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List of F. plates measured and identified.

Book 19.

	No. plate	No. Stars.		No. plate	No. Stars		No. plate	No. Stars		No. plate	No. Stars
June	1341	33	Sept.	1367	123	Sept.	~~1488~~ 1490?	17	Oct.	1604	13
"	1342	37	"	1383	29	"	1689	17	"	1675	9
"	1249	14	"	1525	12	"	1694	19	"	1605	47
"	1250	31	"	1445	4	Oct.	~~1489~~ 1488?	31	"	1556	39
Aug.	1329	42	"	1500	17	"	1635	25	"	1557	39
"	1481	10	"	1550	21	"	1636	10	"	1586	7
"	1330	33	"	1551	32	"	1582	28	"	1666	17
"	1251	27	"	1542	12	"	1583	46	"	1640	30
"	1355	13	"	1568	21	"	1554	29	"	1665	19
"	1356	20	"	1622	24	"	1487	18	"	1574	10
"	1331	32	"	1601	32	"	1626	11	"	1684	7
"	1332	12	"	1569	34	"	1637	18	"	1575	50
"	1393	22	"	1421	86	"	1555	58	"	1628	9
"	1344	60	"	1501	4	"	1627	26	"	1647	5
"	1345	42	"	1548	73	"	1692	9	"	1629	8
"	1358	40	"	1502	40	"	1645	21	"	1685	38
"	1394	47	"	1552	42	"	1638	24	"	1588	13
"	1359	106	"	1624	37	"	1679?	10	"	1699	12
"	1346	77	"	1503	63	"	1687	6	"	1714	6
"	1347	197	"	1504	58	"	1674	24	"	1609	35

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Reading of F & F' plates continued
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4

F. wi. & c.

8.0 7.0

F. cl.

7.0

June 24, 1887.

Plate 1341.

	V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
12 20?	22.9	11.0	III a 4285	3	K=1,2 H?	3	F, perm.	11.4	22.0	26.2	50.2	+ 0.4
	22.1	14.0	III	3	K H	1	F	11.0	28.0	26.6	44.2	+ 0.3
	23.0	15.8	I ?	3	K=,2 H	3	—	11.5	31.6	26.1	40.6	− 0.1
	21.7	17.0	I	9	K=,2 H	4	F	10.8	34.0	26.8	38.2	− 0.5
	21.8	20.5	I ?	2	K=H	1	—	10.9	41.0	26.7	31.2	− 0.5
	21.8	22.6	II ?	2	K=H	1	—	10.9	43.2	26.7	27.0	− 0.7
?	20.6	10.4	III b 4286 ?	3	K=H	2	F, perm.	10.3	20.8	27.3	51.4	+ 1.0
	20.8	20.6	I	8	?	5	F	10.4	41.2	27.2	31.0	− 1.4
	19.8	16.5	I		N	1	—	9.9	33.0	27.7	39.2	− 0.2
	19.8	21.7	II ?	2	K=H	1	—	9.9	43.4	27.7	28.8	− 0.7
	18.8	8.7	III	3	K H	1	F	9.4	17.4	28.2	54.8	+ 0.7
III 6.2, 6.5.	18.2	14.6	III b 4287 ?	3	K H	1	F, Bright? seen	9.1	29.2	28.5	43.0	+ 0
	17.1	11.4	I		N	1	—	8.6	22.8	29.0	49.4	+ 0.4
	17.4	17.8	I	4	?	2	—	8.7	35.6	28.9	36.6	− 0.3
	15.1	17.9	I	8	K=,2 H	3	F	7.6	35.8	30.0	36.4	− 0.4
	15.9	23.4	I ?	8	K=H	4	F	8.0	46.8	29.6	25.4	− 2.3
	14.7	8.8	I	7	N	3	F	7.4	17.6	30.2	54.6	+ 1.7
	14.2	19.4	III ?	2	K=H	1	—	7.1	38.8	30.5	33.4	− 1.3
	13.8	6.4	III ?	2	K=H	1	—	6.9	12.8	30.7	59.4	+
	13.9	11.9	III		K=H	1	— F?	7.0 6.9	23.8	30.6	48.4	+ 0.4
III ? 6.4, 6.8.	12.6	13.4	III b 4288	2	K H	1	Bright? seen	6.3	26.8	31.3	45.4	+ 0.3
	11.2	18.5	III ?	2	K H	K=H 1	— —	5.6	37.0	32.0	35.2	− 0.5
	11.6	20.9	I	9	N	4	F	5.8	41.8	31.8	30.4	− 1.8
	11.6	22.1	I	3	N	1	—	5.8	44.2	31.8	28.0	− 2.2
	9.5	16.2	III	3	K=H	1	F	4.8	32.4	32.8	39.8	− 0.5
	9.0	8.3	I	6	N	3	F	4.5	16.6	33.1	55.6	+ 1.1
	7.9	9.1	III a 4289	3	K=H	1	F seen	4.0	18.2	33.6	54.0	+ 2.0
	6.0	7.8	I ?	14	K=H	1	—	3.0	15.6	34.6	56.6	+ 2.6

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Mean 4

Corr. Br.	Br.	No.	R. A.	Dec.	Mag.	H.	V.	H'	Red to 1900
0.4	— —	2666	15 30.9	+16 3	4.0	72.9	27.4	72.5	15 51.8 + 16 0 ✓
0.3	6.4 6.0 — —	2643	15 44.6	+26 26	4.6	72.6	37.4	72.3	15 45.4 + 26 23 ✓
0.1	— — — —	2632	15 40.6	+15 48	3.8	72.2	27.3	72.3	15 41.6 + 15 40 ✓
0.5	4.4 4.0 — —	2625	15 37.7	+26 41	4.8	71.7	37.5	72.2	15 38.5 + 26 36 ✓
0.5	7.0 6.6 — —	2600	15 31.0	+16 31	5.7	72.0	27.4	72.5	15 31.9 + 16 27 ✓
0.7	7.0 6.6 — —	2581	15 26.6	+16 28	6.2	71.8	27.4	72.5	15 27.6 + 16 24 ✓
1.0	6.1 5.7 6.6 6.2	2673	15 52.6	+27 14	4.1	73.4	37.5	72.4	15 53.5 + 27 10 ✓
1.4	B B	2594	15 29.6	+27 7	2.4	70.8	37.5	72.2	15 30.4 + 27 3 ✓
0.2	6.8 6.4	2629	15 39.3	+17 38	5.7	72.3	27.5	72.5	15 40.2 + 17 34 ✓
0.7	7.2 6.8 D.M.	2880	15 27.2	+17 38	6.7	70.6	27.5 0.6	71.3	15 29.3 + 17 29 ✓
0.7	6.7 6.3 7.0 6.6	2683	15 55.9	+18 9	5.3	73.3	27.6	72.6	15 56.7 + 18 5 ✓
0	6.2 5.8 6.6 6.2	2636	15 43.3	+18 31	4.2	72.5	27.6	72.5	15 44.2 + 18 28 ✓
0.4	6.5 6.1	2664	15 50.2	+18 58	6.4	73.0	27.6	72.6	15 51.2 + 18 55 ✓
0.3	6.3 5.9	2622	15 36.5	+18 52	5.8	72.1	27.5	72.4	15 37.4 + 18 47 ✓
0.4	4.7 4.3	2621	15 36.2	+20 3	4.6	72.0	27.6	72.4	15 37.1 + 19 5 ✓
2.3	4.5 4.1 — —	2572	15 22.9	+29 31	3.8	69.7	37.5	72.0	15 23.7 + 29 27 ✓
1.7	5.5 5.1	2686	15 36.7	+30 11	5.1	74.3	37.5	72.6	15 37.4 + 30 7 ✓
1.3	7.0 6.6 7.2 6.8 7.1 6.7 7.3 6.9 — —	2602	15 32.0	+30 23	6.4	70.8	37.5	72.1	15 32.8 + 30 19 ✓
			15	+					
0.4	7.1 6.7 7.5 7.1	2660	15 49.3	+20 40	6.0	73.1	27.7	72.7	15 50.2 + 20 36 ✓
0.3	6.5 6.1 7.0 6.6	2649	15 46.0	+21 20	4.8	72.8	27.6	72.5	15 46.9 + 21 17 ✓
0.5	7.2 7.1 6.7 7.5 7.1 D.M.	2607	15 32.9	+32 2	7.6	69.9	37.6	71.4	15 34.7 + 31 53 ✓
1.8	4.5 4.1	2588	15 28.1	+31 46	4.3	69.9	37.6	71.7	15 28.9 + 31 42 ✓
2.2	6.8 6.4 D.M.	2742	15 24.6	+31 48	7.0	68.8	37.6	71.0	15 26.4 + 31 39 ✓
0.5	6.6 6.2 7.0 6.6	2628	15 39.3	+32 54	5.6	71.7	37.7	72.2	15 40.1 + 33 [illegible] ✓
1.1	5.4 5.0	2687	15 57.1	+23 8	5.0	73.7	27.6	72.6	15 57.9 + 23 4 ✓
2.0	6.5 6.1	2685	15 56.5	+33 40	5.2	74.7	37.7	72.7	15 57.2 + 33 37 ✓
2.6	7.1 6.7 D.M.	2731	15 38.7	+34 35	7.0	74.3	37.6	71.7	15 0.4 + 34 27 ✓

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June 24, 1887.

Plate 1341.

?	V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
	5.8	11.6	III	2	K=H	1	—	2.9	23.2	34.5	49.0	+ 1.3
	5.1	18.2	III ?	2	K=H	1	—	2.6	36.4	35.0	35.8	- 1.2
?	3.2	13.1	III 1 4290	3	K=H	1	F. perm.	1.6	26.2	36.0	46.0	+ 0.6
	2.5	14.1	II ?	2	K=H	2	F?	1.2	28.2	26.4	24.0	+ 0.2
	2.0	17.1	I	3	H	4	F	1.0	34.2	36.6	38.0	- 0.5

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Mean 1900

rec.	Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	H.	V.	M'	Red. to 1900.
1.3	7.1	6.7	D.M.	2709	15 49.4	+34 48	7.3	72.6	37.7	71.3	15 37.1 + 34 40.
1.2	7.2	6.8	D.M.	2711	15 33.2	+35 9	6.7	69.6	37.8	70.8	15 34.9 + 35 0
0.6	6.2	5.8		2652	15 46.7	+36 2	4.7	72.9	37.6	72.3	15 47.5 + 35 59 / 15 48.4 +
0.2				2643	15 44.6	+26 26	4.6	72.0	37.6	71.8	15 45.4 + 26 23 / 15 46.5 +
1.5				2625	15 37.7	+26 41	4.2	71.9	37.7	72.4	15 38.5 + 26 36 / 15 39.6 +

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8

F.m. & c.

8.0 6.8

F. ch.

6.8

June 27, 1887.

Plate 1342.

	V	H	Type	No. Lines	K	Focus	Other lines.	V.	H.	V.	H.	Correc.	B
11.2	22.2	8.8	I	6	?	3	F	11.1	17.6	36.4	53.5	+ 5.7	5.
	21.1	5.8	III	2	K=H	1	—	10.6	11.6	36.9	59.5	+ 5.7	6.
	21.0	17.7	I	b? 4291	N	3	F	10.5	15.4	37.0	55.7	+ 4.5	6.
	20.8	8.1	I	2	K=H	1	—	10.4	16.2	37.1	54.9	+ 4.3	7.
	20.6	17.2	I	? 4	K=H	1	—	10.3	34.4	37.2	36.7	- 2.1	6.
	19.1	7.6	I	2	N	1	—	9.6	15.2	37.9	55.9	+ 7.2	6.
	19.6	20.4	I	5	K=H	1	—	9.8	40.8	37.7	30.3	- 5.3	6.
	19.4	23.5	I	7	K=H	3	F	9.7	47.0	37.8	24.1	- 5.5	5.
	18.6	11.2	I	5	K=H	2	—	9.3	22.4	38.2	48.7	+ 2.4	6.
	18.6	20.1	I	3	N	1	—	9.3	40.2	38.2	30.9	- 5.1	7.
	16.6	21.8	III	? x 2	N	K=H	1 —	8.3	42.6	39.2	27.5	- 4.8	7.
	15.9	9.2	I	3	N	1	—	8.0	18.4	39.5	52.7	+ 4.1	7.
	14.6	10.4	I	4	K=H	1	—	7.3	20.8	40.2	50.3	+ 4.9	6.
	13.6	16.8	III	b 4292 3	K=H	1	F seen	6.8	33.6	40.7	37.5	- 1.9	7.
	13.8	18.1	III	? 2	K=H	2	F?	6.9	36.2	40.6	34.9	- 2.3	6.
	12.6	20.3	I	8	K=H	3	F	6.3	40.6	41.2	30.5	- 4.1	5.
	12.7	20.6	III	x 2	N	K=H	1 —	6.4	41.2	41.1	29.9	- 4.3	7.
	10.3	17.5	I	3	N	1	—	5.2	35.0	42.3	36.1	- 2.7	6.
	10.1	22.4	I	6	N	2	F	5.0	44.8	42.5	26.3	- 8.5	5.
	9.4	11.4	I	6	N	2	F?	4.7	22.8	42.8	48.3	+ 2.7	5.
?	9.8	12.5	III	a 4293 2	K=H?	3	seen	4.9	25.0	42.6	46.1	+ 2.1	5.
	9.8	15.4	I	8	N	3	F	4.9	30.8	42.6	40.3	- 0.3	5.
	8.4	11.8	III	2	K=H	1	—	4.2	23.6	43.3	47.5	+ 2.5	7.
	8.7	12.9	I	5	K=H	1	—	4.4	25.8	43.1	45.3	+ 2.4	6.
	7.4	17.6	I	4	K=H	1	—	3.7	35.2	43.8	35.9	- 2.1	7.
	6.7	16.9	III	x 2 2	N	K=H	1 —	3.4	33.8	44.1	37.3	- 1.7	7.35
	6.6	17.5	III	x 2	N	K=H	1 —	3.3	35.0	44.2	36.1	- 3.0	7.
	6.2	20.1	I	5	?	1	—	3.1	40.2	44.4	30.7	- 6.3	6.

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Means

47.5 71.1

rec.	Br.	Cov. Br.		No.	R. A.	Dec.	Mag.	H.	V.	H'	Red. to 1900
				2694	15 39.1	+ 46 23	4.7	76.7	57.5	71.0	15 39.6 + 46 19
5.7	5.0	4.6		2678	15 54.4	+ 26 16	var.				
	6.6	6.2									
	6.9	6.5									
5.7				2710	16 4.6	+ 36 47	5.2	16.2	47.4	10.5	16 5.3 + 36 45
5.9											16 6.3 +
5.5	5.0	4.6		2614	15 34.9	+ 37 21	4.8	70.3	47.5	72.2	15 35.6 + 36 58
5.5				2692	15 58.9	+ 36 38	5.9	74.3	47.5	69.9	15 35.6 + 36 58
				2692	15 58.9	+ 36 38	5.9	73.1	47.4	70.8	15 59.6 + 36 55
4.3	7.1	6.7	D.M.	2708	15 58.0	+ 37 2	6.8				
2.1	6.5	6.1		2613	15 34.5	+ 47 18	5.7	68.9	57.5	71.0	15 35.1 + 47 8
											15 36.0 +
7.2	6.9	6.5	D.M.	2300	15 2.7	+ 47 53	6.7	17.9	57.5	10.7	16 4.0 + 47 46
5.3	6.5	6.1		2574	15 24.9	+ 47 38	5.9	65.7	57.4	71.0	15 25.6 + 47 35
											15 26.4 + DM. 2227 24.1 + 47 44
5.5	5.2	4.8		2561	15 20.0	+ 37 48	4.4	67.0	47.5	72.5	15 20.7 + 37 43
											15 21.7 +
2.4	6.3	5.9		2667	15 51.4	+ 38 18	5.6	73.8	47.6	71.4	15 52.1 + 38 14
											15 53.0 +
5.1	7.0	6.6	D.M.	2300	15 24.8	+ 48 14	6.7	65.0	57.5	70.1	15 26.2 + 48 5
	7.2	6.8									
4.8	7.4	7.0	D.M.	2875	15 23.1	+ 39 15	7.0	66.7	47.5	71.5	15 24.8 + 39 5
4.1	7.0	6.6	D.M.	2942	15 55.8	+ 39 34	6.7	74.3	47.6	70.1	15 57.4 + 39 26
											15 56.2 + 50 10
4.9	6.2	5.8		2682	15 55.7	+ 50 14	5.9	76.5	57.5	71.6	15 57.0 +
	6.7	6.3									15 35.7 + 50 43
1.9	7.0	6.6		2617	15 35.0	+ 50 48	6.0	68.6	57.6	70.5	15 36.3 +
	6.4	6.0									15 34.2 + 40 41
2.3	6.6	6.2		2611	15 33.5	+ 40 45	5.4	69.7	47.7	73.0	15 35.1 +
				2384	15 27.3	+ 41 18	5.0	68.1	47.6	72.2	15 28.2 + 41 15
4.1	5.3	4.9		2583	15 26.6	+ 41 14	5.1				
	6.7	6.3									15 27.3 + 41 11
4.3	7.2	6.8		2583	15 26.6	+ 41 14	5.1	67.8	47.6	72.1	15 28.2 +
											15 34.0 + 52 24
2.7	6.8	6.4		2607	15 32.7	+ 52 28	6.2	67.7	57.7	70.4	15 34.0
											15 17.2 + 52 17
8.5	5.7	5.3		2552	15 16.5	+ 52 25	5.6	61.3	57.4	69.8	15 17.8 +
											15 52.2 + 42 51
2.7	5.8	5.4		2669	15 51.5	+ 42 54	5.7	74.3	47.6	71.6	15 53.0 +
											15 49.2 + 42 43
2.1	5.4	5.0		2658	15 48.6	+ 42 47	4.5	73.6	47.7	71.5	15 50.1 +
											15 40.2 + 52 40
0.3	5.2	4.8		2630	15 39.6	+ 52 45	5.6	70.4	57.7	70.7	15 40.8 +
	7.2	6.8									15 43 + 43 26
2.5	7.6	7.2		2665	15 50.7	+ 43 30	5.5	74.3	47.7	71.8	15 52.2 +
2.4	6.7	6.3	D.M.	1816	15 47.4	+ 53 21	6.5	73.2	57.8	70.8	15 48.6 + 53 13
											DM. 2334 + 44.1
2.1	7.0	6.6	DM.	2493	15 33.5	+ 44 5	6.8	68.7	47.8	70.8	15 35.0 + 43 56
7.3	7.2	6.8	DM.	2501	15 35.5	+ 44 20	6.8	69.3	47.7	70.0	15 37.0 + 44 11
1.7	7.5	7.6	DM.	2493	15 33.5	+ 44 5	6.8				35.0 + 44.3
	7.0	6.6									
3.0	7.4	6.8		2604	15 32.1	+ 54 20	6.1	67.1	57.6	70.1	15 82.6 + 54 16
											15 33.3 + DM. 1756 81.4 + 54 26
6.3	6.4	6.0	D.M.	1747	15 22.6	+ 54 31	6.5	62.8	57.6	69.1	15 23.8 + 54 21

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June 27, 1887.

Plate, 1342.

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	B
5.1	11.0	=	7	K=.5H	3	F	2.6	22.0	44.9	49.1	+ 5.1	5.
5.5	16.8	III	H4294 x2	K=H	1	F?sun	2.8	33.6	44.7	37.5	− 2.3	6. 7.
5.3	17.3	=	6	K=.2H	2	F	2.6	34.6	44.9	36.5	− 3.0	5.
4.6	6.7	=	6	N	4	F	2.3	13.4	45.2	58.7	+ 7.3	4.
3.9	13.9	=	7	K=.2H	2	F	2.0	27.8	45.5	43.3	+ 1.5	6.
4.0	19.2	=	5	K=.2H?	1	—	2.0	38.4	45.5	32.7	− 5.3	6.
2.6	9.0	=	7	N	3	F	1.3	18.0	46.2	53.1	+ 5.5	5. 6.
3.0	12.6	III	3	K=H	1	F	1.5	25.2	46.0	45.9	+ 3.0	7.
2.6	16.4	=	?	2	K=H	1	—	1.3	32.8	46.2	38.3	− 1.9	7.

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Mean of

rec.	Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
5.1	5.2	4.8	2680	15 54.9	+55 5	5.0	76.9	57.7	71.8	15 53 54 + 55 1 ✓
	6.9	6.5								15 3 60 +
2.3	7.2	6.8	2612	15 34.4	+54 35	6.1	68.0	57.7	70.3	15 35.0 + 54 51 ✓
			2608	15 32.9	+55 1	5.8	67.5	57.6	70.5	15 33 + 54 57 ✓
3.0	5.5	5.1	2612	15 34.4	+54 35	6.1	69.0	57.5	72.0	15 33.4 + 54 57 ✓
										+ Zw. 1766 62.0 +55 6 ✓
7.3	4.5	4.1	2713	16 5.0	+45 15	4.2	18.1	47.5	11.1	16 5.6 + 45 12 ✓
										16 6.4 +
1.5	6.1	5.7	2642	15 44.6	+55 44	6.0	72.4	57.7	70.9	15 45.2 + 55 41 ✓
										15 45.7 +
3.2	6.5	6.1	1756 D.M.	15 25.2	+55 42	6.5	63.6	57.7	68.9	15 26.4 + 55 33 ✓
										15 59.6 + 46 19 ✓
5.5	5.0	4.6	2694	15 59.1	+46 28	4.7	77.1	47.7	71.6	16 0.5 +
	6.9	6.5								15 50.6 + 56 7 ✓
3.0	7.2	6.8	2661	15 49.5	+56 11	5.9	74.7	57.7	71.7	15 50.5 +
			1820	15 35.1	+56 22	7.5	67.9	57.7	69.8	15 36.2 + 56 13 ✓
1.9	7.2	6.8 D.M.	2100	15 38.0	+46 13	6.8				

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F. w. 8c. 8.0 5.8 F. ch. 5.8

Very dark plate. June 29, 1887. Hard to measure.

Plate 1249.

	r	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
	18.6	18.4	I ∫ 5 ∫ N ∫	2			—	9.3	36.8	23.2	58.0	− 0.5	6
	16.4	7.8	I ∫ 6 ∫ N ∫	3			F? ∫	8.2	15.6	24.3	79.2	+ 0.5	6
?	13.0	21.7	II a 4295 3 ∫ K=H	3			F. faint, ∫	6.5	43.4	26.0	57.4	− 0.6	5
	11.1	14.5	I ∫ 6 ∫ K=H	1			—	5.6	29.0	26.9	63.8	+ 0	6
∫ ∫	11.0	13.7	II ? III. 2 ∫2 K N K=H	1			—	5.5	27.4	27.0	67.4	+ 0.3	7.33 7.35
	10.1	15.7	I ∫ 4 ∫ N ∫	1			—	5.0	31.4	27.5	63.4	− 0.1	6
	10.4	16.0	II V 3 ∫ K=H	1			F ∫	5.2	32.0	27.3	62.8	− 0.1	6
	10.5	20.3	II b 4296 2 ∫ K=H	1			F? faint ∫	5.2	40.6	27.3	54.2	− 1.2	6
	8.8	19.3	II ∫ 2 ∫ K=H	1			F? ∫	4.4	38.6	28.1	56.2	− 0.3	6
	6.4	9.5	I ∫ 8 ∫ K=H	3			F ∫	3.2	19.0	29.3	75.8	+ 0.6	6
	6.1	11.9	I ∫ 5 ∫ K=H	1			—	3.0	23.8	29.5	71.0	+ 0.8	6
	7.0	21.9	II ∫ 2 ∫ K=H	1			—	3.5	43.8	29.0	51.0	− 0.8	7
	4.7	18.4	I ∫ 6 ∫ N	2			F? ∫	2.4	36.8	30.1	58.0	− 0.9	6
	2.6	9.6	II V 2 ∫ K=H	1			—	1.3	19.2	31.2	75.6	+ 1.5	7

F. w. 8c. 8.0 7.0 F. ch. 7.0

Plate 1250

	20.2	7.6	II ? ∫2 ∫ K=H	1			—	10.1	15.2	42.3	79.2	+ 5.7	6
	19.4	9.4	I ∫ 3 ∫ ? ∫	1			—	9.7	18.8	42.7	75.6	+ 2.5	6
?	19.1	20.8	I a 4297 3 ∫ K=H?	2			F. faint,	9.6	41.6	42.8	52.8	− 4.8	5
	19.0	15.6.	I ∫ 7 ∫ ? ∫	3			F ∫	9.5	11.2	42.9	83.2	+ 7.7	5
	18.9	19.7	I V 6 ∫ N ∫	2			—	9.4	39.4	43.0	55.0	− 3.7	6
	17.5	18.4	I ∫ 13 ∫ K=H	1			F ∫	8.8	36.8	43.6	57.6	− 1.8	6
∫ ∫	17.6	18.6	II ? 12 2 N K=H K=H	1			—	8.8	37.2	43.6	57.2	− 2.9	7.33 7.35
	17.8	20.0	II V 12 ∫ N K=H	1			—	8.9	40.0	43.5	54.4	− 4.1	7
	16.6	9.6	II ? V / ∫ N ∫	1			—	8.3	19.2	44.1	75.2	+ 2.4	6 6.9
	16.8	9.6	II V / ∫ N ? ∫	1			—	8.4	19.2	44.0	75.2	+ 2.4	7
	16.6	12.9	II V 2 ∫ K=H	2			F? ∫	8.3	25.8	44.1	68.6	+ 1.1	6
	15.8	17.0	I ∫ 4 ∫ N ∫	1			—	7.9	34.0	44.5	60.4	− 1.1	

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Mean 10

rec.	Br.	Cor. Br	No.	R.A.	Dec.	Mag.	H.	r.	H'	Red. to 1900
0.5	5.9	4.9	2687	15 57.1	+ 23 8	5.0	93.9	32.4	94.4	15 57.9 + 23 4
0.5	5.7	4.7	2757	16 19.9	+ 14 19	4.7	35.5	22.5	35.0	15 59.0 + 16 20.8 + 14 16
0.6	5.6	4.6	2666	15 50.9	+ 16 3	4.0	94.3	23.5	94.9	16 22.0 + 15 51.8 + 16 0
0	6.8	5.8	2718	16 6.1	+ 16 59	5.9	35.1	22.6	35.1	15 53.0 + 16 7.0 + 16 56
0.3	7.3 7.1 7.5 7.2	6.1 6.2	2603	16 6.8	+ 27 3	6.3	34.2	32.3		16 8.1 + 16 8.7 + 26 56
0.1	6.8	5.8	~~2727~~ 2967 ~~2706~~ ~~2707~~	~~16 8.4~~ ~~16 2.3~~ ~~16 2.7~~	~~+ 16 45~~ + 17 37 ~~+ 17 22~~ ~~+ 17 23~~	~~7.8~~ 6.5 ~~4.8~~	~~35.8~~ 35.6	~~22.2~~ 22.6	~~35.7~~ 33.7	16 4.2 + 17 30
0.1	6.4 6.7	5.4 5.7	2706	16 2.7	+ 17 22	4.8	34.7	22.6	34.8	16 3.6 + 17 19
1.2	6.3 6.7	5.3 5.7	2707	16 2.7	+ 17 23	4.8	34.7	22.6	34.8	16 3.6 + 17 20
0.3	7.0 7.2	6.0 6.2	2673	15 52.6	+ 27 14	4.1	93.2	32.4	94.4	15 53.3 + 27 10
0.6	5.3	4.3	2683	15 55.9	+ 18 9	5.3	94.5	24.6	95.0	15 54.5 + 15 56.7 + 18 5
0.8	6.7	5.7	2747	16 16.6	+ 19 26	3.8	35.6	22.6	35.0	15 57.9 + 16 17.5 + 19 24
0.8	7.2 7.5	6.2 6.4	2733	16 11.9	+ 29 27	5.8	35.7	32.4	34.9	16 18.6 + 16 12.7 + 29 23
0.9	5.8	4.8	2664	15 50.2	+ 18 58	6.4	94.0	22.5	94.8	16 13.7 + 15 51.2 + 19 35
1.5	6.9 7.2	5.9 6.2	2686	15 56.7	+ 30 11	5.1	93.5	32.6	94.4	15 52.2 + 15 37.4 + 30 7
			2750	16 17.4	+ 31 10	4.5	36.6	32.5	35.1	15 58.5 + 16 18.3 + 31 8

Mean 5

	Br	Cor. Br								
5.7	6.9	6.4	2772	16 24.7	+ 42 9	5.1	39.9	52.3	34.2	16 25.3 + 42 6
2.5	6.9	6.4	2753	16 18.3	+ 32 37	6.1	37.1	42.3	34.6	16 26.2 + 16 19.1 + 32 34
4.8	5.6	5.1	2638	15 48.6	+ 42 17	4.5	90.2	52.4	95.0	16 20.0 + 15 49.2 + 42 43
7.7	5.3	4.8	2787	16 30.2	+ 42 42	4.2	41.4	52.2	33.7	15 50.1 + 16 30.9 + 42 37
3.7	6.0	5.8	2669	15 51.5	+ 42 54	5.7	90.9	52.3	94.6	16 31.7 + 15 52.2 + 42 51
1.8	6.5	6.0	2685	15 56.5	+ 33 40	5.2	93.3	42.5	95.1	15 53.0 + 15 57.2 + 33 37
2.9	7.3 7.6 7.1 7.5	6.6 7.0	2547	15 33.6	+ 43 38	7.8	90.8	52.4	93.7	15 58.2 + 15 55.1 + 43 30
4.1	7.1 7.5	6.6 7.0	2665	15 50.7	+ 43 30	5.5	90.7	52.4	94.8	15 51.3 + 43 26
2.4	6.9 7.4	6.4 6.9	2751	16 17.8	+ 34 5	5.1	37.0	42.4	34.6	15 52.2 + 16 18.6 + 34 2
2.4	6.9 7.4	6.4 6.9	2752	16 18.0	+ 33 39	5.0	37.2	42.4	34.8	16 19.3 + 16 18.7 + 33 56
1.1	6.3	5.8	2730	16 10.2	+ 34 10	5.3	36.0	42.5	34.9	16 19.7 + 16 10.0 + 34 6
1.1	6.9	6.4	2731	15 58.7	+ 34 35	7.0	92.7	42.5	93.8	16 11.9 + 16 0.4 + 34 27

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June 29, 1887.

Plate 12 ∨ 0.

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc	
15.4	20.9	I ?	3	N	1	—	7.7	41.8	44.7	52.6	− 3.1	
14.5	14.9	I	9	N1	4	F	7.2	29.8	45.2	64.6	+ 0	
12.9	6.8	I	5	N	2	—	6.4	13.6	46.0	80.8	+ 7.5	
12.3	16.8	I	8	N	3	—	6.2	33.6	46.2	60.8	− 1.5	
12.6	22.2	III h?	H 4298 2	K=H	2	F? seen	6.3	44.4	46.1	50.0	− 4.3	
11.8	11.1	I	10	N	4	F	5.9	22.2	46.5	72.2	+ 3.6	
11.4	15.1	III he	4299 2	K=H	2	bright seen	5.7	30.2	46.7	64.2	− 0	
?	11.0	17.3	III a	4300 2	K=H	1	F? seen.	5.5	34.6	46.9	49.8	− 1.3
∨ ∨	10.9	19.1	III	2 2	K=H K=H	1	—	5.4	38.2	47.0	56.2	− 2.4
	9.5	8.6	I	5	?	2	—	4.8	17.2	47.6	77.2	+ 3.9
	9.4	15.3	I	4	N	1	—	4.7	30.6	47.7	63.8	− 0.3
∨ ∨	9.8	16.8	III	2 2	K=H K=H	1	—	4.9	33.6	47.5	60.8	− 1.8
∨ ∨	8.2	13.4	? II a	4300 a ? 2	2 K=H K=H	1	— seen	4.1	26.8	48.3	67.6	+ 0.9
	8.4	20.1	I	6	K	2	—	4.3	40.2	48.2	54.2	− 3.3
?	6.3	7.7	I d?	4	?	1	~~~	3.2	15.4	49.2	79.0	+ 7.5
	5.9	18.0	I	4	N	1	—	3.0	36.0	49.4	58.4	− 2.1
?	5.0	10.8	I a ?	H 4301 2	K=H	2	seen.	2.5	21.6	49.9	72.8	+ 2.7
	4.6	17.8	I	6	K=H	2	—	2.3	35.6	50.1	58.8	− 2.9
∨ ∨	1.9	9.4	I ? II ?	2 2	K=H K=H	1	—	1.0	18.8	51.4	75.6	+ 6.1

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Mean 5

Correc	Br.	Br. cor.		No.	R. A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
−3.1	7.2	6.7	D.M.	2709	15 49.N	+34 48	7.3	91.2	42.5	94.3	15 51.1 +34 40
+ 0	4.4	3.9		2713	16 5.0	+45 15	4.2	34.8	52.4	34.8	16 5.6 +45 12
+7.5	6.1	5.6		2782	16 28.3	+45 53	5.3	41.9	52.3	34.4	16 28.8 +45 50
−1.5	4.9	4.5		2694	15 59.1	+46 22	4.7	92.7	52.6	94.2	15 59.6 +46 19
−4.3	6.3 6.6	5.8 6.1		2652	15 46.7	+36 2	4.7	91.1	42.3	95.4	15 47.5 +35 59
+3.6	4.0	3.5		2745	16 16.1	+46 36	3.9	38.3	52.5	34.7	16 16.9 +46 33
− 0	6.2 6.5	5.7 6.0		2710	16 4.6	+36 47	5.2	34.8	42.5	34.8	16 5.3 +36 45
−1.3	6.6	6.1		2692	15 58.9	+36 58	5.9	93.5	42.5	94.8	15 59.6 +36 55
−2.4	7.1 7.5	6.6 7.0		2679	15 54.5	+36 58	5.8	92.7	42.4	95.1	15 55.2 +36 55
+3.9	6.0	5.5		2760	16 21.1	+37 40	5.5	38.3	42.5	34.4	16 21.9 +37 37
−0.3	6.5	6.0	D.M.	2300	16 2.7	+47 53	6.7	33.3	52.6	33.6	16 4.0 +47 46
−1.8	7.0 7.3	6.6 7.0	D.M.	2291	15 58.3	+47 38	6.6	91.9	52.5	93.7	15 59.7 +47 30
+0.9	7.1 7.0	6.5	D.M.	2736	16 8.0	+38 27	6.8	34.8	42.5	33.9	16 9.6 +38 20
−3.3	6.0	5.5		2667	15 51.4	+38 18	5.6	91.6	42.5	94.9	15 52.1 +38 14
+7.5	6.5	6.0		2779	16 26.8	+49 14	6.1	42.2	52.4	34.7	16 27.4 +49 10
−2.1	6.8	6.3	D.M.	2942	15 55.8	+39 34	6.7	91.8	42.6	93.9	15 57.4 +39 26
+2.7	6.1	5.6		2742	16 15.7	+39 58	5.5	37.3	42.5	34.6	16 16.3 +39 57
+2.9	6.3	5.8		2682	15 55.7	+50 14	5.9	91.3	52.5	94.2	15 56.2 +50 10
+6.1	7.2 7.2		D.M.	2097	16 21.8	+51 28	7.0	40.6	52.4	34.5	16 23.0 +51 22

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F. m. 8c. 8.0 6.8 F. ch. 6.8

August 5, 1887.

Plate 1329.

12 40	Y	H	Type	No. lines	K	Focus	Other lines	Y.	Th.	Y.	Th.	Correc.
?	22.9	19.8	~~IIIa~~	4302 3	K=H	4	F, cen,					
	20.4	7.9	~~III~~ IIa?	4303 2	K=H	1	F cen	10.2 ~~10.8~~	15.8	27.4	33.3	+ 1.6
	20.2	10.8	I	3	N	1	—	10.1 ~~10.4~~	21.6	27.5	29.5	+ 0.1
	20.9	12.7	I	3	N	1	—					
	20.0	14.0	I	5	K=H	1	—					
	20.3	14.4	III	3	K=H	2	F	~~10.2~~ ~~40.6~~	~~28.8~~			
	20.9	22.1	I	4	N	1	—	10.4 ~~41.8~~	44.2	27.2	6.9	—
	20.1	23.7	III	? 3	K=H	1	F	10.0	47.4	27.6	3.7	—
	19.8	23.4	I	5	K=H	1	—	9.9	46.8	27.7	4.3	− 0.8
	18.8	17.5	III	3	K=H	1	F	~~9.4~~	~~35.0~~			
III 6.4, 6.8.	18.0	23.4	III	3	K=H	1	F	~~9.0~~	~~46.8~~			
	17.1	20.1	I	5	N	1	—	~~8.6~~	~~40.2~~			
	16.2	7.8 c	I	? 8	K=H	4	F	~~8.1~~	~~15.6~~			
	16.8	10.8	III	? III 2 2	K=H	1	—	~~8.4~~	~~21.6~~			
	16.2	13.8	~~III~~ I	? I 2 5	K=H	1	—	8.1	27.6	29.5	23.5	+ 0.3
	16.4	17.0	I	11	K=H	4	F	8.2	34.0	29.4	17.1	− 0.2
	16.2	18.8	I	7	K=H	2	F	8.1	37.6	29.5	13.5	− 1.0
	13.5	11.6	IIa	4304 2 2	K=H	1	cen cen	6.8	23.2	30.8	27.9	+ 0.9
	13.7	13.1	III	4305 3	K=H	1	F cen	6.8	26.2	30.8	24.9	+ 0.2
?	13.0	16.4	III	4306 3	K=H	2	F cen bright?	6.5	32.8	31.1	18.3	− 0.4
	13.8	20.5	III	2	K=H	1	—	~~6.9~~	~~41.0~~			
	12.3	8.7	III	2	K=H	1	F?	~~6.2~~	~~17.4~~			
	12.4	17.8	III	2	K=H	1	—	6.2	35.6	31.4	15.5	—
	12.4	22.0	III	4307 3 4308	K=H	1	F cen	~~6.2~~	~~44.0~~			
?	11.5	8.3	IIa	? 3	K=H	?	F, cen	5.8	16.6	31.8	34.5	+ 2.0
	11.4	12.0	I	4	K=H	1	—	~~5.7~~	~~24.0~~			
?	11.8	13.2	III	4309 3	K=H	4	F Bright cen	5.9	26.4	31.7	24.7	+ 0.3
	11.0	18.2	II	? 2 2	K=H	1	—	5.5	36.4	32.1	14.7	− 1.0

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Mean 4

rec.			No.	R.A.	Dec.	Mag.				Red to 1900		Br.	Br.
	15 49.9	+16.1	2666	15 50.9	+16 3	4.0				15 51.3	+16 0		
1.6	1.6	0.7	2808	16 36.8	+27 9	5.8	52.6	37.4	51.0	16 37.3	+27 7	7.0	6.6
0.4	0.9	0.4	2783	16 30.0	+17 18	6.1	51.6	27.4	51.2	16 30.9	+17 15	6.7	6.3
	16 4.9	+17.0	2718	16 6.1	+16 59	5.9				16 7.0	+16 56	6.6	6.2
	16 2.5	+17.4	Dm. 2967	16 2.2	+17 37	6.3				16 4.2	+17 30	6.5	6.1
			2706	16 2.7	+17 22	4.8				16 3.6	+17 19	6.3	5.9
	16 1.5	+17.4	2707	16 2.7	+17 23	4.8				16 3.6	+17 20	6.6	6.2
	1.6	0.7	2718	16 6.1	+16 59	5.9	50.3	27.4		16 7.0	+16 56	6.6	6.2
			2706	16 2.7	+17 22	4.8				16 3.6	+17 19	6.5	6.1
	2.0	0.9	2707	16 2.7	+17 23	4.8	50.1	27.4		16 3.6	+17 20	6.8	6.4
0.8	1.9	0.7	Dm. 2967	16 2.2	+17 37	6.3	49.0	27.5	49.8	16 4.2	+17 30	6.5	6.1
												6.5	6.1
	15 55.8	+18.2	2683	15 55.9	+18 9	5.3				15 56.7	+18 3	6.7	6.3
												6.3	5.9
	15 42.2	+18.6	2636	15 43.3	+18 31	4.2				15 44.2	+18 28	6.9	6.5
										Dm. 3036	49.2	+17	
	15 49.2	+19.2	2664	15 50.2	+18 58	6.4				15 51.2	+18 55	6.2	5.8
	16 15.5	+19.5	2747	16 16.6	+19 26	3.8				16 17.5	+19 24	4.3	4.1
												7.0	6.6
	16 9.1	+19.2	2731	16 10.3	+19 8	5.9				16 11.0	+19 3	7.3	6.9
			3107	16 22.2	+19 20	7.0							
0.3	0.3	-0.1	Dm. 2834	16 22.8	+29 24	6.8	50.4	37.5	50.1	16 24.6	+29	18	7.2
0.2	0.5	0.2	2747	16 16.6	+19 26	3.8	50.6	27.6	50.8	16 17.5	+19 24	4.4	4.0
1.0	1.0	0.4	2733	16 11.9	+29 27	5.8	49.5	37.5	50.5	16 12.7	+29 23	5.9	5.5
0.9	0.9		Dm. 2834	16 27.8	+30 49	6.9	51.0	37.6	50.1	16 29.6	+30 43	6.8	6.5
0.2	0.5	0.2	2776	16 25.4	+20 45	4.7	51.6	27.6	51.4	16 26.2	+20 42	6.5	6.1
												6.8	6.4
0.4	0.4	0.2	2750	16 17.4	+31 10	4.3	50.2	37.7	50.6	16 18.3	+31 8	5.8	5.5
												6.2	5.8
	15 48.2	+20.7	2660	15 49.3	+20 40	6.0				15 50.2	+20 36	7.1	6.7
												7.0	7.1
	16 13.9	+21.5	2740	16 14.9	+21 25	6.3				16 15.8	+21 23	7.0	6.6
	0.8	0.4	2740	16 14.9	+21 25	6.3	50.5	27.6		16 15.8	+21 23	7.1	6.7
												7.1	7.0
	15 44.9	+21.4	2649	15 46.0	+21 20	4.8				15 46.9	+21 17	6.5	6.1
												7.0	6.6
2.0	2.0	1.0	2807	16 36.8	+31 49	3.1	53.4	37.6	51.0	16 37.5	+31 47	4.3	4.0
	16 8.4	+21.7	Dm. 2886	16 6.9	+21 56	6.8				16 8.8	+21 49	6.8	6.4
								37.7				4.4	4.0
0.3	0.5	0.3	2774	16 25.1	+21 45	2.8	51.5	27.6	51.2	16 26.0	+21 42	4.2	4.3
												7.1	
1.0	1.0		Dm. 2702	16 12.1	+32 9	7.2	48.5	37.7	49.5	16 13.8	+32 2	7.2	6.8

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Plate 1329.

V	H	Type	No. lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
11.4	21.0	I	4	K=H	1	—	5.7	42.0	21.9	9.1	− 0.9
10.2	12.7	III	x 2 2	K=H	1,	F.?	5.1	25.4	32.5	25.7	+ 0.3
10.0	16.0	I	6	K=.2H	2	—	5.0	32.0	32.6	19.1	− 0.3
10.0	16.6	I	3 4	K=H	1	—	~~5.0~~	~~33.2~~			
9.0	16.9	I	8	K=.2H	3	F.	~~4.5~~	~~33.8~~			
8.6	8.9	III	x 2 2 2	K=H	1,	—	4.3	17.8	33.3	33.3	+ 0.9
7.6	12.5	IIa	2	K=H	1,	[illegible]	~~3.8~~	~~25.0~~			
7.6	12.6	III	2	K=H	1,	—	3.8	25.2	33.8	25.9	+ 0.8
7.4	16.2	III	x 2	K=H	1	—	3.7	32.4	33.9	18.7	− 0.4
7.1	16.2	III	2	K=H	1	—	3.6	32.4	34.0	18.7	− 0.4
6.5	7.3	I	4	K=H	1	—	3.2	14.6	34.4	36.5	+ 2.7
? 6.9	19.4	IIa	3	K=H	2	F.	3.4	38.8	34.2	12.3	−
? 2.4	22.5	IIa	3	K=H	2	F.	~~1.2~~	~~45.0~~			

III ? 6.6, 7.0

III ? 6.6, 7.0

F. nu. 4c. 8.0 6.5

F. ch. 6.6

Plate 1481.

20.4	9.6	III	2	K=H	1	—	10.2	19.2	27.4	35.4	+ 1.3
16.3	18.7	I	7	K=H	2	F.	8.2	37.4	29.4	17.2	− 0.4
16.0	20.5	I	3	N	1	—	8.0	41.0	29.6	13.6	− 1.5
13.7	14.8	III	x 2	K=H	1	F.?	6.8	29.6	30.8	25.0	+ 0
12.8	18.0	III	3	K=H	1	F.	6.4	36.0	31.2	18.6	− 0.9
? 11.5	9.9	h?	3	K=H	4	F.	5.8	19.8	31.8	34.8	+ 1.5
11.8	14.8	4c	3	K=H	3	F.	5.9	29.6	31.7	25.0	+ 0
9.7	17.6	I?	3	N	1	—	4.8	35.2	32.8	19.4	− 0.8
6.6	20.9	I?	2	K=H	1	—	3.3	41.8	34.3	12.8	− 2.0
6.5	8.9	I?	2	K=H	1	—	3.2	17.8	34.4	36.8	+ 2.1

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Mean 4

rec.		No.	R.A.	Dec.	Mag.	~~π~~	~~μ~~	π'	Red. to 1900	Cor. Br.	Br.
0.9		D.M. 2886	16 6.9	+21 56	6.8	48.9	27.6	49.8	16 8.8	+21 49	6.8 6.4
1.3		D.M. 2983	16 25.0	+22 31	6.5	50.4	27.6	50.1	16 26.9	+22 25	7.0 6.6
.3	0.3	0.1 2753	16 18.3	+32 37	6.1	50.3	37.6	50.6	16 19.1	+32 34	6.3 5.9
		D.M. 2914	15 56.5	+22 38	6.8				15 57.4	+22 30	7.0 6.6*
	15 56.0	+23.2	2687	15 57.1	+23 8	5.0				15 57.9	+23 4 5.3 4.9*
0.9	2.0	0.9 D.M. 3008	16 33.2	+22 17	7.2	51.0	26.6	50.1	16 33.1	+22 11	7.2 7.0
	16 5	+23.9	2719	16 6.5	+23 49	6.1				16 7.3	+23 45 6.9 6.5*
0.8	0.8	D.M. 2742	16 26.1	+33 50	7.1	51.3	37.6	50.5	16 27.8	+33 44	7.2 6.8
0.4	0.4	0.2 2752	16 18.0	+33 59	5.0	50.4	37.7	50.8	16 18.7	+33 56	6.5 6.4
0.4	0.4	0.2 2751	16 17.8	+34 5	5.1	50.2	37.7	50.6	16 18.6	+34 2	6.8 6.4
2.7	2.7	1.4 2811	16 39.4	+34 16	5.8	54.0	37.5	51.3	16 40.1	+34 13	6.5 6.1
	1.5	0.8 2730	16 10.2	+34 10	5.3	49.0	37.6		16 11.0	+34 6	5.7 5.3
	15 43.5	+26.5	2643	15 44.6	+26 26	4.6				15 45.4	+26 23

~~Br.~~

1.3	2808	16 36.8	+27 9	5.8	56.0	37.4	54.7	16 37.5	+27 7 7.2 7.0
0.4	2747	16 16.6	+19 26	3.8	54.0	27.6	54.4	16 17.5	+19 24 5.2
1.5	2733	16 11.9	+29 27	5.8	52.9	37.4	54.4	16 12.7	+29 23 6.8
0	2776	16 25.4	+20 45	4.7	53.0	27.6	55.0	16 26.2	+20 42 6.9 7.3
0.9	2750	16 17.4	+31 10	4.5	53.4	37.6	54.3	16 18.3	+31 8 6.6 6.9
1.5	2807	16 36.8	+31 49	3.1	56.6	37.6	55.1	16 37.5	+31 47 4.5 4.6
0	2774	16 25.1	+21 45	2.8	54.7	27.7	54.7	16 26.0	+21 42 5.0 5.4
0.8	2753	16 18.3	+32 37	6.1	53.5	37.4	54.3	16 19.1	+32 34 7.0
2.0	2730	16 10.2	+34 10	5.3	52.0	37.5	54.0	16 11.0	+34 6 6.8
2.1	2811	16 39.4	+34 16	5.8	57.2	37.5	55.1	16 40.1	+34 13 7.2

* Plate 1329. Stars marked with an asterisk are on extra exposure. Centre at R.A. 16h. Dec. +20°

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F. m. & c. 8.0 7.0 F. ch. 7.0

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Plate 1330

V	H	Type	Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
22.2	6.1	I	5		2	—	11.1	12.2	46.5	98.1	+ 8.7
22.0	22.2	I	8	N	3	F	11.0	44.4	46.6	65.9	- 6.7
21.9	16.2	I	9		4	F	11.0	32.4	46.6	77.9	- 1.1
21.3	21.2	III	3	K=H	1	F	10.6	42.4	47.0	67.9	- 3.7
20.7	23.5	I ?	3	N	1	—	10.4	47.0	47.2	63.3	- 5.4
19.8	14.8	I	7	K=.2H	2	F	9.9	29.6	47.7	80.7	+ 0
19.1	20.5	I	4	N	1	—	9.6	48.0	48.0	69.3	- 5.4
18.3	11.5	III	2	K=H	1	—	9.2	23.0	48.4	87.3	+ 2.3
?	16.8	9.9	4315	K= 1.5 H ?	3	F Bright plate ?	8.4	15.8	49.2	94.5	+ 4.9
III 6.6, 6.9	16.7	10.0	III	3	K=H	F	8.4	20.0	49.2	90.3	+ 5.3
	16.7	12.8	I	6	N 2	F	8.4	35.6	49.2	84.7	+ 2.7
	16.5	16.3	III ?	2 2	K=H	K=H 1	8.2	32.6	49.4	77.7	- 1.3
	? 15.3	16.7	II a	3	K=H	F, poor	7.6	33.4	50.0	76.9	- 1.2
	14.6	8.8	II a	2	K=H	K=H 1 F ? poor	7.3	17.6	50.3	92.7	+ 6.6
	14.4	11.9	III ?	2 2	K=H	K=H 1 —	7.2	23.8	50.4	86.5	+ 3.3
	14.4	22.7	I ?		K=H	2 F	7.2	45.4	50.4	64.9	- 8.3
	11.9	13.2	III	2	K=H	1 F bright poor	6.0	26.4	51.6	83.9	+ 2.1
III ? Peculiar Spectrum 6.4 6.6 6.8	11.0	13.4	III			1 F bright poor	5.5	26.8	52.1	83.5	+ 1.2
	11.1	14.4	I ?	I ? H	K=H	K=H 1 —	5.6	28.8	52.0	81.5	+ 0.7
	10.0	11.4	I	10	K=.2H ?	4 F	5.0	22.8	52.6	87.5	+ 2.7
	10.1	14.5	I	4	N	1 —	5.0	29.0	52.6	81.3	+ 0.6
	10.6	15.7	I	3 5	? K=H	2 —	5.3	31.4	52.3	78.9	- 0.7
* ?	9.0	11.0	I	7	N	3 poor	4.5	22.0	53.1	88.3	+ 4.8
	8.1	17.0	III	2	K=H	1 —	4.0	34.0	53.6	76.3	- 2.4
	4.4	14.5	I	7	K=.2H	2 F	2.2	29.0	55.4	81.3	+ 0.6
	4.8	20.3	I	8	N	3 F	2.4	40.6	55.2	69.7	- 4.8
	4.8	22.1	I	6	K=.5H	2 F	2.4	~~42.4~~ 44.2	55.2	~~67.9~~ 66.1	- 9.0 ~~7.5~~ 6.1
	3.2	9.2	I	4		1 —	1.6	18.4	56.0	91.9	+

* Spectra of Nº 1 also superposed on plate. Measures of brightness combined light of both.

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Mean 3

rec.	Br.	Cor. Br.	No.	R. A.	Dec.	Mag.	m.	v.	m'	Red. to 1900.
5.7	5.4	5.1	2826	16 45.7	+ 46 12	5.0	57.9	57.3	49.2	16 46.3 + 46 10
5.7	5.0	4.7	2694	15 59.1	+ 46 22	4.7	103.5	57.4	110.2	15 59.6 + 46 19
1.1	4.1	3.8	2745	16 16.1	+ 46 36	3.9	48.5	57.6	49.6	16 16.7 + 46 33
3.7	6.6	6.3	2710	16 4.6	+ 36 47	5.2	47.0	47.4	50.7	16 5.3 + 36 45
5.4	7.0	6.7	2692	15 58.9	+ 36 58	5.9	105.9	47.4	111.3	15 59.6 + 36 55
0	5.9	5.6	2760	16 21.1	+ 37 40	5.3	50.7	47.5	50.7	16 21.9 + 37 37
5.4	6.7	6.4	D.M. 2300	16 2.7	+ 47 53	6.7	43.7	57.5	50.1	16 4.0 + 47 46
2.3	7.2	6.9	D.M. 2793	16 28.6	+ 38 24	6.8	51.6	47.6	49.3	16 30.2 + 38 18
4.9	5.3	5.0	2810	16 38.8	+ 39 9	3.7	54.6	47.6	49.7	16 39.5 + 39 7
5.3	6.4	6.1	2802	16 35.5	+ 49 10	5.2	55.5	57.6	50.2	16 36.1 + 49 7
2.7	6.2	5.9	2779	16 26.8	+ 49 14	6.1	52.4	57.6	49.7	16 27.4 + 49 10
1.3	7.3	7.0	2743	16 15.8	+ 49 19	6.1	48.4	57.5	49.7	16 16.4 + 49 17
1.2	5.9	5.6	2742	16 15.7	+ 39 58	5.5	49.1	47.6	50.3	16 16.3 + 39 57
6.6	6.8	6.6	D.M. 2319	16 38.6	+ 50 14	6.5	56.2	57.5	49.6	16 39.8 + 50 9
3.3	7.4	7.1	D.M. 2305	16 29.1	+ 50 26	6.8	52.9	57.6	49.6	16 30.3 + 50 20
8.3	6.2	5.9	2682	15 55.7	+ 50 14	5.9	101.1	57.4	109.4	15 56.2 + 50 10
2.1	7.3	7.0	2777	16 25.6	+ 51 42	6.4	52.0	57.7	49.9	16 26.1 + 51 39
1.2	6.4	6.1	2772	16 24.7	+ 42 9	5.1	51.5	47.7	50.3	16 25.3 + 42 6
0.7	7.2	6.9	D.M. 1963	16 21.3	+ 32 4	6.9	50.1	57.7	49.4	16 22.4 + 31 58
2.7	4.3	4.0	2787	16 30.2	+ 42 42	4.2	53.0	47.7	50.3	16 30.9 + 42 39
0.6	6.4	6.1	D.M. 1964	16 20.8	+ 32 37	6.5	49.8	57.6	49.2	16 21.9 + 32 31
1.7	6.3	5.9	D.M. 1960	16 16.7	+ 32 23	6.8	48.1	57.7	48.8	16 17.8 + 32 16
4.8	4.4	4.1	2794	16 33.4	+ 53 10	5.2	55.4	57.7	50.6	16 33.9 + 53 8
2.4	7.0	6.7	DM. 1856	16 12.3	+ 53 36	7.0	46.3	57.6	48.7	16 13.4 + 53 29
1.6	5.5	5.2	2763	16 21.8	+ 55 29	5.7	50.8	57.7	50.2	16 22.2 + 53 26
1.8	5.6	5.3	2713	16 5.0	+ 45 15	4.2	45.6	47.7	50.4	16 5.6 + 45 12
7.0	5.3	5.0	2680	15 54.9	+ 55 5	5.0	99.1	57.5	108.1	15 55.4 + 55 1
7.5	6.4	6.1	DM. 1872	16 40.0	+ 55 58	6.3	58.4	57.6	50.9	16 40.9 + 55 53

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Plate 1330.

V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
3.6	12.3	I	6	K=.2H	2	—	1.8	24.6	55.8	85.7	+2.4
2.6	6.2	I	6	H	2	F	1.3	12.4	56.3	97.9	+8.5
2.7	10.6	III	12	K=H	1	F?	1.4	21.2	56.2	89.1	+3.7
2.3	16.3	I	6	H	4	F, Lecm	1.2	32.6	56.4	77.7	−1.2
2.4	22.2	I	7	H	3	F	1.2	44.4	56.4	65.9	−6.7

F.m. tc. F. ch.

8.0 ... 7.5 Plate 1251. 7.6

	19.5	20.0	I	5	N	2	—	9.8	40.0	12.5	35.8	−0.3
	18.9	8.2	I	6	N	3	—	9.4	16.4	13.9	59.4	+0.4
	17.2	9.1	I	6	N	2	—	8.6	18.2	13.7	57.6	+0.4
	17.1	13.2	II	2	K=H	1	F? Lecm	8.6	26.4	13.7	49.4	+0.2
III 6.6, 6.9.	16.2	9.4	III	2	K=H	1	F?	8.1	18.8	14.2	57.0	+0.4
	16.8	21.5	II?	2	K=H	1	—	8.4	43.0	13.9	32.8	−0.4
	15.3	9.3	III?	2	K=H	1	—	7.6	18.6	14.7	57.2	+0.4
	15.0	21.8	II?	3	K=H	1	F Lecm	7.5	43.6	14.8	32.2	−0.5
	14.5	10.1	I	5	N	2	—	7.2	20.2	15.1	55.6	+0.3
	14.5	14.7	I	5	N	2	—	7.2	29.4	15.1	46.4	+0
	[illegible]		II	4	N	4	—	6.8	43.0	15.5	32.2	−0.5
	17.8	15.8	I	5	N	2	—	8.9	31.6	13.4	44.2	−0
	13.0	13.7	III	2	K=H	1	—	6.5	27.4	15.8	48.4	+0.1
	13.5	14.1	III	2	K=H	1	—	6.8	28.2	15.5	47.6	+0
	13.6	15.5	III	2	K=H	1	—	6.8	31.0	15.5	44.8	−0
	13.2	21.8	I	5	N	2	—	6.6	43.6	15.7	32.2	−0.5
	12.8	15.0	I	3	N	K=H 1	—	6.4	30.0	15.9	45.8	−0
	12.9	17.7	III	2	K=H	1	—	6.4	35.4	15.9	40.4	−0.2
	11.2	10.4	I	3	N	1	—	5.6	20.8	16.7	55.0	+0.4
	11.8	12.6	II	2	K=H	1	Lecm	5.9	25.2	16.4	50.6	+0.2
?	10.0	22.4	I	3	N	2	—	5.0	44.8	17.3	31.0	−0.7

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Mean 3

Correc.	Br.	Br. (cor.)	No.	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900
										Sm. 2422 27.4 + 45 56
+2.4	5.8	5.5	2782	16 28.3	+ 45 53	5.3	52.9	47.7	50.5	16 28.8 + 45 50
-8.5	5.5	5.2	2826	16 45.7	+ 46 12	5.0	58.1	47.5	49.6	16 46.3 + 46 10
5.7	6.5 6.8	6.2 6.5	2803	16 35.6	+ 56 15	5.3	56.8	57.6	51.1	16 36.0 + 56 13
12			2745	16 16.1	+ 46 36	3.9	48.7	47.8	49.9	16 16.7 + 46 33
6.7			2694	15 59.1	+ 46 22	4.7	103.5	47.6	110.2	15 59.6 + 46 19

Mean 4

	Br.	Br. (cor.)		No.	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900
0.3	6.6	6.2		2801	16 35.3	+ 12 39	5.9	75.3	22.4	75.6	16 36.2 + 12 35
0.4	5.7	5.3		2859	16 59.8	+ 12 54	4.9	76.2	22.3	75.8	16 0.7 + 12 53
0.4	6.3	5.9		2852	16 58.1	+ 13 47	6.0	76.3	22.4	75.9	15 59.1 + 13 44
				~~2583~~	~~16 58.5~~	~~+ 13 45~~	~~6.1~~	~~76.7~~	~~22.4~~	~~76.3~~	
0.2	6.7 6.8	6.4	D.M.	3258	16 48.6	+ 13 52	6.3	75.0	22.5	74.8	16 50.7 + 13 47
0.4	6.6 7.0	6.2 6.6		2849	16 57.6	+ 14 18	5.1	76.4	22.4	76.0	16 58.6 + 14 14
0.4	6.9 7.0	6.6		2791	16 32.3	+ 13 56	6.1	75.3	22.3	75.7	16 33.2 + 13 54
0.4	7.0 7.3	6.6 6.9	D.M.	3180	16 36.6	+ 14 45	6.3	75.2	22.4	74.8	16 38.7 + 14 41
0.5	6.8	6.4	D.M.	3086	16 30.3	+ 14 46	6.8	73.9	22.3	74.4	16 32.4 + 14 40
0.3	6.3	5.9	D.M.	3095	16 35.0	+ 15 9	6.2	75.2	22.4	74.9	16 37.0 + 15 5
				~~2828~~	~~+6 46.4~~	~~+ 15 9~~	~~6.2~~	~~75.8~~	~~22.4~~	~~75.8~~	
0	6.4	6.0		2829	16 46.6	+ 15 11	6.4	76.0	22.4	76.0	16 47.6 + 15 9
~~0.5~~	6.7		~~D.M.~~	~~3029~~	~~16 30.1~~	~~+ 15 48~~	~~6.5~~	~~73.7~~	~~22.6~~	~~74.2~~	~~16 32.1 + 15 42~~
0	6.1	5.7		2822	16 44.0	+ 13 29	6.0	75.6	22.4	75.6	16 45.0 + 13 26
0.1	7.0 7.4	6.6 7.0	D.M.	3077	16 47.6	+ 15 53	7.3	75.0	22.4	74.9	16 49.6 + 15 48
0	7.0 7.4	6.6 6.8	D.M.	3072	16 46.8	+ 15 39	7.8	75.0	22.4	75.0	16 48.8 + 15 34
0	7.0 7.3	6.6 6.9	D.M.	3038	16 43.4	+ 15 39	6.8	74.4	22.4	74.4	16 45.4 + 15 34
0.5	6.3	5.9	D.M.	3029	16 30.1	+ 15 48	6.5	73.7	22.4	74.2	16 32.1 + 15 42
0	6.8 7.0	6.4 6.6	D.M.	3051	16 44.6	+ 16 3	7.5	74.6	22.4	74.6	16 46.6 + 15 58
0.2	7.0 7.4	6.6 7.0		2812	16 40.0	+ 15 58	5.6	75.4	22.4	75.6	16 40.9 + 15 56
0.4	7.0 7.2	6.6	D.M.	3083	16 54.5	+ 16 49	7.2	75.3	22.4	75.7	16 56.5 + 16 45
0.2	7.0 7.2	6.6 6.8	D.M.	3069	16 49.9	+ 16 32	7.2	75.1	22.4	75.3	16 51.9 + 16 27
0.7	6.3	5.9		2785	16 30.0	+ 17 18	6.1	74.8	22.3	75.5	16 30.9 + 17 12

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Plate 1251.

r	h	Type	No. lines	K	Focus	Other lines.	V.	Th.	V.	Th.	Correc.
8.8	11.3	III ? III? 1		K=H	1	—	4.4	22.6	17.9	53.3	+ 0.3
8.4	14.4	I ? I 4 III 4		K=H	1	—	4.2	28.8	18.1	47.0	+ 0
7.7	13.1	III	2	K=H	1	—	3.8	26.2	18.5	49.6	+ 0.2
5.3	8.6	I	5	N	2	F.	2.6	17.2	19.7	58.6	+ 0.7
5.7	9.7	I ? I	3 4	K=H	1	—	2.8	19.4	19.5	56.4	+ 0.6
2.7	13.2	II ?	3	K=H	1	F	1.4	26.4	20.9	49.4	+ 0.4

F.m. 8c. 7.9 7.0 — F. ch. 7.0

Plate 1355

? 21.4	22.0	III	4320 3	K=1.2 H ?	4	F, pur. bright	10.7	44.0	21.8	26.5	− 1.0
19.2	17.6	I ?	3	N	1	—	9.6	35.2	22.9	35.3	− 0.2
18.6	5.7	I	3	N	2	—	9.3	11.4	23.2	59.1	+ 0.5
17.5	13.5	II	4	N	1	—	8.8	27.0	23.7	43.5	+ 0.1
16.8	6.6	II	4	N	1	—	8.4	13.2	24.1	57.3	+ 0.5
15.4	12.2	III	2	K=H	1	—	7.7	24.4	24.8	46.1	+ 0.5
14.1	7.7	II	4321 a 2	K=H	1	— green	7.0	15.4	25.5	55.1	+ 1.5
14.2	12.2	I	3	N	1	—	7.1	24.4	25.4	46.1	+ 0.2
13.1	19.5	I	4	N	1	—	6.6	39.0	25.9	31.5 (3)	− 0
10.9	16.6	II ?	2	K=H	1	—	5.4	33.2	27.1	37.3	− 0.4
10.0	20.0	I	4	N	1	—	5.0	40.0	27.5	30.5	− 0.5
2.9	8.5	I	7	N	4	F	1.4	17.0	31.1	53.5	+ 1.9
1.8	16.5	4322		N	4	F, bright pur.	9	33.0	31.6	37.5	− 0.4

F.m. 8c. 8.0 6.8 — F. ch. 6.8

Plate 1356

22.8	8.2	I	7	N	3	F	11.4	16.4	41.2	52.9	+ 3.0
21.3	11.3	I ?	4	K=1.8 H	1	—	10.6	22.6	42.0	46.7	+ 1.8
21.6	16.2	II	4323 ac 3	K=2.0 H ?	5	F, bright pur.	10.8	32.4	41.8	36.9	− 0.5
19.8	18.2	I	9	K=2 H	3	F	9.9	36.4	42.7	32.9	− 2.4
17.6	7.7	I	5	N	2	—	8.8	15.4	43.8	53.9	+ 3.7

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Mean 4

Rec.	Rev.	Cor. Rev.	No.	R.A.	Dec.	Mag.	π.	ν.	π'	Red. to 1900.
7.2	7.2	6.8								
7.3	7.4	7.0	D.M.	3136	16 52.6	+17 35	7.2	73.2	22.3	74.9	16 54.6 +17 31
7.1	7.1	6.7								
7.2	7.2	6.8	D.M.	3261	16 46.3	+18 19	6.5	73.1	22.5	75.1	16 48.3 +18 13
6.8	6.8	6.4								
7.1	7.1	6.7		2837	16 50.1	+18 38	5.5	76.3	22.11	76.1	16 50.0 +18 36
6.5	6.5	6.1		2856	16 59.3	+19 46	6.0	76.5	22.4	75.8	17 0.4 +19 43
7.1	7.1	6.7	D.M.	3217	16 56.2	+19 37	7.0	73.6	22.4	73.0	16 58.2 +19 33
6.7	6.7	6.3	D.M.	2836	16 49.7	+21 11	5.6	76.1	22.6	73.7	16 50.6 +21 8

Mean 8

4.8	4.0								
5.1	4.3	2774	16 25.1	+21 45	2.8	69.1	32.5	70.1	16 26.0 +21 42
6.9	6.1	2801	16 35.3	+12 39	5.9	70.5	22.2	70.7	16 36.2 +12 35
6.3	5.5	2859	16 59.8	+12 54	4.9	71.2	22.2	70.7	17 0.7 +12 53
6.6	5.8	2822	16 44.0	+13 29	6.0	71.0	22.3	70.9	16 46.0 +13 26
		2852	16 58.1	+13 47	6.0	71.3	22.2	70.8	16 59.1 +13 44
6.7	5.9	~~2849~~	~~16 57.6~~	~~+14 18~~	~~5.1~~	~~70.8~~	~~22.7~~	~~70.3~~	
6.8	6.0								
7.2	6.4	2830	16 46.8	+24 52	5.2	71.2	32.6	70.7	16 47.6 +24 50
	D.M.	3095	16 55.0	+15 9	6.2	70.4	22.2	68.9	16 57.0 +15 5
6.9	6.1	~~2848~~	~~16 57.4~~	~~+25 41~~	~~6.1~~	~~72.8~~	~~32.7~~	~~71.3~~	
		~~2828~~	~~16 46.4~~	~~+15 9~~		~~70.8~~	~~22.3~~	~~70.6~~	
7.0	6.2	~~2829~~	~~16 46.6~~	~~+15 11~~	~~6.4~~	~~71.0~~	~~22.2~~	~~70.8~~	16 47.6 +13 9
6.7	5.9	D.M. 3029	16 30.1	+15 48	6.3	69.1	22.4	69.1	16 32.1 +13 42
6.8	6.0	2808	16 36.8	+27 9	5.8	70.0	32.6	70.4	16 37.3 +27 7
6.6	5.8	2783	16 30.0	+17 18	6.1	70.0	22.3	70.5	16 30.9 +17 13
4.6	3.8	2844	16 55.7	+31 6	4.0	72.7	32.5	70.8	16 56.5 +31 4
		2807	16 36.8	+31 49	3.1	69.8	32.7	70.2	16 37.5 +31 47

Mean 6

		2844	16 55.7	+31 6	4.0	72.1	42.5	69.1	16 56.5 +31 4
6.7	6.1	2834	16 48.4	+31 54	5.4	71.0	42.5	69.2	16 49.2 +31 52
4.2	3.6	2808	16 36.8	+31 49	4.1	69.2	42.6	69.7	16 ~~36.9 +25 3~~ 37.5 + 31 47
4.6	4.0	2787	16 30.2	+42 42	4.2	66.6	52.6	69.0	16 30.9 +42 39
5.7	5.1	2847	16 57.2	+33 45	5.3	72.6	42.6	68.9	16 57.9 +33 42

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Plate 1356.

r	R	Type	No. lines.	K	Focus	Other lines.	V.	Vh.	V.	Vh.	Correc.
16.8	7.0	I	3	N	1	—	8.4	14.0	44.2	55.3	+6.9
16.7	15.0	I	4	K=H	1	—	8.4	30.0	44.2	39.3	− 0
15.1	6.8	I	4	K=H	1	—	7.6	13.6	45.0	55.7	+ 4.7
13.4	18.7	I	5	K=,2H	2	—	6.7	37.4	45.9	31.9	− 3.5
12.9	12.7	I	7	K=,2H	3	—	6.4	25.4	46.2	43.9	+ 2.3
11.6	11.0	I?	I 3	3 N	1	—	5.8	22.0	46.8	47.3	+ 3.7
11.4	17.1	III	? 2	2 K=H	K=H 1	—	5.7	34.2	46.9	35.1	− 2.1
11.6	22.8	I	10	N		F	5.8	45.6	46.8	23.7	− 7.3
9.8	22.9	I	5	K=,2H	2	—	4.9	44.4	47.7	24.9	− 4.8
8.5	18.8	III	? 2	K=H	1	—	4.2	37.6	48.4	31.7	− 2.5
7.1	15.2	III	h 4,32H	3 K=H 1.5		F Bright pair.	3.6	30.4	49.0	38.9	− 0
7.0	16.1	III	x2	K=H	1	F?	3.5	32.3	49.1	37.1	− 1.2
6.7	18.9	I	5	N	1	—	3.4	37.8	49.3	31.5	− 4.1
4.8	5.4	II	? 2	K=H	1	—	2.4	10.8	50.2	58.5	+ 10.2
3.8	5.6						1.9	11.2	50.7	58.1	+ 6.7
~~5.0~~	~~24~~	II	? 12	K=H	1	F?	~~2.3~~	~~48~~	~~50.1~~	~~64.5~~	~~+9.6~~

III ? 6.7, 7.0.

F. m. + c.

F. ch.

Plate 1331.

8.0 7.5

7.5

21.5	7.7	~~I~~	~~2~~ I	2	N	~~K=H~~ 1	—	10.8	15.4	26.6	78.7 + 0.7
19.6	10.9	I	4	N		1	—	9.8	21.8	27.6	72.3 + 0.4
18.3	9.8	III	x2	K=H		1	—	9.2	19.6	28.2	74.5 + 0.5
18.0	10.3	III	? x2	K=H		1	—	9.0	20.6	28.4	73.5 + 1.1
18.1	11.6	III	x2	K=H		1	—	9.0	23.2	28.4	70.9 + 0.4
16.6	9.4	III	x2	K=H		1	—	8.3	18.8	29.1	75.3 + 1.5
16.6	10.6	III	2	K=H		1	—	8.3	21.2	29.1	72.9 + 1.1
17.2	21.5	III	x2	K=H		1	—	8.6	43.0	28.8	51.1 − 0.7
16.6	22.4	III	? III? 2	K=H	K=H	1	—	8.3	44.8	29.1	49.3 − 1.9
15.1	17.1	I	6	N		1	—	7.6	34.2	29.8	59.9 − 0.3
14.2	6.7	I	6	N		2	—	7.1	13.4	30.3	80.7 + 1.0

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1987phaeo.proj:0424

Mean 6

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
6.9	6.3		2862	17 1.4	+43 59	6.2	13.4	52.4	8.5	17 2.6 +43 57
6.8	6.2		2811	16 39.4	+34 16	5.8	9.4	42.7	9.4	16 40.1 +34 13
										D.M. 2890 58.7 +34 60
6.7	6.1		2858	16 59.6	+34 58	5.9	73.2	42.6	68.5	17 0.3 +34 56
										D.M. 2422 16 27.4 +45 58
5.8	5.2		2782	16 28.3	+45 53	5.3	65.7	52.6	69.2	16 28.8 +45 50
5.2	4.6		2826	16 45.7	+46 12	5.0	71.1	52.6	68.8	16 46.3 +46 10
7.0 7.1	6.5	D.M.	2284	16 50.2	+46 46	7.0	72.2	52.6	68.5	16 51.5 +46 41
7.0 7.0 7.3 7.5	6.4 6.9		2793	16 32.8	+46 52	6.0	67.0	52.6	69.1	16 33.3 +46 49
4.2	3.6		2743	16 16.1	+46 36	3.9	61.7	52.4	69.0	16 16.7 +46 33
6.2	5.6		2760	16 21.1	+37 40	5.5	65.5	42.6	70.3	16 21.9 +37 37
7.2 7.5	6.6 6.9	~~D.M.~~	~~2407~~	~~16 26.2~~	~~+48 15~~	~~6.8~~				
		D.M.	2795	16 28.6	+38 24	6.8	66.2	42.6	68.7	16 30.2 +38 18
4.9 5.3	4.3 4.7									
			2810	16 38.8	+39 9	3.7	69.2	42.8	69.2	16 39.3 +39 7
6.8 7.2	6.2 6.6									
			2802	16 35.5	+49 10	5.2	67.7	52.7	68.9	16 36.1 +49 7
6.7	6.1		2779	16 26.8	+49 14	6.1	64.6	52.6	68.7	16 27.4 +49 10
7.0	6.4	D.M.	2604	17 8.0	+49 56	6.2	18.8	52.3	8.6	17 9.1 +49 53
			2870	17 3.9	+40 40	6.3	13.1	42.6	8.4	17 4.5 +40 39
7.1	6.5	~~D.M.~~	~~3125~~	~~17 12.4~~	~~+40 7~~	~~7.2~~				D.M. 17 3.0 +40.11 71.7

Mean 5

6.7 7.2	6.2		2911	17 19.1	+16 26	5.8	34.5	27.2	33.8	D.M. 3174 17 18.1 +16 28 / 17 20.1 +16 25
6.7	6.2		2889	17 12.8	+17 27	5.9	34.6	27.2	34.2	D.M. 3216 17 11.7 +17 29 / 17 13.7 +17 26
7.3 7.5	6.8 7.0		2900	17 15.0	+18 11	5.1	34.6	27.4	34.1	17 15.9 +18 10
7.1	6.6	D.M.	2722	17 13.7	+28 10	7.1	34.3	37.2	33.2	17 15.5 +28 7
7.5	7.0	~~D.M.~~	~~2722~~	~~17 13.7~~	~~+28 10~~	~~7.1~~				D.M. 17 13.9 +28.2
7.3 7.6	6.8 7.1	D.M.	3336	17 10.1	+18 11	7.5	33.3	27.2	32.9	17 12.1 +18 8
7.2 7.5	6.7 7.0	D.M.	2728	17 15.9	+28 34	6.5	34.7	37.2	33.2	17 17.7 +28 31 / D.M. 2719 13.1 +28 58
7.2 7.5	6.7 7.0		2896	17 14.1	+28 56	5.9	35.3	37.2	34.2	17 14.9 +28 33
7.1 7.4	6.6 6.9		2837	16 50.1	+18 38	5.5	93.1	27.2	93.8	16 51.0 +18 36
7.3 7.4	6.8 7.0	D.M.	2624	16 46.1	+28 55	6.8	91.9	37.2	93.8	16 47.9 +28 51 / D.M. 3220 16 58.4 +19 49
6.6	6.1		2856	16 59.3	+19 46	6.0	93.5	27.4	93.8	17 0.4 +19 45
6.0	5.5		2922	17 21.6	+20 12	5.4	35.0	27.3	34.0	17 22.5 +20 10

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August 6, 1887.

Plate 1331.

r	R	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
12.6	18.4	I	10	1	4	F	6.3	36.8	31.1	57.3	- 1.0
12.4	21.6	III	2	K=H	1	—	6.2	43.2	31.2	50.9	- 0.9
11.3	11.2	I?	H	K=H	1	—	5.6	22.4	31.8	71.7	+ 1.1
10.3	16.2	III	III? 2	2 K=H	K=H	1	5.2	32.4	32.2	61.7	- 0.2
10.8	21.5	I	7	K=H	2	—	5.4	43.0	32.0	51.1	- 2.0
9.0	9.8	III	III? 2	2 K=H	K=H	1	4.5	19.6	32.9	74.5	+ 1.7
9.5	9.8	I	2	K=H	2	F?	4.8	19.6	32.6	74.5	+ 1.6
9.1	18.7	III	III 2	2 K=H	K=H	1	4.6	37.4	32.8	56.7	- 0.5
9.1	22.4	III	III 2	2 K=H	K=H	1	4.6	44.8	32.8	49.3	- 2.4
8.6	8.1	I	H	K=H	1	—	4.3	16.2	33.1	77.9	+ 1.1
8.4	11.3	I	b H 3 2 5	9	3	F	4.2	22.6	33.2	71.5	+ 1.2
7.4	17.7	I	8	K=2H	2	F	3.7	35.4	33.7	58.7	- 0.9
6.0	14.1	I	4	K=H	1	—	3.0	28.2	34.4	65.9	+ 0.1
5.0	7.4	I	5	?	2	—	2.5	14.8	34.9	79.3	+ 2.8
5.6	9.6	I	6	~~K=2H~~	2	F	2.8	19.2	34.6	74.9	+ 1.0
5.0	12.2	I	11	K=2H		F	2.5	24.4	34.9	69.7	+ 0.5
4.9	16.7	I	4	K=H	1	—	2.4	33.4	35.0	60.7	- 0.6
5.0	22.7	III	2	K=H	1	—	2.5	45.4	34.9	48.7	- 1.5
3.5	9.9	I	6	K=2H?	2	—	1.8	19.8	35.6	74.3	+ 1.0
3.5	17.9	III	III 2	2 K=H	K=H	1	1.8	35.8	35.6	58.3	- 0.6
2.8	15.0	I	5	K=5H	2	—	1.4	30.0	36.0	64.1	- 0

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Mean 5

rec.	Br.	Cor. Br.	No.	R. A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.	
0	4.2	3.7	2844	16 55.7	+31 6	4.0	92.5	37.4	93.5	17 56.5 + 31 4	V
.9	6.7 6.9	6.2 6.4	2836	16 49.7	+21 11	5.6	92.9	27.4	93.8	16 50.6 + 21 8	V
.1	7.0	6.5	D.M. 2993	17 12.0	+31 40	7.3	34.4	37.3	33.3	17 13.7 + 31 37	V
.2	7.0 7.4	6.5 6.9	2861	17 1.2	+22 15	5.8	33.6	27.4	93.8	17 2.1 + 22 13	V
.0	5.9	5.4	2834	16 48.4	+31 54	5.4	91.4	37.3	93.4	16 49.2 + 31 52	V
.7	7.0 7.3	6.4 6.8	D.M. 2898	17 15.4	+32 50	7.0	33.0	37.3	33.3	17 17.1 + 32 47	V
.6	6.2	5.7	2905	17 16.2	+32 38	5.4	35.8	37.4	34.2	17 16.9 + 32 37	V
.5	7.1 7.5	6.6 7.0	2843	16 55.9	+22 49	5.7	93.3	27.4	93.8	16 56.7 + 22 47	V
.4	7.0 7.3	6.5 6.8	D.M. 2795	16 45.3	+32 49	6.8	90.1	37.4	92.5	16 47.0 + 32 44	V
.1	6.5	6.0	2910	17 19.1	+23 5	5.8	35.3	27.4	34.2	17 19.9 + 23 3	V
.2	4.8	4.3	2890	17 12.9	+33 14	4.9	35.5	37.4	94.3	17 13.6 + 33 13	V
.9	5.4	4.9	2847	16 57.2	+33 48	5.3	92.6	37.5	93.5	17 57.9 + 33 42	V
.1	6.9	6.4	2873	17 6.1	+24 23	6.2	34.3	27.4	94.2	17 7.0 + 24 21	V
.8	6.5	6.0	2923	17 22.4	+34 49	6.0	37.2	37.3	34.4	17 23.2 + 34 47	V
.0	5.5	5.0	2904	17 16.0	+24 36	5.3	35.2	27.4	34.2	17 16.8 + 24 36	V
.5	4.1	3.6	2880	17 10.1	+24 59	3.3	34.5	27.5	34.0	17 11.0 + 24 57	V
.6	6.6	6.1	2858	16 59.6	+34 38	5.9	93.0	37.4	93.6	17 0.3 + 34 36	V
.5	6.9 7.3	6.4 6.8	2830	16 46.8	+24 52	5.2	92.2	27.4	93.7	16 47.6 + 24 50	V
.0	5.9	5.4	2902	17 15.3	+25 39	5.4	35.1	27.4	34.1	17 16.1 + 25 37	V
.6	7.2 7.5	6.7 7.0	2848	16 57.4	+25 41	6.1	93.2	27.5	93.8	16 58.2 + 25 40	V
	6.0	5.5	2869	17 3.8	+36 6	5.5	33.8	37.5	33.8	17 4.5 + 36 4	V

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F.m. & c. 8.0 7.1 — F. ch. 7.1

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Plate 1332.

	V	H	Type	No. lines	K	Focus	Other lines		V.	H.	V.	H.	Correc.	
q 50	22.7	15.0	I	3				—	11.4	30.0	36.1	63.7	− 0	
?	21.0	12.2	Hε 4326	2	K=1.5/1 H ?	3	F ?	Bright plus.	10.5	24.4	37.0	69.3	+ 1.7	
	20.3	8.8	I	8	N	3		—	10.2	17.6	37.3	76.1	+ 3.9	
	20.1	11.2	I	8	K=½ H	3	F ?		10.0	22.4	37.5	71.3	+ 2.3	
	17.0	10.9	III	2	K=H	1		—	8.5	21.8	39.0	71.9	+ 2.7	
?	16.3	24.5	He 4327	2	K=½ H ?	3	F ?	Bright?	8.2	49.0	39.3	44.7	− 6.6	
	14.9	9.7	a 4328	2	K=H	1	F ?	plus	7.4	19.4	40.1	74.3	+ 3.7	
III ? 6.5, 6.8.	13.2	14.3	h ? 4329	2	K=H	1		plus	6.6	28.6	40.9	65.1	+ 0.6	
	13.8	15.0	I	5	N	1		—	6.9	30.0	40.6	63.7	− 0	
	7.3	15.8	I	5	N	1		—	3.6	31.6	43.9	62.1	− 0.7	
	4.2	10.6	III	2	K=H	1		—	2.1	21.2	45.4	72.5	+ 3.9	
	2.6	21.2	I	6	N	3	F		1.3	42.4	46.2	51.3	− 5.5	

F.m. & c. 8.0 7.0 — F. ch. 7.0

Plate 1393

	22.7	13.7	I	3	N	1		—	11.4	27.4	46.0	63.1	+ 0.7	
	22.6	20.0	I	6	K=½ H	2	F		11.3	40.0	46.1	50.5	− 4.7	
?	21.2	10.9	He 4330	3	K=H ?	3	F	Bright plus.	10.6	21.8	46.8	68.7	+ 2.4	
	20.4	7.5	I	8	N	3	F		10.2	15.0	47.2	75.5	+ 4.8	
	20.2	9.9	I	7	K=.2 H	2	F		10.1	19.8	47.3	70.7	+ 3.0	
?	16.6	23.4	He 4331	3	K=1.2/1 H ?	3	F	Bright? plus.	8.3	46.8	49.1	43.7	− 5.9	
	16.5	23.1	III	2	K=H	1		—	8.2	46.2	49.2	44.3	− 8.4	
	15.4	12.4	I	4	K=H	1		—	7.7	24.8	49.7	65.7	+ 2.5	
	14.8	8.5	III ?	3	K=H	1	F		7.4	17.0	50.0	73.5	+ 4.7	
III ? 6.7, 7.0.	13.4	13.2	III	3	K=H	1	F		6.7	26.4	50.7	64.1	+ 1.3	
	13.2	13.5	I	4	N	1		—	6.6	27.0	50.8	63.5	+ 1.1	
	13.8	13.8	I	4	N	1		—	6.9	27.6	50.5	62.9	+ 0.9	
?	10.1	6.7	He 4332	3	K=2.5 H ?	4	F	Bright plus.	5.0	13.4	52.4	77.1	+ 9.6	
	10.0	12.8	I	4	N	2		—	5.0	25.6	52.4	64.9	+ 2.5	

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Mean 3

Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900.
		2869	17 3.8	+36 6	5.5	33.8	47.5	33.8	17 4.5 + 36 4
5.3 5.8	5.0 5.5	2885	17 10.9	+36 57	3.4	35.3	47.5	33.6	17 11.5 + 36 55
4.4	4.1	2914	17 19.6	+37 16	4.1	37.2	47.5	33.3	17 20.2 + 37 14
		2915	17 19.6	+37 16					17 20.2 + 37 14
4.8	4.5	2893	17 13.5	+37 25	4.9	35.9	47.4	33.6	17 14.2 + 37 24
7.2 7.5	6.9 7.2	2898	17 14.4	+38 56	5.9	36.2	47.4	33.5	17 13.0 + 38 55
5.0	4.7	2810	16 38.8	+39 9	3.7	87.8	47.4	94.4	16 39.5 + 39 7
6.6 6.5	6.3 6.2	2907	17 17.9	+40 5	5.8	37.3	47.5	33.6	17 18.4 + 40 5
7.0	6.7	2872	17 5.7	+40 56	5.1	34.3	47.5	33.7	17 6.3 + 40 54
6.5	6.2	2870	17 3.9	+40 40	6.3	33.9	47.6	33.9	17 4.5 + 40 39
6.5	6.2	2862	17 1.4	+43 59	6.2	33.0	47.6	33.7	17 2.0 + 43 57
7.1 7.3	6.8 6.9	2521 D.M.	17 15.7	+45 26	6.5	36.9	47.5	33.0	17 17.0 + 45 23
5.1	4.8	2826	16 45.7	+46 12	5.0	88.1	47.5	93.6	16 46.3 + 46 10

Mean 6

		2869	17 3.8	+36 6	5.5	31.2	47.5	30.5	17 4.5 + 36 4
		2826	16 45.7	+46 12	5.0	85.7	57.5	90.4	16 46.3 + 46 10
5.3 6.0	4.7 5.4	2885	17 10.9	+36 57	3.4	32.7	47.6	30.3	17 11.5 + 36 55
4.8	4.2	2914	17 19.6	+37 16	4.1	34.6	47.5	29.8	17 20.2 + 37 14
		2915	17 19.6	+37 16					17 20.2 + 37 14
5.3	4.7	2893	17 13.5	+37 25	4.9	33.3	47.5	30.3	17 14.2 + 37 24
5.0 5.3	4.4 4.7	2810	16 38.8	+39 9	3.7	85.6	47.5	91.5	16 39.5 + 39 7
7.1 7.5	6.5 6.9	2802	16 35.5	+49 10	5.2	81.7	57.4	90.1	16 36.1 + 49 7
6.5	5.9	2604 D.M.	17 8.0	+49 56	6.2	32.8	57.6	30.3	17 9.1 + 49 53
6.8	6.2	2907	17 17.9	+40 5	5.8	34.9	47.5	30.2	17 18.4 + 40 5
6.6 7.0	6.0 6.4	2872	17 5.7	+40 56	5.1	32.1	47.6	30.8	17 6.3 + 40 54
		2178 D.M.	17 4.7	+51 2	6.5	31.7	57.6	30.6	17 5.8 + 51 1
6.6	6.0	~~2870~~	~~17 3.9~~	~~+40 40~~	~~6.3~~	~~30.9~~	~~47.3~~	~~29.8~~	17 4.8 + 51 1
6.7	6.1	2870	17 3.9	+40 40	6.3	31.5	47.6	30.6	17 4.5 + 40 39
4.1 4.5	3.5 3.9	2937	17 27.7	+52 23	3.0	41.1	57.4	31.5	17 28.1 + 52 23
6.5	5.9	2876	17 7.9	+52 33	6.2	33.5	57.6	31.0	17 8.2 + 52 32

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Plate 1393.

			Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
	9.7	15.5	I? 4		K=H	1	—	4.8	31.0	52.6	59.5	− 0.6	
Isolhas?	? 8.6	23.0	I 17		K	3	F	4.3	46.0	53.1	44.5	− 9.6	
	7.4	14.8	I 4		K	1	—	3.7	29.6	53.7	60.9	+ 0.1	
?	6.1	14.3	II a H 833	2	K=H	2	F?	3.0	28.6	54.4	61.9	+ 0.9	
	4.3	6.6	I 7		K=½H	3	F	2.2	13.2	55.2	77.3	+ 10.9	
	3.3	20.6	I 4		K=H	1	—	1.6	41.2	55.8	49.3	− 7.3	
	2.9	20.2	I 7		K=.2H	2	F	1.4	40.4	56.0	50.1	− 4.8	
	2.6	21.9	III 2		K=H	1	—	1.3	43.8	56.1	46.7	− 9.0	

F. m. tc. 8.0 7.0 F. ch. 7.0

Plate 1344

	22.6	11.7	II? 2		K=H	1	—	11.3	23.4	21.2	30.6	+ 0.5	
	20.6	13.7	I 3		N	1	—	10.3	27.4	22.2	26.6	+ 0	
	20.7	14.7	I 3		N	1	—	10.4	29.4	22.1	24.6	+ 0	
	19.6	12.4	I? 11		K=.2H?	V	F	9.8	24.8	22.7	29.2	+ 0.1	
	18.0	10.4	II? 2		K=H	1	—	9.0	20.8	23.5	33.2	+ 0.3	
	18.3	12.3	III? 12	2	K=H	1	—	9.2	24.6	23.3	29.4	+ 0.2	
	15.9	17.1	I 6		K=.5H	1	F	9.4	34.2	23.1	19.8	− 0.4	
	17.1	9.0	II? 12		K=H	1	—	8.6	18.0	23.9	36.8	+ 1.0	
	17.0	11.6	III 2		K=H	1	—	8.5	23.2	24.0	30.8	+ 0.2	
	17.4	18.1	III 2		K=H	1	—	8.7	36.2	23.8	17.8	− 0.5	
	16.1	8.3	II 12		K=H	1	—	8.0	16.6	24.5	37.4	+ 0.3	
	16.1	8.4	II? 2		K=H	1	—	8.0	16.8	24.5	37.2	+ 1.2	
	16.2	11.1	I 7		K=.2H	2	F	8.1	22.2	24.4	31.8	+ 0.7	
	16.1	23.0	I 3		N	1	—	8.0	46.0	24.5	8.0	− 1.5	
	15.9	7.2	I 3		N	1	—	8.0	15.6	24.5	38.4	+ 0.5	
	15.8	18.5	I 7		N	3	F	7.9	37.0	24.6	17.0	− 0.6	
	15.1	21.1	I 10		K=.2H	V	F	7.6	42.2	24.9	11.8	− 1.1	
Peculiar spectrum III 5.5, 5.7, 6.0, 7.1	15.8	22.1	II a c? 4334 3		K=H	2	F	7.9	44.2	24.6	9.8	− 0.5	

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Mean 6

Mean 4

ec.	Br.	Cov. Br.		No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
6	7.1	6.5	D.M.	2018	16 57.9	+ 52 48	6.8	88.9	57.6	89.5	16 58.9 + 52 44
.6	4.7	4.1	*	2794	16 33.4	+ 53 10	5.2	79.4	57.5	87.0	16 33.7 + 53 8
				2796	16 33.4	+ 53 8	5.6	79.4	57.4	89.0	16 33.8 + 53 6
1	7.0	6.4		2862	17 1.4	+ 43 59	6.2	31.0	47.7	30.9	17 2.0 + 43 57
9	5.8	5.2		2865	17 2.8	+ 54 38	5.2	31.4	57.6	30.5	17 3.2 + 54 36
	4.8	4.2		2866	17 2.8	+ 54 38					17 3.2 + 54 36
9	5.1			2946	17 29.9	+ 55 15	4.8	43.1	57.4	32.2	17 30.3 + 53 15
				2945	17 29.8	+ 55 16	4.9	43.0	57.5	32.1	17 30.2 + 53 15
			D.M.	1872	16 40.0	+ 55 58	6.3	81.2	57.6	88.5	16 40.9 + 53 53
.3	6.8	6.2		2823	16 44.4	+ 55 37	6.8	85.6	57.2		16 40.0 + 55
8	5.3	4.7		2826	16 45.7	+ 46 12	5.0	86.1	47.6	90.9	16 46.3 + 46 10
0	7.0	6.4									
	7.3	6.7		2803	16 35.6	+ 56 15	5.5	79.4	57.5	88.4	16 36.0 + 56 13
5				2948	17 30.9	+ 21 5	5.8	54.3	32.4	53.8	17 31.7 + 21 4
	6.8	6.4	D.M.	3241	17 25.5	+ 12 3	6.7	52.9	22.3	52.9	17 27.6 + 12 1
	6.9	6.5	D.M.	3234	17 23.6	+ 12 3	6.3	53.0	22.4	53.0	17 25.7 + 12 1
.1	B	B		2944	17 29.4	+ 12 39	2.X	54.2	22.4	54.1	17 30.3 + 12 38
			D.M.	3221	17 32.3	13 25	6.5	53.1	22.4	52.8	17 34.4 + 13 23
.3	7.1	6.7	D.M.	3423	17 33.0	+ 13 23	7.5				
	7.3	6.8									
.2	7.6	7.2	D.M.	3397	17 27.7	+ 13 16	6.3	52.3	22.5	52.1	17 29.8 + 13 14
4	6.2	5.8		2910	17 19.1	+ 23 5	5.8	53.3	32.5	53.7	17 19.9 + 23 3
.0	7.0	6.6	D.M.	3160	17 35.9	+ 23 50	7.7	53.9	32.4	52.9	17 37.8 + 23 48
.2	7.1	6.7									
	7.5	7.1	D.M.	3412	17 30.0	+ 13 55	6.7	53.2	22.4	53.0	17 32.1 + 13 53
.5	7.1	6.7									
	7.5	7.1	D.M.	3091	17 15.8	+ 23 50	7.7	52.8	32.5	52.5	17 17.7 + 23 47
				2965	17 37.9	+ 14 21	6.2	54.5	22.4	54.6	17 38.8 + 14 20
.5	7.0	6.6		2970	17 38.8	+ 14 28	6.1	55.4	22.5	54.9	
.2	6.9	6.5		2966	17 38.4	+ 24 23	6.0	55.2	32.4	54.0	17 39.3 + 24 22
.7	6.0	5.6		2952	17 32.6	+ 24 23	5.8	54.8	32.5	54.1	17 33.4 + 24 22
.5	6.8	6.4		2873	17 6.1	+ 24 23	6.2	52.1	32.4	53.6	17 7.0 + 24 21
.5	6.8	6.4		2970	17 38.8	+ 14 28	6.1	54.4	22.5	53.9	17 39.7 + 14 28
.6	6.5	4.9		2904	17 16.0	+ 24 36	5.3	53.0	32.5	53.6	17 16.8 + 24 36
.1	4.0	3.6		2880	17 10.1	+ 24 59	3.3	52.3	32.6	53.4	17 11.0 + 24 57
.5	5.4	5.0		2879	17 9.2	+ 14 32	3.2	53.4	22.4	53.9	17 10.1 + 14 30

* Spectra of two stars superposed on plate. Means of brightness combined light of both.

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Plate 1344.

V	H	Type	No. lines	K	Focus	Other lines.	V.	H.	V.	H.	Correc.
14.4	9.4	I	1	K=H		—	7.2	18.8	25.3	35.2	+ 0.4
13.5	17.9	III	2	K=H		—	6.8	11.8	25.7	42.2	+ 1.8
13.5	17.3	I	1	N		—	6.8	34.6	25.7	19.4	− 0.2
13.8	18.7	I	2	K=2H		F	6.9	37.4	25.6	16.6	− 0.7
13.0	20.1	I?	4	K=H K=H	1	— —	6.5	40.2	26.0	13.8	− 1.0
?	12.9	9.0	III a H395	3	K=H	1 F. [illegible]	6.4	18.0	26.1	36.0	+ 0.5
	12.1	13.0	III	3	K=H	1 F	6.0	26.0	26.5	28.0	+ 0.2
	12.0	13.3	I	4	K=H	1 —	6.0	26.6	26.5	27.4	+ 0.4
III 6.4,6.8	?	12.8	14.1	III c H396	2	K=H	2 F? [illegible]	6.4	28.2	26.1	25.8	+ 0.2
		12.0	16.7	III	2	K=H	1 —	6.0	33.4	26.5	20.6	− 0.2
		12.2	17.3	I	6	K=2H	2 —	6.1	34.6	26.4	19.4	− 0.2
		11.7	12.6	III a H397		K=H	1 [illegible]	5.8	25.2	26.7	28.8	+ 0.2
		11.8	15.8	III	III	2 2	K=H K=H	1 — —	5.9	31.6	26.6	22.4	− 0
		11.1	16.1	I	1	N	1 —	5.6	32.2	26.9	21.8	− 0.3
		10.0	20.3	I	5	N	2 —	5.0	40.6	27.5	13.4	− 0.5
		9.4	6.5	I	1	N	2 —	4.7	13.0	27.8	41.0	+ 0.9
		9.4	7.1	III c? H398	3	K=2.5H	3 F, [illegible] Bright	4.7	14.2	27.8	39.8	+ 1.8
		9.7	14.4	III III?	2 2	K=H K=H	1 — —	4.8	28.8	27.7	25.2	+ 0.1 0.3
		8.1	13.6	I	6	N	2 —	4.0	27.2	28.5	26.8	+ 0.4
		8.8	19.0	I?	3	N	1 —	4.4	38.0	28.1	16.0	− 1.0
		8.6	19.2	III	3	K=H	1 F?	4.3	38.4	28.2	15.6	− 0.5
		8.6	21.0	I	2	K=H	1 —	4.3	42.0	28.2	12.0	− 0.6
		7.4	18.0	III	3	K=H	1 F	3.7	36.0	28.8	18.0	− 0.7
		7.3	19.2	III	3	K=H	1 F	3.6	38.4	28.9	15.6	− 1.0
?		6.3	5.7	I d	3	N	1 [illegible]	3.2	11.4	29.3	42.6	+ 1.1
		6.1	8.8	III?	2	K=H	1 —	3.0	17.6	29.5	36.4	+ 1.6
?		6.3	13.1	III a H399	3	K=H	1 F? [illegible]	3.2	26.2	29.3	27.8	+ 0.2
?		4.8	16.1	I b H400	7	N	2 F [illegible]	2.4	32.2	30.1	21.8	− 0.1

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Mean 4

ec.	Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
4	6.6	6.2	2958	17 35.7	+ 15 14	6.3	54.5	22.4	54.1	17 36.6 + 15 13
8	6.7 7.1	6.3 6.7	2984	17 44.0	+ 25 40	5.4	53.8	32.5	54.0	17 44.7 + 25 40
2	6.4	6.0	2912	17 19.1	+ 15 43	6.1	53.7	22.5	53.9	17 20.0 + 15 43
.7	5.5	5.1	2902	17 15.3	+ 25 39	5.4	52.7	32.5	53.4	17 16.1 + 25 37
			~~3239~~	~~17 12.6~~	~~+ 25 57~~	~~7.2~~				
0	7.1 7.1	6.7	D.M. 2994	17 11.3	+ 26 3	7.5	51.5	32.5	52.3	17 13.1 + 26 0
.5	6.3	5.9	2961	17 36.6	+ 16 2	5.7	54.6	22.4	54.1	17 37.4 + 16 0
.2	7.0 7.3	6.6 6.9	2940	17 28.3	+ 16 26	5.5	54.3	22.4	54.1	17 29.2 + 16 25
.4	7.1	6.7	D.M. 3038	17 26.6	+ 26 33	7.0	53.2	32.6	52.8	17 28.4 + 26 31
.2	6.1 6.7	5.7 6.3	2933	17 25.9	+ 26 12	4.3	54.1	32.6	54.0	17 26.7 + 26 11
.2	7.0 7.3	6.6 6.9	D.M. 3183	17 19.2	+ 16 32	6.5	52.6	22.5	52.8	17 21.2 + 16 29
.2	6.0	5.6	2911	17 19.1	+ 16 26	5.8	53.7	22.5	53.9	17 20.0 + 16 25
.2	7.0	6.6	D.M. 3 2220	17 28.0	+ 16 37	6.8	53.2	22.4	53.0	17 30.0 + 16 33
	7.2 7.5	6.8 7.2	D.M. 3188	17 21.1	+ 16 35	7.0	52.7	22.5	52.7	17 23.1 + 16 32
.3	6.5	6.1	D.M. 2809	17 20.2	+ 27 0	6.5	52.4	32.6	52.7	17 22.0 + 26 57
.5	6.1	5.7	2889	17 12.8	+ 17 27	5.9	53.4	22.4	53.9	17 13.7 + 17 26
.9	6.1	5.7	2977	17 41.8	+ 17 47	5.7	54.8	22.5	53.9	17 42.7 + 17 46
.8	4.6	4.1 4.2	2976	17 41.8	+ 27 48	3.5	56.1	32.5	54.2	17 42.6 + 27 48
.1	7.2	6.8	D.M. 3256	17 24.2	+ 17 38	7.0	53.0	22.4	52.9	17 26.2 + 17 36
.3	7.4	7.0 5	~~2936~~	~~17 27.1~~	~~+ 28 29~~	~~6.0~~				
.4	5.7	5.3	2936	17 27.1	+ 28 29	5.6 6.0	54.3	32.5	53.9	17 27.9 + 28 29
.0	7.1	6.7	D.M. 2722	17 13.7	+ 28 10	7.1	51.7	32.6	52.7	17 13.5 + 28 7
.5	6.7 7.3	6.4 6.9	2900	17 15.0	+ 18 11	5.1	53.4	22.5	53.9	17 13.9 + 18 10
.6	7.1	6.7	D.M. 3236	17 10.1	+ 18 11	7.5	52.1	32.5	52.7	17 12.1 + 18 8
.7	7.2 7.4	6.8 7.0 5	D.M. 2728	17 15.9	+ 28 54	6.5	51.9	32.6	52.6	17 17.7 + 28 51
.0	6.7 7.0	6.3 6.6 5	2896	17 14.1	+ 28 56	5.9	52.5	32.5	53.5	17 14.9 + 28 53
			2982	17 43.6	+ 19 17	6.0	55.0	22.5	53.9	17 44.5 + 19 17
.1	6.7	6.3	~~2987~~	~~17 45.7~~	~~+ 29 23~~	~~5.7~~	~~57.1~~	~~32.6~~	~~54.6~~	
.6	7.1 7.4	6.7 7.0 5	D.M. 3091	17 37.0	+ 29 30	6.5	54.6	32.5	53.0	17 38.7 + 29 28
0.2	6.4	6.0	2939	17 28.1	+ 19 21	6.4	54.3	22.6	54.1	17 29.1 + 19 20
0.1	5.5	5.1	2922	17 21.6	+ 20 12	5.4	53.8	22.6	53.9	17 22.3 + 20 10

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Plate 1344

r	H	Type	No. lines K	Focus	Other lines	V.	H.	V.	H. Correc.
3.4	11.5	I	5 K=.5H	1	—	1.7	23.0	30.8	31.0 + 1.0
2.9	11.8	I	5 5 K=H	1	—	1.4	23.6	31.1	30.4 + 0.5
2.8	13.9	III	5 2 K=H	1	—	1.4	27.8	31.1	26.2 + 0.3
2.5	18.0	III	III? 1 2 ? K=H	1	—	1.2	36.0	31.3	18.0 − 0.9

F.m. & c. F. ch.

Plate 1345

8.0	6.9							6.9	31	
23.0	11.2	I	5 5 K=H	1	—	11.5	22.4	41.1 41.6	30.7	+ 1.8
22.4	13.7	III	? 2 K=H	1	—	11.2	27.4	41.4 41.9	25.7	+ 0.6
21.5	17.4	I	? 4 K=H	1	—	10.8	34.8	41.8 42.3	38.3	+ 3.5 1.7
21.4	9.5	III	? 2 K=H	1	—	10.7	19.0	41.9 42.4	34.1	+ 4.2
21.5	19.3	I	5 3 N	1	—	10.8	38.6	41.8 42.3	14.5	− 1.9
19.8	17.9	II	5 3 K=H	2	F 5	9.9	35.8	42.7 43.2	17.3	− 1.3
18.2	8.1	I	? 5 4 K=H	1	—	9.1	16.2	43.5 44.0	36.9	+ 3.5
? 18.6	19.2	I	b 4 3 H 1 N	3	very	9.3	38.4	43.2 43.8	14.7	− 2.3
16.2	6.7	I	a 4 3 4 2 2 K=H	1	very	8.1	13.4	44.5 45.0	39.7	+ 4.5
16.8	10.3	I	5 4 N	1	—	8.4	20.6	44.2 44.7	22.5	+ 3.9
16.3	13.2	III	5 2 K=H	1	—	8.2	26.4	44.4 44.9	26.7	+ 1.1
16.9	22.6	I	5 5 K=H	1	—	8.4	45.2	44.2 44.7	7.9	− 6.5
15.4	12.1	I	a 4 3 4 3 2 5 K=H	1	very	7.7	24.2	44.9 45.4	28.9	+ 1.5
15.6	15.2	I	5 7 5 N	2	F 5	7.8	30.4	44.8 45.3	22.7	− 0
14.8	8.7	I	5 3 5 N 5	1	—	7.4	17.4	45.2 45.7	35.7	+ 5.5
14.4	17.2	II	5 2 5 K=H	1	—	7.2	34.4	45.4 45.9	18.7	− 1.9
14.1	17.8	I?	I? 1 2 H 5 K=H	1	—	7.0	35.6	45.6 46.1	17.5	− 1.5
14.1	19.4	II	II? 1 2 2 K=H	1	—	7.0	38.8	45.6 46.1	14.3	− 3.1
13.1	10.4	I	? 5 10 5 N	5	F 5	6.6	20.8	46.0 46.5	32.3	+ 4.2
III? 6.8, 7.0. 12.6	16.9	III	5 2 5 K=H	1	—	6.3	33.8	46.3 46.8	19.3	− 1.8
12.8	22.8	I	5 7 5 K=H	2	F 5	6.4	45.6	46.2 46.7	7.5	− 4.7
11.0	16.1	II	? 5 5 ? K=H	1	—	5.5	32.2	47.1	20.9	− 0.7

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Mean 4

ree.	Br.	Cor Br.	No.	R. A.	Dec.	Mag.	M.	V.	H.	Red. to 1900.
.0	6.4	6.0	2950 ✓	17 32.0	+30 52	5.7	55.0	32.6	54.0	17 32.8 + 30 51
.5	6.7 ✓	6.3	2948 ✓	17 30.9	+21 5	5.8 ✓	54.5	22.5	54.0	17 31.7 + 21 4 ✓
.3	7.0 ✓ 7.2	6.6 6.8	2984 ✓	17 26.4	+31 15	5.8	54.2	22.5	53.9	17 27.1 + 31 13 ✓
.9	7.3 7.5 ✓	7.2 7.4	3004 ✓	17 15.8	+31 ✓ 24	7.5 ✓	51.8	32.6	52.7	17 17.3 + 31 21 ✓
			~~Dm. 3102~~	~~17~~	~~15.9~~	~~+21 18~~	~~7.0~~			

Mean 2

1.3			2950 ✓	17 32.0	+30 52	5.7 ✓	54.4	42.4	52.6	17 32.8 + 30 51 ✓
0.6	7.0 7.2	6.8 7.0	2934 ✓	17 26.4	+31 15	5.8 ✓	53.8	42.4	53.2	17 27.1 + 31 13 ✓
3.5			2974 ✓	17 41.1	+31 33	6.5 ✓	55.9	42.4	52.4	17 41.9 + 31 33 ✓
1.1	6.8 ✓	6.6	~~Dm. 2830~~	~~17~~	~~15.6~~	~~+42 1~~	~~7.9~~			Dm. 2090 40.2 + 31 34
4.3	7.2 ✓ 7.6	7.0 7.4	Dm. 2882 ✓	17 36.7	+41 44	6.5 ✓	55.7	52.4	52.5	17 38.1 + 41 42 ✓
0.9	7.2	7.0	Dm. 2993 ✓	17 12.0	+31 40	7.5 ✓	51.6	42.3	52.5	17 13.7 + 31 37 ✓
			~~Dm. 2812~~	~~17~~	~~11.3~~	~~+41 50~~	~~7.0~~			Dm. 17 12.0 + 31.7
1.3	6.2 ✓	6.0	2905 ✓	17 16.2	+32 38	5.4 ✓	52.0	42.5	53.3	17 16.9 + 32 37 ✓
3.5	7.1 ✓	6.9	Dm. 2944 ✓	17 39.0	+33 18	6.5 ✓	55.2	42.4	51.7	17 40.6 + 33 17 ✓
2.3	4.8 ✓	4.6	2890 ✓	17 12.9	+33 14	4.9 ✓	51.3	42.5	53.6	17 13.6 + 33 13 ✓
4.5	6.6 ✓	6.4	Dm. 3050 ✓	17 42.6	+34 20	6.5 ✓	56.1	42.4	51.5	17 44.2 + 34 19 ✓
3.9	7.0 ✓	6.8	Dm. 2745 ✓	17 35.2	+44 6	6.8 ✓	55.8	52.5	51.9	17 36.5 + 44 4 ✓
1.1	7.1 7.4	6.9 7.2	Dm. 2989 ✓	17 26.8	+34 23	6.5 ✓	53.2	42.6	52.1	17 28.4 + 34 21 ✓
6.5	6.6 ✓	6.4	2862 ✓	17 1.4	+43 59	6.2 ✓	46.6	52.4	53.1	17 2.0 + 43 57 ✓
1.5	7.1 ✓	6.9	Dm. 2996 ✓	17 29.6	+34 50	7.0 ✓	53.8	42.5	52.3	17 31.2 + 34 48 ✓
0	5.8 ✓	5.6	2923 ✓	17 22.4	+34 49	6.0 ✓	52.8	42.6	52.8	17 23.2 + 34 47 ✓
3.5	6.6 ✓	6.4	Dm. 2588 ✓	17 39.9	+43 6	7.2 ✓	57.3	52.5	51.8	17 41.2 + 43 5 ✓
1.9	7.0 ✓	6.8	Dm. 2521 ✓	17 15.7	+45 26	6.5 ✓	50.1	52.6	52.0	17 17.0 + 43 23 ✓
1.5	~~7.3~~ 7.3	7.1	Dm. 2955 ✓	17 15.3	+35 31	7.7 ✓	50.9	42.5	52.4	17 16.9 + 35 28 ✓
3.1	7.2 7.3 ✓	7.1	Dm. 2509 ✓	17 9.8	+45 33	7.2 ✓	48.1	52.6	51.8	17 10.6 + 45 30 ✓
4.2	4.0 ✓	3.8	2959 ✓	17 36.1	+46 4	3.9 ✓	56.9	52.7	52.7	17 36.6 + 46 3 ✓
1.8	7.2 7.6	7.0 7.4	2906 ✓	17 17.1	+46 21	5.8 ✓	50.9	52.7	52.7	17 17.5 + 46 20 ✓
4.7	6.0 ✓	5.8	2869 ✓	17 3.8	+36 6	5.5	49.4	42.5	54.1	17 4.3 + 36 4 ✓
0.7	7.2 7.5	7.0 7.3	Dm. 2882 ✓	17 19.4	+37 5	6.8 ✓	51.6	42.6	52.3	17 21.0 + 37 2 ✓

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Plate 1345

		No.	Type	Lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
11.4	19.8		Ic 4344	3	K=H ?	3	F bright	5.7	39.6	46.9	13.5	− 2.7	5.7 5.1
10.5	11.7		II ?	2	K=H		F ?	3.2	23.4	47.4	29.7	+ 2.1	7.3
10.8	16.4		I ?	2	K=H		F ±	5.4	32.8	47.2	20.3	− 0.9	4.6
10.4	18.7			9	K=.2H	3	F	5.2	37.4	47.4	15.7	− 3.6 2.4	4.1
9.8	7.9			4	N	1	—	4.9	15.8	47.7	37.3	+ 6.9	6.6
8.1	7.0			2	K=H	1	—	4.0	14.0	48.6	39.1	+ 8.1	6.1
8.0	11.5			2	K=H	1	F ?	4.0	23.0	48.6	30.1	+ 3.4	6.2 6.3
8.7	14.7			7	K=.5H	2	—	4.4	29.4	48.2	23.7	+ 0.1	5.7
8.7	16.7			3	K=H	1	F	4.4	33.4	48.2	19.7	− 1.8	6.8
7.4	13.7		?	2	K=H	1	—	3.7	27.4	48.9	25.7	+ 0.9	7.2
7.4	18.4			2	K=H	1	—	3.7	36.8	48.9	16.3	− 2.3	7.1
6.4	12.7		?	2	K=H	1	—	3.2	25.4	49.4	27.7	+ 2.4	7.3
5.5	10.4				K=.5H ?	1	—	2.8	20.8	49.8	32.3	+ 4.8	6.6
5.0	17.0		a 4345	3	K=H	1	F seen	2.5	34.0	50.1	19.1	− 1.5	6.5
5.5	19.5			3	N	1	—	2.8	39.0	49.8	13.1	− 4.7	6.4
3.5	7.6			6	N	3	F	1.8	15.2	50.8	37.9	+ 8.1	5.0
3.1	20.4			4	N	1	—	1.6	40.8	51.0	12.3	− 5.9	6.6
3.2	21.6			3	K=H	1	F	1.6	43.2	51.0	9.9	− 4.9	6.6 7.1
3.6	22.3			4	K=H	1	—	1.8	44.6	50.8	8.5	− 5.3	6.5
2.6	12.8		? I		N	1	—	1.3	25.6	51.3	27.5	+ 1.8	7.2

F. m. Ic. 8.0 7.0

F. ch. 7.0

Plate 1358

22.5	10.5			2	K=H	1	—	11.2	21.0	26.3	49.5	+ 0.9	
22.8	16.9		?	2	K=H	1	—	11.4	33.8	26.1	36.7	− 0.2	
22.3	21.6			2	K=H	1	—	11.2	43.2	26.3	27.3	− 1.3	6.6 7.1
21.2	8.3			2	K=H	1	F ?	10.6	16.6	26.9	53.9	+ 0.6	7.0
19.5	14.5		a 4346 c ?	2	K=.2H	3	F bright	9.8	29.0	27.7	41.5	+ 0.1	4.1
19.5	14.5			5	N	1	—	9.8	29.0	27.7	41.5	+ 0.1	6.8

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Mean 2

Obs.	Cor. Obs.		No.	R.A.	Dec.	Mag.	M.	V.	M.	Red. to 1900.
5.0 5.4	4.8 5.2		2885	17 10.9	+36 57	3.4	50.5	42.7	53.2	17 11.5 + 36 55
7.3	7.1	D.M.	2908	17 30.7	+37 24	6.5	54.1	42.6	52.0	17 32.3 + 37 22
4.3	4.1		2914	17 19.6	+37 16	4.1	52.4	42.7	53.3	17 20.2 + 37 14 / 17 20.2 + 37 14
4.9	4.7		2893	17 13.5	+37 25	4.9	50.9	42.6	53.3	17 14.2 + 37 24
6.6	6.4		2983	17 43.9	+47 39	6.3	59.7	52.5	52.8	17 44.4 + 47 39
6.7	6.5		2991	17 46.9	+48 25	6.4	60.9	52.4	52.8	17 47.4 + 48 25
6.5 6.9	6.3 6.7		2934	17 33.5	+48 40	5.5	56.5	52.7	53.1	17 34.0 + 48 38
5.7	5.5		2926	17 23.6	+48 22	5.8	53.0	52.8	53.1	17 24.1 + 48 20
6.8	6.6	D.M.	2506	17 16.6	+48 20	6.3	50.1	52.7	53.8	17 17.8 + 48 17
7.2	7.0	D.M.	3147	17 25.8	+39 0	6.5	53.2	42.7	52.3	17 27.3 + 38 58 / D.M. 2910 13.3 + 38 58
7.2 7.5	7.0 7.3		2898	17 14.4	+38 56	5.9	51.2	42.6	53.5	17 15.0 + 38 55
7.3	7.1	D.M.	2658	17 29.4	+49 28	6.8	54.8	52.7	52.4	17 30.5 + 49 26
6.6	6.4	D.M.	2678	17 36.2	+49 52	6.3	57.0	52.7	52.3	17 37.3 + 49 50
6.5	6.3		2907	17 17.9	+40 35	5.8	51.9	42.6	53.4	17 18.4 + 40 35
6.4	6.2	D.M.	2604	17 8.0	+49 56	6.2	47.0	52.7	51.7	17 9.1 + 49 53
5.0	4.8		2989	17 46.2	+50 50	5.2	61.4	52.6	53.3	17 46.7 + 50 48
6.6	6.4	D.M.	2178	17 4.7	+51 2	6.5	45.5	52.6	51.4	17 5.8 + 50 58 / D.M. 3109 4.8 + 40 58
6.6 7.1	6.4 6.9		2872	17 3.7	+40 56	5.1	48.9	42.5	53.8	17 6.3 + 40 54
6.5	6.3		2870	17 3.9	+40 40	6.3	48.5	42.5	53.8	17 4.5 + 40 39
7.2 7.3	7.0 7.1		2943	17 29.3	+41 20	5.9	54.9	42.6	53.1	17 30.0 + 41 19

Mean 7

			3000	17 50.6	+26 5	5.6	71.6	37.3	70.7	17 51.4 + 26 4
			2961	17 36.6	+16 2	5.7	70.4	27.4	70.6	17 37.4 + 16 0
6.6 7.1	5.9 6.4		2933	17 25.9	+26 12	4.3	69.1	37.4	70.4	17 26.7 + 26 11
7.0 7.3	6.3 6.6		3018	17 54.7	+16 46	4.5	71.3	27.4	70.7	17 55.6 + 16 46
4.9	4.2		2976	17 41.8	+27 48	3.3	70.8	37.6	70.7	17 42.6 + 27 48
6.8	6.1		2977	17 41.8	+17 47	5.7	70.8	27.6	70.8	17 42.7 + 17 46 / D.M. 3334 40.7 + 17 47

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Plate 1358.

V	H	Type	No. Lines	K	Focus	Other Lines.	V.	H.	V.	H Correc.	B
17.9	20.8	I	6	K=.2H	2	F	9.0	41.6	28.3	28.9 − 1.4	6.1
? 16.4	x9.6	III Hε? 4344	2	K=1.5H	3	F! Brjht?	8.2	19.2	29.3	31.3 + 1.3	5.3 5.4
16.4	13.7	I	3	N	1	—	8.2	27.4	29.3	43.1 + 0.2	6.7
17.0	14.3	I? H		K=H	1	—	8.5	28.6	29.0	41.9 + 0.1	7.2
16.0	16.0	III	12	K=H	1	F!	8.0	32.0	29.5	36.3 − 0.3	7.1 7.3
16.2	20.9	II a 4348	3	K=H	1	F, diff	8.1	41.8	29.4	28.7 − 0.7	6.8
15.5	6.9	I	4	K=H	1	—	7.8	13.8	29.7	56.7 + 1.0	6.9
15.8	8.2	I	4	K=H	1	—	7.9	16.4	29.6	54.1 + 0.8	6.9
? 14.5	9.2	II a 4349	3	K=H	2	F, diff	7.2	18.4	30.3	52.1 + 1.6	5.6
14.8	12.5	II a? 4350	2	K=H	1	—	7.4	25.0	30.1	43.5 + 0.7	7.0
14.5	23.9	I	6	N	2	F	7.2	47.8	30.3	23.7 − 1.2	6.9
13.2	7.3	I b 4351	7	N	2	F, diff	6.6	14.6	30.9	55.9 + 1.0	6.8
13.6	7.5	III	12	K=H	1	—	6.8	15.0	30.7	55.5 + 2.1	7.2 7.3
13.8	13.9	III	2	K=H	1	—	6.9	27.8	30.6	42.7 + 0.2	6.9 7.3
13.2	18.6	I	4	N	1	—	6.6	37.2	30.9	33.3 − 1.1	6.5
12.9	19.6	I	4	K=H	1	—	6.4	39.2	31.1	31.3 − 0.6	6.6
12.4	21.0	III	3	K=H	1	F	6.2	42.0	31.3	28.5 − 1.7	6.8 7.2
11.8	7.7	I ?	7	K=.2H	3	F	5.9	15.4	31.6	55.1 + 1.0	5.2
11.9	14.7	I ?	3	K=H	2	—	6.0	29.4	31.5	41.1 + 0.1	6.5
10.0	10.4	III	2	K=H	1	—	5.0	20.8	32.5	49.7 + 0.7	7.2 7.6
10.0	10.6	III ? III	2 2	K=H K=H	1	— —	5.0	21.2	32.5	49.3 + 1.4	7.3 7.6
10.3	12.7	I		K=H	1	F	5.2	25.4	32.3	45.1 + 0.3	6.6
9.0	7.3	II a? 4352	2	K=H	1	F? diff	4.5	14.6	33.0	55.9 + 1.2	6.5
8.4	15.2	II ?	2	K=H	1	—	4.2	30.4	33.3	40.1 − 0.1	7.1
7.5	16.8	II ?	2	K=H	1	—	3.8	33.6	33.7	36.9 − 0.3	7.3
6.0	13.1	III	2	K=H	1	—	3.0	26.2	34.5	44.3 + 0.4	7.3 7.6
6.4	13.8	II ?	2	K=H	1	—	3.2	27.6	34.3	42.9 + 0.5	6.7
6.4	16.1	III	3	K=H	1	F!	3.2	32.2	34.3	38.3 + 0.2	7.0 7.2

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Mean 7

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900
6.1	5.4		2936	17 27.1	+28 29	~~5.6~~ 6.0	68.7	37.5	70.1	17 27.9 + 28 29
5.3 5.4	4.6 4.7		3007	17 33.1	+29 16	3.9	72.3	37.5	71.0	17 33.8 + 29 15
6.7	6.0		2982	17 43.6	+19 17	6.0	71.0	27.5	70.8	17 44.3 + 19 17
7.2	6.5	D.M.	3464	17 41.2	+18 37	6.5	69.8	27.4	69.7	17 43.2 + 18 36
7.1 7.3	6.4 6.6	D.M.	~~3~~ 2091	17 37.0	+29 30	6.5	69.0	37.5	69.3	17 38.7 + 29 28
6.8	6.1		2939	17 28.1	+19 21	6.4	69.9	27.5	70.6	17 29.1 + 19 20
6.9	6.2	D.M.	3508	17 57.0	+19 35	6.5	70.8	27.4	69.8	17 58.9 + 19 33
6.9	6.2	D.M.	3494	17 54.2	+19 31	6.5	70.6	27.4	69.8	17 56.1 + 19 31
~~5.0~~ 5.0	4.3		3010	17 33.9	+30 12	4.6	72.3	37.4	70.7	17 34.7 + 30 11
7.0	6.3	D.M.	3069	17 43.4	+30 2	7.2	70.4	37.4	69.7	17 47.1 + 30 1
5.9	5.2		2922	17 21.6	+20 12	5.4	69.4	27.4	70.6	17 22.5 + 20 10
5.8	5.1		3033	17 37.3	+20 50	5.1	71.9	27.4	70.9	17 38.1 + 20 50
7.2 7.4	6.5 6.8		3111	17 57.1	+30 33	6.7	72.1	37.4	70.0	17 57.8 + 30 33
7.5	6.9	D.M.	~~3106~~	~~17 55.9~~	~~+30 39~~	~~7.0~~				D.M. 17 57.0 +30 35
										D.M. 3570 42.2 +20 37
7.3	6.6		2981	17 43.3	+20 36	5.9	71.1	27.5	70.9	17 44.1 + 20 36
6.5	5.8		2950	17 32.0	+30 52	5.7	69.2	37.5	70.3	17 32.8 + 30 51
6.6	5.9		2948	17 30.9	+21 5	5.8	70.1	27.5	70.7	D.M. 3157 29.8 +21 8 17 31.7 + 21 4
6.8 7.2	6.1 6.5		2934	17 26.4	+31 15	5.8	68.4	37.4	70.1	17 27.1 + 31 13
5.2	4.5		3026	17 36.4	+21 37	4.6	71.8	27.5	70.8	17 37.2 + 21 36 17 37.2 + 21 36
6.5	5.8		2974	17 41.1	+31 33	6.5	70.5	37.6	70.4	D.M. 3095 41.2 +31 34 17 41.9 + 31 33
7.2 7.6	6.5 6.9		3001	17 50.8	+22 28	5.8	71.6	27.5	70.9	D.M. 3237 49.7 +22 29 17 51.6 + 22 28
~~7.3~~ 7.3 7.6	6.6 6.9	D.M.	3004	17 50.4	+32 29	7.0	71.6	37.4	70.2	51.8 17 52.1 + 32 28
6.6	5.9		2988	17 45.8	+22 20	5.9	71.2	27.5	70.9	D.M. 3227 44.7 +22 21 17 46.6 + 22 20
6.5	5.8	D.M.	3260	17 56.4	+22 56	6.7	71.0	27.4	69.8	17 58.3 + 22 56
7.1	6.4	D.M.	2944	17 39.0	+33 18	6.5	69.4	37.5	69.5	17 40.6 + 33 17
7.3	6.6	D.M.	3160	17 35.9	+23 50	7.7	69.5	27.6	69.8	17 37.8 + 23 48
7.3 7.5	6.6 6.9	D.M.	~~3264~~ 4	17 44.1	+24 30	7.1	70.3	27.5	69.9	17 45.9 + 24 29
6.7	6.0	D.M.	3050	17 42.6	+34 20	6.5	70.2	37.5	69.7	17 44.2 + 34 19
7.0 7.2	6.3 6.5		2966	17 38.4	+24 23	6.0	70.6	27.6	70.8	17 39.3 + 24 22

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August 8, 1887.

Plate 1358.

V	H	Type	No. Lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	B
6.4	18.7	II	1	N	2	—	3.2	37.4	34.3	33.1	− 0.6	6.4
5.4	22.4	II	6	K=H	2	F	2.7	44.8	34.8	25.7	− 2.7	6.5
4.4	13.0	II?	2	K=H	1	~~F~~ —	2.2	26.1	35.3	44.5	+ 0.4	7.2
3.8	13.6	III	12	K=H	1	F?	1.9	27.2	35.6	43.3	+ 0.3	6.9 7.3
? 2.9	10.6	III	a 4359 2	K=H	1	F? seen.	1.4	21.2	36.1	49.3	+ 0.9	6.7
12 10 2.7	21.7	III	1 4354 2	K=H	1	seen	1.4	43.4	36.1	27.1	− 1.3	6. 7.

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Mean 7

ree.	Br.	Cou Br.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.	
6	6.4	5.7		2952	17 32.6	+24 23	5.8	70.0	27.6	70.6	17 33.4 + 24 22	✓ V
											Dm. 2971 21.6 + 34 50	
7	6.5	5.8		2923	17 22.4	+34 49	6.0	67.2	37.5	69.9	17 23.2 + 34 47	✓ V
4	7.2	6.5	Dm.	3357	17 44.4	+25 20	7.0	70.4	27.5	70.0	17 46.2 + 25 19	✓ V
3	6.9 / 7.3	6.2 / 6.6		2984	17 44.0	+25 40	5.4	71.2	27.6	70.9	17 44.7 + 25 40	✓ V
9	6.7	6.0		3000	17 50.6	+26 5	5.6	71.8	27.5	70.9	17 51.4 + 26 4	✓ V
3	6.6 / 7.1	5.9 / 6.4		2933	17 25.9	+26 12	4.3	69.3	27.6	70.6	17 26.7 + 26 11	✓ V

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F. m. 8c. 7.9 6.8 F. ch. 6.8

August 9, 1887.

Plate 1394.

	T	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
g 30	22.4	15.8	=	4	K=H?	2	–	11.2	11.6	26.4	60.8	+ 1.9	6.5
	22.6	11.4	=	2	K=H	1	–	11.3	22.8	26.3	49.6	+ 0.7	
	22.7	17.9	=	2	K=H	1	–	11.4	35.8	26.2	36.6	– 0.2	
	22.3	22.4	=	2	K=H	1	–	11.2	44.8	26.4	27.6	– 1.6	6.3 7.1
	21.4	9.2	=	2	K=H	1	–	10.7	18.4	26.9	54.0	+ 0.5	6.8 7.2
?	19.6	15.3	=	3	K=H?	3	F. Bright lines.	9.8	30.6	27.8	31.8	– 0.1	4.7 4.8
	19.5	15.4	=	4	K=H	1	–	9.8	30.8	27.8	31.6	– 0	6.6
	17.4	6.1	=	4	K=2H?	4	F	8.7	12.2	28.9	60.2	+ 2.2	4.4
	17.8	21.7	=	6	H	2	F	8.9	43.4	28.7	29.0	– 1.7	6.3
?	16.6	10.4	=	3	K=H?	3	F. Bright lines.	8.3	20.8	29.3	51.6	+ 1.2	6.2 5.3
	16.4	13.6	=	2	K=H	1	sum	8.2	27.2	29.4	43.2	+ 0.4	6.9 7.1
	16.4	14.6	=	5	H	1	–	8.2	29.2	29.4	43.2	+ 0.	6.7
	17.1	15.1	=	3	H	1	–	8.6	30.2	29.0	42.2	– 0	7.0
	16.1	16.9	=	2	K=H	1	–	8.0	33.8	29.6	38.6	– 0.5	7.0
	16.3	21.8	=	3	K=H	1	F. sum	8.2	43.6	29.4	28.8	– 0.8	6.7
	15.7	7.8	=	4	H	1	–	7.8	15.8	29.8	56.6	+ 0.8	6.8
	15.8	9.1	=	4	H	1	–	7.9	18.2	29.7	54.2	+ 0.7	6.8
	No star on Plate.												
	~~15.7~~	~~9.2~~	~~=~~	~~3~~	~~K=H~~	~~1~~	~~F~~	~~8.0~~	~~18.4~~	~~29.6~~	~~54.0~~	~~+ 1.3~~	
?	14.6	10.1	=	2	K=H	3	F. Spectr.	7.3	20.2	30.3	52.2	+ 1.4	5.7 0
	14.9	13.4	=	3	H	1	–	7.4	26.8	30.2	45.6	+ 0.5	7.0
	14.0	7.8	=	2	K=H	1	–	7.0	15.6	30.6	56.8	+ 2.0	7.2 7.5
?	13.8	6.4	=	3	K=H	2	F. Spectr.	6.9	12.8	30.7	59.6	+ 1.9	6.2
	13.4	8.2	=	4	H	2	F	6.7	16.4	30.9	56.0	+ 0.9	5.7
	13.7	8.4	=	2	K=H	1	–	6.8	16.8	30.8	55.6	+ 1.9	7.2 7.4
	13.8	14.8	=	2	K=H	1	–	6.9	29.6	30.7	42.8	+ 0	7.2 7.6
	13.4	19.4	=	4	K=H	1	F	6.7	38.8	30.9	33.6	– 1.3	6.6
	12.8	20.5	=	4	K=H	1	–	6.4	41.0	31.2	31.4	– 0.7	6.7
	12.5	21.9	=	3	K=H	1	F	6.2	43.8	31.4	28.6	– 2.0	6.8 7.2

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Mean 7

ec.	Bv.	Cov. Bv.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
	6.3	5.6		3049	18 3.0	+26 5	5.2	14.6	37.3	12.7	18 3.8 +26 5
7	=	=	=	3000	17 50.6	+26 5	5.6	73.4	37.4	72.7	17 51.4 +26 4
2	.	.	.	2961	17 36.6	+16 2	5.7	72.4	27.4	72.6	17 37.4 +16 0
6	6.5	5.8		2933	17 25.9	+26 12	4.3	70.7	37.4	72.3	17 26.7 +26 11
.3	7.2	6.5		3018	17 54.7	+16 46	4.5	73.1	27.5	72.6	17 55.6 +16 46
.1	4.7	4.0		2976	17 41.8	+27 48	3.5	72.4	37.6	72.5	17 42.6 +27 48
	6.6	5.9		2977	17 41.8	+17 47	5.7	72.6	27.6	72.6	17 42.7 +17 47 / 17 30.8 +17 46
2.	4.4	3.7		3048	18 2.9	+28 45	4.0	15.1	37.5	12.9	18 3.6 +28 45
7	6.3	5.6		2936	17 27.1	+28 29	5.6	70.3	37.4	72.2	17 27.9 +28 29
2	5.2	4.5		3007	17 53.1	+29 16	3.9	73.9	37.6	72.7	17 53.8 +29 15 / 3126 44.8 +29 22
.4	6.9	6.2		2987	17 45.7	+29 22	5.7	72.9	37.6	72.5	17 46.3 +29 21
	6.7	6.0		2982	17 43.6	+19 17	6.0	72.8	27.5	72.8	17 44.5 +19 17
	7.0	6.3	DM.	3464	17 41.2	+18 57	6.5	71.4	27.6	71.4	17 43.2 +18 56
5	7.0	6.3	DM.	3091	17 37.0	+29 30	6.5	70.8	37.5	71.3	17 38.7 +29 28 / 3354 27.1 +19 22
.8	6.7	6.0		2939	17 28.1	+19 21	6.4	71.7	27.6	72.5	17 29.1 +19 20
.8	6.8	6.1	DM.	3508	17 57.0	+19 35	6.5	72.8	27.4	72.0	17 58.9 +19 35
.7	6.8	6.1	DM.	3494	17 54.2	+19 31	6.5	72.4	27.4	71.7	17 56.1 +19 31 / 17 56.8 +29 34
.5			DM.	3165	17 55.1	+29 34	7.5	73.5	37.6	72.0	17 55.2 +29 6
.4	5.0	4.3		3010	17 53.9	+30 12	4.6	74.1	37.5	72.7	17 54.7 +30 11
.5	7.0	6.3	DM.	3069	17 45.4	+30 2	7.2	72.3	37.4	71.7	17 47.1 +30 1
.0	7.2	6.5	DM.	3113	17 58.4	+30 24	6.7	74.0	37.4	72.0	18 0.1 +30 24
9	6.2	5.5		3047	18 2.5	+30 33	5.4	15.3	37.5	13.4	18 3.2 +30 33
9	5.7	5.0		3033	17 57.3	+20 50	5.1	73.7	27.5	72.8	17 58.1 +20 50
	7.2	6.5	DM.	3111	17 57.1	+30 33	6.7	73.9	37.4	72.0	17 58.8 +30 33
	7.2	6.5		2981	17 43.3	+20 36	5.9	72.9	27.5	72.9	17 44.5 +20 36
3	6.6	5.9		2950	17 32.0	+30 52	5.7	70.8	27.6	72.1	17 32.8 +30 51
7	6.7	6.0		2948	17 30.9	+21 5	5.8	71.9	27.5	72.6	17 31.7 +21 4
0	7.2	6.5		2934	17 26.4	+31 15	5.8	70.2	37.5	72.2	17 27.1 +31 13

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1887phae.proj..844f

August 9, 1887.

Plate 1394.

r	R	Type	No. Lines	K	Focus	Other Lines	V.	M.	V.	M.	Correc.	B
11.9	8.7	III?	6	K=.2H	3	F.	6.0	17.4	31.6	55.0	+ 0.8	5.1
11.9	15.5	III	6	K=1H	1	—	6.0	31.0	31.6	41.4	− 0.2	6.6
10.5	6.5	III	2	K=H	1	F?	5.2	13.0	32.4	59.4	+ 1.3	6.8 7.3
10.4	7.1	III	2	K=H	1	—	5.2	14.2	32.4	58.2	+ 2.3	7.3 7.6
10.2	11.3	III	?	?	1	—	5.1	22.6	32.5	49.8	+ 0.6	7.3 7.6
10.4	13.5	III	4	K=H	1	—	5.2	27.0	32.4	43.4	+ 0.3	6.7
9.1	8.2	a 4361	2	K=H	1	F? Seen	4.6	16.4	33.0	56.0	+ 1.0	6.6
9.6	10.3	III	2	K=H	1	—	4.8	20.6	32.8	51.8	+ 1.6	7.3 7.5
8.4	16.1	III	2	K=H	1	—	4.2	32.2	33.4	40.2	− 0.4	7.3 7.5
7.1	7.2	I	3	N	1	—	3.6	14.4	34.0	58.0	+ 1.4	7.2
6.5	14.6	I	3	N	1	—	3.2	29.2	34.4	43.2	+ 0.2	6.7
6.3	16.9	III	2	K=H	1	—	3.2	33.8	34.4	38.6	− 0.3	6.9 7.2
6.4	19.6	I	6	K=2H	2	F.	3.3	39.2	34.4	33.2	− 0.8	6.4
4.5	13.9	III	2	K=H	1	—	2.2	27.8	35.4	44.6	+ 0.2	7.2
3.8	14.5	III	2	K=H	1	F?	1.9	29.0	35.7	43.4	+ 0.1	6.7 7.2
5.4	23.2	I	4	N	1	—	2.7	46.4	34.9	26.0	− 3.0	6.5
3.0	11.5	a 4362	3	K=H	1	F Seen	1.5	23.0	36.1	49.4	+ 0.7	5.8
2.8	5.9	I	4	?	2	F.?	1.4	11.8	36.2	60.6	+ 1.8	6.2
2.6	22.6	III	2	K=H	1	F?	1.3	45.2	36.3	27.2	− 1.6	6.7 7.1

F. m. & c.

Plate 1359.

F. ch.

7.1

22.3	9.2	III	2	K=H	1	—	11.2	18.4	46.3	51.1	+ 3.3	6.9 7.4
22.9	16.1	I	9	N	4	—	11.4	32.2	46.1	37.3	− 1.1	
21.6	11.9	III	2	K=H	1	—	10.8	23.8	46.7	45.7	+ 2.9	7.0 7.2
21.9	22.7	III	2	K=H	1	—	11.0	45.4	46.5	24.1	− 7.2	7.0 7.3
20.1	8.8	I	2	K=H	1	—	10.0	17.6	47.5	51.9	+ 6.0	7.1
20.6	10.2	c 4363	3	K=H	2	F Light line.	10.3	20.4	47.2	49.1	+ 3.0	6.6 6.1
20.8	13.1	II?	2	K=H	1	—	10.4	26.2	47.1	43.3	+ 1.1	7.2

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1887phae.proj..8447

Mean 7

Br.	Cor. Br.		No.	R. A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
5.1	4.4		3026	17 56.4	+21 37	4.6	73.8	27.6	73.0	17 57.2 + 21 36 } 17 57.2 + 21 36
										Rm. 3030 40.2 + 31 34
6.6 6.8	5.9 6.1		2974	17 41.1	+31 33	6.5	72.1	37.6	72.3	17 41.9 + 31 33
7.3	6.6		3042	18 1.0	+22 12	5.4	14.0	27.4	12.7	18 1.8 + 22 13
										Rm. 3047 8.4 + 32 14
7.3 7.6	6.6 6.9		3043	18 1.4	+32 14	6.0	15.6	37.4	13.1	18 2.1 + 32 14
										Rm. 3237 49.7 + 22 29
7.3 7.6	6.6 6.9		3001	17 50.8	+22 28	5.8	73.4	27.6	72.8	17 51.6 + 22 28
6.7	6.0		2988	17 45.8	+22 20	5.9	72.8	27.3	72.5	17 46.6 + 22 20
6.6	5.9	D.M.	3260	17 56.4	+22 56	6.7	72.8	27.5	71.8	17 58.3 + 22 56
7.3 7.5	6.6 6.8	D.M.	2017	17 52.7	+32 41	6.7	73.3	37.5	71.7	17 54.4 + 32 41
7.3 7.5	6.6 6.8	D.M.	2948	17 39.0	+33 18	6.5	71.2	37.5	71.6	17 40.6 + 33 17
7.2	6.5	D.M.	3254	17 58.7	+23 56	7.1	73.1	27.5	71.7	18 0.6 + 23 56
6.7	6.0	D.M.	3050	17 42.6	+34 20	6.5	71.8	37.5	71.6	17 44.2 + 34 19
6.9 7.2	6.2 6.5		2966	17 38.4	+24 23	6.0	72.2	27.6	72.5	17 39.3 + 24 22
6.4	5.7		2952	17 32.6	+24 23	5.8	71.8	27.6	72.6	17 33.4 + 24 22
7.2 6.7	6.5 6.0	D.M.	3357	17 44.4	+25 20	7.0	72.2	27.5	72.0	17 46.2 + 25 19
7.2	6.5		2984	17 44.0	+25 40	5.4	73.0	27.6	72.9	17 44.7 + 25 40
										Rm. 2971 21.6 + 34 30
6.5	5.8		2923	17 22.4	+34 49	6.0	68.8	37.5	71.8	17 23.2 + 34 47
5.8	6.1		3000	17 30.6	+26 5	5.6	73.6	27.6	72.9	17 31.4 + 26 4
6.2	5.5		3049	18 3.0	+26 5	5.2	14.8	27.5	13.0	17 3.8 + 26 3 } 18 3.8 + 26 3
6.7 7.1	6.0 6.4		2933	17 25.9	+26 12	4.3	71.1	27.5	72.7	17 26.7 + 26 11

Mean 3

6.7 7.1	6.6 6.8		3016	17 54.5	+36 17	6.0	72.9	47.5	69.6	17 53.3 + 36 17
										Rm. 2986 53.7 + 36 17
			2959	17 36.1	+46 4	3.9	68.3	57.5	69.4	17 36.6 + 46 3
7.0 7.2	6.7 6.9		2993	17 48.8	+46 42	6.5	72.6	57.5	69.7	17 49.2 + 46 41
										Rm. 2379 48.0 + 46 42
7.0 7.3	6.7 7.0		2906	17 17.1	+46 21	5.8	62.5	57.4	69.7	17 17.5 + 46 20
7.1	6.8	D.M.	2572	17 57.2	+47 23	6.5	74.8	57.4	68.8	17 58.4 + 47 23
6.6 6.1	5.3 5.8		3004	17 32.1	+37 16	4.0	72.5	47.6	69.5	17 32.8 + 37 15
7.2 7.3	7.0	D.M.	2949	17 44.0	+37 6	7.0	70.2	47.5	69.1	17 43.5 + 37 5

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Plate 1359.

x	H	Type	No. lines	K	Intensities	Other lines	V.	H.	V.	H.	Correc.
20.6	22.9	III ?	2	K=H	1	—	10.3	45.8	47.2	23.7	− 4.9
20.4	23.1	I	8	K=2H?	3	F	10.3	46.2	47.3	23.3	− 5.1
19.8	13.3	III	2	K=H	1	—	9.9	26.6	47.6	22.9	+ 1.8
19.8	13.6	I	7	K=2H	2	F	9.9	27.2	47.6	22.3	+ 1.3
19.0	8.6	III ?	2	K=H	1	—	9.5	17.2	48.0	22.3	+ 6.5
18.5	7.6	III ?	2	K=H	1	—	9.2	15.2	48.3	22.3	+ 7.3
18.0	8.2	I	7	K=2H	2	F	9.0	16.4	48.3	21.6	+ 6.9
18.2	8.4	III ?	2	K=H	1	—	9.1	16.8	48.4	21.1	+ 6.7
18.2	12.6	I	7	N	2	F	9.1	25.2	48.4	21.1	+ 2.4
18.3	14.7	II ?	2	K=H	1	—	9.2	29.4	48.3	21.2	+ 0.1
18.1	16.1	II a ?	2	K=H	1	Rem	9.0	32.2	48.3	21.0	− 1.1
19.0	18.2	III	2	K=H	1	—	9.5	36.4	48.0	21.5	− 3.0
18.3	20.3	I	8	K=2H	2	F	9.2	40.6	48.3	21.2	− 5.3
18.2	22.3	II a	3	K=H	1	F	9.1	44.6	48.4	21.1	− 7.2
17.1	7.2	III ?	2	K=H	1	—	8.6	14.4	48.9	53.1	+ 7.9
17.4	14.3	III	2	K=H	1	F?	8.7	28.6	48.8	41.9	+ 0.5
17.1	20.1	II	3	K=H	1	F	8.6	40.2	48.9	29.3	− 3.5
17.5	22.8	III ?	2	K=H	1	—	8.6	45.6	48.9	23.9	− 5.1
16.0	17.2	II	2	K=H	1	—	8.0	34.4	49.3	35.1	+ 2.8
15.9	17.3	II	2	K=H	1	—	8.0	34.6	49.3	34.9	+ 8.1
16.2	17.6	III	2	K=H	1	—	8.1	35.2	49.4	34.3	+ 2.7
16.5	14.3	III	3	K=H	1	A	8.2	28.6	49.3	40.9	+ 0.5
16.1	17.0	II	2	N	1	F ?	8.0	34.0	49.3	35.5	− 1.9
16.2	18.0	I	6	K=2H	1	F	8.1	36.0	49.4	33.3	− 3.0
15.5	7.1	I	2	?	2	F	7.8	14.2	49.7	55.3	+ 8.3
15.1	11.5	III	3	K=H	2	F	7.6	23.0	49.9	46.5	+ 2.5
15.2	11.9	III ?	2	K=H	1	—	7.6	23.8	49.9	45.7	+ 3.1
15.0	12.2	III	3	K=H	1	F	7.5	24.4	50.0	45.1	+ 2.9

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Mean 3

Br.	Br. (corr.)		No.	R.A.	Dec.	Mag.	Th. V	Th. I	Red. to 1900
7.1 7.3	6.8 7.0		2882	17 19.4	+37 5	6.8	65.2	47.4 70.1	17 21.0 + 37 21
4.8	4.5		2914	17 19.6	+37 16	4.1	65.8	47.5 70.9	17 20.2 + 37 14
7.1 7.4	6.8 7.1		2541	17 44.1	+47 38	6.8	70.7	57.5 68.9	17 45.3 + 47 37
6.2	5.9		2983	17 43.9	+47 39	6.3	71.1	57.5 69.8	17 44.4 + 47 39
7.2 7.4	6.9 7.1		2576	17 38.1	+47 52	7.2	73.3	57.4 68.8	17 39.3 + 47 52
7.0	6.7		2635	18 1.1	+48 8	7.7	16.3	57.3 9.0	18 2.3 + 48 8
5.9	5.6		3041	18 1.0	+48 28	R.	17.4	57.5 10.5	18 0.5 + 48 28
7.3 7.5	7.0 7.2		2625	17 38.8	+48 18	8.0	75.6	57.4 68.9	18 0.0 + 48 18
			~~2621~~	~~17 37.3~~	~~+48 29~~	~~6.8~~			
6.2	5.9		2991	17 46.9	+48 25	6.4	72.1	57.5 69.7	17 47.4 + 48 25
7.0 7.0	6.7 6.7		2995	17 40.0	+38 24	7.3	69.4	47.6 69.3	17 41.3 + 38 23
6.9 7.0	6.7 6.7		2549	17 35.4	+48 32	7.8	67.6	57.5 68.7	17 36.6 + 48 30
			2533	17 29.0	+48 1	9.3	65.4	47.5 6.84	17 30.2 + 47 59
7.0	6.7		2532	17 29.0	+48 0	7.3			17 30.2 + 47 58
5.8	5.5		2926	17 23.6	+48 22	5.8	64.2	57.6 69.5	17 24.1 + 48 20
6.6	6.3		2506	17 16.6	+48 20	6.3	61.2	57.4 68.4	17 17.8 + 48 17
7.0	6.7		2638	18 2.6	+48 50	7.3	17.0	57.4 9.1	18 3.8 + 48 50
6.9 7.0	6.6 6.8		2978	17 41.9	+38 36	6.2	70.5	47.6 70.0	17 42.6 + 38 36
6.7 7.0	6.4 6.7		3147	17 25.8	+39 0	6.5	66.0	47.6 69.5	17 27.3 + 39 38
7.2 7.1	6.8		2917	17 20.0	+38 43	6.4	65.6	47.3 70.7	17 20.7 + 38 41
			3310	17 39.4	+39 29	7.0	73.8	47.5 68.4	18 0.9 + 39 29
6.9	6.6		~~2668~~	~~17 32.6~~	~~+49 33~~	~~7.0~~			
			2729	18 2.5	+49 31	7.7			18 3.6 + 49 31
6.9	6.6		2728	18 2.5	+49 28	7.3			18 3.6 + 49 28
7.3 7.5	7.0 7.2		2727	18 1.8	+49 20	7.5	17.1	57.5 9.0	18 2.9 + 49 20
			~~2658~~	~~17 29.4~~	~~+49 28~~	~~6.8~~	17.0	57.4 9.3	
7.0 7.3	6.7 7.0		2980	17 42.0	+39 22	6.5	70.6	47.6 70.1	17 42.7 + 39 22
6.8	6.5		2668	17 32.6	+49 33	7.0	66.6	57.6 68.5	17 33.7 + 49 31
6.5	6.2		2638	17 29.4	+49 28	6.8	65.4	57.6 68.4	17 30.5 + 49 26
6.0	5.7		3057	18 4.1	+49 41	6.3	18.3	57.5 10.0	18 4.6 + 49 42
6.2 6.5	5.9 6.2		2997	17 49.5	+40 2	5.3	72.5	47.6 70.0	17 50.0 + 40 1
6.9 7.2	6.6 6.9		3228	17 47.4	+40 1	6.2	71.2	47.6 68.1	17 48.9 + 40 0
6.7	6.4		3225	17 46.5	+40 6	6.7	71.9	47.6 68.0	17 48.0 + 40 5

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Plate 1359.

r	R	Type	No. lines	K	Focus	Other Lines.	V.	M.	V.	M.	Correc.	
15.0	14.2	III	2	K=H	1	F?	7.3	28.4	50.0	41.1	+ 0.9	
15.5	15.8	II	6	K=2H	2	—	7.8	31.6	49.7	37.9	− 0.7	
15.6	20.8	II?	2	K=H K=H	1	—	7.8	41.6	49.7	27.9	− 3.9	7.25
14.0	6.3	III	2	K=H	1	F?	7.0	12.6	50.3	56.9	+ 9.5	
14.1	6.4	II	4	K=H	1	—	7.0	12.8	50.3	56.7	+ 6.3	
14.8	7.1	III	3	K=H	1	F?	7.4	14.2	50.1	55.3	+ 5.5	
14.2	11.8	III	2	K=H	1	—	7.1	23.6	50.4	45.9	+ 3.3	
14.8	23.4	II	3	K=H	2	F	7.4	46.8	50.1	22.7	− 5.9	
13.2	7.3	III	3	K=H	1	F	6.6	14.6	50.9	54.9	+ 8.5	
13.1	9.4	III	2	K=H	1	—	6.6	18.8	50.9	50.7	+ 6.0	
13.6	12.9	II	10	K=2H	3	F	6.8	25.8	50.7	43.7	+ 2.3	
13.0	15.7	III	12	K=H	1	F?	6.5	31.4	51.0	38.1	− 0.6	
13.0	16.7	II	2	K=H	1	—	6.5	33.4	51.0	36.1	− 1.9	
13.0	18.4	II	3	N	1	—	6.5	36.8	51.0	32.7	− 2.4	
13.1	19.2	a II a	2	2K=H	K=H 1	F?	6.6	38.4	50.9	31.1	− 4.5	6.66
13.4	20.6	III	3	2K=H	K=H 1	F	6.7	41.2	50.8	28.3	− 6.0	7.25
13.7	20.7	I II a	4	4K=H	K=H 1	—	6.8	41.4	50.7	28.1	− 6.0	7.17
? 12.2	10.6	Ic	3	K=1.5H	4	F Bright point.	6.1	21.2	51.4	48.3	+ 4.8	
12.6	19.0	III	3	K=H	1	F	6.3	38.0	51.2	31.5	− 3.0	
12.1	19.2	II	12	K=H	K=H 1	F?	6.0	38.4	51.5	31.1	− 4.7	7.07
11.3	6.1	III	12	K=H	K=H 1	—	5.6	12.2	51.9	57.3	+ 6.7	7.33
11.1	7.1	II	4	K=H	1	—	5.6	14.2	51.9	55.3	+ 6.0	6.97
11.0	7.8	III	2	K=H	K=H 1	—	5.5	15.6	52.0	53.9	+ 8.3	7.13
11.7	8.8	II	3	K=H	K=H 1	F	5.8	17.6	51.7	51.9	+ 6.9	6.97
11.5	14.4	III	2	2K=H	K=H 1	F?	5.8	28.8	51.7	40.7	+ 0.7	7.44
11.5	15.2	III	3	K=H	K=H 2	F	5.8	30.4	51.7	39.1	− 0.3	6.36
11.8	15.9	II	4	K=H	1	—	5.9	31.8	51.6	37.7	− 0.7	6.56
10.6	10.1	I	4	K=H	1	—	5.3	20.2	52.2	49.3	+ 5.5	6.96

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Mean 3

Br.	Br. cor.	No.	R.A.	Dec.	Mag.	H.	V.	H'	Red to 1900.
6.9	6.6	D.M. 2457	17 41.4	+50 6	7.3	69.8	57.6	689	17 42.6 + 50 5
6.1	5.8	D.M. 2678	17 36.2	+49 52	6.5	67.8	57.7	685	17 37.3 + 49 50
7.2 7.1	6.8	D.M. 2629	17 20.7	+49 39	7.8	62.3	57.4	68.2	17 21.8 + 49 36
6.7	6.4	D.M. 2531	18 6.2	+50 22	7.0	18.8	57.4	9.3	18 7.3 + 50 22
7.0	6.7	D.M. 3286	18 1.8	+40 22	7.0	14.6	47.4	8.3	18 3.2 + 40 22
6.6	6.3	D.M. 3276	18 0.0	+40 5	6.5	14.3	47.5	8.8	18 1.6 + 40 5
7.0 7.2	6.7 6.9	D.M. 2477	17 48.9	+50 25	8.0	72.5	57.5	69.2	17 50.0 + 50 24
6.2	5.9	2907	17 17.9	+40 5	5.8	64.7	47.5	70.6	17 18.4 + 40 5
6.5 6.8	6.2 6.5	D.M. 2525	18 3.4	+50 49	6.5	18.0	57.4	9.5	18 4.5 + 50 49
6.9 7.1	6.6 6.8	D.M. 2502	17 56.6	+50 56	8.0	75.4	57.5	68.6	17 57.7 + 50 56
4.9	4.6	2989	17 46.2	+50 50	5.2	72.0	57.6	79.8	17 46.7 + 50 48
7.0 7.2	6.7 6.9	D.M. 2887	17 37.3	+41 6	7.5	68.7	47.6	69.3	17 38.7 + 41 5
6.9	6.6	D.M. 2234	17 33.3	+51 5	7.5	66.7	57.6	68.6	17 34.4 + 51 3
6.6	6.3	D.M. 2856	17 30.1	+41 1	6.7	66.9	47.5	69.8	17 31.5 + 40 49
6.6 6.5	6.2	D.M. 2412	17 25.5	+50 60	6.8	63.9	57.6	68.4	17 26.6 + 50 58
7.2 7.1 7.4 7.4	6.8 7.1	D.M. 2402	17 21.1	+50 50	7.0	62.3	57.5	68.3	17 22.2 + 50 47
7.1 7.2	6.9	D.M. 2400	17 20.9	+50 34	6.8	62.3	57.4	68.3	17 22.0 + 50 31
4.0 4.7 6.6 7.0	3.7 4.4 6.3 6.7	3009	17 53.8	+51 30	2.4	75.0	57.6	70.2	17 54.3 + 51 31
		2943	17 29.3	+41 20	5.9	67.3	47.6	70.3	17 30.0 + 41 19
7.0 7.1	6.7	D.M. 2218	17 25.2	+51 28	7.5	63.6	57.5	68.3	17 26.3 + 51 26
7.0 7.1 7.2 7.4	6.7 6.8 7.1	D.M. 2219	17 25.6	+51 36	7.3				
6.5	6.2	D.M. 2988	18 3.3	+41 42	7.0	155	47.3	8.8	18 4.7 + 41 42
6.9 7.1	6.7 6.9	D.M. 2968	18 0.5	+41 56	6.3	147	47.5	8.7	18 1.9 + 41 56
6.9 7.1	7.0 7.2	D.M. 2308	18 2.2	+51 56	6.7	178	57.5	9.5	18 3.2 + 51 56
6.9 7.1	7.0 7.2	D.M. 2302	17 59.0	+51 38	7.0	76.6	57.4	69.7	18 0.0 + 51 38
7.4 7.5	6.8 7.2	D.M. 2241	17 40.9	+51 51	7.8	69.7	57.6	69.0	17 41.9 + 51 50
6.3 6.4 6.5 6.7	6.1 6.4	2969	17 38.6	+51 53	6.2	69.0	57.7	69.3	17 39.1 + 51 52
6.7	6.4	D.M. 2882	17 36.7	+41 44	6.3	68.5	47.5	69.2	17 38.1 + 41 42
6.9 6.9	6.6	D.M. 2119	17 54.8	+52 14	6.8	75.1	57.5	69.5	17 55.8 + 52 14

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Plate 1359.

H	K	Type	No. lines	K	Focus	Other lines.	V.	Wh.	V.	Wh.	Correc.
								57.5		69.5	
10.7	11.6	III	?	2	K=H	—	5.4	23.2	52.1	46.3	+ 2.5
10.1	13.8	III	2	2	K=H	F?	5.0	27.6	52.5	41.9	+ 1.5
10.5	18.5	III	Fe? 3	4369 1.2	H	Bright	5.2	37.0	52.3	32.5	− 4.1
9.1	7.3	III	?	2	K=H	F?	4.6	14.6	52.9	54.9	+ 6.1
9.3	9.5	III	2	2	K=H	—	4.6	19.0	52.9	50.5	+ 6.5
9.4	11.9	I	? 4		K=H	—	4.7	23.8	52.8	45.7	+ 2.4
9.6	17.9	III	? 2	2	K=H	—	4.8	35.8	52.7	33.7	− 2.3
9.2	20.0	II	3		K=H	F	4.6	40.0	52.9	29.5	− 5.9
9.4	24.5	I	4	?	2	—	4.7	49.0	52.8	20.5	− 11.1
10.7	24.5	I	4	K	H	—	5.4	49.0	52.1	20.5	− 10.9
8.2	6.3	III	3	K	H 2	F	4.1	12.6	53.4	56.9	+ 7.1
8.8	9.2	III	2	K	H	—	4.4	18.4	53.1	51.1	+ 4.7
8.4	9.8	I		N		F	4.2	19.6	53.3	49.9	+ 4.2
8.0	13.6	a	? 4370 IIa 2	2	K=H	seen	4.0	27.2	53.5	42.3	+ 1.7
8.2	16.1	III	2	2	K=H	—	4.1	32.2	53.4	37.3	− 1.1
8.0	17.0	I	6	K	H	—	4.0	34.0	53.5	35.5	− 1.7
8.0	20.9	III	3	K	H	F	4.0	41.8	53.5	27.7	− 7.1
7.6	14.4	II	8	K	2H 2	—	38	28.8	53.7	40.7	+ 0.7
7.2	16.4	I	5	N		—	36	32.8	53.9	36.7	− 1.1
7.0	15.1	III	2	K	H	—	35	30.2	54.0	39.3	− 0
6.8	6.1	III	?	2	K=H	—	34	12.2	54.1	57.3	+ 7.5
6.4	6.6	III	3	K	H	F	3.2	13.2	54.3	56.3	+ 10.5
6.6	8.2	III	2	K	H	—	3.3	16.4	54.2	53.1	+ 5.7
6.8	12.9	I	? 6	K	2H 2	F	3.4	25.8	54.1	43.7	+ 2.5
6.3	18.0	I			K=H	—	3.2	36.0	54.3	33.5	− 3.7
6.3	23.2	III	4371	2	K=H	—	3.2	46.4	54.3	23.1	− 6.9
6.2	23.4	II	a ? 3		K=H	F seen	3.1	46.8	54.4	22.7	− 10.5
5.1	10.3	I	4	N		—	2.6	20.6	54.9	48.9	+ 4.1

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Mean 3

Br.	Vz	Con.	No.	R.A.	Dec.	Mag.	Yr.	V.	M'	Red to 1900.
7.0	6.7		DM 2941	17 48.5	+ 42 14	7.6	71.7	47.6	69.2	17 49.9 + 42 13
7.2	6.9									
7.0	6.9		DM. 2098	17 42.9	+ 32 32	7.5	70.3	57.3	69.0	17 43.9 + 32 31
7.2	7.2									
4.0	3.7			2937	17 27.7	+ 32 23	3.0	64.7	57.6	68.8	17 28.1 + 32 23
4.5	3.8									
			~~DM 2998~~	~~18 0.4~~	~~+ 42 57~~	~~7.4~~				
6.9	6.6		~~DM. 2996~~	18 0.4	+ 42 57	~~6.8~~	14.7	47.4	8.6	18 1.8 + 42 57
7.3	7.1		DM 2125	17 37.2	+ 32 51	7.2	76.2	57.4	69.7	17 38.2 + 32 51
7.5	7.5									
6.9	6.6		DM. 2940	17 47.8	+ 42 54	7.0	71.6	47.6	69.2	17 49.2 + 42 53
7.3	7.2									
7.5	7.5		DM 2066	17 29.0	+ 32 42	8.1	64.8	57.5	68.1	17 30.0 + 32 40
6.5	6.2		DM. 2057	17 22.2	+ 32 55	6.5	62.2	57.5	68.1	17 23.2 + 32 53
6.1	5.8			2876	17 7.9	+ 32 33	6.2	56.9	57.3	68.0	17 8.9 + 32 32
				2187	17 7.9	+ 31 36	7.2	56.9	57.3	67.8	17 9.0 + 31 33
6.6	6.3		~~DM 2138~~	~~18 8.4~~	~~+ 32 17~~	~~7.4~~				
5.8	5.5									
6.0	6.7			3055	18 4.0	+ 43 27	3.1	16.6	47.5	9.5	18 4.5 + 43 27
7.2	6.9		~~Dm 2125~~	~~17 37.2~~	~~+ 32 51~~	~~7.2~~				
7.5	7.2		DM. 2861	17 35.3	+ 43 14	6.5	73.7	47.6	69.0	17 36.7 + 43 14
6.4	6.1		DM. 2851	17 33.6	+ 43 26	7.2	73.2	47.6	69.0	17 35.0 + 43 26
6.8	6.5		DM. 1984	17 43.4	+ 33 38	7.5	70.6	57.6	68.9	17 44.4 + 33 37
7.0	6.7									
7.3	7.0		DM. 2781	17 36.3	+ 43 33	6.5	68.5	47.7	69.6	17 37.7 + 43 31
6.6	6.3		DM. 2777	17 33.7	+ 43 42	7.0	67.7	47.7	69.4	17 35.1 + 43 40
6.5	6.2									
6.9	6.6			2913	17 19.2	+ 33 32	6.0	61.0	57.5	68.1	17 19.6 + 33 31
5.4	5.1			2973	17 41.6	+ 33 50	5.8	70.4	57.6	69.7	17 41.9 + 33 50
6.6	6.3		DM. 2745	17 35.2	+ 44 6	6.8	68.0	47.7	69.1	17 36.3 + 44 4
7.2	6.9									
7.5	7.2		DM. 2757	17 38.8	+ 44 9	6.5	69.0	47.7	69.0	17 40.1 + 44 8
			DM. 2829	18 4.1	+ 44 6	6.9	16.3	47.5	8.8	18 5.4 + 44 6
7.0	6.7		~~3066~~	~~18 8.1~~	~~+ 34 15~~	~~5.9~~	~~20.3~~	~~57.6~~	~~9.2~~	DM. 2829
6.4	6.1		3066	18 8.1	+ 34 15	5.9	21.3	57.4	10.8	18 8.4 + 34 15
6.8	6.5		~~DM. 2829~~	~~18 4.1~~	~~+ 44 6~~	~~6.9~~				H.P. 3066
7.0	6.7									
7.2	6.9		DM. 2812	17 38.3	+ 44 15	6.5	74.7	47.5	69.0	17 39.6 + 44 13
			~~DM. 2772~~	~~17 33.8~~	~~+ 44 9~~	~~7.2~~				
6.4	6.1		DM. 1911	17 46.1	+ 34 14	6.5	71.9	57.6	69.4	17 47.0 + 34 13
6.5	6.2		DM. 1889	17 28.5	+ 34 28	7.3	64.5	57.7	68.2	17 29.4 + 34 26
7.2	7.2									
7.5	7.2		DM. 2695	17 16.2	+ 44 21	6.5	62.6	47.6	69.5	17 17.5 + 44 18
			DM. 1868	17 9.9	+ 34 19	8.9	56.7	57.4	67.4	17 10.8 + 34 16
6.4	6.1		DM. 1869	17 10.0	+ 34 19	7.0	56.8	Double Star	67.3	17 10.9 + 34 16
6.5	6.2		DM. 2626	17 32.5	+ 45 1	6.7	73.1	47.6	69.0	17 33.8 + 45 1

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August 9, 1887.

Plate 1359.

♈	δ	Type	Nal. Lines	K	Focus	Other Lines	T.	M.	V.	Mh.	Correc.	Bv.
4	12,3	III	2	K=H	1	—	27	24.6	54.8	44.9	+ 2.3	7.0 7.3
1	14,8	I	6	K=H	2	—	26	29.6	54.9	39.9	+ 0.1	6.4
4.7	8,2	III	2	K=H	1	—	24	16.4	55.1	53.1	+ 8.7	7.2 7.0 7.4 7.4
4.1	9,2	III	2	K=H	1	—	20	18.4	55.5	51.1	+ 5.8	7.0 7.4
4.2	9.6	I	7	K=2H	2	F	21	19.2	55.4	50.3	+ 4.8	6.2
4.8	17.7	I	9	K=√H	3	F	24	35.4	55.1	34.1	− 3.5 − 2.9	5.4
4.8	17.8	I	9	K=√H	3	F	24	35.6	55.1	33.9	− 3.7	5.4
4.1	23.3	I	2	K=H	1	—	20	46.6	55.5	22.9	− 7.3	7.0
3.4	10,2	II	2	K=H	1	—	17	20.4	55.8	49.1	+ 4.2	7.0
3,2	11.1	I	6	K=.8H	2	F	16	22.2	55.9	48.3	+ 5.3	6.1
3,5	15.8	I?	12	K=H	1	—	18	31.6	55.7	37.9	− 1.1	7.2
3.4	16,3	I	10	N	4	F	17	32.6	55.8	36.9	− 1.1	4.2
2,1	9,1	I?	4	K=H	1	—	10	18.2	56.5	51.3	+ 7.8	.
2,9	12,1	I	7	K=H	1	—	14	24.2	56.1	45.3	+ 3.7	6.6
2.4	22.9	III?	2	K=H	1	—	12	45.8	56.3	23.7	− 7.3	.
3.6	16.2	A?	3	N	1	—						7.

Double Star?

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Mean 3

ec.	Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
.3	7.0 7.3	6.7 7.0	Dm.	2780	17 41.0	+ 44 57	7.2	71.6	47.7	69.3	17 48.8 + 44 36
.1	6.4	6.1	Dm.	2588	17 39.9	+ 45 6	7.2	69.5	47.7	69.4	17 41.2 + 45 3
.7	7.2 7.0 7.4	6.7 7.1	Dm.	2025	18 2.6	+ 55 5	7.2	19.1	57.5	10.3	18 3.5 + 55 3
.8	7.0 7.4	6.7 7.1		3031	17 56.6	+ 45 31	5.9	75.0	47.5	69.9	17 57.1 + 45 31
.8	6.2	5.9		3020	17 55.4	+ 45 28	6.1	74.6	47.6	69.8	17 56.0 + 45 28
.5 .9	5.4	5.1		2944	17 29.8	+ 55 18	4.8	65.8	57.7	68.7	17 30.2 + 55 15
.7	5.4	5.1		2944	17 29.9	+ 55 15	4.8	65.3	57.6	69.2	17 30.8 + 55 15
3	7.0	6.7	Dm.	2521	17 15.7	+ 45 26	6.5	62.3	47.4	69.6	17 17.0 + 45 23
.2	7.0	6.7	Dm.	2629	17 53.0	+ 45 53	6.4	73.4	47.6	69.2	17 54.3 + 45 53
.3	6.1	5.8	Dm.	1995	17 32.8	+ 55 60	6.5	75.0	57.6	69.8	17 33.6 + 56 0
.1	7.2	6.9	Dm.	1961	17 36.0	+ 55 50	7.3	67.6	57.6	68.7	17 36.8 + 55 48
.1	4.2	3.9		2959	17 36.1	+ 46 11	3.9	68.7	47.8	69.8	17 36.6 + 46 3
.8			Dm.	2060	18 0.4	+ 56 25	8.0	18.6	57.4	10.8	18 1.2 + 56 23 ?
			Dm.	2061	18 0.4	+ 56 23	7.2				18 1.2 + 56 23 ?
			Dm.	2041	17 55.8	+ 46 32	8.3				Dm. 18 0.3 + 56.4
3.7	6.6	6.3	Dm.	2028	17 49.1	+ 56 9	7.2	73.3	57.6	69.6	17 49.9 + 56 8
.3				2906	17 17.1	+ 46 21	5.8	62.9	47.6	70.2	17 17.5 + 46 20
	7.2		Dm	1960	17 34.5	+ 55 50	7.4				17 35.3 + 55 48

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F. m. &c. 8.0 6.8

F. ch. 6.8

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Plate 1346.

			Type	Lines K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
1.2 40 ?	23,2	13.5	I	3			11.6	27.0	21.0	63.5	+ 0.2	
	23.1	16.4	I	2			11.6	32.8	21.0	57.7	- 0.2	
	22.8	19.2	I	1		—	11.4	38.4	21.2	52.1	- 0.2	
	22.6	20.8	II	2	K=H K=H	1	— —	11.3	41.6	21.3	48.9	- 0.3
III? 5.9, 6.4 ?	21.5	6.6	III	2	K=H	1	F, pale	light	10.8	13.2	21.8	77.3 + 1.3
	21.0	9.0	I	1	K=H	1	—		10.5	14.0	22.1	76.5 + 0.5
	21.9	7.4	III	1	K=H	1	—		11.0	14.8	21.6	75.7 + 1.0
	21.1	8.1	III	1	K=H	1	F?		10.6	16.2	22.0	74.3 + 1.0
	21.2	15.2	I	1	K=H K=H	1	— —		10.6	30.4	22.0	60.1 - 0
	21.9	16.8	I	3	K=2H	3	F		11.0	33.6	21.6	56.9 - 0.3
	20.6	14.8	III	1	K=H	1	F		10.3	29.6	22.3	60.9 + 0
	20.1	19.3	III	1	K=H	1	F?		10.0	38.6	22.6	51.9 - 0.6
	20.3	21.7	I	1	K=H	1	—		10.2	43.4	22.4	47.1 - 1.0
	19.4	8.0	II	2	K=H	1	Reen		9.7	16.0	22.9	74.5 + 1.1
	19.1	9.1	I	1	K=H	1	—		9.6	18.2	23.0	72.3 + 0.3
	19.0	14.2	I	1	K=H	1	— —		9.5	28.4	23.1	62.1 + 0
	19.2	16.2	I	2			F		9.6	32.4	23.0	58.1 - 0.2
	18.5	7.3	III	2	K=H	1	—		9.2	14.6	23.4	75.7 + 1.3
	18.4	14.3	I	1		1	—		9.2	28.6	23.4	61.9 + 0.1
	17.7	19.2	I	1	K=H	1	F		~~8.8~~ 8.8	~~38.4~~ 18.4	~~23.8~~ 23.8	~~52.1~~ 72.1 ~~- 0.2~~ - 0.2
	17.4	15.2	I	1	K=H	1	F		8.7	30.4	23.9	60.1 - .0
	17.1	18.6	II	2	K=H K=H	1	F		8.6	37.2	24.0	53.3 - 0.6
	16.3	8.7	III	2	K=H	1	F?		8.2	17.4	24.4	73.1 + 1.1
	16.6	13.8	I	2	K=H	1	—		8.3	27.6	24.3	62.9 + 0
	16.2	18.6	II	2	K=H K=H	1	—		8.1	37.2	24.5	53.3 - 0.2
	15.9	6.6	I	3		1	—		8.0	13.2	24.6	77.3 + 0.5
	15.0	7.7	I	3		1	—		7.5	15.4	25.1	75.1 + 1.4
	15.2	13.8	I	3		1	—		7.6	26.8	25.0	63.7 + 0.3

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Mean 5

rec.	Br.	Br		No.	R.A.	Dec.	Mag.	M.	v.	M'	Red. to 1900.
0.2				3051	18 3.6	+20 49	4.5	30.6	32.4	30.4	18 4.4 + 20 48
0.2				3033	17 57.3	+20 50	5.1	90.1	32.4	90.3	17 58.1 + 20 50
0.2			DM.	3299	17 50.7	+11 5	6.3	89.1	22.5	89.3	17 52.8 + 11 4
0.3			DM.	3283	17 47.4	+11 11	6.5	89.0	22.5	89.3	17 48.5 + 11 10
1.3	6.0 6.4	5.5 5.9		3107	18 18.6	+21 43	3.9	31.8	32.5	30.5	18 19.4 + 21 43
0.5	6.7	6.2		3099	18 17.0	+11 39	5.9	31.0	22.5	30.5	18 17.9 + 11 39
1.0	7.1 6.8	6.6 6.3	DM.	3400	18 15.5	+21 26	7.5	30.4	32.6	29.4	18 17.5 + 21 27
1.0	7.3	6.8		3091	18 15.2	+21 55	4.8	31.4	32.5	30.4	18 16.1 + 21 55
0	7.1 7.1	6.6	DM.	3382	17 58.9	+12 1	7.6	89.3	22.6	89.3	17 1.0 + 12 1
			DM.	3383	17 59.0	+12 1	7.5	89.4		89.4	18 1.1 + 12 1
0.3	5.4	4.9		3026	17 56.4	+21 37	4.6	90.0	32.6	90.3	17 57.2 + 21 36
0	6.9 7.3	6.4 6.8		3042	18 1.0	+22 13	5.4	30.6	32.5	30.6	18 1.8 + 22 13
0.6	7.5	7.0		3001	17 50.8	+22 28	5.8	89.4	32.5	90.0	17 51.6 + 22 28
1.0	6.8	6.3		2988	17 45.8	+22 20	5.9	89.2	32.5	90.2	17 46.6 + 22 20
1.1	6.9	6.4	DM.	3337	18 14.6	+22 44	7.2	30.6	32.4	29.5	18 16.5 + 22 45
0.3	7.1	6.6	DM.	3461	18 11.7	+12 56	6.7	29.9	22.5	29.6	18 13.8 + 12 57
0	6.9 7.0	6.5	DM.	3529	18 1.1	+13 4	6.7	29.5	22.6	29.5	18 3.2 + 13 4
0.2	6.0	6.0	DM.	3260	17 56.4	+22 56	6.7	88.8	32.5	89.0	17 58.3 + 22 56
1.3	7.3 7.6	6.8 7.1		2101	18 17.1	+23 14	5.7	31.7	32.4	30.4	18 18.0 + 23 14
0.1	7.2	6.7	DM.	3265	18 1.0	+23 23	7.5	29.6	32.6	29.5	18 2.9 + 23 23
0.2	6.6	6.1	DM.	3593	18 11.4	+13 44	6.1	29.8	22.5	30.0	18 13.5 + 13 45
0.2			DM.	3492	17 50.3	+13 39	7.8	88.9	22.8	89.1	17 52.6 + 13 38
0	6.7	6.2	DM.	3254	17 58.7	+23 56	7.1	89.1	32.6	89.1	18 0.6 + 23 56
0.6	7.0 6.9	6.4	DM.	3283	17 51.3	+24 2	6.5	88.5	32.6	89.1	17 53.2 + 24 1
1.1	6.7 7.2	6.2 6.7		3087	18 14.3	+24 24	5.5	31.7	32.6	30.6	18 15.1 + 24 24
			DM.	3428	18 2.0	+14 14	8.9	29.6	22.5	29.6	18 4.0 + 14 14
0	6.6	6.1	DM.	3427	18 2.0	+14 16	6.5		22.6		18 4.0 + 14 16
0.2	7.3	6.7	DM.	3374	17 51.8	+14 22	6.5	89.0	22.6	89.2	17 53.8 + 14 31
0.5	7.0	6.5	DM.	3511	18 16.7	+14 38	6.3	29.9	22.6	29.4	18 18.7 + 14 39
1.4	6.9	6.4	DM.	3395	18 15.5	+24 60	7.5	30.9	32.5	29.5	18 17.3 + 24 59
0.3	6.7	6.2	DM.	3342	18 3.0	+24 56	7.4	29.8	32.5	29.5	18 4.8 + 24 56

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Plate 1346.

			Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
	15.1	17.4	I?	4	K=H	1	—	7.6	34.8	25.0	55.7	− 0.2	
	15.9	21.9	II?	2	K=H	1	F?	8.0	43.8	24.6	46.7	+ 1.3	
	14.0	16.6	III?	2	K=H	1	F	7.0	33.2	23.6	57.3	− 0.3	
	14.8	19.3	III?	2	K=H	1	—	7.4	38.6	25.2	51.9	− 0.8	
	13.7	8.6	I	4	K=H	1	—	6.8	17.2	23.8	73.3	+ 0.4	
	13.1	13.9	I	8	K=2H	3	F	6.6	27.8	26.0	62.7	+ 0.2	
	13.5	14.4	I? I?	4	K=H	1	—	6.8	28.8	25.8	61.7	+ 0	
?	13.0	19.3	IIa 4374	3	K=H	2	F, scen.	6.5	38.6	26.1	51.9	− 0.9	
	13.8	22.3	III	3	K=H	2	F	6.9	44.6	23.7	45.9	+ 1.5	
	12.7	11.3	III	2	K=H	1	—	6.4	22.6	26.2	67.9	+ 0.1	
	12.8	11.5	II? IIa 4374a	2	K=H	1	scen	6.4	23.0	26.2	67.5	+ 0.2	
?	12.4	13.0	IIa? 4375	3	K=H	1	F, scen.	6.2	26.0	26.4	64.5	+ 0.1	
	12.0	15.5	IIa? 4375-a	2	K=H	1	scen	6.0	31.0	26.6	59.5	− 0.1	
	12.5	16.2	III?	2	K=H	1	—	6.2	32.4	26.4	58.1	− 0.3	
	11.0	15.1	IIa? 4375-b	2	K=H	1	scen	5.5	30.2	27.1	66.3	+ 0	
?	11.9	17.7	Ic 4376	3	K=H	2	F, scen. bright	6.0	35.4	26.6	55.1	− 0.2	
	11.3	21.3	II? IIa? 4376a	2	K=H	1	scen	5.6	42.6	27.0	47.9	+ 0.5	
	11.8	21.6	III	2	K=H	1	—	5.9	43.2	26.7	47.3	+ 0.6	
	10.4	6.2	I	4	H	1	—	5.2	12.4	27.4	78.1	+ 2.0	
	10.1	8.1	?	2	K=H	1	—	5.0	16.2	27.6	74.3	+ 1.6	
	10.6	20.5	II? III?	2	K=H	1	—	5.3	41.0	27.3	49.5	− 1.2	
	9.8	6.9	III	3	K=H	1	F	4.9	13.8	27.7	76.7	+ 0.8	
	9.1	9.2	I	6	N	2	F	4.6	18.4	28.0	72.1	+ 0.5	
Peculiar spectrum!	9.6	23.1	Ic? 4377	3	K=½H	3	F, scen.	4.8	46.2	27.8	44.3	− 1.8	
	9.7	23.8	I	6	K=½H	2	—	4.8	47.6	27.8	42.9	− 0.9	
	8.7	20.2	III?	2	K=H	1	—	4.4	40.4	28.2	50.1	− 0.5	
	7.6	8.0	I	8	K=2H	3	F	3.8	16.0	28.8	74.5	+ 1.7	
	7.4	8.3	I	4	H	1	—	3.7	16.6	28.9	73.9	+ 1.6	

III? 6.3, 6.6.

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N 326 H 90? Mean 5

rec.	Bu	Bu. Corr.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
	7.0 7.0	6.5								DM. 3327 54.4 + 15 7
1.2	7.2	6.7	3021	17 55.5	+15 7	6.3	90.3	22.7	90.5	17 56.4 + 15 7
1.3	7.0	6.5	DM. 3264	17 44.1	+24 30	7.1	87.9	32.3	89.2	17 43.9 + 24 29
1.3	7.2 7.2	6.7								
	7.4 7.5	7.0	DM. 3404	17 55.7	+25 30	7.2	88.9	32.5	89.2	17 57.5 + 25 30
0.8	7.3 7.3	6.8	DM. 3381	17 49.7	+25 9	7.8	88.3	32.6	89.1	17 51.5 + 25 8
0.3	7.5 7.5	7.0	~~DM. 3311~~	~~17 51.6~~	~~+15 9~~	~~6.8~~				DM. 17 49.4 + 25.1
0.4	7.2 7.2	6.7	DM. 3426	18 12.8	+15 46	6.9	30.1	22.6	89.6	18 14.8 + 15 47
0.2	5.4	4.9	3049	18 3.0	+26 5	5.2	30.8	32.7	30.6	18 3.8 + 26 5
										18 3.8 + 26 5
0	7.4 7.3	6.8	DM. 3365	18 0.8	+15 55	6.5	29.6	22.7	29.6	18 2.8 + 15 55
0.9	6.1	5.6	3000	17 50.6	+26 5	5.6	89.2	32.6	90.1	17 51.4 + 26 4
1.5	6.4 6.7	5.9 6.2	2984	17 44.0	+25 40	5.4	88.6	32.5	90.1	17 44.7 + 25 40
	7.4 7.6	6.7								
0.7	7.5	7.0	DM. 3195	18 7.6	+26 12	7.0	30.2	32.6	29.5	18 9.4 + 26 12
0.2	7.0 7.2	6.7	DM. 3405	18 6.8	+16 14	6.2	28.8	32.6	29.6	18 8.8 + 16 14
										DM. 3390 27 + 16 2
0.1	6.8	6.3	3060	18 4.8	+16 27	6.2	30.8	22.6	30.7	18 5.7 + 16 27
0.1	7.0 7.3	6.8	DM. 3160	17 ~~58~~.1	+26 39	7.0	89.1	32.6	89.2	17 0.9 + 26 39
0.3	7.3 7.6	6.8 7.1	DM. 3131	17 56.6	+26 22	7.3	89.0	32.6	89.3	17 58.4 + 26 22
			2948	17 58.9	+27 6	7.3	89.1	32.6	89.1	18 0.7 + 27 6
0	7.0 7.1	6.6	~~DM. 3256~~	~~17 58.6~~	~~+16 55~~	~~7.0~~				DM. 17 58.9 + 27.1
	6.2	5.7								
0.2	6.5	6.0	3018	17 54.7	+16 46	4.5	90.1	22.8	90.3	17 55.6 + 16 46
0.5	7.1 7.3	6.8	DM. 3300	17 46.1	+16 56	6.7	88.7	22.5	89.2	17 48.1 + 16 55
0.6	7.1 7.4	6.6 6.9	DM. 3295	17 45.6	+16 41	7.5	88.8	22.6	89.4	17 47.6 + 16 40
2.0	6.5	6.0	DM. 3016	18 19.2	+27 19	6.3	31.6	32.5	89.6	18 21.0 + 27 20
1.6	7.3 7.6	6.8 7.1	DM. 3003	18 15.1	+27 28	7.0	31.3	32.5	29.7	18 16.9 + 27 29
1.2	7.2 7.4	6.9	2905	17 46.8	+27 12	7.7				17 48.6 + 27 11
	6.6	6.1	~~DM. 3141~~	~~17 46.3~~	~~+27 5~~	~~7.6~~	87.3	32.4	88.5	17 48.1 + 27 4
0.8	7.0	6.6	3104	18 17.5	+17 46	5.5	31.3	22.7	30.5	18 18.4 + 17 46
										DM. 3323 11.8 + 15 5
0.5	6.4	5.9	3080	18 12.8	+18 5	6.0	31.2	22.7	30.7	18 13.8 + 18 6
1.8	5.2	4.7	2976	17 41.8	+27 48	3.5	88.0	32.6	89.8	17 42.6 + 27 48
										DM. 3334 40.7 + 17 47
0.9	6.4	5.9	2977	17 41.8	+17 47	5.7	89.4	22.6	90.3	17 42.7 + 17 46
0.5	7.3 7.6	6.8 7.1	DM. 3 495	17 48.3	+18 13	8.0	88.7	23.6	89.2	17 50.3 + 18 12
	7.5		~~DM. 3500~~	~~17 50.1~~	~~+18 22~~	~~6.8~~				DM. 17 48.3 + 18.3
1.7	5.6	5.1	3097	18 16.3	+28 49	5.0	32.3	32.6	30.6	18 17.1 + 28 49
1.6	6.7	6.2	DM. 2980	18 14.8	+28 55	7.0	31.4	32.6	29.8	18 16.6 + 28 56

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Plate 1346.

		Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
7.9	13.9	II	10	?		F.	4.0	27.8	28.6	62.7	+0.3	4.1
6.9	10.7	II ?	3	K=H	1	F.	3.4	21.4	29.2	69.1	+1.1	7.0
6.2	16.1	II			1	—	3.1	32.2	29.3	58.3	−0.1	6.2
6.4	17.4	II		K=½H ?	1	—	3.2	34.8	29.4	55.7	−0.2	6.1
? 6.9	18.1	III	rc 4378 3	K=½H !	3	F. Bright pcm.	3.4	36.2	29.2	54.3	−0.7	5.5
6.5	21.3	III	2	K=H	1	—	3.2	42.6	29.4	47.9	−1.6	7.3
6.6	23.0	II		N	1	—	3.3	46.0	29.3	44.5	−0.9	6.6
5.5	5.9	II	7	K=½H	2	F.	2.8	11.8	29.8	78.7	+2.5	6.2
5.6	8.0	II		N	2	F.	2.8	16.0	29.8	74.5	+1.9	6.2
5.9	8.5	III	2	K=H	1	—	3.0	17.0	29.6	73.5	+1.7	7.2
5.5	13.5	II	8	K=2H	3	F.	2.8	27.0	29.8	63.5	+0.2	5.1
? 6.0	17.7	II a	4379 3	K=H	3	F. pcm.	2.5	35.4	30.1	55.1	−0.7	5.3
6.1	21.0	II	4	K=H	1	—	2.6	42.0	30.0	48.5	−1.6	7.1
? 4.2	14.1	II a	4380 3	K=H	2	F. pcm.	2.1	28.2	30.5	62.3	+0.3	6.4
4.6	15.4	III ?	2	K=H	1	—	2.3	30.8	30.3	59.7	−0.1	7.2
4.1	15.9	I II	2	K=H	1	—	2.0	31.8	30.6	58.7	−0.3	7.2
3.2	10.1	II	2	K=H	1	—	1.6	20.2	31.0	70.3	+0.7	7.2
? 3.9	13.6	I b	4381 3	N	3	pcm	2.0	27.2	30.6	63.3	+0.2	4.4
3.8	16.5	I	8	N	2	F.	1.9	33.0	30.7	57.5	−0.2	5.1
2.5	12.0	III ?	2	K=H	1	—	1.2	24.0	31.4	66.5	+0.9	
2.3	16.9	II		K=H	3	F.	1.2	33.8	31.4	56.7	−0.2	

F. m. & c. 6.5 6.3 F. ch. 7.3

Plate 1347.

22.0	11.1	II	2	K=H	1	—	11.0	22.2	41.7	67.7	+1.8	7.2
22.2	11.5	I II	2	K=H	1	—	11.1	23.0	41.6	66.9	+2.5	7.0
23.0	11.6	III	3	K=H	1	F.	11.5	23.2	41.2	66.7	+2.5	
22.3	12.0	III f	4382 3	K=H	2	F. pcm	11.2	24.0	41.5	63.9	+1.3	6.2
23.0	13.6	II ?	2	K=H	1	—	11.5	27.2	41.2	62.7	+0.6	

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Mean 5

Correc.	Br	Bv		No.	R.A.	Dec.	Mag.	m. v.	m.		Red. to 1900.
-0.3	4.1	3.6		3048	18 2.9	+28 45	4.0	30.7	32.8	30.4	18 3.6 + 28 45
-1.1	7.0	6.5	DM.	3213	18 9.1	+29 11	7.0	30.5	32.6	29.4	18 10.8 + 29 12
				~~3509~~	~~17 57.1~~	~~+19 33~~	~~7.0~~				
-0.1	6.5	6.0	DM.	3508	17 57.0	+19 35	6.5	89.2	23.7	89.3	17 58.9 + 19 35
-0.2	6.7	6.2	DM.	3494	17 54.2	+19 31	6.3	89.0	23.7	89.2	17 56.1 + 19 31
0.7	5.3	4.8		3007	17 53.1	+29 16	3.9	89.3	32.7	90.0	17 53.8 + 29 15
-1.6	7.1	6.6		2987	17 45.7	+29 22	5.7	88.3	32.6	89.9	17 46.3 + 29 21
-0.9	6.6	6.1		2982	17 43.6	+19 17	6.0	89.6	22.6	90.5	17 44.3 + 19 17
-2.5	6.3	5.8		3113	18 21.4	+29 46	5.8	33.2	32.6	30.7	18 23.1 + 29 46
+1.9	6.2	5.7		3096	18 16.3	+29 48	5.6	32.3	32.6	30.4	18 17.1 + 29 48
+1.7	7.3	6.8	DM.	3236	18 14.3	+29 36	6.5	31.3	32.6	29.6	18 16.0 + 29 37
+0.2	5.7	5.2		3053	18 3.7	+20 3	5.2	30.7	22.8	30.5	18 4.6 + 20 1
-0.7	5.3	4.8		3010	17 53.9	+30 12	4.6	89.3	32.7	90.0	17 54.7 + 30 11
-1.6	7.1	6.6	DM.	3069	17 45.4	+30 2	7.2	87.4	32.6	89.0	17 47.1 + 30 1
+0.3	6.0	5.5		3047	18 2.5	+30 33	5.4	30.7	32.7	30.4	18 3.2 + 30 33
-0.1	7.2	6.7	DM.	3113	17 58.4	+30 24	6.7	89.2	33.7	89.3	18 0.1 + 30 24
-0.3	7.2	6.7	DM.	3111	17 57.1	+30 33	6.7	88.9	32.6	89.2	17 58.8 + 30 33
-0.7	7.4	6.9	DM.	3715	18 10.0	+20 60	7.6	30.2	22.6	29.5	18 11.9 + 21 1
+0.2	4.6	4.1		3051	18 3.6	+20 49	4.5	30.8	22.8	30.6	18 4.4 + 20 48
-0.2	5.7	5.2		3033	17 57.3	+20 50	5.1	90.3	22.7	90.5	17 58.1 + 20 50
+0.9				3065	18 7.4	+31 22	4.9	31.4	32.6	30.5	18 8.2 + 31 22
-0.2				3026	17 56.4	+21 37	4.6	90.2	22.8	90.4	17 57.2 + 21 36 17 57.2 + 31 36

Mean -4

-1.8	7.1	7.5	DM.	3211	18 8.7	+31 27	8.1	30.9	42.4	29.1	18 10.4 + 31 28
			~~DM.~~	~~3013~~	~~18 8.5~~	~~+41 28~~	~~7.0~~				DM. 18 8.8 + 31.4
-2.5	7.0	7.5	DM.	3013	18 8.5	+41 28	7.0	31.5	52.6	29.0	18 9.9 + 41 27
-2.5				3067	18 8.9	+41 8	6.6	31.3	52.6	28.8	18 9.5 + 41 8
-1.3	6.8	7.2		3065	18 7.4	+31 22	4.9	31.4	42.6	30.1	18 8.2 + 31 22
-0.6			DM.	3132	18 2.7	+30 59	7.5	29.9	42.5	29.3	18 4.4 + 30 59

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				Type	Lines	K	Focus	Other Lines				
	22.6	21.5		III	2	K=H+K=H	1	— —	11.3	43.0	41.4	46.9 − 4.7
	21.0	10.6		I	3			F	10.5	21.2	42.2	68.7 + 3.3
	21.5	14.2		II	2	K=H+K=H	1	— —	10.8	28.4	41.9	61.5 + 0.5
	21.4	14.6		I	2	K=H	2	F	10.7	29.2	42.0	60.7 + 0.3
	21.0	14.8		II	2	K=H+K=H	1	— —	10.5	29.6	42.2	60.3 + 0.1
	21.0	20.1		III	2	K=H+K=H	1	— —	10.5	40.2	42.2	49.7 − 2.4
	21.7	23.2		III	3	K=H	2	F	10.8	46.4	41.9	43.5 − 6.1
	21.4	23.4		I		K=H	1	F	10.7	46.8	42.0	43.1 − 6.5
	20.6	6.7		IIa	2	K=H+K=H	1	— diff	10.3	13.4	42.4	76.5 + 3.9
?	20.2	7.5		I	d		2	F diff	10.1	13.6	42.6	74.9 + 3.9
	20.4	12.5		III	2	K=H+K=H	1	— —	10.2	23.1	42.5	64.9 + 1.2
	20.7	14.6		III	3	K=H	2	F	10.4	29.2	42.3	60.7 + 0.1
	20.0	16.8		III	2	K=H+K=H	1	— —	10.0	33.6	42.7	56.3 − 1.3
	20.6	18.9		I	3		1	—	10.3	37.8	42.4	52.1 − 3.0
	20.2	18.9		I		K=H+K=H		— —	10.1	37.8	42.6	52.1 − 1.8
	20.9	20.3		I	4	H	K=H	1 —	10.4	40.6	42.3	49.3 − 2.5
	19.1	8.1		III	2	K=H	1	—	9.6	16.2	43.1	73.7 + 3.3
	19.4	11.3		II	2	K=H	1	— —	9.7	22.6	43.0	67.3 + 3.0
	19.8	13.2		I	2	H	K=H	1 —	9.9	26.4	42.8	63.5 + 1.5
	19.4	14.6		I	4		2	1 F?	9.7	29.2	43.0	60.7 + 0.5
	19.5	14.7		III	2	K=H	1	F?	9.8	29.4	42.9	60.5 + 0.3
	19.8	17.8		I	3		1	—	9.9	35.6	42.8	54.3 − 1.3
	19.8	18.5		III	2	K=H+K=H	1	— —	9.9	37.0	42.8	52.9 − 2.7
	19.4	19.2		I	4		1	—	9.7	38.4	43.0	51.5 − 3.5
	18.1	9.9		III	2	K=H+K=H	1	— —	9.0	19.8	43.7	70.1 + 2.5
	18.7	11.2		III	2	K=H+K=H	1	— —	9.4	22.4	43.3	67.5 + 3.0
	18.6	11.4		II	2	K=H+K=H	1	— —	9.3	22.8	43.4	67.1 + 2.9
	18.4	12.1		I	7		3	F	9.2	24.2	43.5	65.7 + 1.5

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Mean −4

Correc	Br.	Br.	No.	R.A.	Dec.	Mag.	Th.	V.	Th'	Red. to 1900
2.7	7.0	7.2	DM. 3100	17 44.4	+31 5	7.7	87.4	42.4	90.1	17 46.1 + 31 4
4.9	7.3	7.5	~~DM. 3369 17 42.5 +31 36 6.0~~							
3.3	5.2	5.6	3079	18 11.9	+42 8	5.3	33.1	52.6	29.6	18 12.5 + 42 8
			DM. 3168	18 1.4	+31 45	8.2	29.8	42.6	29.3	18 3.1 + 31 45
0.5	7.0	7.7	~~DM. 2968 18 0.4 +41 56 6.3~~							
			DM. 2968	18 0.45	+41 56	6.3	29.6	52.6	29.3	18 1.9 + 41 56
0.3	6.2	6.6	~~3043 18 1.4 +32 14 6.0~~				30.6	43.1	30.5	
0.1	6.9	7.2	DM. 2995	17 59.8	+42 6	7.7	89.4	52.6	89.3	18 1.2 + 42 6
2.1	7.1	7.6	DM. 2929	17 45.5	+42 0	7.3	83.7	52.5	89.8	17 46.9 + 41 59
2.4	7.3	7.5	~~DM. 2995 17 46.8 +32 3 7.0~~							
3.7			2974	17 41.1	+31 33	6.5	87.5	42.4	91.2	17 41.9 + 31 33
6.1	6.0	6.4	~~DM. 2882 17 36.7 +41 44 6.5~~							
6.5	6.5	6.9	DM. 2882	17 36.7	+41 44	6.5	83.5	52.4	90.0	17 38.1 + 41 42
			DM. 3118	19. 19.0	+32 4	7.8	32.4	42.4	28.5	18 20.7 + 32 3
3.9	7.0	7.7	~~DM. 3074 18 19.8 +42 24 6.7~~							
3.9	6.4	6.8	DM. 3074	18 19.8	+42 24	6.7	34.8	52.5	28.9	18 21.2 + 42 23
1.2	7.1	7.6								18 6.7 + 32 20
	7.3	7.9	DM. 3061	18 5.0	+32 20	8.0	30.0	42.5	28.8	
	6.0	6.9								
0.1	6.8	7.2	~~DM. 3043~~	18 1.4	+32 14	6.0	30.6	42.6	30.5	18 2.1 + 32 14
1.3	7.3	7.7	DM. 2972	17 54.2	+42 34	8.3	87.8	52.6	89.1	17 55.6 + 42 34
3.0	6.5	6.9	DM. 2941	17 48.5	+42 14	7.6	86.3	52.5	89.3	17 49.9 + 42 13
1.8	6.6	6.9	DM. 3004	17 50.1	+32 29	7.0	87.9	42.6	89.7	17 51.8 + 32 28
			DM. 2995	46 46.8	+32 3	7.0	87.4	42.4	89.9	17 48.5 + 32 2
2.5	6.5	6.9	~~DM. 2933 17 44.5 +42 26 8.0~~							
	7.0	7.6	DM. 3106	18 16.0	+32 52	7.4	32.2	42.5	28.7	18 17.7 + 32 53
3.3	7.3	7.5	~~DM. 3067 18 13.3 +42 56 7.7~~							18 15.9 + 32 [illegible]
	7.2	7.6	~~DM. 2918 18 9.1 +43 18 7.4~~				31.7	53.0	28.7	~~18 10.5 + 43 17~~
3.0	7.0	7.8	~~DM. 2921 18 9.7 +43 15 8.0~~							18 9.1 + 43 3
			DM. 3036	18 9.3	+42 49	8.3	31.9	52.5	28.9	18 10.7 + 42 50
1.5	7.0	7.4	DM. 3010	18 4.2	+42 37	8.2	30.6	42.5	29.1	18 5.6 + 42 37
0.5	6.6	6.9	DM. 2998	18 0.4	+42 57	7.4	29.6	52.7	29.1	18 1.8 + 42 57
0.3	7.2	7.6	DM. 2996	18 0.1	+42 51	6.8	29.5	52.7	29.2	18 1.3 + 42 51
1.3	6.6	6.9	DM. 3017	17 52.7	+32 41	6.7	88.3	42.6	89.6	17 54.4 + 32 41
2.7	7.2	7.6	DM. 2951	17 49.6	+42 42	7.5	86.6	52.6	89.3	17 51.0 + 42 41
3.5	6.6	7.0	DM. 2940	17 47.8	+42 54	7.0	86.2	52.6	89.7	17 49.2 + 42 53
2.5	7.4	7.8	~~DM. 2938 18 13.5 +43 48 8.5~~							
3.0	7.6	8.1	DM. 3062	18 11.8	+33 29	7.2	31.6	42.5	29.1	18 13.4 + 33 30
2.9	7.0	7.6	DM. 2921	18 9.7	+43 15	8.0	32.1	52.6	29.1	18 11.1 + 43 16
1.5	5.4	5.8	DM. 2918	18 9.1	+43 18	7.4	31.9	52.6	29.1	18 10.5 + 43 17
			3064	18 7.4	+33 26	5.9	31.6	42.6	30.1	18 8.1 + 33 26

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Y	H	Type	No. Lines	K	Focus	Other Lines	V.	Hh.	V.	H.	Corrc.	
	18.2	13.1	III?	2	3	K=H	—	F	9.1	26.2	43.6	63.7	+ 1.3	
	18.5	13.6	III?	3	K=1.5 H	3	F	scm	9.2	27.2	43.5	62.7	+ 1.2	
	18.5	15.0	II?	2	2	K=H	K=H	1	1	—	—	9.2	30.0	43.5	59.9	- 0	
	18.7	15.4	III?	2	2	K=H	K=H	1	1	—	—	9.4	30.8	43.3	59.1	- 0.5	
	18.5	16.3	III	2	3	K=H	K=H	1	1	F	F	9.2	32.6	43.5	57.3	- 0.7	
	18.8	16.4	III	2	K=H	1	F?		9.4	32.8	43.3	57.1	- 1.1	
	18.7	16.7	III	1	2	K=H	1	1	—	—	9.4	33.4	43.3	56.5	- 0.9	
	18.4	17.1	I			K	2		F		9.2	34.2	43.5	55.7	- 1.8	
	18.3	18.1	III	2	2	K=H	K=H	1	1	—	—	9.2	36.2	43.5	53.7	- 1.3	
	18.4	20.9	II?	2	2	K=H	K=H	1	1	—	—	9.2	41.8	43.5	48.1	- 4.8	
	18.4	22.1	I?		3	K=H		1	=			9.2	44.2	43.5	45.7	-	
	18.5	22.6	I?	I?	3	3	K	K	1	1	—	—	9.2	45.2	43.5	44.7	- 6.3	
	18.3	23.5	a?	4384	3	K=H		1	F	scm	9.2	47.0	43.5	42.9	- 4.3	
	18.6	24.0	I?	I?	H	H	K=H	K=H	1	1	—	—	9.3	48.0	43.4	41.9	- 4.3	
	17.2	5.8	III?	2	2	K=H	K=H	1	1	F?	—	8.6	11.6	44.1	78.3	+ 7.8	
	17.3	6.1	II a?	4358 Hα	2	K=H	K=H	1	1	—	scm	8.6	12.2	44.1	77.7	+ 7.5	
	17.4	7.6	III	1	2	2	K=H	K=H	1	1	—	—	8.7	13.2	44.0	74.7	+ 6.1	
	17.4	8.1	III	1	2	K	?	K=H	1	1	—	—	8.7	16.2	44.0	73.7	+ 5.7	
	17.4	9.3	II	?	II?	2	2	K=H	K=H	1	1	—	—	8.7	18.6	44.0	71.3	+ 4.8	
	17.1	13.3			3	K=H		2	F			8.6	26.6	44.1	63.3	+ 1.3	
	17.1	17.9	II?		2	2	K=H	K=H	1	1	—	—	8.6	33.8	44.1	54.1	- 2.5	
	16.8	6.1	II?	?	2	2	K=H	K=H	1	1	—	—	8.4	12.2	44.3	77.7	+ 7.5	
	16.1	7.1	III		2	2	K=H	K=H	1	1	—	—	8.0	14.2	44.7	75.7	+ 4.2	
	16.1	12.4	III	3	3	K=H	K=H	1	1	F	F	8.0	24.8	44.7	65.1	+ 2.3	
	16.8	15.3	a	4385	3	K=H	K=H	2	F	scm		8.4	30.6	44.3	59.3	- 0.3	
	16.6	16.9	I	I	33	K	K	1	1	=		8.3	33.8	44.4	56.1	-	
	16.1	19.6	d?	II?	5	K	K	2	F			8.0	39.2	44.7	50.7	- 3.9	
	16.8	20.5	III	2	2	K=H	K=H	1	1	—	—	8.4	41.0	44.3	48.9	- 4.7	

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Mean _ 4

rec.	Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
1.5	7.0 7.2	7.6		DM. 2897	18 4.6	+43 31	8.0	30.8	52.6	29.3	18 [6.0] + 43 31
1.2	7.2 7.4	7.8									
	5.2	5.6		3055	18 4.0	+43 27	5.1	31.2	52.6	30.0	18 4.3 + 43 27
0	5.3	5.7									
	7.3 7.4	7.8		DM. 3019	17 59.6	+33 16	7.2	89.6	42.5	89.6	18 1.2 + 33 16
0.5	7.2 7.2	7.6									
	7.4 7.5	7.9		DM. 2870	17 58.1	+43 16	7.0	38.9	52.7	39.4	17 59.5 + 43 16
	6.8 6.9	7.3									DM. 3009 58.3 + 33 20
0.7	7.0 7.2	7.6		3032	17 57.2	+33 20	6.4	89.8	42.5	90.5	17 57.9 + 33 20
	6.8	7.2		DM. 2861	17 55.3	+ 43 14	6.5	88.1	52.6	89.2	17 56.7 + 43 14
1.1	7.1	7.5		3024	17 56.2	+33 13	6.1	89.0	42.6	89.7	DM. 17 55.0 + 43.2
	6.8 6.9	7.3		3024	17 56.2	+33 13 14	6.1 5.5	89.6	42.6	90.5	DM. 3006 55.3 + 33 14
0.9	7.2 7.3	7.7		DM. 2851	17 53.6	+43 26	7.2				H-P. 3024 17 56.9 + 33 14
1.8	6.0	6.4		DM. 2851	17 53.6	+ 43 26	7.2	87.8	52.6	89.6	17 55.0 + 43 26
	6.9 7.1	7.5									
1.5	7.0 7.3	7.7		DM. 2995	17 52.1	+ 33 26	6.3	88.3	42.6	89.8	17 53.7 + 33 25
4.8	7.2 7.3	7.7		DM. 2810	17 42.9	+ 43 22	8.0	84.7	52.6	89.5	17 44.3 + 43 21
	7.8	7.7	7.4	DM 2798	17 39.6	+ 43 12	8.6	738	52.4		17 41.0 + 43 11
	7.6 8.0										Not found on chart
				DM. 2794	17 38.4	+ 43 14	8.0	83.6	52.4	89.9	17 39.8 + 43 13
6.3	7.0 7.2	7.6									
	6.2	6.6		DM. 2944	17 39.0	+ 33 18	6.5	86.0	42.5	90.3	17 40.6 + 33 17
4.3											DM. 17 39.0 + 33.0
											17 39.6 + 33 21
4.5	7.0 7.3	7.7		DM. 2942	17 37.9	+ 33 3	7.0	85.9	42.3	90.4	DM. 17 38.0 + 33.0
	7.2 7.1	7.5		DM. 2989	18 24.7	+ 43 30	7.0	36.3	52.4	28.5	18 26.1 + 43 52
7.8	7.5 7.4	7.8		2911	18 25.1	+ 44 2	8.2				DM. 18 24.8 + 43.8
				DM. 2984	18 23.9	+ 43 30	7.7	36.1	52.4	28.4	18 25.3 + 43 52
7.5	6.7 7.0	7.4		DM. 2906	18 24.0	+ 44 10	7.8				DM. 18 23.9 + 43.8
	7.2 7.2	7.6									
6.1	7.5 7.6	8.0		DM. 2970	18 19.7	+ 43 50	6.7	34.9	52.5	28.8	18 21.1 + 43 37
	7.3 7.3	7.7		DM. 2962	18 18.6	+ 43 52	7.5	34.8	52.6	29.1	18 19.9 + 43 53
5.7	7.6 7.6	8.0		DM. 2909	18 7.4	+ 43 51	8.7				DM. 18 18.5 + 43.8
4.8	7.2 7.2	7.6		DM. 2948	18 15.2	+ 43 48	8.3	33.8	52.5	29.0	18 16.6 + 43 49
											DM. 18 [illegible] + 43.8
1.5	6.4	6.8		DM. 2809	18 4.1	+ 44 6	6.9	30.7	52.7	29.2	18 5.4 + 44 6
										29.3	17 52.3 + 44 1
2.5	7.2 7.2	7.6		DM. 2791	17 51.0	+ 44 2	8.0	86.8	52.6		17 51.0 + 44.0
7.5	7.0 6.9	7.3		DM. 2906	18 24.0	+ 44 10	7.2	36.2	52.6	28.7	18 25.3 + 44 12
	7.2 7.2	7.6		DM. 3191	18 19.0	+ 34 26	7.7	33.2	42.4	27.4	18 20.6 + 34 27
4.2	7.4 7.5	7.9		DM. 3190	18 18.2	+ 34 47	8.6				18 17.0 + 34.4
	6.6 6.8	7.2									
2.3	6.7 7.1	7.5		DM. 2839	18 6.6	+ 44 34	7.0	31.4	52.6	29.1	18 7.9 + 44 34
0.3	6.6	6.9		DM. 2812	17 58.3	+ 44 15	6.5	88.9	52.6	89.2	17 59.6 + 44 15
	7.2 7.6	7.4		DM. 3097	17 54.8	+ 34 14	8.1				17 56.4 + 34 14
	7.0 7.9			DM. 2795	17 53.2	+ 44 30	8.5				Not found on chart
				DM. 3177	17 46.2	+ 44 32	7.5	85.4	52.5	89.3	17 47.5 + 44 31
3.9	6.6 6.8	7.2		DM. 3066	17 46.8	+ 34 53	8.2				
	7.0 7.2	7.6		DM. 2770	17 43.6	+ 44 24	8.7				
4.7	7.3 7.5	7.9		DM. 2772	17 43.8	+ 44 9	7.2	84.8	52.6	89.5	17 45.1 + 44 8

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Plate 1347.

			No.				Other						
h	H	Type	Lines	K	Focus	Lines	V.	H.	V.	H.	Correc.		
	16.4	21.9	I?	✓ ✓ ✓	✓	2	F? ✓	8.2	43.8	44.5	46.1	− 3.7	5.
	16.6	22.3	III	✓ 2 ✓	K=H	1	F? ✓	8.3	44.6	44.4	45.3	− 6.1	6. 7.
	16.8	23.6	I	✓ 6 ✓	K=H	2	—	8.4	47.2	44.3	42.7	− 7.3	6.4
	17.5	24.2	I	✓ 4 ✓	K=H	1	—	8.8	48.4	43.9	41.5	− 7.7	6.5
✓	15.0	9.8	II a IIa	H386 3	2 K=H	K=H 1	F. seen	7.5	19.6	43.2	70.3	+ 4.5	6.6 6.6
✓	15.0	10.7	II a IIa	H387 3	K=H	K=H 2	F. seen	7.5	21.4	43.2	68.4	+ 3.7	6.05
	15.4	17.3	I	✓ 5 ✓	K	2	F. ✓	7.7	34.6	43.0	53.3	− 2.1	6.1
?	15.4	19.3	II a	H388 ✓ 3	K=H	1	F. seen	7.7	38.6	45.0	57.3	− 3.7	6.6
✓	15.6	21.1	III	1 2	K=H	1	— F	7.8	42.4	44.8	47.5	− 3.5	7.3 7.3 7.5 7.6
✓	14.8	8.1	II a IIa	H389 3	K=H	1	F? seen	7.4	16.2	43.3	73.7	+ 6.0	6.8 6.9
✓	14.8	11.5	II	H390 2	K=H	K=H 1	—	7.4	23.0	43.3	66.9	+ 1.9	6.9 7.
✓	14.9	12.6	a? IIa	3	K=H	K=H 2	F? seen	7.4	25.2	43.3	64.7	+ 1.3	6.6
✓	14.6	15.9	I	✓ 6 ✓	K=H	1	F F	7.3	31.4	43.4	58.5	− 0.7	6.5 6.
	14.5	16.2	III	b H391 3	K=H	2	F seen	7.2	32.4	43.5	57.5	− 1.1	6. 6.
	14.5	16.5	I	✓ 7 ✓	K	2	F ✓	7.2	33.0	45.5	56.9	− 1.3	5.
✓	14.6	17.3	? III?	H391a 3	K=H	K=H 1	F F seen	7.3	34.6	43.4	55.3	− 2.1	6.8 6. 7.0 6.
✓	14.8	18.0	II ? II	? 2 2	K=H	K=H 1	— —	7.4	36.0	43.3	53.9	− 2.5	6.7 6.
✓	14.2	18.0	! II	? 2 2	K=H	K=H 1	—	7.1	36.0	43.6	53.9	− 2.7	7.0 7.2
	14.9	21.8	I	✓ 6 ✓	K	2	F ✓	7.4	43.6	43.3	46.3	− 5.9	6.6
✓	14.5	23.0	III	3 2	K=H	K=H 1	F —	7.2	46.0	43.5	43.9	− 4.5	6.8 7.0 7.2 7.4
✓	13.1	5.9	? II	? 2 2	K=H	K=H 1	— —	6.6	11.8	46.1	78.1	+ 8.4	6.9 7.1
✓	13.6	7.1	III	? 1 2 2	K=H	K=H 1	— —	6.8	14.2	45.9	75.7	+ 7.1	7.2 7.4 7.2
	13.2	8.8	bc	H392 ✓ 3	K=1, 2	H 3	F. Bright seen	6.6	17.6	46.1	72.3	+ 3.6	5. 5.
✓	13.4	15.0	III	2	K=H	K=H 1	— —	6.7	30.0	46.0	59.9	− 0	7.3 7.5 7.5
	13.6	17.1	a ?	H393 3	K	H 2	F seen	6.8	34.2	45.9	55.7	− 1.9	6. 6.9 6.9
✓	13.9	17.3	III	2 2	K	H K=H 1	— —	7.0	34.6	45.7	55.3	− 1.2	7.0 7.2
✓	13.8	17.9	III	1 2 2	K=H	K=H 1	F ? —	6.9	35.8	45.8	54.1	− 1.7 − 2.5	7.3 7.5 7.2
✓	13.8	19.5	III	1 2 2	K=H	K=H 1	— —	6.9	39.0	45.8	50.9	− 2.5	7.6 7.7

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Mean - 4

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Corr. Br.	Br.		No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
3.7	5.8 6.2	Dm.	3050	17 42.6	+34 20	6.5	86.4	42.5	90.1	17 44.2 + 34 19
	6.9 7.3		2757	17 38.8	+44 9	6.5	83.4	52.5	89.5	17 40.1 + 44 8
6.1	7.3 7.7	Dm.	~~2754~~	~~17 38.0~~	~~+44 28~~	8.9				Dm. 17 39.0 + 44.2
7.3	6.4 6.8	Dm.	2745	17 35.2	+44 6	6.8	82.4	52.5	89.7	17 36.3 + 44 4
		Dm.	2729	17 34.1	+33 35	8.0				
7.7	6.5 6.9	Dm.	2777	17 33.7	+43 42	7.0	82.1	52.5	89.8	17 35.1 + 43 40
		Dm.	~~3205~~	~~18 12.3~~	~~+35 19~~	8.5				
4.5	6.666 7.0	Dm.	2690	18 14.0	+45 5	7.2	33.6	52.6	29.1	18 15.3 + 43 6
3.7	6.05.9 6.3	Dm.	2684	18 11.4	+45 9	6.2	32.8	52.7	29.1	18 12.7 + 43 10
2.1	6.1 6.5	Dm.	2626	17 52.5	+45 1	6.7	87.1	52.7	89.2	17 53.8 + 43 1
		Dm.	2610	17 47.2	+45 1	8.7				
3.7	6.6 7.0	Dm.	2780	17 46.9	+44 37	7.2	85.3	52.7	89.3	17 48.2 + 44 36
	7.3 7.7	Dm.	~~3079~~	~~17 45.3~~	~~+35 29~~	8.0	87.7	42.8	91.3	~~17 46.9 + 33 28~~
3.5	7.5 7.6 8.0	Dm.	~~1749~~	~~17 42.6~~	~~+34 37~~	~~8.0~~				~~17 45.5 + 34.2~~
		Dm.	3055	17 44.3	+ 34 40	8.4	86.7	42.5		17 44.5 + 34 39.2 + 34.6
6.0	6.869 7.3	Dm.	2704	18 18.9	+45 8	7.8	35.1	52.5	29.1	18 20.2 + 43 9
		Dm.	~~2678~~	~~18 9.3~~	~~+45 32~~	~~8.0~~				18 9.7 + 35 10
1.9	6.9 7.0 7.4	Dm.	3186	18 8.1	+35 9	7.7	31.1	42.6	29.2	18 8.1 + 35 9
		Dm.	3168	18 5.3	+35 9	7.3	30.5	42.6	29.2	18 6.9 + 35 9
1.3	6.66.8 7.2	Dm.	2670	18 6.8	+45 16	8.2				
		Dm.	3130	17 56.5	+35 24	8.5				
0.7	6.56.6 7.0	Dm.	2643	17 57.0	+45 21	7.0	88.4	52.7	89.1	17 58.3 + 43 21
1.1	6.4 6.8 6.8 7.2		3031	17 56.6	+43 31	5.9	89.0	52.7	90.1	17 57.1 + 43 31
1.3	5.7 6.1		3020	17 55.4	+43 28	6.1	88.4	52.7	89.7	17 56.0 + 43 28
2.1	6.8 7.1 7.0 7.3	Dm.	2627	17 52.6	+45 23	6.3	87.2	52.7	89.3	17 53.9 + 43 23
2.5	6.768 7.2	Dm.	2621	17 50.6	+45 14	7.7	86.6	52.6	89.1	17 51.9 + 43 13
2.7	7.0 7.2 7.6	Dm.	2620	17 50.5	+45 34	8.0	86.5	52.7	89.2	17 51.8 + 43 33
5.9	6.0 6.4	Dm.	2588	17 39.9	+43 6	7.2	83.5	52.5	89.4	17 41.2 + 43 5
	6.8 7.0 7.4	Dm.	3059	17 39.7	+35 17	7.0	85.7	42.5	90.2	17 41.3 + 33 16
4.5	7.0 7.4 7.8	Dm.	~~2054~~	17 39.3	~~+35 32~~	~~8.8~~				17 39.8 + 35.2
		Dm.	3130	18 21.6	+36 5	7.7				
8.4	6.97.1 7.5	Dm.	2728	18 25.3	+45 53	7.0	37.1	52.5	28.7	18 26.6 + 43 55
	7.2 7.3 7.7									18 21.9 + 45.7
7.1	7.4 7.6 8.0	Dm.	2713	18 21.8	+45 44	8.0	36.0	52.5	28.9	18 23.1 + 43 43
	5.8 5.7									
3.6	5.7 6.1		3093	18 15.7	+36 1	4.4	33.3	42.6	29.7	18 16.4 + 36 1
	7.3 7.3 7.7	Dm.	~~3002~~	~~17 58.0~~	~~+36 7~~	7.2				
0	7.5 7.5 7.9	Dm.	2412	17 58.9	+46 14	7.7	88.9	52.9	88.9	18 0.2 + 46 14
		Dm.	2629	17 53.0	+45 53	6.4	87.2	52.7	89.1	17 54.3 + 43 53
1.9	6.3 6.7		3015	17 54.5	+36 17	6.0	88.7	42.1	89.9	
	6.9 6.9 7.3	Dm.	~~3118~~	~~17 52.3~~	~~+35 43~~	~~7.0~~				
1.2	7.0 7.0 7.5	Dm.	3116	17 53.6	+35 39	7.2	88.2	42.6	89.4	17 53.7 + 35 39
1.7	7.3 7.3 7.7	Dm.	3112	17 52.3	+35 43	7.0	88.1	42.6	89.8	17 53.9 + 35 42
~~2.5~~	7.5 7.6 8.0	Dm.	~~2618~~	~~17 50.3~~	~~+45 32~~	~~8.3~~				~~52.2 + 35.6~~
		Dm.	2617	17 50.1	+45 41	8.2				
2.5	7.8 7.6 7.6 8.0		3098	17 48.4	+35 44	6.7	87.4	42.6	89.9	17 50.0 + 35 43
		Dm.	~~3090~~	~~17 47.4~~	~~+35 48~~	~~8.5~~				~~48.2 + 35.7~~

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	H	Type	No. Lines	K	Other Focus Lines		V.	H.	V.	H.	Correc	
	13.4	20.7	I I I 4	4 K = H	K = H	1	F F	6.7	41.4	46.0	48.5	− 3.3	7.0 6.7
	13.0	21.7	a II a 2	2 K = H	K = H	1	seen	6.5	43.4	46.2	46.5	− 3.9	6.86
	13.1	22.7	II II 2	2 K = H	K = H	1	— —	6.6	45.4	46.1	44.5	− 4.5	7.7
?	13.0	23.2	I II 10	K = H			F —	6.5	46.4	46.2	43.5	− 7.7	B
	13.6	23.8	II II 3	3 K = H	K = H	1	F F	6.8	47.6	45.9	42.3	− 8.1	7.06.9
	12.4	6.3	d I H	H	N	1	— —	6.2	12.6	46.5	77.3	+ 8.3	6.66
	12.7	7.5	I I I H	H K = H	K = H	1	— —	6.4	13.0	46.3	74.9	+ 7.1	7.7
	12.6	8.2	a II a 4395	K = H	K = H	1	F seen	6.3	16.4	46.4	73.5	+ 6.3	6.56
	12.6	9.8	II II 3	3 K = H	K = H	1	F F	6.3	19.6	46.4	70.3	+ 4.8	6.76
	12.5	12.8	4396	3 K = H		2	F seen	6.2	25.6	46.5	64.3	+ 1.2	5.8 6.0
	12.6	13.6		3 K = H		2	F	6.3	27.2	46.4	62.7	+ 0.7	6.0 6.3
	12.9	13.9	a II a 4397	3 K = H	K = H	1	F ? seen	6.4	27.8	46.3	42.1	+ 1.1 − 8.4	6.86.7
	12.7	17.3	?	K = H		2	F	6.4	34.6	46.3	55.3	− 1.3	6.2 6.3
	12.0	18.8	I ? 3 4398	K = H		2	F seen	6.0	37.6	46.7	52.3	− 3.6	6.3 6.6
	12.8	22.1	III 3 2	K = H	K = H	1	F —	6.4	44.2	46.3	45.7	− 4.2	7.0 7.1
	11.5	7.1	I II I 3	3 K = H	K = H	1	F F	5.8	14.2	46.9	75.7	+ 7.3	7.7 7.5
	11.5	7.5	I	6 K = H	K = H	1	— —	5.8	15.0	46.9	74.9	+ 7.1	7.06.9
	11.7	16.2	II a 4398a	3 K = H	K = H	1	F ? seen	5.8	32.4	46.9	57.5	− 1.2	6.76.6
	11.5	17.4	III 2	2 K = H	K = H	1	F ? F	5.8	34.8	46.9	55.1	− 1.3	6.86.8
	11.5	17.9	II ? 2	2 K = H	K = H	1	F ? seen	5.8	35.8	46.9	54.1	− 1.8	7.2 7.2
	11.4	20.6	? III 3	3 K = H	K = H	1	F F	5.7	41.2	47.0	48.7	− 3.5	7.1 7.0
	11.0	21.1	II II 2	2 K = H	K = H	1	F ? —	5.5	42.2	47.2	47.7	− 3.7	6.86.8
	10.3	10.8	a II a 4399	2 K = H	K = H	1	seen	5.2	21.6	47.5	68.3	+ 4.1	6.66
	10.6	15.7		K = H		1	F	5.3	31.4	47.4	58.5	− 0.7	6.7 7.0
?	10.8	18.2	he 4400	3 K = H	?	3	F Bright	5.4	36.4	47.3	53.5	− 1.9	5.3 5.7
	10.0	20.1		K = H		1	F	5.0	40.2	47.7	49.7	− 4.9	6.3 7.1
	10.0	20.3		K = H	K = H	2	F	5.0	40.6	47.7	49.3	− 5.1	5.5
	10.5	23.1	? II ? 12	2 K = H	K = H	1	— —	5.2	46.2	47.5	43.7	− 7.9	7.7 7.3
	13.4	21.7	III III	2 K = H	K = H	1	— —						

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1887phae..proj..844F

Mean -4.

Cow. Br.	Br.	No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900.
7.0	6.9	DM. 2595	17	42.6	+45	55	7.8	84.0	32.6	89.3	17 43.9 + 45 54
7.0	7.4	DM. 2943	17	42.8	+46	14	8.2	86.4	42.6		17 44.4 + 36 13
6.8	6.8	DM. 2937	17	41.8	+36	8	6.5	85.2	42.6	89.1	17 43.4 + 36 7
		3062	17	40.4	+35	57	7.7	85.8	42.6	90.3	17 42.0 + 35 56
7.2	7.3	DM. 3050	17	38.7	+35	53	8.5				
		2859	17	36.1	+46	4	39	82.5	32.6	90.2	17 36.6 + 46 3
		DM. 2573	17	33.9	+45	40	7.3	81.5	32.5	89.6	17 35.2 + 45 38
7.0	7.3	DM. 3040	17	36.1	+35	49	7.9				
6.6	6.9	DM. 2494	18	24.5	+46	20	6.5	37.1	32.3	28.8	18 25.8 + 46 22
7.2	7.6	DM. 2481	18	20.9	+46	11	8.0	35.9	32.6	28.8	18 22.2 + 46 12
6.5	6.9	DM. 2474	18	18.9	+46	17	7.0	35.3	32.6	29.0	18 20.2 + 46 18
6.7	6.9	DM. 2459	18	14.3	+46	22	6.5	33.9	32.7	29.1	18 15.6 + 46 23
		3061	18	3.8	+36	26	5.9	31.4	42.6	30.2	18 6.3 + 36 26
		3054	18	3.9	+36	23	5.6	31.1	42.7	30.4	18 4.6 + 36 23
		DM. 2426	18	2.6	+46	16	7.2	30.4	32.7	29.3	18 3.9 + 46 16
6.8	7.1	DM. 2418	17	35.1	+36	3	8.6				18 2.8 + 46 3
		3016	17	54.3	+36	17	6.0	89.1	42.7	90.4	17 53.3 + 36 17
		2993	17	48.8	+46	42	6.5	86.4	32.7	90.0	17 49.2 + 46 41
7.0	7.5	DM. 2937	17	41.8	+36	8	6.5	86.0	42.5	90.2	17 43.4 + 36 7
7.5	7.9	DM. 2352	17	37.5	+46	22	8.2				17 41.8 + 36 2
		DM. 2289	18	22.4	+46	43	9.3	3.66	32.5	29.1	18 23.6 + 46 44
7.0	7.3	DM. 2490	18	22.4	+46	43	8.0		Double star.		18 23.6 + 46 44
6.7	7.0	DM. 2484	18	21.3	+46	49	7.3	36.3	32.6	29.2	18 22.5 + 46 50
6.8	7.2	DM. 2466	17	55.8	+46	50	7.8	88.2	32.6	89.4	17 57.0 + 46 50
7.2	7.6	DM. 2985	17	53.4	+36	53	7.0	88.2	42.7	89.7	17 54.9 + 36 53
7.0	7.9	DM. 2391	17	52.0	+46	59	8.2				
		DM. 2979	17	52.2	+36	52	7.3	88.0	42.7	89.8	17 53.7 + 36 51
6.8	7.1	DM. 2555	17	50.2	+47	3	8.7				17 52.1 + 36 9
6.8	7.2	DM. 2956	17	45.5	+36	53	7.10	86.7	42.6	90.2	17 47.1 + 36 52
7.0	7.4	DM. 2947	17	44.0	+36	6	7.0				17 45.6 + 36 9
		DM. 2949	17	44.0	+36	6	7.0	86.2	42.6	89.9	17 46.5 + 37 5
6.8	7.2	DM. 2949	17	43.8	+36	58	8.9				17 45.3 + 37
		DM. 2604	18	11.7	+47	31	7.2	33.3	32.7	29.2	17 47.3 + 47 32
6.6	7.1	DM. 2556	18	10.0	+37	22	7.5				
6.7	7.1	DM. 2572	17	57.2	+47	23	6.5	88.6	32.7	89.3	17 58.4 + 47 23
5.3	6.7	3004	17	52.1	+37	16	4.0	88.5	42.7	90.6	17 52.8 + 37 15
6.8	7.2	DM. 2541	17	44.1	+47	38	6.8	84.3	32.6	89.2	17 45.3 + 47 37
		2983	17	43.9	+47	39	6.3	84.4	32.6	89.5	17 44.4 + 47 39
7.2	7.6	DM. 2515	17	35.3	+47	19	7.8	81.5	32.5	89.4	17 36.3 + 47 17
7.0	7.5	DM. 2942	17	42.9	+36	36	6.5				17 44.5 + 36 35

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1887phae.proj..844F

August 17, 1887.

Plate 134 I.

V	H	Type	No. Lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
10.5	23.4	Id? Id? 4 H	1	K=H	F?	F?	52	46.8	47.5	43.1	− 8.3
9.5	10.4	III. 2 2	1	K=H	F?	—	48	20.8	47.9	69.1	+ 4.5
9.2	10.5	III 2 2	1	K=H	—		46	21.0	48.1	68.9	+ 4.5
9.1	11.9	III 2 2	1	K=H	—		46	23.8	48.1	66.1	+ 3.0
9.2	14.4	I	1	K=H	F		46	28.8	48.1	61.1	+ 0.7
9.6	14.8	? II? 2 2	1	K=H	—		48	29.6	47.9	60.3	+ 0.1
9.6	15.4	III 2 2	1	K=H	—		48	30.8	47.9	59.1	− 0.5
9.6	15.8	III 2 3	1	K=H	F?	F	48	33.6	47.9	54.3	− 1.9
8.5	5.8	a IIa 2 2	1	K=H	Reen	Reen	42	11.6	48.5	78.3	+ 6.0
? 8.3	6.9	I 5	1	K=H	F		42	13.4	48.5	76.5	+ 5.4
8.5	7.4	I 5	1	K=H	—		42	14.8	48.5	75.1	+ 5.1
8.3	9.7	II 2 2	1	K=H	—		42	19.4	48.5	70.5	+ 5.3
8.9	12.2	III 3 3	2	K=H	F	F	44	24.4	48.3	65.5	+ 2.7
8.6	12.7	? III 2 2	1	K=H	F?	—	43	25.4	48.4	64.5	+ 2.3
8.5	12.9	III ? 3 3	2	K=H	F		42	25.8	48.5	64.1	+ 1.3
8.6	14.9	I 10	2	K=H	F		43	29.8	48.4	60.1	+ 0.1
8.5	15.6	III 2 2	1	K=H	—		42	31.2	48.5	58.7	− 0.7
8.8	15.1	? 2 2	1	K=H	—		44	30.2	48.3	59.7	− 0.1
8.6	15.8	II ? 2 2	1	K=H	—		43	31.6	48.4	58.3	− 0.7
8.9	16.8	? II 2 2	1	K=H	—		44	33.6	48.3	56.3	− 1.8
8.0	18.5	I II? II? 2 2	1	K=H	—		40	37.0	48.7	52.9	− 2.3
8.6	19.3	I 7	2	K=H	F		43	38.6	48.4	51.3	− 4.2
8.3	22.6	I 3	1	K=H	—		42	43.2	48.5	46.7	− 4.9
7.8	7.3	III 2 2	1	K=H	F?		39	14.6	48.8	75.3	+ 5.1
7.8	7.6	II ? 2 2	1	K=H	—		39	15.2	48.8	74.7	+ 7.5
III ? 6.0, 6.6	7.2	8.9	? 3 3	2	K=H	F		36	17.8	49.1	72.1	+ 6.1
7.3	10.4	III 2 2	1	K=H	—		36	20.8	49.1	69.1	+ 4.7
7.2	11.1	III 2 2	1	K=H	F?		36	22.2	49.1	67.7	+ 4.1

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Mean -4

527 899

Br.	Cor. Br	No.	R.A.	Dec.	Mag.	H.	V.	H.	Red to 1900.
6.9 7.0	7.4 7.5	DM. 2572	17 34.4	+ 47 14	7.4	81.2	32.4	89.5	17 35.6 + 47 12
6.8 6.9	7.3	DM. 2669	18 12.8	+ 48 5	6.7	33.6	32.9	29.1	18 14.0 + 48 6
7.2 7.2	7.6								
7.0 7.0	7.4								
7.3 7.3	7.7	DM. 2668	18 12.6	+ 48 19	6.9	33.6	32.9	29.1	18 13.8 + 48 20
~~3041~~	~~18 6.9~~	~~+ 37 51~~		7.7					
7.0 7.1	7.5	DM. 2655	18 8.4	+ 48 5	7.6	32.2	32.7	29.2	18 9.6 + 48 6
7.2 7.4	7.8								
6.8	7.2	DM. 2633	18 1.1	+ 48 8	7.7	29.9	32.7	29.2	18 2.3 + 48 8
		DM. 3008	17 59.9	+ 37 50	7.8	89.5	42.6	89.4	18 1.4 + 37 50
~~3008~~	~~17 59~~	~~+ 37 50~~		7.8					~~+ 37~~
7.3 7.4	7.8								
6.9	7.3	DM. 2576	17 58.1	+ 47 52	7.2	88.9	32.7	89.4	17 59.3 + 47 52
7.0	7.5	~~2574~~	~~17 57.5~~	+ 47 54	7.8				
6.7 6.8	7.2								
7.0 7.1	7.5	DM. 2988	17 52.3	+ 37 47	6.5	87.9	42.6	89.8	17 53.5 + 37 46
DM.		2706	18 26.7	+ 48	7.7	38:3	32.4	30.0	18 27.7 + 48 14
DM.		~~2705~~	~~18 26.4~~	+ 48 31	8.5				
7.1 7.0	7.4	DM. 3186	18 23.7	+ 38 40	7.7				
6.5	6.9	DM. 3166	18 20.5	+ 38 22	7.5	33.9	42.6	28.5	18 22.0 + 38 23
		DM. 3159	18 18.9	+ 38 17	7.6	33.7	42.5	28.6	18 20.4 + 38 18
6.4	6.8	~~3169~~	~~18 17.1~~	+ 38 41	6.5				
7.0 7.1	7.5	DM. 2676	18 15.2	+ 48 31	7.2	34.6	32.7	29.3	18 16.4 + 48 32
6.7 6.8	7.2								DM. 2652 7.8 + 48 16
7.0 7.1	7.5	3070	18 8.5	+ 48 17	6.7	32.9	32.7	30.2	18 9.0 + 48 17
7.0 7.2	7.6								
7.2 7.4	7.8	DM. 2649	18 6.1	+ 48 22	7.3	31.3	32.7	29.2	18 7.3 + 48 22
6.5 6.5	6.9								
6.7 6.7	7.1	DM. 3095	18 4.9	+ 38 28	6.7	30.7	42.7	29.4	18 6.4 + 38 28
5.4	5.8	3041	18 1.0	+ 48 28	R	30.8	32.8	30.7	18 0.5 + 48 28
6.9 7.1	7.5								
7.2 7.4	7.8	DM. 2621	17 57.3	+ 48 29	6.8	88.5	32.7	89.2	17 58.3 + 48 29
~~DM. 3069~~	~~17 58.6~~	~~+ 38 18~~	~~8.3~~						
7.3 7.7									
7.6 8.0	DM. 2625	17 58.8	+ 48 18	8.0	89.0	32.7	89.1	18 0.0 + 48 18	
7.3 7.3	7.7	DM. 2628	17 56.8	+ 48 24	7.8	88.4	32.7	89.1	17 58.0 + 48 24
7.2 7.3	7.7	DM. 2605	17 53.7	+ 48 19	7.3	87.3	32.7	89.1	17 54.9 + 48 19
DM.		3034	17 50.6	+ 38 38	8.2	87.6	42.6	89.9	17 52.1 + 38 37
~~DM.~~	~~3033 17 49.7~~	~~+ 38 29~~	~~8.2~~						
7.3 7.4	7.8	~~DM. 2589~~	~~17 48.5~~	~~+ 48 40~~	~~8.5~~				50.4 + 38.6
5.7	6.1	2991	17 46.9	+ 48 25	6.4	85.5	32.7	89.7	17 47.4 + 48 25
6.9 7.1	7.5	DM. 2994	~~17~~ 18 40.0	+ 38 24	7.5	85.3	42.6	90.1	18 41.5 + 38 23
~~6.9~~ 7.3	7.7								17 40.0 + 38.4
7.3 7.6	8.0	DM. 3160	18 19.1	+ 38 41	6.5	33.7	42.6	28.6	18 20.6 + 38 42
7.1 7.0	7.4	DM. 2692	18 21.5	+ 48 41	7.0	36.7	32.6	29.2	18 22.7 + 48 42
6.1 ~~6.2~~	6.5								
6.5 ~~7.5~~	6.9	3106	18 18.5	+ 49 4	5.1	36.3	32.7	30.2	18 19.0 + 49 4
7.1 7.1	7.5								
7.4 7.4	7.8	DM. 2761	18 13.2	+ 49 2	7.2	34.1	32.6	29.3	18 14.4 + 49 3
7.0 7.0	7.4								
7.8 7.3	7.7	DM. 2758	18 11.3	+ 49 6	6.7	33.5	32.7	29.4	18 12.4 + 49 7

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August 17, 1887.

Plate 1347.

V	H	Type Lines	K	Focus	Other Lines	V.	M.	V.	H.	Correc.
7.9	11.6	I √ 7 √ ? √	3	F √		4.0 15.8	23.2	48.7	66.7	+ 2.3
7.3	11.9	I ? I √ 3 √ H √	K=H	1	—	3.6 14.6	23.8	49.1	66.1	+ 3.1
7.1	12.3	I √ 7 √ K=√H	2	F √		3.6 14.2	24.6	49.1	65.3	+ 1.9
7.4	12.4	I √ 3 √ H √	K=H	1	—	3.7 14.8	24.8	49.0	65.1	+ 1.8
7.1	12.7	I √ I ? 3 H √	K=H	1	—	3.6 14.2	25.4	49.1	64.5	+ 1.5
7.7	13.9	I ? √ 4 √ K=2.0H ?		1	—	3.8 15.4	27.8	48.9	62.1	+ 1.1
7.2	22.1	III √ 3 √ K=√H		1	F √	3.6 14.4	44.2	49.1	45.7	- 4.9
7.8	23.7	III ? √ 3 √ K=H		2	F √	3.9 15.6	47.4	48.8	42.5	- 8.9
6.3	7.2	I √ 7 √ ? √	3		F √	3.2 12.6	14.4	49.5	75.5	+ 5.4
6.2	8.8	II ? II ? 2 √ K=H	K=H	1	—	3.1 12.4	17.6	49.6	72.3	+ 6.5
6.0	9.1	III III 3 √ 2 K=H	K=H	2	F √	3.0 12.0	18.2	49.7	71.7	+ 6.0
6.2	11.7	II ? II ? 2 √ K=H	K=H	1	—	3.1 12.4	23.4	49.6	66.5	+ 3.5
6.1	13.6	I √ 4402 √ K=2H		2	F √	3.0 12.2	27.2	[illegible]	62.7	+ 1.5
6.5	14.0	II a ? 2 K=H		1	Seen	3.2 13.0	28.0	49.5	61.9	+ 1.1
6.8	14.2	III √ 2 √ K=H			—	3.4 13.6	28.4	49.3	61.5	+ 0.9
6.4	15.0	I √ 3 √ N √			—	3.2 12.8	30.0	49.5	59.9	- 0
6.1	20.5	III III ? 2 √ 2 √ K=H	K=H	1	—	3.0 12.2	41.0	49.7	48.9	- 3.9
6.4	22.1	III √ 3 √ K=H		1	F √	3.2 12.8	44.2	49.5	45.7	- 4.9
6.0	23.6	I √ 6 √ K=√2H		1	F √	3.0 12.0	47.2	49.7	42.7	- 9.0
5.6	7.0	I I √ 2 H √ K=H	K=H	1	—	2.8 11.2	14.0	49.9	73.9	+ 8.4
5.6	7.8	III III 2 √ 2 K=H	K=H	1	—	2.8 11.2	15.6	49.9	74.3	+ 7.7
5.6	12.8	I ? I ? 2 H K=H	K=H	1	—	2.8 11.2	25.6	49.9	64.3	+ 1.7
5.5	13.5	II ? II ? 2 K=H	K=H	1	—	2.6 11.0	27.0	49.9	62.9	+ 1.1
5.2	14.8	III √ 3 √ K=H		1	A	2.6 10.4	29.6	50.1	60.3	+ 0.1
5.0	15.9	III ? III ? 2 √ 2 √ K=H	K=H	1	—	2.5 10.0	31.8	50.2	58.1	- 0.7
5.3	19.1	III 4403 √ K=H		2	F √ Seen	2.6 10.6	38.2	50.1	51.7	- 2.9
5.3	19.6	III √ 3 √ K=H		1	F √	2.6 10.6	39.2	50.1	50.7	- 3.3
5.0	19.9	II 2	3		F	2.5 10.0	39.8	50.2	50.1	- 3.6

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Mean - 4

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	H. V.	H'	Red. to 1900.
5.4	5.8		3073	18 9.1	+38 46	5.9	32.3	42.8	30.0	18 9.8 + 38 45
6.8 6.9	7.3	Dm.	2750	18 8.8	+49 4	7.4	32.6	52.7	29.5	18 9.9 + 49 3
6.0	6.4	Dm.	3343	18 6.4	+39 4	6.9	31.0	42.7	29.1	18 7.9 + 39 4
6.8 6.8	7.2	Dm.	3100	18 6.1	+38 56	8.0	30.9	42.6	29.1	18 7.6 + 38 56
6.9 6.9	7.3	Dm.	3339	18 5.5	+39 3	7.9	30.9	42.6	29.4	18 7.0 + 39 3
~~Dm. 3075~~				~~18 1.0~~	~~+38 60~~	7.6				
6.8	7.2	Dm.	2638	18 2.6	+48 50	7.3	30.4	52.6	29.3	18 3.8 + 48 50
6.5	6.9									Dm. 2997 41.1 + 38 57
6.7	7.1		2978	17 41.9	+38 56	6.2	86.1	42.5	90.0	17 42.6 + 38 56
5.8	6.2									
6.1	6.5		2954	17 33.5	+48 40	5.5	80.9	52.6	89.8	17 34.0 + 48 38
5.7	5.5		3110	18 20.3	+39 27	4.9	34.7	42.7	29.3	18 20.9 + 39 27
7.4 7.4	7.8	Dm.	2783	18 18.4	+49 30	8.1	36.0	52.6	29.5	18 19.5 + 49 31
6.6 6.5	6.9									
6.8 6.8	7.2	Dm.	2776	18 17.5	+49 39	6.5	33.7	52.6	29.7	18 18.6 + 49 40
7.4 7.3	7.7	Dm.	2753	18 9.2	+49 35	8.8	32.6	52.7	29.1	18 10.3 + 49 36
										Dm. 2732 3.5 + 49 42
6.6	6.0		3057	18 4.1	+49 41	6.3	31.3	52.7	29.8	18 4.6 + 49 42
		Dm.	2729	18 2.5	+49 31	7.7	30.5	52.7	29.4	18 3.6 + 49 31
5.6	6.0	Dm.	2728	18 2.5	+49 28	7.3				18 3.6 + 49 28
7.2	7.6									
7.5	7.9	Dm.	2727	18 1.8	+49 20	7.3	30.2	52.7	29.3	18 2.9 + 49 20
~~Dm. 2308~~				~~17 58.8~~	~~+39 21~~	8.5				
6.6	7.0	Dm.	3310	17 59.4	+39 29	7.0	89.4	42.7	89.4	18 0.9 + 39 29
7.3 7.3	7.7	Dm.	3238	17 44.9	+39 39	6.8	85.9	42.6	89.8	17 46.4 + 39 38
7.6 7.6	8.0	~~Dm.~~	~~2689~~	~~17 42.3~~	~~+49 34~~	~~7.3~~				
7.0	7.4		2980	17 42.0	+39 22	6.5	86.2	42.6	91.1	17 42.7 + 39 20
7.3	7.7	~~Dm.~~	~~3215~~	~~17 40.7~~	~~+39 25~~	8.1				~~Dm. 3219 41.2 + 39 23~~
										~~41.2 + 39.3~~
		Dm.	2668	17 32.6	+49 33	7.0	79.8	52.6	88.8	17 33.7 + 49 31
6.7	7.1	~~Dm.~~	~~3188~~	~~17 35.4~~	~~+39 50~~	~~7.7~~				
6.8 6.9	7.3	Dm.	2797	18 23.8	+49 43	7.7	37.8	52.5	29.4	18 24.9 + 49 45
7.3 7.3	7.7									
7.3 7.5	7.9	Dm.	2790	18 21.6	+49 47	7.2	37.2	52.6	29.5	18 22.7 + 49 48
7.3 7.3	7.7									
~~7.6~~	~~8.0~~	Dm.	3336	18 5.1	+39 51	7.4	30.7	42.6	29.0	18 6.6 + 39 51
7.2										
7.3	7.7	Dm.	3327	18 3.3	+39 54	6.8	30.3	42.7	29.2	18 4.8 + 39 54
6.3	6.7	Dm.	3276	18 0.0	+40 5	6.5	29.6	42.7	29.3	18 1.5 + 40 5
7.2 7.4	7.6									
7.4 7.4	7.8	Dm.	3263	17 57.0	+40 11	7.5	88.8	42.7	89.5	17 58.5 + 40 11
5.8	6.2									
6.0	6.5		2997	17 49.5	+40 2	5.3	87.7	42.6	90.6	17 50.0 + 40 1
6.6	7.0									
7.0	7.4	Dm.	3225	17 ~~46.5~~ 47.4	+40 ~~6~~ 1	~~6.7~~ 2	85.7	42.7	89.0	17 ~~48.4~~ 48.9 + 40 1
6.6 6.6	7.0	Dm.	3228	17 ~~46.3~~ 46.5	+40 ~~14~~ 6	~~8.7~~ 6	85.1	42.7	88.7	17 ~~48.2~~ 48.0 + 40 5

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August 17, 1887.

Plate 1347.

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
5.1	20.7	II a 4404	2	K=H	1	F? dem	2.6	41.4	50.1	48.5	− 6.0
5.1	21.2	II 3 3		K=H K=H	1	F 2	2.6	42.4	50.1	47.4	− 4.3
5.5	22.4	I 6	N	2		F	2.8	44.8	49.9	45.1	− 7.8
4.5	8.0	II? IIa² 4404a	2	K=H K=H	1	F? dem	2.2	16.0	50.5	73.9	+ 5.1
4.7	9.8	I 6	K=1,2H		1	F	2.4	19.6	50.3	70.3	+ 3.7
4.4	10.8	I 7 7	N		1	—	2.2	21.6	50.5	68.3	+ 4.5
4.6	12.8	I 4	K=1,2H		1	—	2.3	23.6	50.4	64.3	+ 2.3
4.6	14.1	I 4	N		1	—	2.3	28.2	50.4	61.7	+ 0.7
4.6	16.0	I? I 4 H	K=H	K=H	1	—	2.3	32.0	50.4	57.9	− 0.9
4.5	18.2	III 2	K=H		1	F?	2.2	36.4	50.5	53.5	− 3.5
4.3	18.4	II? II? 2	2	K=H	K=H	1	—	2.2	36.8	50.5	53.1	− 2.5
3.5	10.1	III? III? 3	2	K=H	K=H	1	F	1.8	20.2	50.9	69.7	+ 3.5
3.5	11.0	II 2	2	K=H	K=H	1	—	1.8	22.0	50.9	67.9	+ 4.3
3.0	11.8	III 2	K=H		1	F	1.5	23.6	51.2	66.3	+ 2.4
3.7	13.4	III? III? 2	2	K=H	K=H	1	—	1.8	26.8	50.9	63.1	+ 1.2
3.9	13.7	b 4405 3		K=H		1	F dem	2.0	27.4	50.7	62.5	+ 1.3
3.6	15.8	III 2	K=H		1	F?	1.8	31.6	50.9	58.3	− 0.9
3.8	19.3	I 9	K=1,2H		4	F	1.9	38.6	50.8	51.3	− 4.7
2.3	8.9	I 3	N		1	F	1.2	17.8	51.5	72.1	+ 6.7
2.8	9.4	III III 3	2	K=H	K=H	1	F	1.4	18.2	51.3	71.7	+ 6.5
2.7	9.6	III III 3	3	K=H	K=H	1	F F	1.4	19.2	51.3	70.7	+ 6.0
?	2.6	16.8	c 4406 3		K=1,2H?	4	F Bright dem	1.3	33.6	51.4	56.3	− 1.9
	2.8	23.1	III ! 2		K=H	1	—	1.4	46.2	51.3	43.7	− 9.0
3 0	2.8	23.4	III ? 2		K=H	1	—	1.4	46.8	51.3	43.1	− 6.3

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Mean -4

Br.	Br. Corr.	No.	R.A.	Dec.	Mag.	M.	v.	M'	Red to 1900
6.8	7.2	DM. 2457	17 41.4	+50 6	7.5	82.8	52.7	88.8	17 42.5 + 50 5
		~~DM. 3214~~	~~17 43.3~~	~~+40 1~~	~~7.0~~				
		DM. 3210	17 43.3	+40 1	7.5	85.7	42.6	90.0	17 44.8 + 40 0
6.8 6.9	7.3	~~DM. 2682~~	~~17 39.9~~	~~+49 56~~	~~8.3~~			43.4	+ 40.0
5.9	6.3	DM. 2678	17 36.2	+49 52	6.5	81.0	52.7	88.8	17 37.3 + 49 50
7.0 7.0	7.4	DM. 3350	18 17.7	+40 19	7.5	33.7	42.5	28.6	18 19.2 + 40 20
6.6	7.0	DM. 3334	18 13.1	+40 16	7.2	32.7	42.7	29.0	18 14.6 + 40 17
6.4 6.5	6.9	DM. 2551	18 12.3	+50 29	6.8	34.1	52.7	29.6	18 13.6 + 50 30
6.5	6.9	DM. 2531	18 6.2	+50 22	7.0	31.8	52.7	29.5	18 7.3 + 50 22
6.6	7.0	DM. 3286	18 1.8	+40 22	7.0	30.0	42.7	29.3	18 3.2 + 40 22
6.8 6.9	7.3	DM. 3262	17 56.8	+40 20	7.9	88.8	42.6	29.7	17 58.2 + 40 20
6.9	7.3	~~DM. 3244~~	~~17 50.3~~	~~+40 27~~	~~8.3~~				
7.2	7.6	DM. 2477	17 48.9	+50 25	8.0	83.3	52.6	88.8	17 50.0 + 50 24
7.1		DM. 3244	17 50.3	+40 27	8.3	87.1	42.6	89.6	17 51.7 + 40 26
~~7.3~~	7.7	~~DM. 2439~~	~~17 49.5~~	~~+40 29~~	~~8.4~~				~~DM. 17 50.2 + 40.4~~
6.6 6.5	6.9								
6.8 6.8	7.2	3082	18 13.3	+40 33	6.1	33.5	42.7	30.0	18 14.0 + 40 34
7.0	7.4	DM. 2549	18 11.9	+50 36	7.5	33.9	52.7	29.6	18 13.0 + 50 37
6.5 6.8	6.9								DM. 3011 8.1 + 41 7
6.8	7.2	3067	18 8.9	+41 8	6.6	31.7	42.6	29.3	18 9.5 + 41 8
7.0 7.2	7.4								
7.2	7.6	DM. 3295	18 3.5	+40 34	7.1	30.3	42.7	29.1	18 4.9 + 40 34
6.5 6.8	6.9	2							
6.8	7.2	DM. 3325	18 3.4	+50 49	6.5	30.8	52.8	29.5	18 4.5 + 50 49
7.0	7.4	DM. 2502	17 56.6	+50 56	8.0	88.2	52.7	89.1	17 57.7 + 50 56
4.7	5.1	2989	17 46.2	+50 50	5.2	84.8	52.7	89.5	DM. 3126 45.6 + 50 50
6.7		DM. 2365	18 18.8	+51 28	6.8	36.6	52.7	29.9	17 46.7 + 50 48
7.2 7.1	7.5								18 19.8 + 51 39
7.4 7.4	7.8	DM. 2362	18 18.1	+51 13	6.8	36.3	52.6	29.8	18 19.2 + 51 14
6.6 6.9	7.3								
6.8 7.0	7.5	3100	18 17.1	+51 18	6.3	36.3	52.7	30.3	18 17.6 + 51 18
4.5	4.9								
5.2	5.6	3009	17 53.8	+51 30	2.4	87.4	52.8	89.3	17 54.3 + 51 31
~~7.1~~	~~7.5~~	~~DM. 2233~~	~~17 33.2~~	~~+51 12~~	~~7.9~~				
7.1	7.5								
7.4	7.9	DM. 2234	17 33.3	+51 5	7.5	79.5	52.5	88.5	17 34.4 + 51 3
7.2	7.6	DM. 2887	17 37.3	+41 6	7.3	84.1	42.5	90.4	17 38.7 + 41 5
7.5	7.9	~~DM. 2233~~	~~17 33.2~~	~~+51 12~~	~~7.9~~				~~DM. 17 37.0 + 41.1~~

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F. m. tc. 7.0 6.5 F. ch. 7.3

September 7, 1887.

Plate 1367.

			Type	Lines	K	Focus	Other Lines.	V.	M.	V	M.	Correc				
10	√	22.5	9.2	II	a? 4407 2	K=H	1	seen	11.2	18.4	26.2	34.2	+ 1.2			
		22.0	15.2	I	4	N	1	—	11.0	30.4	26.4	22.2	- 0			6.7
	√	22.3	17.4	II	II? II 2 2	K=H K=H	1	—	11.2	30.8	26.2	28.8	- 0.1			6.8 6.7
		22.4	23.7	I	√ √	K=H	2	—	11.2	47.4	26.2	5.2	- 1.7			6.4
		21.5	6.7	III	b 4408 3	K=H	1	F seen	10.8	13.4	26.6	39.2	+ 1.7			6.2 6.1
		21.0	11.3	II	II? 2	K=H	1	—	10.5	22.6	26.9	30.0	+ 0.3			6.7
	√	21.1	13.6	I	8	K=½H	2	F	10.6	27.2	26.8	25.4	+ 0.1			6.1
		20.2	16.0	I	6 N		2	F	10.1	32.0	27.3	20.6	- 0.2			6.4
	?	19.8	17.7	III	b 4409 2	K=H	1	F? seen	9.9	35.4	27.5	17.3	- 0.7			6.7 7.0
	√	19.5	12.4	II	II? 2 2	K=H K=H	1	—	9.8	24.8	27.6	27.8	+ 0.3			7.0 7.1
	√	19.0	14.3	III	III? 2 2	K=H K=H	1	—	9.5	28.6	27.9	24.0	+ 0.1			7.3 7.2 7.5 7.8
	?	19.0	14.4	I	? 3 N		1	~	9.5	28.8	27.9	23.8	+ 0.1			6.5
	√	19.4	15.7	III	III? 2 2	K=H K=H	1	—	9.7	31.4	27.7	21.2	- 0.2			7.4 7.3 7.6 7.6
	√	19.9	16.7	I	I? I? 4 2	H K=H	1	—	10.0	33.4	27.4	19.2	- 0.4			7.7 7.7 7.4
		19.4	17.4	III	3	K=H	1	F	9.7	34.8	27.7	17.8	- 0.2			6.6 6.9
	?	18.6	6.0	I	d? 6 ?		3	F	9.3	12.0	28.1	40.6	+ 0.9			5.2
		18.0	6.4	II	2	K=H	1	—	9.0	12.8	28.4	39.8	+ 0.8			7.0
	√	18.2	8.2	III	? III 2 2	K=H	1	—	9.1	16.4	28.3	36.2	+ 1.6			7.2 7.1 7.5 7.4
	√	18.5	8.4	II	? II? 2 2	K=H K=H	1	—	9.2	16.8	28.2	35.8	+ 1.6 +0.7			7.2 7.2
		18.6	11.6	I	4	N	2	F	9.3	23.2	28.1	29.4	+ 0.4			6.2
	√	18.5	12.0	II	! IIa? 4409a 2 2	K=H K=H	1	—	9.2	24.0	28.2	28.6	+ 0.7			7.0 7.3
	√	18.0	13.4	II	IIa? 4409f 2 2	K=H	1	— seen	9.0	26.8	28.4	25.8	+ 0.4			7.0 7.2
		18.6	19.6	I	√ √	K=H	2	—	9.3	39.2	28.1	13.4	- 0.5			6.3
	√	18.4	20.7	III	III 2 2	K=H K=H	1	—	9.2	41.4	28.3	11.2	- 0.7			7.4 7.3 7.6 7.6
	√	17.7	10.4	II	II 2 3	K=H K=H	2	F? F	8.8	20.8	28.6	21.8	+ 1.1			6.4 6.6
	√	17.1	15.2	I	I? I? 4 4 III? 2 2	K=H K=H	1	—	8.6	31.4	28.8	21.2	- 0.1			7.2 7.4 7.0 7.0
		17.4	17.5	I	√ √	K=½H	3	F	8.7	35.4	28.7	17.2	- 0.7			5.5
	?	17.0	17.9	II	a 4410 2	K=H	1	F?	8.5	35.8	28.9	16.8	- 0.7			6.4

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Mean 5

37.4 52.6

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
		Dm.	3324	18 34.5	+26 0	6.9	52.9	37.2	51.7	18 36.3 +26 2
			3114	18 21.7	+26 23	6.9				Dm. 3259 20.9 +26 22
6.7	6.2		3115	18 21.9	+26 23	6.2	52.3	37.4	52.3	18 22.7 +26 23
		Dm.	3273	18 20.5	+26 9	7.1	51.3	37.4	51.4	18 21.3 +26 10
6.8 6.9	6.4		3114	18 21.7	+26 23	6.9	52.5	37.6	52.6	Dm. 18 20.5 +26.2
6.1	5.6		3049	18 3.0	+26 5	5.2	50.4	37.3	52.1	18 3.8 +26 5
6.4	5.9									Dm. 3349 20.2 +26 31
6.8	6.3		3177	18 41.2	+26 32	4.9	54.6	37.3	52.9	18 42.0 +26 34
6.9	6.4	Dm.	3560	18 29.4	+16 52	6.3	52.0	27.4	51.7	18 31.4 +16 54
										Dm. 3529 24.6 +16 50
6.1	5.6		3127	18 25.7	+16 51	5.7	52.9	27.4	52.8	18 26.6 +16 52
6.4	5.9	Dm.	3016	18 19.3	+27 19	6.5	51.2	37.4	51.4	18 21.0 +27 20
6.7	6.2									
7.0	6.5	Dm.	3003	18 15.1	+27 28	7.0	50.5	37.4	51.2	18 16.9 +27 29
7.0 7.1	6.6	Dm.	3627	18 27.4	+17 37	7.5	52.2	27.4	51.9	18 29.4 +17 39
7.3 7.2	6.7	Dm.	3598	18 23.2	+17 55	8.0	51.8	27.4	51.7	18 25.2 +17 57
7.5 7.5	7.0	Dm.	3595	18 23.0	+17 53	6.5				
6.5	6.0	Dm.	3595	18 23.0	+17 53	6.5	51.8	27.4	51.7	18 25.0 +17 55
7.4 7.3	6.8									
7.6 7.6	7.1	Dm.	3019	18 19.9	+27 37	8.2	51.3	37.3	51.5	18 21.7 +27 38
7.7 7.7	6.6									
7.4 6.9		Dm.	3010	18 17.7	+27 26	8.5	51.1	37.4	51.5	18 19.5 +27 27
6.6 6.9	6.1 6.4		3104	18 17.5	+17 46	5.5	52.3	27.5	52.5	18 18.4 +17 46
5.2	4.7		3178	18 41.7	+18 3	4.5	53.7	27.3	52.8	18 42.6 +18 4
		Dm.	3813	18 39.7	+18 20	9.2				18 41.7 +18 23
7.0	6.5	Dm.	3814	18 39.7	+18 20	6.9	52.5	27.3	51.7	18 41.7 +18 23
										Double star
7.2 7.1	6.6									
7.4 7.4	6.9	Dm.	3063	18 37.1	+28 10	7.3	53.5	37.3	51.9	18 38.9 +28 12
7.2 7.2	6.7	Dm.	3085	18 36.7	+27 59	7.5	53.5	37.2	51.9	18 38.5 +28 1
										Dm. 3740 28.8 +18 5
6.2	5.7		3135	18 29.9	+18 6	5.6	53.1	27.4	52.7	18 30.8 +18 7
7.0 7.3	6.8	Dm.	3021	18 28.4	+28 10	7.3	52.4	37.4	51.7	18 30.2 +28 12
7.0 7.2	6.7	Dm.	3013	18 25.4	+28 24	7.5	52.2	37.4	51.8	18 27.2 +28 26
										Dm. 3623 11.8 +18 5
6.3	5.8		3080	18 12.8	+18 5	6.0	52.0	27.4	52.5	18 13.8 +18 6
7.4 7.3	6.8									
7.6 7.6	7.1	Dm.	2960	18 8.5	+28 11	6.8	49.9	37.4	50.6	18 10.3 +28 12
		Dm.	3037	18 32.3	+28 30	7.0	53.1	37.3	52.0	18 34.1 +28 32
6.4 6.6	6.1	Dm.	3693	18 21.1	+18 39	7.7				18 32.2 +28 44
7.4 7.3	6.8									
6.8 7.0	7.0	Dm.	3684	18 19.9	+18 47	7.8	51.3	27.4	51.4	18 21.9 +18 48
5.5	5.0		3097	18 16.3	+28 49	5.0	51.7	37.5	52.4	18 17.1 +28 49
6.4	5.9	Dm.	2980	18 14.8	+28 55	7.0	50.6	37.4	51.3	18 16.6 +28 56

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September 7, 1887.

Plate 1367.

	τ	H	Type	No. Lines	K	Other Lines		V.	H.	V.	H.	Correc	
?	17.3	23.6	I	d? 8	1	4	F, sm	8.6	47.2	28.8	5.4	− 2.1	5.
	16.0	7.8	III	2	K=H	1	—	8.0	13.6	29.4	37.0	+ 0.8	7.
√	16.0	14.0	III	? 2	2	K=H K=H	1 —	8.0	28.0	29.4	28.6	+ 0.3	7.2 7.4
√	16.2	16.8	III	? 2	2	K=H K=H	1 —	8.1	33.6	29.3	19.0	− 0.5	7.1 7.
√	16.0	18.1	III	? 2	2	K=H K=H	1 F?	8.0	36.2	29.4	16.4	− 0.8	7.2 7.5
	16.5	20.4	II	a? 2	K=H		1 F, sm	8.2	40.8	29.2	11.8	− 1.4	6
√	15.0	6.8	III	2	K=H	K=H	1 —	7.5	13.6	29.9	39.0	+ 1.0	7.8 7.5
√	15.4	9.2	III	? 2	2	K=H K=H	1 —	7.7	18.4	29.7	34.2	+ 0.7	7.3 7.5
√	15.9	10.6	III	2	2	K=H K=H	1 —	8.0	21.2	29.4	31.4	+ 1.1	7.2 7.5
√	15.1	11.8	I	a 4	K=H K=H		1 sm —	7.6	23.6	29.8	29.0	+ 0.8	6.9 6.
√	15.5	12.0	III	2	2	K=H K=H	1 F?	7.8	24.0	29.6	28.6	+ 0.8	7.1 7.3
	15.5	15.5	I	8	K=H	2	2 F	7.8	31.0	29.6	21.6	− 0.1	5.
	15.4	17.7	I	8	K=H	2	2 F?	7.7	35.4	29.7	17.3	− 0.7	6.
	15.6	18.2	III	2	K=H		1 —	7.8	36.4	29.6	16.2	− 0.8	7.
√	15.4	21.8	II	? 2	2	K=H K=H	1 —	7.7	43.6	29.7	9.0	− 0.8	7.0 7.
?	14.0	6.7	II	a 3	K=H		3 F, sm.	7.0	13.4	30.4	39.2	+ 1.0	5.
√	14.0	7.9	III	? 2	2	K=H K=H	1 —	7.0	15.8	30.4	36.8	+ 2.0	7.3 7.5
√	14.4	9.0	III	3	2	K=H K=H	1 F —	7.2	18.0	30.2	34.6	+ 1.7	7.0 7.2
√	14.4	9.3	III	2	2	K=H K=H	1 F?	7.2	18.6	30.2	34.0	+ 1.7 0.8	7.4 7.6
√	14.0	9.7	III	3	2	K=H K=H	1 F	7.0	19.4	30.4	33.2	+ 0.7	7.1 7.3
	14.2	12.1	I	6	K=H	2	—	7.1	24.2	30.3	28.4	+ 0.4	6.
√	14.5	12.4	III	2	2	K=H K=H	1 —	7.2	24.8	30.2	27.8	+ 0.7	7.3 7.6
	14.0	12.6	I	9	N	3	3 F	7.0	23.2	30.4	28.4	+ 0.7	5.
√	14.4	16.4	III	? 2	2	K=H K=H	1 F?	7.2	32.8	30.2	19.8	− 0.4	7.3 7.
√	14.2	16.7	IIa	2	3	K=H	1 F sm	7.1	33.4	30.3	19.2	− 0.2	6.6 6.
√	14.9	22.5	II	? 2	2	K=H	1 —	7.4	45.4	30.0	7.2	− 2.1	7.1 7.2
?	14.7	23.9	I	d 6	;	2	2 F	7.4	47.8	30.0	4.8	− 1.1	5.
√	13.4	9.5	III	? 3	2	K=H	1 F —	6.7	19.0	30.7	33.6	+ 1.6	6.9 7.0

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Mean 5

Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	m.	r.	m'	Red. to 1900.
5.1	4.6	3048	18 2.9	+28 45	4.0	50.1	37.4	52.2	18 3.6 +28 45
7.2	6.7	Dm. 3763	18 36.9	+19 20	7.2	52.5	27.3	51.7	18 38.9 +19 22
7.2 7.2 7.4	6.7 6.9	Dm. 3269	18 23.6	+29 28	7.7	50.6	37.5	50.9	18 23.4 +29 30
7.1 7.3	6.8	Dm. 3247	18 17.5	+29 18	8.1	51.1	37.4	51.6	18 19.3 +29 19
7.2 7.3	6.8	Dm. 3237	18 14.5	+29 23	8.2	50.7	37.4	51.5	18 16.2 +29 24
7.5 7.6	7.1	~~Dm. 3236~~	~~18 14.3~~	~~+29 36~~	~~6.5~~				~~14.3 +29 3~~
6.9	6.4	Dm. 3213	18 9.1	+29 11	7.0	49.9	37.4	51.3	18 10.8 +29 12
7.3 7.5	6.8 7.0	Dm. 3779	18 39.3	+19 50	7.0	52.9	27.3	51.9	18 41.2 +19 53
7.3 7.5	6.8 7.1	Dm. 3741	18 34.0	+19 35	7.7	52.4	27.3	51.7	18 35.9 +19 37
7.2 7.5	6.8 7.1	Dm. 3302	18 31.9	+29 27	7.0	53.1	37.4	52.0	18 33.6 +29 29
6.9 6.8	6.3	Dm. 3293	18 29.1	+29 52	7.7	52.7	37.5	51.9	18 30.8 +29 54
7.1 7.3	6.6 6.9	Dm. 3291	18 28.7	+29 38	6.8	52.7	37.4	51.9	18 30.4 +29 40
5.9	5.4	3113	18 21.4	+29 46	5.8	52.4	37.6	52.5	18 22.1 +29 46
5.9	5.4	3096	18 16.3	+29 48	5.6	51.7	37.5	52.4	18 17.1 +29 48
7.1 7.4	6.6 6.9	Dm. 3236	18 14.3	+29 36	6.5	50.7	37.4	51.5	18 16.0 +29 37
7.0 7.2	6.7	~~Dm. 3298~~	~~18 5.8~~	~~+29 53~~	~~7.5~~				
		Dm. 3999	18 5.8	+29 39	7.7	49.4	37.3	52.2	18 7.3 +29 39
5.3	4.8	3171	18 40.5	+20 26	4.2	53.9	27.4	52.9	18 41.4 +20 27
7.3 7.5	6.8 7.1	~~Dm. 3305~~	~~18 36.6~~	~~+20 32~~	~~8.0~~				
7.0 7.2	6.7 6.9	Dm. 3281	18 38.2	+30 16	8.0	54.0	37.3	52.0	18 39.9 +30 18
7.2 7.4	6.9	Dm. 3271	18 35.7	+30 9	7.4	53.7	37.4	52.0	18 37.4 +30 11
7.4 7.3	6.8	Dm. 3264	18 34.9	+30 10	8.3	53.5	37.4	51.8	18 36.6 +30 12
7.6 7.6	7.1	~~Dm. 3236~~	~~18 33.6~~	~~+19 57~~	~~7.9~~				
7.1 7.2	6.7	Dm. 3879	18 33.0	+20 23	7.7	52.4	27.4	51.7	18 34.9 +20 25
7.3 7.5	7.0	~~Dm. 3255~~	~~18 33.1~~	~~+30 20~~	~~7.4~~				
6.3	5.8	Dm. 3847	18 28.1	+20 21	6.5	52.3	27.3	51.9	18 30.0 +20 23
7.3 7.6	6.8 7.1	Dm. 3226	18 27.7	+30 3	8.2	52.3	37.2	51.8	18 29.4 +30 5
5.7	5.2	3132	18 28.3	+30 28	5.4	53.3	37.5	52.8	18 29.0 +30 29
7.3 7.5	6.8 7.1	Dm. 3192	18 18.4	+30 13	8.0	51.2	37.4	51.6	18 20.1 +30 14
6.6 6.7	6.2	Dm. 3769	18 17.9	+20 22	6.7	51.3	27.5	51.5	18 19.8 +20 23
7.1 7.2	6.7	Dm. 3190	18 3.8	+29 56	7.2	49.2	37.3	51.3	18 5.5 +29 56
5.9	5.4	3053	18 3.7	+20 3	5.2	51.3	27.4	52.5	18 4.6 +20 1
6.9 7.0	6.5	Dm. 3261	18 34.4	+30 43	9.3 ?	53.4	37.4	51.8	18 36.1 +30 45
7.0 7.2	6.7	Dm. 3262	18 34.5	+30 44	6.3	53.5	37.4	51.9	18 36.2 +30 46

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Plate 1367.

	H	Type	No. Lines	K	Focus	Other Lines.	V.	H.	V.	H.	Correc	
	13,1	9,7				—	6.6	19.4	30.8	33.2	+ 0.7	
	13,9	11,1				—	7.0	22.2	30.4	30.4	+ 1.1	
	13,4	12,4					6.7	24.8	30.7	27.8	+ 0.7	
	13,5	13,7					6.8	27.4	30.6	25.2	+ 0.2	
	13,1	15,1					6.6	30.2	30.8	22.4	− 0	
	13,1	17,2				—	6.6	34.4	30.8	18.2	− 0.3	
III 5.9, 6.2	13,1	18,1				—	6.6	36.2	30.8	16.4	− 0.4	
	13,1	20,4					6.6	40.8	30.8	11.8	− 0.7	
	13,8	22,7					6.9	43.4	30.5	7.2	− 2.2	
	13,6	23,6					6.8	47.2	30.6	5.4	− 2.5	
	13,2	23,9					6.6	47.8	30.8	4.8	− 1.3	
	12,6	0,3				—	6.3	16.6	30.1	36.0	+ 1.8	
	12,6	10,1				—	6.3	20.2	31.1	32.4	+ 1.5	
	12,5	10,4				—	6.2	20.8	31.2	31.8	+ 1.4	
	12,3	10,9				—	6.2	21.8	31.2	30.8	+ 0.6	
	12,1	11,8				—	6.0	23.6	31.4	29.0	+ 0.4	
?	12,1	17,8					6.0	35.6	31.4	17.0	− 0.4	
	12,8	18,5				—	6.4	37.0	31.0	15.6	− 0.5	
III 6.5, 6.8.	12,2	21,4					6.1	42.8	31.3	9.8	− 1.8	
	12,8	23,1				—	6.4	46.2	31.0	6.4	~~− 2.4~~	
	11,5	6,2					5.8	12.4	31.6	40.2	+ 2.6	
	11,0	6,8					5.5	13.6	31.9	39.0	+ 1.2	
	11,2	7,9				—	5.6	15.8	31.8	36.8	+ 2.1	
	11,8	8,9				—	5.9	17.8	31.5	34.8	+ 1.8	
	11,8	9,4				—	5.9	18.8	31.5	33.8	+ 1.7	
	11,0	11,0				—	5.5	22.0	31.9	30.6	+ 0.6	
	11,4	13,9				—	5.7	27.8	31.7	24.8	+ 0.3	
?	11,8	16,9					5.9	33.8	31.5	18.8	− 0.3	

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Mean 5

Obs.	Br.	Br.	No.	R.A.	Dec.	Mag.	Hr.	r.	Hr'	Red. to 1900.
	7.2	7.3								
	7.3	7.5	Dm. 3880	18 33.1	+20 48	7.5	52.5	27.4	51.8	18 35.0 + 20 50
	7.2	7.3	Dm. 3246	18 31.0	+30 20	7.8				
	7.4	7.6	Dm. 3244	18 30.7	+30 29	7.0	52.9	37.5	51.8	18 32.4 + 30 31
			Dm. 3227	18 27.9	+30 47	7.5	52.7	37.5	52.0	18 29.8 + 30 49
	6.2	5.7	3132	18 28.3	+30 28	5.4	53.1	37.2	52.4	Dm. 18 27.9 + 30.8
	6.9	7.1								
	6.6		Dm. 3821	18 24.5	+20 44	6.8	51.9	27.5	51.7	18 26.4 + 20 46
	7.2	7.5								
	6.8									
	7.6	7.6	Dm. 3206	18 21.4	+30 53	6.8	51.6	37.5	51.6	18 23.1 + 30 54
	7.3	7.3								
	6.8									
	7.6	7.6	Dm. 3760	18 16.8	+20 54	7.3	51.2	27.5	51.3	18 18.7 + 20 55
	7.1									
	7.0	7.0								
	6.8									
	7.2	6.7	Dm. 3745	18 14.9	+20 52	7.5	51.1	27.5	51.3	18 16.8 + 20 53
	6.8	6.3								
	7.1	7.1	Dm. 3715	18 10.0	+20 60	7.6	50.8	27.6	51.3	18 11.9 + 21 1
	6.6									
	7.4	7.4								
	6.9									
	7.2	7.3	Dm. 3138	18 3.7	+30 26	7.2	49.1	37.3	51.3	18 5.4 + 30 26
	6.0	5.5								
			3047	18 2.5	+30 33	5.4	49.7	37.4	52.2	18 3.2 + 30 33
	5.1	4.6								
			3051	18 3.6	+20 49	4.5	51.4	27.4	52.7	18 4.4 + 20 48
	7.0	7.2								
	6.7									
	7.4	7.3	Dm. 3279	18 37.5	+30 60	8.0	54.1	37.3	52.3	18 39.2 + 31 2
	6.8		Dm. 3320	18 33.3	+31 3	8.5	53.4	37.3	51.9	18 34.9 + 31 5
	7.6	7.6	Dm. 3221	18 32.3	+31 20	8.0				
	7.1		Dm. 3313	18 32.5	+31 12	7.7				32.2 + 31.1
	7.1	7.3								
	6.8									
	7.6	7.7	Dm. 3313	18 32.5	+31 12	7.7	53.3	37.4	51.9	18 34.2 + 31 14
	7.2									
	7.8	7.2								
	6.7									
	7.6	7.5	Dm. 3495	18 30.6	+21 13	8.5	52.4	27.4	51.8	18 32.3 + 21 15
	7.0									
	6.7	6.8								
	6.3		Dm. 3483	18 28.6	+21 23	7.5	52.2	27.4	51.8	18 30.3 + 21 24
	6.6	6.1								
	7.0	7.3	Dm. 3400	18 15.7	+21 26	7.5	51.3	27.4	51.7	18 17.6 + 21 27
	6.8									
	7.6	7.1	Dm. 3388	18 14.1	+21 1	7.6	51.1	27.4	51.6	18 16.0 + 21 2
	6.5	6.0								
	7.0	6.5	3065	18 7.4	+31 22	4.9	50.2	37.5	52.0	18 8.2 + 31 22
										18 29 + 30.9
	7.1	6.6	Dm. 3133	18 2.7	+30 39	7.5	48.9	37.4	51.3	18 4.4 + 30 39
										Dm. 3349 42.5 + 31 36
	6.1	5.6								
			3184	18 43.5	+31 38	5.8	55.9	37.4	53.3	18 44.2 + 31 39
	6.7	6.2								
			Dm. 3550	18 39.4	+21 50	6.9	53.0	27.3	51.8	18 41.3 + 21 53
										Dm. 3348 38.4 + 31 47
	6.1	5.6								
			3160	18 39.4	+31 49	5.5	55.2	37.4	53.1	18 40.1 + 31 50
	6.2	5.7								
			Dm. 3232	18 36.2	+31 29	6.5	54.0	37.4	52.2	18 37.9 + 31 31
			Dm. 3224	18 34.7	+31 32	8.0				
	6.9	7.1								
	6.6		Dm. 3227	18 35.0	+31 30	7.7	53.8	37.4	52.1	18 36.7 + 31 32
	6.6	6.1								
			Dm. 3494	18 30.5	+21 59	6.9	52.3	27.3	51.9	18 32.4 + 22 1
	7.0	7.0	Dm. 3279	18 24.3	+31 45	8.2	52.1	37.3	51.8	18 26.0 + 31 47
	6.5									
	7.3	6.8	Dm. 3459	18 24.1	+21 46	7.8				24.4 + 31.8
	5.6	5.1								
	5.9	5.7								
			3107	18 18.6	+21 43	3.9	52.4	27.6	52.7	18 19.4 + 21 43

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September 7, 1887.

Plate 136.

			Type	Lines	K	Focus	Other lines.	M.	M.	N.	M. Correc.	
III? 6.3,6.7.	11.2	18.4	III	2	K=H	2	F?	35	36.8	31.8	15.8	− 0.5
	11.8	20.5	III	x2	K=H		—	5.9	41.0	31.5	11.6	− 1.6
	11.2	21.7	III	x2 2	K=H		—	5.6	43.4	31.8	9.2	− 1.9
	10.6	13.3	I	3	N K=H	1	—	5.3	26.6	32.1	26.0	+ 0.3
?	10.4	14.0	III	! 3	K=H	1	F,	5.2	28.0	32.2	24.6	− 2.8 + 0.3
	9.6	11.3	I	3 3	N	1	—	4.8	22.6	32.6	30.0	+ 0.7
	9.9	13.6	I	5	K=H K=H	1	—	5.0	27.2	32.4	25.4	+ 0.2
	9.8	16.0	III	a? x2	K=H		F? Rem	4.9	32.0	32.5	20.6	− 0.1
	9.4	17.4	II	? x2 2	K=H K=H	1	—	4.7	34.8	32.7	17.8	− 0.7
	9.5	18.3	I	4	N	1	—	4.8	36.6	22.6	16.0	− 0.5
	8.3	15.4	III	a? 3	K=H	4	F Rem	4.2	10.8	33.2	31.8	+ 3.2
	8.1	15.6	II	? 2 2	K=H K=H	1	—	4.0	11.2	33.4	41.4	+ 1.6
	8.0	17.3	II	a? 2 2	K=H K=H	1	F? Rem	4.0	14.6	33.4	38.0	+ 1.3
	8.4	11.1	I	9	N	3	F	4.2	22.2	33.2	30.4	+ 1.3
	8.0	11.5	III	? 3	K=H K=H	2 2	F F	4.0	23.0	33.4	29.6	+ 0.6
	8.1	12.8	III	x2 2	K=H	1	F	4.0	25.6	33.4	27.0	+ 0.4
	8.7	17.6	III	3	K=H	1	F	4.4	35.2	33.0	17.4	− 0.4
	8.2	21.4	I		N	2	F?	4.1	42.8	33.3	9.8	− 2.0
	7.5	15.7	II	? 2 2	K=H K=H	1	—	3.8	11.4	33.6	41.2	+ 3.2
	7.7	9.5	II? III?	x2 2	K=H	1	—	3.8	19.0	33.6	33.6	+ 1.8
	7.6	14.2	I	6	N	2	F	3.8	28.4	33.6	24.2	+ 0.1
	6.0	7.2	I	3 4	N K=H	1	—	3.0	14.4	34.4	38.2	+ 2.7
	6.6	7.4	III	x2 2	K=H	1	—	3.3	14.8	34.1	37.8	+ 2.7
	7.0	7.7	III	? x2 2	K=H	1	—	3.5	15.4	33.9	37.2	+ 2.5
	6.4	11.7	I	7	N	2	F	3.2	23.4	34.2	29.2	+ 1.2
	6.4	18.9	III	3	K=H	1	F	3.2	37.8	34.2	14.8	− 0.7
	7.0	7.6	I?	I? 2 3	? N	1	—	2.5	15.2	34.9	37.4	+ 2.7
	7.7	8.8	I	5	N	2	—	2.8	17.6	34.6	35.0	+ 2.2

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Mean 5

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Cor. Br.	Br.	No.	R.A.	Dec.	Mag.	M.	v	M'	Red to 1900.
6.5 7.0	6.0 6.5	3091	18 15.2	+ 21 55	4.8	52.0	27.5	52.3	18 16.1 + 21 55
7.2 7.4	6.7 6.9	Dm. 3211	18 8.7	+ 31 27	8.1	49.7	37.3	51.3	18 14.4 + 31 28
7.1 7.6	6.6 6.9	Dm. 3347	18 7.1	+ 21 51	7.0	50.3	27.4	51.4	18 9.0 + 21 51
6.8	6.3	Dm. 3143	18 25.7	+ 32 9	7.2	52.3	37.3	51.8	18 27.4 + 32 11
~~6.8~~	~~6.3~~	~~Dm. 3141~~	~~18 25.2~~	~~+ 32 33~~	~~7.7~~				~~25.8 + 32.1~~
~~7.0~~	~~6.5~~	~~Dm. 3137~~	~~18 24.2~~	~~+ 32 40~~	~~8.2~~	~~52.2~~	~~37.9~~	~~51.9~~	Dm. 3047 6.4+ 32 14
		3043	18 1.4	+ 32 14	6.0	49.4	37.4	52.2	18 2.1 + 32 14
7.0	6.5	Dm. 3417	18 29.8	+ 22 38	7.5 ?	52.4	27.4	51.7	18 31.7 + 22 40
		Dm. 3418	18 29.8	+ 22 38	7.5 ?		Double star		18 31.7 + 22 40
6.9	6.4	Dm. 3141	18 25.2	+ 32 33	7.7	52.4	37.6	51.9	18 26.9 + 32 35
6.4	5.9	Dm. 3358	18 19.4	+ 22 38	7.5	51.4	27.5	51.3	18 21.3 + 22 39
~~7.0~~	~~6.7~~	~~Dm. 3104~~	~~18 15.9~~	~~+ 32 50~~	~~7.3~~	50.7	37.5	51.4	18 17.6 + 32 51
7.2	6.7	~~Dm. 3106~~	~~18 16.0~~	~~+ 32 52~~	~~7.4~~				
6.4	5.9	Dm. 3337	18 14.6	+ 22 44	7.2	51.2	27.5	51.7	18 16.5 + 22 45
4.7	4.2	3193	18 46.6	+ 33 13	3.6	56.4	37.4	53.2	18 46.3 + 33 15
									Dm. 3461 42.2 + 23 21
6.7	6.5	3183	18 43.2	+ 23 23	6.0	54.4	27.4	52.8	18 44.1 + 23 24
									Dm. 3439 38.6 + 23 26
6.7	6.3	3161	18 39.6	+ 23 27	6.2	54.2	27.4	52.9	18 40.5 + 23 29
									Dm. 3154 31.3 + 33 21
6.6	6.1	3146	18 32.2	+ 33 22	5.3	54.4	37.6	53.1	18 32.9 + 33 23
6.6 6.8	6.0 6.4	3137	18 30.5	+ 23 31	5.8	53.5	27.5	52.9	18 31.4 + 23 31
7.0 7.3	6.6 7.0	3131	18 27.8	+ 23 32	6.0	53.4	27.5	53.0	18 28.6 + 23 33
6.6 7.1	6.1 6.6	3101	18 17.1	+ 23 14	5.7	52.3	27.6	52.7	18 18.0 + 23 14
6.1	5.6	3064	18 7.4	+ 33 26	5.9	50.2	37.5	52.2	Dm. 3044 6.5 + 33 26
		~~Dm. 3215~~	~~18 44.1~~	~~+ 33 32~~	~~7.5~~	55.3	37.3	52.3	18 8.1 + 33 26
7.0 7.1	6.6	~~Dm. 3209~~	~~18 43.4~~	~~+ 33 37~~	~~7.8~~				18 43.8 + 33 35
		~~Dm. 3189~~	~~18 42.2~~	~~+ 23 33~~	~~7.8~~				44.1 + 33.5
7.7 7.8	6.7 6.9	Dm. 3171	18 35.0	+ 33 33	7.3	54.0	37.4	52.2	18 36.6 + 33 35
5.9	5.4	3125	18 24.6	+ 23 47	5.7	53.0	27.6	52.9	18 25.5 + 23 48
6.8 6.9	6.4	Dm. 3310	18 40.6	+ 34 22	7.3	55.0	37.4	52.3	18 42.2 + 34 23
7.3 7.5	6.7 7.0	Dm. 3307	18 40.2	+ 34 4	7.9	55.0	37.4	52.3	18 41.8 + 34 7
7.2 7.4	6.7 7.0	Dm. 3190	18 39.8	+ 33 51	8.0 ?	54.6	37.3	52.1	18 40.8 + 33 54
		Dm. 3191	18 39.2	+ 33 52	8.6		37.4		18 40.8 + 33 53
5.9	5.4	3140	18 30.9	+ 34 21	5.9	54.3	37.6	53.1	18 31.6 + 34 23
6.5 7.1	6.0 6.6	3087	18 14.3	+ 24 24	5.5	52.1	27.6	52.8	18 15.1 + 24 24
6.9 7.0	6.4	Dm. 3302	18 39.9	+ 34 32	7.0	55.1	37.4	52.4	18 41.5 + 34 33
6.1	5.6	Dm. 3286	18 38.9	+ 34 36	8.5 ?	54.5	37.4	52.3	18 38.5 + 34 37
		Dm. 3285	18 36.9	+ 34 36	7.0				18 38.5 + 34 37

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Plate 1367.

r	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
?	5.9	14.9	I				3.0	29.8	34.4	22.8	+ 0	6
	15.0	17.8	II		F dem		2.5	33.6	34.9	17.0	− 0.5	6
	4.6	15.5	III ?	12 2	K=H		2.3	31.0	35.1	21.6	− 0.2	7.3 7.5
	3.2	6.8	I ?	2 3			1.6	13.6	35.8	39.0	+ 3.1	7.1 7.2
	3.6	11.9	I ? I ?	2 4 4	K=H		1.8	23.8	35.6	28.8	+ 1.2	7.2 7.4
III ?	5.9, 6.3.	? 3.1	17.8	III	4H24 3	K=H 1.2	2	F dem bright	1.6	35.6	35.8	17.0 − 1.0	6.2
		2.4	15.4	I	3	N			1.2	30.8	36.2	21.8 − 0.1	
		2.8	15.6	I ? I ?	2	K=H			1.4	31.3	36.0	11.4 − 0.2	6.7 6.8
		2.1	21.8	III	2	K=H			1.0	43.6	36.4	9.0 − 2.7	
		2.1	22.6	III	2	K=H			1.0	45.2	36.4	7.4 − 3.0	
		2.6	23.9	I	6	K=H	2	F	1.3	47.8	36.1	4.8 − 18	6.2

F. m. 9 c. F. ch.

8.0 6.7 Plate 1383. 6.7

20.0	7.6	I	8	K=.2H	3	F	10.0	15.2	47.5	96.4	+ 4.7	5.5
18.0	10.8	I ?	12 ?			F	9.0	21.6	48.5	90.0	+ 2.7	6.1
17.6	7.1	I	4	K=H	1	—	8.8	14.2	48.7	97.4	+ 7.9	6.3
17.0	15.9	III	12	K=H	1	—	8.5	31.8	49.0	79.8	− 1.1	7.0 7.5
17.6	19.9	I	6	N	1	—	8.8	39.8	48.7	71.8	− 3.3	6.7
17.8	22.0	I		K=.8H	1	—	8.9	44.0	48.6	67.6	− 7.2	6.8
16.2	7.9	I	7	K=.2H	3	F	8.1	15.8	49.4	95.8	+ 4.9	5.5
16.1	7.9	I	7	K=.2H	3	—	8.0	15.8	49.5	95.8	+ 4.9	5.5
16.4	15.6	I	8	K=.2H	3	F	8.2	31.2	49.3	80.4	− 0.5	5.7
15.5	20.5	I		N	1	—	7.8	41.0	49.7	70.6	+ 5.7	6.9
13.8	15.8	III	4H25 1	K=H	2	F dem	6.9	31.6	50.6	80.0	+ 9.9	6.4 6.8
13.6	9.8	I	4	N	2	—	6.8	19.6	50.7	92.0	+ 3.9	6.8
12.5	7.3	I		K=.5H	2	—	6.2	14.6	51.3	97.0	+ 5.7	6.6
12.1	15.5	III	12	K=H	1	—	6.0	31.0	51.5	80.6	+ 0.7	7.2 7.4
11.0	10.1	I	6	K=.2H	2	—	5.5	20.2	52.0	91.4	+ 5.5	6.0

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Mean 5

rec.	Br.	Br. corr.		No.	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900.
0	6.5	6.0	Dm.	3425	18	21.8	+24 36	6.8	51.6	27.6	51.6	18 23.6 +24 37
0.5	6.5	6.0	Dm.	3395	18	15.5	+24 60	7.5	51.1	27.5	51.6	18 17.3 +25 1
0.2	7.3 7.5 7.6	6.8 7.1	Dm.	3240	18	20.6	+35 16	7.2	51.6	37.6	51.8	18 22.2 +35 17
3.1	7.1 7.2	6.7	Dm.	3361	18	42.0	+35 43	7.3	55.6	37.3	53.3	18 43.6 +35 46
0.2	7.2 7.4	6.7 6.9	Dm.	3294	18	29.5	+35 41	7.2	53.3	37.5	53.1	18 31.1 +35 43
1.0	5.9 6.2	5.4 5.7		3093	18	15.7	+36 1	4.4	51.3	37.6	53.3	18 16.4 +36 1
0.1				3115	18	21.9	+26 23	6.2	52.7	27.6	53.8	18 22.7 +26 23
0.2	6.7 6.8	6.3	Dm.	3285	18	20.5	+26 9	7.1	51.7	27.6	51.9	18 22.3 +26 10
2.7				3061	18	5.8	+36 26	5.9	49.4	37.4	52.1	18 6.5 +36 26
3.0				3054	18	3.9	+36 23	5.6	49.1	37.4	52.1	18 4.6 +36 23
1.8	6.2	5.7		3049	18	3.0	+26 5	5.2	50.8	27.4	52.6	18 3.8 +26 5

Mean 7

4.7	5.2	4.5	*	3172	18	40.7	+37 28	5.9	55.9	47.3	51.2	18 41.3 +37 30
2.7	B.	B		3147	18	32.9	+38 40	0.2	54.5	47.7	51.8	18 33.6 +38 41
7.9	6.9	6.2		3190	18	45.1	+48 37	6.0	59.3	57.4	51.4	18 45.6 +48 39
1.1	7.0 7.5	6.3 6.8		3106	18	18.5	+49 4	5.1	50.3	57.6	51.3	18 19.0 +49 4
3.3	6.7	6.0		3073	18	9.1	+38 46	5.9	48.9	47.6	52.2	18 9.8 +38 45
7.2	6.8	6.1		3041	18	1.0	+48 28	R	45.0	57.4	52.2	18 0.5 +48 28
4.9	5.3	4.6		3169	18	40.4	+39 29	4.6	56.2	47.6	51.3	18 41.1 +39 30
4.9	5.3	4.6		3167	18	40.4	+39 33	4.6	56.2	47.6	51.3	18 41.1 +39 34
0.5	5.7	5.0		3110	18	20.3	+39 27	4.9	51.5	47.6	52.0	18 20.9 +39 27
5.7	6.9	6.2		3057	18	4.1	+49 41	6.3	45.1	57.5	50.8	18 4.6 +49 42
9.9	6.4 6.8	5.7 6.1		3214	18	30.3	+50 34	4.9	61.9	57.5	52.0	18 30.7 +50 33
3.9	6.8	6.1	Dm.	3446	18	34.9	+40 48	6.2	54.3	47.6	50.6	18 36.3 +40 50
5.7	6.6	5.9		3179	18	42.3	+41 19	5.7	56.9	47.5	51.2	18 43.0 +41 20
0.7	7.2 7.4	6.5 6.7	Dm.	3365	18	18.8	+51 28	6.8	49.8	57.5	50.5	18 19.8 +51 29
5.5	6.0	5.3		3155	18	37.2	+52 5	5.8	57.4	57.6	51.9	18 37.5 +52 6

* Spectra superimposed on plate. Meas. of br. combined light of both.

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Plate 1383.

r	R	Type	No. Lines	K	Focus	Other lines.	V.	M.	V.	M. Correc.	
11,2	12.5	I	3	N	1	—	5.6	25.0	51.9	86.6 + 2.9	6
11,0	18,6	I	7	N	3	—	5.5	37.2	52.0	74.4 - 2.7	5
?	11,8	23.4	III	1c HH26	3	K=2,0H;	1	F, Bright pseu.	5.9	46.8	51.6	64.8 - 9.6	4 5
?	10,8	12,0	III	1 HH27	3	K=H	1	F, pseu.	5.4	24.0	52.1	87.6 + 3.3	6 7
	10,6	15.4	I	?	4	K=H	1	—	5.3	30.8	52.2	80.8 - 0.5	7
	9.3	6.6	III		2	K=H	1	—	4.6	13.2	52.9	98.4 + 9.9	7
	9.4	8,1	I		2	N	2	—	4.7	16.2	52.8	95.4 + 8.3	6
✓	✓	9,0	10.9	I	? I 3	4	N	K=H	1	— —	4.5	21,8	53.0	89.8 + 3.3	6 7
		8.9	15.0	I		3	N		1	—	4.4	30.0	53.1	81.6 - 0	6
		8.4	21.4	III		3	K=H		2	F	4.2	42.8	53.3	68.8 - 5.3	6
		7.6	9.1	I			K=	H	2	—	3.8	18.2	53.7	93.4 + 7.1	6
		6.8	18.7	III		2	K=H		1	F ?	3.4	37.4	54.1	74.2 - 4.5	7
		4.4	9.5	I		7	~~K=H~~		3	F	2.2	19.0	53.3	92.6 + 7.2	5
		2.7	22.7	III		2	K=H		1	—	2.4	43.4	53.1	66.2 - 9.9	7

F. m. 8 c. F. ch.

8.0 7.0 Plate 1525 7.0

	18,0	9.4	III		2	K=H	1	—	9.0	18.8	13.6	53.2 + 0.4	7
	17.6	6.4	I		6	7	4	—	8.8	12.8	13.8	59.2 + 0.6	5
	17,5	9.6	III		2	K=H	1	—	8.8	19.2	13.8	52.8 + 0.4	7
?	15.3	9.2	III	1 HH28	2	K=H	1	F ?	7.6	18.4	15.0	53.6 + 0.4	6
✓	✓	13.5	13.9	III	?	2	2	K=H	K=H	1	—	6.8	27.8	15.8	44.2 + 0.1	7
		10.7	9.8	III	?	2	K=H		1	—	5.4	19.6	17.2	52.4 + 0.5	7
		11.4	22.7	I					1	—	5.7	43.4	16.9	26.6 - 0.7	6
		9.1	15.1	I		7	K=H		3	—	4.6	30.2	18.0	41.8 - 0	5
		8.9	20.7	I		4	N		1	—	4.4	41.4	18.2	30.6 - 0.7	6
		6.9	14.2	I			K=H		1	—	3.4	28.4	19.2	43.6 + 0.1	7
?		4.4	15.6	III	a ?	1 HH29	3	K=H		2 F	2.2	31.2	20.4	40.8 - 0.1	6
		2,6	12.6	I				N		1	—	1.3	23.2	21.3	46.8 + 0.4	6

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Mean 7

rec.	Br.	Br. Cor.	No.	R.A.	Dec.	Mag.	Th.	V.	Th'	Red. to 1900.
2.9	6.7	6.0	Dm. 2232	18 28.9	+ 52 1	6.5	53.9	57.6	51.0	18 29.9 + 52 3
.7	5.6	4.9	3079	18 11.9	+ 42 8	3.3	49.1	47.6	51.8	18 12.6 + 42 8
.6	4.5 5.0	3.8 4.3	3009	17 53.8	+ 51 30	2.4	100.6	57.4	110.2	17 54.3 + 51 31
2.3	6.7 7.2	6.0 6.5	3141	18 31.2	+ 52 15	5.4	55.2	57.6	51.9	18 31.6 + 52 16
0.5	7.2	6.5	Dm. 3074	18 19.8	+ 42 24	6.7	50.6	47.7	51.1	18 21.2 + 42 25
9	7.0 7.3	6.3 6.6	3205	18 48.9	+ 52 49	5.6	62.1	57.4	52.2	18 49.8 + 52 50
3.3	6.0	5.3	3187	18 44.0	+ 52 52	5.8	60.2	57.6	51.9	18 44.5 + 52 53 Dm. 3027 32.3 + 43
3.3	6971	6.4	3148	18 33.1	+ 43 8	6.2	54.9	47.6	51.6	18 33.7 + 43 8
0	6.5	5.8	Dm. 2079	18 21.7	+ 53 14	6.5	50.7	57.6	50.7	18 21.7 + 53 15
5.3	6.5 6.9	5.8 6.2	3055	18 4.0	+ 43 27	5.1	46.8	47.6	52.1	18 4.5 + 43 27 Dm. 2126 40.4 + 53
7.1	6.5	5.8	3175	18 40.9	+ 53 45	6.1	59.1	57.6	52.0	18 41.4 + 53 47
1.5	7.1 7.4	6.4 6.7	3066	18 8.1	+ 54 15	3.9	45.5	57.6	50.0	18 8.4 + 54 15
1.2	5.0	4.3	3166	18 40.3	+ 55 25	5.2	59.3	57.6	52.1	18 40.7 + 55 26
2.9	6.9 7.3	6.2 6.6	Dm. 1993	17 52.8	+ 35 60	6.5	98.2	57.4	108.4	17 53.7 + 36 0

Mean 12

0.4	7.2 7.5	6.0 6.3	3229	18 53.6	+ 13 28	5.2	72.4	22.5	72.0	18 54.5 + 13 30
0.6	5.1	3.9	3259	18 59.9	+ 13 41	3.1	72.7	22.5	72.1	19 0.8 + 13 43
0.4	7.3 7.5	6.1 6.3	Dm. 3838	18 52.1	+ 13 43	6.4	71.3	22.5	70.9	18 54.2 + 13 46
.04	6.7 7.0	5.5 5.8	3231	18 54.2	+ 14 54	4.1	72.6	22.5	72.2	18 55.1 + 14 56
0.1	7.3 7.5	6.1 6.3	Dm. 3583	18 43.2	+ 15 46	6.8	71.0	22.6	70.9	18 44.2 + 15 49 Dm. 3799 51.8 + 17
0.5	7.1	5.9	3227	18 52.9	+ 17 12	5.2	72.3	22.6	72.0	18 53.8 + 17 Dm. 3529 24.6 + 18
0.7	6.7	5.5	3127	18 25.7	+ 16 51	5.7	71.1	22.5	71.8	18 26.6 + 16 52
0	5.7	4.5	3178	18 41.7	+ 18 3	4.5	71.9	23.6	71.9	18 42.6 + 18 4 Dm. 3746 25.8 + 18
0.7	6.9	5.7	3135	18 29.9	+ 18 6	5.6	71.3	22.5	72.0	18 30.8 + 18 7 Dm. 3799 42.8 + 19
0.1	7.1	5.9	3185	18 43.6	+ 19 12	5.9	72.0	22.6	71.9	18 44.6 + 19 13
0.1	6.4	5.2	3171	18 40.5	+ 20 26	4.2	71.7	22.6	71.8	18 41.4 + 20 27
0.4	6.9	5.7	3197	18 47.1	+ 21 17	5.5	72.3	22.6	71.9	18 48.0 + 21 18

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F. m. & c. 7.8 5.8 F. ch. 6.1

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Plate 1445. Reject-

ν	H	Type	Lines	K	Focus	Other lines.	V.	M.	V.	M.	Correc.	
19.9	11.9	III	3	2	K=H	7	10.0	23.8	32.6	53.2	+ 1.5	7.
18.6	15.5	III !	2	K=H	1	—	9.3	31.0	33.3	46.0	− 0.3	7.
8.0	20.4	I	8	N	4	—	4.0	40.8	38.6	36.3	− 3.6	4.
6.2	17.5	I II !	2	K=H	1	—	3.1	35.0	39.5	42.0	− 1.8	7.

F. m. & c. 8.0 6.9 Plate 1500 F. ch. 6.9

18.8	12.9	III	2	K=H	1	—	9.4	25.8	47.9	70.6	+ 1.3	7.0
18.2	20.0	III !	2	K=H	1	—	9.1	40.0	48.2	36.4	− 3.1	7.
16.8	13.9	I	8	N	3	F	8.4	27.8	48.9	68.6	+ 0.7	5.
14.4	6.4	III	3	K=H	1	F	7.2	12.8	50.1	83.6	+ 9.1	6.
14.1	14.8	III ?	3	K=H	1		7.0	29.6	50.3	66.8	+ 0	7.
13.8	17.9	I a !	H 30 2	K=H	1	Fl. seen	6.9	35.8	50.4	60.6	− 3.0	7.
13.4	19.5	III	2	K=H	1	—	6.7	39.0	50.6	57.4	− 3.1	7.
11.6	8.8	I	6	K=.5H	2	F	5.8	17.6	51.5	78.8	+ 7.1	6.
11.8	21.9	III !	2	K=H	1	—	5.9	43.8	51.4	52.6	− 5.3	7.
13.8	20.0	I ?	½	K=H	1	—	6.9	40.0	50.4	56.4	− 5.4	7.
10.4	9.5	III	3	K=H	1	—	5.2	19.0	52.1	77.4	+ 6.1	7.
10.1	6.4	I !	4	K=H	1	—	5.0	12.2	52.3	84.2	+ 6.9	7.
8.6	12.7	I	H 31 3	K=H	2	F seen	4.3	23.4	53.0	71.0	+ 2.5	6.
8.3	16.2	I !	5	K=.5H	1	—	4.2	32.4	53.1	64.0	− 1.5	7.
8.5	21.9	III ?	2	K=H	1	—	4.4	43.4	52.9	53.0	− 7.9	7.
7.0	20.4	III	3	K=H	1	F	3.5	40.8	53.8	55.6	− 4.5	7.
12 4 ?	3.5	22.4	II ?	2	K=H	1		1.8	44.8	55.5	41.6	− 9.7	7.

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Measures on this plate in D.C.

Br.	No.	R.A.	Dec.	Mag.	Pa.	r	r'	Red. to 1900.
7.1	~~3232~~	~~18 54.5~~	~~+32 32~~	~~3.3~~	~~78.3~~	~~42.5~~	~~76.8~~	5 2 18 [illegible] +32 33
7.1 7.4	~~3193~~	~~18 45.6~~	~~+33 13~~	~~3.6~~	~~76.6~~	~~42.5~~	~~76.9~~	18 46.3 +33 15
4.6	~~3147~~	~~18 32.9~~	~~+38 40~~	~~4.2~~	~~73.7~~	~~42.7~~	~~77.3~~	~~18 33.6 +38 41~~
	~~3167~~	~~18 40.4~~	~~+39 33~~	~~4.6~~	~~75.4~~	~~42.7~~	~~77.2~~	~~18 41.1 +39 34~~
7.2	3169	18 40.4	+39 29	4.6	75.4	42.6	77.2	18 41.1 +39 30
7.0 7.4	3304	19 12.2	+37 55	4.3	38.0	47.3	36.7	19 12.9 +37 57
7.0 7.3	3230	18 53.9	+38 6	5.9	93.9	47.2	97.0	18 54.6 +38 7
5.9	3291	19 9.7	+38 56	4.5	37.5	47.3	36.8	19 10.4 +38 58
6.8 7.2	3293	19 33.2	+49 57	4.6	46.0	57.2	36.9	19 33.7 +50 0
7.2 7.6	Dm. 3620	19 6.6	+40 12	6.3	36.2	47.2	36.2	19 8.1 +40 16
7.0	3249	18 57.2	+50 22	5.4	93.0	57.3	96.0	18 57.7 +50 24
7.3 7.6	3235	18 54.8	+40 31	6.1	93.8	47.2	96.9	18 55.3 +40 33
6.3	3365	19 26.7	+51 28	3.9	44.3	57.3	37.2	19 27.2 +51 31
7.3 7.6	3201	18 48.3	+41 15	6.1	92.1	47.1	97.4	18 48.9 +41 16
	3214	18 50.3	+50 34	4.9	90.3	57.5	95.7	18 50.7 +50 36
7.2	~~3235~~	~~18 54.8~~	~~+40 31~~	6.1	94.8	47.4	98.5	[illegible]
7.3 7.6	3361	19 24.5	+52 5	5.7	43.5	57.3	37.4	19 25.0 +52 7
7.1	3382	19 30.8	+42 8	5.2	43.0	47.1	36.1	19 31.4 +42 11
6.7 7.0	3316	19 14.3	+53 9	3.9	39.7	57.5	37.2	19 14.8 +53 11
7.2	3268	19 2.2	+53 14	5.4	34.6	57.4	36.1	19 2.6 +53 14
7.3 7.6	3187	18 44.0	+52 52	5.8	87.4	57.3	95.3	18 44.5 +52 53
7.0 7.4	3224	18 51.7	+43 47	4.4	92.5	47.3	97.0	18 52.3 +43 49
7.0	3166	18 40.3	+55 25	5.2	85.1	57.2	94.8	18 40.7 +55 26

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1887phae.proj..844F

F. nw. 8 c. 8.0 6.7 — F. ch. 6.7

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Plate 155 d.

r	R	Type	Lines	K	Focus	Other lines		V.	H.	V.	H. Correc	
9 √0	22.6	12.1	I √	3	N	2	—	11.3	24.2	21.4	46.6	+ 0.4
	20.3	11.0	III	3	NK=H	2	F	10.2	22.0	22.5	48.8	+ 0.6
	18.0	9.9	I	6	N	4	F?	9.0	11.8	23.7	39.0	+ 0.6
	18.5	9.0	III ?	2	K=H	1	—	9.2	18.0	23.5	52.8	+ 0.4
	17.7	12.4	III ?	2	K=H	1	—	8.8	24.8	23.9	46.0	+ 0.2
	17.4	13.5	III √	x 2	NK=H	1	—	8.7	27.4	24.0	43.4	+ 0.3
	17.5	22.3	II	3	K=H	1	F—	8.8	44.6	23.9	26.2	− 1.3
?	17.6	8.7	III HH32 ?	3	K=H	2	F rem.	7.8	17.4	24.9	53.4	+ 0.5
	13.1	8.0	I √	4	N	2	—	6.6	16.0	26.1	54.8	+ 1.5
	13.2	17.3	III	x 2	NK=H	1	—	6.6	34.6	26.1	36.2	− 0.5
	12.4	14.9	III	3	K=H	1	F—	6.2	29.8	26.5	41.0	+ 0
	11.6	8.6	III ?	x 2	NK=H	1	—	5.8	17.2	26.9	53.6	+ 1.4
	11.6	22.2	I	4	N	1	—	5.8	44.4	28.9	26.4	− 0.7
	9.6	10.4	III √	2	K=H	1	—	4.8	20.8	27.9	50.0	+ 0.5
	9.5	14.7	I √	6	K=2H	3	—	4.8	29.4	27.9	41.4	+ 0
	9.2	20.2	I	4	N	1	—	4.6	40.4	28.1	30.4	− 0.6
	7.1	13.7	I √		N	1	—	3.6	27.4	28.1	43.4	+ 0.7
Grb. Dubl.	?	4.8	15.2	III a HH33	2	K=H	3	F? rem	2.4	30.4	30.3	40.4	− 0.
	?	4.6	20.3	I b HH34		?	2	rem.	2.3	40.6	30.4	30.2	− 1.5
		3.0	12.1	I √	4	N	2	—	1.5	24.2	31.2	46.6	+ 0.4
		2.2	13.9	III ?	2	K=H	1	—	1.1	27.8	31.6	43.0	+ 0.3

F. nw. 8 c. 8.0 6.4 — F. ch 6.4

Plate 155 f

	20.2	9.2	I	7	N	4	F?	10.1	18.4	42.5	51.9	+ 2.5
	20.4	13.0	I	5	N	1	—	10.2	26.0	42.4	44.3	+ 1.1
	19.6	10.0	III	2	K=H	1	—	9.8	20.0	42.8	50.3	+ 2.4
	19.8	13.0	I a HH35	3	K=H	1	F rem	9.9	26.0	42.7	44.3	+ 1.0
?	18.9	12.9	I b HH36		K=3H	4	rem.	9.4	25.8	43.2	44.5	+ 1.1

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Mean 10

Br.	Br. con.	No.	R.A.	Dec.	Mag.	M.	v.	M'	Red. to 1900.
		3197	18 47.1	+21 17	5.5	71.3	22.8	70.9	18 48.0 +21 18
6.5 7.0	5.5 6.0	3209	18 49.7	+22 30	4.6	71.7	32.7	71.1	18 50.5 +22 31
4.8	3.8	3259	18 59.9	+13 41	3.1	71.7	22.7	71.1	19 0.8 +13 43
7.2 7.4	6.2 6.4	3229	18 53.6	+13 28	5.2	71.6	22.7	71.2	18 54.5 +13 30
7.2	6.2	3194	18 46.5	+13 30	6.0	71.3	22.6	71.1	18 47.5 +13 31
7.2 7.6	6.2 6.6	DM 3465	18 42.9	+23 54	6.9	70.3	32.6	70.6	18 44.8 +23 57
6.8	5.8	3125	18 24.6	+23 47	5.7	78.2	32.6	70.5	18 25.5 +23 48
6.3 6.7	5.3 5.7	3231	18 54.2	+14 54	4.1	71.6	22.7	71.1	18 55.1 +14 56
6.4	5.4	3246	18 56.4	+26 7	5.5	72.4	32.7	70.9	18 57.2 +26 9
7.0 7.4	6.0 6.4	DM 3324	18 34.5	+26 0	6.9	69.1	32.6	69.7	18 36.3 +26 2
6.8 7.2	5.8 6.2	3177	18 41.2	+26 32	4.9	71.0	32.7	71.0	18 42.0 +26 34
7.2 7.5	6.2 6.5	DM 3421	18 54.1	+26 46	7.5	71.3	32.6	69.9	18 55.9 +26 50
6.8	5.8	3127	18 25.7	+16 51	5.7	70.1	22.6	70.8	18 26.6 +16 52
6.9 7.2	5.9 6.2	3220	18 50.8	+17 58	5.8	71.6	22.8	71.1	18 51.7 +17 59
5.1	4.1	3178	18 41.7	+18 3	4.5	71.1	22.8	71.1	18 42.6 +18 4
6.7	5.7	3135	18 29.9	+18 6	5.6	70.3	22.7	70.9	18 30.8 +18 7
6.7	5.7	3185	18 43.6	+19 13	5.9	71.0	22.8	70.8	18 44.6 +19 13
5.8	4.8	3171	18 40.5	+20 26	4.2	70.9	22.8	70.9	18 41.4 +20 27
6.4	5.4	3132	18 28.3	+30 28	5.4	68.9	32.8	70.4	18 29.0 +30 29
6.3	5.3	3197	18 47.1	+21 17	5.5	71.3	22.8	70.9	18 48.0 +21 18
		3184	18 43.5	+31 38	5.8	71.3	32.7	71.0	18 44.2 +31 39

Mean 12

4.7	3.5	3232	18 54.5	+32 32	3.3	72.9	42.6	70.4	18 55.2 +32 33
6.7	5.5	3192	18 45.4	+32 25	5.1	71.4	42.6	70.3	18 46.2 +32 26
6.9 7.3	5.7 6.1	3225	18 52.5	+32 47	5.3	72.5	42.6	70.1	18 53.3 +32 47
6.9	5.7	3191	18 45.3	+32 41	5.6	71.3	42.6	70.3	18 46.1 +32 42
4.8	3.6	3193	18 45.6	+33 13	3.6	71.4	42.6	70.3	18 46.3 +33 15

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September 14, 1887.

Plate 1551.

526.703

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
18.6	18.4	I	6	N	2	—	9.3	36.8	43.3	33.5	− 1.8
17.4	9.5	III	? x2	x K=H	1	—	8.7	19.0	43.9	51.3	+ 4.5
17.1	10.9	III	? 13	K=H	1	F	8.6	21.8	44.0	48.5	+ 3.5
16.5	18.9	I	? 4	N	1	—	8.2	37.8	44.4	32.5	− 2.1
? 16.0	16.0	I	? 3	N	1	cont.	8.0	32.0	44.6	38.3	− 0.6
13.3	5.9	I	2	N	2	—	6.6	11.8	46.0	58.5	+ 5.4
12.5	12.3	I	K=H	1	—		6.2	24.6	46.4	45.7	+ 1.7
12.4	13.8	I	3	N	1	—	6.2	27.6	46.4	42.7	+ 1.1
? 12.5	18.3	II	4H37 2	K=H	1	cont.	6.2	36.6	46.4	33.7	− 3.0
	11.1	8.9	I	7	K=H	3	F	6.6	17.8	47.0	52.5	+ 5.7
III 6.6, 7.0.	11.9	11.1	III	x 9	x K=H	1	F	6.0	22.2	46.6	48.1	+ 2.3
	11.8	11.4	I	4H34	N	2	—	5.9	22.8	46.7	47.5	+ 2.1
	10.6	15.0	I	9	K=2H	3	F	5.3	30.0	47.3	40.3	− 0
	9.1	9.7	I	N		2	—	4.6	19.4	48.0	50.9	+3.3
	8.9	16.6	III	? 2	K=H	1	F?	4.4	33.2	48.2	37.1	− 1.1
	8.4	17.9	I	? 12	?		F	4.2	35.8	48.4	34.5	− 1.9
	7.2	9.3	I	? 3	N	1	—	3.6	18.6	49.0	51.7	+ 3.9
	7.4	11.2	II	? 2	K=H	1	F?	3.7	22.4	48.9	47.9	+ 3.9
	7.6	13.4	I	3	N	1	—	3.8	26.8	48.8	43.5	+ 1.7
?	7.0	13.6	II	4H39 2	K=H	1	cont.	3.5	27.2	49.1	43.1	+ 1.5
	6.6	15.0	I	?	?	2	?	3.3	30.0	49.3	40.3	− 0
	6.5	15.0	I	?	?	2	?	3.2	30.0	49.4	40.3	− 0
	6.4	22.8	I	7	N	2	F	3.2	45.6	49.4	24.7	− 5.4
	4.0	9.6	I	6	N	2	—	2.0	19.2	50.6	51.1	+ 3.7
	3.8	11.8	III	2	K=H	2	F?	1.9	23.6	50.7	46.7	+ 3.5
?	3.9	16.8	I	x 3	N	1	cont.	2.0	33.6	50.6	36.7	− 1.3
	2.8	14.3	I	4	N	1	—	1.4	28.6	51.2	41.7	+ 0.6

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Mean 12

N 526

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	m.	r	m'	Red. to 1900
										Dm. 3154 31.3 + 33 21
6.6	5.4		3146	18 32.2	+33 22	5.3	69.0	42.7	70.8	18 32.9 + 33 23
7.3	6.1									Dm. 54.6 +43 35
7.5	6.3	Dm	3132	18 54.7	+43 31	7.0	73.7	52.3		18 56.1 + 43 35
6.6	5.4		3224	18 51.7	+43 47	4.4	73.5	52.4	70.0	18 52.3 + 43 49
6.8	5.6		~~3217~~	~~18 50.5~~	~~+33 49~~	~~6.0~~	~~72.3~~	~~42.4~~	~~70.2~~	
										Dm. 3240 30.0 + 34 20
7.0	5.8		3140	18 30.9	+34 21	5.9	68.7	42.6	70.8	18 31.6 + 34 22
7.1	5.9	Dm	3285	18 36.9	+34 36	7.0 D ?	68.9	42.6	69.5	18 38.3 + 34 38
			3286	18 36.9	+34 36	8.3			double star	18 38.3 + 34 38
6.2	5.0		3272	19 3.0	+35 55	5.2	14.8	42.5	9.4	19 3.7 + 35 56
6.6	5.4	Dm	3295	18 46.5	+36 22	6.3	71.1	42.6	69.4	18 48.1 + 36 25
6.9	5.7	Dm	2551	18 42.9	+46 9	6.1	70.5	52.4	71.6	18 44.2 + 46 12
7.0	5.8	Dm	2508	18 29.7	+46 6	6.3	66.3	52.3	69.3	18 31.0 + 46 8
5.8	4.6		3254	18 58.0	+46 47	5.0	75.8	52.4	70.1	18 58.6 + 46 47
6.7	5.5		3210	18 50.0	+36 45	4.5	72.2	42.8	69.9	18 51.0 + 36 47
7.1	5.9		~~3207~~	~~18 49.6~~	~~+36 49~~	~~5.3~~	~~71.8~~	~~42.8~~	~~69.5~~	H.P. 3210
			3207	18 49.6	+36 49	5.3	72.4	42.7	70.3	18 50.2 + 36 51
6.1	4.9		~~3210~~	~~18 50.0~~	~~+36 45~~	~~4.5~~	~~70.8~~	~~42.7~~	~~70.7~~	H.P. 3207
		*	3173	18 40.7	+37 28	5.9				18 41.3 + 37 30
5.3	4.1	*	~~3170~~	~~18 40.6~~	~~+37 29~~	~~4.3~~	~~70.6~~	~~42.8~~	~~70.6~~	18 41.3 + 37 30
										Dm. 3372 53.1 + 38 4
6.5	5.3		3230	18 53.9	+38 6	3.9	73.3	42.7	70.0	18 54.6 + 38 8
7.2	6.0									
7.4	6.2	Dm	3254	18 33.2	+38 14	7.2	68.4	42.6	69.5	18 36.7 + 38 16
R.	B.		3147	18 32.9	+38 40	0.2	68.7	42.9	70.6	18 33.6 + 38 42
7.0	5.8		3239	18 55.2	+39 3	6.2	73.8	42.6	69.9	18 55.9 + 39 5
6.9	5.7		3223	18 51.7	+48 43	5.9	74.1	52.4	70.2	18 52.1 + 48 44
6.8	5.6		3190	18 45.1	+48 37	6.0	71.9	52.4	70.2	18 45.6 + 48 39
									69.6	
7.2	6.0	Dm	2767	18 43.9	+48 55	6.3	71.1	52.4	~~72.6~~	18 43.1 + 48 38
5.5	4.3		3169	18 40.4	+39 29	4.6	70.4	42.8	70.4	18 41.1 + 39 30 ?
										18 41.1 + 39 30
5.5	4.3		3167	18 40.4	+39 33	4.6	70.4	42.8	70.4	18 41.1 + 39 34
										18 41.1 + 39 34
6.2	5.0		3110	18 20.3	+39 27	4.9	63.9	42.6	71.3	18 20.9 + 39 27
			~~3235~~	~~18 54.8~~	~~+40 31~~	~~6.1~~	~~74.0~~	~~42.5~~	~~70.1~~	Dm. 2778 56.6 + 50 20
5.9	4.7		3249	18 57.2	+50 22	5.4	76.4	52.4	70.7	18 57.7 + 50 24
6.5	5.3									
6.8	5.6		3214	18 50.3	+50 34	4.9	73.9	52.5	70.4	18 50.7 + 50 35
6.9	5.7	Dm	3446	18 34.9	+40 48	6.2	68.5	42.8	69.8	18 36.3 + 40 50
6.7	5.5		3179	18 42.3	+41 19	5.7	70.9	42.7	70.3	18 43.0 + 41 20

* spectra superimposed on plate. Measure of brightness is combined light of both

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F. m. & c. 8.0 7.2 F. ch. 7.2

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Plate 1542.

	r	H	Type	Lines	Fi	Focus	Other lines	V.	H.	V.	H.	Correc.
III? 6.3, 6.7 ?	19.4	8.0		3	K=H	2	F. diff	9.7	16.0	27.8	83.8	+ 1.6
	16.2	10.9			N	2	—	8.1	21.8	29.4	78.0	+ 1.0
	12.8	14.6			N	2	—	6.4	29.2	31.1	70.6	+ 0
	12.9	15.0		3	N	1	—	6.4	30.0	31.1	69.8	- 0
?	12.7	16.1		2	K=H	1	diff.	6.4	32.2	31.1	67.6	- 0.3
?	10.4	17.8		3	K=H	1	F diff.	5.2	35.6	32.3	64.2	- 0.9
	9.4	13.9		2	K=H	1	F	4.7	27.8	32.8	72.0	+ 0.2
	9.8	21.4			N	3	F	4.9	42.8	32.6	57.1	- 2.0
?	6.5	7.8		3	N	1	diff.	3.2	15.6	34.3	84.2	+ 2.5
?	3.3	17.7		2	K=H	1	diff.	1.6	35.4	35.9	64.4	- 1.0
?	2.9	10.2		2	K=H	1	diff.	1.4	20.4	36.1	79.4	+ 1.8
?	3.0	11.5		2	K=H	1	diff.	1.5	23.0	36.0	76.8	+ 0.7

F. m. & c. 8.0 7.1 F. ch. 7.1

Plate 1568.

	21.8	16.2			K=H	2	—	10.9	38.4 (2)	46.9	58.9	-1.2
	18.0	18.3		3	K=H		F	9.0	36.6	48.8	54.7	-3.3
	18.0	20.4		2	K=H	1	diff	9.0	40.8	48.8	50.5	-5.4
	16.1	12.7		2	K=H	1	F?	8.0	25.4	49.8	65.9	+2.4
	15.0	9.1		2	K=H	1	—	7.5	18.2	50.3	73.1	+6.0
	15.0	13.8		2	K=H	1	—	7.5	27.6	50.3	63.7	+1.3
	14.8	16.4		3	N	3	diff	7.4	32.8	50.4	58.5 (5)	-1.5
	14.3	18.6		3	K=H	2	F diff	7.2	37.2	50.6	58.1 (4)	-3.9
	12.3	7.2		8	K=H	4	F	6.2	14.4	51.6	76.9	+8.9
	11.0	8.0		4	N	1	—	5.5	16.0	52.3	75.3	+8.1
	10.9	22.5		4	N	1	—	5.4	45.0	52.4	46.3	-8.7
?	9.1	11.2		3	K=H	3	F? bright diff.	4.6	22.4	53.2	68.9	+4.5
	9.1	14.9		4	?	?	—	4.6	29.8	53.2	61.5	+ 0
	9.7	18.8	III?	3	K=H	1	F	5.0	37.6	52.8	53.7	-4.3

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v
31.5

Br.	Bv.	No.	R.A.	Dec.	Mag.	m.	v.	H.	Red to 1900.
6.2							7		
6.5		3362	19 25.9	+27 43	3.0	41.9	38.4	40.3	19 26.7 +27 43
6.7		3342	19 19.4	+29 23	4.9	41.2	37.5	40.2	19 20.2 +29 26
6.4		3300	19 11.1	+21 11	4.7	40.3	27.6	40.3	19 11.7 +21 13
7.2		3294	19 10.1	+21 1	5.8	40.1	27.4	40.1	19 11.0 +21 3
7.3		3282	19 7.2	+31 5	5.7	39.4	37.5	39.7	19 7.7 +31 7
7.0		3271	19 2.9	+32 18	4.9	38.5	37.5	39.4	19 3.7 +32 20
7.0		3308	19 12.7	+22 48	5.6	40.5	27.5	40.3	19 13.3 +22 51
5.1		3232	18 54.5	+32 32	3.3	97.3	37.4	99.3	18 55.2 +32 33
6.5		3366	19 27.4	+34 12	4.8	43.0	37.4	40.5	19 28.1 +34 14
6.9		3272	19 3.0	+35 55	5.2	38.4	37.5	39.4	19 3.7 +35 56
7.0		3352	19 21.8	+36 5	5.1	42.2	37.5	40.4	19 22.6 +36 7
7.0		3329	19 17.9	+26 2	5.0	40.9	27.5	40.2	19 18.7 +26 4

N. M.
57.8 91.3 Mean 9

6.5	5.6	3254	18 58.0	+46 47	5.0	90.4	57.7	91.6	18 58.6 +46 47
7.0	6.1	3223	18 51.7	+48 43	5.9	88.3	57.7	91.6	18 52.1 +48 44
7.1	6.2	3190	18 45.1	+48 37	6.0	85.9	57.6	91.3	18 45.6 +48 39
7.1	6.2	3288	19 9.0	+49 37	5.8	34.4	57.6	32.0	19 9.5 +49 39
7.0	6.1								+9 +49.9
7.2	6.3	Rm. 2994	19 19.6	+49 60	6.6	37.8	57.5	31.8	19 20.8 +50 5
7.3	6.4	Rm. 2734	19 4.9	+50 8	7.4	32.5	57.6	31.2	19 6.1 +50 12
									Rm. 2708 56.6 +50 20
5.7	4.8	3249	18 57.2	+50 22	5.4	90.0	57.8	91.5	18 57.7 +50 24
6.5	5.6								
6.9	6.0	3214	18 50.3	+50 34	4.9	87.5	57.8	91.4	18 50.7 +50 35
4.8	3.9	3365	19 26.7	+51 28	3.9	41.1	57.7	32.2	19 27.2 +51 31
6.3	5.4	3361	19 24.5	+52 5	5.7	40.5	57.6	32.4	19 25.0 +52 7
6.7	5.8	3155	18 37.2	+52 5	5.8	82.2	57.5	90.9	18 37.8 +52 6
5.7	4.8								
6.0	5.1	3316	19 14.3	+53 9	3.9	36.7	57.8	32.2	19 14.8 +53 11
5.9	5.0	3268	19 2.2	+53 14	5.4	32.0	57.8	32.0	19 2.6 +53 14
6.9	5.9								
7.1	6.3	3205	18 48.9	+52 49	5.6	86.5	57.8	90.8	18 49.3 +52 50

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Plate 1568.

57.8 91.3

r.	H	Type lines	K	Focus lines	Other lines	V.	H.	V.	H. Correc.
9.6	20.3	I ↓	3 ↓	N ↓	2	—	4.8	40.6	53.0	5 40.7 − 6.1
7.8	21.1	I ? ↓	4 ↓	K = H	1	—	3.9	42.2	53.9	49.1 − 7.5
7.1	10.6	I ↓	4 ↓	K = H	1	—	3.6	21.2	54.2	70.1 + 5.5
4.4 ↓	11.2 ↓	I ↓	4 ↓	N ↓	1	—	2.2	22.4	55.6	68.9 + 4.9
4.6	19.9	III ? ↓	x 2 ↓	N K ↓	H 1	—	2.3	31.8	55.5	39.5 − 1.2
4.6	21.0	I ↓	6 ↓	N ↓	2	—	2.3	42.0	55.5	49.3 − 7.8
2.2	12.9	III	2	K = H	1	—	1.1	25.8	56.7	63.5 + 2.9

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Mean 9

Bd.	Cou. Bd.	No.	R.A.	Dec.	Mag.	m.	r.	m'	Red. to 1900.
6.3	5.4	3187	18	44.0	+ 52 52	5.8	84.6	57.7	90.7	18 44.5 + 52 53
6.8	5.9	3175	18	40.9	+ 53 45	6.1	83.1	57.7	90.6	18 41.4 + 53 47
6.8	5.9	~~XM~~ 2123	19	16.4	+ 54 7	6.4	37.6	57.7	32.1	19 17.4 + 54 121
6.9	6.0		19		+					Not found on chart.
7.3	6.3									
7.4	6.5	3255	18	58.4	+ 55 29	5.7	90.3	57.8	91.4	18 58.8 + 55 31
5.8	4.9	3166	18	40.3	+ 55 25	5.2	82.3	57.7	90.1	18 40.7 + 55 26
-	-	3289	19	9.4	+ 56 39	5.2	33.2	57.7	32.3	~~18~~ 19 9.7 + 56 41

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F. sw. & c. 8.0 6.7 — F. ch. 6.7

September 22, 1887.

Plate 1622.

	V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
11 20	18,0	14.8	I !	3	N	1	—	9.0	29.6	28.4	61.9	+ 0	
	16,0	7.2	I b	HH51 2	N	2	rem	8.0	14.4	29.4	77.1	+ 2.0	
	17.0	17.9	I	4	N	1	—	8.5	11.8	29.9	79.7	+ 1.2	
	17.7	18.8	III ?	x 2	V K=H	1	—	7.8	37.6	29.6	53.9	− 0.4	
	14,6	6.3	III ?	2	K=H	1	—	7.3	~~29.2~~ 12.6	30.1	78.9	+ 1.1	
	14,6	7.1	III	x 2	V K=H	1	—	7.3	~~29.2~~ 14.2	30.1	77.3	+ 1.0	
	12,7	10.7	I	6	N	3	—	6.4	21.4	31.0	70.1	+ 0.6	
	12,9	11.1	I	3	N	1	—	6.4	22.2	31.0	69.3	+ 0.5	
	12.3	12,3	I	4	K=H	1	—	6.2	24.6	31.2	66.9	+ 0.4	
	12,8	12,6	I	3	N	1	—	6.4	25.2	31.0	66.3	+ 0.7	
	12,7	21.7	I	7	N	2	—	6.2	43.4	31.2	48.1	− 0.9	
	10.4	14.4	I	4	K=H	1	—	5.2	28.8	32.2	62.7	+ 0.2	
	10.1	17.8	I	11	N	2	I	5.0	35.6	32.4	55.9	− 0.9	
	10,0	20,7	III ?	2	K=H	2	F ?	5.0	41.0	32.4	50.5	− 0.8	
	10,1	21.7	III b	HH52 2	K=8H	2	—	5.0	43.4	32.4	48.1	− 2.0	
	9.4	10,0	III	3	K=H	2	F ?	4.7	28.0	32.7	71.5	+ 0.7	
	9,7	18,6	III a	HH53 ? 2	K=H	1	F ? rem	4.8	37.3	32.6	54.3	− 1.2	
	9,4	21.7	I !	3	N	1	—	4.7	43.4	32.7	48.1	− 2.1	
1 h. 7 ft.	8.6	21,7	III bc ?	HH54 2	K=H	3	Bright? rem	4.3	43.0	33.1	48.5	− 2.1	
	7.0	17.0	I		V K=V H	2	—	3.5	30.0	33.9	61.5	+ 0	
	3.4	14.4	I	4	N	2	—	1.7	28.8	35.7	62.7	+ 0.2	
	2.9	7.7	I		N	2	—	1.4	15.4	36.0	76.1	+ 1.5	
Str. dbl.	2,8	17.4	I ?	3	N	1	~~rem~~	1.4	34.8	36.0	56.7	− 0.5	
	2,6	6.7	I	3	N	1	—	1.3	13.4	36.1	78.1	+ 3.3	

F. sw. & c. 8.0 6.7 — F. ch. 6.7

Plate 1601.

	22.9	22.4	I		N	1	—	11.4	44.8	46.1	25.3	− 4.3	
	21.8	9.0	I	HH55 4	N	1	rem	10.9	18.0	46.6	52.1	+ 3.5	

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Mean 11

Cov. Br.	Cov. Br.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
7.1	6.0	3267	19 1.9	+28 26	5.5	31.5	37.6	31.5	19 2.7 +28 28
6.0	4.9	3342	19 19.4	+29 23	4.9	33.8	37.4	31.8	19 20.2 +29 26
6.7	5.6	3051	19 21.0	+19 52	5.4	32.8	37.4	31.6	19 21.9 +19 54
7.2	6.1	3228	18 53.5	+19 38	6.2	91.1	37.4	91.5	18 54.3 +19 39
7.5	6.4								
7.3	6.2	Dm. 4009	19 19.1	+19 60	6.6	31.7	27.3	30.6	19 21.1 +20 5
7.1	6.0	Dm. 4000	19 17.5	+19 59	6.5	31.7	27.3	30.7	19 19.5 +20 4
7.4	6.3								
5.4	4.3	3300	19 11.1	+21 11	4.7	32.5	27.6	31.9	19 11.9 +21 11
6.6	5.5	3294	19 10.1	+21 1	5.8	32.3	27.4	31.8	19 11.0 +21 3
6.9	5.8	3283	19 7.5	+21 21	5.8	32.1	27.6	31.7	19 8.3 +21 33
6.8	5.7	3282	19 7.2	+31 5	5.7	32.4	37.5	31.7	19 7.9 +31 7
5.8	4.7	3197	18 47.1	+21 17	5.5	90.5	27.5	91.4	18 48.0 +21 18
6.5	5.4	3271	19 2.9	+32 18	4.9	31.7	37.5	31.5	19 3.7 +32 20
4.2	3.1	3232	18 54.5	+32 32	3.3	90.1	37.5	91.0	18 55.2 +32 33
6.1	5.0								
6.4	5.3	3209	18 49.7	+22 30	4.6	90.7	27.5	91.5	18 50.5 +22 32
6.3	5.2	3192	18 45.4	+32 25	5.1	88.8	37.4	90.8	18 46.2 +32 26
6.3	5.2	3308	19 12.7	+22 48	5.6	32.7	27.5	32.0	19 13.5 +22 51
6.9	5.8	3225	18 52.5	+32 47	5.3	89.7	37.6	90.9	18 53.3 +32 47
6.9	5.8	3191	18 45.3	+32 41	5.6	88.7	37.4	90.8	18 46.1 +32 42
5.0	3.9	3193	18 45.6	+33 13	5.6	88.6	37.5	90.7	18 46.3 +33 15
6.6	5.5	3263	19 1.6	+24 4	5.6	31.6	27.6	31.6	19 1.9 +24 6
6.4	5.3	3272	19 3.0	+35 55	5.2	31.8	37.6	31.6	19 3.7 +35 56
6.3	5.2	3329	19 17.9	+26 2	5.0	33.3	27.4	31.8	19 18.7 +26 4
6.7	5.6	3246	18 56.4	+26 7	5.5	91.2	27.5	91.7	18 57.2 +26 9
6.5	5.4	3352	19 21.8	+36 5	5.1	33.2	37.4	31.9	19 22.6 +36 7

Mean 9

		3352	19 21.8	+36.5	5.1	66.6	47.5	70.9	19 22.6 +36 7
6.3	5.4	3479	19 55.5	+36 43	5.2	73.5	47.6	70.0	19 56.2 +36 46

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Plate 160.

H	H	Type	No. lines	K	Focus	Other lines	V.	M.	V.	M.	Correc.
21,8	12,1	III	!	x2	K=H	1	—	10.9	24.2	46.6	45.9	+2.5
20,2	11,8	III	2	K=H	1	—	10.1	23.6	47.4	46.5	+3.0
20,1	12,1	III	4456	x3	K=H	1	F	10.0	24.2	47.5	45.9	+2.7
19,1	10,7	I	N	3	—		9.6	21.4	47.9	48.7	+2.5
19,2	14,0	I	N	1	—		9.6	28.0	48.9	42.1	+0.6
18,9	9,2	III	x2	K=H	1	—	8.0	18.4	49.5	51.7	+6.0
18,4	10,3	I	N	2	—		7.7	20.6	49.8	49.5	+3.3
18,0	12,7	I	2	N	2	—	7.5	25.4	50.0	44.7	+1.7
18,1	18,3	III	2	K=H	1	—	7.6	30.6	49.9	39.7	−0.3
18,6	18,9	III	4457	K=H	1	Rem	7.8	31.8	49.7	38.3	−0.6
Grh = r HK	18,7	17,1	III	4458	2	K=H	3	Rem	7.8	34.2	49.7	35.9	−2.3
14,2	10,7	I	2	N	1	—	7.1	21.4	50.4	48.7	+4.5
13,8	17,6	III	2	K=H	1	F	6.8	35.2	50.7	34.9	−2.9
12,6	19,0	I	9	K=2H	4	F	6.3	38.0	51.2	32.1	−4.5
11,9	10,0	I	4	N	2	—	6.0	20.0	51.5	50.1	+3.5
11,4	11,1	I	7	K=2H	3	—	5.7	22.2	51.8	47.9	+4.5
11,2	18,4	I	6	N	2	—	5.6	36.8	51.9	33.3	−2.5
11,2	19,6	I	4	N	2	—	5.6	39.2	51.9	30.9	−5.3
10,2	12,6	III	x2	K=H	1	—	5.1	25.2	52.4	44.9	+2.7
10,6	16,7	I	N	2	—		5.3	33.4	52.2	36.7	−1.3
9,8	8,0	III	x2	K=H	1	—	4.8	16.0	52.7	54.1	+8.3
9,0	22,8	III	4459	K=H	3	F, Rem	4.5	45.0	53.0	25.1	−6.0
6,1	14,7	I	11	N	1	F	3.0	29.4	54.5	40.7	+0.1
6,2	16,0	III	?	x2	K=H	1	—	3.1	32.0	54.4	38.1	−1.2
6,8	17,6	III	x2	K=H	1	—	3.4	35.2	54.1	34.9	−2.3
5,3	16,0	I	4	K=H	2	—	2.6	32.0	54.9	38.1	−1.1
4,6	9,7	I	3	N	1	—	2.3	19.4	55.3	50.7	+4.5
Grh dll	2,8	6,4	I	?	?	3	F	1.4	12.8	56.1	57.3	+11.4

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Mean 9.

Cou. Br.	Cou. Br.	No.	R.A.	Dec.	Mag.	H.	V.	H'	Red. to 1900
6.6	5.7								
6.9	6.0	3442	19	48.4	+ 46 43	5.6	72.6	57.6 70.1	19 49.0 + 46 47
6.9	6.0								
7.2	6.3	DM. 2945	19	48.8	+ 47 27	6.8	72.4	57.5 69.4	19 50.1 + 47 34
6.7	5.8	3448	19	48.7	+ 47 39	5.8	72.9	57.6 70.2	19 49.2 + 47 41
5.7	4.8	3458	19	51.6	+ 38 10	4.7	73.0	47.8 70.5	19 52.3 + 38 13
6.8	5.9	DM. 3758	19	42.3	+ 38 3	6.1	70.3	47.6 69.7	19 43.9 + 38 9
7.0	6.1								
7.4	6.5	3486	19	38.0	+ 49 46	5.2	76.4	57.8 70.4	19 38.5 + 49 49
6.2	5.3	3464	19	53.1	+ 40 3	5.6	73.7	47.7 70.4	19 53.7 + 40 6
6.8	5.4	3437	19	46.5	+ 40 18	5.5	71.9	47.8 70.2	19 47.2 + 40 20
6.8	5.9								19 39.1 + 50 18
7.1	6.2	3410	19	38.7	+ 50 {14 15	5.5	69.3	57.8 69.6	19 39.2 + 50 17
7.0	6.1	3408	19	37.9	+ 39 58	6.1	69.7	47.8 70.3	19 38.3 + 39 1
		3393	19	33.2	+ 49 57	4.6	67.4	47.8 69.7	19 33.7 + 50 0
		~~3395~~	~~19~~	~~33.6~~	~~+ 49 56~~	~~Var.~~	~~67.8~~	~~57.7 70.1~~	19
5.3	4.4								
7.0	6.1	3465	19	53.4	+ 50 35	6.3	74.8	57.7 70.3	19 54.0 + 50 38
6.7	5.8								
6.9	6.0	3384	19	31.2	+ 50 59	5.6	66.4	57.8 69.3	19 31.8 + 51 1
4.4	3.5	3365	19	26.7	+ 51 28	3.9	64.7	57.8 69.2	19 27.2 + 51 31
6.4	5.5	3480	19	36.1	+ 51 44	6.0	76.1	57.7 70.6	19 36.6 + 51 47
5.4	4.5	3463	19	32.5	+ 52 7	4.8	74.7	57.8 70.2	19 33.1 + 52 11
5.9	5.0	3382	19	30.8	+ 42 8	5.2	67.6	47.7 70.1	19 31.4 + 42 11
6.2	5.3	3361	19	24.5	+ 52 5	5.7	63.7	57.7 ~~69.0~~ 71.0	19 23.0 + 52 7
6.8	5.9								
7.3	6.4	3440	19	47.6	+ 52 41	5.0	72.8	57.8 70.1	19 48.2 + 52 45
5.8	4.9	3401	19	35.6	+ 42 32	5.3	69.0	47.8 70.3	19 36.2 + 42 35
7.0	6.1								
7.8	6.4	3509	19 20	3.1	+ 52 49	5.7	19.1	-57.6 10.8	19 20 3.6 + 52 51
5.4	4.5	3316	19	14.3	+ 53 9	3.9	59.3	57.7 68.2	19 14.8 + 53 11
5.8	4.9	~~3446~~	~~19~~	~~20.0~~	~~+ 48 9~~	~~6.0~~	~~65.2~~	~~47.7 71.2~~	H.P. 3316
4.0	3.1	3419	19	41.2	+ 44 50	3.0	70.6	47.8 70.5	19 41.7 + 44 53
7.0	6.1								
7.3	6.4	3404	19	36.1	+ 54 41	5.7	67.1	57.8 68.3	19 36.4 + 54 44
6.8	5.9								
7.2	6.3	3392	19	32.9	+ 44 26	5.2	68.1	47.8 70.4	19 33.6 + 44 29
6.2	5.3	3407	19	37.2	+ 45 14	5.1	69.2	47.8 70.3	19 37.7 + 45 17
6.9	6.6	3478	19	55.5	+ 45 27	5.7	74.9	47.7 70.4	19 56.2 + 45 30
5.6	4.7	3532	20	10.6	+ 56 12	4.4	2 3.4	57.6 1 2.0 ~~2.2.0~~	20 11.1 + 56 16

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Plate 1601.

V	H	Type	No. lines	K	Focus	Other lines	V. M.	V. M.	Correc.	B
2.7	11.1	I	3	N	1	—	1.4	22.2	56.1 47.9	+ 5.3	6.
6.9	21.6	I ?	2	N	1	—	3.4	43.2	54.1 26.9	- 8.3	7.

F. m. t c. F. ch.

8.0 6.9 Plate 1569. 6.9

21.5	16.0	I		V	K=H	2	—	10.8	32.0	46.8	59.4	- 11
21.4	19.4	III	x 2		K=H	1	—	10.7	38.8	46.9	52.6	- 2.5
21.2	19.7	I II ?	2		K=H	2	—	10.6	39.4	47.0	52.0	- 2.7
22.0	20.6	III	2		K=H	1	—	11.0	41.2	46.6	50.2	- 3.3
19.2	10.8	III	x 2		K=H		Fl	9.6	20.6	48.0	69.8 70.8	+ 2.3
19.9	23.1	I		V	K=H	2	—	10.0	46.2	47.6	45.2	- 3.1
18.8	17.9	I		H	N	1	—	9.4	35.8	48.2	55.6	- 1.9
17.4	11.8	I	h ?	9	N	3	Fl	8.7	23.6	48.9	67.8	+ 2.3
17.6	18.1	III	x 2		K=H	1	—	8.8	36.2	48.8	55.2	- 3.0
17.0	17.4	I	?	2	K=H	1	—	8.5	34.8	48.1	56.6	- 1.7
16.0	23.0	I		4	N	2	—	8.0	46.0	49.6	45.4	- 5.5
15.8	23.0	I		4	N	2	—	7.9	46.0	49.7	45.4	- 5.5
14.7	8.9	III		2	K=H	1	—	7.4	17.8	50.2	73.6	+ 6.3
14.7	12.7	I		4	K=H	1	—	7.4	25.4	50.2	66.0	+ 1.7
14.5	16.2	I		V	N	2	—	7.2	32.4	50.4	59.0	- 1.3
14.1	17.4	I		4	N	1	—	7.0	34.8	50.6	56.6	- 1.8
14.0	18.4	III		2	K=H	2	Fl	7.0	36.8	50.6	54.6	- 3.7
12.8	14.7	III	?	2	K=H	1	—	6.4	29.4	51.2	62.0	+ 0.3
12.4	18.9	III	x 2		K=H	1	—	6.2	37.8	51.4	53.6	- 2.9
12.6	19.9	I		3	N	1	—	6.3	39.8	51.3	51.6	- 3.7
12.4	22.1	I		4	N	1	—	6.2	44.2	51.4	48.2	- 5.4
11.9	7.1	I		8	K=1/2 4	3	—	6.0	14.2	51.6	77.2	+ 9.0
10.7	7.9	I		4	N	1	—	5.4	15.8	52.2	73.6	+ 8.3
10.8	22.3	I	?	3	N	1	—	5.4	44.6	52.3	46.8	- 8.4

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Mean 9

Br.	Br.		No.	R. A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
6.7	5.8		3469	19 53.8	+36 23	6.1	76.0	57.8	70.8	19 54.2 +36 23
7.0	6.1	Sw.	2123	19 16.4	+54 7	6.4	59.6	57.5	67.9	19 17.4 +54 12

Mean 10

6.5	5.5		3254	18 58.0	+46 47	5.0	90.0	57.6	91.1	18 58.6 +46 47
7.0 / 7.4	6.0 / 6.4		3210	18 50.0	+36 45	4.5	88.8	47.5	91.3	18 51.0 +36 47
6.7	5.7		3207	18 49.6	+36 49	5.3	89.0	47.4	91.7	18 50.2 +36 51
7.2 / 7.6	6.2 / 6.6	Sw.	3295	18 46.5	+36 22	6.3	87.7	47.4	91.0	18 48.1 +36 25
6.8 / 7.1	5.8 / 6.1		3304	19 12.2	+37 55	4.3	33.8	47.5	31.3	19 12.9 +37 57
5.4	4.4	*	~~3172~~	~~18 40.6~~	~~+37 29~~	~~4.3~~	~~86.8~~	~~47.5~~	~~91.9~~	~~18 41.3 + 37 30~~
		*	3173	18 40.7	+37 28	5.9	86.9	47.5	92.0	18 41.3 + 37 30 ?
6.7	5.7		3230	18 53.9	+38 6	5.9	89.7	47.5	91.6	18 54.6 +38 7
5.3	4.3		3291	19 9.7	+38 56	4.5	33.3	47.6	31.0	19 10.4 +38 58
7.1 / 7.4	6.1 / 6.4		3223	18 51.7	+48 43	5.9	87.9	57.5	90.9	18 52.1 +48 44
7.0	6.0		3239	18 55.2	+39 3	6.2	90.0	47.5	91.7	18 55.9 +39 5
5.3	4.3		3169-70	18 40.4	+39 29	4.6	86.4	47.5	91.9	18 41.1 +39 30 ?
5.3	4.3		3167-68	18 40.4	+39 33	4.6	86.4	47.5	91.9	18 41.1 +39 34 ?
7.2 / 7.5	6.2 / 6.5	Sw.	2994	19 19.6	+49 60	6.6	37.4	57.4	31.1	19 20.8 +50 5
6.6	5.6	Sw.	3620	19 6.6	+40 12	6.3	32.0	47.6	31.7	19 8.1 +40 16
6.0	5.0		3249	18 57.2	+50 22	5.4	89.4	57.6	90.7	18 57.7 +50 24
6.6	5.6		3235	18 54.8	+40 31	6.1	89.6	57.5	91.4	18 55.5 +40 33
6.6 / 6.9	5.6 / 5.9		3214	18 50.3	+50 34	4.9	87.1	57.6	90.8	18 50.7 +50 35
6.9	5.9		3269	19 2.4	+41 14	6.0	31.8	47.6	31.5	19 3.1 +41 16
7.2 / 7.5	6.2 / 6.5		3221	18 51.0	+41 27	5.4	88.8	48.6	91.7	18 51.7 +41 29
6.8	5.8		3201	18 48.3	+41 15	6.1	88.1	47.5	91.8	18 48.9 +41 16
6.7	5.7		3179	18 42.3	+41 19	5.7	86.5	47.5	91.9	18 43.0 +41 20
5.0	4.0		3365	19 26.7	+51 28	3.9	40.9	57.5	31.9	19 27.2 +51 31
6.6	5.6		3361	19 24.5	+52 5	5.7	40.3	57.5	32.0	19 25.0 +52 7
6.7	5.7		3155	18 37.2	+52 5	5.8	81.8	57.5	90.2	18 37.5 +52 6

* Spectra superimposed on plate. Mean of brightness combined light of both.

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September 22, 1887.

Plate 15 69.

			No. Lines	K	Focus	Other Lines					Correc.	
9.0	11.1	III	1 HHK	H	2	F seen	4.5	22.2	53.1	69.2	+ 4.5	
9.5	18.7	III	2	K=H	1	—	4.8	37.4	52.8	54.0	− 4.2	
9.4	20.1	II	? 2	K=H	2	F?	4.7	40.2	52.9	51.2	− 6.0	
8.9	14.7	II	6	K=2H	2	—	4.4	29.4	53.2	62.1	+ 0.5	
7.8	15.3	III	? 12	NK=H	1	—	3.9	30.6	53.7	60.8	− 0.1	
7.8	18.5	III	13	K=H	1	F	3.9	37.0	53.7	54.4	− 2.9	
7.5	20.9	I	? 2	N	1	—	3.8	41.8	53.8	49.6	− 7.2	
4.3	20.9	I	V	N	2	—	2.2	41.8	55.4	49.6	− 7.5	
2.0	12.8	III	12	NK=H	1	—	1.0	23.6	56.6	65.8	+ 3.0	
12 20	1.8	16.2	I	3	N	2	—	9	32.4	56.7	59.0	− 1.2

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Mean 10

Cor Br.	Cor Bv	No.	R.A.	Dec.	Mag	m. v.	m'	Red to 1900.
5.8 6.0	+8 5.0	3316	19 14.3	+53 9	3.9	36.5	57.7 32.0	19 14.8 + 53 11
6.9 7.2	5.9 6.2	3205	18 48.9	+52 49	5.6	86.3	57.6 90.5	18 49.[illegible] + 52 56
6.7	5.7	3187	18 44.0	+52 52	5.8	84.2	57.6 90.2	18 44.5 + 52 [illegible]
6.1	5.1	3268	19 2.2	+53 14	5.4	21.6	57.6 21.1	19 2.6 + 53 14
7.2 7.5	6.2 6.5	3148 Dm.	19 39.8	+43 39	6.8	90.4	47.5 90.5	19 1.2 + 43 43
6.7 7.0	5.7 6.0	3224	18 51.7	+43 47	4.4	88.7	47.7 91.6	18 52.3 + 43 49 Dm. 2126 18 40.4 + 53 44
7.1	6.1	3175	18 40.9	+53 45	6.1	82.7	57.6 89.9	18 41.4 + 53 47
5.8	4.8	3166	18 40.3	+55 25	5.2	82.1	57.6 89.6	18 40.7 + 55 26
—	—	3289	19 9.4	+56 39	5.2	35.0	57.6 32.0	19 9.7 + 56 41
—	—	3254	18 58.0	+46 47	5.0	90.4	47.7 91.6	18 58.6 + 46 47

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Dark plate. Very hard to measure.

F. m. 7c. 5.5 5.3

F. ch. 7.4

September 24th 1887.

Plate 1421.

37.6 102.9

T	H	Type	Nos. lines	K	Focus	Other lines.	V.	m.	V.	m.	Correc.	
11 V0	22.V	22.2	I? 6	K=H	2	—	11.2	44.4	26.4	58.5	-1.5	
	21.V	12.2	I		1	—	10.8	24.4	26.8	78.5	+0.6	3
	21.V	15.6	III 2 2	K=H	1	—	10.8	31.2	26.8	71.7	-0.1	7.2 7.5
	21.7	17.7	II 2	K=H	1	—	10.8	35.4	26.8	67.5	-0.2	
	21.V	19.9	III 2	K=H	1	—	10.8	39.8	26.8	63.1	-0.4	
	20.V	15.6	III? 3		1	F?	10.2	31.2	27.4	71.7	-0.1	
4H=2 H	19.V	9.2	II a HH6 2 3	K=H	3	F. prec.	9.8	18.4	27.8	84.5	+1.3	
	19.2	12.0	II! 2	K=H	1	—	9.6	24.0	28.0	78.9	+0.7	
	19.V	15.6	III 2	K=H	1	—	9.8	31.2	27.8	71.7	-0.2	
	19.4	16.1	III 2	K=H	1	—	9.7	32.2	27.9	70.7	-0.3	
3H=V+H+K	18.1	19.7	III a ?HH6 3 1 3	K=H	2	F prec.	9.0	39.4	28.6	63.5	-1.1	
	18.4	22.0	III 1 2 2	K=H	1	—	9.2	44.0	28.4	58.9	-1.7	7.2 7.5
	17.0	16.9	II? 2	K=H	1	—	8.5	33.8	29.1	69.1	-0.5	
	16.7	6.V	II? 1 3	K=H	1	F	8.4	13.0	29.2	89.9	+2.2	
	16.V	7.V	I? 3		2	F?	8.2	13.0	29.4	87.9	+1.9	
3 prob. H=K	16.3	12.1	I a ?HH6 3	K=H	3	F. prec.	8.2	24.2	29.4	78.7	+0.7	
	16.2	14.9	VI? 2	K=H	1	—	8.1	29.8	29.5	73.1	+0	
	16.2	22.0	III 2	K=H	1	—	8.1	44.0	29.5	58.9	-0.8	
	15.9	X7.4	I? 6 7	K=H	2	F?	8.0	24.8	29.6	68.1	+0.9	
	15.3	11.4	I 2		2	—	7.6	22.8	30.0	80.1	+0.4	
	15.9	11.7	III 1 3	K=H	1	F	8.0	23.4	29.6	79.5	+0.4	
	15.0	11.X	I? 4	K=H	1	—	7.5	22.2 ~~23.4~~	30.1	80.7 ~~88.5~~	+0.6 ~~+0.4~~	
4H=V+H+K	14.9	9.9	I 1 I? 1 H	K=H	1	~	7.4	19.8	30.2	83.1	+0.7	
	14.9	10.6	I? 3		1	—	7.4	21.2	30.2	81.7	+0.6	
	14.9	11.8	I 3		1	—	7.4	23.6	30.2	89.3	+0.4	
	14.9	12.V	I? 3		1	—	7.4	25.0	30.2	77.9	+0.3	
	15.0	16.4	III? 2	K=H	1	—	7.5	32.8	30.1	70.1	+0.2	
	14.3	18.4	I? 3		1	—	7.2	36.8	30.4	66.1	+0.1	

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Mean 10

Cor. Bd.	Cor. Br.	No.	R. A.	Dec.	Mag.	M.	v.	m'	Red to 1905
									Am. 3129 18 55.4 + 26 5
		3246	18 56.4	+ 26 7	5.5	100.8	37.3	102.3	18 57.2 + 26 9
7.2	6.2	3337	19 19.0	+ 16 43	6.0	43.4	27.5	43.1	19 19.8 + 16 45
		3338	19 19.4	+ 16 43	6.6	43.8	27.4	43.5	
7.2 7.2	6.2								
7.5 7.6	6.6	Am. 3504	19 10.3	+ 26 36	7.5	41.5	37.4	41.6	19 12.1 + 26 41
7.1	6.1	Am. 3775	19 6.1	+ 16 36	7.0	41.5	27.4	41.6	19 8.1 + 16 40
7.3	6.3	Am. 3758	19 2.2	+ 16 38	6.5				Am. 3752 19 1.5 + 16 39
7.6	6.6	3266	19 1.6	+ 16 41	5.9	41.4	27.5	41.8	19 3.5 + 16 43
6.8	5.8								Am. 3313 19 10.1 + 27 12
7.0	6.0	3299	19 11.1	+ 27 15	6.3	42.3	37.4	42.4	19 11.9 + 27 17
									19 26.7 + 27 45
5.5	4.5	3362	19 25.9	+ 27 43	3.0	44.3	37.5	43.0	19 26.7 + 27 45
6.9	5.9	Am. 3379	19 18.6	+ 27 48	7.0	42.6	37.4	41.9	19 20.4 + 27 53
6.9	5.9								Am. 3314 19 18.2 + 27 40
7.1	6.1	3301	19 11.2	+ 27 43	6.2	42.4	37.5	42.6	19 12.0 + 27 45
7.0 7.2	6.0 6.2	Am. 3307	19 9.2	+ 27 42	7.2	41.4	37.4	41.7	19 11.0 + 27 46
6.5	5.5	3267	19 1.9	+ 28 26	5.5	41.3	37.6	42.4	19 2.7 + 28 28
7.0 7.2	6.0 6.3	Am. 3153	18 55.6	+ 28 12	7.0	99.6	37.4	101.3	18 57.4 + 28 16
		Am. 3998	19 7.9	+ 18 49	7.0				
7.2 7.5	6.2 6.5	Am. 3240	19 7.2	+ 28 59	7.0	41.8	37.5	41.5	19 9.0 + 29 3
6.7	5.7	Am. 3670	19 31.4	+ 29 1	6.8	44.4	37.4	42.2	19 33.2 + 29 7
		3372	19 29.3	+ 19 31	5.0	44.3	27.7	43.4	
6.6	5.6	3377	19 30.1	+ 29 12	5.4	45.1	37.4	42.2	19 30.9 + 29 14
5.7	4.7	3342	19 19.4	+ 29 23	4.9	43.6	37.6	42.9	19 20.2 + 29 26
7.0	6.0	Am. 3974	19 12.4	+ 19 22	9.2	42.2	27.5	42.2	19 14.4 + 19 27
7.2	6.2	Am. 3975	19 12.5	+ 19 21	6.8	42.3		42.3	19 14.5 + 19 26
7.0	6.0	Am. 3444	18 55.7	+ 29 19	6.8	99.7	37.4	100.3	18 57.5 + 29 23
7.3	6.3	3253	18 57.7	+ 19 29	6.4	101.7	27.6	102.5	
6.0	5.0	3372	18 29.3	+ 19 31	5.0	44.1	27.5	43.2	19 30.2 + 19 33
6.4	5.4	3351	19 21.0	+ 19 52	5.4	43.8	27.5	43.4	19 21.9 + 19 54
6.7	5.7								
7.1	6.1	3347	19 20.2	+ 19 34	5.2	43.6	27.6	43.2	19 21.1 + 19 37
		Am. 4019	19 20.2	+ 19 58	6.6	42.4	27.5	41.8	19 22.2 + 20 3
7.0	6.0	Am. 4009	19 19.1	+ 19 60	6.6				20.1 + 19.9
		3514	19 28.6	+ 30 15	7.4				
6.9	5.9	Am. 4039	19 23.0	+ 19 59	7.0	42.8	27.4	42.1	19 25.0 + 20 4
7.3	6.3	Am. 4028	19 21.6	+ 19 57	7.4	42.8	27.4	42.2	19 23.6 + 20 2
		Am. 4009	19 19.1	+ 19 60	6.6	42.7	27.4	42.3	19 21.1 + 20 5
6.9	5.9	4000	19 17.5	+ 19 59	6.5				
6.8	5.8	Am. 4000	19 17.5	+ 19 59	6.8	42.5	27.4	42.2	19 19.5 + 20 4
7.2	6.2								Am. 3442 19 3.8 + 30 20
7.15	6.4	3292	19 9.8	+ 20 0	6.1	42.6	27.5	42.8	19 10.7 + 20 2
6.9	5.9	Am. 3442	19 3.8	+ 30 20	7.0	40.6	37.5	41.5	19 5.5 + 30 24

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September 24, 1887.

Plate 1421.

T	T	Type	No. lines	K	Focus	Other lines	V.	Th.	V.	Th'	Correc.
13.5	8.7	III	2	K=H	1	—	6.8	17.4	30.8	85.5	+ 0.8
13.2	11.0	I? I/II H	4	K=H	1	—	6.6	22.0	31.0	80.9	+ 0.6
13.4	12.1	III	2 2	K=H	1	—	6.7	24.2	30.9	78.7	+ 0.8
13.5	13.6	I I	2 4	K=H K=H	1	—	6.8	27.2	30.8	75.7	+ 0.2
13.4	14.8	III	2	K=H	1	F? —	6.7	29.6	30.9	73.3	+ 0.1
13.0	15.6	II ?	2	K=H	1	—	6.5	31.2	31.1	71.7	- 0.2
13.0	16.3	I	4	K=H	2	—	6.5	32.6	31.1	70.3	- 0.2
13.6	22.8	III	2	K=H	1	—	6.8	45.6	31.8	57.3	- 1.0
12.8	7.3	II ? II ?	2 2	K=H K=H	1	—	6.4	14.6	31.2	88.3	+ 2.3
12.9	8.4	III	2	K=H	1	—	6.4	16.8	31.3	86.1	+ 1.9
12.8	15.9	I	N		3	—	6.4	31.8	31.2	71.1	- 0.1
12.4	17.5	I ?	K=H		2	—	6.2	35.0	31.4	67.9	- 0.4
12.1	19.6	III	2	K=H	1	—	6.0	39.2	31.6	63.7	- 0.7
12.4	21.7	III ?	2	K=H	1	—	6.4	43.4	31.2	59.5	- 0.9
12.0	22.7	III ?	2 2	K=H K=H	1	—	6.0	45.4	31.6	57.5	- 2.3
12.2	22.8	III	1 2 2	K=H	1	—	6.1	45.6	31.5	57.3	- 1.1
11.2	13.7	II a HH66	1 3	K=H	2	F —	5.6	27.4	32.0	75.5	+ 0.4
11.1	13.8	II ?	2	K=H	1	—	5.6	27.6	32.0	75.3	+ 0.2
11.6	14.2	II ?	1 3	K=H	1	F —	5.8	28.4	31.8	74.5	+ 0.3
11.8	15.3	III	1 2 2	K=H	1	—	5.9	30.6	31.7	72.3	- 0
11.8	16.1	III	1 2 2	K=H	1	—	5.9	32.2	31.7	70.7	- 0.3
11.9	20.3	III !	1 2 3	K=H	1	F? F	6.0	40.6	31.6	62.3	- 1.6
11.0	22.3	III	2	K=H	1	F?	5.5	44.6	32.1	58.3	- 2.3
10.4	6.0	A I	3 3	N	1	—	5.2	12.0	32.4	90.9	+ 2.8
10.7	6.2	7 446	2	K=H	1	—	5.4	12.4	32.2	90.5	
10.4	6.8	I/II	3	K=H	1	—	5.2	13.6	32.4	89.3	+ 1.2
10.7	15.2	I	3	N	1	—	5.4	30.4	32.2	72.5	- 0
10.5	19.1	a ? HH66	1 3		2	—	5.2	38.2	32.4	64.7	- 1.3
10.6	21.6	II ? II ?	2	K=H	1	—	5.3	43.2	32.3	59.7	- 2.0

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Mean 10

Br.	Br.		No.	R.A.	Dec.	Mag.	m.	r.	m'	Red. to 1900.
7.2	6.2									
7.4	6.4	Dm.	4175	19 23.8	+20 38	7.0	43.0	27.4	42.4	19 27.8 + 20 44
7.2 7.3	6.3									
7.6	6.6	Dm.	4139	19 20.3	+20 32	7.7	42.3	27.5	41.9	19 22.4 + 20 37
7.3 7.2	6.2									
7.4 7.5	6.5	Dm.	3542	19 18.7	+30 46	7.0	42.9	37.5	42.1	19 20.4 + 30 51
7.2	6.2									
7.3 7.4	6.4	Dm.	4114	19 15.0	+20 41	7.8	42.2	27.5	42.0	19 16.9 + 20 46
7.0	6.0									
7.2	6.2	Dm.	3502	19 12.4	+30 45	6.9	42.0	37.5	41.9	19 14.1 + 30 50
		Dm.	3494	19 10.4	+30 59	6.9	41.6	37.5	41.8	19 12.1 + 31 4
6.9	5.9		3380	19 11.1	+21 11	4.7				
6.5	5.5		3294	19 10.1	+21 1	5.8	42.7	27.5	42.9	19 11.0 + 21 3
7.0	6.0									Dm. 4022 18 55.1 +20 38
7.2	6.2		3245	18 56.2	+20 40	6.4	101.8	27.5	102.8	18 57.0 + 20 42
7.3 7.2	6.2	Dm.	3648	19 29.9	+30 58	7.6	44.5	37.4	42.2	19 31.7 + 31 4
6.9	5.9		3581	19 28.7	+21 9	7.9				
7.2	6.2	Dm.	3624	19 27.3	+30 56	6.9	44.1	37.3	42.2	19 29.1 + 31 2
6.0	5.0		3300	19 11.1	+21 11	4.7	42.9	27.6	43.0	19 11.9 + 21 13
6.7	5.7		3283	19 7.5	+21 21	5.8	42.5	27.6	42.9	19 8.3 + 21 23
7.0	6.0									Dm. 3672 19 1.8 +21 28
7.3	6.3		3273	19 3.0	+21 30	6.1	42.2	27.5	42.9	19 3.7 + 21 32
7.2	6.2									
7.5	6.5	Dm.	3648	18 57.5	+21 3	6.7	100.9	27.4	101.8	18 59.4 + 21 7
7.3 7.3	6.3									
7.5 7.6	6.6	Dm.	3419	18 53.8	+31 30	8.2	99.2	37.5	101.5	18 55.5 + 31 34
7.3 7.3	6.3									
7.6 7.6	6.6	Dm.	3634	18 55.1	+21 18	6.7	100.7	27.4	101.8	18 57.0 + 21 22
	5	Dm.	3550	19 14.9	+31 50	7.0	42.3	37.4	41.9	19 16.6 + 31 55
6.7	6.7	Dm.	3740	19 14.7	+21 56	6.7				
		Dm.	3740	19 14.7	+21 56	6.7	42.3	27.5	42.1	19 16.6 + 22 1
7.1	6.1	Dm.	3550	19 14.9	+31 50	7.0				
6.8	5.8	Dm.	3544	19 13.9	+31 42	7.1	42.3	37.5	42.0	19 13.6 + 31 47
7.0 7.2	6.2									
7.2 7.4	6.4	Dm.	3719	19 11.3	+21 33	7.3	41.9	27.5	41.9	19 13.2 + 21 38
7.4 7.4	6.4									
7.6 7.7	6.7	Dm.	3514	19 9.3	+31 36	7.0	41.5	37.5	41.8	19 11.0 + 31 40
7.6 7.8	5.7									
7.1 7.4	6.1		3262	19 0.4	+31 34	5.7	41.0	37.6	42.6	19 1.1 + 31 36
6.6	5.6									
7.1	6.1		3241	18 55.5	+31 59	5.1	100.1	37.5	102.4	18 56.3 + 32 0
7.3 7.3	6.2	Dm.	3506	19 33.1	+32 5	7.5	43.1	37.3	42.3	19 34.8 + 32 11
7.8	6.3	Dm.	3509	19 33.4	+32 14	7.9				19 35.1 + 32 20
7.1		Dm.	3506	19 33.1	+32 5	7.5				19 34.8 + 32 11
6.8	5.8	Dm.	3741	19 29.9	+22 16	6.5	43.5	27.5	42.3	19 31.8 + 22 22
7.0	6.0	Dm.	3647	19 11.5	+22 11	7.5	41.9	27.6	41.9	19 13.4 + 22 16
6.6	5.6		3271	19 2.9	+32 18	4.9	41.1	37.5	42.4	19 3.7 + 32 20
7.1 6.9	5.9									
7.2	6.2	Dm.	3299	18 56.0	+32 11	8.0	99.2	37.5	101.2	18 57.7 + 32 15

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Plate 1421.

V	H	Type	No. Lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
10,8	22,5	I ?	4	K=H	1	—	3.4	45.0	32.2	57.9	− 1,2	
10.0	22.5	I	9	N	4	F	3.0	45.4	32.6	57.5	− 2.4	
9,0	8,2	III	2	K=H	1	—	4.3	16.4	33.1	86.5	+ 2.3	
9,1	12,4	III	III 2	K=H	K=H	1	— —	4.6	24.8	33.0	78.1	+ 0.8	7.2 7.5
9,6	17.1	II	a ? 4467 2	K=H	2	F, pur	4.8	30.2	32.8	72.7	− 0	
9,5	23,5	II	? 3	K=H	2	F	4.8	47.0	32.8	35.9	− 2.9	
8,4	7,1	III	2	K=H	1	—	4.2	14.2	33.4	88.7	+ 2.7	
8,5	9,2	III	2	K=H	1	F ?	4.2	18.4	33.4	84.5	+ 1.9	
8,8	14,3	III	? 3	K=H	2	F	4.4	28.6	33.2	74.3	+ 0.3	
8,2	21,4	II	II ? 3	K=H	2	F	4.1	42.8	33.5	60.1	− 2.1	
15.0	5.0	III	3	K=H	2	F	7.3	10.0	30.1	92.9	+ 2.8	6 6
7,4	15,7	I	? 4	K=H	1	—	3.7	31.4	33.9	71.5	+ 3.3	
7,0	20,2	I	3	N	2	—	3.5	40.4	34.1	62.5	− 0.9	
7,1	20,4	III	? III ? 2	K=H	K=H	1	— —	3.6	40.8	34.0	62.1	− 1.8	7.3 7.5
7.8	21,7	III	III 2	3 K=H	K=H	1	F ? F	3.9	43.4	33.7	59.5	− 2.3	7.0 7.3
6,7	9,0	I	? 6	N	3	F	3.4	18.0	34.2	84.9	+ 2.0	
III ? 6.5, 6.8.	6,3	10,2	III	12	N	K=H	1	—	3.2	20.4	34.4	82.5	+ 0.8	
6.0	18,4	I & I	3	N		1	—	3.0	36.8	34.6	66.1	− 1.2	
6.0	19,5	III	? 12	N	K=H	1	F ?	3.0	39.0	34.6	63.9	− 0.8	
6.6	19,0	III	III 2	2	K=H	K=H	1	— —	3.3	38.0	34.3	64.9	− 1.4	7.3 7.6
5,8	11,7	III	12	N	K=H	1	—	2.9	23.4	34.7	79.5	+ 0.6	
5,2	13,6	I	? 3	N	2	—	2.6	27.2	35.0	73.7	+ 0.5	
4,3	8,7	III	12	N	K=H	1	—	2.2	17.4	35.4	85.5	+ 1.3	
4,0	16,8	III	2	K=H		1	—	2.0	33.6	35.6	69.3	− 0.4	
3,0	9,5	I	3	N		1	—	1.5	19.0	36.1	83.9	+ 2.0	
3,0	11,4	I	? 4468	K=H		2	F	1.5	22.8	36.1	80.1	+ 1.5	6
3,4	10,0	I		K=H		2	diffuse	1.7	38.0	35.9	64.9	− 1.6	5
3,1	12,9	II		K=H		2	I	1.6	25.8	36.0	77.1	+ 0.4	6
2,9	2,5	II	a ? 4469	K=H		1	~ seen	1.4	45.0	36.2	57.9	− 1.6	6
3,4	16,9	III				1	—	1.7	33.8	35.9	69.1	− 0.7	7

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Mean 10

Cor. Br.	Br.		No.	R.A.	Dec.	Mag.	M.	v.	M'	Red. to 1900
	6.9	5.9	Dm.	3361	18 55.7	+22 4	6.3	100.7	27.5	101.9	18 57.6 + 22 8
	5.9	4.9		3232	18 54.5	+32 32	3.3	99.9	37.5	102.3	18 55.2 + 32 33
	7.2	6.2	~~Dm.~~	~~3684~~	~~19 27.3~~	~~+ 23 11~~	~~8.0~~				
	7.5	6.5	~~Dm.~~	~~3474~~	~~19 28.0~~	~~+ 32 53~~	~~7.0~~	44.4	37.4	42.1	19 29.7 + 32 59
	7.2	6.3	~~Dm.~~	~~3499~~	~~19 27.8~~	~~+ 33 10~~	~~8.2~~				29.1 + 33.6
	7.5	6.6	~~Dm.~~	~~3330~~	~~19 18.0~~	~~+ 33 17~~	~~6.3~~				
			Dm.	3311	19 18.1	+32 36	6.9	42.9	37.3	42.1	19 19.8 + 33 1
	6.4	5.4		3308	19 12.7	+22 48	5.6	42.9	27.6	42.9	19 13.3 + 22 51
	6.6	5.6		3223	18 52.5	+32 47	5.3	99.5	37.6	102.4	18 53.3 + 32 47
	7.3	6.3									
	7.6	6.6	Dm.	3518	19 30.8	+33 8	7.9	43.0	37.3	42.3	19 32.3 + 33 14
	7.1	6.1	Dm.	3487	19 25.8	+33 10	7.0	44.2	37.4	42.3	19 27.3 + 33 16
	7.4	6.4	~~Dm.~~	~~3480~~	~~19 24.9~~	~~+33 26~~	~~7.0~~				
	6.6	5.6									
	6.8	5.8	Dm.	3409	19 13.6	+33 8	6.8	42.2	37.3	41.7	19 15.3 + 33 13
	6.7	5.7		3250	18 57.4	+33 27	6.1	100.2	37.3	102.3	18 58.2 + 33 29
	6.5	5.5									
	6.8	5.8		3397	19 34.6	+29 53	4.9	44.6	27.4	41.8	19 35.5 + 29 56
			Dm.	3547	19 34.3	+33 38	6.3	43.7	37.3	42.4	19 36.0 + 33 44
	6.8	5.8	~~Dm.~~	~~3699~~	~~19 10.6~~	~~+24 8~~	~~8.3~~				
	6.8	5.8		3263	18 1.6	+24 4	5.6	42.0	27.6	42.9	19 1.9 + 24 6
	7.3	6.3									
	7.5	6.5	Dm.	3309	18 58.6	+33 36	7.2	99.4	37.3	101.2	19 0.3 + 34 0
	7.0	6.1	Dm.	3287	18 55.6	+33 36	6.8	99.0	37.3	101.3	18 57.3 + 33 40
	7.3	6.4	~~Dm.~~	~~3341~~	~~18 57.0~~	~~+23 34~~	~~8.0~~				
	6.6	5.6		3366	19 27.4	+34 12	4.8	45.4	37.6	43.4	19 28.1 + 34 14
	6.9	5.9									
	7.3	6.3		3357	19 23.7	+24 25	4.7	44.1	27.6	43.3	19 24.6 + 24 28
				3275	19 4.4	+34 33	6.6	41.2	37.6	42.4	19 5.1 + 34 35
	7.0	6.0		3276	19 4.7	+34 23	6.6	41.5	37.4	42.7	Dm. 3437 3.5 + 34 31
	6.9	5.9									
	7.1	6.1	Dm.	3650	19 2.0	+24 30	6.5	41.0	27.5	41.8	19 3.9 + 24 34
	7.3	6.3									
	7.6	6.6	Dm.	3431	19 2.3	+34 10	7.5	40.3	37.5	41.8	19 3.9 + 34 14
	7.2	6.2									
	7.5	6.5		3348	19 20.4	+24 42	6.0	43.8	27.6	43.2	19 21.3 + 24 45
											Dm. 3503 15.3 + 34 3.5
	6.6	5.6		3324	19 16.2	+34 38	6.1	43.4	37.6	42.9	19 16.9 + 34 0
	7.3	6.3									
	7.5	6.5	Dm.	3864	19 26.1	+23 17	6.6	43.5	27.5	42.2	19 28.0 + 23 23
	7.0	6.0									
	7.4	6.4	Dm.	3757	19 7.9	+25 31	6.9	41.5	27.5	41.9	19 9.7 + 25 35
											Dm. 3638 25.5 + 35 5.6
	6.8	5.8		3364	19 26.4	+35 59	5.8	45.4	37.5	43.4	19 27.1 + 36 1
	6.1	5.1		3352	19 21.8	+36 3	5.1	44.6	37.6	43.1	19 22.6 + 36 7
	5.9	4.9		3272	19 3.0	+35 55	5.2	41.0	37.6	42.6	19 3.7 + 35 56
	6.2	5.2		3329	19 17.9	+26 2	5.0	43.7	27.6	43.3	19 18.7 + 26 4
	6.6	5.6		3246	18 56.4	+26 7	5.5	101.4	27.5	103.0	18 57.2 + 26 89
	7.1	6.1									
	7.4	6.4	Dm.	3523	19 7.2	+35 56	6.8	41.0	37.6	41.7	19 8.8 + 36 0

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F. m. 7c. 7.0 6.6 — F. ch. 7.4

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Plate 1501.

	V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
g 30	17.4	12.1	III	2	K=H	1	—	8.7	24.2	23.8	32.2	+
	9.4	11.1	III !	2	K=H	1	—	4.7	22.2	27.8	34.2	+ 0.5
	9.5	15.3	III	2	K=H	1	F?	4.8	30.6	27.7	25.8	− 0.1
	6.0	13.7	III ?	2	K=H	1	—	3.0	27.4	29.5	29.0	+ 0.2

F. m. 8c. 6.3 6.0 — F. ch. 7.0

Plate 1548

	22.4	9.1	III	2	K=H	1	—	11.2	18.2	26.2	31.1	+ 1.5
	22.1	11.9	III	2	K=H	1	—	11.0	23.8	26.4	25.5	+ 0.6
	21.4	15.0	II ?		N	1	—	10.7	30.0	26.7	19.3	− 0
	21.5	15.2	I	3	N	1	—	10.8	30.4	26.6	18.9	− 0
	20.5	7.2	III	2	K=H	1	—	10.2	14.4	27.2	34.9	+ 1.6
	20.4	7.3	III	2	K=H	2	F?	10.2	14.6	27.2	34.7	+ 0.7
	20.4	18.6	II	2	K=H	1	—	10.2	37.2	27.2	12.1	− 0.7
	19.4	7.8	III	2	K=H	2	F?	9.7	15.6	27.7	33.7	+ 0.7
~~F. ch. = F. m. K~~	19.6	12.2	II 4470 IIa?	3	K=H	3	F. [illegible]	9.8	24.4	27.6	24.9	+ 0.6
	19.8	13.5	III	2	K=H	1	—	9.9	27.0	27.5	22.3	+ 0.2
	19.2	15.0	I	3	N	1	—	9.6	30.0	27.8	19.3	− 0
	19.5	18.6	III	2	K=H	1	—	9.8	37.2	27.6	12.1	− 0.8
	18.4	6.8	I ?	3	N	1	—	9.2	13.6	28.2	35.7	+ 0.8
	16.6	6.9	III ?	2	K=H	1	—	8.3	13.8	29.1	35.5	+ 2.6
	16.8	9.4	II ?	3	K=H	1	F?	8.4	18.8	29.0	30.5	+ 1.4
~~F. ch. = F. m. K~~	16.6	10.4	II 4471 IIa?	3	K=H	2	F [illegible]	8.3	20.8	29.1	28.5	+ 1.2
	16.0	10.5	I	3	N	3	—	8.0	21.0	29.4	28.3	+ 0.5
	16.0	14.8	III ?	2	K=H	2	F?	8.0	29.6	29.4	19.7	+ 1.0
	16.4	15.0	I	4	N	3	—	8.2	30.0	29.2	19.3	− 0
	15.2	8.4	III	2	K=H	2	F.	7.6	16.8	29.8	32.5	+ 1.7
	15.0	12.9	II 4472.5 a?	3	K=H	2	F. [illegible]	7.5	25.8	29.9	23.5	+ 0.3 + 0.6
	15.0	13.6	III	2	K=H	1	—	7.5	27.2	29.9	22.1	+ 0.2

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Cor.

Br.	Br.	No.	R.A. 19	Dec. +	Mag.	H.	V.	H'	Red. to 1900. √ Not found on Chart	
7.1										
7.5	√									
7.2										
7.5		3399 √	19 34.7	+17 44	4.3 √	56.9	22.4	56.4	19 35.6 + 17 47 √	√
7.0									19 26.7 + 27 45	
7.3		3362 √	19 25.9	+27 43	3.0 √	56.5	32.5	56.6	19 26.7 + 27 45 √	√
7.1	√									
7.3		3372	19 29.3	+19 31	5.0	56.7	22.5	56.5	19 36.2 + 19 33 √	√

Mean 7

7.1	6.4									
7.4	6.7	3388 √	19 31.9	+16 12	5.6 √	50.1	27.4	49.6	19 32.8 + 16 14 √	√
7.2	6.5									
7.5	6.8	Dm. 3573 √	19 25.4	+26 19	6.5 √	49.3	27.3	48.6	19 27.2 + 26 24 √	√
		3337 √	19 19.4	+16 43	6.0	49.4	27.4	49.4	19 19.8 + 16 45 √	
		~~3338~~	~~19~~	~~19.0~~	~~+16~~	~~43~~	~~6.0~~	~~49.0~~	~~27.4~~	~~49.0~~
		3338 √	19 19.0	+16 43	6.6 √	49.4			19 20.2 + 16 46 √	
6.8	6.1	~~3337~~	~~19~~	~~19.4~~	~~+16~~	~~43~~	~~6.6~~	~~49.8~~	~~27.5~~	~~49.8~~
7.2	6.5	Dm. 3371 √	19 36.6	+27 8	7.1 √	50.4	37.2	48.8	19 37.8 + 27 9 √	√
		~~3402~~	~~19~~	~~35.7~~	~~+17~~	~~12~~	~~4.4~~			
6.0	5.3									
6.4	5.7	3402 √	19 35.7	+17 12	4.4 √	50.3	27.4	49.6	19 36.5 + 17 15 √	√
									Dm. 3313 10.1 + 27 12	
7.1	6.4	3299 √	19 11.1	+27 15	6.3 √	48.3	37.4	49.0	19 11.9 + 27 17 √	√
6.0	5.3	3399 √	19 34.7	+17 44	4.3 √	50.3	27.4	49.6	19 35.6 + 17 47 √	√
5.2	4.5	3362 √	19 25.9	+27 43	3.0 √	50.3	37.5	49.7	19 26.7 + 27 45 √	√
7.2	6.5									
7.5	6.8	Dm. 3976 √	19 21.6	+17 33	6.5 √	48.6	27.5	48.4	19 23.6 + 17 38 √	√
6.7	6.0	Dm. 3379 √	19 18.6	+27 48	7.0 √	48.6	37.4	48.6	19 20.4 + 27 53 √	√
7.0	6.3								Dm. 3314 10.2 + 27 40	
7.3	6.6	3301 √	19 11.2	+27 43	6.2 √	48.4	37.5	49.2	19 12.0 + 27 45 √	√
7.2	6.5	Dm. 4202 √	19 35.9	+18 8	7.0 √	49.5	27.3	48.7	19 37.9 + 18 14 √	√
7.0	6.3	~~Dm. 3703~~	~~19~~	~~36.4~~	~~+29~~	~~9~~	~~8.0~~			
7.3	6.6	Dm. 3447	19 37.0	+28 39	7.2	50.8	37.3	48.8	19 38.8 + 29 5 √	√
6.7	6.0	Dm. 3670 √	19 31.4	+29 1	6.8 √	50.3	37.4	48.8	19 33.2 + 29 7 √	√
6.6	5.8	3377 √	19 30.1	+29 12	5.4 √	50.9	37.5	49.7	19 30.9 + 29 14 √	√
5.7	5.0	3372 √	19 29.3	+19 31	5.0 √	50.3	27.5	49.8	19 30.2 + 19 33 √	√
6.7	6.0	3347 √	19 20.3	+19 34	5.3 √	49.8	27.6	49.8	19 21.1 + 19 37 √	√
5.7	5.0	3342 √	19 19.4	+29 23	4.9 √	49.4	37.6	49.4	19 20.2 + 29 26 √	√
6.3	5.6									
6.7	6.0	3397 √	19 34.6	+29 53	4.9 √	51.4	37.5	49.7	19 35.5 + 29 56 √	√
6.6	5.8	Dm. 4039 √	19 23.0	+19 59	7.0 √	48.8	27.5	48.5	19 23.0 + 20 4 √	√
6.8	6.1									
7.0	6.3	Dm. 4028 √	19 21.6	+19 57	7.4 √	48.8	27.5	48.6	19 23.6 + 20 2 √	√

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Plate 1548.

r	H	Type	Lines	K	Focus	Other lines.	V.	M.	V.	M.	Correc.
15.4	14.4	I	1	1	N	2	—	7.7	28.8	29.7	20.5	+ 0
15.8	14.2	III	III 4473	2	2	K=H K=H	1	—	7.9	28.4	29.5	20.9	+ 0.1
15.0	14.7	~~I~~	2	2	K=H		1	—	7.5	29.4	29.9	19.9	+ 0
15.0	15.4	I	4	1	K=H		1	—	7.5	30.8	29.9	18.5	- 0
15.0	19.5	III	2	1	K=H		1	—	7.5	39.0	29.9	10.3	- 0.6
14.0	6.8	I	3	1	N		1	—	7.0	13.8	30.4	25.7	+ 2.3
14.0	21.3	II	2	1	K=H		1	—	7.0	42.6	30.4	6.7	- 1.7
13.4	17.6	I	3	1	N		1	—	6.7	35.2	30.7	14.1	- 0.7
12.2	14.1	III	III 2	2	K=H	K=H	1	—	6.1	28.2	31.3	21.1	+ 0.1
12.9	19.4	I	3	1	N	2	—	6.4	38.8	31.0	10.5	- 0.6
12.9	18.4	II	2	1	K=H		1	—	6.4	36.8	31.0	12.5	- 1.0
12.8	18.9	I	6	1	N	3	—	6.4	37.8	31.0	11.5	- 0.6
12.8	20.2	I	3	1	N	2	—	6.4	40.4	31.0	8.9	- 1.5
12.3	20.6	I	3	1	N	1	—	6.2	41.2	31.2	8.1	- 0.7
12.0	22.7	III	2	1	K=H	1	—	6.0	45.4	31.4	3.9	- 1.1 - 2.3
11.5	9.3	III	2	1	K=H	1	—	5.8	18.6	31.6	30.7	+ 0.8
11.3	16.5	I	3	1	N	1	—	5.6	33.0	31.8	16.3	- 0.5
11.1	16.7	I	4	1	K=H	1	—	5.6	33.4	31.8	15.9	- 0.2
11.6	16.9	I	4	1	K=H	1	—	5.8	33.8	31.6	15.5	- 0.6
10.5	6.3	III	2	1	K=H	1	—	5.2	12.6	32.2	36.7	+ 1.3
10.6	7.1	III	4474 a 4475	1	K=H	2	Recn	5.3	14.2	32.1	35.1	+ 2.5
10.4	9.7	III	2	1	K=H	1	Recn	5.2	19.4	32.2	29.9	+ 1.8
10.6	18.2	III	2	1	K=H	1	—	5.3	36.4	32.1	12.9	- 0.5
10.8	19.9	III	III 2	2	K=H	K=H	1	—	5.4	39.8	32.0	9.5	- 1.5
10.3	21.9	III	2 4476	3	K=H	2	F Recn	5.2	43.8	32.2	3.5	- 2.2
9.2	7.6	III	I 3	3	~~K=H~~	1	—	4.6	15.2	32.8	34.1	+
9.1	11.0	III	2	1	K=H	1	—	4.6	22.0	32.8	27.3	+ 1.3
9.4	18.1	III	4477 a	3	K=H	2	F Recn	4.7	36.2	32.7	13.1	- 0.5

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Mean 7

ec.	Br.	Cov. By	No.	R.A.	Dec.	Mag.	Th. v.	Th'	Red. to 1900.
	6.0	5.3	3351	19 21.0	+19 52	5.4	49.8	27.6 498	19 21.9 +19 54
1	7.2 7.1 7.6 7.5	6.4 6.8	Dm. 4017	19 20.1	+19 36	6.2	48.3	27.3 484	19 22.1 +19 42
	6.7	6.0	Dm. 4009	19 19.1	+19 60	6.6	48.3	27.3 483	19 21.1 +20 5
	6.8	6.1	Dm. 4000	19 17.3	+19 59	6.5	48.3	27.3 483	19 19.3 +20 4
6	6.9 7.2	6.2 6.5	3292	19 9.8	+20 0	6.1	48.8	27.3 494	Dm. 3956 8.7 +19 58 19 10.7 +20 2
3	6.6	5.9	Dm. 3708	19 37.5	+30 20	6.2	51.1	37.3 488	19 39.3 +30 26
7	7.0	6.3	Dm. 3442	19 3.8	+30 20	7.0	46.4	37.3 481	19 5.3 +30 24
7	7.0	6.3	Dm. 3502	19 12.4	+30 45	6.9	47.6	37.3 483	19 14.1 +30 50
1	7.1 7.3 7.2 7.4	6.5 6.7	Dm. 3782	19 20.5	+21 22	7.3	48.7	27.3 486	19 22.4 +21 27
6	6.3	5.6	3294	19 10.0	+21 1	5.8	48.8	27.4 494	19 11.0 +21 3
	7.0	6.3	Dm. 3494	19 10.4	+30 39	6.9	47.2	37.4 482	19 12.1 +31 4
			~~3300~~	~~19 11.1~~	~~+21 11~~	~~4.7~~			
			3300	19 11.1	+21 11	4.7	48.9	27.6 495	19 11.9 +21 13
6	5.6	4.9	~~3294~~	~~19 10.0~~	~~+21 1~~	~~5.8~~			
5	6.5	5.8	3282	19 7.2	+31 5	5.7	47.6	37.5 491	19 7.9 +31 7
7	6.5	5.8	3283	19 7.5	+21 21	5.8	48.7	27.6 498	19 8.3 +21 23
1	7.0	6.3	3273	19 3.0	+21 30	6.2	48.4	27.5 495	19 3.7 +21 32
3	7.2	6.5	~~3262~~	~~19 0.4~~	~~+31 34~~	~~5.7~~	~~45.8~~	~~37.6 481~~	Dm. 3672 +7.8 +21 28
			~~Dm. 3687~~	~~19 31.6~~	~~+31 35~~	~~7.8~~			
8	7.2	6.5	Dm. 3849	19 30.9	+21 40	6.8	49.5	27.5 487	19 32.8 +21 46
			~~Dm. 3753~~	~~19 26.3~~	~~+21 55~~	~~7.9~~			
5	6.9	6.2	Dm. 3550	19 14.9	+31 30	7.0	47.9	37.4 484	19 16.6 +31 35
2	6.7	6.0	Dm. 3740	19 14.7	+21 56	6.7	48.1	27.5 483	19 16.6 +22 1
6	7.0	6.3	Dm. 3544	19 13.9	+31 42	7.1	47.7	37.5 483	19 15.6 +31 47
3	6.9	6.2	Dm. 3784	19 37.2	+22 9	7.0	49.8	27.4 485	19 39.1 +22 13
5	6.6	5.8	3409	19 38.1	+32 9	5.8	52.3	37.5 498	Dm. 3531 37.2 +32 8 19 38.9 +32 11
8	6.4	5.7	Dm. 3741	19 29.9	+22 16	6.5	49.3	27.5 485	19 31.8 +22 20
5	7.0	6.3	Dm. 3647	19 11.5	+22 11	7.5	47.9	27.5 484	19 13.4 +22 16
5	7.2 7.4 7.3 7.6	6.6 6.9	Dm. 3355	19 6.8	+32 0	7.6	46.6	37.4 481	19 8.5 +32 4
2	6.8	5.6	3271	19 2.9	+32 18	4.9	46.7	37.5 489	19 3.7 +32 20
	7.0 7.3	6.3 6.6	Dm. 3526	19 36.1	+32 44	7.0	51.3	37.3	Not known on chart 19 37.8 +32 50
	~~7.3~~	~~6.6~~	~~Dm. 3731~~	~~19 34.2~~	~~+23 9~~	~~7.4~~			
3	7.1 7.4	6.4 6.7	Dm. 3474	19 28.0	+32 53	7.0	50.0	37.5 487	19 29.7 +32 59
5	~~7.2~~	5.8 5.1	3308	19 12.7	+22 48	5.6	48.9	27.5 494	19 13.5 +22 51

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Plate 1548.

T	H	Type	Nr. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
8.1	7.6	II	2	K=H	1	F?	4.0	15.2	33.4	34.1	+ 1.2	6
8.6	7.7	III	2 x 2	K=H	1	—	4.3	13.4	33.1	33.9	+ 1.2	7.2 7.3
8.5	9.9	III	x 2	K=H	1	—	4.2	19.8	33.2	29.5	+ 1.7	7
8.6	11.9	I	? 3	N	1	—	4.3	23.8	33.1	25.5	+ 1.0	6
8.1	12.3	III	III 2 2	K=H K=H	1	—	4.0	24.6	33.4	24.7	+ 0.9	7.2 7.6
8.5	15.5	III	III 2 2	K=H K=H	1	—	4.3	31.0	33.2	18.3	- 0.2	7.0 7.3
8.8	16.9	II	2	K=H	1	F?	4.4	33.8	33.0	13.5	- 0.6	6
7.1	6.7	I	2	N	1	—	3.6	13.4	33.8	35.9	+ 2.8	6
7.6	8.4	I	4	N	1	—	3.8	16.8	33.6	32.5	+ 2.2	6
6.1	10.2	II	II? 2 2	K=H K=H	1	—	3.0	20.4	34.4	28.9	+ 1.6	7.0
6.8	11.7	I	7	K=2H	3	F	3.4	23.4	34.0	25.9	+ 1.2	6
III 6.3, 6.6.	6.4	13.1	III	1 3	K=H	2	F	3.2	26.2	34.2	23.1	+ 0.3	6
	6.8	23.1	I	V	K=H	1	—	3.4	46.2	34.0	3.1	- 1.4	6
	5.8	14.6	III	2	x K=H	1	—	2.9	29.2	34.5	20.1	+ 0	6 7
	5.1	16.3	I	? 4	N	1	—	2.6	32.6	34.8	16.7	- 0.5	6
	5.4	19.6	III	2	K=H	1	—	2.7	39.2	34.7	10.1	- 0.8	7
	5.8	21.1	II	II ? 2	K=H	1	—	2.9	42.2	34.5	7.1	- 2.1	7
	4.4	11.6	III	x 2	x K=H	1	—	2.2	23.2	35.2	26.1	+ 0.6	7
	3.1	12.1	I	3	N	2	—	1.6	24.2	35.8	23.1	+ 1.1	6
	3.0	14.0	I	6	N	2	F	1.5	28.0	35.9	21.3	+ 0.3	5
	3.1	15.7	I	G. 4478 6	N	2	1.6	31.4	35.8	17.9	- 0.1	5
	3.3	21.6	II	a ? 4479	K=H	2	F? ecw	1.6	43.2	35.8	6.1	- 2.5	6
	2.4	11.9	III	III 2 2	K=H K=H	1	—	1.2	23.8	36.2	25.5	+ 1.2	6.9 7.2

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Mean 7

Br.	Br. (corr.)		No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
6.8	6.1	Dm.	3733	19 34.5	+23 23	6.8	49.7	27.4	48.5	19 36.4 + 23 29
7.2 7.3	6.6									
7.3 7.5	6.8	Dm.	3731	19 34.2	+23 9	7.4	49.6	27.3	48.4	19 36.1 + 23 15
7.3	6.6									
7.6	6.9	Dm.	3518	19 30.8	+33 8	7.9	50.6	37.3	48.7	19 32.5 + 33 14
6.9	6.2	Dm.	3487	19 25.8	+33 10	7.0	49.6	37.3	48.6	19 27.5 + 33 16
7.2 7.3	6.6									
7.6 7.6	6.9	Dm.	3480	19 24.9	+33 26	7.0	49.5	37.4	48.6	19 26.6 + 33 31
7.0 7.0	6.3									Dm. 3434 17.1 + 33 14
7.2 7.3	6.6		3330	19 18.0	+33 17	6.3	49.0	37.5	49.2	19 18.8 + 33 19
6.7	6.0	Dm.	3409	19 13.6	+33 8	6.8	47.4	37.5	48.0	19 13.3 + 33 13
6.6	5.9	Dm.	3572	19 38.4	+33 49	6.7	51.8	37.4	48.0	19 40.1 + 33 55
6.5	5.8	Dm.	3547	19 34.3	+33 38	6.5	51.1	37.4	48.9	19 36.0 + 33 44
7.0 7.3	6.6	Dm.	3620	19 30.0	+34 22	7.0	50.4	37.4	48.8	19 31.7 + 34 28
5.4	4.7		3366	19 27.4	+34 12	4.8	50.8	37.6	49.6	19 28.1 + 34 14
6.4 6.8	5.7 6.1		3357	19 23.7	+24 23	4.7	49.9	27.6	49.6	19 24.6 + 24 28
6.4	5.7		3265	19 1.6	+24 4	5.6	47.8	27.5	49.2	19 1.9 + 24 6
6.9 7.2	6.2 6.5		3348	19 20.4	+24 42	6.0	49.6	27.6	49.6	19 21.3 + 24 43
										Dm. 3503 15.3 + 34 35
6.3	5.6		3324	19 16.2	+34 58	6.1	48.8	37.6	49.3	19 16.9 + 35 0
7.3 7.6	6.6 6.8	Dm.	3687	19 8.3	+24 46	7.4	47.5	27.5	48.3	19 10.3 + 24 50
			3275	19 4.4	+34 33	6.6	46.6	37.5	48.7	Dm. 3437 3.5 + 34 31
7.0	6.3		3276	19 4.7	+34 23	6.6	46.9	37.3	49.0	19 5.1 + 34 35
7.2 7.4	6.5 6.7	Dm.	3864	19 26.1	+25 17	6.6	49.3	27.5	48.7	19 28.0 + 25 23
										Dm. 3658 25.5 + 35 55
6.7	6.0		3364	19 26.4	+35 59	5.8	50.6	37.6	49.5	19 27.1 + 36 1
5.7	5.0		3352	19 21.8	+36 5	5.1	49.8	37.6	49.5	19 22.6 + 36 7
5.7	5.0		3329	19 17.9	+26 2	5.0	49.3	27.6	49.4	19 18.7 + 26 4
6.0	5.3		3272	19 3.0	+35 55	5.2	46.2	37.5	48.7	19 3.7 + 35 56
6.9 7.0		Dm.	3388	19 26.2	+36 24	7.9	? 50.0	37.6	48.8	19 27.8 + 36 30
7.2 7.3		Dm.	3389	19 26.2	+36 24	8.0	50.0	37.6	48.8	19 27.8 + 36 30

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F. m. + c. 8.0 7.0

F. ch. 7.0

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Plate 1502.

						No. Lines	Fr	Focus	Other Lines	V.	M.	V.	M.	Correc.
q 30	21.8	12.1	III	!	2	K=H	1	—		109	24.2	41.6	88.2	+ 2.3
	20.5	8.5	II		2	K=H	1	—		10.2	17.0	42.3	95.4	+ 3.0
	20.0	10.2	II		6	K=.5H	2	—		10.0	20.4	42.5	92.0	+ 3.9
	20.8	11.9	II		6	K=.2H	2	—		10.4	23.8	42.1	88.6	+ 2.4
	18.6	18.3	II	!	2	K=H	1	—		9.3	36.6	43.2	73.8	- 1.7
	17.9	7.0	II		2	K=H	1	—		9.0	14.0	43.5	98.4	+ 4.1
	17.0	8.1	II	?	4	K=H	1	—		8.5	16.2	44.0	96.2	+ 3.6
	17.5	9.8	II		3	N	1	—		8.8	19.6	43.7	92.8	+ 2.3
	17.8	11.6	II	?	2	K=H	1	—	HH80	8.9	23.6	43.6	88.8	+ 2.3
	16.4	11.3	III	b	2	K=H	1	F!	1em	8.2	22.6	44.3	89.8	+ 3.0
	16.6	13.1	II		~	N	3	—		8.3	26.2	44.2	86.2	+ 0.9
	15.5	8.3	II		10	N	4	F	HH81	7.8	16.6	44.7	95.8	+ 3.5
~~G+b=.5 H+K~~	15.1	17.6	II		2	K=H	1			7.6	35.2	44.9	77.2	- 1.5
~~G+b=.8 H+K~~	14.6	9.8	II	?	2	K=H	2	F?	HH82 1em	7.3	19.6	45.2	92.8	+ 4.5
	13.2	7.5	II		3	N	1	—		6.6	15.0	45.9	97.4	+ 4.3
	13.0	15.3	II		7	N	2	F		6.5	30.6	46.0	81.8	- 0.1
	13.0	22.9	II		~	N	2	—		6.5	45.8	46.0	66.6	- 4.7
	11.4	6.1	II	b?	3	K=H	1	F	1em	5.7	12.2	46.8	100.2	+ 8.5
	11.7	11.5	II		4	K=.5H	1	—		5.8	23.0	46.7	89.4	+ 2.1
	11.6	18.0	II	?	4	K=H	1	—		5.8	36.0	46.7	76.4	- 2.7
	11.4	23.2	II		4	N	2	—		5.7	46.4	46.8	66.0	- 7.8
	10.8	8.1	III		2	K=H	1	F?		5.4	16.2	47.1	96.2	+ 4.2
	10.6	18.0	II		3	N	1	—		5.3	36.0	47.2	76.4	- 1.9
	9.8	15.8	II	?	2	K=H	1	—		4.9	11.6	47.6	100.8	+ 9.0
	9.6	6.1	II		3	K=H	2	F		4.8	12.2	47.7	100.2	+ 8.7
	9.7	14.4	II		3	K=H	1	F?		4.8	28.8	47.7	83.6	+ 0.3
	9.3	19.0	III	b?	3	K=H	2	F	1em	4.6	38.0	47.9	74.4	- 2.5
	8.6	6.9	II		4	N	2	—		4.3	13.8	48.2	98.6	+ 5.3

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Mean 11

Br.	Br. Corr.	No.	R.A.	Dec.	Mag.	n.	v.	n'	Red. to 1900
7.3	6.2								
7.5	6.4	Dm. 3398	19 29.5	+ 41 36	7.0	53.7	52.5	37.4	19 31.0 + 41 42
7.2	6.1	3409	19 38.1	+ 32 9	5.8	55.1	42.4	52.1	19 38.9 + 32 11
6.6	5.5	3401	19 35.6	+ 42 32	5.3	56.0	52.5	52.1	19 36.2 + 42 35
6.7	5.6	3382	19 30.8	+ 42 8	5.2	54.6	52.5	52.2	19 31.4 + 42 11
7.3	6.2	Dm. 3409	19 13.6	+ 33 8	6.8	50.3	42.4	51.9	19 13.3 + 33 13
6.6	5.5	3420	19 41.8	+ 33 27	5.0	55.8	42.4	52.7	19 42.6 + 33 30
6.8	5.7	Dm. 3372	19 38.4	+ 33 49	6.7	54.6	42.3	51.0	19 40.1 + 33 55
6.9	5.8	Dm. 3547	19 34.3	+ 33 38	6.5	53.9	42.4	51.4	19 36.0 + 33 44
7.1	6.0	~~Dm. 3507 19 29.5 + 33 29 7.5~~ Dm. 3396	19 30.1	+ 43 37	6.8	53.7	52.5	51.2	19 31.5 + 43 43
6.7	5.6								
7.0	5.9	3392	19 32.9	+ 44 26	5.2	55.5	52.6	52.5	19 33.6 + 44 29
5.3	4.2	3366	19 27.4	+ 34 12	4.8	53.6	42.5	52.7	19 28.1 + 34 14
4.0	2.9	3419	19 41.2	+ 44 50	3.0	57.8	52.6	52.3	19 41.9 + 44 53
7.0	5.9	3324	19 16.2	+ 34 58	6.1	51.4	42.6	52.9	19 16.9 + 35 0
6.3	5.2	3407	19 37.2	+ 43 14	5.1	56.8	52.5	52.3	19 37.7 + 43 17
6.8	5.7	3786	19 40.3	+ 35 45	7.0	55.3	42.4	51.0	19 42.0 + 35 51
		3787	19 40.4	+ 35 44	8.0	55.4	42.3	51.0	19 42.1 + 35 50
6.0	4.9	3352	19 21.8	+ 36 5	5.1	52.4	42.6	52.5	19 22.6 + 36 7
6.3	5.2	3272	19 3.0	+ 35 55	5.2	48.8	42.4	53.5	19 3.7 + 35 56
6.3	5.2	3442	19 48.4	+ 46 43	5.6	60.6	52.4	52.1	19 49.0 + 46 47
6.6	5.5	3387	19 31.5	+ 36 41	6.0	54.5	42.5	52.4	19 32.2 + 36 43
6.9	5.8	3311	19 13.4	+ 46 47	6.1	49.4	52.6	52.1	19 14.0 + 46 49
6.1	5.0	3254	18 58.0	+ 46 47	5.0	104.4	52.5	112.2	18 58.6 + 46 47
6.8	5.7								
7.1	6.0	3417	19 39.9	+ 37 4	5.0	56.1	42.5	51.9	19 40.7 + 37 7
		~~3318 19 14.7 + 39 23~~			~~7.6~~	~~50.7~~	~~42.7~~	~~52.6~~	
6.9	5.8	3320	19 14.8	+ 37 14	6.1	50.8	42.5	52.7	19 15.5 + 37 16
7.0	5.9	~~Dm. 3686 19 45.6 + 39 28 7.0~~ Dm. 2945	19 48.8	+ 47 27	6.8	60.4	52.3	51.4	19 50.1 + 47 34
6.5	5.4	3448	19 48.7	+ 47 39	5.8	60.9	52.4	52.2	19 49.2 + 47 41
6.9	5.8	Dm. 3465	19 22.5	+ 37 39	6.4	51.3	42.4	51.0	19 24.1 + 37 44
6.5	5.4								
7.0	5.9	3304	19 12.2	+ 37 55	4.3	50.2	42.5	52.7	19 12.9 + 37 57
6.6	5.5	Dm. 3758	19 42.3	+ 38 3	6.1	56.1	42.3	50.8	19 43.9 + 38 9

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Plate 1502.

V	H	Type	No. lines	K	Focus	Other lines.	V.	H.	V.	H.	Correc.
8.3	10.9	III	22	K=H+K=H	1	—	4.2	21.8	48.3	90.6	+ 2.9
8.8	11.0	II	2	K=H	1	—	4.4	22.0	48.1	90.4	+ 2.3
8.1	12.3	I ?	3	N	1	—	4.0	24.6	48.5	87.8	+ 1.8
7.4	20.0	I	8	N	3	—	3.7	40.0	48.8	72.4	- 3.3
6.0	19.3	II	2	K=H	1	—	3.0	38.6	49.5	73.8	- 4.3
5.1	9.2	II a	4H85 2	K=H	1	—	2.6	18.4	49.9	94.0	+ 4.1
5.5	11.5	II a ?	4H86 2	K=H	2	F?	2.8	23.0	49.7	89.4	+ 3.6
5.2	15.6	II a	4H87 2	K=H	1	diff.	2.6	31.2	49.9	81.2	- 0.7
4.7	9.7	II	2	K=H	1	—	2.4	19.4	50.1	93.0	+ 3.5
3.4	12.2	II ?	2	K=H	1	—	1.7	24.4	50.8	88.0	+ 3.0
4.2	23.0	I	4	K=H	2	—	2.1	46.0	50.4	66.4	- 8.5
2.5	13.6	I	10	K=,5H	4	F	1.2	27.2	51.3	85.2	+ 1.5

F. nn. 4 c. F. ch.

Plate 1552.

8.0	6.7									6.7	
22.0	9.3	I	6	K=,5H	2	—	1.10	18.6	26.6	50.8	+ 0.3
20.1	7.8	I	6	K=H	2	—	10.0	13.6	27.6	53.8	+ 1.6
20.7	17.1	III b ?	4H88 2	K=H	1	F? Diff.	10.4	34.2	27.2	33.2	- 0.2
19.7	17.5	II ?	4H89	K=H	2	F? Diff.	9.8	35.0	27.8	32.4	- 0.2
19.7	21.2	II a ?	4H90 2	K=H	3	F? Diff.	9.8	42.4	27.8	27.0	- 1.5
18.8	12.8	I ?	3	N	1	—	9.4	25.6	28.2	43.8	+ 0.3
18.8	14.2	III bc ?	4H91 2	K=H	2	F? bright Diff.	9.4	28.4	28.2	41.0	+ 0.1
17.6	13.4	I	5	K=,2H	3	—	8.8	26.8	28.8	42.6	+ 0.2
16.9	8.8	III c	4H92 3	K=H	2	F bright Diff.	8.4	17.6	29.2	51.8	+ 0.7
16.8	19.3	II a ?	4H93 2	K=H	1	—	8.4	38.6	29.2	30.8	- 1.1
16.2	20.0	I	6	N	2	—	8.1	40.0	29.3	29.4	- 0.6
16.1	23.9	I	5	N	2	—	8.0	47.8	29.6	21.6	- 2.4
15.9	6.8	III	12	K=H	1	—	8.0	13.6	29.6	55.8	+ 2.1
15.4	19.5	III ?	2	K=H	1	—	7.7	21.0	29.9	48.4	+ 1.2

III ? 6.3, 6.6.

III ? 6.2, 6.5.

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Mean 11

Cow. Br.	Cow. Ru.	No.	R.A.	Dec.	Mag.	Th. v.	Th.'	Red. to 1900.
7.2 7.4	6.3							
7.5 7.7	6.6	Dm. 3680	19 32.2	+38 16	6.8	54.0	42.5 51.1	19 33.8 +38 22
		Dm. 3677	19 31.9	+38 4	6.5	53.9	42.5 51.4	19 33.5 +38 10
6.9	5.8	~~Dm. 2918~~	~~19 32.5~~	~~+48 11~~	~~6.8~~			
7.2	6.1	Dm. 3650	19 28.6	+38 28	6.6	53.2	42.5 51.4	19 30.2 +38 34
5.4	4.3	3291	19 9.7	+38 56	4.5	49.7	42.6 53.2	19 10.4 +38 58
7.2 7.5	6.1 6.4	3288	19 9.0	+49 37	5.8	47.6	52.6 51.9	19 9.5 +49 39
								Dm. 3878 37.0 +39 33
7.2	6.1	3408	19 37.9	+39 58	6.1	56.3	42.6 52.2	19 38.3 +40 1
		~~3395~~	~~19 33.6~~	~~+49 56~~	~~var~~	~~56.6~~	~~52.7~~ ~~53.0~~	
5.6	4.5	~~3393~~	~~19 33.2~~	~~+49 37~~	~~4.6~~	~~56.2~~	~~52.8~~ ~~52.6~~	19 33.7 +50 0
7.1	6.0	Dm. 2994	19 19.6	+49 60	6.6	50.8	52.6 51.5	19 20.8 +50 5
		3410	19 38.7	+50 15	5.5	58.1	52.6 52.6	19 39.1 +50 18
7.0	5.9	3411	19 38.7	+50 14		58.1	52.6 52.6	19 39.2 +50 17
7.0	5.9	3394	19 31.2	+50 57	5.6	55.6	52.7 52.6	19 31.8 +51 1
								Dm. 2708 56.6 +50 20
6.3	5.2	3249	18 37.2	+50 22	5.4	103.2	52.5 111.7	18 57.7 +50 24
		3365	19 26.7	+51 28	3.9	53.9	52.7 52.4	19 27.2 +51 31

Mean 8

6.7	5.9	3462	19 52.3	+16 29	3.3	70.9	27.5 70.4	19 53.2 +16 31
5.8	5.8	3481	19 56.2	+27 26	4.9	71.8	37.4 70.2	19 57.0 +27 29
6.7 7.0	5.9 6.2	3402	19 35.7	+17 12	4.4	69.9	27.6 70.1	19 36.3 +17 15
6.3	5.5	3399	19 34.7	+17 44	4.3	69.7	27.5 69.9	19 35.6 +17 47
5.3	4.5	3362	19 25.9	+27 43	3.0	68.3	37.5 69.8	19 26.7 +27 45
								19 26.7 +27 45
7.1 6.3		Dm. 3493	19 44.1	+28 8	6.8	69.7	37.5 69.2	19 45.9 +28 12
6.3 6.5	5.5 5.7	3421	19 42.0	+18 14	3.7	70.4	27.6 70.3	19 42.9 +18 17
5.7	4.9	3424	19 43.7	+18 51	3.0	70.5	27.6 70.3	19 44.5 +18 53
6.4 7.0	5.6 6.2	3466	19 53.4	+19 10	3.6	71.0	27.6 70.3	19 54.3 +19 13
6.9	6.1	3377	19 30.1	+29 12	3.4	68.7	37.6 69.8	19 30.9 +29 14
5.9	5.1	3372	19 29.3	+19 31	3.0	69.3	27.6 69.9	19 30.2 +19 33
		~~3347~~	~~19 20.2~~	~~+19 34~~	~~3.2~~	~~68.0~~	~~27.6~~ ~~69.0~~	
6.0	5.2	3342	19 19.4	+29 23	4.9	67.2	37.4 69.6	19 20.2 +29 26
								Dm. 3872 57.7 +29 31
7.3 7.6	6.5 6.8	3490	19 58.7	+29 35	3.8	72.3	37.6 70.2	19 59.5 +29 38
7.3 7.4	6.5 6.6	Dm. 3802	19 49.3	+29 49	6.9	70.3	37.5 69.1	19 51.1 +29 56

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Plate 1552.

r	H	Type	No. Regions	K	Focus	Spectrum	Other lines.	V.	M.	V.	M.	Corrn.
15.6	17.3	III	3	K=H	2	F		7.8	34.6	29.8	34.8	− 0.6
14.1	9.6	III	2	K=H	1	—		7.0	19.2	30.6	30.2	+ 1.3
14.4	15.6	I	3	N	2	—		7.2	31.2	30.4	38.2	− 0.2
14.9	22.5	I	3	N	1	—		7.4	45.0	30.2	24.4	− 0.9
15.2	24.0	I		K=H	1	—		7.6	48.0	30.0	21.4	− 1.2
13.8	9.0	I		N1	2	—		6.9	18.0	30.7	31.4	+ 1.7
12.1	8.6	I	2	N	1	—		6.0	17.2	31.6	32.2	+ 1.8
11.2	6.5	I	2	K=H	1	—		5.6	13.0	32.0	36.4	+ 2.6
11.5	7.2	I	2	N	1	—		5.8	14.4	31.8	33.0	+ 1.1
11.0	15.7	I		K=H	2	—		5.5	31.4	32.1	38.0	− 0.3
10.8	12.4	I	4495	N	3	—		5.4	24.8	32.2	44.6	+ 0.4
10.7	19.1	I	4	N	1	—		5.4	38.2	32.2	31.2	− 0.6
9.7	8.6	I	4	K=H	1	—		4.8	17.2	32.8	32.2	+ 1.0
8.6	14.2	II	4496	K=H	2	F		4.3	28.4	33.3	41.0	+ 0.3
8.0	16.9	I	4	K=H	1	—		4.0	33.8	33.6	33.6	− 0.6
7.4	10.8	I	7	N	2	F		3.7	21.6	33.9	47.8	+ 0.7
7.9	11.3	I	7	N	3	—		4.0	22.6	33.6	46.8	+ 0.6
7.6	15.2	I	4	K=H	1	—		3.8	30.4	33.8	39.0	− 0.1
7.0	20.2	I	4497	N	3	F		3.5	40.4	34.1	29.0	− 1.7
6.1	7.4	I	4	K=H	1	—		3.0	14.8	34.6	34.6	+ 1.4
6.4	7.5	I	5	K=H	1	—		3.2	15.0	34.4	34.4	+ 1.3
6.0	11.9	II	2	K=H	1	—		3.0	23.8	34.6	43.6	+ 0.5
6.5	22.4	III	1 2	K=H	1	—		3.2	44.8	34.4	24.6	− 1.3
5.9	10.1	III	4498 1 3	K=H	3	F	Bright	3.0	20.2	34.6	49.2	+ 1.7
4.6	15.6	II	N 2	K=H	1	—		2.3	31.2	35.3	38.2	− 0.1
3.4	10.0	II	a 4499	K=H	1	—		1.7	20.0	35.9	49.4	+ 1.8
3.8	14.5	I	3	N	1	—		1.9	29.0	35.7	40.4	+ 0.2
3.0	22.3	I	4	1	2	—		1.5	44.6	36.1	24.8	− 2.8

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Mean 8

Cow. Br.	Br.	No.	R.A.	Dec.	Mag.	H.	V.	H'.	Red. to 1900.
6.2	5.4								
6.5	5.7	3397	19 34.6	+29 53	4.9	69.2	37.7	69.8	19 35.5 +29 56
6.9	6.1	DM. 3820	19 51.4	+30 23	7.2	70.6	37.4	69.1	19 53.2 +30 30
7.2	6.45	~~DM. 3815~~	~~19 51.0~~	~~+30 34~~	~~6.5~~				
6.5	5.7	DM. 3706	19 37.5	+30 20	6.2	68.7	37.5	68.9	19 39.3 +30 26
7.2	6.4	DM. 4039	19 23.0	+19 59	7.0	68.0	27.4	68.9	19 25.0 +20 4
6.7	5.9	3351	19 21.0	+19 52	5.4	69.0	27.5	70.2	19 21.9 +19 54
5.9	5.1	3471	19 53.9	+30 39	5.4	71.9	37.5	70.2	19 54.7 +30 42
7.3	6.5	DM 3878 ~~DM. 3869~~	19 54.0	+31 26	6.9	71.2	37.4	69.4	19 55.8 +31 33
7.1	6.3	3497	19 59.9	+31 53	5.5	72.9	37.5	70.3	20 0.7 +31 56
7.1/3	6.5	DM. 4027	19 56.1	+21 45	6.3	70.5	27.6	69.4	19 58.1 +21 52
6.4	5.6	3409	19 38.1	+32 9	5.8	69.5	27.7	69.8	19 38.9 +32 11
5.4	4.6	3433	19 45.9	+22 18	5.0	70.7	27.7	70.3	19 46.7 +22 21
6.8	6.0	DM. 3741	19 29.9	+20 16	6.5	68.1	27.7	68.7	19 31.8 +20 20
6.7	5.9	3472	19 54.0	+22 46	5.7	71.2	27.6	70.2	19 54.8 +22 50
6.0	5.2	3420	19 41.8	+33 27	5.0	70.2	37.7	69.9	19 42.6 +33 30
~~6.6~~	~~5.8~~	~~DM. 3733~~	~~19 30.5~~	~~+23 23~~	~~6.2~~				
6.6	5.8	DM. 3547	19 34.3	+33 38	6.5	68.1	37.6	68.7	19 36.0 +33 44
6.3	5.5	3449	19 49.4	+24 0	5.6	71.0	27.7	70.3	19 50.3 +24 4
5.4	4.6	3443	19 48.4	+23 46	4.7	71.0	27.8	70.4	19 49.2 +23 50
6.6	5.8	DM. 3572	19 38.4	+33 49	6.7	68.8	37.6	68.9	19 40.1 +33 53
5.3	4.5	3366	19 27.4	+34 10	4.8	67.8	37.7	69.5	19 28.1 +34 14
6.7	5.9	3485	19 56.9	+24 36	5.4	71.7	27.6	70.3	19 57.8 +24 39
6.8	6.0	3483	19 56.7	+24 28	5.9	71.7	27.7	70.4	19 57.5 +24 31
7.0	6.2	3438	19 47.0	+24 41	5.8	70.8	27.7	70.3	19 47.8 +24 44
6.5	6.0	3357	19 23.7	+24 25	4.7	68.5	27.6	69.8	19 24.6 +24 28
7.3	6.5	~~3458~~	~~19 23.7~~	~~+24 31~~		68.7	27.7	70.0	
5.5	4.7								
6.0	5.2	3460	19 51.8	+34 46	4.0	72.0	27.8	70.3	19 52.6 +34 49
7.1	6.3	3412	19 38.7	+25 29	5.4	69.9	27.8	70.0	19 39.6 +25 32
6.7	5.9	DM. 3878	19 51.4	+35 52	6.4	71.4	37.6	69.6	19 53.1 +35 59
6.5	5.7	DM. 3787	19 40.4	+35 44	8.0	69.4	37.6	69.2	19 42.1 +35 50
		DM. 3786	19 40.3	+35 45	7.0	69.3	37.7	69.1	19 42.0 +35 51
6.0	5.2	3352	19 21.8	+36 5	5.1	66.4	37.6	69.2	19 22.6 +36 7

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F. nw. & c. 8.0 6.2

F. ch. 6.2

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Plate 1624.

V	H	Type	No. lines	K	Focus	Other lines	V.	M.	V.	M.	Correc.
22.2	10.1	I ?	3	N	1	—	11.1	20.2	26.6	51.5	+ 05
20.4	8.6	I	6	K=½H	2	—	10.2	17.2	27.5	54.5	+ 1.4
20.9	18.0	III	2	K=H	1	F2	10.4	36.0	27.3	35.7	- 0.3
20.0	18.4	III	3	K=H	2	F	10.0	36.8	27.7	34.9	- 0.3
19.1	13.6	III ?	12	K=H	1	—	9.6	27.2	28.1	44.5	+ 0.3
19.0	15.0	III b	4500 3	K=H	2	F cum	9.5	30.0	28.2	41.7	- 0
19.9	21.9	III	4501	K=½H	4	F bright cum	10.0	43.8	27.7	27.9	- 1.6
17.0	9.7	III c	4502 2	K=H	2	F2 bright cum	8.5	19.4	29.2	52.3	+ 0.6
17.8	14.3	I	6	K=2H	3	—	8.9	28.6	28.8	43.1	+ 0
17.0	20.0	I	4	K=H	1	—	8.5	40.0	29.2	31.7	- 1.3
16.4	20.9	I	6	N	3	—	8.2	41.8	29.5	29.9	- 0.7
15.5	11.3	III	12	K=H	1	—	7.8	22.6	29.9	49.1	+ 1.0
15.7	18.0	III b	4503 2	K=H	2	F2 cum	7.8	36.0	29.9	35.7	- 0.8
14.0	9.8	I		N	2	—	7.0	19.6	30.7	52.1	+ 1.5
14.6	16.3	I	4	K=H	1	—	7.3	32.6	30.4	39.1	- 0.2
13.6	8.4	III	2	K=H	1	—	6.8	16.8	30.9	54.9	+ 1.8
12.2	9.4	III	2	K=H	1	—	6.1	18.8	31.6	52.9	+ 1.6
11.0	13.2	I b?	4504 6	N	3	cum	5.5	26.4	32.2	43.3	+ 0.3
11.3	16.4	I	4	K=H	1	—	5.6	32.8	32.1	38.9	- 0.4
10.8	20.1	I ?	3	N	1	—	5.4	40.2	32.3	31.5	- 07 -16
9.9	9.5	II ?	2	K=H	1	F2	5.0	19.0	32.7	52.7	+ 0.8
8.8	5.9	I		N	2	—	4.4	11.8	33.3	59.9	+ 1.6
8.1	12.1	I	6	N	3		4.0	24.2	33.7	47.5	+ 0.5
8.7	14.9	I	4505 2	K=H	2	F? cum	4.4	29.8	33.3	41.9	+ 0
8.1	17.6	I	4	K=H	1	—	4.0	35.2	33.7	36.5	- 0.9
8.5	17.9	III	2	K=H	1	—	4.2	35.8	33.5	35.9	- 0.5
7.6	11.6	I		K=½H	2	—	3.8	23.2	33.9	48.5	+ 0.6
7.6	15.9	I	4	K=H	1	—	3.9	31.8	33.8	39.9	- 0.3

III? 5.2, 5.5 Retuline spectrum

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Means

rec.	Cou. Br.	Cou. Br.	No.	R.A.	Dec.	Mag.	H.	V.	M'	Red. to 1900
05	6.9	6.1	3462	19	32.3 +16 29	5.3	72.5	27.6	720	19 53.2 +16 31
1.4	6.0	5.2	3481	19	56.2 +27 26	4.9	73.4	37.6	720	19 57.6 +27 29
0.3	7.0 / 7.3	6.2 / 6.5	3402	19	35.7 +17 12	4.4	71.7	27.6	72.0	19 36.5 +17 15
0.3	6.5 / 6.8	5.7 / 6.0	3399	19	34.7 +17 44	4.3	71.5	27.7	718	19 35.6 +17 47
0.3	7.3 / 7.6	6.5 / 6.8	Dm. 3493	19	44.1 +28 3	6.8	71.3	37.7	71.0	19 45.9 +28 12
0	6.2 / 6.8	5.4 / 6.0	3421	19	42.0 +18 14	3.7	72.0	27.7	72.0	19 42.9 +18 17
1.6	5.1	4.3	3362	19	25.9 +27 43	3.0	69.7	37.7	71.3	19 26.7 +27 45
0.6	6.2 / 6.8	5.4 / 6.0	3466	19	53.4 +19 10	3.6	72.8	27.7	72.2	19 54.3 +19 13
0	5.7	4.9	3424	19	43.7 +18 51	3.0	72.3	27.7	72.3	19 44.5 +18 53
1.3	6.7	5.9	3377	19	30.1 +29 12	5.4	70.1	37.7	71.4	19 30.9 +29 14
0.7	5.8	5.0	3372	19	29.3 +19 31	3.0	71.1	27.7	71.8	19 30.2 +19 33
1.0	7.2 / 7.5	6.4 / 6.7	Dm. 3802	19	49.3 +29 49	6.9	71.9	37.6	709	19 31.1 +29 36
0.8	6.7 / 7.0	5.9 / 6.2	3397	19	34.6 +29 53	4.9	70.6	37.7	71.4	19 35.5 +29 56
1.3	6.3	5.5	3471	19	53.9 +30 39	5.4	73.5	37.6	72.0	19 54.7 +30 42
1.2	6.7	5.9	Dm. 3706	19	37.5 +30 20	6.2	70.1	37.6	703	19 39.3 +30 26
1.8	7.0 / 7.5	6.2 / 6.7	Dm. 3862	19	36.2 +30 43	7.0	73.0	37.5	71.2	19 38.0 +30 50
	~~7.3~~ / ~~7.5~~	~~6.5~~ / ~~6.7~~	~~Dm. 3853~~	~~19~~	~~55.0 +30 50~~	~~6.9~~				
1.6	7.3 / 7.5	6.5 / 6.7	Dm. 3878	19	54.0 +31 26	6.9	72.8	37.5	71.2	19 53.8 +31 33
0.3	5.6	4.8	3433	19	45.9 +22 18	5.0	72.3	27.8	72.0	19 46.7 +22 21
0.4	6.8	6.0	3409	19	38.1 +32 9	5.8	70.9	37.8	71.3	19 38.9 +32 11
-0.7	7.3	6.5	Dm. 3741	19	29.9 +22 16	6.5	70.1	27.7	70.8	19 31.8 +22 22
~~1.6~~			~~3377~~	~~19~~	~~30.2 +29 12~~	~~5.4~~				
0.8	6.9	6.1	3472	19	54.0 +22 46	5.7	73.0	27.8	722	19 54.8 +22 50
1.6	6.0	5.2	3500	20	1.7 +23 16	5.3	13.5	27.7	11.9	20 2.5 +23 19
0.5	5.3	4.5	3443	19	48.4 +23 46	4.7	72.6	27.8	721	19 49.2 +23 50
0	6.3	5.5	3420	19	41.8 +33 27	5.0	71.6	37.8	716	19 42.6 +33 30
-0.9	6.9	6.1	Dm. 3547	19	34.3 +33 38	6.5	69.5	37.6	70.4	19 36.0 +33 44
-0.5	7.3 / 7.6	6.5 / 6.8	Dm. 3733	19	34.5 +23 23	6.2	70.3	27.6	70.8	19 36.0 +23 29
+0.6	6.4	5.6	3449	19	49.4 +24 0	5.6	72.6	27.8	72.0	19 50.3 +24 4
-0.3	6.8	6.0	~~Dm. 3760~~ / Dm. 3572	~~19~~ / 19	~~39.3 +23 35~~ / 38.4 +33 49	~~7.2~~ / 6.7	70.2	37.7	705	19 40.1 +33 53

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Plate 1624.

r	H	Type	No. lines	K	Focus	After lines	V.	H.	V.	H.	Correc.
7.1	20.8	I ?	4506 7	N	3	F, cen	3.6	41.6	34.1	30.1	− 1.9
6.1	8.2	II ?	2	K=H	1	—	3.0	16.4	34.7	35.3	+ 1.3
6.5	8.3	IIa	4507 2	K=H	1	cen	3.2	16.6	34.5	35.1	+ 1.2
6.0	10.8	III	4508 2	K=H	1	F, cen	3.0	21.6	34.7	30.1	+ 1.5
6.1	12.7	III ?	2	K=H	1	—	3.0	25.4	34.7	46.3	+ 0.4
4.0	15.1	I		K=H	1	—	2.0	30.2	35.7	41.5	− 0.1
3.5	10.1	III ?	2	K=H	1	—	1.8	20.2	35.9	31.5	+ 0.9
3.6	10.7	II ?	2	K=H	1	—	1.8	21.4	35.9	30.3	+ 1.6
3.1	22.9	I		K=H	2	—	1.6	45.8	36.1	25.9	− 3.1

F. nw. & e. F. ch.

Plate 1503

7.9	6.6									6.9	
21.9	13.2	II ?	2	K=H	1	—	11.0	26.4	21.5	65.9	+ 0.2
22.6	20.7	I		N	1	—	11.3	41.4	21.2	30.9	− 0.3
20.4	22.5	I	7	K=H	2	—	10.2	43.0	22.3	47.3	− 1.1
19.4	18.7	II a ?	4509 2	K=H	1	cen	9.7	37.4	22.8	54.9	− 0.6
18.6	9.2	I ? I	5	K=H	1	F	9.3	18.4	23.2	73.9	+ 0.3
18.8	11.3	III		K=H	1	F 2	9.4	22.6	23.1	69.7	+ 0.6
18.6	15.2	I	4510 8	?	3	F, cen	9.3	30.4	23.2	61.9	− 0
17.0	8.3	I		N	2	—	8.5	16.6	24.0	75.7	+ 1.2
17.4	12.2	I	I 3 5	N	K=H	1	— F	8.7	24.4	23.8	67.9	+ 0.4
17.0	20.8	I	6	N	2	—	8.5	41.6	24.0	50.7	− 1.0
17.5	21.3	I	6 7	N	3	F	8.8	42.6	23.7	49.7	− 1.0
16.5	10.5	III	2	K=H	1	F 2	8.2	21.4	24.3	70.9	+ 0.7
16.1	11.7	III ?	III 20 2	K=H	K=H	1 F	—	8.0	23.4	24.5	68.9	+ 0.6
16.0	17.3	II a ?	4511 3	K=H	2	F, cen	8.0	34.6	24.5	57.7	− 0.4
16.2	17.5	I	6	N	2	F	8.1	35.0	24.4	57.3	− 0.4
15.6	8.6	I	4	K=H	1	—	7.8	17.2	24.7	75.1	+ 0.4
15.5	12.0	I	7	K=H	3	—	7.8	24.0	24.7	68.3	+ 0.2

III 5.8, 6.2.

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1624 Mean 8

Br.	Br. Cor.	No.	R.A.	Dec.	Mag.	H.	V.	M'	Red to 1900.
5.3	4.5	3366	19 27.4	+34 12	4.8	69.0	37.8	70.9	19 28.1 + 34 14
6.9	6.1	3485	19 56.9	+24 36	5.4	73.3	27.6	72.0	19 57.8 + 24 39
6.9	6.1	3483	19 56.7	+24 28	5.9	73.3	27.7	71.1	19 57.5 + 24 31
5.6	4.8								
6.0	5.2	3460	19 51.8	+34 46	4.0	73.4	37.8	71.9	19 52.6 + 34 49
7.3	6.5								Am. 3914 43.9 + 24 37
7.5	6.7	3438	19 47.0	+24 41	5.8	72.4	27.7	72.0	19 47.8 + 24 44
6.7	5.9	3787	19 40.4	+35 44	8.0	70.6	37.7	70.7	19 42.1 + 35 50
Am.		3786	19 40.3	+35 45	7.0	70.5	37.8	70.6	19 42.0 + 35 51
7.3	6.5								
7.5	6.7	Am. 4041	19 51.8	+23 34	7.6	73.0	27.7	71.1	19 53.7 + 26 1
6.9	6.1	Am. 3878	19 51.4	+35 52	6.4	72.8	37.7	71.2	19 53.1 + 35 59
6.5	5.7	3352	19 21.8	+36 5	5.1	67.6	37.7	70.7	19 22.6 + 36 7

1523 Mean 7

Am. 4088 5.0 + 21 27

7.0	6.3	2517	20 6.1	+21 31	6.2	32.5	32.5	32.3	20 7.0 + 21 35
		3453	19 50.4	+11 6	5.4	91.8	22.4	92.1	19 51.5 + 11 10
6.1	5.4	3433	19 45.9	+22 18	5.0	90.9	32.5	92.0	19 46.7 + 22 21
6.9	6.2	3472	19 54.0	+22 46	5.7	91.4	32.5	92.0	19 54.8 + 22 50
6.9	6.2								
6.7	6.4								
7.1	6.4	Am. 4360	20 13.2	+13 6	6.2	31.6	22.4	31.9	20 13.3 + 13 14
6.8	6.1								
7.0	6.3	3531	20 10.3	+23 8	5.5	32.9	32.5	32.3	20 11.2 + 23 12
6.0	5.3	3500	20 1.7	+23 16	5.3	32.1	32.6	32.1	20 2.5 + 23 19
6.2	5.5	3560	20 16.9	+24 4	5.4	33.5	32.6	32.3	20 17.7 + 24 7
7.0	6.4	~~Am. 4313 20 6.7 +13 38~~			~~7.0~~				
7.1		Am. 3935	20 7.4	+23 48	7.0	31.8	32.5	31.4	20 9.3 + 23 56
6.5	5.8	3449	19 49.4	+24 0	5.6	91.0	32.5	92.0	19 50.3 + 24 4
5.5	4.8	3443	19 48.4	+23 46	4.7	91.0	32.6	92.0	19 49.2 + 23 50
6.7	6.0								
7.0	6.3	3540	20 11.7	+24 18	5.5	33.1	32.5	32.4	20 12.5 + 24 22
7.2	6.5								
7.4	6.7	Am. 4053	20 8.3	+24 24	8.0	31.7	32.4	31.1	20 10.2 + 24 32
6.3	5.6	3485	19 56.9	+24 36	5.4	91.5	32.6	91.9	19 57.8 + 24 39
6.4	5.7	3483	19 56.7	+24 28	5.9	91.7	32.6	92.1	19 57.5 + 24 31
7.0	6.3	Am. 4268	20 14.5	+14 40	6.5	31.7	32.5	31.3	20 16.6 + 14 48
5.9	5.2	3523	20 8.7	+14 50	5.1	32.7	22.6	32.5	20 9.6 + 14 54

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Plate 1503.

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
15.6	11.9	II		K=H	1	F?	7.8	23.8	24.7	68.5	− 1.3 + 0.5	
14.5	10.1	II a	2	K=H	1	Leen	7.2	20.2	25.3	72.1	+ 0.9	7.07
14.7	11.4	I b	3				7.4	22.8	25.1	69.5	+ 0.7	5
13.0	12.9	I	2				6.5	25.8	26.0	66.5	+ 0.4	6
13.1	14.3	II?	2	K=H	1	Leen	6.6	28.6	25.9	63.7	+ 0.1	7.47
13.8	17.1	I	2				6.9	34.2	25.6	58.1	− 0.2	6
13.4	18.1	III	2	K=H	1		6.7	36.2	25.8	56.1	− 0.6	7.37 7.55
13.0	19.2	II	2	K=H	1		6.5	38.4	26.0	53.9	− 0.8	7.
12.3	12.9	II a	3	K=H	1	F?	6.2	25.8	26.3	66.5	+ 0.4	7.37
12.4	13.0	4513		K=H	1							7.37
12.3	13.0	II a?	2	K=H	1	F? Leen	6.2	26.0	26.3	66.3	+ 0.4	6.86
12.2	13.5	I	2	K=H	2	F	6.1	27.0	26.4	65.3	+ 0.3	6.
12.7	19.6	I	3	K=H	1		6.4	39.2	26.1	53.1	− 0.3	6.97
12.2	19.7	I	2				6.1	39.4	26.4	52.9	− 0.4	6.
11.2	12.4	III	2	K=H	1		5.6	24.8	26.9	67.3	+ 0.6	7.37 7.55
11.7	16.7	II	2	K=H	1	F	5.8	33.4	26.7	58.9	− 0.1	6.86
11.2	19.0	II?	2	K=H	1		5.6	38.0	26.9	54.3	− 0.8	7.27
10.4	9.0	III	2	K=H	1	F	5.2	18.0	27.3	74.3	+ 0.6	7.07 7.37
10.4	10.9	I	2	K=H	1	F	5.2	21.8	27.3	70.5	+ 0.8	6.76
10.4	11.2	I? 4514	2	K=H	2	F?	5.2	22.4	27.3	69.9	+ 0.8	6. 6.
10.5	17.6	I	2	K=H	3	F	5.2	35.2	27.3	57.1	− 0.6	5.
9.2	13.7	II?	2	K=H	1		4.6	27.4	27.9	64.9	+ 0.3	7.07
8.8	10.8	I	2	K=H	1		4.4	21.6	28.1	70.7	+ 1.0	6.97
8.6	11.9	I	2	K=H	3		4.3	23.8	28.2	68.5	+ 0.7	5.
8.8	16.8	II a 4515	2	K=H	1	Leen	4.4	33.6	28.1	58.7	− 0.4	6.87
8.2	22.2	II?	3	K=H	1	F	4.1	44.4	28.4	47.9	− 0.7	6.86
8.7	24.5	I	3		1		4.4	45.0	28.1	47.3	− 1.8	6.
7.6	10.4	III	2	K=H	1	F?	3.8	20.8	28.7	71.5	+ 1.1	7.24 7.44
7.1	13.3	III	2	K=H	1		3.6	26.6	28.9	65.7	± 0.2	7.24 7.55

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Spectrum of Dm +26°3826 superposed on this slit Mean 7

325 92.3

Br.	Br. (Cor.)	No.	R.A.	Dec.	Mag.	H.	γ	H′	Red to 1900
6.9	6.2	3438	19 47.0	+ 24 41	5.8	91.8	32.5	92.1	Dm. 3914 45.9 + 24 37
~~7.0~~	~~6.3~~	~~3523~~	~~20 8.7~~	~~+14 50~~	~~5.1~~				19 47.8 + 24 4
7.0 7.1	6.4	Dm. 4189	20 12.1	+ 25 12	7.3	32.3	32.4	31.4	20 14.0 + 25 20
5.1	4.4	3530	20 10.2	+ 25 14	4.8	33.0	32.6	32.3	20 11.0 + 25 17
6.3	5.6	3520	20 7.0	+ 26 7	5.9	32.8	32.6	32.4	20 7.8 + 26 11
7.4 7.4	6.7	Dm. 4116	20 2.6	+ 25 32	7.8	31.2	32.5	31.1	20 4.5 + 26 0
6.2	5.5	3487	19 58.0	+ 15 42	5.2	92.2	22.6	92.4	19 58.9 + 15 45
7.3 7.4	6.7								
7.5 7.5	7.0	Dm. 4060	19 54.2	+ 25 48	6.4	90.4	32.5	91.0	19 56.1 + 25 53
7.0	6.3	Dm. 4041	19 51.8	+ 25 54	7.6	90.2	32.4	91.0	19 53.7 + 26 1
~~6.4~~ 7.8	6.1	Dm. 3827	20 5.9	+ 26 19	7.2	31.7	32.5	31.3	20 7.8 + 26 27
7.3 7.0	6.3	~~Dm. 3826~~	~~20 5.8~~	~~+ 26 28~~	~~6.3~~				20 7.7 + 26 36
7.0 7.1	6.3 6.7								
6.8 6.8	6.1	* 3519	20 6.8	+ 26 27	5.8	32.8	32.6	32.4	20 7.6 + 26 31
6.0	5.3	3515	20 5.5	+ 26 33	5.5	32.3	32.7	32.2	20 6.4 + 26 37
		Dm. 4086	19 51.7	+ 16 6	7.0	90.9	22.5	91.2	19 53.7 + 16 13
6.9 7.1	6.4	~~Dm. 4141~~	~~19 51.8~~	~~+ 25 59~~	~~7.9~~				
6.1	5.4	3462	19 52.3	+ 16 29	5.3	91.7	22.6	92.1	19 53.2 + 16 31
7.3 7.3	6.6								
7.5 7.6	6.9	Dm. 3831	20 7.0	+ 26 51	7.9	31.8	32.4	31.3	20 8.9 + 26 39
6.8 6.9	6.2	3491	19 58.7	+ 16 45	6.0	92.1	22.6	92.2	19 59.7 + 16 48
7.2 7.3	6.6	Dm. 3744	19 51.9	+ 26 52	8.0	89.9	32.5	90.7	19 53.8 + 26 59
~~7.0~~	~~6.4~~	~~Dm. 3574~~	~~19 53.8~~	~~+ 27 7~~	~~7.0~~				Dm. 4294 19.8 + 17 20
7.0 7.1	6.4								
7.8 7.4	6.7	3553	20 14.9	+ 17 25	6.2	32.9	22.6	32.3	20 15.8 + 17 28
6.7 6.6	5.9	Dm. 3668	20 10.4	+ 27 21	7.1	32.2	32.5	31.4	20 12.3 + 27 29
6.1	5.4								
6.6	5.9	3534	20 10.8	+ 27 27	4.8	33.2	32.6	32.4	20 11.7 + 27 30
5.4	4.7	3481	19 56.2	+ 27 26	4.9	91.4	32.6	92.0	19 57.0 + 27 29
~~Dm. 3636~~	~~20 4.4~~	~~27~~	~~30~~	~~7.6~~					
7.0 7.3	6.6	Dm. 3645	20 4.6	+ 28 0	7.1	32.0	32.6	31.7	20 6.4 + 28 8
~~Dm. 4276~~	~~20 10.0~~	~~17~~	~~55~~	~~7.8~~					
6.9 7.1	6.4	Dm. 3683	20 10.7	+ 28 3	7.7	32.3	32.5	31.3	20 12.6 + 28 13
5.7	5.0	3525	20 9.3	+ 28 20	5.3	33.1	32.6	32.4	20 10.2 + 28 24
~~Dm. 4265~~	~~19 56.8~~	~~+ 18~~	~~7~~	~~7.0~~					
6.8 7.0	6.3	Dm. 3595	19 56.8	+ 28 7	7.1	90.4	32.5	90.8	19 58.6 + 28 14
6.8 6.7	6.0	Dm. 4276	19 45.9	+ 18 18	6.6	90.3	22.4	91.0	19 47.9 + 18 23
6.7	6.0	Dm. 3493	19 44.1	+ 28 5	6.8	89.1	32.5	90.9	19 45.9 + 28 12
~~7.2 7.1~~	~~6.4~~	~~Dm. 4247~~	~~20 11.2~~	~~+ 18 50~~	~~8.0~~				
7.4 7.4	6.7	Dm. 3695	20 11.6	+ 28 42	7.0	32.4	32.5	31.3	20 13.4 + 28 50
7.2 7.3	6.6								
7.5 7.6	6.9	Dm. 4417	20 4.8	+ 18 57	7.5	31.4	22.6	31.2	20 6.8 + 19 5

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Plate 1503

V	H	Type	No. Lines	K	Focus	Other Lines	V.	M.	V.	M.	Correc.	B
7.1	13.5	IIa 4515a	2	K=H	K=H	1	—	seen 3.6	27.0 6.8	28.9	65.3	+ 0.4	7.27
7.0	19.2	IIa 4516	2	K	H	3	Bright	seen 3.5	38.4 9.6	29.0	53.9	− 0.5	6.
6.4	9.5	IIa² 4517	2	K=H	K=H	1	F?	seen 3.2	19.0 4.8	29.3	73.3	+ 1.4	6.86
6.0	16.1	IIIa 4518	3	K=H	K=H	1	F	F seen 3.0	32.2 8.0	29.5	60.1	− 0.1	6.76 6.6
6.1	16.5	III	2	K	H	1	F?	3.0	33.0 8.2	29.5	39.3	− 0.4	7.0 6.7
6.1	17.9	IIa IIa 4518a	2	2	2	K=H	K=H	seen 3.0	35.8 9.0	29.5	36.5	+ 0.7	7.27 7.
5.6	11.8	I? I	4	N	K=H	1	—	— 2.8	23.6 6.9	29.7	68.7	+ 0.8	7.07
5.4	20.1	II?	4	N		1	—	2.7	40.2 10.0	29.8	52.1	− 1.4	6.
4.7	8.7	III?	2	2	2	K=H	K=H	F? — 2.4	17.4 4.4	30.1	74.9	+ 1.7	7.2 7.3 7.
4.4	13.3	Ia? IIa? 4519	2	2	K=H	K=H	1	seen 2.2	26.6 6.8	30.3	63.7	+ 0.5	6.96
4.1	14.0	IIa? 4519a	2	K	K=H		1	— seen 2.0	28.0 7.0	30.5	64.3	+ 0.1	7.07
4.0	18.5	I	7	N	3			2.0	37.0 9.2	30.5	35.3	− 1.0	5.
4.4	19.2	I	3	N		1	—	2.2	38.4 9.6	30.3	33.9	+ 1.2	6.
3.5	16.1	III?	2	K	H	1	—	1.8	32.2 8.0	30.7	60.1	− 0.4	7.
3.6	17.2	II a? 4520	2	K	H	1	F?	seen 1.8	34.4 8.6	30.7	38.9	− 0.6	6.8
3.4	17.5	II	2	K	H	1	—	1.7	35.0 8.8	30.8	37.3	+ 0.7	6.
2.2	13.3	II?	2	K	H	1	—	1.1	26.6 6.6	31.4	63.7	+ 0.2	
2.3	18.0	I	4	N		1	—	1.2	36.0 7.0	31.3	56.3	− 0.8	

III? 5.8, 6.1.

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15-03

Mean 7

Br.	Cor. Br.		No.	R.A.	Dec.	Mag.	N.	V.	M.	Red. to 1900
7.27.2	6.5	Am.	3646	20	4.6	+ 28 56	7.5	31.6	32.5	31.3	20 6.4 + 29 4
5.6	4.9										
6.3	5.6		3466	19	53.4	+ 19 10	3.6	91.8	22.7	92.3	19 54.3 + 19 13
6869	6.2	Am.	3992	20	13.9	+ 29 16	6.8	32.9	32.5	31.5	20 13.7 + 29 24
6.7 6.6	5.9										
7.0 7.0	6.3		3496	19	59.8	+ 19 39	5.4	92.0	22.6	92.1	20 0.7 + 19 42
6.9	6.2										Am. 3872 57.7 + 29 31
7.2	6.5		3490	19	58.7	+ 29 35	5.8	91.7	32.6	92.1	19 59.5 + 29 38
7.2 7.3	6.5		3838	19	54.4	+ 29 31	7.0	90.2	32.5	90.9	19 56.2 + 29 38
7.0	6.8	Am.	~~3839~~	~~19~~	~~54.5~~	~~+ 29 25~~	~~7.4~~				
7.07.2	6.5	Am.	3948	20	8.4	+ 29 46	7.0	32.0	32.6	31.2	20 10.2 + 29 54
6.7	6.0	Am.	3802	19	49.3	+ 29 49	6.9	89.5	32.5	90.9	19 51.1 + 29 56
7.1 7.3	6.4	Am.	3998	20	16.6	+ 30 8	7.4	34.0	32.5	32.3	20 18.4 + 30 16
7.3	6.6	Am.	~~3929~~	~~20~~	~~5.1~~	~~+ 30 21~~	~~6.8~~				
6.9 6.8	6.1	Am.	3929	20	5.1	+ 30 21	6.8	31.7	32.6	31.2	20 6.9 + 30 29
7.07.2	6.5		3512	20	4.6	+ 20 33	6.2	32.6	22.6	32.5	20 5.5 + 20 37
5.8	5.1		3471	19	53.9	+ 30 39	5.4	90.9	32.6	91.9	Am. 3837 52.9 + 30 35
6.8	6.1	Am.	3820	19	51.4	+ 30 23	7.2	89.8	32.6	91.0	19 54.7 + 30 42
7.1 7.3	6.4 6.6	Am.	3878	19	58.5	+ 30 50	7.4	90.7	32.6	91.1	19 53.2 + 30 30
		Am.	3862	19	56.2	+ 30 43	7.0	90.6	32.5	91.2	20 0.3 + 30 57
6.8	6.1	Am.	~~4406~~	~~19~~	~~57.5~~	~~+ 20 39~~	~~7.5~~				19 56.0 + 30 50
6.9	6.2	Am.	3853	19	55.2	+ 30 50	6.9	90.2	32.5	90.9	
		Am.	~~3862~~	~~19~~	~~56.2~~	~~+ 30 43~~	~~7.0~~				19 57.0 + 30 57
											Am. 4088 5.0 + 21 27
			3517	20	6.1	+ 21 31	6.2	32.7	22.6	32.5	20 7.0 + 21 35
		Am.	3878	19	54.0	+ 31 26	6.9	90.0	32.6	90.8	19 53.8 + 31 33

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1887phae.proj..844f

F. m. & c. 8.0 6.8

F. ch. 6.8

September 30, 1887.

Plate 1604

			Type	No. lines	K	Focus	Other lines	V.	M.	V.	M.	Correc.	
9.40	21.2	7.7	III	2	K=H	1	—	10.6	15.4	42.0	76.4	+ 3.5	
	21.2	15.7	I ?	3	N	1	—	10.6	31.4	42.0	60.4	- 0.5	
√ √	21.1	17.8	III	2	K=H	1	— —	10.6	35.6	42.0	56.2	- 2.3	
√ √	18.4	11.3	III	2	K=H K=H	1	— —	9.2	22.6	43.4	69.2	+ 1.9	
√ √	16.9	14.5	I I	4	H K=H K=H	1	F2 —	8.4	29.0	44.2	62.8	+ 0.1	
√ √	16.4	20.1	III	2	K=H K=H	1	— —	8.2	40.2	44.4	51.6	- 2.5	
	16.7	20.8	III	2	K=H	1	—	8.4	41.6	44.2	50.2	- 4.8	
	18.0	23.3	II	2	K=H	2	F2	9.0	46.6	43.6	45.2	- 4.1	
	15.8	10.0	II	2	K=H	2	F2	7.9	20.0	44.7	71.8	+ 2.5	
√ √	15.7	8.4	II ?	2	K=H K=H	1	— —	7.8	16.8	44.8	75.0	+ 3.6	
III ? 6.2, 6.6.	15.7	19.0	III	3	K=H	2	F. bright	7.8	38.0	44.8	53.8	- 2.3	
	15.4	22.1	I	10	N	4	F	7.7	44.2	44.9	47.6	- 6.0	
√ √	14.2	9.2	III	2	K=H K=H	1	— —	7.1	18.4	45.5	73.4	+ 3.1	
	14.6	11.3	II ?	2	K=H	1	—	7.3	22.6	45.3	69.2	+ 3.3	
√ √	14.4	11.6	II ?	2	K=H	1	— —	7.2	23.2	45.4	68.6	+ 3.0	
√ √	14.3	15.1	IIa ?	2	K=H K=H	1	Dem 7.2	30.2	45.4	61.6	± 0		
	14.2	17.1	I	8	K=H	2	—	7.1	34.2	45.5	57.6	- 1.9	
	14.3	23.5	III ?	2	K=H	2	F? Dem.	7.2	47.0	45.4	44.8	- 7.5	
	13.1	10.1	III	2	K=H	1	—	6.6	20.2	46.0	71.6	+ 2.3	
√ √	13.1	10.4	I ?	3	N K=H	1	— —	6.6	20.8	46.0	71.0	+ 2.3	
√ √	13.6	16.1	I ?	3	N K=H	1	— —	6.8	32.2	45.8	59.6	- 0.6	
	13.3	18.8	I	2	N	2	—	6.6	37.6	46.0	54.2	- 2.3	
	13.2	23.2	a ?	2	K=K	1	Dem 6.6	46.4	46.0	45.4	- 4.9		
√ √	12.4	10.0	I	5	N K=H	1	— —	6.0	20.0	46.6	71.8	+ 4.3	
	12.4	11.7	I	6	K=H	2	—	6.2	23.4	46.4	68.4	+ 1.9	
√ √	12.6	11.9	I	5	N K=H	1	— —	6.3	23.8	46.3	68.0	+ 1.8	
III ? 5.8, 6.1, 7.0.	12.6	12.2	III	2	K=H	3	F Bright	6.3	24.4	46.3	67.4	+ 2.5	
	12.4	12.8	I	5	N K=H	3	—	6.2	24.6	46.4	67.2	+ 2.4	

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Mean 10

Cor. Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	M.	N.	Th.	Red. to 1900
7.1	6.1	3569	20 19.1	+31 48	4.6	34.5	42.4	31.0	20 19.9 +31 32
7.5	6.5								Rm. 3925 19 58.9 +31 49
7.2	6.2	3497	19 59.9	+31 33	5.5	91.3	42.5	91.8	20 0.7 +31 36
7.2	7.3	6.3							Rm. 3549 19 58.1 +41 52
7.5	7.6	6.6	3470	19 53.9	+41 36	6.6	89.5	32.3	91.8 19 54.6 +41 39
7.3	7.3	6.3							Rm. 3827 20 1.8 +33 18
7.5	7.6	6.6	3533	20 10.8	+33 22	5.8	33.4	42.6	31.5 20 11.6 +33 26
									Rm. 3881 20 2.1 +34 0
6.8	6.9	5.9	3510	20 3.1	+34 4	6.2	32.1	42.5	32.0 20 3.8 +34 8
7.4	7.2	6.2							
7.6	7.5	6.5	Rm. 3778	19 48.3	+34 12	6.8	88.5	42.4	91.0 19 50.0 +34 19
7.3		6.3							
7.6		6.6	Rm. 3261	19 44.4	+44 0	7.5	86.0	32.4	90.8 19 45.8 +44 7
6.7	6.7		3420	19 41.8	+33 27	5.0	88.4	42.4	92.5 19 42.6 +33 30
6.8	5.8		3551	20 14.0	+34 37	5.2	34.0	42.5	31.5 20 14.8 +34 40
			Rm. 3995	20 16.9	+34 32	7.2	33.7	42.3	30.1 20 18.6 +34 40
7.2	7.4	6.4	~~Rm. 4086~~	~~20 17.0~~	~~+35 2~~	6.4			18.8 +34 5
6.0		5.0							
6.5		5.5	3460	19 51.8	+34 46	4.0	89.8	42.6	92.1 19 52.6 +34 49
4.0		3.0	3419	19 41.2	+44 30	3.0	85.4	52.5	91.4 19 41.9 +44 33
7.1	7.2	6.2							Rm. 3152 20 17.4 +45 19
7.4	7.6	6.5	3566	20 18.2	+45 24	5.8	36.6	52.5	31.5 20 18.9 +45 27
									Rm. 3819 20 11.3 +45 8
7.0		6.0	3542	20 12.1	+45 13	5.8	34.7	52.5	31.4 20 12.8 +45 16
7.3	7.3	6.3	Rm. 3118	20 10.6	+45 18	7.1	33.8	52.5	30.8 20 13.1 +45 26
7.8	7.7	6.6	Rm. 3953			7.0	30.7	42.6	
			3955	20 0.5	+35 23	8.0			20 2.2 +35 31
7.2		6.2	~~3504~~	~~20 1.9~~	~~+35 38~~	~~5.5~~	~~32.1~~	~~42.8~~	~~32.1~~ ~~20 2.7 +35 42~~
6.6		5.6	3478	19 55.5	+45 27	5.7	89.7	52.5	91.6 19 56.2 +45 30
6.5		5.5	3407	19 37.2	+45 14	5.1	84.2	52.4	91.7 19 37.7 +45 17
7.3		6.3	40579	13.0	+35 48	8.0			
7.6		6.6	~~Rm. 3139~~	~~20 14.2~~	~~+46 5~~	6.6	34.4	52.5	30.1 20 13.6 +46 0
			~~Rm. 4059~~	~~20 13.0~~	~~+35 48~~	8.0	33.8	42.4	31.3 ~~20 11.7 +35 56~~
6.8	6.8	5.8	~~3139~~						
			~~Rm. 3766~~	~~20 14.2~~	~~+45 3~~	6.6			2.8 +35 8
			3929	19 58.0	+35 38	7.4	90.2	42.4	90.8 19 59.7 +35 45
7.0	7.2	6.2	Rm. 3930	19 58.1	+35 38	7.0	90.3	42.4	90.9 19 59.8 +35 45
6.5		5.5	Rm. 3878	19 51.4	+35 32	6.4	89.8	42.5	91.3 19 53.1 +35 39
			Rm. 3786	19 40.3	+35 44	7.0	86.7	42.3	91.6 19 42.0 +35 50
6.7		5.7	Rm. 3787	19 40.4	+35 44	8.0	86.8	42.3	91.7 19 42.1 +35 50
			~~Rm. 2752~~	~~19 36.4~~	~~+46 3~~	~~7.7~~			
			~~3550~~	~~20 14.0~~	~~+36 37~~	~~5.6~~	~~34.0~~	~~42.6~~	~~31.1~~
6.8	7.0	6.0	3558	20 16.1	+46 28	6.1	36.1	52.5	31.6 20 16.7 +46 31
5.9		4.9	3529	20 10.1	+36 27	5.0	33.5	42.6	31.6 20 10.8 +36 30
			Rm. 3949	20 8.6	+36 10	7.0	32.4	42.5	30.6 20 10.3 +36 18
6.9	7.0	6.0	~~Rm. 2883~~	~~20 9.1~~	~~+46 15~~	~~7.5~~			
6.9		4.9							
6.3		5.3	3528	20 9.9	+46 23	3.8	34.3	52.7	31.8 20 10.3 +46 26
5.6		4.6	3527	20 9.5	+46 27	4.9	34.1	52.6	31.7 20 10.2 +46 31

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Plate 1504.

V	H	Type	Lines	K	Focus	Other Lines,	V.	H.	V.	H.	Correc.	
12.4	13.8	I	6	N	3	diff	6.2	27.6	46.4	64.2	+ 0.7	
12.7	17.2	I ?	3	N	1	—	6.4	34.4	46.2	57.4	− 1.2	
11.9	16.2	I	6	K=.5H	2	—	6.0	20.4	46.6	71.4	+ 2.7	
11.8	11.0	I	4 H	K=H	K=H 1	— —	5.9	22.0	46.7	69.8	+ 2.4	
11.8	17.5	I	H527	N	2	diff	5.9	35.0	46.7	56.8	− 1.5	
11.8	19.5	Ia	H528 3	K=H	2	F diff	5.9	39.0	46.7	52.8	− 4.2	
10.9	8.1	I ?	4	N	2	—	5.4	16.2	47.2	75.6	+ 4.2	
10.6	11.6	III	3	K=H	2	F. Bright diff	5.3	23.2	47.3	68.6	+ 3.1	
10.4	12.7	I ? I	3 H	N	N 1	— F	5.2	25.4	47.4	66.4	+ 2.3	
10.2	19.0	II	2	K=H	1	F ?	5.1	38.0	47.5	53.8	− 3.9	
10.0	19.3	I	4	N	2	—	5.0	38.6	47.6	53.2	− 4.1	
10.8	23.7	III ?	N	K=H	1	F ?	5.4	47.4	47.2	44.4	− 5.4	
9.8	10.5	III ?	H530 3	K=H	2	F. bright diff	4.9	21.0	47.7	70.8	+ 2.7	
9.5	15.2	I	4	N	1	—	4.8	30.4	47.8	61.4	− 0.1	
9.6	17.9	I	4	N	1	—	4.8	35.8	47.8	56.0	− 1.9	
9.0	18.3	I ?	4	K=H	1	—	4.3	36.6	48.1	55.2	− 2.1	
9.0	19.0	I	8	N	3	F	4.3	38.0	48.1	53.8	− 2.3	
8.8	6.6	I	3	N	1	—	4.4	13.2	48.2	78.6	+ 5.4	
8.1	11.2	I	I 4 6	N	K=5H 1	— —	4.0	22.4	48.6	69.4	+ 2.4	
7.9	6.8	I	6	K=.5H	2	—	4.0	13.6	48.6	78.2	+ 8.4	
7.0	9.6	I ?	4	K=H	1	—	2.5	19.2	49.1	72.6	+ 3.6	
7.2	8.5	III ?	1 2	K=H	K=H 1	— —	3.6	17.0	49.0	74.8	+ 4.3	
6.6	10.7	II	II 1 2	K=H	K=H 1 1	— —	3.3	21.4	49.3	70.4	+ 2.7	
7.5	8.9	II	H531 3	K=1.5H	4	F bright diff	2.8	17.8	49.8	74.0	+ 4.1	
5.6	11.6	I ? I	3 H	N	K=H 1	— —	2.8	23.2	49.8	68.6	+ 3.6	
5.2	18.3	I		N	2	—	2.6	36.6	50.0	55.2	− 2.4	
4.1	17.5	II	H532 2	K=H	1	diff	2.0	35.0	50.6	56.8	− 2.7	
4.6	20.8	I	3	N	1	—	2.3	41.6	50.3	50.2	− 4.1	

Peculiar spectrum

Peculiar spectrum

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Mean 10

Cor. Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	M. v. M.			Red. to 1900.
5.8	4.8	3513	20 5.0	+36 29	4.8	32.6	42.7	31.9	20 5.8 +36 33
7.1	6.1	3815	19 55.4	+36 10	6.7	89.8	42.6	91.0	19 57.1 +36 18
		Zw. 3816	19 55.4	+36 12	7.0	89.8	42.6	91.0	19 57.1 +36 19
6.6	5.6	3550	20 14.0	+36 37	5.6	34.4	42.6	31.7	20 14.8 +36 41
6.9 7.0	6.0	Zw. 3978	20 11.1	+36 37	6.6	33.1	42.5	30.7	20 12.8 +36 45
5.6	4.6	3479	19 55.5	+36 43	5.2	90.5	42.6	92.0	19 56.2 +36 46
6.1	5.1	3442	19 48.4	+46 43	5.6	87.4	52.6	91.6	19 49.0 +46 47
6.5	5.5	3570	20 19.3	+37 5	5.7	35.5	42.5	31.3	20 20.0 +37 10
6.2 6.7	5.2 5.7	3541	20 11.8	+47 21	4.1	35.0	52.7	31.9	20 12.3 +47 24
7.0 7.2	6.2	Zw. 3045	20 7.6	+47 18	7.5	33.0	52.5	30.7	20 9.0 +47 26
6.7	5.7	Zw. 2943	19 48.8	+47 27	6.8	86.8	52.5	90.7	19 50.1 +47 34
6.3	5.3	3448	19 48.7	+47 39	5.8	87.3	52.6	91.4	19 49.2 +47 41
6.8 7.0	5.8 6.0	3417	19 39.9	+37 4	5.0	87.3	42.5	92.7	19 40.7 +37 7
6.2	5.2	3547	20 13.4	+37 39	4.9	34.4	42.5	31.7	20 14.1 +37 43
6.5	5.5	3499	20 0.9	+47 53	6.0	31.3	52.7	31.4	20 1.6 +47 57
6.6	5.6	Zw. 3703	19 53.3	+37 43	6.7	89.1	42.5	91.0	19 54.9 +37 50
7.1	6.1	Zw. 3832	19 52.3	+38 4	6.8	88.9	42.6	91.0	19 53.9 +38 11
5.4	4.4	3458	19 51.6	+38 10	4.7	89.6	42.7	92.1	19 52.3 +38 13
6.5	5.5	3578	20 23.1	+38 3	5.5	36.3	42.4	30.9	20 23.9 +38 7
6.8 6.9	5.9	Zw. 3977	20 10.8	+38 27	6.8	33.2 3.0	42.4	30.8	20 12.4 +38 35
5.6	4.6	3587	20 26.3	+48 33	5.0	39.9	52.6	31.5	20 26.9 +48 37
6.8	5.8	Zw. 4021	20 15.0	+38 57	6.8	34.2	42.5	30.6	20 16.6 +39 5
7.2 7.3	6.3	4050	20 17.6	+38 45	8.9	34.6	42.4	30.3	20 19.2 +38 53
		4037	20 17.7	+38 45	7.0	34.7	42.4	30.4	20 19.3 +38 53
7.5 7.6	6.6	Zw. 3402	20 17.9	+39 12	7.3			Zw. 30.4	17 +38
7.2 7.0 7.5	6.2 6.5	Zw. 4115	20 18.2	+39 8	6.9	33.6	42.4	30.9	20 13.8 +39 16
4.6 4.7	3.6 3.7	3564	20 17.9	+39 52	2.3	35.7	42.7	31.6	20 18.6 +39 56
7.0 7.1	6.1	Zw. 3236	20 11.5	+49 47	6.3	34.7	52.6	31.1	20 12.8 +49 55
6.3	5.3	3464	19 53.1	+40 3	5.6	89.7	42.6	92.1	19 53.7 +40 6
7.1	6.1	Zw. 3465	19 53.4	+50 35	6.3	88.4	52.6	91.1	19 54.0 +50 38
6.9	5.9	3437	19 46.5	+40 18	5.5	88.1	42.6	92.2	19 47.3 +40 20

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Plate 1504

V	H	Type	Nos lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.
4.6	22.3	III				—	2.3	44.6	50.3	47.2	− 7.8
5.0	24.0	I				F	2.5	48.0	50.1	43.8	− 9.6

F.m.&c. F. ch.

8.0 6.5 Plate ~~1488~~ 1490? 6.5

	17.5	12.4	III				—	8.8	24.8	23.9	29.4	+ 0.4
	17.8	17.5	II				—	8.9	35.0	23.8	19.2	− 0.4
	15.2	8.2	II	4533		F?		7.6	16.4	25.1	37.8	+ 1.3
	15.8	17.4	II				—	7.9	34.8	24.8	19.4	− 0.5
	14.4	17.1	I				—	7.2	34.2	25.5	20.0	− 0.4
	14.0	17.2	I					7.0	34.4	25.7	19.8	− 0.4
	11.4	8.2	III			F		5.7	16.4	27.0	37.8	+ 0.7
	11.4	15.7	I				—	5.7	31.4	27.0	12.8	− 0.2
	10.1	12.5	III				—	5.0	25.0	27.7	29.2	+ 0.6
	9.0	8.6	II	4534		F?		4.5	17.2	28.2	37.0	+ 1.6
	7.5	11.4	I				—	3.8	22.8	28.9	31.4	+ 0.4
	7.4	16.7	III				—	3.7	33.4	29.0	20.8	− 0.2
	6.0	6.2	I				—	3.6	12.4	29.7	41.8	+ 2.4
III 5.6, 6.1.	6.6	18.7	III	4535		F		3.3	37.4	29.4	26.8	− 0.9 + 1.7
	6.0	22.0	III	4536		F		3.0	44.0	29.7	10.2	− 1.9
	5.8	23.9	I	4537				2.9	47.8	29.8	6.4	− 2.4
	2.2	15.4	II	4538				1.1	30.8	31.6	23.4	− 0.2

F.m.&c. St. lat. F. ch.

8.0 7.5 55 Plate 1689 7.5

	22.5	20.6	I				—	11.2	41.2	21.6	12.0	− 0.3
	19.4	19.8	I				—	9.7	39.6	23.1	13.6	− 0.8
	20.2	11.4	III				—	10.1	22.8	22.7	30.4	+ 0.6
	16.4	14.8	III			F?		8.2	29.6	24.6	23.6	+ 0
	16.2	14.7	III				—	8.1	29.4	24.7	23.8	+ 0

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Mean 10

Br.	Br.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
7.0	6.0	3410	19 38.7	+ 50 15	5.5	83.3	52.5	91.1	19 39.1 + 50 18
7.3	6.2	3411	19 38.7	+ 50 14		83.3	52.5	91.1	19 39.2 + 50 17
6.2	5.2	3393	19 33.2	+ 49 57	4.6	81.2	52.5		19 33.7 + 50 0
		~~3395~~	~~19 33.6~~	~~+ 49 56~~	~~5.0~~				

7.8	7.3									
7.5	7.6	Dm.	4346	21 28.9	+ 23 57	6.5	53.7	32.8	53.3	21 31.0 + 24 3
7.2			3773	21 18.6	+ 23 46	5.6	53.6	32.7	54.0	21 19.4 + 23 51
6.1			3843	21 39.2	+ 25 6	4.2	55.6	32.7	54.3	21 40.3 + 25 11
		~~Dm.~~	~~4609~~	~~21 18.9~~	~~+ 14 59~~	~~6.8~~				
7.3		Dm.	4394	21 17.7	+ 24 43	6.3	52.3	32.6	53.0	21 19.8 + 24 54
7.5	7.4	Dm.	4333	21 18.4	+ 25 16	7.0				21 20.4 + 25 27
7.5	7.7		3778	21 19.3	+ 25 41	5.8	53.5	32.9	53.9	
		~~Dm.~~	3778	21 19.3	+ 25 41	5.8	53.7	32.7	54.1	21 20.1 + 25 45
7.1		~~Dm.~~	~~4349~~	~~21 12.4~~	~~+ 17 13~~	~~6.8~~				
6.7										
7.1			3842	21 38.8	+ 16 48	4.4	55.2	32.5	54.5	21 39.8 + 16 54
			3785	21 22.4	+ 27 5	5.4	53.8	32.8	54.0	21 23.3 + 27 11
6.2		~~Dm.~~	~~4349~~	~~21 12.4~~	~~+ 17 13~~	~~6.8~~				
7.3	7.3	Dm.	4106	21 28.9	+ 27 34	6.7	53.9	32.6	53.3	21 30.9 + 27 46
										21 39.6 + 28 18
6.2			3840	21 38.8	+ 28 12	4.4	56.0	32.7	54.1	21 39.6 + 28 18
6.9			3813	21 32.1	+ 18 47	5.2	54.9	22.6	54.5	21 33.0 + 18 52
7.3		~~Dm.~~	~~4085~~	~~21 19.0~~	~~+ 28 56~~	~~7.3~~				
7.6		~~Dm.~~	~~4794~~	~~21 19.7~~	~~+ 18 46~~	~~6.7~~	53.1	22.4	53.3	21 21.8 + 18 53
6.6			3861	21 14.5	+ 29 37	5.0	56.9	32.6	54.5	21 45.4 + 29 43
6.5										
6.9			3761	21 16.5	+ 19 17	4.3	53.9	22.6	54.8	21 17.5 + 19 23
5.5										
6.0			3732	21 7.8	+ 29 44	3.6	51.8	32.7	53.7	21 8.7 + 29 49
7.0			3724	21 3.6	+ 29 43	5.5	51.4	32.6	53.8	21 4.4 + 29 48
			3788	21 23.1	+ 31 42	5.7	53.9	32.8	54.1	21 23.8 + 31 47
			~~3791~~	~~21 23.5~~	~~+ 21 40~~	~~6.2~~	~~54.3~~	~~22.8~~	~~54.4~~	

Mean 15

			3300	19 11.1	+ 21 11	4.7	52.3	32.4	52.6	19 11.9 + 21 13
			~~3305~~	~~19 12.2~~	~~+ 11 23~~	~~5.1~~	~~53.4~~	~~22.6~~	~~53.7~~	
6.9	5.4		3308	19 12.7	+ 22 48	5.6	52.3	32.5	53.1	19 13.5 + 22 51
7.3	5.8									
7.6	6.1	Dm.	3741	19 29.9	+ 22 16	6.5	52.7	32.4	52.1	19 31.8 + 22 22
6.7	5.2									
7.1	5.6		3357	19 23.7	+ 24 23	4.7	53.3	32.6	53.3	19 24.6 + 24 28
7.4	5.9		~~3358~~	~~19 23.9~~	~~+ 24 21~~		~~52.3~~	~~32.6~~	~~53.3~~	
7.7	6.2		3259	19 23.9	+ 14 21	5.7	53.3	22.5	53.3	19 24.8 + 14 23

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Plate 1689.

λ	H	Type	Nos. lines	K	Focus	Other lines.	V.	H.	V.	H.	Correc.	
16.4	20.9	III?	2	K=H	1	—	8.2	41.8	24.6	11.4	− 0.4	
13.1	17.3	I	6	N	2	F.	6.6	34.6	26.2	18.6	− 0.5	
10.6	9.1	III	3	K=H	1	F	5.3	18.2	28.5	35.0	+ 0.7	
9.6	9.6	III	2	K=H	2	F.	4.8	19.2	28.0	34.0	+ 0.6	
9.9	13.8	* III / I	5	?	3 / 2	F. Bright	5.0	27.6	27.8	25.6	+ 0.3	
6.9	11.0	III	2	K=H	1	—	3.4	22.0	29.4	31.2	+ 1.0	
6.8	12.0	I	3	N	1	—	3.4	24.0	29.4	29.2	+ 0.7	
6.2	12.2	I		N	2	—	3.1	24.4	29.7	28.8	+ 0.3	
6.5	16.6	I	6	N	2	F. dim	3.2	33.2	29.6	20.0	− 0.4	
5.5	10.1	III	2	K=H	1	—	2.8	20.2	30.0	33.0	+ 1.3	
5.5	16.1	II?	2	K=H	1	—	2.8	32.2	30.0	21.0	− 0.1	
2.8	20.7	I	4	K=H	1	—	1.4	41.4	31.4	11.8	− 0.7	

Peculiar spectrum

St. Lot. F.m.+c.

5.3 8.0 7.3

F. ch.

7.3

Plate 1694

22.4	20.8	I		N	2	—	11.2	41.6	21.3	12.1	− 0.7	
19.2	20.0	I?	3	N	1	—	9.6	40.0	22.9	13.7	− 0.7	
16.3	15.0	III	2	K=H	1	—	8.2	30.1	24.3	23.7	− 0	
16.4	21.2	I	3	N	1	—	8.2	42.4	24.3	11.3	− 0.5	
13.1	17.5	I	6	N	2	F.	6.6	35.0	25.9	18.7	− 0.5	
10.8	9.4	III	3	K=H	1	F.	5.4	18.8	27.1	35.9	+ 0.5	
9.8	9.9	III	2	K=H	2	F.	4.9	19.8	27.6	33.9	+ 0.5	
9.8	14.1	* III / I	6	?	3 / 1	F. Bright	4.9	28.2	27.6	23.5	+ 0.3	
9.4	16.7	I?	2	N	1	—	4.7	33.4	27.8	20.3	− 0.4	
8.6	6.4	III	2	K=H	1	—	4.3	12.8	28.2	40.9	+ 0.9	
6.9	11.2	II?	2	K=H	1	—	3.4	22.4	29.1	31.3	+ 0.9	
6.8	12.2	I?	3	N	1	—	3.4	24.4	29.1	29.3	+ 0.7	
6.2	12.4	I		N	3	—	3.1	24.8	29.4	28.9	+ 0.3	
6.5	16.8	I	6	N	3	—	3.2	33.6	29.3	20.1	− 0.5	

* III bc and I spectra superposed on plate. Measure of brightness combined light

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Means

Br.	Br. Cor.	No.	R. A.	Dec.	Mag.	M.	V.	M'	Red. to 1900
7.2 7.4	5.7 5.9	3298	19 11.0	+14 20	5.4	52.8	22.5	53.2	19 11.9 +14 22
6.2	4.7	3329	19 17.9	+26 2	5.0	52.5	32.6	53.0	19 18.7 +26 4
6.7 7.0	5.2 5.5	3402	19 35.7	+17 12	4.4	53.9	22.5	53.2	19 36.5 +17 15
6.6 6.9	5.1 5.4	3399	19 34.7	+17 44	4.3	53.9	22.5	53.3	19 35.6 +17 47
3.3	3.8	3362	19 25.9	+27 43	3.0	53.5	32.7	53.2	19 26.7 +27 45
7.3 7.6	5.8 6.1	Dm. 3670	19 31.4	+29 1	6.8	53.4	32.4	53.4	19 33.2 +29 7
		Dm. 3672	19 31.7	+29 17	7.3				
7.2	5.7	3377	19 30.1	+29 12	5.4	54.1	32.6	53.4	19 30.9 +29 14
6.5	5.0	3372	19 29.3	+19 31	5.0	53.7	22.6	53.4	19 30.2 +19 33
		3342	19 19.4	+29 23	4.9	52.6	32.6	53.0	19 20.2 +29 26
6.2	4.7	3347	19 20.2	+19 34	5.2	53.4	22.8	53.6	
7.1 7.5	5.6 6.0	3397	19 34.6	+29 53	4.9	54.8	32.7	53.5	19 35.3 +29 56
		Dm. 3355	19 21.0	+19 52	5.4	53.2	22.7	53.3	19 21.9 +19 54
7.0	5.5	Dm. 4009	19 19.1	+19 60	6.6				
		Dm. 4019	19 20.2	+19 58	6.6				
6.7	5.2	3300	19 11.1	+21 11	4.7	52.5	32.6	53.2	19 11.9 +21 13

Means

6.4	5.2	3300	19 11.1	+21 11	4.7	52.7	32.4	53.4	19 11.9 +21 13
6.9	5.7	3309	19 12.7	+22 48	5.6	52.7	32.4	53.4	19 13.5 +22 51
6.9	5.7	3358	19 23.9	+24 31		53.9	32.7	53.9	
7.3	6.1	3357	19 23.7	+24 25	4.7	53.7	32.6	53.7	19 24.6 +24 28
7.0	5.8	3298	19 11.0	+14 20	5.4	53.4	22.5	53.9	19 11.9 +14 21
5.8	4.6	3329	19 17.9	+26 2	5.0	52.9	32.6	53.4	19 18.7 +26 4
6.5 7.0	5.3 5.8	3402	19 35.7	+17 12	4.4	54.3	22.6	54.0	19 36.5 +17 15
6.3 6.5	5.1 5.3	3399	19 34.7	+17 44	4.3	54.3	22.6	54.0	19 35.6 +17 47
									19 26.7 +27 45
5.0	3.8	3362	19 25.9	+27 43	3.0	54.1	32.6	53.8	19 26.7 +27 45
7.3 6.6	6.1 5.4	Dm. 3379	19 18.6	+27 48	7.0	52.0	32.3	52.4	19 20.4 +27 53
7.0	5.8	3421	19 42.0	+18 14	3.7	54.8	22.5	53.9	19 42.9 +18 17
7.2	6.0	Dm. 3670	19 31.4	+29 1	6.8	53.8	32.4	52.9	19 33.2 +29 7
6.9	5.7	3377	19 30.1	+29 12	5.4	54.5	32.6	53.8	19 30.9 +29 14
6.0	4.8	3372	19 29.3	+19 31	5.0	54.1	22.6	53.8	19 30.2 +19 33
5.7	4.5	3342	19 19.4	+29 23	4.9	53.0	32.6	53.5	19 20.2 +29 26

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Plate 1694.

V	H	Type	No. Lines	K	Focus	Other lines.	V.	H.	V.	H.	Correc.	
5,5	10,2	I?	3	N	1	—	2.8	20.4	29.7	33.3	+ 1.3	6
5,5	16.3	I	5	N	2	—	2.8	32.6	29.7	21.1	− 0.2	6
4,2	8,6	I	4	K	1	—	2.1	17.2	30.4	36.5	+ 1.7	7
2,8	20,9	I	6	N	2	Fe	1.4	41.8	31.1	11.9	− 0.7	5
2,7	22,0	II?	2	K	1	—	1.4	44.0	31.1	9.7	− 2.0	7

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Mean 12

rec.	Br.	Cor. Br	No	R.A	Dec	Mag	Th.	V.	Th'	Red. to 1900	
3	6.9	5.7	3397	19 34.6	+29 53	4.9	33.0	32.7	53.7	19 35.3 +29 56	
0.2	6.7	5.5	3351	19 21.0	+19 52	5.4	33.6	32.7	53.8	19 21.9 +19 54	
			~~3347~~	~~19 20.2~~	~~+19 34~~	~~5.2~~	~~32.8~~	~~22.4~~	~~53.0~~		
.7	7.1	5.9	Dm. 3706	19 37.5	+30 20	6.2	34.7	32.4	53.0	19 39.3 +30 26	
0.7	5.8	4.6	3300	19 11.1	+21 11	4.7	32.9	22.6	53.6	19 11.9 +21 13	
2.0	7.0	5.8	3282	19 7.2	+31 5	5.7	31.2	32.5	53.2	19 7.9 +31 7	

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F.m. &c. 8.0 6.2

F.ch. 6.2

October 3, 1887.

Plate ~~1487~~, 1488?

	T	H	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc.	
9.4√	22.9	7.1	I	J H	J K=H	2	—	11.4	14.2	46.3	38.8	+ 4.7	
	22.0	18.6	I	? J 2	J N J	1	—	11.0	37.2	46.7	13.8	- 2.3	
	22.4	19.4	III	J 2	J K=H	1	—	11.2	38.8	46.3	14.2	- 4.1	
	22.2	19.√	I	J 3 √	N J	1	—	11.1	39.0	46.6	18.0	- 4.2	
	22.2	20.2	I	J 3 √	N J	1	—	11.1	40.4	46.6	12.6	- 3.0	
	22.0	22.3	II	√ 2	K=H	1	—	11.0	44.6	46.7	8.4	- 4.3	
	22.0	√22.8	III	√ X2	√ X K=H	1	—	11.0	43.6	46.7	7.4	-	
	21.0	16.√	III	J 12	√ X K=H	1	—	10.5	33.0	47.2	20.0	- 0.9	
	19.2	N.0	I	? J 3	J N J	1	—	9.6	30.0	48.1	23.0	- 0	
	19.9	18.8	II	? √ X 2	√ X K=H	1	—	10.0	37.6	47.7	13.4	- 2.4	
	15.3	13.9	I	J 6	J N	2	F J	9.2	27.8	48.3	23.2	+ 1.1	
	17.4	14.8	II	? J 2	J K=H	1	—	8.7	29.6	49.0	23.4	+ 0.1	
	15.4	10.0	I	√ J √	N J	2	—	7.7	20.0	50.0	33.0	+ 5.3	
	15.0	10.4	II a	? 45HH	J N J	1	Rem	7.5	20.8	50.2	22.2	+ 3.1	
Peculiar spectrum. √	15.8	17.0	II a c	? J 3	K=1.2 J H ?	4	F Bright Rem	7.9	34.0	49.8	19.0	- 1.5	
√ √	14.6	18.√	II	? II ? 2	2 √ K=H K=H	1	— —	7.3	37.0	50.4	16.0	- 2.5	7.17
	12.8	9.6	I	J 4	J N J	1	—	6.4	19.2	51.3	33.8	+ 4.1	
	12.3	8.0	II	J 2	J K=H	1	—	6.2	16.0	51.5	37.0	+ 7.8	
	11.√	23.2	II	J 2	√ K=H	1	—	5.8	46.4	51.9	6.6	- 9.3	
	9.√	20.9	III	J 2	√ K=H	1	F J	4.8	41.8	52.9	11.2	- 6.9	
	8.0	6.8	I	d ? J 3	J N J	1	—	4.0	13.6	53.7	39.4	+ 6.7	
	9.1	15.4	I	? √ 2	J N J	1	—	4.6	30.8	53.1	22.2	- 0.6	
	√.9	10.0	I	? J 12	J N	√	F J	2.0	20.0	54.7	33.0	+ 4.3	
	√.√	17.1	I	J H	J K=H	1	—	2.8	34.2	54.9	18.8	- 2.5	
	4.0	7.4	II	J 2	√ K=H	1	—	2.0	14.8	55.7	38.2	+ 6.9	
	4.1	14.0	I	√ 4	J K=H	1	—	2.0	28.0	55.7	23.0	+ 1.3	
	√.0	18.8	III	? J 12	J X K=H	1	—	2.3	37.6	55.2	13.4	- 3.3	
	3.0	12.6	I	√ 3	J N J	1	—	1.3	25.2	56.2	27.8	+ 2.4	

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Mean 15

Obs.	Obs.	No	R.A.	Dec.	Mag.	Th.	V.	Th'	Red. to 1900.
4.7	: √ :	3655 √	20 42.7	+ 36 3	4.6 √	56.9	47.4	52.2	20 43.3 + 36 8
2.3	7.2 √ 5.7	3550 √	20 14.0	+ 36 37	5.6 √	51.2	47.6	53.5	20 14.8 + 36 41
4.1	6.8 √ 5.3 / 7.2 √ 5.7	3528 √	20 9.9	+ 46 23	3.8 √	48.7	57.6	52.8	20 10.3 + 46 26
4.2	6.6 √ 5.1	3527 √	20 9.5	+ 46 27	4.9 √	48.5	57.5	52.7	20 10.2 + 46 31
3.0	6.9 √ 5.4	3529 √	20 10.1	+ 36 27	5.0 √	50.5	47.5	53.5	20 10.8 + 36 30
4.3	7.0 √ 5.5 / 7.2 5.7 / 7.5 √ 6.0	3513 √	20 5.0	+ 36 29	4.8 √	49.6	47.5	53.9	20 5.8 + 36 33
	7.3 √ 5.8 / 7.7 6.2		20	+					Not found on chart. Zw. 3916 20 18.3+37 1
0.9		3570 √	20 19.3	+ 37 5	3.7 √	52.3	47.6	53.2	20 21.0 + 37 10
0	7.0 √ 5.5	3578 √	20 23.1	+ 38 3	3.3 √	53.1	47.6	53.1	20 23.9 + 38 7
2.4	7.0 √ 5.5	3547 √	20 13.4	+ 37 39	4.9 √	51.0	47.6	53.4	20 14.1 + 37 43
1.1	6.0 √ 4.5	3587 √	20 26.3	+ 48 33	5.0 √	54.1	57.8	53.0	20 26.9 + 48 37
0.1	7.2 √ 5.7	3579 √	20 23.3	+ 48 59	3.6 √	52.9	57.7	52.8	20 24.0 + 49 3
5.3	6.5 √ 5.0	3636 √	20 38.5	+ 49 33	3.4 √	58.5	57.6	53.2	20 39.1 + 49 39
3.1	7.0 √ 5.5	3625 √	20 33.2	+ 40 9	6.1 √	56.0	47.7	53.9	20 33.9 + 40 13
1.5	4.0 √ 2.5	3564 √	20 17.9	+ 39 32	2.3 √	51.9	47.8	53.4	20 18.6 + 39 36
2.5	7.1 √ 5.6	Zw. 4103 √	20 13.0	+ 40 17	6.3 √	58.0	47.6	52.5	20 11.6 + 40 25
4.1	6.7 √ 5.2	3632 √	20 37.6	+ 41 17	5.5 √	56.8	47.7	52.7	20 38.3 + 41 21
7.8	7.3 √ 5.8	3663 √	20 45.1	+ 51 28	6.4 √	61.1	57.7	53.3	20 45.9 + 51 32
9.3	7.1 5.6	3480 √	19 56.1	+ 51 44	6.0 √	10-21.5	57.5	111.8	19 56.6 + 51 47
		Zw. 2734	20 36.0	+ 51 45	7.3				
6.9	7.3 √ 5.8 / 7.6 6.1	3509 √	20 3.1	+ 52 49	5.7 √	44.9	57.6	51.8	20 3.6 + 52 51
6.7	6.6 √ 5.1	3665 √	20 45.9	+ 43 36	5.0 √	59.5	47.6	52.8	20 46.6 + 43 41
0.6	7.3 5.8	Zw. 2 3297	20 20.6	+ 53 5	6.2	51.4	57.7	52.0	20 21.8 + 53 14
4.3	B √ B	3631 √	20 37.3	+ 44 51	1.5 √	57.3	47.8	53.0	20 38.0 + 44 56
2.5	7.0 √ 5.5	3556 √	20 15.5	+ 55 1	5.7 √	49.7	57.8	52.2	20 15.9 + 55 5
6.9	6.9 √ 5.4	3662 √	20 44.9	+ 45 40	5.0 √	59.7	47.7	52.8	20 45.3 + 45 45
1.3	6.8 √ 5.3	3590 √	20 26.4	+ 55 40	5.9 √	54.4	57.7	53.1	20 27.0 + 55 44
3.3	7.3 √ 5.8 / 7.5 6.0	3542 √	20 12.1	+ 45 13	5.8 √	49.7	47.7	53.0	20 12.8 + 45 16
2.4	6.8 √ 5.3	3601 √	20 30.3	+ 46 17	5.6 √	55.5	47.8	53.1	20 30.6 + 46 21

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Plate 1488

V	H	Type	No. lines	K	Focus	Other lines.	V.	Th.	V.	Th.	Correc.
3.0	18.3	I		K=√H	3	F	1.5	36.6	56.2	16.4	− 4.3
2.8	19.6	III	3	K=H	1	F	1.4	39.2	56.3	13.8	− 4.2
2.6	19.7	I		K=√H	1	—	1.3	39.4	56.4	13.6	− 4.3

St. bk. F. m. & c. F. ch.

Plate 1635 Hard to measure.

5:H	8.0	6.3								6.3	
21.1	20.2	III		K=H	Y	—	10.6	40.4	27.4	13.2	− 1.2
19.5	20.8	III	a? 4546 3	K=H	2	F Seen.	9.8	41.6	28.2	12.0	− 1.4
17.4	9.4	I	B	N	1	—	8.7	18.8	29.3	34.8	+ 1.4
16.4	14.3	III	4547 3	K=H?	3	F seen	8.2	28.6	29.8	28.0	+ 0.2
15.5	7.2	III	3	K=H	2	F	7.8	14.4	30.2	39.2	+ 2.0
14.7	13.7	I	I 2 4	N K=H	1	—	7.6	27.4	30.6	26.2	+ 0.2
13.6	10.2	I	6		3	F	6.8	20.4	31.2	33.2	+ 0.7
13.9	10.8	III	2	K=H	1	F	7.0	21.6	31.0	32.0	+ 1.3
13.2	16.0	III	III x 2 2	K=H	1	—	6.6	32.0	31.4	21.6	− 0.2
12.5	9.3	I	I 3	K=H N	1	—	6.2	18.6	31.8	35.0	+ 1.7
12.7	16.5	III	4548 3	K=H	2	F seen	6.4	33.0	31.6	20.6	− 0.5
9.1	7.2	III	4549 3	K=2,0 H	4	F Bright seen	4.6	14.4	33.4	39.2	+ 2.6
9.0	20.7	III	? 2	K=H	1	—	4.5	41.4	33.5	12.2	− 1.9
7.9	10.2	I		N	2	—	4.0	20.4	34.0	33.2	+ 0.8
7.2	17.7	I	4	N	2	—	3.6	35.4	34.4	18.2	− 0.5
7.1	18.5	III	? 2	K=H	1	—	3.6	37.0	34.4	16.6	− 1.2
6.8	12.3	III	2	K=H	1	—	3.4	24.6	34.6	29.0	+ 0.9
6.7	20.2	III	x 2	K=H	1	—	3.4	40.0	34.6	13.6	− 0.9
5.5	7.4	III	2	K=H	1	—	2.8	14.8	35.2	38.8	+ 1.4
4.0	6.9	I		K=H	2	—	2.1	13.8	36.0	39.8	+ 3.2
4.9	20.7	I	4550	N	2	F	2.4	41.4	35.6	12.2	− 1.1
3.3	22.2	III	a? 2	K=H	2	— seen	1.6	44.4	36.4	9.2	− 2.9
3.1	10.9	I	3	N	1	—	1.6	21.8	36.4	21.8	+ 0.8
3.4	20.1	I		K=H	2	F	1.7	40.2	36.3	13.4	− 1.9
3.0	18.5	I	4	K=H	1	—	1.5	37.0	36.5	16.6	− 1.4

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1887phae..proj..844P

Mean 15

Obs.	Corr.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
5.3	3.8	3532	20 10.6	+ 38 12	4.4	47.2	37.7	51.5	20 11.1 + 38 16
6.4	4.9	3528	20 9.9	+ 46 23	3.8	49.1	47.8	53.3	20 10.5 + 46 26
6.4	4.9	3527	20 9.5	+ 46 27	4.9	48.9	47.7	53.2	20 10.2 + 46 31

Mean 9

7.2 7.5	6.3 6.6	3534	20 10.8	+ 27 27	4.8	51.2	38.0	52.4	20 11.7 + 27 30
6.7	5.8	3525	20 9.3	+ 28 20	3.3	50.9	38.1	52.3	20 10.9 + 28 24
~~Dm. 4484~~		~~20~~	~~34.2~~	~~+ 19 24~~	~~6.3~~				
7.0	6.1	Dm. 4131	20 34.6	+ 29 18	6.3	53.4	38.1	52.0	20 36.3 + 29 27
5.1	4.2	3583	20 24.5	+ 29 38	4.1	53.1	38.2	52.9	20 25.3 + 30 2
6.4 6.8	5.5 5.9	3643	20 40.7	+ 30 17	4.3	53.1	38.1	53.1	20 41.6 + 30 21
7.2 7.1	6.2	Dm. 4611	20 25.8	+ 20 22	7.0	53.2	27.8	53.0	20 37.8 + 20 31
5.8	4.4	3616	20 33.2	+ 20 47	4.8	53.6	27.6		20 34.0 + 20 51
~~6.9~~	~~6.0~~	~~3623~~	~~20 33.8~~	~~+ 21 24~~	~~5.9~~	~~54.2~~	~~28.2~~	~~53.5~~	~~20 34.7 + 21 28~~
6.9	6.0	3610	20 32.6	+ 31 9	6.3	54.2	38.2	52.9	20 33.4 + 31 13
~~7.4~~	~~6.4~~	~~3611~~	~~20 32.7~~	~~+ 31 6~~	~~6.4~~	~~54.3~~	~~38.1~~	~~53.0~~	~~20 33.5 + 31 10~~
7.3 7.6	6.4 6.7	3573	20 20.4	+ 21 1	5.9	52.4	27.6	52.6	20 21.2 + 21 6
7.3	6.4	3629	20 36.2	+ 31 53	5.8	54.8	38.1	53.1	20 37.0 + 31 57
6.5 7.0	5.6 6.1	3569	20 19.1	+ 31 48	4.6	52.1	38.2	52.6	20 19.9 + 31 52
4.6 5.1	3.7 4.2	3648	20 41.4	+ 33 31	2.7	53.8	38.1	53.2	20 42.1 + 33 36
7.1 7.4	6.2 6.5	3531	20 10.3	+ 23 8	5.5	51.7	27.6	53.6	20 11.2 + 23 12
~~7.4~~	~~6.5~~	~~3533~~	~~20 10.8~~	~~+ 33 22~~	~~5.8~~	~~52.2~~	~~37.9~~	~~54.1~~	
5.9	5.0	3619	20 33.3	+ 23 42	5.1	53.7	27.7	52.9	20 34.2 + 23 46
6.5	5.6	3560	20 16.9	+ 24 4	5.4	52.3	27.7	52.8	20 17.7 + 24 7
7.0 7.2	6.1 6.3	3551	20 14.0	+ 34 37	5.2	51.0	38.2	52.2	20 14.8 + 34 40
7.3 7.6	6.4 6.7	3599	20 29.3	+ 34 57	4.8	53.9	38.2	53.0	20 30.0 + 34 54
7.2 7.6	6.3 6.7	3540	20 11.7	+ 24 18	5.5	51.7	27.7	52.6	20 12.5 + 24 22
7.3 7.7	6.4 6.8	3640	20 39.7	+ 24 51	5.1	54.5	27.6	53.1	20 40.6 + 24 55
5.7	4.8	3655	20 42.7	+ 36 3	4.6	56.5	38.0	53.3	20 43.5 + 36 8
5.7	4.8	3538	20 10.3	+ 25 14	4.8	51.6	27.6	52.7	20 11.0 + 25 17
5.8	4.9	3518	20 5.0	+ 36 29	4.8	49.4	38.1	52.3	20 5.8 + 36 33
6.8	5.9	3606	20 32.0	+ 26 3	5.6	53.8	27.6	53.0	20 32.8 + 26 7
6.5	5.6	3529	20 10.1	+ 36 27	5.0	50.3	38.1	52.2	20 10.8 + 36 30
6.4	6.0	3550	20 14.0	+ 36 37	5.6	53.8	38.1	52.4	20 14.8 + 36 41

* Spectra superimposed on plate. Meas. of brightness combined light of both.

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St. Lot. F.m. & c. F. ch.
6.3 8.0 6.5 6.3

Hard to measure. October 4, 1887.
Plate 1636.

			No. lines	K	Focus	Other lines.	V.	Vh.	V.	Vh.	Correc	
									46.4	38.5	4.9	
22.7	6.7	I ? 2 K=H	1	—			11.4	13.4	~~26.6~~ 48.8	~~30.2~~ 24.7	+	7.7
18.0	13.6	I ? H	1	—			9.0	27.2	~~29.0~~ 50.0	~~26.4~~ 18.3	+	1.5
16.7	16.7	II a? 3 H555 K=1.2H	5	F		bright neu	7.8	33.4	~~20.2~~ 51.4	~~20.2~~ 33.3	−	1.2
12.7	9.3	II ? 2 K=H	1	—			6.4	18.6	~~31.6~~ 53.4	~~35.0~~ 33.5	+	4.2
18.8	9.2	II 2 K=H	1	—			4.4	18.4	~~33.6~~ 54.9	~~35.8~~ 32.5	+	
17.8	9.7	I ? 12 N	1	F			2.9	19.4	~~35.1~~ 54.6	~~33.2~~ 11.5	+	4.3
20.3	20.2	II ? 2 K=H	1	—			3.2	40.4	~~21.8~~ 56.3	~~19.2~~ 15.7	−	
3.0	18.1	I 3 N	1	—			1.3	36.2	~~36.5~~ 56.4	~~17.7~~ 13.3	−	4.1
2.8	19.3	III ? 2 K=H	1	—			1.4	38.6	~~36.6~~ 56.6	~~13.0~~ 13.1	−	3.9
2.4	19.4	I ? 2 N	1	—			1.2	38.8	~~36.8~~	~~13.8~~	−	4.1

Peculiar spectrum. ✓

Is it not a defect in plate?

Is it not a defect in plate?

F.m. & c. F. ch.
8.0 6.7 Plate 1582. 6.7

22.3	19.2	I ? 4 K=1.5H	1	—		11.2	38.4	21.5	34.5	−	0.7
21.2	11.7	I 4 K=1.5H	1	—		10.6	23.4	22.1	29.5	+	0.3
20.3	22.2	I a? 3 ?	1	—		10.2	44.4	22.5	28.5	−	0.5
19.1	11.7	III 3 K=H	1	F		9.6	23.4	23.1	49.5	+	0.2
18.6	17.0	III ? III 2 2 K=H K=H	1	—	—	9.3	34.0	23.4	38.9	−	0.4
17.8	18.0	III 2 2 K=H K=H	1	—	—	8.9	36.0	23.8	36.9	−	0.3
17.9	19.4	I 6 N	2	F		9.0	38.8	23.7	34.1	−	0.7
17.4	20.3	II H552 2 K=1.2H	3	F?	neu	8.7	40.6	24.0	32.3	−	0.4
17.0	21.4	I 6 K=1.1H	2	F		8.5	42.8	24.2	30.1	−	0.5
16.4	17.5	I 6 K=1.4H	2	—		8.2	35.0	24.5	37.9	−	0.2
15.8	16.4	II H553 3 K=H	1	F	neu	7.9	32.8	24.8	40.1	−	0.3
14.4	15.9	III ? H554 K=H	2	F	bright	7.2	31.8	25.5	41.1	−	0
14.0	18.2	III 1 2 2 K=H K=H	1	—	—	7.0	36.4	25.7	36.5	−	0.6
14.8	19.3	I 8 K=1.1H	4	F		7.4	38.6	25.3	34.3	−	0.3
14.8	19.6	I 5 K=H	1	—		7.4	39.2	25.3	33.7	−	0.4
14.4	20.3	III 2 2 2 K=H K=H	1	—	—	7.2	44.6	25.5	28.3	−	1.5

III ? 6.0 6.4 ✓

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1887phaa.proj..0417

Br.	No.	R.A.	Dec.	Mag	H.	V.	H'	Red. to 1900.
	3655	20 42.7	+ 36.3	4.6	56.1	47.4	51.2	20 43.5 + 36 8
	~~Dm. 3667~~	~~20 45.0~~	~~+ 46 7~~	~~6.6~~				
6.8	3587	20 26.3	+ 48 33	5.0	53.5	47.6	52.0	20 26.9 + 48 37
4.3	3564	20 17.9	+ 39 52	2.3	51.3	47.7	52.5	20 18.6 + 39 36
7.3	3632	20 37.6	+ 41 17	5.5	56.2	47.7	52.0	20 38.3 + 41 22
7.1		20	+					Not found on chart
8.	3631	20 37.3	+ 44 51	1.5	56.7	47.7	52.2	20 38.0 + 44 36
~~7.4~~	~~Dm. 3368~~	~~20 5.5~~	~~+ 44 35~~	~~7.0~~				Not found on chart
6.6	3532	20 10.6	+ 56 12	4.4	46.8	47.7	50.9	20 11.1 + 56 16
7.0 7.3	3528	20 9.9	+ 46 23	3.8	48.5	47.8	52.4	20 10.3 + 46 26
	3527	20 9.5	+ 46 27	4.9	48.3	47.6	52.4	20 10.2 + 46 31

Mean 9

0.7	7.1 6.2	3623	20 33.8	+ 21 24	5.9	72.2	32.6	72.9	20 34.7 + 21 28
0.3	6.9 6.0	3680	20 49.9	+ 12 7	5.4	73.3	22.7	73.0	20 50.9 + 12 11
		~~Dm. 4382~~	~~20 27.4~~	~~+ 19 36~~	~~8.5~~				
0.5	6.7 5.8	3597	20 28.3	+ 12 38	5.2	72.7	22.8	73.2	20 29.3 + 12 41
0.2	7.3 6.4 7.6 6.7	3679	20 49.9	+ 13 16	5.4	73.3	22.7	73.1	20 50.9 + 13 20
0.4	7.3 6.4 7.4 6.5	Dm. 4124	20 37.4	+ 23 16	7.5	71.4	32.6	71.8	20 37.4 + 23 26
0.5	7.3 6.4 7.5 6.6	~~Dm. 4597~~	~~20 35.1~~	~~+ 13 48~~	~~7.5~~				
		Dm. 4107	20 35.4	+ 23 40	7.3	71.4	32.6	71.9	20 37.4 + 23 49
0.7	5.8 4.9	3619	20 33.3	+ 23 42	5.1	72.1	32.7	72.8	20 34.2 + 23 46
0.4	5.2 4.3	3605	20 31.9	+ 14 11	3.7	72.5	22.9	72.9	20 32.8 + 14 15
0.5	5.8 4.9	3600	20 29.7	+ 14 16	4.7	72.5	22.8	73.0	20 30.6 + 14 20
0.2	5.7 4.8	3635	20 37.9	+ 14 39	4.6	72.9	22.8	73.1	20 38.8 + 14 43
0.3	6.9 6.0 7.5 6.4	3640	20 39.7	+ 24 51	5.1	72.5	32.7	72.8	20 40.6 + 24 55
0	5.5 4.6 5.9 5.0	3645	20 41.1	+ 15 42	4.2	72.9	22.9	72.9	20 42.0 + 15 46 / 20 42.0 + 15 46
0.6	7.3 6.2 7.4 6.5	Dm. 4329	20 34.5	+ 25 34	7.0	70.9	32.6	71.5	20 36.4 + 25 43
0.3	4.5 3.6	3624	20 34.1	+ 15 29	4.0	72.7	22.9	73.0	20 35.0 + 15 33
0.4	6.9 6.0	3622	20 33.5	+ 15 26	5.9	72.7	22.8	73.1	20 34.4 + 15 29
1.5	7.2 6.3 7.5 6.6	3591	20 26.8	+ 25 24	6.3	71.4	32.6	72.9	Dm. 4272 25.8 + 25 19 / 20 27.7 + 25 28

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1887phae.proj..844F

October 4, 1887.

Plate 1582.

V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.
13.2	19.9	I	1	N	2	—	6.6	39.8	26.1	33.1	−1.1
12.1	13.2	III b	4555 2	K=H	2	—	6.0	26.4	26.7	46.5	+0.3
11.4	18.6	III	2 2	K=H	1	—	5.7	37.2	27.0	35.7	−0.4
10.2	12.1	III	2	K=H	1	—	5.1	24.2	27.6	48.7	+0.6
10.5	14.1	I	I 2 3	N	N	1	5.2	28.2	27.5	44.7	+0.1
9.2	12.2	I	? 4	K=H	1	—	4.6	24.4	28.1	48.5	+0.7
9.8	13.5	III	2	K=H	1	—	4.9	27.0	27.8	43.9	+0.4
6.6	18.1	I		N	1	—	3.3	36.2	29.4	36.7	−0.7
5.0	15.9	III	? 4556 3	K=H	2	F, neu	2.5	31.8	30.2	41.1	−0.3
5.4	23.0	III	4557 3	K=H	3	F, neu	2.7	46.0	30.0	26.9	−2.2
4.3	19.6	I	N	N	2	F	2.2	39.2	30.5	33.7	−0.7
3.1	19.4	I	? 4	K=H	1	—	1.6	38.8	31.1	34.1	−1.4

III 6.3, 6.6. 3 ft. lines

Middle, 2 H K

F. m. &c. 8.0 6.6 — F. ch. 6.6

Plate 1583

22.4	16.9	I		N	1	—	11.2	33.8	41.4	38.8	−1.5
21.0	10.5	III	?	K=H	1	—	10.5	21.0	42.1	51.6	+3.5
18.0	18.6	III bc	4558 3	K=H	2	F Bright	9.0	37.2	43.6	35.4	+3.3
18.2	15.7	III c	4559 3	K=1.2 H	? 4	F Bright	9.1	31.4	43.5	41.2	−0.5
17.0	11.0	III	1 2	K=H	1	—	8.5	22.0	44.1	50.6	+3.3
17.3	12.8	I	8	N	3	F	8.6	25.6	44.0	47.0	+2.4
17.9	13.9	I	7	K=1.2 H	2	F	9.0	27.8	43.6	44.8	+0.9
17.4	15.2	III	2 2	K=H	K=H 1	—	8.7	34.4	43.9	42.2	−0.1
16.2	11.6	II	3	K	H 1	F	8.1	23.2	44.5	49.4	+2.9
15.6	12.8	III	1 3	K=H	1	F	7.8	25.6	44.8	47.0	+1.9
15.6	16.9	I	? 1 2	N		F	7.8	33.8	44.8	38.8	−1.7
15.4	20.6	III	2	K	H 1	—	7.7	41.2	44.9	31.4	−2.7
16.4	20.7	III	2 2	K=H	K=H 1	—	8.2	41.4	44.2	31.2	−2.7
14.6	7.3	II	II ?	K=H	1	—	7.3	14.0	43.3	58.6	+7.1

III ? 6.4, 6.7. 4 h. lines 1 ft. 4 bc. 3 K lines

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1887phae.proj..844f

Mean 9

	Br.	Br.	No.	R.A.	Dec.	Mag.	Th.	V.	m'	Red. to 1900
	6.2	5.3	3606	20 32.0	+ 26 3	5.6	71.8	32.6	72.8	20 32.8 + 26 7
	6.3	5.4	3668	20 47.0	+ 26 38	4.7	73.4	32.6	73.1	20 47.8 + 26 43
	7.6	6.7	Dm. 4368	20 34.3	+ 17 4	6.8	71.5	22.8	71.9	20 36.4 + 17 13
	7.5	6.6	3676	20 49.4	+ 27 36	5.1	73.6	32.7	73.0	20 50.3 + 27 40
	7.1	6.2	Dm. 4431	20 43.9	+ 17 30	6.5	72.1	22.7	72.0	20 45.0 + 17 40
	6.9	6.0	Dm. 3909	20 48.2	+ 27 38	7.0	72.6	32.6	71.9	20 50.1 + 28 8
	7.4	6.5	3667	20 46.4	+ 27 48	6.1	73.4	32.7	73.0	20 47.2 + 27 32
	6.8	5.9	Dm. 4131	20 34.6	+ 29 18	6.5	70.8	32.6	71.5	20 36.3 + 29 27
	~~Dm. 4489~~		~~20 35.6~~	~~+ 19 21~~	~~7.3~~					
	6.4	5.5	3643	20 40.7	+ 30 17	4.3	72.5	32.8	72.8	20 41.6 + 30 21
	5.4	4.5	3583	20 24.5	+ 29 58	4.1	70.5	32.7	72.7	20 25.3 + 30 2
	5.6	4.7	3616	20 33.2	+ 20 47	4.8	72.4	23.0	73.1	20 34.0 + 20 51
			3610	2 32.6	+ 31 9	6.3	71.4	32.8	72.8	20 33.4 + 31 13
	6.9	6.0	~~3611~~	~~20 32.7~~	~~+ 31 6~~	~~6.4~~	~~71.5~~	~~32.7~~	~~72.9~~	~~20 33.5 + 31 10~~

Mean 7

	6.7	6.0	3632	20 37.6	+ 41 17	3.5	71.4	52.5	72.9	20 38.3 + 41 22
	7.1	6.4								
	7.4	6.7	Dm. 3956	20 54.1	+ 41 46	6.3	73.1	32.3	71.6	20 55.8 + 41 56
	6.3	5.6								
	6.9	6.2	3716	20 0.6	+ 43 27	3.7	17.8	32.4	12.5	21 1.3 + 43 32
	4.4	3.7								
	4.8	4.1	3648	20 41.4	+ 33 31	2.7	72.8	42.6	73.3	20 42.1 + 33 36
	7.2	6.5								
	7.6	6.9	3694	20 54.0	+ 44 0	3.9	76.0	32.5	72.7	20 54.8 + 44 4
	5.4	4.7	3673	20 49.0	+ 43 36	4.6	74.6	52.5	72.2	20 49.7 + 44 0
	5.8	5.1	3665	20 45.9	+ 43 36	3.0	73.7	52.6	72.8	20 46.6 + 43 41
	7.0	6.3								Dm. 4028 41.4 + 33 51
	7.4	6.7	3654	20 42.4	+ 33 56	3.2	72.8	42.7	72.9	20 43.2 + 34 1
	6.5	5.8	Dm. 3639	20 51.5	+ 44 23	6.7	74.7	32.5	71.8	20 53.1 + 44 33
	7.1	6.4								
	7.5	6.8	3675	20 49.1	+ 44 44	3.6	74.7	52.5	72.8	20 49.8 + 44 48
	B	8.3	3631	20 37.3	+ 44 51	1.5	71.1	32.6	72.8	20 38.0 + 44 56
	7.1	6.4								
	7.5	6.8	3599	20 29.3	+ 34 51	4.8	70.5	42.5	73.2	20 30.0 + 34 54
	7.8	6.6								
	7.5	6.9	Dm. 4081	20 28.4	+ 34 11	7.2	69.8	42.4	72.5	20 30.2 + 34 20
			Dm. 3718	21 4.8	+ 44 53	6.8	18.8	32.2	11.7	21 6.6 + 45 6
	7.1	6.4	~~Dm. 3427~~	~~21 4.4~~	~~+ 45 9~~	~~7.2~~				

~~Wheeler, subordinated on plate - meas. of brightness combined light of both~~

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1887phae.proj..844f

October 4, 1887.

Plate 1583.

r	H	Type	No. lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	B
14.2	9.5	II	2	K=H	1	—	7.1	19.0	45.5	33.6	+ 4.9	6.9
14.6	17.6	I?	3 5	N	K=H	1 — F	7.3	35.2	45.3	37.4	− 2.4	7.0 7.0
13.7	10.1	I		N		2 F	6.8	20.2	45.8	32.4	+ 4.3	5.5
13.5	12.3	I?	2 3	N	K	1 1 — —	6.8	24.6	45.8	48.0	+ 2.5	7.1 7.2
13.8	14.4	II	2	K=H		2 —	6.9	28.8	45.7	43.8	+ 0.6	6.7
~~13.1~~	15.1	I	4560 8	N		3 F, perc	6.6	30.2	46.0	42.4	− 0	5.0
12.2	9.3	I	3 4	N	K=H	1 1 — —	6.1	18.6	46.5	52.0	+ 5.3 3.3	7.1 7.1
12.8	14.0	I	3 5	N	K=H	1 1 — —	6.4	~~18.6~~ 28.0	46.2	44.6	+ 0.9	6.8 6.7
12.6	19.4	I		N		2 —	6.3	38.8	46.3	33.8	− 4.1	6.2
12.8	22.4	III	III? 3	K=H	K=H	1 1 — F	6.4	44.8	46.2	27.8	− 4.3	7.1 7.1 7.4 7.4
11.0	10.7	II	4561 7	3	N	3 F, perc	5.5	21.4	47.1	51.2	+ 4.1	5.5
11.1	12.0	II	II? 2	3	K=H	K=H 1 F —	5.6	24.0	47.0	48.6	+ 2.7	6.7 6.7
10.4	7.1	I	2	N		1 —	5.2	14.2	47.4	58.4	+ 7.7	6.9
10.7	8.4	III			?	1 —	5.4	16.8	47.2	55.8	+ 6.3	6.6 7.1 7.3 7.3
9.3	19.7	III	III? 2	2	K=H	K=H 1 1 — —	4.6	39.4	48.0	33.2	− 4.5	7.5 7.5
8.8	7.8	III		2	K=H	1 —	4.4	13.6	48.2	57.0	+ 4.7	7.0 7.5
8.1	20.5	I	b 4562 6		N	3 —	4.0	41.0	48.6	31.6	− 5.5	5.4
9.0	22.8	I			N	1 —	4.5	45.6	48.1	27.0	− 4.9 ~~5.1~~	6.6
7.8	11.9	III	III? 2	2	K=H	K=H 1 1 — —	3.9	23.8	48.7	48.8	+ 3.0	7.3 7.3 7.6 7.6
7.9	17.5	I	3 4	N	K=H	1 1 — —	4.0	35.0	48.6	37.6	− 1.7	7.0 6.9
7.0	21.4	I	3	N		1 —	3.5	42.8	49.1	29.8	− 6.7	6.7
~~5.2~~	11.3	II	4563 6	N		2 perc	2 8.6	22.6	~~49.0~~ 50.0	50.0	+ 3.7	5.8
5.6	16.4	I	4564 5	N		2 — seen	2. 8.8	32.8	48.8	39.8	− 1.5	5.6
5.3	24.7	II	a? 4565 3	K=2	H?	4 F seen	2 8.6	49.4	~~49.0~~ 50.0	23.2	− 6.9	4.0
4.6	11.8	II	2	K=H		1 —	3 2.8	23.6	~~49.3~~ 50.3	49.0	+ 3.3	6.9
4.6	12.4	II	II? 2	2	K=H	1 —	2.3	24.8	50.3	47.8	+ 1.7	7.3
5.0	18.0	I	4	N		1 —	2.5	36.0	50.3	36.6	− 2.3	6.6
4.0	11.4	I	10	K=H		3 F	2.0	22.8	50.6	49.8	+ 2.5	4.

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Mean 7

rec.	Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	m. v.	m'	Red. to 1900.
			~~Dm. 4357 20 55.3 + 35 28~~			~~6.8~~			
.9	6.9	6.2	Dm. 3374 20 57.7 + 45 16			6.7	76.7	52.4 71.8	20 59.3 + 45 27
.4	7.0 7.0	6.3	~~Dm. 4218 20 35.9 + 35 24~~ Dm. 3233 20 34.5 + 45 10			~~7.5~~ 6.7	69.7	52.5 72.1	20 36.0 + 45 19
.3	5.5	4.8	3705 20 37.0 + 45 41			5.2	77.2	52.5 72.9	20 37.6 + 45 46
.5	7.1 7.2	6.5	Dm. 3326 20 49.7 + 45 41			6.8	74.3	52.5 71.8	20 51.3 + 45 51
.6	6.7	6.0	3662 20 44.9 + 45 40			5.0	73.7	52.6 73.1	20 45.3 + 45 45
	5.0	4.3	3655 20 42.7 + 36 3			4.6	72.9	42.6 72.9	20 43.3 + 36 8
.3	7.1 7.1	6.4	Dm. 3159 20 58.7 + 46 18			6.5	77.3	52.4 72.0	21 0.3 + 46 29
.9	6.8 6.7	6.0	Dm. 3067 20 45.0 + 46 7			6.6	73.0	52.5 72.1	20 46.3 + 46 17
.1	6.2	5.5	3601 20 30.3 + 46 17			5.6	69.1	52.6 73.2	20 30.6 + 46 21
.3	7.1 7.45	6.4 6.7	3585 20 24.7 + 36 3			6.0	69.5	42.4 73.8	20 25.3 + 36 7
.1	5.3	4.6	3701 20 35.7 + 47 3			4.6	77.1	52.5 73.0	20 36.4 + 47 8
.7	6.7 6.7	6.0	3684 20 37.8 + 46 38			5.8	73.8	52.6 73.1	20 37.8 + 47 21
.7	6.9	6.2	Dm. 3328 21 3.5 + 47 6			7.0	19.7	52.3 13.0	21 7.1 + 47 17
.3	6.6 7.15	5.9 6.4	3721 21 2.3 + 47 10			5.1	19.3	52.6 13.0	21 3.1 + 47 15
.5	7.3 7.5	6.6 6.8	Dm. 3136 20 27.9 + 47 44			7.3	67.3	52.3 71.8	20 29.3 + 47 33
.7	7.0 7.5	6.3 6.8	3717 21 1.3 + 38 10			5.1	17.1	42.6 12.4	21 2.1 + 38 13 / 21 2.1 + 38 13
.5	5.4	4.7	3587 20 26.3 + 48 33			5.0	67.3	52.6 72.8	20 26.9 + 48 37
.9	6.5	5.8	3578 20 23.1 + 38 3			5.5	68.7	42.5 73.6	20 23.9 + 38 7
.0	7.3 7.6	6.6 6.9	Dm. 3249 20 51.7 + 48 38			6.2	75.5	52.5 72.5	20 53.3 + 48 48
.7	7.0 6.9	6.2	Dm. 4187 20 35.6 + 38 34			6.5	70.6	42.6 72.3	20 37.3 + 38 43
.7	6.7	6.0	3579 20 23.3 + 48 39			5.6	66.1	52.5 72.8	20 24.0 + 49 3
.9	5.8	5.1	3698 20 54.6 + 50 0			5.5	77.2	52.6 73.3	20 55.3 + 50 4
.5	5.6	4.9	3636 20 38.5 + 49 55			5.4	71.3	52.7 72.8	20 39.1 + 49 59
.9	4.0	3.3	3564 20 17.9 + 39 50			2.3	67.3	42.5 74.2	20 18.6 + 39 36
.3	6.9	6.2	3686 20 52.6 + 50 16			5.9	76.2	52.6 72.7	20 53.3 + 50 20
.1	7.5	6.6	Dm. 4354 20 49.0 + 40 10			6.8	73.8	42.5 71.9	20 50.7 + 40 20
.3	6.6	5.9	3623 20 35.2 + 40 9			6.1	71.2	42.7 73.5	20 35.9 + 40 13
.0	4.3	3.6	3687 20 52.7 + 40 42			4.1	75.5	42.7 73.0	20 53.5 + 40 47

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Plate 1583.

V	H	Type	No. Lines	K	Focus	Other Lines.	V.	H.	V.	H.	Borrec.	
4.0	12.0	I ?	3	N	1	—	2.0	24.0	30.6	48.6	+ 3.1	
2.3	10.9	I	4	K=H	1	—	1.2	21.8	51.4	30.8	+ 3.0	
2.3	14.3	I	B	N	1	—	1.2	28.6	51.4	44.0	+ 0.7	
2.8	17.0	I	4	N?	1	—	1.4	34.0	51.2	38.6	− 1.5	

F. m. & c. F. ch.

8.0 6.4

Plate 1554

21.7	9.1	III	12	K=H	1	—	10.8	18.2	21.8	74.0	+ 0.8	
21.4	19.2	II?	2	K=H	1	—	10.7	38.4	21.9	53.8	− 0.7	
21.1	13.6	I	4	K=H	1	—	10.6	27.2	22.0	65.0	+ 0.2	
20.8	21.0	I	6	K=H	1	—	10.4	42.0	22.2	50.2	− 0.4	
18.4	8.9	II?	2	K=H	1	—	9.2	17.8	23.4	74.4	+ 1.0	
18.6	21.1	III	2	K=H	1	—	9.3	42.2	23.3	50.8	− 0.4	
17.4	7.6	I	3	N	1	—	8.7	15.2	23.9	77.0	+ 1.2	
16.7	15.0	I	5	N	1	—	8.4	30.0	24.2	62.2	− 0	
15.4	7.6	I	3	N	1	—	7.7	15.2	23.9	77.0	+ 1.3	
14.2	12.5	I	6	K=H	1	—	7.1	25.0	23.5	67.2	+ 0.2	
14.9	15.2	I?	4	K=H	1	—	7.4	30.4	23.2	61.8	− 1	
15.5	16.1	II?	2	K=H	1	—	7.8	32.2	24.8	60.0	− 0.1	
13.7	7.4	II	2	K=H	1	— acm	6.8	14.8	25.8	77.4	+ 1.6	
13.3	11.9	I?	4	K=H	1	—	6.6	23.8	26.0	68.4	+ 0.3	
12.6	18.9	I?	3	N	1	—	6.3	37.8	26.3	54.4	− 0.4	
11.1	7.2	II	2	K=H	1	— Fl	5.6	14.4	27.0	77.8	+ 1.7	
11.9	21.8	III	2	K=H	2	—	6.0	43.6	26.6	48.6	− 1.5	
10.8	6.1	I	2	N	2	—	5.4	12.2	27.2	80.0	+ 2.0	
10.5	9.8	I?	4	K=H	1	—	5.2	19.6	27.4	72.6	+ 0.5	
10.2	20.6	III	3	K=H	1	— Fl	5.1	41.2	27.5	51.0	− 1.3	
9.1	20.7	I	2	K=H	1	— Fl	4.6	41.4	28.0	50.8	− 1.3	
9.6	22.0	I	2	K=H	1	—	4.8	44.0	27.8	48.2	− 1.7	

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1887phae.proj..8445

Mean 7

Br.	Br.	No.	R.A.	Dec.	Mag.	H.	V.	M'	Red. to 1900.
6.9	6.2	Dm. 3232	20 51.7	+50 31	6.2	73.7	32.3	72.6	20 53.1 + 50 41
		Dm. 3949	20 53.2	+41 23	6.9	73.0	42.6	72.0	20 54.9 + 41 33
		3663	20 45.1	+51 28	6.4	73.7	32.7	73.0	20 45.7 + 51 32
6.4	5.7	3622	20 37.6	+41 17	5.5	71.6	42.7	73.1	20 ~~38.3 + 41 22~~ ~~45.5 + 43 43~~
						32.6	92.2		Mean 7
7.0 7.3		3751	21 14.8	+21 32	6.0	33.0	32.3	32.2	21 15.7 + 21 37
7.4 7.3		3690	20 32.9	+21 32	5.8	91.3	32.6	92.0	20 33.8 + 21 36
6.8		Dm. 4485	21 4.0	+21 32	7.5	31.2	32.5	31.0	21 6.0 + 22 3
		Dm. 4486	21 4.0	+21 32	6.3		32.5		21 6.0 + 22 3
6.7		3680	20 49.9	+12 7	5.4	91.9	22.5	91.3	20 50.9 + 12 11
7.3 7.2		3755	21 15.6	+23 22	5.8	33.4	32.6	32.4	21 16.5 + 23 37
7.1 7.5		3679	20 49.9	+13 16	5.4	92.1	22.6	92.5	20 50.9 + 13 20
6.5		3773	21 18.6	+23 46	5.6	33.8	32.5	32.6	21 19.4 + 23 51
7.0 7.0		Dm. 4544	21 1.1	+14 3	7.7	31.1	22.5	31.1	21 2.2 + 14 16
6.5		Dm. 4394	21 17.7	+24 43	6.5	32.9	32.4	31.6	21 19.8 + 24 ~~54~~ 44
		Dm. 4375	21 6.7	+15 23	6.5	31.7	22.5	31.5	21 8.8 + 15 34
6.7 6.8		~~Dm. 4089~~	~~20 6.2~~	~~+15 40~~	7.3				
7.3 7.2 7.3		Dm. 4340	21 0.8	+13 3	6.5	31.2	22.5	31.3	21 2.9 + 13 16
7.2 7.2		Dm. 4530	20 59.1	+14 46	7.0	91.3	22.6	91.4	21 1.2 + 14 57
6.5		3778	21 19.3	+25 41	5.8	34.1	32.5	32.5	21 20.1 + 25 43
7.2 7.3 7.6		Dm. 4379	21 8.0	+15 53	6.8	31.8	22.5	31.5	21 10.1 + 16 4
7.2 7.3		3696	20 54.3	+16 22	6.6	92.1	22.7	92.5	20 55.2 + 16 26
7.0 7.0		Dm. 4151	21 18.6	+26 47	7.0	33.1	32.4	31.3	21 20.6 + 26 38
6.3 6.5		3668	20 47.0	+26 38	4.7	90.6	32.6	92.1	20 ~~47.8 + 26 43~~ ~~55.3 + 30 4~~
6.3		3785	21 22.4	+27 5	5.4	34.6	32.5	32.6	21 23.3 + 27 11
7.1 7.1 7.3		Dm. 4549	21 12.4	+17 13	6.8	32.1	22.4	31.5	21 14.3 + 17 24
6.9 7.3		3676	20 49.4	+27 36	5.1	90.6	32.7	91.9	20 50.3 + 27 40
6.8		Dm. 3909	20 48.2	+27 58	7.0	89.6	32.6	90.9	20 50.1 + 28 8
6.7		3667	20 46.4	+27 48	6.1	90.4	32.6	92.1	Dm. 3890 45.3 + 27 42
		~~3669~~	~~20 47.0 + 17 34~~		6.7	91.0			20 47.2 + 27 52

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October 4, 1887.

Plate IV 4.

	V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H. Correc.	
III? 6.3, 6.6	6.6	8.5	~~III~~ b?	3 (4568)	K=H	2	F, dim	3.3	17.0	29.3	75.2	+0.8	6
	6.6	10.0	III	2 .2	K=H K=H1	1	— —	3.3	20.0	29.3	72.2	+1.3	7.3 7
	6.8	11.4	I? I?	2 3	N N	1 1	— —	3.4	22.8	29.2	69.4	+0.4	7
	6.5	12.1	~~III~~ ? III 4 λ2	3	N K=H K=H1	1	F —	3.2	24.2	29.4	68.0	+0.7	7.3 7
~~3 b. 3 ff. this~~	6.0	12.7	~~III~~	3 (4569)	K=1.2 H?	3	F Bright, plate	3.0	25.4	29.6	66.8	+0.6	5
	6.0	14.5	I		N	2	—	3.0	29.0	29.6	63.3	+0.1	6
	4.0	15.4	I ?	3	N	1	—	2.0	30.8	30.6	61.4	-0.1	7

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	Bk.	No.	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900.		
	6.0 6.5	3761	21	16.5	+19 17	4.3	33.5	22.6	32.7	21	17.5 +19 23
0.8											
.73	7.2	Zw. 4378	21	12.8	+29 8	7.4	32.8	32.4	31.5	21	14.5 +29 19
1.3	7.5	~~Zw. 4673~~	~~21~~	~~11.0~~	~~+19 24~~	~~7.3~~					
0.4	7.4	Zw. 4666	21	9.2	+19 6	7.2	32.0	22.5	31.6	21	11.3 +19 17
.73	7.0										
0.7	7.2	Zw. 4354	21	8.0	+29 18	7.0	32.2	32.5	31.5	21	9.9 +29 29
	5.0										
0.6	5.5	3732	21	7.8	+29 44	3.5	33.2	32.7	32.6	21	8.7 +29 49
0.1	6.2	3724	21	3.6	+29 43	3.5	32.6	32.7	32.3	21	4.4 +29 48
0.1	7.0	3719	21	1.3	+30 48	6.0	32.3	32.7	32.4	21	2.3 +30 47

Zw. 4324 2.5 + 29 37

Zw. 4318 8.4 + 30 36

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F. nw. & c. 8.0 6.7 — F. ch. 6.7

October 5, 1887.

Plate 148 T.

V	H	Type	No. lines	K	Focus	Other lines	V.	H.	V	H.	
20.1	20.5	III	2	K=H	1	—	10.0	41.0	27.6	12.2	− 1.2
18.4	21.1	I ?	3	N	1	—	9.2	42.2	28.4	11.0	− 1.3
15.5	14.5	II	2	K=H	3	4570 ecen	7.8	29.0	29.8	24.2	+ 0.1
14.6	7.5	III	2	K=H	1	F? H	7.3	15.0	30.3	38.2	+ 2.0
13.8	10.5	I	4	N	2	—	6.9	21.0	30.7	32.2	+ 0.6
12.4	10.2	III ?	x2	K=H	1	—	6.2	20.4	31.4	32.8	+ 0.7
12.8	11.0	III	x2	K=H	1	—	6.4	22.0	31.2	31.2	+ 1.2
11.8	16.7	III	x2	K=H	1	—	5.9	33.4	31.7	19.8	− 0.4
8.4	7.4	III	3	K=1.5H	3	4571 F. Bright ecen	4.2	14.8	33.4	38.4	+ 2.6
8.0	10.5	I	2	N	2	—	4.0	21.0	33.6	32.2	+ 0.7
7.2	17.9	I ?	3	N	1	—	3.6	35.8	34.0	17.4	− 0.5
6.2	18.7	III	2	K=H	1	—	3.1	37.4	34.5	15.8	− 1.3
4.9	20.9	I	4	?	2	—	2.4	41.8	35.3	11.4	− 1.1
3.1	7.0	I	4	N	2	4572 ecen	1.6	14.0	36.0	39.2	+ 3.1
3.2	11.2	I	4	K=H	1	—	1.6	22.4	36.0	30.8	+ 0.7
2.4	20.2	I	4	N	2	—	1.2	40.4	36.4	12.8	− 2.0
2.1	18.6	I	3	N	1	—	1.0	37.2	36.6	16.0	− 1.5
2.1	22.3	I ?	4 ?	K=H	2	—	1.0	44.6	36.6	8.6	− 2.9

F. nw. & c. 8.0 6.8 — F. ch. 6.3

Plate 1626

20.6	9.7	III	?	K=H	1	—	10.0	19.4	27.6	70.3	+
16.6	7.3	III	2	K=H	1	4573 ecen	8.3	14.6	29.3	75.1	+ 0.9
15.8	11.6	III	2	K=1.2H ?	3	4574 F? Bright ecen	7.9	28.2	29.7	66.5	+ 0.8
15.8	13.4	I	4	N	1	—	7.9	26.8	29.7	62.9	+ 0.5
14.5	23.1	III	2	K=H	1	—	7.2	46.2	30.4	43.5	− 2.3
15.6	20.9	III	2	K=H	1	—	7.8	41.8	29.8	87.9	−
13.9	14.3	I ?	3	N	1	—	7.0	28.6	30.6	61.1	+ 0.2
8.6	14.1	III ?	2	K=H	1	—	4.3	20.2	33.3	69.5	+

III 2. 5.6, 6.1

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1887phae.proj..844E

Br.	No.	R.A.	Dec.	Mag.	Th.	V.	Th'	Red. to 1900.
7.2 7.6	3534	20 10.8	+27 27	4.8	51.8	37.4	53.0	20 11.7 +27 30
6.8	3525	20 9.3	+28 20	5.4	51.5	37.5	53.0	20 10.2 +28 24
5.4	3583	20 24.5	+29 58	4.1	53.5	37.8	53.4	20 25.3 +30 2
6.8 7.2	3643	20 40.7	+30 17	4.3	53.7	37.6	53.7	20 41.6 +30 21
5.8	3616	20 33.2	+20 47	4.8	54.2	37.7	53.6	20 34.0 +20 51
7.1 7.5	3623	20 33.8	+21 24	5.9	54.3	27.6	53.5	20 34.7 +21 28
* 7.1 7.4	3610	20 32.6	+31 9	6.3	54.6	37.6	53.4	20 33.4 +31 13
	~~3611~~	~~20 32.7~~	~~+31 6~~	~~6.4~~				20 33.5 +31 10
7.0 7.5	3569	20 19.1	+31 48	4.6	52.5	37.7	52.9	20 19.9 +31 52
7.7 5.2	3648	20 41.4	+33 31	2.7	56.2	37.7	53.6	20 42.1 +33 36
6.4	3619	20 33.3	+23 42	5.1	54.3	27.7	53.6	20 34.2 +23 46
6.8	3560	20 16.9	+24 4	5.4	52.7	27.7	53.3	20 17.7 +24 7
7.3 7.5	3551	20 14.0	+34 37	5.2	51.4	37.7	52.7	20 14.8 +34 40
5.8	3530	20 10.2	+25 14	4.8	52.0	27.6	53.1	20 11.0 +25 17
5.7	3653	20 42.7	+36 3	4.6	56.7	37.6	53.6	20 43.5 +36 8
7.2	3606	20 32.0	+26 3	5.6	54.4	27.6	53.7	20 32.8 +26 7
	3529	20 10.1	+36 27	5.0	50.5	37.6	52.5	20 10.8 +36 30
	3550	20 14.0	+36 37	5.6	51.2	37.6	52.7	20 14.8 +36 41
	3513	20 5.0	+36 29	4.8	49.6	37.5	52.5	20 5.8 +36 33
	~~3519~~	~~20 6.8~~	~~+26 27~~	~~5.8~~				

Not found on chart.

7.3 7.5 6.8 7.2	3761	21 16.5	+19 17	4.3	31.1	27.6	30.2	21 17.5 +19 23
5.4 6.8	3732	21 7.8	+29 44	3.5	31.0	37.6	30.2	21 8.7 +29 49
6.8	3724	21 3.6	+29 43	3.5	30.4	37.6	29.9	21 4.4 +29 48
6.8 7.2	3643	20 40.7	+30 17	4.3	86.9	37.5	89.2	20 41.6 +30 21
7.3 7.7	~~D.M. 45 44~~	~~20 45.8~~	~~+19 35~~	~~7.3~~				Not found on chart.
7.3	3719	21 1.5	+30 42	6.0	30.1	37.7	29.9	21 2.3 +30 47
7.5								

D.M. 4303 32.7 +21 19

D.M. 4318 0.4 +30 36

* Spectra superimposed on plate; means of brightness & combined light of both.

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Plate 1626.

	V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
4 br. 3 ft. lines.	8.2	22.6	III	3	K=1.5-H	4	F. Bright	4.1	45.2	33.5	44.5	-2.6	
4 bright F-G, 2-H	6.6	9.6	I	3	?	3	F seen	3.3	18.2	34.3	71.5	+2.0	
	3.1	21.8	I	N		2	—	1.6	43.6	36.0	46.1	-2.6	

St. Lb. F. mv. c. F. ch.

5.3 8.0 6.4

Plate 1637.

6.4

	21.6	21.6	III	3	K=H	1	F	10.8	43.2	26.7	48.6	-1.4
	20.5	8.9	I	3	N	1	—	10.2	11.8	27.3	80.0	+2.0
	19.3	21.8	III	2	K=H	1	—	9.6	43.6	27.9	48.2	-1.6
III ? 5.3, 5.7.	16.5	8.3	III	2	K=H	2	F+ bright	8.8	16.6	29.3	73.2	+0.8
3 br. 4 ft. lines	15.8	12.6	III	2	K=1.2H	3	Bright seen	7.9	25.2	29.6	66.6	+0.7
	15.6	14.4	I	6	K=1.1H	2	—	7.8	28.8	29.7	63.0	+0.1
~~5 br. = 2 H + K~~	13.8	15.2	II	2	K=H	1	seen	6.9	40.4	30.6	81.4	+0.1
~~5 br. = 3 H~~	12.0	9.3	II	?	K=H	1	seen	6.0	18.6	31.5	73.2	+0.8
	11.4	6.1	I	2	N	1	—	5.7	12.2	31.8	79.6	+2.7
	10.8	9.0	I	N		1	—	5.4	18.0	32.1	73.8	+1.8
~~6 br. = 5 H + K~~	9.5	7.6	II	2	K=H	1	seen	~~4.8~~	15.2	32.7	66.6	+1.2
Is it a defect in plate?	~~7.1~~	14.5	III	?	K=H	1	—	~~4.6~~	~~29.0~~	~~32.9~~	~~72.8~~	+
~~2 br. 3 ft. lines~~	8.1	23.6	III	3	K=2.0H?	4	F? Bright seen	4.0	47.2	33.5	44.6	-2.9
~~4 br. 1 F-G, 1-H~~	6.4	10.5	I	N		3	seen	3.2	21.0	34.3	70.8	+1.6
Is it a defect in plate?	~~5.5~~	13.4	II	2	K=H	1	—	~~2.8~~	~~26.8~~	~~34.7~~	~~65.0~~	+
	3.0	22.8	I	6	N	3	F	1.5	45.6	36.0	46.2	-3.0
	2.6	9.4	I	3	N	1	—	1.3	14.8	36.2	77.0	+3.0
	1.8	21.9	III	?	K=H	1	F+	.9	43.8	36.6	48.0	-1.5

F. mv. ? c. F. ch.

8.0 6.9

Plate 1555.

6.9

	22.4	8.1	I	2	N	1	—	11.2	16.2	46.4	74.6	+6.5
	22.9	22.4	I	?	?	2	—	11.4	44.8	46.3	46.0	-4.3
	21.0	16.6	I	?	N	2	—	10.5	33.2	47.1	57.6	-1.5

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1887phae.proj..844F

Rec.	Br.	No.	R.A.	Dec.	Mag.	H. v. H'	Red. to 1900.
2.6	4.9 5.3	3648	20 41.4	+33 31	2.7	86.6 37.6 89.2	20 42.1 +33 36
2.0	5.3	3747	21 13.0	+34 24	4.4	34.2 37.7 29.2	21 13.8 +34 28
2.6	5.8	3655	20 42.7	+36 3	4.6	86.3 37.6 88.9	20 43.5 +36 8

Mean 10

2.4	6.8 7.1 6.1	3668	20 47.0	+17 ~~34~~ 26 38	~~6.7~~ 4.7	90.2	37.4	91.6	20 47.8 +26 43
2.0	7.0 6.0	3785	21 22.4	+27 5	3.4	34.2	37.3	32.2	21 23.3 +27 11
2.6	7.2 7.3 6.2 6.3	3667	20 46.4	+27 48	6.1	90.0	37.4	91.6	20 47.8 +27 52
0.8	6.4 6.8 5.4 5.8	3761	21 16.5	+19 17	4.3	33.1	27.5	32.3	21 17.5 +19 23
0.7	5.0 5.4 4.0 4.4	3732	21 7.8	+29 44	3.5	33.0	37.6	32.3	21 8.7 +29 49
0.1	6.4 5.4	3724	21 3.6	+29 43	3.5	32.4	37.5	32.3	21 4.7 +29 48
0.1	7.0 6.0	3719	21 1.5	+30 42	6.0	31.9	37.6	31.8	21 2.8 +30 47
0.8	7.0 6.0	3751	21 14.8	+21 32	6.0	33.4	27.5	32.6	21 15.7 +21 37
2.7	7.2 6.2	3788	21 23.1	+31 42	3.7	33.3	37.4	32.6	21 23.8 +31 47
0.8	6.8 5.8	3760	21 16.3	+32 6	6.1	34.3	37.5	32.5	21 17.1 +32 11
1.2	7.0 6.0	3773	21 18.6	+23 46	3.6	33.8	27.6	32.6	21 19.4 +23 51
	~~7.3 6.3~~ 7.5	~~4060~~	~~21~~	~~+32 49~~	~~7.5~~				not found on chart.
2.9	4.5 5.0 3.5 4.0	3648	20 41.4	+33 31	2.7	88.6	37.5	91.5	20 42.1 +33 36
2.6	5.1 4.1	3747	21 13.0	+34 24	4.4	34.0	37.6	32.4	21 13.8 +34 28
			21	+					not found on chart.
2.0	5.4 4.4	3655	20 42.7	+36 3	4.6	88.3	37.5	91.3	20 43.5 +36 8
3.0	7.0 6.0	3782	21 20.9	+36 9	5.8	35.7	37.5	32.7	21 21.7 +36 14
2.5		3668	20 47.0	+26 38	4.7	90.8	27.5	92.3	20 47.8 +26 43

Mean 9

6.5	7.0 6.0	3781	21 20.9	+46 121	5.5	37.1	37.4	30.6	21 21.6 +46 17
2.3		3655	20 42.7	+36 3	4.6	87.5	47.4	91.8	20 43.3 +36 8
0.5	5.8 4.8 4.9	3701	20 55.7	+47 3	4.6	88.9	37.5	90.4	20 56.4 +47 8

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Plate IVVV.

V	H	Type	No. Lines	K	Focus	Other Lines	V.	Hh.	V.	H.	Correc.	
20,2	11,4	II N 2		K=H	1	—	10.1	22.8	47.5	68.0	+ 3.3	
~~Gok = V H + K~~	20,2	11,6	II a 45-84	3	K=H	3	F.	10.1	23.2	47.5	67.6	+ 2.1	5
	21,0	14,5	III 2		K=H	1	—	10.5	29.0	47.1	61.8	+ 0.5	7.
√	19,7	9,7	III III? 2	2	K=H	K=H 1	—	9.8	19.4	47.8	71.4	+ 3.3	7.3 7.
	18,4	7,7	I V		K=V H	2	—	9.2	13.4	48.4	75.4	+ 7.3	6.
	19,0	14,9	III 2		K=H	1	F?	9.5	29.8	48.1	61.0	+ 0	6. 7.
√	17,4	8,5	I I? I? 2	H	K=H	K=H 1	—	8.7	17.0	48.9	73.8	+ 6.6	7.17
√	17,0	9,3	I I? 3	8	N	1 1	—	8.5	18.6	49.1	72.2	+ 5.9	7.27
√	17,4	9,4	III III x 5	2	K=H	K=H 1	—	8.7	18.8	48.9	72.0	+ 5.3	7.30 7. 7.25 7.
	17,1	10,3	I V		N	2	F	8.6	20.6	49.0	70.2	+ 4.8	6.
	17,5	10,6	I ? 9	K=H	3	3	F	8.8	21.2	48.8	69.6	+ 2.9	6
√	16,6	10,0	I ? I? 4	H	N	K=H 1 1	—	8.3	20.0	49.3	70.8	+ 3.5	7.17
	15,4	16,9	I 7		N	2	F	7.7	33.8	49.7	57.0	- 2.1	6
	15,2	22,1	I 6		N	2	F	7.6	44.2	50.0	46.6	- 7.7	6
√	14,2	10,1	I I 4 5	K=H	K=H	1	F	7.1	20.2	50.5	70.6	+ 3.6	6.87.
	14,7	17,6	I ? 4	K=H		1	—	7.4	35.2	50.2	55.6	- 2.3	6.
	14,0	17,6	I V		N	1	—	7.0	35.2	50.6	55.6	- 2.7	6.
	14,0	18,2	I V	K=H		3	F	7.0	36.4	50.6	54.4	- 2.4	4.
	14,8	19,3	a ! 2	K=H		1	clear	7.4	38.6	50.2	52.2	- 3.0	7.
√	13,1	15,6	I ? I? 3	H	N	K=H 1 1	—	6.6	31.2	51.0	59.6	- 0.3	7.07.
√	13,4	19,7	III ? III? 2	2	K=H	K=H 1	—	6.7	39.4	50.9	51.4	- 5.4	7.55 7. 7.58 7.
	12,4	17,6	I		N	1	—	6.2	35.2	51.4	55.6	- 1.9	6.
	12,2	19,8	I 4		N	1	—	6.1	39.6	51.5	51.2	- 5.3	6.
	12,4	23,8	I 4		K=H	1	—	6.2	47.6	51.4	43.2	- 6.7	6.
√	11,6	10,5	I I? 2	3	N	1 1	—	5.8	21.0	51.8	69.8	+ 3.1	7.37 6.
	11,0	10,7	I 4		N	1	—	5.5	21.4	52.1	69.4	+ 3.3	6.6
	11,7	17,3	I 4		N	1	—	5.8	34.6	51.8	56.2	- 1.8	6.
√	11,3	18,7	III ? III? 2	2	K=H	K=H 1	—	5.6	37.4	52.0	53.4	- 2.9	7.21 7. 7.44 7.

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1887phae.proj. #845

Mean 9

rec.	Br.	Br	No	R. A.	Dec	Mag	Th.	V.	Th'	Red. to 1900.
			Dm. 3348	21 10.6	+ 47 22	6.3	33.3	57.5	30.2	21 12.2 + 47 33
3.3	7.1	6.2	3744	21 10.0	+37 32	3.9				
2.1	5.1	4.2	3741	21 10.0	+ 37 32	3.9	33.2	47.6	31.1	21 10.8 + 37 36
0.5	7.1 7.5	6.2 6.6	3721	21 2.5	+ 47 10	5.1	31.5	57.7	31.0	21 3.1 + 47 15
3.3	7.2 7.3	6.3 6.5	Dm. 4271	21 13.6	+ 37 38	6.2	33.0	47.4	29.7	21 13.4 + 37 49
			~~Dm. 3381~~	~~21 16.1~~	~~+ 47 33~~	~~6.9~~				Dm. 3390 =1.7+48 12
2.3	6.1	5.2	3786	21 22.6	+ 48 19	5.3	38.0	57.5	30.7	21 23.3 + 48 24
0	6.8 7.2	5.9 6.3	3717	21 1.5	+ 38 10	5.1	31.3	47.7	31.3	21 2.1 + 38 13
6.6	7.1 7.0	6.1	Dm. 3376	20 19.9	+ 48 42	6.3	36.9	57.4	30.3	20 21.3 + 48 51
5.9	7.2 7.3	6.4	Dm. 3360	21 17.5	+ 48 32	7.0	36.1	57.4	30.2	21 19.1 + 49 3
			~~3771~~	~~21 17.9~~	~~+ 48 32~~	~~5.8~~	~~36.5~~			
5.3	7.3 7.5	6.4 6.7	3771	21 17.9	+ 48 32	5.8	36.7	57.6	31.2	21 18.3 + 48 38
			3754	21 15.4	+ 49 0	5.4	36.0	57.6	31.2	21 16.0 + 49 6
0.8	6.3	5.4	~~3745~~	~~21 12.7~~	~~+ 38 33~~	~~4.3~~				
2.9	5.5	4.6	3743	21 12.7	+ 38 53	4.3	33.9	47.7	31.0	21 13.5 + 38 58
2.5	7.1 7.2	6.3	Dm. 4519	21 13.3	+ 39 8	6.8	33.3	47.4	29.8	21 13.1 + 39 19
2.1	6.0	5.1	3698	20 54.6	+ 30 0	5.3	88.4	57.7	90.5	20 53.3 + 30 4
2.7	6.1	5.2	3636	20 38.5	+ 49 35	5.4	82.7	57.5	90.4	20 39.1 + 49 39
2.6	6.8 7.0	6.1	Dm. 4485	21 13.3	+ 40 26	6.5	33.5	47.5	29.9	21 13.0 + 40 37
2.5	6.7	5.8	3686	20 52.6	+ 50 16	5.9	87.8	57.7	90.3	20 53.3 + 50 30
2.7	6.9	6.0	Dm. 3232	20 51.7	+ 50 31	6.2	86.9	57.5	89.6	20 53.1 + 50 41
2.4	4.8	3.9	3687	20 52.7	+ 40 42	4.1	89.1	47.7	91.5	20 53.5 + 40 47
3.0	7.2	6.3	Dm. 4354	20 49.0	+ 40 10	6.8	87.6	47.6	90.6	20 50.7 + 40 20
0.5	7.0 7.2	6.3	3986	20 38.4	+ 41 2	7.0	?89.6	47.6	90.1	21 0.1 + 41 13
			Dm. 3987	20 38.4	+ 41 3	7.0				21 0.1 + 41 14
3.4	7.3 7.5	6.3 6.4	Dm. 3211	20 45.2	+ 50 47	6.3	87.6	57.5	90.0	20 46.6 + 50 57
1.9	6.5	5.6	Dm. 3949	20 53.2	+ 41 23	6.9	88.4	47.6	90.3	20 54.9 + 41 33
										X Dm. 2957 44.3 + 51 22
3.3	6.4	5.5	3663	20 45.1	+ 51 28	6.4	84.7	57.6	90.0	20 45.7 + 51 32
6.7	6.4	5.5	3632	20 37.6	+ 41 17	5.5	85.2	47.5	91.9	20 38.3 + 41 20
3.1	7.3 7.3	6.4	Dm. 3042	21 14.7	+ 51 43	7.2	35.7	57.5	30.6	21 16.2 + 51 54
			~~Dm. 3035~~	~~21 13.2~~	~~+ 51 52~~	~~7.4~~				Dm. 4046 11.9 + 42 5
3.3	6.6	5.7	3746	21 12.8	+ 42 11	6.0	34.2	47.7	30.7	21 13.6 + 42 16
1.8	6.8	5.9	Dm. 3956	20 54.1	+ 41 46	6.5	88.7	47.6	90.5	20 55.8 + 41 56
2.9	7.2 7.4	6.3 6.5	Dm. 3932	20 50.0	+ 41 58	6.9	87.4	47.6	90.3	20 54.6 + 42 8

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October 5, 1887.

Plate 155 V.

V	H	Type	Other lines	K	Focus	Lines	V.	H.	V.	H.	Correc	
								39.0				
	11.5	19.5	I I H	K=H	K=H	1 1	—	5.8	9.8	51.8	51.8	- 3.5
	10.4	18.3	I I		N	2 2	—	5.2	16.6	52.4	54.2	+ 7.9
	9.5	8.0	III ?	x 2	K=H	1	—	4.8	16.0	52.8	74.8	+ 8.4
	9.2	13.3	I	6	N	2	F	4.6	26.6	53.0	64.2	+ 1.9
	9.8	15.2	III ? III ?	3	K=H	K=H 1 1	— F	4.9	30.4	52.7	60.4	- 0.1
	9.4	18.4	I	3 3	N	N 1 1	— —	4.7	36.8	52.9	54.0	- 2.5
	8.5	10.4	I ?	4586	N	2	Reen	4.3	20.8	53.4	70.1	+ 3.6
	8.4	11.3	I	4	N	2	—	4.2	22.6	53.4	68.2	+ 4.3
III ? 6.3, 6.6 3 br. 3 ft. lines	8.8	12.8	I ? I ?	4	N	K=H 1 1	— —	4.4	25.6	53.2	65.2	+ 2.7
	8.7	15.2	III	4587 2	K=H	2	Brill. Reen	4.4	30.4	53.2	60.4	- 0
	8.2	20.5	I	K=H		2	—	4.1	41.0	53.5	47.8	- 4.5
	7.5	17.5	III ?	x 3	K=H	1	F —	3.8	35.0	53.8	55.8	- 2.1
	7.9	16.3	III ?	x 2 2	K=H	K=H 1	— —	4.0	32.6	53.6	58.2	- 1.1
	7.6	18.4	I ? I ?	4588	N	K=H 1 1	— —	3.8	36.8	53.8	54.0	- 2.9
plate bt. 4 H	7.6	19.4	I	8	N	3	Reen	3.8	38.8	53.8	52.0	- 3.6
	6.6	18.1	III	x 2	K=H	1	—	3.3	36.2	54.3	54.6	- 2.5
	6.2	18.4	III ? III ?	2	K=H	K=H 1 1	— —	3.1	36.8	54.5	54.0	- 4.2
	6.0	19.3	III	x 2	K=H	1	—	3.0	38.6	54.6	52.2	- 3.6
	5.3	8.0	I ?		K=H	1	—	2.6	16.0	55.0	74.8	+ 9.0
	5.5	13.5	I ?	3	N	1	—	2.8	27.0	54.8	63.8	+ 1.3
	5.6	23.4	I ?	10 ?	?	F	2.8	46.8	54.8	44.0	- 7.3	
	4.7	15.9	I ?	3	N	1	—	2.4	31.8	55.2	59.0	- 0.9
plate bt. 4 H	4.2	16.5	I	4589 6	?	2	Reen	2.1	33.0	55.5	57.8	- 1.3
	4.1	20.7	II	a ? 2	K=H	1	Reen	2.0	41.4	55.6	49.4	- 5.1
	3.1	15.6	I		N	2	—	1.6	31.2	56.0	59.6	- 0.9
	2.8	8.2	I	2	N	1	—	1.4	16.4	56.2	74.4	+ 6.1
	2.6	17.1	II ?	2	K=H	1	—	1.3	34.2	56.3	56.6	- 2.7

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1887phae.proj..844F

Mean 9

Cor. Be.	Cor. Br.	No.	R.A.	Dec	Mag.	M.	V.	M'	Red. to 1900.
		~~2962~~	~~20 46.7~~	~~+ 31 51~~	~~6.8~~				
7.2 7.3	6.4	Zw. 3922	20 48.2	+ 41 52	6.8	87.2	47.7	90.7	20 49.8 + 42 2
6.4	5.5	3787	~~21~~ 22.8	+ 52 22	5.7	39.4	57.6	31.5	21 23.4 + 52 28
7.3 7.4	6.4 6.5	~~Zw. 3913~~	~~20 51.0~~	~~+ 42 13~~	~~6.5~~				
		Zw. 2943	21 23.2	+ 52 40	6.7	39.2	57.5	30.8	21 24.7 + 52 52
6.0	5.1	3730	21 6.5	+ 53 4	5.7	33.1	57.6	31.2	21 7.1 + 53 9
7.2 7.4	6.3 6.5	3714	21 0.1	+ 52 49	6.2	30.5	57.7	30.6	21 0.7 + 52 53
		~~Zw. 3907~~	~~20 50.2~~	~~+ 42 49~~	~~6.5~~				
7.2 7.2	6.3	Zw. 3911	20 51.0	+ 42 52	6.7	87.8	47.6	90.3	20 52.6 + 43 2
5.6	4.7	3750	21 14.1	+ 43 26	5.0	34.9	47.6	31.3	21 14.8 + 43 31
6.6	5.7	3748	21 13.3	+ 53 30	6.0	35.9	57.7	31.6	21 13.9 + 53 34
7.2 7.2	6.3	Zw. 2568	21 7.2	+ 53 10	6.5	32.8	57.6	30.1	21 8.6 + 53 21
6.2 6.6	5.3 5.7	3716	21 0.6	+ 43 27	3.7	31.0	47.8	31.0	21 1.3 + 43 32
6.0	5.1	3665	20 45.9	+ 43 36	5.0	86.9	47.7	91.4	20 46.6 + 43 41
6.9 7.1	6.0 6.2	3694	20 54.0	+ 44 0	5.9	89.0	47.8	91.1	20 54.8 + 44 4
7.2 7.4	6.4 6.7	Zw. 3789	20 56.6	+ 43 37	7.0	89.3	47.6	90.3	20 58.3 + 43 47
7.3 7.6	6.4 6.7	Zw. 3766	20 50.8	+ 43 49	6.7	87.6	47.6	90.5	20 52.4 + 43 59
5.3	4.4	3673	20 49.0	+ 43 36	4.6	87.8	47.7	91.4	20 49.7 + 44 0
6.8	5.9	Zw. 3639	20 51.5	+ 44 28	6.7	87.7	47.7	90.2	20 53.1 + 44 33
7.1 7.4	6.3 6.5	Zw. 2433	20 48.3	+ 54 30	6.8	85.1	37.6	89.3	20 49.6 + 54 40
7.3 7.6	6.4 6.7	3675	20 49.1	+ 44 44	5.6	87.7	47.7	91.3	20 49.8 + 44 48
		Zw. 2544	21 24.3	+ 54 47	6.1	40.3	37.4	31.3	21 25.7 + 54 59
		~~Zw. 3529~~	~~21 19.6~~	~~+ 43 32~~	~~7.5~~				
6.9	6.0	Zw. 3718	21 4.8	+ 44 35	6.8	31.8	47.7	30.5	21 6.4 + 45 6
B	B	3631	20 37.3	+ 44 51	1.5	84.1	47.6	91.4	20 38.0 + 44 56
7.0	6.1	Zw. 3374	20 57.7	+ 45 16	6.7	89.5	47.7	90.4	20 59.3 + 45 27
5.9	5.0	3705	20 57.0	+ 45 41	5.2	90.0	47.8	91.3	20 57.6 + 45 46
6.4	5.5	3662	20 44.9	+ 43 40	5.0	86.3	47.7	91.4	20 43.5 + 43 45
6.4	5.5	3711	20 58.9	+ 56 11	5.9	90.1	57.8	91.0	20 59.4 + 56 16
7.0	6.1	3781	21 20.9	+ 46 12	5.5	37.3	47.6	31.2	21 21.6 + 46 17
6.7	5.8	3692	20 53.1	+ 56 26	6.1	87.3	57.7	90.0	20 53.6 + 56 29

Zw. 2588 12.5 +03

Zw. 2624 58.2 +58 3

Zw. 2516 52.4 + 56 19

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1887phae.proj..844f

F. nn. 7c. 8.0 6.5

F. ch. 6.5

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Plate 1627.

r	#	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Corr.
9 15	22.8	21.5	I			2	—	11.4	43.0	46.1	43.6	-3.7
	20.9	15.9	II	a? 4591		1	F? Seen	10.4	31.8	47.1	36.8	-0.9
Th dbl = H H+K	20.1	10.7	III	4592	K=H	3	F, seen	10.0	21.4	47.5	67.2	+2.5
	18.3	7.0	I		N	1	—	9.2	14.0	48.3	74.6	+7.9
	17.0	9.5	I	? 4	N	1	—	8.5	19.0	49.0	69.6	+3.5
17	16.7	9.7	I		N	3	—	8.8	19.4	48.7	69.2	+3.5
	15.2	16.1	I		N	2	—	7.6	32.2	49.9	56.4	-1.2
	15.0	21.3	I	H	N	2	—	7.5	42.6	50.0	46.0	-6.6
	13.8	17.3	I	8	K=H	4	—	6.9	34.6	50.6	54.0	-1.8
	12.4	12.9	II	a? 4593	K=H	1	Seen	6.2	25.8	51.3	63.8	-3.9
	12.1	19.0	I	?	3	1	—	6.0	38.0	51.5	50.6	-4.5
	10.2	7.5	II	?	2	1	—	5.1	13.0	52.4	73.6	+8.7
	10.8	9.9	I		3	1	—	5.4	19.8	52.1	68.8	+3.9
	9.1	12.5	I		4	2	—	4.6	23.0	52.9	63.6	+2.9
	9.8	22.3	III	?	2 2	HK=H	1	—	4.9	44.6	52.6	44.0	-8.4
	8.5	9.6	I	?	4	N	2	—	4.2	19.2	53.3	69.4	+4.3
III? 6.2, 6.6	8.2	10.5	I	?	2	N	1	—	4.1	21.0	53.4	67.6	+5.4
	8.6	14.4	III	? 4594	K=H	2	Bright seen	4.3	28.8	53.2	57.8	+0.5
	8.1	19.7	I	4	N	2	—	4.0	39.4	53.5	49.2	-3.9
	7.6	18.5	I	4595	N	3	—	3.8	37.0	53.7	51.6	-2.9
	6.4	17.2	II	? x2	K=H	1	—	3.2	34.4	54.3	54.2	-1.9
	5.6	22.5	I	? 8	N	5	F	2.8	45.0	54.7	43.6	-6.3
	4.0	15.6	I		K=H	1	—	2.0	31.2	55.5	57.4	+0.6
	3.9	19.8	II	? x2	K=H	1	—	2.0	39.6	55.5	49.0	-4.2
	2.9	14.7	I	4	N	1	—	1.4	29.4	56.1	59.2	+0.5
	2.4	16.2	III	?	K=H	1	—	1.2	32.4	56.3	56.2	-1.7

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Mean 12

Corr.

Corr	Br.	Br	No.	R.A.	Dec.	Mag.	M.	m.	m'	Red. to 1900.
3.7	.	.	3633	20 42.7	+36 3	4.6	85.7	47.4	89.4	20 43.3 + 36 8
0.9	6.4	5.2	3701	20 55.7	+47 3	4.6	87.3	57.4	88.4	20 56.4 + 47 8
2.5	5.2	4.0	3741	21 10.0	+37 32	3.9	31.4	47.5	28.9	21 10.8 + 37 36
7.9	6.8	5.6	3786	21 22.6	+48 19	5.3	36.6	57.5	28.7	21 23.3 + 48 24
3.5	~~7.0~~ 5.6	5.8	3754	21 15.4	+49 0	5.4	34.4	57.5	28.9	21 16.0 + 49 6
3.5	5.6	4.4	3745	21 12.7	+38 33	4.3	32.1	47.7	28.6	21 13.3 + 38 38
1.2	6.4	5.2	3698	20 54.6	+50 0	5.5	86.8	57.6	88.0	20 55.3 + 50 4
6.6	6.3	5.1	3636	20 38.5	+49 55	5.4	81.1	57.4	87.7	20 39.1 + 49 59
1.8	4.7	3.5	3687	20 52.7	+40 42	4.1	87.3	47.6	89.1	20 53.3 + 40 47
3.9	6.9	5.7	3632	21 0 37.6	+41 17	5.3	83.4	47.5	89.3	20 38.3 + 41 22
4.5	7.2	6.0	3663	20 45.1	+51 28	6.4	83.1	57.5	87.6	20 45.7 + 51 32
8.7	7.2	6.0	3787	21 22.8	+52 22	5.7	37.8	57.5	29.1	21 23.4 + 52 28
3.9	7.0	5.8	3746	21 12.8	+42 11	6.0	32.6	47.6	28.7	21 13.6 + 42 16
2.9	6.6	5.4	3730	21 6.5	+53 4	5.7	31.5	57.7	28.6	21 7.1 + 53 9
8.4	7.3 7.6	6.1 6.45	Dm. 3761	20 33.1	+52 28	6.5	77.7	57.4	86.1	20 34.4 + 52 37
4.3	5.8	4.6	3750	21 14.1	+43 26	5.0	33.3	47.6	29.0	21 14.8 + 43 31
5.4	7.1	5.9	3748	21 13.3	+53 30	6.0	34.3	57.6	28.9	21 13.9 + 53 34
0.5	6.4 7.0	5.3 5.85	3716	21 0.6	+43 27	5.7	29.4	47.7	28.6	21 1.3 + 43 32
3.9	6.3	5.1	3663	20 45.9	+43 36	5.0	85.3	47.6	89.2	20 46.6 + 43 41
2.9	5.4	4.2	3673	20 49.0	+43 36	4.6	86.0	47.7	88.9	20 49.7 + 44 0
1.9	7.2	6.0	Dm. 3639	20 51.5	+44 23	6.7	85.9	47.6	87.8	20 52.1 + 44 33
6.3	B.	B	3631	20 37.3	+44 51	1.5	82.3	47.6	88.6	20 38.0 + 44 56
0.6	6.2	5.0	3703	21 0 37.0	+45 41	5.2	88.3	47.7	88.8	20 37.6 + 45 46
4.2	6.5	5.3	3662	20 44.9	+45 40	5.0	84.5	47.7	88.7	20 45.3 + 45 45
0.5	6.7	5.5	3711	20 58.9	+56 11	5.9	88.3	57.6	87.8	20 59.4 + 56 16
1.7	.	.	3692	20 53.1	+56 26	6.1	85.5	57.6	87.2	20 53.6 + 56 29

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St. Let. F. m. & c. F. ch.

5.5 8.0 7.2 7.2

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Plate 1692.

	V	H	Type	Lines	K	Focus	Lines	Other	V.	H.	V.	H.	Correc.
~~Th = .5 H K~~	15.0	8.2	~~II~~	? 4596			2	F! seen	7.5	16.4	25.1	37.8	+ 1.3
	13.9	17.2	III	2	K=H	1	—		7.0	34.4	25.6	19.8	- 0.6
	11.6	8.1	III	2	K=H	1	—		5.8	16.2	26.8	38.0	+ 0.7
	11.1	15.8	I	4	K=H	1	—		5.6	31.6	27.0	22.6	- 0.2
Is this a star?	~~10.9~~	~~14.2~~	Defect in plate ?										
	~~10.9~~	~~14.2~~	~~I~~	~~2~~	~~N~~	~~1~~	~~—~~		~~5.4~~	~~28.4~~	~~27.2~~	~~23.8~~	~~+~~
	8.9	8.6	?	3	N	1	F! —		4.4	37.2	28.3	47.0	+ 1.6
	6.9	18.7	III	2	K=H	1	F?		3.4	37.4	29.2	16.8	- 0.4
	5.9	6.2	?	2	N	1	—		3.0	12.4	29.6	41.8	+ 2.2
	5.8	22.1	b	4597 2	N	2	F seen		2.9	44.2	29.7	10.0	- 1.9

St. Let. F. m. & c. Hard to measure. F. ch.

Plate 1645.

	V	H	Type	Lines	K	Focus	Lines	Other	V.	H.	V.	H.	Correc.
~~Star~~	5.6	8.0	6.3										6.3
	18.4	17.5	I	?	K=H	2	—		9.2	35.0	43.4	16.4	- 1.9
	16.4	18.5	I	b 4598	N?	3	seen		8.2	37.0	44.4	14.4	- 1.9
✓	18.0	22.3	III	2	K=H	1	—		9.0	44.6	43.6	6.8	- 6.0
III ? 6.2, 6.6	15.2	12.0	III	b? 4599	K=H	2	F? seen		7.6	24.0	45.0	27.4	+ 2.5
	15.0	20.3	III	?	H?	1	—		7.5	40.6	45.1	10.8	- 4.7
	13.4	13.6	III	2	K=H	1	—		6.7	27.2	45.9	24.2	+ 1.3
	13.0	15.0	II	? 2	K=H	1	—		6.5	30.0	46.1	21.4	- 0
	13.9	22.8	III	2	K=H	1	—		7.0	45.6	45.6	3.8	- 7.1
	13.5	23.3	II	d ? 4	N	2	—		6.8	46.6	45.8	4.8	- 7.5
~~Th = H + .4 H~~	12.1	14.7	I	4600	N	1	seen		6.0	29.4	46.6	22.0	+ 0.1
	12.9	15.2	III	?	H?	1	—		6.4	30.4	46.2	21.0	- 0
	10.4	18.1	I	? 3	N	1	—		5.2	36.2	47.4	13.2	- 3.0
~~Th = 2 H K~~	10.2	19.5	III	a 4601 2	K=H?	3	F? seen		5.1	39.0	47.5	12.4	- 2.9
	10.8	19.8	II		H?	1	—		5.4	39.6	47.2	11.8	- 4.5
✓ ✓	12.8	21.2	III	? 2	K=H	1	—		6.4	42.4	46.2	8.0	- 3.0
	14.8	23.5	I	a 4602	K=K	2	F seen		6.4	47.0	46.2	4.4	- 8.1
	9.6	8.3	I	4	K=H	1	—		4.8	16.6	47.8	34.8	+ 4.2

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1887phae.proj.:344F

Br.	No.	R.A.	Dec.	Mag.	M.	V.	M	Red. to 1900.
6.2	3843	21 39.2	+ 25 6	4.2	33.6	32.6	54.3	21 40.3 + 25 11
7.3 7.7	3778	21 19.3	+ 25 41	3.8	33.7	32.7	54.3	21 20.1 + 25 45
7.1 7.5	3842	21 38.8	+ 16 48	4.4	35.0	22.6	54.3	21 39.8 + 16 54
6.8	3785	21 22.2	+ 27 5	3.4	34.0	32.7	54.2	21 23.3 + 27 11
		21	+					Not found on chart
6.4	3840	21 38.8	+ 28 12	4.4	36.0	32.6	54.4	21 39.6 + 28 18
6.8 7.2	3761	21 16.5	+ 19 17	4.3	33.9	22.7	54.3	21 17.3 + 19 22
	3861	21 44.5	+ 29 37	3.0	36.9	32.6	54.6	21 45.4 + 29 42
7.1	~~3816~~	~~21 33.4~~	~~+ 19 41~~	~~3.8~~	~~43.8~~			
5.8 6.3	3732	21 7.8	+ 29 44	3.3	32.0	32.6	53.9	21 8.7 + 29 49
						32.6	51.4	Mean 11
6.0 4.9	3750	21 14.1	+ 43 26	3.0	49.1	32.6	51.6	21 14.8 + 43 31
5.6 4.5	3747	21 13.0	+ 34 24	4.4	30.0	42.6	51.9	21 13.8 + 34 28
6.8 5.7								
7.3 6.5	3716	21 0.6	+ 43 27	3.7	43.2	32.4	51.2	21 1.3 + 43 32
5.9 4.8								
6.2 5.1	3807	21 29.5	+ 45 4	4.2	33.3	32.7	51.0	21 30.2 + 45 9
7.3 6.2	Dm. 3718	21 4.8	+ 44 55	6.8	45.4	32.4	50.1	21 6.4 + 45 6
7.5 6.4	~~Dm. 4435~~	~~21 7.0~~	~~+ 35 10~~	~~6.8~~				
7.2 6.1								
7.4 6.3	3793	21 25.0	+ 46 1	5.3	32.3	32.7	50.9	21 25.7 + 46 6
7.1 6.0	3781	21 20.9	+ 46 12	5.3	30.9	32.7	50.9	21 21.6 + 46 17
7.3 6.2	Dm. 3374	20 37.17	+ 45 16	6.7	103.3	52.3	110.4	20 59.3 + 43 27
7.6 6.5	~~3705~~	~~20 37.0~~	~~+ 45 41~~	~~5.2~~	~~102.6~~			
6.2 5.1	3705	20 37.0	+ 45 41	5.2	103.6	52.3	111.1	20 37.6 + 43 46
6.3 5.2	3784	21 22.4	+ 36 36	5.1	31.8	42.6	51.7	21 23.2 + 36 41
7.2 6.1	3783	21 20.9	+ 36 9	5.8	31.3	42.6	51.3	21 21.7 + 36 14
7.4 6.3	~~3781~~	~~21 20.9~~	~~+ 46 12~~	~~4.3~~	~~31.3~~			
7.2 6.1	Dm. 3348	21 10.6	+ 47 22	6.3	46.8	32.6	49.8	21 12.2 + 47 33
5.3 4.2	3741	21 10.0	+ 37 32	3.9	49.0	42.6	37.9	21 10.8 + 37 36
7.3 6.2								
7.6 6.5	Dm. 3322	21 5.5	+ 47 6	7.0	43.1	32.5	49.6	21 7.1 + 47 17
7.3 6.2	Dm. 4470	21 7.6	+ 36 2	6.3	49.0	42.4	32.0	21 9.4 + 36 13
7.5 7.6 6.5	~~Dm. 4426~~	~~21 5.2~~	~~+ 35 42~~	~~6.5~~				
6.2 5.1	3701	20 35.7	+ 47 3	4.6	102.7	53.4	110.8	20 36.4 + 47 8
6.9 5.8	3837	21 38.5	+ 37 44	3.5	33.1	42.5	50.9	21 39.3 + 37 50

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October 7, 1887.

Plate 1645.

V	H	Type	No. lines	K	Focus	other lines	V.	H.	V.	H.	Correc
9.3	11.7	III	2	K=H	1	—	4.6	23.4	48.0	28.0	+ 2.1
9.4	12.6	III ?	x2	K=H	1	—	4.7	25.2	47.9	26.2	+ 2.4
9.3	12.9	III	x2	K=H	1	—	4.6	25.8	48.0	23.6	+ 2.1
8.9	14.5	I	5	K=½H	2	—	4.4	29.0	48.2	22.4	+ 0.5
7.8	7.9	I	9	K=1H	3	F	3.9	15.8	48.7	33.6	+ 7.2
7.9	15.0	I ?	3	N	1	—	4.0	30.0	48.6	21.4	- 0
7.5	16.7	I	4	N	1	—	3.8	33.4	48.8	18.0	- 1.8
7.6	18.4	I	6	K=1½H	3	—	3.8	36.8	48.8	14.6	- 2.3
6.6	12.5	I	5	N	1	—	3.3	25.0	49.3	26.4	+ 2.5
5.6	10.9	I	5	N	2	—	2.8	21.8	49.8	29.6	+ 2.9
4.1	8.9	I ?	2	N	1	—	2.0	17.8	50.6	33.6	+ 4.3
4.0	9.6	I	4604	N	2	—	2.0	19.2	50.6	32.2	+ 5.9
4.8	23.3	I	4	K=H	1	—	2.4	46.6	50.2	4.8	- 8.9
3.0	12.0	I ?	2	N	1	—	1.5	24.0	51.1	27.4	+ 3.1

St. let. F. m. &c. Hand to measure. F. ch.

5.6 8.0 6.5 Plate 1638 6.5

21.5	6.8	II ?	2	K	1	—	10.8	13.6	36.8	78.6	+ 4.9
22.7	22.8	I	1½	?	2	—	11.4	45.6	36.2	46.6	+ 4.7
20.0	11.9	II a ?	4605	K=H	3	recn	10.0	23.8	37.6	68.4	+ 1.9
20.9	17.0	I	3	N	1	—	10.4	34.0	37.2	59.2	- 1.9
18.3	8.2	I	4	K=H	1	—	9.2	16.4	38.4	73.8	+ 6.9
17.0	10.6	I	4	K=H	1	—	8.5	21.2	39.1	71.0	+ 4.5
17.4	10.9	I	5	K=¼H	3	—	8.7	21.8	38.9	70.4	+ 2.7
15.2	17.3	I	4	N	1	—	7.6	34.6	40.0	57.6	- 2.4
15.0	22.5	I ?	3	N	1	—	7.5	45.0	40.1	47.2	- 7.9
13.8	18.5	I	9	K=¼H	4	F	6.9	37.0	40.7	53.2	- 2.5
12.1	28.2	III	2	K=H	1	—	6.0	40.4	41.6	51.8	- 3.9
10.0	7.6	II a?	4606	K=H	1	recn	5.0	13.2	42.6	77.0	+ 8.7

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1887phae..proj..844F

Mean 11

Br.	Br.	Cor.	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
7.2	6.1									
7.6	6.5		3808	21 29.9	+ 38 0	5.0	53.3	42.6	51.2	21 30.7 + 38 5
7.3	6.2									
7.6	6.5	Dm.	3457	21 27.1	+ 47 48	6.3	52.3	52.5	49.9	21 28.7 + 48 0
7.4	6.3									Dm. 3429 26.5 + 47 57
7.7	6.6		3799	21 27.4	+ 48 4	6.8	53.2	52.7	51.1	21 28.1 + 48 9
										Dm. 3390 21.7 + 48 12
6.2	5.1		3786	21 22.6	+ 48 19	5.3	51.6	52.7	51.1	21 23.3 + 48 24
4.9	3.8		3856	21 42.4	+ 48 45	4.4	58.2	52.7	51.0	21 43.1 + 48 51
7.3	6.2	Dm.	3376	21 19.9	+ 48 42	6.3	49.9	52.7	49.9	21 21.3 + 48 54
			3734	21 15.4	+ 49 0	5.4	48.8	52.8	50.6	21 16.0 + 49 6
6.6	5.5		~~3771~~	~~21 17.9~~	~~+ 48 50~~	~~5.8~~				
5.4	4.3		3745	21 12.7	+ 38 53	4.3	49.5	42.7	51.8	21 13.3 + 38 38
										Dm. 3552 27.8 + 49 18
6.5	5.4		3804	21 28.7	+ 49 25	5.7	53.7	52.7	51.2	21 29.4 + 49 30
6.3	5.2		3814	21 32.1	+ 39 32	5.1	53.9	42.7	51.0	21 32.9 + 39 37
			3832	21 37.5	+ 40 32	5.3	53.3	42.5	51.0	21 38.4 + 40 38
7.2	6.1		~~3835~~	~~21 38.3~~	~~+ 40 37~~	~~5.5~~	~~56.1~~			
			3833	21 37.8	+ 50 38	4.9	57.0	52.6	51.1	21 38.6 + 50 44
5.4	4.3		~~3832~~	~~21 37.5~~	~~+ 40 32~~	~~5.3~~	~~56.7~~			
6.8	5.7		3698	20 54.6	+ 50 0	5.5	101.2	52.4	110.1	20 55.3 + 50 4
		Dm.	~~4389~~	~~20 56.0~~	~~+ 40 3~~	7.0				
7.2	6.1									
		Dm.	3091	21 29.5	+ 51 3	6.4	53.3	52.5	50.4	21 31.0 + 51 15

Mean 13

7.1	5.8		3784	21 22.4	+ 36 36	5.1	36.0	47.4	31.1	21 23.2 + 36 41
			3635	20 42.7	+ 36 3	4.6	88.3	47.4	93.0	20 43.3 + 36 8
5.3	4.0		3741	21 10.0	+ 37 32	3.9	33.8	47.5	31.9	21 10.8 + 37 36
6.3	5.0		3701	20 35.7	+ 47 3	4.6	89.7	57.4	91.6	20 36.4 + 47 8
										Dm. 3390 21.7 + 48 12
6.8	5.5		3786	21 22.6	+ 48 19	5.3	39.0	57.5	32.1	21 23.3 + 48 24
6.8	5.5		3734	21 15.4	+ 49 0	5.4	36.6	57.5	32.1	21 16.0 + 49 6
5.4	4.1		3745	21 12.7	+ 38 53	4.3	34.5	47.6	31.8	21 13.3 + 38 38
6.5	5.2		3698	20 54.6	+ 50 0	5.5	89.2	57.6	91.6	20 55.3 + 50 4
			3636	20 38.5	+ 49 55	5.4	83.5	57.4	91.4	20 39.1 + 49 59
6.6	5.3		~~3643~~	~~20 40.7~~	~~+ 50 17~~	~~4.3~~	~~83.7~~			
4.6	3.3		3687	20 52.7	+ 40 42	4.1	89.7	47.6	92.2	20 53.3 + 40 47
7.1	5.8									Dm. 2957 44.3 + 51 22
7.5	6.3.5		3663	20 45.1	+ 51 28	6.4	83.5	57.5	91.4	20 45.7 + 51 32
7.2	5.9		3797	21 26.3	+ 52 26	5.9	41.5	57.4	32.8	21 27.0 + 52 31

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October 7, 1887.

Plate 1638

α	H	Type	Spectrum	K	Focus	Lines		V.	H.	V.	H.	Corrn
10.2	8.6	III	a? H607 2	K=H	1		Seen	3.1	17.2	42.3	73.0	+7.5
9.1	13.6	I	4	N	1		—	4.6	27.2	43.0	65.0	+1.7
8.4	10.7	I	4	N	2		—	4.2	21.4	43.4	70.8	+3.5
8.3	11.6	III?	x2	K=H	1		—	4.2	23.2	43.4	69.0	+4.1
~~8.5~~	~~15.5~~	~~III~~	c H608 x2	K=H	1	F?	bright Seen	4.2	31.0	43.4	68.2	-0.3
~~7.5~~	~~19.7~~	~~I~~	b H609	?	3		Seen	3.8	39.4	43.8	52.8	-3.9
8.0	20.9	I	3	N	1		—	4.0	41.8	43.6	50.4	-4.8
6.3	18.4	III?	x2	K=H	1		—	3.2	36.8	44.4	53.4	-2.9
5.5	23.7	I	?	N	5	F		2.8	47.4	44.8	44.8	+7.5
4.0	16.8	I	3	N	2		—	2.0	33.6	43.6	58.6	-1.7
3.0	15.8	I?	2	N	1		—	1.5	31.6	46.1	60.6	-1.1
4.0	21.0	III?	2	K=H	1		—	2.0	42.0	43.6	50.2	-5.4

St. Sh. Fair. & c.

F. ch.

Plate 1639?

5.8	8.0	7.3									7.3	
21.2	13.7	III	2	K=H	1		—	10.6	27.4	21.8	25.3	+0
17.2	16.8	II?	2	K=H	1		—	8.6	33.6	23.8	19.1	-0.3
14.5	7.5	II	a? H610 3	K=H	2	F	seen	7.8	15.0	25.6 (5.2)	37.7	+1.4
13.6	16.5	III?	x2	K=H	1		—	6.8	33.0	23.6	19.7	-0.3
11.1	7.3	III	2	K=H	1		—	5.6	14.6	26.8	38.1	+0.7
10.7	15.1	I	3	N	1		—	5.4	30.2	27.0	22.5	-0
7.4	10.6	II?	x2	K=H	1		—	3.7	21.2	28.7	31.5	+0.5
7.2	15.9	III	x2	K=H	1		—	3.6	31.8	28.8	20.9	-0.1
6.5	17.9	III	f? H611 3	K	H	2	F	seen	3.2	35.8	29.2	16.9	-0.4
11.10	5.5	21.4	~~III~~ f H612 3	K	H	2	F?	seen	2.8	42.8	29.6	9.9	-1.7

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1897phao.proj.0447

Mean 13

Br.	Br. Corr	No.	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
7.1	6.8	3787	21 22.8	+ 52 22	5.7	41.0	37.5	33.5	21 23.4 + 52 28
6.7	5.4	3730	21 6.5	+ 53 4	5.7	33.7	37.7	32.0	21 7.1 + 53 9
5.9	4.6	3750	21 14.1	+ 43 26	5.0	35.5	47.6	32.0	21 14.8 + 43 31
7.3 / 7.4	6.0 / 6.1	3748	21 13.3	+ 53 30	6.0	36.5	37.7	32.4	Rm. 2588 12.5 + 53 23 21 13.9 + 53 34
6.6 / 7.1	5.3 / 5.8	3716	21 0.6	+ 43 27	3.7	31.6	47.6	31.9	21 1.3 + 43 32
5.7	4.4	3673	20 49.0	+ 43 36	4.6	88.4	47.7	92.3	20 49.7 + 44 0
6.6	5.3	3665	20 43.9	+ 43 36	5.0	87.7	47.6	92.5	20 46.6 + 43 41
7.2 / 7.4	5.9 / 6.1	Rm 3639	20 51.5	+ 44 23	6.7	88.3	47.6	91.2	20 52.1 + 44 33
B.	B.	3631	20 37.3	+ 44 51	1.5	84.7	47.6	92.2	20 38.0 + 44 36
6.4	5.1	3705	20 57.0	+ 43 41	5.2	90.6	47.7	92.3	20 57.6 + 43 46
6.7	5.4	3711	20 58.9	+ 56 11	5.9	90.5	37.7	91.6	Rm. 2524 58.2 + 56 5 20 59.4 + 56 16
6.8 / 7.0	5.5 / 5.7	3662	20 44.9	+ 43 40	5.0	86.9	47.7	92.3	20 45.3 + 43 45
7.3 / 7.6		3794	21 25.3	+ 11 37	5.9	32.7	22.3	32.7	Rm. 4583 24.1 + 11 31 21 26.3 + 11 43
7.4		3773	21 18.6	+ 23 46	5.6	32.2	32.4	32.5	21 19.4 + 23 51
6.4		3843	21 39.2	+ 25 6	4.2	34.2	32.3	32.8	21 40.3 + 25 11
7.4		3778	21 19.3	+ 25 41	5.8	32.3	32.5	32.6	21 20.1 + 25 45
6.6 / 7.1		3842	21 38.8	+ 16 48	4.4	33.4	22.4	32.7	21 39.8 + 16 54
6.9		3785	21 22.4	+ 27 5	5.4	32.6	32.5	32.6	21 23.3 + 27 11
7.0		3813	21 32.1	+ 18 47	5.2	33.3	22.5	32.8	21 33.0 + 18 52
7.3 / 7.6		~~Rm 4794~~	~~21 19.7~~	~~+ 18 46~~	~~6.7~~	31.5	22.4	31.6	21 21.8 + 18 58
6.2 / 6.8		3761	21 16.5	+ 19 17	4.3	32.3	22.5	32.7	21 17.3 + 19 23
6.0 / 6.6		3732	21 7.8	+ 29 44	3.5	30.6	32.5	32.3	21 8.7 + 29 49

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1887phae.proj..844F

St. Lt. F. m. + e. 5.5 8.0 7.2 — F. ch. 7.2

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Plate 1687.

	V	H	Type	Lines	K	Focus	Lines.	V.	H.	V.	H. Correc	
10 15	20.6	10.6	III ?	2	K=H	1	—	10.3	21.2	23.2	28.8 +	
~~5 lines = 2H + K~~	14.5	6.4	II	4613 2	K=H	1	F? cont	7.2	12.8	25.3	37.3 + 1.7	
	10.8	14.1	I	3	N	1	—	5.4	28.2	27.1	21.8 + 0.2	
~~H line~~	8.4	16.9	~~I~~ II	IIa? 4614 2	K=H	1	cont	4.2	1 38.8	28.3	3 17.3 + 1.9	
~~III? 6.3, 6.7. 3 H lines~~	11.6	20.4	III	4615 2	K=H ?	2	F? cont	2.8	40.8	29.7	9.2 - 1.0	
	11.1	22.2	III ?	2	K=H	1	—	2.8	44.4	29.7	5.6 - 0.9	
III? 6.8, 7.1.	6.4	16.7	III	2	K=H	1	—	3.2	33.4	29.3	16.6 - 0.2	

St. Lt. 5.5 F. m. + e. 8.0 6.5 — Plate 1674. — F. ch. 6.5

	18.2	19.9	a? F 1	3 4616	K=H	2	F cont	9.1	39.8	43.5	19.2 - 4.1	
	16.6	13.2	III		K=H	1	—	8.3	26.4	44.3	31.6 + 1.5	
	16.4	20.9	b 4617	8	K=H	3	F	8.2	41.8	44.4	16.2 - 3.0	
	15.0	14.5	fc 4618 ?	3	K=H	2	F bright cont	7.5	29.0	43.1	29.0 + 0.5	
	13.1	16.0	?	2	K=H	1	—	6.6	32.0	46.0	26.0 - 0.9	
	12.0	17.0	b ? 4619	6	K=H	2	F	6.0	34.0	46.6	24.0 - 1.2	
	12.8	17.4	III ?	2	K=H	1	—	6.4	34.8	46.2	23.2 - 2.3	
	12.9	17.7	III ?	2	K=H	1	F?	6.4	35.4	46.2	22.6 - 1.7	
~~5 lines = 3 H + K~~	10.2	11.9	II a ? 4620	3	K=H	3	F cont	5.1	2 23.8	47.3	1 14.2 -4.5	
	9.6	10.8	I	4	N	1	—	4.8	21.6	47.8	36.4 + 2.6	
	9.3	14.2	III	2	K=H	1	—	4.6	28.4	48.0	29.6 + 0.5	
	9.4	15.1	III	2	K=H	1	—	4.7	30.2	47.9	27.8 - 0	
	9.2	15.3	II ?	2	K=H	1	—	4.6	30.6	48.0	27.4 - 0.3	
	8.8	8.8	I ?	4	K=H	1	—	4.4	17.6	48.2	40.4 + 4.1	
	8.6	16.8	I	4	K=H	1	—	4.3	33.6	48.3	24.4 - 1.7	
~~H. line bt L-~~	7.6	10.4	I	4621 6	?	3	cont	3.8	20.8	48.8	37.2 + 4.5	
	7.5	17.5	III ?	2	K=H	1	—	3.8	35.0	48.8	23.0 - 2.5	
	7.2	19.2	I ?	4	N	1	—	3.6	38.4	49.0	19.6 - 4.2	
	7.6	20.8	I	6	N	3	F	3.8	41.6	48.8	17.4 - 3.9	
	6.4	14.9	I	3	N	1	—	3.2	29.8	4 49.4	28.2 + 0.	

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1887phae.proj..8445

Cow.

Br.	Br.	No	R.A.	Dec.	Mag.	m.	v.	m'	Red. to 1900.
7.3 7.6		3794	21 25.3	+11 37	5.9	46.5			Not found on chart
6.6		3843	21 39.2	+25 6	4.2	32.8	32.3	50.3	21 40.3 + 25 11
6.9		3785	21 22.4	+27 5	3.4	30.6	32.3	50.4	21 23.3 + 27 11
6.9		3840	21 38.8	+28 12	4.4	32.6	32.4	50.7	21 39.6 + 28 18 / 21 39.6 + 28 18
6.2 6.5		3732	21 7.8	+29 44	3.3	48.6	32.3	50.0	21 8.7 + 29 49 / Dm. 4324 2.5 + 29 37
7.2 7.3		3724	21 3.6	+29 43	3.3	48.0	32.3	48.9	21 4.4 + 29 48
6.8 7.1		3761	21 16.3	+19 17	4.3	49.9	22.3	50.1	21 17.3 + 19 23
									Mean 12
6.3	5.1	3750	21 14.1	+43 26	3.0	33.9	32.3	38.0	21 14.8 + 43 31
7.3 7.6	6.1 6.4	Dm. 3889	21 31.9	+44 2	6.4	38.3	32.3	56.8	21 33.6 + 44 14
5.4 6.0	4.2 4.8	3747	21 13.0	+34 24	4.4	34.8	42.6	37.8	21 13.8 + 34 28
6.5	5.3	3807	21 29.3	+45 4	4.2	38.3	32.6	38.0	21 30.2 + 45 9
7.3 7.6	6.1 6.4	3793	21 25.0	+46 1	3.3	37.0	32.6	37.9	21 25.7 + 46 6
6.1	4.9	3784	21 22.4	+36 36	3.1	36.4	32.6	37.6	21 23.2 + 36 41
7.0 7.2	5.8 6.0	3781	21 20.9	+46 12	3.3	33.7	32.6	38.0	21 21.6 + 46 17
6.9	5.7	3782	21 20.9	+36 9	3.8	36.3	42.6	38.0	21 21.7 + 36 14
5.3	4.1	3741	21 10.0	+37 32	3.9	33.8	42.6	38.3	21 10.8 + 37 36
6.5	5.3	3837	21 38.3	+37 44	3.3	60.1	42.3	57.3	21 39.3 + 37 50
6.9 7.2	5.7 6.0	3808	21 29.9	+38 0	3.0	38.3	42.6	37.8	21 30.7 + 38 5
7.3 7.6	6.1 6.4	Dm. 3457	21 27.11	+47 48	6.5	37.3	32.3	57.3	21 28.7 + 48 0
		~~Dm. 4471~~	~~21 17.0~~	~~+38 1~~	7.0				
		3799	21 27.4	+48 4	6.8	38.0	32.7	38.3	Dm. 3443 26.5 + 47 57 / 21 28.1 + 48 9
		~~4472~~	~~21 17.1~~	~~+38 3~~	7.3				Dm. 4427 42.5 + 37 59
7.2	6.0	3858	21 43.3	+38 6	3.8	61.1	32.3	57.0	21 44.4 + 38 11
6.3	5.1	3786	21 22.6	+48 19	3.3	36.2	32.6	37.9	Dm. 3390 21.7 + 48 12
		~~Dm. 3329~~	~~21 11.4~~	~~+48 11~~	7.0				21 23.3 + 48 24
5.0	3.8	3856	21 42.4	+48 45	4.4	63.2	32.6	58.7	21 43.1 + 48 31
7.3 7.5	6.1 6.3	Dm. 3376	21 19.9	+48 42	6.5	34.9	32.3	57.4	21 21.3 + 48 54
6.7	5.5	3754	21 15.4	+49 0	3.4	33.8	32.6	38.0	21 16.0 + 49 6
5.6	4.4	3745	21 12.7	+38 33	4.3	34.3	42.7	38.2	21 13.3 + 38 38
6.8	5.6	3804	21 28.7	+49 25	3.7	38.3	32.6	38.3	Dm. 3553 27.8 + 49 18 / 21 29.4 + 49 30

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Plate 1674.

V	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc	
5.6	13.4	I	3	N	2	—	2.8	26.8	49.8	31.2	+ 1.1	6.
4.6	11.6	I?	3	N	1	—	2.3	23.2	50.3	34.8	+ 2.2	7
4.0	11.4	I?	3	N	1	—	2.0	22.8	50.6	35.2	+ 2.4	6
~~Hbdlt+H~~	3.9	12.1	I	6	?	2	F, pecu	2.0	24.2	50.6	33.8	+ 3.0	5.

F.m. ?c. F. ch.

Plate 1604

	8.0	6.2								6.2		
18.5	12.5	II?	2	K=H	1	—	9.8	25.0	28.8	46.3	+ 0.6	7.
~~Hbdlt+H K~~	18.6	16.1	II	3	K=H	2	F, pecu	9.3	32.2	28.2	39.3	- 0.3	6.
17.9	6.8	~~I~~ II?	2	K=H	1	—	9.0	13.6	28.5	57.9	+ 2.0	7.
17.4	19.5	~~I~~ II?	2	K=H	1	—	8.7	39.0	28.8	32.5	- 0.6	7.
16.8	12.1	I	3	N	1	—	8.4	24.2	29.1	47.3	+ 0.3	6.
16.5	13.1	I?	3	N	1	—	8.2	26.2	29.3	45.3	+ 0.2	6.
15.8	13.7	I	4	N	3	—	7.9	27.4	29.6	44.1	+ 0.3	5.
15.2	14.0	I	2	K=H	1	—	7.6	28.0	29.9	43.5	+ 0.1	7.
~~I~~ II?	15.5	18.8	~~I~~ II?	?	2	~~H~~ K=H	K=H	1	—	7.8	37.6	29.7	33.9	- 0.4	7.1 7.
	11.6	22.7	II	?	2	K=H		1	—	5.8	43.4	21.7	26.1	- 2.3	7.
~~Hbdlt=2HK~~	5.5	6.1	II	α 4624	3	K=H		3	F, pecu	2.8	12.2	34.7	59.3	+ 1.7	5.
~~Hbk=2HK~~	5.0	16.1	II	α 4625	3	K=H		3	F, pecu	2.5	32.2	25.0	39.3	- 0.2	5.
	1.5	12.4	I	6	N	2	F			2.2	24.8	35.3	46.7	+ 0.5	5.

Hbdlt. F.m. ?c. F. ch.

Plate 1675

5.7	8.0	7.0								7.0		
19.0	18.3	II	2	K=H	1	F, ?	9.5	36.6	28.3	39.8	- 0.7	6.
18.4	9.0	II	2	K=H	1	—	9.2	18.0	28.6	38.4	+ 0.8	7.
~~Hbk=2HK~~	17.0	14.2	II	4626	2	K=H	1		8.5	28.4	29.3	48.0	+ 0.1	7.
	16.8	17.1			2	K=H	1	—	8.4	30.2	29.4	46.2	- 0	7.2
	16.2	15.5	d?		4	K=H	1	—	8.1	31.6	29.7	44.6	- 0.2	6.5
	10.0	7.4	a ?	4627	2		2		ecu	5.0	14.8	32.8	61.6	+ 2.5	6.5
~~Hbdlt=2HK~~	5.9	8.1		4628	3	K=H	2		F?	3.0	16.2	34.8	60.2	+ 1.2	6.

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Mean 12

Cor. Br.	Br.	No.	R. A.	Dec.	Mag.	Th.	V.	H'	Red. to 1900.
6.2	5.0	3814	21 32.1	+ 39 52	5.1	58.9	42.7	57.8	21 32.9 + 39 57
		4610	21 35.7	+ 40 8	9.3	58.9	42.4	56.7	21 37.3 + 40 20
		4611	21 35.8	+ 40 9	6.3	59.9			
7.0	5.8	~~3832~~	~~21 37.5~~	~~+ 40 32~~	~~5.3~~	~~60.7~~	42.5	56.8	21 37.6 + 40 21
		3832	21 37.5	+ 40 32	5.3	60.3	42.5	57.9	21 38.4 + 40 38
6.9	5.7	~~3833~~	~~21 38.3~~	~~+ 40 37~~	~~5.5~~	~~61.1~~			
5.7	4.5	3833	21 37.8	+ 50 38	4.9	62.0	52.6	59.0	21 38.6 + 50 44
		3863	21 47.2	+ 28 14	5.6	72.2	37.4	71.6	21 48.0 + 28 20
7.2		~~4191~~	~~21 47.4~~	~~+ 27 40~~	~~6.8~~				
6.2		3840	21 38.8	+ 28 12	4.4	71.0	37.5	71.3	21 39.6 + 28 18
7.0									
7.1		3902	22 0.2	+ 28 23	5.5	13.8	37.4	11.8	22 1.1 + 28 28
7.0		3813	21 32.1	+ 18 47	5.1	71.1	27.5	71.7	21 33.0 + 18 52
6.5		3869	21 48.0	+ 19 6	5.7	72.2	27.5	71.9	21 48.9 + 19 13
6.6		3863	21 45.9	+ 19 16	5.6	72.1	27.5	71.9	21 46.9 + 19 22
5.6		3861	21 44.5	+ 29 37	5.0	71.9	37.5	71.6	21 45.4 + 29 43
7.2		~~4793~~	21 42.7	+ 19 48	6.5	70.7	27.4	70.6	21 44.8 + 20 0
7.1	7.2								
7.6		3816	21 33.4	+ 19 44	5.8	71.0	27.5	71.4	21 34.3 + 19 48
7.2		3788	21 33.1	+ 31 42	5.7	68.5	37.5	70.8	21 33.8 + 31 47
5.3		3907	22 1.4	+ 24 46	4.8	13.6	27.6	11.9	22 2.3 + 24 31
5.2		3843	21 39.2	+ 25 6	4.2	71.4	27.6	71.6	21 40.3 + 25 11
5.7		3867	21 47.6	+ 23 22	5.0	72.4	27.6	71.9	21 48.5 + 23 27
6.9		3848	21 38.8	+ 28 12	4.4	75.4	37.7	76.1	21 39.6 + 28 18
7.3									21 39.6 + 28 18
7.6		3902	22 0.2	+ 28 23	5.5	18.2	37.6	17.4	22 1.1 + 28 28
7.0		3869	21 48.0	+ 19 6	5.7	76.4	27.6	76.3	21 48.9 + 19 13
7.2		3863	21 45.9	+ 19 16	5.6	76.1	27.7	76.1	21 46.9 + 19 22
6.5		3861	21 44.5	+ 29 37	5.0	76.1	37.7	76.3	21 45.4 + 29 43
6.5		3917	22 4.7	+ 32 35	4.4	19.5	37.6	17.0	22 5.3 + 32 42
6.5		3907	22 1.4	+ 24 46	4.0	17.6	27.8	16.4	22 2.3 + 24 31

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Plate 167√.

V	H	Type	No. Lines	K	Focus	Other Lines.	V.	H.	V.	H.	Correc	
~~11.46~~	√,√	18,2	I d ? √ 4 √	K=H	1	F. √	2.8	36.4	35.0	40.0	−0,6	6.
	4,8	14,√	I √ 3 √	N	1	—	2.4	29.0	35.4	47.4	+0,1	6.

Fm. 8 c. F. ch.

Plate 160√

	8.0	6.4								6.4			
	22,2	21,8	I ? √ 4 √	K=H	1	—	11.1	43.6	46.4	27.8	−6,3		7.0
	21,4	22,√	I √ √ √	K=H	2	—	10.7	43.0	46.8	26.4	−4,5		6.5
	19,√	16,0	I √ √ √	K=√H	2	—	9.8	32.0	47.7	39.4	−0,6		6.3
	19,1	19,1	I √ √ √	N	1	—	9.5	38.2	48.0	33.2	−3,9		6.7
	19,0	19,3	I √ 6 √	N	1	—	9.5	38.6	48.0	32.8	−4,2		6.5
	18,7	11,2	I ? √ 4 √	K=H	1	—	9.4	22.4	48.1	49.0	+3,7		6.7
	18,8	14,2	I √ 4 √	K=√H	1	—	9.4	28.4	48.1	43.0	+0,5		6.7
	15,2	20,9	I √ 6 √	K=√H	2	—	9.1	41.8	48.4	29.6	−5,9		6.8
	17,0	13,1	I √ 4 √	N	1	—	8.5	26.2	49.0	45.2	+1,3		6.8
~~Lines 4, 9, K=H~~	17,6	14,6	I b 4629 √	N	4	F. very	8.8	29.2	48.7	42.2	+0,3		7.1
√ √	17,4	18,2	III III? 2	K=H	1	—	8.7	36.4	48.8	35.0	−2,1		7.3 7.6
	17,1	21,4	I √ 3 √	N	1	—	8.6	42.8	48.9	48.6	−6.5		7.3
	16,0	18,7	I √ √ √	N	2	—	8.0	37.4	49.3	34.0	−3,9		6.0
√ √	16,6	20,7	III ? III ? 2	N	K=H	1 1	—	8.3	40.4	49.2	31.0	−4,8	7.3 7.4 7.5 7.6
	16,6	23,2	I √ 4 √	N	2	—	8.3	46.4	49.2	25.0	−8,5		6.0
	15,4	18,4	I ? √ 6 √	K=√H	3	?	7.7	36.8	49.8	34.6	−2,4		5.6
√ √	15,0	17,7	I ? I ? 4 4	N	K=H	1 1	—	7.5	35.4	50.0	36.0	−2,7	7.2 7.3
	14,4	6,8	I √ √ √	N	2	—	7.2	13.6	50.3	57.8	+8,7		6.0
	14,0	16,3	I √ 4 √	N	2	—	7.0	32.6	50.3	38.8	−1,1		6.2
	14,√	16,6	I √ 4 √	N	1	—	7.2	33.2	50.3	37.2	−1,2		6.6
~~Lines 4, 9, 6, K=H~~	13,9	15,7	I b 4630 7 √ 7 √	3		very	7.0	31.4	50.5	40.0	−0,9		H.
	12,4	8,3	III ? × 2	K=H	1	—	6.2	16.6	51.3	54.8	+7,5		7.1
√ √	12,7	18,1	I 4	K=H	2	1	—	6.4	36.2	51.1	35.2	−3,3	6.4 6.3
√ √	12,4	21,3	I I ? I 3 3	N	N	1 1	—	6.2	42.6	51.3	28.8	−6,9	7.3 7.2

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Cow.

Br.	Br.	No.	R.A.	Dec.	Mag.	Th.	r.	Th'	Red. to 1900.
6.3		3842	21 39.2	+23 6	4.2	75.6	27.9	76.2	21 40.3 + 23 11
6.6		3867	21 47.6	+23 22	5.0	76.6	27.8	76.5	21 48.3 + 23 27

Means

7.0	6.3	3781	21	20.9	+46 12	5.3	64.3	57.3	70.8	21 21.6 + 46 17
6.3	5.6	3784	21	22.4	+36 36	5.1	67.4	47.3	71.9	21 23.2 + 36 41
6.4	5.7	3837	21	38.3	+37 44	5.5	70.3	47.3	71.1	21 39.3 + 37 30
	Dm.	3457	21	27.1	+47 48	6.5	65.3	57.3	69.2	21 28.7 + 48 0
6.7	6.0	~~3808~~	~~21~~	~~29.9~~	~~+38 0~~	~~5.0~~	~~68.1~~			
6.5	5.8	3799	21	27.4	+48 4	6.8	66.0	57.6	70.2	21 28.1 + 48 9
6.9	6.2	Dm.	3618	21	51.5	+47 39	6.5	73.9	57.4	70.2	21 33.2 + 48 13
6.7	6.0		3858	21	43.5	+38 6	5.8	71.9	47.5	71.4	21 44.4 + 38 11
5.8	5.1		3786	21	22.6	+48 19	5.3	64.4	57.4	70.3	21 23.3 + 48 24
6.8	6.1	Dm.	4621	21	45.1	+38 32	6.5	71.3	47.4	70.0	21 47.0 + 39 5
4.7	4.0		3856	21	42.4	+48 45	4.4	71.6	57.6	71.3	21 43.1 + 48 51
7.1 7.3	6.6									
7.3 7.6	6.9	Dm.	4558	21	31.9	+38 40	6.4	68.3	47.4	70.4	21 33.7 + 38 32
7.2	6.5	Dm.	3376	21	19.9	+48 42	6.5	62.7	57.3	69.2	21 21.5 + 48 54
6.0	5.3		3804	21	28.7	+49 25	5.7	66.1	57.4	70.0	21 29.4 + 49 30
7.3 7.4	6.7									
7.5 7.6	6.9	Dm.	3534	21	23.7	+49 8	7.0	54.1	57.4	68.9	21 25.3 + 49 20
			3754	21	15.4	+49 0	5.4	61.8	57.3	70.3	21 16.0 + 49 6
6.0	5.3	~~Dm.~~	~~4542~~	~~21~~	~~17.9~~	~~+39 24~~	~~6.8~~				
5.6	4.9		3814	21	32.1	+39 52	5.1	68.9	47.6	71.3	21 32.9 + 39 57
7.2 7.2	6.5	Dm.	3562	21	31.0	+49 51	7.0	66.4	57.3	69.3	21 32.6 + 50 3
6.0	5.3		3922	22	6.5	+50 14	5.4	20.1	57.4	11.4	22 7.2 + 50 20
			3832	21	37.5	+40 32	5.3	70.1	47.5	71.2	21 38.4 + 40 38
6.2	5.5		~~3835~~	~~21~~	~~38.3~~	~~+40 37~~	~~5.5~~	~~70.9~~			
		Dm.	4610	21	35.7	+40 8	5.3	68.9	47.3	70.1	21 37.5 + 40 20
			4611	21	35.8	+40 9	6.3	69.0	47.4	70.2	21 37.6 + 40 21
6.6	5.9		~~3832~~	~~21~~	~~37.3~~	~~+40 32~~	~~5.3~~	~~70.7~~			
4.8	4.1		3833	21	37.8	+50 38	4.9	69.2	57.6	70.1	21 38.6 + 50 44
7.4 7.7	6.7 7.0	Dm.	3248	~~22~~	1.2	+51 6	7.0	17.8	57.3	10.3	22 2.9 + 51 19
6.3	5.6	Dm.	3091	21	29.4	+51 3	6.4	65.6	57.4	68.9	21 30.9 + 51 15
7.3 7.2	6.5	Dm.	3033	21	19.1	+51 2	6.7	61.7	57.2	68.6	21 20.6 + 51 13
		~~Dm.~~	~~3082~~	~~21~~	~~27.1~~	~~+51 15~~	~~7.5~~				

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Plate 160 √.

τ	π	Type	No. lines	K	Focus	Other lines	V.	H.	V.	H.	Correc	B
10.√	9.9	I	√ √	N	2	—	3.2	19.8	32.3	51.6	+5.7	6.0
√ √ 10.1	14.9	~~II~~ ? II 2 2		K=H	K=H	1	—	3.0	29.8	32.3	41.6	+ 0	7.47.3
√ √ 10.2	19.2	I I	6 6	K=√H	K=8H ?	2 2	—	3.1	38.4	32.4	33.0	− 4.8	6.16.2
10.2	20.2	I	√ √	N	2	—	3.1	40.4	32.4	31.0	−6.0	6.1
√ √ 9.√	8.2	~~I~~ I ? I ?	4	4K=H	K=H	1	—	4.8	16.4	32.7	33.0	+8.1	7.17.2
√ √ 9.8	17.0	~~III~~ III	2 2	K=H	K=H	1	—	4.9	34.0	32.6	37.4	−1.7	7.5 7.6
√ √ 8.2	12.4	I ? I	3 4	N	K=H	1	—	4.1	24.8	33.4	46.6	+3.0	7.37.3
8.2	16.9	~~III~~	√ x 1	√	?	1	—	4.1	33.8	33.4	37.6	−2.3	7.6
7.6	8.4	II	? √ 2	√	K=H	1	—	3.8	16.8	33.7	54.6	+5.4	7.4
7.0	8.9	I	√ √	√	N	2	—	3.5	17.8	34.0	33.6	+5.1	6.0
7.7	22.9	I	√ 6	√	N	2	—	3.8	43.8	33.7	23.6	−9.6	6.5
6.9	17.9	I	√ 3	√	N	1	—	3.4	33.8	34.1	33.6	−2.3	7.0
√.8	7.7	II	? √ 2	√	K=H	1	—	2.9	15.4	34.6	36.0	+6.1	7.3
6.0	7.8	II	? √ 2	√	K=H	1	—	3.0	15.6	34.3	33.8	+6.1	7.3
III ? 5.6, 6.0. Has 4 ft. lines	√.0	19.0	~~III~~	Fe 4631; 2 3	K=H	3	F ? Bright	2.5	38.0	33.0	33.4	−3.5	5.4 5.3
√.3	19.2	I	√ 3	√	N	1	—	2.6	38.4	34.9	33.0	−3.4	6.7
4.8	12.9	I	√ 6	√	N	3	—	2.4	23.8	33.1	43.6	+2.6	5.0
√ √ 3.√	8.9	I	I √	√	N	K=H	1	—	1.8	17.8	33.7	33.6	+7.9	6.8 7.0
3.0	12.1	III	√	x 2	√	K=H	1	F ?	1.5	24.2	36.0	48.2	+3.7	7.7
3.0	20.√	III	√	2	√	K=H	1	—	1.5	41.0	36.0	30.4	−4.9	7.3
~~5H=.2HK~~	2.4	7.√	II	a ? 4632	√	2 3	K=H	1	F ? Rec	1.2	15.0	36.3	36.4	+10.1	
	2.4	21.9	II	?	√	2	√	K=H	1	—	1.2	43.8	36.3	27.6	−6.3	
~~5H=.~~	2.0	6.6	~~x~~ I ?	~~4683~~	x 2	√	N	√	3	F ~~Rec~~	1.0	13.2	36.3	38.2	+11.4	

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Mean 7

Cow

Br.	Bv	No.	R. A.	Dec.	Mag.	Th.	V.	Th'	Red. to 1900.
6.0	5.3	3890	21 57.4	+32 18	5.6	77.2	37.3	71.3	21 38.2 +32 24
7.4 7.3	6.6	Dm. 4204	21 40.5	+42 23	6.3	70.3	47.4	70.3	21 42.3 +42 33
6.1 6.2	5.5	~~Dm.~~ 3797	21 26.3	+32 26	5.9	64.7	37.3	69.3	21 27.8 +32 38 (0 31)
		3787	21 23.8	+32 22	5.7	63.2	37.3	69.2	21 23.4 +32 28
6.1	5.4	~~3797~~	~~21 26.3~~	~~+32 26~~	~~5.9~~	~~66.7~~			
7.1 7.2	6.5	Dm. 3114	22 2.1	+33 36	6.2	18.3	37.4	10.4	22 3.8 +32 49
7.2 7.3 7.5 7.6	6.6 6.9	3823	21 35.4	+42 44	5.3	69.4	47.6	71.1	21 38.3 +42 49
		Dm. 3727	21 48.2	+33 19	6.5	73.0	37.4	70.0	21 49.8 +33 32
7.3 7.3	6.6	~~3872~~	~~21 50.7~~	~~+33 22~~	~~6.9~~	~~73.5~~			
7.3 7.6	6.6 6.9	Dm. 2639	21 32.8	+33 24	6.3	66.6	37.3	68.9	21 34.3 +33 36
7.4	6.7	Dm. 4122	21 58.3	+43 39	7.3	75.1	47.4	69.7	22 0.1 +43 52
		3895	21 58.2	+44 4	5.6	76.0	47.6	70.9	21 58.9 +44 10
6.0	5.3	~~3895~~	~~21 58.2~~	~~+44 4~~	~~5.6~~	~~70.6~~			
									Dm 2388 12.5 +53 23
6.5	5.8	3748	21 13.3	+53 30	6.0	59.1	37.3	68.7	21 13.9 +53 34
7.0	6.3	Dm. 3889	21 31.9	+44 2	6.4	67.7	47.4	70.2	21 33.6 +44 14
7.3	6.6	Dm. 4044	22 0.4	+44 33	6.3	13.8	47.3	9.7	22 2.2 +44 46
7.3	6.6	Dm 4041	22 0.0	+44 24	7.0				22 1.8 +44 37
		~~3903~~	~~22 1.2~~	~~+44 26~~	~~5.3~~	~~16.8~~	~~47.4~~	~~10.7~~	~~22 1.9 +44 51~~
5.4 5.8	4.7 5.1	3807	21 29.5	+45 4	4.2	67.5	47.6	71.0	21 30.2 +45 9
6.7	6.0	Dm. 2544	21 24.3	+34 47	6.1	62.7	37.4	68.1	21 25.7 +34 59
5.3	4.6	3870	21 48.1	+35 14	5.3	73.9	37.6	71.3	21 48.8 +35 20
6.8 7.0	6.3	Dm. 2679	22 1.7	+35 38	6.8	19.3	37.3	11.6	22 3.3 +35 51
7.2 7.3	6.5 6.6	3873	21 30.8	+36 3	6.1	73.0	37.3	71.3	21 31.3 +36 8
6.9 7.3	6.2 6.6	3793	21 23.0	+46 1	5.3	66.1	47.3	71.9	21 25.7 +46 6
		3926	22 7.5	+36 15	5.4	22.3	37.4	12.4	22 8.2 +36 21
		3781	21 20.9	+46 12	5.3	64.7	47.4	71.0	21 21.6 +46 17
		3912	22 10.6	+36 27	4.2	23.8	37.4	12.4	22 11.3 +36 33

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F. m. & c. 8.0 6.8

F. ch. 6.8

October 10, 1887.

Plate I V V 6

τ	π	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc	B
10 30	22.4	14.4	I		N	1	—	11.2	28.8	21.2	62.0	+ 0.2	6.6
	21.7	7.9	I		4 K=H	1	—	10.8	13.8	21.6	75.0	+ 0.4	6.2
	21.9	19.8	I		N	1	—	12.0	39.6	20.4	53.2	− 0.3	6.6
	19.8	10.3	I		N	1	—	9.9	20.6	22.5	70.2	+ 0.3	7.2
✓	19.4	13.4	III?	2	K=H K=H	1	—	9.7	26.8	22.7	64.0	+ 0.3	7.5 7.3 7.5 7.5
	19.7	17.8	I		N	1	—	10.0	35.6	22.4	55.2	−	
Same star?	19.8	17.8	a 4633		K=H	1	Seen	9.9	35.6	22.5	55.2	− 0.2	6.8
✓	18.5	16.7	I? II?	3 4	N K=H	1	—	9.2	33.4	23.2	57.4	− 0.3	7.4 7.3
✓	17.6	14.2	III?	2	K=H	1	—	8.8	28.4	23.6	63.4	+ 0.2	7.6 7.4 7.2
	15.5	6.9	I?	2	N	1	—	7.8	13.8	24.6	77.0	+ 0.7	7.1
	15.2	14.8	4634	3	K=H?	3 F. pair		7.6	29.6	24.8	61.2	+ 0	4.9
	14.2	12.7	?	2	K=H	1	—	7.1	25.4	25.3	63.4	+ 0.2	7.3 7.4
	14.8	14.2	?	4	K=H	1	—	7.4	28.4	25.0	62.4	+ 0.2	6.6
✓	14.5	15.8	I ? I?	4	K=H K=H	1	—	7.2	31.6	25.2	59.2	− 0.2	7.2 7.2
✓	14.6	16.8	III	2	K=H K=H	1	—	7.3	31.6	25.1	57.2	+ 0.1	7.3 7.5
	14.3	17.0	I	3	N	1	—	7.2	34.0	25.2	56.8	− 0.2	6.8
	13.7	9.3	I		N	1	—	6.8	18.6	25.6	72.2	+ 0.4	7.0
	13.9	21.0	b 4635	6	N	2 F		7.0	42.0	25.4	48.8	− 1.2	5.5
✓	12.6	15.7	III	2	K=H	1	—	6.3	31.0	26.1	59.8	− 0.1	7.2 7.1 7.5 7.4
✓	12.2	17.3	I? II?	2	K=H K=H	1	—	6.1	34.6	26.3	56.2	− 0.5	7.2 7.3
✓	12.3	17.7	II	2	K=H	1	—	6.2	35.4	26.3	55.4	− 0.6	7.3 7.4
✓	12.1	12.0	? III?	2	? K=H	1	—	5.6	24.0	26.8	66.8	+ 0.7	7.3 7.3 7.5 7.6
	11.1	14.4	I?	3	N	1	—	5.6	28.8	26.8	62.0	+ 0	6.7
	11.6	22.9	? 4636		K=H	1		5.8	43.8	26.8	45.0	− 0.7	6.4
✓	10.5	12.9	? I?	3	N	1	—	5.2	25.8	27.3	63.0	+ 0.5	7.3 7.4
	9.2	8.4			N	2 F		4.6	18.8	27.8	74.0	+ 1.5	5.3
✓	8.8	11.8	III	2	K=H	1	F?	4.4	23.6	28.0	67.2	+ 0.7	7.1 7.0 7.4 7.3
	8.1	15.3			N	2 F		4.0	30.6	28.4	60.2	− 0.1	5.7

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Means

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Cor. Br.	Cor. Bv	No.	R.A.	Dec.	Mag.	Wh. V.	Wh. I	Wh. B	Red. to 1900.
6.6	5.9	3910	22 2.2	+ 21 7	5.7	31.0	32.3	30.8	22 3.1 + 21 13
6.2	5.5	3951	22 15.6	+ 11 36	5.1	31.4	22.4	31.0	22 16.6 + 11 42
6.6	5.9	3875	21 37.1	+ 11 32	5.5	30.7	22.3	91.0	21 52.0 + 11 36
7.2	6.5	Dm. 4601	22 9.8	+ 22 11	6.7	30.4	32.1	29.7	22 11.9 + 22 24
7.5 7.3	6.6	Dm. 4563	22 3.3	+ 22 25	7.3	30.1	32.1	29.8	22 5.4 + 22 38
7.5 7.5	6.8								
		3886	21 55.2	+ 12 33	5.6	90.8			
6.8	6.1	3886	21 53.2	+ 12 33	5.6	90.8	22.3	91.0	21 56.2 + 12 38
		~~Dm. 4534~~	~~21 55.8~~	~~+ 22 54~~	~~8.0~~	~~89.2~~	~~32.1~~	~~89.5~~	21 57.9 + 23 5
7.4 7.3	6.6	~~Dm. 4751~~	~~21 57.3~~	~~+ 10 57~~	~~6.8~~				
7.4 7.2	6.5								22 3.4 + 23 41
7.6 7.4	6.7	Dm. 4472	22 1.6	+ 23 28	6.8	30.1	32.3	29.8	~~22 3.3 + 24 31~~
7.1	6.4	Dm. 4790	22 17.6	+ 14 32	7.0	30.8	22.3	30.1	22 19.2 + 14 46
4.9	4.2	3907	22 1.4	+ 24 46	4.0	31.0	32.4	31.0	22 2.3 + 24 31
7.3 7.4	6.6 6.7	~~Dm. 4592~~	~~22 4.9~~	~~+ 15 20~~	~~6.3~~	~~30.3~~	~~22.4~~	~~30.1~~	22 7.1 + 15 33
		~~Dm. 4691~~	~~22 6.5~~	~~+ 25 13~~	~~6.8~~				
6.6	5.9	Dm. 4540	22 1.6	+ 24 30	7.0	30.0	32.2	29.8	22 3.7 + 25 3
7.2 7.2	6.5	Dm. 4525	21 57.9	+ 24 38	7.5	89.3	32.2	89.7	22 0.1 + 25 11
7.3 7.5	6.6 6.8	Dm. 4549	21 56.6	+ 15 5	7.5	89.6	22.4	89.7	21 58.0 + 15 18
		~~Dm. 4525~~	~~21 57.9~~	~~+ 24 38~~	~~7.5~~				
6.8	6.1	Dm. 4548	21 55.7	+ 15 18	6.8	89.7	22.3	89.9	21 57.9 + 15 31
7.0	6.3	Dm. 4617	22 11.9	+ 15 32	7.5	30.3	22.3	30.1	22 14.1 + 15 45
5.5	4.8	3867	21 47.6	+ 25 22	5.0	89.6	32.4	90.8	21 48.3 + 25 27
7.2 7.1	6.4								Dm. 4671 58.6 + 25 59
7.5 7.4	6.7	3897	21 59.6	+ 26 6	6.0	90.6	32.4	90.7	22 0.7 + 26 12
7.3	6.6	Dm. 4328	21 54.6	+ 26 8	7.8	89.2	32.2	89.7	21 56.6 + 26 21
7.4	6.7	Dm. 4323	21 53.5	+ 26 5	7.7	88.9	32.3	89.5	21 55.3 + 26 18
7.3 7.6	6.6 6.9	Dm. 4379	22 6.6	+ 26 36	7.5	30.6	32.2	29.9	22 8.7 + 26 49
7.2	6.5	Dm. 4673	22 1.2	+ 16 51	7.3	30.0	22.4	30.0	22 3.4 + 17 4
6.4	5.7	3860	21 44.4	+ 16 43	5.3	90.2	22.6	91.9	21 45.4 + 16 49
7.3	6.6	Dm. 4286	22 7.6	+ 27 1	7.2	30.4	32.2	29.9	22 6.7 + 27 14
5.3	4.6	3952	22 15.8	+ 27 44	4.9	32.6	32.3	31.1	22 16.7 + 27 30
7.1 7.0	6.3	3933	22 8.2	+ 28 1	6.1	31.8	32.4	31.1	22 9.1 + 28 7
7.4 7.3	6.6	~~Dm. 4280~~	~~22 7.0~~	~~+ 27 54~~	~~6.4~~				
5.9	5.2	3902	22 0.2	+ 28 23	5.5	30.8	32.4	30.9	22 1.1 + 28 28

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Plate 1556.

T	H	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	Correc.	
8,3	21,0	I ?	4	K=H	1	—	4.2	42.0	28.2	488	− 1.4	6.4
7,6	10,5	III ?	2	K=H	1	—	3.8	21.0	28.6	69.8	+ 1.1	7.4 7.3
7,1	13,4	I	I I 5 II 5	K=H	1	—	3.6	26.8	28.8	64.0	+ 0.2	7.1 7.0
7,5	14,8	I ?	V	K=H	2	—	3.8	29.6	28.6	61.2	+ 0	6.5
7,1	21,2	I	6	N	2	—	3.6	42.4	28.8	48.4	− 0.7	6.4
6,7	22,1	I	6	N	2	—	3.4	44.2	29.0	46.6	− 0.8	6.5
5,5	22,1	I	7	K=H	2	F	2.8	44.2	29.6	46.6	− 1.7	5.8
5,2	23,1	II	2	K=H	1	—	2.6	46.2	29.8	44.6	− 1.0	7.0
4,9	13,0	I	V	K=H	1	—	2.4	26.0	30.0	64.8	+ 0.6	6.9
4,5	13,3	I	V	K=H	1	—	2.2	26.6	30.2	64.2	+ 0.2	6.8
3,0	14,6	I	V	N	2	—	1.3	29.2	30.9	61.6	+ 0.0	6.3

F. m. & c. F. ch.

8.0 6.6 Plate 1557. 6.6

21,5	9.0	III ?	2	K=H	1	—	10.8	18.0	41.6	72.2	+ 4.3	7.2
20,0	11,6	I	6	K=H	2	—	10.0	23.2	42.4	67.0	+ 2.7	6.4
19,4	9,9	I	6	N	3	—	9.7	11.8	42.7	78.4	+ 7.3	5.2
~~19,4~~	13,5	II	IIa 4687½ 2	K=H	32	cem	9.7	27.0	42.7	63.2	+ 0.7	5.7
17,3	15,4	I	3	N	1	—	8.6	30.8	43.8	59.4	− 0.5	6.8
16,4	13,7	I ?	4	K=H	1	—	8.2	27.4	44.2	62.8	+ 1.2	6.8
16,4	13,8	I ?	4	K=H	1	—	8.2	27.6	44.2	62.6	+ 1.1	6.7
16,0	14,8	III	2	K=H	1	—	8.0	29.6	44.4	60.6	+ 0.1	6.7 7.2
16,8	15,8	I	6	N	2	—	8.4	31.6	44.0	58.6	− 0.7	5.9
15,2	12,1	I	6	N	3	—	7.6	24.2	44.8	66.0	+ 2.4	5.4
15,4	13,4	I ?	I ? 3	N	1	—	7.7	26.8	44.7	63.4	+ 0.7	7.3 7.2
15,6	14,8	I	V	N	1	F	7.8	29.6	44.6	60.6	+ 0.1	6.3
15,8	14,9	I	4	N	1	—	7.9	29.8	44.5	60.4	+ 0.1	6.7
13,0	9,7	I	9	N	3	F	6.5	19.4	45.9	70.8	+ 4.8	5.0
12,0	12,7	I	3	N	1	—	6.0	25.4	46.4	64.8	+ 2.1	6.8

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Mean 7

Cor. Br.	Cor. Br.	No.	R.A.	Dec.	Mag.	M.	V.	M.	Red. to 1900.
6.4	5.7	3865	21 47.2	+28 14	5.6	89.2	32.4	90.6	21 48.0 +28 20
7.3 7.6	6.6 6.9	Dm. 4337	22 10.0	+28 28	7.0	91.0	32.3	29.9	22 12.1 +28 41
7.1 7.2	6.3 6.5	Dm. 4 3946	22 3.4	+18 55	7.0	30.2	22.5	30.0	22 5.3 +19 8
6.5	5.8	Dm. 4930	22 0.6	+18 46	6.1	30.2	22.6	30.2	22 2.7 +18 59
6.4	5.7	3869	21 48.0	+19 6	5.7	90.4	22.7	91.1	21 48.9 +19 13
6.5	5.8	3863	21 45.9	+19 16	5.6	90.1	22.7	90.9	21 46.9 +19 22
5.8	5.1	3861	21 44.5	+29 37	5.0	88.7	32.4	90.6	21 45.4 +29 43
7.0	6.3	Dm. 4793	21 42.7	+19 48	6.5	88.9	22.4	89.9	21 44.8 +20 0
~~7.0~~	~~6.3~~	~~3861~~	~~21 44.5~~	~~+29 37~~	~~5.0~~	~~90.7~~			
6.9	6.2	~~Dm. 4604~~	~~22 4.3~~	~~+29 51~~	~~6.5~~	30.3	32.2	29.7	22 6.3 +30 4
6.8	6.1	3919	22 4.9	+20 23	6.4	31.5	22.6	31.3	22 3.8 +20 30
6.5	5.8	3910	22 2.2	+21 7	5.7	31.4	22.6	31.4	22 3.1 +21 13

524 90.2 Mean 6

7.0 7.2	6.4 6.6	Dm. 4469	22 15.7	+41 22	6.5	33.7	32.3	29.2	22 17.6 +41 36
6.4	5.8	3937	22 9.7	+42 21	5.7	32.9	32.4	30.2	22 10.3 +42 27
5.3	4.7	3985	22 25.3	+42 30	4.6	37.1	32.2	29.8	22 26.1 +42 36
5.7 6 5.8	5.0	3912	22 3.9	+32 35	5.7	30.9	42.3	30.2	22 4.8 +32 41
		Dm. 4122	21 58.3	+43 39	7.3	89.1	32.2	89.5	22 0.1 +43 52
6.8	6.2	~~Dm. 4432~~	~~21 55.0~~	~~+33 50~~	6.8				
		~~4059~~	~~22 3.2~~	~~+44 8~~	~~6.9~~ 7.4 ?	30.7	32.3	29.5	22 5.1 +44 21
		~~4059~~	~~22 3.4~~	~~+44 8~~	~~7.4~~	30.8	32.3	29.6	22 5.2 +44 21
6.8	6.2	~~Dm. 4614~~	~~22 3.8~~	~~+34 30~~	6.8				
		4038	22 3.2	+44 9	6.9	30.8	32.4	29.7	22 5.0 +44 22
6.9	6.3	~~Dm. 4610~~	~~22 3.0~~	~~+34 24~~	~~7.5~~				
6.7 7.2	6.1 6.6	3905	22 1.2	+44 26	5.3	30.8	32.4	30.7	22 1.9 +44 31
5.8	5.2	3895	22 58.2	+44 4	5.6	89.8	32.3	90.3	21 58.9 +44 10
5.6	5.0	3936	22 8.8	+44 51	5.8	33.0	32.4	30.6	22 9.7 +44 57
7.3 7.2	6.6	Dm. 4614	22 3.8	+34 30	6.8	30.6	42.2	29.7	22 5.8 +34 43
6.5	5.9	Dm. 4044	22 0.4	+44 33	6.3	30.0	32.4	29.9	22 2.2 +44 46
6.7	6.1	Dm. 4041	22 0.0	+44 24	7.0	29.8	32.3	29.7	22 1.8 +44 37
5.0	4.4	3953	22 16.1	+45 56	4.8	35.5	32.3	30.7	22 16.9 +46 2
6.8	6.2	Dm. 3612	22 6.2	+46 23	7.2	31.6	32.4	29.5	22 8.0 +46 36

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Plate 1557.

V	H	Type	No. Lines	K	Focus	Other Lines		V.	H.	V.	H.	
								5.4		90.2		
10.8	6.8	I	3	N	1		—	3.4	13.6	47.0	76.6	+ 5.1
10.5	6.9	II ?	2	K=H	1		—	3.2	13.8	47.2	76.4	+ 7.8
~~Fix=2 K=K~~ 10.3	9.9	II a	2	K=H	1	4638 ?	seen	3.2	19.8	47.2	70.4	+ 3.0
11.0	10.1	III	2	K=H	1	4639	— —	3.3	20.2	46.9	70.0	+ 4.3
~~2b. 2 ft lines~~ 10.5	11.1	III	2	K=H	2	F?	Bright-seen	3.2	22.2	47.2	68.0	+ 2.3
10.3	13.9	I ?		K=H	1		—	3.2	27.8	47.2	62.4	+ 1.1
9.7	14.8	I		N	2		—	4.8	29.6	47.6	60.6	+ 0.3
8.6	8.0	II ?	2	K=H	1		— —	4.3	16.0	48.1	74.3	+ 4.3
8.8	13.1	I		K=H	1		—	4.4	26.2	48.0	64.0	+ 1.8
8.8	17.7	I	4	K=H	2		—	4.4	35.4	48.0	54.8	− 2.7
8.4	21.8	I	4	K=H	1		—	4.2	41.6	48.2	48.6	− 3.9
7.1	8.7	I	8	N	3	F		3.6	17.4	48.8	72.8	+ 6.3
7.8	16.8	III ?	2	K=H	1	4640 ?	—	3.9	33.6	48.3	56.6	− 1.8
7.5	21.0	b ?	9	N	3	F		3.8	42.0	48.6	48.2	− 6.0
6.1	6.7	I ?	2	N	1		—	3.0	13.4	49.4	76.8	+ 4.2
6.6	11.9	III	2	K=H	1		—	3.3	23.8	47.1	66.4	+ 1.9
6.9	15.5	I	I 2	H N K=H	1 1		— —	3.4	31.0	49.0	59.2	− 0.5
6.7	20.7	II a	2	K=H	1	4641	seen	3.4	41.4	49.0	48.8	− 3.9
5.4	6.6	I	8	K=H	4	F		2.7	13.2	49.7	77.0	+ 8.9
5.8	12.8	III	2	K=H	1		— —	2.9	25.6	49.5	64.6	+ 2.3
4.6	13.1	I	7	K=H	2		—	2.3	26.2	50.1	64.0	+ 2.1
3.6	22.2	I b	7	N	2	4642	seen	1.8	44.4	50.6	45.8	− 7.9
2.6	14.5	II ?	2	K=H	1		—	1.3	29.0	51.1	61.2	+ 0.6
1.7	9.3	III	2	K=H	2		—	8	18.6	51.6	71.6	+ 6.3

F. inv. & c. 8.0 6.6 F. cl. 6.6

Plate 1586

19.9	17.5	I		K=H	1		—	10.0	35.0	27.7	16.3	− 0.6
~~1 ft lb~~ 17.9	8.6	I d	2	K=H	1		—	9.0	17.2	28.7	34.3	+ 3.6

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Mean 6

Con

Br.	Br	No	R.A.	Dec.	Mag.	M.	V.	M'	Red. to 1900.
6.9	6.3	Dm. 4835	22 20.4	+ 36 43	6.5	34.0	42.1	28.9	22 22.4 + 36 57
6.4	5.8	3981	22 24.6	+ 47 6	4.6	38.4	32.3	30.6	22 25.4 + 47 12
6.7	6.1	Dm. 4537	22 12.6	+ 37 2	6.5	32.4	42.2	29.3	22 14.6 + 37 13
7.2 7.3 7.5	6.9 7.6 7.0	Dm. 3665	22 14.1	+ 46 45	7.7	34.3	32.3	29.8	22 15.9 + 46 58
6.2 6.8	5.6 6.2	3944	22 10.7	+ 37 9	4.1	32.9	42.4	30.4	22 11.6 + 37 13
6.8	6.2	Dm. 3706	22 3.0	+ 47 14	6.9	36.8	32.4	29.7	22 4.8 + 47 27
6.3	5.7	Dm. 3693	22 0.2	+ 47 32	6.3	29.8	32.3	29.5	22 2.0 + 47 45
7.1 6.9	6.3	Dm. 4560	22 17.5	+ 37 50	6.8	33.5	42.1	29.0	22 19.3 + 38 4
6.4	5.8	Dm. 3722	22 5.3	+ 47 38	6.8	31.5	32.4	29.7	22 7.1 + 48 11
6.4	5.8	Dm. 3618	21 57.5	+ 47 39	6.5	86.9	32.4	89.6	21 53.2 + 48 12
6.6	6.0	3858	21 43.5	+ 38 6	5.8	85.1	42.3	89.0	21 44.4 + 38 18
5.0	4.4	3962	22 19.7	+ 48 30	4.6	37.1	32.3	30.8	22 20.4 + 48 38
7.3 7.5 7.6	6.7 7.0	Dm. 3566	21 34.8	+ 48 26	7.3	87.7	32.3	89.5	21 55.8 + 48 40
4.7	4.1	3856	21 42.4	+ 48 45	4.4	84.4	32.6	90.4	21 43.1 + 48 51
6.9	6.3	3966	22 22.2	+ 39 12	6.1	33.6	42.2	31.4	22 23.1 + 39 19
6.5 7.0	5.9 6.4	3935	22 8.7	+ 39 7	4.6	32.3	42.4	30.6	22 9.3 + 39 13
7.2 7.2	6.6	Dm. 3588	21 37.9	+ 48 38	7.0	88.9	32.4	89.4	21 39.6 + 49 2
6.8	6.2	Dm. 4621	21 45.1	+ 38 32	6.5	86.3	42.3	90.4	21 47.0 + 39 5
4.6	4.0	3987	22 26.3	+ 49 40	3.9	39.3	32.4	30.6	22 27.1 + 49 46
7.3 7.5 7.6	6.7 7.0	Dm. 3767	22 6.3	+ 49 29	7.2	31.9	32.4	29.6	22 8.0 + 49 42
6.0	5.4	3922	22 6.5	+ 50 14	5.4	32.7	32.3	30.6	22 7.2 + 50 20
5.3	4.7	3833	21 37.8	+ 50 38	4.9	82.2	32.4	90.1	21 38.6 + 50 44
7.3	6.7	Dm. 3248	22 1.2	+ 51 6	7.0	30.2	32.4	29.6	22 2.9 + 51 19
—	—	3659	22 18.8	+ 51 88	4.5	37.4	32.4	31.1	22 19.7 + 51 44
									22 [illegible] + 5 39
6.8		3932	22 15.8	+ 27 44	4.9	50.8	37.7	51.4	22 16.7 + 27 30
6.5		4015	22 36.1	+ 28 40	4.9	53.3	37.7	51.7	22 37.0 + 28 48

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Plate 1586.

T	K	Type	No. Lines	K	Focus	Other Lines	V.	H.	V.	H.	
16.3	8.1	II	?	2	K=H	3	—	8.2	16.2	29.5	33.3 + 1.8
11.6	13.7	I	?	3	N	1	—	5.8	27.4	21.9	24.1 + 0.3
10.2	22.0	II	a 4644	2	K=H	Rem		5.1	44.0	32.6	7.3 - 2.2
15.2	15.6	III	?	2	K=H	K=H	1	2.6	31.2	33.1	20.3 - 0.1
6.0	24.2	II			K=H	2	F ?	3.0	48.4	34.7	3.1 - 1.9

St. Lt. F. m. ? c.

5.5 8.0 6.4

F. ch.

Plate 1666

19.6	16.5	I	7	N	3	—	9.8	33.0	29.7	4.5 - 0.3
17.6	7.6	I	7	N	3	F	8.8	15.2	40.7 / 28.7	22.3 / 34.3 + 1.8
17.1	12.1	I	? 3	N	1	—	8.6	24.2	40.7 / 28.9	13.3 / 25.3 + 0.6
16.8	8.2	I	2	N	1	—	8.4	16.4	41.1 / 29.1	21.1 / 33.1 + 0.8
17.9	23.4	I	? 4	K=H	1	—	9.0	46.8	40.5 / 28.5	0.7 / 2.7 - 2.0
17.0	23.4	III	1c ? 4644	2	K=H		8.5	46.8	41.0 / 29.0	2.7 - 0.9
15.8	7.2	III		2	K=H	2	Rem	7.9	14.4	41.6 / 29.6	35.1 + 2.8
14.5	15.7	III		2	K=H	1	—	7.2	31.4	42.3 / 30.3	18.1 - 0.1
14.9	20.9	I	4	K=H	1	—	7.4	41.8	42.1 / 30.1	7.7 - 1.6
14.2	21 / 18	II	? 2	K=H	1	—	7.1	43. / 28.6	30.4 / 42.4	5. / 25.9 - 0.8
13.8	12.7	I	? 2	N	1	—	6.9	25.4	30.6 / 42.6	24.1 + 0.3
12.7	23.1	I	4	K=H	1	—	6.4	46.2	31.1 / 43.1	3.3 - 1.2
11.2	12.8	I		N	2	—	5.6	25.6	31.9 / 43.9	23.9 + 0.7
9.8	21.1	II	4645	K=H	3		4.9	42.2	33.6 / 44.6	7.3 - 1.9
7.0	19.8	III	3	K=H	1	F	3.5	39.6	34.0 / 46.0	9.7 - 1.7
6.7	13.7	III	? IIa 4645a 2 ? 4646	K=H	1	Rem	3.4	27.4	34.1 / 46.1	22.1 + 0.2
5.6	23.2	II		K=H	3		2.8	46.4	34.7 / 46.7	3.1 - 1.5

St. Lt. F. m. ? c.

5.5 8.0 6.6

F. ch.

Plate 1640

6.6

20.8	13.6	III		2	K=H	1	—	10.4	27.2	47.1	23.5 + 1.5
20.6	18.9	III	2		K=H	1	—	10.3	37.8	47.2	12.9 - 2.4

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1887phae.proj...8445

Br.	Br.	Con.	No.	R. A.	Dec.	Mag.	37.7 Th.	51.5 V.	Th'	Red to 1900.
5.9			4020	22 37.4	+ 29 36	3.1	53.6	37.8	51.8	22 38.3 + 29 42
7.0			3979	22 24.3	+ 31 37	3.5	51.9	37.8	51.6	22 25.3 + 32 4
6.7			3917	22 4.7	+ 32 35	4.4	48.7	37.7	50.9	22 5.3 + 32 42
7.3 7.6 7.5		Dm	4730	22 19.3	+ 25 10	6.7	50.5	27.8	50.6	22 21.4 + 25 24
6.4			3907	22 1.4	+ 24 46	4.0	49.8	27.8	50.7	22 2.3 + 24 31
							37.5	49.5		Mean 8
6.6	4.8		3952	22 15.8	+ 27 44	4.9	48.8	37.5	49.1	22 16.7 + 27 30
5.5	4.7		4015	22 36.1	+ 28 40	4.9	51.3	37.5	49.3	22 37.0 + 28 48
7.1	6.3	Dm	4389	22 24.9	+ 28 48	6.7	49.1	37.4	48.5	22 25.0 + 29 2
7.1	6.3		4006	22 34.0	+ 19 3	6.1	50.4	27.4	49.6	22 34.9 + 19 10
6.6	5.8		3902	22 0.2	+ 28 23	3.5	47.0	37.4	49.0	22 1.1 + 28 28
6.9 7.1	6.1 6.3	Dm	4930	22 0.6	+ 18 46	6.1	47.4	37.3	48.3	22 2.7 + 18 59
4.6 4.9	3.8 4.1		4020	22 37.4	+ 29 36	3.1	51.8	37.5	49.8	22 38.3 + 29 42
7.3 7.5	6.5 6.7		3956	22 17.9	+ 20 14	6.0	49.3	27.4	49.4	22 18.8 + 20 20
7.0	6.2	Dm	4604	22 4.3	+ 29 51	6.3	46.1	37.2	47.7	22 6.3 + 30 4
7.1	6.3		3919	22 4.9	+ 20 23	6.4	48.5	27.5	49.3	22 5.8 + 20 30
7.2	6.4	Dm	4726	22 23.5	+ 30 28	7.0	48.9	37.4	48.6	22 25.6 + 30 42
6.5	5.7		3910	22 2.2	+ 21 7	5.7	48.4	27.5	49.6	22 3.1 + 21 13
6.2	5.4		3979	22 24.3	+ 31 37	3.5	50.1	37.5	49.4	22 25.3 + 32 4
5.2	4.4		3917	22 4.7	+ 32 35	4.4	46.9	37.5	48.8	22 5.3 + 32 42
7.0 7.4	6.2 6.6		3927	22 7.5	+ 34 0	5.4	47.1	37.5	48.8	22 8.4 + 34 7
7.1	6.3	Dm	4594	22 21.4	+ 24 4	6.8	48.8	27.5	48.6	22 22.3 + 24 18
5.0	4.2		3907	22 1.4	+ 24 46	4.0	47.8	27.6	49.3	22 2.3 + 24 31
							37.5	50.7		Mean 8
6.9 7.3	6.1 6.5		3980	22 24.6	+ 47 6	4.6	51.8	37.5	50.8	22 25.4 + 47 18
6.7 7.1	5.9 6.3		3944	22 10.7	+ 37 9	4.1	48.5	47.5	50.9	22 11.6 + 37 15

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1887phae.proj..844f

October 10, 1887.

Plate 1640.

V	H	Type	Lines	K	Focus	Remarks	Other Lines	V.	H.	V.	H. Correc.	
18.2	10.1	I					4647	9.1	20.2	48.4	30.5 + 3.1	5.5
17.0	11.4	I					? 4648	8.5	22.8	49.0	27.9 + 2.5	5.7
17.4	15.2	I			3			8.7	30.4	48.8	20.3 − 0.1	5.4
16.1	11.6	I	?		1			8.0	23.2	49.5	27.5 + 3.5	6.9
16.7	12.7	I		K=H	1			8.4	23.4	49.1	25.3 + 1.7	6.8
16.7	14.7	I			1			8.4	29.4	49.1	21.3 + 0	6.8
16.8	16.6	I	?	K=H	1	seen	4649	8.4	33.3	49.1	11.5 − 3.0	6.8 7.2
15.8	9.3	I			2	seen	4650	7.9	18.6	49.6	32.1 + 4.1	6.0
15.8	13.1	I		K=H	4			7.9	26.2	49.6	24.5 + 1.9	4.2
14.6	19.4	I			2			7.3	38.8	50.2	11.9 − 4.7	6.3
13.3	11.3	I		K=H	3			6.6	22.6	50.9	28.1 + 4.1	5.7
12.7	8.4	I		K=H	1	seen	4651	6.4	16.8	51.1	33.9 + 4.9	6.8 7.1
12.0	15.4	I			2	F? seen	4652 4653	6.0	30.8	51.3	19.9 − 0.6	6.4 6.7
12.5	16.5	IIa		K=H	1	seen		6.2	33.0	51.3	18.7 − 1.2	7.0
12.2	16.4	IIa	?	K=K	1	seen	4654	6.1	33.0	51.4	38.3 +17.7 + 6.6	7.0 6.9
10.2	13.5	I			3	seen		5.1	27.1	52.4	23.7 + 1.2	4.9
10.5	19.0	I			2			5.2	38.1	52.3	12.7 − 4.5	6.3
10.3	22.0	I			1			5.2	44.0	52.3	6.7 − 8.1	6.3
7.1	7.9	I	?		1			3.6	15.8	53.9	34.9 + 5.9	7.2
7.4	8.1	II	a ?	K=K	1	seen	4656	3.7	16.2	53.8	34.5 + 8.4	6.9
7.9	9.9	II	b?	K=H	1	bright seen	4657	4.0	19.8	53.5	30.9 + 4.2	6.6 7.0
6.5	20.8	I	?		1			3.2	41.6	54.3	9.1 − 4.9	7.2
6.8	23.1	I			1			3.4	46.2	54.1	4.5 − 6.9	6.5
5.6	19.2	I			2			2.8	38.4	54.7	12.3 − 3.7	6.3
3.6	14.5	II	?	K=H	1		4658	1.8	29.0	55.7	21.7 + 0.6	7.3 7.5
3.6	16.6	I			3	seen		1.8	33.2	55.7	17.5 − 1.5	5.1
2.8	18.6	II	a	K=H	1	seen	4659	1.4	37.2	56.1	13.5 − 4.7	6.9
2.4	17.7	I			3			1.2	35.4	56.3	15.3 − 3.6	

III ? 6.6, 7.0.

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Mean 8

Br.	Br. Cor.	No.	R.A.	Dec.	Mag.	rth.	v.	rth'	Red. to 1900.
5.6	4.8	4003	22 33.9	+ 38 26	5.0	54.1	47.5	51.0	22 34.7 + 38 32
5.9	5.1	3997	22 30.6	+ 39 1	5.3	53.4	47.5	50.9	22 31.4 + 39 7
5.4	4.6	3962	22 19.7	+ 48 52	4.6	50.1	57.6	50.2	22 20.4 + 48 38
6.9	6.1	Dm. 3903	22 29.9	+ 49 19	6.3	53.1	57.3	49.6	22 31.8 + 49 33
6.8	6.0	3989	22 27.1	+ 39 10	5.6	52.3	47.6	50.8	22 28.0 + 39 16
6.8	6.0	3966	22 22.2	+ 39 12	6.1	51.6	47.6	51.6	22 23.1 + 39 19
6.8 7.2	6.0 6.4	3935	22 8.7	+ 39 7	4.6	47.9	47.5	50.9	22 9.5 + 39 13
6.0	5.2	4014	22 36.1	+ 39 37	5.1	54.7	47.5	50.6	22 37.0 + 39 43
4.2	3.4	3987	22 26.3	+ 49 40	3.9	52.3	57.6	50.6	22 27.1 + 49 46
6.3	5.5	3928	22 6.5	+ 50 14	5.4	45.3	57.5	50.0	22 7.2 + 50 20
5.7	4.9	4001	22 32.5	+ 50 56	4.8	55.1	57.5	51.0	22 33.2 + 51 1
6.8 7.1	6.0 6.3	4022	22 38.7	+ 41 11	5.1	55.5	47.6	50.6	22 39.6 + 41 18
6.4 6.7	5.6 5.9	3959	22 18.8	+ 51 38	4.3	49.6	57.6	50.2	22 19.7 18.9 + 51 44
7.0	6.2	Dm. 4069	22 15.7	+ 41 22	6.3	48.7	47.6	49.9	22 17.6 + 41 36
7.0 6.9	6.1	~~Dm.~~ 4036	22 44.9	+ 41 19	5.8	57.3	47.4	50.7	22 45.8 46.9 + 41 26 39
4.9	4.1	3985	22 25.3	+ 42 30	4.6	52.3	47.6	51.1	22 26.1 + 42 36
6.3	5.5	3937	22 9.7	+ 42 21	5.7	47.7	47.6	50.7	22 10.5 + 42 27
6.3	5.5	3890	21 57.4	+ 52 18	5.6	101.4	57.5	109.5	22 58.2 + 52 24
7.2	6.4	4025	22 40.8	+ 43 35	5.7	56.6	47.5	50.7	22 41.7 + 44 1
6.9	6.1	4032	22 43.8	+ 53 47	6.0	60.6	57.5	51.6	22 44.8 + 53 53
6.6 7.0	5.8 6.2	4011	22 35.3	+ 43 39	4.7	55.1	47.6	50.9	22 36.1 + 43 46
7.2	6.4	Dm. 4058	22 3.2	+ 44 9	6.9	44.8	47.4	49.7	22 5.0 + 44 22
6.5	5.7	3895	21 58.2	+ 44 4	5.6	104.4	47.5	111.3	21 58.9 + 44 10
6.3	5.5	3936	22 8.8	+ 44 51	5.8	47.2	47.6	50.9	22 9.7 + 44 57
7.3 7.5	6.5 6.7	Dm. 2750	22 21.5	+ 35 42	6.3	50.5	57.5	49.9	22 23.2 + 35 56
5.1	4.3	3953	22 16.1	+ 45 56	4.8	49.3	47.7	50.8	22 16.9 + 46 2
6.9	6.1	3926	22 7.5	+ 56 15	5.4	44.7	57.6	49.4	22 8.2 + 56 21
—	—	3942	22 10.6	+ 56 27	4.2	46.0	57.6	49.6	22 11.3 + 56 33

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St. Lt. F. nn. + c. 5.7 8.0 6.7

F. ch. 6.7

October 11, 1887.

Plate 1665.

V	H	Type	No. Lines	K	Focus	Other Lines.
19.7	19.0	III ?	1	1	N	1	—
19.8	19.6	I h ?	4660 7		N	2	F. seen
17.9	10.8	I	8		N	3	F
15.5	15.1	I ? II ?	4	K=H	K=H	1	—
16.2	10.3	III c ?	4661 3	K=H		3	F. Bright seen.
15.5	22.1	II	2	K=H		1	—

Defect in Plate ?

14.1	7.9	III ?	2	K=H		1	—
14.4	8.5	III hc ?	4662 2	K=H		2	F. ? bright seen
14.2	15.7	II a ?	4663 2	K=H		1	seen
13.6	12.6	I II ?	2	K=H	K=H	1	—
12.4	7.0	III h ?	4664 3	K=H		2	F. seen
11.5	15.8	I	6			2	—
12.0	16.8	II a ?	4665 2	K=H		1	seen
6.0	15.7	I ?	8	K=H		2	F
5.1	15.7	II	1 2	K=H		1	—
15.1	15.8	II	2		N	1	—

Probably a defect in Plate.

17.0	19.8	I	7		N	2	F.
3.0	10.9	I	6		N	2	—

Hard to measure. F. nn. + c. 8.0 6.3

F. ch. 6.3

Plate 1574

21.9	15.7	II a	4666 2	K=H		2	F? seen
19.3	15.6	III	3	K=H		2	F
17.2	14.1	III hc	4667 2	K=H		2	F? bright seen
17.1	18.5	III	1 2	K=H		1	—
16.0	7.0	I	4		N	4	F
10.4	8.0	III	4668 3	K=H		3	F. Bright seen
7.9	17.6	I	2	K=H		2	—

III 5.7, 6.1.

III 5.3, 5.6, 6.6

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1887phae.proj..844F

Mean 8

	No.	R.A.	Dec.	Mag.	~~Th. V. Th.~~	Red. to 1900	Br.	Br.
22 16.8 +20.1	3956	22 17.9	+20 14	6.0		22 18.8 +20 20	7.2	6.4
22 14.5 +27.6	3952	22 15.8	+27 44	4.9		22 16.7 +27 50	5.6	4.8
22 35.0 +28.6	4015	22 36.1	+28 40	4.9		22 37.0 +28 48	6.4	4.6
22 24.8 +28.8 Dm.	4389	22 24.9	+28 48	6.7		22 37.0 +29 2	7.0 7.1	6.3
22 36.0 +29.4	4020	22 37.4	+29 36	3.1		22 38.3 +29 42	4.4 4.8	3.6 4.0
22 9.9 +22.2 Dm.	4601	22 9.8	+22 11	6.7		22 11.9 +22 24	7.2	6.4
	Not found on Chart.						7.2	6.4
22 41.9 +30.3 Dm.	4809	22 41.7	+30 20	7.8		22 43.8 +30 32	7.3 7.6	6.6 6.8
22 39.7 +22.9	4026	22 40.8	+22 56	4.2		22 41.7 +23 3	6.7 6.1	4.9 5.3
22 23.5 +30.5 Dm.	4726	22 23.3	+30 28	7.0		22 25.6 +30 42	7.0	6.2
22 30.6 +23.3 Dm.	4576	22 30.6	+23 15	6.5		22 32.7 +23 29	7.2 7.3	6.5
22 43.0 +23.9	4034	22 44.2	+23 38	3.7		22 45.2 +24 3	5.3 5.6	4.5 4.8
22 23.5 +31.9	3979	22 24.5	+31 57	5.5		22 25.5 +32 4	6.0	5.2
22 21.5 +24.1 Dm.	4594	22 21.4	+24 4	6.8		22 23.5 +24 18	7.0	6.2
	Not found on Chart.						5.3	4.6
22 23.2 +35.2 Dm.	4815	22 23.1	+35 12	7.5		22 25.1 +35 26	6.9 6.9	6.1
~~22 23.2 +21.2~~	~~4748~~	~~22 23.2~~	~~+23 11~~	~~8.3~~			~~6.7~~	~~4.9~~
	Not found on Chart.						7.1	6.3
22 14.5 +27.6	3952	22 15.8	+27 44	4.9		22 16.7 +27 50	5.4	4.6
22 35.0 +28.6	4015	22 36.1	+28 40	4.9		22 37.0 +28 48	6.8	5.0
22 39.6 +11.4	4024	22 40.7	+11 33	4.2		22 41.7 +11 40	6.0	
22 39.7 +22.8	4026	22 40.8	+22 56	4.2		22 41.7 +23 3	6.2 6.5	
22 43.1 +23.9	4034	22 44.2	+23 38	3.7		22 45.2 +24 3	5.5 5.8	
22 33.8 +13.8	4010	22 34.9	+13 55	3.8		22 35.9 +14 1	7.0 7.2	
22 57.6 +14.4	4080	22 58.8	+14 34	2.6		22 59.8 +14 40	4.0	
22 57.0 +27.3	4078	22 58.0	+27 26	2.6		22 58.9 +27 32	5.4 6.0	
22 35.0 +28.6	4015	22 36.1	+28 40	4.9		22 37.0 +28 48	5.6	

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October 11, 1887

Plate 1574.

ν	H	Type	No. lines	K	Focus	Other lines.
~~6.2~~	17.0	~~I~~ III c?	4669 3	K=H	3	F. Bright. seen
7.0	18.9	I?	4	K=H	1	—
5.0	10.6	III	12	K=H	1	—

St. lt. F. m. & c. F. ch.

Plate 1684

5.8	8.0	7.0						7.0
21.8	16.6	a?	4670 2	K=H	1		seen	
19.2	16.4	bc?	4671 2	K=H	1	F?	bright? seen	
III? 6.2, 6.5 ~~2 br. 4 ft. lines~~	17.3	14.9	III	4672 2	K=H	2	F?	bright? seen
	15.9	8.0	I	9	N	4	F	
III 5.5, 5.8, 6.8 ~~4 br. 4 ft. lines~~	10.4	8.8	bc	4673 3	K=H	3	F. Bright. seen.	
	7.9	18.4	I	7	K=2H	2	—	
~~3 br. 3 ft. lines~~	6.2	17.8	bc III	4674 3	K=H	3	F. Bright. seen	

F. m. & c. F. ch.

Hard to measure. 8.0 6.3 Plate 1575. 6.3

~~4 br. 4 ft. lines~~ 21.9	9.2	I	b?	4675 6	N	4	seen
21.0	9.1	III			K=2H	1	—
20.1	20.8	I	b	4676 6	K=2H	3	seen
15.4	9.1	III	?	2	K=H	1	—
18.1	17.0	I	b	4677 13	K=H	1	F seen
17.4	7.2	I	I?	13	N	1	—
17.1	12.4	I		4	K=H	1	—
17.6	17.6	I?		3	N	1	—
17.3	17.2	III?		2	K=H	1	—
16.3	17.7	III		2	K=H	1	—
14.4	7.7	II		2	K=H	1	—
14.7	21.9	III?		2	K=H	1	—
13.8	7.6	III		12	K=H	1	—
13.8	11.5	I	b?	4678	N	2	F seen

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1887phae.proj.:3424F

Cor.

	No.	R.A.	Dec.	Mag	~~Th. V. Th.~~	Red to 1900.	Br.	Bv
22 36.0+29.4	4020	22 37.4	+29 36	3.1		22 38.3 +29 42	4.7 4.8	
22 32.9+18.9	4006	22 34.0	+19 3	6.1		22 34.9 +19 10	7.0	
22 50.4+20.0	4059	22 51.6	+20 8	5.6		22 52.3 +20 14	7.1 7.3	
22 39.6+11.4	4024	22 40.7	+11 33	4.2		22 41.7 +11 40	6.8	
22 39.6+22.9	4026	22 40.8	+22 56	4.2		22 41.7 +23 3	6.7 7.05	
22 43.0+23.9	4034	22 44.2	+23 58	3.7		22 45.2 +24 5	5.9 6.2	
22 57.8+14.4	4080	22 58.8	+14 34	2.6		22 59.8 +14 40	4.0	
22 56.6+27.3	4078	22 58.0	+27 26	2.6		22 58.9 +27 32	5.44 6.15	
22 35.0+28.7	4018	22 36.1	+28 40	4.9		22 37.0 +28 48	5.7	
22 36.0+29.4	4020	22 37.4	+29 36	3.1		22 38.3 +29 42	4.8 5.0	

Mean 8

22 55.3+41.5	4073	22 56.4	+41 41	3.8		22 57.3 +41 47	4.5 3.7	
22 55.9+41.9	4076	22 57.1	+42 7	5.1		22 58.0 +42 13	6.3 5.5	
22 24.1+42.4	3985	22 25.3	+42 30	4.6		22 26.1 +42 36	5.3 4.5	
22 56.1+43.3	4378	22 56.2	+43 17	6.1		22 58.2 +43 31	7.0 6.2 7.2 6.4	
22 34.1+43.5	4011	22 35.3	+43 39	4.7		22 36.1 +43 46	6.4 5.6 7.0 6.2	
23 1.6+43.8	4399	23 1.5	+43 46	6.3		23 3.6 +44 1	7.2 6.4	
22 47.3+43.9	4046	22 48.3	+44 7	5.7		22 49.2 +44 13	6.5 5.7	
22 39.8+43.8	4025	22 40.8	+43 55	5.7		22 41.7 +44 1	6.5 5.7	
22 39.0+43.9	4298	22 39.0	+43 66	7.1		22 41.0 +44 14	7.2 7.4 6.5 7.5 6.7	
22 32.0+44.4	4185	22 32.0	+44 26	6.8		22 33.9 +44 40	7.4 7.6 6.5 6.8	
23 0.5+45.3	4147	23 0.7	+45 18	6.3		23 2.5 +45 33	6.9 6.1	
22 23.4+34.9	4700	22 23.2	+34 59	6.3		22 25.2 +35 13	6.8 6.0 7.1 6.3	
23 1.0+45.6	4090	23 2.2	+45 44	5.7		23 3.1 +45 57	7.0 6.2 7.4 6.6	
22 49.0+35.6	4054	22 50.2	+35 44	5.6		22 51.1 +35 50	6.2 5.4	

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Plate 157 v.

v	H	Type	No. lines	K	Focus	Other lines
	13.6	12.7	II a? 4679	2 3	K=H	K=H 1	F seen
	13.1	13.6	I	3		F
	12.4	11.7	II a? 4680	3	K=H	K=H 1	F seen
	12.4	16.0	II a? 4681	2	K=H	K=H 1	seen seen
	11.8	14.5	III	2	K=H	K=H 1	— —
	11.0	16.5	II a 4682	3	K=H	K=H 1	F seen
	11.4	17.8	III?	2	K=H	K=H 1	— —
	11.8	18.0	II a 4683	2 2	K=H	K=H 1	seen
	11.1	20.5	III	2	K=H		F?
	11.4	22.9	III		K=H	1	—
	9.4	11.4	I 4684	6		2	F seen
	9.3	13.1	I? I?	3	K=H	K=H 1	— —
	8.0	7.9	I	3	N	1	—
	8.0	10.8	I		N	1	—
	8.6	17.9	I 4685		N?	3	seen
	7.8	6.4	I?		K=H	3	F
	7.2	7.4	I?	3 2	N	1	— —
	7.4	11.6	III	2	K=H		F?
	7.6	18.5	III	2 2	K=H	K=H 1	— —
	7.4	19.1	I	5	N	2	—
	7.0	20.4	I	3	N	1	—
	7.6	21.9	I		N	3	—
	6.6	9.1	III 4686	3	K=H	2	F? seen
	6.3	12.5	I	3	N	1	—
	6.0	12.8	I	3	N	1	—
	6.2	17.0	I 4687		N	2	seen
	6.6	18.2	I !	3	N	1	—
	6.2	19.7	I	10	K=1H	4	F

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Means

	No.	R. A.	Dec.	Mag.	M.	V.	M'	Red to 1900		Br.	Conv. Br.
22 46.5 +45.8	4078	22	46.4	+45	47		6.3	22 48.4 + 45 1		7.0 6.9	6.1
22 15.0 + 45.8											
~~22 43.8 + 35.9~~	3953	22	16.1	+43	56		11.8	22 16.9 + 46 2		5.3	4.5
								Dm. 4956		48.3 + 36 19	
22 48.2 + 36.3	4053	22	49.5	+36	27		6.0	22 50.4 + 36 33		6.8 6.7	5.9
22 36.6 + 46.4	3803	22	36.8	+46	24		6.3	22 38.7 + 46 39		7.1 6.8	6.0
								Dm. 4934		41.6 + 36 8	
22 41.8 + 36.6	4030	22	42.7	+36	46		6.0	22 43.7 + 36 52		7.3 7.2 7.5 7.6	6.4 6.8
22 36.2 + 37.0	4670	22	36.4	+37	3		6.3	22 38.4 + 37 17		6.7 6.6	5.8
								Dm. 4902		33.0 + 36 50	
22 33.0 + 36.9	4008	22	34.2	+36	58		6.0	22 35.0 + 37 4		7.2 7.2 7.4 7.4	6.4 6.6
22 32.5 + 36.6	4898	22	32.6	+36	37		6.3	22 34.6 + 36 51		6.9 7.1	6.3
22 23.8 + 46.0	3980	22	24.6	+47	6		4.6	22 25.4 + 47 12		6.6 7.0	5.8 6.2
22 20.2 + 36.7	4835	22	20.4	+36	43		6.5	22 22.4 + 36 57		6.9 7.0	6.1 6.2
22 50.9 + 47.9	4060	22	51.8	+48	2		5.1	22 52.7 + 48 9		5.8	4.5
22 44.9 + 47.9	3944	22	44.9	+47	58		7.0	22 46.9 + 48 12		6.8 7.0	6.2
23 1.0 + 48.5	4091	23	2.3	+48	36		5.9	23 3.2 + 48 43		6.8	6.0
								Dm. 4924		51.0 + 38 34	
22 51.0 + 38.5	4061	22	52.1	+38	42		6.1	22 53.1 + 38 48		6.6	5.8
22 32.7 + 38.3	4003	22	33.9	+38	26		5.0	22 34.7 + 38 32		5.2	4.4
23 6.0 + 48.6	4104	23	7.1	+48	43		4.7	23 8.0 + 48 51		5.4	4.6
23 3.0 + 48.9	3950	23	2.8	+48	52		7.4	23 4.5 + 49 7		7.1	6.3
22 50.0 + 48.9	4058	22	51.2	+49	6		5.2	22 52.1 + 49 12		6.9 7.3	6.1 6.5
								Dm. 4906		30.2	
22 31.0 + 38.7	4817	22	31.0	+38	41		8.0	22 33.0 + 38 55		7.5 7.5	6.4 6.7
22 29.2 + 38.9	3997	22	30.6	+39	1		5.3	22 31.4 + 39 7		5.7	4.9
22 26.0 + 39.0	3989	22	27.1	+39	10		5.6	22 28.0 + 39 16		6.8	6.0
22 18.9 + 48.7	3962	22	19.7	+48	52		4.6	22 20.4 + 48 58		5.2	4.4
22 57.7 + 40.3	4079	22	58.8	+49	24		4.9	22 59.7 + 49 31		6.0 6.5	5.2 5.7
								Dm. 4956		46.6 + 39 23	
22 46.4 + 39.4	4957	22	46.6	+39	23		6.7	22 48.6 + 39 37		6.7	5.9
22 47.0 + 49.3	3962	22	46.6	+49	39		6.7	22 48.5 + 49 53		6.5	5.7
22 35.0 + 39.5	4013	22	36.1	+39	37		5.1	22 37.0 + 39 43		5.6	4.8
								Dm. 4934		29.6 + 39 8	
22 29.9 + 49.3	3903	22	29.9	+49	19		6.3	22 31.8 + 49 33		6.5	5.7
22 25.2 + 49.5	3987	22	26.3	+49	40		3.9	22 27.1 + 49 46		4.0	3.2

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Plate 1575.

r	H	Type	Lines	K	Focus	Lines	Other
6.8	22.4	II?	2	K=H	1	—	
5.2	6.0	II?	3	N	1	—	
4.0	13.1	II	2	K=H	1	—	
4.5	17.0	III	III 2	K=H	1	—	
3.5	11.4	I	2	K=H	2	—	
3.0	15.9	III	2	K=H	1	—	
3.8	17.6	I	2	K, H	3	—	
2.8	13.6	I?	I 3	H N	K=H 1	1	— —

F. m. & c. F. ch.

Plate 1628

Heard to measure. 8.0 5.8 5.8

III 5.8, 5.6, 6.6.

20.1 16.2 c 4688 × 3 K=H 2 bright Fpcen.

18.0 16.4 III III 1 3 K=H K=H 2 F F

12.6 8.5 K=H 1 —

11.4 7.2 K=H 1 —

10.6 14.6 ? × 2 K=H 1 —

9.4 6.6 ? 3 N 1 —

8.8 8.7 K=H 2 —

7.0 22.6 c 4689 3 K=H 2 F, pcen

3.5 19.3 4 K=H 1 —

St. Lot. F. m. & c. F. ch.

Heard to measure. 5.8 8.0 6.7 Plate 1647 6.7

20.2 15.0 c 4690 K=H 2

15.5 23.9 c 4691 K 2 bright Fcen

12.6 7.3 ? 2 K H 1 —

9.0 6.6 K H 2 —

7.2 21.5 c? 4692 K=H 2 F? cen

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Mean 8

	No.	R.A.	Dec.	Mag.	Red. to 1900	Br.	Br. Cor.
22 21.0+39.1	3966	22 22.2	+39 12	6.1	Dm. 48 41 22 23.1+39 19	6.9	6.1
23 7.8+49.8 Dm.	4071	23 7.6	+49 50	6.3	23 9.6+50 3	6.9	6.1
22 45.2+40.5 Dm.	4926	22 45.3	+40 33	7.0	22 47.3+40 47	7.2	6.4
22 33.5+50.4 Dm.	3780	22 33.5	+50 24	7.3	22 35.4+50 38	7.4 7.6 / 7.3 7.7	6.5 / 6.9
22 49.8+40.9	4038	22 50.9	+40 38	3.6	22 51.9+41 4	6.0	5.2
22 37.5+41.0	4022	22 38.7	+41 11	5.1	22 39.6+41 18	6.7 7.0 / 5.9	6.2
22 31.5+50.8	4001	22 32.5	+50 56	4.8	22 33.2+51 1	5.3	4.5
22 44.5+51.3 Dm.	3485	22 44.6	+51 17	7.2	22 46.3+51 31	6.8 6.7	5.9
22 56.7+27.3	4078	22 58.0	+27 26	2.6	22 58.9+27 32	5.6 6.8	
Potathyanthe ex.	Not found on Chart.					5.7 6.5 / 5.8 6.4	
23 14.9+31.0	4136	23 16.1	+31 9	5.4	23 17.0+31 16	6.5	
23 17.9+31.6	4142	23 19.0	+31 43	3.3	23 19.9+31 30	6.8	
23 0.5+32.0 Dm.	4587	23 0.5	+32 3	6.3	23 2.6+32 18	7.3 7.5	
23 18.2+22.6	4143	23 19.4	+22 45	4.6	23 20.4+23 31	6.6	
23 13.5+22.9	4132	23 14.7	+23 5	4.7	23 15.7+23 11	6.1	
22 43.0+23.9	4034	22 44.2	+23 58	3.7	22 45.2+24 5	6.0 6.4	
22 49.0+35.6	4054	22 50.2	+35 44	5.6	22 51.1+35 50	4.9 7.0	7.0 49.0+35 36
22 56.6+27.3	4078	22 58.0	+27 26	2.6	22 58.9+27 32	7.0 7.1	6.5 7.05
22 36.0+29.4	4020	22 37.4	+29 36	3.1	22 38.3+29 42	5.5 6.0	
23 14.0+31.0	4136	23 16.1	+31 9	5.4	23 17.0+31 16	7.1	
23 13.4+22.9	4132	23 14.7	+23 5	4.7	23 15.7+23 11	6.0	
22 43.0+23.9	4034	22 44.2	+23 58	3.7	22 45.2+24 5	5.7 6.2	

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F. m. & c. 8.0 6.2 — F. ch. 6.2

Hard to measure.

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Plate 1629.

				Type	Lines	K	Focus	Lines. Other
?	19,0	17,7	IIa?	4693	X 2	2 K=H	1	seen.
	17,6	12,7	I			K=H	2	—
	16,3	15,4	III		2	K=H	1	F?
	13,1	18,6	II a?	4694	2	K=H	1	seen
~~Str. III~~	12,8	23,7	I a?		3	N	1	~~seen~~
	12,0	16,6	I h?	4695	8	N	4	F
	11,0	16,3	I		4	N	2	—
	7,5	19,8	III		2	K=H	1	—

F. m. & c. 8.0 7.2 — Plate 1685 — F. ch. 7.2

	20,0	10,5	II a?	4696	2	K=H	1	seen
	19,2	11,5	III		X 2	K=H	1	—
	19,0	18,3	III		2	K=H	1	—
	19,0	18,8	I h	4697	N		2	F seen
	18,5	12,2	III		2	K=H	1	—
	17,8	13,8	I ?		6	K=H	3	—
	17,6	14,8	II	4697a	IIa 2	2 K=H	1	— seen
	17,2	14,9	II ?		+ 2	K=H	1	—
	17,0	18,9	III		X ?		1	—
	16,5	16,5	III h	4698	3	K=H	2	F? seen
	15,8	15,3	I		4	K=H	1	—
	15,2	15,4	I			K=H	2	—
	15,4	13,3	I			N	1	—
	15,6	20,0	I ?		4	N	1	—
	13,0	11,6	I ?		4	K=H	2	—
	13,4	19,7	I h?	4699	N		3	F?
	12,1	17,7	I		10	?	4	F
	12,5	22,0	I ?		4	K=H	2	—

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	No.	R.A.	Dec.	Mag.	Red. to 1900	Br.
22 √0.8 + 47.9	4060	22	51.8	+ 48 2	5.1	22 52.7 + 48 9	6.7
23 6.0 + 48.6	4104	23	7.1	+ 48 45	4.7	23 8.0 + 48 51	6.0
22 √7.9 + 49.3	4079	22	38.8	+ 49 24	4.9	22 39.7 + 49 30	7.0 / 7.4
22 49.9 + 40.9	4055	22	50.9	+ 40 58	5.6	22 51.9 + 41 4	6.6
22 31.√ + √0.8	4001	22	32.3	+ 50 56	4.8	22 33.2 + 51 1	6.5
22 √5.4 + 41.√	4073	22	56.4	+ 41 41	3.8	22 57.3 + 41 47	4.5
22 √5.9 + 41.9	4076	22	57.1	+ 42 7	5.1	22 58.0 + 42 13	6.5
22 43.0 + √3.6	4032	22	43.8	+ 53 47	6.8	22 44.8 + 53 53	7.2 / 7.6

							Mean 9	Br. corr.
23 14.0 + 37.4	4131	23	14.7	+ 37 31	5.8	23 16.1 + 37 38	7.1	6.2
23 12.7 + 47.8	4128	23	13.9	+ 47 58	5.3	23 14.8 + 48 4	7.2 / 7.5	6.3 / 6.6
Dm. 22 54.0 + 37.9	4744	22	54.2	+ 37 56	6.7	22 56.3 + 38 10	7.0	6.1
22 50.9 + 47.9	4060	22	51.8	+ 48 2	5.1	22 52.7 + 48 9	6.0	5.1
23 11.0 + 48.2	4120	23	12.2	+ 48 22	4.9	23 13.1 + 48 28	7.0 / 7.3	6.1 / 6.4
23 6.0 + 48.6	4104	23	7.1	+ 48 45	4.7	23 8.0 + 48 51	5.5	4.6
Dm. 23 3.0 + 36.7	5010	23	3.0	+ 36 54	7.3	23 5.1 + 37 9	7.1 / 7.3	6.2
Dm. 23 2.8 + 48.9	3950	23	2.8	+ 48 52	7.4	23 4.8 + 49 7	7.8	6.4
22 50.0 + 48.9	4058	22	51.2	+ 49 6	5.2	22 52.1 + 49 12	7.8 / 7.6	6.4 / 6.7
22 57.8 + 49.3	4079	22	58.8	+ 49 24	4.9	22 59.7 + 49 30	6.8 / 6.7	5.4 / 5.8
23 2 √7.√ + 39.4	4165	23	28.8	+ 39 34	5.5	23 29.7 + 39 42	6.6	5.7
23 3 √2.0 + 49.6	4177	23	33.3	+ 49 48	5.3	23 34.3 + 49 55	6.4	5.5
Dm. 23 7.8 + 49.8	4071	23	7.6	+ 49 50	6.3	23 9.6 + 50 5	6.7	5.8
22 46.7 + 49.6 Dm.	3960	22	46.6	+ 49 39	6.7	22 48.5 + 49 53	6.9	6.0
23 11.6 + 40.9	4123	23	12.7	+ 41 7	6.0	23 13.7 + 41 13	6.6	5.7
22 49.8 + 40.9	4055	22	50.9	+ 40 58	5.6	22 51.9 + 41 4	6.2	5.3
22 55.3 + 41.√	4073	22	56.4	+ 41 41	3.8	22 57.3 + 41 47	4.6	3.7
22 43.9 + 41.2	4036	22	44.9	+ 41 19	5.8	22 45.8 + 41 26	6.8	5.9

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Plate 168 √.

τ	H	Type	No. Lines	K	Focus	Other Lines.	
11.1	17.4	I	√ 6 √	K=½H.	3	—	
10.7	8.√	I	√ 6 √	N √	2	-	
10.2	12.6	II	√ ~~1 3~~ √	~~K~~ K=H	2	F √	
√ √ 10.6	14.3	II	III? √ ~~1 2~~ √	~~K~~ K=H	1	—	—
9.6	14.√	I	? √ 8H √	~~K~~ K=H	1	—	
9.8	21.2	III	√ x2 √	~~K~~ K=H	1	—	
8.√	10.6	I	? √ 4 √	K=H	1	—	
8.√	10.9	I	√ √ √	K=H	1	—	
8.6	17.3	I	? √ 3 √	N √	1	—	
7.6	1√.3	I	√ 3 √	N √	1	—	
7.0	20.√	I	√ √ √	K=H	1	—	
7.√	20.7	I	√ √ √	N √	2	—	
7.2	23.1	I	? √ 2 √	K=H	1	—	
6.4	11.√	II	? √ , √	x ? √	1	—	
6.2	16.6	I	√ √ √	K=H	1	—	
6.0	18.0	I	? √ 2 √	N √	1	—	
√.8	11.9	III	? √ 2 √	K=H	1	—	
4.√	1√.6	III	? √ 2 √	K=H	1	—	
4.0	1√.√	III	√ x2 √	~~K~~ K=H	1	—	
2.8	17.3	I	? √ 3 √	N √	1	—	

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Mean 9

	No.	R.A.	Dec.	Mag.	Red. to 1900.	Br.	Br. corr.
22 55.9 +41.9	4076	22 57.1	+ 42 7	5.1	22 58.0 + 42 13	5.9	5.0
23 20.0 +42.1	4147	23 21.3	+ 42 13	5.8	23 22.3 + 42 21	6.5	5.6
23 10.0 +52.4	4116	23 11.0	+ 52 34	5.6	23 12.1 + 52 40	6.8	5.9
Dm. 23 44 +52.3	3383	23 4.7	+ 52 16	7.2	23 6.7 + 52 31	7.3 7.5	6.4 6.8
23 3.9 +42.8	4109	23 4.9	+ 42 55	5.7	23 5.8 + 43 0	6.9	6.0
22 45.8 +42.5	4042	22 46.7	+ 42 39	5.1	22 47.5 + 42 47	7.3	6.0 6.4
Dm. 23 14.9 +43.3	4445	23 14.6	+ 43 16	7.3	23 16.7 + 43 31	7.1	6.2
Dm. 23 14.0 +43.3	4440	23 13.9	+ 43 20	6.3	23 16.0 + 43 35	6.8	5.9
Dm. 22 56.1 +43.3	4378	22 56.2	+ 43 17	6.1	22 58.2 + 43 32	6.6	5.7
Dm. 23 1.4 +43.8	4399	23 1.5	+ 43 46	6.5	23 3.6 + 44 1	6.9	6.0
22 47.4 +43.9	4046	22 48.3	+ 44 7	5.7	22 49.2 + 44 13	6.5	5.6
22 43.0 +53.6	4032	22 43.8	+ 53 47	6.0	22 44.8 + 53 53 Dm. 2993	6.4	5.5
22 39.8 +43.8	4023	22 40.8	+ 43 33	5.7	22 41.7 + 44 1	7.0	6.1
Dm. 23 12.0 +44.3	4378	23 12.2	+ 44 21	6.8	23 14.3 + 44 36	7.3	6.4
Dm. 22 56.3 +54.4	2900	22 56.5	+ 54 28	6.5	22 58.4 + 54 42	6.5	5.6
Dm. 22 54.0 +44.6	4362	22 54.0	+ 44 36	6.5	22 56.0 + 44 50	7.2	6.3
Dm. 23 11.2 +44.7	4373	23 11.1	+ 44 42	6.3	23 13.2 + 44 57	6.9 7.0	6.0 6.5
0.7 Dm. 23 5 +45.3	4147	23 0.7	+ 45 18	6.5	23 2.7 + 45 33	7.1 7.3	6.2 6.4
23 1.0 +45.6	4090	23 2.2	+ 45 44	5.7	23 3.1 + 45 51	7.3 7.6	6.4 6.7
22 54.0 +56.2	4070	22 55.1	+ 56 18	5.6	22 55.9 + 56 24 Dm. 2993	54.0 + 56 18 7.0	6.1

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1887phae.proj..844f

F. m. & c. 8.0 7.1 F. ch. 7.1

October 12, 1887.

Plate 1588.

V	H	Type	No. lines	K	Focus	Lines.	
9 15.	21.0	14.6	III	3	K=H	1	F
~~Ti=2 H~~	19.5	16.1	II	2 4700, 3	K=H	2	F? Recc
	18.7	18.2	I	8	K=.3 H	2	F
	15.9	15.1	I	4	K=.8 H	1	—
	15.6	Protuberance defect in plate.					
	14.2	88.0	III	2	K=H	1	—
	12.8	10.6	I	4	K=H	1	—
	9.8	10.4	I	7	N	2	F
	9.6	13.3	I	4	K=H	1	—
	7.6	7.9	III	f 4701 3	K=H	1	F. Recc
	5.0	17.5	II	d ? 2 4702	K=H	1	Recc
	2.8	17.5	I	7	?	2	—
	1.8	16.2	I	N		1	—

St. Let. F. m. & c. F. ch.

5.4 8.0 6.6 Plate 1699 6.6

	20.4	14.4	III	2	K=H	1	—
~~Ti=2 H~~ Rec.	19.1	15.7	II	3 4703 3	K=H	2	F. Recc
	18.5	17.9	I	8	K=.3 H	3	F
	15.6	14.7	I	V	N	2	—
	14.5	Defect in Plate?					
	12.4	10.3	I	3	N	1	—
	11.6	14.6	Defect in Plate?				
	10.8	14.4	Defect in Plate?				
	9.3	10.2	I	6	N	2	—
	9.2	12.9	I	4	K=H	1	—
	3.4	12.0	III	? 2	K=H	1	—
	2.5	17.1	I	4	K=H	2	—

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1887phae..proj..844f

	No.	R.A.	Dec.	Mag.		Red. to 1900.		Br.	
23 22.0 +11.9	4151	23	23.1	+12 6	4.6	23	24.1 + 12	12	6.7 7.0
23 18.0 +22.6	4143	23	19.4	+22 45	4.6	23	20.4 + 22	51	6.2
23 13.3 +22.9	4132	23	14.7	+23 5	4.7	23	15.7 + 23	11	5.8
23 20.4 +24.3	4148	23	21.7	+24 31	6.0	23	22.7 + 24	37	6.8
Not found on Chart.									
23 35.3 +15.5 Dm.	4872	23	35.4	+15 32	6.3	23	37.7 + 15	47	7.3 7.5 7.4 7.5
23 30.2 16.0	4173	23	31.6	+16 10	6.3	23	32.6 + 16	17	6.8
23 30.5 +17.6	4173	23	31.9	+17 46	5.4	23	32.9 + 17	51	6.8
23 24.4 +27.6 Dm.	4368	23	24.5	+27 36	6.3	23	26.7 + 27	51	6.9
23 36.8 +28.5	4194	23	38.0	+28 42	4.9	23	39.0 + 28	49	6.8 7.0
23 15.5 +20.0	4138	23	16.7	+20 10	6.1	23	17.7 + 20	16	7.0
23 14.9 +31.0	4136	23	16.1	+31 9	5.4	23	17.0 + 31	16	6.5
23 17.9 +31.6	4142	23	19.0	+31 43	5.5	23	19.9 + 31	50	

						Mean			Br.	Br. (Cou)
23 22.0 +11.9	4151	23	23.1	+12 6	4.6	23	24.1 + 12	12	6.8 7.0	6.1 6.3
23 18.2 +22.6	4143	23	19.4	+22 45	4.6	23	20.4 + 22	51	6.1	5.4
23 13.4 +22.9	4132	23	14.7	+23 5	4.7	23	15.7 + 23	11	5.6	4.9
23 20.5 +24.4	4148	23	21.7	+24 31	6.0	23	22.7 + 24	37	6.5	5.8
Not found on Chart.										
23 30.3 +16.0	4173	23	31.6	+16 10	6.3	23	32.6 + 16	17	7.0	6.3
Not found on Chart.										
Not found on Chart.										
23 30.5 +17.6	4173	23	31.9	+17 46	5.4	23	32.9 + 17	51	6.2	5.5
23 24.4 +27.6 Dm.	4568	23	24.5	+27 36	6.3	23	26.7 + 27	51	6.6	5.9
23 26.8 +30.5	4162	23	28.0	+30 40	5.2	23	29.0 + 30	47	7.0 7.3	6.3 6.6
23 14.8 +31.0	4136	23	16.1	+31 9	5.4	23	17.0 + 31	16		

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St. Lot. F. nv. & c. F. ch.
5.6 8.0 7.2 7.2

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Plate 1714.

T	H	Type	Lines	K	Focus	Lines.	Other
20.9	15.0	III	1	N	1	—	
~~Lot = 12 H K~~ 19.8	16.6	II	H704 P3	K=H	2	F seen	
19.1	18.8	I	6	K=½H	2	F?	
16.3	15.6	I	? 1	K=H	1	—	
9.9	10.9	I	4	K=H	1	—	
3.1	17.9	I	4	K=H	1	—	

F. nv. & c. F. ch.
8.0 6.1 6.1

Plate 1609

22.5	17.3	I	4	K=H	1	—	
21.5	16.0	I	1	N	1	—	
20.0	10.9	I	? H705	N	3	seen	
20.7	14.9	I	3	N	2	—	
21.3	24.1	I	6	K=½H	3	—	
20.4	23.8	I	4	K=H	1	—	
18.0	10.2	I	7	N	3	—	
18.3	17.1	I	4	K=H	1	—	
17.7	11.2	I	4	N	1	—	
16.5	12.9	II	? 2	K=H	1	—	
16.1	17.6	I	? 3	N	1	—	
16.7	18.2	I	? 2	K=H	1	—	
15.5	18.0	I	? 3	N	1	—	
14.7	18.1	I	4	K=H	1	—	
13.6	5.3	II	H706 3	K=H	1	F seen	
13.0	9.5	I	? 2	K=H	1	—	
13.8	11.3	II	H707 3	K=H	3	F bright seen	
13.7	14.0	I	? 2	N	1	—	
13.6	16.0	II	2	K=H	1	—	
14.2	21.6	II	? 2	K=H	1	—	

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	No.	R.A.	Dec.	Mag.	Red. to 1900.	Br.
23 21.9 +11.9	4151	23 23.1	+ 12 6	4.6	23 24.1 + 12 12	7.2 7.4
23 18.2 +22.6	4143	23 19.4	+ 22 43	4.6	23 20.4 + 22 51	6.6
23 13.4 +22.9	4132	23 14.7	+ 23 3	4.7	23 15.7 + 23 11	6.2
23 20.4 +24.4	4148	23 21.7	+ 24 31	6.1	23 22.7 + 24 37	6.9
23 30.5 +17.6	4173	23 31.9	+ 17 46	5.4	23 32.9 + 17 51	6.6
23 14.8 +31.0	4136	23 16.1	+ 31 9	5.4	23 17.0 + 31 16	6.5

Mean 10 Br

23 14.9 +31.0	4136	23 16.1	+ 31 9	5.4	23 17.0 + 31 16			
23 17.8 +31.6	4142	23 19.0	+ 31 43	5.5	23 19.9 + 31 50	6.6	5.6	
23 31.0 +41.4	4176	23 32.3	+ 42 36	4.3	23 33.3 + 42 43	5.0	4.0	
23 20.0 +42.1	4147	23 21.3	+ 42 15	5.8	23 22.3 + 42 21	6.6	5.6	
22 55.0 +41.6	4073	22 56.4	+ 41 41	5.8	22 57.3 + 41 47	5.3	4.3	
22 55.9 +41.9	4076	22 57.1	+ 42 7	5.1	22 58.0 + 42 13	6.6	5.6	
23 31.3 +43.5	4183	23 34.5	+ 43 40	4.4	23 35.4 + 43 47	4.9	3.9	
23 14.0 +43.3	4140	23 13.9	+ 43 20	6.3	23 16.0 + 43 35	7.1	6.1	
23 30.5 +43.6	4208	23 30.5	+ 43 37	6.3	23 32.7 + 43 52	6.5	5.5	
23 25.3 +34.7	4148	23 25.3	+ 34 10	6.3	23 27.5 + 34 25	7.0 7.3	6.0 6.3	
23 12.1 +44.3	4378	23 12.2	+ 44 21	6.8	23 14.3 + 44 37	7.2	6.2	
23 12.5 +34.0	4199	23 12.4	+ 34 0	6.4	23 14.6 + 34 15	7.0	6.0	
23 11.3 +44.7	4373	23 11.1	+ 44 42	6.3	23 13.2 + 44 57	7.0	6.0	
23 12.5 +35.0	5007	23 12.4	+ 35 2	6.7	23 14.6 + 35 17	7.1	6.1	
23 39.0 +45.6	4197	23 40.1	+ 45 45	5.0	23 41.1 + 45 59	6.6 7.0	5.6 6.0	
23 33.5 +35.9	4184	23 34.7	+ 36 3	6.4	23 35.6 + 36 9	7.2	6.2	
23 30.5 +45.7	4174	23 31.7	+ 45 48	4.0	23 32.6 + 45 56	6.7 6.8	4.7 6.1	
23 22.4 +45.1	4241	23 22.5	+ 45 40	7.0	23 24.6 + 45 55	7.3	6.3	
23 17.8 +35.6	5024	23 17.7	+ 35 34	6.5	23 19.9 + 35 49	7.3 7.6	6.3 6.6	
23 0.5 +45.3	4147	23 0.7	+ 45 18	6.5	23 2.9 + 45 33	7.3 7.4	6.3 6.4	

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Plate 1609.

r	H	Type	No. lines	K	Focus	Other lines.	
12,8	7,8	I	5	K=H	1	—	23
10,1	17,4	I	4	K H	1	—	23
9,4	17,2	III	2 3	K=H	1	F?	23
8,1	13,4	III	3	K=H	1	F	23
8,7	17,7	III	x2	K=H	1	—	23
7,6	10,1	I ?	3	N	1	—	2
7,8	19,4	I	7	K=√H	3	—	23
7,9	21,0	II a? 4708	2 3	K=H	1	F? 2 em	23
7,1	20,4	III ?	x2	K=H	1	—	23
6,2	12,1	I	8	K=√H	2	F	23
6,4	22,0	III	2 3	K=H	1	F?	22
√,9	10,9	I	6	N	3	—	23
√,5	18,8	I	√	N	1	—	23
4,4	15,9	III ?	2	K=H	1	—	23
~~Ca K = √H+K~~	3,0	18,2	II a? 4709	2	K=H	1	2 em	23

F. m. & c. F. ch.

Plate 1589.

8.0 6.9 6.9

~~H Ca K H+K, Ca K~~	22,8	17,2	I	4	K=√H?	2	2 em	23
21,5	15,9	I	√	N		2	—	23
21,2	24,1	I	7	K=√H		3	F	23
20,4	14,9	I	√	N		2	—	2
20,5	23,2	I	2	N		1	—	23
21,4	23,8	I	6	K=√H		1	—	2
19,8	10,9	I	9	K=√H		4	F	23
18,4	12,4	II ?	x2	K=H		1	—	2
18,9	20,8	III ?	2	K=H		1	—	2
17,6	10,1	I	8	N		4	F	2
17,4	11,2	I	6	N		2	—	2

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1887phae.proj..8447

Mean 10

No.	R.A.	Dec.	Mag.	Red. to 1900	Br.	Corr. Br.
23 40.2 +46.0	4169	23 40.4	+46 1	6.3	23 42.6 +46 17	6.8	5.5
23 14.0 +37.3	4131	23 14.7	+37 31	5.8	23 16.1 +37 38	6.9	5.9
23 12.6 +47.8	4128	23 13.9	+47 38	5.3	23 14.8 +48 4	6.9 / 7.4	5.9 / 6.4
23 24.0 +38.4	4134	23 23.5	+38 34	5.3	23 26.3 +38 42	6.7 / 6.9	5.7 / 5.9
23 11.0 +48.2	4120	23 12.2	+48 22	4.9	23 13.1 +48 28	6.8 / 7.2	5.8 / 6.2
23 34.5 +48.7	4127	23 34.4	+48 43	6.3	23 36.6 +48 58	6.7	5.7
23 6.0 +48.6	4104	23 7.1	+48 45	4.7	23 8.0 +48 51	5.4	4.4
23 1.0 +48.5	4091	23 2.3	+48 39	5.9	23 3.2 +48 45	6.9	5.9
23 2.5 +48.9	3950	23 2.8	+48 52	7.4	23 4.8 +49 7	7.4 / 7.5	6.4 / 6.5
23 27.6 +39.5	4163	23 28.8	+39 34	5.3	23 29.7 +39 42	6.2	5.2
22 57.8 +49.2	4079	22 58.8	+49 24	4.9	22 59.7 +49 30	6.7 / 7.4	5.7 / 6.1
23 32.0 +49.7	4177	23 33.3	+49 48	5.3	23 34.3 +49 55	6.8	4.8
23 7.8 +49.8	4071	23 7.6	+49 50	6.3	23 9.6 +50 3	6.9	5.9
23 17.7 +40.3	5068	23 17.6	+40 19	7.0	23 19.7 +40 34	7.3 / 7.4	6.3 / 6.4
23 11.5 +40.9	4123	23 12.7	+41 7	6.0	23 13.7 +41 13	7.1	6.1

Mean 10

23 14.9 +31.0	4136	23 16.1	+31 9	5.4	23 17.0 +31 16	—	—
23 17.9 +31.6	4142	23 19.0	+31 43	5.3	23 19.9 +31 50	6.5	5.5
22 55.4 +41.5	4073	22 56.4	+41 41	3.8	22 57.3 +41 47	5.2	4.2
23 20.0 +42.1	4147	23 21.3	+42 15	5.8	23 22.3 +42 21	6.5	5.5
23 0.4 +32.0	4587	23 0.5	+32 3	6.3	23 2.6 +32 18	7.0	6.0
22 55.9 +41.9	4076	22 57.1	+42 7	5.1	22 58.0 +42 13	6.8	5.3
23 31.0 +42.4	4176	23 32.3	+46 36	4.3	23 33.2 +43 43	5.0	4.0
23 27.0 +43.1	4189	23 26.9	+43 6	6.9	23 29.1 +43 21	7.2	6.2
23 39 +42.8	4101	23 4.9	+42 55	5.9	23 5.8 +43 0	7.0 / 7.1	6.0 / 6.1
23 31.3 +43.5	4183	23 34.5	+43 40	4.4	23 33.4 +43 47	4.7	3.7
23 30.3 +43.6	4188	23 30.5	+43 37	6.3	23 32.7 +43 52	6.5	5.5

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Plate 1589.

H	K	Type	No. Lines	Intensity K	Intensity H	Other lines.	
16,6	9,5	III?	2	K	H	1	—
16,2	10,4	III	2	K	H	1	—
16,3	12,6	III	2	K	H	1	—
16,4	12,9	II	2	K	H	1	4711 ? diffuse
16,8	18,1	I	4	N		1	—
17,4	18,0	I	3	N		1	—
14,7	18,1	II	2	K	H	1	—
13,4	8,4	III	2	K	H	1	F?
13,5	11,3	III	3	K	H	3	4712 ? F Bright, diffuse
13,5	14,1	II	2	K	H	1	—
13,6	16,0	III	2	K	H	1	—
13,4	21,5	III	2	K	H	1	—
13,8	21,7	II	2	K	H	1	—
12,5	7,9	I	4	K	H	2	—
10,2	17,4	II	2	K	H	1	4713 ? diffuse
9,1	17,3	III	2	K	H	1	F?
8,1	13,4	III	2	K	H	1	F?
8,5	17,9	III	2	K	H		—
7,4	10,3	III	2	K	H	1	—
7,6	19,6	I		K	H	3	4714 F
7,8	21,2	II		K	H	1	? F?
6,2	12,2	I		N		2	—
6,2	22,2	III	3	K	K	2	4715 F diffuse
5,6	11,0	I	7	N		3	F
5,2	18,9	I	5	N		1	—
4,4	16,0	II	2	K	H	1	—
3,0	18,3	I	3	N		1	—

III ? 6.8, 7.1.

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Mean 10

	No.	R.A.	Dec.	Mag.	Red to 1900	Br.	Corr. Br.
	4530	23	35.1	+43 58	6.8	23 37.3 +44 13		
	4473	23	35.1	+44 11	6.3	23 37.3 +44 26	7.3	6.3
Dm.	4467	23	33.1	+44 16	7.0	23 33.3 +44 31	7.3 / 7.6	6.3 / 6.6
Dm.	4441	23	26.7	+44 16	6.3	23 28.9 +44 31	7.8 / 7.5	6.3 / 6.5
Dm.	4948	23	25.3	+34 10	6.3	23 27.5 +34 25	7.0	6.0
Dm.	4899	23	12.4	+34 0	6.4	23 14.6 +34 15	6.8	5.8
Dm.	4373	23	11.1	+44 42	6.3	23 13.2 +44 57	6.9	5.9
Dm.	5007	23	12.4	+35 2	6.7	23 14.6 +33 17	7.0	6.0
	4197	23	40.1	+45 45	5.0	23 41.1 +45 32	6.6 / 6.9	5.6 / 5.9
	4174	23	31.7	+45 48	4.0	23 32.6 +45 36	5.6 / 6.0	4.6 / 5.0
Dm.	4241	23	22.3	+45 40	7.0	23 24.6 +45 33	7.3	6.3
Dm.	5024	23	17.7	+35 34	6.3	23 19.9 +33 49	7.2 / 7.5	6.2 / 6.5
	4090	23	2.2	+45 44	3.7	23 3.1 +45 31	7.0 / 7.4	6.0 / 6.4
Dm.	4147	23	0.7	+45 18	6.3	23 2.7 +45 33	7.0	6.0
D	4169	23	40.4	+46 1	6.3	23 42.6 +46 16	6.4	5.4
	4131	23	14.7	+37 31	3.8	23 16.1 +37 38	6.6	5.6
	4114	23	12.9	+47 36	6.3			
	4128	23	13.9	+47 58	3.3	23 14.8 +48 4	6.7 / 7.1	5.7 / 6.1
	4154	23	25.3	+38 34	3.3	23 26.3 +38 42	6.3 / 6.8	5.5 / 5.8
	4120	23	12.2	+48 22	4.9	23 13.1 +48 28	6.8 / 7.8	5.8 / 6.8
Dm.	4127	23	34.4	+48 43	6.3	23 36.6 +48 58	6.7	5.7
	4104	23	7.1	+48 45	4.7	23 8.0 +48 51	6.4	4.4
	4091	23	2.3	+48 39	3.9	23 3.2 +48 45	6.9	5.9
	4165	23	28.8	+39 34	3.3	23 29.7 +39 42	6.2	5.2
	4079	22	58.8	+49 24	4.9	22 59.7 +49 30	6.4 / 6.8	5.4 / 5.8
	4077	23	33.3	+49 48	5.3	23 34.3 +49 53	6.6	4.6
Dm.	4071	23	7.6	+49 50	6.3	23 9.6 +50 5	7.0	6.0
Dm.	4068	23	17.6	+40 19	7.0	23 19.7 +40 34	7.2	6.2
	4123	23	12.7	+41 7	6.0	23 13.7 +41 13	6.9	5.9

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St. Lt. 5.5 | Fmt. c. 8.0 7.2 | F. ch. 7.2

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Plate 1686.

ν	H	Type	Lines	K	Focus	Lines.	Other Lines
20,9	15,0	III	?	12	K=H	1	—
19,7	16,6	I	?	4	K=H	1	—
19,0	18,7	I			K=H	2	—
16,2	15,7	I	?	2	N	1	—
9,8	10,9	I		4	N	1	—
3,1	17,9	I	?	3	N	1	—

Amt. of Fog. due to moon & clouds. 7.1 Amt. of Fog. due to chemicals 7.7

Plate 1562.

22,0	9,1	II		2	K=H	1	—	
22,4	9,8	II		2	K=H	1	—	
22,2	15,7	II	? IIa?	1664a 2	K=H	K=H 1	1	— Seen
22,7	20,3	I	1	4	N		2	—
21,2	8,2	III	? III?	2	K=H	K=H 1	1	— —
20,5	12,7	III	III?	1 2	N	K=H 1	1	— —
20,7	13,1	III	III	2	2 K=H	K=H 1	1	— —
21,1	14,3	II		2	K=H		1	—
21,0	14,6	II	II	2	2	K=H	1 1	— —
21,4	17,3	III	III	1	2 N	K=H	1 1	— —
20,0	19,1	I	? I	? 2	3 N	N	1 1	— —
20,7	20,7	I	I?	I?	4 4 K=H	N	1 1	— —
20,8	22,3	II	? II	? 2	2 K=H	K=H	1 1	— —
19,6	6,7	II	? II	? 2	2 K=H	K=H	1 1	— —
19,7	20,2	I		7	N		2	F 1
19,7	22,5	II	IIa?	1665 3	N		1	—
18,2	6,5	I		10	N		7	F 1
18,2	7,3	III		2	K=H		1	—
18,6	10,9	III	III	2	2 K=H	K=H	1	— —
18,4	13,4	III		3	K=H		2	F

III? 6.6, 7.0.

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	No.	R.A.	Dec.	Mag.	Red. to 1900	Br.
23 21.9+11.9	4131	23 23.1	+12 6	4.6	23 24.1 + 12 12	7.0 7.2
23 18.1+22.6	4143	23 19.4	+22 45	4.6	23 20.4 + 22 51	6.8
23 13.5+22.9	4132	23 14.7	+23 5	4.7	23 15.7 + 23 11	6.5
23 20.4+24.4	4148	23 21.7	+24 31	6.0	23 22.7 + 24 37	6.9
23 30.4+17.6	4175	23 31.9	+17 46	5.4	23 32.9 + 17 31	6.6
23 14.9+31.9	4136	23 16.1	+31 9	5.4	23 17.0 + 31 16	6.7
23 54.5+26.3	4246	23 55.8	+26 27	5.8	23 56.8 + 26 34	7.2 .1 7.3
Dm. 23 53.0+26.1	4727	23 53.0	+26 7	6.5	23 55.3 + 26 22	7.5 .1 7.6
Dm. 23 40.5+16.3	4990	23 40.5	+16 16	8.0	23 42.8 + 16 31	7.6 .0 7.6
	4989	23 40.5	+16 17	7.8	23 42.8 + 16 32	
23 30.4+16.0	4173	23 31.6	+16 10	6.3	23 32.6 + 16 17	
23 55.8+16.8	4251	23 57.1	+16 52	6.6	23 58.1 + 16 39	Dm. 50 34 53 8 16 9.2) 7.2 7.4 7.6 .0 7.6
Dm. 23 46.5+17.2	5001	23 46.5	+17 11	7.0	23 48.8 + 17 26	7.4 7.6 7.4 .0 7.4
23 45.8+17.1	4220	23 46.9	+17 14	6.8	23 47.9 + 17 21	Dm. 4999 7.3 7.5 7.5 .0 7.5
Dm. 23 43.4+16.9	5003	23 43.1	+16 48	7.3	23 45.4 + 17 3	7.5 .0 7.5
Dm. 23 42.5+26.9	4698	23 42.5	+26 53	7.1	23 44.8 + 27 8	7.5 7.5 .1 7.6
Dm. 23 36.5+16.7	4973	23 36.7	+16 43	7.8	23 39.0 + 16 58	7.4 7.5 7.6 7.6 .0 7.6
Dm. 23 33.0+17.4	4956	23 33.0	+17 25	7.2	23 35.3 + 17 40	7.3 7.4 .1 7.5
Dm. 23 28.6+27.0	4579	23 28.7	+27 4	7.3	23 30.9 + 27 19	7.2 7.5 .1 7.6
Dm. 23 26.0+17.0	4938	23 26.3	+17 1	6.7	23 28.6 + 17 16	7.2 7.4 0 7.4
Dm. 0 1.5+27.4	3	0 1.5	+27 26	7.0	0 2.8 + 27 41	7.2 7.4 .1 7.5
23 31.4+17.6	4175	23 31.9	+17 46	5.4	23 32.9 + 17 31	+1 6.2 .1 6.3
Dm. 23 24.5+27.6	4568	23 24.5	+27 36	6.3	23 26.7 + 27 51	6.8 .1 6.9
0 1.0+28.3	5	0 2.2	+28 26	2.1	0 3.2 + 28 33	7.3 .1 B. 7.1)
Dm. 23 59.0+28.2	4704	23 59.1	+28 14	7.5	0 1.4 + 28 29	7.0 7.1 .1 7.2)
Dm. 23 51.3+28.0	4678	23 51.0	+28 2	8.2	23 53.3 + 28 17	7.4 7.5 7.6 7.5 .1 7.6)
23 45.0+18.3	4217	23 46.4	+18 27	5.2	23 47.4 + 18 34	6.6 7.0 .1 7.1)

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October 12, 1887.

Plate 1562.

V	H	Type	No. Lines	K	Focus	Other Lines.	
18.9	14.7	I	1	1	N	2	—
17.5	12.4	I	1	1	K=H	2	—
17.9	17.1	III	1	3	K=H	2	F
16.6	21.6	II?	1665a 2	2	K	H K=H	1 1 — Seen
15.1	8.4	II?	1	2	K=H		1 —
15.6	10.2	II?	2	2	K=H	K=H	1 1 — —
15.8	16.7	I? I	2	3	K=H	N	1 1 — —
16.0	18.3	II?	2	2	K=H	K=H	1 1 — —
15.4	20.1	?	2	1	K=H		1 —
15.4	20.9	I? I	4	3	K=H	N	1 1 — —
15.0	22.0	III	2	2	K=H	K=H	1 1 — —
14.0	10.1	? II	2	1	N	K=H	1 — F?
14.3	11.9	1666	2		K=H		1 Recon
14.4	12.0	I	1	1	N		1 —
14.5	20.8	III?	2	1	K=H		1 —
Recorded Above. 14.8	22.1						
14.7	22.9	III	1	2	N	K=H	1 1 — —
13.5	6.9	I?	3	1	N		1 —
13.1	13.4	III	2	1	K=H		1 —
13.4	13.6	III	2	1	K=H		1 —
13.1	17.0	?	1	1	N		1 —
13.8	16.9	III	2	2	K=H	K=H	1 1 — F?
III? 6.2, 6.5. 13.9	21.4	III	3	1	K=H	2	F
13.6	22.0	III	1	2	N	K=H	1 1 — —
13.6	23.0	I? I	3	3	N	N	1 1 — —
13.4	23.9	I? I?	4	6	K=H	K=H	1 1 — F
12.3	20.7	II?	1	2	N	K=H	1 1 — —
12.8	20.9	I	1	3	4	N K=H	1 1 — —

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Mean 6

	No.	R.A.	Dec.	Mag.	Red. to 1900		Br.	
23 42.4+28.0	4209	23 43.6	+28 10	5.9	23 44.6	+28 17	7-1	6.5 .1 6.6
23 47.6+28.7	4666	23 47.6	+28 41	7.2	23 [illegible]	+28 36		6.8 .1 6.9
23 36.7+28.6	4194	23 38.0	+28 42	4.9	23 39.0	+28 49		6.4 .1 6.5 / 6.6 .1 6.7
23 26.3+29.0	4956	23 26.5	+29 4	7.6	23 28.7	+29 19		7.2 7.3 .1 7.4
23 56.0+19.9	5197	23 56.0	+19 52	7.3	23 58.3	+20 7		7.2 7.4 .1 7.5
23 20.0+19.6	5180	23 32.0	+19 38	7.7	23 54.3	+19 53		7.1 7.2 .1 7.3
23 38.0+19.6	5137	23 38.1	+19 37	6.2	23 40.4	+19 52		6.9 7.0 .1 7.1
23 34.8+19.5	5138	23 34.7	+19 30	7.3	23 37.0	+19 45		7.2 7.3 .1 7.4
23 31.0+19.8	5129	23 30.9	+19 47	6.8	23 33.2	+20 2		7.1 .1 7.2
23 29.0+19.7	5127	23 29.2	+19 32	7.8	23 31.3	+20 7		7.2 7.2 .1 7.3
23 27.5+20.0	4160	23 27.9	+20 11	6.4	23 28.9	+20 18		7.2 6.8 / 7.6 7.3 .1 7.4
23 53.0+30.4	5071	23 53.1	+30 26	7.5	23 55.4	+30 41		6.9 7.1 .2 7.3
23 48.5+20.3	5396	23 48.6	+20 22	7.0	23 50.9	+20 37		6.7 .1 6.8
23 48.6+30.3	5053	23 48.7	+30 16	7.0	23 51.0	+30 31		7.4 .2 7.6
23 28.1+31.2	4982	23 28.2	+30 12	7.5	23 30.4	+30 27		7.1 7.3 / 7.2 .2 7.4
~~23 26.6+20.0~~	~~4160~~	~~23 27.9~~	~~+20 11~~	~~6.4~~				
23 23.4+30.0	4963	23 23.3	+30 3	7.6	23 25.5	+30 18		7.3 7.4 / 7.5 7.6 .2 7.8
0 0.6+30.6	5387	0 0.6	+30 35	6.8	0 2.9	+30 50		7.2 .2 7.4
23 45.3+20.9	~~4216~~	~~23 46.3~~	~~+21 0~~	~~6.2~~	23 47.5	+21 12		7.0 .1 7.1 / 7.1 .2 7.3
23 45.3+20.9	4216	23 46.3	+21 0	6.2	23 47.5	+21 7		7.0 .1 7.1 / 7.3 .1 7.4
23 41.8+30.9	5028	23 41.5	+30 54	7.7	23 43.8	+31 9		7.3 .2 7.5
23 37.8+20.6	5366	23 37.8	+20 36	6.5	23 40.1	+20 51		7.2 .1 7.3 / 7.5 .1 7.6
23 26.6+30.5	4162	23 28.0	+30 40	5.2	23 29.5	+30 47		6.6 6.8 / 6.9 .2 7.1
23 25.3+30.6	4971	23 25.3	+30 39	8.3	23 27.5	+30 54		7.3 7.4 / 7.5 7.6 .2 7.8
23 23.2+30.5	4962	23 23.1	+30 34	8.0	23 25.3	+30 49		7.4 7.4 .2 7.6
23 22.9+20.8	5342	23 22.8	+20 46	7.0	23 25.0	+21 1		6.7 6.9 .1 7.0
23 30.0+21.4	4960	23 30.1	+21 27	7.3	23 32.3	+21 42		6.9 7.2 .1 7.3
23 29.3+21.0	4~~9~~32	23 29.2	+21 ~~1~~ 3	~~7.7~~ 7.8	23 31.5	+21 20		6.9 7.2 .1 7.3

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October 13, 1887.
Plate 1562.

		V	H	Type	No. Lines	K	Focus	Other Lines	
9 50	√	12.5	23.4	II IIa ? 1666a	2	N K=H	1	—	Seen
		11.8	10.8	II I	5	K=H	2	—	
	√	11.8	11.2	III III ?	2 2	K=H K=H	1	— —	
		11.5	11.5	III	3	K=H	1	7	
		11.7	12.3	I	3	N	1	—	
		11.0	14.9	I	5	N	2	—	
		11.6	18.1	II	2	K=H	1	—	
	√	11.9	22.0	III III	2 2	K=H K=H	1	— —	
		11.7	22.1	III	2	K=H	2	—	
Gok=5 H	√	10.1	16.1	II IIa 1667	2 2	K=H K=H	1 1	seen seen	
		10.0	19.6	I	5	K=H	1	—	
Same Star		11.0	20.1	IIa ? 1668	2	K=H	1	—	
		10.8	20.1	III ?	2	K=H	1	—	
		9.4	10.6	IIa 1669	3	K=H	1	seen	
		9.7	11.9	I	4	N	1	—	
		9.5	12.7	I ?	1	N	1	—	
		9.7	20.8	III	3	K=H	1	7	
	√	8.2	9.2	II I	4 4	K=H K=H	1	— —	
	√	8.0	8.5	III III	2 2	K=H K=H	1	— —	
	√	8.3	18.3	I I	4 3	K=H N	1	— —	
		7.4	8.4	III ?	2	K=H	1	—	
		7.1	14.5	I	4	K=H	1	—	
	√	7.8	21.3	II ? IIa 1669a	2 2	K=H K=H	1	—	Seen
		6.5	11.1	III	2	K=H	2	—	
		6.6	16.1	III ?	2	K=H	1	—	
	√	6.6	17.5	III ? III	2	N K=H	1	— —	
		6.7	18.6	II ?	2	K=H	1	—	
		6.6	19.1	I ?	2	K=H	1	—	

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No.	R.A.	Dec.	Mag.	Red. to 1900		Br.	
4945	23	23.5	+21 14	7.3	23	25.7	+21 29	7.2	7.3
4236	23	52.8	+31 11	6.3	23	53.7	+31 48	6.6	6.8
5002	23	49.9	+21 33	7.8	23	51.2	+21 48	7.2	7.3
4229	23	50.6	+21 39	6.1	23	51.6	+22 5	7.3	7.4
4994	23	47.5	+21 39	7.8	23	49.8	+21 54	7.0	7.1
4908	23	42.0	+22 3	6.6	23	44.3	+22 18	6.6	6.7
4952	23	34.1	+31 45	7.0	23	36.3	+32 0	7.1	7.3
4953	23	26.4	+21 31	8.0	23	28.6	+21 46	7.3	7.2
~~4158~~	~~23~~	~~27.5~~	~~+21 52~~	~~5.4~~				7.5	7.6
4158	23	27.5	+21 52	5.4	23	28.5	+21 57	6.6	6.7
4802	23	38.1	+22 39	7.8	23	41.8	+22 54	7.0	7.1
4880	23	31.6	+22 31	6.8	23	33.9	+22 46	6.9	7.0
4171	23	30.5	+32 14	6.3	23	31.3	+32 21	6.6	6.8
4239	23	33.4	+33 4	5.8	23	34.4	+33 11	6.5	6.7
4737	23	48.8	+32 10	7.0	23	51.1	+32 55	6.8	7.0
4731	23	47.0	+32 47	7.9	23	49.3	+32 2	7.5	7.7
4164	23	28.7	+32 50	5.8	23	29.7	+32 57	6.5	6.7
4844	23	54.3	+23 27	6.6	23	56.6	+23 42	6.8	7.0
4827	23	57.2	+33 27	7.0	23	59.5	+33 42	7.3	7.4
4791	23	34.3	+23 25	7.3	23	36.6	+23 40	7.2	7.7
4828	23	37.3	+33 52	6.3	23	39.6	+34 7	6.7	6.9
4844	23	42.9	+24 3	6.8	23	45.2	+24 18	6.8	6.9
4166	23	28.9	+23 45	6.7	23	30.0	+23 33	7.0	7.3
4233	23	51.6	+24 28	4.6	23	52.6	+24 35	6.4	6.5
5039	23	51.0	+34 11	6.6	23	53.3	+34 26	6.8	6.9
4763	23	35.9	+33 56	7.0	23	38.1	+34 11	7.1	7.3
4979	23	32.6	+34 9	7.2	23	34.8	+34 24	7.6	7.8
4972	23	31.4	+34 13	6.3	23	33.6	+34 28	7.0	7.2

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October 13, 1887.

Plate 156.2.

ν	H	Type	No. Lines	K	Focus	Other Lines.
6.6	21.6	I	4	K=H	2	—
5.5	8.3	II	2	K=H	1	—
5.5	15.1	II?	2	K=H	1	—
5.6	15.6	III	2	K=H	K=H 1	— —
4.0	14.6	III?	2	K=H	2	—
3.2	7.9	II? II	2	K=H	1	— —
3.4	7.9	III? III	2	K=H	1	— Fl?
3.4	18.2	III	1670 2	K=H	1	—
2.5	9.2	III?	2	K=H	2	—
2.9	10.0	III	2	K=H	1	—
2.9	13.4	III?	2	K=H	1	—

Reading of I & I, plates. Continued in Book 17 G page 156

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1887phae.proj..844P

No.	R.A.	Dec.	Mag.	Red. to 1900.		Brq
4948	23 25.3	+ 34 10	6.5?	23 27.3	+ 34 23	6.7
5061	23 37.8	+ 34 46	7.0	23 0.1	+ 35 1	7.1
4836	23 41.2	+ 24 35	6.8	23 43.3	+ 25 6	7.1
4834	23 40.2	+ 24 46	7.0	23 42.3	+ 25 1	7.3
4208	23 43.6	+ 35 46	5.9	23 44.6	+ 35 53	8.0
8	23 1.2	+ 35 49	6.2	23 3.5	+ 36 4	7.4
5068	23 37.5	+ 25 51	6.2	23 39.8	+ 26 6	7.4
4184	23 34.7	+ 36 3	6.4	23 35.6	+ 36 9	6.8
4246	23 35.8	+ 26 27	5.8	23 36.8	+ 26 34	6.8
4727	23 33.0	+ 26 7	6.5	23 35.3	+ 26 22	6.9
5126	23 45.7	+ 36 8	6.5	23 48.0	+ 36 23	7.2

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