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Records
by
S. I. B.

Nebulae.

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Records by

D.P.C.

Examination of Bruce plates

{See pages at end of book for manner of recording te}

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Exam. of A 7675. Exp. 120m

Current No.	Object	Coord	N.S. deg. C	R.A. Dec.
1	neb *	65, 343		
2	neb *	46, 339		
3	-	218, 332		
4	neb *	233, 337		
5	neb *	292, 319		
6	neb	107, 301		
7	neb	228, 294		
8	neb	289, 302		
9	neb	289, 298		
10	neb *	297, 302		
11	neb	303, 296		
12	sp.	~~289~~ 289		
13	neb	261, 285		
14	neb	274, 259		
15	neb	281, 256		
16	neb *	158, 237		
17	neb	201, 241		
18		278, 241		
19	neb *	283, 234		
20	neb	387, 238		
21	neb	402, 254		
22	neb *	39, 219		
23	neb	378, 220		
24	neb st	72, 211		
25	neb *	124, 197		
26	neb *	194, 210		
27	neb	230, 208		
28	neb *	264, 201		

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$12^h\ 38^m$, 0°. Janiy 22 - 1907.

Description.
R? mag 13. bM. near Edge of pl.
R? " 15. bM. " " " "
neb * ringed - B * N. wings at ~~45°~~ 135°? Mag N 12. Sh?
F. dif. Nush. near Edge of pl. mag 16.
R? mag 14. bM.
nsh 1:5 by 0:2 at 170°.
F. bM. R?, diam 0:6.
F. R. S.
F nuh. bM. 1:3 by 0:3. at 155°. Sh?
R? mag 13. bM.
elong neb 0:4 by 0:2 at 80°. F.
neb M, 2:3 by 0:3; at ~~45°~~ 135°. Sh?
BN, nsh at 170. Sh?
F, R, bM.
F. R. bM.
S. R. bM.
nsh 1:0 by 0:2 at 45°. F.
nebstar. with s? at 45°. F. Sh?
R. mag 14. bM
elong at 30°. F. Susp.
elong at 40.? Susp. Pos. dbl *.
F. bM.
& E. 14. By 1:5 at 80°. v. mottled. ! Sh?
D neb st. S, & F, both E.
neb M, mag 15. R.
neb M - mag 14. R.
Sp. 2:5 by 1:0 at 45°. plane 45°±. !
R. bM. mag 15.5

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Exam. of A 7675 Cont.

Current No	Object	Coord	N.G.C.	R.A.	Dec.
29	neb	298, 211			
30	neb *	334, 200			
31	neb	334, 201			
32	neb	339, 202			
33	neb	341, 200			
34	neb	67, 186			
35	neb *	160, 192			
36	neb	186, 180			
37	neb	191, 185			
38	neb *	211, 178			
39	neb *	212, 190			
40	neb.	219, 173			
41	neb *	222, 186			
42	neb.	279, 181			
43	neb *	357, 191			
44	neb	67, 158			
45	neb	82, 139			
46	neb	223, 135			
47	neb	225, 138			
48	neb *	28, 130			
49	neb	219, 124			
50	neb *	221, 125			
51	neb	230, 131			
52	neb *	302, 131			
53	neb *	150, 112			
54	neb	331, 101			
55	neb	337, 102			
56	neb	25, 82			

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Description

Sp? N. 1:0 by 0:2 at 135°.
R. bM. magn 14.
F nmsh at 30°.
F nmsh at 10°.
Elong at 110°, N, 0:7 by 0:3, Sp?
F nmsh at 40°.
bM. magn. 15. R?
Neb streak at 0°, 1:' by 0:4.
Sp 5' by 1', at 40. plane 30° ± N.
N. diam. 1'. pos ± F sp. with plane nrly 90°.
R. bM. Magn 15. susp.
Sp. 1:2 by 0:3 at 35°. plane 30°?
R. bM. magn 15.
Sp? 2:0 by 0:6, in at 90°, Sp. on edge?
bM - R, magn. 15.
v F. R. magn 16. susp.
Sp. 1:5 by 1:0 at 90°, plane 45° ± N
Elong at 140°, 0:5 by 0:2, bM. Sp?
streak 1:½ by 0.3 at 70°, bM. Sp?
R? v F. bM susp
R. lbM. ^ F. S.
R. bM. magn 14.
L, F, S.
R. bM. Magn 14.
R. bM. " 14.
v F nmsh at 45°. S.
v F nmsh at 120°, S
F. R. diam 0:5. susp

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Cream of a 7675 Cont.

Current No.	Object	Coörd	W.P.	R.a	Dec.
57	neb *	54. 89			
58	neb	89. 86			
59	neb	221, 61			
60	neb	283, 61			
61	neb	331, 68			
62	neb	337. 71			
63	neb	159. 47			
64	neb	331. 36			
65	neb	46. 19			
66	neb *	182. 11			
67	neb *	193. 10			
68	neb	202, 30			
69	neb	249. 27			
70	neb	356. 26			

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Description.

S, v f, R, bM - susp.
f, v f, nebs ?
S f, cE at 170°, bM.
v f, S, cE at 40°, bM.
S, pB, mbM. mE at ~~45°~~. 135° ?
S, pf, bM. E at 15°.
1.0 by 0.3 at 20°, N, also * inv. sh ?
v f, S, E at 30°,
f, R, diam 0.6. susp.
R, bM, merges 15°.
R, bM, merges 14.
mbM, cE at 150°. sh ?
mE at 155°, bM. sh ?
f, streaks at 0° susp.

The region covered by above plate is approx. $12^h\ 26^m - 12^h\ 40^m$ and N.P.D. $87\ 20 - 92\ 40$
on this region are about 15 new c. objects.
Thus the plate seems to give about 55 new objects.

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Exam. of a 7992, Exp 120m.

No special objects of any kind seen on the

Exam. of a 7964, Exp 120m

193 248

~~1 neb? 248, 193~~

~~2 neb? 198, 216~~

~~3 ? 84, 154~~

Examination of a 7976, Exp. 120m.

153 83

1 neb? ~~278, 272~~

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18h 37m, 0°. Janj 24. 1907.

(plate - dumpy stars - (neither neb. nor d. nor asteroid or meteor trails)
The plate covers about region 18h 25m to 18h 49m;
N.P.D 87° 20 to 92° 40'.

No N.G.C. Objects in this region.

17h 40m, 0°. Janj 25.

~~N.J. J, h. toller. C. dupl.~~ Object ?.
~~S. R. J J, dupl.~~ appear on another plate as dumpy D*.
~~asteroid trail at 0°, or neb. or~~ dble star. ~~Susp.~~
above objects checked by a 1964 ref 60m.

Hence, No genuine object found on the plate -
No N.G.C. objects are given in the region of
this plate which is about 17h 28m - 17h 52m
N.P.D. 87° 20' - 92° 40'

19h 34m, 0°. Janj 26.

aft. neb struck at 153°. with 2 st. inv. susp.

No N.G.C. object in region of this plate.

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Remarks on a 6720. (Examined by R.H.T.)

W.H.C. 4351, Chang. neb. *. at 70°. Sp?
afn. 4351 + 4354 and same object.

W.H.C. 4367. Prob. perm. T. pos. in R.A. slyly wrong.
" 4368. " perm. T.
" ✓ 4398 N.S. (seen on 6718 ?)
" 4407 N.S.
" 4443 N.S.
" 4554 N.S.
" 4667 N.S. !

a 6718

W.H.C. 4107. N.S.
" 4115. N.S. near edge of plate.
" 4208, 4212. only one obj. seen, a stray Sp.
" 4315-16. only one obj seen, a Sp.
" 4351-4. only one obj seen. a Sp. Prob the 1st obj.
" ✓ 4407. N.S.
" ✓ 4443 N.S.

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Plate a 6718 covers about $11^h\ 55^m.0$ (1860) to $12^h\ 21^m.$
$+10°\ 0'$, to $+15°\ 30'$.

Plate a 6720 covers " $12^h\ 16^m.0$ (1860) to $12^h\ 42^m.$
$+10°\ 10'$ to $+15°\ 40'$.

Description of all N.G.C. Objects in above regions. derived from both plates.

N.G.C.
~~4078~~
~~4082~~

see next page.

as seen above the plates overlap from $12^h\ 16^m$ to $12^h\ \cancel{16}\ 21^m$. (1860)

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W. H. R. Objects on plate A

W. H. R.

4078 neb *, R ?, bM. Magn 12. * 14 magn
4082 neb *. L ?. bM. " 14.
4083 neb *. R ?, bM. " 14.
4107 N. S.
4115 N. S. Near edge of plate.
4119 neb *. R ? magn 16. Susp.
4124 neb. N. 3'. by 1'., at 120°. Sp. at 40° to line of
4164 neb *. R. bM. magn 16 -
4165 neb. N with faint surrounding neb. 1'.0 by 0'.7
4168 neb *, R ?, mbM. magn 9.
4178 neb. 5'.0 by 1'.2. ⅞ N. Sp. 4 ⅞ st inv.
4189 neb. Sp. diam 2'., magn. N of magn 15.
4193 neb. Sp ?, 1'.5 by 0'.8 at 95°. N of ~ 15
4200 neb *, prob. the N of ⅞ neb. has Sp. magn
4206 neb. Sp. N of magn 16. 4' by 0'.5, at 5°.
4207 neb. ⅞ N. 1'.0 by 0'.3 at 130°. Sp ?
4208 12 neb. Sp. N 15 magn. 2'.0 by 1'.5 at 45°.
4208 08 ~~Same as 4208, only one object seen~~ There is a
4216 neb. Sp. 3'. by 1'.5. at 15°. N magn 9.
4222 neb. bM. but no N. 3'.0 by 0'.3. at 50°.
4254 neb. Sp. diam 5'.0. Shows bL. plane
4267 neb *. vmbM. magn 10. R.
4294 neb. Sp ?. mbM. 2'.0 by 0'.5 at 140°
4298 neb. Sp. 2'.5 by 1'.2 at 135°. N.
4299 neb. Sp ?. sev ⅞ st inv. mrly R. diam
4302 neb. 4'.0 by 0'.5, at 175°. N. Sp. seen
4305 neb. N of magn 15. with ⅞ neb 1'.5 by 0'.7
4306 Neb * also R. bM. magn 13.

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6718 & 6720 - 4h exp.

In Same Dec - 5 mr.

Sight. Form is that of Sh. but no dis. are visible.

Sh?

!

nearly R. plane at about 90°
plane at 45° ±.
of N 14.
Sh seen on edge?

plane at 60° ±.
small R & neb. prec. the large one wh is prob 4212. but a few" North of 4212
plane at 15° ±. !
Sh seen on edge?
at about 90°. seen & at inv.!

Somewhat i &.
plane at 45° ±. Near Edge of pl.
1.3.
on edge? Near edge of pl.
at 25°.

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Wide obj. cont.

4313 Neb. Sp. N, 3:0 by 0:6 at 140°.
4315 neb 2:0 by 0.3 at 120°. vmbM.
4316 Same as 4315? only one obj. seen.
4320 neb *. R, mbM, magn. 14.
4325 neb * R, mbM. " 14.
4330 neb. 3:0 by 0:3 at 45°. lbM - pos Sp
4351 neb 1:0 by 0:6 at 60°. N. Sp. ?.
4352 neb. N with faint surround neb. 1:5 by
4354 Same as 4351? only one object seen.
4360 neb *. R, magn 13.
4367 neb *, vF. R, magn 16?.
4368 neb *. R. " 16.
4371 neb. N magn 8, with neb 1:5 by 1:0
4374 neb * R, magn 7. !
4377 neb * R. " 9. very nr
4380 N magn 12. Surrounded by neb 4:0 by 1:5
4387 neb * magn. 11, perhaps E at 165°.
4388 Sp. ? at 120°. 4:0 by 1:0 at 90°.
4390 neb vmbM. without details; diam 1:0.
4398 Neb. & ?. R. ? Susp. Nr. on A 6720.
4402 Neb. 3:0 by 0:8. Sp. or ring. no N.
4406 neb *. with R, magn 7:5. !
4407 N. 5 on ends 6718 & 6720.
4413 neb. N magn 13, cur. by neb.
4417 neb. mE, mbM. 1:5 by 0:5 at 45°
4424 neb. mE, mbM. 1:5 by 0:5 at 100°
4425 neb. N large magn 11, 1:5 by 0:3, at
4429 Neb N magn 8. 3:0 by 1:0 at 100°

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plane at 20° ± .
Sp. at 10°-15° (plane) ?
Near edge of plate -

Seen on edge: appears to be a curve not a straight line

O.S. at 110 - Sp ? N margin 19 .

at 165°. Sp ?

edge of pl.
at 150°. (Sp. plane at 140° ±) ?

plane at 30° ± . N somewhat confused with neb. + 7 st.
very R -
?
but slightly mottled -

1.5- by 1.0 at 50 - Sp ?
Sp ?
Sp ? ?
Sp ? ? } near edge of plate -
30° Sp ?
Sp ?

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N.G.C. Objects cont.

4431 neb. vmbM. 0'.5 by 0'.2 at 0°
4435 neb vmbM. 1'.0 by 0'.5 at 0°.
Pl 4436 neb *, R. magn. 14.
6718 4438 neb vmbM, 2'.0 by 1'.0 at 20°.
16 4440 neb. N magn 10 in centre of neb
4442 neb. N = 8, m
A 6720 4443 N.S. on either 6718 or 6720
or 4445 neb. 3'.0 by 0'.5 at 105°. cbM. Sp
4446 neb *, bbM. hazy + el defined.
4447 neb * mbM. magn 16. 4447 f
~~4451~~ Not on region of 6720 + in main body of 6718.
4452 neb. N. 1'.5 by 0'.2 at 40°. Sp on edge?
4458 neb *, R. mbM. magn. 11.
4459 neb *. R. magn 8
4461 neb. N magn 10. f neb 1'.5 by 0'.4 at 10°.
4468 neb *, R. magn. 15.
4473 neb. N magn 8, with f neb 1'.5 by 0'.8 at 100°.
4474 neb N magn 12 with f neb 1'.3 by 0'.3 at
4476 neb *, R?, magn 12.
4477 neb. N. magn 9. pB neb 0'.8 by 0'.5 at 15°
4478 neb *, magn 10, R?, f * in
4479 neb. N magn 12. with 2 f neb esp at 25°
4482 neb. N magn 14. with f neb 1'.0 by 0'.4 at
4486 neb *, magn 6, R.
4491 neb. N magn 12. neb 1'.0 by 0'.3 at 135°.
4497 neb. Hazy N = 13. neb 1'.0 by 0'.3 at 45°
4501 neb. Sp. N magn 12. neb 5'.0 by 2'.5
4503 neb. N 10. neb with f 1'.5 by 0'.5 at 15°

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Sh on edge ?
Sh ?

Sh ?
neb 1.'5 by 1.'0 at 20°. Sh w ring. plane at 70° ±.
3.'0 by 1.'0 at 85°. Sh ?

on edge ?

4446 about 6^s. south about 1'. 4447 is less nebulous than 4446.

N is only a little br than the neb.

Sh ?

Sh ?

75°. Sh ?

. & aff a vr round ex ? neb diam 2.'5.

neb.
(1.'0 by 0.'3) ± Sh ?
135°. Sh ?

Sh ?
Sh ?
at 135°. plane 45° ± ! 2 st inv. 5f
Sh ?

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N.G.C. Objects cont.

4506 neb *?, bM. R? not v b at Centre.
4516 neb v mbM. E. 1:0 by 0:4 at 170°
4528 neb, N magn 11. neb p ?, 0:7 by 0:2 at 5°.
4531 neb. happy N. neb p ?. 0:8 by 0:6 at 175°.
4548 neb. N 10, neb R?. diam 2:0. v ?.
4550 neb 1:5 by 0:4 at 0°, v mb M. Sp?
4551 neb 0:8 by 0:6 at 50°, v m b M. an elong. neb
4552 neb *. R. magn. 8.
4554 N. S.
4564 neb. happy N magn 10. neb 1:5 by 0:3 at
4567 neb. N magn 14. neb p B 2:0 by 1:0
4568 neb N " 15. neb p B 3:0 by 1:0 at
4569 neb. N " 11, neb p B. 5:0 by 2:0 at 20°
4571 Neb N " 14. neb ?, diam 2:0 ±. aph.
4578 neb *. magn 11. R?
4579 neb. Sp. N magn 10. neb p B. 2:5
4584 neb. N magn 15. neb p ?. l E. at 10°
4596 Neb. N. " 11, neb p ?. 2:0 by 0:7 at
4606 neb. N happy magn 14. neb p ?. 1:5 by 0:4
4607 neb. p ?. mottled. 2:0 by 0:2. bM. a
4608 neb. N 10, neb ∥ ?. 1:2 by 0:4 at 25°
4611 neb. N 16, neb p ? 1:0 by 0:2 at 130°
4620 neb; N 14, neb r ?. (0:5 by 0:2 at 45°)?
4621 neb, N 8, neb E, like neb *, 1:5 by 1:0
4633 neb. mbM. 1:5 by 0:5 at 45°. Sp?
4634 neb. bM. 2:0 by 0.3 at 155°. Sp?
4637 neb v B. E. neb nr as b as N. 1:0 by 0:4
4638 Neb e ? streak. 0:5 by 0:2 at 100°.

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Sh ?.
Sh ?.
Sh ?.
Sh ?.

Star. Sh?

45°. Sh?
at 60° Sh. plane at 45°. ±.
25°. Sh. plane at 35° ±.
Sh. plane at 45° ±
+ Sh with plane at about 90°.

by 2'.0 at 45°. plane near 90. Sh. In Right.
diam 0".6.
70°. Sh?
at 40°. Sh? 13 ~~yoy~~ * inv.
long with, at 5°. Sh?
Sh?
Sh?
Sh??
at 165°.

mottled?
at 125°. Sh?
7 * inv -

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N.G.C. objects, Cont -

4639 Neb. N magn 13. neb nr R. diam 1.'0
4640 Neb. 0.'5 by 0.'1. F. l b M. Eat 80° -
4641 Neb. R. afr a ≠ N magn 16. with ring neb
4647 Neb. N magn 12, neb ⌐ ≠. nr R. diam
4649 Neb *. R, magn. 7.
4654 neb. N v. bright magn 14. neb 4.'0 by 2.'0
4659 neb *. R?. magn 13.
4660 neb *. R?. magn 10.
4667 N.S - !
4689 Neb. N bright magn 13. neb ⌐ ≠. ∈ 2.'2
4694 Neb. N magn 11, neb ⌐ ≠. 1.'2 by 0.'4

N.G.C
133
258 new

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Sp or ring, plane at about 90°.

about 5', diam 0'.1 - 0'.2. Sp - or ring ?
2'.0. Sp? plane at 90°.

at 125°. Sp. plane at 45° ±.

by 1'.7 at 155°. Sp or ring at about 90°,
at 135°. Sp?

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Examination of A 6718. + 6720 - for objects given by Schwassman - Heidelberg List No 2.
The instrument used by Sch. was a 6 -
The region overlapped for a considerable
ing objects given by Sch. come within the

✓	124	10°	Equals W.H.C. 4124 see Obs. h 12.
	126	"	In this pos. is a star of magn about 13.
	127	"	" " " " " " " " " 15 -
	128	"	" " " " " " " " " 11.
	129	"	" " " " " " " " " 12 -
	130	"	" " " " " " " " " 14.
	132	"	" " " " " " " " " 12.
	133	"	" " " " " " " " " 12.
→	139	"	" " " " " " " " " 11.
	140	"	Nothing seen in this pos - W.H.C 4390 which is not
	~~144~~	"	several stars near but not just in this pos- a mistake. Crossed out by Frost. since it was in Stein
	148	"	In this pos. is a star of magn. about 15.
	~~149~~	"	This appears to be the same as Frost's 305 at
✓	151	11°	There his objects appear to be both of this W.H.C
✓	151 A	"	of 4178 is $12^h\ 7^m\ 38^s$, + 11° 26.0, and
✓	155	"	This is evidently W.H.C. 4390, whose reduc.
	165	"	In this pos is a triple star comp. about 13.
	166	"	Near " " " " star of about 16 magn.
	167	"	In " " " nothing whatever in the pl.
	169	"	" " " " " " " " " " " "
	170	"	" " " " a star of about 15 magn.
	178	12°	" " " " neb * with a * nr. -
	187	"	" " " " star of about 13 "
	194	"	" " " " " " " 9.5 "
	136		In this position a star of magn about 15 -
	137		" " " " " " " " " 14.

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and not given by Frost in his Mem. of Br. plates - as also
with lens. (See Pub. des Ast. Obs. Königstuhl-Heidelberg.
portion of the above plates and the follow. Vol. I.
region of the plates + shd appear. if genuine -
N.B. C Objects are not here discussed -

image appears to be purely stellar.
" " " " " " ,
" " " " " " .
" " " " " " ,
" " " " " " ,
" " " " " " ,
" " " " " " ,
" " " " " " ,

given by Sch. is (1900) $12^h\ 20^m\ 47^s$, + 11° 0'.6, wh is about same R.A. + 4' N.
with list. Image found in both ~~7 + 8~~.
image appears to be purely stellar.
$13^h\ 41.5^m$ - + 12° 26', altho the R.A. is somewhat different -
object 4178 not given as such by Sch. The 1900 reduced pos
since 4178 extends 5'. Also comes within it. given by Sch pos. Seeder
pos. is given under 140. Places it with the limit of this plate -
14, + 15 magn. clearly stellar images.
Not in precise pos. aff. fol. by 1^h or 2^h. images clearly stellar
this obj. + the pre. and easy of identification since they are not N.S.C 4694.
" " is " " " " it is " " "

Image clearly stellar.
Magn of neb ✱ 14 ± of nr ✱ 13.5 - ± neb E at 75°.
Image clearly stellar.
" " "
image appears to be purely stellar.

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Exam. for Schwarzmann Objects, Cont.

202	12°	In this fos is a dbl star, comp at 40°.
205	"	Near " " " " 7 " " , " " 0°.
206	"	In " " " " 7 neb *, magn 14. ±
208	"	" " " " " * " 13 ±
219	"	" " " " " dbl *, comp at 0°.
220	"	" " " " nothing at all. In a 7 star is
221	13°	" " " " " " " , but there is a
✓ 222	"	This is N.G.C. 4165. The N.G.C. position
224	"	In this fos is nothing seen except 2 ε 7 st.
226	"	" " " " a dble star, comp at
✓ 227	"	This is N.G.C. 4189. whose red. pos. is
✓ 228	"	" " " 4193. " " " "
✓ 230	"	" " " 4206. " " " "
231	"	In this fos is a star of about 15 magn.
234	"	" " " " " dbl " " " 13 & 15 "
237	"	" " " " " triple star, comp red 13 ±
240	"	" " " " " 7 neb, R. diam 0'.3.
242	"	" " " " " dbl *, comp at 100°
✓ 247A	"	} These are parts of N.G.C. 4402, which
✓ 247B	"	
248	"	In this fos is a star of about 14 magn
257	"	" " " " " " " " 14 "
266	"	Near " " " " " " " " 15 "
✓ 270	"	This a portion of N.G.C. 4654. one of the
272	"	Near this fos is a 7 star magn 15.
~~274~~	14°	Same as Frost 52.
~~277~~	"	" " " " 12.
279	"	In this fos is a star of about magn 13.

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Image clearly stellar.

" " "

" afh neb. + not stellar. Two not strongly marked.

" clearly stellar.

" " ",

nr.

* image 10 nr.

are prob. slightly in error but identif. seems sure.

nr.

80°. mags 12 + 14 ±.

$12^h\ 8^m\ 41^s$, + 13° 59'.0. nb is very close to Sch pos.

12 8 47. + 13 43.7. " " " " " " "

12 10 14. + 13 36.2. differing a little from Sch pos. but is Abbe's same obj.

image clearly stellar.

the fir star image may pos. be somewhat neb.

- images stellar.

afh - overlooked by F. & M.

image 12 + 13 ±, with another str * nr.

Sch 247.

Image clearly stellar.

" " " ",

" " " "

Sp[illegible] nb in this pos is B. + for afh as pefaud obj to Sch.

nothing else - image stellar.

image clearly stellar

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Exam. for Schwarzschild objects –

282	14°	In this phos. is a star of about 13 mag.
284	"	" " " " " " " " 14 "
290	"	" " " " " " " " 12 "
291	"	~~" " " " " " " " 12~~
292	"	" " " " " " " " 13 "
294	"	" " " " " " " " 13 "
295	"	This is ~~Wolf~~ H.C. 4633 - wh - red - phos
~~300~~	"	not on the plate a 6720 -

1907phae.proj..2293B

Conc.

- Image clearly stellar.
" " " .
" " " .
" " " .

" " aph. " . Sch. calls his 292 = N.G.C. 4571. This is surely a mistake. 4571 - 293. + 292 is a pree. star. See N.G.C. desc of 4571.
- Image clearly stellar.
1900 is $12^h\ 37^m\ 25^s$. + 14 5 5 3, ~~but from the pos. given by Sch - he / prob. did not see 4633. wh is v F, + L, but the * which pree. it about~~ This pos. does not pree. agree with Sch. but the diff. bet. Sch pos. of 295 and 296 (= N.G.C. 4634) makes the identity of 295 and N.G.C. 4633 prob. sure. There is a star 12 = just pree. 4633.

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√√

Exam. of a 7377. Sep. 24^{m}. 21^{h} 11^{m}

1 asteroid trail. ~~from~~ S^{p} end of trail N. follows G.C. 21^{h}.

" " " " " "

	above asteroid	
"	"	194, 269
2	neb	171, 324
3	neb	211, 323
4	neb	286, 315
5	neb	219, 301
6	neb	174, 282
7	neb	199, 280
8	neb	198, 273
9	neb	298, 291
10	neb	90, 260
11	neb	280, 266
12	neb	294, 240
13	neb	298, 250
14	neb	98, 219
15	neb	113, 227
16	neb	136, 227
17	neb	132, 226
18	neb	148, 225
19	neb	287, 221
20	neb	189, 205
21	neb	219, 206
22	neb	276, 208
23	neb	334, 206
24	neb	342, 199
25	neb	224 181

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-52.5°. Feby 12. 1907.

✓ 311, 14.2 mm ; north 1.4 Pos. 1875. $21^h\ 11^m\ 53^s$, $-51^\circ\ 12'.6$
✓ " 15.8 , " 2.6 " " 21 12 3 51 11.4
mean pos. middle of trail (1875) $21^h\ 11^m\ 58^s$, $-51^\circ\ 12'.0$
✓ " " " " (1900) 21 13 41 , -51 5.6
✓ Short trail. in pos. given above. at about +8°. 1.8 mm long.
✓ v F, E at 20°, 0.3 by 0.2, pos. D *.
✓ F, E at 90°. i F.
✓ F. lbM, R. d 0.3. push.
✓ F, R. lbM, d 0.3
✓ F, E at 5°, 0.5 by 0.2, bM.
✓ F, R. bM, d 0.2.
✓ v F, R. bM. d 0.2
✓ F, R?, lbM, d 0.2. push.
✓ p F, R, bM, d 0.2.
✓ v F, R?, d 0.2?
✓ F, E at 30°, 0.3 by 0.2. bM. push.
✓ p F, R, mbM, d 0.2. push.
✓ p B, R. lbM, d 0.2.
✓ p F, R. lbM, d 0.2.
✓ p F, mE at 135°, 0.4 by 0.1, bM.
✓ p F, mE at 45°, 0.4 by 0.1, bM.
✓ p F, bM. R - d 0.2.
✓ v F, E at 135°, 0.4 by 0.2.
✓ p F, p F, d 0.3 *.
✓ p F, mE at 80°, 0.5 by 0.1, mbM.
✓ F, mbM. R, d 0.2. push
✓ B, mbM, 0.7 by 0.3 at 30. push.
✓ p F, lbM, R, d 0.2, push
✓ F, R, lbM, d 0.2.

Many faint small neb. obs. I was afraid might prove to be defects. not true, however. A 4153 - exh 1h. checked all such objects. + A 7497. exh 4h. obs. overlaps ½ glass plate mailed ft by - obs checked on that half. 1 left by a defect but all others genuine & every ft object on ft half of plate. covered by A 7497. proved genuine. Hence on other half objects pretty sure genuine - objects not checked however will in all dbtful cases be marked "Push". Plate poor focus, all the images seem hazy like neb *. checked objects mark ed ✓ on plate.

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Exam. of a 7377 cent.

	26	neb	295', 185'
	27	neb	305', 184
	28	neb	308, 179
	29	neb	315', 186
	30	neb	340, 192
	31	neb	353, 190
	32	neb	363, 186
	33	neb	373, 187
✓	34	neb	394, 186
✓	35'	neb	407, 194
	36	neb	58, 165'
	37	neb	316, 169
	38	neb	334, 165'
	39	neb *	335', 155'
	40	neb	369, 157
	41	neb	120, 139
	42	neb	190, 135'
	43	neb	275', 144
	44	neb	298, 133
	45'	neb	322, 143
	46	neb	389, 146
✓	47	neb	396, 137
	48	neb	91, 120
	49	neb	169, 130
	50	neb	181, 129
	51	neb	270, 95'
	52	neb	285', 103
	53	neb	127, 86
	54	neb	128, 84

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✓✓ F, R, lbM. d 0:2. push.
✓✓ F, E at 30. 0:2 by 0:1. push.
✓ vv F, i. d 0:2. push.
✓ F, E at 30°. 0:3 by 0:2, bM. push.
✓ ⌐B, E at 135°, 0:8 by 0:3: mbM.
✓ F, 0:3 by 0:1 at 175°, lb M. push.
✓✓ F, 0:3 by 0.1 - 170°, lbM push.
✓ ⌐B, 1:0 by 0:2 at 10. vmb M.
✓ ⌐F, R, lbM, d 0:2. push.
✓ ⌐B, lF, vmbM, d 1:0.
✓✓ F, R, lbM, d 0:2.
✓ F, lE at 20° d 0:2. push.
✓ ⌐F, R, bM. d. 0:3 - push.
✓ many 8±, R, d 0:3
✓ F, R, bM, d 0:2. push.
✓ ⌐B, somewhat irreg. nish. 3:0 by 0:3, at 95°. sh ??
✓ ⌐F, R, bM, d 0:2
✓ v F, R, d 0:2, push.
✓ ⌐F, R, lbM. d 0:2, push.
✓ ⌐F, 0:3 by 0:2 at 170°, bM. push.
✓ ⌐F, 0:5 by 0:3 at 140°, lb M. push.
✓ vv F, 0:7 by 0:3 at 50°. push.
✓ v F, lbM, R?, d 0:3.
✓ v F, lbM, R?, d 0:3.
✓ ⌐F, lbM, R, d 0:2.
✓ ⌐F, R, d 0:2, push.
✓ ⌐F, 0:5 by 0.2 at 170°, vmbM. push.
✓ ⌐F, R, <d 0:2.
✓ vv F, R, d 0:2.

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√√

Exam. of α 7377. cont.

55	neb	176, 86	√
56	neb	316, 82	√
57	neb	318, 73	√
58	neb	260, 68	√
59	neb	290, ~~70~~ 57	√
60	neb	290, 70	√
61	neb	392, 53	√
62	neb	299, 31	√
63	neb	60, 27	√
64	neb	212, 28	√
65	neb	338, 17	√

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✓ ½ F. bll. R. d 0'.3.
✓ ½ F. bll. R. d 0'.3. Push.
✓ vv F. E at 40°. Push.
✓ r F. R. bbll. d 0'.2. Push.
✓ v F. R. d 0'.2. Push.
✓ v F. R. d 0'.2. Push.
✓ ½ F. R?. d 0'.3 ±. Push.
✓ F. 0'.2 by 0'.1 at 140°, bll. Push.
✓ B. 7'.0 by 0'.6, at 135°, streak, bll. Shape??
✓ ½ F. R?. d 0'.2. ~~Push~~. bll.
✓ ½ F. R?. bll. d 0'.2 ±. Push.

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√√

Exam. of a 7497, Sept. 24 M

1	Neb*	29, 328.
2	neb	198, 330
3	neb	240, 325
4	neb	111, 318
5	neb	182, 318
6	neb	189, 310
7	neb	231, 312
8	neb	243, 306
9	neb	130, 290
10	neb	142, 293
11	Neb*	153, 295
12	neb	153, 287
13	neb	148, 280
14	neb	266, 282
15	neb	274, 283
16	neb	283, 282
17	Neb*	314, 289
18	neb	311, 299
19	Neb	331, 291
20	neb	112, 269
21	neb	45, 259
22	neb	184, 266
23	neb	193, 265
24	neb	195, 263
25	neb	198, 263
12 a ?	"	152 – 288

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1907phaej.proj--2293B

$21^h\ 31^m$, $-52.5°$, Feby 20, 1907.

✓ magn 10?, R? nr edge of plate
✓ ⊢ F, R?, d 0'.3 " " " " " " push.
✓ F, R?, d 0'.3, lbM. " " " " " push.
✓ ⊢ F, R, d 0'.3, lbM. push.
✓ ⊢ B, mbM, d 0'.3. push.
✓ ⊢ F, R, lbM, d 0'.2. push.
✓ ⊢ F, R, mbM, d 0'.2. push.
✓ ⊢ F, R, smbM, d 0'.4. push.
✓ ⊢ F, ⊢ F, d 0.3. bos. D*. push.
✓ ⊢ F, R?, d 0.3. push.
✓ ⊢ B, R? magn 13 ±.
✓ F, R, d 0'.2. push.
✓ ⊢ F, R, d 0'.2. push
✓ ⊢ F, R, d 0'.2. push.
✓ D neb. F, bos *. push.
✓ ⊢ F, R, lbM, d 0'.2.
✓ F, R?, magn 13.
✓ F, R, d 0'.3.
✓ ⊢ F, R, lbM, d 0'.3.
✓ Sp, 2' by 1' at 140°, bags N, plane 45° ±, sp L.
✓ i F, neb patch, 2 or 3 st imo. 2' by 1' at 60°. ⊢ B.
✓ ⊢ F, R, bM, d 0'.2. push.
✓ ⊢ B, R, mbM, d 0'.3, push.
✓ F, ⊢ S, R, push.
✓ F, ⊢ S, E?, push.
F – R, bags object.

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Exam. of a 7497. Cont.

26	neb	193, 259
27	neb	283, 273
28	neb	287, 265
29	neb	127, 245
30	neb	147, 242
31	neb	177, 251
32	neb	196, 249
33	neb	193, 242
34	neb	285, 252
35	neb	379, 241
36	neb	315, 239
37	neb	296, 239
38	neb	157, 222
39	neb	253, 228
40	neb	232, 228
41	neb	230, 221
42	neb	211, 232
43	neb	195, 222
44	neb	166, 232
45	neb	164, 228
46 & 46a	neb	156, 233
47	neb	127, 225
~~48~~	~~neb~~	~~131, 217~~
49	neb	127, 211
50	neb	125, 210

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✓ ν F. E at 10°, has ** - push.
✓ F, R, bll, d 0'.3².
✓ ⌐F, R, bll. d 0'.3².
✓ ⌐F. R. lbll. d. 0'.2. push.
✓ F, R. mbM - d 0.2 push.
✓ F, R, d 0'.2 push.
✓ F, ⌐F, d 0'.2 ±, push.
✓ ⌐F, R. lbll. d 0'.2 push.
✓ F, R, d 0'.2.
✓ F, R?, d 0'.4
✓ ν F, E at 20°. push.
✓ ν F, R. d 0'.2. push.
✓ ⌐β. R. bll. d 0'.2. push.
✓ ⌐F, R?, d 0'.2.
✓ ⌐F, R, d 0'.2. push.
✓ ν F, 0'.6 by 0'.2 at 95°, push.
✓ ⌐β, R, bll. d 0'.2, push.
✓ ⌐F. R, d 0'.2. push-
✓ F, R, d 0'.2, push.
✓ F. D (or triple) neb. push. each F. R.?. d 0'.2.
✓ F. R. lbll. d 0'.2. push-
✓ ⌐F. R. d 0'.1. push.
// pulsa star.
✓ F. R - d 0'.2. push.
✓ ν F, R, d 0'.2 push.

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√√

Expans. of α 7497 Cont.

51	Neb	137, 208		√
52	Neb	139, 207		√
53	Neb	152, 212		√
54	Neb	162, 213		√
55	Neb	183, 205		√
56	Neb	190, 211		√
57	Neb	199, 205		√
58	Neb	259, 212		√
59	Neb	261, 212		√
60	Neb	270, 206		√
√ 61	Neb	345, 313		√
62	Neb	26, 224		√
63	Neb	130, 198		√
64	Neb	134, 195		√
65	Neb	142, 202		√
66	Neb	141, 198		√
67	Neb	148, 195		√
68	Neb	172, 199		√
69	Neb	179, 200		√
70	Neb	179, 199		√
71	Neb	187, 199		√
72	Neb	191, 197		√
73	Neb	193, 199		√
74	Neb	206, 197		√
75	Neb	208, 197		√

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✓ |ν F. 0.2 by 0.1 at 15°. has *. susp.
✓ ν F. R, S. susp.
✓ ν F. S. E at 35°? N. susp.
✓ ν F. S. E at 70°. susp.
✓ νν F. S, susp.
✓ νν F. S. susp.
✓ ν F. S. E at 175°, bll. susp.
✓ F. R - d 0.3.
✓ F. E at 140°. has *. susp.
✓ νν F. R?, d 0.5°.
✓ ν F. R. d 0.3.
✓ ν F. d 0.4? susp.
✓ |B. R. bll d 0.2. susp.
✓ F. R?, bll. d 0.2. susp.
✓ |ν F. E at 30°?, 0.3 by 0.2 ±, susp.
✓ νν F. S. E at 0°, susp.
✓ F. R. d 0.2, susp.
✓ F. R. bll. d 0.2 susp.
✓ F. S. E at 50°; has *. susp.
✓ |ν F. R? d 0.3. susp.
✓ ν F. R. d. 0.2 bll. susp.
✓ |ν F. R, d 0.2, bll, susp
✓ νν F. R? d 0.2. susp.
✓ F. R. d 0.2. susp.
✓ |ν F. E at 110° 0.3 by 0.2, bll. susp.

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Exam. of a 7497. Cont.

76.	Neb	210, 198
77	Neb	214, 189
78	Neb	237, 190
79	Neb	249, 192
80	Neb *	262, 197
81	Neb	328, 197
82	Neb	359, 195
83	Neb	163, 185
84	Neb	162, 183
85	Neb	160, 187
86	Neb	136, 168
87	Neb	126, 177
88	Neb	94, 166
89	Neb	83, 164
90	Neb	68, 186
91	Neb	66, 188
92	Neb	38, 175
93	Neb	24, 171
94	Neb	79, 156
95	Neb	132, 158
96	Neb	159, 161
97	Neb	162, 154
98	Neb	166, 168
99	Neb	244, 158
100	Neb	244, 146

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✓ F. R?, bll. d 0:2, susp
✓ F. R, d 0:2, susp.
✓ F. R. d 0:2.
✓ F. R d 0:2.
✓ S. R. magn 14.±. susp.
✓ √S, R, bll. d 0:2.
✓ √F. 0:N. by 0:2 at 10°.
✓ √F, R. d 0:2 susp.
✓ √F. R. d 0:2 susp.
✓ √F. R, d 0:2 susp.
✓ N preceding √F. 0:4 by 0:2 at 135°. susp.
✓ preceding F, R, bll. d 0:2. susp.
✓ preceding following, R, bll. d 0:2. susp.
✓ preceding F, E at 25°, pos *, susp.
✓ preceding F, R?. d 0:2, susp.
✓ preceding F. R?, d 0:2, susp.
✓ F. R, d 0:3 susp.
✓ F. R. bll, d 0:4 susp.
✓ preceding F, 0:4 by 0:2 at 45°, bll. susp.
✓ preceding F. R. bll. d 0:2. susp.
✓ preceding F. R, d 0:2, susp.
✓ F. R?, d 0:2, susp.
✓ F. 0:3 by 0:2 at -45°, susp.
✓ preceding F. R, mbll, d 0:2. susp.
✓ preceding F, 0:4 by 0:1 at 135°, vmbll.

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√√

Exam. of a 7497 cont.

101	Neb	256, 160
102	Neb	271, 144
103	Neb	280, 145
104	Neb	288, 154
105	Neb	310, 161
106	Neb	346, 145
107	Neb	88, 142
108	Neb *	102, 139
109	Neb	103, 141
110	Neb	165, 143
111	Neb	169, 142
112	Neb	176, 138
113	Neb	177, 141
114	Neb	295, 130
115	Neb	200, 105
116	Neb	277, 116
117	Neb	64, 90
118	Neb	130, 85
119	Neb	133, 86
120	Neb	140, 86
121	Neb	144, 95
122	Neb	190, 91
123	Neb	196, 89
124	Neb	201, 86
125	Neb	205, 90

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✓ ⌐F, R. bM. d 0.3.
✓ vF, R. d 0.2.
✓ F, R, lbM. d 0.2.
✓ ⌐F. R?. d 0.2.
✓ F, R. d 0.2.
✓ F, R. d 0.2.
✓ ⌐F. R. d 0.3. susp.
✓ nagu 13 ±, R.
✓ F, R. bM. d 0.2. susp.
✓ ⌐B. 0.4 by 0.1 at 130°. bM.
✓ ⌐B, alm R, hazy N. d 0.7. sh?.
✓ ⌐B. alm R, N, d 0.5.
✓ ⌐F. iF. bM. d 0.3. susp.
✓ ⌐F. d 0.$2. R?.
✓ ⌐B. R, mbM. d 0.2.
✓ ⌐F, 0.4 by 0.1 at 45°.
✓ F, R. bM. d 0.3. susp.
✓ ⌐F. 0.3 by 0.1 at 80°. mbM. susp.
✓ F, 0.2 by 0.1 at 110°. susp.
✓ ⌐B. lbM. d 0.4. ⌐F.
✓ F. R. lbM. d 0.2. susp.
✓ vvF. R?. d 0.2. susp.
✓ vF. R. d 0.2 susp
✓ vF. R, bM. d 0.3. susp.
✓ vF, R?, d 0.1 ±. susp

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Spam of a 1497. Cont.

126	Neb	223, 99		✓
127	Neb	224, 95		✓
128	Neb	226, 89		✓
129	Neb	239, 90		✓
130	Neb	247, 91		✓
131	Neb	354, 95		✓
132	Neb	57, 77		✓
133	Neb	59, 80		✓
134	Neb	95, 73		✓
135	Neb	105, 75		✓
136	Neb	108, 79		✓
137	Neb	135, 64		✓
138	Neb	136, 85		✓
139	Neb	140, 76		✓
140	Neb	235, 81		✓
141	Neb	236, 83		✓
143	Neb	275, 68		✓
144	Neb	338, 78		✓
142	Neb	250, 80		✓
145	Neb	46, 64		✓
146	Neb	123, 61		✓
147	Neb	206, 59		✓
148	Neb	211, 55		✓
149	Neb	110, 50		✓
150	Neb	98, 39		✓

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1907phae.proj.2293B

✓ ⌐F, R, bM. d 0'.2.
✓ ⌐F, R. N. d 0'.4.
✓ F. lbM. E at 10°.
✓ F, R. bM. d 0'.2.
✓ ⌐F, bM. d 0'.2, E at 15°?,
✓ vF, R, d 0'.2
✓ vF, R?, d 0'.3 push.
✓ ⌐F. R?, lbM, d 0.3, push.
✓ vF, R, d 0'.2. push.
✓ vvF, R?, d 0'.3. push.
✓ F, R, d 0'.2 push.
✓ ⌐F, R, lbM, d 0'.3, push.
✓ ⌐BF. N, 0'.6 by 0'.2 at 10°. push.
✓ vvF, d 0'.2. push.
✓ ⌐F, 0'.3 by 0.2 at 40°. ~~push~~
✓ ⌐F, R, d 0'.2.
✓ vF, vS, D?.
✓ ⌐F, R, bM, d 0'.3.
✓ F, S, bM, push.
✓ ∪F, ⌐F?, d 0'.4, push.
✓ ⌐F, bM. d 0'.2, R. push.
✓ ⌐F, E at 0°?, d 0'.2 ±. ~~push~~.
✓ F, bM. R, d 0'.2, push.
✓ ⌐F, R, bM, d 0'.2, push.
✓ ⌐F, R?, bM, d 0'.2, push.

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1907phae.proj.2293B

√√

Expans. of $\frac{1}{2}$ a 7497 (Comet -

151	Neb	100, 26		✓
152	Neb	182, 22		✓
153	Neb	193, 189		✓
154	Neb	195, 188		✓
155	Neb	249, 209		✓
156	Neb	251, 208		✓
157	Neb	271, 119		✓
158	Neb	154, 170		✓
159	Neb	160, 95		✓
160	Neb	165, 162		✓

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✓ pB, R, bll, d 0.3 - push
✓ pF, R, bll, d 0.3. push.
✓ vF, R?, d 0.2, push.
✓ vF, R, d 0.1, push
✓ pF, R, bll, d 0.2
✓ F, R, bll, d 0.2
✓ pF, R, bll, d 0.2.
✓ pF, S. E at 45°?, push.
✓ pF, R, d 0.2 push.
✓ F, R, bll, d 0.2, push.

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1907phae.proj.22938

JJ

Exam. of a 7447. Sep. 24m

1	neb*	32, 328
2	neb	36, 334
3	neb	39, 316
4	neb*	277, 322
5	neb	207, 293
6	neb	163, 284
7	neb*	65, 271
8	neb*	54, 260
9	neb	192, 253
10	neb	255, 272
11	neb	250, 258
12	neb*	21, 234
13	neb*	49, 235
14	neb	63, 237
15	neb	73, 234
16	neb	85, 241
17	neb	87, 245
18	neb	167, 241
19	neb	171, 234
20	neb*	175, 242
21	neb	176, 237
22	neb	189, 236
23	neb	206, 245
24	neb	124, 221
25	neb	311, 233

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$19^h\ 50^m, -47.5^\circ$. Feby 27. 1907.

✓ Nbqu 13 ?, R? near Comm of pl.
✓ F, d 1'. ±, R?, 1 or 2 st inv.
✓ F. 1'.5 by 0.8 at 60°,
✓ Nbqu 12 ±, R?
✓ F. 0'.8 by 0'.1 at 130°, lbM. sh?
✓ F. R. mbM, d 0'.3.
✓ Nbqu 11±, R?
✓ Nbqu 14 ±, R?
✓ F, R, bM. d 0'.2
✓ F, irr. d 0'.2, susp. nr *.
✓ F. 0'.8 by 0'.1 at 30°, lbM. susp.
✓ Nbqu 13 ± R? near edge.
✓ nbqu 11, R.
✓ F. 1'.3 by 0'.2 at 80° mbM. pl?
✓ F, E at 0', susp.
✓ F, S, nr 7 st. susp.
✓ F, 0'.4 by 0'.2 at 40°, lbM, susp.
✓ F, S, E at 15°, susp.
✓ S, F, R, lbM. susp.
✓ Nbqu 13 ±, R.
✓ F, E at 90°, in, 5', susp.
✓ F, d 0'.3, susp.
✓ F, N, 1.0 by 0.2, at 10°, sh?
✓ F, 0'.4 by 0'.1 at 80°, bM, sh?
✓ F, R, bM. d 0'.2

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Eclipse of a 7447 Cont.

26	neb	74, 214
27	neb	79, 214
28	neb *	78, 217
29	neb	92, 226
30	neb	93, 224
31	neb	110, 216
32	neb	117, 229
33	neb	121, 216
34	neb *	120, 212
35	neb	129, 212
36	neb	172, 216
37	neb	187, 230
38	neb	188, 230
39	neb	13, 210
40	neb	20, 207
41	neb	115, 202
42	neb	129, 203
43	neb	139, 200
44	neb	141, 204
45	neb	15; 189
46	neb *	18, 184
47	neb	66, 184
48	neb	78, 174
49	neb *	80, 181
50	neb	163, 180

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✓ F, d 0'.3, irr, push.
✓ pF, 0,3 by 0.2 at 160°, push.
✓ R?, neb. 14.
✓ pF, 0.3 by 0.2 at 40°,
✓ pF, R, bbM. d 0'.3
✓ F, R, d 0'.2, push.
✓ vF, R?, d 0'.3, push.
✓ pF, 0.3 by 0.2 at 90° bll.
✓ neb 13. R?
✓ F, 0.2 by 0.1 at 50°, bll. sh?
✓ F, R, d 0'.2, push.
✓ pB, 0'.8 by 0'.2, mbM. sh?
✓ pB, d 0'.5-, R, bll.
✓ pB, d 0'.2 ±, R? cor of pl. bll.
✓ pB, d 0'.5-, R, bll, " " "
✓ F irreg streak near star, push.
✓ pF, 0'.3 by 0'.2 at 0°, push.
✓ pF, R, lbll, d 0'.4 push.
✓ pF, S, R, ~~d 0'.1 by 0'.2~~, push.
✓ pF, R?, lbll, d 0'.3,
✓ neb 12, R?
✓ pF, 0'.5- by 0'.1 at 30°, bll, sh?
✓ pF, 0'.3 by 0'.2 at 135°, lbll. push.
✓ neb. 13, ±, R.
✓ vF, 0'.3 by 0.2 at 130°, push.

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Exam. of a 7447 cont.

	5-1	neb	169, 174
group	5-2	neb	178, 187
	5-3	neb	179, 186
	5-4	neb	179, 185=
	5-5-	neb	180, 185+
	56	neb	191, 183
	57	neb	191, 189
	58	neb	246, 189
	59	neb	16, 162
	60	neb	144, 161
	61	neb	160, 159
	62	neb	259, 155-
	63	neb	283, 169
	64	neb	17, 135
	65-	neb	75, 150
	66	neb*	91, 151
	67	neb	317, 135
	68	neb	26, 116
	69	neb	93, 115
	70	neb	99, 119
	71	neb	104, 114
	72	neb	107 114
	73	neb	110, 129
	74	neb	127, 123
	75-	neb	134, 119

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1907phae.proj.2293B

✓ F. 0.3 by 0.2 at 90°. susp.
✓ ⊢F, R, bdd, d 0.4.
✓ ⊢B, irr F, 2 or 3 st ins. not nearly or quite to 52. d 1.0
✓ ⊢B, N. 0.6 by 0.2 at 140°. ch?
✓ ⊢F. 0.2 by 0.1 at 160°. bdd.
✓ F, R, d 0.3. FN. susp. perhaps a defect.
✓ F. 0.6 by 0.1 at 130°,
✓ ⊢F. R. bdd. d 0.2
✓ ⊢B, R?, bdd, d 0.3 +. near edge of pl
✓ ⊢F, 0.3 by 0.1 at 5°. susp.
✓ ⊢F, E at 40°. susp. perh. a defect
✓ ⊢F, irr F. ~~susp~~ d 0.3 +.
✓ ⊢F. 0.6 by 0.3 at 40°, mbdd.
✓ ⊢F, d 0.8, R? bdd.
✓ ⊢F. 0.3 by 0.2 at 85°. bdd.
✓ magn 13 ±. R?
✓ ⊢B. R. mbdd. d 0.3.
✓ ⊢F, R?, bdd. d. 0.3 ±. near edge of pl.
✓ ⊢B. 0.4 by 0.2 at 50° bdd.
✓ ⊢B. 0.4 by 0.3 at 95° bdd.
✓ ⊢F. 0.2 by 0.1 at 160°. bdd susp.
✓ ⊢B. N. 1.2 by 0.3, at 160°. ~~N magn 11.+~~.
✓ ⊢F, 0.3 by 0.2 at 105°. susp.
✓ F mb with B ⊢. 0.3 by 0.1 at 30° (~~Note mb *. Cent~~ note E.) N magn 12.5
✓ ⊢F. 0.3 by 0.2 at 50°. bdd. susp.

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Exam. of a 7447 cont.

76	neb	155, 112
77	neb	168, 121
78	neb	168, 125
79	neb	175, 115
80	neb	188, 118
81	neb	192, 127
82	neb	218, 112
83	neb	225, 125
84	neb	297, 119
85	neb	297, 125
86	neb	79, 109
87	neb	89, 109
88	neb *	92, 103
89	neb	96, 109
90	neb	118, 105
91	neb	126, 108
92	neb *	126, 105
93	neb	131, 99
94	neb	136, 97
95	neb	192, 92
96	neb	201, 94
97	neb	205, 96
98	neb	215, 101
99	neb	82, 84
100	neb	125, 88

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1907phae.proj..22938

✓ F neb with BN, neb 0.6 by 0.3 at 140°, N magn. 10 ±.
✓ F, 0.2 by 0.1 at 80°. susp.
✓ F, 0.3 by 0.1 at 95°, bM. susp.
✓ F, d 0.2 ±, nr R, lbM. susp.
✓ pF, 0.3 by 0.1 at 100°, bM. susp.
✓ F, S, R, bM. d 0.2 ±. susp.
✓ pF, E at 90° ?, d 0.2 ±, lbM.
✓ pB, R ?, d 0.2, lbM.
✓ F, 0.2 by 0.1 at 95°, bM.
✓ F, d 0.2, R ?, bM.
✓ pF, 1.0 by 0.2 at 90°, lbM.
✓ pB - BN, neb 1.0 by 0.3 at 90°, N magn 11 ±, sh ?
✓ B, nr R, N magn 9 ±, neb F ± nr R. d neb 1.0 ±, sh ?
✓ Neb * but neb E, 0.4 by 0.2 at 160°, N magn 12 ±, sh ??
✓ B Neb *, but neb E, 1.0 by 0.3 at 140°, IV magn 9 ±, sh ?
✓ pB, d 0.3 mbM.
✓ pB, R, d 0.3 ±, magn 10 ±.
✓ pF, 0.3 by 0.2 at 100°, bM.
✓ pF, d 0.3, bM, R.
✓ pF, 0.3 by 0.2 @ 45°, bM
✓ F 0.3 by 0.2 @ 135°, bM.
✓ F, 0.3 by 0.1 @ 110°, lbM.
✓ vF, 0.3 by 0.2 at 45°, susp.
✓ pF, 0.6 by 0.2, at 45°, lbM.
✓ pF, 0.7 by 0.2 at 30°, lbM.

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Exam. of a 7447 Cone -

101	Neb	111, 76		✓
102	Neb	125. 88		✓
103	Neb	151, 77		✓
104	Neb	97, 68		✓
105	Neb	98, 52		✓
106	Neb	103. 65		✓
107	Neb	196. 58		✓
108	Neb	197, 58		✓
109	Neb	201, 61		✓
110	Neb	264, 66		✓
111	Neb	98, 46		✓
112	Neb	153. 48		✓
113	Neb*	268. 44		✓
114	Neb	111, 22		✓
115	Neb	237, 16		✓
116	Neb	281, 18		✓

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1907phaetproj.2293B

✓ v F. R:, d 0:2, wr *, for dble star push.
✓ μ F. 0.6 by 0.2 at 40°, push.
✓ μ F. 0.6 by 0:3 at 135°. Sh? F N.
✓ ε F. R?, d 0:3. Push.
✓ μ F. 1.0 by 0:4 at 45°, bll.
✓ e F. R?. d 0:3. push.
✓ e F. 0.7 by 0:3 at 60°. Push.
✓ e F. 0:2 by 0:1 at 140°. push.
✓ μ F. R?, d 0:3 bll. Push.
✓ μ F. d 0:2, R. bll.
✓ μ F. 0:5 by 0:2 at 40°, bll.
✓ F. d 0:2. R. bll.
✓ nogu. 14. R?.
✓ F. R?. unform dens. d 0:2.
✓ F, 0:4 x 0:2 @ 40°, has N.
✓ μ F. R?, bll. d 0:3.

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Exam. of a 6909, Sept 22^{5m}.

e =	1	Neb *	291.315
f =	2	neb	244, 304
g =	3	Neb *	160, 285
h =	4	neb	192, 272
i =	5	neb	212, 277
j =	6	neb	253, 283
k =	7	neb	278, 277
l =	8	neb	287, 281
m =	9	neb	300, 277
n =	10	neb	307. 275
o =	11	Neb	309. 275
p =	12	neb	210, 256
q =	13	neb	150. 250
r =	14	neb	150. 251
s =	15	neb	221, 250
t =	16	neb	257. 251
u =	17	neb	322, 251
v =	18	neb	95. 216
w =	19	neb	216, 228
x =	20	neb	226, 213
y =	21	neb	251, 218
z =	22	neb	294, 220
a' =	23	neb	294, 220
b =	24	Neb	324. 223
c =	25	neb	325, 224

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1907phaetproj.22938

$19^h\ 50^m, -52.5', aug\ 31, 1904.$ (New objects not marked by H. who did a prev. exam.

✓ magn 13, R ?.
✓ ⊢ H, R ?, d 0.'3
✓ magn 12 - R ?.
✓ ⊢ B, d 0.'4, R, bM.
✓ ~~3, R ?, d 0.'3~~. ⊢ H, R, bM, d ~~0.'3~~. 0.'2 -.
✓ H, R ?, d 0.'3.
✓ ⊢ B, d 0.'4, bM. R ?.
✓ ⊢ H, R ?, d 0.'2, lbM.
✓ H, 0.'8 by 0.'3 at 105°, lbM.
✓ ⊽ H, R, d 0.'3 lbM.
✓ ⊽ H, R, d 0.'3 lbM.
✓ ℓ H, R ?, 0.'8 diam, Dusb. ??
✓ H, R ? d 0.'2, Dusb.
✓ ⊢ H, R, d 0.'2, Dusb.
✓ ℓ H, R, d 0.'2, Dusb.
✓ ⊢ H, R, bM, d 0.'2.
✓ ⊢ H, nr ⊽ ?, d 0.'3 ±, lbM.
✓ ⊢ B - 0.'4 by 0.'2 at 150°, bM.
✓ H, d 0.'1, R, bM. Dusb.
✓ ⊽ H, R, d 0.'2.
✓ ⊢ H, R, d 0.'2, bM.
✓ H, R - lbM d 0.'2.
✓ H, R, lbM, d 0.'2.
✓ ⊽ H, R ? d 0.'3
✓ H, 0.'3 by 0.'2 @ 0°, lbM.

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Exam - of a-6909. cont

d =	26	Neb	96, 194
e =	27	neb	143, 198
f =	28	neb	183, 198
g =	29	neb	221, 201
h =	30	neb	177, 191
i =	31	neb	175, 182
j =	32	neb	208, 186
k =	33	neb	267, 186
l =	34	neb	271, 182
m =	35	neb	270. 176
n =	36	neb	278, 185
o =	37	neb	280, 187
p =	38	neb	303. 184
q =	39	neb	48, 166
r =	40	neb	66, 161
s =	41	neb	103, 171
t =	42	neb	132. 159
u =	43	neb	134, 159
v =	44	neb *	179, 170
w =	45	neb *	219, 163
x =	46	neb	249, 158
y =	47	neb	266, 158
z =	48	neb	302, 159
a'	49	neb	329, 154
b	50	neb	85, 148

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1907phaer.proj..22930

✓ F. R - d 0.3 .
✓ vF. 1.0 by 0.2 at 135°. (anfadj. streak on 6909. abb. as line of 3 st on 7451)
✓ pF. 0.3 by 0.1, bdd. sh?
✓ F. d 0.2 -, R - bdd.
✓ F. 0.4 by 0.1 at 120°, lbdd.
✓ F. d 0.2 lbdd -
✓ pF. d 0.1, R - nr star. susp.
✓ pF. 0.3 by 0.1 at 45°. lbdd.
✓ pF. R, bdd - d 0.2 -,
✓ F. 0.2 by 0.1 at 95°. lbdd. susp -
✓ F, d 0.1 +, lbdd. R.
✓ pF. 0.2 by 0.1 at 130° lbdd.
✓ F, R? d 0.2 ,
✓ eF. 0.4 by 0.2 at 40°,
✓ F. R - d 0.3, lbdd -
✓ F. R - lbdd. d 0.2, susp.
✓ pF. 0.2 by 0.1 at 40°: lbdd.
✓ pF. 0.3 by 0.2 at 140°. bdd.
✓ magn 13±, R?,
✓ magn 10 - R.
✓ vF, d 0.1+, R, susp.
✓ vF, d 0.1 +, R, susp -
✓ pF, d 0.2, R, lbdd -
✓ pF, d 0.2, R, lbdd.
✓ pF, d 0.2, R?, lbdd -

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1907phae.proj.22938

Exam. of a 6909. cont

c =	51	Neb	167, 145
d =	52	Neb	172, 137
e =	53	Neb	202, 141
f =	54	Neb *	220, 149
g =	55	Neb	228, 152
h =	56	Neb	280, 142
i =	57	Neb	17, 132
j =	58	Neb	59, 122
k =	59	Neb	139, 127
l =	60	Neb	178, 131
m =	61	Neb	181, 123
n =	62	Neb	189, 120
o =	63	Neb	196, 122
p =	64	Neb *	202, 126
q =	65	Neb	209, 130
r =	66	Neb	241, 116
~~s~~ =	~~67~~	~~Neb~~	—
t =	68	Neb	273, 116
u =	69	Neb	303, 116
v =	70	Neb	100, 103
w =	71	Neb	127, 100
x =	72	Neb	131, 105
y =	73	Neb	146, 100
z =	74	Neb	152, 103
a' =	75	Neb	24, 83

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1907phaer.proj--22038

H.N. 2202

✓ ⊢∓, 0.3 by 0.1 at 140°, N. Sh?
✓ ⊢∓, 0.3 by 0.1 at 30°, mbill. Sh?
✓ ⊢∓, 0.3 by 0.2 at 80.
✓ R?; maga 13 ⊢∓.
✓ ⊢∓, 0.2 by 0.1 at 20°.
✓ ∓, R? d 0.2.
✓ ∓, R? d 0.2 ± lbM.
✓ ∓, R, lbM, d 0.3.
✓ ⊢∓, R, lbM, d 0.2.
✓ ⊢∓, R, bM, d 0.2.
✓ ⊢∓, 0.3 by 0.2 @ 150°, lbM.
✓ d∓, d 0.3, R?
✓ ∓, R, bM, d 0.3.
✓ ⊢∓, R, ~~maga 12~~ =.
✓ ⊢∓, 0.5 by 0.2 @ 40°, bM. Sh?
✓ ∨∓, E@90 ± ? d 0.2 ±, nr *.
✓ (effect - w lens, thin.)
✓ ⊢∓, 0.3 @0.2 @30° - ~~#.~~ ~~Sh?~~ lbM.
✓ ⊢∓, 0.3 by 0.2 at 10°, N, Sh?
✓ ⊢∓, d 0.2, ~~Sh~~ bM. R?
✓ ⊢∓, 0.3 by 0.1 @ 30°, bM.
✓ ∨∓, 0.3 by 0.2 @5°, bM.
✓ ⊢∓, d 0.2, R?.
✓ ⊢∓, 0.3 by 0.2 @ 70°.
✓ ⊢∓, d 0.2 ±. R?. (edge of fuel) lbM.

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1907phae.proj.22938

Groups of a 6909. Cont.

b³	75	neb	102. 89	✓
c	76	neb	140. 87	✓
d	77	neb	150, 88	✓
e	78	neb	152. 78	✓
f	79	neb	19, 66	✓
g	80	neb	110, 58	✓
h	81	neb	349, 66	✓
i	82	neb	360, 66	✓
j =	83	neb	94. 50	✓
k =	84	neb	130, 36	✓
l =	85	neb *	131, 36	✓
m =	86	neb *	149, 42	✓
n =	87	neb	155. 50	✓
o =	88	neb *	197. 44	✓
p =	89	neb	197. 45	✓
q =	90	neb	273. 45	✓
r =	91	neb	303. 41	✓
s =	92	neb *	303, 52	✓
t =	93	neb	304, 50	✓
u =	94	neb *	342. 46	✓
v =	95	neb	183. 25	✓
w =	96	neb	190, 13	✓
	97	neb	304, 31	✓
y z	98	neb	356, 26	✓
	~~99~~			
	~~100~~			

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1907phae.proj.2293B

✓ v F, 0.3 by 0.2 at 50°, lbM.
✓ p F, d 0.2 ±, R?,
✓ v F, mbM. R. d 0.3.
✓ F, R, d 0.2, lbM.
✓ pB, bM, E?
✓ F, R? bM. d 0.2 ±.
✓ pB, E @ 150°?, bM, (edge of pl.)
✓ v F, R? d 0.2? (" " ")
✓ v F, R?, d 0.3, lbM.
✓ F, R?, lbM. d 0.3
✓ R? Neaur. ~~13~~ pF ±. (" " ")
✓ R? " 11 ± (" " ")
✓ pF, 0.4 by 0.2 @ 10°, in F.
✓ R?, neaur. 13 ±. (edge of pl.)
✓ F, bM, d 0.3, R? (" " ")
✓ pF, 0.2 by 0.1 at 95°, lbM.
✓ F, R?, d 0.2, lbM.
✓ R, ~~Neaur. 11~~ pB ±.
✓ Wish 1.0 by 0.1 @ 150°. 9 neaur ✗ in? - but, prob not intimate connection
✓ R, neaur ~~13~~ B ±. = I.C. 4891
✓ F, irr F, d 0.3 ±. Auch.
✓ pF, R?, d 0.2 ±. (edge of pl.)
✓ pB. 0.3 by 0.2 @ 175°, bM.
✓ pB, d 0.4?, lbM. R? (edge of pl.)

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1907phae.proj.22938

Examination of a 7451. Ep 220m

1		neb	31, 328
2		neb	56. 332
3		neb *	146, 330
4		neb *	60. 342
5		neb	70. 330
6		neb	39, 313
7	*	~~nebula~~ ?	294, 304
8		neb *	348, 307
9		neb	34, 295
10		neb	85, 287
11		neb	90. 281
12		neb	93, 287
13		neb	122. 279
14		neb	131, 277
15		neb	147, 285
16		neb	146, 287
17		neb *	149, 288
18		neb	157, 278
19		neb	246, 281
20		neb	61, 269
21		neb	76, 253
22		neb	102. 267
23		neb	152. 271
24		neb	155, 264
25		neb	165. 266

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$20^h\ 10^m$ - $-52°.5$, Mar. 25, 1907.

✓ ½, R?, lbll. d 0'.3 ± (edge of pl.) push.
✓ ½, R, d 0'.4 lbll. " " " push
✓ R?, magn. 10 ±. " " "
✓ R, " 11 ±, push.
✓ R, " 89 ±, push.
✓ ½ R, d 0.4, bll.
✓ Broken trail.? appears like an ast. trail, but broken, not fd. on other plates, none near enough to the date.
✓ R?, ~~magn~~ 13 ±, push. (near corner of pl)
✓ R? " 12 ±.
✓ ½, R?, d 0'.2.
✓ ¼, R, lbll, d 0.3. push.
✓ ¼, R?, d 0'.1 ±. push.
✓ ¼ d 0'.1 ±, push.
✓ ¼, 0'.2 by 0'.1 @ 10°, N. push.
✓ ½, 1'.0 by 0'.6, N. sh?
✓ ½, 3 st. ins. push.
✓ R, magn 12 ±. push.
✓ ½, R, d 0'.1. push.
✓ ½, 0'.3 by 0'.1 @ 60°, bll.
✓ ½, R?, d 0'.3, lbll. push.
✓ ¼, 0'.3 by 0'.2 @ 20°. push. ?
✓ ¼, d 0'.3, R, lbll push. ?
✓ ½, d 0'.3, R, bll.
✓ ½, R d 0'.2, lbll. push.
✓ ½, 0'.3 by 0'.1 @ 170°, mbll. sh? push.

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Exam. of a 9451. Cont -

26	Neb	199, 260
27	Neb	29, 233
28	Neb	59, 235
29	Neb	157, 242
30	Neb	230, 252
31	Neb	230, 251
32	Neb	241, 241
33	Neb	40, 220
34	Neb	68, 226
35	Neb	134, 214
36	Neb	140, 218
37	Neb	150, 221
38	Neb	258, 217
39	Neb	260, 219
40	Neb	98, 204
41	Neb	113, 198
42	Neb	115, 207
43	Neb	120, 209
44	Neb	120, 200
45	Neb *	132, 208
46	Neb	171, 208
47	Neb	172, 203
48	Neb	188, 204
49	Neb *	18, 173
50	Neb *	21, 175

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✓ eF. d 0.1. R?. push.
✓ F. R. d 0.6. push. (edge of pl.)
✓ F. R. d 0.6. push. lbll (... ...)
✓ eF. R?. d 0.1 ?. push. ?
✓ F. lbll. 0.5 by 0.1 @ 120°.
✓ rF. lbll. R?. d 0.3 ±.
✓ pF. trail like image. 0.2 by 0.1 @ 130°
✓ pF. R?. d 0.2 ±. lbll. (nr edge of pl) push.
✓ pF. R. lbll. d 0.2 ±. push.
✓ eF. R. lbll. d 0.2. push.
✓ F. push. 0.4 by 0.1 at 170°. nr *. push.
✓ pF. 0.4 by 0.3 at 40°. lbll. nr *.
✓ pF. 0.3 by 0.2 @ 40°. lbll.
✓ pF. R. bM. d 0.2.
✓ pF. 0.3 by 0.2 @ 100°. lbll.
✓ vF. d 0.1. R. push. ?
✓ pB. 0.5 by 0.2. @ 90°. trail-like image.
✓ pF. N. 1.0 by 0.2 at 10°. ph.
✓ pF. 0.8 by 0.1 @ 40°. lbll. push.
✓ R. magn. 12 ±. mbM
✓ pF. 0.5 by 0.2 @ 135°. ph?
✓ pF. 0.3 by 0.2 @ 135°. lbll. ph? push
✓ eF. R. d 0.4. lbll. push.
✓ R?. magn. 12 ±. d 0.2 ±. (edge of pl)
✓ R?. " 10 ±. d 0.5 ±. (" ")

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Examin of a7451 (cont.

51	neb.	61, 177
52	neb	67, 187
53	neb	104, 181
54	neb	133, 176
55	neb	153, 188
56	neb	160, 185
57	neb	187, 180
58	neb *	115, 162 ~~217, 174~~
59	neb	121, 165
60	neb	123, 166
61	neb	129, 159
62	neb *	134, 165
63	neb	180, 162
64	neb	219, 151
65	neb	56, 147
66	neb	91, 150
67	neb	105, 149
68	neb	117, 147
69	neb	120, 151
70	neb	151, 139
71	neb	172, 143
72	neb	183, 140
73	neb	202, 136
74	neb *	204, 150
75	neb	210, 139

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✓ eT. R. lbll. d 0'.3. push.
✓ eeT. R? d 0'.3 push. ?
✓ eT, R. d. 0'.1 ± push.
✓ vT. 0'.5 by 0'.2 @ 175°. push.
✓ pB. 0'.3 by 0'.2 @ 25°. bll.
✓ pB, d 0'.3. R. bll:
✓ eT. 0'.2 by 0'.1 @ 170° bll. push. nr *.
✓ R, mag. 11 ±.
✓ pT. 1'.0 by 0'.2 @ 15°, inbll. ~~push~~ bet 2 st.
✓ vT. 3 st inv.
✓ T. 0'.2 by 0'.1 @ 45°, push.
✓ R, mag 10 ±.
✓ R, lbll. d 0'.2. push.
✓ pT. 0'.2 by 0'.1 @ 100°. nr B *.
✓ vT. 0'.2 by 0'.1 @ 20°. push. ?
✓ pB 0'.6 by 0'.2 @ 115°. N. Sh?
✓ eT. R. d 0'.2. push ?
✓ pT. dbl?, 0'.6 by 0'.1 @ 135°, push.
✓ eT. R. lbll d. 0'.2, push. ?
✓ eT. push ?
✓ R, ~~mag~~ d 0'.3, vT. N. push.
✓ T. 0'.2 by 0'.1 @ 120°.
✓ pT. lbll. R, d 0'.2.
✓ R, mag 12 ±.
✓ T. R. bll, d 0'.2.

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Region of a 74 5-1 Cont.

76	neb	65, 1206
77	neb	170, 114
78	neb	172, 119
79	neb	172, 131
80	neb	47, 97
81	neb	12, 41
82	neb	54, 45
83	neb	86, 81
84	neb	86, 88
85	neb	88, 79
86	neb	91, 93
87	neb *	110, 107
88	neb *	126, 29
~~89~~	-	-
~~90~~	-	-
91	neb	145, 108
92	neb	166, 74
93	neb	201, 106
94	neb	198, 100
95	neb	206, 70
96	neb	218, 73
97	neb	221, 96
98	neb	217, 113
99	neb	221, 129
100	neb	263, 130

98 a =

99 a

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✓ e F, d 1'.5, N, sp? susp. pos a defect -
✓ F, 0'.7 by 0'.2 @ 0°, lbM. sp? susp.
✓ pF, R, lbM, d 0'.2, susp..
✓ pF, R, bM, d 0'.3 . susp.
✓ pF, R?, d 0'.3 ±, susp. (nr edge of pl), nr 2 st.
✓ pB, R?, d 0'.3 ±, lbM, (" " " ") .
✓ pB, R?, d 0'.2 ±, lbM, (" " " ").
✓ pF, R, mbM, d 0'.3.
✓ pF, irr F, dbl?, d 0.5 ±, susp.
✓ pF, R?, lbM, d 0'.3 ±,
✓ F, d 0'.2, . susp.
✓ R, magn pF 12 ±.
✓ R, magn F 14 ±.
✓ already meas + desc. on A 6770, by F.
✓ " " " " " " " " " " ".
✓ e F, R? d 0'.1, susp. ?.
✓ pB, R, bM, d 0'.3,
✓ F, 0'.3 by 0'.1 @ 140°,
✓ pF, 0'.2 by 0'.1 @ 40°?, mbM,
✓ F, d 0'.3, bM, R,
✓ F, d 0'.1 ±, R, bM -
✓ e F, 0'.3 by 0'.1 @ 10° susp.
✓ pF, R, d 0'.2,
✓ pB, 0'.2 by 0'.1 @ 15°, mbM. susp.
✓ e F, R, d 0'.3,
✓

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1907phae.proj.2293B

Exam. of a 7145 | . Cone.

101	neb	279, 101		
102	neb	240. 60		
103	neb	237, 47		
104	neb *	261, 48		
105	neb	281, 30		

106.

103/

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1907phae.proj.2293B

✓ eF. d 0-3, R?.
✓ eF. d 0:2 ±.
✓ F. 0:3 by. 0:2 @ 90°.
✓ R?, many 10 ±.
✓ vF. d 0:3 ±.
✓

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a

Exam. of 7443. Exh. 240m.

1	neb	210, 328
2	neb	270, 337
3	neb	134, 292
4	neb	159, 304
5	neb	198, 299
6	neb	87, 279
7	neb	138, 290
8	neb	195, 281
9	neb	220, 287
10	neb	220, 288
~~11~~	~~neb~~	~~298, 290~~
12	neb	187, 251
~~14~~ 13	neb *	210, 243
~~15~~ 14	neb	214, 243
~~13~~ 15	neb *	355, 252
16	neb	264, 242
17	neb	150, 214
18	neb	356, 221
19	neb	387, 226
20	neb	101, 198
21	neb	111, 199
22	neb	117, 209
23	neb	146, 204
24	neb	146, 203
25	neb	147, 205

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1907phae.proj..2293B

$19^h 30^m$, -52.5°, March 28 - 1907.

✓ ⊢F, R, lbM, d 0'.2, nr F*. mas sqy pl
✓ ⊢F, R? bM, d 0.3.
✓ F, lbM, 0.3 by 0'.2 @ 140°.
✓ ⊢F, bM, 0'.2 by 0'.1 @ 115°.
✓ ⊢F, lbM, 0'.2 by 0'.1 @ 140°.
✓ F, R?, lbM, d 0'.2 ±
✓ F, R?, d 0'.2.
✓ ⊢B, R?, bM, d 0'.3±
✓ ⊢F, R? lbM, d 0'.1, nr vF*. susp.
✓ ⊢F, 0'.2 by 0.1 @ 100°.
✓ aff. nearly a dbl star.
✓ ⊢F, lbM, 0'.2 by 0'.1 @ 70°.
✓ R, merges 13 ±.
✓ ⊢F, 0'.3 by 0'.1 @ 150°. susp.
✓ R?, merges 12 ±. susp.
✓ ⊢F, R, d 0'.1, nr vF*. susp.
✓ ⊢B, 0'.4 by 0'.1, at 50° N. nr 3 F st.
✓ ⊢F, R?, d 0'.3± susp.
✓ ⊢F, R?, d 0'.3, susp.
✓ F, lbM, R d 0'.2.
✓ F, R, d 0'.2.
✓ F, R?, d 0'.2.
✓ ⊢F, 0'.3 by 0'.1 @ 50°.
✓ ⊢F, R, d 0'.2 lbM.
✓ ⊢F, 0'.3 by 0'.1 @ 135°, lbM.

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1907phae.proj.22938

Exam - of a 7443 Cont

26	neb	150, 210
27	neb	198, 209
28	neb	338, 194
29	neb	349, 207
30	neb	370, 208
31	neb	110, 173
32	neb	125, 182
33	neb	133, 183
34	neb	135, 181
35	neb	173, 182
36	neb	175, 177
~~37~~	—	—
38	neb	185, 190
~~39~~	~~neb~~	—
40	neb	280, 175
41	neb	288, 190
42	neb	294, 175
~~43~~	~~neb~~	—
44	neb	163, 165
45	neb	198, 169
~~46~~	—	—
47	neb	229, 166
48	neb*	270, 169
49	neb	271, 169
50	neb	275, 164

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1907phae.proj.2293B

✓ pF. R?, d 0'.3 ±, bll.
✓ vF. R, d 0'.3. ±. bll.
✓ vF. pBN, .1:0 by 0.6 at 130°. sp?
✓ vF. 0'.5 by 0'.2 at 45°. Push.
✓ pF. R?, d 0'.3 ±. push.
✓ vF, pBN. 0'.3 by 0'.2, @ 95°.
✓ pF. R? d 0'.2.
✓ F. 0'.7 by 0'.1 @ 80°.
✓ F. 0'.2 by 0'.1 @ 70°.
✓ pF. R?, d 0'.3.
✓ pF. R?, d 0'.2, bll.
- aft. a defect.
✓ F. R, d 0'.1. push.
- aft. a defect.
✓ pF. m bll. d 0'.3 ±.
✓ pF. N. 0'.2 by 0'.1 @ 45°. push.
✓ F. R d 0'.3, push.
✓ probably push a *.
✓ F. vv F?, S.
✓ pF. ~~vv F?, 0'.4 by 0'.2 @ 80°. dbl?~~, R, d 0'.2.
- aft. not reb.
✓ F, R?, d 0'.2, lbll. push.
✓ R?, many 13 ±. F * vv. push
✓ F, 0'.3 by 0'.1 @ 105°, bll. push.
✓ pF. R. bll. d 0'.2, vv F *. push.

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Examy a 7443 Cont --

51	Neb	280, 171
52	neb	294, 166
53	neb	275, 164
54	neb	344, 156
55	neb	135, 131
56	neb	169, 148
57	neb	197, 142
58	neb	202, 133
59	neb	210, 142
60	Neb	216.8, 143.6
61	neb	221, 138
62	Neb	222, 138
63	neb	228, 148
64	Neb.	239, 140
65	Neb	240, 141
66	neb *	240, 136
67	neb *	288, 141
68	neb	298, 140
69	neb	310, 145
70	Neb	313, 136
71	Neb	319, 148
72	Neb	362, 140
73	Neb	186, 120
74	Neb	198, 119
75	Neb	202, 127

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✓ ⌐ℱ. R?, d 0'.2. push.
✓ ⌐ℱ. R. bll. d 0'.3. push.
✓ ⌐β. 0'.7 by 0'.2 @ 80°. N. Sh?. nr ⌐β*.
✓ ⌐ℱ. R?, d 0'.3. push.
✓ vℱ. bll. 0'.4 by 0'.2 @ 45°.
✓ vℱ. 0'.3 by 0'.2 @ 40?, lbll.
✓ vℱ. R, d 0'.2, bll. push.
✓ ⌐ℱ, shrik. 0'.7 by 0'.1 @ 135°.
✓ ℱ. 0'.2 by 0'.1 @ 40°±?, lbll.
✓ vℱ. d 0'.1±, lbll. push. nr ℱ*.
✓ vℱ. d 0'.1±. push.
✓ ⌐ℱ. d 0'.2±. push.
✓ ⌐ℱ. R. d 0'.β2. bll. push.
✓ ⌐ℱ. 0'.6 by 0'.2 @ 135°. mbll. push.
✓ ⌐ℱ. R. bll. d 0'.5. push.
✓ R. merge. 11±. ~~push~~.
✓ ℱ. R. ~~merge. 12±.~~ push. d 0'.2 bll.
✓ ⌐ℱ. R. bll. d 0'.2. push.
✓ ⌐ℱ. 0'.2 by 0'.1 @ 175°. bll. push.
✓ vℱ. R?, d 0'.2. push.
✓ ⌐ℱ. R?, d 0'.3. bll. push.
✓ ⌐β. R?, d 0'.β3. lbll.
✓ vℱ. R?. lbll. d 0'.3.
✓ ⌐ℱ. dbl, each about 0'.1 d. R. bll.
✓ ℱ. R. d 0'.3. lbll.

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1907phae.proj.2293B

Eqaur. of a 7443 cont.

76	neb	204, 123
77	neb	206, 121
78	neb	209, 122
79	neb	231, 132
80	neb	223, 113
81	neb	239, 129
82	neb	245, 131
83	neb *	251, 118
84	neb	297, 127
85	neb	326, 112
86	neb	201, 105
87	neb	224, 101
88	neb	246, 93
89	neb	260, 104
90	neb	265, 96
91	neb	268, 97
92	neb	271, 98
93	neb	277, 99
94	neb *	299, 109
95	neb *	308, 104
96	neb *	326, 95
97	neb	328, 95
98	neb	383, 105
99	neb	390, 100
100	neb	75, 82

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1907phae.proj.:2293B

✓ ∓. R. d 0.3. push.
✓ ∓. R. d 0.1 ±. push.
✓ ⌐∓. R. d 0.2. bll.
✓ ∓. R. bll. d 0.1. push.
✓ ∓. R. bll. d 0.2 ±. push.
✓ d∓. R. d 0.2. push.
✓ ⌐∓. R. bll. d 0.3. push.
✓ R. magn. 13. push.
✓ ⌐∓. lbll. R. d 0.3 push.
✓ ⌐∓. lbll. R. d 0.2. push.
✓ b∓. 0.2 by 0.1 @ 60°. lbll. push.
✓ ⌐∓. R. lbll. d 0.1. push.
✓ ⌐∓. 0.3 by 0.1 @ 135°. push.
✓ ~~∓. R. lbll. d 0.2~~. ⌐∓. 0.3 by 0.2 @ 40°. push.
✓ ∓. R?. lbll. d 0.2. push.
✓ ⌐∓. R. lbll. d 0.2. push.
✓ ⌐∓. 1.0 by 0.2 @ 70°. bll. sh?
✓ ⌐∓. in ∓. d 0.6. sh?
✓ R. magn 10 ±.
✓ R. " 14.
✓ R?. magn 15. push. ?
✓ ⌐∓. R?. lbll. d 0.3. push.
✓ ⌐∓. R?. lbll. d 0.4 push.
✓ ⌐∓. 1.0 by 0.2 @ 70°. N. push.
✓ ⌐B. R?. d 0.3. push. for a dbl ✳.

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Exam. of a 7443 Cone.

101	neb *	301, 79	✓
102	neb *	322. 81	✓
103	neb	362, 90	✓
104	neb	402. 86	✓
105	neb	140. 61	✓
106	neb	194. 65	✓
107	neb	416. 59	✓
108	neb	109. 50	✓
109	neb	147. 39	✓
110.	neb	199, 48	✓
~~111~~	neb	339. 36	✓
112	neb	349, 34	✓
113	neb	201, 21	✓

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1907phae.proj.2293B

✓ R. Maggs. 14. Dusk-
✓ R. " 14. Dusk.
✓ ⊢F. R?. d 0'.3. Dusk-
✓ ⊢F. 1'.2 by 0'.4 @ 35°, N. Pl? Dusk.
✓ v F. 0'.3 by 0'.1 @ 115°, bell.
✓ ⊢F. bell. d 0.3 R.
✓ ⊢B- 1'.0 by 0'.4 @ 165° bell. ~~Dusk~~. m cor & pl.
✓ ⊢F. R. d 0'.2. Dusk.
✓ F. R?. d 0'.2. bell.
✓ F. aff. 2 or 3 F neb in line at 0°.
✓ ⊢B. R?; bell. d 0'.3 ±, Dusk.
✓ eF. d 0.'5-, R, Dusk. ?
✓ F. 0'.7 by 0'.1 @ 100°, FN.

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Exam. of a 5695. Exp. 240m.

1	~~neb~~	—	—
2	neb	226, 314	
3	neb*	248, 316	
4	neb*	301, 316	
5	neb	168, 306	
6	neb	182, 301	
7	neb	198, 295	
8	neb*	219, 296	
9	neb	228, 298	
10	neb	236, 305	
11	neb	109, 280	
12	neb	123, 275	
13	neb	160, 284	
14	neb*	196, 284	
15	neb	215, 287	
16	neb*	217, 287	
17	neb*	225, 288	
18	neb	220, 281	
19	neb	219, 275	
20	neb	260, 280	
21	neb	320, 279	
22	neb	90, 265	
23	neb	111, 262	
24	neb	172, 260	
25	neb*	183, 271	

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1907phae.proj.-2293B

19h 50m, - 57°.5 . Apr. 11, 1907. (Plate prev. exp. by S. to the fd 17.)

/ Merlya star. v. nr corner of pl. - check-star A 6770.
✓ pF. 0.7 by 0.2 @ 120°. bdl.
✓ R. magn 12 ±.
✓ R. " 13 ±.
✓ F. R. bdl, d 0.3. nr *.
✓ F. R. bdl. d 0.3.
✓ vF. 0.5 by 0.1 at 135°. bdl. 0.5 nr of a 12m magn star
~~pos. dble or trip. star.~~
✓ R. magn 12 ±.
✓ F. d 0.4. irr?, bdl.
✓ eF. R?, d 0.3 ±.
✓ F. R. bdl. d 0.3.
✓ pF. 0.4 by 0.2 at 20°. bdl.
✓ F. irr?. d 0.4 ±.
✓ R. magn 11 ±.
✓ vF. R. bdl. d 0.2.
✓ R. magn 12 ±.
✓ R. magn 12 ±.
✓ vF. 1.0 by 0.1 at 80°. bdl.
✓ eF. S. nr F *. susp.
✓ pF. irr. pos dbl or trip *.
✓ pF. E at 25°. bdl. pos dbl or trip *.
✓ vF. R?, d 0.3 ±.
✓ pF. R. bdl. d 0.3.
✓ pF. 0.7 by 0.3 at 150° ±. Nf. of?
✓ R. magn 14 ±.

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1907phae.proj.2293B

Spectra of a 5695 - Cent

26	neb	184, 270		
27	neb *	183, 265		
28	neb	204, 267		
29	neb	213, 266		
30	neb	119, 245		
31	neb	157, 243		
32	neb	159, 251		
33	neb	165, 238		
34	neb	214, 246		
35	neb	330, 237		
~~36~~	—	—	—	
37	neb	106, 225		
38	neb *	117, 217		
~~39~~	—	—	—	
~~40~~	—	—	—	
~~41~~	—	—	—	
42	neb	116, 211		
43	neb	150. 212		
44	neb	156, 207		
45	neb	203, 201		
46	neb	211, 201		
47	neb	218, 202		
48	neb	237, 211		
49	neb	243, 203		
50	neb	304, 203		

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✓ ⊢ F, 0.3 by 0.1 at 90°, lbll.
✓ R, Nuagn 14 ±.
✓ e F, 0.5 by 0.1 at 155°, lbll. nr F*.
✓ F, rr, F* ino. d 0.4 ±.
✓ F, nr R, d 0.2 ±,
✓ F, 0.5 by 0.2 at 160°, lbll.
✓ ε F, bll, d 0.3 ±.
✓ F, d 0.4, R, N.
✓ ⊢ F, R, bll, d 0.2,
✓ e F, 0.5 by 0.2 at 115°, lbll.
/ a dble *, ch. on a 6770.
✓ F, R?, d 0.2, lbll.
✓ R?, nuagn. 13 ±.
/ a dbl *, treble on a 6770.
/ ~~Given by on a 6770~~ Prob. neb. St.
/ Given by F on a 6770.
✓ F, R, lbll, d 0.3.
✓ v F, R, d 0.2.
✓ r F, R?, d 0.1, nr F*,
✓ ⊢ F, R, bll, d 0.3,
e F, R, d 0.2. push.
✓ ⊢ F, 0.3 by 0.2 @ 45°, lbll.
✓ e F, 0.3 by 0.1 at 160°, lbll,
✓ F, R?, lbll, d 0.3. push.
✓ ⊢ F, R, bll, d 0.2,

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1907phae.proj.2293B

Spectra of a 5695, Cont

51	neb*	330, 196		✓
52	neb	211, 201		✓
53	neb	222, 181		✓
~~54~~	—	—	—	✓
55	neb	92, 165		✓
56	neb	170, 159		✓
57	neb	244, 171		✓
58	neb*	210, 142		✓
59	neb*	218, 151		✓
60	neb	239, 142		✓
61	neb	295, 139		✓
62	neb	328, 138		✓
63	neb	181, 128		✓
~~64~~	—	—	—	✓
~~65~~		—	=	✓
66	neb	195, 99		✓
67	neb	201, 98		✓
68	neb*	249, 97		✓
69	neb	134, 76		✓
70	neb*	119, 60		✓
~~71~~	—	—	—	✓
72	neb*	238, 207		✓

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1907phaeproj 2293B

hF

✓ R, nogu 13 ±.
✓ F, R?, d 0'.3 - susp. (prec N of 2)
✓ hF, 0'.6 by 0'.3 at 135°, bdl.
✓ a dbl or trpl *. Ch on a JGJG.
✓ F, R?, bdl, d 0'.3.
✓ hF, R?, bdl, d 0'.2.
✓ hF, 0'.7 by 0'.2 at 20°, bdl.
✓ R?, nogu 15° ±.
✓ R?, " 13 ±.
✓ F, E at 45°?, S, pos dbl w trpl *.
✓ vF, S, nr F *.
✓ vF, S, irr, nr dbl *, pos a dbl *.
✓ eF, d 0'.3 ±, F * inv.
✓ prob a dbl *. Ch on a 3241.
✓ dbl *. Ch on a JGJG.
✓ hF, 0'.3 by 0'.2 at 45°, bdl.
✓ hF, 0'.5 by 0'.2 at 40°, bdl.
✓ R?, nogu 13 ±.
✓ vF, R?, bdl, d 0'.3 ±.
✓ R?, nogu 13 ±.
✓ prob a dbl *. Ch on a 3241.
✓ R, nogu 11 ±.

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1907phae.proj.2293B

April. 15. 1907.

Position & Eq. of Comp. Stars for new Var. at about 19h 54m, −56° 5′ (1875)

Position of Var. from C.P.D. 9390.
Means with eye-piece with reticle 25 div to the cm.

C.P.D. −56° 9390

Var. from 9390
N 9.8 div.
S 3.0 " .

at −56° 1mm = 5s.2
1 div. of scale = 0.4 mm.
0.4
3.0
1.2 mm S.
7.2
24
84
8.64

9.8
.4
3.92 1

9390 = 19h 54m 8.64 − 56° 8.1 (1875)
12.1
Var = " " 20.s7 " 4.2

Var. from 9394
S. 10.5 div.
Pre. 19.87

19.7 div
.4
7.88 mm
7.2
1576
5580
56.7 s

10.5 div
.4
4.20 1

9394 = 19 55 15.0 − 56 0.1
Var = 19 54 18.3 − 56 4′.3.

Pos of var.

from 9390	19h	54m	20.s7	− 56	4.2
" 9394	"	"	18.3	"	4.3
Mean pos of Var	19h	54m	20s (19.5)	− 56°	4′.2

Reference of Comp. Stars −
C.P.D.

a = 9388 (9.8) 19h 53m 51.6 −56° 10′.8
b = 9382 (10.4 19 53 10.6 −56 9.8

Pos of C
from 9382
N 4.0 div
P 9.8 "

9.8
.4
3.92
7.2
784
2744
28.2 s

4.0
0.4
1.6 1

19 53 10.6
19 52 42.4

−56 9.8
−56 8.2

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1907phae.proj.2293B

Pos of C from 9278.

S. ~~4.3~~ 16.0 — 16.0 .4 6.4 7.2 128 448 46.08 — 4.3 .4 1.72 7.2 344 1204 12.4

F. ~~16.0~~ 4.3

~~19h 52~~ 28.6 — 19 52 28.6

from 9278 = 19h 52m 41s.0 — − 56° 2.1

" 9382 = " " 42.4 — − 56° 8.'5

C-mean = 19h 52m 42s (41.7) — − 56° 8.'4

16.0 / 4 / 6.4

Pos of d from 7278

S 12.4 — 13. .4 5.2 7.2 104 364 37.4 — 12.4 .4 4.96 5.0

F 13.0

19 52 28.6 — − 56 2.1

19 53 6.0 — − 56 7.1

d from 9382

N. 7.6 — 1. .4 0.4 7.2 2.88 2.9 — 7.6 .4 3.04 3.0

P. 1.0

19 53 10.6 — −56 9.8

fr 9382 = 19 53 7.7 — − 56 6.8

7278 = " " 6.0 — " 7.1

d-mean = 19h 53m 7s (6.8) — − 56° 7.'0

Pos of e from 9382 — 0.8 .4 .32 7.2 64 224 2.304 — 5.'5 .4 2.20

N 5.5'

F 0.8

9382 - 19 53 10.6 — − 56 9.8

e 19 53 12.9 — − 56° 7.'6

e from 9278 — 14.8 .4 5.92 7.2 1184 41.44 42.624 — 14.4 4 5.76 5.8

S 14.4

F 14.8

9278 - 19 52 28.6 — − 56 2.1

fr " e 19 53 11.2 — − 56 7.9

" 9382 " = " " 12.9 — " 7.6

e mean 19h 53m 12s (12.0) — − 56° 4.'8

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1907phae.proj.2293B

Pos. of f from 9390.

N. 28.6	6.8	28.6	
f. 6.8	.4	.4	
	2.72	11.44	
	7.2		11.4
	544		
	1904		
	19.6 s		
9390 —	19 54 12.1	— 56 8.1	
	19 54 31.7	— 55° 56'.7	

f from 9394.

N 8.3	16.	8.3	
P 16.0	4	4	
	6.4	3.3	
	7.2		
	128		
	448		
	46.1		
	19 55 3.0	— 56 0.1	
fr 9394	19 54 28.9	— 55 56.8	
" 9390	" " 31.7	— " 56.7	
f. mean.	19h 54m 30s (30.3)	— 55° 56'.8	

Pos of g from 9390

W. 5.0	8.6	5.	
F. 8.6	.4	.4	
	3.44	2.0	
	7.2		
	688		
	2408		
	24.8 s	— 56 8.1	
9390 = 19 54	12.1	— 56° 6'.1	
g = 19h 54m 36.9			

Pos of g from 9394.

S 15.0	14.3	15.1	
P 14.3	.4	.4	
	5.72	6.0	
	7.2		
	1144		
	4004		
	41.2		
9394	19 55 15.0	— 56 0.1	
	~~19 [illegible] 56.2~~		
	5.5		
	19 54 33.8	— 56° 6'.1	
		56 6.1	
fr 9390 —	19 54 36.9		
g. mean —	19 54 35. (35.4)	— 56° 6'.1	

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1907phae.proj.2293B

Pos of h from 9394

S. 5.7 — 8.5 — 5.7
P. 8.5 — .4 — .4
3.40 — 2.28
7.2 — 2.3
68
238
24.5 s

19 55 15.0 — −56 0.1
19h 54m 50.5s — −56° 2′.4

Pos of h from 9390

N 14.7 — 14.2 — 14.7
F 14.2 — .4 — 4
5.68 — 5.88
7.2 — 5.9
1136
3976
40.9 s

19 54 12.1 — −56 8.1
9390 − 19 54 53.0 — −56° 2′.2
9394 − 19 54 50.5 — " 2.4
h mean − 19h 54m (51.8)s — −56° 2′.3
52

	C.D	mags	(1875)		Prov. mags (see fol. page)
a	= −56°9388	9.8	19h 53m 51.6s	−56° 10′.8	9.82
b	" 9382	10.4	" 53 10.6	−56 9.8	10.38
c	" "	" "	" 52 41.7	−56 8.4	10.75
d	" "	" "	" 53 6.8	−56 7.0	11.18
e	" "	" "	" 53 12.0	−56 7.8	11.61
f	" "	" "	" 54 30.3	−55 56.8	12.18
g	" "	" "	" 54 35.4	−56 6.1	12.48
h	" "	" "	" 54 51.8	−57 2.3	12.88

From his det dec. from mean

	R.A.	
c	− 0.7	+ 0′.1
	+ 0.7	− 0.2
		− 0.2
d	+ 0.9	+ 0.1
	− 0.8	
e	− 0.8	+ 0.1
	+ 0.9	− 0.2
f	− 1.4	0
	+ 1.4	− 0.1
g	− 1.6	0
	+ 1.5	0
h	+ 1.2	− 0.1
	− 1.3	+ 0.1

Indep. measure of pos. from a different (single) star —
Largest dec. from mean in R.A. 1.6s
Average " " " " " 1.1
Largest " " " " Dec. 0′.2
Average " " " " " 0.1

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1907phae.proj.2293B

Estimates of grades on a 3241. Sch 1h
a 5- b 4 c 4 d 4 e 6 f 3 g 5- h.

above estimates repeated at a different time on A 2604. Sch 10m
a 7 b 4 c 4 d 4 e 5- f. g and h not well seen.

estimate of grades at different time on a 3241.
a 5- b 3 c 5- d 5- e 6 f 3 g 3 h.

Mean of above.
a 5.7 b 3.7 c 4.3 d 4.3 e 5.7 f 3.0 g 4.0 h.

Assume grades = lengths of a rogue.
and make sequence so that mean rogues of
a & b shall equal mean C.P.D. rogues.
then.
a = 9.82
b = 10.38
c = 10.75
d = 11.18
e = 11.61
f = 12.18
g = 12.48
h = 12.88

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Measures of the variable

Plate	Date	m.	d.	J. D.	Cob.	est. mag.	Remark.
a 3241	1898	8	23	4525.	62	10.8	= c
a 5695	1901	10	3	5661.	240	12.3	f, var.
a 2604	1897	8	3	4140.	10	11.3	d, var
a 7828	1906	7	11	7403.	10	12.0	e, var f
a 2603	~~1906~~ 1897	~~7~~ 8	~~11~~ 3	4140.	10	11.3	d, var
a 5648	1901	9	11	5639.	60	12.2	= f
a 6770	1904	6	17	6649.	240	12.3 ±	var of pl. f, var
B 17489	1896	9	28	3831.	14	11.4	rather faint for d2, e2
B 6253	1891	6	10	1894.	10	11.2	11.2 < 11.2 (d)
B 17146	1896	8	14	3786.	12	11.1	Var 1 d
B 16418	1896	6	17	3728.	14	11.1	Var 1 d
B 29483	1902	4	28	5868.	10	11.8	e 2 var f.
B 33662	1904	5	5	6606.	10	12.3	f, var.
B 36215	1905	6	20	7017.	10	12.5 ±	= g ± dif.
B 18972	1897	4	26	4041.	14	11.6	= e ±
B 19151	1897	5	21	4066.	15	12.5	= g
B 30973	1902	10	22	6045.	60	12.1	var, f
B 27913	1901	7	18	5584.	60	12.1	var, f
B 23855	1899	8	15	4882.	10	11.7	e, var.
B 27448	1901	5	27	5532.	10	11.6	= e
B 19456	1897	6	8	4084.	10	11.2	< d
B 19857	1897	7	19	4125.	10	11.4	d, 2e
B 19978	1897	8	6	4143.	10	11.5	var 1e
B 19696	1897	7	1	4107.	10	11.2	< d
B 16234	1896	6	10	3721.	10	11.2	= d ±
B 14401	1895	8	20	3426.	10	11.2	< d
B 12177	1894	9	15	3087.	10	11.5	var 1e
B 10228	1893	8	26	2702.	10	11.2	< d

var. in two faint for any plates + also others to include all available material.

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1907phae.proj.2293B

Position of Neb. No 10 - A 7447.

C. P. D

a :	-45° 9813	$19^h\ 43^m\ 55^s.6$	$-45^\circ\ 59'.3$
b :	-45° 9816	19	
~~For Orientation~~ c :	-46 9832		
(For Orientation d	-46 9804)		

The large value of the R.A. from c. is doubtless due to error in orientation which is striking when a star like c is used at a considerable distance in declination. To star was taken in order to study the effect. To check this tendency the star -46 9833 was meas. with the neb. as follows, this star being about twice as far away as c. in dec.

-46° 9833 (A) 117.5 27.5

neb 128.8 109.6

2 | 11.3 82.1

5.65 41.0

5.71 41.4

÷ 173 =

33.0

Resulting R.A. + Dec.

$h\ m\ s$

$19\ 44\ 8.5$ -46 41.1

33.0 41.4

$19\ 44\ 41.5$ -46 39.7

On R.A. this result shows as expected a still greater inc. of pos-error.

Evid. stars c & (e) are too far off in dec. unless a more careful orientation is to be made.

Rule. Take 2 stars, so placed that dist. to neb. from middle of line joining them shall be as small as possible.

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1907phae.proj.2293B

Position of No. 10 - Nebula. Pl. A 7447.

dec. 20 – 1907.

	C.P.D.			Ra.	Dec.
a	= -45° 9813	19h 43m 55.6	-45° 59.3	+ 36.8 = 19h 44m 32.4,	-45° 59.9
b	= -45° 9816	19 44 45.5	-45° 54.8	− 14.1 19 44 31.4,	-45° 59.7
c	= -46 9832	19 43 59.0	-46 19.9	+ 37.9 = 19 44 36.9,	-46 0.1
(d	= -46 9801)	19 38 53.0	-46 1.3	33.6	-4 59.9

(46°.1) d - a = 2'.0

see prec. page

$s = mm \frac{\cos\delta}{4} = mm \cdot 173$ (× 2 · .346 ~~× .99 = .342~~)

Oriented by div. in dec. of a + d. 2'.0

	half m.m.			
a	115.0	61.0	125.7	71.0
b	132.4	69.5	143.2	79.5
c	114.7	20.1	125.2	30.1
n	125.6	59.7	138.3	69.7

	×	×	×
n - a	+12.6 ∘	n - b = -4.8 .05	n - c = +12.9 -0.1
	+12.6 ∘	-4.9 .05	+13.1 +0.1
2 ⌋	+12.6 ±0	-4.85 ±.05	+13.0 ±0.10
corr. 1 d.o+	+ 6.3 .06	- 2.42 .03	+ 6.5 .06
	+ 6.36 ±0	- 2.44	+ 6.56
	÷.173	÷.173	÷.173
	= 36.8	= 14.1	+ 37.9

178 div. = 90 m.m.

(or 12.6 ÷ .343 = 36.8)

n - a	-1.3 ∘	n - b	-9.8 ∘	n - c =	+39.6 ∘
	-1.3 ∘		-9.8 ∘		+39.6 ∘
2 ⌋	-1.3 ±0		-9.8 ±0		+39.6 ±0
	-0.6		-4.9		+19.8

The results on this & the preceding page are in error due to wrong orientation. The observer forgetting when affixing the reticule that the divisions of the scale were half m.m. instead of whole m.m. The result was a wrong orientation - an exaggeration of the error by using a chord rather than a tangent to the dec. circle.

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1907phae.proj.2293B

Pos. 2 No. 10 Neb. A. 7467
Dec. 21. 1907
Oriented by diff. in R.A. of a and e.

a	-45° 9813	19h	43m	55.6s	-45°	59.3'	+36.9s	= 19h	44m	32.5s	-0.4' = -45° 59.7'
b	-45° 9816	19	44	45.5	-45	54.8	-12.9	= 19	44	32.6	-5.0 -45° 59.8
c	-46 9832	19	43	59.0	-46	19.9	+33.6	= 19	44	32.6	+20.1 -45° 59.8
e	-46 9833	19	44	8.5	-46	41.1				32.6	59.8

cos. 46° = .6947 ÷ 4 = .174
e - a = 12.9 × 174 = 2.24 mm.
4.48 div.

	x	y	x	y
a	85.5	94.3	100.5	103.5
b	102.5	103.4	117.7	112.7
c	86.6	53.3	101.7	62.4
neb	98.1	93.5	113.2	102.7

n - a	x	n - b	x	n - c	x
	+12.6		-4.4		+11.5
	+12.7		-4.5		+11.5
	12.65		-4.45		+11.5
	6.32 (6)		2.22 (2)		5.75 (6)
	+6.38		-2.24		+5.81
	÷.173		÷.173		÷.173
	= +36.9		= -12.9		= +33.6

n - a	y	n - b	y	n - c	y
	-0.8'		-9.9		+40.2
	-0.8		-10.0		+40.3
	-0.8		-9.95		+40.25
	-0.4		-5.0		+20.1

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1907phae:proj-22938

Pos of No-10. Neb. a. 7447.
Dec. 21, 1907.
Oriented by dif in Dec. of a + d (Repeated.)

a	= -45-9813	$19^h\ 43^m\ 55^s.6$	$-45^\circ\ 59'.3$	$+37''.3 = 19^h\ 44^m\ 32^s.9$		$-45^\circ\ 59'.7$ ~~60.2~~
b	= -45-9816	$19\ 43^m\ 45^s.5$	$-45\ 54.8$	$-13.1 = 19\ 44\ 32^s.4$		$-45\ 59.6$
c	= -46 9832	$19\ 44^m\ 59^s.0$	$-46\ 19.9$	$+34.7 = 19\ 44\ 33^s.7$		$-45\ 59.8$
d	see p 99.			$33^s.0$		$59'.7$

neb. .173 × 2 = .346 × 99 = .343

a	115.7	94.2	110.8	89.8
b	132.9	103.0	128.2	98.0
c	116.6	53.1	111.7	48.0
neb	128.5	93.3	123.6	88.3

n-a	+ 12.8	n-b − 4.4	n-c = + 11.9
	+ 12.8	− 4.6	+ 11.9
	+ 12.8	− 4.5	+ 11.9
	÷.343	÷.343	
	= 37.3	− 13.1	+34.7

n-a	n-b	n-c
− 0.9	− 9.7	+ 40.3
− 0.9	− 9.7	+ 40.2
− 0.9	− 9.7	+ 40.2
− 0.45	− 4.8	+ 20.1

The results appear somewhat more accordant with the orientation by stars of different Dec. as on page 100. The abnl results show in a small degree the results of erroneous orientation as on p. 99.

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1907phae.proj.2293B

a 7447. No. 63. Febry 14, 1908.

Obj. rather large & elongated. Set on centre of N..

a	-47°	9367	19h	41m	11.5s	-47°	38.1	+30.4	=	19h	41m	41.9	-8.0 : -47° 41.1
b	"	9371	19	42	54.1	-47	47.2	-1m 11.0	=	19	41	43.1	+6.2 : -47 41.0
c	"	9368	19	41	51.3	-47	0.4			19	41	42.5	-47 41.0

c - a = 39.8

cos 47.0 / 2 = .341

398
1592
1194
13.5718 div.

	x	y	x	y
a	70.0	40.0	80.0	48.3
b	103.7	11.7	113.7	19.8
Neb	80.1	24.0	90.1	32.3

n - a, x: +10.1 + 10.1 + 10.1 + 10.20

n - b, x: -23.6 - 23.6 - 23.6 - 23.84

n - a, y: -16.0 - 16.0 - 16.0 - 8.0

n - b, y: +12.3 + 12.5 + 12.4 + 6.2

.168) + 5.10 (30.4
5.04
600
672

168) 11.92 (70.95
1176
1600
1512
880

1907phaerproj 22938

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Offsets not measd S.I.P. Mar 10. 1911

Equat. of a 6911. $20^h\ 45^m$

No.	Obj.	Coord.
1	Neb.	219, 24$\frac{3}{4}$.
2	Neb	210, 235
3	Neb.	216. 222
4	Neb	222, 225
5	Neb	227. 222
6	Neb	2$\frac{+}{2}$4, 2$\frac{+}{1}$5
7	Neb.	236, 215
8	Neb.	248, 215
9	Neb	245, 196
10	Neb	220, 127

N.G.C. 6974 N.S. on plate.

N.G.C 6960, 6979, 6992 + 6995 are on plate and are part of the great filamented nebula which covers some 2.5° square. in filaments & patches: possibly with a sufficient long exposure these will become part and parcel of a vast spiral nebula. Since the visible portion appears to indicate such a structure. Centre of this region is $+ 20^h\ 46^m + 30.5°$

N.G.C 7013 is also on plate.

11	Neb.	163, 94
12	Neb.	202, 95
13	Neb	217. 94
14	Neb.	187, 180
15	Neb	125, 123
16	Neb	148, 18
17	Neb	262, 21

1–9 appear to be part of a system connected with Northern 10–15, (perhaps except 14) appear to indicate a connection

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+30°.6. Febry 19, 1908 -

Description

tho' detached.

F. Irreg. filament with stars 2' by 0'.1 ±. Prob. ft. ends of 6992 + 6960.
F. " " " " " incl - 2'.by 0'.1 " " " " " " " " " —
eF " patch. 2' by 1' ± " " " " " " " " —
vF, eL misc - 2'. by 0'.1 ±. " " " " " " " " .
vF, patch 1' by 0'.5 ± " " " " " " " " .
pF. eL filamented structure, 50'.by 1,0'.± similar to + " " " " " " " " .
eF, mottled cloud shots, prob - connibel. " " " " " " " " .
eF, streak - 2'. by 0'.5 ±, " " " " " " " " .
pF. large irreg. patch. " " " " 6960.
eeF. large. irreg. patches " " " " " To (S. +) fol.

there "synth" obj. may be checked by plates 6914 + 6911. we were not fol us fill it here we don't get done.

eF. irreg. patch. perhaps 2'. x 1'. Dusp " " " " " " " " " " " —
pB. E at 170°. 0'.8 x 0'.2 ±, Dusp
eF, filament 1'. x 0'.2 ± Dusp " " " " " " " " .
pF. R. bll. d 0'.1 ±. Dusp.
pF. irreg. patch. " " " " " " of S. end of 6992.
pB. irreg. dbl. patch. nr bgt st. + f. Dusp. perhaps foggy from bgt star. ± 6995.
pF. elo N. nr R. d 0'.2 ±. Dusp -
ends of 6960 + 6992 in connec. with 6997.
bel. S.

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1907phae.proj.2293B

√√

Exam. of a 6761 21h 32m −16.0°

No.	Obj.	Coord.				
			additional plates of the region			
8x10 a 6733	120m	May 18 1904	a 2775	Ref. 60	Sept 13 1897	
8x10 6727	120	" 12 "	6703	− 120	Apr. 23 1904	8x10
8x10 6692	120	Apr. 21 "	6742	" 120	May 21 "	
8x10 6684	120	" 20 "	6735	− 120	" 19 "	
8x10 6677	120	" 19 "	6749	− 111	" 25 "	
8x10 6669	120	" 16 "	6760	" 120	June 8 "	
			6761	240	" 9 "	
8x10 6771		June 18 "	6798	120	July 5 "	fifteen 8x10
8x10 6773		" 20 "	6801	120	" 6 "	8x10
8x10 6804		July 7 "	6854	150	Aug 15 "	8x10
8x10 6807		" 11 "	7507	60	Oct 20 1905	
8x10 6812		" 20 "				
8x10 6841		Aug 2 "				

all the objects given below have been a 6760. Ref. 120m all the objects are grouped

1	Neb	91, 300	
2	"	162, 250	
3	"	183, 246	
4	"	190, 250	
5	"	225, 241	
6	"	216, 243	
7	"	200, 238	
8	"	187. 230	
9	"	174, 224	
10	"	309. 221	
11	"	88, 202	
12	"	95, 207	
12a	"		

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1907phaea.proj.-22936

Ecl. 240m. Feby 24, 1908. Camb.

Description -

In starting to check dbtful objects on A6761 by a comparison with plate A 6760, two moving objects were found which appear to have a motion somewhat similar to Saturn, whose appearance on the plates here pres. is about 1m fore. Saturn, about 1° 37'. South -
(These objects were fd enclosed in a circle with a line pointing to the fol. obj.)

Later exam. shows that the objects are the images formed by the bgt star fd on plate, from the 2 secondary short cols given for Saturn. The other bgt star on the plate fd. North also has a pair of secondary images - !!

checked (exceptions of 52 + 53 Tph. are not on the plate) by a comparison with Cent Dey are small. & the appearance is sometimes dbtful as to true character

✓ pB. R?, mbM, d 0'.4.
✓ pF. lbM. E at 80°, 0'.5 by 0'.3.
✓ pF. mbM. E at 160°. 0'.5 × 0'.3.
✓ pF. lbM. R?, d 0'.5.
✓ F. bM. E at 30°. 0'.4 × 0'.2.
✓ F. bM. R?, d 0'.4.
✓ pB. mbM. R, d 0.4. Susp.
✓ pF. lbM. R?, d 0'.3.
✓ pF. bM. E at 120°. Susp. per-dbl or triple star.
✓ pF. lbM. R?, d 0'.5.
✓ pF. R, lbM, d 0.5
✓ F. lbM. R, d 0,'4,
✓ F. R. lbM, d 0'.3

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Region of A - 6761. Cont.

No	Obj.	Coord.	
13	Neb	108, 211	✓
14	"	110, 208	✓
15	"	187, 203	✓
16	"	206, 211	✓
17	"	205, 198	✓
18	"	118, 179	✓
19	"	145, 152	✓
20	"	147, 155	✓
21	"	146, 159	✓
22	"	184, 173	✓
23	"	216, 165	✓
24	"	274, 173	✓
25	"	188, 138	✓
26	"	190, 140	✓
27	"	219, 143	✓
28	"	240, 146	✓
29	"	311, 158	✓
30	"	310, 156	✓
31	"	309, 143	✓
32	"	316, 148	✓
33	"	333, 157	✓
34	"	344, 150	✓
35	"	360, 149	✓
36	"	168, 123	✓
37	"	211, 122	✓
38	"	238, 127	✓
39	"	324, 127	✓
40	"	341, 124	✓

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Drac.

✓ pB. R. bm, d 0'.4.
✓ pB. R. bm. d. 0'.5-.
✓ pF. R. bm. d 0'.4.
✓ F. R. bm?, d 0'.3.
✓ F. R?, bm. d 0'.4. Irish.
✓ F. E @ 160°?, bm. 0'.4 by 0'.3.
✓ pB E @ 45-°, bm. 0'.6 by 0'.4.
✓ vF. 0.7 × 0.3 @ 80°. uniform bgl nebs?
✓ pB. bm. R?. d. 0'.4.
✓ pF. R? bm. d 0'.4.
✓ pF. R? bm. d 0'.3.
✓ pF. E at 120°, 0'.7 × 0'.3.
✓ F. E @ 40°, 0'.4 × 0'.3.
✓ pF. R?, bm. d 0'.3.
✓ pF. E at 45-?, bm. d 0'.5-±
✓ pF. bm. iF, d 0'.5- ±.
✓ pF. R? d 0'.X3±.
✓ pB. bm. E @ 170°, 0'.7 × 0'.3.
✓ pB. R?, bm. d 0'.2.
✓ F. R?, d 0'.3.
✓ pF. R?, bm. d 0'.3
✓ pF. bm. R? d 0'.4
✓ pF. E @ 130°, 0'.4 × 0'.2.
✓ F. R? bm. d 0'.5-
✓ F. R?, bm. d 0'.4.
✓ F. R?, bm. d 0'.3.
✓ pF. R? bm. d 0'.4
✓ pB. R? bm. d. 0'.3

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1907phae.proj.2293B

Exam. of A 6761 Conc.

No.	Obj.	Coord.	
41	Neb	345, 130	✓
42	"	130, 98	✓
43	"	152, 95	✓
44	"	189, 88	✓
45	"	191, 87	✓
46	"	210, 81	✓
47	"	169, 70	✓
48	"	172, 73	✓
49	"	175, 75	✓
50	"	225, 62	✓
51	"	15, 73	✓
52	"	126, 21	✓
53	"	161, 36	✓
54	"	179, 42	✓
55	"	272, 29	✓
56	"	91, 80	✓

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Dec.

✓ pB, R?, bM, d 0'.3.
✓ pF, R?, bM, d 0'.3
✓ pF, E @ 170°, bM, 0'.4 by 0'.3.
✓ pF, R?, bM, d 0'.3
✓ F, bM, R?, d 0'.3.
✓ vF, iF, close to star, following, pos. dble star.
✓ pF, R, bM, d 0'.3.
✓ F, E @ 90°, lbM, 0'.6 × 0'.4.
✓ F, R, lbM, d 0'.3.
✓ pF, mbM (neb*?) E @ 130°, 0'.6 × 0'.4
✓ pF, lbM, R?, d 0'.3 ± R
✓ pF, R?, lbM, d 0'.3 ±, dusk.
✓ pF, bM, R?, d 0'.6.
✓ vF, R?, lbM, d 0'.5-
✓ pF, bM, R?, d 0'.3, dusk
✓ pF, E @ 80°?, lbM, 0'.3 × 0'.2.

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JJ

Exam. of A. 8492 Exp. 120m.

The Coord- as well as dese- & are from
inals are to be sent to Kapteyn - There will
inals & on the contact copies which are kept
for all, more or less. There shd be no trouble
object on the color and number marked, as
are usual- from the lower left hand corner of
corner of the plate.

On A 8492 are 2 doubtful obj. f'd -
1. off. an asteroid. Centre of trail
trail 284, 25.7
2. meteor trail ? 294, 283

Exam- of A 7964 Exp. 120m.

No Objects found

This plate had been exam- before
& no objects f'd. See p. 8.
Examd again by mistake. Result same in
both independent exams.

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1907phae.proj.2293B

Kapteyn plate. June 24. 1908. $17^h\ 26^m - 30.^\circ 8'$.

the original plates in Utrecht. + other cases where the orig. be a slight difference in the coord. as meas. on the orig. in Cambridge. but as this difference will be the same in identification. a mig has also been put around each on the originals. As in previous work the coord. plate. (glass up. numbers to left) i.e. the South following

Trail @ 0°. about 1mm long (i.e. 1' long) f. B.
Trail aff. a meteor trail, but dblful at 30°. 3' long. F

Kapteyn Region. June 24. 1908. $17^h\ 38^m + 0.^\circ 2$.

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1907phae.proj.2293B

Exam. of a 8364. VJ Exh. 120

8 obj. marked. but by comp. with their plates. + hence must be defects

Exam. of a. 8515, VJ Exh. 120m.

Four objects were marked, in addition to one of them be W.C. 7013. + one is not a defect. not seen on a 6911.

~~1.~~			✓
2.	vele	243. 142. = W.C. 7013.	✓
3.	vele.	228. 118.	✓
4.	vele	293. 26.	✓

Exam. of a 8405. VJ Exh 120m
4 objects marked, 2 of them W.C. Errors as plate a 2677 + a 2067
No new objects, therefore, accepted

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Kapteyn Region - $14^h\ 57^m - 59°.8$. June, 1908 -

a 5376 and a 2514, all here were not seen on the object was very all marked?

Kapteyn Region - $21^h\ 00^m + 30°.0$. June 1908 -

W.H. 6992 -

checked - No. part of plate checked by a 6911, Cob 240, & No. part by a 5351, Epoch 60

p. B. well defined N, alph. a sp. neb - 1.0 × 0.5 at 170°.
p ☆, E @ 5°, b M. 0.3 by 0.2 ±.
p ☆, E at 40°, 1.5 by 0.3, ☆ struck. push.

Kapt. Region - $17^h\ 49^m - 44.9$ ~~June~~ May. 1908.
65'41 and 6496 - The other two appear to be do not show neb. but only stars - probably - from this plate -

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√√

a 8257. Exp. - 120m

Objects checked by comb. with a 5761. + a 7683. are pretty faint. Some of them do not appear on objects on 8257. not appearing on 5761 + 7683. As assurance a check mark ✓ is used to indicate special plates go to Kapteyn. The exam. posed on the contact print. Will be kept in

1	Neb ✱	87, 326	✓	
2	" "	90. 314	✓	
3	" "	102, 324	✓	
4.	" "	108, 318	✓	
5	" "	116, 319	✓	
6	Neb	92. 310	✓	
7	"	71. 296	✓	
8	"	71. 295	✓	
9	"	87, 308		✓
10	"	84, 307		✓
11	"	88, 309		✓
12	"	92, 312		✓
~~13~~	—	—		✓
14	Neb	95, 311		✓
15	"	91, 294		✓
16	"	91+, 294		✓
17	"	101, 303		✓
18	"	101, 311		✓
19	"	173, 313		✓
20		231, 304		✓

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1907phae.proj.2293B

Kapteyn region - $11^h\ 50^m + 0°.5$ - June 1908

Pairing refs. of 60m. each - as many of the objects on a 8217 the other plates. Such objects are called "such". Bgt. are regarded as objects and registered. (except possible trails) but the object is seen on the checking plate - Small objects are made on orig. plate. The record is then Cambridge -

Dense -

Hazy star. mbM. pF. R?. d 0.3 ± nr. ⅛ deg y pl.
Hazy st. mbM. pB. R? " 0.4 ± " " " "
Hazy st. bM. pF. R? " 0.3 ± " " " "
Hazy * bM. pF. R? " 0.3 ± " " " "
Hazy * mbM. pB. R? " 0.5 ± " " " "
pF. bM. R? d 0.2 ± " " " "
F. R?. vlbM. d 0.2 ±
F. R?. bM. d 0.2 ±
✓ pF. R? bM. d 0.2 ±
✓ pF. R? bM. d 0.2 ±
✓ pF. R? bM. d 0.2 ±
✓ vF. R? bM. d 0.2 ±
✓ aph. a defect
✓ pF. R?. bM. d 0.3 ±
✓ pF. R?. bM. d 0.2 ±
✓ F. R?. bM. d 0.2 ±
✓ pF. R?. bM. d 0.2 ±
✓ eF. R. d 0.3 ±
✓ pF. R. mbM. d 0.2 ±
✓ pF. R?. bM. d 0.2 ±

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a 8257 cont.

21	neb	266,304	✓
22	"	267.306	✓
23	"	342.312	✓
24	"	97 285	✓
25	"	99,288	✓
26	"	126,292	✓
27 ?	Trail?	191.282	✓
28	neb	223,274	✓
29	—	—	/
30	—	—	/
31	neb?	160,270	✓
32	"	161,267	✓
33	"	193.269	✓
34	"	201.268	✓
35	"	325,265	✓
36	"	187,241	✓
37	—	—	/
38	neb	116.221	✓
39	"	151.230	✓
40	"	153.218	✓
41	"	197.230	✓
42	"	324,233	✓
43	"	141,207	✓
44	"	244,208	✓
45	"	285,198	✓

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eF, R, d 0.2 ±.
pF, R, mbm, d 0.5-.
pF, mbm - mE at 50°, 1' by 0.4.
pF, R?, lbm, d 0.2 ±.
F, R, lbm, d 0.2 ±.
pF, R, lbm, d 0.2 ±.
perhaps an asteroid trail, but poss. a defect. Susp.
F, E at 100°, 0.3 by 0.2, lbm.
aff. a defect.
aff. a defect.
F, mE at 110°, 0.8 by 0.2. Susp.
pF, R, mbm, d 0.2 ±. Susp.
F, E at 160°, d 0.2 ±
pB, E at 150°, 0.3 by 0.2, lbm.
pF, R?, bm, d 0.3 ±.
F, lbm, lE at 40°, d 0.2 ±. Susp.
aff. a defect.
pF, R?, lbm, d 0.3 ±.
pB, E at 0°?, 0.4 by 0.2 ±, mbm.
pF, E at 30°, 0.4 - 0.2, mbm - Susp.
pF, E at 135°, lbm, 0.3 by 0.2.
pB, 0.3 by 0.2 at 0°, bm. Susp.
pB, R, bm, d 0.2.
B, R, bm, d 0.3.
F, R?, bm, d 0.2.

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a 8257. Cont.

46	Neb	285, 196
47	"	287. 208
48	"	28. 208
49	"	69. 189
50	"	112. 182
51	"	120. 187
52	"	293. 178
53	"	328. 187
54	"	353. 183
55	"	90, 162
56	"	136. 157
57	"	158, 167
58	"	169. 169
59	"	223. 154
60	"	244, 173
61	"	299. 167
62	"	300. 168
63	"	332. 169
64	"	129. 135
65	"	152, 134
66	"	218, 140
67	"	316. 135
68	"	318. 135
69	"	381, 148
70	"	323. 135
71	"	140, 122
72	"	160. 117

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1907phae.proj.2293B

✓ f. R?, bm. d 0.2.
✓ f, R. bm, d 0.2.
✓ ef, R?, d 0.3. susp.
✓ ef, E at 45°, 0.3 by 0.2. susp.
✓ pf, R?, bm, d 0.3 ±.
✓ pB, R, mbm, d 0.3 ±. 7t * f N.
✓ f, lbm, R?, d 0.3. susp.
✓ qf, 0.5 by 0.2 at 100°, susp.
✓ pB, 0.4 by 0.2 at 120° lbm.
✓ ef, R?, d 0.2 ± susp.
✓ f, lbm, R?, d 0.3 ±.
✓ f, 0.3 by 0.2 at 130°, lbm. susp.
✓ B, mbm, E at 45°, d 0.3.
✓ pf, lbm, R? d 0.2.
✓ f, 0.3 by 0.2 at 20°, susp.
✓ f, 0.3 by 0.2 at 40°,
✓ cf, 0.2 by 0.1 at 60°,
✓ ef, E?, d 0.2 ±, susp.
✓ pf, bm 0.6 by 0.2 at 40° Sp.?
✓ Sp. neb. N, d 2.0', S, pB. plane of sp. part. ℓ line of sight.
✓ pf, R, bm, d 0.2.
✓ pB, R, bm, d 0.3
✓ pf, 0.8 by 0.2 at 70°, bm. Sp.?
✓ pf, 0.7 by 0.1 at 160°, bm. susp.
✓ pf, 0.3 by 0.2 at 135°, bm.
✓ pB, 0.8 by 0.4 at 45°, bm.
✓ pf, 0.3 by 0.2 at 45°, lbm.

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α 8257 Tout -

73	vela	166, 131
74	"	195, 125
75	"	207, 123
76	"	225, 124
77	"	298, 113
78	"	299, 116
79	"	314, 113
80	"	366, 117
81	"	167, 101
82	"	170, 97
83	"	176, 112
84	"	386, 104
85	"	407, 100
86	"	104, 82
87	"	183, 82
88	"	184, 86
89	"	213, 78
90	"	326, 78
91	"	378, 88
92	"	85, 56
93	"	180, 71
94	"	182, 63
95	"	187, 72
96	"	196, 65
97	"	242, 60
98 ?	"	351, 71
99 ?	"	352, 68
100 ?		390, 59

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1907phae.proj..2293B

✓ pf. lbm. 0.5 by 0.2 at 125°. sh.? susp.
✓ pf. bm. 0.8 by 0.2 at 150°. sh.?
✓ f. bm. R?, d 0.3. susp.
✓ pB. R. bm, d 0.2.
✓ pf. bm. 0.2 by 0.1 at 80°. susp.
✓ pf. lbm. 0.3 by 0.2 at 135°. susp.
✓ pB. bm. R. d 0.2.
✓ f. 0.4 by 0.3 at 15°. susp.
✓ pB. R. bm. d 0.2.
✓ ef. 0.3 by 0.2 at 45°. lbm. susp.
✓ ef. 0.6 by 0.4 at 90° ± lbm. susp.
✓ pB. 0.7 by 0.4 at 60°. bm. susp.
✓ pf. R?, bm, d 0.2 ± susp.
✓ f. 1.0 by 0.2 at 135°. bm. susp.
✓ pf. R. bm, d 0.2 ±. susp.
✓ pB. R. bm, d 0.2.
✓ f. R. d 0.2 ±. susp.
✓ f. R?, lbm, d 0.2 susp.
✓ f. R?, bm, d 0.3. ~~susp~~.
✓ pf. bm. R. 1.0 in diam. sh.?
✓ pB. R. bm. d 0.2.
✓ f. R?, N, d 0.5.
✓ B. R. bm, d 0.2
✓ f. R?, d 0.3 ±
✓ pf. 1.2 by 0.3 at 170°. FN.
✓ f. R. E, lbm. susp.
✓ f. irreg? dbl.? susp.
✓ f. R? susp.

} Perhaps defects. Show pen wide Several faint markings

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1907phae.proj.2293B

a 8257 Lowe.

101	Neb.	86, 35
102	"	177, 40.
103	"	218. 36
104	"	269, 51
105	"	279, 41
106	"	339, 49
107	"	385, 49
108	"	65, 21
109	"	110, 26
110	"	300, 24
111	"	303, 30

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1907phae.proj.22938

p f, R?, bm, d 0.2 ±.
p pf, 0.3 by 0.2 at 45°.
p pB, R, mbm, d 0.2.
p B, 0.3 by 0.2 at 45° bm.
p pf, 0.5 by 0.3 at 120°, lbm.
p f, 0.3 by 0.2 at 30°, susp.
e f, 0.6 by 0.3 at 160°, susp.
f, R? bm, susp.
f, R? bm, susp.
p B, R, bm, d 0.2.
p f, 0.6 by 0.3 at 130°, bm.

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√√

Exam. of a 8288. Exh. 120m.

No.	Obj.	Coord.	
1	Neb.	187, 316	✓
2	"	203, 314	✓
3	"	246, 329	✓
4	"	295, 336	✓
~~5~~	—	—	/
6	Neb?	79, 299	✓
7	"	156, 308	✓
8	"	158, 309	✓
9	"	195, 299	✓
10	"	401, 313	✓
11	"	163, 274	✓
12	"	186, 286	✓
13	"	193, 290	✓
14	"	220, 278	✓
15	"	223, 289	✓
~~16~~	—	—	/
17	Neb	397, 279	✓
18	"	144, 260	✓
19	"	199, 270	✓
20	"	211, 264	✓
21	"	214, 264	✓
~~22~~	—	~~223, 257~~	/
23	Neb	168, 250	✓
24	"	219, 238	✓
25	"	234, 240	✓

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Kapteyn Region. $14^h 35^m + 0.^\circ 3$ June 1908.

See page 221 for descr. of Nos.

Desc.

Spiral seen on edge - 6' by 1', at 170°, pB, bM, N. 3
vF, R?, d 0'.3. 4
pF, R, bM, d 0'.5. 4
pB, 3' by 1' at 140°, lbM, sp.? 3
aph - a defect. –
pF, 0'.6 by 0'.1 at 135°, susp. Poss. asteroid trail. 2
eF, R, bM, d 0'.3. 4
pF, R, bM, d 0'.3. 4
Spiral, pB, 1'.5 by 0'.8 at 140°, N. 3
pF, R?, lbM, d 0'.3 4
pB, R, bM, d 0'.2. 4
vF, lbM, R, d 0'.3. 4
pF, lbM, R, d 0'.3. 4
pF, R, d 0'.2. 4
pB, 0'.4 by 0'.2 at 75°, lbM. 3
aph. merely a dbl star. –
pF, lbM, R, d 0'.3±. 4
pF, lbM, R, d 0'.3. 4
pF, 0'.4 by 0'.2 @ 15°, ±N?, sp.? 3
pF, bM, R, d 0'.2. 4
F, 0'.3 by 0'.1 at 45°. 4
aph. merely a dbl. star. –
F, R, lbM, d 0'.2. 4
F, 0'.5 by 0'.1 @ 50°, lbM, sp.? 3
F, 1'.0 by 0'.4 at 40°, sp?. 3

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Spectra of a 8288 Cont.

26	neb	254, 233	✓
~~27~~	—	—	✓
~~28~~	—	—	✓
~~29~~	—	—	✓
30	neb	350, 337	✓
~~31~~	—	—	✓
32	neb	108, 230	✓
33	"	112, 231	✓
34	"	156.5, 226	✓
35	"	186, 229	✓
36	"	189, 2+19	✓
37	"	303, 225	✓
38	"	331, 219	✓
39	"	332, 228	✓
40	"	375, 217	✓
41	"	57, 197	✓
42	"	110, 202	✓
43	"	197, 200	✓
44	"	209, 210	✓
45	"	281, 198	✓
46	"	326, 198	✓
47	trail	385, 195	✓
48	neb	77, 179	✓
49	"	78, 181	✓
50	"	169, 184	✓

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1907phae.proj.22938

F, R, d 0'.3.	4
aff. a defect.	–
aff. a dbl star	–
prob. stellar only	–
pB, R, lbM, d 0'.3.	4
aff. a defect N.S on a 6843.	–
F, 0'.2 by 0'.1 at 45°, lbM,	4
pB, R, lbM, d 0'.3	4
pF, 0'.4 by 0'.1 at 80°,	4
∗F, mbM, 0'.6 by 0'.3 at 45°, sp.?	3
pF, 0'.5 by 0'.2 at 140°, sp.? (lbM)	3
pB, R, bM, d 0.2	4
pB, R, lbM, d. 0'.3	4
pF, R, lbM, d 0'.3	4
pB, 1'.0 by 0'.3 at 120°, bM, sp.?	3
pF, lbM, R, d. 0'.3	4
pF, 0'.4 by 0'.2 at 135°, lbM, sp.? susp.	2 1
pF, 0'.5 by 0'.2 at 45°, bM, sp.? close to F ∗.	3
pF, 0'.3 by 0'.1 at 30°, F N ?, sp. ??	4
pF, 0'.3 by 0'.1 at 170°, F N ? sp ?	4
pB, R, bM, d 0'.2	4
vB, 1'.0 by 0'.2 at 100°, aff. an asteroid trail, susp.	2
pF, R, bM, d 0'.2	4
pF, R, bM d 0'.3	4
pB, 1'.5 by 1'.0 at 45°, B Nr. sp.	3

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1907phae.proj.2293B

Streams of a 8288 - Cont -

51	neb	183, 188
52	"	220, 177
53	"	248, 179
54	"	259, 180
55	"	288, 178
56	"	293, 174
~~57~~	–	–
58	neb	265, 155
59	"	97, 144
60	"	101, 145
61	"	25, 135
62	"	152, 139
63	"	230, 150
64	"	397, 144
65	"	213, 123
~~66~~	–	–
67	~~neb~~	371, 121
~~68~~	–	–
69	neb	21, 113
70	"	151, 99
71	"	163, 106
~~72~~	–	–
~~73~~	–	–
74	neb	101, 93
75	"	102, 90

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1907phae.proj.-22935

✓ pF, R?, d 0'.3. 4
✓ pB, lbM, 1'.0 by 0'.3 at 30°, sh.? 3
✓ B, 1'.0 by 0'.4 at 105°, mbM, sh? 3
✓ B, Spiral, 1'.2 diam. ± N, 3
✓ pF, R, lbM, d 0'.2. 4
✓ pB, Spiral, N. d 0'.8. 3
✓ appr. merely a dbl * 1
pF, 0'.7 by 0'.2 at 60°, lbM, sh.? susp. 1
✓ eF, R, d 0'.3, susp. 2
✓ pF, R, bM, d. 0 3 4
✓ vF, R?, lbM. d. 0'.2 ±. 4
✓ pF, R, bM, d 0'.4. 4
✓ F, R?, lbM, d 0'.2 ± susp. 2
✓ pF, R?, lbM, d 0'.3 ± susp. 2
✓ pF, R?, lbM, d 0'.2 ± susp 2
/ prob - a defect 1
✓ pF, R, bM, d 0'.2 - susp. 2
/ prob - a defect 1
✓ pF, lbM, R, d 0'.4 ± 4
✓ pF, R, lbM, d. 0'.4. 4
✓ F, R?, d 0'.3 ± susp. 2
/ prob. a defect 1
/ " " 1
✓ pF, R, lbM, d 0'.3 4
✓ F, R?, lbM, d 0'.4. 4

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1907phae.proj.2293B

Exam. of a 8288 Concl'd

~~76~~	~~neb~~	~~150.84~~	+	✓
~~77~~	–	–		✓
78	neb	160, 79		✓
~~79~~	–	–		✓
80	neb	320.77		✓
~~81~~	–	–		✓
82	neb.	313, 73		✓
~~83~~	–	–		✓
~~84~~	–	–		✓
85	neb	80, 44		✓
86	"	177, 36		✓
87	"	195, 50		✓
~~88~~	–	–		✓
89	neb	78. 25		✓
~~90~~	–	–		✓
91	neb	286, 19		✓

20 objects rejected, leaving 71.

This plate was checked by comparison with a of about 1h. There is much difference in thinness near as ft objects as 8288. Sent

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1907phae.proj.22935

prob. a defect	—
prob. a defect	—
p f, R, bM, d 0.'2.	4
aff. merely a star (chk on Pl. 3797.)	—
e f, R, bM, d 0.'3 ± susp	2
aff. a defect.	—
p f, R, bM, d 0.'3 susp	2
aff. a defect.	—
aff. a defect.	—
p f, R?, bM, d 0.'6	4
p f, 0.'3 by 0.'1 at 25°, bM, susp.	2
p f, 0.'3 by 0.'1 at 80°, susp.	2
aff. a defect.	—
0.'7 by 0.'2 at 10°, p f, susp. poss. trip. *	2
aff. a defect.	—
e f, R?, d 0.'3 susp.	2

a 3797, 3993, 6843 + 6845 v. each having reference the plates however, a 6843 being much the best the others much less.

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1907phae.proj.2293B

√√

Exam of a 7698. $13^h\ 31^m$

No	Obj.	Coord.	
1	Neb	158, 343	✓
2	"	174, 338	✓
3	"	253, 335	✓
4	"	281, 337	✓
5	"	305, 343	✓
6	"	311, 327	✓
7	"	307, 326	✓
8	"	261, 317	✓
9	"	239, 303	✓
10	"	240, 301	✓
11	"	251, 312	✓
12	"	289, 310	✓
13	"	193, 281	✓
14	"	194, 281	✓
15	"	209, 277	✓
16	"	303, 285	✓
17	"	136, 259	✓
18	"	159, 259	✓
19	"	163, 267	✓
20	"	215, 263	✓
21	"	236, 253	✓
22	"	379, 259	✓
23	"	115, 237	✓
24	"	122, 249	✓
25	"	238, 245	✓

The objects on this plate and Kapteyn plate of same region + of

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1907phae.proj.22925

− 0°.1 Kapteyn region refr. 120mm. June - aug. 1908.

DCK.

pf, R, lbM, d 0'.4,	4
pf, R?, neb *?, aff. N with F neb - sp.? d 0'.4±	4
pf, 1'.0 by 0'.5 at 40°, bM, sp.?	3
pf, R?, lbM, d 0'.3	4
pB, R?, bM, d 0'.5	4
pf, R?, lbM, d 0.3	4
f, R?, lbM, d 0.3	4
pf, 0'.6 by 0'.3 at 140°, N, sp.?	3
f, 0'.3 by 0'.2 at 30°, lbM, nr F *.	4
pf, R, d 0'.3	4
pf, R?, d 0'.2	4
pf, lbM, 0'.8 by 0'.4 at 130°, sp.?	3
pB, nucleated, d 1'.2, ± aff. sp.	3
pB, dbl prob nuclei, d 0'.8, aff. sp.	3
pf, 0'.3 by 0'.1 at 35°, lbM, sp.?	3
pf, R?, lbM, d 0'.3	4
pf, 0'.2 by 0'.1 at 90°, lbM	4
f, R?, lbM, d 0'.2	4
pf, R, bM, d 0'.2	4
pB, 0'.4 by 0'.2 at 130°, mbM, sp.?	3
f, R?, bM, d 0'.2	4
f, R, lbM, d 0'.5	4
pf, R, bM, d 0'.2	4
wf, E?, fM, d 0'.2	4
pf, R, bM, d 0'.3	4

checked by comparison with a 7694, another equal quality.

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1907phae.proj.22938

Beam of a 1698 Cont.

26	Neb	252, 247	✓
27	"	343, 250	✓
28	"	26, 221	✓
29	"	117, 216	✓
30	"	130, 217	✓
31	"	216, 217	✓
32	"	221, 232	✓
33	"	346, 214	✓
34	"	358, 230	✓
35	"	366, 225	✓
~~36~~	—	—	—
37	Neb	169, 204	✓
~~38~~	—	—	—
39	Neb	195, 210	✓
40	"	208, 194	✓
41	"	211, 206	✓
42	"	219, 207	✓
43	"	249, 203	✓
44	"	274, 210	✓
45	"	297, 207	✓
46	"	335, 195	✓
47	"	352, 208	✓
48	"	360, 213	✓
49	"	259, 176	✓
50	"	205, 164	✓

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1907phae.proj.22935

f. lbm. ~~Eat~~ R?, d 0.3	4
pB. bm. R?, d 0.3	4
f. R?, lbm. d 0.3	4
f. E at 80°. 0.2 by 0.1,	4
pf. R?, lbm. d. 0.2	4
pf. E at 170°?, N,	4
pf. E at 90°?, poss. a dbl ✶.	4
pf. 0.8 by 0.3 at 120°. Sp.?	3
pf. R. d 0.3	4
pf. R?, d 0.3, lbm.	4
aph. a dupet	–
pf. R?, d 0.1	4
prob. merely a star.	–
pf. R?, d 0.1	4
pf. E at 70°? bm. d 0.2	4
Kf. 0.5 by 0.2 at 135°. lbm. Sp.?	3
f. E at 120°?, d 0.2 ±	4
f. E at 150°, d 0.2 ±.	4
pf. 0.4 by 0.2 at 30°. bm. Sp.?	3
f. R, lbm. d 0.2	4
pf. R. bm. d 0.2	4
ef. 0.6 by 0.3 at 0°, lbm. Sp.?	3
f. R. lbm. d. 0.3	4
pf. R, lbm. d 0.3	4
pf. bm. 0.4 by 0.2 at 85°. Sp.?	3

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1907phae.proj.2293B

Exam of a 7698 Cent

51	neb	250, 169	✓
52	"	251, 170	✓
53	"	297, 169	✓
54	"	300, 162	✓
55	"	300, 156	✓
56	"	333, 167	✓
57	"	252, 135	✓
58	"	271, 148 ~~324, 134~~	✓
59	"	324, 134	✓
60	"	346, 146	✓
~~61~~	—	—	✓
~~62~~	—	—	✓
~~63~~	—	—	✓
64	neb	211, 129	✓
65	"	224, 128	✓
66	"	228, 130	✓
67	"	233, 126	✓
68	"	289, 117	✓
69	—	—	✓
70	neb	314, 130	✓
71	"	317, 118	✓
72	"	326, 128	✓
73	"	331, 125	✓
74	"	341, 132	✓
75	"	342, 128	✓

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1907phae.proj.22939

pF, 0.4 by 0.2 at 130°,	4
F, 0.3 by 0.2 at 135°, { 51 & 52 are nr together & nearly on same line	4
pB, 0.7 by 0.4 at 30°. BN in 7 neb. app. sp.	3
pF, 0.6 by 0.4 at 75°, mbM, sp. ?	3
pF, R; bM, d 0.3	3
F, 0.3 by 0.2 at 90°	4
pF, R?, bM, d 0.4	4
F, nr * To north, R?, d 0.3 (i.e. neb is north)	4
pB, R, bM, d 0.3	4
pF, bM, 0.3 by 0.2 at 45°.	4
app. a defect.	-
app. a defect.	-
app. a defect	-
F, 0.4 by 0.1 at 100°, bM.	4
F, 0.5 by 0.2 at 165°, bM	4
pF, R?, bM, d 0.2	4
F, 0.3 by 0.2 at 45°, bM	4
pF, 0.7 by 0.1, bM. sp.?	3
app. a defect, N.S. of 7694	-
pF, bM 0.5 by 0.2 at 0°, sp.?	4 3
pB, app. a N inv. in F. neb.	4
F, 0.5 by 0.2 at 30°, bM. sp.?	3
pF, bM, 0.3 by 0.2 at 35°, sp?	3
pF, Spiral, d 1.0, N	3
pB, Spiral, ⊕ 1.2 by 0.4 at 110°, N.	3

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1907phae.proj.2293B

Exam. of a 7698 Concluded.

76	Neb	375, 116	✓
77	"	11, 97	✓
~~78~~	—	—	/
79	Neb	235, 101	✓
80	"	315, 112	✓
81	"	321, 110	✓
82	"	341, 105	✓
83	"	362, 109	✓
84	"	174, 77	✓
85	"	308, 82	✓
86	"	317, 81	✓
87	"	317, 74	✓
88	"	192, 57	✓
89	"	283, 64	✓
90	"	289, 66	✓
91	"	312, 66	✓
92	"	315, 54	✓
93	"	318, 68	✓
94	"	338, 57	✓
95	"	266, 50	✓
96	"	300, 49	✓
97	"	301, 46	✓
~~98~~	—	—	/
99	Neb.	234, 15	✓
100	"	243, 20	✓
101	"	123, 264	✓
102	"	248, 203	✓

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1907phae.proj.2293B

f, lbm, R?, d 0.'3 4
f, bm, R?, d 0.'4 (edge of pl.) 4
aff. a defect. 1
pf, R, lbm, d 0.'3 4
pf, 0.'3 by 0.'2 at 170° lbm, sf.? 3
f, lbm, 0.'5 by 0.'2 at 135°, sf.? 3
f, 0.'3 by 0.'2 at 80°, (poss. a dbl *.) 4
pf, R, lbm, d 0.'5- 4
pf, R, d 0.'2 4
f, 0.'3 by 0.'2 at 130°, 4
f, 0.'4 by 0.'1 at 110°, lbm, sf.? 3
pf, 1.'0 by 0.'3 at 50°, N, sf. 3
pf, R, d 0.'3. 4
pf, R, d 0.'2 4
pf, R?, bm, d 0.'3 4
f, lbm, R, d 0.'3 4
f, 0.'4 by 0.'2 at 45°, lbm, sf.? 4
pB, N sat, mbm, d 0.'3 4
pf, R?, lbm, d 0.'3 4
f, lbm, R, d 0.'3 4
pf, R, mbm, d 0.'3 4
pf, 0.'8 by 0.'2 at 35°, bm, sf.? 3
aff. a defect 1
pf, R, lbm, d 0.'2 4
pf, aff. dbl, each about d 0.'2, R, 4
f, lbm, R, d 0.'3 4
f, 0.'3 by 0.'2 at 150°. 4

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1907phae.proj.2293B

✓✓

Exam of a 8410 Exp. 120m

1	Neb	184, 335	✓
2	"	216, 322	✓
3	"	131, 310	✓
~~4~~	–	–	✓
~~5~~	–	–	✓
6	Neb.	176.282	✓
7	"	221.274	✓
8 & 8a	"	178, 265 / 178+, 265-	✓ ✓
9	"	178, 247	✓
10	"	214, 242	✓
11	"	220, 237	✓
12	"	159, 216	✓
13	"	152, 209	✓
14	"	153, 199	✓
15	"	230.207	✓
16	"	253, 198	✓
17	"	393, 213	✓
18	"	102, 188	✓
19	"	113, 184	✓
20	"	50, 161	✓
21	"	76, 163	✓
22	"	123, 160	✓
23	"	151, 172	✓
24	"	261, 165	
25	"	103, 141	✓

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1907phae.proj.22930

Kapteyn region - $21^h\ 0^m$ $-60.^\circ 3$ - June - aug 1908

F. lbm, 0'.7 by 0'.3 at 20°, sh. ?	3
pF. R. lbm. d 0'.4	4
pF. 1'.2 by 0'.4 at 130°, lbm sh.?	3
aff. defect.	-
aff. defect.	-
F, R. lbm, d 0'.3 ±	4
pF, R, bm, d 0'.3	4
8 = pF, 0'.3 by 0'.2 at 40°, lbm.	4
8 = F, 0.3 by 0.1 at 45°, ~~follows~~ precedes 8 a little south.	4
pF, R, bm, d 0'.2	4
pF, R, bm, d 0'.2	4
vF, R, lbm, d 0'.2	4
vF, R, d 0'.2	4
vF, R, lbm, d 0'.2	4
vF, R, d 0'.2	4
eF, 0'.3 by 0'.1 at 130°, lbm. sf. ?	3
eF, R?, d 0'.2 (shown better on 8418)	4
pF, R?, bm. d 0'.3 ±	4
eF, R?, d 0'.3 ± (shown better on 8418)	4
vF, R?, d 0'.4 ±. (" " " ")	4
F, R?, lbm d 0'.3	4
pB. R, bm. d 0'.4	4
pF, bm, 0'.3 by 0'.2 at 45°.	4
F. 0'.8 by 0'.4 at 75°	4
pF, bm. 0'.4 by 0'.2 at 150°. N?, sf. ?	3
pF, R, lbm, d 0'.3	4

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1907phae.proj.2293B

Exam of a 8410 concluded

26	Neb	125, 149	✓
27	"	286, 192	✓
28	"	288, 119	✓
29	"	291, 125	✓
~~30~~	–	–	–
~~31~~	–	–	–
~~32~~	–	–	–
33	Neb	76, 111	✓
34	"	79, 114	✓
~~35~~	–	–	–
36	Neb	297, 85	✓
37	"	107, 57	✓
~~38~~	–	–	–
39	"	252, 197	✓
40	"	250, 204	✓

This plate was checked by comp. with ~~and~~ & somewhat better quality than 8410.

34

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1907phae.proj.2293B

F, E at 110 ? 0.2 by 0.1 ±, Foss. dbl.	4
f, R, bM, d 0.2	4
f, mbM, 0.3 by 0.2 at 25°, sf ?	3
f, bM, R, d 0.1 +	4
aff. a defect	–
aff. a defect	–
aff. a defect	–
fB, R ?, bM, d 0.2	4
fB, R ?, bM, d 0.2	4
prob. merely a dbl *	–
fB, R, bM, d 0.3	4
fB, R, bM, d 0.3	4
aff. a defect	–
vF, R ?, d 0.3	4
F, R, bM d 0.2	4

a 8418. another Kapteyn plate of the same region

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1907phae.proj.2293B

√√

Exam. of a 8326. Exp 120m

No.	Obs.	Coord.	
1	Nile	111, 323	✓
2	"	142, 324	✓
3	"	153, 313	✓
4	"	155, 326	✓
5	"	156, 329	✓
6	"	160, 316	✓
7	"	169, 314	✓
8	"	170, 313	✓
9	"	172, 315	✓
10	"	175, 318	✓
11	"	247, 330	✓
12	"	250, 330	✓
13	"	251, 329	✓
14	"	351, 326	✓
15	"	155, 300	✓
16	"	159, 303	✓
17	"	167, 300	✓
18	"	198, 310	✓
19	"	203, 310+	✓
~~20~~	—	—	/
21	"	142, 284	✓
22	"	153, 286	✓
23	"	156, 288	✓
24	"	29, 264	✓
25	"	176, 292	✓
26	"	206, 278	✓
27	"	243, 280	✓

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Kapteyn Region. 10h 50m +0.1 June-Aug. 1908.

Dense.

pf. R?, lbm, d 0.3	4
p f, R?, lbm, d 0.3	4
p f, R?, lbm, d 0.3	4
f, R, d 0.4	4
f, R, d 0.4	4
pf, R, lbm, d 0.4	4
pf, R?, lbm, d 0.3	4
f, R?, lbm d 0.3	4
vf, R, lbm, d 0.2 ? poss dbl *,	4
f, 0.3 by 0.2 at 50°, lbm.	4
f, R, d 0.3	4
f, R, d 0.3	4
vf, R?, d 0.3	4
f, 3.0 by 1.0 at 160°, bm, 7R, sh.?	3
f, R, lbm, d 0.2	4
pf, R, lbm, d 0.4	4
f, R d 0.3	4
pf, R, lbm, d 0.3	4
ef, R, d 0.2	4
prob. merely a *	-
pf, R, lbm, d 0.3	4
pf, R, bm, d 0.3	4
pf. 0.4 by 0.3 at 0°,	4
f. 0.3 by 0.2 at 130°, lbm, sh.?	3
f. R?, lbm, d 0.4	4
ef, R? d 0.3	4
f, E at 20°? d 0.3 ±	4

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1907phae.proj.2293B

Cream of a 8326 Cont-

28	Neb.	280, 285	✓
29	"	296, 287	✓
30	"	107, 265	✓
31	"	319, 265	✓
32	"	325, 263	✓
33	"	195, 249	✓
~~34~~	—	—	—
35	Neb.	294, 236	✓
36	"	294, 234	✓
37	"	305, 235	✓
38	"	306, 238	✓
39	"	368, 240	✓
40	"	56, 214	✓
41	"	104, 227	✓
42	"	134, 215	✓
43	"	194, 220	✓
44	"	204, 215	✓
45	"	251, 217	✓
46	"	251, 226	✓
47	"	270, 230	✓
48	"	288, 229	✓
49	"	302, 229	✓
50	"	319, 213	✓
51	"	322, 225	✓
52	"	368, 221	✓
53	"	85, 203	✓
54	"	104, 198	✓

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1907phae.proj.22936

aff - ∓ attachment to ∓ ~~*~~, wh. is Sf; a ftr * is nr., Δ p. 4
∓, R, lbm, d 0.3 4
∓, trail-like, 0.4 by 0.1 at 130°. (Nebs in same pos. on a8266) 4
|∓, 0.4 by 0.2 at 120°, bm, sh? 4
∓, 0.3 by 0.2 at 45°, lbm sh? 4
|∓, 0.3 by 0.2 at 90°, lbm - 4
aff. a defect. -
∓, 0.4 by 0.2 at 45°, lbm. 4
|B, R, lbm, hazy *. 4
∓, R, lbm, d 0.3 4
∓, 0.4 by 0.2 at 130°, lbm. sh.? 4
∓, hazy *. 4
|B, ~~0.4~~ 4.0 by 2.0 at 170°, ∓ neb. sh. with B N. sh. ~~3~~ 4
d∓, R?, d 0.3 ± 4
∓, R, lbm, d 0.2. 4
|B; nbm, d 0.2, R, 4
∓, lbm, 0.3 by 0.1 at 90°. 4
|∓, hazy *. 4
∓, hazy *. 4
|∓, 0.3 by 0.2 at 120°, bm. 4
∓, R, d 0.2 4
∓, R?, d 0.3, lbm 4
∓, lbm, R, d 0.3 4
∓, R?, lbm, d 0.3 4
∓, R, lbm, d 0.4 4
∓, R, lbm, d 0.3 4
∓, R, lbm d 0.2 4

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1907phae.proj.2293B

Spectra of a 8326 cont.

55	Neb	106, 205	✓
56	"	228, 193	✓
57	"	341, 208	✓
58	"	410, 191	✓
59	"	76, 183	✓
~~60~~	/	—	/
61	Neb.	112, 177	✓
62	"	121, 172	✓
63	"	154, 174	✓
64	"	243, 178	✓
65	"	243, 173	✓
66	"	250, 174	✓
67	"	256, 175	✓
68	"	262, 181	✓
69	"	303, 175	✓
70	"	308, 176	✓
71	"	65, 168	✓
72	"	98, 158	✓
73	"	170, 169	✓
74	"	270, 155	✓
75	"	279, 166	✓
76	"	284, 165	✓
77	"	285, 167	✓
78	"	122, 149	✓
79	"	182, 133	✓
80	"	217, 149	✓
81	"	269, 147	✓

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1907phaerproj..22936

F, 0'.3 by 0'.2 at 90°. 4
pF, 0'.8 by 0'.2 at 45°, pBN. sp.? 4
F, 0'.3 by 0'.2 at 40°, lbm 4
pB, 0'.8 by 0'.4 at 0°, mbm. sp? 4
pF. R?, lbm, d 0'.3 4
sp. a defect. —
2 F, R, d 0'.2 4
pF, 0'.2 by 0'.1 at 35°, hazy * 4
F, R, lbm, d 0'.2 4
F, 0'.4 by 0'.1 at 135°, 4
F, 0'.3 by 0'.2 at 120°, lbm, 4
pF, 0'.3 by 0'.2 at 160°, lbm. 4
F, 0'.3 by 0'.2 at 150°, lbm 4
pB, 0'.7 by 0'.3 at 50°, F neb. & pBN. sp. 4
pB, hazy * 1
pB, 0'.6 by 0'.4 at 30°, bm. sp? 4
pF, 0'.5 by 0'.2 at 130°, pBN, sp.? 4
pF, R?, lbm, d 0'.3 4
pB, 0'.6 by 0'.2 at 120°, trail-like, (on a 8266 in same pos.) 4
pF, 0'.2 by 0'.1 at 45° 4
F, 0'.2 by 0'.1 at 30°. 4
F, R?, hazy *. 4
F, R?, hazy *. 4
F, R?, lbm, d 0'.2 4
pF, 0'.2 by 0'.1 at 30°?, bm. 4
F, 0'.2 by 0'.1 at 70°?, lbm, 4
pF, 0'.3 by 0'.1 at 120°, lbm, 4

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1907phae.proj.22938

Cream of A 8326 cont

81 3	Neb.	290. 137	✓
82	"	269, 150	✓
84	"	341, 131	✓
85	"	386, 137	✓
86	"	72, 123	✓
87	"	89, 132	✓
88	"	90, 124	✓
89	"	330, 122	✓
90	"	331, 125	✓
91	"	109, 96	✓
92	"	120, 101	✓
93	"	215, 96	✓
94	"	244, 98	✓
95	"	250, 101	✓
96	"	250, 93	✓
97	"	290, 110	✓
98	"	293, 102	✓
99	"	295, 101	✓
100	"	298, 107	✓
101	"	323, 99	✓
102	"	350, 110	✓
103	"	47. 76	✓
104	"	58, 87	✓
~~105~~	/	/	/
106	neb	121, 83	✓
107	"	175. 81	✓
108	"	229. 83	✓

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1907phaej.proj.22933

e F, irreg.?, close following a pB *.	4
pB, hazy *	4
pB, 0.4 by 0.2 at 90°, N, sh.?	4
pB, 0.5 by 0.4 at 175°, bet.	4
pF, R?, hazy *	4
pF, R?, hazy *	4
pF, R?, hazy *	4
F, 0.4 by 0.2 at 140°, ebet.	4
pF, 0.5 by 0.2 at 130°, e 7 Neb. with pB N. sh?	4
F, 0.3 by 0.2 at 70°, ebet	4
pB, R?, hazy *	2
F, hazy *	4
F, R, d 0.2, ebet	4
F, 0.3 by 0.2 at 80°, bet.	4
pF, hazy *	4
pF, 0.5 by 0.2 at 145°, ebet	4
pF, R, ebet, d 0.3	4
F, R, ebet, d 0.2.	4
F, R, d 0.2	4
pB, R, bet. d 0.4	4
pF, R?, ebet, d 0.3	4
F, R?, hazy *	4
e F, R?, ebet. d 0.4, follows a pF * a little S.	2
sh. a defect.	–
pF, R?, bet, d 0.3	4
pF, R, bet, d 0.2	4
F, R, bet d 0.4	4

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1907phae.proj.22938

Expan. of a 8326. Cont'd.

109	Neb.	279, 87	✓
110	"	335, 76	✓
111	"	336, 75	✓
112	"	337, 76	✓
113	"	348, 79	✓
~~114~~	—	—	/
115	Neb	71, 66	✓
116	"	93, 55	✓
117	"	146, 56	✓
118	"	164, 60	✓
119	"	166, 61	✓
120	"	260, 71	✓
121	"	278, 73	✓
122	"	321, 55	✓
123	"	319, 91	/ not meas.
~~124~~	—	—	/
~~125~~	—	—	/
126	Neb.	160, 48	✓
127	"	216, 42	✓
~~128~~	/	—	/
~~129~~	/	—	/
~~130~~	/	—	/
131	Neb.	173, 30	✓
132	"	237, 29	✓
~~133~~	—	—	/
134	neb.	318, 17	✓

Objects on plate 8326 checked by comparison with a

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1907phaeproj.22933

pB. d 0.5", N, aff. irreg. but prob. Sp.	4
F, R?, blue, d 0.2	4
F, R?, blue d 0.3	4
F, R?, d 0.2 ±, F st. nr.	4
pB, R?, blue, hazy *	4
prob. a dbl or triple *.	–
F, R?, d 0.2 ±	4
F, R?, d 0.2 ±	2
pF, hazy *	4
eF, R, blue, 0.3 by 0.2 at 160°	4
pF, 0.3 by 0.2 at 40°, blue	4
pB, hazy *	4
F, 0.2 by 0.1 at 135°, pB* forms a triple a triple South.	4
pF, hazy *	4
F, hazy *	4
prob. a * or dbl *	–
prob. a defect but poss. an asteroid trail.	–
F, v irreg., d 0.3	4
pF, hazy *	4
prob. a defect	–
a a a	–
a a a	–
pF, hazy *	4
F, R?, blue, d 0.3	4
prob. a defect	–
F, d 0.3 ±	4

R 8266. ref of about 100m of the same region.

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1907phae.proj.22938

√√

Exam. of a 8492. Exp. 120m

1 ast. trail? 257, 284
~~2 meteor?~~ ~~294, 283~~

Dyer

√√

Exam. of a 8490. Exp. 126m

1. Neb. 293, 310.

√√

Exam. of a 8401. Exp. 120m

This plate is in very
There is also a diffuse nebulosity

~~3~~
2 neb. 108, 242
~~3~~ — —
~~4~~ — —

√√

Exam. of a 8485 Exp 120m

~~1~~
1 ~~2~~ ast. trail 111, 67.

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1907phaeproj-22938

Kapteyn Region - $17^h 26^m$ - 90.1 . June-Aug. 1908.

B. trail about 1' long at angle 90°.
Aff. a meteor trail, + F, bgtr at S proc end 4' long at 40°.

Kapteyn Reg. - $17^h 11^m$ - 14.9.

+B. R? d 0.4 . Poss. dbl or multiple *. 4
No. 1. Checked on a 7722. W.I. C. 6356 is also on edge of a 8490.

Kapt. Reg - $16^h 48^m$ - 44.8 .

+ Three are also on plate several coarse cl. or aggregations of stars near North central edge of plate. Who is perhaps a defect.
Aff. a defect not seen on a 6417 exh 4^h.
+B. R? mbM, d 0.3 (chk'd on a 6417) 4
prob a dbl or triple * . " " " —
" " " " " " " - " 2591. —

Kapt. Reg - $16^h 10^m$ - 14.9
dbl ◁ not seen on a 5217.
+B. 1.8 long at 105°.

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1907phae.proj..22938

√√

Cream. of a. 8493. Feb. 1907

1	neb.	184, 290	✓
2	"	31 257	✓
3	"	246, 262	✓
4	"	47, 251	✓
5	"	89. 246	✓
6	"	61, 219	✓
~~7~~	/	—	/
8	neb	280, 232	✓
9	"	301, 230	✓
10	"	316, 222	✓
11	"	188, 202	✓
12	"	241, 194	✓
13	"	243, 195	✓
14	"	197, 184	✓
15	"	235, 189	✓
16	"	243, 183	✓
17	"	245, 186	✓
18	"	315, 191	✓
19	"	322, 189	✓
20	"	174. 171	✓
21	"	187, 168	✓
22	"	227, 156	✓
23	"	256, 171	✓
~~24~~	/	—	/
25	neb	321, 142	✓

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1907phaeproj--22938

Kapteyn Region. 19h 24m, −30°. June–Aug. 1908

f, 0.3 by 0.1 at 25°, nbm. sh? 4
f, 0.2 ± , mg. sev. 7 st. nr., poss. mult. *. 4
f, 0.3 by 0.2 at 45°, bm, sh? 4
f, R?, bm, d 0.4 4
f, nbm, 0.3 by 0.2 at 40°. sh?? 4
f, bm, 0.4 by 0.3 at 170°. sh?? 4
pb. a dbl *, —
p, 0.4 by 0.2 at 20°. poss. a Triple * or * + nub 4
pf, R?, d 0.2 4
f, 0.8 by 0.2, bm. sh? 4
f, 0.2 by 0.1 at 90°. pf * close South. 4
p, R?, nbm, d 0.2, 4
f, R, d 0.1 ± 4
vf, R, nbm. d 0.3 4
pf, R?, d 0.1 ±, bm. 4
f, 0.6 by 0.2 at 15°, nbm. sh? 4
f, 0.6 by 0.2 at 165°, nbm. sh? 4
pf, 0.3 by 0.2 at 45°, bbm. sh? 4
f, irreg.? d 0.4 ± 4
pf, R?, bm, d 0.2 ± 4
vf, irreg.? d 0.5 ± 4
pf, 0.4 by 0.2 at 165°, nbm. sh? 4
p, 0.2 by 0.1 at 80°, bm. sh? 4
apb. a dbl *. —
p, R, bm, d 0.3 4

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1907phae.proj.22938

Beam of a 8493 Tone.

26	neb	375, 153	✓
~~27~~	–	–	–
28	neb	111, 130	✓
29	"	195, 97	✓
30	"	249, 97	✓
31	"	185, 83	✓
32	"	240, 76	✓
33	"	263, 84	✓
34	–	–	–
35	neb	214, 52	✓
36	"	240, 37	✓
37	"	228, 33	✓
38	"	291, 32	✓
39	"	188, 248	✓
40.	"	126, 75	✓

W.H.C. ⊕, 6809 shows well on this plate.

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1907phaer.proj..22938

F, irrg., ?, d 0'.5 ±.	4
alph. 2a dbl *	–
p, R?, bM, d 0'.2 ±	4
p, F, R, lbM, d 0'.3	4
p, F, R, lbM, d 0'.2	4
F, R?, d 0'.3	4
F, R?, bM, d 0'.3	4
p, F, 0'.3 by 0'.2 at 20°, poss. dbl or trip. *.	4
alph. nebs stellar	–
p, 2, 0'.6 by 0'.3 at 150°, N, sh?	4
p, F, bM, 0'.6 by 0'.3 at 0°, sh?	4
F, irrg.?, * involved, d 0'.6 ±	4
p, F, R?, bM, d 0'.4	4
F, 0'.6 by 0'.2 at 110°, bM. sh?	4
p, F, E?, v F * nr, poss. dbl *	4

The Objects on this Plate were checked by a comparison with a 8486. having the same region & exposure.

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1907phae.proj.22938

√√

Exam. of A 8579. Refr 151″

1. neb? | 255, 194 |

Several other hazy objects
to show that they are all dbl or mult st.

2 Cluster | 174, 100 |

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1907phaer.proj..229

Halley's Comet plate at $5^h\ 42^m + 11.6^\circ$ - Sept. 2. '08

I. F. R, hazy star, appr. a * inv. in neb. pass E at 135°. checked by A 8573 & A 8576 - Sh ? 4
marked on 8579 but accomp. with 8573 & 8576 seems-
except 1.

Cluster of 7 st, magn. 16. ±, diam of cl about 10', perhaps 50 st. in addition to the usual no. of st. on plate - 1.2. The brighter stars of this region appear no more numerous than elsewhere in the region surrounding the cluster. but this group of 7 st. seem additional, all of about the same magn. This object appears not to be in the N.G.C. though No. 2141 is in about the same position.

An examination was also made for Halley Comet by placing A 8576 over 8579 so that each object appeared double on through both plates. The plate was systematically examined with a magnifying lens. The object being to find a single object, all the fixed objects, stars &c being double. No such object was found. Though probably 100,000 or more dbl objects were noticed.

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1907phae.proj.22938

√√

Exam. of a 8374 Exp. 120m

1	Neb	414, 305	✓
2	"	53, 274	✓
3	"	183, 240	✓
4	"	192, 242	✓
5	"	205, 237	✓
6	"	194, 211	✓
7	"	219, 209	✓
~~8~~	—	—	—
9	Neb	113, 159	✓
10	"	28, 146	✓
11	"	162, 151	✓
12	"	395, 124	✓
13	"	46, 106	✓
~~14~~	—	—	—
15	Neb	65, 75	✓
~~16~~	—	—	—
~~17~~	—	—	—
~~18~~	—	—	—
19	—	—	—
20	—	—	—
21	—	—	—
22	—	—	—
23	Neb	331, 46	✓
24	—	—	—
~~25~~			

Checked by comp

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1907phae.proj.2293f

Kapteyn Region. $13^h\,49^m$, $-44.^\circ6$. Sept. 3 - 1907.

½ f. R, lbm. d 0.'8	4
½ B. R. bm d 0.'6	4
½ B. 0.'8 by 0.'2 at 50°. m bm - sp.?	4
? R?, hazy star.	4
½ B, mbM. 1.'0 by 0.'3 at 90°, sp?	4
½ f. lbm. img.?, d 0.'3 ±	4
½ f. lbm., 0.'6 by 0.'3 at 165°, sp?	4
aff. a dfect. M.S. on a 8362.	—
½ B, 0.'8 by 0.'4 at 0° ±, lbm, sp?	4
½ f. 1.'0 by 0.'3 at 135°.	4
½ f. aff. dbl & img., d 0.'7 ±, sp.?	4
½ B, appears R. but aff. slightly img., d 0.'7	4
½ B, R, hazy star d 0.'3 ±.	4
prob. a dfect MS. on a 8362.	—
½ f, R?, lbm, d 0.'3	4
prob. a dfect, MS. on a 8362	—
" " " " " " "	—
" " " " " " "	—
aff " " " " " "	—
" " " " " " "	—
" " " " " " "	—
" " " " " " "	—
½ f: lbm, 0.'6 by 0.'3, 170° sp?	4
~~f~~ prob. a dbl *	—

with a 8362, same region & same exposure.

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1907phae.proj.22938

√√

Exam. of a 835 7. Each 120m.

~~1~~	—	—	✓
~~2~~	—	—	✓
3	Ast. Tr.	107, 305	✓
4	Neb.	236, ~~2~~03	✓
5	"	275, 313	✓
6	"	81, 254	✓
7	"	164, 256	✓
~~8~~	—	—	✓
9	Neb	127, 228	✓
10	"	231, 222	✓
11	"	254, 221	✓
~~12~~	—	—	✓
~~13~~	—	—	✓
~~14~~	—	—	✓
15	Neb.	81, 182	✓
16	"	231, 185	✓
17	"	292 189	✓
~~18~~	—	—	✓
~~19~~	—	—	✓
20	Neb	190, 129	✓
21	"	223, 118	✓
22	"	163, 88	✓
23	"	320, 81	✓
~~24~~	—	—	✓
25	Neb.	201, 55	✓

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1907phae.proj.22930

Ralph's Region. 16h 30m, -0°.2. June - Sept., 1908.

aff. a defect.		1
" " a "		1
p B, aff. an asteroid trail		1
p F, bri, R?, d 0.4	push.	2
F, *nr, lbri, R?, d 0.3.	push.	2
p F, R?, lbri, d 0.3	push.	2
p F, R, bri, d 0.2	push	2
aff. a defect		1
F, 0.2 by 0.1 at 150°, *inv.	push.	2
F, 0.3 by 0.2 at 20°, lbri	push.	2
p B, R?, bri, d 0.2	push	2
aff. a defect.		1
" a "		1
" a "		1
p F, R?, lbri, d 0.2	push.	2
F, 0.6 by 0.3 at 110°, lbri,	push.	2
F, 0.6 by 0.3 at 85°, bri.		4
aff. a defect.		1
" " "		1
F, 0.2 by 0.1 at 135°.	push.	2
F, mbri E at 35°.		4
F, 1.0 by 0.2 at 130°, but somewhat curved or irreg.	push	2
p F, R?, d 0.3		4
aff. a defect.		1
p F, R?, bri, d 0.2		4

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1907phae.proj.2293B

Spectr. of a 8357 comet.

~~26~~	—	—	/
~~27~~	—	—	/
28	Neb	188, 38	✓
29	"	278, 40	✓
~~30~~	—	—	/
~~31~~	—	—	/
~~32~~	—	—	/

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1907phae.proj.22935

aff. a deject,	—
" a a,	—
1 F. 0'.3 by 0'.2 at 45°, lbM, susp	2
F. R?, lbM, d 0'.3 susp	2
aff. a deject.	—
" " "	—
" " "	—

No suitable plates for checking the rather doubtful objects on this plate. In the Northern half only a 10m exp., a 5982 was available, and for the Southern half, a 7891, 60m exp. - but not showing sufficiently faint objects -

Only 18 of the 32 objects marked were accepted + many of these are somewhat doubtful -

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1907phae.proj.22938

√√

Spect. of α 8368 Disp. 120ᵐᵐ

1	–	–	
2	–	–	
3	–	–	
4	neb	–	
5	"	–	
6	"	–	
7	–	–	
8	–	–	
9	–	–	
10	neb	304, 275	✓
11	–	–	/
12	–	–	/
13	neb	337, 230	✓
14	–	–	/
15	neb	–	/
16	–	–	/
17	~~neb~~	418, 151	✓
18	–	–	/
19	–	–	/
20	–	–	/
21	–	–	/
22	neb	180, 47	✓
23	–	–	/
24	–	–	/
25	–	–	/

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Kapteyn Region. $14^h\ 48^m$, $-45.^\circ 2$ — June — test —.

Dfect. —
" —
" —
Previously found & desc. by Frost. —
" " " " " " . —
" " " " " " . —
Dfect . —
" —
" —
pF, R ?, bM, d 0.'3 4
Dfect —
" —
pF, aph. irreg - 0.'7 by 0.'4 at 50.° ±, st. inv. ? 4
aph. a dbl * —
Prev - found by Frost. —
Dfect —
pB, R ?, bM, d 0.'3, hazy *. 4
Dfect —
" —
" —
" —
vF, 0.'7 by 0.'4 at 40°, bMe 4
Dfect —
aph. dbl * —
Dfect —

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Exam. of a 8368 Comet.

~~26~~	/	/	
~~27~~	/	/	
~~28~~	/	/	
~~29~~	/	/	
~~30~~	/	/	
~~31~~	/	/	

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1907phae.proj - 22936

Defect

4 —
4 —
4 —
4 —
4 —
4 —

This plate had a great number of defects - Many of these were curiously genuine in appearance. & could not surely be known as defects without checking. In the eram - 31 objects were marked, with the notes: " Probably nearly all defects" Several of the objects on the plate were genuine but poor. Found by Frost. on a 6766 - exp 245m - Most of the remainder proved to be defects, leaving only 4 new genuine objects -

For checking plates a 6766 - 245m; a 2045 - 60m; and a 5911. 120m. were used -

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1907phae.proj.2293B

√√

Ee. 5 a 8377 Sept. 120

1	Neb	25, 268	✓
~~2~~	—	—	✓
3	Neb	172. 224	✓
~~4~~	—	—	✓
5	Neb	377, 220	✓
6	Neb	125, 208	✓
7	"	137, 202	✓
8	"	109, 186	✓
9	"	108, 174	✓
10	"	60, 172	✓
11	"	81, 164	✓
12	"	130, 171	✓
13	"	158, 164	✓
14	"	316, 162	✓
15	"	402, 162	✓
16	"	113, 137	✓
17	"	135, 140	✓
18	"	171, 149	✓
~~19~~	—	—	✓
~~20~~	—	—	✓
21	Neb	110, 117	✓
22	"	206, 126	✓
23	"	374, 124	✓
24	"	57, 112	✓
25	"	316, 97	✓

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1907phae.proj..22936

Kapteyn Region, $17^h\ 0^m.3$ $-59.^\circ9$ June, Sept. 1908.

F, R?, bM, d 0'.4	4
Grev - found & desc. by F.	–
D. N with Neb. mtgs at 135°, sh?	4
Grev - fd by F.	–
F, R?, bM, d 0'.3	4
F, streak, 1'.5 by 0'.3 at 60° lbM, sh??	4
F, streak, 0'.7 by 0'.1 at 115°, sh?? nr *. susp.	1 2
F, bM, 0'.7 by 0'.3 at 10°; sh.?	4
F, mbM. (N.) aff. mtg - d 0'.4. sh??	4
F, R, bM, d. 0'.3.	4
F, R, bM, d 0'.2. susp.	2
F, R ±, inv. in F st.?, d 1'.0	4
F, mbM, 0'.4 by 0'.3 at 60°, sh.?	4
D, R, mbM, d. 0'.3. sev. F. st. nr.	4
F, 1'.0 by 0'.4, 25° lbM, 2 F st. inv.	4
F, R? d 0'.2. hoss. surrounded by ftr neb.	4
F, 0'.4 by 0'.1 at 95°, lbM. sh?	4
D, R?, bM, d 0'.4	4
mb. a deject	–
" " "	–
D, 0'.8 by 0'.4 at 45°, N, neb. F, sh?	4
F, 0'.7 by 0'.3 at 10°, N. sh? susp.	1
F, R, bM. d 0'.2	4
S, R:, bM, d 0'.3	4
F, aff a dbl neb - each R, lbM. d 0'.2 ±	4

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1907phae.proj.2293B

Eq. of a 8377 Lowell.

26	Neb	193, 90	✓
27	"	197, 91	✓
28	"	234, 59	✓
29	"	371, 63	✓
30	"	257, 49	✓
31	"	112, 48	✓
32	"	99, 19	✓
33	"	102, 21	✓
~~34~~	-	—	✓

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F, 0:3 by 0:1 at 45°.	4
F, 0:3 by 0:2 at 80°, lbm. sh.?	4
F, 0:8 by 0:3 at 135°, lbm - sh.?	4
F. 2 or 3 st. off. inv. in neb.	4
F, 0:6 by 0:2 at 135°, lbm. sh ??	4
F. R?, bm, d 0:2	4
F, R?, d 0:3	4
F, R?, lbm, d 0:2	4
aph. a defect	—

Objects checked by comb with Plates a 6809, Exp. 2m
a 5378, exp. 60m., a 4034, exp 60m, + a 5453, 240m.
as stated above 2 objects f'd, but prov. been f'd by
frost there are crossed out. 2 other plates whose
exposure also does not cover the other half of 8377. These
could not be found at the time. It is therefore
possible, perhaps probable, that others of the above objects
maybe fd in the list by frost in Stewart vol
Vol. 60 - No. 6 -

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1907phae.proj.2293B

1V

Exam. of a 8381. – 120m.

1	Neb	–
2	–	–
3	neb.	–
4	–	–
5	neb	–
6	–	–
7	–	–
8	–	–

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1907phae.proj.22938

Rapteyn Reg. 16 2 -74.9

Prw. fd & dese. by Stewart —
Defect —
W.H.C. 5967 —
Defect —
Prw. fd & dese. by S. —
Defect —
" —
" —

This region had been prw. reexam. by Stewart on plates of 4h exp. a 45°45', 45-36, & 45-37. A comparison of wh. shows that the 8 obj. marked are all either old or defects.

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1907phae.proj.22938

√√

Exam. of α 8383 128in

1	neb	—	/
~~2~~	"	—	/
~~3~~	"	—	/
~~4~~	"	—	/
~~5~~	"	—	/
~~6~~	"	—	/
7	"	343.287	✓
~~8~~	"	—	/
~~9~~	"	—	/
~~10~~	"	—	/
11	"	192.254	✓
~~12~~	—	—	/
~~13~~	neb	—	/
~~14~~	—	—	/
15	neb	266.214	✓
~~16~~	—	—	/
~~16a~~ 17	neb	—	/
~~18~~	"	—	/
~~19~~	"	—	/
~~20~~	"	—	/
21	"	170.183	✓
~~22~~	"	—	/
~~23~~	"	—	/
24	"	138.160	✓
~~25~~	—	—	/

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1907phae.proj.22938

Kelly's Reg. 19h 3m. – 59.8 June – Sept. 1908.

Prev. fd & desc. by Stewart. —
" " " " " " . —
" " " " " " . —
" " " " " " . —
" " " " " " . —
W.R.C. 6721.
F. 0.4 by 0.3 at 185.0. bm. sh.? 4
Prev. fd & desc. by S. —
" " " " " " . —
" " " " " " . —
p, 8, hazy *, E at 100°?, d 0.3 4
afp. a dbl *. —
Prev. fd & desc. by S. —
afp. a dbl *. —
F. Small. nr 2 F. st., aff. R. 4
afp. a triple * —
Prev. fd & desc. by S. —
" " " " " " . —
" " " " " " . —
" " " " " " . —
" " " " " " . —
F. 0.7 by 0.2 at 65°, lbm. sh? 4
Prev. fd Desk. by S. —
" " " " " " . —
F. R:, lbm. d 0.3 4
afp. a defect (see note) —

R5F rob as defect, as it does not appear on a 5765 of 4h ref. nor on a 1917, 1957, 5647, & 7741 of 1h ref. Curiously, however - a similar defect appears near the position on a 5765. The coincidence is strong, as the plates a mth free from defect; still, poss. both are real.

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Neam. of a 8383 cont.

26	neb	34, 150	✓
~~27~~	neb	—	/
28	neb	139, 144	✓
~~29~~	neb	—	/
~~30~~	"	—	/
31	"	130, 117+	✓
32	"	132, 117-	✓
~~33~~	"	—	/
~~34~~	"	—	/
~~35~~	"	—	/
~~36~~	"	—	/
37	"	208, 127	✓
38	"	251, 127	✓
39	"	280 125-	✓
40	"	395, 126	✓
~~41~~	/	—	/
~~42~~	/	—	/
43	neb	156, 98	✓
44	"	169, 97	✓
~~45~~	"	—	/
~~46~~	/	—	/
47	neb	275, 83	✓
~~48~~	—	—	/
49	neb	46, 63	✓
50	"	51, 70	✓

13

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1907phac.proj.22936

F. R?, bM, d 0.3 ±	4
Prev. fd and dere. by 5ᵐ.	–
F, R?, lbM, d 0.3	4
Prev. fd + dere. by 5ᵐ.	–
" " " " " "	–
pF, 0.4 by 0.2 at 50°, lbMe.	4
pF, 0.3 by 0.1 at 55°, lbM?, poss. dbl or trpl ±.	4
Prev. fd + dere. by 5ᵐ.	–
" " " " " "	–
" " " " " "	–
" " " " " "	–
pB, 0.4 by 0.3 at 150°, mbM sp?	4
F, 0.3 by 0.2 at 40°, lbM,	4
pF, R?, mbM, d 0.5ᵐ, sp?	4
F, R?, bM, d 0.4 ±,	4
aph. a defect.	–
" " " "	–
pF, R?, bM, d 0.2	4
F, R?, lbM, d 0.4 ±	4
Prev. fd + dere. by 8.	–
aph. a dbl *	–
pF, R, mbM, d 0.2	4
aph. a defect	–
pF, R?, bM, d 0.2 ±	4
pF, R?, lbM, d 0.3	4

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1907phae.proj.22938

Spectr. of A 8383. cond.

51	Neb.	93, 64	✓
~~52~~	"	—	/
~~53~~	"	—	/
~~54~~	—	—	/
~~55~~	Neb	—	/
56	"	241, 36	✓
~~57~~	—	—	/
~~58~~	—	—	/
~~59~~	Neb	—	/
~~60~~	—	—	/
~~61~~	Neb	—	/
62	"	102, 16	✓
~~63~~	"	—	/
~~64~~	"	—	/
~~65~~	"	—	/
~~66~~	"	—	/
~~67~~	—	—	/
~~68~~	Neb	—	/
~~69~~	"	—	/

3

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1907phaa.proj.22938

F, bri, 0·6 by 0·3 at 60°, sf?	4
Prev. fd & dese. by S.	—
" " " " S " .	—
aph - a defect.	—
Prev. fd & dese. by D -	—
F, R, bri, d 0·3	4
aph - a dble *.	—
" " " " .	—
Prev. fd & dese. by D -	—
aph - a dbl *.	—
Prev - fd & dese. by D.	—
F, 0·6 by 0·3 at 160°, bri.	4
Prev. fd & dese. by S.	—
" " " " " " .	—
" " " " " " .	—
" " " " " "	—
aph. a dbl *.	—
Prev. fd & dese. by D -	—
" " " " " " .	—

H plates of 4h reb. covering this region had been prev. exam. by Hinnant. They were used for checking new objects not fd by him. Ther are a 5548, 5653, 5546, & 5656.

Of the 69 obs. marked all but 21 had been fd by D. or were dble st. or defects.

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√√

Region of a 8385 Cyg. 120"

1	neb.	110, 335	✓
2	"	166, 311	✓
3	"	217, 310	✓
4	"	287, 277	✓
5	"	133, 233	✓
6	"	175, 232	✓
~~7~~	—	—	/
~~8~~	—	—	/
9	neb	310, 225	✓
~~10~~	—	—	/
~~11~~	—	—	/
12	neb	55, 200	✓
13	"	75, 205	✓
14	"	177, 110	✓
15	"	311, 93	✓
16	"	332, 109	✓
~~17~~	—	—	/
18	Neb	239, 86	✓
19	"	242, 85	✓
20	"	251, 80	✓
21	"	348, 58	✓
22	"	347, 20	✓

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1907phae.proj.22934

Kapt. Reg. $15^h\ 32^m$, + 0°.1 — June – Sept. 1908 –

pB, R?, bm, d 0.3 ± hazy star	4
pF, R, lbm, d. 0.3	4
vF, R?, lbm, d 0.3 susp.	2
vF, 0.4 by 0.2 at 0°, lbm. susp.	2
pF, 0.8 by 0.6 at 35°; 7* (n N) imo. sp?, susp.	1
eF, 2.0 by 0.4 at 80°. susp.	2
prob. a defect	—
" a star	—
pF, 0.3 by 0.2 at 70°, lbm. susp.	2
prob. a dbl *	—
" " *	—
F, R?, lbm, d 0.3 ± susp.	2
vF, 0.3 by 0.2 at 10-0° lbm susp	2
vF, 0.3 by 0.2 at 135°. lbm susp.	2
pB, dfh. irreg. d 0.6 ±, bm.	4
F, R?, lbm, d 0.4 ± susp.	2
dfh. a defect.	—
pF, R?, lbm, d 0.2 ±	4
pF, R?, lbm, d 0.2 ±.	4
F, R?, d 0.3 susp.	2
pF, 0.5 by 0.4 at 70°, lbm.	4
pB, R?, mbm. d 0.4 ±	4.

Checked by a 3685 + a 3798. end of 1h exp. + showing much less than 8385. 17 obs. retained.

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JJ

Exam. of a8488 - Sch. 120m

1	Neb.	153, 330	✓
2	"	253, 311	✓
3	"	260, 284	✓
4	"	156, 247	✓
5	"	203, 246	✓
6	"	205, 250	✓
7	"	105, 218	✓
8	"	105, 180	✓
9	"	113, 188	✓
10	"	124, 186	✓
11	"	294, 189	✓
12	"	96, 157	✓
13	"	210, 153	✓
14	"	121, 148	✓
15	"	89, 106	✓
16	Asts. Tr.	176, 95	✓
17	Neb.	178, 96	✓
18	"	290, 109	✓
19	"	155, 74	✓
20	"	72, 70	✓
21	"	268, 65	✓
22	"	85, 42	✓
23	"	303, 52	✓
24	"	248, 18	✓
14a	—	—	✓

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Kapt. Reg - $18^h\ 53^m$ - $-45°.0$, June - Sept. 1908.

p B, R?, bbn, d 0'.3 ± (hazy star)	4
p F, R?, bbn, d 0'.2, (" ")	4
p F, 0".6 by 0".3 40° bbn, sh.?	4
p B, R, d 0'.2 ±,	4
p F, 0'.5 by 0'.2 at 95°; aff. 2 F. st. inv. in neb	4
p F, 0'.2 by 0'.1 at 90°. poss. dbl *. push.	2
F, 1".0 by 0".5 at 75°, somewhat irreg. push.	2
F, 0".6 by 0'.2 at 170°, bbn, sh?	4
p F, mbbn, 0'.4 by 0'.3 at 40°, sh?	4
p F, 1'.3 by 0'.2 at 100°, mbbn, sh?	4
p F, 2 F. st. aff. inv. in neb - (poss. mem dbl *)	4
p F, R?, bbn, d 0'.3	4
p B, 1".5 by 0".8 at 45°, N, sh.	4
F, R, bbn, d 0'.3	4
p F, 0".6 by 0'.3 at 140°, mbbn, sh.?	4
aff. an ast. trail, 0'.5 by 0'.1 at 170°, p F.	—
F, aff. a small irreg. neb, but poss. cl. of few F. st.	4
F, R, bbn, d 0'.3	4
p F, mbbn, 0'.6 by 0'.3 at 150°, sh.?	4
p F, bbn, R?, d 0'.3 ±	4
p B, R?, d 0'.1, a hazy * with 2 F. st. nr.	4
p B, R, bbn, d 0'.3 ±, hazy *.	4
p F, R?, d 0'.2 ±, " ".	4
~~F, bbn, 0".8 by 0".4~~ at 0°. sh.? (See below)	4
mnb - a defect	—

Plate checked by comparison with a 7426, Feb. 24^{d} 0^{h}, & a 2683, Sept 6^{d} 0^{h}.

* 2 F was noted by Mrs. W. P. F. on a 7426, Jan. [illegible] 1906.

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1907phae.proj.22938

√√

Exam. of α 8489. Ceph. 12m

1	Neb.	17, 323	✓
2	"	201, 322	✓
~~3~~	—	—	✓
4	Neb.	86, 304	✓
5	"	116, 310	✓
6	"	133. 311	✓
7	"	132, 294	✓
8	"	145, 299	✓
9	"	205, 295	✓
10	"	212, 300	✓
11	"	224, 308	✓
~~12~~	—	—	✓
~~13~~	—	—	✓
14	Neb.	270, 284	✓
15	"	110, 254	✓
16	"	113, 254	✓
17	"	115, 254	✓
18	"	121, 268	✓
19	"	138. 260	✓
20	"	138, 254	✓
21	"	149. 261	✓
22	"	152, 260	✓
23	"	162, 266	✓
24	"	163, 254	✓
25	"	181, 257	✓
10a	Neb.	213, 301	✓

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1907phae.proj..22938

Nebl. Rg. $20^h\ 50^m$, $-45.^\circ2$. June - Sept.

F, R?, lbm, d 0.'3 ± Such. 1
p F, R?, lbm, d 0.'3 4
abb. a defect. —
F, E at 135°?, about 0,8 by 0.'4 but irreg. poss. gr. of st. 4
F, R, lbm, d 0.'3 4
p B, R?, bm, d. 0.'3 ±, hazy *. 4
F, R, lbm, d 0.'3 4
p B, R, bm, d 0.'3 hazy * 4
p F, 0.'4 by 0.'2 at 135°, lbm, ab.?, 4
v F, 0.'4 by 0.'2 at 135°, lbm. 4
p B, R, bm, d 0.'4 4
abb. a dist. —
prob. a dbl *. —
p F, R?, lbm, d 0.'2 4
F, R?, lbm, d 0.'5- Such. 2
p F, R, lbm, d 0.'3 4
p F, R, lbm, d 0.'3 4
F, R?, lbm, d 0.'2 4
e F, 0.'4 by 0.'2 at 45°, lbm. 4
p B, R, bm, d 0.'2 4
e F, 0.'4 by 0.'2 at 30°, lbm. 4
p F, R?, bm, d 0.'3. 4
F, R, lbm, d 0.'2 4
p B, bm, 0.'3 by 0.'2 at 25°. 4
F, lbm, 0.'3 by 0.'2 at 45°. 4

p F, R, lbm, d 0.'2 4

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1907phae.proj.2293B

Exam. of a 8489. cont.

26	Neb.	193, 260	✓
27	"	222, 271	✓
28	"	232, 265	✓
29	"	232, 267	✓
30	"	252, 268	✓
31	"	257, 268	✓
32	"	257, 264	✓
33	"	257, 260	✓
34	"	262, 254	✓
35	"	314, 257	✓
36	"	319, 263	✓
37	"	332, 271	✓
38	"	89, 239	✓
~~39~~	/	/	/
40	Neb.	104, 251	✓
41	"	110, 245	✓
42	"	111, 242	✓
43	"	158, 245	✓
44	"	163, 250	✓
45	"	163, 244	✓
46	"	169, 241	✓
47	"	177, 236	✓
48	"	223, 251	✓
49	"	250, 243	✓
50	"	257, 252	✓
(47a)			✓

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1907phac.proj..22938

eF. 0.2 by 0.1 @ 40°, lbM - mr. sev. pB st.	4
pF. R. lbM. d 0.2	4
pF. mbM. 2.0 by 0.3 at 45°. Sp.?	4
pF. bM, 0.4 by 0.2 at 130°. sp.?	4
F. R, d 0.2 push.	#2
F. R?, d 0.2 push.	2
F. 0.3 by 0.2 at 110°.	4
F, 0.8 by 0.2 at 45°, lbM.	4
vF, 0.2 by 0.1 at 20°, push.	2
vF; R?, d 0.2 push	2
F, R?, lbM, d 0.2	4
pF; R?, lbM, d 0.3 ±	4
pF. 0.4 by 0.2 at 40°. aph. 2 F. hazy st. prob. a dbl *	4
F. R, lbM. d 0.5	-
vF; R d 0.3 push.	4
pF2. R. d 0.3, lbM.	2
F, bM, 0.3 by 0.2 at 0° ±, push	4
F, 0.6 by 0.2 at 30°, * inv (or N?) sp.?	2
F, R?, lbM. d 0.3	4
pF, bM. 0.8 by 0.4 at 30°. sp?	4
pF, aph. 2 close hazy st. at angle 90° - the prec. brighter.	4
eF, 0.4 by 0.2 at 45°, F* mr. S° prec. nd. push.	2
pF. R?, lbM, d 0.2	4
pF. aph a dbl *, somewhat nebulous	4

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1907phae.proj.2293B

Beam of a 8489 (cont.

51	neb.	257, 251	✓
52	"	256, 249	✓
53	"	258, 247	✓
~~54~~	–	–	–
55	neb	297, 234	✓
~~56~~	–	–	–
~~57~~	–	–	–
58	"	113. 253	✓
59	"	82, 222	✓
60	"	~~103, 231~~ 87, 215	✓
61	"	103, 231	✓
62	"	118, 229	✓
63	"	149, 218	✓
64	"	244, 228	✓
65	"	270. 224	✓
66	"	325, 215	✓
67	"	350, 214	✓
68	"	91, 203	✓
69	"	95, 209	✓
70	"	114. 206	✓
71	"	152. 210	✓
72	"	153, 206	✓
73	"	184. 200	✓
74	"	281, 209	✓
75	"	61, 184	✓
73a	"	222, 206	✓

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1007phec.proj.22006

f, R?, lbm, d 0.'3 ± 4
pf, R? lbm, d 0.'2 (dbl in the same as * on 3846 on 8489 afh. neb. 4
pf, R?, lbm, d 0.'2 4
prob a dbl *. —
pf, bm, 0.'8 by 0.'3 at 15°, sh? 4
afh. a defect, - -
" " " .
pf, R?, lbm, d 0.'3 ± 4
2f, R? d 0.'3 ± susp. 2
pf, lbm, 0.'3 by 0.'2 at 140°. 4
pf, R?, lbm, d 0.'2 4
f, R?, lbm d 0.'4 susp. 2
pB, R, d 0.'2, hazy *. 4
pB, mbm, 0.'5 by 0.'4 at 140°, hazy * 4
pB, R, bm, d 0.'3 " " 4
pf, lbm 0.'3 by 0.'2 at 40° sh.? 4
pf, R?, lbm, d 0.'4 4
pf, afh. a * with f. neb. at 10°± (and 190°). susp. 2
f, 0.'3 by 0.'2 at 70° susp. 2
f, R, bm, d 0.'2 susp. 2
pf, R, d 0.'2 4
f, R, d 0.'2 susp 2
f, 0.'2 by 0.'1 at 130°. 4
f, R, d 0.'3 4
pf, R?, lbm, d 0.'3 ± hazy * susp. 2

pf, R, bm, d 0.'3. 4

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1907phae.proj.2293B

Scan of 8489 Cont.

		72 183	
76	Neb.	~~61~~, ~~184~~	✓
77	"	78, 191	✓
78	"	101, 188	✓
79	"	110, 190	✓
80	"	133, 184	✓
81	"	136, 175	✓
82	"	137, 176	✓
83	"	140, 177	✓
84	"	202, 187	✓
85	"	277, 179	✓
86	"	351, 189	✓
87	"	45, 161	✓
88	"	76, 168	✓
89	"	106, 163	✓
90	"	134, 171	✓
91	"	136, 170	✓
92	"	87, 146	✓
93	"	135, 151	✓
94	"	146, 138	✓
95	"	180, 143	✓
96	"	208, 138	✓
97	"	217, 147	✓
98	"	220, 147	✓
99 ~~100~~	"	248, 145	✓
100	"	259, 148	✓

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1907phae.proj - 22935

f, R?, lbm, d 0.3	susp.	2
f, 0.'3 by 0.'1 at 165°, lbm.	susp.	2
f, 0.'3 by 0.'1 at 170, lbm.	susp	2
f, R?, d 0.'1 ±	susp.	2
f, R?, lbm?, d 0.'2 ±	susp.	2
pB, R, d 0.'1		4
pB, R, d 0.'1		4
pf, mbm, 0.'6 by 0.'2 at 40°,	sh.?	4
f, R?, lbm, d 0.'2 ±	susp.	2
f, 0.'2 by 0.'1 at 35°	susp.	2
pvB, R?, bm, d 0.'3		4
pf, lbm, R?, d 0.'3		4
vf, 0.'6 by 0.'3 at 175°, lbm.	susp.	2
pf, R, lbm, d 0.'2		4
pf, R?, lbm, d 0.'3		4
pf, 0.'3 by 0.'3 at 40°, mbm.	sh?	4
f, R?, lbm, d 0.'3		4
pf, 0.'3 by 0.'1 at 135°, bm,	(susp; chided as *. afth. sh. neb-	4
B, R, (f neb ext. at 135°?), hazy *,		4
pB, R, d 0.'1, hazy *		4
f, lbm, 0.'3 by 0.'1 at 135°,	susp.	2
vf, 0.'3 by 0.'1 at 30°, lbm.	susp.	2
ef, 0.'2 by 0.'1 at 110°,	susp	2
f, R, bm, d 0.'2		4
ef, 0.'2 by 0.'1 at 170°	susp.	2

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1907phae.proj.2293B

Exam. of 8489 cont.

101	Neb	106, 131	✓
102	"	181, 129	✓
103	"	365, 129	✓
104	"	272, 119	✓
105	"	85, 106	✓
106	"	87, 99	✓
107	"	96, 98	✓
108	"	97, 96	✓
109	"	157, 100	✓
110	"	196, 110	✓
111	"	195, 103	✓
112	"	371, 107	✓
113	"	22, 79	✓
114	"	69, 76	✓
115	"	82, 86	✓
116	"	96, 91	✓
~~117~~	—	—	✓
118	Neb.	236, 70	✓
119	"	317, 56	✓
120	"	51, 51	✓
~~121~~	"	—	✓
~~122~~	—	—	✓
123	Neb	96, 52	✓
~~124~~	—	—	✓
125	Neb.	118, 50	✓

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1907phae.proj.22935

pB. nbM, 0.'8 by 0.'4 at 45°, sh. 4"1
F, E at 170°?, lbM, d 0.'2 ± susp. 2
pF, R?, bM, d 0.'3, hazy *. (neb. ext. at 135°?) 4
pF, 0.'3 by 0.'2 at 170°, bM, 4
F, R?, bM, d 0.'2 ± hazy star 4
F, R?, bM, d 0.'3, " " 4
F, 0.'3 by 0.'2 at 30°, bM 4
eF, 0.'3 by 0.'2 at 70°?, susp. 2
eF, 0.'2 by 0.'1 at 130°?, susp. 2
eF, 0.'4 by 0.'2 at 20° susp 2
pF, RN with eF neb at about 0°?, 4
F, irreg., 1.'5 by 0.'8 at 70° ±, F * inv. in N. edge 4
pF, R?, hazy object, poss. dbl *. 4
F, hazy * - poss. a dbl * susp. 2
F, R. d 0.'3 susp. 2
F, 0.'3 by 0.'2 at 35°, nr. F. *, susp. 2
prob. dbl *
pF, 1.'2 by 0.'3 at 165°, nbM. sh.? 4
pF, R, bM, d 0.'4 4
F, hazy *. 4
prob. a dbl *
dbt gul, eF. 1
vF, R?, d 0.'6 susp. 2
prob. a triple *
pF, hazy *. susp. 2

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1907phae.proj.2293B

Exam. of a 8489. Contd.

126	Neb.	155, 41	✓
127	"	162, 36	✓
~~128~~	—	—	/
129	Neb	57, 25	✓
130	"	132, 32	✓
131	"	143, 32	✓
132	"	312, 17	✓
133	"	320, 28	✓

1x3 127 obj. approved

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1907phae.proj..22936

p F, bri. hazy ✶. 4
f. F. hazy ✶ with ε ∓ ssab. ext. at 170°?, 4
app. a defect.
F. hazy ✶ 4
f. S, hazy ✶ 4
p S. hazy ✶ 4
F. R?, d 0.3 4
F, 1.0 by 0.3 at 160°, vbri. sh.? 4

Many of the objects on this plate are very faint. and do not appear on the plates a 2858 and 3846. Both of which were the best available for checking - Plate 8489 seems to be, however, free from defects. almost all the objects appearing to be checked prove genuine & probably nearly all those too faint to check are also genuine. This marked "Rush" "2".

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1907phae.proj.2293B

JJ

Seam of a 85-14 Sep 120

1	Neb.	190, 309	✓
2	"	191, 308	✓
3	"	53, 296	✓
4	"	92, 257	✓
5	"	123, 257	✓
6	"	202, 267	✓
7	"	213, 257	✓
8	"	251, 258	✓
9	"	255, 263	✓
10	"	258, 261	✓
11	—	—	✓
12	Neb.	344, 267	✓
13	"	384, 260	✓
14	"	157, 243	✓
15	"	203, 252	✓
16	"	139, 223	✓
17	"	216, 223	✓
18	"	256, 223	✓
19	"	177, 205	✓
20	"	235, 204	✓
21	"	202, 186	✓
22	"	244, 165	✓
23	"	246, 155	✓
24	"	397, 164	✓
25	"	44, 98	✓
24a	"	262, 130	✓

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1907phae.proj.22938

Kapt. Rcg. $21^h\,53^m$, $-45.^\circ1$

F, R?, lbm, d 0.'2	4
F, R?, d 0.'4	4
F, bm, R?, d 0.'3 ±	4
F, lbm, 1.'0 by 0.'4 at 10°	4
F, mbm, 0.'4 by 0.'2 at 130°?,	4
F, lbm, 0.'6 by 0.'2 at 20°,	4
F, mbm, 1.'0 by 0.'3 at 15°, sp.?	4
F, R, bm, d 0.'3	4
B, mbm, 0.'5 by 0.'3 at 170°, sp?	4
F, R?, bm, d 0.'3	4
prob. a dejet.	–
vF, 0.'6 by 0.'4 at 90°?,	4
vF, lbm, R?, d 0.'4 ±	4
F, lbm, R?, d 0.'2 susp.	2
B, a BN with F neb. cst at 10° & 190°, neb. 1.'0 by 0.'2 ± sp.?	4
F, R, d 0.'2	4
F, mbm, 1.'3 by 0.'2 at 50°, sp.?	4
F, R, lbm, d 0.'2	4
vF, R, d 0.'2 susp.	2
F, R?, d 0.'2	4
F, R?, lbm, d 0.'2 susp.	2
vB, R?, d 0.'2, hazy ✕	4
F, R, d 0.'5 susp.	2
vF, lbm?, 1.'0 by 0.'5 at 140°?, susp.	2
pB, R?, bm, hazy ✕	4
F, 0.'3 by 0.'1 at 140°, susp.	2

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1907phae.proj.2293B

Region of a 8514 Comet.

26	Neb.	46, 98	✓
27	"	62, 101	✓
28	"	66, 97	✓
29	"	70, 89	✓
30	"	96, 87	✓
31	"	139, 82	✓
32	"	303, 78	✓
~~33~~	—	—	✓
34	Neb.	310, 58	✓
35	"	353, 62	✓
~~36~~	—	—	✓
37	Neb.	83, 17	✓
38	"	114, 25	✓
39	"	116, 21	✓

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p B, R?, hazy * - neb. ext. at 110, (+ 290)?	4
✓ f, R?, d 0.'3 smooth.	2
p f, bbm. 1.'0 by 0.'4 at 110°,	4
B, 1.'3 by 0.'4 at 70°, a B hazy * in ft neb. ofp?	4
p f, 1.'5 by 0.'3 at 160°, a/B hazy * in ft neb. ofp.?.	4
f, R, d 0.'3	4
p f, R?, bm, d 0.'2	4
prob - a defect.	—
f, R, bm, d 0.'2	4
p f, bm, R?, hazy. img, d 0.'4	4
prob - a dbl *	—
p f, 1.'0 by 0.'4 at 35°, bm, ofp.?	4
p f, R?, hazy *	4
B, R?, hazy *.	4

a large part of the objects on this plate are prob. Spiral Nebulae, since the "hazy stars" without visible neb. extension appear much like the centers of ofp. spiral neb. No distinct spirals appear however. Objects described by d 2682, + 2859. each 1st +.

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√√

Exam. of a 8517. Feb, 120

1	Neb.	329, 301	✓
2	"	152, 276	✓
3 5	"	205, 272	✓
4	"	122, 258	✓
3	"	228, 278	✓
6	"	141, 236	✓
7	"	148, 240	✓
8	"	151, 235	✓
9	"	207, 240	✓
10	"	217, 234	✓
11	"	241, 227	✓
12	"	313, 227	✓
13	"	316, 220	✓
14	"	87, 211	✓
15	"	233, 201	✓
16	"	313, 197	✓
17	"	375, 203	✓
18	"	221, 178	✓
19	"	321, 180	✓
20	"	351, 180	✓
21	"	144, 153	✓
22	"	316, 159	✓
23	"	383, 156	✓
24	"	117, 145	✓
25	"	117, 136	✓
(22a	"	114, 144	✓
(23a		116, 145	✓

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12 Kapt Reg. $23^h\ 50^m$, $-45\frac{0}{1}$. June - Sept. 1907.

⌐ ⊛, R?, hazy *	4
⌐ ⊛, R, bM, d 0.3	4
⌐ ⊛, 1.0 by 0.4 at 150°, mbM, sh.?	4
⊛, bM, R, d 0.4	4
⊛, R, d 0.3	4
⌐ ⊛, bM, R?, d 0.2	4
⊛, R, bM, d 0.3	4
⌐ ⊛, R, bM, d 0.3	4
⌐ ⊛, R?, d 0.2	4
⊛, R, d 0.2	4
⌐ ⊛, R, bM, d 0.3	4
⌐ ⊛, R?, bM, d 0.2	4
⌐ ⊛, 0.3 by 0.2 at 20°, bM	4
⊛, R?, d 0.3	4
⌐ ⊛, R, d 0.2	4
⌐ ⊛, R, bM, d 0.2	4
⌐ ⊛, mbM, R, d 0.6	4
⌐ ⊛, 0.2 by 0.1 at 15°, (perhaps neb. dbl st.)	4
⌐ ⊛, mbM, 0.5 by 0.2 at 165° N in v ∓ neb.	4
⌐ ⊛, 2.5 by 0.4 at 85°, bM. Af.?	4
⌐ ⊛, bM, 0.3 by 0.1 at 165°,	4
⊛, 0.4 by 0.2 at 40°, bM, push-	1
⊛, hazy * push.	2
⌐ ⊛, R?, d 0.2	4
⌐ ⊛, R?, bM, d 0.3	4
⊛, R?, bM, d 0.2	4
⊛, 0.2 by 0.1 at 165°?, bM, ~~d 0~~	4

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Examin. of 8517 Lond.

26	Neb-	66, 100	✓
27	"	125, 101	✓
28	"	192, 106	✓
29	"	58, 81	✓
30	"	59, 86	✓
31	"	57, 45	✓
32	"	207, 17	✓
33	"	395, 20	✓

35 obs. have

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1. F. bm. R?, d 0.3	4
F. R. d 0.'3	4
F. R?, d 0.'2 susp.	2
1 F. bm. 1.'3 by 0.'5 at 60°. sp.?	4
F. 1.'3 by 0.'4 at 45°. bm. sp?.	4
F. hazy *	4
F. R?, bm. d 0.'3	4
1 B. hazy *	4

checked by a 3347 and 3426 + 3318.

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1907phae.proj.22930

General Rules.

For brightness - vB. B. bB. bF. F. vF and sometimes eF.
a neb * is recorded when the image appears distinctly stellar, but has a nebulous. There is, however, in many cases no sharp distinction between the object recorded as neb * and a round faint neb. The object is not called neb * unless apparently R or else round having a sharply defined stellar point. Even when R & of more or less irregular form it is called neb. Near edge of plate definition deep & prob. a neb may be sometimes called neb *, & vice versa.

Magnitudes are merely estimates based generally on the magnitudes of a few of the (bright) stars on plate which have been measured with micr. When not checked on a second plate marked "push", even when image seems pretty sure. But when neb has distinct neb form e.g. spiral, "push" is omitted even if not checked.

Diam. is estimated from adjacent micr scale. On edge of field an object is regarded as R - if of same form as stars, but an ? is used.

An ? after "push" signifies that the object is either dbl

When an aff. neb. may be most readily esp - as due to coalescence of image of dbl (or even triple) stars, it has not been included as a neb. The form of adjacent stellar images which very greatly on dif. part of the pl., is taken into consideration.

neb of shape ( ) are qual. called Sp.?
then often is that stands on edge.

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lbM - means a little, but not much brighter at center
bM. " considerably " " " "
mbM " a good deal " " " "
when neither of above remarks or pseudo one is made
the assumption is that the neb is about uniform throughout.
no special remark to this effect being used in general.

pos. (x + y) in mm from lower left hand ~~corner~~ corner of glass. i.e. x from left hand (following - since glass side is out & No end to left. Mark edge up) edge of glass, & y from lower (south) edge of glass.

Objects seen on only one plate will be marked "pseudo" except when the nature of the object is such that no reasonable doubt can exist.

Beginning with page 126, Plate 8288, the following notation will be used to indicate the certainty (or doubt) in regard to the character of the object. The four nos. 1, 2, 3, 4 will be used as follows.

1. "pseudo." not found on a second plate, either no plate, or no plate with sufficiently long exposure. Nevertheless the image is such as the 1st plate & the character of the plate is such, that the genuineness of the object seem reasonably sure.
2. "Pseudo". Not found on 2nd plate. Prob. a neb. but somewhat doubtful.
3. Checked on 2nd plate. On one or both plates distinctly neb. characteristics, as, e.g. spiral form. Practically sure.
4. Checked on 2nd plate, as a peculiar object. But showing no spirally neb. char. on either plate. Surely peculiar, but poss. in any case a triple or multiple star. Reasonably sure.

All objects not found on 2nd plate, when this plate shows other objects sufficiently faint, & all shown as dble or multiple objects

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✓✓ Exam. & description made. Obj. checked &c.

3kl.
Pagl

Summary of Prime plates Examined by ... of all kinds.

	Plate	Ref.	Exp.	R.A.	Dec.	Objects found	new	Field.
2.	✓✓ 7675 K sent	Ref.	120m	12h 38m	0°	70		
8.	✓✓ 7992 K sent	"	120	18 37	0	0		
8. X 112.	✓✓ 7964 K sent	"	120	17 40	0	0		
8.	✓✓ 7976 K sent.	"	120	19 34	0	1	Aust.	
28.	✓✓ 7377 ✓		243	21 11	−52.5	65		
48	✓✓ 7447 ✓		240	19 50	−47.5	116		
34.	✓✓ 7497 ✓		244	21 31	−52.5	160	4	12
58.	✓✓ (6909) ✓		225	19 50	−52.5	104 (+39 fd by RF)		
66	✓✓ 7451 ✓		220	20 10	−52.5	105		
76.	✓✓ 7443 ✓		240	19 50	−52.5	110.		
86.	✓✓ 5695 ✓		240	19 50	−57.5	62 (17 prev fd by S)		
104.	✓✓ 6911		240	20 45	+30.6	17	new	
106	✓✓ 6761 ✓		240	21 32	−16.0	56		
3k2. p2	✓✓ 8261 ✓		120	11 46	+28.0	267	Neg. c. Ho old ±	
134	✓✓ 7698 ✓		120	13 31	−0.1	104	12 "	
142	✓✓ 8410 dup. ✓		120	21 0	−60.3	389.	32 good	
190.	✓✓ 8489 K ✓		120	20 52	−45.1	133.	?	
180.	✓✓ 8383 K ✓		120	19 2	−59.8	69.	21 1500 ±	
158	✓✓ 8493 K ✓		120	19 24	−30.0	38		
146	✓✓ 8326 K ✓		120	10 50	−0.2	134 (125)		
126.	✓✓ 8288 K ✓		120	14 37	+0.1	91		
164.	✓✓ 8374 K ✓		120	13 49	−44.6	24		
186.	✓✓ 8385 K ✓		120	15 34	+0.1	22		
156	✓✓ 8490 K sent ✓		126	17 13	−15.	2		
114	✓✓ 8405 K sent		120	17 49	−44.9	4 0	(1? + 1 cl (2 n.r.c)	
156	✓✓ 8485 K sent ✓		123	16 10	−14.9	2	(1 asteroid?	
	✓✓ 8404 K sent		120	15 49	−45.	0		
170.	✓✓ 8368 K ✓		120	14 48	−45.2	43	(diff. defect	
202.	✓✓ 8514 K ✓		120	21 51	−45.1	39.	Nebulae)	
206.	✓✓ 8517 K ✓		120	23 47	−45.5	33		

589 1900 ±

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1907phae.proj.2293B

vgl

174.	Dv	8377 K ✓ Edge.	120ᵐ	17ʰ	3ᵐ	−59.9	29 ~~34~~ obj. marked ? old -
14.	✓✓	8364 K sent	"	14	57	−59.8	~~0~~ 8 " " dbl/full ~~all~~ dup
166.	✓✓	8357 K ✓ "	0	16	30	− 0.2	32 " " " "
114.	✓✓	8515 K ✓ "	"	21	0	+30.0	4³ " " also vgl 6992 2 nebs 1 star
188	✓✓	8488 K ✓ "	"	18	51	−45.	24 " "
116.	✓✓	8257 K ✓ "	"	11	50	+0.2	111 " "
156.	✓✓	8401 K ✓ sent		16	47	−44.8	4 " " ?
178.	✓✓	8381 K "	"	16	01	−74.9	~~8~~ 0 " "
112 156	✓✓	8492 K sent ✓	"	17	26	−30.1	2 " " " ?
—	(✓✓)	(8418 K sent -	.. dup. of 1	0	— 00		8410 exam'd .)
—	—	(8518 ~~K~~ sent not exam'd on accl		of mag. cld.			Leave for mis h. i.e. the region.)
—	✓✓	(7694 K sent dup. of 7698)	13	30	0		7698 exam'd .)

30 blabs to g. li K.
incl. 7675 + 7976 almost sent.

162 ✓✓ 8579 - ~~for~~ Halley Comet Ex/1/15/m 5ᵐ 42 +11.6 2

Given to R. C. Wallenberg for measuring

a 7443. measured -
6909. " .
8257. Kapt - "
8288. " "
~~7698~~. dup. "
~~8485~~. K "
8401. - " } sent to K.
~~8492~~ " "
~~8490~~ .. "
8515. "
~~8410~~. dup.
8383. K
8493. "
8374. "
8368. "
8377. "

(~~a 8579~~) Halley Comet Not 11/21
8357. K
8385. "
8488. "
8489. "
8514 "
8517. "
8326. "
8381 " - (no objects)

7447 ?

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