	7.2	6.6
10 14 +83.3	297	10 13.0	+83 18	5.2	10 19.0	+83 4	4.08	9	4.9	4.3
9 16 +81.9	302	9 16.0	+81 58	4.3	~~10~~ 9 22.8	+81 46	~~4.57~~	7	5.2 6.0	4.6 5.4
13 49 +83.5	397	13 46.7	+83 29	6.5	13 45.1	+83 15	~~5.38~~	4	5.7 6.1 6.6	5.1 5.5 6.0
13 30 +84.1	311	13 27.9	+84 3	7.5	13 26.7	+83 49	~~5.87~~	7	6.9	6.3
12 50 +84.2	289 290	12 48.0 48.1	+84 12 12	6.5 5.5	12 48.3 12 48.4	+83 58 +83 57	~~3.88~~	—		B
12 39 +84.5	286	12 37.2	+84 26	7.0	12 38.0	+84 12	~~5.99~~ 6.0	5	6.5	5.9
10 6 +83.5	287	10 5.4	+83 32	6.8	10 11.7	+83 19	5.98	6	6.5 6.8	5.9 6.2
9 19 +83.0	262	9 19.0	+83 0	7.5	9 26.4	+82 49	5.78	8	6.5	5.9
13 22 +84.7	307 ~~305~~	13 21.9 ~~13 18.6~~	+84 40 ~~+84 40~~	8.0 ~~8.5~~	13 20.6 ~~13 17.4~~	+84 25 ~~+84 26~~	6.0 ~~5.71~~	6	6.6	6.0
9 14 +83.5	256	9 12.5	+83 33	7.2	~~10~~ 9 20.5	+83 22	~~6.13~~	6	6.3	5.7
11 20 +85.5	183	11 20.0	+85 30	7.5	11 24.4	+85 15	6.28	3	6.5 6.9	5.9 6.3
10 14 +85.2	161	10 13.4	+85 8	7.5	10 20.8	+84 55	6.18	3	6.4 6.8	5.8 6.2
10 9 +84.9	234	10 7.8	+84 59	5.0	10 15.2	+84 46	4.36	1	4.5	3.9
9 45 +84.6	225	9 44.7	+84 37	6.5	9 52.6	+84 25	5.94	4	6.3 7.0	5.7 6.4
9 24 +84.4	213 216	9 22.2 9 23.0	+84 27 +84 24	8.3 8.7	9 30.8 +84 13 9 31.5 +84 12			R	6.9	6.3
9 26 +83.9	263	9 24.6	+83 59	8.0	9 32.6	+83 47	6.28	6	6.8	6.2

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No.	M.	Type	Rem.	Lines	K	Focus	Lines.		
13.6	9.5	H		2	K=H	1	—	7.1 / 7.4	7.4 / 7.7
13.6	11.0	F	549	3	K=H	2	F. Seen	6.1	6.4
13.1	13.4	A		3	K	1	—	7.1	7.3
13.6	14.7	A?		3	K	1	—	7.2	7.4
13.2	20.1	H		2	K=H	1	—	6.5	6.8
12.6	6.0	H		2	K=H	1	—	6.5 / 7.1	6.6 / 7.2
12.5	10.9	F?	550	2	K=H	1	Seen	6.6	6.8
12.2	13.1	A		8	K=.5H	2	F	5.4	5.6
12.6	14.2	F	551	3	K=2H	3	F Seen	4.8	5.0
12.6	14.9	H?		2	K=H	1	—	7.2 / 7.5	7.4 / 7.7
12.5	15.1	F	552	3	K=1.2H	2	F. Seen	5.8	6.0
12.2	16.0	A		8	K=H	2	F	5.6	5.8
12.3	16.2	A		4	K	1	—	6.7	6.9
12.6	16.8	A?		5	K=H	1	F	6.7	6.9
12.4	21.9	F?	553	3	K=2H	3	Seen	4.9	5.2
12.1	23.0	F?	554	2	K=H	1	Seen	6.6	6.7
11.4	10.4	F	555	3	K=1.2H	2	Seen	5.7	5.9
11.8	12.3	F	556	3	K=H	2	Seen	6.2	6.4
11.0	13.8	F	557	3	K=1.2H	3	F. Seen	4.8	4.9
11.3	14.5	H?		2	K=H	1	—	7.0 / 7.3	7.1 / 7.4
11.1	17.0	A?		5	K=H	2	F	6.3	6.4
11.2	17.8	A		5	K=H	2	F	6.3	6.5
11.4	21.4	A		3	K	1	—	6.6	6.9
10.3	6.1	H?		3	K=H	2	F	5.8 / 6.1	6.1 / 6.4
10.9	7.5	H		2	K=H	2	—	6.2 / 6.7	6.4 / 6.9
10.5	8.2	F	558	3	K=H	2	F. Seen	6.2	6.4
10.2	9.2	I	559	3	K=H	2	F. Seen	5.7 / 6.3	5.9 / 6.5
10.3	12.1	A?		4	K=H	1	—	6.7	6.8

Zi in A.C.

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D.M.No.	R.A.	Dec.	Mag.	R.A. (1900)	Dec	CHC. Mean	Diff.		Br.	
13 55 +85.2	234	13 54.8	+85 14	7.0	13 51.5	+85 1			7.2	6.6
									7.5	6.9
13 20 +85.5	222	13 20.7	+85 31	7.0	13 18.8	+85 17			6.2	5.6
12 21 +86.1	180	12 19.3	+86 7	8.4	12 20.4	+85 52	6.6	6	7.2	6.6
11 40 +85.8	191	11 41.7	+85 48	8.4	11 45.1	+85 33			7.3	6.7
9 22 +85.2	150	9 25.4	+85 9	8.0	9 34.7	+84 57	6.3	3	6.6	6.0
15 7 +84.5	335	15 6.8	+84 31	7.5	15 1.6	+84 20	6.3	3	6.6	6.0
									7.2	6.6
13 38 +86.0	193	13 35.7	+86 1	7.5	13 32.4	+85 47	6.3	4	6.7	6.1
12 39 +86.5	182	12 34.7	+86 32	6.5	12 34.6	+86 17	6.0	5	5.5	4.9
11 59 +86.4	176	11 57.4	+86 24	5.7	11 39.8	+86 8	5.6	2	4.9	4.3
11 39 +86.4	172	11 36.4	+86 20	8.2	11 40.2	+86 5	6.6	7	7.3	6.7
									7.6	7.0
11 22 +86.5	170	11 23.8	+86 25	7.0	11 28.3	+86 10	6.0	1	5.9	5.3
10 58 +86.5	161	10 56.2	+86 26	7.2	11 2.5	+86 11	5.9	2	5.7	5.1
10 45 +86.4	159	10 50.4	+86 20	8.3	10 57.0	+86 5	6.4	4	6.8	6.2
10 37 +86.2	154	10 33.4	+86 8	8.2	10 40.7	+85 54	6.5	3	6.8	6.2
8 43 +84.7	196	8 44.3	+84 45	6.0	8 54.5	+84 35	5.1	1	5.0	4.4
8 23 +84.5	186	8 25.1	+84 25	8.0	8 35.4	+84 16	6.1	6	6.7	6.1
14 4 +86.5	201	14 5.1	+86 27	7.5	13 59.4	+86 14	6.1	3	5.8	5.2
13 2 +86.7	187	13 1.8	+86 39	7.0	12 59.7	+86 23	6.4	1	6.3	5.7
12 18 +84.2	107	12 12.6	+87 14	6.5	12 13.7	+87 0	5.4	5	4.9	4.3
11 42 +87.0	99	11 44.2	+87 2	8.8	11 47.7	+86 47			7.1	6.5
									7.4	6.8
10 10 +86.7	152	10 8.5	+86 48	8.4	10 18.6	+86 34	6.4	0	6.4	5.8
9 44 +86.5	143	9 47.4	+86 32	8.6	9 58.2	+86 19	6.4	0	6.4	5.8
8 38 +85.3	132	8 36.9	+85 15	8.2	8 48.2	+85 6	6.6	1	6.7	6.1
15 50 +85.3	263	15 50.2	+85 18	7.2	15 42.5	+85 10	6.1	2	5.9	5.3
									6.2	5.6
15 19 +85.6	249	15 16.6	+85 41	8.0	15 9.2	+85 31	6.2	1	6.3	5.7
									6.8	6.2
15 16 +86.1	221	15 14.6	+86 4	8.1	15 6.4	+85 54	6.3	0	6.3	5.7
14 59 +86.5	217	14 58.5	+86 33	6.8	14 49.6	+86 22	6.2	4	5.8	5.2
									6.4	5.8
13 32 +87.3	122	13 30.5	+87 19	8.8	13 23.1	+87 5			6.8	6.2

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Plate 2561

V.	H.	Type.	Rem.	No. Lines	K.	Focus.	Lines.	Other.		
10.3	12.8	A		4	K=H	1	—		7.0	7.1
10.2	20.1	H		2	K=H	1	—		6.8 / 7.3	7.0 / 7.5
10.3	21.5	F	560	3	K=H	2	F.		5.9	6.2
10.2	24.1	A		7	K	3	F		5.0	5.1
9.3	6.5	A?		6	K=H	3	F		5.1	5.3
9.9	14.0	H		2	K=H	1	—		6.9 / 7.3	7.0 / 7.4
9.8	14.3	A		8	K	2	F		5.7	5.7
9.9	17.4	H		3	K=H	1	—		6.4 / 6.8	6.5 / 6.9
9.0	17.6	F	561	3	K=H	2	F		6.3	6.4
9.5	23.6	A?		5	K	2	—		5.6	5.9
8.1	10.1	H?		2	K=H	1	—		6.3 / 6.5	6.4 / 6.6
8.1	10.7	H		3	K=H	1	F		5.6 / 6.6	5.6 / 6.6
8.4	11.8	A		4	K=H	1	—		6.7	6.7
8.5	12.7	A		4	K=H	1	—		6.6	6.6
8.4	13.2	H		3	K=H	2	—		6.3 / 7.2	6.3 / 7.2
8.4	14.0	F?	562	3	K=H	3	F. Seen		4.7	4.7
8.6	21.2	H?		3	K=H	2	F		6.2 / 6.5	6.4 / 6.7
7.4	7.5	H		2	K=H	1	—		6.8	7.0
7.0	20.6	H?		3	K=H	2	F		6.2 / 6.4	6.3 / 6.5
7.0	20.7	H		2	K=H	1	—		6.7	6.8
6.0	16.0	A		7	K	3	F.		5.1	5.0
6.2	18.0	A		3	K	1	—		7.1	7.1
6.4	9.6	I	563	3	K=H	3	F. Seen		4.5 / 5.5	4.6 / 5.6
5.2	20.6	H		3	K=H	2	F		5.7 / 6.3	5.8 / 6.4
4.8	7.4	A?		10	?	5	F		B	B
4.6	8.2	A		8	K	3	F.		4.8	4.9
4.7	9.0	A		4	K=H	1	—		6.7	6.8
4.9	10.7	H	564	3	K=H	1	F Seen		6.4	6.4

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	D.C. Mean	Diff.	Br.	
13 1 +87.4	115	13	1.4	+87 26	8.4	12 58.2	+87 12		7.1 6.5
8 38 +86.1	126	8	33.7	+86 7	8.0	8 47.2	+85 58		6.9 7.4 (6.3, 6.8)
8 15 +85.6	128	8	12.7	+85 33	7.5	8 25.6	+85 25	2	6.0 5.4
7 41 +84.5	169	7	41.6	+84 28	6.0	7 53.1	+84 21	2	5.1 4.5
16 6 +85.6	269	16	6.6	+85 43	7.5	15 57.4	+85 36	2	5.2 4.6
12 10 +87.7	104	12	6.6	+87 44	8.2	12 8.1	+87 29		7.0 7.4 (6.4, 6.8)
11 57 +87.7	101	11	57.2 51.6	+87 48	9.0 8.0	11 54.6	+87 33	4	5.8 5.2
9 30 +87.3	83	9	29.9	+87 16	7.7	9 44.0	+87 4		6.5 6.9 (5.9, 6.3)
9 0 +87.5	78	9	0.8	+87 29	8.0	9 18.0	+87 18		6.4 5.8
7 34 +84.7	168	7	33.6	+84 47	7.8	7 45.8	+84 41	1	5.7 5.1
15 44 +87.5	147	15	43.2	+87 32	7.9	15 27.3	+87 23		6.4 6.6 (5.8, 6.0)
15 30 +87.7	143	15	26.0	+87 47	7.0	15 9.4	+87 37		5.7 6.7 (5.1, 6.1)
14 31 +88.1	86	14	32.6	+88 4	8.5	14 18.1	+87 52		6.8 6.2
13 39 +88.3	77	13	36.7	+88 18	8.5	13 26.8	+88 4		6.7 6.1
13 19 +88.4	76	13	12.2	+88 26	8.0	13 5.5	+88 11		6.4 7.3 (5.8, 6.7)
12 19 +88.5	71	12	14.4	+88 30	6.5	12 14.4	+88 15		4.8 4.2
7 39 +86.1	113	7	37.2	+86 6	7.2	7 52.5	+86 0	2	6.3 6.6 (5.7, 6.0)
16 50 +86.5	244	16	47.8	+86 31	8.7	16 34.8	+86 26		6.9 6.3
6 53 +86.6	103	6	52.9	+86 39	8.2	7 11.6	+86 36	1	6.3 6.5 (5.7, 5.9)
6 52 +86.6	102	6	51.9	+86 37	9.1	7 10.4	+86 33		6.8 6.2
7 0 +89.1	13	7	3.7	+89 2	7.0	7 58.0	+88 56		5.2 4.6
6 49 +88.0	39	6	47.0	+88 1	8.5	7 16.8	+87 58		7.2 6.6
6 30 +87.3	51	6	31.1	+87 15	5.0	6 53.9	+87 12	2	4.6 5.6 (4.0, 5.0)
5 48 +86.7	79	5	48.0	+86 46	7.0	6 8.2	+86 46	1	5.8 6.4 (5.2, 5.8)
18 20 +86.5	269	18	19.1	+86 36	4.5	18 4.3	+86 37		7.8
18 28 +86.9	272	18	24.4	+86 59	6.0	18 7.6	+87 0	1	4.9 4.3
18 29 +87.4	169	18	24.2	+87 24	8.1	18 4.3	+87 26		6.8 6.2
18 29 +88.3	104	18	24.3	+88 14	8.0	17 53.7	+88 16		6.5 5.9

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April. 28, 1889.
Plate 2561

V	H.	Type.	No. Rem.	Lines	K.	Foci	Lines		
5.8 6.2	4.2	12.3	N1?	565	3	K=H	21	F. Seen	5.7 6.7 / 5.6 6.6
	3.5	7.5	H		2	K=H	2	—	6.1 6.8 / 6.2 6.9
	3.0	8.8	A		3	K	1	—	6.7 / 6.8
	3.3	9.8	A		3	K	1	—	6.7 / 6.7
	3.5	11.7	A		3	K	1	—	7.1 / 7.0
	3.8	11.8	H		2	K=H	1	—	7.0 7.4 / 6.9 7.3
	3.7	12.2	H		2	K=H	1	—	6.9 / 6.8
	3.0	13.3	H	566	2	K=H	1	Seen	7.0 / 6.9
	3.0	17.6	A		3	K	1	—	6.9 / 6.9
	3.0	22.7	A?		9	K=H	3	F	5.4 / 5.6
	2.8	22.1	A?		7	K=H	3	F	5.4 / 5.6
	3.7	23.7	H?		3	K=H	2	F	5.7 6.7 / 6.0 7.0
	2.9	14.3	H		3	K=H	1	F	6.7 7.0 / 6.6 6.9
	2.0	14.9	A		9	K	3	F	
	2.9	15.0	H	567	3	K=1.2H	5	F	B / B
	2.8	15.5	A?		4	K=H	1	—	6.6 / 6.5
	2.5	21.4	A		5	K=H	1	—	6.5 / 6.7

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D.M.Nr.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Bc.	
20 16 +88.8	112	20	8.5 + 88	52	6.5	19 22.5	+88 39	7.48	X	5.8 6.8	5.2 6.2
19 1 +86.5	282	19	1.6 + 86	31	7.0	18 47.7	+86 35	7.64	X	6.2 6.9	5.6 6.3
19 30 +87.2	180	19	30.8 + 87	4	8.0	19 14.5	+87 10	7.72	X	6.8	6.2
19 40 +87.6	181	19	36.1 + 87	36	8.0	19 15.7	+87 42	7.89	X	6.8	6.2
20 22 +88.4	115	20	24.2 + 88	26	8.8	19 54.0	+88 35			7.2	6.6
20 20 +88.5	114	20	17.2 + 88	34	8.0	19 43.3	+88 42	7.85	X	7.1 7.5	6.5 6.9
20 39 +88.6	117	20	34.6 + 88	41	var	19 58.6	+88 50			7.0	6.4
22 30 +88.7	131	22	30.6 + 88	44	8.7	22 12.3	+88 58	8.00	X	7.1	6.5
3 38 +87.8	33	3	38.7 + 87	54	8.5	4 4.9	+88 2	7.90	X	7.1	6.4
4 54 +85.6	78	4	55.1 + 85	32	7.0	5 9.9	+85 36	6.83	X	5.5	4.9
4 40 +86.7	74	4	41.0 + 85	45	6.0	4 56.3	+85 50	6.88	X	5.5	4.9
5 16 +85.2	80	5	16.0 + 85	6	6.0	5 29.9	+85 9	5.94	2	5.8 6.8	5.2 6.2
0 10 +88.6	2	0	11.0 + 88	38	8.8	0 16.9	+88 52			6.8 7.1	6.2 6.5
0 46 +88.3	4	0	45.5 + 88	15	7.5	0 33.6	+88 29	6.55			
1 8 +88.5	8	1	6.5 + 88	32	2.0	1 22.0	+88 46	4.44		7.3	
1 51 +88.5	9	1	51.1 + 88	29	8.0	2 14.2	+88 42	7.69	X	6.7	6.1
4 29 +86.1	66	4	30.2 + 86	4	8.0	4 46.3	+86 10	7.35	X 4	6.6	6.0

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St. Lt. 5.0 F.N. 46.64-62 FCh. 7.2 Bot No. 546.

R.A. 16^h 20m. Dec. +86.°7

April 29, 1889.

Plate 2542.

22 30

r	⅄	Type	Rem. No.	Lines	K.	Focus	Lines	After		
21.6	15.2	H?		2	K=H	1	—		7.4 7.7	7.2 7.5
21.9	16.3	A		4	K	1	—		7.2	7.0
21.5	17.2	H		3	K=H	1	F		7.2 7.7	7.0 7.5
21.9	17.9	H		2	K=H	1	—		7.1 7.4	6.9 7.2
22.7	18.4	H		3	K=H	1	F		7.2 7.5	7.0 7.3
20.0	12.6	K	568	3	K=1.5H	4	F. Br. Seen		5.0 5.6	4.8 5.4
20.3	12.7	H		2	K=H	1	—		7.6 7.9	7.4 7.7
20.9	17.1	H		2	K=H	1	—		7.5	7.3
20.9	18.9	H?		3	K=H	1	F		7.1 7.3	6.9 7.1
20.4	21.4	A		7	K	2	F		6.5	6.3
19.7	6.2	H?		2	K=H	1	—		7.4 7.7	7.2 7.5
19.9	6.8	A		6	K=H	1	F		6.9	6.7
19.8	14.8	A		6	K=H	1	—		7.3	7.1
19.8	15.0	A		6	K=H	1	F		7.0	6.8
19.0	15.2	H?		2	K=H	1	—		7.3	7.3
19.0	16.4	F	569	3	K=H	1	F. Seen		7.1	7.1
19.0	17.5	F	570	3	K=H	2	F. Seen		6.1	6.1
19.4	18.1	F	571	2	K=H	1	Seen		7.1	6.9
19.6	24.8	F?	572	3	K=H	1	F. Seen		7.0	6.8
18.0	6.6	H?		2	K=H	1	—		7.6 7.9	7.4 7.7
18.0	7.2	A?		4	K=H	1	—		7.5	7.3
18.4	10.7	A		5	K	1	—		6.9	6.9
18.8	14.7	A		7	K	2	F.		6.6	6.6
18.8	15.6	H?		2	K=H	1	—		7.1 7.3	7.1 7.3
18.2	16.0	F?	573	3	K=H	1	F. Seen		7.1	7.1
17.1	16.6	H		2	K=H	1	—		7.6 8.0	7.6 8.0
17.0	7.0	H		2	K=H	1	—		7.4 7.7	7.4 7.7
17.1	7.6	A		8	K	2	F.		6.2	6.2

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Mean +.4
~~Mean −.2~~

Dm. No.	R.A.	Dec.	Mag.	1900 R.A.	1900 Dec.	DC. Mean	Diff.	Br.	
16 22 +81.5	543	16 21.6	+81 30	8.2	16 17.9	+81 24	~~7.61~~ 6.65	4	7.0 7.3 {6.8 7.1
16 6 +81.2	538	16 6.0	+81 14	8.0	16 2.0	+81 7	~~7.24~~ 6.38	5	6.8 6.6
15 56 +81.4	531	15 54.7	+81 23	7.4	15 51.4	+81 14	~~7.22~~ 6.37	5	6.8 7.3 {6.6 7.1
15 47 +81.1	523	15 45.9	+81 4	7.3	15 43.0	+80 56	~~7.11~~ 6.18	5	6.7 7.0 6.8 7.1 {6.5 6.8 6.6 6.9
15 39 +81.3	517	15 38.9	+81 15	6.8	15 36.0	+81 6	~~7.06~~ 6.18	7	4.6 5.2 {4.4 5.0
17 1 +82.3	498	17 1.0	+82 16	4.0	16 56.2	+82 12	9 3.89	7	7.2 7.5 {7.0 7.3
16 59 +82.1	497	16 58.5	+82 5	8.3	16 53.9	+82 1			
15 56 +81.7	530	15 54.3	+81 45	8.4	15 50.8	+81 37	~~7.52~~ 6.55	5	7.1 6.7 6.9 6.5
15 30 +81.5	510	15 29.6	+81 33	7.8	15 26.6	+81 24	4 6.35	3	6.9 {6.7
14 58 +81.3	495	14 57.2	+81 20	6.8	14 53.0	+81 9	5.50	6	6.1 5.9
18 28 +81.4	622	18 26.7	+81 24	7.2	18 22.4	+81 26	6.59	5	7.0 7.3 {6.8 7.1
18 19 +81.5	618 619	18 19.3 19.4	+81 26	8.5	18 15.0	+81 27	6.01 R	5	6.5 6.3
16 29 +82.4	484	16 27.8	+82 26	8.7	16 23.2	+82 20	6.62	3	6.9 6.7
16 25 +82.4	481	16 24.0	+82 26	8.5	16 19.5	+82 20	2 6.78	4	6.6 6.4
16 19 +82.8	479	16 18.6	+82 51	9.0	16 13.8	+82 45			6.9 6.7
15 59 +82.8	470	15 59.6	+82 48	8.2	15 55.1	+82 40	6.48	3	6.7 6.5
15 42 +82.7	463	15 42.2	+82 44	7.5	15 38.1	+82 36	5 5.76	2	5.7 5.5
15 37 +82.4	456	15 35.4	+82 23	8.2	15 31.7	+82 14	4 6.35	3	6.7 6.5
14 36 +81.5	482	14 34.8	+81 27	6.7	14 33.0	+81 15	5.94	7	6.6 6.4
18 36 +82.2	543	18 35.0	+82 13	8.3	18 30.0	+82 15			7.2 7.5 {7.0 7.3
18 27 +82.3	539	18 24.9	+82 21	8.7	18 19.7	+82 23			7.1 6.9
17 36 +82.8	521	17 35.0	+82 51	8.5	17 29.4	+82 49	4 6.35	1	6.5 6.3
16 30 +82.9	485	16 29.1	+82 58	8.0	16 24.0	+82 52	6.0 5.97	2	6.2 6.0
16 13 +82.9	475	16 12.1	+82 56	8.6	16 7.3	+82 49	6.45	3	6.7 6.5 6.9 6.7
16 6 +83.2	457	16 4.9	+83 13	8.5	15 59.9	+83 6	6.41	3	6.7 6.5
18 40 +82.6	548	18 40.2	+82 39	8.9					7.2 {7.0
~~15 54 +83.6~~	~~450~~	15 52.3	+83 40	9.3	18 35.1	+82 39			7.6 {7.4
18 37 +82.8	544	18 36.2	+82 47	8.5	18 30.6	+82 49			7.0 7.3 {6.8 7.1
18 30 +82.8	540	18 28.6	+82 52	7.5	18 22.9	+82 54	5.47	4	5.8 5.6

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Plate 2542.

V.	N.	Type.	No. Rem.	Lines	K.	Focus	Lines	Other.	
17.2	10.7	I?	574	3	K=H	2	F. Seen	6.7 6.9	6.7 6.9
17.3	11.0	E?		2	K=H	1	—	7.3	7.3
17.6	11.7	H?		2	K=H	1	—	7.6 8.0	7.6 8.0
17.7	12.7	H?		2	K=H	1	—	7.5 7.7	7.5 7.7
17.2	15.2	H		3	K=H	2	F	6.6 6.8	6.7 6.9
17.2	15.9	H?		2	K=H	1	—	7.3 7.4	7.4 7.5
17.9	16.3	A		7	K=.5H	3	F	6.2	6.2
17.2	16.6	A		4	K=H	1	—	7.5	7.6 7.8
17.4	18.7	H		3	K=H	1	F	7.2 7.7	7.7
17.5	19.7	H?		3	K=1.2H	3	—	5.6 5.5	5.6 5.8
17.0	20.6	H?		2	K=H	1	—	7.5 7.7	7.5 7.7
17.5	21.7	A		3	K	1	—	7.5	7.3
16.4	7.0	A		9	K	4	F	5.3	5.3
16.1	7.2	I	575	3	K=H	2	F	6.8 7.1	6.8 7.1
16.5	7.7	H		2	K=H	1	—	7.6 8.0	7.6 8.0
16.7	9.1	E		2	K=H	1	—	7.5	7.5
16.0	10.6	H		3	K=H	1	F	7.5 7.8	7.6 7.9
16.5	11.0	A		7	K=.5H	2	F	6.8	6.9
16.1	13.8	A		5	K=H	1	F	7.3	7.4
16.7	14.1	A		9	K=.3H	3	F	6.0	6.1
16.4	14.3	A		4	K	1	—	7.4	7.5
16.0	15.4	E?		3	K=H	1	F	7.4	7.5
16.6	15.7	F?	576	3	K=.8H	3	F. Seen	6.2	6.3
16.2	18.2	A		3	K	1	—	7.6	7.7
15.6	6.2	A?		4	K=H	1	—	7.4	7.4
15.1	6.4	A		3	K	1	—	7.6	7.6
15.4	8.0	A		4	K	1	F	7.3	7.4
15.0	8.3	A		4	K=H	1	—	7.3	7.4

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.		Bz.	
17 39 +83.5	512	17 39.0	+83 26	7.5	17 32.6	+83 26	0.17	2	6.3 / 6.5	6.1 / 6.3
17 30 +83.5	505	17 33.5	+83 27	8.7	17 27.2	+83 25			6.9	6.7
17 22 +83.4	501	17 21.6	+83 22	8.8	17 15.4	+83 20			7.3 / 7.6 / 7.1 / 7.3 / 6.2 / 6.4	7.0 / 7.4 / 6.9 / 7.1 / 6.0 / 6.2
17 5 +83.4	493	17 4.4	+83 25	9.0	16 58.3	+83 21				
16 19 +83.7	468	16 18.1	+83 47	8.2	18 12.2	+83 40	6.3 / 7.89	1 / 12	6.9 / 7.6	6.7 / 6.8
16 6 +83.7	455 / 456	16 4.4	+83 42 / 41	9.5 / 8.5	15 58.6 / 15 58.9	+83 35 / +83 34				
15 59 +83.4	453	15 58.8	+83 23	7.3	15 53.8	+83 15	8.57 / 6.78	1 / 12	5.8	5.6
15 54 +83.6	449 / 450	15 52.2 / 15 52.3	+83 41 / +83 40	8.9 / 9.3	15 47.0 / 15 47.1	+83 33 / +83 32			7.1 / 6.8 / 7.3	6.9 / 6.6 / 7.1
15 17 +83.4	440	15 15.8	+83 22	8.5	15 11.7	+83 12			5.2 / 5.4	5.0 / 5.2
15 1 +83.1	431	15 0.4	+83 6	6.0	14 56.9	+82 56	3.66	5	7.1 / 7.3	6.9 / 7.1
14 47 +83.1	423	14 46.0	+83 5	8.5	14 43.0	+82 54				
14 35 +82.6	423	14 33.4	+82 36	9.0	14 31.0	+82 24			7.1	6.9
18 44 +83.1	536	18 43.2	+83 4	6.2	18 37.3	+83 6	4.76	1	4.9	4.7
18 43 +83.2	535	18 42.5	+83 15	7.4	18 36.4	+83 18			6.4 / 6.7 / 7.2 / 7.6	6.2 / 6.5 / 7.0 / 7.4
18 32 +83.2	531	18 31.0	+83 11	8.2	18 24.9	+83 13				
18 10 +83.4	524	18 8.5	+83 26	8.8	18 2.1	+83 27			7.1 / 7.1	6.9 / 6.9
17 49 +84.0	387	17 47.8	+84 1	8.6	17 40.6	+84 0			7.4	7.2
17 39 +83.8	371	17 38.6	+83 49	8.3	17 31.7	+83 49	1.37 / 6.66	1 / 3	6.4	6.2
16 49 +84.3	365 / 366	16 47.6 / 16 47.8	+84 17 / +84 16	8.5 / 9.3	16 40.5 / 16 40.8	+84 12 / +84 11	R		6.9	6.7
16 41 +84.0	361	16 40.2	+84 0	7.2	16 33.6	+83 55	5.55	1 / 10	5.6	5.4
16 36 +84.1	359	16 35.9	+84 7	8.7	16 29.2	+84 2			7.0	6.8
16 12 +84.4	351 / 354	16 7.0 / 16 11.2	+84 2 / +84 18	7.7 / 9.3	16 4.7	+84 11			7.0	6.8
16 9 +84.1	351	16 7.0	+84 2	7.7	16 1.0	+83 55	5.7 / 6.87	1 / 10	5.8	5.6
15 18 +83.9	441	15 17.1	+83 38	8.8	15 12.3	+83 48			7.2	7.0
18 59 +83.2	541	18 59.0	+83 8	8.8	18 53.2	+83 12			7.0	6.8
19 2 +83.4	544	19 2.0	+83 21	8.8	18 56.0	+83 25			7.2	7.0
18 38 +83.7	534	18 36.6	+83 44	8.5	18 29.8	+83 46			6.9	6.7
18 36 +83.9	533	18 35.2	+83 38	8.8	18 28.1	+84 0			6.9	6.7

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Plate 2542

V.	H.	Type.	Rem.	No. Lines	K.	Focus	Other Lines		
15.9	8.3	I	577	3	K=H	1	F	7.0 7.4	7.1 7.5
15.7	9.2	F?	578	3	K=H	2	F. Seen	6.6	6.7
15.4	10.4	F?	579	2	K=H	1	Seen	7.2	7.3
15.0	14.2	A		6	K	2	F	6.8	7.1
15.7	17.2	A		8	K=H	2	F	6.6	6.7
15.0	18.1	A?		4	K=H	1	—	7.2	7.3
15.0	18.4	H		3	K=H	2	F	6.1 6.7	6.2 6.8
14.4	6.4	A		7	K	3	F	5.7	5.8
14.6	8.3	F	580	3	K=H	1	F. Seen	6.8	6.9
14.6	8.9	F	581	3	K=H	1	F. Seen	7.1	7.2
14.1	9.1	F	582	3	K=1.2H	3	F. Seen	5.9	6.2
14.8	9.6	H		2	K=H	1	—	7.3 7.7	7.4 7.8
14.3	9.9	A		6	K=.5H	2	F	6.6	
14.4	10.9	F	583	3	K=H	1	F. Seen	7.1	7.4
14.9	11.6	H		3	K=H	2	F	6.1 6.5	6.4 6.8
14.6	12.4	A		7	K	3	F	6.2	6.5
14.8	13.0	H		2	K=H	1	—	7.2 7.7	7.5 8.0
14.8	15.5	A?		5	K=H	2	F	6.8	7.1
14.1	16.1	I	584	3	K=H	3	F. Seen	6.0 6.4	6.3 6.7
14.6	16.4	H?		3	K=H	1	F	7.3 7.4	7.6 7.7
14.6	23.0	I	585	3	K=1.2H	3	F. Seen	5.9 6.1	5.9 6.1
13.5	7.4	E		2	K=H	1	—	7.5	7.6
13.6	8.0	A		5	K=H	1	F	7.0	7.3
13.0	13.5	F	586	3	K=H	1	F. Seen	6.9	7.1
13.4	15.4	A		9	K=.8H	3	F	5.7	5.9
13.4	15.7	E?		2	K=H	1	—	7.3	7.5
13.0	17.2	I	587	3	K=H	2	F. Seen	6.2 6.7	6.4 6.9
12.6	10.7	F?	588	3	K=H	3	F. Seen	6.1	6.3

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No. D.M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	WC. Mean	Diff.	Be.	
18 29 +83.6	530	18 28.1	+83 37	7.8	18 21.5	+83 39	6.45	2	6.6 / 7.0	6.4 / 6.8
18 16 +83.8	527	18 15.8	+83 54	7.7	18 8.7	+83 55	6.37	0	6.2	6.0
17 56 +84.3	R 391	17 56.8	+84 17	8.9	17 49.1	+84 17			6.8	6.6
16 39 +84.8	360	16 38.2	+84 52	8.5	16 30.2	+84 47	6.5 / 7.71	1 / X	6.4	6.2
15 36 +84.4	345	15 35.1	+84 22	8.3	15 29.4	+84 13	6.1 / 7.24	1 / X	6.2	6.0
15 14 +84.6	339	15 12.6	+84 35	8.4	15 7.2	+84 25			6.8	6.6
15 9 +84.5	335	15 6.8	+84 31	7.5	15 1.6	+84 20	6.3 / 7.43	6 / X	5.7 / 6.3	5.5 / 6.1
19 11 +83.6	547	19 10.4	+83 42	6.5	19 4.0	+83 47	5.25	1	5.3	5.1
18 39 +84.2	413	18 39.8	+84 12	8.5	18 32.4	+84 14			6.4	6.2
18 30 +84.4	410	18 28.9	+84 19	8.5	18 21.2	+84 21			6.7	6.5
18 34 +84.6	412	18 32.8	+84 35	7.5	18 24.6	+84 37	7.04	3 / X	5.5	5.3
18 16 +84.4	405	18 15.2	+84 24	8.4	18 7.3	+84 25			6.9 / 7.3	6.7 / 7.1
	404	18 [illegible]	+84 42	9.0						
18 16 +84.6	~~406~~	~~18 15.7~~	~~+84 39~~	~~8.2~~	18 7.3	+84 40	6.8	1	6.2	6.0
17 54 +84.8	389	17 53.2	+84 49	8.7	17 44.4	+84 49	6.82	1 / X	6.7	6.5
17 38 +84.7	383	17 37.0	+84 44	7.7	17 28.6	+84 42	6.62 / 7.38	5 / X	5.7 / 6.1	5.5 / 5.9
17 21 +84.9	378	17 21.1	+84 57	8.2	17 12.3	+84 54	5.9 / 7.16	1 / X	5.8	5.6
17 10 +84.8	371	17 7.3	+84 54	8.5	16 58.8	+84 51			6.8 / 7.3	6.6 / 7.1
16 9 +84.9	352	16 7.8	+84 60	8.4	16 0.2	+84 52	6.4 / 7.58	0 / X	6.4	6.2
15 51 +85.3	263	15 50.2	+85 18	7.2	15 42.5	+85 10	6.1 / 7.24	5 / X	5.6 / 6.0	5.4 / 5.8
15 48 +84.9	348	15 46.6	+84 59	8.8	15 39.6	+84 51			6.9 / 7.6	6.7 / 6.8
13 47 +83.5	397	13 46.7	+83 29	6.5	13 45.1	+83 13	5.88	3 / 2	5.5 / 5.7	5.3 / 5.5
19 10 +84.4	426	19 8.6	+84 21	9.2	19 1.1	+84 25			7.1	6.9
18 56 +84.5	423	18 55.2	+84 29	8.6	18 47.4	+84 32	6.8 / 7.95	2 / X	6.6	6.4
17 1 +85.8	278	17 0.5	+85 53	8.7	16 49.5	+85 49			6.5	6.3
16 8 +85.7	269	16 6.6	+85 43	7.5	15 57.4	+85 36	7.54 / 7.68	1 / X	5.3	5.1
15 59 +85.7	266	15 58.7	+85 41	8.8	15 49.8	+85 34			6.9	6.7
15 19 +85.6	249	15 16.6	+85 41	8.0	15 9.2	+85 31	6.2 / 7.5	4 / X	5.8 / 6.2	5.6 / 6.1
18 20 +85.6	294	18 18.1	+85 40	7.5	18 7.2	+85 41	6.0 / 7.35	3 / X	5.7	5.5

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Plate 2542.

V.	H.	Type.	No. Rem.	Lines	K.	Faces	Other Lines.		
12.1	12.8	H		3	K=H	1	F	7.1 7.4	7.3 7.6
12.5	14.5	A?		3	H	1	—	7.2	7.4
12.3	17.0	F	589	3	K=H	3	F. Seen	6.2	6.4
12.5	17.5	A		4	H	1	F.	7.2	7.4
12.1	18.1	H		2	K=H	1	—	7.4 7.7	7.6 7.9
12.2	20.4	H		3	K=H	2	F	7.5 7.4	7.4 7.7
12.0	22.3	F	590	3	K=1.2H	2	F. Seen	6.4	6.5
11.8	8.7	A?		4	K=H	1	—	7.3 7.6 7.9	7.6 7.8 8.1
11.0	9.8	H?		2	K=H	1	—		
11.1	10.0	A?		4	K=H	1	—	7.4	7.6
11.0	11.5	A		12	H	5	F.	B	B
11.8	14.0	A		8	K=.5H	2	F	6.7	6.8
11.5	16.6	F?	591	2	K=H	1	Seen	7.3 6.0 6.3	7.5 6.2 6.5
11.2	17.2	I	592	3	K=H	3	F. Seen	7.4 7.7	7.6 7.9
11.3	19.4	H		2	K=H	1	—		
11.2	24.0	A		8	H	5	F.	4.6	4.7
10.1	5.9	E		2	K=H	1	—	7.5	7.8
10.0	7.1	A		5	K=H	2	F	6.7 6.7 7.2	6.9 6.9 7.4
10.5	8.2	H		3	K=H	2	F		
10.4	10.3	M	593	3	K=H	3	F. Seen	6.2 7.1 6.7	6.3 7.2 6.8
10.8	10.8	I	594	3	K=H	2	F. Seen	7.0	7.1
10.1	11.7	A		10	H	4	F	4.8	4.9
10.6	12.5	F?	595	3	K=H	2	F. Seen	6.6	6.7
10.5	18.6	F	596	3	K=H	3	F. Seen	6.0	6.2
10.8	19.1	E?		3	K=H	1	F	7.3	7.5
10.5	19.9	F	597	3	K=H	2	F. Seen	6.3	6.5
10.9	21.1	F	598	3	K=1.2H	3	F Seen	6.1	6.4
10.5	23.9	F	599	3	K=H	2	F Seen	6.6	6.7

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D.M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.		Br.		
17 30 +86.2	256	17 24.8	+86 16	8.6	17 12.1	+86 13			6.7 7.0	6.5 6.8	
16 34 +86.2	242	16 31.3	+86 9	9.0	16 20.1	+86 4			6.8	6.6	
15 19 +86.1	221	15 14.6	+86 4	8.1	15 6.4	+85 54	6.3	5 X8	5.8	5.6	
15 2 +85.8	248	15 3.2	+85 53	8.6	14 55.8	+85 43			6.8	6.6	
14 41 +85.8	242	14 41.6	+85 54	8.0	14 38.1	+85 43			7.0 7.3	6.8 7.1	
13 58 +85.2	234	13 57.8	+85 14	7.0	13 51.5	+85 1			6.7 7.0	6.5 6.8	
13 21 +84.6	307	13 21.9	+84 40	8.0	13 20.6	+84 25			6.0	5.8	
19 20 +86.4	324	19 20.3	+85 24	9.0	19 10.8	+85 29			6.9	6.7	
19 1 +86.2	281	19 1.2	+86 8	9.0	18 49.0	+86 12			7.2 7.5	7.1 7.3	
18 52 +86.1	277	18 52.8	+86 6	8.8	18 40.6	+86 9			7.0	6.8	
18 21 +86.6	269	18 19.1	+86 36	4.5	18 2.5	+86 37			7.3		
16 50 +86.5	244	16 47.8	+86 31	8.7	16 34.8	+86 26	6.4	1 X5	6.3	6.1	
15 21 +86.5	222	15 18.8	+86 27	8.8	15 9.2	+86 18			6.9	6.7	
14 59 +86.5	217	14 58.5	+86 33	6.8	14 49.6	+86 22	6.2	6 X0	5.6 5.9	5.4 5.7	
14 1 +85.8	235	14 0.8	+85 54	8.8	13 56.3	+85 41			7.0 7.3	6.8 7.1	
12 50 +84.2	289 290	12 48.0 48.1	+84 12	6.5 5.5	12 48.3 12 48.4	+83 58 +83 57		4	4.2	4.0	
20 22 +84.8	455	20 22.7	+84 55	9.0	20 15.6	+85 4			7.1	6.9	
20 12 +85.5	337	20 11.7	+85 28	8.5	20 3.0	+85 36	6.7	4 X7	6.3	6.1	
19 42 +85.8	329	19 44.0	+85 47	8.4	19 33.8	+85 53	6.7	4 X7	6.3 6.8	6.1 6.6	
19 1 +86.5	282	19 1.6	+86 31	7.0	18 47.7	+86 35	6.2	4 X8	5.8 6.7	5.6 6.5	
18 40 +86.5	275	18 40.2	+86 30	8.2	18 26.2	+86 32	6.5	2 X7	6.3 6.6	6.1 6.4	
18 20 +86.9	272	18 24.4	+86 59	6.0	18 7.6	+87 0	5.6	6 21	4.4	4.2	
17 51 +86.9	263 264	17 49.6 49.2	+86 58 58	9.2 8.5	17 32.6	+86 58	6.2	0 X4 R	6.2	6.1	
14 8 +86.4	201	14 5.1	+86 27	7.5	13 59.4	+86 14	6.1	5 X8	5.6	5.4	
13 59 +86.2	199	13 59.6	+86 14	8.5	13 54.7	+86 1			6.9	6.7	
13 39 +86.0	193	13 35.7	+86 1	7.5	13 32.4	+85 47	6.3	4 X7 R	5.9	5.7	
13 21 +85.5	222	13 20.7	+85 31	7.0	13 18.8	+85 17			5.7	5.5	
12 39 +84.5	286	12 37.2	+84 26	7.0	12 38.0	+84 12	6.0	2	6.2	6.1	

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v.	M.	Type.	No. Rem.	Lines	K.	Focus	Alter Lines		
9.8	6.6	H		3	K=H	2	F	6.7 7.4	7.0 7.7
9.0	9.3	A?		4	K=H	1	—	7.1	7.2
9.0	10.4	A		8	K=.8H	2	F.	6.4	6.5
9.4	12.1	F?	600	3	K=H	2	F. Seen	6.5	6.6
9.1	14.6	E		2	K=H	1	—	7.1	7.1
9.7	15.5	F	601	3	K=H	2	F. Seen	6.5	6.6
9.2	15.7	I	602	3	K=H	3	F. Seen	6.1 6.7	6.1 6.7
9.1	17.7	H		2	K=H	1	—	7.4 7.8	7.5 7.9
9.2	17.9	H		2	K=H	1	—	7.4 7.9	7.5 8.0
9.6	19.4	A		3	K	1	—	7.3	7.5
8.2	11.0	A		8	K=.5H	3	F	6.4	6.4
8.3	12.3	H		3	K=H	1	F	7.3 7.7	7.3 7.7
8.9	12.7	E?		2	K=H	1	—	7.2	
8.0	12.8	E?		3	K=H	3	F	6.3	6.3
8.2	13.5	A?		3	K	1	—	7.1	7.1
8.2	16.4	A		6	K	2	—	6.7	6.7
8.0	16.8	A		5	K=H	1	—	6.9	6.9
8.1	17.1	A		4	K=H	1	—	7.6	7.6
8.9	18.2	E?		2	K=H	1	—	7.5	7.6
8.6	18.3	E	603	3	K=H	2	Seen.	6.6	6.7
8.0	18.5	E		3	K=H	1	F.	7.0	7.1
8.5	20.4	A		7	K=.3H	3	F	5.8	6.0
8.4	21.4	A		5	K	1	—	7.1	7.3
8.1	22.1	A		6	K=H	1	F	7.1	7.3
9.2	10.1	I	604	3	K=H	1	F. Seen	6.7 7.2	6.7 7.2
7.7	15.2	H		2	K=H	1	—	7.2 7.4	7.2 7.4
7.3	16.8	A?		4	K=H	2	—	6.7	6.7
7.0	16.9	H		3	K=H	1	—	6.5 7.0	6.5 7.0

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No. D. M.	R.A.	Dec.	Mag.	1900 R.A.	1900 Dec.	(2) C. Mean	Diff.	Br.	
20 21 +85.3	840	20	21.6	+85 20	7.5 ✓	20 13.6	+85 29		6.3 ✓ 7.0	6.1 6.8
19 58 +86.6	294	19	54.0	+86 37	9.0 ✓	19 40.9	+86 44		6.7	6.5
19 30 +87.1	180	19	30.8	+87 4	8.0 ✓	19 14.5	+87 10 ✓ 7.8	X8	6.0	5.8
18 30 +87.4	169	18	24.2	+87 24	8.1 ✓	18 4.3	+87 26 ✓ 7.8	X7	6.1	5.9
16 31 +87.8	151	16	26.7	+87 51	8.9 ✓	16 5.5	+87 45		6.7	6.5
15 45 +87.5	147	15	43.2	+87 32	7.9 ✓	15 27.3	+87 23 ✓ 7.8	X7	6.1	5.9
15 30 +87.7	143	15	26.0	+87 47	7.0 ✓	15 9.4	+87 37 ✓ 7.6	X9	5.7 6.3	5.5 6.1
14 1 +87.3	130	14	2.7	+87 19	8.7 ✓	13 54.8	+87.6		7.0 7.4	6.8 7.2
13 59 +87.2	129	13	58.4	+87 13	8.5 ✓	13 51.2	+87 0		7.0 7.5	6.8 7.3
13 31 +86.5	191	13	30.0	+86 32	9.0 ✓	13 26.3	+86 18		6.9	6.7
19 40 +87.6	181	19	36.1	+87 36	8.0 ✓	19 15.7	+87 42 ✓ 7.8	X8	6.0	5.8
18 47 +87.9	173	18	42.5	+87 60	9.0 ✓	18 16.5	+88 1		6.9 7.3	6.7 7.1
19 10 +87.8	166	18	10.8	+87 49	8.9					
19 30 +88.5	110	19	25.6	+88 34	8.8	18 48.3	+88 40		6.8	6.6
18 29 +88.3	104	18	24.3	+88 14	8.0 ✓	17 53.7	+88 16 ✓ 7.8	X9	5.9	5.7
17 39 +88.2	100	17	35.2	+88 13	8.8 ✓	17 6.0	+88 11		6.7	6.5
14 38 +88.1	86	14	32.6	+88 4	8.5 ✓	14 18.1	+87 52 ✓ 8.0	X7	6.3	6.1
14 7 +88.0	80	14	4.9	+88 1	8.6 ✓	13 53.6	+87 48		6.5	6.3
13 59 +87.8	127	13	56.7	+87 53	9.0 ✓	13 47.0	+87 40		7.2	7.1
13 40 +87.2	124	13	40.8	+87 15	9.0 ✓	13 34.8	+87 1		7.1	6.9
13 30 +87.3	122	13	30.5	+87 19	8.8 ✓	13 25.1	+87 5 ✓ 7.8	X6	6.2	6.1
13 1 +87.5	115	13	1.4	+87 26	8.4 ✓	12 58.2	+87 12		6.6	6.4
12 39 +86.5	182	12	34.7	+86 32	6.5 ✓	12 34.6	+86 17 ✓ 7.4	6.0 6 X0	5.4	5.2
12 21 +86.1	180	12	19.3	+86 7	8.4 ✓	12 20.4	+85 52 ✓ 6.6	1	6.7	6.5
12 5 +85.8	196 197	12	4.6	+85 53	5.2 ✓	12 1.6	+85 38 ✓ 6.4	3	6.7	6.5
20 41 +87.5	187	20	41.3	+87 29	8.0 ✓	20 25.1	+87 39		6.3 6.8	6.1 6.6
15 30 +88.5	90	15	31.2	+88 34	8.9 ✓	15 4.8	+88 24		6.8 7.0	6.6 6.8
13 39 +88.3	77	13	36.7	+88 18	8.5 ✓	13 26.8	+88 4 ✓ 8.0 7.8	X7	6.3	6.1
13 19 +88.5	76	13	12.2	+88 26	8.0 ✓	13 4.5	+88 11		6.1 6.6	5.9 6.4

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Plate 2542

V.	H.	Type.	Rem.	No. Lines	K.	Forms	Other Lines.		
7.8	17.6	H,		2	K=H',	1	—	7.2, 7.4	7.2, 7.4
7.4	19.4	F',	605	3	K=H	3	F. Seen	5.3	5.4
7.6	20.9	A?,		4	K=H',	1	—	7.2	7.4
7.6	21.2	F,	606	3	K=1.2 H,	3	F. Seen	5.5	5.7
7.4	22.5	F,		3	K=H	1	—	7.0	7.2
6.1	6.1	A,		4	K=H,	1	—	6.8	7.0
6.0	7.2	A,		4	K=H,	1	—	6.4	6.5
6.8	7.6	A,		7	N,	3	F.	5.6	5.7
6.5	8.6	F,	607	3	K=H,	1	F.	6.7	6.8
6.5	11.8	A,		4	K=H,	2	—	6.8	6.7
6.5	12.1	H,		3	K=H,	1	—	6.7, 7.2	6.6, 7.1
6.1	12.2	F,	608	3	K=H,	1	F.	6.8	6.7
6.9	12.5	A,		5	K=H,	1	—	7.0	6.9
6.2	12.7	M,	609	3	K=H,	3	F. Seen	5.7, 6.6	5.6, 6.5
6.2	16.5	A,		4	K=H,	1	—	7.0	6.9
6.9	16.8	H,		3	K=H,	2	—	6.5, 7.1	6.5, 7.1
6.2	17.2	A?,		11	N,	5	F.	4.4	4.4
6.4	18.6	A,		7	N,	3	—	6.0	6.0
6.5	21.4	F,	610	3	K=H,	3	F. Seen	6.0	6.2
6.8	23.2	H?,		3	K=H,	2	F.	6.5, 6.7	6.8, 7.0, 6.9
5.2	17.6	A,		8	N,	4	F.	5.5	5.5
5.6	21.6	A?,		5	K=H,	3	F.	5.9	6.1
5.5	21.8	F,	611	3	K=H,	1	Seen	6.5	6.7
4.4	7.5	A,		7	K=H,	3	—	6.4	6.5
4.8	9.2	A,		4	N,	3	F.	5.7	5.7
4.9	12.0	A,		5	N,	2	—	6.6	6.5
4.7	11.5	A,		3	N,	1	—	7.1	7.0
4.4	12.6	A,		4	N,	1	—	7.1	7.0

5.3, 5.8

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D. M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.	
13	21	+87.8	118	13 19.8	+87 53	8.6	13 13.7	+87 38		6.8	6.6
										7.0	6.8
12	19	+87.2	107	12 12.6	+87 14	6.5	12 13.7	+87 0	5.4 6.8 5 X9	4.9	4.7
12	8	+86.6	177	12 8.0	+86 31	8.5	12 7.0	+86 16		6.8	6.6
11	59	+86.4	176	11 57.4	+86 24	5.7	11 57.8	+86 8	5.6 7.0 5 6.8 X9	5.1	4.9
11	40	+85.8	191	11 41.7	+85 48	8.4	11 45.1	+85 33		6.6	6.4
21	58	+85.7	367	21 55.8	+85 46	8.5	21 50.9	+85 59		6.4	6.2
21	52	+86.3	324	21 52.8	+86 20	8.2	21 46.4	+86 33	6.5 7.9 5 X9	6.0	5.8
21	29	+86.4	319	21 27.7	+86 26	7.0	21 19.6	+86 37	5.7 7.4 5 X9	5.2	5.0
21	26	+86.9	318	21 26.4	+86 57	8.0	21 16.3	+87 8	8.0 7.9 X7	6.3	6.1
20	29	+88.4	115	20 24.2	+88 26	8.8	19 54.0	+88 35		6.4	6.2
20	20	+88.5	114	20 17.2	+88 34	8.0	19 43.3	+88 42	7.8 X5	6.3 6.8	6.1 6.6
20	40	+88.6	117	20 34.6	+88 41	var	19 58.6	+88 50		6.4	6.2
19	30	+88.5	110	19 25.6	+88 34	8.8	18 48.3	+88 40		6.6	6.4
20	10	+88.8	112	20 8.5	+88 52	6.5	19 22.5	+88 39	7.4 21	5.3 6.2	5.1 6.0
12	59	+88.7	75	12 52.8	+88 46	9.0	12 46.1	+88 31		6.6	6.4
13	11	+88.5	76	13 12.2	+88 26	8.0	13 4.5	+88 11		6.1 6.7	5.9 6.5
12	19	+88.5	71	12 14.4	+88 30	6.5	12 14.4	+88 15	6.7 X7	4.0	3.8
11	55	+87.7	101	11 57.6	+87 48	9.0 8.0	11 54.6	+87 33	9.0 6.0 4 X8 R	5.6	5.4
11	25	+86.5	170	11 23.8	+86 25	7.0	11 28.3	+86 10	7.3 4 X7	5.6	5.4
11	20	+85.5	183	11 20.0	+85 30	7.5	11 24.4	+85 15	6.2 1	6.1 6.3	5.9 6.1
10	59	+88.5	64	10 53.0	+88 26	7.5	11 4.2	+88 11	7.1 20 4	5.1	4.9
10	56	+86.5	161	10 56.2	+86 26	7.2	11 2.5	+86 11	5.9 7.2 X7	5.5	5.3
10	52	+86.4	159	10 50.4	+86 20	8.3	10 57.0	+86 5	6.4 8 7.8 3 X7	6.1	5.9
22	45	+86.5	335	22 45.6	+86 32	8.0	22 42.3	+86 46	6.1 7.6 1 X6	6.8	5.8
22	30	+87.3	205	22 30.8	+87 21	7.5	22 24.2	+87 35	7.5 2 X9	5.3	5.1
22	30	+88.7	131	22 30.6	+88 44	8.7	22 12.3	+88 58	8.0 18	6.2	6.0
22	43	+88.5	133	22 43.2	+88 30	9.2	22 30.9	+88 44		6.7	6.5
23	21	+89.0	38	23 21.3	+89 1	9.0	23 11.0	+89 16		6.7	6.5

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Plate 2542

V.	H.	Type.	No. Rem.	Lines.	K.	Focus.	Lines	Obter.		
4.1	13.8	A		5	K=H	2	—		.6.7	
4.9	15.0	F	612	3	K=H	1	—		7.1	7.0
4.5	17.2	E?		2	K=H	1	—		6.9	6.9
4.1	18.4	H		3	K=H	1	—		6.9 7.2	6.9 7.2
4.2	20.9	E		3	K=H	2	F		6.6	6.7
3.2	7.7	A		7	K	5	F.		4.4	4.5
3.3	9.8	A		6	K	2	—		6.8	6.8
3.0	10.1	A		4	K	1	—		7.0	7.0
3.0	11.6	A		10	K=2H	4	F.		5.2	5.2
3.2	12.2	E?		3	K=H	5	F.		B	B
3.8	12.0	H		3	K=H	2	F		6.7 7.0	6.6 6.9
3.4	15.6	A		9	K=2H	3	F.		5.7	5.6
3.3	18.7	H		3	K=H	1	F		6.9 7.2	6.9 7.2
3.0	19.1	F	613	3	K=H	2	F. Seen		6.5	6.6
3.5	19.7	H		3	K=H	2	F		6.6 6.9	6.7 7.0
3.0	20.0	H		2	K=H	1	—		7.2 7.6	7.3 7.7
3.6	21.3	A		5	K	2	F.		6.6	6.8
2.8	5.9	A		6	K	3	—		5.7	5.9
2.5	5.5	A?		5	K=H	2	—		.	.
2.8	6.2	E?		3	K=H	2	—		6.2	6.4
2.0	6.8	A		8	K	3	—		.	.
2.1	7.4	A		4	K	2	F		.	.
2.0	10.4	E?		3	K=H	1	F.		.	.
2.1	11.1	H		3	K=H	2	F		.	.
1.6	11.4	A		6	K	2	F		.	.
1.9	11.7	E?		3	K=H	1	F.		.	.
1.8	12.1	E?		3	K=H	1	—		.	.
2.6	12.5	F	614	3	K=H	2	Seen		6.7	6.8
2.1	12.7	A?		5	K=H	2	—		.	.
1.5	16.7	A		3	K	1	—		.	.
1.8	18.0	F?	615	3	K=H	1	F. Seen		.	.

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D.M.	No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.		Bz.	
20.0	+89.5	3	1 49.6	+89 29	8.8	3	18.7	+89 41			6.3 6.1
11	9 +89.7	18	11 8.4	+89 44	8.9	11	35.3	+89 29			6.7 6.5
9	59 +88.6	60	9 59.6	+88 36	8.5	10	19.4	+88 23			6.5 6.3
~~9~~	~~50 + 87.9~~	~~85~~	~~9 47.8~~	~~+87 59~~	~~8.5~~						6.5 6.3
~~9~~	~~25 + 87.7~~	~~82~~	~~9 23.0~~	~~+87 49~~	~~8.9~~	9	40.4	+87 37			6.8 6.6
10	9 +86.7	152	10 8.5	+86 48	8.4	10	18.6	+86 34			6.2 6.0
23	30 +86.5	344	23 27.8	+86 30	6.0	23	27.7	+86 45			4.0 3.8
23	42 +87.6	217	23 42.4	+87 32	8.5	23	42.8	+87 47			6.4 6.2
0	4 +87.5	1	0 4.5	+87 36	9.0	0	7.3	+87 51			6.6 6.4
0	45 +88.2	4	0 45.5	+88 15	7.5	0	55.6	+88 29			4.8 4.6
1	9 +88.5	8	1 6.5	+88 32	2.0	1	22.0	+88 46			7.3
0	11 +88.6	2	0 11.0	+88 38	8.8	0	16.0	+88 52			6.3 6.1 6.6 6.4
7	2 +89.1	13	7 3.7	+89 2	7.0	7	58.0	+88 58			5.3 5.1
9	9 +87.7	79	9 9.8	+87 46	8.5	9	27.9	+87 34			6.5 6.3 6.8 6.6
9	0 +87.5	78	9 0.8	+87 29	8.0	9	18.0	+87 18			6.1 5.9
9	29 +87.3	83	9 29.9	+87 16	7.7	9	44.0	+87 4			6.2 6.0 6.5 6.3
9	10 +87.1	80	9 14.5	+87 6	8.5	9	29.0	+86 54			6.8 6.6 7.2 7.0
9	48 +86.6	143	9 47.4	+86 32	8.6	9	58.2	+86 19			6.2 6.0
23	24 +85.6	399	23 24.2	+85 37	7.5	23	24.4	+85 52			5.3 5.1
23	30 +85.4	403	23 29.7	+85 23	7.8	23	30.4	+85 38			
23	28 +85.7	401	23 27.2	+85 46	8.0	23	27.5	+86 0			5.8 5.6
23	55 +85.8	409	23 52.8	+85 54	8.0	23	54.7	+86 9			
23	56 +86.2	347	23 55.3	+86 14	8.6	23	57.3	+86 29			
0	56 +87.5	9	0 51.5	+87 29	8.8	0	59.6	+87 44			
1	5 +87.7	12	1 7.1	+87 48	8.0	1	18.0	+88 3			
1	31 +84.7	15	1 35.6	+87 47	8.2	1	29.6	+88 0			
1	39 +87.9	16	1 40.0	+87 59	8.8	1	56.0	+88 13			
1	59 +86.1	11	1 58.9	+88 13	8.8	2	17.6	+88 16			
1	50 +88.5	9	1 51.8	+88 29	8.0	2	14.2	+88 42			6.3 6.1
2	18 +88.4	13	2 17.1	+88 22	8.5	2	42.2	+88 35			
6	42 +88.0	39	6 47.0	+88 1	8.5	7	16.8	+87 58			
8	[illegible]	14	[illegible]								

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St. Let. 5.5, Fmt. c. 6.1–5.8 F. Chr. 6.7 Box No. 578.

R.A. 19h 55m Dec. + 86.5°

April 30, 1889.

22 45 Plate 2631

V.	H.	Type	No. Rem.	Lines	K	Form	Other Lines.		
22.4	8.1	A	.	3	N	2	—	6.0	5.8
21.0	12.2	F	616	3	K=H	1	F scm	6.7	6.5
20.3	10.9	A	.	8	N	3	F	5.3	5.1
20.3	17.9	A	.	6	N	2	F	6.1	5.9
20.5	21.8	A	.	3	N	1	—	6.7	6.5
19.2	10.0	A	.	3	N	1	—	7.0	7.0
19.3	11.1	A?	.	3	N	1	—	7.0	7.0
19.3	12.0	F?	617	3	K=H	1	F scm	6.6	6.6
19.8	17.1	A	.	4	N	1	—	6.8	6.8
18.1	6.4	F	618	3	K=H	1	F scm	6.3	6.1 6.2
18.9	8.6	A	.	3	N	1	—	6.8	6.8
18.4	11.9	A	.	8	K=.2H	3	F	5.4	5.4
18.9	13.6	A	.	4	K=H	1	—	7.0	7.0
18.6	15.9	A	.	8	K=.2H	3	F	5.5	5.5
18.2	18.9	A	.	7	N	3	F	5.2	5.2
18.2	19.8	A	.	6	N	2	F	6.2	6.2
17.1	7.1	A?	.	3	N	1	—	6.8	6.8
17.6	10.9	F?	619	3	K=H	2	F scm	6.3	6.4
17.4	17.1	A	.	8	N	3	F	5.7	5.8
16.5	8.2	A?	.	5	N	1	F	6.3	6.4
16.7	9.9	H	.	3	K=H	1	F	6.5 6.9	6.6 7.0
16.4	11.5	F	620	2	K=H	1	scm	6.7	6.8
16.6	12.9	F	621	3	K=H	2	F scm	6.2	6.3
16.4	13.5	A	.	9	K=.2H	2	F	5.8	5.9
16.1	14.5	A	.	4	N	1	—	6.6	6.9
16.0	18.4	A?	.	4	K=H	1	—	6.9	7.0
16.0	19.8	E	.	2	K=H	1	—	6.6	6.9
15.6	13.1	E	.	3	K=H	2	F	6.1	6.4

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Mean −.2
~~Mean −.6~~

	DM. No.	R.A.	Dec.	Magn.	R.A. 1900	Dec.	(2) C. Mean	Diff.	Br.	
21 19 +80.6	690	21	19.2 +80	37 6.3	21 17.6	+80 48	~~5.95~~ 5.82	12	6.2	5.6
20 34 +81.8	706	20	32.0 +81	53 7.4	20 28.7	+82 2	5.80	11	6.9	6.3
20 54 +81.9	718	20	52.8 +81	59 6.0	20 49.8	+82 10	4.49	11	5.5	4.9
19 10 +82.2	572	19	9.4 +82	9 6.0	19 4.7	+82 13	5.38	10	6.3	5.7
18 19 +81.4	618 619	18	19.3 19.4 +81	26 9.4 26 8.5	18 15.0	+81 27	~~7.00~~ 6.04	R	6.9	6.3
21 10 +82.4	636	21	8.4 +82	24 8.5	21 5.5	+82 33	6.36	10	7.2	6.6
20 52 +82.5	627	20	51.5 +82	31 8.6	20 48.1	+82 41	6.52	7	7.2	6.6
20 38 +82.7	617	20	38.2 +82	41 7.0	20 34.4	+82 51	5.92	9	6.8	6.2
19 17 +82.5	578	19	16.6 +82	28 7.7	19 11.7	+82 31	6.01	10	7.0	6.4
22 3 +82.2	673 674	22	3.2 3.3 +82	10 10 7.5 8.0	22 1.9 22 2.0	+82 23 +82 23	5.44	11	6.5	6.9
21 30 +82.4	648	21	30.2 +82	21 8.0	21 27.9	+82 33	6.30	7	7.0	6.4
20 44 +83.1	588	20	43.2 +83	7 6.2	20 39.2	+83 16	~~5.97~~ 4.9	~~37~~	5.6	5.0
20 15 +82.9	608	20	14.6 +82	59 8.5	20 10.0	+83 7	6.40	8	7.2	6.6
19 35 +83.2	552	19	33.4 +83	10 6.0	19 27.9	+83 16	5.89	6	5.7	5.1
18 44 +83.1	536	18	43.2 +83	4 6.2	18 37.3	+83 6	4.76 8	6	5.4	4.8
18 30 +82.8	540	18	28.6 +82	52 7.5	18 22.9	+82 54	5.48	10	6.4	5.8
22 4 +82.8	672	22	3.2 +82	48 8.2	22 1.5	+83 1	5.84	12	7.0	6.4
21 2 +82.4	596	21	2.8 +83	23 7.7	20 59.0	+83 34	5.86	7	6.5	5.9
19 11 +83.6	547	19	10.4 +83	42 6.5	19 4.0	+83 47	5.25	7	5.9	5.3
21 54 +83.4	618	21	52.7 +83	22 7.2	21 50.3	+83 35	5.62	9	6.5 6.7	5.9 6.1
21 25 +83.6	603	21	25.0 +83	39 7.5	21 21.5	+83 50	6.01 6.7	7 2	7.1	6.5
20 59 +84.1	474	20	58.2 +84	4 8.4	20 53.4	+84 15	7.90 5.8	X 6	6.9	6.3
20 31 +84.1	462	20	30.0 +84	5 7.0	20 24.4	+84 14	6.93 53	7	6.4	5.8
20 20 +84.2	451	20	20.0 +84	14 7.0	20 14.0	+84 23	6.47 6.4	4 8	6.0	5.4
20 1 +84.4	445	20	0.5 +84	24 8.5	19 53.8	+84 32	7.68		6.8	6.2
18 39 +84.2	413	18	39.8 +84	12 8.5	18 32.4	+84 14			7.1	6.5
18 16 +83.8	527	18	15.8 +83	54 7.7	18 8.7	+84 55	6.17 5.8	6 5	6.8	6.2
20 32 +84.6	463	20	31.0 +84	40 7.2	20 24.5	+84 49	7.05	X	6.3	5.7

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Plate 2631

V	H.	Type	Nr.	Rm.	Series	K	Focus	Other Lines.		
15.1	18.4	E 2	.	3	K=H	2	F		5.9	6.2
15.3	21.6	F	622	2	K=H	1	seen		6.6	6.7
15.8	22.0	F	623	2	K=H	1	seen		6.6	6.6
14.9	7.2	A	.	5	N	2	—		6.1	6.2
14.6	19.1	A	.	4	N	1	—		6.5	6.8
13.5	6.4	I	624	3	K=H	1	F seen		6.5 6.8	6.6 6.9
13.0	6.6	H	.	2	K=H	1	—		6.7 6.8	7.0 7.1
13.9	7.6	H	.	3	K=H	1	F		6.4 6.7	6.7 7.0
13.6	8.6	H	.	2	K=H	1	—		6.7 6.9	7.0 7.2
13.0	9.5	A	.	3	N	1	—		7.0	7.3
13.9	11.6	A	.	3	N	1	—		6.6	6.9
13.0	18.2	A 2	.	5	K=H	2	F		6.1	6.3
13.9	~~19.9~~	A	.	3	N	1	—		6.8	7.1
13.6	20.6	H	.	3	K=H	2	F		6.2 6.5	6.5 6.8
12.7	7.1	I 2	625	3	K=H	2	F seen		5.8 6.2	6.1 6.5
12.4	9.1	A	.	9	N	5	F		4.0	4.2
12.2	9.2	I	626	3	K=H	2	F seen		6.0 6.4	6.2 6.6
12.2	10.5	A	.	4	N	1	—		6.8	7.0
12.9	23.6	A	.	6	K=H	2	F		5.7	5.8
11.7	7.2	A 2	.	4	K=H	1	—		6.9	7.2
11.4	11.1	A	.	5	K=H	1	—		6.3	6.4
11.5	11.9	A	.	9	K=.3H	2	F		5.6	5.7
11.9	16.2	I	627	3	K=H	2	F seen		6.1 6.7	6.2 6.8
11.7	16.9	I	628	3	K=H	1	seen		6.6 6.9	6.7 7.0
11.3	17.4	A	.	10	N	5	F		B	B
11.6	22.4	A	.	4	K=H	1	—		6.5	6.8
10.0	6.3	A 2	.	4	K=H	1	—		6.6	6.9
10.8	7.1	H 2	.	3	K=H	1	F.		6.1 6.3	6.4 6.6

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DM. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.		Br.	
18 34 +84.6	412	18 32.8	+84 35	7.5	18 24.6	+84 37	5.8 7.0	3	6.1	5.5
17 39 +83.8	511	17 38.6	+83 49	8.3	17 31.7	+83 48	6.3	5	6.8	6.2
17 39 +83.4	512	17 39.0	+83 26	7.5	17 32.6	+83 26	6.1	7	6.8	6.2
22 22 +83.8	630	22 22.5	+83 46	7.0	22 20.9	+84 0	5.6	7	6.3	5.7
18 18 +84.6	406	18 15.7	+84 39	8.2	18 7.3	+84 40	6.4 7.6	3	6.7	6.1
22 50 +84.0	513	22 50.7	+84 0	7.3	22 50.0	+84 14	5.9	8	6.7 7.0	6.1 6.4
22 53 +84.3	516	22 54.1	+84 16	8.0	22 53.5	+84 30			6.9 7.0	6.3 6.4
22 30 +84.3	509	22 29.2	+84 19	7.2	22 27.5	+84 33	5.9	7	6.6 6.9	6.0 6.3
22 16 +84.7	585	22 16.2	+84 41	8.0	22 13.6	+84 55	6.1 6.5	2 7	6.9 7.1	6.3 6.5
22 7 +85.2	376	22 5.6	+85 10	8.5	22 2.0	+85 23			7.2	6.6
21 15 +85.3	359	21 12.6	+85 18	8.1	21 6.5	+85 29			6.8	6.2
18 20 +85.7	294	18 18.1	+85 40	7.5	18 7.2	+85 41	6.0 7.3	3	6.3	5.7
17 54 +84.8	389	17 53.2	+84 49	8.7	17 44.4	+84 49	6.8 8.0	2	7.0	6.4
17 39 +84.7	383	17 37.0	+84 44	7.7	17 28.6	+84 42	6.2 7.3	2 9	6.4 6.7	5.8 6.1
22 55 +84.6	517	22 54.2	+84 36	6.5	22 53.5	+84 50	6 5.5	4	6.0 6.4	5.4 5.8
22 29 +85.4	383 509	22 28.2	+85 19	8.0 7.2	22 21.3	+85 36	4.0 5.2	2	6.2	3.6
22 29 +85.5	384	22 24.7	+85 29	6.5	22 21.7	+85 43	6.0 7.6	2 2	6.2 6.6	5.6 6.0
21 56 +85.7	367	21 55.8	+85 46	8.5	21 50.9	+85 59	5.5	4	7.0	6.4
16 41 +84.1	261	16 40.2	+84 0	7.2	16 33.6	+83 55	6 6.5	7	5.9	5.3
23 9 +84.9	523	23 7.6	+84 57	8.4	23 7.2	+85 12			7.1	6.5
21 53 +86.4	324	21 52.8	+86 20	8.2	21 46.4	+86 33	6.5 7.9	0	6.5	5.9
21 30 +86.4	319	21 27.7	+86 26	7.0	21 19.6	+86 37	5.7 7.1	1 3	5.8	5.2
19 1 +86.5	282	19 1.6	+86 31	7.0	18 47.7	+86 35	6.2 7.6	1 3	6.3 6.9	5.7 6.3
18 40 +86.5	275	18 40.2	+86 30	8.2	18 26.2	+86 32	6.5 7.9	3 2	6.8 7.1	6.2 6.5
18 20 +86.6	269	18 19.1	+86 36	4.5	18 4.5	+86 37	5.0		B	
16 39 +84.8	360	16 38.2	+84 52	8.5	16 30.2	+84 47	6.5 7.7	2 2	6.7	6.1
23 50 +85.1	406	23 49.1	+85 6	8.8	23 50.8	+85 21	6.0	8	6.8	6.2
23 26 +85.2	400	23 25.8	+85 13	8.0	23 26.3	+85 27	6.0	3	6.3 6.5	5.7 5.9

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April 30, 1889.

Plate 2631

V.	H.	Type	Rm.	Lines	K.	Focus	After Lines.		
10.5	7.3	A		7	N	2	F	5.4	5.6
10.4	7.8	A		7	K=H?	3	F	5.2	5.4
10.1	7.9	F	629	3	K=H	2	F Lem	5.9	6.1
10.1	10.0	A		5	N	2	—	6.2	6.3
10.0	13.7	H		3	K=H	1	—	6.6 7.0	6.6 7.0
10.9	15.2	A		5	K=H	1	—	6.4	6.5
10.7	17.0	A		8	N	4	F	4.6	4.7
10.2	17.8	A		3	N	1	—	6.5	6.6
10.5	23.0	E		2	K=H	1	—	6.5	6.8
9.2	7.6	A		8	N	3	F	5.4	5.6
9.2	9.1	A		11	K=.5 H	4	F	4.4	4.5
9.1	11.4	A		7	K=.3 H	2	F	5.5	5.5
9.9	11.6	F?	630	2	K=H	1	Lem	6.6	6.7
9.8	15.0	A		4	N	1	F	6.4	6.4
9.9	16.6	A?		5	K=H	1	F	6.3	6.4
9.6	19.7	A		3	N	1	—	6.5	6.7
9.6	21.8	A		6	N	3	F	5.3	5.5
9.5	22.8	A		3	K=H	2	F	5.8 6.1	6.1 6.4
8.8	8.1	F?	631	3	K=H	2	F	6.1	6.3
8.1	14.2	A		3	N	1	—	6.6	6.5
8.0	14.4	H		3	N	1	—	6.5 6.8	6.4 6.7
8.4	15.9	E?		3	K=H	1	—	6.3	6.3
8.0	23.7	H?		3	K=H	1	F	6.3 6.6	6.5 6.8
7.6	5.9	F?	632	3	K=1.5 H	4	F	4.5 4.9	4.7 5.1
7.8	7.4	A		4	K=H	1	—	6.5	6.7
7.0	7.6	H?		3	K=H	2	—	5.4 5.7	5.5 5.6
7.3	10.3	A		4	K=H	1	—	6.5	6.7
7.8	10.5	A		5	K=H	1	—	6.4	6.4

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D.M. No.	R.A.	Dec.	Mag.	H.A.	1900 Dec.	Mean	Diff.		Br.		
23 30 +85.4	403	23 29.7	+85 23	7.8	23 30.4	+85 38	6.87	13	5.6	5.0	13 5.5-29
23 24 +85.6	399	23 24.2	+85 37	7.5	23 24.4	+85 52	6.71	0	5.4	4.8	
23 28 +85.7	401	23 27.2	+85 46	8.0	23 27.5	+86 0	7.32	1	6.0	5.5	
22 48 +86.5	335	22 45.6	+86 32	8.0	22 42.3	+86 46	7.64	3	6.1	5.8	15 9.6-32
20 41 +87.5	187	20 41.3	+87 29	8.0	20 25.1	+87 39		2	6.4	{6.2 6.6	
19 30 +87.1	180	19 30.8	+87 4	8.0	19 14.5	+87 10	7.75	8 12	6.6	6.0	
18 28 +86.9	272	18 24.4	+86 59	6.0	18 7.6	+87 0	6.59	2	4.8	4.2	15 7.4-26
17 51 +86.9	263 264	17 48.6 49.1	+86 58	9.2 8.5	17 32.6	+86 58	7.64	62 R=1	6.7	6.1	15 9.5-28
16 9 +84.9	352	16 7.8	+84 60	8.4	16 6.2	+84 52	7.58	3	6.7	6.1	
23 52 +85.9	409	23 52.8	+85 57	8.0	23 54.7	+86 9	8.75	8 2	5.6	5.0	14 8.1-25
23 30 +86.5	344	23 27.8	+86 30	6.0	23 27.7	+86 45	6.27	3 2	4.6	4.0	15 7.1-25
22 32 +87.4	205	22 30.8	+87 21	7.5	22 24.24	87 35	7.75	2	5.7	5.1	14 9.0-33
22 9 +87.1	201	22 7.0	+87 6	8.2	21 59.2	+87 19	7.85	10	6.8	6.2	
19 40 +87.6	181	19 36.1	+87 36	8.0	19 13.7	+87 42	7.80	12	6.6	6.0	16 9.9-33
18 29 +87.4	169	18 24.2	+87 24	8.1	18 4.3	+87 26	7.75	8 13	6.5	5.9	
16 50 +86.5	244	16 47.8	+86 31	8.7	16 34.8	+86 26	7.80	6.4 3	6.7	6.1	
16 8 +85.7	269	16 6.6	+85 43	7.5	15 47.4	+85 36	7.68	5.4 1	5.5	4.9	13 8.3-28
15 51 +85.3	263	15 50.2	+85 18	7.2	15 43.5	+85 32	7.32	6.1 1	6.0	{5.4 6.2	
23 55 +86.2	247	23 55.3	+86 14	8.6	23 57.3	+86 29	7.88	6.4 1	6.3	5.7	
20 29 +88.4	115	20 24.2	+88 26	8.8	19 54.0	+88 35			6.8	6.2	19 10.8-40
20 22 +88.5	114	20 17.2	+88 34	8.0	19 43.3	+88 42	7.85	11	6.7	{6.1 6.4	35 12.1-24
18 29 +88.2	104	18 24.3	+88 14	8.0	17 53.7	+88 16	7.80	6.2 3	6.5	5.9	
15 18 +85.7	249	15 16.6	+85 41	8.0	15 9.2	+85 31	7.48	4.5 2	6.8	{5.9 6.2	
0 50 +85.5	19	0 49.7	+85 29	5.0	0 54.9	+85 43	5.82	6.4 3	4.7 5.1	{4.1 4.5	
0 33 +86.2	9	0 32.5	+86 9	8.6	0 37.2	+86 23	7.80	5.7 1	6.7	6.1	
0 51 +86.4	17	0 52.8	+86 22	7.5	0 58.6	+86 37	7.79	15	5.6 5.2	{6.0 5.3	
0 8 +87.6	1	0 4.5	+87 36	9.0	0 7.3	+87 51			6.7	6.1	
23 42 +87.5	217	23 42.4	+87 32	8.5	23 42.8	+87 47	8.08	14	6.6	6.0	

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April 30, 1889.

Plate 2631.

V.	H.	Type	No. Rem.	Lines	K.	Fronts	Other Lines		
7.0	13.0	A	,	3	N	1	—	6.3	6.2
7.5	14.5	F?	633	3	K=H	2	F seen	5.4 / 6.1	5.3 / 6.0
7.4	19.0	F?	634	3	K=H	2	F seen	6.2	6.3
6.8	18.7	H	,	3	K=H	2	F	5.5 / 6.1	5.5 / 6.1
6.0	10.3	H	,	3	K=H	1	F	6.1 / 6.6	6.1 / 6.6
6.2	11.2	A	,	10	K=.2H	3	F	4.8	4.8
5.5	10.2	A?	,	5	K=H	2	F	6.0	6.0
5.1	11.6	F	635	3	K=H	2	F seen	5.9	5.8
5.8	18.4	E?	,	2	K=H	1	—	6.3	6.3
5.4	21.7	E?	,	3	K=H	2	F	5.6	5.8
4.3	7.4	A	,	5	K=H	2	—	5.8	5.9
4.6	17.7	H	,	3	K=H	2	F	6.1 / 6.7	6.1 / 6.7
4.9	18.0	A?	,	4	K=H	1	—	6.3	6.3
4.4	22.4	F	636	3	K=H	2	F seen	6.1	6.3
3.2	10.8	A?	,	4	K=H	1	—	6.4	6.4
3.2	14.2	A	,	7	K=.3H	3	F	5.3	5.2
3.9	17.3	F?	637	3	K=H	3	F seen	5.0	5.0
3.5	21.1	F	638	3	K=H	2	F seen	6.1	6.3
3.7	23.5	F	639	3	K=H	2	F seen	5.9	6.2
2.4	7.4	F?	640	3	K=H	3	F seen	.	.
2.9	16.8	A	,	6	K	3	—	5.6	5.6
2.8	18.3	A	,	6	K=H	2	F	5.9	5.9
2.8	19.5	F?	641	3	K=1.5H	3	F seen	5.1	5.2
2.8	21.1	A?	,	6	K=H	2	F	5.6	5.8

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D.M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Diff.	Br.	
22 31 +88.7	131	22 30.6	+88°44 8.7	22 12.3	+88 58	8.0	6.5	5.9
20 9 +88.8	112	20 8.5	+88 52 6.5	19 22.5	+88 59	7.4	5.6	5.0
							6.3	5.7
15 45 +87.5	147	15 43.2	+87 32 7.9	15 27.3	+87 23	7.8	6.4	5.8
15 29 +87.7	143	15 26.0	+87 47 7.0	15 9.4	+87 37	7.5	6.1	5.1
							6.3	5.7
1 9 +87.8	12	1 7.1	+87 48 8.0	1 18.0	+88 3	7.8	6.8	5.4
							6.8	6.2
0 49 +88.2	4	0 45.5	+88 15 7.5	0 55.6	+88 29	6.5	5.0	4.4
1 39 +87.8	15	1 35.6	+87 48 8.2	1 49.6	+88 0	7.6	6.2	5.6
1 51 +88.5	9	1 51.1	+88 29 8.0	2 14.2	+88 42	7.6	6.1	5.5
14 30 +88.8	1 86	14 37.6	+88 4 8.5	14 18.1	+87 52	8.0	6.5	5.9
14 6 +86.5	201	14 5.1	+86 27 7.5	13 39.4	+86 14	7.4	5.8	5.2
2 21 +86.4	39	2 20.2	+86 25 8.6	2 32.2	+86 37	7.4	6.0	5.4
							6.3	5.7
							6.8	6.3
13 10 +88.5	76	13 12.2	+88 26 8.0	13 4.5	+88 11			
13 38 +88.3	77	13 36.7	+88 18 8.5	13 26.8	+88 4	7.5	6.5	5.9
13 35 +86.0	193	13 35.7	+86 1 7.5	13 32.4	+85 47	7.6	6.3	5.7
3 40 +87.8	33	3 38.7	+87 54 8.5	4 4.9	+88 2	7.9	6.6	6.0
7 0.0 +89.1	13	7 3.7	+89 2 7.0	7 58.0	+88 58	6.9	5.5	4.9
12 11 +88.5	71	12 14.4	+88 30 6.5	12 14.4	+88 15	6.7	5.2	4.6
13 2 +86.6	187	13 1.8	+86 39 7.0	12 59.7	+86 25	7.8	6.3	5.7
13 21 +85.5	222	13 20.7	+85 31 7.0	13 18.8	+85 17		6.1	5.5
3 20 +86.2	51	3 19.5	+86 11 6.0	3 33.6	+86 30	6.7		
10 58 +88.5	64	10 53.0	+88 26 7.5	11 4.2	+88 11	7.0	5.8	5.2
	100	11 51.2	+87 48 9.0					
11 52 +87.9	101	11 51.6	+87 48 8.0	11 54.6	+87 33	7.3	6.1	5.5
12 15 +87.2	107	12 12.6	+87 14 6.5	12 13.7	+87 0	6.8	5.3	4.7
12 35 +86.5	182	12 34.7	+86 32 6.5	12 34.6	+86 17	7.0	5.8	5.2

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St. Sct. 6.5 Fmt. c 7.6 — 7.5 F. ch. 7.5. Box No. 201

R.A. 0^h, m Dec. +76.°6

May 16, 1889.

Plate. 1729

	V.	H.	Type.	No. Rem.	Lines	K.	Focus.	Other Lines.
23 30	22.0	~~22.~~ 20.4	A	.	4	K=H	1	—
	20.6	9.0	H	.	2	K=H	1	—
	20.4	10.6	A	.	4	K	1	—
	20.4	19.9	A	.	3	K	1	—
	19.4	15.7	A	.	6	K=.2H	2	—
	18.1	14.9	A	.	4	K	1	—
	18.5	18.8	I	871	2	K=H	2	seen
	17.0	7.4	A	.	4	K	2	—
	17.8	16.7	A	.	5	K	2	—
	17.9	20.4	A	.	3	K	1	—
	17.4	22.1	A	.	6	K	3	—
	16.5	9.8	A	.	9	K	3	—
	16.3	10.2	A	.	7	K=.2H	3	—
	15.0	8.8	A	.	3	K	1	—
	15.5	16.8	I	872	3	K=H	1	seen
	15.9	18.6	A	.	7	K=.2H	3	—
	15.8	19.8	A	.	6	K=.1H	2	F.
	15.4	21.3	A	.	6	K=.1H	3	—
	15.0	22.4	~~I~~ G?	873	3	K=H	3	F bright seen
	14.0	13.7	A	.	5	K	2	—
	14.0	16.2	A	.	3	K	1	—
	14.9	18.4	A	.	3	K	1	—
	14.5	22.5	A	.	5	K	2	—
	12.8	6.3	A	.	4	K=H	2	—
	12.6	12.4	I	874	2	K=H	2	—
	12.8	14.1	A	.	6	K	3	—
	11.5	16.6	F	875	2	K=H	2	seen
	11.4	18.0	G?	876	3	K=1.2H	H	F bright seen

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DM No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.	Br. Mean	Br. Cat. Mean
23 26.5	+71.2	1208	23	26.4	+71 12	6.8	23 28.2	+71 27	11	6.8	6.1	5.9
0 39	+71.9	37	0	38.8	+71 53	6.5	0 41.6	+72 8	11	6.8 7.1	6.1 6.4	5.9 6.2
0 29	+72.1	35	0	28.8	+72 6	6.7	0 31.6	+72 21	10	6.7	6.0	5.8
23 28	+72.1	1109	23	28.0	+72 8	7.5	23 29.9	+72 23	10	7.1	6.4	6.2
23 54.9	+72.8	1135	23	54.3	+72 48	6.5	23 56.5	+73 3	8	6.4	5.7	5.6
0 1.5	+73.4	2	0	1.0	+73 26	7.0	0 3.3	+73 41	10	6.8	6.1	6.1
23 33.9	+73.2	1047	23	33.1	+73 10	5.6	23 35.0	+73 25	9	6.6 6.9	5.9 6.2	5.8 6.1
0 54.3	+73.6	51	0	54.5	+73 36	6.8	0 57.6	+73 50	9	6.5	5.8	5.8
23 48	+73.6	1063	23	47.9	+73 36	7.0	23 50.0	+73 51	5	6.1	5.4	5.4
23 22.3	+73.3	1035	23	22.0	+73 19	7.5	23 23.8	+73 34	11	7.0	6.3	6.3
23 10	+73.5	1023	23	9.5	+73 27	6.2	23 11.0	+73 41	2	5.3	4.6	4.6
0 38.3	+74.1	29	0	38.2	+74 4	5.8	0 41.1	+74 18	1	4.8	4.1	4.1
0 36.8	+74.2	27	0	36.2	+74 12	5.5	0 39.0	+74 26	1	5.0	4.3	4.3
0 47.9	+74.7	41	0	47.7	+74 42	8.0	0 50.8	+74 57	7	6.7	6.0	6.1
23 45.8	+74.7	1047	23	45.4	+74 44	6.3	23 47.5	+74 59	12	6.9 7.2	6.2 6.5	6.3 6.6
23 33.9	+74.5	1032	23	33.1	+74 28	6.5	23 35.0	+74 43	2	5.3	4.6	4.7
23 24	+74.4	1022	23	23.3	+74 26	7.0	23 25.0	+74 41	6	6.0	5.3	5.4
23 12.2	+74.5	1016	23	12.3	+74 31	6.6	23 13.9	+74 46	4	5.7	5.0	5.1
23 3.2	+74.6	1006	23	3.3	+74 36	4.6	23 4.7	+74 51	1	4.7	4.0	4.1
0 10.4	+75.5	7	0	10.2	+75 28	7.4	0 12.7	+75 43	4	6.2	5.5	5.6
23 50.8	+75.5	991	23	50.3	+75 30	7.8	23 52.4	+75 45	12	7.0	6.3	6.4
23 34.1	+74.9	1033	23	33.7	+74 55	8.0	23 35.6	+75 10	8	6.9	6.2	6.3
23 2.1	+74.8	1002	23	1.8	+74 48	7.3	23 3.2	+75 3	4	6.0	5.3	5.4
1 10.6	+75.5	59	1	10.3	+75 28	6.2	1 13.8	+75 43	8	6.1	5.4	5.5
0 22.0	+76.2	10	0	21.7	+76 13	6.5	0 24.4	+76 28	9	6.5 6.7	5.8 6.0	5.9 6.1
0 8.3	+76.2	5	0	8.1	+76 9	6.5	0 10.6	+76 24	1	5.4	4.7	4.8
23 45.0	+76.7	934	23	45.0	+76 48	6.9	23 47.1	+77 3	9	6.5	5.8	5.9
23 34.0	+76.7	928	23	33.4	+76 50	3.5	23 35.2	+77 4	0	4.1	3.4	3.5

Mean - To

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Plate 1729

V.	H	Type	Rem.	Lines	K	Forms	Other Lines
10.4	10.5	A	.	5	K=.8H	2	—
10.8	18.7	A	..	H	N	2	—
10.6	18.8	A	.	5	K=.2H	2	—
9.8	20.2	A	,	3	N	1	—
8.0	7.7	F2	877	3	K=H	3	F seen
8.1	23.1	A	.	3	N	1	—
7.4	14.9	A	.	7	K=1.5H	3	F
7.7	19.8	A	.	3	N	1	—
7.1	24.2	A	.	6	?	3	F
6.0	9.0	A	.	6	K=H	2	—
6.6	9.3	A	.	8	K=.2H	4	F
6.1	9.7	A	.	3	N	1	—
6.7	11.1	A	.	3	N	1	—
6.6	13.3	A	.	6	N	2	—
6.8	18.5	A	.	3	N	1	—
6.6	19.3	A	.	5	K=.2H	r 2	—
5.2	10.7	A	.	5	K=H	2	—
5.0	19.9	A	.	5	N	2	—
4.1	9.4	A	.	5	N	2	—
4.5	20.2	A	.	5	K=H	2	—
3.1	7.1	A	.	3	N	1	—
2.5	8.2	A	.	3	N	1	—

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Gill No.	R.A.	Dec.	May.	R.A. 1900	Dec.	Mean	Diff.	Br.		
0 41.0	+77.2	27	0 40.5	+77 10	6.7	0 43.6	+77 25	6.88 5.61	9	6.5	5.8	5.9
23 26.5	+77.0	909	23 26.2	+77 0	6.8	23 27.9	+77 15	6.76 5.69	6	6.3	5.6	5.7
23 26.0	+77.2	908	23 25.2	+77 5	7.0	23 26.8	+77 20	6.69 5.84	5	6.3	5.6	5.7
23 11.9	+77.4	896	23 11.9	+77 22	7.3	23 13.3	+77 37	6.75 5.77	9	6.9	6.2	6.2
1 11.6	+77.9	49	1 11.2	+77 58	6.0	1 15.0	+78 12	6.04 5.24	5	5.7	5.0	5.0
22 41		871	22 41.5	+77 44	7.2	22 42.2	+77 58	5.8	10	6.8	6.1	6.1
~~22 459~~	+77.7	922	23 39.1	+77 48	8.9	23 41.0	+78 0					
0 1.9	+78.9	1	0 1.5	+78 55	6.5	0 3.8	+79 10	5.88 5.01	3	5.3	4.6	4.6
23 11.8	+78.4	825	23 11.4	+78 27	7.5	23 12.7	+78 42	6.84 5.72	12	7.2	6.5	6.5
22 289	+78.1	801	22 28.6	+78 4	5.7	23 29.0	+78 19	5.62 4.71	5	5.2	4.5	4.5
1 4.0	+79.2	36	1 3.9	+79 8	6.5	1 7.6	+79 23	6.14 5.29	9	6.2	5.5	5.5
1 a5	+78.8	34	1 0.0	+78 54	5.6	1 3.6	+79 8	5.51 4.67	1	4.6	3.9	3.9
0 57.9	+79.2	29	0 57.1	+79 14	6.4	1 0.7	+79 29	6.40 5.54	12	6.7	6.0	6.0
0 42.0	+79.1	19	0 41.6	+79 2	7.7	0 44.9	+79 17	6.69 5.81	12	7.0	6.3	6.3
0 18.5	+79.3	10	0 17.9	+79 14	7.0	0 20.7	+79 30	5.98 5.18	2	5.3	4.6	4.6
23 23.0	+79.0	835	23 22.5	+78 60	7.5	23 24.0	+79 15	6.67 5.84	13	7.1	6.4	6.4
23 14.0	+79.1	777	23 13.9	+79 6	7.8	23 15.2	+79 21	6.42 5.57	6	6.2	5.5	5.5
0 48.5	+79.7	24	0 48.6	+79 46	6.5	0 52.1	+80 1	6.28 5.49	9	6.3	5.6	5.6
		768	23 4.4	+79 51	7.7	23 5.3	+80 6	6.29	R			
23 4.2	+79.7	769	23 4.6	+79 47	7.5	23 5.5	+80 2	5.71 6.11	X	6.1	5.4	5.4
1 8.0	+80.1	36	1 6.2	+80 8	6.7	1 10.2	+80 22	5.27	6	5.8	5.1	5.1
22 ~~23 598~~	+80.0	761	22 58.8	+79 60	7.2	22 59.6	+80 14	6.24 5.33	9	6.3	5.6	5.6
1 26.0	+80.2	55	1 34.1	+80 10	7.5	1 38.8	+80 24	6.35 5.41	14	6.8	6.1	6.1
1 25.7	+80.7	50	1 25.0	+80 41	7.4	1 29.6	+80 53	6.37 5.44				

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1888phae.proj..860F

St. Lt. 5.7 F. M. Cl. 5.3-5.7. F. Ch. 7.2 Box. No. 211

R.A. 2h 00m. Dec. +76°.5

May. 26, 1889.

Plate 1791.

21.40

V.	H.	Type	Rem.	Lines	K,	Frans	Alter Lines
22.5	17.6	A,		β	N	1	—
21.8	12.9	F	878	K	K=H	1	Seen
21.4	16.5	A		η	N	4	F
21.0	20.7	F?	879	K	K=H	1	Seen
20.3	11.6	E?		K	K=1.5H	3	—
20.0	20.2	E?		K	K=1.2H	2	—
20.0	22.3	A?		K	K=H	1	—
19.0	19.6	A		K	K=H	1	—
19.1	13.6	A		β	K=H	1	—
19.5	14.7	A?		α	K=H	1	—
18.8	13.2	F	880	K	K=H	1	Seen
18.5	13.8	A		[illegible]	N	1	—
18.2	15.1	E		K	K=H	2	—
18.6	16.5	A		δ	K=3H	3	F
17.1	6.8	H		K	K=H	1	—
17.4	8.2	A		β	K=H	1	—
17.2	16.2	A		γ	N	1	—
17.0	19.1	E		K	K=H	1	—
17.0	19.7	A		α	N	1	—
17.5	20.1	A		ζ	N	2	—
17.4	21.2	F?	881	K	K=H	1	Seen
17.5	21.7	A		α	K=H	1	—
17.5	22.9	E?		K	K=H	2	F
16.3	5.8	F	882	K	K=H	1	Seen
16.4	7.5	A		ε	N	3	F.
16.2	10.2	A		H	N	1	—
16.6	16.0	A		α	K=.5H	1	—
16.6	22.1	A?		K	K=H	1	—

22.10

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Mean = 71

No. D.M.	R.A.	Dec.	Mag.	1900 R.A.	Dec.	Mean	Diff.	Br.	Br.+Mean	Cor. Br. +Cor. S
1 45.9 +71.0	111	1 45.3	+71 0	7.4	1 48.9	+71 13	6.38	10	6.8	6.1	5.9
2 14.8 +71.5	140	2 14.8	+71 28	7.7	2 18.8	+71 41	6.59	9	6.9	6.2	6.0
1 51.5 +71.7	117	1 51.2	+71 42	4.0	1 54.9	+71 56	6.08	9	4.7	4.0	3.8
1 24.5 +71.7	87	1 24.4	+71 40	7.8	1 27.8	+71 54	6.48	10	6.9	6.2	6.0
2 24.7 +72.2	140	2 24.4	+72 10	5.0	2 28.5	72 23	5.88	8	6.0	5.3	5.1
1 27.0 +72.3	86	1 27.0	+72 17	5.2	1 30.5	+72 32	5.82	8	6.0	5.3	5.2
1 13.5 +72.1	69	1 13.3	+72 5	6.7	1 16.6	+72 19	6.55	9	6.8	6.1	5.9
2 38.4 +72.7	146	2 38.4	+72 40	7.5	2 42.8	+72 52	6.78	9	7.0	6.3	6.2
2 11.9 +72.8	128	2 11.2	+72 50	7.5	2 15.3	+73 3	6.80	9	7.0	6.3	6.2
2 4.8 +72.6	121	2 4.5	+72 39	8.0	2 8.5	+72 52	6.62	11	7.1	6.4	6.3
2 14.2 +73.1	139	2 14.2	+73 3	6.9	2 18.4	+73 16	6.84	10	6.8	6.1	6.0
2 10.5 +73.2	131	2 10.2	+73 8	7.9	2 14.3	+73 21	6.88	9	7.1	6.4	6.3
2 0.2 +73.4	121	2 0.1	+73 20	6.5	2 4.1	+73 34	6.58	9	6.5	5.8	5.8
1 50.8 +73.2	108	1 50.5	+73 8	6.2	1 54.4	+73 21	5.84	6	5.8	5.1	5.0
3 0.0 +73.4	172	2 59.7	+73 19	6.8	3 4.4	+73 30	6.94	8	7.1 / 7.4	6.4 / 6.7	6.4 / 6.7
2 50.5 +73.4	165	2 50.2	+73 22	7.4	2 54.8	+73 33	6.80	6	6.7	6.0	6.0
1 52.8 +73.9	112	1 52.9	+73 52	7.3	1 56.9	+74 6	6.74	6	6.6	5.9	5.9
1 32.0 +73.8	92	1 31.6	+73 52	6.8	1 35.3	+74 6	6.64	8	6.7	6.0	6.0
1 27.6 +73.8	84	1 27.4	+73 48	8.3	1 31.0	+74 21	6.88	10	7.0	6.3	6.3
1 26.0 +73.5	81	1 25.6	+73 33	6.5	1 29.2	+73 47	6.71	7	6.0	5.3	5.3
1 17.9 +73.4	75	1 17.5	+73 27	7.5	1 21.0	+73 41	6.45	12	7.0	6.3	6.3
1 14.7 +73.4	71	1 14.2	+73 22	7.8	1 17.6	+73 36	6.74	9	7.0	6.3	6.3
~~2 60.2 5.8 12 8.5~~					~~1 9.1 +73 26~~		6.16	R			
1 5.9 +73.3	61	51 5.8	+73 14	7.0	1 9.1	+73 28	6.65	7	6.2	5.5	5.4
3 8.9 +73.6	180	3 8.1	+73 38	6.9	3 12.9	+73 48	6.90	8	6.8	6.1	6.1
2 56.6 +73.8	168	2 56.3	+73 50	6.2	3 1.0	+74 1	6.77	10	5.2	4.5	4.5
2 38.0 +74.1	120	2 37.6	+74 8	7.3	2 42.2	+74 20	6.49	6	6.7	6.0	6.0
1 54.0 +74.2	95	1 53.8	+74 10	7.5	1 57.8	+74 23	6.56	9	6.7	6.0	6.0
1 10.5 +73.8	66	1 10.4	+73 49	6.8	1 13.8	+74 3	5.90	7	6.6	5.9	5.9

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	V.	H.	Type	No. Rem.	No. Lines	K	Fracs	Other Lines	
23.10	15.2	8.8	A			γ	N	2	—
	15.3	9.8	F?	883	K	K=H	1		Seen
	15.2	11.2	A			β	K=2H	2	—
	15.1	12.2	A?			K	K=H	-	—
	15.4	16.6	A			ε	N	3	—
	15.7	17.1	F?	884	K	K=H	2		Seen
	15.1	17.9	F	885	K	K=H	2		Seen
	14.5	6.9	A			γ	N	2	—
	14.5	10.1	F	886	K	K=H	1		Seen
	14.0	12.0	A		K	K=H	1		—
	14.0	14.0	A			γ	N	2	—
	14.2	16.2	F	887	K	K=1,2H	3		Seen
	14.0	17.4	F?	888	K	K=H	2		Seen.
	14.5	18.7	A			α	N	1	—
	13.2	8.6	A?			α	N	1	—
	13.4	9.0	A		K	K=H	1		—
	13.2	10.4	A?		K	K=H	1		—
	13.7	17.1	A			h	N	1	—
	13.4	21.4	A			δ	K=1,8H	3	—
	12.9	7.3	A		K	K=H	1		—
	12.8	10.5	H		K	K=H	1		—
	12.9	13.0	H		K	K=H	1		—
	12.5	15.0	F	889	K	K=H	1		Seen.
	12.0	16.2	F?	890	K	K=H	1		F. Seen
	12.7	19.2	A		K	K=H	1		—
	12.5	21.2	A?		K	K=H	1		—
	12.2	21.4	H		K	K=H	1		—
	11.4	6.3	A		K	K=H	1		—

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No.	D. M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	No.	Diff.	Br.		
2	48.7 + 74.5	131	2 48.6	+ 74 34	7.2	2 53.4	+ 74 45	4	6.2	5.5	5.6
2	40.9 + 74.6	123	2 40.7	+ 74 35	7.9	2454	+ 74 46		6.9	6.2	6.3
2	31.5 + 74.7	117	2 31.4	+ 74 46	7.2	2 38.0	+ 74 58	6	6.4	5.7	5.8
2	23.4 + 74.8	111	2 23.2	+ 74 54	7.5	2 27.7	+ 75 6	7	6.9	6.2	6.3
1	49.0 + 74.7	91	1 48.8	+ 74 47	6.5	1 52.9	+ 75 0	5	5.8	5.1	5.2
1	44.8 + 74.6	87	1 44.8	+ 74 37	6.5	1 48.7	+ 74 50	7	6.5	5.8	5.9
1	39.0 + 74.8	84	1 38.8	+ 74 52	6.8	1 42.7	+ 75 6	7	6.5	5.8	5.9
3	3.9 + 74.7	144	3 3.6	+ 74 41	7.4	3 8.6	+ 74 52	5	6.5	5.8	5.9
2	40.9 + 75.1	113	2 40.5	+ 75 3	8.6	2 45.3	+ 75 14	R	6.9	6.2	6.3
		114	2 40.8	+ 75 3	9.5	2 45.6	+ 75 14				
2	26.0 + 75.4	103	2 26.8	+ 75 23	8.0	2 30.5	+ 75 35		7.1	6.4	6.5
2	10.8 + 75.5	94	2 10.2	+ 75 27	7.6	2 14.6	+ 75 40	7	6.5	5.8	5.9
1	51.9 + 75.4	86	1 51.8	+ 75 25	6.0	1 55.9	+ 75 38	5	5.6	4.9	5.0
									5.8	5.1	5.2
1	42.5 + 75.5	76	1 42.2	+ 75 30	6.8	1 46.2	+ 75 44	6	6.3	5.6	5.7
1	32.8 + 75.1	72	1 32.1	+ 75 8	7.0	1 35.9	+ 75 22	6	6.5	5.8	5.9
2	54.0 + 75.5	127	2 53.5	+ 75 30	8.3	2 58.5	+ 75 41	8	6.8	6.1	6.2
2	50.7 + 75.4	122	2 50.1	+ 75 25	8.8	2551	+ 75 36		7.2	6.5	6.6
2	39.7 + 75.6	110	2 39.6	+ 75 39	8.5	2445	+ 75 51		7.5	6.8	6.9
1	44.6 + 75.6	70	1 44.5	+ 75 39	7.6	148.6	+ 75 53		7.4	6.7	6.8
1	10.4 + 75.5	59	1 10.3	+ 75 28	6.2	1 13.8	+ 75 43	6	5.9	5.2	5.3
3	4.4 + 75.5	131	3 4.5	+ 75 29	8.4	3 9.6	+ 75 39		7.1	6.4	6.5
									7.2	6.5	6.6
2	39.7 + 75.9	109	2 39.4	+ 75 56	7.5	2443	+ 76 8		7.6	6.9	7.0
2	19.9 + 76.1	81	2 19.1	+ 76 4	7.0	2 23.8	+ 76 16		7.1	6.4	6.5
									7.5	6.8	6.9
2	1.5 + 76.2	75	2 1.2	+ 76 15	9.0	256	+ 76 28		7.0	6.3	6.4
1	50.5 + 76.6	63	1 50.8	+ 76 35	5.3	1 55.0	+ 76 48	5	5.3	4.6	4.7
1	26.2 + 75.9	69	1 26.3	+ 75 59	8.1	1 30.1	+ 76 13	13	7.1	6.4	6.5
1	10.3 + 75.9	58	1 10.3	+ 75 58	7.1	1 13.9	+ 76 12	5	6.9	6.2	6.3
									7.0	6.3	6.4
1	8.0 + 76.0	39	1 7.6	+ 76 1	7.0	1 11.1	+ 76 15		7.3	6.6	6.7
3	15.0 + 76.3	1 125	3 14.7	+ 76 6	8.6	3 20.1	+ 76 16	6.3 8	7.1	6.4	6.5

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V.	H.	Type	Seen	Seines	K	Focus	Optic Seines
11.6	10.3	E?			K	K=H	1 —
11.0	13.3	E?			K	K=H	1 —
11.5	23.4	A			h	N	1 —
10.9	14.9	H?			K	K=H	1 —
10.6	15.3	A			K	K=H	1 —
10.6	16.4	I	891.		K	K=1.5H	2 F. Seen
10.5	17.1	A			H	N	1 —
10.0	17.3	H			K	K=H	2 F
10.4	18.7	A			δ	N	3 —
10.7	20.3	E?			K	K=H	1 —
10.8	21.0	E			K	K=H	2 —
10.1	21.2	E			K	K=H	1 —
10.0	21.6	F	892		K	K=H	1 Seen
10.3	23.5	F	893		K	K=H	1 Seen
9.8	8.4	A			ε	K=3H	4 F
9.1	9.4	H?			K	K=H	1 —
9.5	10.3	A			K	K=H	1 —
9.9	14.6	H			H	N	1 —
9.2	23.8	A			?	K=H	2 —
8.0	5.9	A			?	N	2 —
8.9	7.5	H			K	K=H	1 —
8.1	8.2	F	894		K	K=H	1 — Seen
8.4	9.2	H			K	K=H	1 —
8.8	9.7	E			K	K=H	1 —
8.6	11.6	F	895		K	K=H	1 Seen
8.1	15.1	A			?	K=1H	2 —
8.6	16.4	F	896		K	K=H	1 Seen
8.6	20.2	D	897		δ	N	3 —

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No. D. M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	DC Mean	Diff.	Bu.		
2 42.8 +76.5	101	2 42.2	+76 29	6.8	2 47.3	+76 40	6.60 5.52	8	6.6	5.9	6.0
2 18.0 +77.0	84	2 17.7	+77 1	7.5	2 22.6	+77 13	6.72 5.95	10	7.0	6.3	6.4
0 50.5 +76.1	31	0 50.5	+76 5	8.2	0 53.7	+76 20			7.0	6.3	6.4
2 3.7 +77.1	78	2 3.0	+77 4	7.9	2 7.6	+77 17			7.3 / 7.6	6.6 / 6.9	6.7 / 7.0
1 58.7 +77.2	76	1 58.6	+77 14	8.7	2 2.1	+77 27			6.9	6.2	6.3
1 48.6 +77.2	73	1 48.5	+77 12	6.3	1 52.8	+77 26	6.38 5.67	6	6.2 / 6.4	5.5 / 5.7	5.6 / 5.8
1 43.0 +77.2	66 / 67	1 43.0	+77 12 / 13	9.1 / 8.5	1 47.3	+77 26 / 27			7.2	6.5	6.6
1 40.3 +77.5	65	1 40.4	+77 28	6.5	1 44.7	+77 42	6.58 5.80	6	6.4 / 6.5	5.7 / 5.8	5.7 / 5.8
1 27.3 +77.2	58	1 27.6	+77 14	6.5	1 31.6	+77 28	6.08 5.31	4	5.7	5.0	5.1
1 14.8 +76.9	42	1 14.1	+76 55	8.0	1 17.8	+77 9	6.44 5.65	5	6.9	6.2	6.3
1 8.8 +76.8	40	1 8.4	+76 48	6.4	1 12.0	+77 21	6.46 5.78	5	6.2	5.5	5.6
15.8 +77.0	45	5.5	+77 1	8.4	9.1	+77 15			7.1	6.4	6.5
1 1.9 +77.1	41	1.7	+77 4	8.3	1 5.2	+77 18			7.1	6.4	6.5
0 46.7 +76.7	28	0 46.7	+76 41	8.0	0 49.9	+76 58	6.85 6.15	9	7.0	6.3	6.4
3 2.5 +77.2	115	3 2.2	+77 11	6.2	3 7.6	+77 22	5.58 4.81	5	5.3	4.6	4.7
2 55.2 +77.7	109	2 55.2	+77 38	7.0	3 0.8	+77 49			7.0 / 7.2	6.3 / 6.5	6.3 / 6.5
2 46.3 +77.5	104	2 46.5	+77 31	8.1	2 52.0	+77 42			6.9	6.2	6.2
2 6.2 +77.6	79	2 6.1	+77 35	7.9	2 10.9	+77 48			7.2 / 7.5	6.5 / 6.8	6.5 / 6.8
0 46.9 +77.2	27	0 46.5	+77 10	6.7	0 49.6	+77 25	6.38 5.61	5	6.1	5.4	5.5
3 29.7 +77.6	133	3 29.0	+77 39	7.2	3 35.0	+77 48	6.40 5.61	5	6.1	5.4	5.4
3 12.5 +77.5	123	3 12.8	+77 30	7.1	3 18.5	+77 40	7.18 6.48	7	7.1 / 7.3	6.4 / 6.6	6.4 / 6.6
3 9.0 +77.9	119	3 8.9	+77 58	7.0	3 14.7	+78 8	7.87 6.97	8	6.9	6.2	6.2
2 59.0 +77.9	111	2 58.2	+77 57	7.5	3 4.3	+78 8			7.0 / 7.3	6.3 / 6.6	6.3 / 6.6
2 53.0 +77.8	108	2 52.8	+77 50	8.0	2 58.4	+78 1			7.2	6.5	6.5
2 36.0 +78.1	98	2 35.4	+78 4	8.0	2 40.9	+78 16			7.1	6.4	6.4
2 0.0 +78.5	73	1 59.9	+78 29	7.3	2 4.7	+78 42	6.35 5.58	4	5.9	5.2	5.2
1 48.0 +78.2	66	1 47.6	+78 11	8.1	1 52.1	+78 24	7.11 6.30	4	6.7	6.0	6.0
1 11.2 +77.9	49	1 11.2	+77 58	6.8	1 15.0	+78 12	6.64 5.84	4	5.6	4.9	4.9

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V.	H.	Type	Lines	Lines	K	Faint Lines	Other Lines
7.9	7.1	F?			K	K=H, 1	—
7.8	9.3	A			δ	K=H, 2	—
7.7	10.4	F?	898		K	K=H 1	—
7.0	10.6	I	899		K	K=H, 2	Seen
7.8	12.5	A			H	N, 1	—
7.1	12.9	A			H	N, 1	—
7.1	15.3	A			γ	K=.3H, 2	—
7.1	15.4	A			γ	N, 1	—
7.8	15.7	F?	900		K	K=H 2	F. Seen.
7.0	16.6	H?			K	K=H, 1	—
7.7	18.2	A			H	N, 1	—
7.9	18.8	A			α	N 1	—
7.9	19.2	A2			K	K=H, 1	—
6.1	7.7	A			K	K=H 1	—
6.9	13.4	F?	901		K	K=H, 1	Seen
6.1	13.2	A?			α	K=H, 1	—
6.0	17.2	A			K	K=H 1	—
6.0	17.7	H			K	K=H, 1	—
6.2	20.3	F	902		K	K=H 2	F. Seen
6.5	20.8	A			ε	N, 3	F.
6.8	21.8	A			K	K=H 1	—
5.5	10.2	H?			K	K=H 1	—
5.2	10.7	A			β	N 1	—
5.0	11.0	A			α	K=H 1	—
5.9	11.9	A			δ	K=.2H 2	—
5.2	14.2	A			α	K=.2H 1	—
5.0	14.8	A			γ	N 2	—
5.2	15.8	A			γ	K=.5H 2	—

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No. D. M.	R.A.	Dec.	Magn.	R.A. 1900	Dec	DC Mean	Diff.	Br.		
3 18.9 +77.9	126 3	18.5	+77 56	8.5	3 24.4	+78 6	6.30	7	7.0	6.3	6.3
2 59.0 +78.3	109 2	58.3	+78 19	7.0	3 4.2	+78 30	6.21	3	5.8	5.1	5.1
2 47.5 +78.5	104 2	47.2	+78 28	8.9	2 52.9	+78 39			7.2	6.5	6.5
2 47.3 +78.8	103 2	47.1	+78 51	5.6	2 52.8	+79 1	6.24	8	6.2 6.6	5.5 5.9	5.5 5.9
2 27.0 +78.6	95 2	26.8	+78 34	8.0	2 32.2	+78 46	7.23	7	7.1	6.4	6.4
2 23.5 +78.9	94 2	23.2	+78 54	8.5	2 28.5	+79 6	6.42		7.3	6.6	6.6
1 56.6 +79.0	71 1	56.2	+78 60	7.3	2 1.1	+79 13	5.63	6	6.2	5.5	5.5
	63 1	56.6	+79 0	6.7	2 1.5	+79 13	5.23	13	6.5	5.8	5.8
1 53.1 +78.6	69 1	53.2	+78 38	7.3	1 58.0	+78 51	6.51	4	6.1	5.4	5.4
1 43.9 +79.0	62 1	43.8	+78 60	8.3	1 48.5	+79 14	6.95	10	7.1 7.35	6.4 6.6	6.4 6.6
1 28.3 +78.6	52 1	28.2	+78 36	8.0	1 32.5	+78 50			7.3	6.6	6.6
1 23.4 +78.4	49 1	22.8	+78 24	9.3	1 26.9	+78 38	7.00	R	6.8	6.1	6.1
1 18.9 +78.4	45 1	18.8	+78 24	8.5	1 22.8	+78 38			7.2	6.5	6.5
3 17.9 +78.7	125 3	17.2	+78 48	8.9	3 23.5	+78 58			7.3	6.6	6.6
2 18.9 +79.1	75 2	18.4	+79 5	7.5	2 23.8	+79 17	6.65	11	6.9	6.2	6.2
2 21.9 +79.4	76 2	21.2	+79 28	8.4	2 26.7	+79 40			7.2	6.5	6.5
1 37.2 +79.5	55 1	36.7	+79 30	8.6	1 41.3	+79 44			7.1	6.4	6.4
1 32.0 +79.5	51 1	31.2	+79 31	8.0	1 35.7	+79 45			7.1 7.4	6.4 6.7	6.4 6.7
1 4.0 +79.2	36 1	3.9	+79 8	6.5	1 7.6	+79 23	6.74	5	5.8	5.1	5.1
1 0.1 +78.9	34 1	0.0	+78 54	5.6	1 3.6	+79 8	6.41	3	5.0	4.3	4.3
0 51.3 +78.6	28 0	51.0	+78 37	8.1	0 54.4	+78 52	7.03	6	7.1	6.4	6.4
2 55.2 +79.5	94 2	55.4	+79 36	7.3	3 1.1	+79 47	6.79	6	6.5 6.7	5.8 6.0	5.8 6.0
2 49.9 +79.7	91 2	49.5	+79 44	8.3	2 53.7	+79 55	7.03	4	6.6	5.9	5.9
2 47.0 +79.8	90 2	46.9	+79 50	8.8	2 53.1	+80 1	7.08	7	6.9	6.2	6.2
2 26.9 +79.5	86 2	26.1	+79 29	7.0	2 11.9	+79 41	6.47	6	6.2	5.5	5.5
2 10.2 +79.9	69 2	10.0	+79 57	8.3	2 15.3	+80 10	7.22	5	6.8	6.1	6.1
2 4.4 +80.1	70 2	3.3	+80 3	7.7	2 8.6	+80 16	6.64	6	6.3	5.6	5.6
1 52.0 +79.9	61 1	50.7	+79 58	7.5	1 55.7	+80 11	6.64	7	6.3	5.6	5.6

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Plate 1791

V.	H.	Type	Nebulosity		Lines	K	From	Lines	
5.8	19.7	A			β	N	1	—	
5.8	20.9	F	903		K	K=H	2	F. Seen	
5.6	22.4	A			α	N	1	—	
4.3	5.8	A			α	K=H	1	—	
4.1	10.1	F?	904		K	K=H	1	Seen	
4.0	15.7	A			ε	K=1 H	3	F.	
4.4	16.2	A			β	N	1	—	
4.7	16.8	H			K	K=H	1	—	
4.8	17.2	A			δ	N	2	—	
4.4	19.6	A			δ	N	2	—	
4.4	19.7	F?	905		K	K=H	1	Seen	
4.6	21.3	F	906		K	K=H	2	F. Seen.	
4.4	24.3	A			α	K=H	2	—	
3.9	12.0	H			K	K=H	1	—	
3.0	11.2	A			θ	K=3 H	3	F.	
3.4	12.9	I	907		K	K=1.5 H	2	F. Seen.	
3.5	15.6	A			ε	K=.5 H	2	—	
3.8	17.1	A			γ	N	2	—	
3.5	17.9	A			δ	N	2	—	
2.6	6.4	F	908		K	K=H?	3	F Seen.	
2.6	16.7	H			K	K=H	1	—	

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DM. No.	R.A.	Dec.	Mag.	1900 R.A.	Dec.	DC Mean	Diff.	Br.		
1 9.8 +79.3	39	1 9.2	+79 22	8.0	1 13.2	+79 36	6.72 6.86 6.40	6	6.5	5.8	5.8
0 57.0 +79.2	29	0 57.1	+79 14	6.4	1 0.7	+79 29	6.69	8	6.3	5.6	5.6
0 42 +79.1	19	0 41.6	+79 2	7.7	0 44.9	+79 17	7.02	7	6.5	5.8	5.8
3 44 +79.4	125	3 43.7	+79 22	8.3	3 50.5	+79 30	6.16	6	6.8	6.1	6.1
2 59.9 +80.2	103	2 59.3	+80 10	8.6	3 5.7	+80 21			7.2	6.5	6.5
1 53 +80.6	64	1 51.8	+80 36	6.1	1 57.1	+80 49	7.26	7	5.5	4.8	4.7
1 48 +80.3	61	1 46.9	+80 17	8.6	1 51.9	+80 30	6.38	9	7.2	6.5	6.4
1 39.9 +80.2	58	1 39.7	+80 11	6.8	1 44.5	+80 25	6.30 6.25	5	6.8 7.2	6.1 6.5	6.1 6.5
1 35 +80.2	55	1 34.1	+80 10	7.5	1 38.8	+80 24	6.11	5	5.9	5.2	5.2
1 7 +80.2	36	1 6.2	+80 8	6.7	1 10.2	+80 22	6.44	6	5.8	5.1	5.1
1 5 +80.1	35	1 5.6	+80 6	7.3	1 9.6	+80 20	6.28	10	6.5	5.8	5.8
0 49.0 +79.7	24	0 48.6	+79 46	6.5	0 52.1	+80 1	5.98	5	5.9	5.2	5.2
0 18 +79.2	10	0 17.9	+79 14	7.0	0 20.7	+79 30	6.44	10	6.1	5.4	5.4
2 38 +80.5	86	2 36.1	+79 29	7.0	2 41.9	+79 41	6.76	14	7.0 7.3	6.3 6.6	6.3 6.6
2 50 +80.6	97	2 49.5	+80 44	8.3	2 56.2	+81 5	6.23	5	5.3	4.6	4.5
2 28 +80.8	86	2 27.2	+80 50	5.9	2 33.3	+81 21	6.36	8	6.2 6.5	5.5 5.8	5.4 6.7
1 54 +80.7	65	1 52.6	+80 46	6.7	1 57.9	+80 59	6.63	7	6.1	5.4	5.3
1 35 +80.6	57	1 34.9	+80 39	7.5	1 39.7	+80 53	6.37	6	6.3	5.6	5.5
1 25 +80.6	50	1 25.0	+80 41	7.4	1 29.6	+80 55	6.49	8	6.2	5.5	5.4
3 47 +80.3	125	3 46.0	+80 18	4.9	3 53.3	+80 26	7.38	7	5.3	4.6	4.6
1 38 +81.2	61	1 38.4	+81 14	6.8	1 43.5	+81 28	6.30	7	7.0 7.5	6.3 6.8	6.2 6.7

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St. Lt. 5.4 F. M. & Cl. 7.3 7.1 F. Cloth. 7.2 Box No. 231

R.A. $3^h\ 52^m$ Dec. $+76^\circ 5$

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Plate 1899

V.	H.	Type	No. Rem.	No. Lines	K	From	Other Lines
22.4	10.5	A		α	N	1	—
22.0	12.4	A		β	N	1	—
22.0	17.0	A		γ	K=.5H	2	—
22.8	18.0	A		ε	N	4	—
21.4	7.3	A		H	N	1	—
21.4	10.7	A		α	N	1	—
21.5	14.4	I	909	K	K=1.2H	2	—
21.1	20.8	A		H	N	1	—
21.5	20.9	A		K	K=H	1	—
21.5	21.9	A		α	N	1	—
20.5	21.5	A		β	K=.3H	3	—
20.8	13.9	A		H	N	1	—
20.3	16.7	H		K	K=H	1	—
20.9	21.5	A		β	N	1	—
19.7	14.2	A		K	K=H	1	—
19.3	17.4	A		K	K=H	1	—
18.9	5.8	A		β	N	1	—
18.5	13.4	A		K	K=H	1	—
18.7	15.0	F	910	K	K=1.2H	2	Seen
18.9	19.9	A		δ	N	3	—
18.8	21.3	H		H	N	1	—
17.4	7.5	H?		H	N	1	—
17.2	11.3	A?		K	K=H	1	—
17.9	15.3	I	911	K	K=H	2	Seen
17.6	16.8	H		K	K=H	1	F.
17.0	21.2	F	912	K	K=H	2	Seen
17.8	21.8	H		K	K=H	1	—
17.2	22.5	H		H	N	1	—

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No. D.M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.
4 22.3	+71.2	265	4	21.9	+71 10	8.0	
4 11.0	+71.4	250	4	10.9	+71 25	7.5	
3 41.2	+71.4	222	3	41.0	+71 22	6.5	
3 35.2	+70.9	R 259 ~~260~~	3	~~35.1~~ ~~35.5~~	~~+70 52~~	~~8.5~~ 4.3	
4 43	+71.3	282	4	42.8	+71 23	8.0	
4 21.9	+71.6	263	4	21.3	+71 36	8.2	
3 58.0	+71.7	239	3	57.7	+71 44	6.3	
3 16.2	+71.6	202	3	16.4	+71 40	8.7	
3 6.5	+71.3	204	3	16.5	+71 21	8.4	
3 11.0	+71.2	197	3	10.7	+71 10	7.6	
4 16.9	+72.2	227	4	16.8	+72 13	6.0	
~~3 11.9~~	~~+71.7~~	~~198~~	~~3~~	~~11.7~~	~~+71 41~~	~~7.2~~	
4 1.0	+72.1	213	4	1.0	+72 3	8.5	
3 42.0	+72.3	199	3	42.0	+72 17	7.0	
3 11.9	+71.7	198	3	11.7	+71 41	7.2	
3 59.1	+72.6	208	3	58.8	+72 39	8.5	
3 36.9	+72.7	192	3	36.6	+72 45	8.0	
4 55.1	+72.5	258	4	55.0	+72 33	7.9	
4 5.2	+73.2	220	4	4.9	+73 13	8.8	
3 52.9	+73.2	212	3	52.6	+73 10	6.5	
3 19.2	+72.8	178	3	19.4	+72 50	6.7	
3 10.5	+72.6	172	3	10.4	+72 40	7.1	
4 46.5	+73.5	264	4	46.2	+73 33	6.3	
4 20.2	+73.8	237	4	20.1	+73 50	8.5	
3 50.2	+73.6	210	3	50.1	+73 34	6.4	
3 40.0	+73.6	204	3	39.8	+73 38	6.5	
3 8.3	+73.6	180	3	8.1	+73 38	6.9	
3 5.9	+73.2	179	3	5.5	+73 10	7.4	
3 0.0	+73.4	172	2	59.7	+73 19	6.8	

1900					Mean −.3
					Cor. Br.
4	26.8	+71 16			Br. Mean +Cor. 8
4	15.8	+71 32			6.9 6.6 6.4
3	35.8	+71 31			6.8 6.5 6.3
3	39.8	+71 2			6.1 5.8 5.6
3	40.2	+71			4.3 4.0 3.8
4	48.0	+71 28			7.2 6.9 6.7
4	26.3	+71 41			7.1 6.8 6.6
4	2.6	+71 52			6.3 6.0 5.8
3	21.0	+71 50			6.8 6.5 6.3
3	21.1	+71 31			7.0 6.7 6.5
3	15.2	+71 20			7.2 6.9 6.7
4	21.9	+72 20			7.1 6.8 6.6
3	16.3	+71 51			7.3 7.0 6.8
4	6.0	+72 10			5.3 5.0 4.8
3	46.9	+72 26			7.4 7.1 6.9
3	16.3	+71 51			7.0 6.7 6.5
4	3.8	+72 47			7.3 7.0 6.8
3	41.5	+72 54			6.6 6.3 6.1
5	0.4	+72 37			7.3 7.0 6.9
4	10.1	+73 20			7.2 6.9 6.8
3	57.7	+73 18			6.8 6.5 6.4
3	24.2	+73 0			7.4 7.1 7.0
3	15.1	+72 50			6.4 6.1 6.0
4	51.8	+73 37			5.6 5.3
4	25.5	+73 56			7.2 6.9 6.8
3	50.1	+73 42			7.3 7.0 6.8
3	44.9	+73 47			6.6 6.4 6.4
3	12	+73 48			7.4 7.1 7.1
3	10.3	+73 20			7.5 7.2 7.2
3	4.4	+73 30			6.5 6.2 6.2
					6.7 6.4 6.4
					6.8 6.5 6.5
					7.3 7.0 7.0
					6.5 6.2 6.2
					7.1 6.8 6.7
					7.6 7.3 7.2
					7.2 6.9 6.9
					7.6 7.3 7.3

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Plate 1899

V.	H.	Type	No. Lines	No. Lines	K	Prism	Other Lines
16.8	6.5	A		δ	N	4	F.
16.8	7.6	A		δ	N	3	F.
16.5	8.0	I	913	H	N	2	Seen.
16.6	13.8	A		β	K=.1H	2	—
16.6	15.3	I	914	K	K=1.2H	2	Seen.
16.5	17.1	H		H	N	1	—
16.6	18.3	I	915	K	K=H	2	Seen
16.1	19.1	H		K	K=H	1	—
16.5	19.3	A		h	N	1	—
16.4	22.6	A?		h	N	1	—
16.2	22.7	A		ε	N	4	F.
16.6	23.8	A		α	N	1	—
15.4	6.2	A		β	N	1	—
15.2	13.8	A		K	K=H	1	—
15.5	15.3	F	916	K	K=H	2	Seen.
15.2	15.7	A?		K	K=H	1	—
15.0	20.0	A		γ	N	1	—
14.2	17.5	H?		K	K=H	1	—
14.3	18.7	I	917	K	K=1.2H	2	Seen.
14.8	21.3	A		γ	N	2	—
14.5	23.3	A		γ	N	2	—
13.5	7.7	A		γ	N	2	—
13.0	8.0	A		H	N	1	—
13.9	9.8	F		K	K=H	2	—
13.6	10.4	A		δ	K=.5H	3	F.
13.6	13.7	B	918	δ	K=1H?	3	Seen
13.3	14.4	F		K	K=H	1	—
13.1	15.4	F	919	K	K=H	1	—

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DM. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.		
						3.36				
4 54.2	+73.7	274	4 54.2	+73 45	5.3	4 39.7	+73 49	4.71	3	4.4 4.1 4.1
								5.86		
4 46.2	+73.8	265	4 46.4	+73 49	6.3	4 52.0	+73 55	5.21	0	5.2 4.9 4.9
								6.79		6.7 6.4 6.4
4 44.1	+74.1	229	4 44.0	+74 3	6.1	4 49.6	+74 7	6.13	6	7.3 7.0 7.0
								6.92		
4 1.6	+74.2	195	4 1.7	+74 15	8.0	4 7.1	+74 22	6.33	0	6.2 5.9 5.9
								6.67		6.5 6.2 6.2
3 50	+74.2	186	3 49.9	+74 14	6.4	3 55.2	+74 22	6.66	5	6.8 6.5 6.5
								7.27		7.2 6.9 6.9
3 36.5	+74.2	174	3 36.8	+74 14	7.2	3 42.0	+74 23	6.66	6	7.6 7.3 7.3
								6.76		6.5 6.2 6.2
3 28.5	+74.1	168	3 28.4	+74 4	6.8	3 33.5	+74 13	6.10	4	6.8 6.5 6.5
										7.2 6.9 6.9
3 22.1	+74.3	161	3 21.9	+74 16	7.5	3 26.9	+74 26			7.5 7.2 7.2
R 158										
3 20.5	+74.2	159	3 20.3	+74 8	8.2	3 25.3	+74 18			7.4 7.1 7.1
2 58.2	+73.7	170	2 57.8	+73 45	7.1	3 2.6	+73 56			7.1 6.8 6.8
								4.90		
2 56.5	+73.8	168	2 56.3	+73 50	5.2	3 1.0	+74 8	4.28	1	4.1 3.8 3.8
								6.74		
2 50.9	+73.4	165	2 50.2	+73 22	7.4	2 54.8	+73 33	6.18	7	6.8 6.5 6.5
								6.77		
4 59.0	+74.4	238	4 58.8	+74 21	7.2	5 4.6	+74 25	6.10	4	6.5 6.2 6.2
4 2.1	+74.8	196	4 2.1	+74 51	8.3	4 7.6	+74 58			7.3 7.0 7.1
								6.69		
3 50.0	+74.7	184	3 49.5	+74 47	7.8	3 55.0	+74 55	6.08	3	6.3 6.0 6.1
3 46.9	+74.8	181	3 46.6	+74 51	8.9	3 52.0	+74 59			7.2 6.9 7.0
								7.04		
3 13.8	+74.7	151	3 13.4	+74 44	7.9	3 18.4	+74 54	6.35	2	6.6 6.3 6.4
3 32	+75.3	147	3 31.4	+75 19	8.2	3 36.8	+75 18			7.2 6.9 7.0
										7.4 7.1 7.2
								6.57		6.0 5.7 5.8
3 22.5	+75.2	143	3 22.1	+75 14	6.5	3 27.4	+75 24	5.87	1	6.3 6.0 6.1
								6.63		
3 3.5	+74.7	144	3 3.6	+74 41	7.4	3 8.6	+74 52	5.75	2	6.2 5.9 6.0
								6.46		
2 48.8	+74.5	131	2 48.6	+74 34	7.2	2 53.4	+74 45	3.78	4	6.2 5.9 6.0
R								6.67		
4 51.0	+75.5	208	4 50.5	+75 29	7.3	4 56.5	+75 33	5.96	1	6.0 5.7 5.8
4 48.9	+75.7	203	4 49.0	+75 41	8.3	4 54.6	+75 46			7.3 7.0 7.1
								6.76		
4 33.9	+75.4	193	4 33.6	+75 27	7.0	4 39.5	+75 33	6.03	5	6.5 6.2 6.3
								5.99		
4 30.0	+75.6	189	4 29.4	+75 40	6.0	4 35.4	+75 46	5.88	5	4.8 4.5 4.6
								6.32		
4 3.0	+75.7	173	4 2.4	+75 45	6.8	4 8.2	+75 52	5.62	2	5.4 5.1 5.2
R 165	3 56.3	+75 53	8.7	4 21	+76 1					
3 56.1	+75.9	166	3 56.4	+75 55	8.5	4 22	+76 3			7.1 6.8 6.9
								7.03		
3 48.0	+76.0	160	3 47.4	+75 60	7.5	3 53.1	+76 8	6.31	3	6.6 6.3 6.4

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Plate, 1899—

	V.	H.	Type	No. Rim Lines	K.	Traces	Other Lines
22. 10	13.2	20.8	A	K	K=H	1	—
Recorded below.	~~13.0~~	~~22.1~~	~~A~~	~~H~~	~~H~~	~~1~~	~~—~~
	12.0	7.6	A	δ	H	3	—
	12.4	11.0	F	920 K	K=H	2	Seen.
	12.5	11.6	F	921 K	K=H	1	—
	12.0	19.2	A	H	H	1	—
	12.3	19.3	A	H	H	1	—
	12.9	22.1	A	α	H	1	—
	12.8	22.6	A	H	H	1	—
	11.8	8.5	F?	922 K	K=H	1	Seen
	11.5	11.1	A	H	H	1	—
	11.7	11.7	A	H	H	1	—
	11.9	14.7	A	H	H	1	—
	11.5	18.0	A	β H	H	1	—
	11.1	19.4	A	H	H	1	—
	11.0	19.3	A	H	H	1	—
	11.3	20.4	F	923 K	K=H	1	Seen
	10.1	10.2	A	H	H	1	—
	10.3	10.4	A	α	K=.8H	1	—
	10.5	12.7	F	924 K	K=H	1	—
	10.0	20.2	A	ξ	K=3H	4	F.
	10.6	22.8	F	925 K	K=H	1	Seen.
	9.8	~~19.7~~	F	926 K	K=H	1	Seen
	9.8	14.1	A	927 H	H	2	Seen
	9.1	15.1	A?	K	K=H	1	—
	9.5	15.7	A	928 K	K=H	2	Seen
	9.2	17.0	A	β	H	2	—
	9.6	14.2	A	ε	H	2	—
	9.0	18.2	A	α	H	1	—

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Dm.	No.	R.A.	Dec.	May.	R.A. 1900	Dec.	Mean D.	Diff.		Br.		
3	4.5	+75.5	131	3	4.5	+ 75	29	8.4	3 9.7 +75 39		7.0	6.7	6.8
~~2~~	~~54.2~~	~~+75.5~~									~~6.8~~		
4	54.5	+76.3	190	4	54.3	+ 76	17	6.7	5 0.5 +76 21	3	5.0	4.7	4.8
4	26.1	+76.4	174	4	26.0	+ 76	19	6.3	4 32.1 +76 25	1	5.6	5.3	5.4
4	21.0	+76.3	169	4	20.7	+ 76	14	8.0	4 26.8 +76 20	5	6.8	6.5	6.6
3	15.8	+76.3	126	3	15.1	+ 76	20	8.7	3 20.6 +76 30		7.4	7.1	7.2
3	15.2	+76.1	125	3	14.7	+ 76	6	8.6	3 20.1 +76 16	6	6.9	6.6	6.7
2	54.2	+75.5	127	2	53.5	+ 75	30	8.3	2 58.5 +75 41	8	6.8	6.5	6.6
2	50.7	+75.4	122	2	50.1	+ 75	25	8.8	2 55.1 +75 36		7.4	7.1	7.2
4	47.8	+76.4	188	4	47.6	+ 76	25	8.1	4 53.9 +76 30		7.3	7.0	7.1
4	25.8	+76.7	173	4	25.2	+ 76	44	8.9	4 31.8 +76 50		7.3	7.0	7.1
			166	4	19.5	+76	27	8.8	4 25.7 +76 33				
4	20	+76.6	169	4	19.5	+ 76	38	8.6	4 25.7 +76 44		7.3	7.0	7.1
3	54.0	+76.6	153	3	53.5	+ 76	40	8.8	3 59.4 +76 48		7.4	7.1	7.2
3	24.2	+76.7	128	3	24.0	+ 76	41	7.5	3 29.6 +76 50	2	6.4	6.1	6.2
3	11.5	+76.6	121	3	11.1	+ 76	38	8.0	3 16.6 +76 48		7.3	7.0	7.1
3	11.9	+76.7	123	3	12.0	+ 76	46	9.0	3 17.6 +76 56		7.4	7.1	7.2
3	3.8	+76.5	120	3	3.5	+ 76	31	8.2	3 8.9 +76 41	5	6.8	6.5	6.6
4	36.0	+77.3	173	4	35.5	+ 77	21	8.3	4 42.0 +77 26		7.3	7.0	7.1
4	32.5	+77.3	172	4	32.7	+ 77	18	7.8	4 39.2 +77 24	5	6.7	6.4	6.5
4	12.0	+77.3	162	4	11.5	+ 77	18	7.8	4 18.2 +77 25		6.9	6.6	6.7
3	2.5	+77.2	115	3	3.2	+ 77	11	6.2	3 7.6 +77 22	4	4.4	4.1	4.2
2	42.5	+76.5	101	2	42.2	+ 76	29	6.8	2 47.3 +76 40	9	6.7	6.4	6.5
4	39.6	+77.5	178	4	39.4	+ 77	31	7.5	4 46.0 +77 36	5	6.8	6.5	6.5
3	59.3	+77.7	150	3	59.3	+ 77	42	7.0	4 5.6 +77 50	4	6.5 6.8	6.2 6.5	6.2 6.5
3	49.0	+78.0	143	3	48.6	+ 78	2	8.5	3 55.0 +78 10	4	7.0	6.7	6.7
3	42.5	+77.7	138	3	43.0	+ 77	46	7.0	3 49.2 +77 54	3	6.5 6.9	6.2 6.6	6.2 6.6
3	31.2	+77.8	134	3	30.7	+ 77	51	8.0	3 36.8 +78 0	0	6.4	6.1	6.1
3	29.2	+77.6	133	3	29.0	+ 77	39	7.2	3 35.0 +77 48	2	5.4	5.1	5.1
3	18.3	+77.9	126	3	18.5	+ 77	56	8.5	3 24.4 +78 6	8	6.6	6.3	6.3

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V.	H.	Types.	Rem.	No. Lines.	K.	Focus	No. Lines.	Rem.
9.7	19.0	H?			K	K=H	1	—
8.5	7.0	A			γ	K=3H	2	—
8.0	7.2	A?			β	K=.8H	2	—
8.4	8.0	A			K	K=H	1	—
8.0	8.1	A			α	N	1	—
8.0	14.9	K?	929		K	K=H	2	Br. Seen.
8.1	15.1	A			γ	N	2	—
8.7	19.2	F	930		K	K=H	1	Seen
8.5	19.5	A			H	N	1	—
8.5	20.3	H?			K	K=H	1	—
8.9	20.8	H?			K	K=H	1	—
8.9	21.7	H			K	K=H	1	—
7.5	6.4	F	931		K	K=H	1	Seen
7.6	6.7	A			β	N	2	—
7.8	7.6	F	932		K	K=H	2	Seen
7.8	12.5	A			γ	K=.5H	2	—
7.0	15.0	A			H	N	1	—
7.9	14.0	A			β	N	2	—
Recorded below	7.0	15.5	A		H	N	1	
7.1	18.0	A			H	N	1	—
7.7	20.1	A			δ	K=.3H	3	—
6.4	8.4	F	933		K	K=1.2H	4	F. Seen.
6.2	9.6	A			H	N	1	—
6.4	12.0	A			δ	K=1H	3	—
6.5	13.5	F	934		K	K=H	1	Seen
6.8	15.3	F?	935		K	K=H	1	Seen
6.4	15.4	A			β	N	2	—
6.9	15.5	A			K	K=H	1	—

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Dur.	No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	Diff.		Br.		
3	12.9	+77.5	123	3	12.8	+77 30	7.1	3	18.5	+77 40	6	7.0 7.3	6.7 7.0	6.7 7.0
5	8.0	+77.8	195	5	7.2	+77 50	7.0	5	14.0	+77 53	1	5.3	5.0	5.0
5	6.5	+78.1	187	5	6.1	+78 8	7.0	5	13.1	+78 13	4	6.1	5.8	5.8
4	57.9	+77.9	187	4	57.6	+77 54	8.5	5	4.4	+77 58	6	7.2	6.9	6.7
4	58.7	+78.2	180	4	58.2	+78 11	8.0	5	5.1	+78 15	6	6.9	6.6	6.6
3	50.4	+78.6	146	3	50.6	+78 38	7.2	3	57.2	+78 46	1	6.5 6.8	6.2 6.5	6.2 6.5
3	48.1	+78.5	142	3	47.8	+78 32	8.0	3	54.4	+78 40	1	6.1	5.8	5.8
3	9	+77.9	119	3	8.9	+77 60	7.5	3	14.7	+78 8	7	6.8	6.5	6.5
3	5.9	+77.9	117	3	5.6	+77 59	8.7	3	11.4	+78 9		7.3	7.0	7.0
2	58.8	+77.9	111	2	58.2	+77 57	7.5	3	3.9	+78 8		7.2 7.45	6.9 7.1	6.9 7.1
2	55.1	+77.6	109	2	55.2	+77 38	7.0	3	0.8	+77 49		7.2 7.5	6.9 7.2	6.9 7.2
2	46.5	+77.5	104	2	46.5	+77 31	8.1	2	52.0	+77 42		7.2	6.9	6.9
5	16.0	+78.3	193	5	15.1	+78 15	7.7	5	22.1	+78 18	9	7.1	6.8	6.8
5	11.9	+78.2	190	5	11.4	+78 12	7.7	5	18.4	+78 15	3	6.4	6.1	6.1
5	3.8	+78.3	183	5	3.4	+78 16	6.8	5	10.4	+78 19	2	6.3 6.7	6.0 6.4	6.0 6.4
4	15.9	+78.6	157	4	15.5	+78 41	7.5	4	22.4	+78 48	4	6.4	6.1	6.1
3	48.7	+79.0	180	3	48.4	+79 0	8.7	3	55.2	+79 8		7.0	6.7	6.7
4	0.0	+78.6	151	4	0.2	+78 38	8.2	4	7.0	+78 46	3	6.5	6.2	6.2
~~3~~	~~43.5~~	~~+79.1~~	~~124~~	~~3~~	~~43.5~~	~~+79 4~~	~~8.9~~					6.8		
3	17.9	+78.7	123	3	17.2	+78 48	8.9	3	23.5	+78 58		6.3	6.0	6.0
2	58.9	+78.3	109	3	58.3	+78 19	7.0	3	4.2	+78 30	0	5.5	5.2	5.2
4	59.2	+79.1	169 R+68	4	58.8	+79 3	5.2	5	6.1	+79 7	4	4.2	3.9	3.9
4	47.1	+79.3	163	4	46.9	+79 17	8.8	4	54.2	+79 22	5	7.1	6.8	6.8
4	22.0	+79.4	150	4	21.7	+79 21	7.0	4	28.9	+79 27	3	5.0	4.7	4.7
4	6.0	+79.4	143	4	5.6	+79 21	8.0	4	12.6	+79 28	3	6.6	6.3	6.3
3	47	+79.2	126	3	45.7	+79 13	8.3	3	52.4	+79 21		7.2	6.9	6.9
3	44	+79.4	125	3	43.7	+79 22	8.3	3	50.5	+79 30	1	6.3	6.0	6.0
3	44	+79.1	124	3	43.5	+79 4	8.9	3	50.1	+79 12		7.0	6.7	6.7

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V.	H.	Type,	Rem.	No. Lines	K,	Foue.	Lines.	Other
	6.9	16.0	A:		K	K=H	1	—
	6.5	16.1	A		H	K	1	—
5.7-6.0	6.4	20.0	M:	936	H	K	3	Seen
	5.0	14.5	K:	937	K	K=H	2	Seen
	5.5	15.9	A		H	K	1	—
	5.2	16.8	A		H	K	1	—
	5.3	19.7	H		K	K=H	2	—
	4.9	7.9	A		β	K	2	—
	4.1	13.0	A		β	K=.8H	2	—
	4.1	13.6	A		γ	K=.5H	2	—
	4.4	13.8	K	938	K	K=1.2H	3	Br. Seen.
	4.7	15.1	F.	939	K	K=.5H	4	F. Seen.
	4.0	15.3	A		α	K	1	—
	4.8	20.1	A		H	K	1	—
	4.8	21.4	A		β	K	2	—
	3.2	11.4	K:	940	K	K=1.2H	3	Br. Seen.
	3.1	14.4	A		H	K	1	—
	2.25	11.6	A:		K	K=H	1	—
	2.7	14.3	A		α	K	2	—
	2.0	14.4	A		β	K=.3H	2	—
	2.9	15.6	F.	941	K	K=H	1	Seen
	2.3	15.6	F		K	K=H	1	—
	2.6	19.4	A:		γ	K	3	—

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Dm. No.	R.A.	Dec.	May.		R.A. 1900	Dec.	Δ	Diff.		Bz.		
3 38	+79.1	121	3 37.9	+79 5	8.7	3 44.6	+79 14			7.1	6.8	6.8
3 37	+79.3	117	3 36.3	+79 15	8.9	3 44.0	+79 24			7.2	6.9	6.9
2 47	+78.8	103	2 47.1	+78 51	5.6	2 52.8	+79 1	6.24 5.46 6.63	3	5.7 / 6.7	5.4 / 6.4	5.4 / 6.4
3 55	+80.2	127	3 53.8	+80 9	6.8	4 1.1	+80 17	5.65	2	5.8 / 6.2	5.5 / 5.9	5.5 / 5.9
3 37	+79.7	120	3 37.3	+79 46	8.6	3 44.3	+79 55			7.3	7.0	7.0
3 28	+79.8	110	3 27.1	+79 51	7.8	3 33.9	+80 0	7.18 6.36 6.79	6	6.9	6.6	6.6
2 55	+79.5	94	2 55.4	+79 36	7.3	3 1.6	+79 47	5.94 6.51	3	6.2 / 6.6	5.9 / 6.3	5.9 / 6.3
~~1 72~~	~~8.8~~	~~44~~	~~9.5~~									
5 9.0	+79.7	1735	5 9.0	+79 43	7.7	5 16.6	+79 46	5.56 6.76	6	6.2	5.9	5.9
4 12	+80.6	140	4 11.4	+80 33	7.4	4 19.2	+80 40	5.84 6.56	4	6.2	5.9	5.8
4 4.9	+80.6	134	4 4.2	+80 35	7.4	4 11.9	+80 42	5.64 6.16	2	5.8	5.5	5.4
4 3	+80.5	133	4 2.0	+80 28	5.7	4 9.6	+80 35	5.25 5.49	1	5.3 / 6.0	5.0 / 5.7	4.9 / 5.6
3 47	+80.3	125	3 46.0	+80 18	4.9	3 53.3	+80 26	5.38 7.09	4	4.2	3.9	3.9
3 44	+80.6	123	3 43.3	+80 33	8.3	3 50.7	+80 41	6.34 7.08	5	6.7	6.4	6.3
2 50	+79.7	91	2 49.5	+79 44	8.3	2 55.7	+79 53	6.15 6.47	6	6.8	6.5	6.5
2 36	+79.5	86	2 36.1	+79 29	7.0	2 41.9	+79 41	5.60 5.98	5	6.1	5.8	5.8
4 34.9	+80.9	155	4 33.4	+80 56	5.5	4 41.6	+81 2	5.04 7.02	3	5.3 / 6.1	5.0 / 5.8	4.9 / 5.7
3 56	+81.0	149	3 55.2	+81 3	8.3	4 3.0	+81 11	6.67 7.07	8	6.9	6.6	6.5
4 32	+81.4	168	4 31.0	+81 23	8.5	4 39.5	+81 29	6.10 6.81				
3 56	+81.3	150	3 55.7	+81 15	7.9	4 3.6	+81 23	5.81 6.56	4	6.2	5.9	5.8
3 55	+81.6	147	3 53.8	+81 36	7.5	4 2.0	+81 44	5.58 7.00				
3 38	+81.2	135	3 38.2	+81 9	7.8	3 45.8	+81 18	6.02 7.14	6	6.6	6.3	6.2
3 37	+81.5	134	3 37.6	+81 27	7.8	3 45.5	+81 36	6.20 6.76				
2 50	+80.8	97	2 49.6	+80 54	6.5	2 56.2	+81 3	4.82	1	4.9	4.6	4.5

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St. Lt. 5.2 F. Mch. 5.4-5.3 F. Feb. 6.8 Box No. 596

Dark Plate Very Hard to Measure & also to identify

June, 2, 1889.

α 6h 8m

Dec. +76.7

Plate 3044

T. H.	Type	Rem.	No. Lines	K.	Focus	No. Lines	Other
22.8	19.8 A		α	K	2	—	
21.0	8.7 F	942	K	K=H	1	Seen	
21.6	12.3 H		K	K=H	2	—	
21.3	14.0 A		α	K	1	—	
21.2	15.3 H		K	K=H	1	—	
20.4	7.2 F?	943	K	K=H	1	—	
20.3	8.0 H		H	K	1	—	
20.5	17.4 F		K	K=H	1	—	
19.4	17.9 A		H	K	1	—	
18.8	7.9 A		β	K	1	—	
18.1	10.7 A		H	K	1	—	
18.0	13.2 F?	944	K	K=H	3	Seen	
18.1	23.0 A		H	K	1	—	
17.4	6.2 A?		α	K=H	1	—	
17.5	7.8 F?		K	K=H	1	—	
17.2	12.9 A		K	K=H	1	—	
17.7	17.7 A?		K	K=H	1	—	
17.7	20.7 A			K=H	2	—	
17.0	21.5 A?		K	K=H	2	—	
17.8	23.3 H		H	K	1	—	
16.0	6.8 A		α	K=.5H	1	—	
16.8	11.3 A		H	K	1	—	
16.0	15.3 F	945	K	K=H	1	—	
16.4	20.2 F		K	K=H	1	F.	
16.0	21.3 A		H	K	1	—	
16.8	22.6 A		α	K	2	—	
16.2	22.7 A			K	2	—	
16.0	24.0 A		K	K=.8H	1	—	

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Mean −.3

Dm. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Bc	B+Mean+Cor. B	Cor. Bc
5 35.2	+71.2	324	5	35.4	+71 15	6.7	5	40.7	+71 17					
6 46.6	+71.9	378	6	46.6	+71 57	7.7	6	51.9	+71 54		5	6.6	6.3	6.1
6 23.2	+71.8	359	6	23.4	+71 52	6.0	6	28.8	+71 50		5	6.3	6.0	5.8
												6.6	6.3	6.1
6 12.8	+72.1	317	6	12.4	+72 6	8.2	6	17.8	+72 5		6	6.9	6.6	6.4
6 3.9	+72.2	311	6	3.2	+72 12	6.3	6	8.6	+72 12		2	6.6	6.3	6.1
												6.9	6.6	6.4
6 57.2	+72.1	352	6	57.1	+72 3	6.4	6	2.4	+71 59		4	6.5	6.2	6.0
6 52.1	+72.2	347	6	52.1	+72 10	6.8	6	57.4	+72 7			6.9	6.6	6.4
												7.4	7.1	6.9
5 49.5	+72.6	299	5	49.0	+72 37	8.0	5	54.5	+72 38		2	6.5	6.2	6.1
5 45.5	+73.1	305	5	45.5	+73 4	8.4	5	50.5	+73 5			6.9	6.6	6.5
6 55.3	+72.9	350	6	55.1	+72 53	7.5	7	0.6	+72 49		4	6.6	6.3	6.2
6 36.9	+73.5	353	6	37.0	+73 34	8.4	6	42.7	+73 32			6.6	6.3	6.3
6 19.9	+73.7	340	6	19.6	+73 47	6.0	6	25.4	+73 46		2	5.8	5.5	5.5
5 8.9	+73.4	289	5	9.0	+73 22	8.0	5	14.6	+73 25			6.7	6.4	6.3
7 9.8	+73.4	376	7	9.2	+73 20	7.2	7	14.8	+73 16		5	6.5	6.2	6.1
						7.8	7	14.7	+73 16					
6 58.3	+73.5	366	6	58.2	+73 33	7.5	7	3.8	+73 29		5	6.9	6.6	6.5
6 22.2	+74.2	293	6	22.4	+74 9	7.8	6	28.2	+74 8			6.8	6.5	6.5
5 47.3	+73.9	311	5	46.6	+73 60	7.3	5	52.4	+74 1		1	6.5	6.2	6.2
5 24.2	+73.9	298	5	24.4	+73 54	6.8	5	30.2	+73 58		2	6.0	5.7	5.7
5 18.2	+74.2	249	5	18.2	+74 12	7.0	5	24.0	+74 15		3	6.2	5.9	5.9
												6.5	6.2	6.2
5 7.0	+73.5	285	5	6.8	+73 33	6.5	5	12.5	+73 36			7.3	7.0	7.0
7 8.0	+74.2	322	7	7.9	+74 7	7.5	7	13.6	+74 3		5	6.6	6.3	6.3
6 34.5	+74.3	303	6	34.4	+74 16	7.6	6	40.2	+74 14			6.9	6.6	6.6
6 4.0	+74.8	281	6	3.7	+74 54	7.8	6	9.7	+74 54			6.8	6.5	6.6
5 27.2	+74.5	257	5	27.4	+74 32	7.2	5	33.3	+74 34		3	6.5	6.2	6.3
5 18.2	+74.5	250	5	18.5	+74 35	7.5	5	24.4	+74 38		3	6.7	6.4	6.5
5 10	+74.2	242	5	9.9	+74 10	7.1	5	15.6	+74 13		3	5.9	5.6	5.6
5 8.9	+74.4	241	5	8.8	+74 24	7.1	5	14.6	+74 27		0	6.0	5.7	5.7
4 59.0	+74.4	238	4	58.8	+74 21	7.2	5	4.6	+74 25		4	6.5	6.2	6.2

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June, 2, 1889.

Plate 3044

T.	H.	Type.	No.	Rem.	No. Lines	K.	Focus	No. Lines	Other.
15.4	6.6	A?			α	K=H	1	—	
15.0	10.6	G			K	K=H	1	F.	
15.2	12.9	G			K	K=H	1	F	
15.5	21.0	H			K	K=H	2	—	
14.0	8.1	A			γ	H	2	—	
14.0	8.7	F	946		K	K=H	1	Seen	
14.4	10.3	F	947		K	K=H	2	Seen	
14.0	10.4	G?			K	K=H	1	—	
14.6	11.0	F	948		K	K=H	1	—	
14.0	13.1	A			K	K=H	1	—	
14.0	13.6	F	949		K	K=H	1	Seen	
14.4	13.7	A			H	H	1	—	
14.4	15.4	H			K	K=H	1	—	
14.6	17.7	F	950		K	K=H	2	Seen	
14.3	19.5	F	951		K	K=H	2	Seen.	
14.8	23.2	F?	952		K	K=H	1	Seen	
13.1	7.1	A			α	H	1	—	
13.4	14.5	A			K	K=H	1	—	
13.6	15.0	H?			K	K=H	1	—	
13.2	15.2	A?			K	K=H	1	—	
12.0	6.5	F?	953		K	K=H	1	—	
12.8	7.8	A			γ	H	2	—	
12.3	13.2	H?			K	K=H	2	—	
12.9	16.5	F	954		K	K=H	2	F. Seen.	
12.0	18.8	G			K	K=H	1	—	
12.8	20.4	A			β	H	2	—	
12.1	20.5	G			K	K=H	1	—	
12.2	23.5	A			γ	H	4	F.	

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Dm.	No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	C	Diff.		Br.		
7	10.5	+74.5	324	7	10.7	+74 26	7.8	7	16.4	+74 21	6	6.8	6.5	6.5
6	41.9	+75.2	276	6	41.6	+75 8	8.2	6	47.6	+75 5		6.9	6.6	6.7
6	26.9	+75.2	264	6	23.9	+75 11	8.0	6	30.0	+75 9	1	6.8	6.5	6.6
5	20.4	+74.9	252	5	20.4	+74 57	6.5	5	26.4	+74 59	3	6.1	5.8	5.9
												6.7	6.4	6.5
7	2.5	+75.4	296	7	2.8	+75 20	7.8	7	8.8	+75 16	2	5.7	5.6	5.7
6	58.1	+75.4	291	6	58.0	+75 26	8.3	7	4.8	+75 22		7.0	6.7	6.8
6	45.0	+75.4	281	6	44.7	+75 26	6.8	6	50.8	+75 23	2	6.3	6.0	6.1
6	45.0	+75.6	280	6	44.7	+75 36	7.0	6	50.8	+75 33	5	6.8	6.5	6.6
6	39.5	+75.4	273	6	39.0	+75 22	7.5	6	45.1	+75 19	1	6.7	6.4	6.5
6	22.7	+75.8	263	6	22.9	+75 51	8.5	6	29.1	+75 49	5	6.9	6.6	6.7
6	19.0	+75.8	258	6	18.7	+75 49	7.6	6	24.9	+75 48	2	6.6	6.3	6.4
6	17.9	+75.6	257	6	17.7	+75 40	8.5	6	23.9	+75 39		7.3	7.0	7.1
6	4.0	+75.7	253	6	3.9	+75 42	7.9	6	10.1	+75 42		7.0	6.7	6.8
												7.4	7.1	7.2
5	45.2	+75.6	247	5	45.2	+75 34	6.2	5	51.4	+75 35	2	6.3	6.0	6.1
												6.8	6.5	6.6
5	31.0	+75.6	236	5	30.4	+75 40	7.5	5	36.6	+75 40	1	6.4	6.1	6.2
5	2.3	+75.0	220	5	2.8	+75 0	7.5	5	8.8	+75 4	3	6.7	6.4	6.5
7	13	+75.6	305	7	12.9	+75 36	8.0	7	18.9	+75 31	4	6.9	6.6	6.7
6	11.9	+76.2	243	6	11.5	+76 12	8.5	6	17.8	+76 11	3	6.9	6.6	6.7
												7.2	6.9	7.0
6	7.2	+76.1	240	6	7.2	+76 5	7.8	B	13.5	+76 5		7.1	6.8	6.9
6	5.0	+76.3	237	6	4.7	+76 18	8.8	6	11.1	+76 18		7.3	7.0	7.1
7	19.8	+76.1	284	7	19.8	+76 6	7.3	7	25.9	+76 1	6	6.9	6.6	6.7
7	7.8	+75.8	300	7	7.6	+75 52	7.7	7	13.7	+75 48	3	6.2	5.9	6.0
6	23.9	+76.7	249	6	23.6	+76 43	7.5	6	30.1	+76 41	0	6.4	6.1	6.2
												6.5	6.2	6.3
5	54.5	+76.5	226	5	54.0	+76 31	7.5	6	0.5	+76 31	3	6.5	6.2	6.3
5	34.2	+76.7	211	5	33.9	+76 49	8.1	5	40.5	+76 51	0	6.5	6.2	6.3
5	21.7	+76.4	206	5	21.3	+76 22	8.3	5	27.7	+76 25	1	6.3	6.0	6.1
5	19.4	+76.6	203	5	19.1	+76 40	7.8	5	25.6	+76 43	3	6.7	6.4	6.5
4	54.2	+76.3	190	4	54.3	+76 17	6.7	5	0.5	+76 21	2	5.1	4.8	4.9

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June, 2, 1889.

Plate. 3044

V.	H.	Type	Rem.	No.	Lines	K.	Focus.	No. Lines	After.
11.2	11.6	K		955	K	K=1.2H	4	F. Br.	Seen.
11.9	14.3	G?			K	K=H	1	—	
11.6	14.7	H			K	K=1H	1	—	
11.1	15.0	G			K	K=H	1	—	
11.7	15.0	F		956	K	K=H	1	Seen	
11.2	16.8	G?			K	K=H	1	—	
10.0	6.8	A			K	K=H	1	—	
10.1	8.2	H?			K	K=H	1	—	
10.9	12.6	A			β	N	2	—	
10.6	13.0	A			H	N	1	—	
10.3	14.7	A			K	K=H	1	—	
10.8	15.3	A			H	N	1	—	
10.6	20.2	A			α	N	1	—	
9.2	8.9	A			K	K=H	1	—	
9.2	12.6	F.		957	K	K=H	1	—	
9.1	12.8	A			K	K=H	1	—	
9.6	14.0	K		958	K	K=H	3	F. Br.	Seen.
9.7	14.4	A			γ	N	2	—	
9.4	14.8	A			β	N	2	F.	
9.8	15.1	G			K	K=H	1	—	
9.0	20.4	G			K	K=H	2	—	
9.0	20.8	A			β	N	2	—	
9.0	21.3	A			β	K=8H?	3	F.	
9.5	21.3	A			γ	K=2H	3	—	
9.1	22.3	A			H	N	1	—	
9.3	19.5	A			γ	N	2	—	
8.0	9.7	H			K	K=H	1	—	
8.7	9.7	F.		959	K	K=H	1	Seen.	
8.4	9.5	A			δ	K=2H	2		

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DM. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	WC	Diff.	Bv		
6 39.0 +77.2	266	6 38.8	+77 9	4.7	6 115.5	+77 6	1	5.2 6.1	4.9 5.8	5.0 5.9
6 14.3 +76.9	244	6 14.3	+76 58	7.3	6 20.9	+76 57		6.9	6.6	6.7
6 10.9 +77.1	243	6 10.6	+77 8	8.3	6 17.2	+77 7		7.1 7.4	6.8 7.1	6.9 7.2
6 7.9 +77.4	240	6 7.8	+77 21	6.7	6 14.5	+77 20		7.0	6.7	6.8
6 7.8 +77.1	239	6 7.7	+77 4	8.4	6 14.3	+77 3		7.0	6.7	6.8
5 57.2 +77.3	229	5 57.2	+77 18	7.3	5 57.9	+77 19		6.7	6.4	6.5
7 23.2 +77.1	293	7 22.9	+77 5	8.2	7 29.3	+77 0	6	6.8	6.5	6.6
7 10.2 +77.3	286	7 10.6	+77 14	7.4	7 17.1	+77 9	4	6.7 6.8	6.4 6.5	6.5 6.6
6 30.5 +77.4	259	6 30.8	+77 22	7.8	6 37.4	+77 20	2	6.3	6.0	6.1
6 27.1 +77.5	255	6 26.7	+77 31	8.7	6 33.4	+77 29		6.9	6.6	6.7
6 12.0 +77.7	244	6 11.9	+77 47	8.8	6 18.7	+77 46		6.7	6.4	6.4
6 4.9 +77.5	235	6 5.0	+77 32	8.5	6 11.7	+77 32		6.9	6.6	6.6
5 19.4 +77.5	201	5 19.6	+77 26	8.3	5 26.3	+77 29	3	6.5	6.2	6.3
7 13.8 +77.7	284	7 6.9	+77 46	8.5	7 13.8	+77 42		6.9	6.6	6.6
6 31.9 +78.2	234	6 31.8	+78 10	7.3	6 38.7	+78 8	1	6.5	6.2	6.2
6 30.1 +78.3	233	6 30.2	+78 14	7.8	6 37.1	+78 12	9	6.9	6.6	6.6
6 18.1 +78.1	227	6 18.0	+78 7	6.0	6 24.9	+78 4	0	5.8 6.7	5.5 6.4	5.6 6.4
6 13.8 +78.0	247	6 14.2	+77 60	7.5	6 21.0	+77 59	2			
6 15.9 +79.6	208	6 15.4	+79 41	6.3	6 23.1	+79 40	7	6.1	5.8	5.8
6 10.9 +78.3	226	6 10.5	+78 17	7.5	6 17.4	+78 16	1	5.7	5.4	5.4
6 6.2 +77.9	287	6 6.4	+77 58	7.7	6 13.3	+77 58	4	6.8	6.5	6.5
5 15.8 +78.3	193	5 15.1	+78 15	7.7	5 22.1	+78 18	3	6.5	6.2	6.2
5 11.7 +78.2	190	5 11.4	+78 12	7.7	5 18.4	+78 13	2	6.3	6.0	6.0
5 6.3 +78.1	187	5 6.1	+78 8	7.0	5 13.1	+78 13	0	5.7	5.4	5.4
5 7.8 +77.8	195	5 7.2	+77 50	7.0	5 14.0	+77 53	0	5.4	5.1	5.1
4 57.9 +77.9	187	4 57.6	+77 54	8.5	5 4.4	+77 58	3	6.9	6.6	6.6
5 24.0 +78.2	197	5 23.4	+78 10	8.2	5 30.4	+78 12		6.2	5.9	5.9
7 3.6 +78.5	250	7 3.2	+78 31	6.5	7 10.1	+78 27	4	6.7 7.2	6.5 6.9	6.5 6.9
7 1.3 +78.2	246	7 0.9	+78 10	7.0	7 7.7	+78 6	5	6.7	6.4	6.4
7 4.3 +78.4	251	7 4.2	+78 19	7.0	7 11.0	+78 15	2	6.1	5.8	5.8

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June, 21. 1889.

Plate 3044

V. M.	Type.	Rem.	No. Lines	K.	Focus.	Other Lines.
8.8 21.5	H		K	K=H	2	F.
8.6 22.1	A		H	K	1	—
7.9 6.0	A			K	2	—
7.4 11.1	A			K=.8H	2	—
7.4 14.4	A?		α	K=H	2	—
7.4 14.9	E		K	K=H	1	—
7.9 15.0	D	960	K	K=H	2	Seen
7.2 16.4	A		β	K	2	F.
7.1 21.6	F	961	K	K=1.2H	4	F. Seen.
6.9 9.3	F?	962	K	K=H	2	Seen
6.6 9.7	A		K	K=H	1	—
6.5 14.0	F	963	K	K=1.2H	4	F. Seen.
6.5 14.5	A		δ	K=.1H	3	F.
6.9 15.1	F.	964	K	K=H	1	Seen
6.5 15.4	H		K	K=H	1	—
6.4 16.2	H		K	K=H	1	—
6.0 16.5	A		H	K	1	—
6.6 19.3	H		K	K=H	1	F.
6.0 20.3	A		β	K	2	—
6.2 22.5	A		K	K=H	1	—
5.1 14.1	D	965	H	K	1	Seen.
5.2 16.3	F	966	K	K=H	2	Seen

1.00.

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D.M.No.	R.A. h. m.	Dec.	Mag.	R.A. 1900	Dec	Diff.	Bv		
5 53.7	+78.3	183	5 3.7	+78 16	6.8	5 10.4	+78 19	1	6.2 } 6.5 } 6.2	5.9 } 6.2	5.9 } 6.2
4 59.0	+78.2	180	4 58.2	+78 11	8.0	5 5.1	+78 15	2	6.5 6.2	6.2
7 37.1	+77.9	303	7 37.0	+77 56	7.0	7 43.6	+77 50	5	6.2 5.9	5.9
6 51.0	+78.9	240	6 50.7	+78 59	6.7	6 57.8	+78 56	1	5.8 5.5	5.5
6 15.9	+79.2	209	6 15.8	+79 14	8.0	6 23.1	+79 13	2	6.5 6.2	6.2
6 10.8	+79.3	205	6 10.6	+79 16	8.6	6 18.1	+79 15		7.0 6.7	6.7
6 9.2	+79.1	202	6 9.2	+79 4	7.0	6 16.5	+79 3	2	6.3 } 6.0 } 6.3 } 6.0	6.0 } 6.0
5 53.1	+79.4	196	5 53.0	+79 21	7.8	6 0.4	+79 21	2	6.4 6.1	6.1
4 59.8	+79.1	169	4 58.8	+79 3	5.2	5 6.1	+79 7	0	4.6 4.3	4.3
7 10.3	+78.9	254	7 10.4	+78 60	6.8	7 17.4	+78 55	3	6.5 6.2	6.2
7 6.5	+79.2	237	7 6.4	+79 9	8.3	7 13.6	+79 5		7.1 6.8	6.8
6 21.9	+79.6	212	6 21.4	+79 42	5.5	6 29.2	+79 41	1	5.0 4.7	4.7
6 15.8	+79.6	208	6 15.4	+79 41	6.3	6 23.1	+79 40	1	5.3 5.0	5.0
6 8.2	+79.5	201	6 8.2	+79 34	7.5	6 15.8	+79 33	2	6.5 6.2	6.2
6 4.5	+79.7	200	6 4.6	+79 44	8.3	6 12.5	+79 44		6.8 } 6.5 } 7.2 } 6.9	6.5 } 6.9
5 57	+79.8	198	5 56.4	+79 49	7.5	6 4.3	+79 49		6.7 } 6.4 } 7.0 } 6.7	6.4 } 6.7
5 52	+80.0	198	5 51.9	+80 0	8.5	5 59.9	+80 1		6.8 6.5	6.5
5 22	+79.5	183	5 21.1	+79 32	7.7	5 28.6	+79 35		6.5 } 6.2 } 6.8 } 6.5	6.2 } 6.5
5 9.0	+79.6	173	5 9.0	+79 43	7.7	5 16.6	+79 46	1	5.7 5.4	5.4
4 46.5	+79.3	163	4 46.9	+79 17	8.8	4 54.2	+79 22	3	6.9 6.6	6.6
6 21	+80.4	217	6 20.9	+80 22	7.3	6 29.0	+80 21	2	6.5 } 6.2 } 7.0 } 6.7	6.2 } 6.7
5 55	+80.2	202	5 54.0	+80 24	7.8	6 2.3	+80 24	2	6.0 5.7	5.7
5 56	+80.4	204	5 56.5	+80 14	8.1					

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June 7, 1889.

Plate. 3044.

	V.	H.	Type	No. Rem.	No. Lines	K.	Focus.	No. Lines	Other.
0.20.	5.5	16.7	A		H	K	1	—	
	5.9	17.2	F		K	K=H	1	—	
	5.0	19.2	H		K	K=H	1	—	
	4.2	7.2	A		δ	K	4	F.	
	4.5	7.9	H		K	K=H	1	—	
	4.0	12.3	A		β	K	1	—	
	4.6	15.1	H		K	K=H	1	—	
	4.0	15.8	A?		K	K=H	1	—	
	4.7	16.6	H?		K	K=H	1	—	
	4.6	18.7	F	967	K	K=H	1	F. Seen.	
	3.5	6.3	F		K	K=H	1	—	
	3.8	8.0	H		K	K=H	1	—	
	3.2	8.6	F	968	K	K=H	2	F. Seen.	
	3.6	11.4	δ	969	K	K=H	2	Seen.	
	3.2	11.7	H		H	K	1	—	
0.30.	3.1	18.2	H		K	K=H	1	—	

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	Diff.	Be.		
5 52	+80.2	192	5 50.0	+80° 10	8.7		5 58.1	+80 11			7.0	6.7	6.7
5 45	+80.0	190	5 44.0	+80 1	8.7		5 52.0	+80 2			6.8	6.5	6.5
5 19.9	+80.3	177	5 20.0	+80 18	8.2		5 28.0	+80 21	1		6.7 / 7.1	6.4 / 6.8	6.4 / 6.8
7 42	+79.8	265	7 41.9	+79 52	5.8		7 49.1	+79 45	4		4.6	4.3	4.3
7 34	+79.8	259	7 33.3	+79 53	8.0		7 40.7	+79 47			7.0 / 7.4	6.7 / 7.1	6.7 / 7.1
6 45	+80.7	227	6 44.8	+80 45	8.6		6 53.1	+80 42	2		6.4	6.1	6.0
6 10	+80.6	210	6 8.6	+80 39	7.2		6 16.9	+80 38	3		6.4 / 6.9	6.1 / 6.6	6.0 / 6.5
6 1	+80.9	206	6 0.4	+80 55	8.1		6 9.0	+80 55					
R 194	5 50.8	+80	36	8.7									
5 51	+80.6	195	5 50.9	+80 34	8.6	*	K. 5 59.2	+80 35			6.8 / 7.0	6.5 / 6.7	6.4 / 6.6
5 26	+80.5	181	5 25.4	+80 32	7.9		5 33.7	+80 34	3		6.5	6.2	6.1
7 55	+79.9	269	7 54.0	+79 56	7.8		8 1.2	+79 49	5		6.8	6.5	6.5
7 36	+80.2	240	7 35.8	+80 14	6.5		7 43.3	+80 7	2		6.4 / 6.8	6.1 / 6.5	6.1 / 6.5
7 30	+80.6	238	7 32.1	+80 37	6.5		7 39.9	+80 31	0		5.7	5.4	5.3
6 57	+80.8	230	6 57.4	+80 52	7.4		7 5.7	+80 48	2		6.3 / 6.7	6.0 / 6.4	5.9 / 6.3
6 55	+81.1	239	6 53.8	+81 6	7.8		7 2.3	+81 3			6.8 / 7.3	6.5 / 7.0	6.4 / 6.9
5 29	+81.3	194	5 29.6	+81 18	8.0		5 38.4	+81 20	6		6.6 / 6.9	6.3 / 6.6	6.2 / 6.5

* K. D.M. +80° 194 superposed, precedes ½, north 1.8.

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St. Lt 62 F. M. Cl. 6.7 6.6 F. Ch. 7.3 Bot No. 223.

R.A. 7h 52m. dec. +76°8

June 10 1889.

Plate. 2014

	V.	H	Type	Rem.	No. Lines.	K.	Focus.	Other Lines.
23 - 30								
	22.2	17.1	A		β	K	2	—
	21.1	16.7	A		δ	K	1	—
	21.0	20.3	A		ε	K=H	1	—
	20.4	6.2	A		K	K=H	1	—
	20.1	10.9	A		β	K=H	1	—
	20.7	13.2	A		H	K	1	—
	20.5	15.0	H?		K	K=H	1	—
	20.9	15.3	H		K	K=H	1	—
	20.8	16.8	F?	970	K	K=H	1	Seen
	19.1	9.3	F	971	K	K=H	1	F. Seen
	19.6	13.3	H		K	K=H	2	F.
	19.2	15.7	F?	972	K	K=H	1	Seen
	19.0	17.2	A		H	K	1	—
	19.5	19.2	A		H	K	1	—
	18.4	6.0	F?	973	K	K=H	1	Seen
	18.5	9.2	A		K	K=H	1	—
	18.8	11.7	H?		H	K	1	—
Recorded above.	18.9	14.2	A?		H	K	1	—
	18.0	21.1	A?		β	K=.8H	2	—
	18.3	23.3	A		β	K	2	—
	17.4	7.8	A		H	K	1	—
	17.4	9.8	A		δ	K	2	—
	17.7	10.2	A		ε	K	3	F.
	17.6	10.7	A		K	K=H	1	—
	17.0	10.8	D?	974	K	K=1.2H	3	Seen.
	17.0	10.9	A		H	K	1	—
	17.4	11.5	E?		K	K=H	1	—
	17.0	11.7	A?		H	K	1	—

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Diff.	Mean − 1 Cor. Br. Br.	Br. + Mean + Cor. S
7 39 +71.5	429	7 38.4	+71 27	6.8	7 43.4	+71 21	4	6.5 6.4 6.2 6.4
7 41.7 +72.1	386	7 41.0	+72 3	7.3	7 46.1	+71 57	3	6.5 6.4 6.2 6.4
7 18.0 +71.8	405	7 17.7	+71 53	7.4	7 22.9	+71 48	4	6.7 6.6 6.4
8 50.0 +71.8	486	8 49.5	+71 52	6.7	8 54.0	+71 42	5	6.6 6.5 6.3
8 20.0 +72.5	423	8 19.4	+72 30	7.8	8 24.3	+72 21		6.9 6.8 6.6
8 5.1 +72.2	410	8 4.6	+72 13	8.7	8 9.6	+72 5		7.1 ~~6.0~~ 7.0 6.8 ~~5.8~~
7 52.1 +72.3	395	7 52.2	+72 21	8.0	7 57.3	+72 14		7.2 7.1 7.3 6.9 7.1
7 50.1 +72.2	394	7 50.0	+72 11	7.3	7 55.1	+72 5		7.1 7.0 7.2 6.8 7.0
7 40.8 +72.2	385	7 40.3	+72 13	7.0	7 45.4	+72 7	2	6.6 6.5 6.3
8 31.9 +72.9	427	8 31.8	+72 55	6.8	8 36.7	+72 46	4	6.6 6.5 6.4
8 5.0 +72.8	R 409	8 4.6	+72 51	6.2	8 9.6	+72 43	1	6.1 6.0 5.9 6.6 6.5 6.4
7 44.9 +73.1	395	7 47.1	+73 2	8.3	7 52.3	+72 55		6.9 6.8 6.7
7 37.1 +73.1	387	7 36.9	+73 6	8.4	7 42.2	+73 0		7.2 7.1 7.0
7 24.8 +72.7	372	7 24.1	+72 40	8.6	7 29.4	+72 35		7.2 7.1 7.0
8 54.5 +72.8	441	8 54.5	+72 53	7.7	8 59.1	+72 43		6.8 6.7 6.6
8 33.9 +73.2	434	8 33.5	+73 12	8.4	8 38.4	+73 3		7.3 7.2 7.1
8 15.9 +73.2	416	8 16.0	+73 10	7.2	8 21.0	+73 2		7.2 7.1 7.0 7.4 7.3 7.2
~~7 44.9 +73.2~~								~~7.3~~
7 9.8 +73.4	375	7 9.0	+73 20	7.2	7 14.5	+73 16	2	5.8 5.7 5.6
	376	7 9.2	+73 20	7.8	7 14.7	+73 16		
6 55.2 +72.8	350	6 55.1	+72 53	7.5	7 0.6	+72 49	3	6.5 6.4 6.3
8 44.0 +73.6	438	8 43.6	+73 38	8.0	8 48.5	+73 28		7.2 7.1 7.0
8 30.4 +73.7	430	8 30.1	+73 48	7.0	8 35.1	+73 39	2	5.8 5.7 5.7
8 27.8 +73.6	428	8 27.0	+73 40	6.5	8 32.0	+73 31	1	5.6 5.5 5.5
8 23.2 +73.7	424	8 23.4	+73 44	8.5	8 28.5	+73 35		7.0 6.9 6.9
8 23.1 +74.1	370	8 23.5	+74 8	6.4	8 28.6	+73 59	0	5.8 5.7 5.7 6.0 5.9 5.9
8 22.3 +74.1	369	8 22.3	+74 9	8.6	8 27.5	+74 0		7.0 6.9 6.9
8 19.0 +73.9	420	8 18.6	+73 56	7.3	8 23.7	+73 47	4	6.8 6.7 6.7
8 16.9 +74.1	365	8 16.9	+74 4	6.8	8 22.1	+73 56		7.1 7.0 7.0

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June, 10, 1889.

Plate 2014

	T. M.	Type	Rem.	No. Lines	K	Focus.	Other Lines
	17.7	13.5	A ?	α	K=H	1	—
	17.0	13.8	A	H	K	1	—
	17.1	14.2	F. 975	K	K=H	1	Seen
	17.4	15.3	A	α	K	1	—
	17.2	19.3	F? 976	K	K=H	1	Seen
	17.2	22.6	F 977	K	K=H	1	Seen
	16.4	9.3	H	K	K=H	1	
recorded above.	~~16.9~~	~~10.8~~	~~K 978~~	~~K~~	~~K=1.2H~~	~~3~~	~~Seen.~~
	16.3	12.9	H?	K	K=H	1	—
	16.4	15.0	F 978	K	K=H	1	Seen
	16.0	15.1	F?	K	K=H	1	—
	16.8	16.2	K? 979	K	K=1.2H	3 F.	Seen. Br.

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	D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Diff.	Br.		
8 3.4 + 73.8	406	8h 3.4m	+73° 47′	8.5 ✓	8 8.7	+73 39		6.7	6.6	6.6
8 1.8 + 74.2	353	8 1.2	+74 12	8.2 ✓	8 6.5	+74 4		7.1	7.0	7.0
7 59.0 + 74.2	351	7 59.1	+74 8	8.2 ✓	8 4.4	+74 1		6.7	6.6	6.6
7 50.0 + 73.9	397	7 49.4	+73 58	9.0 ✓	7 54.8	+73 51		6.8	6.7	6.7
7 21.0 + 73.8	381	7 20.9	+73 54	7.5 ✓	7 26.4	+73 49	3′	6.6	6.5	6.5
6 58.8 + 73.5	366	6 58.2	+73 33	7.5 ✓	7 3.8	+73 29	4′	6.8	6.7	6.6
8 35.9 + 74.3	379	8 35.1	+74 17	7.5 ✓	8 40.1	+74 8		7.0 / 7.3	6.9 / 7.2	6.9 / 7.2
8 8.2 + 74.5	361	8 8.3	+74 29	8.8 ✓	8 13.6	+74 21		7.2 / 7.4	7.1 / 7.3	7.1 / 7.3
7 53.2 + 74.5	347	7 53.0	+74 28	8.7 ✓	7 58.4	+74 21		7.1	7.0	7.0
7 50.5 + 74.6	346	7 50.6	+74 35	8.9 ✓	7 56.1	+74 28		7.2	7.1	7.1
7 42.9 + 74.3	338	7 42.8	+74 18	6.2 ✓	7 48.2	+74 11	3	5.5 / 6.0	5.4 / 5.9	5.4 / 5.9

* On D.M. Chart 8h 2.4m by mistake.

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June 18, 1889.

Plate 2014.

	ν	H.	Type.	No. Rem.	No. Lines	K.	Focus	Lines Obtn.
h. m. 23. 00	16.4	17.6	H?	1	K	K=H	1	—
	16.5	17.7	F?	980	K	K=H	1	Seen.
	16.4	20.8	A		γ	K	2	—
	15.1	16.8	A?		HE	K	1	—
	15.8	8.3	A?		H	K	1	—
	15.4	10.1	A		H	K	1	—
	15.5	13.8	A		K	K=H	1	—
	15.9	14.6	F?	981	K	K=H	1	Seen
	15.5	19.5	A		β	K=H	1	—
	15.9	20.3	A		β	K	1	—
	15.7	22.4	A		H	K	1	—
	14.9	11.3	A		δ	K=3H	3	F.
	14.0	11.6	F	982	K	K=H	1	Seen
	14.9	13.3	K	983	K	K=1.2H	2	F. Br. Seen
	14.5	14.7	A?		H	K	1	—
	13.0	7.1	A		H	K	1	—
	13.0	13.7	K?	984	K	K=1.2H	3	Br. Seen.
	13.0	14.0	F	985	K	K=H	2	Seen.
	13.6	15.8	A?		H	K	1	—
	13.9	17.0	A		α	K	1	—
	13.3	18.2	F?	986	K	K=H	2	Seen.
	13.6	19.5	A		γ	K=.5H	2	F.
	13.0	20.1	A		γ	K	3	—
	13.8	20.9	A		δ	K	3	—
	13.5	21.4	A		α	K=H	1	—
	13.0	23.0	F	987	K	K=H	2	F. Seen.
	13.5	23.7	A?		K	K=H	1	—
	12.8	6.8	H?		K	K=H	1	—

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Dm. No.	R.A. Dec.	Mag.	R.A. 1900 Dec.	Diff.	Br.		
7 31.1 +74.4	335	7	30.8 + 74 23	7.3	7 36.7+74 17		6.7 6.6 6.6 6.6 6.9 6.9
7 30.0 +74.3	334	7	29.9 + 74 20	7.7	7 35.7+74 14		6.7 6.6 6.6
7 8.1 + 74.2	322	7	7.9 + 74 7	7.5	7 13.6 7 7.9+74 3	1	6.2 6.1 6.1
8 54.1 +74.6	R=386	8	53.8 +74 38	8.5	8 58.7+74 28		7.0 6.9 6.9
	387	8	54.0 + 74 43	9.2	8 58.9 + 74 33		
8 41.9 +74.5	382	8	41.3 + 74 33	8.1	8 46.3+74 23		7.1 7.0 7.0
8 28.7+ 74.8	374	8	28.5 + 74 50	8.5	8 33.7+74 41		7.3 7.2 7.3
7 58.8 + 74.9	350	7	58.8 + 74 55	8.5	8 4.3+74 48		7.2 7.1 7.2
7 53.9 +74.7	348	7	53.9 + 74 47	8.2	7 59.4+74 40	1	6.5 6.4 6.5
7 16.1 +74.6	327	7	15.9 + 74 38	8.0	7 21.7+74 33		6.5 6.4 6.5
7 10.9 +74.4	324	7	10.7 + 74 26	7.8	7 16.4 +74 21	2	6.4 6.3 6.3
6 55.5+74.2	314	6	55.3 + 74 11	9.2	7 1.0 +74 7		7.2 7.1 7.1
8 20.1 +75.2	342	8	19.8 + 75 13	6.4	8 25.2 +75 4	3	5.2 5.1 5.2
8 18.4 +75.6	341	8	18.0 + 75 40	8.3	8 23.5+75 31		6.6 6.5 6.6
8 5.0 +75.3	334	8	4.6 + 75 17	6.5	8 10.1 +75 9	1	5.8 5.7 5.8 6.0 5.9 6.0
7 52.7 +75.4	325	7	52.8 + 75 21	8.8	7 58.5 +75 14	7	7.1 7.0 7.1
	363	8	55.1 + 75 46	9.1	9 0.2 +75 36		
8 55.0 +75.6	362	8	54.6 + 75 40	8.9	8 59.7+75 30		7.1 7.0 7.1
8 1.5 +76.2	310	8	1.2 + 76 11	6.0	8 7.0 +76 4	2	5.2 5.1 5.2 5.4 5.3 5.4
7 58.3 +76.2	308	7	58.5 + 76 10	7.5	8 4.3 +76 3	1	6.3 6.2 6.3
7 43.1 +75.8	321	7	43.4 + 75 50	8.1	7 49.3+75 43		7.1° 6.9 7.0
7 33.8 +75.6	316	7	33.4 + 75 35	8.8	7 39.3+75 29		7.1 7.0 7.1
7 24.0 +75.8	312	7	23.2 + 75 53	7.7	7 29.3 +75 48	0	6.2 6.1 6.2
7 13.0 +75.6	305	7	12.9 + 75 36	8.0	7 18.9 +75 31	1	6.4 6.3 6.4
7 7.9 +75.8	305	7	7.6 + 75 52	7.7	7 13.7 +75 48	3	5.6 5.5 5.6
7 2.6 +75.4	296	7	2.8 + 75 20	7.0	7 8.8 +75 16	3	5.4 5.3 5.4
6 58.2 +75.5	291	6	58.0 +75 26	8.3	7 4.0+75 22		7.1 7.0 7.1
6 44.6 +75.6	281	6	44.7 + 75 26	6.8	7 50.8 +75 23	0	6.1 6.0 6.1
6 42.0 +75.2	276	6	41.6 +75 8	8.2	6 47.6 +75 5		6.9 6.8 6.9
8 58.1 +75.8	365	8	57.8 + 75 52	7.0	9 2.9 +75 41	3	6.7 6.6 6.7 6.9 6.8 6.9

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June, 18, 1889.

Plate. 2014.

v.	H.	Type.	Rem.	Nr.	Lines	K.	Focus	Lines.	Obser.
12.2	8.2	A			K	K=H	1	—	
12.7	11.2	A			H	H	1	—	
12.1	14.0	F.		988	K	K=H	2	F.	
12.9	14.3	A			β	K=.5H	2	—	
12.4	15.5	H?			K	K=H	1	—	
12.2	17.2	H?			K	K=H	1	—	
12.8	17.8	A			α	K=H	1	—	
12.5	17.9	A?			H	H	1	—	
12.8	18.6	F.		989	K	K=1.2H	2	Seen	
12.7	23.0	A			K	K=H	1	F.	
12.8	23.8	H?			K	K=H	1	—	
11.5	6.0	A			β	H	2	—	
11.8	13.5	A			H	H	1	—	
11.2	14.7	H?			H	H	1	—	
11.2	22.3	A			H	H	1	—	
10.9	8.6	F?		990	K	K=H	1	Seen	
10.3	11.9	F.		991	K	K=H	2	Seen	
10.4	12.7	F.		992	K	K=H	2	Seen	
10.6	13.2	D		993	K	K=H	2	Seen.	
10.5	17.2	H?			K	K=H	1	—	
10.7	18.6	H			H	H	1	F.	
10.2	18.9	A			K	K=H	1	—	
10.4	19.2	G.		994	K	K=H	2	Seen	
9.2	4.5	A			δ	H	3	—	
9.3	8.3	A			α	K=H	1	—	
9.2	14.8	F		995	K	K=H	2	F Seen.	
9.3	15.9	F?		996	K	K=H	1	Seen	
9.4	16.1	B		997	δ	K=.5H	3	Seen	

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Dm. No.	R.A.	Dec.	May.	R.A. 1900	Dec.	Diff.	Bz.		
8 47.2 +76.3	336	8 47.4 + 76 15	8.3	8 52.7 +76 5		1	6.7	6.6	6.7
8 22.4 +76.3	327	8 22.2 + 76 17	9.3	8 27.8 +76 8			7.0	6.9	7.0
7 58.8 +76.6	309	7 59.0 + 76 39	8.3	8 4.9 +76 32		3	6.6	6.4	6.5
7 48.56 +76.34	307	7 55.9 + 76 16	7.8	8 1.8 +76 9		2			
7 56.8 +76.7	327	7 55.0 + 75 47	8.4	8 0.8 +75 46			6.4	6.3	6.4
7 45.9 +76.5	303	7 45.2 + 76 26	8.8	7 51.2 +76 19			7.2	7.1	7.2
7 30.2 +76.4	296	7 29.3 + 76 22	8.6	7 35.4 +76 16			7.3	7.2	7.3
7 26.3 +76.2	293	7 26.0 + 76 8	8.5	7 32.1 +76 2			6.5	6.4	6.5
7 25.9 +76.5	290	7 24.1 + 76 18	8.6	7 31.7 +76 13					
	292	7 25.3 + 76 24	8.0	7 31.5 +76 19			7.4	7.3	7.4
7 19.8 +76.2	284	7 19.8 + 76 6	7.3	7 25.9 +76 1		0	6.3	6.2	6.3
6 44.6 +75.6	280	6 44.7 + 75 36	7.0	6 50.8 +75 33		2	6.5	6.4	6.5
6 39.2 +75.4	273	6 39.0 + 75 22	7.5	6 45.1 +75 19		0	6.6	6.5	6.6
9 7.8 +76.3	348	9 6.8 + 76 17	8.1	9 11.9 +76 6		2	6.4	6.3	6.4
8 3.6 +76.8	316	8 2.8 + 76 48	8.2	8 8.8 +76 40			7.0	6.9	7.0
7 51.8 +77.1	313	7 52.0 +77 3	8.0	7 58.1 +76 56			7.0 / 7.25	6.9 / 7.1	7.0 / 7.2
6 46.5 +76.4	258	6 46.4 +76 21	8.0	6 52.4 +76 18			7.0	6.9	7.0
8 46.5 +76.9	335	8 46.2 + 76 58	7.5	8 51.7 +76 48		6	6.6	6.5	6.6
8 19.0 +77.5	337	8 18.4 + 77 30	7.2	8 24.4 +77 21		2	5.9	5.8	5.9
8 9.0 +77.5	330	8 10.3 + 77 32	7.7	8 16.4 +77 24		0	6.2	6.1	6.2
8 6.1 +77.4	327	8 5.7 + 77 25	7.0	8 11.8 +77 17		0	6.2 / 6.7	6.1 / 6.6	6.2 / 6.7
7 28.2 +77.3	297	7 28.2 + 77 20	8.0	7 34.6 +77 14		0	6.6	6.5	6.6
7 16.0 +77.2	290	7 15.6 + 77 8	8.0	7 22.0 +77 3			6.9 / 7.4	6.8 / 7.3	6.9 / 7.4
7 11.9 +77.4	289	7 12.0 + 77 21	8.9	7 18.5 +77 16			7.0	6.9	7.0
7 10.5 +77.3	286	7 10.6 + 77 14	7.4	7 17.1 +77 9		2	6.5	6.4	6.5
9 0.1 +77.6	359	8 59.8 + 77 40	6.8	9 5.3 +77 29		0	5.6	5.5	5.6
8 52.9 +77.7	355	8 52.3 + 77 41	8.7	8 57.9 +77 31			6.8	6.7	6.7
7 50.9 +78.1	278	7 50.7 + 78 2	7.5	7 57.2 +77 53		4	6.7	6.6	6.6
7 40.0 +78.1	273	7 39.4 +78 1	7.7	7 46.0 +77 53		10	7.2	7.1	7.1
7 37.2 +77.9	303	7 37.0 +77 56	7.0	7 43.6 +77 50		5	5.2	5.1	5.1

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June, 18, 1889.

Plate 2014

v.	M.	Type.	Rem.	Lines	K.	Focus	Lines	Other
9.2	19.3	A		β H	1	—		
9.8	21.0	A		H H	1	—		
9.6	22.3	K	998	K	K=1.2H	4	Br, Seen.	
8.7	6.9	F	999	K	K=H	1	Seen	
8.6	8.9	A		H H	1	—		
8.9	10.9	A		K	K=H	2	—	
8.0	12.8	F	1000	K	K=H	2	Seen	
8.6	13.4	A		K	K=.8H	2	—	
8.1	16.7	F	1001	K	K=H	2	Seen	
8.2	19.3	A		K	H	2	—	
8.4	19.8	F	1002	K	K=H	2	Seen	
8.9	23.3	A		β H	2	—		
8.3	23.6	A		H H	1	—		
7.4	7.7	A		H H	1	—		
7.8	10.0	A		β	K=H	3	—	
7.9	10.8	M?		H H	1	—		
7.1	16.3	E?		K	K=H	1	—	
7.0	18.5	F	1003	K	K=H	2	Seen	
7.4	22.6	E?		K	K=H	1	—	
7.2	22.7	E?		K	K=H	1	—	
7.0	24.0	H?		H	H	2	—	
7.0	24.5	A		K	K=H	1	—	
6.3	7.4	F?	1004	K	K=H	1	Seen	
6.1	14.7	A		K	K=H	1	—	
6.5	18.8	F	1005	K	K=H	1	Seen	
6.6	20.3	A		δ H		3	—	
6.4	24.6	A?		H	H	1	—	
5.0	6.2	A		K	K=H	2	—	

6.6
6.8

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DM. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Diff.	Br.		
7	7.0	+77.7	284	7	6.9 +77 46	8.5	7 136 +77 42		6.5	6.4	6.4
6	53.0	+77.3	276	6	52.9 +77 16	8.5	6 594 +77 13		6.9	6.8	6.9
6	39.0	+77.2	266	6	38.8 +77 9	4.7	6 45.5 +77	4	4.7 5.4	4.6 5.3	4.7 5.4
9	6.0	+77.8	364	9	5.9 +77 50	8.3	9 11.4 +77 39		7.0	6.9	6.9
8	48.0	+78.1	298	8	48.1 +78 5	9.0	8 539 +77 55		7.4	7.3	7.3
8	29.1	+78.2	291	8	29.0 +78 12	7.0	8 35.1 +78	1	6.1	6.0	6.0
8	11.2	+78.6	287	8	10.6 +78 41	6.8	8 17.1 +78 33	0	6.1	6.0	6.0
8	4.5	+78.4	284	8	4.4 +78 23	7.5	8 10.9 +78	1	6.3	6.2	6.2
7	31.0	+78.6	270	7	30.3 +78 35	8.0	7 37.1 +78	1	6.5	6.4	6.4
7	4.2	+78.3	251	7	4.2 +78 19	7.0	7 11.0 +78	4	5.5	5.4	5.4
7	1.2	+78.2	246	7	0.9 +78 10	7.0	7 7.7 +78	2	6.4	6.3	6.3
6	30.9	+77.5	259	6	30.8 +77 22	7.8	6 37.4 +77	2	6.3	6.2	6.3
R	254			6	26.1 +77 36	8.9	6 32.8 +77 34				
6	24.0	+77.5	255	6	26.7 +77 31	8.7	6 33.5 +77 29		6.7	6.6	6.7
9	2.2	+78.5	303	9	2.1 +78 34	7.9	9 7.9 +78	6	6.9	6.8	6.8
8	39.3	+78.1	297	8	39.4 +78 42	6.9	8 45.5 +78	1	5.8	5.7	5.7
8	31.6	+78.7	293	8	31.4 +78 42	6.5	8 37.7 +78 33	5	6.6 6.9	6.5 6.8	6.5 6.8
7	33.9	+79.1	268	7	33.1 +79 6	8.8	7 40.1 +79 0		7.2	7.1	7.1
7	10.2	+78.9	254	7	10.4 +78 60	6.8	7 17.4 +78	0	6.2	6.1	6.1
6	31.8	+78.2	234	6	31.8 +78 10	7.3	6 38.7 +78	1	6.5	6.4	6.4
6	30.2	+78.3	233	6	30.2 +78 14	7.8	6 37.1 +78	7	6.7	6.6	6.6
6	18.1	+78.2	227	6	18.0 +78 7	6.0	6 24.9 +78	1	15.9 6.3	5.8 6.2	5.8 6.2
6	14.1	+78.6	244	6	14.2 +77 60	7.5	6 21.0 +77	4	6.3	6.2	6.2
9	8.4	+79.1	305	9	8.6 +79 2	7.4	9 11.4 +78	2	6.5	6.4	6.4
7	50.7	+79.6	267	7	50.4 +79 37	8.5	7 57.5 +79 30		6.9	6.8	6.8
7	6.7	+79.2	237	7	6.4 +79 9	8.3	7 13.6 +79 5		6.8	6.7	6.7
6	51.0	+78.9	240	6	50.7 +78 59	6.7	6 57.8 +78 56	3	5.4	5.3	5.3
6	11.0	+78.3	226	6	10.5 +78 17	7.5	6 17.4 +78 16	7	6.3	6.2	6.2
9	24.9	+79.5	316	9	24.8 +79 28	7.5	9 30.4 +79 16	1	6.4	6.3	6.3

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June 18, 1889.

Plate. 2014

V.	H.	Type.	Rem.	Lines	K.	Focus.	No. Lines	Other Lines.
5.0	8.8	A?		α	N	2	—	
5.2	9.9	A		γ	K=1.2H	2	—	
5.0	11.6	A		H	N	1	—	
5.4	12.6	F	1006	K	K=H	1	Seen	
5.7	13.1	A		H	N	1	—	
5.6	14.3	F	1007	K	K=H	2	Seen	
5.8	15.3	A		θ	N	5	F.	
5.0	15.8	F	1008	K	K=H	2	Seen.	
5.6	16.1	H?		K	K=H	1	—	
5.5	21.2	F?		K	K=H	1	—	
5.7	21.7	A		H	N	1	—	
4.2	6.0	A		γ	K=H	3	—	
4.1	11.1	A		γ	N	3	—	
4.2	11.4	A		K	K=H	1	—	
4.2	16.0	F?	1009	K	K=H	3	F. Seen	
4.3	22.3	F?	1010	K	K=H	4	Seen	
4.0	22.9	A		β	K=H?	3	—	
3.2	11.8	A		β	K=H	1	—	
2.3	10.2	F?	1011	K	K=H	3	Seen	
2.0	15.9	H		K	K=H	1	—	
2.8	17.8	F?	1012	K	K=H	2	Seen	
1.9	18.3	A		H	N	3	—	

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Hr.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	DC	Diff.	Br.		
8	58.0	+79.8	300	8	57.6	+79 52	7.3	9	3.8	+79 41	2	6.2	6.1	6.1
8	45.9	+79.9	294	8	45.4	+79 55	7.0	8	51.8	+79 45	0	6.0	5.9	5.9
8	27.0	+80.2	286	8	25.9	+80 11	8.4	8	32.8	+80 2		7.1	7.0	7.0
8	14.9	+80.0	258	8	13.8	+80 0	8.8	8	20.8	+79 52		6.8	6.7	6.7
8	9	+79.8	278	8	8.2	+79 52	8.6	8	15.2	+79 44		7.2	7.1	7.1
7	57.2	+79.9	269	7	57.0	+79 56	7.8	8	1.2	+79 49	0	6.3	6.2	6.2
7	42.0	+79.8	265	7	41.9	+79 52	5.8	7	49.1	+79 45	2	4.0	3.9	3.9
7	36	+80.2	240	7	35.8	+80 14	8.3	7	43.3	+80 7	1	6.3 6.8	6.2 6.7	6.2 6.7
7	33.9	+79.8	259	7	33.3	+79 53	8.0	7	40.7	+79 47		6.8 7.3	6.7 7.2	6.7 7.2
6	38.5	+79.4	222	6	38.4	+79 20	8.0	6	45.7	+79 17		7.2	7.1	7.1
6	35.0	+79.2	218	6	34.9	+79 8	9.1	6	42.1	+79 6		6.9	6.8	6.8
9	31	+79.8	319	9	29.8	+79 48	6.0	9	33.4	+79 36	1	5.2	5.1	5.1
8	35	+80.5	272	8	34.0	+80 34	7.3	8	40.9	+80 24	1	5.8	5.7	5.7
8	31	+80.5	268	8	29.5	+80 31	8.3	8	36.5	+80 22		6.8	6.7	6.7
7	33	+80.6	238	7	32.1	+80 37	6.5	7	39.9	+80 31	0	5.7	5.6	5.5
6	23	+79.7	212	6	21.4	+79 42	5.5	6	29.2	+79 41	3	4.6	4.5	4.5
6	16	+79.7	208	6	15.4	+79 41	6.3	6	23.1	+79 40	2	5.2	5.1	5.1
8	27	+81.1	270	8	26.5	+81 0	8.0	8	33.8	+80 51	1	6.7	6.6	6.5
8	50	+81.4	282	8	49.2	+81 24	6.7	8	56.3	+81 14				
7	31	+81.7	257	7	30.4	+81 42	7.2	7	38.9	+81 30				
7	9	+81.2	255	7	8.0	+81 11	7.0	7	16.4	+81 6	4	6.1	6.0	5.9
6	58	+81.5	242	6	57.1	+81 30	6.3	7	6.4	+81 26				

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St. Lt. 5.3 F. M. & C. 6.3-6.4 F. bl. 7.2 Box No. 536

Dark Plate R. A. 9h 56m Dec. +76.8

July 1st, 1889.

Plate 2509

	V.	H	Type.	No.	Lines.	K	Focus		Other Lines
2.40	21.2	13.6	A'		β	K=.5H?		3	—
	21.7	14.7	H?		K	K=H		1	—
	20.0	15.0	H		K	K=H		1	—
	20.0	17.2	A		β	K=H		1	—
	19.0	13.0	F?	1013	K	K=H		1	Seen
	19.4	14.5	A?		H	K		1	—
	19.0	18.8	K	1014	K	K=1.5H		3	Br. Seen
	19.0	19.7	F	1015	K	K=H		1	Seen
	18.1	6.0	A?		α	K		2	—
	18.5	13.6	H?		K	K=H		2	—
	18.2	15.2	F		K	K=H		1	—
	18.6	16.0	F		K	K=H		1	—
	18.8	20.1	F	1016	K	K=1.5H		3	Seen
	18.3	20.8	A		H	K		1	—
	18.3	22.7	A		H	K		1	—
	19.3	23.5	F?	1017	K	K=H		1	—
	17.3	13.8	A		β	K=.8H		2	F.
5.8 6.2	17.7	16.5	M?		K	K=H		2	—
	17.8	19.2	A		β	K=H		2	—
	17.1	19.4	A		β	K=H		3	F.
	16.1	7.3	A		H	K		1	—
	16.6	12.0	H		K	K=H		1	—
	16.3	13.0	A		K	K=H		1	—
	16.4	16.4	A		H	K		1	—
	16.8	22.7	A		β	K=H		3	F.
	15.0	5.8	H		K	K=H		1	—
	15.1	7.6	A?		K	K=H		1	—
	15.6	10.7	F?	1018	K	K=H		1	Seen

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DM. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	DC Mean Mag.	Diff.	Mean −3 Br. B.	Mean	Cor. B + Cor δ
10	6.2 +71.8	534	10	6.1 +71°47	6.3	10	9.8 +71 34	6.13	4	5.9	5.6	5.4
9	59.1 +71.5	529	9	59.2 +71 34	7.5	10	3.0 +71 21			6.9	6.6	6.4
9	56.9 +72.4	479	9	56.9 +72 23	7.5	10	0.8 +72 10			7.1	6.8	6.6
9	41.2 +72.4	473	9	41.2 +72 21	7.1	9	45.3 +72 9	6.75	5	7.4	7.1	6.9
10	11.2 +72.9	486	10	11.0 +72 54	8.4	10	14.7 +72 41	6.15	4	6.7	6.4	6.2
10	1.4 +72.7	482	10	0.9 +72 43	9.0	10	4.8 +72 30	6.19		7.0	6.7	6.6
9	29.9 +72.9	466	9	29.5 +72 55	5.3	9	33.8 +72 42	6.7		7.3	7.0	6.9
9	24.0 +72.7	464	9	23.6 +72 43	7.3	9	27.9 +72 32	5.98	0	5.3	5.0	4.9
10	59.1 +72.7 R	515	10	58.5 +72 43	7.0	11	1.6 +72 28	5.31		5.8	5.5	5.4
10	7.1 +73.2 R	491	10	7.1 +73 10	7.6	10	10.9 +73 57	6.99	4	6.8	6.5	6.4
9	55.7 +73.4	484	9	54.9 +73 18	7.8	9	58.9 +73 5	6.38				
9	49.2 +73.1	481	9	49.0 +73 7	8.2	9	53.1 +72 54	6.79	R	6.5	6.2	6.0
9	21.2 +72.8	462	9	21.2 +72 50	6.0	9	25.4 +72 39	7.00		6.5	6.2	6.1
9	16.1 +72.9	456	9	16.2 +72 57	7.8	9	20.6 +72 46	6.87		6.7	6.4	6.3
9	3.9 +72.8	449	9	3.8 +72 48	8.5	9	8.3 +72 37	7.09		7.1	6.8	6.7
9	0.0 +72.3	444	8	59.8 +72 15	6.3	9	4.3 +72 4	6.47	6	7.1	6.8	6.7
10	6.0 +73.8	489	10	5.7 +73 48	6.5	10	9.6 +73 35	5.96	0	5.3	5.0	4.9
9	45.9 +73.5	478	9	45.3 +73 33	6.3	9	49.4 +73 21	6.32		7.2	6.9	6.8
9	26.2 +73.4	471	9	25.7 +73 23	7.0	9	30.1 +73 11	6.70	5	7.3	7.0	6.9
9	24.0 +73.7	470	9	24.0 +73 44	6.5	9	28.4 +73 32	6.80		6.6	6.3	6.1
10	53.8 +73.9	504	10	53.0 +73 52	8.5	10	56.3 +73 38	6.36	4	5.7	5.4	5.4
10	19.9 +74.1	436	10	19.5 +74 4	7.0	10	23.2 +73 50	5.78	0	5.8	5.5	5.4
10	12.7 +74.2	433	10	12.4 +74 12	9.0	10	16.3 +73 59	7.49		6.3	6.0	5.9
9	45.8 +74.2	414	9	45.3 +74 11	8.7	9	49.5 +73 58	6.76	0	6.2	5.9	5.7
9	1.8 +73.6	452	9	1.2 +73 32	6.0	9	5.8 +73 22	6.58	1	6.1	5.8	5.7
11	5.9 +74.3	456	11	5.6 +74 16	6.5	11	8.7 +74 1	6.20	0	5.6	5.3	5.3
10	52.5 +74.4	452	10	52.5 +74 25	8.2	10	55.8 +74 11	5.56				
10	30.8 +74.5	440	10	29.6 +74 32	7.3	10	33.2 +74 18	7.08	2	7.5	7.2	7.2
								6.43		6.6	6.3	6.3
										7.0	6.7	6.7
										7.1	6.8	6.8
										7.0	6.7	6.7
								5.79	1	5.3	5.0	4.9
								7.16	4	6.9	6.6	6.6
								6.58		7.3	7.0	7.0
								7.04	2	7.1	6.8	6.8
								6.87		6.6	6.3	6.3

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r.	h.	Type.	Rem.	Lines	K.	Focus.	Lines. Other.
15.6	11.7	A		β	K,	2	—
15.6	12.0	A		α	K=H,	1	—
15.7	14.4	A		α	K	1	—
15.3	20.2	H?		K	K=H	1	—
~~14.0~~	~~8.7~~	~~A~~		~~H~~	~~K~~	~~1~~	~~—~~
14.5	9.5	A		K	K=H	1	—
Recorded below	~~14.0~~	~~13.1~~	~~F?~~	~~K~~	~~K=H~~	~~1~~	~~—~~
14.8	15.3	A		H	K,	1	—
14.0	15.9	D,	1019	K	K=H,	2	Seen
14.7	17.0	A		H	K,	1	—
14.7	17.3	H?		K	K=H	1	—
14.2	18.2	A?			K=H	3	F.
14.6	19.1	A		α	K=H,	1	—
14.7	19.4	A			K	3	F.
14.9	21.7	D?	1020	K	K=H	2	Seen
13.6	7.9	A?		H	K	1	—
13.0	8.5	F.	1021	K	K=H	1	Seen
13.9	8.7	A		H	K	1	—
13.8	13.1	F?		K	K=H	1	—
13.0	18.9	K?	1022	K	K=1.5H	2	Seen
13.0	20.3	A		β	K	3	F.
13.3	21.1	A		β	K	2	F.
12.0	12.0	K	1023	K	K=2.0H	3	Br. Seen
12.1	13.3	H		K	K=H	1	—
12.1	14.1	A?		K	K=H	1	—
12.5	14.3	F?	1024	K	K=H	1	Seen
12.0	15.0	A		H	K	1	—
12.0	17.3	A?		H	K	1	—
12.5	15.5	H?		K	K=H	1	—

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean.	Diff.	Br.		
	h.			h. m.	° ′					
10 22.2	+74.6	438	10	22.4	+74 35	7.4	2	6.4	6.1	6.1
10 20.0	+74.5	437	10	19.9	+74 32	7.8	4	6.8	6.5	6.5
9 58.5	+74.6	427	9	58.6	+74 35	7.7	2	6.5	6.2	6.2
9 16.6	+74.6	399	9	16.5	+74 35	8.0	7	7.0 7.2	6.7 6.9	6.7 6.9
~~10 46.4~~	~~+75.1~~	~~429~~	10	46.6	+75 7	8.0		7.3		
10 39.7	+74.9	446	10	39.4	+74 55	8.1		7.1	6.8	6.9
10 12.2	+75.5	412	10	12.1	+75 31	8.2	5	7.1		
9 52.9	+75.0	400	9	53.0	+75 1	8.5		7.4	7.1	7.2
9 49.0	+75.5	399	9	48.4	+75 27	7.2	2	6.3 6.5	6.0 6.2	6.1 6.3
9 40.7	+75.1	397	9	40.5	+75 5	9.0		7.5	7.2	7.3
9 38.2	+75.1	396	9	38.3	+75 6	8.2		7.0 7.2	6.7 6.9	6.8 7.0
9 30.3	+75.3	386	9	30.1	+75 15	6.8	1	5.9	5.6	5.7
9 23.9	+74.9	403	9	23.4	+74 60	8.2	4	6.7	6.4	6.5
9 21.9	+74.9	402	9	21.6	+74 59	7.3	1	5.4	5.1	5.2
9 4.6	+74.6	393	9	4.8	+74 37	6.5	2	6.2 6.4	5.9 6.1	5.9 6.1
10 53.9	+75.2	434	10	53.2	+75 10	8.4		7.1	6.8	6.9
10 49.8	+75.5	431	10	49.6	+75 34	8.0	2	6.9	6.6	6.7
10 46.5	+75.1	429	10	46.6	+75 7	8.0		7.1	6.8	6.9
10 12.0	+75.5	412	10	12.1	+75 31	8.2	4	7.0	6.7	6.8
9 24.0	+75.8	386	9	23.7	+75 51	6.8	1	6.2 6.4	5.9 6.1	6.0 6.2
9 12.2	+75.7	3779	9	12.6	+75 44	6.2	0	5.1	4.8	4.9
9 7.0	+75.5	370	9	6.6	+75 31	7.3	2	6.3	6.0	6.1
10 22.5	+76.5	393	10	22.6	+76 28	5.0	2	4.9 5.2	4.6 4.9	4.7 5.0
10 12.0	+76.4	386	10	11.8	+76 24	7.7		6.9 7.3	6.6 7.0	6.7 7.1
10 4.2	+76.6	4 382	10	4.6	+76 22	9.0		7.2	6.9	7.0
~~10 4.2~~	~~+76.6~~	~~381~~	10	4.0	+76 23	8.8				
10 3.9	+76.2	380	10	3.3	+76 10	8.3	8	7.2	6.9	7.0
9 56.0	+76.5	375	9	55.7	+76 31	8.4		7.3	7.0	7.1
9 35.8	+76.4	366	9	35.1	+76 23	9.1		7.5	7.2	7.3
9 26.0	+76.1	360	9	25.8	+76 5	7.3	2	6.4 6.8	6.1 6.5	6.2 6.6

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⊼ H.	Typ.	Rem.	No. Lines	K.	Focus	Lines	Other Lines
12.3 22.0	F ?		1025	K	K=H	1	—
11.8 6.3	F ?			K	K=H	1	—
11.4 6.7	H ?			K	K=H	1	—
11.8 8.4	H			K	K=H	1	—
11.3 9.1	F		1026	K	K=H	2	Seen
11.0 10.1	A			β	K=H	2	F.
11.0 17.6	A ?			K	K=H	1	—
11.0 8.1	H			K	K=H	1	—
11.0 18.4	G ?			K	K=H	1	—
11.1 20.1	A			H	K	1	—
11.8 20.8	A			α	K	1	—
11.1 23.0	F		1027	K	K=H	1	Seen
10.3 11.7	A			α	K	1	—
Recorded below ~~10.0 12.3~~	~~H~~			~~K~~	~~K=H~~	~~1~~	~~—~~
10.3 16.3	F ?		1028	K	K=H	1	Seen
10.9 17.6	A ?			H	K	1	—
10.0 17.7	F ?		1029	K	K=H	1	Seen
9.2 6.5	A ?			H	K	1	—
9.8 6.9	A			K	K=H	1	—
9.7 8.7	F		1030	K	K=H	1	Seen
9.2 10.7	A ?			H	K	1	—
9.9 12.3	H			K	K=H	1	—
9.1 17.8	A ?			H	K	1	—
9.1 19.3	A			H	K	1	—
8.0 7.2	A			H	K	1	—
8.9 10.1	M ?			H	K	1	—
8.4 11.5	A			β	K	2	—
8.8 11.7	A			β	K	2	—
8.4 12.8	H ?			K	K=H	1	—

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Br.		
8 58.0	+75.8	365	8 57.8	+75°52	7.6	9 2.9	+75 41	6.43	3	6.7	6.4	6.5
11 9.8	+75.9	439	11 9.5	+75 52	7.8	11 12.6	+75 37	6.69	7	7.3	7.0	7.1
11 7.8	+76.2	421	11 7.1	+76 9	7.6	11 10.3	+75 54	6.43	6	7.0	6.7	6.8
										7.4	7.1	7.2
10 52.9	+76.2	411	10 52.6	+76 13	8.0	10 56.1	+75 59	6.43	1	6.5	6.2	6.3
										6.9	6.6	6.7
10 48.0	+76.5	406	10 48.0	+76 30	7.3	10 51.5	+76 16	6.27	2	6.5	6.2	6.3
						10 43.5	+76 32	~~5.78~~				
10 39.9	+76.8	402	10 39.8	+76 46	7.0	10 ~~51.5~~	+76 ~~16~~	6.0	0	6.0	5.7	5.8
9 32.2	+76.9	363	9 32.0	+76 58	8.5	9 36.9	+76 46	6.48	6	7.0	6.7	6.8
										7.0	6.7	6.8
9 22.5	+76.8	358	9 22.4	+76 48	8.0	9 27.4	+76 36			7.2	6.9	7.0
9 24.4	+76.8	359	9 24.5	+76 53	8.8	9 29.5	+76 41			7.2	6.9	7.0
R.9 11.0	+76.6	351	9 11.2	+76 33	8.9	9 16.3	+76 22			7.3	7.0	7.1
		350	9 10.5	+76 41	9.2	9 15.7	+76 30					
9 7.0	+76.4	348	9 6.8	+76 17	8.1	9 11.9	+76 6	6.29	3	6.5	6.2	6.3
8 47.2	+76.3	336	8 47.4	+76 15	8.3	8 52.7	+76 5	6.53	3	6.9	6.6	6.7
10 27.1	+77.2	405	10 26.8	+77 12	8.3	10 30.8	+76 58	6.32	3	6.7	6.4	6.5
~~10 22.3~~	~~+77.5~~	~~404~~	~~10 21.9~~	~~+77 28~~	~~7.8~~	10 26.0	+77 14	6.35	2	~~6.6~~		
										~~6.5~~		
9 43.1	+77.3	389	9 43.0	+77 18	7.4	9 47.7	+77 6	6.39	4	6.7	6.4	6.5
9 32.2	+76.9	363	9 32.0	+76 58	8.5	9 36.9	+76 46	6.48	7	7.1	6.8	6.9
9 31.0	+77.4	379	9 30.4	+77 23	8.4	9 35.4	+77 11	6.69	4	7.0	6.7	6.8
11 14.2	+77.2	433	11 13.9	+77 7	8.5	11 17.0	+76 52			7.3	7.0	7.1
11 10.0	+76.9	423	11 9.6	+76 58	8.3	11 12.8	+76 43	6.65	5	7.1	6.8	6.9
10 54.5	+77.3	419	10 54.2	+77 14	8.4	10 57.7	+77 0	6.48	0	6.5	6.2	6.3
10 37.1	+77.6	410	10 37.0	+77 38	8.3	10 40.9	+77 24	6.69	7	7.3	7.0	7.1
										6.5	6.2	6.3
10 22.1	+77.5	404	10 21.9	+77 28	7.8	10 26.0	+77 14	6.35	1	6.8	6.5	6.6
9 27.9	+77.8	378	9 27.8	+77 52	7.8	9 33.0	+77 40	6.19	10	7.1	6.8	6.8
9 14.3	+77.7	370	9 14.0	+77 41	8.5	9 19.4	+77 30	6.72	9	7.1	6.8	6.8
11 12.2	+77.8	432	11 12.3	+77 52	8.3	11 15.5	+77 37			7.2	6.9	6.9
										6.3	6.0	6.0
10 44.0	+77.8	412	10 43.4	+77 52	6.8	10 47.2	+77 38	6.38	1	6.8	6.5	6.5
10 30.6	+78.2	359	10 30.4	+78 11	7.0	10 34.5	+77 57	6.08	1	5.9	5.6	5.6
10 28.8	+77.9	406	10 28.6	+77 59	8.0	10 32.7	+77 45	6.34	2	6.2	5.9	5.9
										6.8	6.5	6.5
10 19.0	+78.3	349	10 18.6	+78 14	7.3	10 22.9	+78 0			7.0	6.7	6.7

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v.	H.	Type.	No. Rem.	Lines.	K.	Four.	Other Lines
8.6	14.3	F?	1031	K	K=H	1	Seen
8.5	15.0	A		H	K	1	—
8.4	18.0	F	1032	K	K=H	1	Seen
8.0	18.8	A?		H	K	1	—
8.7	20.1	A		K	K=H	1	—
8.9	20.8	A		δ	K	2	F.
8.6	21.6	F.	1033	K	K=H	1	Seen
7.4	7.3	F	1034	K	K=H	2	Seen
7.6	7.8	A?		K	K=H	1	—
7.0	8.9	H?		K	K=H	1	—
7.5	9.8	F?		K	K=H	1	—
7.4	9.9	K?	1035	K	K=1.5H	3	Br. Seen.
7.1	12.3	F	1036	K	K=H	1	Seen
6.5 6.7 7.7	16.4	M?	1037	H	K	1	—
7.4	17.5	d	1038	K	K=H	2	Seen
7.0	18.3	A?		K	K=H	1	—
7.2	20.2	F?	1039	K	K=H	1	Seen
6.4	5.9	H?		H	K	1	—
6.9	13.8	d	1040	K	K=H	1	Seen
6.0	14.1	A		γ	K	1	—
6.6	19.4	F?	1041	K	K=H	1	—
6.4	22.3	F.	1042	K	K=H	2	Seen F.
6.9	23.6	F	1043	K	K=H	1	Seen
5.9	8.5	d?	1044	K	K=H	2	Seen
5.1	10.3	F.	1045	K	K=H	1	Seen
5.7	14.6	A		δ	K	3	F
5.3	17.2	A		δ	K=.8H	3	F
5.9	17.7	A?		K	K=H	1	—

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D.M. No.	R.A.	Dec.	Mag.	R.A. (1900)	Dec.	Mean	Diff.	Br.		
	h. m.	° ′		h. m.	° ′					
10 3.9	+78.2	340	10	3.5	+78 10	8.8		7.4	7.1	7.1
9 56.2	+78.2	337	9	56.3	+78 10	8.5		7.0	6.7	6.7
9 26.0	+78.2	315	9	25.9	+78 12	8.2		7.0	6.7	6.7
9 16.8	+78.3	310	9	17.0	+78 20	8.2		7.2	6.9	6.9
9 6.0	+77.8	364	9	5.9	+77 50	8.3		7.0	6.7	6.7
9 0.0	+77.6	359	8	59.8	+77 40	6.8		5.7	5.4	5.5
8 52.2	+77.6	355	8	52.3	+77 41	8.7		7.0	6.7	6.7
11 12.3	+78.2	385	11	12.8	+78 11	6.8		6.3	6.0	6.0
11 7.8	+78.1	381	11	7.0	+78 6	8.5		7.3	7.0	7.0
10 59.2	+78.5	375	10	58.9	+78 34	6.5		6.5 / 7.3	6.2 / 7.0	6.2 / 7.0
10 46.2	+78.4	368	10	48.6	+78 27	8.0		6.8	6.5	6.5
10 48.2	+78.5	367	10	48.2	+78 33	6.2		5.6 / 5.9	5.3 / 5.6	5.2 / 5.6
10 24.0	+78.8	354	10	24.1	+78 50	7.8		6.8	6.5	6.5
9 41.9	+78.6	327	9	41.0	+78 37	7.1		6.5 / 6.7	6.2 / 6.4	6.2 / 6.4
9 29.0	+78.8	317	9	28.8	+78 47	6.8		5.8 / 6.4	5.5 / 6.1	5.5 / 6.1
9 21.0	+78.9	312	9	20.8	+78 53	8.7		7.2	6.9	6.9
9 2.3	+78.5	303	9	2.1	+78 34	7.9		7.0	6.7	6.7
11 28.2	+78.4	392	11	28.5	+78 24	6.2		6.6 / 7.5	6.3 / 7.2	6.3 / 7.2
10 9.0	+79.1	330	10	8.8	+79 4	7.3		6.5 / 6.7	6.2 / 6.4	6.2 / 6.4
10 6.3	+79.5	329	10	6.4	+79 30	8.0		6.5	6.2	6.2
9 8.6	+79.1	305	9	8.6	+79 2	7.4		6.8	6.5	6.5
8 39.7	+78.7	294	8	39.4	+78 42	6.9		6.1	5.8	5.8
8 29.0	+78.2	291	8	29.0	+78 12	7.0		6.5	6.2	6.2
11 5.8	+79.1	356	11	5.4	+79 6	7.2		6.3 / 6.8	6.0 / 6.5	6.0 / 6.5
10 49.9	+79.6	348	10	49.4	+79 39	7.3		6.4	6.1	6.1
10 0.7	+79.6	328	10	0.8	+79 39	6.7		5.5	5.2	5.2
9 30.6	+79.8	319	9	29.8	+79 48	6.0		5.1	4.8	4.8
9 24.9	+79.5	316	9	24.8	+79 28	7.5		6.7	6.4	6.4

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V.	M.	Type.	No. Rem.	Lines.	K.	Focus.	No. Other Lines
4.5	11.1	H?		K	K=H'	1	—
4.9	12.1	A?		H	H',	1	—
4.6	20.0	B	1046		H	2	Seen
4.2	21.0	A		B	H	1	—
3.7	10.8	F?	1047	K	K=H	2	Seen
3.4	15.0	F	1048	K	K=H	1	Seen
3.2	17.4	A		H	H	1	—
3.1	19.1	A?		K	K=H'	1	—
2.5	12.5	A		B	H'	3	F
2.5	13.1	D	1049	K	K=1.5H	2	F.
2.9	16.0	F?		K	K=H	1	—
2.2	17.5	A		α	H	1	—
2.8	21.5	A		B	H'	2	F.
2.6	21.8	A		K	K=H'	1	—
1.4	19.8	F?	1050	K	K=H	3	F. Seen

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	D.C. Mean	Diff.	Br.		
	h. m.							6.7	{6.4	{6.4
10 42	+80.2	338	10 41.6	+80 6	7.5	10 45.7	+79 52	6.43	3	7.1 {6.8	6.8
10 30.1	+79.9	340	10 29.9	+79 57	9.0	10 34.3	+79 43			6.9 6.6	6.6
8 58.1	+79.8	300	8 57.6	+79 52	7.3	9 3.8	+79 41	6.04	2	6.2 5.9	5.9
8 46.9	+79.9	294	8 45.4	+79 55	7.0	8 51.8	+79 43	6.04	1	6.1 5.8	5.8
10 48	+80.4	347	10 46.5	+80 27	7.8	10 50.6	+80 13	6.14	1	6.2 5.9	5.9
9 56	+80.8	369	9 55.2	+80 47	9.3		+80 34			7.5 7.2	7.1
9 24.6	+80.7	295	9 24.2	+80 46	8.6		+80 34			7.5 7.2	7.1
9.4	+80.7	287	9 3.8	+80 44	7.8	9 10.2	+80 33	6.43	6	7.0 6.7	6.6
10 30	+81.2	349	10 28.9	+81 11	6.2	10 33.6	+80 57	5.18		. .	
10 21	+81.2	343	10 20.8	+81 14	6.2	10 25.7	+81 1	5.73		. .	
9 41	+81.1	319	9 41.0	+81 4	7.4	9 46.9	+80 52	6.43	5	6.9 6.6	6.5
9 23	+81.3	308	9 22.2	+81 18	8.9		+81 6			. .	
8 35	+80.5	272	8 34.0	+80 34	7.3	8 40.9	+80 21	5.73	2	5.9 5.6	5.6
8 31	+80.5	268	8 29.5	+80 31	8.3	8 36.5	+80 22			6.7 6.4	6.4
8 50	+81.4	282	8 49.2	+81 24	6.7	8 56.3	+81 14	5.89		. .	

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St. Lt. 5.3 F. M. 6.7.2-7.0. F. Ch. 7.4 Box No. 514

R.A. 11h 56m. Dec. + 76.8

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T. H.	Type	No. Rem.	Lines	K,	Focus	Lines	Other.
22.5	15.1	A			H,	1	—
20.4	10.4	A?		H	K	1	—
19.2	7.0	F?	1051	K	K=H	1	—
19.3	11.2	G	1052	K	K=H	1	Seen
19.7	14.1	A?		H	K	1	—
19.5	16.1	A?		K	K=H	1	—
19.0	16.0	A?		H	K	1	—
18.6	8.6	A?		K	K=H	1	—
18.5	9.5	F?	1053	K	K=H	1	—
18.0	10.3	F?	1054	K	K=H	1	—
18.2	13.0	G	1055	H	K	1	Seen
18.5	15.9	A		H	K	1	—
18.5	22.1	A		β	K	1	—
18.5	23.2	A		H	K	1	—
17.0	9.5	A?		K	K=H	1	—
~~17.0~~	~~16.1~~	~~A?~~		~~H~~	~~K~~	~~1~~	~~—~~
17.0	17.3	H		K	K=H	1	—
17.5	20.5	A		H	K	1	—
16.1	5.9	A		γ	K=H?	3	F.
16.8	12.1	A?		H	K	1	F.
16.6	14.2	A?		H	K	1	—
16.5	14.5	H?		K	K=H	1	—
17.0 17.2	16.8	16.1	M?	H	K	1	—
15.8	15.6	A?		H	K	1	—
15.5	8.3	A?		H	K	1	—
15.9	16.0	G	1056	K	K=H	2	F. Br. Seen.
15.7	21.5	A?		H	K	1	—
14.1	13.9	G?	1057	K	K=H	2	Seen Br. F.

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D.M. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Mean −.3	Bc.	B.+Mean +Cor. δ	Cor. Bc.
	h. m.			h. m.							
11 53.9	+71.1	598	11 53.3	+71° 2′	6.5	11 53.7	+70 47	568			
12 24.8	+72.1	569	12 24.7	+72 7	7.0	12 26.7	+73 52	639	6	6.9	6.6	6.4
12 47.4	+72.4	588	12 47.5	+72 21	7.8	12 49.1	+72 6	623	9	7.1	6.8	6.6
12 20.8	+72.7	565	12 20.1	+72 44	6.5	12 22.1	+72 29	619	3	6.4 / 6.9	6.1 / 6.6	5.9 / 6.4
12 0.6	+72.5	558	12 0.7	+72 37	8.3	12 3.0	+72 19			7.2	6.9	6.7
11 46.9	+72.7	550	11 46.3	+72 43	7.1	11 48.8	+72 28	659	4	6.9	6.6	6.4
11 47.1	+72.9	551	11 46.5	+72 57	8.0	11 49.0	+72 42			6.9	6.6	6.5
12 38.2	+72.8	578	12 38.3	+72 52	8.0	12 40.0	+72 37			7.0	6.7	6.6
12 32.3	+72.9	575	12 32.4	+72 56	8.1	12 34.2	+72 41	644	7	7.1	6.8	6.7
12 28.0	+73.3	559	12 27.5	+73 17	7.2	12 29.4	+73 2	643	5	6.9	6.6	6.5
12 8.9	+73.3	549	12 8.8	+73 22	6.5	12 11.0	+73 7	608	3	6.4 / 6.7	6.1 / 6.4	6.0 / 6.3
11 48.0	+73.2	537	11 47.3	+73 12	8.0	11 49.8	+72 57			6.2	5.9	5.8
11 5.9	+72.8	526	11 5.4	+72 48	7.0	11 8.4	+72 33	612	3	6.5	6.2	6.1
10 58.6	+72.8	515	10 58.5	+72 43	7.0	11 1.6	+72 28	618	3	6.5	6.2	6.0
12 34.0	+73.8	561	12 33.8	+73 48	7.0	12 35.6	+73 33	662	2	6.8	6.5	6.5
~~11 45.9~~	~~+74.1~~									~~6.8~~		
11 36.1	+73.9	532	11 36.3	+73 57	6.8	11 38.9	+73 42	653	2	6.7 / 7.2	6.4 / 6.9	6.4 / 6.9
11 15.2	+73.4	522	11 14.7	+73 26	8.0	11 17.6	+73 11			7.1	6.8	6.7
13 0.9	+73.7	583	13 0.3	+73 48	6.0	13 1.7	+73 33	557	2	5.8	5.5	5.5
12 15.9	+74.1	493	12 15.9	+74 2	8.0	12 17.9	+73 47			7.0	6.7	6.7
12 0.0	+74.2	485	12 0.0	+74 8	8.6	12 2.3	+73 53			7.2	6.9	6.9
11 58.1	+74.3	484	11 57.9	+74 15	7.2	12 0.2	+74 0			7.1 / 7.4	6.8 / 7.1	6.8 / 7.1
11 46.9	+74.1	475	11 46.4	+74 6	7.5	11 47.9	+73 51	679	3	7.0 / 7.3	6.7 / 7.0	6.7 / 7.0
11 50.3	+74.6	479	11 50.3	+74 35	8.8	11 52.7	+74 20			7.3	7.0	7.0
12 44	+74.4	509 / 510	12 43.9 / 44.0	+74 23	8.5	12 45.5 / 45.6	+74 8			7.2	6.9	6.9
11 45.9	+74.6	476	11 45.8	+74 34	6.7	11 48.3	+74 19	588	4	6.3	6.0	6.0
11 6.0	+74.3	456	11 5.6	+74 16	6.5	11 8.7	+74 1	668	3	6.9	6.6	6.6
12 3.8	+75.5	469	12 2.7	+75 28	6.7	12 4.9	+75 13	569	2	5.8	6.5	5.6

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T.	H.	Type.	Rem.	No. Lines.	K.	Focus.	Other Lines.
13.4	8.2	A?		H	K,	1	—
13.0	9.5	A		H	K	1	—
13.0	10.0	A?		K	K=H	1	—
13.6	11.1	A?		H	K	1	—
13.1	12.8	A		θ	K=1 H	4	F.
13.3	16.1	A		H	K	1	—
13.1	17.7	H?		K	K=H	1	—
13.5	22.6	F?	1058	K	K=H	1	Seen
12.0	8.4	H?		K	K=H	2	F
12.4	9.3	A		K	K=H	1	—
12.8	10.9	D	1059	K	K=H	1	Seen
12.7	16.2	F	1060	K	K=H	1	Seen
12.7	20.3	A		H	K	1	—
12.2	21.5	A?		H	K	1	—
12.6	22.8	F?		K	K=H	1	Seen
11.8	6.4	A		H	K	1	—
11.8	7.9	K?	1061	K	K=H	3	F. Seen
11.3	10.3	A?		K	K=H	1	—
11.9	12.0	A		H	K	1	—
11.1	11.0	H?		K	K=H	1	—
11.8	12.3	A		H	K	1	—
11.0	14.1	H?		K	K=H	1	—
11.2	14.7	A		β	K=H	2	F.
11.0	21.3	A?		H	K	1	—
11.5	22.1	A?		H	K	1	—
11.0	22.5	A?		K	K=H	1	—
10.0	11.6	H?		K	K=H	1	—
10.5	12.0	F	1063	K	K=H	1	—

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.		Bc.		
	h. m.	°		h. m.	°						
12 49.5	+75.4	489	12 49.2	+75 26	8.5	12 50.7	+75 11			7.2	6.9	7.0
12 39.2	+75.8	483	12 39.3	+75 48	8.9	12 40.9	+75 33			7.0	6.7	6.8
12 35.7	+75.8	480	12 35.4	+75 47	8.7	12 37.1	+75 32			7.2	6.9	7.0
12 26.9	+75.6	473	12 26.2	+75 37	7.8	12 28.0	+75 22	6.6	H'	7.0	6.7	6.8
12 12.9	+75.9	470	12 12.3	+75 59	5.8	12 14.4	+75 43	4.5 6	0'	4.6	4.3	4.4
11 44.6	+75.8	460	11 44.6	+75 45	9.0	11 47.2	+75 30			7.2	6.9	7.0
11 31.0	+75.8	455	11 30.8	+75 50	7.8	11 33.6	+75 35	6.7	H'	7.1 7.5	{6.8 7.2	{6.9 7.3
10 54.0	+75.2	434	10 53.2	+75 10	8.4	10 56.6	+74 56			7.2	6.9	7.0
12 49.8	+76.2	470	12 49.7	+76 12	6.8	12 51.1	+75 57	6.3 4	1'	6.5 6.8	{6.2 6.5	{6.3 6.6
12 42.2	+76.0	466	12 41.8	+76 2	8.5	12 43.4	+75 47			7.2	6.9	7.0
12 28.1	+76.0	454	12 28.0	+76 1	6.7	12 29.8	+75 46			6.7 7.2	{6.4 6.9	{6.5 7.0
11 42.8	+76.2	434	11 42.8	+76 9	7.3	11 45.4	+75 54	6.6	H'	6.8	6.5	6.6
11 9.8	+75.8	439	11 9.5	+75 52	7.8	11 12.6	+75 37	6.6	6'	7.2	6.9	7.0
11 7.9	+76.2	421	11 7.1	+76 9	7.6	11 10.3	+75 54	6.4	5'	6.9	6.6	6.7
10 49.9	+75.6	431	10 49.6	+75 34	8.0	10 53.0	+75 20	6.7	2'	6.9	6.6	6.7
13 5.8	+75.9	500	13 5.5	+75 56	8.0	13 6.7	+75 42			7.2	6.9	7.0
12 54.4	+76.2	473	12 54.5	+76 15	6.0	12 55.9	+76 0	5.7	1'	5.8 6.1	{5.5 5.8	{5.6 5.9
12 36.0	+76.6	462	12 35.3	+76 43	7.2	12 36.9	+76 28	6.8	1'	6.9	6.6	6.7
12 20.8	+76.5	449	12 20.1	+76 33	8.2	12 22.0	+76 18			7.0	6.7	6.8
12 29.0	+76.8	457	12 29.2	+76 49	8.5	12 30.8	+76 34			7.1 7.5	{6.8 7.2	{6.9 7.3
12 18.0	+76.5	447	12 17.4	+76 32	8.5	12 19.4	+76 17			7.2	6.9	7.0
12 2.0	+77.1	462	12 1.7	+77 6	8.0	12 4.0	+76 51			7.2 7.5	{6.9 7.2	{7.0 7.3
11 56.9	+76.8	439	11 56.5	+76 52	7.7	11 58.8	+76 37	6.3 4	1'	6.5	6.2	6.3
*10 58.5	+76.6	415	10 58.0	+76 36	8.7	11 1.4	+76 22			7.3	7.0	7.1
	+76.7	416	10 58.1	+76 38	8.7	11 1.5	+76 24					
10 53.0	+76.2	411	10 52.6	+76 13	8.0	10 56.1	+75 59	6.4	3'	6.7	6.4	6.5
10 46.0	+76.5	406	10 48.0	+76 30	7.3	10 50.5	+76 16	6.7 3	3'	6.6	6.3	6.4
12 25.6	+77.5	475	12 25.3	+77 29	7.5	12 27.1	+77 14			6.8 7.0	{6.5 6.7	{6.6 6.8
12 20.9	+77.3	474	12 20.6	+77 11	8.1	12 22.5	+76 56			7.1	6.8	6.9

* Superposed. Combined light measured

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v.	N.	Type.	Rem.	No.	Lines	K.	Focus.	Other Lines
10.0	17.5	A?			G.	H	1	—
10.6	19.9	A			H	H	1	—
(recorded above)	~~xag~~	~~22.5~~	~~A~~		~~H~~	~~H~~	~~1~~	~~—~~
10.0	23.2	A			γ	H	2	F.
9.0	9.1	A			H	H	1	—
9.9	14.6	K		1064	K	K=H	2	Seen
9.2	16.4	A			H	H	1	—
9.6	21.4	A?			H	H	1	—
Recd	8.0	~~x~~7.2	A			α	~~K=H?~~ N	1 F
8.2	8.8	A?			H	H	1	—
8.4	13.8	A		1065	ε	K=.5H	4	F.
8.6	1~~X~~3.8	A			γ	H	3	F.
8.6	13.9	A			H	H	1	—
8.8	14.1	A?		1066	K	K=H	2	Seen
8.2	17.4	A		1067	H	H	1	Seen
8.4	19.1	F?		1068	K	K=H	2	Seen
8.2	22.2	K?			H	H	1	—
Recorded above	7.9	7.2	A		α	H	1	—
7.4	12.3	F		1069	K	K=H	1	—
7.3	20.3	H			K	K=H	1	F.
7.1	21.3	K		1070	K	K=H	1	Br. Seen
7.1	23.2	A			K	K=H	1	—
7.4	23.6	A			H	H	1	—
6.0	9.6	H?			K	K=H	1	—
6.5	10.7	H?			K	K=H	1	—
6.9	16.5	H?			K	K=H	1	—
6.4	19.4	H?			K	K=H	1	—
4.8	6.6	A?		1071	K	K=1.5H	2	Seen

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D.M.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean Dec.	Diff.	Bz.		
11 58.1	+77.6	460	11 57.7	+77 34	7.4	12 0.0	+77 19	6+8	2	6.4	6.1	6.2
11 10.0	+76.9	423	11 9.6	+76 58	8.3	11 12.8	+76 43	6 6	4	7.0	6.7	6.8
												6.4
10 39.9	+76.7	402	10 39.8	+76 46	7.0	10 43.5	+76 32	6.0 5 8	4	6.4	6.1	6.2
12 49.8	+77.7	491	12 49.6	+77 44	7.7	12 50.9	+77 29			7.0	6.7	6.8
11 58.2	+77.7	461	11 57.9	+77 43	5.8	12 0.2	+77 28	3 4 2	0	5.4	{5.1 5.5	{5.2 5.6
11 39.1	+77.8	440	11 38.9	+77 51	8.6	11 41.6	+77 36			5.8		
10 54.4	+77.2	419	10 54.2	+77 14	8.4	10 57.7	+77 0			7.4	7.1	7.1
13 10.0	+77.9	506	13 9.4	+77 58	7.6	13 10.3	+77 44	6.0 8		7.1	6.8	6.9
~~11 28.2~~	~~+78.4~~	~~392~~	11 28.5	+78 24	6.2	11 31.4	+78 9	6 2 3	5	6.5	6.2	6.2
12 53	+77.9	495	12 53.0	+77 60	8.5	12 5 4 2	+77 45	7.0 6 9 5	3	7.3	7.0	7.0
12 6.0	+78.4	412	12 5.4	+78 26	5.1	12 7.5	+78 10	4 3 X	1	4.4	4.1	4.1
12 6	+78.3	411	12 5.0	+78 15	7.3	12 7.1	+78 0	5 5 X	2	5.7	5.4	5.4
4.5		~~406~~	12 2.9	+78 12	7.0	~~12 5.1~~	~~+77 57~~	~~6.3~~	~~9~~			
~~12 4.8~~	~~+78.2~~	409	12 4.0	+78 14	9.0	12 6.2	+77 59			7.2	6.9	6.9
12 3.8	+78.2	406	12 2.9	+78 12	7.0	12 5.1	+77 57	6 3 0	2	6.5	{6.2 6.6	{6.2 6.6
11 28.2	+78.4	392	11 28.5	+78 24	6.2	11 31.4	+78 9	6 2 8	3	6.9		
11 12.2	+78.2	385	11 12.8	+78 11	6.8	11 16.0	+77 56	6 1 6	3	6.5	{6.2 6.9	{6.2 6.9
10 44.1	+77.8	412	10 43.4	+77 52	6.8	10 47.2	+77 38	6 3 8	4	6.8	6.2	6.2
~~13 9.9~~	~~+77.9~~	~~506~~	13 9.4	+77 58	7.6	13 10.3	+77 44			7.5	{6.5 7.2	{6.5 7.2
												6.5
12 21.9	+78.7	420	12 21.1	+78 45	9.0	12 22.9	+78 30			6.8	6.5	6.5
10 59.8	+78.5	375	10 58.9	+78 34	6.5	11 2.5	+78 19	6 4 3	2	6.6	{6.3 6.9	{6.3 6.9
10 48.1	+78.5	367	10 48.2	+78 33	6.2	10 52.0	+78 18	5 6 X	1	5.7	{5.4 6.7	{5.4 5.7
10 30.8	+78.2	359	10 30.4	+78 11	7.8	10 34.5	+77 57	6 0 X	5	6.0		
10 29	+77.9	406	10 28.6	+77 59	8.0	10 32.7	+77 45	6 3 6	4	6.5	6.2	6.2
12 53	+79.3	407	12 51.7	+79 16	7.0	12 52.8	+79 1	6 9 0	0	6.8	6.5	6.5
12 39	+79.1	403	12 38.8	+79 2	9.0	12 40.2	+78 47	6 9 5	2	6.9	{6.6 7.0	{6.6 7.0
11 37	+79.1	373	11 36.3	+79 2	8.5	11 39.1	+78 47			7.2	6.9	6.9
11 7	+79.1	356	11 5.4	+79 6	7.2	11 8.9	+78 51	6 3 9	3	7.2	{6.9 7.1	{6.9 7.1
13 27	+79.4	422	13 25.8	+79 28	6.0	13 26.1	+79 11	5 1 X	6	7.4		
										6.6	{6.3 6.7	{6.3 6.7
										7.0		
										5.7	{5.4 5.6	{5.4 5.6
										5.9		

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V.	H.	Type	No. Rem.	Lines.	K.	Focus.	Other Lines.
4.9	11.6	F	1072	K	K=H	1	Seen
4.3	15.0	F?		K	K=H	1	—
3.2	13.6	A		J	K=H	3	F.
2.8	12.1	F?	1073	K	K=H	1	Seen
2.0	11.4	A		B	K=.5H	3	—

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D.M. No.	R.A. h. m.	Dec.	Mag.	R.A. 1900	Dec.	Mean Dec.	Diff.	Bc.		
12 34 +80.1	389	12 32.8	+80° 16.7	13 34.3	+79 48	5.90	4'	6.3	6.0	6.0
11 53 +80.4	370	11 52.2	+80 24 4.5	11 54.7	+80 9	6.39	5'	6.8	6.5	6.5
12 11 +80.9	380 / 381	12 9.8 / 9.8	+80 56 / 56 8.4 / 8.3	12 11.8	+80 41	5.41	2'	5.7	5.4	5.3
12 30.8 +81.1	400	12 29.7	+81 3 6.8	12 31.2	+80 48	5.85	8'	6.6	6.3	6.2
12 41 +81.4	402	12 40.8	+81 25 6.3	12 41.8	+81 10	4.87				

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St. Lt. 5.0 F.M. 6l. 7.3 - 7.5 F. Ch. 7.4 Box No. 611

R.A. 14h 4m Dec. +76.8 July, 1st, 1889.

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V.	H.	Type.	Rem.	No.	Lines.	K.	Focus.	Lines Other
21.0	19.6	K?		1074	K	K=H	3	Seen
19.3	16.6	F?		1075	K	K=H	1	Seen
19.4	8.9	A			K	K=H	1	—
18.7	20.9	A		1076	H	N	1	Seen
17.2	8.6	A			β	K=H	1	—
14.6	11.8	A			K	K=H	1	—
18.0	15.2	E?			K	K=H	1	—
17.1	15.7	F?		1077	K	K=H	1	—
17.5	22.5	A			β	K=H?	3	F.
16.2	23.1	A			H	N	1	—
16.7	23.7	A?			β	K=H?	2	—
15.1	6.9	A			β	N	1	—
15.2	9.0	K?		1078	K	K=2H	5	Seen
14.8	14.9	A			β	K=5H	3	F
14.8	18.2	A?			K	K=H	1	—
15.0	22.5	A			H	N	1	—
13.5	8.4	A?		1079	K	K=H	1	—
13.6	8.7	H?			H	K		
13.8	19.6	H?			K	K=H	1	—
12.6	12.4	K		1080	K	K=1.5H	4	Br. Seen
12.6	13.4	H			H	N	1	—
12.9	16.9	A?			K	K=H	2	F.
12.8	17.1	F?		1081	K	K=H	1	Seen
12.1	18.7	A			α	N	1	—
12.7	22.1	A			H	N	1	—
11.1	7.6	A			K	K=H	1	—
11.5	10.1	A			β	N	2	—
11.6	18.8	F?		1082	K	K=H	1	Seen
11.6	19.7	A			H	N	1	—

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D.M. No.	R.A. 1900 h.	Dec.	Mag.	R.A. 1900	Dec.	Mean	Diff.	Mean. - I	Bx.	Cor. Bx. But Mean + Cor. S
13 34.1 +71.9	659	13 33.7	+71° 59	5.8	13 34.8	+71 45	5.7		5.9	5.8 / 5.6
15 1.0 +72.4	664	15 0.3	+72 19	6.3	15 0.4	+72 9	6.3	2	6.5	6.4 / 6.2
14 48.4 +72.6	652	14 45.3	+72 34	6.8	14 45.3	+72 23	6.4	1	6.5	6.4 / 6.2
13 23.0 +73.2	592	13 22.4	+73 9	8.0	13 23.1	+72 55	6.0	0	6.0	5.9 / 5.8
									7.0	6.9 / 6.8
14 51.0 +73.6	646	14 50.2	+73 38	8.0	14 50.2	+73 27	6.3	2	6.5	6.4 / 6.3
14 28.0 +73.7	631	14 27.6	+73 42	8.3	14 27.9	+73 30			7.0	6.9 / 6.9
14 2.6 +73.6	616	14 1.9	+73 39	7.8	14 2.4	+73 26			7.3	7.2 / 7.1
13 58.0 +74.1	563	13 57.9	+74 6	8.5	13 58.5	+73 53			7.1	7.0 / 7.0
13 10.0 +73.6	587	13 9.4	+73 34	6.8	13 10.7	+73 20	5.6	1	5.7	5.6 / 5.5
13 3.9 +74.1	521	13 3.8	+74 7	7.7	13 5.1	+73 53	6.2	4	6.6	6.5 / 6.5
13 0.7 +73.8	583 / 584	13 0.3	+73 48	6.0	13 1.7	+73 33	5.7	2	5.8	5.7 / 5.7
15 6.2 +74.5	602	15 6.0	+74 26	7.5	15 5.6	+74 16	6.2	3	6.5	6.4 / 6.4
14 51.8 +74.7	495	14 51.2	+74 45	2.1	14 37.0	+74 34	3.2		7.5	
14 6.1 +75.2	529	14 5.8	+75 17	6.7	14 5.3	+77 27	3.6	10	5.4	5.3 / 5.4
13 39.0 +75.2	511	13 39.0	+75 12	8.5	13 39.7	+74 58			7.0	6.9 / 7.0
13 6.3 +74.7	524 / 526	13 6.2	+74 44	8.5 / 8.5	13 7.5	+74 30			7.1	7.0 / 7.1
									6.4	6.3 / 6.4
14 58.0 +75.5	547	14 58.0	+75 28	7.0	14 57.5	+75 18	6.5	0	6.7	6.6 / 6.7
14 56.0 +75.5	545	14 56.1	+75 28	7.2	14 55.8	+75 17			6.7	6.6 / 6.7
13 26.8 +75.6	507	13 26.8	+75 37	7.5	13 27.7	+75 23			7.2	7.1 / 7.2
									7.3	4.3 / 4.3
14 28.1 +76.4	527	14 27.8	+76 21	5.0	14 27.7	+76 8	4.6	7	5.45	4.2 / 5.4
									6.9	6.8 / 6.9
14 19.0 +76.4	520	14 18.6	+76 20	7.8	14 18.6	+76 8			7.3	7.2 / 7.3
13 48.4 +76.3	502	14 48.0	+76 17	7.0	13 48.5	+76 4	6.2	1	6.3	6.2 / 6.3
13 46.0 +76.3	500	13 45.9	+76 17	7.5	13 46.4	+76 4	6.2	10	7.2	7.1 / 7.2
13 32.0 +76.5	492	13 31.9	+76 31	7.0	13 32.6	+76 17	6.3	2	6.5	6.4 / 6.5
13 5.9 +75.9	500	13 5.5	+75 56	8.0	13 6.7	+75 42			6.9	6.8 / 6.9
15 10.0 +76.5	551	15 9.1	+76 32	8.0	15 8.3	+76 22	6.5	2	6.8	6.7 / 6.8
14 48.4 +76.7	536	14 48.6	+76 40	7.5	14 48.1	+76 29	6.3	3	6.0	5.9 / 6.0
13 31.1 +76.8	491	13 30.5	+76 49	6.7	13 31.2	+76 33	6.8	4	6.7	6.6 / 6.7
13 23.3 +76.7	486	13 22.7	+76 45	8.0	13 23.5	+76 31			7.1	7.0 / 7.1

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Plate 2661

	v	H	Type.	No. Rem.	Lines	K.	Focus	Other Lines
0 15	11.9	23.2	G?	1083	K	K=H	3	F sem
	11.8	23.8	H?	.	K	K=H	1	—
	10.2	8.9	H?	.	K	K=H	1	—
	10.7	12.1	F?	1084	K	K=H	1	sem
	10.0	15.0	O?	.	B	K=H	2	—
	10.1	17.7	A	.	J	K=H	3	F
	10.7	18.5	G?	1085	H	N	1	sem
	10.6	21.1	A	.	H	N	1	—
	9.0	14.7	K	1086	K	K=1.5 H	H	F bright sem
	9.8	19.5	A?	.	H	N	1	—
	9.0	20.8	A	.	H	N	1	—
	8.5	7.2	F?	1087	K	K=H	1	sem
	8.0	17.8	F	1088	K	K=H	1	sem
	8.9	22.9	A?	.	K	K=H	1	—
	7.8	5.8	K?	1089	K	K=H	3	bright sem
	7.3	10.2	F	1090	K	K=H	2	sem
	7.0	12.9	F	1091	K	K=H	2	sem
	7.2	15.9	F?	1092	K	K=H	2	sem
5.3-5.5=64	7.9	17.2	M?	1093	K	K=1.5 H	3	sem
	6.3	8.4	A	.	H	N	1	—
	6.1	7.8	H?	.	H	N	1	—
	6.6	15.8	A?	.	K	K=H	1	—
	6.1	15.9	H	.	K	K=H	1	—
	6.1	16.4	K?	1094	K	K=H	2	bright sem
	6.5	18.7	K?	1095	K	K=1.5 H	3	bright sem
	6.1	19.8	H?	.	K	K=H	1	—
	5.4	14.0	H	.	K	K=H	1	—
	5.2	17.5	H	.	K	K=H	1	—

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	Obs. No.	R.A.	Dec.	Mag.	R.A. 1900	Dec.	Mean DC.	Diff.	Bx.		
12 54.5 +76.3	473	12 54.5	+76 15	6.0	12 55.9	+76 0	5.74	1	5.6	5.5	5.6
									6.1	6.0	6.1
12 49.8 +76.2	470	12 49.7	+76 12	6.8	12 51.1	+75 57	6.35	0	6.4	6.3	6.4
									6.8	6.7	6.8
15 1.9 +77.1	485	15 1.6	+77 6	7.7	15 0.2	+76 53	6.63	2	6.8	6.7	6.8
									7.1	7.0	7.1
14 32.1 +77.2	548	14 32.2	+77 12	8.2	14 31.9	+77 0			6.9	6.8	6.9
14 5.9 +77.7	529	14 5.4	+77 40	7.8	14 5.3	+77 27	6.36	1	6.3	6.2	6.3
~~13 40.0 +77.5~~	~~519~~	~~13 39.3~~	~~+77 34~~	~~6.2~~	~~13 39.7~~	~~+77 20~~	~~6.56~~	~~3~~			
13 40.0 +77.5	519	13 39.3	+77 34	6.2	13 39.7	+77 20	6.56	3	5.3	5.2	5.3
13 33.4 +77.4	516	13 32.8	+77 18	6.0	13 33.4	+77 4	6.48	3	6.2	6.1	6.2
									7.0	6.9	7.0
13 9.9 +77.1	505	13 9.4	+77 3	8.3	13 10.4	+76 49			7.3	7.2	7.3
14 9.8 +78.2	478	14 9.5	+78 14	5.0	14 9.2	+78 1	5.14	4	4.7	4.6	4.6
									5.75	5.6	5.6
13 22.8 +77.7	510	13 22.4	+77 40	8.4	13 23.1	+77 26			7.3	7.2	7.3
13 10.0 +77.9	506	13 9.4	+77 58	7.6	13 10.3	+77 44	6.09	5	6.5	6.4	6.4
15 21.2 +77.7	582	15 21.0	+77 42	8.2	15 19.8	+77 32			6.7	6.6	6.6
13 37.2 +78.6	464	13 36.9	+78 38	8.0	13 37.2	+78 24	6.75	1	6.9	6.8	6.8
12 49.8 +77.7	491	12 49.6	+77 44	7.7	12 50.9	+77 29			6.8	6.7	6.8
									5.3	5.2	5.2
15 35.9 +77.8	592	15 35.8	+77 51	5.0	15 34.4	+77 41	5.58	2	6.2	6.2	6.2
									5.9	5.8	5.8
14 56.7 +78.8	501	14 56.6	+78 45	6.8	14 55.4	+78 34	6.23	3	6.45	6.3	6.3
14 29.9 +79.2	447	14 29.1	+79 9	6.8	14 28.3	+78 57	6.17	2	6.0	5.9	5.9
13 56.0 +79.1	433	13 55.4	+79 6	7.7	13 55.2	+78 53	6.23	0	6.2	6.1	6.1
									5.3	5.2	5.2
13 42.5 +78.8	466	13 42.1	+78 47	5.8	13 42.2	+78 34	5.61	3	5.85	5.7	5.7
15 17.2 +78.9	507	15 17.1	+78 54	8.3	15 15.6	+78 44			7.3	7.2	7.2
									7.0	6.9	6.9
15 23.8 +78.9	510	15 23.1	+78 55	7.2	15 21.5	+78 45			7.45	7.3	7.3
13 56.5 +79.4	435	13 56.5	+79 24	8.1	13 56.2	+79 11	6.42	5	6.9	6.8	6.8
13 55.9 +79.7	434	13 55.5	+79 41	7.7	13 55.2	+79 28	6.55	5	7.1	7.0	7.0
									7.55	7.4	7.4
13 50.4 +79.7	431	13 50.6	+79 43	6.6	13 50.4	+79 29	6.18	3	5.9	5.8	5.8
									6.45	6.6	6.6
13 26.1 +79.4	422	13 25.8	+79 23	8.0	13 26.1	+79 10	5.18	1	5.2	5.1	5.1
									5.45	5.3	5.3
~~13~~ 15 12.5 +79.5	418	13 13.0	+79 28	7.5	13 13.6	+79 14	6.65	4	7.35	6.9	6.9
										7.2	7.2
14 19.5 +80.0	443	14 19.1	+79 59	7.8	14 18.2	+79 47			7.3	7.2	7.2
									7.6	7.5	7.5
13 37 +80.1	417	13 36.7	+80 6	7.5	13 36.7	+79 52	6.45	7	7.1	7.0	7.0
									7.55	7.4	7.4

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Plate 2661.

V.	H.	Type	No. Rem.	Lewis	K	Focus	after Lewis
6.0	21.8	H?	.		K	K=H'	1 —
4.5	10.6	F?	1096		K	K=H	1 Lewis
4.3	12.1	H	.		K	K=H	1 —
4.6	12.5	I	1097		K	K=H	2 Lewis
4.2	16.3	H	.		K	K=H'	1 —
4.2	19.6	H?	.		K	K=H	1 —
4.4	22.8	A	.		H	A'	1 —
4.0	23.0	H	.		K	K=H'	2 —
3.2	7.8	A	.		K	K=H	1 —
3.6	16.9	H	.		K	K=H'	1 —
3.3	20.8	F	1098		K	K=H	1 Lewis
3.5	22.1	F?	1099		K	K=H'	1 Lewis
3.0	21.8	H	.		H	A'	1 —
2.5	6.9	F	1100		K	K=H	2 Lewis
2.0	8.1	H?	.		K	K=H	2 —
2.2	11.4	A	.		B	A	2 —
2.4	13.1	I	1101		K	K=H	2 Lewis
2.6	16.1	I	1102		K	K=H'	2 Lewis
2.7	19.2	I?	1103		K	K=H'	3 Lewis
0 45	2.0	22.5	A?	.		H	A	1 —

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	Num. Vo.	R.A.	Dec.	Mag.		R.A. 1900	Dec.	Mean	Diff.	Bu.		
12 52.0 +79.3	407	12	51.7	+79 16	7.0	12	52.8	+79 1	6.90	1	7.0	6.9 6.9
											7.45	7.3 7.3
14 59.9 +80.1	459	14	59.2	+80 7	8.2	14	57.8	+79 56	6.56	3	6.9	6.8 6.8
14 44.9 +80.4	451	14	43.5	+80 23	7.0	14	42.0	+80 12			7.1	7.0 7.0
											7.55	7.4 7.4
14 38 +80.3	448	14	37.8	+80 17	6.3	14	36.6	+80 5	6.48	2	6.0	5.9 5.9
											6.85	6.7 6.7
13 51 +80.6	422	13	50.3	+80 38	7.4	13	49.9	+80 25	6.34	4	6.7	6.6 6.6
											7.05	6.9 6.9
13 12 +80.4	404	13	10.8	+80 25	7.5	13	11.3	+80 11	6.59	5	7.2	6.9 6.9
												7.1 7.1
12 34 +79.8	400	12	36.3	+79 49	8.7	12	37.7	+79 34	6.62	7	7.3	7.2 7.2
12 34 +80.0	389	12	32.8	+80 1	6.7	12	34.3	+79 46	5.98	3	6.2	6.1 6.1
											6.45	6.3 6.3
15 36 +80.2	478	15	34.5	+80 16	7.8	15	32.1	+80 7	6.43	8	7.2	7.1 7.1
13 42 +80.9	421	13	42.6	+80 58	7.1	13	42.3	+80 42	6.40	2	6.6	6.5 6.4
											7.55	7.4 7.3
12 55 +80.7	398	12	54.6	+80 43	8.3	12	55.4	+80 28	6.87	7	7.0	6.9 6.9
12 39 +80.4	394	12	39.6	+80 23	9.2	12	40.9	+80 8			7.1	7.0 7.0
											7.0	6.9 6.9
12 41 +80.7	395	12	41.2	+80 43	7.4	12	42.4	+80 28	6.59	5	7.55	7.4 7.4
15 49 +80.4	487	15	47.8	+80 26	6.7	15	45.1	+80 18	5.79			
						15	35.1	+80 47	5.51			
15 38 +80.9	R 480	15	37.8	+80 56	7.0	~~15~~	~~35.3~~	~~+80 47~~				
	~~481~~		38.0		8.3							
14 58 +81.3	495	14	57.2	+81 20	6.8	14	55.0	+81 9	5.52			
14 35 +81.5	482	14	34.8	+81 27	6.7	14	33.0	+81 15	5.94			
13 54 +81.5	452	13	53.3	+81 29	6.8	13	52.4	+81 16	6.02	1	6.17	6.0 5.9
											6.45	6.6 6.5
13 18 +81.2	416	13	11.2	+81 14	6.3	13	11.5	+81 0	5.57	1	5.6	5.5 5.4
											6.05	5.9 5.8
12 30 +81.1	400	12	29.7	+81 3	6.8	12	31.2	+80 48	5.83			

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158

St. Lt 5.5 F Ch. 8.2 7.7 F.m.q.C. 8.0 Bop No. 547

R.A. 15h 52m. Dec. +76.7

2.30

February 28, 1890.

Plate 2563

								Other Lines
	V.	H.	Type.	Rem. Lines	K.		Focus.	
	20.0	19.8	A.		L	K=.3 H	5	F.
6.4 6.6	19.9	20.4	M?	1104	H	K	2	F. seen
	17.6	11.8	A.		ε	K=.1 H	3	—
	18.0	13.3	F	1105	K	K=H	1	seen
	~~8.0~~ 16.2	~~12.0~~ 12.0	A		β	K	1	—
	15.6	19.4	H.		K	K=H	1	—
	15.5	21.2	A		α	K	1	—
	14.0	12.2	H		H.	K	1	—
	14.6	23.0	K.	1106	K	K=2 H	4	F. Bright? seen.
	13.0	5.9	A.		β	K=H	2	—
	13.1	6.1	A.		H.	K	1	—
	13.0	7.1	A.		K.	K=H	1	—
	13.0	11.6	F?	1107	K.	K=H	3	F seen
	13.2	14.4	G?		K.	K=H	1	—
	13.0	14.5	A.		H.	K	1	—
	13.2	21.7	H		H	K	1	—
	12.0	11.3	A.		β	K=.5 H	2	—
	12.7	12.4	A.		ε	K	3	F.
	11.2	16.5	A		α	K	1	—
	11.5	19.9	A.		H.	K	1	—
	10.1	7.7	F?	1108	K	K=H	1	seen
	10.9	13.3	A.		ε	K=.3 H	3	F
	9.1	9.0	F	1109	K	K=H	2	seen
	9.4	10.3	D	1110	K	K=H	2	seen
	9.4	16.6	L?	1111	H	K	3	F seen
	8.5	7.6	A		β	K	2	—
	8.8	9.9	F	1112	K	K=H	1	—
	8.9	10.1	A		K	K=H	1	—

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Mean −.4

D.M. No.	R.A.	Dec.	Mag.	R.A. 1900.	Dec.	Mean	Magn.	Diff.		Diff.		B.C.	B.C. + Mean	Cor B.C. + Cor'd
	h. m.			h. m.										
15 21.0 +72.4	679	15 21.0	+72 20	2.8	15 20.9	+72 11	B.				R	4.0	3.6	3.4
15 17.9 +72.4	678	15 17.2	+72 20	5.5	15 17.2	+72 11	5.78 6.30	2	3	8		6.5 7.4	6.1 7.0	5.9 6.8
16 17.0 +73.7	713	16 17.0	+73 46	6.2	16 16.2	+73 38	5.76 5.81	1	2	7		5.9	5.5	5.5
16 6.5 +73.5	707	16 6.1	+73 32	6.7	16 5.5	+73 25	6.38 6.94	3	4	9		7.2	6.8	6.7
16 45.9 +74.2	680	16 45.2	+74 10	6.5	16 44.2	+74 3	5.98 6.69	2	3	9		6.8	6.4	6.4
15 18.4 +74.6	609	15 18.7	+74 34	6.7	15 18.2	+74 24	6.38 6.97	2	3	9		7.2 7.5	6.8 7.1	6.8 7.1
15 6.0 +74.4	602	15 6.0	+74 26	7.5	15 5.6	+74 16	6.38 6.89	3	4	10		7.2	6.8	6.8
16 16.5 +75.5	586	16 16.2	+75 34	6.8	16 15.0	+75 27	6.35 7.05	2	1	4		6.8 7.6	6.4 7.2	6.5 7.3
14 51.8 +74.7	595	14 51.2	+74 45	2.1	14 51.0	+74 34	8.42 4.09	1	0	6		4.0 4.7	3.6 4.3	3.7 4.4
17 6.8 +75.5	613	17 6.3	+75 30	5.8	17 4.8	+75 26	5.38 6.08	3	4	10		6.4	6.0	6.1
17 5.1 +75.4	612	17 5.0	+75 25	6.5	17 3.6	+75 21	6.28 6.92	3	4	10		7.2	6.8	6.9
16 57.6 +75.6	608	16 57.5	+75 38	6.8	16 56.0	+75 34	6.03 6.74	1	2	8		6.8	6.4	6.5
16 22.2 +76.1	596	16 21.8	+76 5	5.3	16 20.4	+75 59	4.57 5.29	2	1	5		5.1	4.7	4.8
15 58.5 +75.9	579	15 58.6	+75 60	6.5	15 57.4	+75 52	6.65 7.37	2	1	6		7.2	6.8	6.9
*15 58.1 +76.1 R=	577	15 58.0	+76 4	8.4	15 56.9	+75 56						7.5	7.1	7.2
	578	15 58.1	+76 12	8.7	15 57.0	+76 4	6.45					7.3	6.9	7.0
14 58.0 +75.5	547	14 58.0	+75 28	7.0	14 57.5	+75 18	7.15	1	2	9		7.6	7.2	7.3
16 24.1 +76.5	600	16 24.5	+76 28	7.2	16 23.0	+76 22	6.23 6.95	5	4	3		6.5	6.1	6.2
16 15.2 +76.3	594	16 15.0	+76 16	6.0	16 13.6	+76 8	4.6X 5.34	3	2	4		5.0	4.6	4.7
15 38.0 +76.9	563	15 37.9	+76 55	7.5	15 36.7	+76 46	6.1X 6.89	1	0	7		6.8	6.4	6.5
15 9.8 +76.5	551	15 9.1	+76 32	8.0	15 8.3	+76 22	6.55 7.28	1	2	8		7.4	7.0	7.1
16 59.0 +77.1	639	16 58.7	+77 4	7.2	16 56.8	+77 0	6.32 7.08	3	2	5		6.8	6.4	6.5
16 8.3 +77.2	616	16 8.5	+77 11	6.0	16 6.9	+77 4	4.82 5.68	3	2	5		5.3	4.9	5.0
16 49.9 +77.7	634	16 49.6	+77 45	6.0	16 47.5	+77 41	5.24 6.02	2	3	10		6.2	5.8	5.8
16 36.8 +77.7	627	16 36.9	+77 43	6.5	16 35.0	+77 38	6.13 6.91	4	3	4		6.5 6.8	6.1 6.4	6.1 6.4
15 36.0 +77.8	592	15 35.8	+77 51	5.0	15 34.4	+77 41	5.32 6.28	1	0	7		6.2	5.8	5.8
17 3.1 +77.8	641	17 3.1	+77 52	6.5	17 0.9	+77 48	5.27 6.16	5	6	13		6.7	6.3	6.3
16 42.5 +78.0	562	16 42.0	+78 2	6.8	16 39.8	+77 57	6.23 7.02	4	3	4		6.6	6.2	6.2
16 39.9 +77.9	628	16 39.9	+77 58	7.8	16 37.8	+77 53	6.38 7.07	3	2	5		6.8	6.4	6.4

* 577 15h 58m 76° 12' superposed on this

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1888phae.proj..860F

Feb. 28, 1890.

Plate 2563.

τ.	H.	Type.	No. Rem.	Lines	K.	Focus.	Other Lines
8.9	15.2	A.		δ	K=2H	4	F
8.8	19.6	A		H.	K	1	—
7.5	9.9	A	1113	K	K=H	2	Reen
6.5	11.1	A:	1114	δ	K=.8H	3	Reen
5.1	9.2	H.		H	K	1	—
5.8	10.2	A		K	K=H	1	—
4.7	6.3	A		K	K=H	1	—
4.8	10.8	F	1115	K	K=H	1	—
4.2	15.0	A		K	K=H	1	—
4.4	15.2	F	1116	K	K=H	2	Reen
5.4	22.5	F	1117	K	K=H	1	Reen
2.8	13.8	A		α	K	1	—
3.2	15.4	H?		K	K=H	1	—
2.8	15.8	H.		K	K=H	1	—
3.4	16.0	F?	1118	K	K=H	2	Reen
2.1	19.0	A		β.	K	2	—
3.6	21.0	H		H	K	1	—

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900.	Dec.	Diff.	Diff.	Br.		
	h. m.			h. m.						
15 50.0 +78.2	15 49.3	+78° 13′	4.7	15 47.6	+78 6	4	3	4	4.0	3.6	3.6
15 8.0 +77.9	15 7.4	+77 55	7.8	15 6.3	+77 45	2	1	5	7.3	6.9	6.9
16 46.0 +79.2	16 46.2	+79 11	6.3	16 43.5	+79 6	5	4	4	7.0	6.6	6.6
16 33.9 +79.3	16 33.9	+79 16	5.5	16 31.3	+79 11	0	1	8	5.4	5.0	5.0
16 57.1 +79.7	16 57.1	+79 44	6.8	16 54.1	+79 40	1	0	8	7.8	7.4	7.4
16 44.3 +79.5	16 44.6	+79 30	7.8	16 41.8	+79 25	2	1	7	7.4	7.0	7.0
17 30.0 +79.5	17 28.8	+79 27	7.3	17 25.8	+79 25			8	6.7	6.3	6.3
16 42.0 +80.1	16 40.8	+80 5	7.0	16 37.7	+80 0	1	0	8	6.8	6.4	6.4
15 52.0 +80.6	15 51.6	+80 34	8.0	15 48.8	+80 26	2	1	7	7.3	6.9	6.9
15 49.0 +80.5	15 47.8	+80 26	6.7	15 45.1	+80 18	2	1	7	6.4	6.0	6.0
14 29.0 +79.2	14 29.1	+79 9	6.8	14 28.3	+78 57	3	4	11	7.3	6.9	6.9
16 6.0 +81.2	16 6.0	+81 14	8.0	16 2.6	+81 7	2	3	11	7.4	7.0	6.9
15 47.0 +81.1	15 45.9	+81 4	7.3	15 43.0	+80 56	1	0	8	7.2	6.8	6.7
15 39.8 +81.3	15 38.9	+81 15	6.8	15 36.0	+81 6	0	1	10	7.5	7.1	7.0
15 37.0 +80.8	15 37.8	+80 56	7.0	15 35.1	+80 47	0	1	9	6.4	6.0	5.9
14 57.0 +81.3	14 57.2	+81 20	6.8	14 55.0	+81 9						
14 38.0 +80.3	14 37.8	+80 17	6.3	14 36.5	+80 5	4	3	5	7.2	6.8	6.8

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St. Lt. 5.4 F. Cl. 7.3-7.0 F. M. & Cl. 7.6 Box No. 546.
R.A. 18h 0m Dec. +76°.6
Feb. 28, 1890.
Plate 2552

V.	H.	Type.	No. Rem.	Lines	K.	Forms	Other Lines.
22.1	21.0	A		β	K	1	—
21.9	11.1	A		η	K	3	F.
21.0	10.3	F?	1119	K	K=H	1	seen
21.4	11.4	F	1120	K	K=H	1	seen
20.2	6.1	A		K	K=H	1	—
20.3	13.0	F	1121	K	K=H	1	—
20.7	14.9	F	1122	K	K=H	2	seen
20.2	16.9	F	1123	K	K=1.2H	3	seen
20.3	17.7	A		α	K	1	—
19.2	11.3	F	1124	K	K=1.5H	4	F. seen
19.5	17.6	H		K	K=H	2	—
18.4	15.9	F	1125	K	K=H	1	seen.
18.6	17.1	E		K	K=H	1	—
18.3	17.6	A		β	K	1	—
17.0	10.3	A		H	K	1	—
17.6	16.6	A		β	K	1	—
17.4	21.4	A		H	K	1	—
17.0	23.2	A	1126	β	?	2	seen
16.2	7.9	A	1127	K	K=H	2	seen
16.2	11.0	A		H	K	1	—
16.6	11.3	A		α	K	1	—
15.6	6.2	F	1128	K	K=H	1	seen
15.1	9.1	A		H	K	1	—
15.7	15.2	A		β	K=H	2	F
16.0	17.7	H		K	K=H	1	—
15.4	18.2	A		H	K	1	—
15.0	19.0	A		α	?	1	—
14.5	14.9	H		K	K=H	1	—

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Mean −7°

D.M. No.	R.A.	Dec.	Mag.	R.A.	Dec.	D.C. Mean	Diff.	Diff.	Cor. Br. Br.	Br. + Mean	+ Cord
	h. m.	° ′		h. m.	° ′						
17 24.8 +70.9	925 17 20.7	+70 56	7.0	17 20.2	+70 53	6.03 6.60	6	12	7.2	6.5	6.3
18 22.9 +71.3	889 18 23.0	+71 14	4.7	18 22.2	+71 17	3.67 4.22	5	11	4.7	4.0	3.8
18 28.5 +71.6	894 18 28.2	+71 37	7.5	18 27.5	+71 39	6.23 6.84	6	12	7.4	6.7	6.5
18 21.8 +71.5	884 18 21.4	+71 27	7.7	18 20.7	+71 28	6.03 6.59	4	10	7.0	6.3	6.1
18 55.5 +71.6	914 18 55.1	+71 35	7.5	18 54.4	+71 39	5.95 6.57 6.0	7	12	7.2	6.5	6.3
18 11.8 +72.1	829 18 11.4	+72 7	7.8	18 10.6	+72 8	6.40 7.00	3	9	7.3	6.6	6.4
17 58.0 +72.0	818 17 57.7	+72 0	6.0	17 56.9	+72 1	5.18 5.78	0	6	5.7	5.0	4.8
8065 17 44.6	+72 14	6.7		43.7	+72 13	4.77					
17 44.3 +72.3	804 17 44.5	+72 13	4.8	17 43.7	+72 12	4.77	2	8	5.0	4.3	4.1
17 39.8 +72.2	799 17 39.3	+72 8	7.3	17 38.5	+72 7	6.37 6.97	0	6	7.0	6.3	6.1
18 23.8 +72.7	839 18 23.7	+72 40	3.8	18 22.8	+72 42	3.62 4.24	3	9	4.5	3.8	3.7
17 40.0 +72.5	800 17 39.9	+72 32	6.0	17 39.0	+72 31	5.88 6.49	0	6	6.5	{5.8 6.0	{5.7 5.9
17 51.0 +73.2	796 17 50.8	+73 11	7.3	17 49.8	+73 10	6.53 7.13	3	9	7.4	6.7	6.6
17 42.6 +73.0	R2 786 17 42.9	+73 0	8.2	17 41.8	+72 59	4					
42.7 73.1	787 17 43.0	+73 2	8.0	17 42.0	+73 1	6.35 6.98	0	6	7.0	6.3	6.2
17 39.1 +73.2	782 17 39.0	+73 8	7.8	17 38.0	+73 7	6.45 6.98	2	8	7.2	6.5	6.4
18 31.8 +73.6	829 18 31.6	+73 40	8.5	18 30.5	+73 42				7.4	6.7	6.7
17 45.8 +73.5	791 17 45.5	+73 31	7.3	17 44.4	+73 30	6.25 6.89	0	7	6.9	6.2	6.2
17 12.0 +73.3	759 17 12.0	+73 20	7.8	17 11.0	+73 17	6.79 7.34	1	7	7.4	6.7	6.6
16 59.9 +73.4	751 16 59.2	+73 19	6.0	16 58.3	+73 17	5.52 6.14	3	9	6.4	5.7	5.6
18 49.5 +73.9	835 18 49.4	+73 54	5.3	18 48.2	+73 58	5.27 5.93	1	7	6.0	{5.3 6.5	{5.3 6.5
18 28.0 +74.1	769 18 27.4	+74 5	8.7	18 26.2	+74 7				7.6	6.9	6.9
18 25.2 +73.9	822 18 25.2	+73 57	8.0	18 24.0	+73 59	6.38 6.96	2	9	7.2	6.5	6.5
19 2.3 +73.9	845 19 2.2	+73 55	6.8	19 1.1	+73 59	5.95 6.0 6.60	2	8	6.8	6.1	6.1
18 43.0 +74.5	789 18 42.5	+74 29	8.2	18 41.2	+74 32	6.34 6.94	3	10	7.3	6.6	6.7
17 56.1 +74.6	740 17 55.7	+74 36	6.8	17 54.3	+74 36	5.78 6.46	2	8	6.3	5.6	5.7
17 36.9 +74.3	717 17 36.7	+74 19	7.0	17 35.4	+74 17	6.28 6.87	3	10	7.2	{6.5 6.8	{6.5 6.8
17 33.0 +74.6	713 17 32.6	+74 36	7.7	17 31.2	+74 34	6.60 7.27	0	7	7.3	6.6	6.7
17 26.9 +74.8	710 17 26.9	+74 47	7.0	17 25.5	+74 45	6.33 6.97 6.0	1	6	6.8	6.1	6.2
17 59.8 +75.2	647 17 59.2	+75 10	7.0	17 57.7	+75 10	5.97 6.66	2	5	6.5	{5.8 6.0	{5.9 6.1

* D.M. 8065 17 44.6 +72 14' superposed.

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Feb. 28 1890.

Plate 2552.

V.	H.	Type	No. Rem.	Lines	K	Focus	Other Lines
14.9	22.5	F	1129	K	K=H	1	seen
13.6	12.3	A		δ	?	3	F
13.8	8.9	A		H	H	1	—
13.5	9.6	A		H	H	1	—
13.5	11.5	A		H	H	1	—
13.0	11.5	A?		H	H	1	—
13.2	13.8	A		γ	H	2	—
13.8	20.3	A		α	K	1	—
13.6	20.9	F	1130	K	K=H	1	seen
13.1	21.3	A	1131	β	K	3	seen
13.1	21.5	F	1132	K	K=H	1	seen
12.6	7.6	A		β	K=H	2	—
12.6	13.4	F	1133	K	K=H	1	seen
12.8	15.0	A?		α	K=H	1	—
13.2	~~13.7~~ 17.8	A		H	H	1	—
12.3	18.3	H		K	K=H	1	—
12.6	22.3	A		β	K=H	2	—
12.5	22.7	F	1134	K	K=H	1	seen
10.7	6.1	F	1135	K	K=1.3H	3	seen
10.2	17.2	F	1135a	K	K=H	1	seen
10.1	7.6	F	1136	K	K=H	2	seen
10.4	11.0	A		K	K=H	1	—
10.9	15.0	G	1137	K	K=1.5H	3	F seen
9.2	10.0	A		α	K=H	2	—
9.6	10.8	A	1138	K	K=H	2	seen
9.8	13.6	A		K	K=H	1	—
9.8	17.0	A?		H	H	1	—
9.5	18.9	A?		H	H	1	—
9.3	19.7	A		α	H	1	—
9.8	21.5	A		β	H	2	—

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Br.

	Mn.No.	R.A. h. m.	Dec. ° ′	Mag.	R.A. 1900. h. m.	Dec.	Obs. Mean.	Diff.			
17 0.3 +74.5	695	17 0.0	+ 74 31	7.2	16 58.8	+ 74 27	6.43	4	6.8	6.1	6.1
18 20.2 +75.7	663	18 20.0	+ 75 42	9.2	18 18.4	+ 75 43			5.3	4.6	4.7
18 46.2 +75.2	678	18 46.0	+ 75 9	7.5	18 44.6	+ 75 12	5.93	11	7.0	6.3	6.4
18 41.0 +75.4	674	18 40.8	+ 75 22	8.5	18 39.3	+ 75 25			7.2	6.5	6.6
18 28.0 +75.8	668	18 27.4	+ 75 45	8.0	18 25.8	+ 75 47	6.88	7	7.5	6.8	6.9
18 26 +75.5	667	18 26.2	+ 75 28	8.4	18 24.7	+ 75 30	6.26	13	7.5	6.8	6.9
18 8.1 +75.7	655	18 8.2	+ 75 46	6.5	18 6.6	+ 75 47	5.58	6	6.2	5.5	5.6
17 16.0 +75.3	617	17 15.4	+ 75 16	7.5	17 14.0	+ 75 13	6.65	4	7.0	6.3	6.4
17 10.5 +75.3	616	17 10.6	+ 75 18	7.0	17 9.2	+ 75 15	6.56	3	6.9	6.2	6.3
17 6.8 +76.5	613	17 6.3	+ 75 30	5.8	17 4.8	+ 75 26	5.38	6	6.0	5.3	5.4
17 5.0 +75.4	612	17 5.0	+ 75 25	6.5	17 3.6	+ 75 21	6.22	4	6.6	5.9	6.0
18 58.9 +75.6	683	18 58.4	+ 75 35	6.5	18 56.9	+ 75 39	5.33	6	5.9	5.2	5.3
18 12.0 +76.1	678	18 11.8	+ 76 6	7.2	18 10.1	+ 76 7	6.38	8	7.1	6.4	6.5
17 58.0 +76.0	668	17 57.8	+ 76 1	7.5	17 56.1	+ 76 1	6.05	6	6.6	5.9	6.0
17 34.5 +75.7	634	17 34.5	+ 75 44	8.3							
~~18 8.2 +75.7~~	~~655~~	~~18 8.2~~	~~+ 75 46~~	~~6.5~~	17 32.9	+ 75 42	7.10	4	7.5	6.8	6.9
R 17 29.5+76.2	647	17 29.0	+ 76 10	7.0	17 27.3	+ 76 8	~~6.80~~	2	7.0	{6.3 6.8}	{6.4 6.9}
16 57.9 +75.6	608	16 57.5	+ 75 38	6.8	16 56.0	+ 75 34	6.03	4	6.4	5.7	5.8
16 54.8 +75.6	605	16 54.1	+ 75 36	7.0	16 52.7	+ 75 32	6.75	2	7.0	6.3	6.4
19 14.9 +76.4	717	19 14.4	+ 76 19	5.5	19 12.8	+ 76 24	4.71	8	5.5	4.8	4.9
17 38.1 +77.2	666	17 ~~38.9~~	+ 77 ~~26~~	~~7.2~~ 7.8	~~17 36.8 +77 10~~		6.28	8	7.0	6.3	6.4
19 4.0 +76.8	712	19 3.9	+ 76 50	6.5	19 2.2	+ 76 55	5.77	6	6.4	5.7	5.8
18 34.1 +77.1	697	18 33.9	+ 77 2	8.5	18 32.0	+ 77 4	6.25	10	7.2	6.5	6.6
17 56.2 +76.9	667	17 55.9	+ 76 58	5.2	17 53.9	+ 76 58	4.72	6	5.3	4.6	4.7
18 44.5 +77.5	702	18 44.5	+ 77 32	7.0	18 42.5	+ 77 35	5.77	7	6.5	5.8	5.8
18 37.2 +77.5	699	18 36.8	+ 77 25	6.5	18 34.6	+ 77 28	5.60	4	6.0	{5.3 5.8}	{5.4 5.9}
18 11.2 +77.5	679	18 11.1	+ 77 28	8.1	18 9.0	+ 77 29	6.48	9	7.3	6.6	6.7
17 39.0 +77.4	666	17 38.8	+ 77 26	7.8	17 36.7	+ 77 25	6.20	11	7.3	6.6	6.7
17 21.7 +77.5	654	17 21.2	+ 77 30	7.5	17 19.1	+ 77 27	6.48	9	7.3	6.6	6.7
17 13.8 +77.5	646	17 13.4	+ 77 29	8.2	17 11.3	+ 77 26			7.2	6.5	6.6
16 59.8 +77.1	639	16 58.7	+ 77 4	7.2	16 56.8	+ 77 0	6.32	2	6.5	5.8	5.9

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Feb. 28, 1890

Plate. 2552.

V.	H.	Type.	Rem. No.	Lines	K.	Focus.	Later Lines
8.3	15.0	D	1139	H	A	1	seen
8.5	20.6	A		K	A	2	—
8.3	22.1	F	1140	K	K=H	2	seen
8.6	23.2	A		H	A	1	—
8.0	23.4	H		K	K=H	1	—
7.5	14.5	F	1141	K	K=H	1	seen
7.8	20.0	H		K	K=H	1	—
7.9	20.5	H		H	A	1	—
7.5	22.7	E		K	K=H	2	—
7.5	22.9	A		α	A	1	—
6.5	9.1	A?		H	A	1	—
6.4	11.6	H		K	K=H	2	—
6.8	12.4	F	1142	K	K=H	1	seen
6.7	13.5	A		H	A	1	—
6.8	14.0	A		H	A	1	—
6.2	15.0	A		α	A	2	—
6.4	15.9	F	1143	K	K=H	1	seen
6.0	17.6	A		β	A	2	—
5.6	11.6	A		α	K=H	1	—
5.0	13.9	F	1144	K	K=1.5H	3	seen
5.3	17.9	A		H	A	1	—
5.5	21.6	H		K	K=H	2	—
5.0	22.6	A		β	A	3	F.
4.5	6.6	A	1145	β	A	2	seen
4.8	9.9	A		α	A	2	—
4.2	15.3	H		H	A	1	—
4.3	17.2	D	1146	K	K=H	2	seen
4.8	20.3	H		K	K=H	1	—

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	DM. No.	R.A. h. m	Dec.	Mag.	R.A. 1900. h. m	Dec.	Obs. Mean.	Diff	Bz.		
17 58.5 +78.3	616	17 58.4	+ 78 20	6.5	17 56.0	+78 20	6.0	5	6.5	5.8	5.8
									7.2	6.5	6.5
17 3.7 +77.8	641	17 3.1	+ 77 52	6.5	17 0.9	+77 48	5.4	5	5.9	5.2	5.2
16 50.0 +77.7	634	16 49.6	+ 77 45	6.0	16 47.5	+77 41	5.2	6	5.8	5.1	5.1
16 41.8 +77.4	630	16 41.2	+ 77 23	8.0	16 39.3	+77 18			7.5	6.8	6.9
16 36.8 +77.7	627	16 36.9	+ 77 43	6.5	16 35.0	+77 38	6.1	2	6.3	5.6	5.6
									6.7	6.0	6.0
18 3.8 +78.7	621	18 2.9	+ 78 41	7.4	18 0.3	+78 41	6.1	4	6.5	5.8	5.8
17 8.0 +78.3	580	17 7.7	+ 78 19	7.0	17 5.3	+78 16	7.2	3	6.9	6.2	6.2
									7.4	6.7	6.7
17 3.7 +78.2	573	17 3.2	+ 78 9	7.0	17 0.9	+78 5			7.2	6.5	6.5
									7.6	6.9	6.9
16 42.1 +78.1	562	16 42.0	+ 78 2	6.8	16 39.8	+77 57	6.2	3	6.5	5.8	5.8
16 39.9 +77.9	628	16 39.9	+ 77 58	7.8	16 37.8	+77 53	~~6.3~~	~~2~~	6.6	5.9	5.9
18 58.9 +78.6	661	18 58.2	+ 78 39	7.5	18 56.3	+78 50	5.8	8	6.6	5.9	5.9
					~~18 55.8~~	~~+78 43~~	~~6.2~~	~~4~~			
18 33.9 +79.1	587	18 33.5	+ 79 7	7.0	18 30.7	+79 9	5.8	5	6.3	5.6	5.6
									6.7	6.0	6.0
18 24.1 +78.9	632	18 24.8	+ 78 59	7.7	18 22.1	+79 1	6.3	3	6.6	5.9	5.9
18 14.1 +79.1	576	18 14.1	+ 79 5	8.2	18 11.3	+79 6	6.6	4	7.0	6.3	6.3
18 8.1 +79.0	568	18 8.4	+ 79 1	8.8	18 5.7	+79 2			7.5	6.8	6.8
17 58.5 +79.4	564	17 58.6	+ 79 21	7.5	17 55.7	+79 27	6.0	6	6.6	5.9	5.9
17 47.9 +79.3	556	17 47.1	+ 79 16	7.3	17 44.2	+79 15	6.1	5	6.6	5.9	5.9
17 29.0 +79.4	540	17 28.8	+ 79 27	7.3	17 25.8	+79 25	~~5.9~~	~~4~~	6.3	5.6	5.6
18 38.0 +79.7	591	18 37.7	+ 79 42	7.8	18 34.6	+79 44			6.5	5.8	5.8
18 11.7 +79.9	570	18 10.9	+ 79 59	6.5	18 8.5	+79 59	R	R	5.2	4.5	4.5
	571	18 11.0	+ 79 60	6.5	18 7.6	+79 54					
17 25.0 +79.6	536	17 24.7	+ 79 41	8.0	17 21.5	+79 39	6.6	7	7.3	6.6	6.6
16 46.4 +79.2	511	16 46.2	+ 79 11	6.3	16 43.5	+79 6	6.1	4	6.5	5.8	5.8
									7.0	6.3	6.3
16 34.0 +79.3	498	16 33.9	+ 79 16	5.5	16 31.3	+79 11	4.6	7	5.3	4.6	4.6
19 30.8 +79.3	628	19 30.4	+ 79 18	6.3	19 27.8	+79 24	5.0	8	5.8	5.1	5.1
18 55.9 +79.8	604	18 55.8	+ 79 46	6.5	18 52.7	+79 50	5.4	6	6.0	5.3	5.3
									7.0	6.3	6.3
17 55.0 +80.3	555	17 53.8	+ 80 19	7.0	17 50.3	+80 19			7.6	6.9	6.9
17 31.0 +80.2	544	17 30.7	+ 80 15	6.2	17 27.2	+80 13	5.7	3	6.0	5.3	5.3
									6.8	6.1	6.1
16 58.0 +79.7	517	16 57.1	+ 79 44	6.8	16 54.1	+79 40	6.3	4	6.7	6.0	6.0
									7.4	6.7	6.7

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Feb. 28, 1890.

Plate 2552

T.	H.	Type	Rem.	No. Lines	K.	Focus	Other Lines
3.9	10.3	A		H	K	1	—
3.5	10.0	A		H	K	1	—
3.6	12.6	A		α	K	1	—
3.7	21.5	G		K	K=H	1	—
2.8	8.4	A		H	K	1	—
2.5	9.4	A		H	K	1	—
1.9	13.4	A		H	K	1	—
2.5	18.7	K		K	K=H	2	—

St. Lt. 6.0 FCl. 8.0 6.5 F.M. & Cl. 6.5 Box No 1/5

Plate 1702

R.A. 20h 5m

Dec. +76.8

	20.0	14.9	A		α	K	1	—
{5.7 6.4	18.2	21.7	K	1147	H	K	3	Reen
	17.8	21.3	A		α	K	1	—
	16.0	8.6	A		α	K	1	—
	15.9	11.4	A		ε	K	4	F.
	14.5	6.6	A		H	K	1	—
	14.7	18.7	A		H	K	1	—
	13.6	8.7	A?	1148	K	K=H	2	Reen
	12.4	6.8	A		β	K	1	—
	12.1	10.9	A		α	K	1	—
	12.9	16.2	H		H	K	1	—
	12.7	23.2	A		γ	K	2	—
	13.0	24.3	A		γ	K	1	—
	11.0	6.7	H		H	K	1	—
	11.8	20.0	A		H	K	1	—
	11.8	21.0	A?	1149	γ	K=8H	3	F
	10.5	6.0	A		α	K	1	—

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	DM. No.	R.A. h m	Dec.	Mag.	R.A. 1900.	Dec.	No. Obs.	Mean	Diff	Bz		
18 54.9	+80.2	591	18 53.4	+80	8	8.5	18 50.1	+80	11			7.5	6.8	6.8
19 10.0	+80.2	604	19 9.3	+80	14	7.0	19 6.1	+80	18			7.5	6.8	6.8
~~18 26.1~~	~~+80~~	~~35~~	~~8.0~~											
18 26.0	+80.6	575	18 26.1	+80	35	8.0	18 22.4	+80	37			7.3	6.6	6.5
16 41.0	+80.1	519	16 40.8	+80	5	7.0	16 37.7	+80	8			6.6	5.9	5.9
19 19.8	+80.5	609	19 18.9	+80	30	7.1	19 15.5	+80	33	5.8	10	6.8	6.1	6.0
19 9.0	+80.7	603	19 7.7	+80	42	8.2	19 4.1	+80	46	6.2	—	—		
		618	18 19.3	+81	26	9.2								
18 19.9	+81.4	619	18 19.4	+81	26	8.3	18 15.0	+81	24	6.0	—	—		
17 9.9	+81.1	568	17 8.6	+81	4	7.3	17 4.8	+81	1	5.9	—	—		

												But Mean Corrtn. Mean −.8	+ Cor. .8	
20 6.2	+72.4	934	20 6.2	+72	21	7.5	20 5.8	+72	29	6.0	16	7.6	6.8	6.6
19 18.6	+73.1	857	19 18.3	+73	5	4.4	19 17.5	+73	10	5.0	8	6.8	6.0	5.9
* 19 20.4	+73.3	860	19 21.7	+73	17	7.5	19 20.8	+73	22	5.8	16	7.4	6.6	6.5
20 53.0	+74.1	890	20 52.8	+74	6	7.3	20 52.5	+74	16	5.9	11	7.0	6.2	6.2
20 33.3	+74.5	872	20 33.4	+74	26	5.3	20 32.8	+74	37	4.7	1	4.8	4.0	4.1
21 10.5	+74.6	907	21 10.4	+74	37	7.0	21 10.1	+74	50	6.2	13	7.5	6.7	6.8
19 36.2	+75.0	829	19 36.7	+74	59	8.5	19 35.6	+75	5	6.1	13	7.4	6.6	6.7
20 56.2	+75.4	764	20 56.5	+75	21	6.0	20 55.9	+75	32	6.0	3	6.3	5.5	5.6
												6.5	5.7	5.8
21 13.8	+75.4	778	21 13.4	+75	42	6.8	21 13.0	+75	53	5.7	8	6.5	5.7	5.8
20 41.1	+76.3	809	20 41.0	+76	19	7.1	20 40.1	+76	29	6.1	7	6.8	6.0	6.1
20 4.0	+76.1	771	20 3.6	+76	4	6.0	20 2.3	+76	12			6.8	6.0	6.1
												7.6	6.8	6.9
18 59.0	+75.6	683	18 58.4	+75	35	6.5	18 56.9	+75	39	5.3	4	5.7	4.9	5.0
18 51.9	+75.2	682	18 51.0	+75	16	5.8	18 49.6	+75	19	4.7	6	5.3	4.5	4.6
21 17.5	+76.4	833	21 17.3	+76	24	6.0	21 16.8	+76	36	6.2	6	6.8	6.0	6.1
												7.6	6.8	6.9
19 23.7	+76.3	731	19 23.0	+76	20	7.6	19 21.4	+76	25	6.0	13	7.3	6.5	6.6
19 14.8	+76.3	717	19 14.4	+76	19	5.3	19 12.8	+76	24			5.3	4.5	4.6
21 24.0	+76.5	836	21 23.7	+76	28	6.5	21 23.3	+76	40	5.4	9	6.3	5.5	5.6

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Feb. 28, 1890.

Plate 1702

V.	H.	Type.	Rem.	Lines	K.	Four	Other Lines
10.6	14.2	A		δ	N	5	F
10.2	14.2	F	1150	K	K=H	1	Seen
10.4	21.9	A		α	K=H	2	—
9.1	8.3	A		ε	N	3	—
9.0	18.0	F:	1151	K	K=H	1	Seen
9.0	18.9	A		H	N	1	—
8.0	8.2	A		α	N	1	—
8.4	23.5	F:	1152	K	K=H	1	Seen
7.9	~~8.0~~ 7.8	A		H	N	1	—
7.3	8.1	A		β	N	1	—
7.0	11.6	B	1153	δ	N	2	Seen
6.6	14.7	H:		K	K=H	1	—
6.6	16.3	A		α	N	1	—
6.3	18.2	A		ε	K=2H	3	—
5.5	12.6	A		β	K=.5H	1	—
4.0	7.8	A	1154	K	K=H	2	Seen
4.8	10.8	K	1155	K	K=H	3	Seen
4.9	13.6	A		γ	N	2	—
4.7	21.1	A		β	N	2	—
4.5	22.9	A		H	N	1	—
3.6	8.9	A		α	N	1	—
3.2	9.8	A		K	K=H	1	—
3.8	12.4	L:	1156	K	K=H	2	Seen
3.2	12.5	K	1157	K	K=H	3	Seen
3.7	18.8	A		α	N	1	—
2.9	9.1	A		γ	N	3	—

4.30

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	DM. No.	R.A. h.	m.	Dec.	Mag.	R.A. 1900.	Dec.	No. Mean.	Diff.	Bc.		
20	14.0 +77.2	764	20	13.8	+ 77 16	4.8 20	12.3	+ 77 25	3.7	—	13	
20	13.5 +77.4	762	20	13.0	+ 77 25	7.7 20	11.5	+ 77 32	5.8	11	6.9	6.1 6.1
19	4.0 +76.8	712	19	3.9	+ 76 50	6.5 19	2.2	+ 76 55	5.8	7	6.5	5.7 5.8
21	8.2 +77.5	850	21	8.4	+ 77 32	6.1 21	7.5	+ 77 43	4.9	3	5.2	4.4 4.4
19	36.0 +77.9	734	19	36.2	+ 77 57	7.0 19	34.3	+ 78 3			6.7	5.9 5.9
19	27.8 +77.8	728	19	27.5	+ 77 53	7.8 19	25.6	+ 77 59			7.5	6.7 6.7
21	18.5 +77.9	R 811	21	18.4	+ 77 59	7.0 21	17.6	+ 78 10	5.9	8	6.7	5.9 5.9
18	44.6 +77.5	702	18	44.5	+ 77 32	7.0 18	42.5	+ 77 35	5.8	11	6.9	6.1 6.1
21	~~18.5 +77.9~~ 12.2 +78.1	742	21	12.2	+ 78 4	7.5 21	11.2	+ 78 15	5.9	9	6.8	6.0 6.0
21	15.8 +78.4	744	21	14.8	+ 78 23	6.8 21	13.8	+ 78 34	5.7	9	6.6	5.8 5.8
20	41.9 +78.9	716	20	41.6	+ 78 54	6.9 20	40.0	+ 79 5	5.4	5	5.9	5.1 5.1
20	10.0 +79.2	660	20	9.8	+ 79 16	6.5 20	7.6	+ 79 24	5.9	11	7.6 / 7.2	6.2 6.2 / 6.4 6.4
19	51.9 +79.2	645	19	51.7	+ 79 10	7.5 19	49.3	+ 79 17	5.8	13	7.1	6.3 6.3
19	32.0 +79.3	628	19	30.4	+ 79 18	6.3 19	27.8	+ 79 24	5.0	5	5.5	4.7 4.7
20	34.0 +79.7	675	20	32.6	+ 79 43	7.3 20	30.5	+ 79 52	5.8	9	6.7	5.9 5.9
21	30.0 +79.8	707	21	29.0	+ 79 54	6.0 21	27.8	+ 80 5	5.6	9	6.5 / 6.9	5.7 5.7 / 6.1 6.1
20	55.0 +80.1	672	20	54.1	+ 80 0	5.3 20	52.2	+ 80 11	5.4	4	5.8 / 6.5	5.0 5.0 / 5.7 5.7
20	22.0 +80.1	650	20	22.6	+ 80 4	6.8 20	20.2	+ 80 13	5.2	6	5.8	5.0 5.0
18	56.0 +79.7	604	18	55.8	+ 79 46	6.5 18	52.7	+ 79 50	5.4	5	5.9	5.1 5.1
18	36.0 +79.5	Vd6p 380. 18		36.1	+ 79 31	7.5 18	33.1	+ 79 33			7.3	6.5 6.5
21	18.0 +80.2	688	21	18.2	+ 80 12	6.5 21	16.7	+ 80 23	5.8	9	6.7	5.9 5.9
21	10.0 +80.6	679	21	10.0	+ 80 36	7.0 21	8.2	+ 80 47	5.7	8	6.5	5.7 5.6
20	38.0 +80.6	660	20	37.7	+ 80 35	6.1 20	35.2	+ 80 44	5.5	8	6.3 / 6.8	5.5 5.4 / 6.0 5.9
20	37.0 +80.9	659	20	37.2	+ 80 56	5.8 20	34.5	+ 81 5	5.1	7	5.8 / 6.2	5.0 4.9 / 5.4 5.3
19	19.8 +80.5	609	19	18.9	+ 80 30	7.1 19	15.5	+ 80 35	5.8	15	7.3	6.5 6.4
21	19.9 +80.6	690	21	19.2	+ 80 37	6.3 21	17.6	+ 80 48	5.0	5	5.5	4.7 4.6

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St. Lt 5.5. F. Ch. 8.0 6.6 F.M. & Cl. 68. Bd No. 586

R.A. 22h 00m
Dec. +76.5°.

March 1, 1890.
Plate 3128

S.	H.	Type	Rem. No.	Lines	K.	Focus	Other Lines
22.3	13.6	A		δ	K	3	F
22.2	14.1	H		K	K=H	1	—
22.5	16.1	A		γ	K	2	—
22.0	17.2	A		α	K	1	—
22.0	19.4	A		H	K	1	—
22.6	19.7	A		K	K=H	1	—
22.5	23.5	A	1158	K	K=H	2	Keen
21.5	7.5	A		K	K=H	1	—
21.9	13.6	K	1159	K	K=1.2H	3	F Keen
21.8	14.0	A		δ	K=.2H	2	—
21.5	16.2	A		β	K	2	—
21.9	17.5	K	1160	K	K=1.2H	2	F Keen
21.8	20.5	A		β	K	2	—
20.1	6.5	A		α	K	2	—
20.1	6.9	A		α	K	1	—
20.5	9.8	F?	1161	K	K=H	1	Keen
20.0	13.2	d	1162	K	K=1.2H	3	Keen
20.3	15.1	F?	1163	K	K=H	4	F Keen
20.3	18.9	A		H	K	1	—
19.5	6.7	d	1164	K	K=H	2	Keen
19.7	9.1	A		β	K	2	—
19.1	10.0	F?	1165	K	K=H	4	Keen
19.3	11.2	A		γ	K	2	—
19.3	11.4	F?	1166	K	K=H	1	Keen
19.8	13.7	A		H	K	1	—
19.0	14.5	M		K	K=H	1	—
19.2	15.9	A		δ	K=.1H	3	F
19.5	21.5	A		β	K	1	—

6.6
7.0

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Dm. No.	R.A. 1900 h. m.	Dec.	Mag.	R.A. 1900 h. m.	Dec			Mean -12 Br.	Br.+Mean	Cor. Br. +0.8
22 7.5	+71.4	1112	22 7.4	+71 24	6.7	22 8.3	+71 37	5.4	0	5.4	5.2	5.0
22 4.3	+71.5	1107	22 4.0	+71 30	7.5	22 4.9	+71 43			7.3 {7.1	{6.9
						~~22 4.9~~	~~+71~~	~~43~~	~~5.9~~	7.5 {7.5	{7.3
21 51.0	+71.3	1097	21 50.9	+71 18	6.7	21 51.6	+71 31	5.9	3	6.2	6.0	5.8
21 43.8	+71.5	1087	21 43.6	+71 29	7.5	21 44.2	+71 41			6.7	6.5	6.3
B	~~1074~~			~~+71~~								
21 30.8	+71.4	1073	21 30.2	+71 24	7.6	21 30.7	+71 36			7.0	6.8	6.6
21 28.5	+71.1	1072	21 28.7	+71 3	8.1	21 29.2	+71 15			7.5	7.3	7.1
21 5.9	+70.8	1164	21 5.5	+70 57	6.0	21 5.8	+71 2	5.4	3	5.7	5.5	5.3
22 46.2	+71.4	1165	22 45.6	+71 23	8.0	22 ~~46.9~~ 47.0	+71 37		2	7.3	7.1	6.9
22 7.0 ~~4.6~~	+71.6	1111	22 7.0	+71 38	5.2	22 7.9	+71 51	5.0	~~10~~	4.8 {4.6	{4.4
		~~1109~~	~~22 4.5~~	~~+71 40~~	~~7.2~~	~~22 5.3~~	~~+71 53~~	~~5.8~~		5.3 {5.1	{4.9
22 4.5 ~~7.0~~	+71.6	1109	22 4.5	+71 40	7.2	22 5.3	+71 53	5.8	1			
		~~1111~~	~~22 7.0~~	~~+71 38~~	~~5.2~~	~~22 7.9~~	~~+71 51~~	~~5.0~~	~~9~~	5.9	5.7	5.5
21 50.5	+71.8	1096	21 50.2	+71 48	7.0	21 50.8	+72 1	6.0	0	6.1	5.8	5.6
21 41.5	+71.6	1082	21 41.3	+71 38	5.5	21 41.8	+71 52	5.3	0	5.3 {5.1	{4.9
										5.8 {5.6	{5.4
21 20.7	+71.5	1062	21 20.8	+71 27	6.8	21 21.2	+71 39	6.1	4	6.5	6.3	6.1
22 52.1	+72.1	1076	22 51.6	+72 4	7.5	22 53.0	+72 18	5.8	7	6.5	6.3	6.1
22 51.9	+72.1	1073	22 51.3	+72 4	8.5	22 52.7	+72 18			6.9	6.7	6.5
B	~~1051~~		~~22 32.5~~	~~+72 7~~	~~7.7~~							
22 32.3	+72.2	1050	22 32.4	+72 8	7.0	22 33.6	+72 22	6.2	5	6.7	6.5	6.3
										5.7 {5.5	{5.4
22 10.9	+72.6	1022	22 10.2	+72 36	6.5	22 11.1	+72 49	5.7	0	6.0 {5.8	{5.7
21 57.8	+72.5	1009	21 57.2	+72 28	5.0	21 57.8	+72 42	5.0	7	4.3	4.1	4.0
21 32.5	+72.4	993	21 32.0	+72 18	7.5	21 32.4	+72 30			7.3	7.1	7.0
22 53.9	+72.4	1079	22 53.3	+72 21	6.6	22 ~~54.1~~ 54.7	+72 36	6.2	1	6.3 {6.1	{6.0
										6.8 {6.6	{6.5
22 38.0	+72.5	1055	22 37.6	+72 30	7.3	22 38.8	+72 44	6.0	4	6.4	6.2	6.1
22 32.0	+72.9	1049	22 32.2	+72 54	5.5	22 33.2	+73 7	4.9	7	4.2	4.0	3.9
22 23.9	+72.8	1037	22 23.8	+72 50	7.9	22 24.8	+73 4			6.5	6.3	6.2
22 22.2	+72.8	1036	22 22.4	+72 53	8.0	22 23.4	+73 7	6.3	8	7.1	6.9	6.8
22 7.3	+72.7	1020	22 7.2	+72 41	8.4	22 8.0	+72 54			7.0	6.8	6.7
22 0.9	+73.1	957	22 0.8	+73 7	7.8	22 1.4	+73 20			6.6 {6.4	{6.3
										7.2 {7.0	{6.9
21 51.0	+73.0	1003	21 51.1	+72 60	6.6	21 51.6	+73 14	5.8	2	5.6	5.4	5.3
21 13.9	+72.6	980	21 13.8	+72 34	7.3	21 13.9	+72 45	6.7	1	6.6	6.4	6.3

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March, 1, 1890.

Plate 3128

δ	H.	Type.	Rem. No.	Lines, K.		Focus.	Other Lines.	
18.4	10.5	D	1167	K	K=H	1	Reen	2
18.9	19.0	A		H	K	1	—	2
17.1	8.9	H		K	K=H	1	—	2
17.4	9.1	H		K	K=H	1	—	2
17.6	9.3	H?		K	K=H	1	—	2
17.4	9.9	H?		H	K	1	—	2
17.2	14.0	H		H	K	1	—	2
16.0	7.1	A		H	K	1	—	2
16.9	7.8	E		K	K=H	2	F	2
16.8	8.6	A		H	K	1	—	2
16.9	11.6	E		K	K=H	1	—	2
16.6	12.0	H		H	K	1	F	2
16.0	14.6	D	1168	K	K=H	2	Reen.	2
16.5	14.9	A		H	K	1	—	2
16.8	15.2	K	1169	K	K=H	2	F reen.	2
16.0	17.7	A		α	K	2	—	2
16.8	23.0	H		K	K=H	1	—	2
15.0	6.4	G	1170	K	K=12H	4	F reen	2
14.5	6.7	A		δ	K	2	—	2
14.7	6.9	A		γ	K	2	—	2
15.0	8.8	A		H	K	1	—	2
15.8	8.6	A		β	K	2	—	2
15.0	10.0	A		β	K	1	—	2
15.8	10.3	K	1171	H	K	3	Reen	2
15.4	21.2	F	1172	K	K=H	2	F reen	2
15.7	23.8	A		K	K=H	2	—	2
~~14.6~~	~~6.7~~	~~A~~		~~δ~~	~~K~~	~~3~~	~~—~~	
~~14.8~~	~~6.9~~	~~A~~		~~γ~~	~~K~~	~~2~~	~~—~~	

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Dm.	No.	R.A. h.	m.	Dec. °	′	Mag.	R.a 1900 h.	m.	Dec. °	′	Magn.	Diff.	Br.		
22 29.9 +73.4	982	22	29.7	+73	19	7.5	22	30.7	+73	33			6.6 7.3	6.4 7.1	6.4 7.1
21 30.7 +73.0	936	21	30.2	+73	1	8.3	21	30.5	+73	13			7.0	6.8	6.7
22 41.9 +73.8	994	22	41.9	+73	48	7.3	22	43.1	+73	2			7.0 7.7	6.8 7.5	6.8 7.5
22 40.6 +73.7	991	22	40.8	+73	41	7.5	22	41.9	+73	55			7.2 7.8	7.0 7.6	7.0 7.6
22 38.5 +73.6	989	22	39.0	+73	34	7.5	22	40.1	+73	48			6.6	6.4	6.4
22 35.2 +73.7	985	22	35.0	+73	44	8.3	22	36.1	+73	58			6.8 7.5	6.6 7.3	6.6 7.3
22 5.9 +74.0	953	22	5.4	+74	1	7.8	22	6.0	+74	14			7.0 7.8	6.8 7.6	6.8 7.6
22 56.5 +74.1	998	22	56.4	+74	6	9.0	22	57.7	+74	20			7.5	7.3	7.3
22 50.0 +73.8	998	22	50.0	+73	50	7.5	22	51.3	+74	4			6.2	6.0	6.0
22 44.3 +73.9	996	22	44.4	+73	54	8.4	22	45.6	+74	8			7.1	6.9	6.9
22 22.7 +74.1	965	22	22.7	+74	6	8.0	22	23.6	+74	20			7.2	7.0	7.0
22 20.8 +74.3	963	22	20.4	+74	16	8.0	22	21.2	+74	30			6.6 7.2	6.4 7.0	6.5 7.1
22 0.3 +74.6	951	22	0.7	+74	39	8.0	22	1.2	+74	52			6.4 6.9	6.2 6.7	6.3 6.8
21 59.1 +74.4	947	21	59.1	+74	22	8.5	21	59.6	+74	35			7.0	6.8	6.9
21 56.1 +74.3	946	21	56.5	+74	17	6.4	21	56.9	+74	31	6.6	7	5.9 6.7	5.7 6.5	5.8 6.6
21 37.0 +74.5	926	21	37.0	+74	35	7.4	21	37.1	+74	47			6.5	6.3	6.4
21 0.2 +73.7	922	21	0.2	+73	43	7.5	21	0.0	+73	54			7.3 7.8	7.1 7.6	7.1 7.6
23 3.0 +74.6	1006	23	3.3	+74	36	4.6	23	4.7	+74	51	4.8	7	4.1	3.9	4.0
23 2.0 +74.7	1002	23	1.8	+74	48	7.3	23	3.2	+75	3	5.6	2	5.8	5.6	5.7
23 0.0 +74.7	1001	22	59.9	+74	44	8.5	23	1.3	+74	59			6.5	6.3	6.4
22 45.6 +74.7	986	22	45.4	+74	48	9.0	22	46.5	+74	5 2			7.4	7.2	7.3
22 46.5 +74.4	988	22	46.2	+74	24	7.8	22	47.4	+74	38	6.2	1	6.3	6.1	6.2
22 36.3 +74.9	980	22	36.3	+74	54	8.2	22	37.3	+75	8			6.6	6.4	6.5
22 34.2 +74.6	978	22	34.2	+74	37	6.5	22	35.0	+74	51	5.9	2	5.7 6.7	5.5 6.5	5.6 6.6
21 10.1 +74.6	907	21	10.4	+74	37	7.0	21	10.1	+74	50	6.2	4	5.8	5.6	5.7
20 52.9 +74.1	890	20	52.8	+74	6	7.3	20	52.5	+74	16	5.9	3	6.2	6.0 6.4	6.X

5.7
6.5

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V.	H.	Type.	No. Rem.	Lines.	K.	Forms	Other Lines	
14.0	9.8	A'		H	N✓	1	—	2
14.1	11.0	A✓		ξ	K=.2 H✓	4	F	2
14.0	11.4	H✓		K	K=H✓	1	—	2
14.1	11.8	A✓		H	N✓	1	—	2
14.4	12.2	A✓		H	N✓	1	—	2
14.4	12.5	A✓		β	K=.3 H✓	2	—	2
14.6	12.6	A✓		γ	?✓	2	—	2
14.5	15.0	H✓		H	N✓	1	—	2
14.3	19.1	A✓	1173	K	K=H✓	2	Seen	2
14.4	21.7	A✓		α	K=H✓	1	—	2
14.0	22.5	A✓	1174	K	K=H✓	2	F Seen	2
13.7	7.6	H✓		H	N✓	1	—	2
13.5	8.5	A✓		β	?✓	2	—	2
13.8	12.7	A✓		δ	K=.1 H✓	3	F	2
13.8	13.4	H✓		H	N✓	1	—	2
13.7	13.9	E?✓		K	K=H✓	1	—	2
13.8	17.0	A✓		H	N✓	1	—	2
13.8	18.3	H✓		H	N✓	1	—	2
13.5	18.4	A?✓		K	K=H✓	1	—	2
13.2	19.0	H?✓		K	K=H✓	2	—	2
13.0	19.8	A✓		α	?✓	1	—	2
13.4	20.3	A✓		γ	N✓	3	F	2
13.0	20.9	A✓		K	K=H✓	1	—	2
13.6	22.6	K✓	1175	K	K=H✓	3	Seen	2
12.0	6.2	H✓		K	K=H✓	1	—	2
12.1	7.8	A✓		α	K=.8 H✓	1	—	2
12.3	7.9	A✓		β	N✓	2	—	2
12.1	9.2	A✓			N✓	1	—	2

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	DM. No.	R.A. h.	m.	Dec. °	′	Mag.	R.A. 1900 h.	m.	Dec °	′	Mag	Diff.	Bv.		
22 39.6 +75.4	849	22	39.4	+75	23	9.0	22	40.4	+75	37			7.5	7.3	7.4
22 29.9 +75.5	836	22	29.7	+75	27	8.7	22	30.6	+75	43	5.0	5	4.5	4.3	4.4
22 26.2 +75.5	832	22	26.4	+75	29	7.7	22	27.1	+75	43			7.4	7.2	7.3
													7.8	7.6	7.7
22 23.7 +75.4	828	22	23.4	+75	26	8.9	22	24.1	+75	40			7.4	7.2	7.3
22 20.0 +75.4	825	22	19.9	+75	25	8.7	22	20.5	+75	39			7.3	7.1	7.2
22 18.0 +75.4	823	22	17.8	+75	24	7.8	22	18.4	+75	38			6.3	6.1	6.2
22 17.5 +75.3	822	22	17.1	+75	17	7.3	22	17.7	+75	31	6.2	1	6.1	5.9	6.0
													7.3	7.1	7.2
21 57.0 +75.4	808	21	57.0	+75	23	7.5	21	57.3	+75	36			7.1	6.9	7.0
													6.3	6.1	6.2
21 24.8 +75.4	788	21	25.0	+75	20	6.8	21	24.9	+75	32	6.6	3	6.7	6.5	6.6
21 4.3 +75.1	770	21	4.4	+75	2	8.0	21	4.1	+75	13			6.6	6.4	6.5
													6.2	6.0	6.1
20 57.9 +75.2	765	20	57.7	+75	9	6.6	20	57.3	+75	20			6.7	6.5	6.6
													6.6	6.4	6.5
22 57.0 +75.4	867	22	56.9	+75	20	7.5	22	58.2	+75	34			6.9	6.7	6.8
22 51.0 +75.6	858	22	50.6	+75	34	7.7	22	51.7	+75	48	6.2	2	6.0	5.8	5.9
22 16.9 +75.7	820	22	16.6	+75	46	6.8	22	17.1	+76	0	5.5	2	5.3	5.1	5.2
													6.4	6.2	6.3
22 11.2 +75.7	818	22	11.0	+75	45	7.0	22	11.4	+75	58			7.0	6.8	6.9
22 6.8 +75.7	814	22	6.7	+75	46	8.0	22	7.1	+75	59			7.3	7.1	7.2
21 41.3 +75.7	797	21	41.0	+75	40	8.8	21	41.0	+75	52			7.4	7.2	7.3
													6.7	6.5	6.6
21 31.0 +75.7	792	21	30.7	+75	40	8.0	21	30.6	+75	52			7.3	7.1	7.2
21 29.0 +75.8	791	21	29.1	+75	46	7.3	21	28.9	+75	58	6.5	0	6.5	6.3	6.4
21 24.0 +75.9	787	21	23.8	+75	55	6.7	21	23.6	+76	7	6.2	4	5.8	5.6	5.7
													5.9	5.7	5.8
21 16.9 +75.9	781	21	16.8	+75	56	8.4	21	16.4	+76	7			6.5	6.3	6.4
21 13.3 +75.7	778	21	13.4	+75	42	6.8	21	13.0	+75	53	5.7	3	5.4	5.2	5.3
21 8.5 +75.8	774	21	8.4	+75	47	8.2	21	8.0	+75	58			6.7	6.5	6.6
20 56.2 +75.4	764	20	56.5	+75	21	6.0	20	55.9	+75	32	6.0	6	5.4	5.2	5.3
													5.8	5.6	5.7
23 10.8 +76.0	904	23	11.0	+76	0	7.8	23	12.5	+76	15			6.5	6.3	6.4
													6.7	6.5	6.6
22 58.9 +76.2	893	22	58.0	+76	8	8.2	22	59.2	+76	22			6.7	6.5	6.6
22 57.5 +76.1	892	22	57.2	+76	6	7.3	22	58.4	+76	20	6.2	2	6.4	6.2	6.3
22 47.1 +76.3	879	22	47.1	+76	18	8.6	22	48.1	+76	32			7.5	7.3	7.4

* DM. 829 22 23.6 +75° 35.9 superposed on this star.

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V.	H.	Type	No. Rem.	Lines	K.	Focus	Other Lines
12.0	9.8	A J		H.	H J	1	—
12.5	11.3	F: z	1176	K	K=H J	1	Rem
12.0	14.7	A v		α	H v	1	—
12.1	18.9	A J		δ	H J	3	F
12.2	19.6	K J	1177	K	K=H J	3	Rem
11.2	5.9	F J	1178	K	K=H J	1	Rem.
11.2	8.9	A v		α	H J	1	—
11.8	9.2	A v		H	K=.5 H v	1	—
11.6	9.7	A J		H	H J	1	—
11.2	10.1	A J		H	H J	1	—
11.2	10.3	A J		ε	K=.5 H J	3	F
11.9	12.0	A v		γ	K=H v	3	F
11.5	12.6	A v		β	K=.5 H	1	—
11.1	15.7	H? v		K	K=H v	1	—
11.0	23.8	F v	1179	K	K=H v	2	F. Rem.
10.3	5.8	A z v		H	H v	1	—
10.9	8.5	A v		K	K=H v	1	—
10.5	9.0	d v	1180	K	K=H v	1	—
10.5	10.5	A v		ζ	H v	2	—
10.1	11.1	A v		H	H v	1	—
10.2	12.3	A v		δ	H v	3	F
10.4	14.8	G v		H	H v	1	—
10.0	15.4	A v		H	H v	1	—
10.2	16.1	A v		δ	? v	3	—
10.1	16.3	G z v		K:	K=H v	1	—
10.6	17.9	d J	1181	K	K=H	2	Rem
10.5	21.1	A v		ζ	H v	2	—
9.4	5.2	A v		δ	H v	2	—

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Dm. No.	R.A. 1900		Dec.	Mag.		R.A. 1900		Dec.	Mag.	Diff.		Br.		
	h.	m.				h.	m.							
22 42.0 +76.5	874	22	42.0	+76	26	8.5	22	42.9	+76	40		6.7	6.5	6.6
22 28.7 +76.3	863	22	28.6	+76	16	8.7	22	29.3	+76	30		7.0	6.8	6.9
22 0.2 +76.6	849	22	0.4	+76	38	8.0	22	0.6	+76	51		6.5	6.3	6.4
21 24.0 +76.5	836	21	23.7	+76	28	6.5	21	23.3	+76	40	5.4	2	5.2	5.0	5.1
21 17.8 +76.4	833	21	17.3	+76	24	6.0	21	16.9	+76	35			6.7	{5.5	{5.6
23 16.0 +76.3	910	23	15.5	+76	16	8.5	23	17.0	+76	31			6.3	{6.1	{6.2
	911	23	15.7	+76	16	8.0	23	17.2	+76	31			6.4	6.2	6.3
22 53.0 +76.7	885	22	51.4	+76	44	8.3	22	52.4	+76	58			6.7	6.5	6.6
22 47.2 +76.5	880	22	47.3	+76	28	8.0	22	48.3	+76	42	5.9	6	6.5	6.3	6.4
22 43.7 +76.6	876	22	42.8	+76	35	8.7	22	43.7	+76	49			6.9	6.7	6.8
22 40.5 +76.8	872	22	40.6	+76	51	9.0	22	41.4	+76	5			7.7	7.5	7.6
22 39.0 +76.8	870	22	39.0	+76	51	7.5	22	39.8	+77	5	6.0	2	5.8	5.6	5.7
22 22.3 +76.7	859	22	23.4	+76	42	7.3	22	23.9	+76	56	5.9	1	5.8	5.6	5.7
22 18.3 +76.8	857	22	18.8	+76	50	8.2	22	19.2	+77	4	6.6	1	6.5	6.3	6.4
	834	21	51.0	+77	5	7.5	21	51.0	+77	18			7.3	{7.1	{7.2
21 51.0 +77.1	847	21	50.5	+76	2	8.5	21	50.6	+76	15			7.6	{7.4	{7.5
20 41.1 +76.3	809	20	41.0	+76	19	7.1	20	40.1	+76	29	6.1	1	6.2	6.0	6.1
23 18.8 +76.7	915	23	18.9	+76	43	7.9	23	20.4	+76	58			6.7	6.5	6.6
22 54.5 +76.8	890	22	54.8	+76	48	8.7	22	55.9	+77	2			7.6	7.4	7.5
22 51.9 +77.1	877	22	51.3	+77	4	8.0	22	52.3	+77	18			7.2	{7.0	{7.1
22 38.4 +77.3	868	22	38.4	+77	16	8.1	22	39.1	+77	30	6.1	1	7.7	{7.5	{7.6
22 34.0 +77.5	866	22	33.8	+77	29	8.5	22	34.4	+77	43			6.0	5.8	5.8
22 22.5 +77.5	860	22	22.4	+77	30	6.8	22	22.8	+77	44	5.5	3	6.6	6.4	6.4
21 59.7 +77.5	841	21	59.6	+77	27	8.7	21	59.6	+77	40			5.2	5.0	5.0
21 52.6 +77.6	837	21	52.8	+77	39	8.5	21	52.6	+77	52			7.3	7.1	7.1
21 47.1 +77.5	834	21	46.8	+77	34	7.0	21	46.6	+77	47			7.4	7.2	7.2
21 43.9 +77.5	832	21	43.9	+77	35	8.7	21	43.6	+77	47			5.5	5.3	5.3
21 31.0 +77.3	823	21	30.3	+77	18	7.2	21	29.9	+77	30	6.6	3	7.4	7.2	7.2
21 2.4 +76.9	824	21	2.4	+76	51	8.2	21	1.6	+77	2	6.2	2	6.3	{6.1	{6.1
23 26.2 +77.0	909	23	26.2	+77	0	6.8	23	27.9	+77	15	5.7	5	6.8	{6.6	{6.6
													6.4	6.2	6.3
													6.2	6.0	6.1

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T.	H.	Type.	Rem.	No. Lines	K.	Forms	Lines	
9.3	5.4	A^J		B	N^J	2	—	2
9.3	7.8	A^J		B	K=H^J	2	—	2
9.5	7.3	A^J		H	N^J	1	—	2
9.2	9.1	H^J?		H	N^J	1	—	2
9.4	10.3	A^J			N^J	3	—	2
9.1	11.8	A^J			K=2H^J	4	F.	2
9.5	11.9	E?		K	K=H^J	1	—	2
~~9+~~	~~12.1~~	~~A~~		~~?~~	~~K=2H~~	~~4~~	~~F~~	

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D.M. No.	R.A.	Dec.	Mag.	1900 R.A.	Dec.	Mag.	Diff.		Bz.		
23 25.9 +77.1	908	h 23 m 25.2	+77° 5'	7.0	23 26.8	+77 20			6.0	5.8	5.9
23 11.8 +77.4	896	23 11.9	+77 22	7.3	23 13.3	+77 37			6.1	5.9	5.9
23 8.5 +77.3	894	23 8.4	+77 16	8.3	23 9.7	+77 31			7.5	7.3	7.3
									6.4	6.2	6.2
22 53.7 +77.7	879	22 53.7	+77 44	7.3	22 54.7	+77 58			6.5	6.3	6.3
22 41.2 +77.7	871	22 41.5	+77 44	7.2	22 42.2	+77 58	5.8	1	5.7	5.5	5.5
22 28.5 +78.1	861	22 28.6	+78 4	5.7	22 29.0	+78 19	4.7	5	4.2	4.0	4.0
22 26.0 +78.1	863	22 26.2	77 49	8.0	22 26.6	+78 3			6.7	6.5	6.5

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Plate 3128.

r.	M.	Type.	No.	Rem.	Lines.	K.	Focus	Lines.	
9.1	12.1	A		η	K=2H	4	F.		2
9.0	12.5	A			K	1	—		2
9.0	13.7	A?		γ H	K	1	—		2
9.0	15.0	H?		H	K	1	—		2
9.7	15.3	A		β	K	1	—		2
9.1	18.9	A		δ	K	2	F		2
9.7	20.1	A		η	K	4	F.		2
9.0	21.5	A		H	K	1	—		2
8.6	9.5	H		K	K=H	1	—		2
8.2	9.6	A		K	K=H	1	—		2
8.8	14.8	F	1182	K	K=H	1	Seen		2
8.7	17.2	A		H	K	1	—		2
8.2	19.2	B	1183	δ	K	2	Seen		2
8.8	19.5	A		β	?	2	—		2
7.8	7.2	H?		H	K	1	—		2
7.4	7.7	A		α	K	1	—		2
7.5	13.6	F	1184	K	K=H	1	Seen		2
7.8	15.3	L?	1185	H	K	2	Seen		2
7.0	21.4	H?		H	K	1	—		2
6.0	7.0	A		K	K=H	2	—		2
6.1	7.8	A			K	3	—		2
6.7	8.2	A		He	K	1	—		2
6.3	8.2	A		H	K	1	—		2
6.0	10.0	H		K	K=H	1	—		2
6.1	11.1	A		H	K	1	—		2
6.9	12.3	A		H	K	1	—		2
6.3 6.4 7.6	6.3	15.0	M?		K	K=H	2	Seen	2
	6.4	20.0	D?	1186	δ	K	3	—	2

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D.M.No.	R.A.	Dec.	Mag.		1900 R.A.	Dec.	Mag.	Diff.		Bc.		
22 25.9	+78.1	796	22h 21m 25.6	+78° 1	6.0	22 26.0	+78 15			4.6	4.4	4.4
22 22.0	+78.2	791	22 21.7	+78 8	8.6	22 22.0	+78 22			6.6	6.4	6.4
22 9.5	+78.2	780	22 9.4	+78 9	8.8	22 9.4	+78 22			7.2	7.0	7.0
21 56.4	+78.2	771	21 55.9	+78 9	8.4	21 55.7	+78 22			7.2 / 7.3	7.0 / 7.1	7.0 / 7.1
21 53.9	+77.8	768	21 53.8	+77 52	6.5	21 53.3	+79 5	6.2	7	6.9	6.7	6.7
21 18.2	+77.9	R 811	21 18.4	+77 59	7.0	21 17.6	+78 10	5.9	2	5.7	5.5	5.5
21 8.3	+77.5	800	21 8.4	+77 32	6.1	21 7.5	+77 43	4.9	1	4.8	4.6	4.6
20 55.9	+77.6	793	20 55.6	+77 39	8.0	20 54.5	+77 49			6.6	6.4	6.4
22 51.3	+78.1	813	22 50.9	+78 8	7.7	22 51.8	+78 22	6.2	4	6.6 / 7.3	6.4 / 7.1	6.4 / 7.1
22 51.4	+78.3	814	22 51.0	+78 18	8.5	22 51.9	+78 32	6.0	8	6.8	6.6	6.6
21 59.1	+78.3	775	21 59.3	+78 17	8.5	21 59.1	+78 30			6.9	6.7	6.7
21 35	+78.3	758	21 34.8	+78 17	8.8	21 34.4	+78 29			7.3	7.1	7.1
21 15.0	+78.4	744	21 14.8	+78 23	6.8	21 13.8	+78 34	5.7	0	5.7	5.5	5.5
21 12.2	+78.1	742	21 12.2	+78 4	7.5	21 11.2	+78 15	5.9	1	6.0	5.8	5.8
23 15.2	+78.2	826	23 14.8	+78 12	7.7	23 16.2	+78 27			6.8 / 7.0	6.6 / 6.8	6.6 / 6.8
23 11.7	+78.4	825	23 11.4	+78 27	7.5	23 12.7	+78 42	6.0	4	6.4	6.2	6.2
22 12.0	+78.8	782	22 11.7	+78 56	8.4	22 11.7	+79 9			7.3	7.1	7.1
21 53.8	+78.8	768	21 53.8	+78 52	6.5	21 53.3	+79 5	6.2	2	6.0 / 7.0	5.8 / 6.8	5.8 / 6.8
20 50.2	+78.7	727	20 50.0	+78 42	7.8	20 48.5 ~~49.6~~	+78 52			6.6 / 6.8	6.4 / 6.6	6.4 / 6.6
23 23.0	+79.0	835	23 22.5	+78 60	7.5	23 24.0	+79 15	5.8	8	6.6	6.4	6.4
23 13.9	+79.1	777	23 13.9	+79 6	7.8	23 15.2	+79 21	5.6	2	5.8	5.6	5.6
23 8.3	+78.8	823	23 8.2	+78 51	8.5	23 9.3	+79 6	6.3	10	7.3	7.1	7.1
23 10.0	+79.1	772	23 9.6	+79 7	8.7	23 10.7	+79 22	6.2	9	7.1	6.9	6.9
22 52.0	+79.5	758	22 51.7	+79 28	7.8	22 52.4	+79 42	6.2	6	6.8 / 7.2	6.6 / 7.0	6.6 / 7.0
22 39.7	+79.5	749	22 39.4	+79 27	8.8	22 39.8	+79 41			7.1	6.9	6.9
22 18	+79.2	734	22 18.4	+79 10	8.3	22 18.4	+79 24			6.8	6.6	6.6
21 56.2	+79.6	721	21 56.4	+79 37	6.4	21 55.9	+79 50	6.3	2	6.5 / 7.0	6.3 / 6.8	6.3 / 6.8
20 41.8	+78.9	716	20 41.6	+78 54	6.9	20 40.0	+79 5	5.4	0	5.4	5.2	5.2

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T.	H.	Type	No. Rem.	Lines	K	Focus	Lines
5.0	9.1	A v		B	? J	2	—
5.6	9.6	H J		H	H v	2	—
5.8	10.4	H J		K	K=H J	2	—
5.7	10.9	H v		K	K=H v	2	—
5.4	12.4	K J	1187	K	K=H J	2	Seen
5.4	15.5	A J		H	H J	1	—
5.3	15.6	A J		H	H v	1	—
5.5	17.4	K v	1188	K	K=1.2H v 3		F Seen.
5.8	17.9	F J	1189	K	K=H J	2	Seen
5.6	18.5	A J		H	H J	1	—
4.8	9.1	A v		B	H v	2	—
4.8	9.7	A v	1190	B	K=.5H v	3	—
4.6	17.4	A v		H	H v	1	—
4.0	18.0	A v		H	K=.3H v 3		F
4.2	18.6	H v		H	H v	1	—
4.7	20.3	K v	1191	K	K=H v	3	Seen
4.5	22.3	A v		B	H v	2	—
3.5	7.5	A v		H	H v	1	—
4.0	9.0	A v		H	H v	1	—
3.8	10.3	A v		H	H v	1	—
3.9	11.6	F ? v	1192	K	K=H v	2	Seen
3.0	12.9	F v	1193	K	K=H v	2	Seen
3.9	18.7	A v		α	K=H v	2	F
3.1	21.3	A v	1194	K	K=H v	2	Seen
3.5	22.8	A v			H v	2	—
3.5	23.1	A ? v		H	H v	1	—
2.4	6.7	A v		H	H v	1	—
2.6	6.9	A v		H	H v	1	—

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D.M. No.	R.A. h. m.	Dec.	Mag.	R.A. 1900	Dec.	Mag.	Diff.	Bv.		
23 4.2 +79.7	769	23 4.6	+79° 47	7.5	23 5.3	+80 6	6.0	2	6.2	6.0	6.0
22 56.2 +79.6	759	22 56.6	+79 34	7.5	23 57.4	+79 48	5.8	7	6.5	6.3	6.3
									7.0	6.8	6.8
22 47.8 +79.6	756	22 47.9	+79 37	7.2	22 48.5	+79 51	5.9	3	6.3	6.0	6.0
									6.8	6.6	6.6
22 43.0 +79.7	750	22 42.8	+79 40	7.0	22 43.3	+79 54	6.2	1	6.3	6.1	6.1
									6.7	6.5	6.5
22 27.0 +79.9	739	22 26.2	+79 58	7.5	22 26.1	+80 11	6.0	0	6.0	5.8	5.8
									6.5	6.3	6.3
21 50.9 +79.9	717	21 50.9	+79 59	8.0	21 50.2	+80 12	6.0	12	7.2	7.0	7.0
21 50.1 +80.1	706	21 49.1	+80 2	8.2	21 48.3	+80 15	6.0	10	7.0	6.8	6.8
									5.4	5.2	5.2
21 29.4 79.8	707	21 29.0	+79 54	6.0	21 27.8	+80 5	5.6	2	5.8	5.6	5.6
21 23.3 79.7	701	21 22.7	+79 44	7.8	21 21.4	+79 56			6.3	6.1	6.1
21 17.0 79.7	699	21 16.8	+79 44	8.5	21 15.4	+79 55			7.2	7.0	7.0
23 4.2 +79.8	768	23 4.4	+79 51	7.7	23 5.3	+80 6	6.0	6	6.6	6.4	6.4
22 59.0 +80.0	761	22 58.8	+79 60	7.2	22 59.6	+80 14	5.4	1	5.5	5.3	5.3
21 27 +80.3	695	21 27.4	+80 18	8.9	21 26.0	+80 30			7.3	7.1	7.0
21 19.8 +80.7	690	21 19.2	+80 37	6.3	21 17.6	+80 48	4.9	1	5.0	4.8	4.7
									6.9	6.7	6.6
21 13.0 +80.5	682	21 12.9	+80 25	7.0	21 11.2	+80 36			7.5	7.3	7.2
									5.4	5.2	5.2
20 54.0 +80.0	672	20 54.1	+80 0	5.3	20 52.2	+80 11	5.4	0	6.1	5.9	5.9
20 33.6 +79.7	675	20 32.6	+79 43	7.3	20 30.5	+79 52	5.8	5	6.3	6.1	6.1
23 26 +80.2	770	23 25.8	+80 12	8.2	23 27.2	+80 27	6.0	15	7.5	7.3	7.3
23 8.0 +80.2	752	23 7.7	+80 13	9.0	23 8.6	+80 28			7.5	7.3	7.3
22 54.0 +80.5	739	22 53.3	+80 31	7.9	22 53.9	+80 45	6.0	13	7.3	7.1	7.0
22 39.7 +80.6	731	22 39.1	+80 36	6.7	22 39.2	+80 52	5.7	6	6.3	6.1	6.0
22 25.0 +81.2	775	22 24.1	+81 12	7.0	22 23.7	+81 26	5.7	5	6.2	6.0	5.9
21 10.0 +80.6	679	21 10.0	+80 36	7.0	21 8.2	+80 47	5.7	3	6.0	5.8	5.7
									5.8	5.6	5.5
20 37.0 +80.6	660	20 37.7	+80 35	6.1	20 35.2	+80 44	5.5	3	6.2	6.0	5.9
20 23.0 +80.1	650	20 22.6	+80 4	6.8	20 20.2	+80 13	5.2	6	5.8	5.6	5.6
20 20.1 +80.0	648	20 20.3	+80 0	7.8	20 17.9	+80 9	6.1	10	7.1	6.9	6.9
23 40.1 +80.6	784	23 40.6	+80 34	8.0	23 42.4	+80 49	6.0				
23 36.0 +80.5	780	23 37.1	+80 30	7.8	23 38.8	+80 40	5.9	14	7.3	7.1	7.0

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Plate 3128.

γ	H.	Type	Rem.	Lines	K.	Foc.	Other Lines
2.8	11.4	H		H	K	1	—
2.4	12.5	A		H	K	1	—
2.5	17.3	K		K	K=H	1	—
2.9	17.5	H		H	K	1	—
2.5	21.1	K	1195	K	K=H	3	F. seen.
2.4	21.2	H		K	K=H	1	—

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D.M.No.	R.A.	Dec.	Mag.	R.A. 1900	Dec	Mag.	Diff.	Br.
22 44	+81.2	788		22 42.8	+81 8	7.7	22 42.9	+81 22 x 6.0	10	7.0 6.8 6.7
22 30.0	+81.5	781		22 29.4	+81 25	8.5	22 29.1	+81 39		7.5 7.3 7.2
21 25.8	+81.4	736		21 24.7	+81 24	7.9	21 22.8	+81 36 x 6.0		7.3 7.1 7.0
21 24.0	+81.2	735		21 23.6	+81 8	7.8	21 21.7	+81 20.		7.6 7.4 7.3
20 37.0	+80.9	659		20 37.2	+80 56	5.8	20 34.5	+81 5 x 5.1		
20 36.0	+80.9	657		20 35.8	+80 56	7.5	20 33.1	+81 6 x 6.1		

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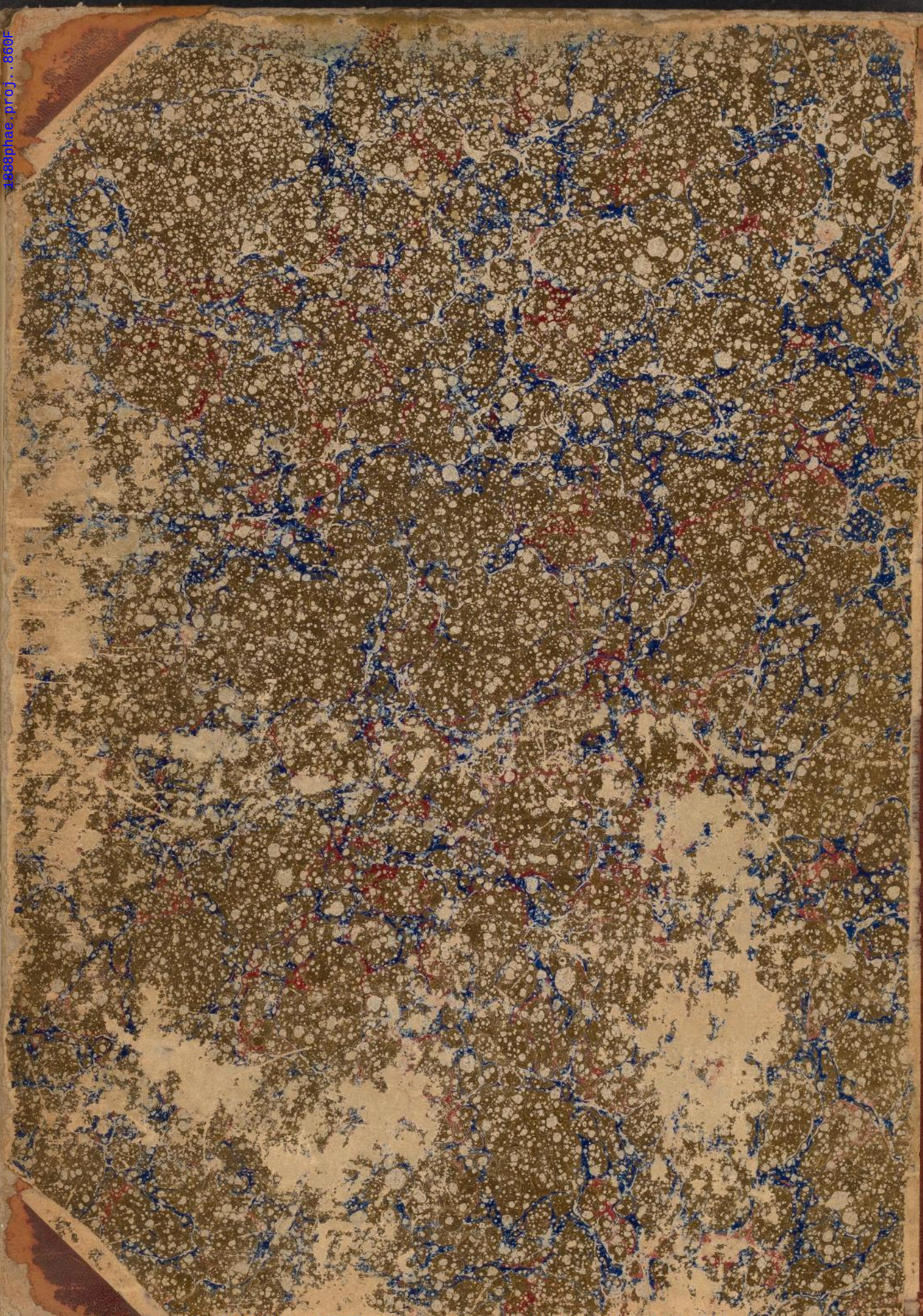
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