1909phae.proj.2301B

Vol. VIII

Positions
of
Nebulae.

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a=
b=
c=

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See pg. 190 this Bk. for re-meas. of this net.

A8261 No. 105 June 9th, 1909.

					1900 pos	12	2	44.3	+27	48.8	
a =	+27	2099	12	0	22.6	+27	57.1	+4.6	= 12	0 27.2	+6.4 = +28 3.5
b =	+28	2081	12	0	25.8 *	+28	5.6	+1.1	= 12	0 27.9	−3.4 = +28 2.2
c =	+28	2079	11	59	34.5	+28	36.2			12 0 25.0	+28 2.8
										6.8	3.8
									mean pos	12 0 26.1	+28 3.9
										+0.4 −0.5	−0.4 +0.4
										(+1.1 +0.2)	(−0.5 +0.3)

x

c − a = − 48.1

Cor +28.6 / 2

.439

− 21.1

	x	y	x	y
a	40.0	80.0	45.0	88.5
b	41.5	99.5	46.5	107.9
η	42.0	93.7	47.0	101.3

x	x	y	y
n−a +2.0	n−b +0.5	n−a +13.7	n−b −6.8
+2.0	+0.5	+12.8	−6.6
+2.0	+0.5	+12.75	−6.7
+2.02	+0.50	+12.88	−6.77
÷ .441	÷ .441	+ 6.44	−3.38
+4.6	+1.1		

* Gesellschaft pos. of b. +28 2081. reduced to 1855 is 12h 0m 25s.2 +28° 7'.6 .

"a", +27 2088 not found in Results.

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1909phae.proj.23018

2

Ast61 No. 106 June 9, 1909

1900pos, 12 2 24.0 + 27 52.3

b																
α =	+27	2098	12	0	13.4	+27	56.0	∓	10.1	=	12	0	6.3	+12.9	= +28	4.9
a																
δ =	+28	2080	11	59	55.3	+28	20.2	+	10.2	=	12	0	5.4	−13.3	= +28	7.0
ρ =	+28	2079	11	59	34.5	+28	36.2				12	0	5.8		+28	7.4

x

$\rho - b = -38.9$ +0.5 −0.5 +0.5 −0.4

cos +38.6
Σ

.439
−17.1

	x	y	x	y
	22.4	115.6		
a	30.0	65.4	32.5	130.2
b	30.0	65.4	40.0	80.0
η	26.8	89.2	37.6	103.8
	x	x	y	y
	$\eta - a$ + 4.4	$\eta - b$ − 3.2	$\eta - a$ − 26.4	$\eta - b$ + 23.8
	+ 4.4	− 3.1	− 26.4	+ 23.8
	+ 4.4	− 3.15	− 26.4	+ 23.8
	+ 4.44	− 3.18	− 26.66	+ 24.04
	÷ .441	÷ 441	− 13.33	+ 12.02
	+ 10.1	− 7.2		
	√	√		

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A 8361 No. 107 June 9, 1909

				1900	11 59 46.0	+27 32.5		
n = +27 2090	11 56 53.7	+27	49.1	+32.3	= 11 57 36.8	−1.8	= +27 47.3	
b = +27 2097	11 59 39.5	+27	42.0	−13.8	= 11 57 38.7	+6.1	= +27 48.1	
c = +28 2074	11 56 40.0	+28	51.9		11 57 20.5		+27 47.6	
	×							
	$c-a$ = −13.7				−1.0	+1.0	−0.3	+0.4
$\frac{C_{00}+28.8}{5}$	.438							
	−6.0							

	x	y	x	y
a	20.0	44.4	25.0	53.0
b	92.6	28.6	97.5	37.4
n	34.3	40.7	39.3	49.5
	x	x	y	y
	$n-a$ +14.3	$n-b$ −58.3	$n-a$ −3.7	$n-b$ +12.1
	+14.3	−58.2	−3.5	+12.1
	+14.3	−58.25	−3.6	+12.6
	+14.44	−58.83	−3.64	+12.22
	÷.443	÷.443	−1.82	+6.11
	+32.6	−132.8		

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1909phae.proj.2301B

A 8261 No. 108 June 9, 1909.

1900 pos 11 57 35.3 +27 42.1

a = +27 3091	11 54 49 44.6	+27 58.0	+35.8	= 11 55 16.3	−3.1	= +27 57.1
b = +27 2090	11 56 53.7	+27 49.1	−98.4	= 11 55 15.3	+8.0	= +27 57.1
c = +29 2248	11 54 57.9	+29 10.8		11 55 16.3		+27 57.1
				0.0	0.0	0.0	0.0

c = +29.2

c − a = +17.0

.436

+ 7.4

	x	y	x	y
a	20.0	28.8	35.0	40.4
b	78.7	6.4	83.7	18.2
n	35.6	33.5	40.7	34.1

	x	x	y	y
n−a	+ 15.6	− 43.1	− 6.3	+ 18.1
n−b	+ 15.7	− 43.0	− 6.3	+ 15.9
	+ 15.65	− 43.05	− 6.3	+ 16.0
	+ 15.81	− 43.48	− 6.36	+ 16.16
	÷ .442	÷ .442	− 3.13	+ 8.08
	+ 35.8	− 98.4		

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1909phae.proj.2301B

see pg. 7 for re-meas. of this net

A 8261 No. 109 June 9, 1909.

						1900 pos	11	51	6.2	+27	39.2	
a	+28 2055	11	45	46.6	+38	6.8 ~~5.1~~	+181.1	= 11	48	6.9 ~~4.8~~	-12.0	= +27 ~~53.1~~ 54.8
b	+28 2077	11	51	2.0	+27	44.7	-138.5	= 11	48	4.9 ~~3.5~~	+10.0	= +27 54.6
c	+28 2074	11	50	44.1	+27	7.5						
								11	48	4.5		+27 53.8
						mean pos		11	48	46.2		+27 54.2
									+1.0	-1.0		-0.7 +0.8
									(+0.7	-1.3)		(-1.1 +0.4)

cor +27.1

x

c - b = - 18.9

.445

- 8.0

	x	y	x	y
a	10.1	126.9	15.2	120.2
b	150.0	83.2	155.0	76.5
n	89.4	103.0	94.4	96.2
	x	x	y	y
n-a	+79.3	n-b -60.6	n-a -23.9	n-b +19.8
	+79.2	-60.6	-24.0	+19.7
	+79.25	-60.6	-23.95	+19.75
	+80.04	-61.21	-24.19	+19.95
	÷ .442	÷ .442	-12.095	+9.98
	+181.1	-138.5		
	✓	✓		

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1909phae.proj.2301B

see pg. 8 for pe. meas. of this neb.

A 8261 No. 110 June 9, 1909.

			1900 pos	11 50 52.2	+27 34.9
a = +28 2055	11 45 46.6	+28	6.8 5.1 1.7 3 8	= 11 48 35.4 − 16.5	= +27 48.6 50.5
b = +27 2079	11 51 39.4	+27	31.2 − 189.0	= 11 48 30.4 + 19.4	= +27 50.5
c = +27 2066	11 46 9.2	+27	13.3	11 48 32.8	+27 49.6
	x		mean pos	11 48 32.2	+27 49.9
	c − a = +23.6			−0.3 +0.3	−0.8 +0.7
cos +27.5	.446			(−0.5 +0.1)	(−1.1 +0.4)
	+10.0				

	x	y	x	y
a	25.0	120.3	20.0	125.0
b	170.7	49.4	175.7	54.1
η	88.0	87.6	93.0	92.4
	x	x	y	y
	η−a +73.0	η−b −82.7	η−a −32.7	η−b +38.2
	+73.0	−82.7	−32.6	+38.3
	+73.0	−82.7	−32.65	+38.25
	+73.73	−83.53	−32.98	+38.63
	÷.442	÷.442	−16.49	+19.32
	+166.8	−189.0		

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1909phae.proj.2301B

see ℞ pg. 5 for original meas. of this nebula

A8261 No. 109. June 9, 1909 ℞ Dec. 10, 1909.

							1900 pos	11	51	6.2	+ 27	39.2		
a = + 28 2055	11	45	46.6	+ 28	6.8	+ 181.7	= 11	48	46.5	− 12.0	= + 27	54.8		
b = + 27 2077	11	51	2.0	+ 27	44.7	− 137.9	= 11	48	44.8	+ 10.0	= + 27	54.6		
c = + 27 2074	11	50	44.1	+ 27	7.5									
d = + 27 2069	11	48	35.9	+ 27	44.2	+ 20.6	= 11	48	46.5	+ 10.8	= + 27	54.8		
e = + 27 2071	11	49	44.6	+ 27	58.0	− 58.4	= 11	48	46.2	− 3.2	= + 27	54.8		
								11	48	46.3		+ 27°	54.4	

e − b = − 17.9

Cos + 27.1 / Σ .445 / − 8.0

+0.2 −0.8 0.0 +0.5 −0.2 +0.3 +0.5 +0.5

mean pos 11 48 46.2 + 27 54.2

(+0.3 −0.7 +0.1 +0.6) (−1.1 +0.4 +0.6 +0.6)

		x	y	x	y
	a	10.1	125.7	15.2	119.8
	b	150.0	81.8	155.0	76.0
	c	89.6	101.6	94.7	95.9
+27 2069	d	80.6	80.2	85.7	74.4
+27 2071?	e	115.1	107.8	130.3	101.9
		x	x	x	x

m-a + 79.5 m-b − 60.4 m-d + 9.0 m-e − 25.5

+ 79.5	− 60.3	+ 9.0	− 25.6
+ 79.5	− 60.35	+ 9.0	− 25.55
+ 80.30	− 60.95	+ 9.09	− 25.81
÷ .442	÷ .442	÷ .442	÷ .442
+ 181.7	− 137.9	+ 20.61	− 58.4
y	y	y	y

m-a, − 24.1 m-b, + 19.8 m-d, + 21.4 m-e, − 6.2

− 23.9	+ 19.9	+ 21.4	− 6.3
− 24.0	+ 19.85	+ 21.4	− 6.25
− 24.24	+ 20.05	+ 21.61	− 6.31
− 12.12	+ 10.02	+ 10.80	− 3.16

using cat pos for 2055, 2069, 2071.

+27° 54.8 −.2
54.6 0
54.8 −.2
54.6 +.1
54.9 0
54.8
54.8

+27°

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1909phae.proj.2301B

8

see pg. 6 for original mean.

A 8261 No. 110. June 9, 1909.

					1900 pos	11 50	52.2	+27	34.9	
a = +28 2055	11 45	46.6	+28	5.1	+168.9	= 11	48	38.5	−16.5	= +27 48.4
b = +27 2079	11 51	39.4	+27	31.2	−188.6	= 11	48	39.8	+19.4	= +27 50.5
c = +27 2066	11 46	9.2	+27	13.3						
d = +27 2069	11 48	25.9	+27	44.4	+6.3	= 11	48	32.2	+6.3	= +27 50.5
e = +27 2071	11 49	44.6	+27	58.0	−72.7	= 11	48	31.9	−7.4	= +27 50.5
							11	48	32.1	+27 50.1
	c − a = +23.6				mean pos	11	48	32.2	+27	49.9
c₀₀ +27.2	.445					−0.5	+0.4	−0.2	+0.3	−1.3 +0.2 +0.4 +0.6
2	+10.0					(−0.4	+0.5	−0.1	+0.3)	(−1.1 +0.4 +0.6 +0.8)

		x	y	x	y
	a	10.0	119.8	15.0	111.2
	b	165.6	48.7	170.6	40.2
	m	83.1	87.1	88.0	78.4
+27 2069	d	80.3	74.2	85.3	65.6
+27 2071	e	114.9	101.7	119.8	93.0
		x	x	x	x

m − a + 73.1 m − b − 82.5 m − d + 2.8 m − e − 38.8

+ 73.0	− 82.6	+ 2.7	− 31.8
+ 73.05	− 82.55	+ 2.75	− 31.8
+ 73.78	− 83.37	+ 2.78	− 32.12
÷ .442	÷ .442	÷ .442	÷ .442
+ 166.9	− 188.6	+ 6.3	− 72.7
y	y	y	y

m − a − 32.7 m − b + 38.4 m − d + 12.9 m − e ∓ 14.6

− 32.6	+ 38.2	+ 12.8	− 14.6
− 32.65	+ 38.3	+ 12.85	− 14.6
− 32.98	+ 38.68	+ 12.98	− 14.75
− 16.49	+ 19.34	+ 6.49	− 7.38

using cat for. for 2055, 2069 & 2071 6 & 8 - Dec.

+27° 50.5 0
50.3 −2
50.5 0
50.3 −2
50.6 +1
50.7 +2
50.5

+27 50.5

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A8261 No. 111 June 10, 1909.

					1900 pos			11 49	53.0	+ 27	51.0			
a = +28 2056	11 45	48.6	+ 28	11.3	+ 105.7	=	11 47	33.3	− 5.5	= + 28	5.5			
b = +27 2071	11 49	44.6	+ 28	58.0	− 133.1	=	11 47	32.9	+ 8.0	= + 28	6.0			
c = +29 2226	11 45	38.3	+ 29	19.0			11 47	33.0		+ 28	6.0			
								+0.2	−0.2		−0.1	0.0		

c − a = − 10.3

Cor + 29.3 / 2

.436

− 4.5

	x	y	x	y
a	15.0	40.1	20.0	49.6
b	119.2	13.3	124.3	22.8
m	61.1	29.2	66.2	38.8

x		x		y		y	
m − a	+ 46.1	m − b	− 58.1	m − a	− 10.9	m − b	+ 15.9
	+ 46.2		− 58.1		− 10.8		+ 16.0
	+ 46.15		− 58.1		− 10.85		+ 15.95
	+ 46.61		− 58.68		− 10.96		+ 16.11
	÷ .441		÷ .441		− 5.48		+ 8.06
	+ 105.7		− 133.1				

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1909phae.proj.2301B

Note – No. 112 is rejected. √

A8261 No. 113 — June 10, 1909.

Obj. quite faint.

1900 pos 11 47 55.7 +27 51.8

a =	+28	2049	11	42	39.6	+28	26.3	+176.5	=	11	45	36.8	+28	8.8
b =	+28	2055	11	45	46.6	+28	5.1	−10.4	=	11	45	36.2	+28	6.6
c =	+28	2053	11	45	30.6	+28	49.3			11	45	36.2	+28	6.8

c − b =	−16.0	−1.0	+1.0	+0.2	−0.2

cos +28.8 / 2

.438

−7.0

	x	y	x	y
a	13.4	49.8	18.4	60.5
b	95.0	8.2	100.0	18.7
η	90.4	11.2	95.5	21.8

x	x	y	y
η−a +77.0	η−b −4.6	η−a −38.6	η−b +3.0
+77.9	−4.5	−38.7	+3.1
+77.05	−4.55	−38.65	+3.05
+77.82	−4.59	−39.04	+3.08
÷ .441	÷ .441	−19.52	+1.54
+176.5	−10.4		
√	√		

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1909phae.proj.2301B

Note – No. 114 is rejected.
see pg 191 for re-meas. of this net

A8261 No. 115 – June 10, 1909.

						1900 poo	11	45	6.7	+27	40.1
a	+27 2061	11	41	49.5 (50.0)	+27	54.2 (52.4)	+ 56.8 (57.1) =	11	42	46.1 (46.6)	+2.6 = +27 55.0 (55.8)
b	+28 2055	11	45	46.6	+28	51.8 (52.8)	− 10.0 (79.2) =	11	42	45.8 (46.4)	−10.5 (−8.4) = +27 56.5 (54.4)
c	+28 2053	11	45	30.6	+28	49.3		11	42	45.9 (46.5)	+27 55.1 (54.9)
						mean poo	11	42	46.3	+27	55.1
									−0.9 (−0.7)		+0.1 −0.1 = +0.0
									(−0.2 + 1.1)		(−0.1 − 0.3)

e − b = − 16.0

cos +38.8 / 2 = .438

− 7.0

	x	y	x	y
a	16.3	3.4 (3.5)	21.2	10.8
b	120.0	29.4 (29.5)	125.0	36.8
n	41.0	8.6 (8.8)	46.0	16.6

x	x	y	y
n − a + 24.7	n − b − 79.0	n − a + 5.2 (5.1)	n − b − 20.8 (20.7)
+ 24.8	− 79.0	+ 5.2 (5.3)	− 20.8 (20.7)
+ 24.75	− 79.0	+ 5.15 (5.2)	− 20.78 (20.7)
+ 25.00	− 79.79	+ 5.70 (5.3)	− 21.06 (20.9)
÷ .441	÷ .441	+ 2.64 (2.65)	− 10.53 (10.45)
+ 56.7 (56.8)	− 181.0 (180.9)		

√ √

Star +27° 2061 seems to be out about 2' in Dec. see meas. of same on pg 177 this book. Pos. as det. by this formula

11h 41 49.5 (50.0) +27° 52.4

above pos. Corrected in Catalog. 11 41 49.5 +27 54.2

Dif of 1.8 which causes the above results of meas. of net to differ so widely in Dec.

Have used meas. of Star a +27° 2061 on pg. 177 in place of pos as given in Catalogue and results obtained thereby be accordant.

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√

A 8261 No. 116 – June 10, 1909.

					1900 pos	11 43 59.0	+27 34.8	
a = +27 2059	11	40	31.6	+27	28.9 + 67.1	= 11 41 38.0 + 20.3	= +27 49.1	
b = +27 2061	11	41	49.5	+27	54.2 − 11.3	= 11 41 38.3 − 3.9	= +27 50.3	
c = +38 2046	11	40	24.5	+28	7.9	11 41 38.2	+27 49.8	
			×					
			c − a = ∓ 7.1			− 0.2 + 0.1	− 0.6 + 0.5	
c a + 28.1 / 2			.441					
			− 3.1					

	x	y	x	y
a	15.0	15.0	20.0	28.5
b	49.4	63.2	54.4	76.8
n	44.5	55.6	49.4	69.0
	x	x	y	y
	n − a + 29.5	n − b − 4.9	n − a + 40.6	n − b − 7.6
	+ 29.4	− 5.0	+ 40.5	− 7.8
	+ 29.45	− 4.95	+ 40.55	− 7.7
	+ 29.94	− 5.00	+ 40.95	− 7.78
	÷ .443	÷ .443	+ 20.48	− 3.89
	+ 67.6 ×	− 11.3		
	√	√		

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1909phae.proj.2301B

A8261 No. 117 – June 10, 1909.

						1900 pos	11	39	9.3	+27°	37′.0					
a = +28 2032	11	35	9.9	+28	40	+97.4	= 11	36	47.5	−11.8	= +27	52.2				
b = +27 2053	11	38	31.2	+27	38.8	−103.5	= 11	36	47.5	+13.0	= +27	51.8				
c = +26 2252	11	38	8.9	+26	46.4		11	36	47.5		+27	52.0				
							−1.0		+1.0		+0.2		−0.2			

c − b = −22.3

Corr +26.8 / x

.446

−9.9

	x	y	x	y
a	6.9	169.7	11.9	179.5
b	95.0	120.4	100.0	130.1
η	49.6	146.3	54.6	155.9

x	x	y	y
η − a +42.7	η − b −45.4	η − a −23.4	η − b +25.9
+42.7	−45.4	−23.6	+25.8
+42.7	−45.4	−23.5	+25.85
+43.13	−45.85	−23.74	+26.11
÷.445	÷.445	−11.87	+13.06
+97.4	−103.5		

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1909phae.proj.2301B

A 8261 No. 118 — June 10, 1909.

1900 pos 11 39 0.0 + 27 33.8

a	+28 2032	11 35 9.9	+28 4.0	+8.8	= 11 36 37.7	−15.1	= +27 48.8
b	+27 2053	11 38 31.2	+27 38.8	−113.3	= 11 36 38.1	+9.8	= +27 48.5
c	+26 2252	11 38 8.9	+26 46.4		11 36 37.9		+27 48.8
		x					
		c − b = −22.3			−1.2	+1.2	+0.3 −0.3
		446					
		−9.9					

$\frac{\text{Dec } +26.8}{2}$

	x	y	x	y
a	6.9	169.7	11.9	179.5
b	95.0	120.4	100.0	130.1
η	45.4	139.8	50.4	149.5

	x	x	y	y
n − a	+38.5	−49.6	−29.9	+19.4
n − b	+38.5	−49.6	−30.0	+19.4
	+38.5	−49.6	−29.95	+19.4
	+38.88	−50.10	−30.35	+19.59
	÷.443	÷.443	−15.12	+9.795
	+88.0	−113.3		

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1909phae.proj.2301B

A8261 No. 119 - June 10, 1909.

					1900 pos	11	38	49.8	+ 24°	39'.3
a = +28 2032	11	35	9.9	+28	4.0	+ 77.9	= 11	36	27.8	−9.5	= + 27	54.6
b = +27 2053	11	38	31.2	+27	38.8	− 125.4	= 11	36	29.8	+15.4	= + 27	54.2
c = +26 2252	11	38	8.9	+26	46.4			11	36	25.8		+27	54.4
								−1.0	+1.0			+ 0.3	−0.3

×

c − b = − 22.3

Cos +26.8 / 2

446

− 9.9

	x	y	x	y
a	6.9	169.7	11.9	179.5
b	95.0	120.4	100.0	130.1
n	41.0	150.9	46.0	160.5
	x	x	y	y
n − a	+ 34.1	n − b − 54.0	n − a − 18.8	n − b + 30.5
	+ 34.1	− 54.0	− 19.0	+ 30.4
	+ 34.1	− 54.0	− 18.9	+ 30.45
	+ 34.44	− 54.54	− 19.09	+ 30.75
	÷ .443	÷ .443	− 9.54	+ 15.38
	+ 77.9	− 123.4		

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1909phae.proj.2301B

A 8261 No. 120 – June 10, 1909.

1900 pos 11 57 11.9 + 27 30.2

a	+ 27	2081	11	52	36.4	+ 27	28.2	+ 136.5	=	11	54	51.8	+ 17.5	=	+ 27	45.7		
b	+ 27	2087	11	55	30.4	+ 27	48.6	− 36.4	=	11	54	54.4	− 4.0	=	+ 27	44.6		
c	+ 28	2067	11	52	19.0	+ 28	11.4			11	54	52.9			+ 27	45.2		

c − a = − 17.4

.441

− 7.7

cor + 28.2 / 2

− 2.5 + 1.5 + 0.5 − 0.6

	x	y	x	y
a	15.0	15.0	20.0	20.5
b	98.8	57.9	95.8	69.4
η	75.0	50.0	80.0	61.5

x	x	y	y
η − a + 59.9	η − b − 15.9	η − a + 35.0	η − b − 7.9
+ 59.8	− 16.0	+ 35.0	− 7.9
+ 59.85	− 15.95	+ 35.0	− 7.9
+ 60.45	− 16.11	+ 35.35	− 7.98
÷ .443	÷ .443	+ 17.68	− 3.99
+ 136.5	− 36.4		

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1909phae.proj.2301B

see pg. 192 for re-meas. of this net

A 8261 No. 121 — June 11, 1909

			1900 prs	11 54 41.8	+27 22.4
a = +27 2080	11 51 52.8	+27 55.0	+29.7	= 11 52 22.8	−18.4 = +27 36.6
b = +27 2081	11 52 36.4	+27 28.2	−14.8	= 11 52 21.6	+10.0 = +27 38.2
c = +28 2068	11 52 30.8	+28 55.6		11 52 21.2	+27 37.6
	x		means prs	11 52 22.3	+27 37.4
	c − b = −5.6			+0.5 −0.4	−0.7 +0.6
Cor +28.9 / 2	.438			(+0.2 − 0.7)	(−0.5 +0.8)
	−2.4				

	x	y	x	y
	20.3 ~~40.0~~			
a		61.8	25.3	65.8
b	40.0	55.6	45.0	19.6
η	33.5	25.6	38.4	29.5
	x	x	y	y
η − a	+13.2	η − b −6.5	η − a −36.2	η − b +20.0
	+13.1	−6.6	−36.3	+19.9
	+13.15	−6.55	−36.25	+19.95
	+13.28	−6.61	−36.61	+20.15
	÷ .443	÷ .443	−18.30	+10.08
	+30.0	−14.9		
	↓	↓		

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1909phae.proj.2301B

A 8261 No. 122 – June 11, 1909.

Object is quite faint.

						1900 pos	11	53	36.5	+27	27.4	
a	+27	2077	11	51	2.0	+27	44.7	+14.8	= 11	51	16.8 – 2.4	= +27 42.3
b	+27	2082	11	52	45.7	+27	25.7	–8.4	= 11	51	14.3 + 16.8	= +27 42.4
c	+26	2279	11	51	23.0	+26	56.4		11	51	14.4	+27 42.4
											7.0	
									–0.3	+0.3		–0.1 0.0

×

c – a = +21.0

cos +26.9 / 2

.446

+ 9.4

	x	y	x	y
a	10.0	118.8	15.0	130.5
b	55.7	80.6	60.7	92.3
n	16.5	114.3	21.6	125.5

	x	x	y	y
n – a	+6.5	n – b –39.2	n – a – 4.7	n – b +33.5
	+6.6	–39.1	–4.9	+33.3
	+6.55	–39.15	–4.8	+33.4
	+6.61	–39.54	–4.85	+33.73
	÷ .443	÷ 443	–2.4	+16.86
	+14.9	–89.5		

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1909phae.proj.2301B

For new meas. see Bf. 11, pg. 5.

A 8261 No. 123 – June 11, 1909.

						1900 pos	11	52	49.5	+27	34.2		
a =	+27	2073	11	49	56.6	+27	33.7	+33.4	= 11	50	29.7 30.8	+15.8 4.8	= +27 48.5
b =	+28	2064	11	51	4.8	+28	4.2	−33.8	= 11	50	31.0	−14.3	= +27 50.0 48.9
c =	+27	2074	11	50	44.1	+27	7.5		11	50	30.5		+27 49.4

×

c − b = − 20.7

.445

− 9.2

Cos +27.1

−0.8 +0.8 (−03 +13)

−0.7 +0.8

	x	y	x	y
a	10.6	76.9	15.6	88.5
b	40.0	135.0	45.0	146.5
η	25.2	107.7	30.2	118.1

x	x	y	y
n−a + 14.6	n−b − 14.8	n−a + 29.8	n−b − 27.3
+ 14.6	− 14.8	+ 29.6	− 28.4
+ 14.6	− 14.8	+ 29.7	− 28.35
+ 14.75	− 14.95	+ 30.00	− 28.63
÷ .442	÷ .442	+ 15.00	− 1432
+ 33.4	− 33.8		

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1909phae.proj.2301B

For new meas. see B§11, pg. 6.

A 8261 No. 124 – June 11, 1909.

						1900 pos	11	52 36.7	+ 27	27.4
a =	+ 27	20 7³	11	49	56.6	+ 27	33.7 + 19.8	= 11	50 16.4	+ 8.0 = + 27 41.7
b =	+ 28	20 6⁴	11	51	4.8	+ 28	4.2 − 6.7	= 11	50 17.8	− 21.0 = + 27 43.2
c =	+ 27	20 7⁴	11	50	44.1	+ 27	7.5		11 50 17.2	+ 27 42.4
									− 0.8 + 0.9	− 0.7 + 0.8

c − b = − 20.7

.445

− 9.2

Cos + 27.1 / 2

	x	y	x	y
a	10.6	76.9	15.6	88.5
b	40.0	135.0	45.0	146.5
η	19.3	93.3	24.4	104.5
	x	x	y	y
n − a	+ 8.7	n − b − 20.7	n − a + 16.4	n − b − 42.0
	+ 8.8	− 20.6	+ 16.0	− 42.0
	+ 8.75	− 20.65	+ 16.05	− 42.0
	+ 8.84	− 20.86	+ 16.21	− 42.42
	÷ .442	÷ .442	+ 8.10	− 21.21
	+ 20.0	− 47.2		
	√	√		

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1909phae.proj.2301B

For remeas. see Bk. 10, pg. 148

A8261 No. 125 June 11, 1909.

						1900 pos	11	46	12.9	+27	19.6		
a = +27	2061	11	41	49.5 (50.0)	+27	54.1	+138.9 (138.8)	= 11	43	53.5	−18.8	= +27	34.5
b = +27	2066	11	46	9.2	+27	13.3	−138.6	= 11	43	50.8	+21.8	= +27	34.6
c = +27	2062	11	42	0.8	+27	2.5		11	43	52.0		+27	35.4
						mean pos	11	43	52.5	+27	34.6		
							+0.4 −0.4				+0.1 0.0		
							+0.1 −0.2				+0.9 −1.0		
							(+0.3 − 0.5)				(−0.1 − 0.3)		

c − a = + 11.3

Cor +27.0

Σ 446

+ 5.0

	x (5.0)	y	x	y
a	19.5	113.3	20.0	132.2
b	130.4	35.2	135.5	44.3
c	69.5	77.4	74.5	86.3

x	x	y	y
n−a + 54.5	n−b − 60.9	n−a −35.9	n−b + 42.2
+ 54.5	− 61.0	−35.9	+ 42.0
+ 54.5	− 60.95	− 35.9	+ 42.1
+ 55.04	− 61.56	−36.26	+ 42.52
÷ .444	÷ .444	−18.13	+ 21.26
+ 124.0	− 138.6		

✓ ✓

See meas. of star +27° 2061 on pg. 177 this book.
The star in question is 1.8 less in Dy. as determined by meas. from the pos. as given in Catalogue.
See also Net # 115 – pg. 11 this book.
Have used pos. for +27° 2061 as determined by meas.

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1909phae.proj.2301B

A 9261 No. 126 - June 11, 1909

				1900 pos	11 44 14.0	+ 27 17.4		
a = +27 2056	11 39 30.3	+27 44.3	+143.4	=	11 41 55.1	−11.8	= +27 32.6	
b = +27 2064	11 45 40.7	+27 12.1	−23.4	=	11 41 54.0	+20.7	= +27 32.9	
c = +28 2055	11 45 46.6	+28 5.1			11 41 53.2		+27 32.4	
	c−b = +5.9				−0.9	+0.8	+0.2	−0.3

c−a +28.1 / 2

441 / +2.6

	x	y	x	y
a	11.3	69.9	16.3	47.7
b	175.0	6.4	180.0	14.2
n	44.4	46.5	79.3	54.3

	x	x	y	y
n−a	+63.1	n−b −100.6	n−a −23.4	n−b +40.1
	+63.0	−100.7	−23.4	+40.1
	+63.05	−100.65	−23.4	+40.1
	+63.68	−101.65	−23.63	+40.50
	÷ 444	÷ 444	−11.82	+20.25
	+143.4	−23.4		

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1909phae.proj.2301B

A 8261 No. 127 – June 17, 1909

						1900 pos	11	40	25.9	+27	29.2	
a = +27 2048	11	35	40.7	+27	35.4	+146.9 (4.5)	= 11	38	5.2	+8.5	= +27	44.3
b = +27 2055	11	39	24.4	+27	49.6	−81.2 (0.4)	= 11	38	3.7 (4.6)	−5.0	= +27	44.5
c = +28 2041	11	39	22.1	+28	48.0		11	38	5.0 (4.6)		+29	44.2
			x									
			c − b = −2.3				+0.6	−0.6		−0.3	+0.4	
cos + 28.8 / 2			.438									
			−1.0									

	x	y	x	y
a	15.4	22.4	20.3	29.8
b	115.0	49.5	120.0	57.0
n	79.4	39.4	84.4	46.9

x	x	y	y
n − a +65.0 (4)	n − b −35.6	n − a +17.0	n − b −10.1
+64.1	−35.6	+17.1	−10.1
+64.05	−35.6	+17.05	−10.1
+64.69	−35.96	+17.22	−10.20
÷ .443	÷ .443	+8.61	−5.1
+146.0	−81.2		
✓	✓		

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1909phae.proj.2301B

A8261 No. 128 June 11, 1909.

			1900 pos	11 40 8.5	+27 25.4		
a = +27 20 48	11 35 40.7	+27 35.4	+12 6.4	= 11 37 48.4	+ 4.8	= +27 40.2	a
b = +27 20 56	11 39 30.3	+27 44.3	−10 3.0	= 11 37 46.3	− 3.8	= +27 40.5	b
c = +28 20 41	11 39 22.1	+28 48.0		11 37 47.4		+27 40.4	c
	×						
	$c-b$ = − 8.2			= 0.1 + 0.1		− 0.2 + 0.1	

$\frac{c_{00} + 28.8}{2}$

.438

− 3.6

	x	y	x	y
a	13.4	25.2	18.4	35.6
b	115.0	42.1	170.0	52.6
η	69.4	34.7	74.4	45.0
	×	×	y	y
	$\eta-a$ + 56.0	$\eta-b$ − 45.6	$\eta-a$ + 9.5	$\eta-b$ − 7.4
	+ 56.0	− 45.6	+ 9.4	− 7.6
	+ 56.0	− 45.6	+ 9.45	− 7.5
	+ 56.56	− 46.06	+ 9.54	− 7.58
	÷ .443	÷ .443	+ 4.77	− 3.79
	+ 127.8	− 104.0		

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1909phae.proj.2301B

A 8261 No. 129 June 11, 1909.

						1900 pos	11	40	6.9	+27	19.4		
a =	+27	2049	11	36	56.4	+27	12.7	+49.8	= 11	37	45.3	+21.4	= +27 34.8
b =	+27	2052	11	38	29.4	+27	50.5	−44.4	= 11	37	45.0	−15.9	= +27 34.6
c =	+27	2051	11	38	23.9	+27	12.8			11	37	45.6	+27 34.4

c − b = − 5.5

cos +27.2 / 2

.445

− 22

+0.3 −0.2 −0.3 +0.4

	x	y	x	y
a	18.6	21.3	23.5	31.8
b	60.0	95.5	65.0	106.0
n	40.5	64.0	45.5	74.5

	x	x	y	y
n-a	+21.9	n-b −19.5	n-a +42.7	n-b −31.5
	+22.0	−19.5	+42.7	−31.5
	+21.95	−19.5	+42.7	−31.5
	+22.17	−19.70	+43.13	−31.82
	÷ .444	÷ .444	+21.56	−15.91
	+49.9	−44.4		

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1909phae.proj.2301B

A 8261 No. 130 June 11, 1909.

				1900 pos	11 39 51.9	+27 22.6	
a = +27 2048	11 35 40.7	+27 35.4	+111.6	=	11 37 37.5	+1.9	= +27 37.3
b = +27 2053	11 38 31.2	+27 38.8	−61.8	=	11 37 29.4	−1.0	= +27 37.8
c = +28 2041	11 39 22.1	+28 48.0			11 37 30.8		+27 37.6
	x				+0.6 −0.6		−0.3 +0.2
	c−b = +50.9						
Cos +28.8 / 2	.438						
	+22.3						

	x	y	x	y
a	13.9	15.9	19.0	24.4
b	90.0	21.7	95.0	30.0
n	62.9	19.7	67.9	28.1
	x	x	y	y
n−a	+49.0	n−b −17.1	n−a +3.8	n−b −2.0
	+48.9	−27.1	+3.7	−1.9
	+48.95	−27.1	+3.75	−1.95
	+49.44	−27.37	+3.79	−1.97
	÷.443	÷.443	+1.895	−0.98
	+111.6	−61.8		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 131. June 11, 1909.

1900pos 12 1 47.5 + 26 58.3

a =	+27	2092	11 58 10.2	+27	9.1	+89.4	= 11 59 30.8	+4.0	= +27	13.1
b =	+27	2100	11 58 12.6	+27	18.2	−105.0	= 11 59 27.8	−4.4	= +27	13.8
c =	+28	3075	11 57 34.4	+28	11.1		11 59 29.7		+27	13.4

c − a = − 35.8

$\frac{\text{Cor} + 28.2}{2}$

.441

− 15.8

+0.7 −0.7 −0.3 +0.4

	x	y	x	y
a	25.0	43.7	30.0	54.0
b	106.8	60.5	111.7	70.6
n	60.5	51.7	65.5	62.0

x	x	y	y
n − a + 35.5	n − b − 46.3	n − a + 8.0	n − b − 8.8
+ 35.5	− 46.2	+ 8.0	− 8.6
+35.5	− 46.25	+ 8.0	− 8.7
+35.86	− 46.71	+ 8.08	− 8.79
÷ .445	÷ .445	+ 4.04	− 4.395
+ 80.6	− 103.0		

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1909phae.proj.2301B

A 8261 No. 132 June 11, 1909.

1900 pos 2 0 25.8 +27 8.1

a =	+27	2090	11	56	53.7	+27	49.1	+73.$\overset{0}{\cancel{7}}$	= 11	58	$\overset{6.7}{\cancel{7}}$.$\cancel{4}$	−26.$\overset{0}{\cancel{3}}$	= +27	$\overset{3.1}{\cancel{2}}$$\overset{0}{\cancel{3}}$.$\cancel{8}$
b =	+27	2093	11	58	30.8	+27	16.5	−22.$\overset{2}{\cancel{4}}$	= 11	58	8.$\overset{6}{\cancel{4}}$	+ $\overset{6}{\cancel{7}}$.$\overset{9}{\cancel{0}}$	= +27	23.$\overset{4}{\cancel{5}}$
c =	+26	2295	11	56	46.4	+26	39.8			11	58	7.$\overset{6}{\cancel{4}}$		+27 23.7

c − a = − 7.3 −0.9 +1.0 −0.1 +0.2

$\frac{\text{Cos } +26.6}{2}$

.447

− 3.3

	x	y	x	y
a	20.0	153.3	25.0	163.6
b	62.2	87.2	6$\overset{7}{\cancel{2}}$.3	97.6
n	52.4	101.1	57.4	111.$\overset{5}{\cancel{4}}$

x	x	y	y
n−a +32.4	n−b − 9.8	n−a − $\overset{5}{\cancel{4}}$2.2	n−b + 13.9
+32.4	− 9.9	− $\overset{5}{\cancel{4}}$2.1	+ 13.9
+ 32.4	− 9.85	− 52.1	+ 13.9
+32.72	− 9.95	− 52.62	+ 14.04
÷ .444	÷ .444	− 26.31	+ 7.02
+ 73.7	− 22.4		
✓	✓		

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1909phae.proj.2301B

A8261 No. 133 – June 11, 1909

							1900 pos	11	56	19.8	+26	58.4		
a = +27 2080	11	51	52.8	+27	55.0	+127.6	=	11	59.1	1.9	−42.3	= +27	13.7	3.1
b = +26 2290	11	55	58.4	+26	36.3	−117.1	=	11	54	1.3	+37.8	= +27	14.4	3.6
c = +27 2087	11	55	30.4	+27	48.6			11	54	0.8		+27	13.4	
									−1.7	+1.7			−0.3	+0.2

$\frac{\cos +27.8}{2}$ × c − b = − 28.0

.442

− 12.4

	x	y	x	y
a	12.2	181.6	17.2	172.5
b	120.0	23.2	125.0	13.9
η	68.4	97.9	73.4	83.6

	x	x	y	y
η − a	+ 56.2	η − b − 51.6	η − a − 83.7	η − b + 74.7
	+56.2	−51.6	−83.9	+74.7
	+56.2	−51.6	−83.8	+74.7
	+56.76	−52.12	−84.64	+75.45
	+.445	+.445	−42.32	+37.72
	+ 127.6	− 117.1		

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1909phae.proj.2301B

A8261 No. 134 — June 12, 1909.

				1900 pos			
a = + 27 2074	11 50 44.1	+27 7.5	+ 12.2	=	11 52 48.8	+ 9.7	= + 27 17.5
b = + 27 3089	11 55 43.1	+27 30.1	− 17.2	=	11 52 46.9	− 12.6	= + 27 17.5
c = + 27 2075	11 50 44.6	+27 41.9			11 52 47.8		+ 27 17.4
	×						
	c − a = + 0.5				− 0.8 + 0.8		− 0.3 + 0.2
Cor +27.7 / 2	.443						
	+ 0.2						

	x	y	x	y
a	15.0	8.2	20.0	17.2
b	146.6	53.2	151.7	61.3
n	69.5	27.3	74.7	36.4
	x	x	y	y
	n − a + 54.5	n − b − 77.1	n − a + 19.1	n − b − 24.9
	+ 54.7	− 77.0	+ 19.2	− 24.9
	+ 54.6	− 77.05	+ 19.15	− 24.9
	+ 55.15	− 77.82	+ 19.34	− 25.15
	÷ .444	÷ .444	+ 9.67	− 12.58
	+ 124.2	− 175.2		

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1909phae.proj.2301B

A8261 No. 135 June 12, 1909

						1900 pos	11	54	32.7	+27	5.4			
a.	+27 2078	11	51	34.6	+27	18.8	+38.7	= 11	53	12.9	+1.4	= +27	20.2	
b.	+27 2089	11	55	42.1	+27	30.1	−210.6	= 11	53	13.6	−9.7	= +27	20.5	
c.	+27 2080	11	51	52.8	+27	55.0		11	53	12.5		+27	20.4	

c − a = + 18.2

Cos +27.9 / 2

.442

+ 8.0

−0.3 +0.4 −0.2 +0.1

	x	y	x	y
a	50.0	26.9	55.0	35.6
b	159.6	48.8	164.6	57.6
η	67.0	29.6	72.0	38.3

	x	x	y	y
η−a	+17.0	η−b −92.6	η−a +2.7	η−b −19.2
	+17.0	−92.6	+2.7	−19.3
	+17.0	−92.6	+2.7	−19.25
	+17.17	−93.53	+2.73	−19.44
	÷.444	÷.444	+1.36	−9.72
	+38.7	−210.6		

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1909phae.proj.2301B

A8261 No. 136 June 12, 1909

1900 prec. 11 54 11.3 +26 58.2

a = +27 2074	11 50 44.1	+27 7.5	+6.9	= 11 51 51.0	+5.3	= +27 12.8	a
b = +27 2089	11 55 42.1	+27 30.1	−29.6	= 11 51 52.5	−16.6	= +27 13.5	b
c = +27 2075	11 50 44.6	+27 41.9		11 51 51.8		+27 13.7	c
	×						
	c − a = +0.5			−0.8 +0.7		−0.4 +0.3	
c₀₀ +27.7	443						
Σ	+0.2						

	x	y	x	y
a	15.0	8.2	30.0	17.2
b	146.6	53.2	151.7	61.3
m	44.7	18.9	49.7	27.9
	x	x	y	y
m − a	+29.7	m − b −101.9	m − a +10.7	m − b −33.3
	+29.7	−102.0	+10.7	−33.4
	+29.7	−101.95	+10.7	−33.35
	+29.00	−102.97	+10.81	−33.68
	÷ 444	÷ 444	+5.40	−16.84
	+67.6	−231.9		
	√	√		

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1909phae.proj.2301B

A8261 No. 137 June 12, 1909

1900 pos 11 52 59.7 +26 59.6

a =	+27	2074	11	50	44.1	+27	7.5	−4.4 =	11	50	49.7	+7.2 = +27 14.6
b =	+27	2075	11	50	44.6	+27	41.9	−3.8 =	11	50	40.8	−27.4 = +27 14.5
c =	+27	2077	11	51	2.0	+27	44.7		11	50	40.2	+27 14.6

$\frac{\cos + 29.7}{2}$

e − a = + 17.9 × .443 = + 7.9

−0.5 +0.6 0.0 −0.1

	x	y	x	y
a	25.0	10.4	30.0	17.1
b	24.7	49.5	29.7	86.3
n	23.1	24.7	28.0	31.5

x	x	y	y
n − a = −1.9	n − b = −1.6	n − a = +14.3	n − b = −548
−2.0	−1.7	+14.4	−548
−1.95	−1.65	+14.35	−548
−1.97	−1.67	+14.49	−55.35
÷ .444	÷ .444	+ 7.24	−27.68
−4.4	−3.8		
✓	✓		

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1909phae.proj.2301B

A 8261 No. 138 June 12, 1909

1900 pos 11 52 59.4 +27 3.8

a = +27 2074	11 50 44.1	+27 7.5	− 4.8 =	11 50 39.3	+ 11.5 =	+27 19.8	8.9
b = +27 2075	11 50 44.6	+27 41.9	− 4.1 =	11 50 40.5	− 23.5 =	+27 18.4	6
c. +27 2077	11 51 2.0	+27 44.7		11 50 39.9		+27 18.8	8
	×						
	c − a = + 17.9			− 0.6 + 0.6		+ 0.1 − 0.2	

cov +27.7 / 2

443

+ 7.9

	x	y	x	y
a	25.0	10.4	30.0	17.1
b	24.7	79.5	29.7	86.3
n	22.9	38.1	27.9	39.8
	x	x	y	y
	n-a − 2.1	n-b − 1.8	n-a + 22.7	n-b − 46.4
	− 2.1	− 1.8	+ 22.7	− 46.5
	− 2.1	− 1.8	+ 22.7	− 46.45
	− 2.12	− 1.82	+ 22.93	− 46.91
	÷ .4444	÷ .4444	+ 11.46	− 23.46
	− 4.8	− 4.1		
	√	√		

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1909phae.proj.2301B

A8261 No. 139 June 12, 1909.

						1900 poo	11	52	15.0	+27	0,8			
a	+27	2070	11	48	53.6	+27	29.5	+62.4	= 11	49	55.4	−13.1	= +27	16.4
b	+27	2074	11	50	44.1	+27	7.5	−49.9	= 11	49	55.6	+7.7	= +27	15.2
c	+27	2075	11	50	44.6	+27	44.7		11	49	55.5		+27	15.8
					x									
			c−b = +0.5						−0.1	+0.1		+0.6	−0.6	
Cw +27.7				.443										
Σ				+0.2										

	x	y	x	y
a	51.0	59.3	71.0	68.8
b	100.0	17.6	120.0	24.2
n	78.5	33.1	98.4	42.7
	x	x	y	y
n−a	+27.5	n−b −21.5	n−a −26.2	n−b +15.5
	+27.4	−21.6	−26.1	+15.5
	+27.45	−21.55	−26.15	+15.5
	+27.72	−21.77	−26.41	+15.66
	÷ .444	÷ .444	−13.20	+7.83
	+62.4	−49.0		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 140 June 12, 1909

1900 pos 11 52 9.1 +27 4.2

a	+27	2070	11	49	53.6	+27	29.5	+56.4	11	49	50.0	−9.8	+27	19.6
b	+27	2074	11	50	44.1	+27	7.5	−55.9	11	49	49.1	+11.2	+27	18.6
c	+27	2075	11	50	44.6	+27	41.9		11	49	49.6		+27	19.2
					×						−0.2	+0.1		+0.5 −0.4
					c − b = +0.5									
					.443									
					+0.2									

cos α + 27.7

	x	y	x	y
a	51.0	59.3	71.0	68.8
b	100.0	17.6	120.0	27.2
η	95.8	39.6	95.8	49.4
	x	x	y	y
	n−a +24.8	n−b −24.2	n−a −19.7	n−b +22.0
	+24.8	−24.2	−19.4	+22.2
	+24.8	−24.2	−19.55	+22.1
	+25.05	−24.44	−19.75	+22.32
	÷.444	÷.444	−9.88	+11.16
	+56.4	−55.0		
	√	√		

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1909phae.proj.2301B

A8261 No. 141 June 12, 1909

					1900 pos	11 45 8.2	+27 0.6	
a = +27 3060	11 40 40.4	+27	33.7	+127.5	= 11 42 46.4	−8.5	= +27 15.3	
b = +27 2063	11 44 21.1	+27	10.3	−92.7	= 11 42 48.4	+5.8	= +27 16.0	
c = +28 3046	11 40 34.5	+28	7.9		11 42 48.0		+27 15.6	
	x							
	c − a = −15.9				−1.4	+1.5	−0.3	+0.4
Cor +28.1 / 2	.441							
	−7.0							

	x	y	x	y
a	15.0	60.5	30.0	36.8
b	111.6	32.2	116.8	8.6
η	70.9	43.8	76.0	20.0
	x	x	y	y
	n−a +55.9	n−b −40.7	n−a −16.7	n−b +11.6
	+56.0	−40.8	−16.8	+11.4
	+55.95	−40.75	−16.75	+11.5
	+56.51	−41.16	−16.92	+11.62
	÷.444	÷.444	−8.46	+5.81
	+127.3	−92.7		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 142 June 12, 1909

							1900 pos	11	44	53.8	+ 27°	1'	7	
a.	+27	2060	11	40	40.4	+27	33.7	+11 2.6 (1.5)	= 11	42	35.0 (1.9)	− 7.4 (3)	= +27	16.8 (4)
b.	+27	2063	11	44	21.1	+27	10.3	−10 7.4 (6.3)	= 11	42	35.8 (4.8)	+ 6.8 (7)	= +27	17.0
c.	+28	2046	11	40	24.5	+27 (8)	7.9		11	42	33.4		+27	16.7
					×									
			c − a = − 159								− 1.5 + 1.4		− 0.3 + 0.3	
			441											
			− 7.0											

Cor +28.1

	x	y	x	y
a	15.0	60.5	70.0	36.8
b	111.6	32.2	116.8	18.6
n	64.4	45.7	69.6	22.2
	x	x	y	y
n−a	+ 49.4	n−b − 47.2	n−a − 14.8	n−b + 13.5
	+ 49.6	− 47.2	− 14.6	+ 13.6
	+ 49.5	− 47.2	− 14.7	+ 13.55
	+ 40.00 (5)	− 47.67	− 14.75	+ 13.68 (9)
	÷ .444	÷ .444	− 7.38	+ 6.84
	+ 112.6	− 107.4		

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1909phae.proj.2301B

A8261 No. 143 June 12, 1909.

						(1900 pos				
a = +27 3050	11	38	33.1	+27	21.4	+69.8	= 11	39	31.7 − 8.8	= +27 12.6
b = +26 3257	11	43	34.1	+26	45.2	−29.1	= 11	39	35.0 + 28.0	= +27 13.5
c = +26 3252	11	38	8.9	+26	46.4		11	39	33.6	+27 15.98

x

e − a = − 14.2

cos +26.8 / 2

.446

− 6.3

									− 1.7 + 1.6	− 0.3 + 0.3

	x	y	x	y
a	20.0	101.4	25.0	118.1
b	152.8	27.7	157.8	36.2
n	50.6	83.6	55.6	92.3

	x	x	y	y
n − a	+ 30.6	n − b − 102.2	n − a − 17.8	n − b + 55.9
	+ 30.6	− 102.2	− 17.8	+ 55.1
	+ 30.6	− 102.2	− 17.8	+ 56.0
	+ 30.91	− 103.32	− 17.98	+ 56.56
	÷ .446	÷ .446	− 8.94	+ 28.28
	+ 69.3	− 231.4		

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1909phae.proj.2301B

(2057)

A8261 Star (?) June 12, 1909.

This star is fairly bright & is not found in N. Dm. Cat. – meas. for its pos.

a = +27 2050	11 38 23.1	+27 21.4	+95.1	=	11 39 58.2	−7.6	= +27	13.8
b = +27 2062	11 42 0.8	+27 2.5	−124.0	=	11 39 58.8	+10.5	= +27	13.9
c = +27 2061	11 41 49.5	+27 54.2			11 39 57.5		+27	13.4
	x							
	c − b = − 11.3				−0.4	+0.4	+0.5	−0.5
Cor a +27.9	.442							
	−5.0							

	x	y	x	y
a	23.5	45.2	28.4	53.3
b	120.0	9.5	125.0	17.5
η	65.4	30.2	70.3	38.3

	x	x	y	y
η − a	+ 41.9	η − b − 54.6	η − a − 15.0	η − b + 20.7
	+ 41.9	− 54.7	− 15.0	+ 20.8
	+ 41.9	− 54.65	− 15.0	+ 20.75
	+ 42.32	− 55.20	− 15.15	+ 20.96
	÷ .445	÷ .445	− 7.58	+ 10.48
	+ 95.1	− 124.0		
	√	√		

Found the above computation of "unknown star" to be star # 2057 +27°. The Pos. of above disagrees with that as given in Dm. by 2' in Dec.; according to the formula as given me for identifying stars the above result is correct and the pos. given in Dm. is out in Dec. RCW.

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1909phae.proj.2301B

A8261 No. 144 June 12, 1909

						1900 pos	11	39	32.6	+ 27	4.4			
a = +27 2049	11	36	56.4	+ 27	12.7	+ 4.8 =	11	37	1.2	+ 6.6	= + 27	19.4		
b = +28 2039	11	37	57.3	+ 28	13.5	− 51.3 =	11	37	0.5	− 42.1	= + 27	19.2		
c = +27 2051	11	38	33.9	+ 27	12.8		11	37.	0.8		+ 27	19.3		
			x											
cos +27.2 / r			c − 7 = +32.6					+0.4 −0.3			−0.1 +0.2			
			.445											
			+14.5											

	x	y	x	y
a	20.4	46.3	35.4	55.8
b	45.0	144.0	50.0	152.5
η	22.5	60.6	27.5	69.1
	x	x	y_3	y
	η−a + 2.1	η−b − 22.5	η−a + 14.3	η−b − 83.4
	+ 2.1	− 22.5	+ 13.3	− 83.4
	+ 2.1	− 22.5	+ 13.3	− 83.4
	+ 2.12	− 22.72	+ 13.43	− 84.23
	÷ .443	÷ .443	+ 6.72	− 42.12
	+ 4.8	− 51.3		

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1909phae.proj.2301B

see pg. 193 for re-meas. this net.

A 8261 No. 145 June 12, 1909.

					40s.6		1900 pos	11	37	58.6	+ 27	7.5		
a	+ 27	20 4	11	31	45.6	+ 27	0.8	+ 23	8 = 11	35	38.4	+ 21.2 = + 27	22	1.8
b	+ 27	20	11	38	31.5	+ 27	38.8	− 17	7.8 = 11	35	33.4	− 18.4 = + 27	22.4	
c	+ 28	20	11	38	8.9	+ 26	46.4	412.6	11	35	36.4		+ 27	22.4

mean pos 11 35 36.8 + 27 22.4

c − b = − 22.3

.446

− 9.9

+ 1.5 − 1.4 (+1.3 − 1.6) | − 0.6 + 0.5 (−0.6 + 0.5)

cos + 26.8

	x	y	x	y
a	3.7	41.5	3.6	50.7
b	185.0	115.2	185.0	124.6
n	106.9	83.5	106.8	92.7

x	x	y	y
n − a + 103.2	n − b − 78.1	n − a + 41.8	n − b − 31.9
+ 103.2	− 78.2	+ 42.0	− 31.9
+ 103.2	− 78.15	+ 41.9	− 31.9
+ 104.33	− 78.93	+ 42.32	− 32.22
÷ .444	÷ .444	+ 21.16	− 16.11
+ 234.8	− 177.8		

note,

New set of stars were selected for re-meas. of the two nebulae - Nos. 145, 2nd, 146 but the results are practically the same as in the above comp. only varying in about 0.5s in R.A. and 0.3" in Dec. see pages 118 and 119 The only available stars in either case are near edge of plate which may account for large diff. in results as to R.A.

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1909phae.proj.2301B

see pg. 194 for M. meas. of this nebula

A8261 No. 146 June 12, 1909.

								1900 pos	11	37	59.7	+ 27°	6′	5
a = +27	2042	11	31	45.6 (4.3)	+ 27	0.8	+ 33 (3.2) 5.6	=	11	35	4X.X (13 8.8)	+ 20.X (0)	= +27	2X.9 (0 8)
b = +27	2053	11	38	31.7 (16)	+ 27	38.8	− 17 (5.2) X.9	=	11	35	3X.X (6.3 4)	− 17.9 (6 8)	= +27	2X.8 (2.0)
c = +26	2252	11	38	8.9	+ 26	46.4			11	35	37.4 X		+27	21.4
								mean pos	11	35	37.9	+ 27	21.4	
										+ 1.4	− 1.4	− 0.6	+ 0.6	
										(+ 0.9	− 1.9)	(− 0.6	+ 0.6)	

x

c − b = − 22.3

446

− 9.9

Dec + 26.8 / 2

	x	y	x	y
a	3.7	41.5	3.6	50.7
b	185.0	115.2	185.0	134.6
n	107.3	81.5	107.2	90.8
	x	x	y	y
n − a	+ 103.6	n − b − 77.7	n − a + 40.0	n − b − 33.7
	+ 103.6	− 77.9	+ 40.1	− 33.8
	+ 103.6	− 77.8	+ 40.05	− 33.75
	+ 104.63	− 78.58	+ 40.45	− 34.09
	÷ .444	÷ .444		
	+ 235.6	− 177.0	+ 70.22	− 17.04

✓ ✓

see note page 42

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1909phae.proj.2301B

see pg. 195 for re-meas. of this nebula

A8261 No. 147 June 12, 1909.

								1900 pos	11	37	39.8	+23	5.4	
a =	+27	2042	11	31	45.6 (6.3)	+27	0.8	+215.6 (3.4)	= 11	35	19.97	+19.20	= +27	19.8
b =	+27	2053	11	38	31.76	+27	38.8	−196.9 (4.)	= 11	35	14.56	−18.11	= +27	30.9
c =	+26	2252	11	38	8.9	+26	46.4		11	35	17.86		+27	20.4
					×			mean pos	11	35	18.0	+27	20.3	
					c − b = −22.5				+1.4	−1.3		−0.6	+0.5	
					.446				(+1.0	−1.7)		(+0.5	+0.6)	
					− 9.9									

c₀₀ + 26.8 / 2

	x	y	x	y
a	3.7	41.5	3.6	50.7
b	185.0	115.2	185.0	124.6
η	98.5	79.4	98.4	88.8

	x	x	y	y
η − a	+94.8	η − b −86.5	η − a +37.9	η − b −35.8
	+94.8	−86.6	+38.1	−35.7
	+94.8	−86.55	+38.0	−35.75
	+95.75	−87.41	+38.38	−36.11
	÷ 444	÷ 444		
	+215.6	−196.9	+19.19	−18.06
	✓	✓		

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1909phae.proj.2301B

See pg. 196 for re-mead. of this net.

A8261 No. 148 June 12, 1909.

								1900 pos	11	37	19.9	+27	2.4		
a	+27	20.2	11	31	45.6	+27	0.8	+195.8	= 11	35	14.4	+16.9	= +27	16.7	
b	+27	30.3	11	38	31.6	+27	38.8	−216.7	= 11	35	57.5	−21.9	= +27	17.9	
c	+26	22.5	11	38	8.9	+26	46.4		11	34	58.0		+27	17.3	
					x			mean pos	11	34	58.1	+27	17.3		
					c − b = −22.3				+1.4		−1.3	−0.6		+0.6	
					.446				(+1.3		−1.4)	((−0.6		+0.6)	
					−9.9										

c₀₀ + 26.8 / 2

	x	y	x	y
a	3.7	41.5	3.6	50.7
b	185.0	115.2	185.0	134.6
η	89.8	78.4	89.7	82.7

	x	x	y_{ξ}	$y_{\eta 1}$
	η − a + 86.1	η − b − 95.2	η − a + 36.9	η − b − 56.8
	+ 86.1	− 95.3	+ 32.0	− 41.9
	+ 86.1	− 95.25	+ 31.95	− 41.85
	+ 86.96	− 96.20	+ 32.27	− 42.27
	÷ .444	÷ .444	+ 16.14	− 21.14
	+ 195.8	− 216.7		
	✓	✓		

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1909phae.proj.2301B

A 8261 No 149 June 14, 1909.

Obj. very faint

1900 pos 12 4 23.9 +26 47.1

a	+27 2100	12 1 12.6	+27	18.2	+54.4 (3.9)	=	12 2	7.9 (6.5)	−18.0 (5.8)	=	+27	2.2 (4)	a
b	+26 2311	12 2 44.6	+26	41.9	−39.7 (39.7)	=	12 2	4.5 (9)	+20.2 (0)	=	+27	4.1 (1.9)	b
c	+26 2304	12 0 12.2	+26	42.4			12 2	5.8 (7)			+27	3.2	c

c−a = −60.4

.447

−27.0

+0.8 −0.8 +0.2 −0.3

cos +26.7 / 2

	x	y	x	y
a	40.0	107.5	35.0	105.0
b	81.7	35.7	76.7	33.4
m	64.0	75.7	59.0	73.3
	x	x	y	y
	m−a +24.0	m−b −17.7	m−a −31.8	m−b +40.0
	+24.0	−17.7	−31.7	+39.9
	+24.0	−17.7	−31.75	+39.95
	+24.24	−17.88	−32.07	+40.35
	÷.446	÷.446	−16.04	+20.18
	+54.4	−40.1		

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1909phae.proj.2301B

A8261 No. 150 June 14, 1909.

1900 fors 12 4 14.7 +26 46.1

a = +27	2100	12	1	12.6	+27	18.2	+45.1	=	12	1	57.3	−16.4	= +27	1.5
b = +27	2311	12	2	44.6	+27	41.9	−49.4	=	12	1	55.7	+19.1	= +27	1.0
c = +26	2304	11	0	12.2	+26	42.2				12	1	56.5	+27	1.2

$c - \overset{a}{x} = -60.4$

$\cos +26.7$

Σ .447

-27.0

+0.8 −0.8 +0.3 −0.2

	x	y	x	y
a	40.0	107.5	35.0	105.0
b	81.7	35.7	76.7	33.4
n	59.9	74.8	54.9	71.5

x	x	y	y
n−a +19.9	n−b −21.8	n−a −33.5	n−b +38.5
+19.9	−21.8	−33.7	+38.0
+19.9	−21.8	−33.55	+38.15
+20.10	−22.02	−33.89	+38.53
÷ .446	÷ 446	−16.94	+19.26
+45.1	−49.4		

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1909phae.proj.2301B

For new means. see B[11, pg. 7.

A836, No. 151 June 14, 1909.

1900 for 12 0 40.1 + 26 35.0

a = +27 2092 11 58 10.1 +27 10.1 +11.5 = 11 58 21.6 −20.2 = +26 50.1

b = +26 2299 11 58 32.9 +26 8.6 −10.3 = 11 58 22.6 +21.8 = +26 50.2

c = +26 2297 11 57 49.3 +26 34.5 11 58 22.2 +26 50.0

mean for 11 58 21.9 +26 50.1

−0.5 +0.5 −0.9 +1.0

(−0.2 +0.8) (−1.0 +0.9)

0.0 1.0

x

c − a = − 20.9

.448

− 9.4

cos +26.4 / 2

	x	y	x	y
a	25.0	98.4	30.0	107.0
b	34.7	15.3	39.6	23.7
η	30.1	58.3	35.1	67.0

x	x	y	y
η − a + 5.1	η − b − 4.6	η − a − 45.1	η − b + 43.0
+ 5.1	− 4.5	− 40.0	+ 43.3
+ 5.1	− 4.55	− 40.05	+ 43.15
+ 5.15	− 4.59	− 40.45	+ 43.58
÷ 446	÷ 446	− 20.22	+ 21.79
+ 11.6	− 10.3		

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1909phae..proj..2301B

See pg 197 for re-meas. of this neb.

A 8261 No. 152 June 14, 1909.

								1900 pos	11	59	10.8	+	26	41.9				
a	+ 26	2789	11	55	54.4	+ 26	49.1	+ 57.7 (6.6)	= 11	56	51.8 (0)	+	8.8 (7)	= + 26	57.9 (8)			
b	+ 27	3092	11	58	10.2	+ 27	9.1	− 77.8 (1)	= 11	56	58.3 (3 1)	−	13.0 (2.9)	= + 26	56.1 (2)			
c	+ 27	3089	11	55	42.1	+ 27	30.1			11	56	52.0			+ 26	57.0		
								mean pos	11	56	51.8			+ 26	57.0			
											− 1.0	+	1.1		+ 0.8	−	0.8	
											(− 0.8	+	1.3)		(+ 0.8	−	0.8)	

× c − a = − 12.3

cos + 27.5 / 2 × .444 = − 5.5

	x	y	x	y
a	20.0	53.8	25.0	66.7
b	79.6	96.9	84.7	109.5
n	45.3	71.3	45.2 (50)	83.6

x	x	y	y
n − a + 25.3	n − b − 34.3	n − a + 17.5	n − b − 25.6
+ 25.2	− 34.5	+ 17.5	− 25.7
+ 25.25	− 34.4	+ 17.5	− 25.65
+ 25.50	− 34.74	+ 17.68	− 25.91
÷ .446	÷ .446	+ 8.84	− 12.96
+ 57.2	− 77.9		

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1909phae.proj.2301B

A8261 No. 153 June 14, 1909.

						1900 fpos	11	57	45.4	+	26	48.1
a =	+26	2282	11	52	41.3	+26	50.7	+165.0	= 11	55	28.4 + 16.7	= +27 3.7
b =	+27	2095	11	58	30.8	+27	16.5	−184.4	= 11	55	28.4 − 15.6	= +27 2.8
c =	+27	2081	11	52	36.4	+27	28.2		11	55	28.4	+27 3.2
					×							
			c − a =		− 4.9						−1.7 +1.8	+0.4 −0.3
c00		+27.5			444							
		2			− 2.2							

	x	y	x	y
a	150	25.1	20.0	31.5
b	169.3	77.8	174.3	84.8
n	87.8	50.7	92.9	57.5
	x	x	y/5	y
	n−a + 72.8	n−b − 81.5	n−a + 24.6	n−b − 27.0
	+ 72.9	− 81.4	+ 25.8	− 27.3
	+ 72.85	− 81.45	+ 25.7	− 27.15
	+ 73.58	− 82.26	+ 25.96	− 27.42
	÷ .446	÷ 446	+ 12.98	− 13.71
	+ 165.0	− 184.4		

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1909phae.proj.2301B

A8261 — No. 154 June 14, 1909.

				1900 prec	11 54 44.1	+26 50.8		
a = +26 2273	11 48 59.0	+26 52.3	+20 5.3	=	11 52 24.4	+12 8	= +27 5.1	
b = +27 2088	11 55 32.8	+27 16.9	−18 8.0	=	11 52 21.8	−10.9	= +27 6.4	
c = +27 2070	11 48 53.6	+27 29.5			11 52 23.6		+27 5.8	
	×							
	c − a = −5.4				−0.3 +0.2		−0.7 +0.6	
cos +27.5 / 2	.444							
	−2.4							

	x	y	x	y
a	5.0	24.5	10.0	29.9
b	180.0	71.0	185.1	77.6
η	96.4	50.0	101.4	56.6

x	x	y	y
η−a + 91.4	η−b − 84.6	η−a + 25.5	η−b − 21.0
+ 91.4	− 83.7	+ 25.7	− 21.0
+ 91.4	− 83.65	+ 25.6	− 21.0
+ 92.31	− 84.49	+ 25.86	− 21.21
÷ .445	÷ .445	+ 12.93	− 10.60
+ 207.4	− 189.9		

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1909phae.proj.2301B

A 8261 No. 155 June 14, 1909.

						1900 pos	11	53	24.1	+26	41.6	
a	= +26	2273	11	48	59.0	+26	52.3	+126.9 =	11	51	4.8 + 4.6 =	+26 56.9	a
b	= +26	2279	11	51	28.0	+26	56.4	−18.5 =	11	51	4.5 − 0.0 =	+26 56.4	b
c	= +27	2070	11	47	53.9	+27	29.5		11	51	4.6	+26 56.6	c

c − a = −5.4

.444

−2.4

c − a + 27.5

	x	y	x	y
a	35.0	19.8	40.0	30.4
b	99.2	28.4	104.2	39.6
η	91.0	23.0	96.1	38.6

	x	x	y	y
η − a	+56.0	η − b = −8.2	η − a + 4.2	η − b = −5.1
	+56.1	−8.1	+9.2	−0.0
	+56.05	−8.15	+9.2	−0.05
	+56.61	−8.23	+9.2	−0.05
	÷.446	÷.446	+4.6	−0.02
	+126.9	−18.5		

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1909phae.proj.2301B

A8261 — No. 156 June 14, 1909.

								1900 pos	11	51	30.3	+26	38.4	
a	+26	2273	11	48	59.0	+26	52.3	+12.0 (1.9)	= 11	49	1X.X (0.9)	+1.2	= +26	53.5
b	+27	3044	11	50	44.1	+27	7.5	−9X.X (3.4)	= 11	49	X.X (10.7)	−14.2	= +26	53.3 (4)
c	+27	3075	11	50	44.6	+27	41.9			11	49	10.X (8)		+26	53.4
					x									
				c − b =		+0.5					+0.1	−0.1		+0.1	0.0
cor	+27.7 / 2					.443									
						+0.2									

	x	y	x	y
a	18.1	9.5	23.0	18.9
b	6.5.0	40.0	70.0	49.5
η	23.4	11.9	28.3	21.3

	x	x	y	y
η − a	+ 5.3	− 41.6	+ 2.4	− 28.1
η − b	+ 5.3	− 41.7	+ 2.4	− 28.2
	+ 5.3	− 41.65	+ 2.4	− 28.15
	+ 5.35	− 42.07	+ 2.42	− 28.43
	÷ .446	÷ 446	+ 1.21	− 14.22
	+ 12.0	− 94.3		

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1909phae.proj.2301B

A 8261 No. 157 June 15, 1909.

								1900 pos	11	49	50.0		+26	44.9		
a =	+27	2064	11	45	40.7	+27	12.1	+109.6	= 11	47	29.2	30.3	−12.6	= +26	59.5	a
b =	+26	2273	11	48	59.0	+26	52.3	−89.2	= 11	47	30.4	30.8	+8.8	= +26	0.3	b
c =	+26	2365	11	45	41.4	+26	24.7			11	47	30.0			+26	59.9	c

×

@ − a = +0.7

.448

+0.3

−0.8 +0.7 −0.4 +0.4

cos +26.4 / z

	x	y	x	y
a	10.0	100.5	15.0	113.9
b	97.8	59.3	102.8	72.7
η	58.4	75.3	63.4	88.8

	x	x	y	y
η − a	+48.4	η − b −39.4	η − a −25.2	η − b +16.0
	+48.4	−39.4	−25.1	+16.1
	+48.4	−39.4	−25.15	+16.05
	+48.88	−39.79	−25.40	+16.21
	÷ .446	÷ 446	−12.70	+8.10
	+109.6	−89.2		

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1909phae.proj.2301B

A8261 No. 158. June 15, 1909.

						1900 fpos	11	47	55.8	+ 26	45.4			
a = +26 2261	11	44	35.4	+ 26	31.9	+ 6 0.8	= 11	45	36.2	+ 28.8	= + 26	0.7	0.6	
b = +27 2066	11	46	9.2	+ 27	13.3	− 34.5	= 11	45	35.7	− 13.1	= + 27	0.1	0.2	
c = +27 2063	11	44	21.1	+ 27	10.3		11	45	35.0		+ 27	0.5	0.4	

c − a = − 14.3

$\frac{c-a}{2} = +27.2$

.445

64

− 1.9

+0.8 −0.7 +0.2 −0.3

	x	y	x	y
a	30.0	10.4	25.0	30.9
b	6 2.5	9 3.9	67.5	114.7
η	46.7 1	67.9 8	52.1	88.7 5

x	x	y	y
η − a + 27.1	η − b − 15.4	η − a + 57.4	η − b − 26.1
+ 27.1	− 15.4	+ 57.5	− 26.2
+ 27.1	− 15.4	+ 57.45	− 26.15
+ 27.37	− 15.55	+ 58.02	− 26.41
÷ .446	÷ .446	+ 29.01	− 13.20
+ 61.4	− 34.9		

✓ ✓

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1909phae.proj.2301B

A 8261 No. 159 June 15, 1909

				1900 pos	11	44	7.5	+26	40'.2	
a = +27	2060	11	40	40.4	+27	23.7	+65.3 =	11	41	45.1 − 29.8 = +26 54.9
b = +26	3256	11	42	42.2	+26	33.3	−54.4 =	11	41	47.8 + 23.3 = +26 55.4
c = +27	2062	11	42	0.8	+27	2.5		11	41	46.8 +26 55.1
									−1.6	+1.5 −0.3 +0.2

cos +27.0 / 2

x

c − b = −41.4

.446

−18.5

	x	y	x	y
a	22.2	109.3	27.1	122.0
b	75.0	7.5	80.0	20.1
n	51.0	51.6	56.0	64.4

	x	x	y	y
n−a	+28.8	n−b −24.0	n−a −59.7	n−b +44.1
	+28.9	−24.0	−59.6	+44.3
	+28.85	−24.0	−57.65	+44.2
	+29.14	−24.24	−58.23	+44.64
	÷.446	÷.446	−29.12	+22.32
	+65.3	−54.4		

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1909phae.proj.2301B

A8261 No. 160 June 15, 1909.

						1900 pos	11	40	56.6	+	26	36'8		
a = +26 2252	11	38	8.9	+26	46.4	+27.5	= 11	38	36.4	+5.5	= +26	51.9		
b = +27 2059	11	40	31.6	+27	28.9	−11.3	= 11	38	34.8	−37.7	= +26	51.2		
c = +26 2254	11	40	13.6	+26	40.2		11	38	35.4		+26	51.8		
	c − b = − 18.0							+0.3	−0.3			−0.2	+0.3	
cos +26.7 / 2	.447													
	− 8.0													

	x	y	x	y
a	6.2	34.2	11.2	42.8
b	70.0	118.4	75.0	117.0
η	18.3	44.7	23.3	53.4

x	x	y	y
η − a + 12.1	η − b − 51.7	η − a + 10.5	η − b − 73.7
+ 12.1	− 51.7	+ 10.6	− 73.6
+ 12.1	− 51.7	+ 10.55	− 73.65
+ 12.22	− 52.22	+ 10.65	− 74.39
÷ .445	÷ .445	+ 5.32	− 37.195
+ 27.5	− 117.3		
✓	✓		

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1909phae.proj.2301B

A8261 No. 16á June 15, 1909.

1900 pos 11 40 49.2 +26 38.4

a = +26 2352	11 38 8.9	+26 46.4	+20.0 (19.8)	= 11 38 28.7	+6.8	= +26 53.2	a
b = +27 2059	11 40 31.6	+27 28.9	−134.8 (3.6)	= 11 38 (28.8)	−35.7	= +26 53.2	b
c = +26 2354	11 40 13.6	+26 40.2		11 38 (29.8) (8.4)		+26 53.2 (4)	c

×

c − b = −18.0

+0.3 −0.4 −0.2 +0.2

cos +26.7 / 2

.447

−8.0

	x	y	x	y
a	6.2	34.2	11.2	42.8
b	70.0	118.4	75.0	127.0
η	15.0	47.8	20.0	56.4

x	x	y	y
η − a +8.8	η − b −55.0	η − a +13.6	η − b −70.6
+8.8	−55.0	+13.6	−70.6
+8.8	−55.0	+13.6	−70.6
+8.89	−55.55	+13.74	−71.31
÷.445	÷.445	+6.87	−35.66
+20.0	−124.8		

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1909phae.proj.2301B

A8261 No. 162 June 15, 1909.

1909 pos 11 38 43.5 + 26 44.2

a = +26 23 48 | 11 38 48.4 | +26 35.0 + 12.5 | = 11 36 28.9 + 15.2 | = +26 59.4
b = +27 20 57 | 11 38 23.9 | +27 12.8 − 12.6 | = 11 36 28.9 − 13.7 | = +26 59.1
c = +26 20 52 | 11 38 29.4 | +27 00.5 | 11 36 21.7 | +26 58.3
| | | | | 59.2

c − b = 15.5 − 2.5 = 13.0

Cor +27.8 / 2 = 6.9

+0.2 −0.2 +0.2 −0.1

	x	y	x	y
a	10.4	6.4	15.3	26.7
b	165.0	75.5	170.0	95.1
n	108.4	50.0	114.3	69.6

x	x	y	y
n−a + 99.0 n−b	− 55.6 n−a	+ 43.6 n−b	− 25.5
+ 99.0	− 55.7	+ 43.9	− 25.5
+ 99.0	− 55.65	+ 43.75	− 25.5
+ 99.99	− 56.21	+ 44.19	− 25.76
÷ .446	÷ .446	+ 22.095	− 12.88
+ 224.2	− 126.0		

	x	y	x	y
a	5.3	32.3	10.4	32.6
b	115.0	82.1	120.0	90.5
n	60.4	54.8	65.4	63.1

x	x	y	y
n−a + 55.1 n−b	− 54.6 n−a	+ 30.5 n−b	− 27.3
+ 55.0	− 54.6	+ 30.5	− 27.4
+ 55.05	− 54.6	+ 30.5	− 27.35
+ 55.60	− 55.15	+ 30.80	− 27.62
÷ .446	÷ .446	+ 15.40	− 13.81
+ 124.7	− 123.6		

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1909phae.proj.2301B

A8261 No. 163 June 15, 1909.

1900 pos. 11 38 42.6 + 26° 45.4

a =	+26	23.48	11	34	18.4	+26	44.2	+	123.8	=	11	36	15.3	+	26	58.3	a
b.	+27	20.51	11	38	33.9	+27	12.8	−	124.6	=	11	36	17.7	−	26	59.7	b
c =	+27	20.52	11	38	49.4	+27	50.5				11	36	32.2		+27	0.4	c

+0.2 −0.3 +0.2 −0.1

c + b = 55.5

.446

+6.8

+24.8

c + a = +27.8 / 2

	x	y	x	y
a	10.4	6.4	15.3	26.7
b	165.0	45.5	170.0	95.1
η	108.0	52.4	114.0	73.0

	x	x	y	y
η − a	+98.6	η − b − 56.0	η − a + 46.0	η − b − 23.1
	+98.7	− 56.0	+ 46.3	− 23.1
	+98.65	− 56.0	+ 46.15	− 23.1
	+99.65	− 56.56	+ 46.61	− 23.33
	÷ .446	÷ 446	+23.30	−11.66
	+223.4	−126.8		

	x	y	x	y
a	5.3	24.3	10.4	32.6
b	115.0	82.1	120.0	90.5
η	60.0	57.1	65.0	65.4

	x	x	y	y
η − a	+54.7	η − b − 55.0	η − a + 32.8	η − b − 25.0
	+54.6	− 55.0	+ 32.8	− 25.1
	+54.65	− 55.0	+ 32.8	− 25.05
	+55.20	− 55.55	+ 33.13	− 25.30
	÷ .446	÷ .446	+ 16.56	− 12.65
	+ 123.8	− 124.6		

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1909phae.proj.2301B

A8261 No. 164 June 16, 1909.

								1900 pos	11	37	51.1		+26	49.5				
a =	+26	2443	11	32	37.1		+26	56.9	+17	8.1	= 11	35	28.6	+7.1	=	+27	4.0
b =	+27	2051	11	38	23.9		+27	12.8	−17	5.1	= 11	35	30.0	−8.0	=	+27	4.8
c =	+27	2052	11	38	29.4		+27	50.5				11	35	29.3		+27	4

x

c − b = +5.5

cos +27.8 / 2

.443

+ 2.4

−0.7 +0.7 −0.4 +0.4

	x	y	x	y
a	16.3	8.1	21.3	13.6
b	170.0	38.5	175.0	44.1
n	92.5	22.5	97.6	27.9

x	x	y	y
n−a +76.3	n−b −77.4	n−a +14.4	n−b −16.0
+76.3	−77.4	+14.3	−16.2
+76.3	−77.4	+14.35	−16.1
+77.06	−78.17	+14.49	−16.26
÷.445	÷.445	+7.24	−8.13
+173.2	−175.7		

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1909phae.proj.2301B

A826 No. 165 June 16, 1909.

								1900 pos	11	37	50.6		+26	49.3		
a	+26	2243	11	32	37.1	+26	56.9	+17 0.9 6	= 11	35	29.8	+ 6.9	= +27	3.8		a
b	+27	2051	11	38	23.9	+29	12.8	−17 4.4 8.2	= 11	35	29.5	− 8.3	= +27	4.5		b
c	+27	2052	11	38	29.4	+29	50.5			35	28.8		+27	4.2		c
											−0.8	+0.7		−0.4	+0.4	
								c−b = +5.5								
								.442								
								+ 2.4								

cos +27.8 / 2

	x	y	x	y
a	16.3	8.1	21.3	13.6
b	170.0	38.5	175.0	44.1
m	92.4	22.0	97.3	27.6

	x		x		y		y	
m−a	+ 76.1	m−b	− 77.6	m−a	+ 13.9	m−b	− 18.5 6	
	+ 76.0		− 77.7		+ 14.0		− 16.5	
	+ 76.05		− 77.65		+ 13.95		− 16.5	
	+ 76.81		− 78.43		+ 14.09		− 16.66	
	÷ .445		÷ .445		+ 7.04		− 8.33	
	+ 172.6		− 176.2					

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1909phae.proj.2301B

A8261 No. 166 June 16, 1909.

						1900 pos	11 37 50.0		+ 26 48.4		
a =	+26 2343	11	32 37.1	+ 26	56.9	+172.8	= 11 35 29.1		+ 6.0	= + 27	3.9
b =	+27 2051	11	38 23.9	+ 27	12.8	−176.8	= 11 35 21.1		− 9.2	= + 27	3.7
c =	+27 2052	11	38 29.4	+ 27	50.5		11 35 28.2			+ 27	3.3
		c − b =	+5.5				−0.8	+0.7		−0.4	+0.4

$\frac{\cos +24.8}{2}$ .442 + 2.4

	x	y	x	y
a	16.3	8.1	23.3	13.6
b	170.0	38.5	175.0	44.1
η	92.1	20.2	97.1	25.8

x		x		y		y	
η − a	+75.8	η − b	−77.9	η − a	+12.1	η − b	−18.3
	+75.8		−77.9		+12.2		−18.3
	+75.8		−77.9		+12.15		−18.3
	+76.56		−78.68		+12.27		−18.48
	÷.445		÷.445		+6.14		−9.24
	+172.0		−176.8				

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1909phae.proj.2301B

A8261 — No. 167 June 16, 1909

						1900 prec.	11	34	5.8	+26	35.0	
a.	+26	2348	11	34	18.4	+26	44.2	+25.6	= 11	34	43.7 + 6.0	= +26 50.2
b.	+27	2049	11	36	56.4	+27	12.7	−133.3	= 11	34	43.4 − 23.1	= +26 49.6
c.	+26	2351	11	37	8.4	+26	21.2		11	34	43.0	+26 49.9
				x								
			c − b =		+12.0				−0.3	+0.4		+0.3 −0.3

Con + 26.3 / 2

.448

+5.4

	x	y	x	y
a	148	58.8	19.8	71.4
b	85.0	117.0	90.0	129.5
η	26.1	70.9	31.2	83.4

x	x	y	y
η−a + 11.3	η−b − 58.9	η−a + 12.1	η−b − 46.1
+11.3	−58.8	+12.0	−46.1
+11.3	−58.85	+12.05	−46.1
+11.41	−59.44	+12.17	−46.56
÷.446	÷.446	+6.08	−23.28
+25.6	−133.3		

✓ ✓

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1909phae.proj.2301B

A 8361 No. 181 June 16, 1909

						1900 pos	11	36	57.7		+26	31.9.	
a = +26 2348	11	34	18.4	+26	44.2	+17.3	= 11	34	35.5	+ 2.8	= +26	47.0	
b = +27 2049	11	36	56.4	+27	12.7	−141.5	= 11	34	34.9	−36.5	= +26	46.5	
c = +26 2551	11	37	8.4	+26	21.2			11	34	35.9		+26	46.8
				x					−0.4	+0.4		+0.2	−0.3
				e − b = +12.0									
cos +26.5 / 2				.448									
				+5.4									

	x	y	x	y
a	14.8	58.8	19.8	71.4
b	85.0	117.0	90.0	129.5
η	22.4	64.5	27.5	76.9
	x	x	y	y
	+7.6 η−b	−62.6 η−a	+5.7 η−b	−52.5
	+7.7	−62.5	+5.5	−52.6
	+7.65	−62.5	+5.6	−52.55
	+7.713	−63.12	+5.66	−53.05
	÷.446	÷.446	+2.813.	−26.54
	+17.3	−141.5		

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1909phae.proj.2301B

A8261 No. 168 7a June 16, 1909

Faint hazy star

1900 pos 12 3 9.6 + 26 22.1

a.	+26 2307	12 0 37.0	+26	10.9	+14.7	= 12 0 51.7	+ 26 37.0
b.	+27 2100	12 1 12.6	+27	18.2	−21.5	= 12 0 50.1	+ 26 36.8
c.	+26 2303	12 0 55 22.4	+26	44.3		12 0 51.4	+ 26 37.2

x

c − a = − 74.6

+0.3 −0.3 −0.2 +0.1

cos +26.7 / 2

.447

− 33.3

	x	y	x	y
a	55.0	24.5	65.0	30.0
b	71.2	158.5	81.2	163.9
η	61.6	76.8	71.6	82.1
	x	x	y	y
n−a	+ 6.6	n−b − 9.6	n−a + 52.3	n−b − 81.7
	+ 6.6	− 9.6	+ 52.1	− 81.8
	+ 6.6	− 9.6	+ 52.2	− 81.75
	+ 6.67	− 9.70	+ 52.72	− 82.57
	÷ .447	÷ .447	+ 26.36	− 41.28
	+ 14.9	− 21.7		

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1900phae.proj.2301B

A8261 No. 169 June 16, 1909

1900.0 12 3 6.2 + 26 18.7

a =	+26	2307	12	0	37.0	+26	10.9	+11.5	=	12	0	48.4	+25.8	=	+26	33.7
b =	+27	2100	12	1	12.6	+27	18.2	−25.1	=	12	0	47.5	−44.4	=	+26	33.5
c =	+26	2303	11	59	22.4	+26	44.3			12	0	48.0			+26	33.8

x

c − a = − 74.6

.447

−33.3

+0.4 −0.3

−0.1 +0.2

Cos $\frac{+26.7}{2}$

	x	y	x	y
a	55.0	24.5	65.0	30.0
b	71.2	15.5	81.2	163.9
η	60.1	70.0	75.8	75.6
	x	x	y	y
	η−a +5.1	η−b −11.1	η−a +45.5	η−b −88.5
	+5.1	−11.1	+45.6	−88.4
	+5.1	−11.1	+45.55	−88.45
	+5.15	−11.21	+50.01	−89.83
	÷.447	÷.447	+25.00	−44.66
	+11.5	−25.1		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 185 June 16, 1909

						1900 pos	12	3	4.0	+26	10.1	
a = +26	2307	12	0	37.0	+26	10.9 + 9.5	= 12	0	46.8 + 14.5	= +26	25.1	
b = +27	2100	12	1	12.8	+26.7	18.2 − 27.5	= 12	0	45.4 − 58.3	= +26	25.4	
c = +26	2303	11	59	32.4	+26	44.3			45.8		25.2	
				α								
		c − a = −74.6							+0.4 −0.4		−0.1 +0.2	

cos +26.7 / 2

.447

−33.5

	x	y	x	y
a	55.0	24.5	65.0	30.0
b	71.2	158.5	81.2	163.9
n	59.0	52.9	69.1	58.3
	x	x	y	y
	n−a + 4.0	n−b − 12.2	n−a + 28.4	n−b − 105.6
	+ 4.1	− 12.1	+ 28.3	− 105.6
	+ 4.05	− 12.15	+ 28.35	− 105.6
	+ 4.14	− 12.27	+ 28.63	− 106.65
	÷ .447	÷ .447	+ 14.32	− 53.32
	+ 9.3	− 27.5		

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1909phae.proj.2301B

A8261 No. 186 June 16, 1909

1900 for 12 2 59.3 +26 8.8

a = +26 2307	12	0	37.0	+26	10.9	+4.4	= 12	0	41.4	+12.8	= +26 23.7
b = +27 2100	12	1	12.6	+27	18.2	−32.7	= 12	0	40.7	−54.7	= +26 23.5
c = +26 2303	11	59	22.4	+26	44.3			12	0	40.9	+26 23.9

x

c − a = −74.6

+0.4 −0.3 −0.2 +0.2

cos +26.7 / 2

.447

−33.3

	x	y	x	y
a	55.0	24.5	65.0	30.0
b	71.2	153.5	81.2	138.9
n	57.0	50.1	66.9	55.5

x	x	y	y
n − a +2.0	n − b −14.2	n − a +25.6	n − b −108.4
+1.9	−14.3	+25.5	−108.4
+1.95	−14.25	+25.55	−108.4
+1.97	−14.39	+25.80	−109.48
÷ .447	÷ .447	+12.90	−54.74
+4.4	−32.2		

✓ ✓

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1909phae.proj.2301B

A 8261 No. 187 June 16, 1909.

								1900 for	12	2	53.8	+26	6.4	
a	= +26	2307	12	0	37.0	+26	10.9	− 1.1 =	12	0	35.9	+10.5	= +26	21.4
b	= +27	2100	12	1	12.6	+27	18.2	− 37.8 =	12	0	34.8	−5.8	= +26	21.4
c	= +26	2303	11	59	22.4	+26	44.3		12	0	34.4		+26	21.4

c − a = −74.6

+0.3 −0.4 −0.2 +0.2

$\frac{c+a}{2} = +26.7$

.447

−33.3

	x	y	x	y
a	55.0	74.5	65.0	30.0
b	+71.2	53.5	81.2	16.9
m	54.5	45.4	64.5	50.8

x	x	y	y
m−a − 0.5	m−b − 16.7	m−a + 20.9	m−b − 113.1
− 0.5	− 16.7	+ 20.8	− 113.1
− 0.5	− 16.7	+ 20.85	− 113.1
− 0.5	− 16.87	+ 21.06	− 114.23
÷ .447	÷ .447	+ 10.53	− 57.12
∓ 1.1	− 37.8		

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1909phae.proj.2301B

see page 120 for means of this neb.
neb Each clump selected

A8261 No. 169 June 16, 1909

								1900 pos	12	1	55.5	+ 26	16.1		
a =	+27	2092	11	58	10.2	+27	10.1 9.4	+ 8 6.8	= 11	59	37.0	− 38.4	= +26	17	
b =	+26	3885	12	0	26.7	+26	8.6 9.2	− 48.2	= 11	59	38.5	+ 23.2	= +26	18	
c =	+26	2397	11	57	49.3	+26	24.5		11	59	37.8		+26	31.6	
								mean pos	11	59	37.3		+28	31.2	
											−0.8	+0.7		−0.9	+0.8
											(−0.3	+1.2)		(−0.5	+1.3)

cos +26.4 / 2

c − a = − 20.9

.448

− 9.4

	x	y	x	y
a	25.0	156.3	30.0	165.0
b	85.4	33.2	90.3	41.9
n	63.8	79.5	68.8	88.3
	x	x	y	y
	n − a + 38.8	n − b − 21.6	n − a − 76.8	n − b + 46.3
	+ 38.8	− 21.5	− 76.7	+ 46.4
	+ 38.8	− 21.55	− 76.75	+ 46.35
	+ 39.19	− 21.76	− 77.52	+ 46.81
	÷ .447	÷ .449	− 38.76	+ 23.40
	+ 87.7	− 48.7		

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1909phae.proj.2301B

see page 121 for meas. of this net.
New Set Stars selected.

A8261 No. 169a June 16, 1909

1900 pos 12 1 53.5 +26 15.7

a = +27 2092	11	58	10.2	+27	9.1	+85.6	=	11	59	35.8	−39.2	=	+26	29.8
b = +26 2305	12	0	26.7	+26	9.2	−50.7	=	11	59	36.0	+28.8	=	+26	32.0
c = +26 2297	11	57	49.3	+26	24.5			11	59	35.9			+26	31.2

mean pos 11 59 35.3 +26 30.8

−0.8 +0.8 −0.9 +0.8

(−0.4 +1.2) (−0.5 +1.2)

x:

c − a = − 20.9

.448

− 9.4

c00 + 26.4 / 2

	x	y	x	y
a	25.0	156.3	30.0	165.0
b	85.4	33.2	90.3	41.9
m	62.9	78.7	67.9	87.4

	x	x	y	y
m − a	+ 37.9	m − b − 22.5	m − a − 77.6	m − b + 45.5
	+ 37.9	− 22.4	− 77.6	+ 45.5
	+ 37.9	− 22.45	− 77.6	+ 45.5
	+ 38.28	− 22.67	− 78.38	+ 45.96
	÷ .447	÷ .447	− 39.19	+ 22.98
	+ 85.6	− 50.7		

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1909phae.proj.2301B

see page 176 for meas. of this neb.
Better stars selected — new set.

A 8261 No. 170 June 16, 1909

1900 pos 12 2 3.6 +26 11.7

a = +24 2092 11 58 10.2 +27 9.1 +95.8 = 11 59 45.0 −43.2 = +26 25.9
b = +26 2305 12 0 26.7 +26 9.2 −40.6 = 11 59 46.5 +18.4 = +26 27.6
c = +26 2397 11 57 49.3 +26 34.5 11 59 45.8 +26 26.8

mean pos 11 59 45.4 +26 26.8

−0.8 +0.7 −0.9 +0.8
(−0.4 + 1.1) (−0.9 + 0.8)

x

c − a = −20.9
.448
−9.4

cos +26.4 / 2

	x	y	x	y
a	25.0	156.8	30.0	165.0
b	85.4	33.2	90.3	41.9
n	67.4	69.9	72.4	78.8

x	x	y	y
n−a +42.4	n−b −18.0	n−a −86.4	n−b +36.7
+42.4	−18.9	−86.2	+36.9
+42.4	−17.95	−86.3	+36.8
+42.82	−18.13	−86.16	+37.17
÷.447	÷.447	−43.58	+18.58
+95.8	−40.6		
✓	✓		

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1909phae.proj.2301B

A8261 — No. 171 June 16, 1909

1900.0 12 1 34.7 +26 18.9

a =	+26	2399	11	58	32.9	+26	29.4	+44.4	= 11	59	16.8	+5.0	= +26	34.4
b =	+26	2304	12	0	12.2	+26	42.4	−56.1	= 11	59	14.5	−8.9	= +26	33.5
c =	+27	2092	11	58	10.2	+27	9.1			11	59	16.5		+26	34.0

c − a = −22.7

+0.4 −0.4 +0.4 −0.5

c on +27.1

·445

−10.1

	x	y	x	y
a	20.0	80.5	15.0	91.0
b	64.8	108.5	59.7	118.8
η	39.7	90.7	34.6	101.1

	x	x	y	y
η − a	+19.7	η − b − 25.1	η − a +10.2	η − b − 17.8
	+19.6	− 25.1	+10.1	− 17.7
	+19.65	− 25.1	+10.15	− 17.75
	+19.85	−25.35	+10.25	− 17.93
	÷.447	÷.447	+5.12	− 8.96
	+44.4	−56.7		

✓ ✓

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1909phae.proj.2301B

A8261 No. 172 June 16, 1909

								1900 for	12	1	32.9		+26	18.7			
a =	+26	2799	11	58	32.9	+26	29.4	+42.6	= 11	59	15.5	+	5.0	= +26	34.3		
b =	+26	3304	12	0	12.2	+26	42.4	−58.5	= 11	59	13.7	−	9.0	= +26	33.4		
c =	+27	2092	11	58	10.2	+27	9.1		11	59	14.7			+26	33.8		
											+0.4	−0.4			+0.5	−0.4	

c₀ +27.1

c − a = −22.4

.445

−10.1

	x	y	x	y
a	20.0	80.5	15.0	91.0
b	64.8	108.5	59.7	118.8
η	38.9	90.4	33.8	100.9

	x	x	xy	xy
η − a	+18.9	η − b = −25.9	η − a + 9.9	η − b = −18.1
	+18.8	−25.9	+9.9	−17.9
	+18.85	−25.9	+9.9	−18.0
	+18.04	−36.16	+10.00	−18.18
	÷.447	÷.447	+5.0	−9.09
	+42.6	−58.5		

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1909phae.proj.2301B

A8261 No. 173 June 17, 1909.

1900 pos. 11 51 34.1 +26 15.3

a =	+26 22.71	11	48	32.5	+26	18.1	+40.8	= 11	49 18.9	+12.6 = +26 30.7
b =	+26 22.75	11	49	45.2	+26	37.7	−29.8	= 11	49 16.4	−7.8 = +26 29.9
c =	+27 30.73	11	49	56.6	+27	33.7			11 49 14.6	+26 30.3
				×						
				c − b = −11.4					−1.7	+1.8 +0.4 −0.4
Cos +27.5				.444						
				−5.1						

	x	y	x	y
a	19.0	19.1	24.0	32.6
b	50.0	59.9	55.0	73.5
n	37.1	44.3	42.1	57.8

x	x	y	y
n−a	+18.1	n−b −12.9	n−a +25.2	n−b −15.6
	+18.1	−12.9	+25.2	−15.7
	+18.1	−12.9	+25.2	−15.65
	+18.28	−13.03	+25.45	−15.81
	÷ .448	÷ .448	+12.72	−7.90
	+40.8	−29.1		

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1909phae.proj.2301B

A 8261 No. 174 June 17, 1909.

		1900 pos	11 50 25.3		+26 25.9		
a = +26 2269	11 47 48.3	+26 47.7	+17.4	= 11 48 5.8	−7.1	= +26 40.6	
b = +26 2272	11 48 45.4	+26 29.1	−39.8	= 11 48 5.8	+12.1	= +26 41.2	
c = +27 2070	11 48 53.6	+27 29.5		11 48 5.8		+26 40.9	

x

c − b = + 8.2 · .444 = + 3.6

Cos +27.5 / 2

0.0 0.0 · −0.3 +0.3

	x	y	x	y
a	19.6	61.8	24.6	73.4
b	45.0	23.3	50.0	35.0
n	27.3	47.5	32.3	59.2

	x	x	y	y
	n−a + 7.7	n−b − 17.7	n−a − 14.3	n−b + 24.1
	+ 7.7	− 17.7	− 14.2	+ 24.2
	+ 7.7	− 17.7	− 14.25	+ 24.2
	+ 7.78	− 17.88	− 14.39	+ 24.44
	÷ .447	÷ .447	− 7.195	+ 12.22
	+ 17.4	− 39.8 (40.0)		

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1909phae.proj.2301B

A 8261 No. 175 June 17, 1909

1900 pos 11 49 30.0 + 26 29.6

a = +27 2063	11 44 21.1	+27	10.3	+170.4	= 11 47	10.1	− 25.9	= +26 44.4
b = +26 2272	11 48 45.4	+26	29.1	− 96.5	= 11 47	9.9	+ 15.5	= +26 44.4
c = +27 3070	11 48 53.6	+27	29.5		11 47	10.0		+26 44.5
	×							
	c − b = + 8.2				+0.1	−0.1	+0.1	−0.2
ave +27.5 / 2	.444							
	+ 3.6							

	x	y	x	y
a	17.0	86.7	22.0	90.4
b	135.0	4.8	140.0	8.4
n	92.4	35.4	97.4	39.0
	x	x	y	y
n − a	+ 75.4	n − b − 42.6	n − a − 51.3	n − b + 30.6
	+ 75.4	− 42.6	− 51.4	+ 30.6
	+ 75.4	− 42.6	− 51.35	+ 30.6
	+ 76.15	− 43.03	− 51.86	+ 30.91
	÷ .446	÷ .446	− 25.93	+ 15.46
	+ 170.7	− 96.5		

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1909phae.proj.2301B

A8261 No. 176 June 17, 1909

						1900 pos	11	46	53.2		+26	18.6
a = +26 2256	11	42	42.2	+26	33.3	+09.8	= 11	44	32.0	−0.0	= +26	33.3
b = +26 2268	11	43	35.8	+26	34.6	+88.2	= 11	44	31.5	−0.6	= +26	34.0
c = +27 2068	11	46	34.6	+27	12.3		11	44	32.8		+26	33.6
		×										
	c − b = −54.1						−0.8	+0.7		−0.3	+0.4	
cos +27.2 / 2		445										
		−24.1										

	x	y	x	y
a	11.3	29.1	16.3	39.5
b	140.0	30.1	145.0	40.6
n	60.4	29.0	65.4	39.4
	x	x	y	y
	n−a +49.1	n−b −79.6	n−a −0.1	n−b −1.1
	+49.1	−79.6	−0.1	−1.2
	+49.1	−79.6	−0.1	−1.15
	+49.59	−80.40	−0.1	−1.16
	÷.447	÷.447	−0.05	−0.58
	+110.9	−180.0		

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1909phae.proj.2301B

A 8261 No. 177 June 17, 1909

1900 pos 11 46 16.4 + 26 21.2

a = + 26 23 56 | 11 42 42.2 | + 26 33.3 + 14.0 = 11 43 56.1 + 5.8 = + 26 36.7

b = + 26 23 69 | 11 47 48.3 | + 26 47.7 − 15.4 = 11 43 55.1 − 13.2 = + 26 34.5

c = + 26 24 25 | 11 47 58.9 | + 26 14.8 | 32.5 | 11 43 55.7 | + 26 35.8

55.8 | 56.0 | 36.2

α

c − a = + 21.3 + 10.6

.450

.448

− 9.6

+ 4.7

+0.1 −0.2 +0.5 −0.5

	x	y	x	y
a	9.2	42.4	19.0	62.5
b	14.0	46.1	15.0	96.0
η	47.9	50.0	51.8	70.0

x	x	y	y
n−a + 32.7	n−b −103.1	n−a + 7.6	n−b − 26.1
+ 32.8	− 103.2	+ 7.5	− 26.0
+ 32.75	− 103.15	+ 7.55	− 26.05
+ 33.08	− 104.18	+ 7.63	− 26.31
÷ .444	÷ .444	+ 3.82	− 13.16
+ 74.0	− 233.1		

	x	y	x	y
a	20.0	98.4	25.0	95.1
b	156.9	121.8	163.0	125.7
η	58.0	97.2	58.1	101.8

x	x	y	y
n−a + 33.0	n−b − 103.9	n−a + 6.8	n−b − 24.0
+ 33.1	− 103.9	+ 6.7	− 23.9
+ 33.05	− 103.9	+ 6.75	− 23.95
+ 33.38	− 104.93	+ 6.82	− 24.19
÷ .447	÷ .447	+ 3.41	− 12.095
+ 74.7	− 234.8		

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1909phae.proj.2301B

A 8261 No. 178 June 17, 1909

1900 pos. 11 45 8.5 +26 31.2

a = +26 2755	11	40	51.9	+26	35.3	+116.5	=	11	42	48.4	+12.8	=	+26	46.2
b = +26 2759	11	43	36.9	+26	50.2	−47.8	=	11	42	48.4	+4.1	=	+26	46.1
c = +27 2060	11	40	40.4	+27	23.7			11	42	48.4			+26	46.2

c − a = −11.5

Cor +27.4 / 2

.444

−5.1

−0.8 + 0.9

−0.9 + 0.9

0.0 −0.1

	x	y	x	y
a	35.0	19.8	40.0	27.7
b	109.7	49.8	112.7	57.7
η	86.5	41.6	91.6	49.6

	x	x	y	y
η − a	+51.5 η − b	−21.2 η − a	+21.8 η − b	− 8.2
	+51.6	−21.1	+21.9	− 8.1
	+51.55	−21.15	+21.85	− 8.15
	+52.07	−21.36	+22.07	− 8.23
	÷ .447	÷ .447	+11.04	− 4.12
	+116.5	−47.8		

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1909phae.proj.2301B

see pg. 198 for remeas. of this nebula

A 8261 No. 179 June 17, 1907

						1900 pos	11	43	15.6	+26	20.3	
a	+26	22.54	11	40	13.6	+26	40.2	+37.0	= 11	40	50.8	−4.4 = +26 35.8
b	+26	23.58	11	43	33.8	+26	15.3	−15.3	= 11	40	59.1	+20.2 = +26 35.5
c	+27	20.59	11	40	31.6	+27	28.9			11	40 54.6	+26 35.6
			x						mean pos	11	40 54.8	+2 35.3
			c − a = +18.0							−4.4	+4.5	+0.2 −0.3
			.444							(4.6 + 4.3)		(0.5 −.00)
			+8.0									

cor +27.5 / 2

	x	y	x	y
a	10.0	70.6	15.0	82.0
b	95.8	21.8	100.7	33.4
η	26.4	61.8	31.4	73.2
	x	x	y	y
	η − a +16.4	η − b −69.4	η − a −8.8	η − b +40.0
	+16.4	−69.3	−8.8	+39.8
	+16.4	−69.35	−8.8	+39.9
	+16.56	+70.04	−8.89	+40.30
	÷.448	÷.448	−4.44	+20.15
	+37.0	−156.3		

(Kill RCM)

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1909phae.proj.2301B

See pg 199 for re-meas. of this neb

A 8261 No. 180 June 17, 1909.

						1900 pos	11	43	14.0	+26	20.4
a = +26 2354	11	40	13.6	+26	40.2	+35.5	= 11	40	48.7 − 4.6	= +26	35.6
b = +26 2358	11	43	33.8	+26	15.3	−15.8	= 11	40	57.6 + 20.4	= +26	35.5
c = +27 2059	11	40	31.6	+27	28.9			11	40	+26	35.6
						mean pos	11	40	53.2	+26	35.4
			c − a = + 18.0					− 4.5	+4.4	+0.6	− 0.1
cos +27.5 / 2			444					(− 4.5	+ 4.4)	(+0.4	+ 0.3)
			+ 8.0								

	x	y	x	y
a	10.0	70.6	15.0	82.0
b	95.8	21.8	100.7	33.4
n	25.8	61.5	30.7	77.9

	x	x	y	y
n − a	+15.8	n − b − 70.0	n − a − 9.1	n − b + 40.3
	+15.7	− 70.0	− 9.1	+ 40.5
	+15.75	− 70.0	− 9.1	+ 40.4
	+15.91	− 70.70	− 9.19	+ 40.80
	÷ .448	÷ .448	−4.595	+ 20.40
	+35.5	− 157.8		

	x	y
	10.0	130.0
	95.9	178.7
	25.8	139.0

x
n − a +15.8
n − b −70.1

y
n − a −9.0
n − b +39.7

n y my means would be of ⊕ sign as O west the scale long way wh. small nos. N.

Thus agrees closely with mine W

D. I. B.

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1909phae.proj.2301B

see page 65 for No. 181.

A8261 No. 182 June 14, 1909

Object is close to edge of plate

1900 pos 11 36 23.7 + 26 27.0

a = +26 2341	11	31	55.3	+26	6.7	+135.6	= 11	34	18.9	+34.8	= +26	42.5		a
b = +26 2248	11	34	18.4	+26	44.2	−15.9	= 11	34	2.5	−2.3	= +26	41.9		b
c = +24 2046	11	34	45.1	+27	33.0			11	34	5.7		+26	44.4	c
									2.4				41.9	

c − b = +26.7 −0.7 +0.8 +0.2 −0.2

cos +27.5 / 2

.444

+11.8

	x	y	x	y
a	17.8	8.9	17.8	17.5
b	80.0	79.5	85.0	84.9
η	75.0	75.0	77.9	80.4

error in orientation

x	x	y	y
η − a + 58.2	η − b − 7.9	η − a + 68.1	η − b − 4.5
56.6 + 60.1	− 7.1	+ 67.9	− 4.5
56.65 + 60.15	− 7.05	+ 68.0	− 4.5
57.22 + 60.75	− 7.12	+ 68.68	− 4.54
÷ .448	÷ .448	+ 34.94	− 2.27
+ 135.6	− 15.9		

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1909phae.proj.2301B

A 8261 No. 183 June 17, 1909.

object is close to edge of plate

					1900 pos.	
a = +26 2241	11 31 55.3	+26	6.7	+128.3	11 34 24.5	+26 26.6
b = +26 2248	11 34 18.4	+26	44.2	−15.6	11 34 23.8	+26 41.5
c = +27 2046	11 34 45.1	+27	33.0		11 34 23.8	+26 41.5
					−0.9 +0.8	+0.2 −0.2

c − b = +26 7

.444

+ 11.8

Cor + 27.5

	x	y	x	y
a	18.8	6.9	21.6	17.5
b	80.0	79.5	85.0	84.9
n	73.1	74.2	78.1	79.6

proof in computation

	x	x	y	y
n − a	+56.9 +0.8	− 6.9	+70.1 +0.8	− 5.8
	56.9 +0.8	− 6.9	70.0 +0.1	− 5.8
	56.9 +0.3	− 6.9	70.05 +0.1	− 5.85
	57.47 +0.90	− 6.97	70.75 +0.87	− 5.945
	÷ .448	÷ .448	5.38 +35.94	− 2.68
	128.3 +35.9	− 15.6		

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1909phae.proj.2301B

A8261 No. 184 June 19, 1909.

			1900 pos	11 35 43.6	+ 26 20.5	
a = +27 2043	11 31 50.0	+ 27 6.4	+ 9″.0.2	= 11 33 21.0.2 − 31.3	= + 26 35.4	a
b = +26 2049	11 34 54.1	+ 26 5.7	− 9″.0.6	= 11 33 21.6 + 29.9	= + 26 35.3	b
c = +27 2048	11 35 40.7	+ 27 35.4		11 33 21.8	+ 26 35.4	c
	×					
	c − b = +46.6			− 1.6	+ 1.7	0.0 − 0.1
Cor + 27.6 / 2	.443					
	+ 20.6					

	x	y	x	y
a	9.2	126.6	14.2	128.3
b	90.0	5.5	95.0	7.0
n	49.5	64.6	54.5	66.2
	x	x	y	y
n-a	+40.3	n-b −40.5	n-a −62.0	n-b +59.1
	+40.3	−40.5	−62.1	+59.2
	+40.3	−40.5	−62.05	+59.15
	+40.70	−40.90	−62.67	+59.74
	÷ .447	÷ .447	−31.34	+29.87
	+91.1	−91.5		

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1909phae.proj.2301B

see pages - Nos - 68, 69, 70 respectively
for nos - 185, 186 and 187.

A 8261 No. 188 June 19, 1909.

1900 for 12 1 2.8 + 26 6.3

a =	+26	22.98	11	58	2.1	+26	6.6	+44.1	= 11	58	46.3	+16.0	= +26	22.6
b =	+26	23.01	11	58	50.4	+26	25.6	−7.8	= 11	58	43.8	−4.7	= +26	20.9
c =	+26	22.89	11	55	54.4	+26	49.1			11	58	44.8		+26	21.6

x

c − a = −127.7

+1.2 −1.2 +0.6 −0.5

cos +26.8 / 1.2

446

− 57.0

	x	y	x	y
a	70.0	34.9	75.0	45.4
b	92.7	75.1	97.7	85.6
n	89.5	65.8	94.6	76.1

	x	x	y	y
n − a	+ 19.5	n − b − 3.2	n − a + 30.9	n − b − 9.3
	+ 19.6	− 3.1	+ 30.7	− 9.5
	+ 19.55	− 3.15	+ 30.8	− 9.4
	+ 19.75	− 3.18	+ 31.11	− 9.49
	÷ .448	÷ .448	+ 15.56	− 4.74
	+ 44.1	− 7.1		

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1909phae.proj.2301B

See pg. 202 for re-meas. of this neb.

A8261 No. 189 June 19, 1909.

1900.pos 11 58 46.2 +25 58.9

a = +26 2388	11 55 20.8	+26 8.0	+68.1	=	11 56 28.8	+ 6.5	=	+26 14.5	144
b = +26 2299	11 58 52.9	+26 25.6	−47.9	=	11 56 05.0	− 14.3	=	+26 00.7	13.3
c = +27 2088	11 55 32.8	+27 16.9	144.8						
					11 56 33.1			+26 13.8	13.8
					11 56 26.9			+26 13.8	

mean pos 11 56 27.2 +26 14.0

+1.3 −1.3 +0.6 −0.5

(+1.0 −1.6) (+0.4 −0.7)

c − a = +12.0

Cos +24.3 / 2

444

+5.3

	x	y	x	y
a	15.0	14.0	25.0	30.5
b	108.6	47.7	137.7	71.6
η	45.2	26.8	54.2	43.3

	x	x	y	y
n−a	+30.2	n−b −50.45	n−a +12.8	n−b −28.45
	+30.2	−50.45	+12.8	−28.45
	+30.50	−50.98	+12.93	−28.98
	÷.448	÷.448	+6.46	−14.09
	+68.1	−113.9		

error in printing

	x	y	x	y
a	15.0	14.0	25.0	30.5
b	110.0	57.4	120.1	67.7
η	45.2	26.9	55.2	43.2

	x	x	y	y
n−a	+30.2	n−b −64.8	n−a +12.9	n−b −24.5
	+30.2	−64.9	+12.7	−24.5
	+30.50	−64.85	+12.8	−24.5
	÷.448	−65.50	+12.93	−24.74
	+68.1	÷.448	+6.46	−12.37
		−146.2		

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1909phae.proj.2301B

A 8261 No. 190 June 19, 1909

						1900 prec	11	58	0.3	+26	3.2			
a	= +26 2388	11	55	20.8	+26	8.0	+21.4	= 11	55	42.2	+10.8	= +26	18.8	
b	= +26 2395	11	56	46.4	+26	39.8	−6.5	= 11	55	40.6	−22.1	= +26	17.9	
c	= +27 2088	11	55	32.8	+27	16.9			11	55	41.0		+26	18.3
				×						+0.7	−0.7		+0.4	−0.4

c − a = +12.0

Cor +27.3 / 2

.444

+5.3

	x	y	x	y
a	15.0	14.0	25.0	30.5
b	54.0	79.2	64.0	95.7
η	24.5	35.4	34.5	51.9

x	x	y	y
η − a = +9.5	η − b = −29.5	η − a = +21.4	η − b = −43.8
+9.5	−29.5	+21.4	−43.8
+9.5	−29.5	+21.4	−43.8
+9.60	−29.80	+21.61	−44.24
÷.448	−.448	+10.80	−22.12
+21.4	−66.5		

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1909phae.proj.2301B

A8261 No. 191 June 19, 1909

								1900 pos	11	58	0.4	+ 25	58.7			
a = +26	2288	11	55	12.8	+ 26	8.0	+ 21.5	= 11	55	42.8	+ 6.2	= + 26	14.2			a
b = +26	2295	11	56	46.4	+ 26	39.8	− 6.4	= 11	55	40.7	− 26.7	= + 26	13.4			b
c = +24	2088	11	55	37.8	+27	16.9			11	55	41.4		+ 26	13.8		c
				x												
				c − a = + 12.0					+0.7	−0.7			+0.3	−0.4		
Cor + 29.3				.444												
Σ				+ 5.3												

	x	y	x	y
a	15.0	14.0	25.0	30.5
b	54.0	79.2	64.0	95.7
η	24.5	26.4	34.6	42.7

	x	x	y	y
η − a	+ 9.5	η − b − 29.5	η − a + 12.4	η − b − 52.8
	+ 9.6	− 29.4	+ 12.2	− 53.0
	+ 9.55	− 29.45	+ 12.3	− 52.9
	+ 9.65	− 29.74	+ 12.42	− 53.43
	÷ .448	÷ .448	+ 6.21	− 26.72
	+ 21.5	− 66.4		

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1909phae.proj.2301B

A8261 No. 192 June 19, 1909

							1900 pos	11	55	16.2	+26	1.8		
a = +26	22.72	11	48	45.4	+26	29.1	+25.28 =	11	58.42	57.17	−12.12	= +26	17.09	
b = +26	22.84	11	53	21.0	+26	15.6	−24.84 =	11	52	56.76	+1.0	= +26	16.6	
c = +27	20.70	11	48	53.6	+27	29.5		11	52	58.13		+26	16.8	
										57.2				
			×											
		c − a = +8.2						+0.5 − 0.5				+0.2 − 0.2		
cor +27.5 / 2			.444											
			+3.6											

	x	y	x	y
a	3.0	47.3	5.0	54.9
b	127.0	21.1	128.9	38.8
η	116.1	23.1	118.0	30.6

	x	x	y	y
η − a	+113.1 η − b	− 10.9 η − a	− 24.2 η − b	+ 2.0
	+113.0	− 10.9	− 24.3	+ 1.8
	+113.05	− 10.9	− 24.25	+ 1.9
	+114.18	− 11.01	− 24.49	+ 1.92
	÷ .448	÷ .448	− 12.24	+ 0.96
	+ 254.8	− 24.6		

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1909phae.proj.2301B

see pg. 203 for re-meas of this nebula

A8261 No. 193 June 19, 1909

						1900 pos	11	54	35.3	+26 10.2
a	+26 2275	11	48	59.0	+26 52.3	+199.1	= 11	52	18.1	−27.2 = +26 25.1
b	+26 2284	11	53	21.0	+26 15.6	−68.0	= 11	52	13.6	+8.9 = +26 24.5
c	+25 2436	11	48	58.8	+25 46.8			11	52	15.8 +26 24.8
						mean pos	11	52	15.8	+26 25.2
		c − a =		−0.2				+1.2	−1.2	+0.5 −0.5
								(+0.3	−2.1)	(+0.2 −0.8)

Cor + 25.8 / 2

.450

−0.9

	x	y	x	y
a	5.0	147.7	7.0	149.9
b	123.2	46.2	125.2	78.7
η	93.1	93.9	95.1	96.1
	x	x	y	y
n − a	+88.1	n − b −30.1	n − a −53.8	n − b +17.7
	+88.1	−30.1	−53.8	+17.5
	+88.1	−30.1	−53.8	+17.6
	+88.98	−30.40	−54.34	+17.78
	÷ .447	÷ .447	−27.17	+8.89
	+199.1	−68.0		

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1909phae.proj.2301B

See pg. 204 for re-meas. of this neb.

A8261 No. 194 June 19, 1909

						1900 pos	11 54 20.9	+ 26 1.0		
a = + 26 2271	11 48 52.5	+ 26 18.1	+ 2 09.6	=	11 52 2.2	− 2.2	= + 26 15.9			
b = + 26 2584	11 53 21.0	+ 26 15.6	− 8 1.7	=	11 51 9.3	+ 0.1	= + 26 15.5			
c = + 25 2436	11 48 58.8	+ 25 46.8			11 52 0.7		+ 26 15.8			
					mean pos	11 52 1.4	+ 26 16.0			
	c − a = + 16.3				+ 1.4 − 1.4		+ 0.2 − 0.2			
Corr + 25.8 / 2	.450				(+ 0.7 − 2.1)		(− 0.8 − 0.5)			
	+ 11.8									

	x	y	x	y
a	10.0	70.5	15.0	86.0
b	140.5	66.3	145.5	82.2
η	103.9	66.1	108.9	81.9

	x	x	y	y
n − a	+ 93.9	n − b − 36.6	n − a − 4.4	n − b − 0.2
	+ 93.9	− 36.6	− 4.2	− 0.3
	+ 93.9	− 36.6	− 4.3	− 0.25
	+ 94.84	− 36.97	− 4.34	− 0.25
	÷ .448	÷ .448	− 2.17	− 0.12
	+ 211.7	− 82.5		

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1909phae.proj.2301B

Note— No. 195 is rejected.

A8261 No. 196 June 19, 1909 (by 22)

								1900 pos.		11	52	42.7		+26	3.6		
a =	+26	2276	11	49	53.7	+26	1.9	+28.9	=	11	50	23.3		+17.2	=	+26	19.1
b =	+26	2279	11	51	23.0	+26	56.4	−59.6	=	11	50	23.4		−38.4	=	+26	18.0
c =	+26	2275	11	49	45.2	+26	37.7			11	50	23.3				+26	18.6
					x												
			c − a =		− 8.5							+0.1	−0.2			+0.3	−0.2

Cos $\frac{+26.6}{2}$

447

− 38

	x	y	x	y
a	20.0	15.2	25.0	22.9
b	59.2	125.3	64.2	138.2
η	32.8	49.2	37.8	57.1

	x	x	y	y
η − a	+ 12.8	η − b − 26.4	η − a + 34.0	η − b − 76.1
	+ 12.8	− 26.4	+ 34.2	− 76.1
	+ 12.8	− 26.4	+ 34.1	− 76.1
	+ 12.93	− 26.66	+ 34.44	− 76.86
	÷ .448	÷ 448	+ 17.22	− 38.43
	+ 28.9	− 59.6		

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1909phae.proj.2301B

A 8261 No. 197 June 19, 1909 and 22nd

								1910 pos	11	52	19.1	+ 25	59.6			
a	+ 26	2276	11	49	53.7	+ 26	1.9	+ 5.9	= 11	49	59.6	+ 12.5	= + 26	14.4		
b	+ 26	2277	11	50	16.6	+ 26	38.1	− 17.2	= 11	49	59.4	+ 25.5	= + 26	14.8		
c	+ 26	2275	11	49	45.2	+ 26	37.7		11	49	59.5		+ 26	14.6		
					×											
			c − a = − 8.5						− 0.1	0.0			− 0.3	+ 0.2		
Cos + 26.6 / 2			.447													
			− 3.8													

	x	y	x	y
a	20.0	15.2	25.0	22.9
b	30.1	86.4	35.2	94.3
η	22.6	39.9	29.6	47.7
	x	x	y	y
	n−a + 2.6	n−b − 7.5	n−a + 24.7	n−b − 46.5
	+ 2.6	− 7.6	+ 24.8	− 46.6
	+ 2.6	− 7.6	+ 24.75	− 46.55
	+ 2.63	− 7.68	+ 25.00	− 47.01
	÷ .448	÷ .448	+ 12.50	− 23.50
	+ 5.9	− 17.2		

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1909phae.proj.2301B

A8261 No. 198 June 19, 1909 aug 22

1900 pos 11 52 13.3 +25 59.0

a = +26 2276	11	49	53.7	+26	1.9	−0.0	= 11	49	53.7	+11.8	= +26	13.7
b = +26 2277	11	50	16.6	+26	38.1	−22.9	= 11	49	53.9	−24.4	= +26	14.2
c = +26 2275	11	49	45.2	+26	37.7			11	49	53.8	+26	13.8
												14.0
			×									
	c−a = −8.5							−0.1	+0.1		−0.3	+0.2

$\frac{c+a+26.6}{2}$ .447 − 3.8

	x	y	x	y
a	20.0	15.2	25.0	22.9
b	30.1	86.4	25.2	94.3
n	20.0	38.6	25.0	46.5

	x	x	y	y
n−a	0.0	n−b −10.1	n−a +23.4	n−b −47.8
	0.0	−10.2	+23.6	−47.8
	0.0	−10.15	+23.5	−47.8
	0.0	−10.25	+23.74	−48.28
	÷ 448	÷ 448	+11.87	−24.14
	−0.0	−22.9		

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1900phae.proj.2301B

A8261 No. 199 June 22, 1909

					1900 pos	11	51	13.2	+25	55.6	
a	+26 2270	11	47	58.9	+26	19.8	+56.5	= 11	48	52.4	−8.9 = +26 10.9
b	+26 2276	11	49	53.7	+26	1.9	−61.7	= 11	48	52.9	+8.5 = +26 10.4
c	+26 2275	11	49	45.2	+26	37.7			11	48	53.7 +26 10.6

$\frac{c_{00} + 26.6}{2}$

c − a = − 8.5

.447

− 3.8

+1.1 −1.1 +0.4 −0.3

	x	y	x	y
a	12.4	72.9	17.5	86.5
b	65.0	38.5	70.0	51.9
η	37.5	55.3	42.6	68.9

	x	x	y	y
η − a	+25.1	− 27.5	− 17.6	+ 16.8
	+25.1	− 27.4	− 17.6	+ 17.0
	+25.1	− 27.45	− 17.6	+ 16.9
	+25.35	− 27.72	− 17.78	+ 17.07
	÷ .449	÷ .449	− 8.89	+ 8.54
	+ 56.5	− 61.7		

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1909phae.proj.2301B

For new meas. see Bk. 11, pg. 8.

A8261 No. 200 June 22, 1909.

							1900 pr.	11	48	57.0	+26	7.7	4	
a = +26	2365	11	45	47.4 (3.5)	+26	24.7	+54.8 (3.8)	= 11	46	37.3 ~~35.7~~	−20	= +26	22.7	a =
b = +26	2270	11	47	58.9 (6.4)	+26	19.8	−79.8 (8.8)	= 11	46	~~39.8~~ 40.0 + 37.6		+ 2.9	= +26	22.7	b =
c = +27	2061	11	45	40.7	+27	12.1			11	46	37.8		+26	22.7	c =
				×						36.6			22.2	
										36.6			22.4	
				c − a = −0.7						−2.4	+2.5	0.0	0.0	
$\frac{c_0 + 27.2}{2}$				.445						(−14	+35	0.3	0.3)	
				−0.3										

	x	y	x	y
a	20.0	19.3	25.0	35.0
b	79.4	9.6	84.4	23.4
η	44.1	15.3	49.1	29.0
	×	×	y	y
	η−a +24.1	η−b −35.3	η−a −4.0	η−b +5.7
	+24.1	−35.3	−4.0	+5.6
	+24.1	−35.3	−4.0	+5.65
	+24.34	−35.65	−4.04	+5.71
	÷.448	÷.448	−2.02	+2.86
	+54.3	−79.6		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 201 June 22, 1909

						1900 pos	11	48	48.0	+ 26	15.0			
a = +26 2265	11	45	41.4	+ 26	24.7	+ 44.9	− 11	46	26.3	+ 5.1	= + 26	29.8		
b = +26 2268	11	47	31.7	+ 26	34.6	− 63.4	= 11	46	28.9	− 4.4	+ 26	30.2		
c = +24 2064	11	45	40.7	+ 27	12.1		11	46	27.5		+ 26	30.0		
	x													
c − a = − 0.7							− 1.3	+ 1.3			− 0.2	+ 0.2		

$\frac{\cos + 27.2}{2}$

.445

− 0.3

	x	y	x	y
a	20.0	19.3	35.0	35.0
b	68.2 79.4	38.2 48.6	73.2 84.4	51.8 29.4
η	40.1	29.5	45.1	43.2

x	x	y	y
η − a + 20.1	η − b − 28.1	η − a + 10.2	η − b − 8.7
+ 20.1	− 28.1	+ 10.2	− 8.6
+ 20.1	− 28.1	+ 10.2	− 8.65
+ 20.30	− 28.38	+ 10.30	− 8.74
÷ .448	÷ .448	+ 5.15	− 4.37
+ 45.3	− 63.4		

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1909phae.proj.2301B

For new meas. see Ref. 11, pg. 9.

A8261 No. 202 June 22, 1909,

								1900 Jno.	11	48	30.8	+26	8.6	
a =	+26	2265	11	45	41.4 (3.5)	+26	24.7	+27.6	= 11	46	8.9	−1.1	= +26	23.6
b =	+26	2270	11	47	58.9 (6.4)	+26	19.8	−106.5	= 11	46	17.4	+3.7	= +26	23.5
c =	+26	2064	11	45	40.7	+27	12.1			46	19.8			23.6
					×						10.3			
									11	46	10.8			
			c − a =		−0.7						−25	+2.5	0.0	−0.1
					.445						(−2.1	+29)		
					−0.5									

$\frac{\cos + 27.2}{2}$

	x	y	x	y
a	20.0	19.5	35.0	33.0
b	79.4	9.6	84.4	23.4
n	32.2	17.1	37.3	30.7

	x	x	y	y
n − a	+12.2	n − b −47.2	n − a −2.2	n − b +7.5
	+12.3	−47.1	−2.3	+7.3
	+12.25	−47.15	−2.25	+7.4
	+12.37	−47.62	−2.27	+7.47
	÷ .448	÷ .448	−1.14	+3.74
	+27.6	−106.3		

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1909phae.proj.2301B

A8261 No. 203 June 23, 1909.

						1900 pos	11	48	45.5	+26	1.5		
a	+26 3262	11	44	51.5	+26	15.2	+9.38	= 11	46	35.44	+1.2	= +26	16.4
b	+26 2271	11	48	32.5	+26	18.1	−12.72	= 11	46	35.66	−1.5	= +26	16.6
c	+27 3063	11	44	21.1	+27	10.3			11	46	35.5	+26	16.5
				x									
		c−a =		−30.4						−1.1	+1.1	−0.1	+0.1

$\frac{c+a}{2}$ +27.2

.445

−13.5

	x	y	x	y
a	25.0	33.8	20.0	35.0
b	123.1	29.1	118.0	40.3
n	66.6	36.2	61.6	37.3

	x	x	y	y
n−a	+41.6 n−b	−56.5 n−a	+2.4 n−b	−2.8
	+41.6	−56.4	+2.3	−3.0
	+41.6	−56.45	+2.35	−2.95
	+48.02	−57.01	+2.37	−2.98
	÷.448	÷.448	+1.18	−1.49
	+938	−127.2		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 207 June 26, 1909

						1900 pos	11	48	0.7	+26	59.9	
a	+26	3362	11	44	51.5	+26	15.2	+48.1	= 11	45	39.8	−0.4 = +26 14.8
b	+26	2271	11	48	32.5	+26	18.1	−172.7	= 11	45	39.8	−3.1 = +26 15.0
c	+27	2063	11	44	21.1	+27	10.3		11	45	39.9	+26 14.9

c − a = −30.4

.445

−13.5

Cos +27.2 / 2

	x	y	x	y
a	25.0	44.1	30.0	55.6
b	133.0	49.4	127.9	60.7
n	46.4	43.3	51.3	54.8

x	x	y	y
n−a +21.4	n−b −76.6	n−a −0.8	n−b ∓ 6.1
+21.3	−76.4	−0.8	∓ 6.1
+21.35	−76.6	−0.8	−6.1
+21.56	−77.37	−0.81	−6.16
÷ .448	÷ .448	−0.40	−3.08
+48.1	−172.7		

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1909phae.proj.2301B

See pg. 205 for re-meas. of this neb

A 8261 No. 2014 June 26, 1909

1900 pos 11 48 26.5 + 26 4.9

a = +26 2360	11	43	49.2	+26	10.1	+162.5	= 11	46	37.5	+10.5	= +26	20.7	19.2	20.7
b = +26 2292	11	48	45.4	+26	29.1	−159.4	= 11	46	7.0	−10.1	= +26	18.9	18.8	18.9
c = +26 2359	11	43	36.3	+26	50.2	159.0		11	46	8.0		+26	19.1	19.1

mean pos 11 46 6.1 + 26 19.9

−0.5 +0.6 +0.9 −0.9

(−0.8 +0.3) (+0.8 −1.0)

c − a = − 12.9

.446

− 5.8

cor +26.8 / 2

	x	y	x	y
a	20.0	9.8	25.0	19.8
b	152.2	51.3	157.3	61.6
n	89.1	30.1	94.5	40.3

See p. 205

n − a + 71.0 n − b − 70.2 n − a + 159 n − b − 16.5

+ 71.0 − 70.3 + 21.5 − 20.6

+ 71.0 − 70.25 + 20.55 − 21.25

+ 71.96 − 70.25 + 20.55 − 21.46

÷ .448 ÷ .448 + 10.78 − 10.73

137.5 160.6

+ 137.5 − 158.1

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1909phae.proj.2301B

Note No 205 is rejected

A8261 No. 206 June 26. 1909.

					1900 pos	11	48	3.4	+26	8.4				
a = +26 2260	11	43	49.2	+26	10.1	+11 2.3 X	=	11	45	47.8 1.5	+13.8 5	=	+26	23.6 X
b = +26 2268	11	47	31.7	+26	34.6	−10 7.3 X	=	11	45	48.9 4.4	−11.8 5	=	+26	23.8 1
c = +26 2259	11	43	36.3	+26	50.2			11	45	43.0			+26	23.4
			x											
	c − a = − 13.9							− 1.5		+ 1.4			+0.2	−0.3
c10 + 26.8 / 2			.446											
			− 5.8											

	x	y	x	y
a	20.0	15.5	25.0	25.2
b	118.4	65.4	123.4	75.3
c	70.3	42.5	75.3	52.2

x	x	y	y
c − a + 50.3	c − b − 48.1	c − a + 27.0	c − b − 22.9
+50.3	− 48.1	+ 27.0	− 23.1
+50.3	− 48.1	+ 27.0	− 23.0
+50.80	÷ 48.58	+ 27.27	− 23.23
÷ .448	÷ .448	+ 13.64	− 11.62
+113.4 / ~~+194.5~~	− 108.4		

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1909phae.proj.2301B

see page 102 for No. 207.

A 8261 No. 208 June 26, 1909.

1900 pos 11 45 30.0 + 26 48

a = + 26 2051	11	38 42.3	+ 26	38.5	+ 387.5 =	11	43 18.4 − 53.8 =	+ 26 19.7
f = + 26 2258	11	43 33.8	+ 26	15.3	− 23.3 =	11	43 10.5 + 4.6 =	+ 26 19.9
c = + 26 2357	11	38 22.7	+ 26	15.9		11	43 9.6	+ 26 19.8

$\cos +26.8 = \frac{3}{2}$

$c - \frac{a}{2} = -22.8$ (a: 1.2)

.446 (8)

0.5

−5.8

						− 1.1	+ 1.1	− 0.1 + 0.1

	x	y	x	y
a	15.0	118.8	20.0	175.6
b	152.5	3.6	157.6	10.2
η	142.2	12.7	147.3	19.4

	x	x	y	y
n-a	+ 127.2 n-b	− 10.3 n-a	− 106.1 n-b	+ 9.1
	+ 127.3	− 10.3	− 106.2	+ 9.2
	+ 127.25	− 10.3	− 106.15	+ 9.15
	+ 128.52	− 10.40	− 107.21	+ 9.34
	÷ .447	÷ .447	− 53.60	+ 4.62
	+ 287.5	− 23.3		

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1909phae.proj.2301B

A8261 No. ~~208~~ ? Sept. Iowa 8th, 1909.

This star ? is fairly bright & is not found in Dm. Catalogue — measured for its position. —

a =	+26 ~~27~~ 5	~~27 42~~ 27 68	11	~~50~~ 47	37.7	+26	34.6	+ ~~94.0~~ 93.1	= 11	49	5.~~8~~ 4.8	− 19.~~2~~ 8.9 = +26 15.~~5~~ 7
b =	+26 5	27 ~~48~~ 44	11	50	37.3	+25	57.4	− 92.~~7~~ 1.8 =	11	49	5.~~5~~ 5	4.6 + 18.~~5~~ 3 = +26 15.~~9~~ 7
c =	+27	20 ~~74~~	11	50	44.1	+27	7.5		11	49	5.2	+26 15.7

x

c − b = + 6.8

− 0.4 + 0.3 0.0 0.0

$\frac{c_{00} + 27.1}{2}$

.445

+ 3.0

	x	y	x	y
a	12.2	92.6	17.2	104.8
b	95.0	18.1	100.0	30.~~5~~ 4
n	53.9	54.8	58.9	66.9
	x	x	y	y
	n − a + 41.7	n − b − 41.1	n − a − 37.8	n − b + 36.7
	+ 41.7	− 41.1	− 37.9	+ 36.5
	+ 41.7	− 41.1	− 37.85	+ 36.6
	+ 42.12	− 41.51	− 38.23	+ 36.97
	÷ .448	÷ .448	− 19.12	+ 18.48
	+ 94.0	− 92.7		

√ √

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1909phae.proj.2301B

see page 108 for better results of mean of this net.

A 8261 No. 209 June 26, 1909.

a =	+26	2250	11	36	41.1	+26	2.3	+23.9	= 11	37	4.2	+12.0	= +26	14.3
b =	+26	2252	11	37	8.9	+26	46.4	−75.3	= 11	36	59.4	−32.5	= +26	13.9
c =	+27	2049	11	38	23.1	+27	21.4			11	36	59.2	+26	14.8
														14.1

c − b = + 14.2 × .445 = 6.3 + 38.6

cos +27.3 / 2

+4.8 −4.8 +0.2 −0.2

	x	y	x	y
a	26.4	9.2	31.3	16.7
b	70.0	98.1	75.0	105.7
η	36.6	33.2	41.6	40.8

	x	x	y	y
η−a	+10.2	η−b −33.4	η−a +24.0	η−b −64.9
	+10.3	−33.4	+24.1	−64.9
	+10.25	−33.4	+24.05	−64.9
	+10.35	−33.73	+24.29	−65.55
	÷.448	÷.1448	+12.14	−32.78
	+23.1	−75.3		

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1909phae.proj.2301B

See pg 206 for re-mead. of this nebr.

A8261 No. 2109 June 29, 1909.

						1900 pos	11 39 24.0	+ 25 58.8		
a	+ 26 2349	11 34 54.1	+ 26 5.7	+ 129.8	=	11 37 59.9	+ 7.6	= + 26 13.3		a
b	+ 26 3353	11 38 22.7	+ 26 17.9	− 4.5	=	11 37 01.4	− 4.3	= + 26 13.6		b
c	+ 24 2051	11 38 33.9	+ 27 12.8			11 37 2.8		+ 26 13.4		c
		x				mean pos	11 37 2.7	+ 26 13.8		
		c − b = + 1.2					+ 1.3 − 1.4	− 0.1 + 0.2		
		.445					(+ 0.2) − 1.5)	(− 0.5 − 0.2)		
		+ 0.5								

Corr + 27.2 / 2

	x	y	x	y
a	10.1	34.2	15.1	44.5
b	105.0	57.9	110.0	68.6
n	68.4	49.4	93.4	59.9

x	x	y	y
n − a + 58.3	n − b − 36.6	n − a + 15.2	n − b − 8.5
+ 58.3	− 36.6	+ 15.4	− 8.7
+ 58.3	− 36.6	+ 15.3	− 8.6
+ 58.88	− 36.97	+ 15.45	− 8.69
÷ .449	÷ .449	+ 7.72	− 4.34
+ 131.1	− 82.3		

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1909phae.proj.2301B

A8261 No. 210 June 29, 1909.

						1900 pos		11	38	34.9	+26	1:1		
a	+22	3249	11	34	54.1	+26	5.7	+80.2	= 11	36	14.8	+10.2	= +26	15.9
b	+26	2351	11	37	8.4	+26	46.4	−55.4	= 11	36	13.6	− 4.9	= +26	16.3
c	+27	2051	11	38	23.9	+27	17.8			11	36	13.6	+26	16.1

c − b = +75.5

.445

+ 33.6

Cor +27.2

Σ

−0.1 0.0 − 0.2 +0.2

	x	y	x	y
a	9.7	27.8	14.8	44.4
b	70.0	57.9	75.0	74.5
η	45.4	48.2	50.4	64.7
	x	x	y	y
n−a	+35.7	n−b 24.6	n−a +20.4	n−b − 9.7
	+35.6	= 24.6	+ 20.3	− 9.8
	+35.65	− 24.6	+ 20.35	− 9.75
	+36.01	− 24.85	+ 20.55	− 9.85
	÷ .449	÷ .449	+ 10.28	− 4.92
	+ 80.2	− 55.4		

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1909phae.proj.2301B

See pg. 207 for re-meas of this neb.

A8361 No. 211 — Sept 3rd, 1909.

Object is about 1/2" from edge of plate.

1900 pos 12 4 39.0 +25 35.1

a =	+26 2310	12 1 58.5	+26	45.6	+19.8	12 2 17.3	−56.8	+25 49.3
b =	+25 2467	12 2 40.8	+25	18.6	−16.8	12 2 24.8	+31.8	+25 50.6
c =	+26 2502	11 58 58.2	+26	2.9		12 2 21.2		+25 50.0

mean pos 12 2 20.8 +25 50.2

	x	y
c − a =	−180.3	−3.9 +3.8
		−0.1 +0.1
		(−3.5 +4.2) (−0.3 −0.1)

cor +26.0 / 2

.449

−81.0

	x	y	x	y
a	100.0	180.1	1050	184.5
b	115.5	5.5	120.6	9.7
n	108.4	68.6	113.5	93.0

	x	x	y	y
n − a	+8.4	n − b −7.1	n − a −111.5	n − b +63.1
	+8.5	−7.1	−111.5	+63.3
	+8.45	−7.1	−111.5	+63.2
	+8.53	−7.17	−112.61	+63.85
	÷ .449	÷ .449	−56.30	+31.92
	+19.0	−16.0		

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1909phae.proj.2301B

See pg. 208 for re-measr. this neb.

A8261 No. 212 ~~Sept.~~ 3rd, 1909

Object is very close to edge of plate.

						1900 Pos	12	3	49.9	+ 25	45.3
a	+26 2309	12	1	30.3	+26	459	+ 1.8	= 12	1 32.0	− 46.8	= + 26 0.1
b	+25 2466	12	1	32.5	+25	31.6	−1.8	= 12	1 30.7	+ 29.7	= + 26 1.8
c	+26 2296	11	57	31.4	+26	14.3			12 1 31.4		+ 26 0.87

x

c − a = −238.9

.449

−107.3

Cos +26.2 / 2

mean pos 12 1 31.7 + 26 0.4

+0.8 −0.7 −0.6 +0.6

(+0.3 −1.0) (−0.3 +0.9)

	x	y	x	y
a	110.0	169.0	115.0	174.7
b	111.5	18.0	116.6	23.7
7	110.7	77.3	115.8	83.2
	x	x	y	y
n − a	+0.7	n − b −0.8	n − a −111.7	n − b +59.3
	+0.8	−0.8	−111.5	+59.5
	+0.75	−0.8	−91.6	+59.4
	+0.76	−0.81	−92.52	+59.99
	÷.449	÷.449	−46.26	+29.995
	+1.7	−1.8		

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1909phae.proj.2301B

A 8261 No. 213 July 6, 1909.

						1900.0	12	3	0.3	+25	47.3	
a	+26	2307	12	0	37.0	+26	10.9	+5.3	12	0	42.2	-8.6	+26	2.4
b	+25	2463	12	0	52.9	+25	43.4	-16.9	12	0	41.9	+19.5	+26	2.5
c	+26	5303	11	59	32.4	+26	44.3		12	0	42.1		+26	2.4
									+0.1	-0.1		0.0	+0.1	

c − b = −90.5

.447

−40.4

cos +26.7 / 2

	x	y	x	y
a	92.8	78.7	97.7	72.5
b	100.0	23.5	105.0	17.3
n	95.1	61.8	100.1	55.5

x	x	y	y
n−a +2.3	n−b −4.9	n−a −16.9	n−b +38.3
+2.4	−4.9	−17.0	+38.2
+2.35	−4.9	−16.95	+38.25
+2.37	−4.95	−17.12	+38.63
÷.450	÷.450	−8.56	+19.32
+5.3	−11.0		

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1909phae.proj.2301B

A 8261 No. 214 July 6, 1909.

1900 pos 12 3 4.1 +25 37.7

a = +26 2307	12 0 37.0	+26 10.9	+9.0	= 12 0 46.0	−18.1	= +25 52.8
b = +25 2463	12 0 52.9	+26 43.4	−7.2	= 12 0 45.8	+9.6	= +25 52.9
c = +26 2303	11 59 22.4	+26 44.3		12 0 45.9		+25 52.8
	x					
	c − b = −90.5			+0.1 −0.1		0.0 +0.1
cos +26.7 / 2	.447					
	−40.4					

	x	y	x	y
a	92.8	78.7	97.7	72.5
b	100.0	23.5	105.0	17.3
η	96.8	42.6	101.8	36.8
	x	x	y	y
	η−a +4.0	η−b −3.2	η−a −36.1	η−b +19.1
	+4.1	−3.2	−36.2	+19.0
	+4.05	−3.2	−36.15	+19.05
	+4.09	−3.213	−36.51	+19.24
	÷.450	÷.450	−16.26	+9.62
	+9.1	−7.2		

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1909phae.proj.2301B

See pg. 143 for mean of this net (also) ✓

A 8261 No. 238 July 6, 1909.

						1900 for	12	3	8.$\overset{5}{2}$	+25	29.$\overset{9}{\times}$		
a = +26	2307	12	0	37.0	+26	10.9	+13.$\overset{1}{2}$	= 12	0	50.$\overset{1}{2}$	-26.$\overset{2}{\times}$	= +25°44.$\overset{7}{\times}$	a
b = +25	2463	12	0	52.9	+25	43.4	-3.0	= 12	0	49.9	+1.4	= +25°44.8	b
c = +26	2303	11	59	22.4	+26	44.$\overset{3}{\times}$			12	0	50.0	+25°44.$\overset{8}{\times}$	c
			×					mean for	12	0	50.3	+25	45.0
			c-b = -90.5						$\overset{-0.2}{\times}$0.$\overset{4}{\times}$		-0.$\overset{3}{\times}$	-0.$\overset{2}{\times}$	

cos +26.7 / 2

.447

-40.4

	x	y	x	y
a	92.8	78.7	97.7	72.5
b	100.0	23.5	105.0	17.$\overset{3}{5}$
η	98.7	26.2	$\overset{103}{98.6}$	20.0
	x	x	y	y

ηa + 5.9 η-b - 1.3 η-a - 52.5 η-b + 2.7

	+ 5.9	- 1.4	- 52.5	+ 2.7
	+ 5.9	- 1.35	- 52.5	+ 2.7
	+ 5.96	- 1.36	- 53.02	+ 2.7$\overset{3}{\times}$
	÷ .450	÷ .450	- 26.51	+ 1.36
	+ 13.2	- 3.0		

✓ ✓

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1909phae.proj.2301B

A8261 No. 215 July 6th, 1909

									1900pos	12	1	35.2	+	25	47.7				
a = +25	2454	11	56	38.1	+25	45.4	+160.7	=	11	59	18.8	+18.9	=	+26	3.4				
b = +26	2307	12	0	37.0	+26	10.9	−81.0	=	11	59	16.8	−8.6	=	+26	2.8				
c = +26	2289	11	55	58.4	+26	36.3			11	59	17.4			+26	2.8				
					×														
					c − a =	−39.7					+0.2	−0.2			+0.4	−0.4			
Cos +26.6						447													
Σ						−17.7													

	x	y	x	y
a	25.0	6.6	30.0	17.9
b	132.4	59.2	137.5	70.5
n	96.4	42.1	101.5	53.6

x	x	y	y
n − a +71.4	n − b −36.0	n − a +35.5	n − b −17.1
+71.5	−36.0	+35.7	−16.9
+71.45	−36.0	+35.6	−17.0
+72.16	−36.36	+35.96	−17.17
÷ .449	÷ .449	+17.98	−8.58
+160.7	−81.0		

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1909phae.proj.2301B

A 8261 No. 317 July 6th, 1909

1900 pos 12 0 29.1 +25 39.3

a =	+25	2454	11	56	38.1	+25	45.4	+9	3.8	= 11	58	11.0	+9.5	= +25	54.8	a
b =	+26	2307	12	0	37.0	+26	10.9	−14	6.8	= 11	58	10.7	−6.9	= +25	54.0	b
c =	+26	2490	11	55	58.4	+26	36.3				11	58	10.8		25	54.4	c
												9				
											+0.2	−0.2		+0.4	−0.4	

c − a = − 39.7

.447

−17.7

Corr +26.6

2

	x	y	x	y
a	25.0	6.6	30.0	17.9
b	132.4	59.2	137.5	70.5
η	66.7	25.3	71.8	36.8

	x	x	y	y
η − a	+ 41.7	η − b − 65.7	η − a + 18.7	η − b − 33.9
	+ 41.8	− 65.7	+ 18.9	− 33.7
	+ 41.75	− 65.7	+ 18.8	− 33.8
	+ 42.17	− 66.36	+ 18.99	− 34.14
	÷ .449	÷ .449	+ 9.495	− 17.07
	+ 93.9	− 147.7		

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1909phae.proj.2301B

For remeas. of this neb. see pg. 209.

A8261 No. 216 July 6th, 1909

1900 pos 12 1 29.5 +25 40.0

a =	+26	2291	11	56	1.0	+26	16.7	+193.6	=	11	59	12.7	− 1.7	= +25 55.2
b =	+25	2463	12	0	52.9	+25	43.4	−103.0	=	11	59	10.9	+ 1.5	= +25 54.4
c =	+25	2454	11	56	38.1	+25	45.4			11	59	11.8		+25 55.1
									mean pos	11	59	11.3		+25 55.1

x

c − a = +37.1

.451

+16.7

cos +25.7 / 2

+0.9 −0.9 +0.3 −0.3

(+1.4 −0.4) (+0.3 −0.3)

	x	y	x	y
a	20.0	99.4	25.0	109.1
b	151.8	34.0	156.9	43.6
n	106.0	56.8	111.1	66.5

	x	x	y	y
n − a	+86.0	n − b −45.8	n − a −42.6	n − b +22.8
	+86.1	−45.8	−42.6	+22.9
	+86.05	−45.8	−42.6	+22.85
	+86.91	−46.26	−43.03	+23.08
	÷.449	÷.449	−16.52	+11.54
	+193.6	−103.0		

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1909phae.proj.2301B

See pg. 42 this book for meas. this neb.

A 8261 No. 145 Sept. July 2nd, 1909.

1900 pos 11 37 58.6 +27° 7'.5

a =	+26	2248	11	34	18.X 7.0	+26	44.2	+8 2.2	=	11	35 39.2	+ 8.7	= +27 2.9
b =	+2X 8	2038 8	11	37	24.9 J-	+28	12.5	- 109.5	=	11	35 32.X 3.0	- 49.9	= +27 22.1 6
c =	+26	2252	11	38	8.9	+26	46.4			11	35 37.X 6		+27 22.X 8
									mean pos	11	35 36.8		+27 22.4
											+3.0 −3.1		+0.1 −0.2
											(+3.8 − 2.3)		(+0.5 +0.2)

x

c − b = + 449

.446

+ 20.0

Cos +26.8

Σ

	x	y	x	y
a	9.9	5.5	14.9	10.8
b	95.0	182.7	100.0	188.0
η	46.4	82.9	51.4	88.1

	x	x	y	y
n−a	+ 36.5	n−b − 48.6	n−a + 77.4	n−b − 99.8
	+ 36.5	− 48.6	+ 77.3	− 99.9
	+ 36.5	− 48.6	+ 77.35	− 99.85
	+ 36.86	− 49.09	+ 78.12	− 100.85
	÷ .444	÷ .444	+ 39.06	− 50.42
	+ 83.0	− 110.6		
	✓	✓		

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1909phae.proj.2301B

see pg. 43 this book for meas. of this net. -

A8261 No. 146 Sept. 2, 1909.

				7.0				1900 pos	11 37 59.7		+27 6.5	
a = +26	2248	11	34 18.~~4~~		+26	44.2	+8~~4~~.~~4~~	= 11 35 42.~~5~~		+3~~8~~.~~4~~	= +27 2~~4~~.~~3~~	
b = +2~~4~~.~~8~~	2037	11	37 24.~~0~~		+28	12.5	-10~~8~~.~~5~~	= 11 35 3~~4~~.~~5~~		-5~~4~~.~~4~~	= +27 2~~1~~.~~4~~	
c = +26	2252	11	38 8.9		+26	46.4		11 35 38.~~5~~			+27 21.~~4~~	
			x					mean pos	11 35 37.9		+27 21.4	
			c - b = +44.9						+3.1 - 3.0		+0.1 - 0.1	
			446						(+3.8 - 2.3)		(+0.5 + 0.3)	
			+20.0									

cor +26.8 / 2

	x	y	x	y
a	9.9	5.5	14.9	10.8
b	95.0	182.7	100.0	188.0
n	46.9	81.0	57.8	86.2
	x	x	y	y
n-a	+37.0	n-b -48.1	n-a +75.5	n-b -101.7
	+36.9	-48.2	+75.4	-101.8
	+36.95	-48.15	+75.45	-101.75
	+37.32	-48.63	+76.20	-102.76
	÷.444	÷.444	+38.10	-51.38
	+84.1	-109.5		

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1909phae.proj.2301B

See page 71 for original means this nob.

A8261 No 169 Sept. 2, 1909

1900 pos 12 1 55.5 +26 16.1

a	+26	2296	11	57	31.4	+26	14.3	+26	8.8	= 11	59	37.3	+26	30.2
b	+26	2309	12	1	30.3	+26	45.8	−11	8.8	= 11	59	37.5	+26	31.8
p	+26	2289	11	55	54.4	+26	49.1				11	59	36.8	+26	30.8

mean for 11 59 37.3 +26 31.2

+0.2 −0.1 −0.6 +0.7

(−0.3 −0.6) (−1.0 +0.3)

Cos +26.8 / 2

c − a = −97.0

.446

−43.3

	x	y	x	y
a	60.0	10.5	65.0	21.1
b	166.9	71.2	172.0	81.8
n	116.1	42.3	121.2	53.0

	x	x	y	y
n−a	+56.1	n−b −50.8	n−a +31.8	n−b −28.9
	+56.2	−50.8	+31.9	−28.8
	+56.15	−50.8	+31.85	−28.85
	+56.71	−51.31	+32.47	−29.14
	÷.447	÷.447	+16.08	−14.57
	+126.9	−114.8		

using cat. for 2092, 2305 & 2309.

+26 31.8 +5 −1.1 30.2 +1 31.4 / 5.1 10

+26 31.3

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1909phae.proj.2301B

See page 72 for 1st meas this neb.

A8261, No. 169 a ÷ Sept. 2, 1909.

								1900 pos	12	1	53.5	+26	15.7			
a =	+26	3296	11	57	31.4	+26	14.3	+124.9	=	11	59	35.3	+15.6	=	+26	29.7
b =	+26	3309	12	1	30.3	+26	45.9	−116.7	=	11	59	33.6	−15.0	=	+26	30.9
c =	+26	3289	11	55	54.4	+26	49.1			11	59	35.0			+26	30.4
				x				mean pos		11	59	35.3	+	26	30.8	
				c − a = −97.0						+0.1	−0.2			−0.7	+0.7	
				.446						(−0.2	−0.5)			(−0.1	+0.3)	
				−43.3												

CUR + 268 / 2

	x	y	x	y
a	60.0	10.5	65.0	21.1
b	166.9	71.2	172.0	81.8
η	115.3	41.4	120.3	57.1
	x	x	y	y
	η − a + 55.3	η − b − 51.6	η − a + 30.9	η − b − 29.8
	+55.3	−51.7	+31.0	−29.7
	+55.3	−51.65	+30.95	−29.75
	+55.85	−52.17	+31.26	−30.05
	÷.447	÷.447	+15.63	−15.02
	+124.9	−116.7		

Consider for dec. +26° 31.2 see note

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1909phae.proj.2301B

A 8261 No. 28 Sept. 2, 1909.

1900 pos. 11 55 11.1 +25 37 7.8

a	+26	2271	11	48	32.5	+26	18.1	+26	59.1	= 11	52	1.6	−25	1	= +25	53.0
b	+25	2450	11	55	21.0	+25	37.9	−14	8.4	= 11	52	2.6	+15	4.8	= +25	53.7
c	+26	2286	11	53	57.2	+26	30.9				11	52	52.1			+25	52.8
					x						−0.5	+0.5				+0.2	−0.1

$\frac{c_0 + 26.5}{2}$

c − b = −83.8

.447

−37.4

	x	y	x	y
a	2.0	86.6	4.8	92.5
b	185.0	6.7	187.0	11.0
η	118.4	36.5	120.3	40.4
	x	x	y	y
η − a	+186.4	η − b − 66.6	η − a −50.1	η − b + 29.8
	+116.3	−66.7	−50.0	+29.8
	+116.35	−66.65	−50.05	+29.8
	+117.51	−67.32	−50.55	+30.10
	÷ .449	÷ .449	−35.28	+15.05
	+261.7	−149.9		

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1909phae.proj.2301B

A8261, No. 219 Sept. 2, 1909.

			1900 pos	11 53 55.0	+ 25 37.7
a = +25 2441	11 50 26.7	+25 45.2	+6 8.8	= 11 51 36.2	+ 7.9 = + 25 53.1
b = +26 2291	11 56 1.0	+26 16.7	−6 8.8	= 11 51 37.8	− 13.8 = + 25 53.3
c = +25 2450	11 55 21.0	+25 37.9		11 51 37.5	+ 25 52.7
	x				
	c − b = − 40.0			0.0 0.0	− 0.6 + 0.6

$\frac{c+a}{2} + 25.6$

.451

−18.0

	x	y	x	y
a	9.8	30.0	14.9	40.6
b	160.0	90.6	165.0	101.0
η	40.8	43.8	45.1	54.4

	x	x	y	y
n − a	+ 32.0	n − b − 118.2	n − a + 13.8	n − b − 46.8
	+ 30.8	− 119.3	+ 13.8	− 46
	+ 30.9	− 119.25	+ 13.8	− 46.9
	+ 31.21	− 120.44	+ 13.94	− 47.17
	÷ .449	÷ .449	+ 6.97	− 23.58
	+ 69.5	− 268.2		

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1909phae.proj.2301B

A 8261 No. 220 Sept. 3, 1909

			1900 pos.	11 53 34.7	+25 35.0	
a = +25 2441	11 50 26.7	+25 45.2	+44.1	= 11 51 15.3	+ 4.1	= +25 49.3
b = +26 2291	11 56 1.0	+26 16.7	−28.8.7	= 11 51 15.3	−36.1	= +25 50.6
c = +25 2450	11 55 16.0	+25 37.9		11 51 14.0		+25 50.0
			c−b = −40.0	+0.1	0.0	−0.7 +0.6

Cos a + 25.6 / 2

.451

−18.0

	x	y	x	y
a	9.8	30.0	14.9	40.7
b	160.0	90.6	165.0	101.0
n	31.7	38.2	36.6	48.8
	x	x	y	y
	n−a +21.9	n−b −128.3	n−a +8.2	n−b −52.4
	+21.7	−128.4	+8.2	−52.5
	+21.8	−128.35	+8.2	−52.3
	+22.02	−129.63	+8.28	−52.82
	÷ .449	÷ .449	+4.14	−26.41
	+49.1	−288.7		

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1909phae.proj.2301B

A8261 No. 221 Sept 4, 1909

					1900 pos	11 53 54.1	+25 47.2
a = +25 2442	11 50 37.3	+25 57.4	+5 6.9	=	11 51 34.2	+5.1	= +26 2.5
b = +26 2285	11 53 26.0	+26 11.6	−11 1.1	=	11 51 34.9	−9.7	= +26 1.9
c = +26 2277	11 50 16.6	+26 08.1			11 51 04.6		+26 1.2

x

c − a = −.07

−0.4 +0.3 +0.3 −0.3

$\frac{c_{00} + 26.6}{2}$

.447

−9.2

	x	y	x	y
a	25.0	11.3	30.0	21.0
b	100.4	40.8	105.5	50.6
η	50.5	21.5	55.6	31.2

	x	x	y	y
n·a	+25.5 n−b	−49.9	n−a +10.2 n−b	−19.3
	+25.6	−49.9	+10.2	−19.4
	+25.55	−49.9	+10.2	−19.35
	+25.81	−50.40	+10.30	−19.54
	÷ .449	÷ .449	+5.15	−9.77
	+57.5	−112.2		

✓ ✓

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1909phae.proj.2301B

See pg 210 for re-mean. this net.

A8261 No. 222 Sept. 4, 1909.

								1900 pos	11	53	31.7	+ 25	52.0	
a	+ 26	2276	11	49	53.7	+ 26	1.9	+ 79.9	= 11	51	13.8	+ 5.0	= + 26	6.9
b	+ 26	2284	11	53	21.0	+ 26	15.6	− 131.5	= 11	51	7.5	− 9.6	= + 26	6.2
c	+ 26	2245	11	49	45.2	+ 26	37.7			11	51	11.8	+ 26	6.5
								mean pos	11	51	12.2	+ 26	7.0	
										+1.0	−1.0	+0.4	−0.4	
										(+0.6	−1.4)	(+0.1	−0.9)	

x

c − a = − 8.5

447

− 3.8

Cos + 26.6 / 2

	x	y	x	y
a	40.0	29.8	45.0	38.3
b	133.9	58.8	139.0	68.6
η	75.4	39.8	80.6	48.5

	x	x	y	y
η − a	+ 35.4	η − b − 58.6	η − a + 10.0	η − b − 19.0
	+ 35.6	− 58.4	+ 10.1	− 19.1
	+ 35.5	− 58.45	+ 10.05	− 19.05
	+ 35.86	− 59.03	+ 10.15	− 19.24
	÷ .499	÷ .499	+ 5.08	− 9.62
	+ 79.9	− 131.5		

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1909phae.proj.2301B

For remeas. see Bk. 10, pg. 142.

A8261 No. 223 Sept. 4, 1909

							1900 pos	11	52	39.0	+25	49.0
a	+26	2276	11	49	53.7	+26 1.9	+26.8	= 11	50	20.5	+ 2.2	= +26 4.1
b	+26	2384	11	53	21.0	+26 15.6	-18.8	= 11	50	18.5	- 13.5	= +26. 3.2
c	+26	2275	11	49	45.2	+26 37.7			11	50	18.5	+26 3.6
										19.2		
							mean pos	11	50	19.5	+26	4.0
										+1.0 -1.0		+0.5 -0.4
										(+0.7 -1.3)		(+0.1 -0.8)

c-a = -8.5

$\frac{c-a}{2}$ .447

-3.8

	x	y	x	y
a	40.0	29.8	45.0	38.3
b	133.9	58.8	139.0	67.5
η	51.9	34.4	56.9	42.7

	x		x		y		y	
η-a	+11.9	η-b	-82.0	η-a	+4.4	η-b	-24.8	
	+11.9		-82.1		+4.4		-24.8	
	+11.9		-82.05		+4.4		-24.7	
	+12.02		-82.48		+4.44		-24.95	
	÷ .449		÷ .449		+2.22		-12.48	
	+26.8		-184.6					

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1909phae.proj.2301B

For remeas. see Bk. 10 – pg. 143.

A 8261 No. 229 Sept. 4, 1909.

							1900 pos	11	52	28.7	+25	47.2
a	+26	2276	11	49	53.7	+26	1.9	+16.4	= 11	50	9.9 × 0.4	= +26 2.3
b	+26	2584	11	53	21.0	+26	15.6	−194.9	= 11	50	8.1 − 14.5	= +26 1.4
c	+26	2275	11	49	45.2	+26	37.7			11	50 9.0	+26 1.8
								mean pos	11	50	9.2	+26 2.2
											+0.9 −0.9	+0.5 −0.4
											(+0.7 +0.9	(+0.1 −0.8)

c − a = − 8.5

Cos a + 26.6 / 2

.447

−3.8

	x	y	x	y
a	40.0	29.8	45.0	38.3
b	133.9	58.8	139.0	67.5
η	47.3	30.5	52.3	39.2

	x	x	y	y
η − a	+ 7.3	η − b − 86.6	η − a + 0.7	η − b − 28.3
	+ 7.3	− 86.7	+ 0.9	− 28.3
	+ 7.3	− 86.65	+ 0.8	− 28.3
	+ 7.37	− 87.52	+ 0.81	− 28.58
	÷ .449	÷ .449	+ 0.4	− 14.29
	+ 16.4	− 194.9		

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1909phae.proj.23018

For remeas. see B[illegible] 10. pg 144.

A8261 No. 230 Sept. 4, 1909.

1900 pos 11 52 17.6 + 25 46.8

a	+26	3276	11	49	53.7	+26	1.9	+5.3	= 11	49	58.9	−0.0	= +26	1.9
b	+26	3284	11	53	21.0	+26	15.6	−20.0	= 11	49	57.9	−14.7	= +26	0.8
c	+26	2275	11	49	45.2	+26	37.7			11	49	58.0	+26	1.0

mean pos 11 49 58.1 + 26 1.8

x

c − a = − 8.5

Cor $\frac{+26.6}{2}$

.447

− 3.8

+0.9 − 0.9 (+0.8 − 0.9)

+0.5 − 0.4 (+0.1 − 0.8)

	x	y	x	y
a	40.0	29.8	45.0	38.3
b	133.9	58.8	139.0	67.5
η	42.3	29.8	47.4	38.2

	x	x	xy	xy
n−a	+ 2.3	− 91.6	∓0.0	− 29.0
n−b	+ 2.4	− 91.6	∓0.1	− 29.3
	+ 2.35	− 91.6	− 0.1	− 29.2
	+ 2.37	− 92.52	− 0.1	− 29.49
	÷ .449	÷ .449	− 0.05	− 14.74
	+ 5.3	− 206.0		

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1909phae.proj.2301B

A8261 No. 223 Sept. 6, 1909

								1900 pos		11	53	17.3		+25	45.2	
a	+25	2436	11	48	58.8	+25	46.8	+120.8	=	11	50	59.1		+13.5	= +26	0.2
b	+26	2284	11	53	21.0	+26	15.6	−145.1	=	11	50	55.9		−15.1	= +25	59.9
c	+26	2272	11	48	45.4	+26	29.1			11	50	57.8			+25	0.1
				x												
			c − a =	−13.4						+0.6 − 0.5				0.0 − 0.1		

Cos +26.5 / 2

.447

− 6.0

	x	y	x	y
a	35.0	16.2	40.0	25.0
b	153.2	73.9	158.2	82.8
n	88.7	42.9	93.7	51.7

	x	x	y	y
n − a	+53.7	n − b −64.5	n − a +26.7	n − b −31.0
	+53.7	−64.5	+26.7	−31.1
	+53.7	−64.5	+26.7	−31.05
	+54.24	−65.14	+26.97	−31.36
	÷ .449	÷ .449	+13.48	−15.68
	+120.8	−145.1		

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1909phae.proj.2301B

A8261 No. 226 Sept. 6, 1909.

Obj: elongated n.& s.

					1900 pos	11	52	46.3	+25	40.9
a = +25 2436	11	48	58.8	+25	46.8	+ 8.5	= 11	50	7.3	+ 9.1	= +25	5.9
b = +26 2384	11	53	21.0	+26	15.6	- 4.6	= 11	50	6.4	- 1.7	= +25	55.9
c = +26 2272	11	48	45.4	+26	29.1			11	50	26.8		+25	55.8
								+0.5	-0.4			0.0	0.0

c - a = - 13.4

.447

- 6.0

Cos +26.5 / 2

	x	y	x	y
a	35.0	16.2	40.0	25.0
b	153.2	43.9	158.2	82.8
n	74.7	34.5	79.8	43.3

x	x	y	y
n-a + 39.7	n-b - 78.5	n-a + 18.3	n-b - 39.4
+ 39.8	- 78.4	+ 18.3	- 39.5
+ 39.75	- 78.45	+ 18.3	- 39.45
+ 40.15	- 79.23	+ 18.48	- 39.84
÷ .449	÷ .449	+ 9.24	- 19.92
+ 89.4	- 176.4		

✓ ✓

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1909phae.proj.2301B

A 8261 No. 2nd Sept. 6, 1909.

					1900 pos	11 53 16.3	+25 38.8	
a =	+25 2436	11 48 58.8	+25	46.8	+11 6.5 X 7	= 11 50 5.5 3	+6.4	= +25 53.1
b =	+26 2288	11 55 20.8	+26	8.0	−26 2.6 5.2	− 11 50 5.1 8.2	−13.7 6	= +25 54.8
c =	+26 2272	11 48 45.4	+26	29.1		11 50 56.8		+25 53.8
		x						
		c − a = −13.4				−1.5 +1.4		−0.7 +0.6
26.5 / 2		.447						
		−6.0						

	x	y	x	y
	15.			
a	38.0	16.0	10.0	22.5
b	185.6	55.7	180.6	62.5
η	67.4	28.6	62.5	35.2

	x	x	y	y
	n−a		n−b	
	+52.4	−118.2	+12.6	−27.1
	+52.5	−118.1	+12.7	−27.3
	+52.45	−118.65	+12.65	−27.2
	+52.97	−119.33	+12.78	−27.47
	÷450	÷.450	+6.39	−13.74
	+117.7	−265.2		

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1909phae.proj.2301B

For remeas. this obj see pg. 211.
Have corrected pos. of star B. as det. by formula for meas. effect: see meas. pg 134 this book.

A8261 No. 225 Sept. 6, 1909.

								1900 pos	11	53	0.9	+ 25	40.2	
a =	+ 25	2436	11	48	58.8	+ 25	46.8	+ 10.26	= 11	50	41.4	+ 7.8	= + 25	54.0
b =	+ 26	2287	11	54	20.8	+ 26	8.9	− 21.78	= 11	50	41.4	− 17.5	= + 25	54.8
c =	+ 26	2272	11	48	45.4	+ 26	29.1		11	50	40.8		+ 25	55.4
														54.89
								mean pos	11	50	41.4		+ 25	55.2
											− 0.4	+ 0.4	− 0.4	+ 0.4
											(− 1.0	− 0.2)	(− 0.7	+ 0.1)

Cos + 26.5 = .897

c − a = − 13.4

.447

− 6.0

	x	y	x	y
a	30.0	16.0	10.0	32.5
b	57.4	66.2	15.4	72.8
η	60.6	31.5	5.6	38.2
	x	x	y	y
η − a	+ 45.6	η − b − 96.8	η − a + 15.5	η − b − 34.7
	+ 45.6	− 96.8	+ 15.7	− 34.6
	+ 45.6	− 96.8	+ 15.6	− 34.65
	+ 46.06	− 97.77	+ 15.66	− 34.00
	÷ .449	÷ .449	+ 7.83	− 17.50
	+ 102.6	− 217.8		

See meas. of Star +26° 2287 on page 134
Pos. as determined by computation used for det. position of nebulae —
11h 54 16.8 + 26° 12.6

Pos. as given in Dm. Catalog — 11 54 20.5 + 26 14.3

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1909phae.proj.2301B

A8261 Star No. 2287 +26° Sept. 6, 1909

a = +26 2284	11 53 21.0	+26 15.6	+54.1/1	= 11 54 15.1/6	−3.7	= +26 11.9	N
b = +26 2288	11 55 20.8	+26 8.0	−62.2/8	= 11 54 18.1/6	+5.3	= +26 13.3	b
c = +27 2088	11 55 32.8	+27 16.9		11 54 16.8		+26 12.6	c
	x	Pos. as given in Catalogue		11 54 20.5		+26 14.3	

c−b = +13.0

c = +27.3/2

.44

+5.3

	x	y	x	y
a	17.8	40.5	32.8	48.8
b	70.0	22.6	75.0	30.9
a 2287	42.1	33.2	47.1	41.4

x	x	y	y
n-a +24.3	n-b −27.9	n-a −7.3	n-b +10.6
+24.3	−27.9	−7.4	+10.5
+24.3	−27.9	−7.35	+10.55
+24.54	−28.18	−7.42	+10.65
÷.449	÷.449	−3.71	+5.33/3
+54.7	−62.8		
✓	✓		

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1999phae.proj.2301B

A 8261 No. 224 Sept. 6, 1909

1900 pos 11 52 47.5 + 25 37.1

a = +25 2436	11	48 58.8	+25	46.8	+88.5	= 11 50 27.3	+4.7	= +25 51.5
b = +26 2588	11	55 20.8	+26	8.0	−294.0	= 11 50 29.8	−15.5	= +25 52.5
c = +26 2272	11	48 45.4	+26	29.1		11 50 29.8		+25 52.1
		x						
		c − a = −13.4				−1.6 +1.7		−0.6 +0.6
c₀ +26.5 / 2		.447						
		−6.0						

	x	y	x	y
a	10.0	25.4	15.0	33.0
b	180.6	65.4	185.6	72.9
η	48.5	34.7	54.4	42.2

	x	x	y	y
n−a	+39.5 n−b	−131.1 n−a	+ 9.3 n−b	− 30.7
	+39.4	−131.2	+ 9.2	− 30.7
	+39.45	−131.15	+ 9.25	− 30.7
	+39.84	−132.28	+ 9.34	−31.01
	÷ .450	÷ .450	+ 4.67	− 15.50
	+88.5	−294.0		

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1909phae.proj.2301B

A 8261 No. 231 Sept. 6, 1909.

			1900 pos	11	52	12.5	+25	45.8		
a	+25	2431	11	47	6.8	+25	39.2	+168.2 =	11 49 55.0	+26 1.3
b	+26	2280	11	52	15.4	+26	18.7	−144.1 =	11 49 51.9	−18.5 = +26 0.4
c	+26	2268	11	47	31.7	+26	34.6		11 49 53.4	+26 0.8

c − a = + 24.9

.447

+ 11.1

+0.3 −0.3 +0.5 −0.4

	x	y	x	y
a	20.0	27.5	25.0	14.0
b	158.8	88.2	163.8	94.8
n	94.7	51.6	99.8	58.2
	x	x	y	y
n−a	+74.7	n−b −64.1	n−a +39.1	n−b −36.6
	+74.8	−64.0	+44.2	−36.6
	+74.75	−64.05	+44.15	−36.6
	+75.50	−64.69	+44.59	−36.97
	÷.449	÷.449	+99.295	−18.48
	+168.2	−144.1		

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1909phae.proj.2301B

A8261 — No. 232 — Sept. 6, 1909

						1900 pos	11	50	51.1	+25	46'.2	
a	+26 2260	11	43	49.2	+26	10.1	+283.5	= 11	48	29.9	−8.5	= +26 1.7
b	+25 3442	11	50	37.3 16.6	+25	57.4	−125.1	= 11	48	33.4	+3.3	= +26 0.7
c	+26 2347	11	50	16.6	+26	38.1		11	48	31.8		+26 1.2
				c − b = −20.7				− 1.7	+ 1.8		+ 0.5	− 0.5

$\frac{c_{00} + 26.6}{2}$

.447

− 9.2

	x	y	x	y
a	3.4	36.3	4.3	47.0
b	185.0	12.9	186.0	16.6
n	129.4	19.5	130.4	23.1

	x	x	y	y
n − a	+ 126.0	n − b − 55.6	n − a − 16.8	n − b + 6.6
	+ 126.1	− 55.6	− 16.9	+ 6.5
	+ 126.05	− 55.6	− 16.85	+ 6.55
	+ 127.31	− 56.16	− 17.02	+ 6.61
	÷ .449	÷ .449	− 8.51	+ 33.0
	+ 283.5	− 125.1		

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1909phae.proj.2301B

For new meas. see Bk. 11, pg. 10.

A8261 No. 233 Sept 7th, 1909

						1900 fm.	11	50	39.9	+25 41.7
a	+26 22 62	11	44	51.5	+26 15.2	+20.7	= 11	48 18.6	−18.6	= +25 56.4
b	+25 24 41	11	50	36.7	+25 45.2	−12.4	= 11	48 20.3	+9.8	= +25 55.0
c	+26 22 77	11	50	16.6	+26 38.1			11 48 20.1		+25 55.8
								11 48 20.4		+25 56.1
								−1.5 +1.5		+0.8 −0.8
								(−18 +12)		(+05 −05)

$\frac{\cos +26.6}{2}$

c − b = −10.1

.447

−4.5

	x	y	x	y
a	10.8	66.7	15.8	73.3
b	160.0	9.8	165.0	16.5
n	103.8	29.4	108.8	36.1
	x	x	y	y
n−a	+93.0	n−b −56.2	n−a −37.3	n−b +19.6
	+93.0	−56.2	−37.2	+19.6
	+93.0	−56.2	−37.25	+19.6
	+93.93	−56.76	−37.62	+19.80
	÷ .449	÷ .449	−18.81	+9.90
	+209.2	−126.4		

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1909phaa.proj.2301B

A 8261 — No. 234 Sept 7th, 1909

						1900	0.00	11	48	37.8	+ 25	42.6		
a	+ 26	2262	11	44	51.5	+ 26	15.2	+ 85.5 (4.6)	− 11	46	17.0 (6.1)	− 17.8 (4)	= + 25	57.9 (8)
b	+ 25	2437	11	49	3.3 (7)	+ 25	21.7	− 169.4 (7.8)	= 11	46	17.8 (9.5)	+ 36.4 (5.8)	= + 25	57.8 (5)
c	+ 26	2271	11	48	32.5	+ 26	18.1		11	46	17.4 (8)		+ 25	57.8 (6)
						×								
			c − b =			− 34.8					− 1.7	+ 1.7	+ 0.2	− 0.1
Cor	+ 26.3					.448								
2						− 15.6								

	x	y	x	y
a	21.4	113.7	26.4	119.3
b	135.0	26.3 (7.7)	140.0	12.8
n	59.5	79.0	64.5	84.5
	x	x	y	y
n − a	+ 38.1	n − b − 75.5	n − a − 34.7	n − b + 71.8
	+ 38.1	− 75.5	− 34.8	+ 71.7
	+ 38.1	− 75.5	− 34.75	+ 71.75
	+ 38.48	− 76.26	− 35.10	+ 72.47
	÷ .450	÷ .450	− 17.55	+ 36.24 (3)
	+ 85.5	− 169.4 (5)		

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1909phae.proj.2301B

A 8261 No. 235 Sept. 7th, 1909

1900 pos 11 47 28.9 + 25 37.8

a = + 25 2427 11 44 48.3 + 25 16.2 + 19.8 = 11 45 8.1 + 36.5 = + 25 52.7

b = + 25 2428 11 45 14.3 + 25 58.5 − 4.4 = 11 45 9.9 − 5.1 = + 25 53.4

c = + 26 2262 11 44 51.5 + 26 15.2 11 45 9.0 + 25 52.6

× ∓ 1.0 + 1.0 × − 0.5 + 0.6

c − a = + 183.2

.449

+ 14.8

	x	y	x	y
a	30.0	12.1	35.0	21.4
b	40.8	94.7	45.8	103.9
n	38.8	84.4	43.9	93.6
	x	x	y	y
n − a	+ 8.8	n − b − 2.0	n − a + 72.2	n − b − 10.3
	+ 8.9	− 1.9	+ 72.2	− 10.3
	+ 8.85	− 1.95	+ 72.2	− 10.3
	+ 8.94	− 1.97	+ 72.92	− 10.40
	÷ .451	÷ .451	+ 36.46	− 5.20
	+ 19.8	− 4.4		

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1909phae.proj.2301B

For new meas. see Bk. 11, pg. 11.

A8261 No. 236 Sept. 7th, 1909

1900 pos 11 47 11.82 +25 38.18

a	+25 24 27.2	11 44 48.3	+25 16.2	+4.1 =	11 44 52.4	+36.40 = +25 52.60
b	+25 24 27.7	11 44 51.5	+26 15.2	−2.0 =	11 44 49.5	−21.16 = +25 53.84
c	+25 24 28	11 45 14.3	+25 58.5		11 44 51.0	+25 53.00
		x				
		c − a = +26.0			+1.4 −1.5	−0.8 +0.78
		.449				
		+11.7				

	x	y	x	y
a	30.0	24.6	35.0	33.0
b	32.8	139.6	37.7	147.9
η	31.9	96.86	36.8	105.0

x	x	y	y
η−a +1.9	η−b −0.9	η−a +72.20	η−b −43.80
+1.8	−0.9	+72.0	−42.9
+1.85	−0.9	+72.0	−42.85
+1.87	−0.91	+72.82	−43.38
÷.450	÷.450	+36.4	−21.69
+4.1	−2.0		

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1909phae.proj.2301B

A 8261 — No. 237 Sept. 7th 1909

Object is close to edge of Plate.

1900 pos. 11 34 59.3 +25 51'8

a = +26 2241	11 31 55.3	+26 6.7	+41.3	= 11 32 37.0	+0.7	= +26 7.4		a
b = +26 2249	11 34 54.1	+26 5.7	−18.4	= 11 32 37.0	+0.3	= +26 6.0		b
c = +26 2252	11 38.8	58.4	+26 46.4					c
				11 32 37.5		+26. 6.7		
					−0.9	+0.9	+0.7	−0.7

c − b = +94.8

.445

86.9

+57.4

c − a = +6.8

+2.7

2

	x	y	x	y
a	5.5	16.6	10.5	24.0
b	85.0	17.5	90.0	27.8
n	24.0	18.0	29.1	38.3

	x	x	y	y
n−a	+18.5	−61.0	+1.4	+0.6
n−b	−18.6	−60.9	+1.3	+0.5
	+18.55	−60.95	+1.35	+0.55
	+18.73	−61.56	+1.36	+0.55
	÷.449	÷.449	+0.68	+0.28
	+41.7	−137.1		

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1909phae.proj.2301B

Duplicate – See page 114.

A8261 No. 238 Sept. 7th 1909.

						1900 pos	12	3	8.5	+ 25 29.9
a	+ 26	23.05	12	0	26.7	+ 26 9.2	+ 24.7	= 12	0 51.4	− 23.8 = + 25 45.6
b	+ 25	24.6	12	0	52.9	+ 25 43.4	− 2.9	= 12	0 50.0	+ 1.4 = + 25 44.8
c	+ 26	22.97	11	57	49.3	+ 26 24.5				
								12	0 50.6	+ 25 45.2
						mean pos	12	0 50.3		+ 25 45.0
								+ 0.6	− 0.6	+ 0.4 − 0.2
								(+ 0.9	− 0.3)	(+ 0.6 − 0.2)

For + 26.4

c − b = − 18.6

.448

− 82.2

	x	y	x	y
a	127.7	70.6	132.7	79.9
b	140.0	20.6	145.0	30.0
n	138.7	23.5	143.7	32.8

	x	x	y	y
n − a	+ 11.0	n − b − 1.3	n − a − 47.1	n − b + 2.9
	+ 11.0	− 1.3	− 47.1	+ 2.8
	+ 11.0	− 1.3	− 47.1	+ 2.85
	+ 11.11	− 1.31	− 47.57	+ 2.88
	÷ .450	÷ .450	− 23.78	+ 1.44
	+ 24.7	− 2.9		

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1909phae.proj.2301B

Errors was made in selection of Obj. The objects are quite ~~solide~~ together — see Record Bk. of Prof. Bailey —

A8261 No. 240 Sept. 7, 1909

1900 pos 12 1 43.1 +25 33.9

6.1
1880
92.0

a =	+25 3453	11 56 19.4	+25 55.0	+92.0	= 11 59 27.0	− 6.7	= +25 48.3	a
b =	+25 2464	12 0 55.4	+25 45.4	−92.0	= 11 59 23.0	+ 3.3	= +25 48.7	b
c =	+26 2289	11 55 54.4	+26 49.1		11 59 24.9		+25 49.0	c

Cos +26.8

c − a = − 25.0
.446
− 11.2

+0.6 − 0.6 −0.2 +0.2

	x	y	x	y
a	30.0	21.6	25.0	21.4
b	154.8	1.7	149.7	1.5
n	113.7	98.8	108.8	9.
		7.		8.0

	x	x	y	y
n−a	83	41.1	25	7 4
	+ 14.7	− 50.1	− 13.3	+ 6.8
n−b	83.8	40.9	2.4	7
	+ 14.4	− 50.1	− 13.1	+ 6.5
	83.75	− 41.0	− 12.45	+ 7 45
	+ 14.65	− 50.1	+ 13.45	+ 6.55
	84.59	41.41	12.57	7 52
	+ 15.49	− 50.69	− 13.48	+ 6.6
			28	76
	÷ .450	÷ .450	− 6.14	+ 3.8
	880	92.0		
	+ 187.6	− 112.4		

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1909phaa.proj.2301B

See note opposite page—

A 8261 No. 239 Sept. 7th, 1909.

Obj. is very faint.

				1900 pos	12 1	43.8	+ 25	33.9	
a	+ 25 2453	11 56	19.4	+ 25	55.0	+ 187.8	= 11 59	26.1 27.0 25.0	− 6.5 = + 25 48.8
b	+ 25 2464	12 0	55.4	+ 25	45.4	− 97.4	= 11 59	25.0	+ 3.8 = + 25 49.1
c	+ 26 2389	11 55	54.4	+ 26	49.1		11 59	25.0 25.6	+ 25 48.9 49.0

c − a = − 25.0

.446

− 11.2

+ 0.5 − 0.6 − 0.2 + 0.1

$\frac{c_{55} + 26.8}{2}$

	x	y	x	y
a	30.0	21.6	25.0	21.4
b	154.8	1.7	149.7	1.5
n	115.4	9.2	108.1	8.9

x	x	y	y
n − a + 85.6	n − b − 47.4	n − a − 12.4	n − b + 7.5
+ 85.6	− 47.4	− 12.5	+ 7.4
+ 85.6	− 47.5	− 12.5	+ 7.5
+ 84.89	− 41.10	− 12.57	+ 7.52
÷ .450	÷ .450	− 6.78	+ 3.76
+ 187.6	− 91.3		

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1909phae.proj.2301B

A8261 — No. 244 Sept. 7th, 1909

					1900 fam	11 55 35.6	+ 25 25.0			
a.	+ 25 2445	11 51 46.7	+ 25	26.8	+ 89.8 90.7	= 11 53 17.4 6.5	+ 13.8 4	= + 25 40.9 5		a
b.	+ 26 2292	11 56 18.0	+ 26	8.0	− 181.0 1.2	= 11 53 15.0 6.8	− 28.8 5	= + 25 39.7 5		b
c.	+ 26 2380	11 52 15.4	+ 26	18.7		11 53 16.1 6		+ 25 39.8 40.0		c

x

c − a = + 28.7

.448

+ 12.8

− 0.1 + 0.2 + 0.5 − 0.5

$\frac{a+c}{2}$ + 26.3

	x	y	x	y
a	30.0	10.0	35.0	16.5
b	152.0	94.2	156.9	100.9
n	70.4	37.2	75.4	43.9

	x	x	y	y
n − a	+ 40.4 n − b	− 81.6 n − a	+ 27.2 n − b	− 57.0
	+ 40.4	− 81.5	+ 27.4	− 57.0
	+ 40.4	− 81.55	+ 27.3	− 57.0
	+ 40.80	− 82.37	+ 27.57	− 57.57
	÷ .450	÷ .450	+ 13.78	− 28.78
	+ 90.7	− 183.0		

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1909phae.proj.2301B

A 8261, No. 242 Sept. 7th, 1909

						1900 pos		
a = +25 2442	11 50 37.3	+25 57.4	+61.8	= 11 51 38.4	−9.2	= +25 48.2	11 53 58.1	+25 33.0
b = +25 2449	11 55 16.7	+25 15.2	−220.2	= 11 51 36.5	+32.9	= +25 49.4		
c = +26 2288	11 51 20.8	+26 8.0		11 51 37.8		+25 48.2		

c − a =	+4.1	0.0	+0.3
c − b =	+6.5	+0.1	−0.2

Cor +26.1 / 2

.449 / 1.8 / +8.4

	x	y	x	y
a	14.0	90.6	19.0	98.4
b	140.0	7.4	145.0	15.0
η	41.7	72.4	46.6	80.2

	x	x	y	y
η − a	+27.7	η − b −98.3	η − a −18.2	η − b +65.0
	+27.6	−98.4	−18.2	+65.2
	+27.65	−98.35	−18.2	+65.1
	+27.93	−99.33	−18.38	+65.75
	÷ .451	÷ .451	−9.19	+32.88
	+61.9	−220.2		

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1909phae.proj.2301B

A 8261 No. 243 Sept. 8, 1909.

1900 pgs

a	+25 27.6	11	48	55.7	+25	46.8	158.4	11	53	55.7	+25	19.3	
b	+25 24.7	11	52	41.4	+25	29.6	74.2	11	51	34.5	28.4	25	33.9
c	+26 22.0	11	52	15.4	+26	52.3	18.4	11	51	35.2	+25	14.3	34.9

+0.1 0.0 −0.6 +0.6

c − a = +26.9 − 25.8 = +0.2

.447

+0.1

→ 44.6

	x	y	x	y
a	14.2	107.9	19.2	176.4
b	90.0	10.8	95.0	27.5
η	60.0	52.2	65.0	68.7

Second set of stars selected from to be better than 1st

	x	x	y	y
η-a	+45.8	η-b −30.0	η-a −55.7	η-b +41.4
	+45.8	−30.0	−55.7	+41.2
	+45.8	−30.0	−55.7	+41.3
	+56.26	−30.30	−56.26	+41.71
	÷.451	÷.451	−28.13	+20.86
	+102.6	−67.2		

	x	y	x	y
a	15.0	49.5	20.0	55.0
b	118.7	12.6	123.8	18.2
η	85.6	23.3	90.6	28.9

	x	x	y	y
η-a	+70.6	η-b −33.1	η-a −26.2	η-b +10.7
	+70.6	−33.2	−26.1	+10.7
	+70.6	−33.15	−26.15	+10.71
	+71.31	−33.48	−26.41	+10.82
	÷451	÷451	−13.20	+5.48
	+158.1	−74.2		

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1909phae.proj.2301B

see page 213½ for meas. of this nebula. new stars selected by much better results.

A8261 No. 44 Sept. 8, 1909

						1900 pos	11 50 40.6	+25 19'8	
a = +25 2430	11	46	39.3	+25	20.3	+10.8	− 11 48 23.1	+4.7 = +25	35.0
b = +25 2455	11	48	42.7	+25	34.1	−24.8	− 11 48 18.0	−0.7 = +25	33.4
c = +26 2272	11	48	45.4	+26	29.1		11 48 20.6	+25	34.2
						mean pos	11 48 21.1	+25 34.4	

x

c − b = +2.7

.447

+1.2

Cor +26.5 / 2

+2.1 − 2.0 (+1.0 − 1.1)

+0.8 − 0.8 (+0.2 − 0.4)

	x	y	x	y
a	12.6	39.7	17.5	51.2
b	70.0	50.4	75.0	61.9
n	58.9	49.0	63.9	60.6

x		x		y		y	
n−a	+46.3	n−b	−11.1	n−a	+9.3	n−b	−1.4
	+46.4		−11.1		+9.4		−1.3
	+46.35		−11.1		+9.35		−1.35
	+46.81		−11.21		+9.44		−1.36
	÷.457		÷.457		+4.72		−0.68
	+103.8		−24.9				

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1909phae.proj.2301B

see page 174 for measurement of this neb.
New stars selected and better results thereby obtained.

A 8261 No. 245 Sept. 8, 1909.

a =	+25	3431	11	47	6.8	+25	39.2	+68.8	=	11	48	15.4	+5.5	=	+25	44.7
b =	+25	3436	11	48	58.8	+25	46.8	−47.5	=	11	48	11.3	−4.1	=	+25	42.7
⊙ =	+26	2273	11	48	59.0	+26	52.3			11	48	13.2			+25	43.6

⊙ − b = +0.2

⊙⊙ + 26.9 / 2

.446

+0.1

+1.5 − 1.4

+1.0 − 0.9

	x	y	x	y
a	13.3	22.2	18.4	27.8
b	65.0	41.3	70.0	46.8
η	43.8	33.1	43.9	38.8

	x	x	y	y
n − a	+30.5	m − b −21.2	n − a +10.9	m − b − 8.2
	+30.6	−21.1	+11.0	− 8.0
	+30.55	−21.15	+10.95	− 8.1
	+30.85	−21.36	+11.06	− 8.18
	÷ .450	÷ .450	+ 5.53	− 4.09
	+ 68.6	−47.5		

√ √

See sheet just following for measures using above 4 cat. stars. Page 174

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1909phae.proj.2301B

mong stars selected. See page 174 this book.

A8261 No. 246 Sept. 8, 1909.

a = +25 24 38	=	47	14.3 6.8	+ 25	58.5 59.2	+ 178.8	=	11	48	1.4 18.2	- 16.1	=	+25	42.7
b = +25 24 45	=	51 48	46.7 58.8	+ 25	46.8	- 21.2	=	11	48	4.4 12.8	+ 18.5	=	+25	45.1
c = +26 25	=	50 48	37.3 59.0	+ 26	57.4			11	48	12.8			+25	43.9

$\frac{c_0 + 26.9}{2}$

$c - b = +2.2$ (−69.4)

$-1.5 + 1.5$ $\quad -1.2 + 1.2$

.446
− 31.0
+2.2

void

	x	y	x	y
a	4.8	80.8	9.7	89.1
b	180.0	12.6	185.0	24.8
η	84.5	49.2	89.4	57.4

	x	x	y	y
n-a	+79.7	n-b −95.5	n-a −31.6	n-b +36.6
	+79.7	−95.6	−31.7	+36.6
	+79.7	−95.55	−31.65	+36.6
	+80.50	−96.58	−31.97	+36.97
	÷.450	÷.450	−15.98	+18.48
	+178.9	−214.4		

See p 180.

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1909phae.proj.2301B

See page 175 for meas. of this neb.

A8261 No. 2476 Sept. 8, 1909.

a = +25	24 38	11	47 5	14.3 6.8	+25	58.5 39.8	+167.6	= 11	48	0.3 1.8	-14.5 4	= +25	44.1	a		
b = +25	24 36 45	11	48 51	46.7 58.8	+25	46.8 2	-225.8 3.5	= 11	48	3.2	+19.8	= +25	46.8 6	b		
p = +26	24 42	11	48 50	37.3 59.0	+26	57.4 52.8			11	48	1.4 8		+25	45.4	c	

$\cos \frac{+26.9}{2}$

x

$c - b = \begin{array}{r} -69.4 \\ \times 0.2 \\ \hline .446 \\ -31.0 \\ +0.1 \end{array}$

$-1.5 + 1.4$

$\begin{array}{r} -1.3 + 1.2 \\ +0.7 - 0.8 \end{array}$

	x	y	x	y
a	4.8	80.8	9.7	89.1
b	180.0	12.6	185.0	20.8
η	79.4	52.2	84.4	60.3

x	x	y	y
$\eta - a$ +74.6	$\eta - b$ −100.6	$\eta - a$ −28.6	$\eta - b$ +39.6
+74.8	−100.6	−28.8	+39.5
+74.7	−100.6	−28.7	+39.55
+75.45	−101.60	−28.99	+39.95
÷ .450	÷ 450	−14.495	+19.98
+167.6	−225.8		
/	/		

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1909phae.proj.2301B

A 8261 — No. 348 Sept. 8, 1909.

1900 pos 11 49 4.0 + 25 18.4

a = +25 2430	11	46	39.3	+25	30.3	+4.1	= 11	46	43.4	+2.9	= +25 33.2
b = +25 2431	11	47	6.8	+25	39.2	−22.4	= 11	46	44.6	−5.9	= +25 33.6
c = +26 2366	11	46	34.3	+26	30.4			11	46	49.8	+25 33.4
									40		

x

c − a = −5.0

$\frac{\cos +26.5}{2}$

.447

−2.2

−0.6 +0.6 −0.2 +0.2

	x	y	x	y
a	20.0	31.0	25.0	40.4
b	31.8	47.8	36.8	57.4
η	21.8	36.6	26.8	46.1

	x	x	y	y
η − a	+1.8	η − b −10.0	η − a +5.6	η − b −11.2
	+1.8	−10.0	+5.7	−11.3
	+1.8	−10.0	+5.65	−11.25
	+1.82	−10.10	+5.71	−11.36
	÷ .451	÷ .451	+2.86	−5.68
	+4.1	−22.4		

✓ ✓

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1909phae.proj.2301B

A8261 No. 247 Sept. 8, 1909.

							1900 pos	11	50	3.3	+25	29.'2		
a =	+25	24.27	11	44	48.3	+25	16.2	+175.3	= 11	47	48.6	+25	47.0	a
b =	+26	22.76	11	49	53.7	+26	1.9	−129.3	= 11	47	44.4	−19.1	= +25	43.8	b
c =	+26	22.62	11	44	51.5	+26	15.2			11	47	44.9		+25	42.7	c
				×										
				c − a =	+3.2						−2.0	+1.9	+0.5	+0.6
					.449									
					+1.4									

cos +26.2 / 2

	x	y	x	y
a	20.0	5.1	25.0	9.5
b	156.0	94.6	161.1	49.9
η	98.3	56.3	103.3	60.6

x		x		y		y	
η − a	+78.3	η − b	−57.7	η − a	+51.2	η − b	−38.3
	+78.3		−57.8		+51.1		−38.3
	+78.3		−57.75		+51.15		−38.3
	+79.08		−58.33		+51.66		−38.68
	÷.451		÷.451		+25.83		−19.34
	+175.3		−129.3				
	√		√				

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1909phae.proj.2301B

For remeas this obj: see page 213

A8261 No. 349 Sept. 8th, 1909.

					1900 pos	11 47 51.0		+25 23.3	
a	+25 N25	11	42 20.9	+25 50.9	+89.4	= 11 45 30.3	−13.8	= +25 37.1	
b	+25 N32	11	47 41.4	+25 30.6	−29.8	= 11 45 31.6	+8.6	= +25 39.2	
c	+26 N270	11	47 58.9	+26 19.8		11 45 31.0		+25 38.2	
						mean pos	11 45 31.0	+25 38.3	
							−0.7 +0.6	−1.1 +1.0	
							(−0.7 +0.6)	(−1.2 +0.9)	

$\frac{c+b}{2} = +26.3$

c − b = + 17.5

.448

+ 7.8

	x	y	x	y
a	11.3	59.8	16.4	64.2
b	155.0	15.0	160.0	19.5
n	96.6	32.2	101.6	36.6

x	x	y	y
n-a + 85.3	n-b − 58.4	n-a − 27.6	n-b + 17.2
+ 85.2	− 58.4	− 27.6	+ 17.1
+ 85.25	− 58.4	− 27.6	+ 17.15
+ 86.10	− 58.98	− 27.88	+ 17.32
÷ .450	÷ .450	− 13.94	+ 8.66
+ 191.3	− 131.1		

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1909phae.proj.2301B

A 8261 No. 250 — Sept. 8, 1909.

				1900 pos		11 45 55.2	+ 25 23.3	
a =	+ 25 24 20	11 40 34.1	+ 25	2.6	+ 182.7 =	11 43 30.7	+ 38.6 =	+ 25 38.2
b =	+ 25 24 28	11 45 14.3	+ 25	58.5	− 99.9 =	11 43 34.4	− 20.3 =	+ 25 38.1
p =	+ 25 24 25	11 42 20.9	+ 25	50.9		11 43 35.6		+ 25 38.4
		x						
		e − a = + 106.8				− 0.2	+ 0.2	− 0.1 + 0.1
		.450						
		+ 48.1						

cos + 25.8 / 2

	x	y	x	y
a	20.0	84	25.0	12.8
b	146.2	119.7	151.2	124.4
p	101.6	79.5	106.6	84.1

	x	x	y	y
m-a	+ 81.6	m-b − 44.6	m-a + 71.1	m-b − 40.2
	+ 81.6	− 44.6	+ 71.3	− 40.13
	+ 81.6	− 44.6	+ 71.2	− 40.25
	+ 82.42	− 45.05	+ 71.91	− 40.65
	÷ .457	÷ .451	+ 35.96	− 20.32
	+ 182.7	− 99.9		

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1909phae.proj-2301B

A 8261 No. 251 Sept. 8, 1909.

1900.0

a = +24 19	11 40 31.7	+25	16.4	+ 125.7	= 11 42 56.9	+ 27.0	= +25 43.4
b = +26 22 62	11 44 51.5	+26	15.2	− 140.5	= 11 42 31.0	− 31.4	= +25 43.8
c = +25 22 55	11 40 51.9	+25	15.2		11 42 43.9		+25 43.6
					34.8		

a	+ 20.2		
c − b =	+ 9.0	− 0.6	+ 0.2
	+ 11.2	+ 0.6	− 0.1

	x	y	x	y
a	26.6	5.2	31.6	10.4
b	145.0	130.8	150.0	126.0
η	82.4	58.7	87.4	63.8

Star for omission purely accidental

	x	x	y	y
n-a	+ 55.8	− 62.6	+ 53.5	− 62.1
	+ 55.8	− 62.6	+ 53.4	− 62.2
	+ 55.8	− 62.6	+ 53.45	− 62.15
	+ 56.36	− 63.263	+ 54.98	− 62.77
	÷ .450	÷ .450	+ 26.99	− 31.48
	+ 125.2	− 140.5		

	x	y	x	y
a	10.0	6.5	11.0	10.8
b	126.3	124.8	127.4	129.0
η	65.1	61.3	66.1	65.7

	x	x	y	y
n-a	+ 55.1	− 61.2	+ 54.8	− 63.5
	+ 55.1	− 61.3	+ 54.9	− 63.3
	+ 55.1	− 61.25	+ 54.85	− 63.4
	+ 55.65	− 61.86	+ 55.40	− 64.03
	÷ .450	÷ .450	+ 27.70	− 32.02
	+ 123.7	− 137.5		

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1909phae.proj.2301B

√

A 8261 — No. 252 — Sept. 8, 1909

				1900 pos	11 44 12.0	+ 25 29.9		
a = + 25 2418	11 39 47.1	+ 25	14.1	+ 15.4	= 11 41 58.5	+ 31.8	= + 25	45.2
b = + 25 2425	11 42 20.9	+ 25	50.9	− 29.9	= 11 41 50.7	− 6.5	= + 25	44.5
c = + 26 2256	11 42 42.2	+ 26	33.3		11 41 51.6		+ 25	44.8
	×							
	c − b = + 21.3				+ 0.1 − 0.2		+ 0.2 − 0.2	
cos + 26.5 / x	.447							
	+ 9.5							

	x	y	x	y
a	15.5	10.9	20.5	22.6
b	85.0	85.4	90.0	96.9
n	71.5	72.6	76.5	84.1

	x	x	y	y
n − a + 56.0 n − b	− 13.5 n − a	+ 61.7 n − b	− 12.8	
+ 56.0	− 13.5	+ 61.5	− 12.8	
+ 56.0	− 13.5	+ 61.6	− 12.8	
+ 56.56	− 13.64	+ 62.22	− 12.93	
÷ .457	÷ .451	+ 31.11	− 6.46	
+ 125.4	− 30.2			
√	√			

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1909phae.proj.2301B

A 8261 No. 253 Sept. 8, 1909.

						1900 pos	11	37	26.7	+25	32.5		
a =	+26 2247	11	34	8.8	+26	0.1	+55.6	= 11	34	3.8	−22.6	= +25	37.5
b =	+25 2406	11	36	13.6	+25	10.8	−67.2	= 11	35	7.1	+26.3	= +25	37.1
Q =	+26 2251	11	37	8.4	+26	21.2		11	35	5.4		+25	37.4
									−1.6	+1.7		+0.3	−0.3

$\frac{\text{Cos } +26.3}{2}$

Q − b = +54.8

.448

+24.6

	x	y	x	y
a	10.2	118.0	15.2	137.4
b	65.0	20.6	70.0	40.0
n	35.0	73.2	40.0	92.7
	x	x	y	y
n-a	+24.8	n-b −30.0	n-a −44.8	n-b +52.6
	+24.8	−30.0	−44.7	+52.7
	+24.8	−30.0	−44.75	+52.65
	+25.05	−30.30	−45.20	+53.18
	÷ .457	÷ .451	−22.60	+26.59
	+55.6	−67.2		
	✓	✓		

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1909phae.proj.2301B

see page 214 for measurement of this net.
~~Idea for orientation this each purely selected~~
practically same results obtained from ~~this~~ meas.
~~of~~ that on page 214.

A8261 No. 254 Sept. 9, 1909.

					1900 pos	11 36 27.5	+ 25 21.5
a =	+ 25 24.01	11 32 35.1	+ 25	19.6	+ 93.9	= 11 34 8.1 + 18.9	= + 25 35.5
b =	+ 26 23.50	11 36 41.1	+ 26	3.3	− 157.3	= 11 34 9.8 − 25.0	= + 25 37.1
c =	+ 25 24.49	11 36 55.9	+ 25	11.5		11 34 6.8	+ 25 36.4
		x			mean pos	11 34 6.2	+ 25 36.4
		c − b = + 14.8				+ 1.3 − 1.4	+ 0.9 − 0.8
		.452				(+ 1.9 − 0.8)	(− 0.9 + 0.9)
		+ 6.7					

	x	y	x	y
a	13.1	28.7	18.0	38.2
b	125.0	110.5	130.0	118.9
n	54.9	60.5	59.9	70.0

	x	x	y	y
n-a	+ 41.8	n-b − 70.1	n-a + 31.8	n-b − 50.0
	+ 41.9	− 70.1	+ 31.8	− 48.9
	+ 41.85	− 70.1	+ 31.8	− 49.95
	+ 42.27	− 70.80	+ 32.12	− 50.45
	÷ .450	÷ .450	+ 16.06	− 25.22
	+ 93.9	− 157.3		

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1909phae.proj.2301B

A8261 No. 255 Sept. 9, 1909.

						1900 pos		11	36	11.8	+ 25	30.7		
a = +25 3403	11	33	40.3	+ 25	37.1	+ 11.2	=	11	33	51.5	+ 8.7	= + 25	45.8	
b = +26 2247	11	34	8.8	+ 26	0.1	− 19.3	=	11	33	49.5	− 14.7	= + 25	45.2	
c = +26 2251	11	37	8.4	+ 26	21.2			11	33	50.5		+ 25	45.5	
		x												
	c − a = +208.1							+ 0.9	− 0.9			+ 0.1	− 0.2	
Cos + 26.3 / 2	.448													
	+ 93.2													

	x	y	x	y
a	25.0	21.0	30.0	30.5
b	38.6	67.7	43.6	79.4
n	30.0	38.2	35.0	47.8
	x	x	y	y
n − a	+ 5.0	n − b − 8.6	n − a + 17.2	n − b − 29.5
	+ 5.0	− 8.6	+ 17.3	− 29.6
	+ 5.0	− 8.6	+ 17.25	− 29.55
	+ 5.05	− 8.69	+ 17.42	− 29.85
	÷ .450	÷ .450	+ 8.71	− 14.92
	+ 11.2	− 19.3		
	/	/		

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1909phae.proj.2301B

A8261 — No. 256 Sept. 9, 1909.

						1900 pos.	11 35 55.3		+25 23.0	
a =	+26 22 41	11 31 55.3	+26	6.7	+99.6	= 11 33 37.9	−29.2	= +26	37.5	a
b =	+25 24 03	11 33 40.3	+25	37.1	−6.3	= 11 33 34.1	+0.9	= +25	38.0	b
c =	+26 22 51	11 37 8.4	+26	21.2		11 33 34.0		+25	37.8	c
		e − b = +208.1				−0.1	+0.1		−0.1	+0.1
		.448								
		+93.2								

cos +26.3

	x	y	x	y
a	12.8	76.2	17.8	84.6
b	60.0	16.5	65.0	24.9
η	57.2	18.3	62.2	26.8

	x	x	y	y
n-a	+44.4 n-b	−2.8 n-a	−57.9 n-b	+1.8
	+44.4	−2.8	−57.8	+1.9
	+44.4	−2.8	−57.85	+1.85
	+44.84	−2.83	−58.43	+1.87
	÷.450	÷.450	−29.22	+0.94
	+99.6	−6.3		

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1900phae.proj.2301B

A 8261 No. 257 Sept. 9, 1909.

			1900 pos	11 35	0.9	+ 25	15.8	
a = +26 2341	11 31	55.3	+26	6.7	+44.7	= 11 32	39.6	− 36.2 = +25 30.5
b = +25 2402	11 32	43.1	+25	26.1	− 3.6	= 11 32	39.5	+ 4.8 = +25 30.9
c = +26 2251	11 37	8.4	+26	21.2		11 32	39.8	+25 30.7

x

Cor +26.3 / 2

c − b = +265.3

448

+118.8

0.0 −0.1 −0.2 +0.2

	x	y	x	y
a	8.5	87.7	13.5	97.1
b	30.0	5.7	35.0	17.9
m	28.4	15.3	33.4	24.5

x	x	y	y
m−a +19.9	m−b −1.6	m−a −72.4	m−b +9.6
+19.9	−1.6	−72.6	+9.6
+19.9	−1.6	−72.5	+9.6
+20.60	−1.62	−73.22	+9.70
÷.450	÷.450	−36.61	+4.85
+44.7	−3.6		
✓	✓		

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1909phae.proj.2301B

A 8261 No. 258 Sept. 9, 1909

1900 for 12 1 39.6 +25 9.8

a	+25 24 56	11 57 33.3	+25 2.2	+109.2	= 11 59 23.5	+25 25.4
b	+25 24 63	12 0 52.9	+25 43.4	−92.4	= 11 59 20.5	+25 24.6
c	+25 24 53	11 56 19.4	+25 55.0		11 59 21.5	+25 24.9
		×				
		c − a = −73.9			0.0 0.0	+0.3 −0.3
		.450				
		−33.2				

(c₀₀ + 25.9)/2

	x	y	x	y
a	80.0	6.0	70.0	12.0
b	170.2	89.5	160.2	95.5
n	128.8	51.9	118.9	58.0
	x	x	y	y
n−a	+48.8	n−b −41.4	n−a +45.9	n−b −37.6
	+48.9	−41.3	+46.0	−37.5
	+48.85	−41.35	+45.95	−37.55
	+49.34	−41.76	+46.41	−37.93
	÷.452	÷.452	+23.20	−18.96
	+109.2	−92.4		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 259 Sept. 9, 1909

						1900 fro	12	0	44.2	+24	54.9
a = +25 3456	11	57	33.3	+25	2.2	+53.6	= 11	58	26.4	+8.0	= +25 10.1
b = +25 3465	12	1	8.2	+25	36.4	−164.2	= 11	58	34.0	−26.5	= +25 9.6
c = +25 3453	11	56	19.4	+25	55.0			11	58	25.4	+25 10.0
											9.9

$\frac{\cos + 25.9}{2}$

c − a = −73.9

.450

−33.2

+0.4 −0.4 +0.1 −0.1

	x	y	x	y
a	80.0	6.0	70.0	12.0
b	177.5	75.0	164.2	81.1
n	104.0	21.8	94.0	28.0

	x	x	y	y
n−a	+24.0	n−b −73.5	n−a +15.8	n−b −53.2
	+24.0	−73.5	+16.0	−53.1
	+24.0	−73.5	+15.9	−53.15
	+24.24	−74.24	+16.06	−53.68
	÷.452	÷.452	+8.03	−26.84
	+53.6	−164.2		
	✓	✓		

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1909phae.proj.2301B

No. 260 is rejected.

A 8261 No. 260 Sept. 9, 1909

(This neb. obj. is not recorded in Prof. Bailey's record book [illegible] "R" - "prob. a defect" - Howeve it was not crossed out on plate - hence this preparation for measr. see record B. # [illegible]. of Prof. Bailey's — Obj. not visible

a.	+25	3443	11	50	39.2	+25 17.6
b.	+25	3446	11	52	41.4	+25 16.5
c.	+25	3442	11	50	37.3	+25 57.4

x

c − a = − 1.9

.450

−0.8

Cos +25.9

	x	y	x	y
a	45.0	17.5		
b	101.2	9.1		
η				

x	x	y	y
η − a	m − b	n − a	m − b

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1909phae.proj.2301B

A 8261 No. 261 Sept. 9, 1909

						1900 pos	11	53	18.0	+25	4.4			
a = +25 2437	11	49	7.3	+25	21.7	+ 11 2.8	= 11	49	57.5	− 2.6	= +25	19.1		
b = +25 2449	11	55	16.7	+25	15.2	− 6 0.8	= 11	50	55.9	+ 4.5	= +25	19.7		
c = +26 2488	11	55	20.8	+26	8.0		11	50	58.5		+25	19.4		
							−0.3	+0.3			−0.3	+0.3		

c−b = + 4.1

.449

+ 1.8

c₀₀ +26.1 / 2

	x	y	x	y
a	8.3	24.6	13.2	30.8
b	175.0	10.5	180.0	16.8
η	58.4	19.5	63.4	25.7

	x	x	y	y
η-a	+ 50.1	η-b − 116.6	η-a − 5.1	η-b + 9.0
	+ 50.2	− 116.6	− 5.1	+ 8.9
	+ 50.15	− 116.6	− 5.1	+ 8.95
	+ 50.65	− 117.76	− 5.15	+ 8.04
	÷ .452	÷ .452	− 2.58	+ 4.52
	+ 112.0	− 260.5		
	✓	✓		

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1909phae.proj.2301B

A 8261 No. 262 Sept. 9, 1909.

						1900 pos	11 51 32.3	+ 25 11.8		
a =	+ 25 24.32	11	47	41.4	+ 25 30.6	+ 9.1 (0.7)	= 11 49 13.9 (2.1)	− 4.2	= + 25 26.4	
b =	+ 25 24.40	11	49	49.4	+ 25 25.1	− 36.4	= 11 49 13.0 (4)	+ 2.2	= + 25 27.3	
c =	+ 26 23.68	11	47	31.7	+ 26 34.6		11 49 13.9 (2.8)		+ 25 26.8	

c − a = − 9.7

.447

− 4.3

−0.7 +0.6 −0.4 +0.5

c₀₀ + 26.6

	x	y	x	y
a	25.0	48.6	30.0	56.9
b	82.3	35.8	87.3	44.3
η	66.0	40.1	71.0	48.6

	x	x	y	y
η − a	+ 41.0	η − b − 16.3	η − a − 8.5	η − b + 4.3
	+ 41.0	− 16.3	− 8.5	+ 4.3
	+ 41.0	− 16.3	− 8.4	+ 4.3
	+ 41.41	− 16.46	− 8.48	+ 4.34
	÷ .452	÷ .452	− 4.24	+ 2.17
	+ 91.6	− 36.4		
	✓	✓		

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1909phae.proj.2301B

A 8261 No. 263 Sept. 9, 1909.

								1900 pos	11	51	19.7	+ 25	14.5				
a = + 25	24	31	11	47	6.8	+ 25	39.2	+ 11.5	3.9 X	= 11	49	0.7 X	- 9.5	= + 25	29.7		
b = + 25	34	40	11	49	49.4	+ 25	25.1	- 59.5	49.8	= 11	48	59.6 X	+ 4.2	= + 25	29.3		
c = + 26	32	68	11	47	31.7	+ 26	34.6			11	49.	0.3		+ 25	29.5		
					X												
			c - a = + 24.9							+ 0.5	- 0.6			+ 0.2	- 0.2		
Cor + 26.6 / 2				.447													
				+ 11.1													

	x	y	x	y
a	20.0	71.6	25.0	76.9
b	93.9	44.5	98.8	48.5
η	71.4	52.6	76.4	56.9

	x	x	y	y
η-a	+ 51.4 η-b	- 22.5 η-a	- 19.0 η-b	+ 8.4
	+ 51.4	- 22.4	- 19.0	+ 8.4
	+ 51.4	- 22.45	- 19.0	+ 8.4
	+ 51.91	- 22.67	- 19.19	+ 8.48
	÷ .451	÷ .451	- 9.595	+ 4.24
	+ 115.1	- 50.3		
	✓	✓		

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1909phae.proj.2301B

A 8461 No. 264 Sept. 9, 1909.

								1900 pos	11	57	21.1	+	25	8.6
a	+ 25	24	34	11	48	32.2	+ 25	7.6	+ 39.8	= 11	49	2.4	+ 15.6	= + 25	23.0
b	+ 25	24	38	11	49	19.7	+ 25	32.0	− 18.6	= 11	49	1.3	− 7.9	= + 25	24.1
c	+ 26	22	71	11	48	32.5	+ 26	18.1		11	49	1.8		+ 25	23.6
						x									
				c − a =		+ 10.3				+ 0.4		− 0.3		− 0.6	+ 0.5

$\frac{000 + 26.3}{2}$

448

+ 4.6

	x	y	x	y
a	30.0	10.8	35.0	28.4
b	56.4	57.6	61.3	70.2
n	48.0	41.6	53.0	54.4

	x	x	y	y
n-a	+ 18.0	n-b − 8.4	n-a + 30.8	n-b − 16.0
	+ 18.0	− 8.3	+ 31.0	− 15.8
	+ 18.0	− 8.35	+ 30.9	− 15.9
	+ 18.18	− 8.43	+ 31.21	− 16.06
	÷ .452	÷ .452	+ 15.60	− 8.03
	+ 40.2	− 18.6		
	✓	✓		

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1909phae.proj.2301B

A 8261 No. 265 Sept. 9, 1909.

							1900 fam	11	51	18.3	+25	5	8	
a =	+25	3434	11	48	22.2	+25	7.6	+37.4	= 11	48	59.6	+17.8	= +25°	20.4
b =	+25	3438	11	49	19.7	+25	32.0	−21.5	= 11	48	58.2	−10.8	= +25°	21.2
c =	+26	2271	11	48	32.5	+26	18.1		11	48	58.8		+25°	20.8
									+0.4		−0.4		−0.5	+0.5

c-a = +10.3

.448

+4.6

c = +26.3

	x	y	x	y
a	30.0	10.8	35.0	28.4
b	56.4	57.6	61.3	70.2
n	46.7	36.2	51.8	49.9
	x	x	y	y
n-a	+16.7	n-b −9.7	n-a +25.4	n-b −21.4
	+16.8	−9.5	+25.5	−21.3
	+16.75	−9.6	+25.45	−21.35
	+16.92	−9.70	+25.70	−21.56
	÷.452	÷.452	+12.85	−10.78
	+37.4	−21.5		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 266 Sept. 9, 1909.

						1900 pos	11	50	58.6	+24	57.0
a	+25	2434	11	48	22.2	+25 7.6	+16.9	= 11	48	38.9	− 4.2 = +25 11.8
b	+25	2437	11	49	7.3	+25 21.7	−28.3	= 11	48	39.3	− 9.6 = +25 12.1
C	+26	2271	11	48	32.5	+26 18.1			11	48	39.1 +25 12.0

C − a = +10.3

C00 + 26.3 / 2

.448

+4.6

−0.2 +0.2 −0.2 +0.1

	x	y	x	y
a	400	15.6	45.0	23.9
b	60.2	43.2	65.2	55.6
n	44.5	34.0	53.6	36.3

	x	x	y	y
n-a	+ 7.5	n-b − 12.7	n-a + 8.4	n-b − 19.2
	+ 7.6	− 12.6	+ 8.4	− 19.3
	+ 7.55	− 12.65	+ 8.4	− 19.25
	+ 7.63	− 12.78	+ 8.48	− 19.44
	÷ .452	÷ .452	+ 4.24	− 9.72
	+ 16.9	− 28.3		
	✓	✓		

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1909phae.proj.2301B

A8261 No. 267 Sept. 9, 1909.

1900 pos 11 38 30.2 + 24 54.0

a. +25 2405	11 35 41.4	+25	27.2	+28.4	= 11 36 9.8	−18.1	= +25	9.7
b = +25 2406	11 36 13.6	+25	10.8	−5.4	= 11 36 8.2	+2.1	= +25	8.7
c = +26 2351	11 37 8.4	+26	21.2		11 36 8.9		+25°	9.6
	x							
	c − b = +548				+0.7 −0.6		+0.3 −0.3	
cos +26.3 / 2	.448							
	+24.6							

	x	y	x	y
a	24.9	54.2	29.9	64.9
b	40.0	14.2	45.0	24.9
η	37.6	18.4	42.6	29.1

	x	x	y	y
η−a	+12.7	−24	−35.8	+42
η−b	+12.7	−24	−35.8	+42
	+12.8	−2.42	−36.16	+4.24
	÷.452	÷.452	−18.08	+2.12
	+28.4	−5.4		

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1909phae.proj.2301B

See pgs. 150 & 151 for meas. of this net.

A 8361 No 245 Sept. 9, 1909.

a =	+25 6 22.65	11	45	41.4	+26	24.7	+145.9 4.4	= 11	48	5.8	− 41.9 5	= +25°	43.8 3.2
b =	+25 24.35	11	48	42.7	+25	34.1	− 33.2 2.9	= 11	48	9.8	+ 8.9 6	= +25°	43.8 7
c =	+26 32.71	11	48	32.5	+26	18.1		11	48	8.4		+25°	43.8
										7.8			43.0
		x											
		c − b = − 10.2						− 2.0		+2.0		+0.2	−0.3
		.448											
		− 4.6											

$\frac{\text{Coo } +26.3}{2}$

	x	y	x	y
a	40.4	136.8	45.4	142.2
b	120.0	35.6	125.0	41.9
n	105.3	52.8	110.2	59.1

	x	x	y	y
n-a	+64.9	n-b − 14.7	n-a − 83.0	n-b + 17.2
	+64.8	− 14.8	− 83.1	+ 17.2
	+64.85	− 14.75	− 83.05	+ 17.2
	+65.50	− 14.90	− 83.88	+ 17.37
	÷ .449	÷ .449	− 41.94	+ 8.68
	+145.9	− 33.2		
	✓	✓		

See sheet; sheets See p. 150

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1909phae.proj.2301B

Pur clear work –

A 8261 Nos 245 + 246

Measure. Using close stars. Whose Cat. Stars.

+25° 2436 + +25° 2430 · No. pre. comb.

Cat for a. fold. +25° 2430. North pre. comp. $11^h\ 46^m\ 39.^s1$

$+25^\circ\ 29'.9$

+25° 2436 $11^h\ 49\ 0.^s5$

$+25^\circ\ 47'.7$

35.6 d.

mounting in dec. by above stars.

	α		δ	
a +25° 2436	~~89.4~~ ~~25.7~~	79.9	95'.6	85'.6
b +25° 2430	25.7	16.3	60.0	50.0
n neb. 245	68.3	58.8	87.4	77.4
n' neb 246	63.2	53.7	90.3	80.3

neb 245

α			δ		
n – a	–21.1	n – b +42.6	n – a	–8.2	n – b +27.4
	–21.1	+42.5		–8.2	+27.4
	–21.10	+42.55		–8.20	+27.40
	÷.45			–4.10	+13.7
	$-46.^s9$	$+94.^s6$			

2436 +25° 43.6

+25° 2430 2430 +25° 43.6

+25° 2436 $11^h\ 48^m\ 13.^s6$ 13.6.

+25° 2430 11 48 13.7 mean

neb. 246

n' – a	–26.2	n' – b +37.4	n' – a	–5.3	n' – b +30.3
	–26.2	37.5		–5.3	+30.3
	–26.20	+37.45		–5.3	30.3
	÷.45	÷.45		–2.6	+15.2
	$-58.^s2$	$+83.^s2$			

a. $11^h\ 48^m\ 2.^s3$ a +25° 45'.1

b 11 48 2.3 b +25° 45.1

00,00 00.00

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1909phae.proj.2301B

A 8261 No. 346 Sept. 9, 1909.

							1900 pos	11	50	5.5	+ 25	29.2		
a	+26 3761	11	44	35.4	+26	31.9	+188.8	= 11	47	44.3	− 48.8	= +25	45.4	4.1
b	+35 3435	11	48	42.7	+25	34.1	−55.6	= 11	47	47.7	+10.2	= +25	44.3	
c	+26 2271	11	48	32.5	+26	18.1		11	47	46.8		+25	44.2	
				×										
				c − b = −10.2						−1.7	+1.7		−0.1	+0.1
				448										
				−4.6										

$\frac{c+a}{2} = +26.3$

	x	y	x	y
a	10.5	151.7	15.5	157.9
b	120.0	35.6	125.0	41.9
n	95.3	55.9	100.3	62.3
	x	x	y	y
n−a	+84.8	n−b −24.7	n−a −95.8	n−b +20.3
	+84.8	−24.7	−95.6	+20.4
	+84.8	−24.7	−95.7	+20.35
	+85.65	−24.95	−96.66	+20.55
	÷ 449	÷ 449	−48.33	+10.28
	+190.8	−55.6		
	✓	✓		

See obs-sheet.

See

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1909phae.proj.2301B

See page 73 this book for original meas. ✓

A 8261 No. 170 Sept. 9, 1909

1900 pos 12 2 3.6 +26 11.7

a = +26 3298	11 58 2.1	+26	6.6	+104.2 =	11 59 45.3	+26 26.8
b = +26 3309	12 1 20.3	+26	45.9	−106.5 =	11 59 45.8	−19.2 = +26 26.9
c = +26 3289	11 55 54.4	+26	49.1		11 59 45.6	+26 26.8

mean pos 11 59 45.4 +26 26.8

+0.2 −0.2 0.0 +0.1

(−0.1 −0.5) (0.0 +0.1)

x

c − a = − 127.7

.446

− 57.0

cos +26.8 / 2

	x	y	x	y
a	80.0	19.3	90.0	29.0
b	133.4	97.7	183.5	107.6
n	126.2	59.8	136.2	69.5

x	x	y	y
n − a + 46.2	n − b − 47.2	n − a + 40.5	n − b − 37.9
+ 46.2	− 47.3	+ 40.5	− 38.1
+ 46.2	− 47.25	+ 40.5	− 38.0
+ 46.66	− 47.72	+ 40.90	− 38.38
÷ .448	÷ .448	+ 20.45	− 19.19
+ 104.2	− 106.5		
✓	✓		

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1909phae.proj.2301B

A8261 Star +27° 2061 Sept. 9, 1909.

a. +27 2056	11 39 30.3	+27	44.3	+141.0	= 11 41 49.5	+8.9	= +27 53.2	
b. +28 2055	11 45 46.6	+28	5.1	−238.9	= 11 41 50.1	−13.6	= +27 51.5	
c. +28 2056	11 45 30.6	+28	12.1		11 41 49.5		+27 52.4	
					50.0			
	c − b = −16.0				−0.1 +0.1		+0.8 −0.8	
	−15.8							
	2.6							
Cos +28.8 / 2	−7.9							

	x	y	x	y
a	8.8	74.6	13.7	80.8
b	175.0	119.2	180.0	125.6
η	70.6	92.3	75.4	98.6
	x	x	y	y
	η−a + 61.7	η−b − 104.6	η−a + 17.7	η−b − 26.9
	+ 61.7	− 104.6	+ 17.8	− 27.0
	+61.7	−104.55	+ 17.75	− 26.95
	+62.32	−105.59	+ 17.93	−27.22
	÷ .442	÷ .442	+ 8.96	−13.61
	+141.0	−238.9		
	✓	✓		

See Neb. # 115 page 11 this book for explanation of above meas. of star +27° 2061

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1909phae.proj.2301B

See Bd. 7 pg. 106 for original meas. of this neb.

A 8261 No. 8 Sept. 20, 1909. and Dec. 6, 1909

1900 pos 11 58 14.8 + 29 58.5

a = +30 2212	11	54	19.3	+30	21.4	+ 98.1	= 11	55	57.4	− 7.7	= +30	13.7		a
b +30 2220	11	58	24.2	+30	3.5	− 151.4	= 11	55	57.8	+ 9.8	= +30	13.4		b
c = +29 2252	11	58	6.3	+29	19.4									c
d = +29 2251	11	55	52.7	+29	55.9	+ 3.0	= 11	55	55.7	+ 18.1	= +30	13.8		d
e = +30 2217	11	56	8.3	+30	29.0	− 12.0	= 11	55	56.8	− 15.7	= +30	13.3		e
								11	55	55.8		+30	13.6	

a − b = − 17.9

Cor + 29.3 / 2

.436

− 7.8

+0.7 −0.4 −0.0 +0.7 +0.2 −0.3 +0.2 −0.1

mean for = 11 55 55.8 +30 13.6

(+0.6 −0.5) −0.1 +0.6) (+0.2 −0.3 +0.2 −0.1)

	x	y	x	y
a	8.3	148.3	13.3	159.8
b	115.0	113.5	120.0	135.0
n	50.2	133.0	55.3	144.7
d				
c	48.9	97.2	54.0	108.7
e	55.4	164.2	60.4	175.6

+29 2251
+28 2217

	x	x	x	x
n−a	+ 41.9	n−b − 64.8	n−d + 1.3	n−e − 5.2
	+ 42.0	− 64.7	+ 1.3	− 5.1
	+ 41.95	− 64.75	+ 1.3	− 5.15
	+ 42.37	− 65.40	+ 1.31	− 5.20
	÷ .432	÷ .432	÷ .432	÷ .432
	+ 98.1	− 151.4	+ 3.0	− 12.0

	y	y	y	y
n−a	− 15.3	n−b + 19.5	n−d + 35.8	n−e − 31.2
	− 15.45	+ 19.70	+ 36.08	− 31.59
	− 15.2	+ 19.6	+ 35.9	− 31.05
	− 15.35	+ 19.80	+ 36.26	− 31.36
	− 7.68	+ 9.90	+ 18.13	− 15.68

57.2 + 1.4
55.0 − 8
56.4 + 6
54.3 − 15
55.7 − 1
56.4 + 6
35.0 − 24

55 55.8

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1909phae.proj.2301B

See B1.7 pg. 115 for original meas. of this neb.

A8261 No. 16 Sept. 20, 1909 and Dec. 6, 1909.

						1900 pos	11	48	32.5	+ 29	48.7		
a = + 30 2194	11	42	2.4	+ 30	18.3	+ 253.1	= 11	46	13.5	− 14.8	= + 30	3.7	
b = + 29 2352	11	48	35.1	+ 29	55.3	− 145.9	= 11	46	8.7	+ 8.6	= + 30	3.8	
c = + 29 2231	11	48	22.8	+ 29	14.7								
d = + 29 2227	11	45	51.5	+ 29	57.7	+ 20.2	= 11	46	11.8	+ 6.4	= + 30	4.2	
e = + 30 2206	11	46	2.4	+ 30	7.6	+ 11.0	= 11	46	13.4	− 4.1	= + 30	3.4	
									12.4			3.7	
						mean pos	11	46	12.1		+ 30	3.7	
							+ 0.9	− 0.4	− 0.6	+ 1.2	0.0	+ 0.1	+ 0.3 − 0.3

c − b = − 12.3

Cos + 29.2 / 2

.436

− 5.4

		x	y	x	y
	a	40	128.9	8.9	128.5
	b	175.0	87.6	180.0	87.0
	n	112.5	99.6	117.4	99.1
+ 29 2227	d	103.8	87.0	108.8	86.5
+ 30 2200	e	107.7	107.9	112.8	107.4

11 46

13.5 + 14
10.8 − 13
13.0 + 9
10.7 − 14
11.5 − 6
13.3 + 12
12.4 3.3 −3.3

12.1

46

11

	x	x	x	x
n − a	+ 108.5	n − b − 62.5	n − d + 8.7	n − e + 48
	+ 108.5	− 62.6	+ 8.6	+ 4.6
	+ 108.5	− 62.55	+ 8.65	+ 4.7
	+ 109.58	− 63.18	+ 8.74	+ 4.75
	÷ .433	÷ 433	÷ .433	÷ .433
	+ 253.1	− 145.9	+ 20.2	+ 11.0
	y	y	y	y
n − a	− 29.3	n − b + 17.0	n − d + 12.6	n − e − 8.3
	− 29.4	+ 17.1	+ 12.6	− 8.3
	− 29.35	+ 17.05	+ 12.6	− 8.3
	− 29.64	+ 17.22	+ 12.73	− 8.38
	− 14.82	+ 8.61	+ 6.36	− 4.19

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1909phae.proj.2301B

See B.f.7 pg-134 for original meas. of this Neb.

A8261 No. 22 Sept. 20, 1909 & Dec. 6, 1909.

					1900 prec	11 57 38.5	+ 29 32.5	
a	+ 29 2242	11 51 46.3	+ 29 33.6	+ 215.7	=	11 55 19.8	+ 6.9	= + 29 39.5
b	+ 29 2254	11 58 31.2	+ 29 46.3	− 194.4	=	11 55 18.8	− 7.5	= + 29 38.8
c	+ 28 2068	11 52 30.8	+ 28 55.6					
d	+ 29 2246	11 53 46.6	+ 29 33.6	+ 92.3	=	11 55 18.8	+ 6.1	= + 29 39.8
e	+ 29 2250	11 55 30.4	+ 29 50.0	− 28.2	=	11 55 23.1	− 9.1	= + 29 41.1
						11 55 19.8		+ 29° 39.8

c-a = + 44.5

Coo + 28.9 / 2

.438

+ 19.5

0.0 − 1.1 − 1.8 + 2.7 | −0.3 + 0.9 − 0.1 + 1.2

mean prec 11 55 19.5 | + 29 39.6

(+0.3 − 0.8 − 1.5 + 3.0) (−0.1 − 0.7 + 0.1 + 1.4)

		x	y	x	y
	a	10.0	81.4	5.0	86.0
	b	185.3	108.1	181.3	112.5
	n	102.7	93.2	97.7	97.8
+29 2246	d	63.1	80.9	58.0	85.6
+29 2250	e	114.8	111.2	109.8	115.8

for corr − Sa. See Decl.

	x	x	x	x
n-a	+ 92.7	n-b − 83.6	n-d + 39.6	n-e − 12.1
	+ 92.7	− 83.5	+ 39.7	− 12.1
	+ 92.7	− 83.55	+ 39.65	− 12.1
	+ 93.63	− 84.39	+ 40.05	− 12.22
	÷ .434	÷ .434	÷ .434	÷ .434
	+ 215.7	− 194.4	+ 92.3	− 28.2

	y	y	y	y
n-a	+ 11.8	n-b − 14.9	n-d + 12.3	n-e − 18.0
	+ 11.8	− 14.7	+ 12.2	− 18.0
	+ 11.8	− 14.8	+ 12.25	− 18.0
	+ 11.92	− 14.95	+ 12.37	− 18.18
	+ 5.96	− 7.48	+ 6.18	− 9.09

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1909phae.proj.2301B

See Bk. 7, pg. 136 for original meas. of this neb.

A 8261 No. 35 Sept. 20, 1909. & Dec. 6, 1909.

						1900 pos	11 57	19.7	+ 29	3.4
a = +29 2242	11 51 46.3	+ 29	33.6	+ 19.8	=	11 55	1.1	− 15.5	= + 29	18.8
b = +29 2253	11 58 11.6	+ 29	5.7	− 19.8	=	11 54	59.7	+ 12.3	= + 29	18.0
c = +28 2068	11 52 30.8	+ 28	55.6	+ 19.8	=	11 55	1.4	− 3.8	= + 29	19.1
d = +29 2243	11 52 22.9	+ 29	22.9							
e = +29 2252	11 58 6.3	+ 29	19.4	− 18.8	=	11 55	1.4	− 0.2	= + 29	19.2
						11 55	0.8		+ 29	18.8

c − a = + 44.5

$\frac{c+a}{2}$ + 28.9

.438

+ 19.5

+0.2 −1.2 +0.5 +0.5 −0.5 −0.6 +0.5 +0.6

mean pos 11 55 0.7 + 29 18.4

(+0.4 −1.0 +0.7 +0.7) (−0.3 −0.4 +0.7 +0.8)

		x	y	x	y
	a	10.0	104.5	15.0	116.0
	b	178.6	48.7	183.6	60.5
	η	94.9	73.5	100.0	85.0
+29 2243	d	35.8	80.9	30.9	92.5
+29 2252	e	175.6	73.7	180.6	85.5

	x	x	x	x
η − a	+ 84.9	η − b − 83.7	η − d + 69.1	η − e − 80.7
	+ 85.0	− 83.6	+ 69.1	− 80.6
	+ 84.95	− 83.65	+ 69.1	− 80.65
	+ 85.80	− 84.49	+ 69.79	− 81.46
	÷ .436	÷ .436	÷ .436	÷ .436
	+ 196.8	− 193.8	+ 160.1	− 186.8

	y	y	y	y
η − a	− 31.0	η − b + 24.8	η − d − 7.4	η − e − 0.2
	− 31.0	+ 24.5	− 7.5	− 0.4
	− 31.0	+ 24.65	− 7.45	− 0.3
	− 31.31	+ 24.90	− 7.52	− 0.3
	− 15.66	+ 12.45	− 3.76	− 0.15

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1909phae.proj.2301B

See B.S.7. pg. 137 for original means of this nebula

A8261 No. 36 Sept. 20, 1909 and Dec. 6, 1909.

					1900 pos	11 57 8.4	+ 29 3.4	
a	+ 29 2242	11 51 46.3	+ 29	33.6	+ 185.3	11 54 49.8 − 15.5	+ 29 18.1	a
b	+ 29 2253	11 58 11.6	+ 29	5.7	− 205.2	11 54 42.4 + 12.3	+ 29 18.0	b
c	+ 28 2068	11 52 30.8	+ 28	55.6				c
d	+ 29 2243	11 53 22.9	+ 29	22.9	+ 148.6	11 54 50.0 − 3.8	+ 29 19.1	d
e	+ 29 2252	11 58.8 6.5	+ 29	19.4	− 198.3	11 54 50.0 − 0.2	+ 29 19.2	e
						11 54 49.8	+ 29 18.6	

c − a = + 44.5

Coo + 28.9 / 2

.438

+ 19.5

0.0 − 1.4 + 0.2 + 0.2 | −0.5 − 0.6 + 0.5 + 0.6

mean 1900 11 54 49.4 + 29 18.4

(+0.4 − 1.0 + 0.6 + 0.6) (−0.3 − 0.4 + 0.7 + 0.8)

		x	y	x	y
	a	10.0	104.5	15.0	116.0
	b	178.6	48.7	183.6	60.5
	n	90.0	73.4	95.0	84.9
+ 29 2243	d	35.8	80.9	30.9	92.5
+ 29 2252	e	175.6	73.7	180.6	85.5

	x	x	x	x
n − a	+ 80.0	n − b − 88.6	n − d + 64.2	n − e − 85.6
	+ 80.0	− 88.6	+ 64.1	− 85.6
	+ 80.0	− 88.6	+ 64.15	− 85.6
	+ 80.80	− 89.49	+ 64.79	− 86.46
	÷ .436	÷ .436	÷ .436	÷ .436
	+ 185.3	− 205.2	+ 148.6	− 198.3

	y	y	y	y
n − a	− 31.1	n − b + 24.4	n − d − 7.5	n − e − 0.4
	− 31.1	+ 24.5	− 7.6	− 0.5
	− 31.1	+ 24.6	− 7.55	− 0.45
	− 31.41	+ 24.85	− 7.63	− 0.45
	− 15.70	+ 12.42	− 3.82	− 0.22

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1909phae.proj.2301B

Duplicate
at B.7 pg. 173.

A 8261 No. 63 Sept. 21, 1909. & Dec 6, 1909.

a =	+ 29	2214	11	40	53.3	+ 29	13.6	+ 22.5	=	11	44	37.8	− 18.2	=	+ 28	55.6			
b =	+ 28	2058	11	46	31.4	+ 28	45.9	− 20.4	=	11	44	31.0	+ 9.5	=	+ 28	55.4			
c =	+ 28	2056	11	45	48.6	+ 28	11.3												
d =	+ 29	2050	11	43	55	+ 29	53.8	+ 82.8	=	11	44	33.9	+ 1.2	=	+ 28	55.0			
e =	+ 29	2052	11	45	58	+ 29	59.9	− 42.5	=	11	44	31.4	− 4.7	=	+ 28	54.0			
								41.9											
										11	44	33.7			+ 28	55.1			
			c − b =		− 47.8														
					.441														
					− 18.9														

Cor +28.2 / 2

+0.9 −0.9 +0.3 −0.4 +0.5 −0.3 −0.1 −0.1

		x	y	x	y
	a	6.5	126.6	11.4	124.7
	b	155.0	72.9	160.0	70.9
	η	103.2	90.6	108.1	88.8
+ 29	2050	67.5	88.2	72.5	86.1
+ 29	2052	121.4	100.0	176.5	97.9

	x	x	x	x
n−a	+ 96.7	n−b − 51.8	n−d + 35.7	n−e − 18.2
	+ 96.7	− 51.9	+ 35.6	− 18.4
	+ 96.7	− 51.85	+ 35.65	− 18.3
	+ 97.67	− 52.37	+ 36.01	− 18.48
	÷ .435	÷ .435	÷ .435	÷ .435
	+ 224.5	− 120.4	+ 82.8	− 42.5
	y	y	y	y
n−a	× 36.0	n−b + 17.7	n−d + 2.4	n−e − 9.4
	− 35.9	+ 17.9	+ 2.7	− 9.1
	− 35.95	+ 17.8	+ 2.55	− 9.25
	− 36.31	+ 18.98	+ 2.57	− 9.34
	− 18.16	+ 9.49	+ 1.24	− 4.67

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1909phae.proj.2301B

See Bff. 7 pg. 179 for original meas. of this neb. ✓

A 8261 No. 69 Sept. 21, 1909 and Dec. 6, 1909

1900 pos 12 1 21.6 + 28 30.2

a = +28 2076	11 58 ~~32.8~~ 7.0	+28 58.3	+28.2	11 59	0.0 − 12.8	= +28	46.2
b = +28 2080	11 59 55.3	+28 20.2	−50.6	11 59	5.2 + 25.8	= +28	45.8
c = +29 2254	11 58 31.2	+29 46.3					
d = +29 2253	11 58 ~~17.6~~ 21.6	+29 57.7	+51.9	11 59	3.5 − 21.0	= +28	44.7
e = +28 2079	11 59 ~~34.5~~ 34.4	+28 36.2	−29.0	11 59	6.6 + 9.4	= +28	45.6
				11 59	3.4	+28	45.3

c − a = − 1.6

Corr + 29.8 / 2

434

− 0.7

−2.9 + 1.6 − 0.6 + 2.8 +0.5 −0.2 −0.6 +0.2

mean pos 11 59 3.4 + 28 45.3

(−2.7 + 1.8 − 0.4 + 3.3) (+0.5 −0.2 −0.6 +0.2)

		x	y	x	y
a		55.0	69.5	60.0	86.9
b		89.2	2.7	94.2	12.4
n		67.2	52.5	72.3	62.1
d					
+29 2253	c	44.7	94.5	49.8	104.0
+28 2079	e	79.8	33.8	84.8	43.5
		x	x	x	x
n−a	+12.2	n−b −22.0	n−d +22.5	n−e −12.6	
	+12.3	−21.9	+22.5	−12.5	
	+12.25	−21.95	+22.5	−12.55	
	+12.37	−22.17	+22.72	−12.67	
	÷.438	÷.438	÷.438	÷.438	
	+28.2	−50.6	+51.9	−29.0	
	y	y	y	y	
n−a	−25.0	n−b +49.8	n−d −42.0	n−e +18.7	
	−24.8	+49.7	−41.9	+18.6	
	−24.9	+49.75	−41.95	+18.65	
	−25.15	+50.25	−42.37	+18.84	
	÷12.08	+25.12	÷21.18	+9.42	

using cat Sl. as on ~~Aug.~~ Sept. 9, Bk 7 + about ~~1700~~ 1700

4.7 −4
5.5 +4
4.9 −2
5.2 +1
3.9 −1.2
6.6 +1.5
30 8 20−18

11 59 5.1

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1999phae.proj.23018

See B.S.7 pg. 180 for original mean of this neb.

A 8261 No. 70 Sept. 21, 1909 and Dec. 6, 1909.

1900 pos 12 1 14.3 +28 31.1

a = +28 2076	11	58	37.0 33.8	+28	58.3	+20.4	=	11	58	53.1	−11.7	=	+28	46.6
b = +28 2080	11	59	55.3	+28	20.2	−59.1	=	11	58	57.1	+28.9	=	+28	46.2
c = +29 2254	11	58	31.3	+29	46.3									
d = +29 2253	11	58	14.6	+29	5.7	+44.8	=	11	58	55.8	−20.8	=	+28	45.4
e = +28 2079	11	59	34.5	+28	36.2	−36.4	=	11	58	57.8	+10.8	=	+28	46.6
										58.2				
								11	58	56.1			+28	46.2

c − a = −1.6

cor +29.8 / 2

∴ 434

−0.7

−3.0 +1.6 −0.7 +2.1 +0.5 −0.3 −0.6 +0.2

mean pos 11 58 56.1 +28 46.2

(+2.9 +1.7 −0.6 +2.3) (+0.5 −0.3 −0.6 +0.2)

			x	y	x	y
		a	55.0	77.5	60.0	86.9
		b	89.2	2.7	94.2	12.4
		m	63.9	54.4	69.0	63.8
+29	2253	c	44.7	94.5	49.8	104.0
+28	2079	d	79.8	33.8	84.8	43.5

using Cal. pos. for 2076, 2254, 2253 + 2079. + about p. 180, Bk 7, + about

11 58 57.6 −2 58.3 +5 57.4 −4 57.8 0 56.4 −1.4 59.2 +1.4 / 46.7 / 57.8

11 58

	x	x	x	x
m−a +8.9	+ 9.0	+ 8.95	+ 9.04	÷ .438
m−b −25.3	− 25.2	− 25.25	− 25.50	÷ .438
m−d +19.2	+ 19.2	+ 19.2	+ 19.39	÷ .438
m−e −15.9	− 15.8	− 15.85	− 16.01	÷ .438
	+ 20.6	− 58.2	+ 44.3	− 36.6
	y	y	y	y

	y	y	y	y
m−a −23.1	− 23.1	− 23.1	− 23.33	− 11.66
m−b +51.7	+ 51.4	+ 51.55	+ 52.07	+ 26.04
m−d −40.1	− 40.2	− 40.15	− 40.55	− 20.28
m−e +20.6	+ 20.3	+ 20.45	+ 20.65	+ 10.32

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1909phae.proj.2301B

See BK. 7, 191 for original meas. of this neb.

A 8261 — No. 81 Sept. 21, 1909 & Dec. 7, 1909.

			1900 pos	11 52 15.3	+28 25.4
a = +28 2058	11 46 31.4	+28 45.9 (6.2)	+ 205.8 (3.7) =	11 49 57.7 (5.1) − 5.7 (0) =	+28 41.8 (1.2)
b = +28 2065	11 51 31.9	+28 37.8	− 97.0 (6) =	11 49 57.9 (5) + 1.7 (6, 5) =	+28 38.7 (9.4)
c = +28 2064	11 51 4.8	+28 4.2			40.6
d = +28 2062 (6)	11 52 10.7	+28 29.7	− 137.7 (5.7) 44.6 =	11 49 55.6 (50) + 1.9 (0.9) =	+28 39.7
e = +28 2066 (2)	11 49 13.9	+28 52.8	+ 44.2 (44.62) =	11 49 58.5 − 11.4 (3) =	+28 41.5
	c − b = −27.1			11 49 56.0	+28 40.6
cos +28.1 / 2	.441			−0.9 −0.1 −1.0 +2.1	+0.3 −1.2 0.0 +0.9
	−12.0		mean dif	11 49 55.8	+28 40.4
				(−0.7 +0.1 −0.8 + 2.3)	(+0.5 −1.0 +0.2 +1.1)

		x	y	x	y
	a	8.7	106.7	13.7	98.6 (2)
	b	140.0	93.6	145.0	84.9
	n	97.9	96.7	103.0	88.0
+28 2062	d	78.6	119.3	83.6	110.7
+28 2066	e	157.4	74.8	162.4	66.2

x	x	x	x
n−a + 89.2	n−b − 42.1	n−d + 19.3	n−e − 59.5
+ 89.3	− 42.0	+ 19.4	− 59.8 (4)
+ 89.25	− 42.05	+ 19.35	− 59.45
+ 90.14	− 42.47	+ 19.54	− 60.04
÷ .438	÷ .438	÷ .438	÷ .438
+ 205.8	− 97.0	+ 44.6	− 137.1

y	y	y	y
n−a − 10.0	n−b + 3.1	n−d − 22.6	n−e + 21.9
− 10.2	+ 3.1	− 22.7	+ 21.8
− 10.1	+ 3.1	− 22.65	+ 21.85
− 10.20	+ 3.13	− 22.88	+ 22.07
− 5.10	+ 1.56	− 11.44	+ 11.04

our Cat. Slai 2058 1.191 BK 7.
change Dec. + 3 above
+28 40.4 ~~38.8~~
41.2
39.4
40.6
41.5
~~42.2~~

+28 40.4

+28 41.3 +7
39.3 −13
41.2 +6
39.4 −12
40.6 0
41.5 +9
33

+28 40.6 (1, 0)

Correct pos. of 2058 makes results a lift larger.

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1909phae.proj.2301B

See B1.7 pg. 196 for original meas. of this neb.

A 8261 No. 86 Sept. 21, 1909 and Dec. 7, 1909.

							1900 pos.	11	44	46.6	+ 28	29.8		
a =	+ 28	2044	11	39	48.5	+ 28	13.2	+ 157.6	= 11	42	25.1	+ 38.8	= + 28	46.0
b =	+ 28	2050	11	43	12.4	+ 28	53.8	− 46.4	= 11	42	25.5	− 9.6	= + 28	44.2
c =	+ 28	2042	11	39	37.4	+ 28	59.7							
d =	+ 28	2048	11	41	39.8	+ 28	55.9	+ 46.0	= 11	42	25.3	− 10.8	= + 28	45.1
e =	+ 28	2049	11	42	39.6	+ 28	26.3	− 14.8	= 11	42	25.8	+ 17.9	= + 28	43.7
									11	42	25.6		+ 28	44.6

c − a = − 11.1

c₀ + 29.0 / 2

.437

− 4.8

	− 0.7	+ 0.8	+ 0.1	− 0.2
	+ 1.4	− 0.4	+ 0.5	− 1.4

mean pos. 11 42 25.3 + 28 44.8

(− 0.8 + 0.7 0.0 − 0.3) (+ 1.2 − 0.6 + 0.3 − 1.6)

		x	y	x	y
	a	25.0	31.5	30.0	40.0
	b	113.9	116.4	118.9	124.7
	n	93.5	97.1	98.5	105.6
+ 28 2048	d	73.5	118.7	78.5	127.3
+ 28 2049	e	94.9	63.3	105.0	71.7
		x	x	x	x

corrected for i + red. Dec. 44.8 + 28 see sheet

n − a + 68.5 n − b − 20.4 n − d + 20.0 n − e − 6.4

+ 68.5	− 20.4	+ 20.0	− 6.5
+ 68.5	− 20.4	+ 20.0	− 6.45
+ 69.18	− 20.60	+ 20.20	− 6.51
÷ .439	÷ .439	÷ .439	÷ .439
+ 157.6	− 46.9	+ 46.0	− 14.8
y	y	y	y

n − a + 64.6 n − b − 19.3 n − d − 21.6 n − e + 33.8

+ 65.6	− 19.1	− 21.7	+ 33.9
+ 65.6	− 19.2	− 21.65	+ 33.85
+ 66.26	− 19.39	− 21.87	+ 34.19
+ 33.13	− 9.695	− 10.94	+ 17.095

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1909phae.proj.2301B

See B1.7 pg. 200 for original meas. of this net.

A 8261 No. 90 — Sept 21, 1909. and Dec. 7, 1909.

						1909 pos	11	57	5.4	+ 28	18.0		
a = + 28	2070	11	54	32.7	+ 28	34.2	+ 14.3	= 11	54	47.0	− 2.6	= + 28	31.6
b = + 28	2075	11	57	34.4	+ 28	11.1	− 66.2	= 11	54	45.8	+ 22.6	= + 28	33.5
c = + 28	2071	11	54	40.9	+ 28	0.2	+ 66.2	= 11	54	45.1	− 13.7	= + 28	33.4
d = + 28	2069	11	53	39.0	+ 28	47.0	− 38.7	= 11	54	44.3	+ 12.5	= + 28	34.1
e = + 28	2077	11	58	44.7	+ 28	21.6	− 240.6	= 11	54	45.5		+ 28	33.2

c − a = + 8.2

.441

+ 3.6

(c + a + 28.0)/2

+0.7 +0.6 − 1.7 + 0.3 | −1.6 +0.3 +0.2 +0.9

mean pos 11 54 46.4 | + 28 33.0

(+0.5 +0.4 − 1.9 + 0.1) | (−1.4 +0.5 +0.4 +1.1)

	x	y	x	y
a	20.0	104.7	45.0	93.1
b	188.8	54.8	134.8	43.2
n	96.2	99.6	51.2	87.9
d	17.4			
+ 28 2069 e	14.7	126.7	22.5	115.0
+ 28 2077	150.8	74.8	155.8	63.0

Corrected for ∆ Dec. + 28 33.4 See sheets

	x	x	x	x
n − a	+ 6.2	− 73.6	+ 28.7	− 104.6
	+ 6.2	− 73.6	+ 28.75	− 104.6
	+ 6.26	− 74.24	+ 29.04	− 105.65
	÷ .439	÷ .439	÷ .439	÷ .439
	+ 14.3	− 169.3	+ 66.2	− 240.6

	y	y	y	y
n − a	− 5.1	+ 44.8	− 27.1	+ 24.8
	− 5.2	+ 44.7	− 27.1	+ 24.9
	− 5.15	+ 44.75	− 27.1	+ 24.85
	− 5.20	+ 45.20	− 27.37	+ 25.10
	− 2.60	+ 22.60	− 13.68	+ 12.55

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1909phae.proj.23018

See Bk. 7, pg. 214 for original means of this net.

A 8261 No. 104 Sept. 21, 1909 and Dec. 7, 1909.

								1900 pos	11	37	48.1	+ 27°	57'.2	
a = +28	2032	11	35	9.9	+28	4.0	+16.2	=	11	35	26.3	+8.8	= +28	12.8
b = +28	2034	11	35	53.6	+28	21.7	−27.9	=	11	35	26.7	−10.3	= +28	11.5
c = +27	2049	11	36	56.4	+27	12.7								
d = +28	2036	11	34	34.2	+28	25.0	+52.9	=	11	35	26.6	−12.3	= +28	12.4
e = +28	2039	11	37	51.3	+28	1.3	−147.1	=	11	35	26.3	+10.4	= +28	11.6
							(1454							
		c − b = +628							11	35	26.3		+28	12.1

cos +27.2 / 2

.445

+ 27.9

−0.2 +0.4 +0.3 −0.6 +0.9 −0.6 +0.3 −0.5

mean pos 11 35 26.3 +28 12.1

(−0.2 +0.4 +0.3 −0.6)

		x	y	x	y
	a	26.0	128.7	31.1	136.9
	b	45.0	161.8	50.0	175.0
	m	33.2	146.5	38.2	154.5
	d				
+28 2030	c	10.0	171.5	15.1	179.7
+28 2039	e	97.4	125.6	102.4	133.8

	x	x	x	x
m−a + 7.2	m−b − 11.9	m−d + 23.1	m−e − 64.3	
+ 7.1	− 11.8	+ 23.1	− 64.2	
+ 7.15	− 11.85	+ 23.1	− 64.25	
+ 7.17	− 11.97	+ 23.33	− 64.89	
÷ .441	÷ .441	÷ .441	÷ .441	
+ 16.4	− 27.2	+ 52.9	− 147.1	
	y	y	y	y
m−a + 17.6	m−b − 20.3	m−d − 25.2	m−e + 20.7	
+ 17.6	− 20.5	− 25.2	+ 20.7	
+ 17.65	− 20.4	− 25.2	+ 20.7	
+ 17.83	− 20.60	− 25.45	+ 20.90	
+ 8.92	− 10.30	− 12.72	+ 10.45	

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1909phae.proj.2301B

See pg. 1 this Bk. for original meas. of this net
also explanation at bottom of pg. 1 — for star b + 28° 2081.

A 8261 No. 105 Sept. 21, 1909 to Dec. 7, 1909.

1900 pos 12 2 44.3 + 27 48.8

a = + 27	2099	12	0	22.6	+ 27	57.1 + 4.6 =	12	0	27.2	+ 6.3 =	+ 28	3.4	a =
b = + 28	2081	12	0	21.8	+ 28	5.6 + 1.2 =	12	0	26.8	− 3.4 =	+ 28	2.2	b =
c = + 28	2079	11	59	34.5	+ 28	36.2							c =
d = + 28	2080	11	59	55.3	+ 28	20.2 + 29.9 =	12	0	25.2	− 16.5 =	+ 28	3.7	d =
e = + 27	2098	12	0	13.4	+ 27	56.0 + 11.1 =	12	0	24.5	+ 8.6 =	+ 28	4.6	e =
							12	0	25.8		+ 28	3.4	

cos + 28.6 / 2

c − a = − 4.3 (8.1)

.439

− 21.1

1.4 0.6 − 0.6 − 1.4 | − 0.6 + 0.2 − 0.3 + 0.5
+ 2.2 + 2.8 − 2.2 − 2.6 | 0.0 + 1.2 + 0.3 + 1.1

mean pos 12 0 26.1 + 28 3.9

(+1.1 + 0.3 − 0.9 − 1.7) (− 0.5 + 0.3 − 0.2 + 0.6)

		x	y	x	y
	a	35.0	69.5	40.0	78.6
	b	36.4	88.8	41.5	98.2
	η	37.0	82.2	42 38.0	91.4
+ 28 2080	d	33.8	115.3	28.8	114.4
+ 27 2098	e	32.1	65.2	37.2	94.4

	x	x	x	x
n-a	+ 2.0	n-b + 0.6	n-d + 13.2	n-e + 4.9
	+ 2.0	+ 0.5	+ 13.2	+ 4.8
	+ 2.0	+ 0.55	+ 13.2	+ 4.85
	+ 2.02	+ 0.55	+ 13.33	+ 4.90
	÷ .441	÷ .441	÷ .441	÷ .441
	+ 4.6	+ 1.2	+ 30.2	+ 11.1
	y	y	y	y
n-a	+ 12.7	n-b − 6.6	n-d − 33.1	n-e + 17.0
	+ 12.8	− 6.8	− 33.0	+ 17.0
	+ 12.75	− 6.7	− 33.05	+ 17.0
	+ 12.88	− 6.77	− 33.38	+ 17.17
	+ 6.44	− 3.38	− 16.69	+ 8.58

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1909phae.proj.2301B

See pg. 11 for original meas. of this neb.

A8261 No. 115 Sept. 21, 1909 and Dec 7, 1909.

1900 poo — 11 45 6.7 +27 40.1

a = +27 2061	11	41	49.5 (50.0)	+27	54.2	+ 56.8	= 11	42	46.3 (46.3)	+ 2.6	= +27	55.8 (56.0)
b = +28 2055	11	45	46.6	+28	51 (6.8)	− 181.8 (79.9)	= 11	42	44.8 (6.7)	− 10.8 (5)	= +27	55.1 (6.3)
c = +28 2053	11	45	30.6	+28	49.3							
d = +28 2049	11	42	39.6	+28	26.3	+ 5.4 (3)	= 11	42	45.0 (4.9)	− 31.8 (5)	= +27	54.3 (8)
e = +28 2056	11	45 (42)	48.6	+28	11.38	− 183.1 (2.1)	= 11	42	44.7 (6.5)	− 15.1 (4.9)	= +27	56.1 (4.9)
									46.0 (4.1)			55.1 (2.6)

c − b = ∓ 16.0

Cor +28.8 / 2

.438

− 7.0

+0.2 +0.7 − 1.8 +0.5 (+0.2 −0.6 −0.4 +1.2 / +1.2 −1.0 −0.8 +0.8)

mean poo 11 42 46.3 +27 55.1

(0.0 +0.4 − 1.4 +0.2) (−0.1 −0.5 −0.3 +1.5)

		x	y	x	y
	a	10.8	33.8	15.8	44.4
	b	115.0	59.8	120.0	70.5
	η	35.6	38.9	40.7	49.5
+28 2049	d	33.3	101.8	38.3	112.4
+28 2056	e	116.9 (5.9)	69.8	121.0	80.5

	x	x	x	x
	η−a +24.8	η−b −79.4	η−d +2.3	η−e −80.3
	+24.9	−79.3	+2.4	−80.3
	+24.85	−79.35	+2.35	−80.3
	+25.10	−80.14	+2.37	−81.10
	÷ .441	÷ .441	÷ .441	÷ .441
	+56.9	−181.7	+5.4	−183.9
	y	y	y	y
	η−a +5.1	η−b −20.9	η−d −62.9	η−e −30.9
	+5.1	−21.0	−62.9	−31.0
	+5.1	−20.95	−62.9	−30.95
	+5.15	−21.06	−63.53	−31.26
	+2.58	−10.58	−31.76	−15.13

using corrected cal for w feer pr 2055 & 2056 +28 2055 + 2056 / 11, + 191, dec. +27

55.0 −0.8 / 56.5 +0.7 / 55.0 −0.8 / 56.3 +0.3 / 54.8 −1.0 / 56.9 +1.1 / 34 5 / +27 55.8 / +33 22

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1909phae.proj.2301B

See pg. 17 for original mean of this net.

A8261 No. 121 Sept. 21, 1909 and Dec. 8, 1909.

1900 pos 11 54 41.8 +27 22.4

a.	+27	2080	11	51	52.8	+27	55.0	+30.0	= 11	52	25.8	−18.1	= +27 36.9
b.	+27	2081	11	52	36.4	+27	38.2	−15.9	= 11	52	21.5	+10.0	= +27 38.2
c.	+28	2068	11	52	30.8	+28	55.6						
d.	+27	2077	11	51	2.0	+27	44.7	+8.03	= 11	52	23.3	−9.8	= +27 36.9
e.	+27	2082	11	52	45.7	+27	25.7	−28.8	= 11	52	23.3	+11.9	= +27 37.6
								32.4					
									11	52	22.6		+27 37.4
									+0.3	−1.0	−0.3	+0.8	−0.5 +0.8 −0.5 +0.1
									mean pos 11	52	22.3		+27 37.4
									(+0.5 −0.8 +0.0 +1.0)				(0.5 + 0.8 − 0.5 + 0.1)

c − b = −5.6

.438

−2.4

c₀₀ + 28.9 / 2

		x	y	x	y
	a	33.6	65.4	40.3	65.4
	b	55.0	9.6	60.0	9.0
	n	48.0	29.4	53.4	29.0
+27	2077	d	11.9	44.7	17.8	44.7
+27	2082	e	58.4	6.1	63.3	5.5

	x	x	x	x
n−a	+ 13.1	n−b − 6.6	n−d + 35.5	n−e − 9.9
	+ 13.1	− 6.6	+ 35.6	− 9.9
	+ 13.1	− 6.6	+ 35.55	− 9.9
	+ 13.43	− 6.67	+ 35.91	−10.00
	÷ .443	÷ .443	÷ .443	÷ .443
	+ 30.3	− 15.1	+ 81.1	− 23.6
	y	y	y	y

	y	y	y	y
n−a	− 36.2	n−b + 20.0	n−d − 15.7	n−e + 23.5
	− 36.4	+ 20.0	− 15.7	+ 23.5
	− 36.3	+ 20.0	− 15.7	+ 23.5
	− 36.66	+ 20.20	− 15.86	+ 23.74
	− 18.33	+ 10.10	− 7.93	+ 11.87

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1909phae.proj.2301B

See pg 42 for original meas. this nebula. ✓

A 8261 No. 145, Sept. 21, 1909 and Dec. 8, 1909.

1900 pos 11 37 58.6 +27 7.5

a. +27 2042	11 31 45.6	+27	0.8	+2344	= 11 35 42.0	+21.2	= +27	22.0
b. +27 2053	11 38 31.7	+27	38.8	−178.1	= 11 35 33.1	−16.1	= +27	22.7
c. +26 2252	11 38 8.9	+26	46.4		49.9			
d. +27 2046	11 34 45.1	+27	33.0	+50.5	= 11 35 35.5	−11.6	= +27	21.9
e. +27 2049	11 36 56.4	+27	12.7	−78.5	= 11 35 37.8	+18.2	= +27	22.6
				77.7				
					11 35 36.6		+27	22.2

c − b = − 22.3

cos +26.8 / 2

.446

− 9.9

+1.1 −1.7 −1.6 +2.1 −0.4 +0.7 −0.5 +0.4

mean pos 11 35 36.8 +27 22.4

(+0.9 −1.9 −1.8 +1.9) (+0.6 +0.5 −0.7 +0.2)

	x	y	x	y
a	0.3	59.4	5.6	59.4
b	188.0	118.4	187.0	123.5
η	106.7	86.4	108.7	96.6
d				
+27 2046 c	84.6	109.3	86.5	113.2
+27 2049 e	141.2	66.8	143.2	70.8

x x x x

n-a +103.0 n-b − 78.3 n-d + 22.1 n-e − 34.5

+103.1	− 78.3	+22.2	− 34.5
+103.05	− 78.3	+22.15	− 34.5
+104.08	− 79.08	+22.37	− 34.84
÷ .444	÷ .444	÷ .444	÷ .444
+2344	− 178.1	+50.5	− 78.5

y y y y

n-a +31.8 n-b − 31.8 n-d − 22.6 n-e + 19.8

+42.1	− 31.9	− 22.6	+ 19.8
+42.05	− 31.8	− 22.6	+ 19.85
+42.47	− 32.12	− 22.83	+ 20.05
+21.24	− 16.06	− 11.42	+ 10.02

also red. pos. for 2042, 2053, 2248, + 2037, 1.1. 42, 118 & 193.

38.8 +1.8
35.6 −1.4
39.2 +2.2
35.0 −2.0
38.4 +1.4
35.3 −1.7
35.0 −2.0
38.7 +1.7
37.0

35 11 35 11

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1909phae.proj.2301B

See pg. 43 for original meas. this nebr.

A 8261 No. 146 Sept. 21, 1909 and Dec. 8, 1909.

						1900 pos	11	37	59.7		+27	6.5		
a	+27	2042	11	31	45.6 (6.3)	+27	0.8	+235.6 (3.2)	= 11	35 (38.8)	(9.5)	+176.9	= +27	(20.9) 21.1
b	+27	2053	11	38	31.7 (6)	+27	38.8	−176.9 (5.1)	= 11	35 (34.8)	(6.5)	−176.9 (6.8)	= +27	(20) 28.8
c	+26	2252	11	38	8.9	+26	46.4	(1)				(3)		(7)
d	+27	2046	11	34	45.1	+27	33.0	+51.6	= 11	35	36.2	−12.4	= +27	20.6
e	+27	2049	11	36	56.4	+27	12.7	−77.2 (6.4)	= 11	35	(40.0)	+9.0 (8.9)	= +27	21.6
										11	35	37.8	+27	21.3
										+1.0	−1.7	−1.6 +2.2	−0.4	+0.7 −0.6 +0.3
							mean pos		11	35	37.9		+27	21.4
										(+0.9	−1.8	−1.7 +2.1)	(+0.5	+0.6 −0.7 +0.2)

c − b = − 22.3

Cos +26.8 / 2

446

− 9.9

		x	y	x	y
	a	3.7	(47.7) 45.6	5.6	(48.5) 59.4
	b	185.0	118.4	187.0	127.5
	c	(84.6) 103.3	(84.7)	109.2	88.7
+27 2046	d	106.7	109.3	86.5	113.2
+27 2049	e	141.2	66.8	143.2	70.8

	x	x	x	x
n−a	+103.6			
n−b		−77.7		
n−d			+22.7	
n−e				−33.9
	+103.6	−77.8	+22.7	−34.0
	+103.6	−77.75	+22.7	−33.95
	+104.63	−78.53	+22.93	−34.29
	÷ .444	÷ .444	÷ .444	÷ .444
	+235.6	−176.9	+51.6	−77.2

	y	y	y	y
n−a	+(40.) 29.1			
n−b		−33.(6) 8		
n−d			−24.5	
n−e				+17.9
	+(40.2) 29.8	−33.8	−24.5	+17.9
	+(40.15) 29.32	−33.754	−24.5	+17.9
	+(40.2) 29.49	−34.09	−24.74	+18.08
	+(20.28) 14.44	−17.04	−12.37	+9.04

Cat. for pos using 2042 + 20.3 3119, + 1946

1.4 4 1

11 35

39.5 + 1.4
36.4 − 1.7
40.3 + 2.2
36.1 − 2.0
39.5 + 1.4
36.5 − 1.6
36.2 − 1.9
40.0 + 1.9
38.1

11 35

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1909phae.proj.2301B

See pg. 44 for original means. this neb.

A8261 No. 147 Sept. 21, 1909 and Dec. 8, 1909

1900 pos 11 37 39.8 +27 5.4

a = +27 2042	11	31	45.6	+27	0.8	+215.8	=	11	35	19.3	+19.2	=	+27	19.8
b = +27 2053	11	38	31.7	+27	38.8	−196.8	=	11	35	18.8	−18.8	=	+27	20.0
c = +26 2052	11	38	8.9	+26	46.4									
d = +27 2046	11	34	45.1	+27	33.0	+31.8	=	11	35	16.8	−13.8	=	+27	19.0
e = +27 2049	11	36	56.4	+27	12.7	−97.2	=	11	35	19.2	+1.2	=	+27	20.4
								11	35	18.1			+27	20.2

c − b = − 22.3

Cos +26.8 / 2

.446

− 9.9

+1.1 −1.7 −1.5 +2.1 −0.4 +0.5 −0.5 +0.4

mean pos 11 35 18.0 +27 20.3

(+1.2 −1.6 −1.4 +2.2) (−0.5 +0.6 −0.6 +0.3)

		x	y	x	y
	a	3.7	45.6	−5.6	59.4
	b	185.0	118.4	187.0	132.5
	c	98.6	82.8	100.4	86.6
+27 2046	d	84.6	109.2	86.5	113.2
+27 2049	e	141.2	66.8	143.2	70.8

	x	x	x	x
	m−a, +94.9	m−b, −86.4	m−d, +16.0	m−e, −42.6
	+94.8	−86.6	+13.9	−42.8
	+94.85	−86.5	+13.95	−42.7
	+95.80	−87.36	+14.09	−43.13
	÷ .444	÷ .444	÷ .444	÷ .444
	+215.8	−196.8	+31.8	−97.2

	y	y	y	y
	m−a, +38.1	m−b, −35.6	m−d, −26.5	m−e, +16.0
	+38.1	−35.9	−26.6	+15.8
	+38.1	−35.75	−26.55	+15.9
	+38.48	−36.11	−26.81	+16.06
	+19.24	−18.06	−13.40	+8.03

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1909phae.proj.2301B

see pg. 45 for original meas. of this neb.

A8261 No. 148 Sept. 21, 1909 & Dec. 8, 1909.

1900 pos 11 37 19.9 +27 2.4

a	+27	2042	11	31	45.6 (6.3)	+27	0.8	+195.6	= 11	35	59.7	+16.2	= +27 17.9
b	+27	2053	11	38	31.7 (6)	+27	38.8	−216.9	= 11	34	57.9	−21.9	= +27 17.9
c	+26	2252	11	38	8.9	+26	46.4						
d	+27	2046	11	34	45.1	+27	33.0	+11.6	= 11	34	56.5	−16.5	= +27 16.5
e	+27	2049	11	36	56.4	+27	12.7	−117.3	= 11	34	59.1	−5.6	= +27 17.1
										11	34	58.8	+27 17.2

c − b = − 22.3

Coor +26.8 / 2

.446

− 9.9

+1.0 −1.7 −1.6 +2.1 −0.4 +0.7 −0.5 +0.4

mean pos 11 34 58.1 +27 17.3

(+1.1 −1.6 −1.5 +2.2) (−0.5 +0.6 −0.6 +0.3)

		x	y	x	y
a		3.7	45.6 (47)	5.6	49.4 (48.5)
b		185.0	118.4	187.0	122.5
n		89.7	76.6	91.6	80.5
d		84.6	109.7	86.5	113.2
e		141.2	66.8	143.2	70.8
+ 27 2046					
+ 27 2049					

using cat pos for 2042 & 2053 for b

35	00.1	+	1.6
34	57.9	−	1.4
34	59.9	+	1.4
34	56.9	−	1.6
34	56.6	−	1.9
35	00.3	+	1.8
34	58.5		

n.196

	x	x	x	x
n−a, +86.0	n−b, −95.3	n−d, +5.1	n−e, −51.5	
	+86.0	−95.4	+5.1	−51.6
	+86.0	−95.35	+5.1	−51.55
	+86.86	−96.30	+5.15	−52.07
	÷ .444	÷ .444	÷ .444	÷ .444
	+195.6	−216.9	+11.6	−117.3
	y	y	y	y
n−a, +32.0	n−b, −41.7	n−d, −32.6	n−e, −9.9	
	+32.0	−42.0	−32.7	−9.7
	+32.0	−41.85	−32.65	−9.8
	+32.32	−42.27	−32.98	−9.90
	+16.16	−21.14	−16.49	−4.95

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1909phae.proj.2301B

see pg 49 for original meas. of this neb

A8261 — No. 152 Sept. 22, 1909 and Dec. 8, 1909.

1900 pos 11 59 10.8 +26 41.9

a = +26 2289	11	55	54.4	+26	49.1	+5	6.8	= 11	56	51.8	+8	7	= +26	57.8
b = +27 2093	11	58	10.2	+27	9.1	−77	8	= 11	56	53.7	−19	2.9	= +26	56.2
c = +27 2089	11	55	42.1	+27	30.1		8.5							
d = +27 2088	11	55	32.8	+27	16.9	+79	8	= 11	56	51.3	−19	5	= +26	57.4
e = +26 2300	11	58	41.6	+26	34.3	−111	0.6	= 11	56	51.0	+22	1.6	= +26	56.9
									11	56	51.7		+26	57.1

c − a = −12.3

Corr +27.5 / 2

.444

− 5.5

−0.5 +1.5 −0.4 −0.7 +0.7 −0.9 +0.3 −0.2

mean pos 11 56 51.8 +26 57.0

(+0.4 +1.4 −0.5 −0.8) (+0.8 −0.8 +0.4 −0.1)

		x	y	x	y
a		30.0	31.5	35.0	58.1
b		89.7	74.7	94.7	101.3
m		55.4	48.0	60.3	75.6
d					
c	+27 2088	20.4	88.2	25.3	114.6
e	+26 2300	104.8	3.7	109.6	30.4

11 56 51.0 −8
53.1 +13
51.2 −6
53.2 +14
51.3 −5
51.0 −8
10.8

27 − 27

11 56 51.8

x x x x

m − a + 25.4 m − b − 34.3 m − d + 35.0 m − e − 49.4

+25.3	−34.4	+35.0	−49.3
+25.35	−34.35	+35.0	−49.35
+25.60	−34.69	+35.35	−49.84
÷ .446	÷ .446	÷ .446	÷ .446
+ 57.4	− 77.8	+ 79.3	− 111.7
y	y	y	y

m − a + 17.5 m − b − 25.7 m − d − 39.2 m − e + 45.3

+17.5	−25.7	−39.0	+45.2
+17.5	−25.7	−39.1	+45.25
+17.68	−25.96	−39.49	+45.70
+ 8.84	− 12.98	− 19.74	+ 22.85

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1909phae.proj.2301B

see pg. 82 for original measures of this nebula

A8261 — No. 179. Sept. 22, 1909 & Dec. 8, 1909.

1900 pos 11 43 15.6 + 26 20.3

a =	+26	2254	11	40	13.6	+26	40.2	+37.3	= 11	40	50.8	− 4.5 = +26 35.7
b =	+26	2258	11	43	33.8	+26	15.3	−15.8	= 11	40	51.9	+ 20.1 = +26 35.4
c =	+27	2059	11	40	31.6	+27	28.9					
d =	+26	2255	11	40	51.9	+26	35.3	+ 1.9	= 11	40	53.8	− 0.5 = +26 34.8
e =	+26	2256	11	42	42.2	+26	33.3	−10.1	= 11	40	55.1	+ 1.6 = +26 34.9
									11	40	54.8	+26 35.2

c − a = + 18.0

Cos + 27.5 / Σ

.444

+ 8.0

−4.3 + 3.8 − 1.0 + 1.5 +0.5 0.0 −0.4 +0.7

mean pos 10 40 54.8 + 26 35.3

(−4.3 + 3.8 − 1.0 + 1.5) (+0.4 − 0.1 − 05 − 04)

		x	y	x	y
	a	20.0	70.3	25.0	79.0
	b	106.0	21.6	110.8	30.3
	n	36.6	61.5	41.4	70.1
+26 2255	d	35.7	62.4	40.6	71.1
+26 2256	e	83.9	58.3	88.8	68.0

Corrected pos. 11 40 55.9 See sheet

x	x	x	x
n − a + 16.6	n − b − 79.4	n − d + 0.9	n − e − 47.3
+ 16.4	− 69.4	± 0.8	− 47.4
+ 16.5	− 69.4	+ 0.85	− 47.35
+ 16.66	− 70.09	+ 0.86	− 47.82
÷ .447	÷ .447	÷ .447	÷ .447
+ 37.3	− 156.8	+ 1.9	− 107.0

y	y	y	y
n − a − 8.8	n − b + 39.9	n − d − 0.9	n − e + 3.2
− 8.9	+ 39.8	− 1.0	+ 3.1
− 8.85	+ 39.85	− 0.95	+ 3.15
− 8.94	+ 40.25	− 0.96	+ 3.18
− 4.47	+ 20.12	− 0.48	+ 1.59

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1909phae.proj.2301B

see pg. 83 for original meas this net

A8261 — No. 180 Sept. 22, 1909 and Dec. 8, 1909.

						1900 pos	11	43	14.0	+ 26	20.4		
a =	+26 2254	11	40	13.6	+ 26	40.2	+ 35.3	= 11	40	48.9	− 4.6	= + 26	35.6
b =	+26 2258	11	43	33.8	+ 26	15.3	− 158.4 (6.8)	= 11	40	7.0	+ 19.8	= + 26	35.1
c =	+27 2059	11	40	31.6	+27	28.9							
d =	+26 2255	11	40	51.9	+26	35.3	+ 0.3	= 11	40	52.2	− 0.6	= + 26	34.7
e =	+26 2256	11	43	42.2	+26	33.3	− 108.6 (7.5)	= 11	40	53.7	+ 1.5	= + 26	34.8
								11	40	53.2		+ 26	35.0

c − a = + 18.0

c.c. +27.5 / 2

.444

+ 8.0

− 4.3 + 3.8 − 1.0 + 1.5 +0.6 + 0.1 − 0.3 − 0.2

mean for 11 40 53.2 + 26 35.2

(−43) + 38 − 1.0 + 1.5) (+0.4 − 0.1 − 0.5 − 0.4)

		o	x	y	x	y
	a		20.0	70.3	25.0	79.0
	b		106.0	21.6	110.8	30.3
	η		35.9	61.2	40.7	69.9
+ 26 2255	d		35.7	62.4	40.6	71.1
+ 26 2256	e		83.9	58.3	88.8	68.0
			x	x	x	x

using 2254 2258 from 11 40 18.1 and 11 43 32.8

net = 11 40 s.t. 4 on sheets.

n-a + 15.9 n-b − 70.1 n-d + 0.2 n-e − 48.0

+ 15.7	− 70.1	+ 0.1	− 48.1
+ 15.8	− 70.1	+ 0.15	− 48.05
+ 15.96	− 70.80	+ 0.15	− 48.53
÷ .447	÷ .447	÷ .447	÷ .447
+ 35.7	− 158.4	+ 0.3	− 108.6
y	y	y	y

n-a − 9.1 n-b + 39.6 n-d − 1.2 n-e + 2.9

− 9.1	+ 39.6	− 1.2	+ 2.9
− 9.1	+ 40.00	− 1.21	+ 2.93
− 4.595	+ 20.00	− 0.60	+ 1.46

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1909phae.proj.2301B

A 8261 No. 18 Sept. 22, 1909. to Dec. 8, 1909.

a = +26 2241	11 31 55.3	+26 6.7	+128.4	= 11	34 53.7	+ 35.4	= +26	42.1
b = +26 2248	11 34 18.4	+26 44.2	− 14.9	= 11	34 3.5	− 3.0	= +26	41.2
c = +27 2046	11 34 45.1	+27 33.0						
d = +26 2243	11 32 37.1	+26 56.9	+ 86.1	= 11	34 3.2	− 16.3	= +26	40.6
e = +26 2249	11 34 40 54.1	+26 5.7	− 52.3	= 11	34 1.8	+ 35.8	= +26	41.5
				11	34 3.0		+26	41.4

c − b = + 26.7

.444

+ 11.8

$\frac{\text{Cor} + 27.5}{2}$

	x	y	x	y
a	6.6	3.6	11.5	7.3
b	70.0	79.5	75.0	83.2
n	63.4	73.8	68.4	77.2
d	25.3	106.1	30.3	109.5
e	86.6	2.8	91.7	6.4

	x	x	x	x
n − a + 56.8	n − b − 6.6	n − d + 38.1	n − e − 23.2	
	+ 56.9	− 6.6	+ 38.1	− 23.1
	+ 56.85	− 6.6	+ 38.1	− 23.15
	+ 57.42	− 6.67	+ 38.48	− 23.38
	÷ .444	÷ .444	÷ .444	÷ .444
	+ 128.4	− 14.9	+ 86.6	− 52.6

	y	y	y	y
n − a + 70.2	n − b − 5.7	n − d − 32.3	n − e + 71.0	
	+ 69.9	− 6.0	− 32.3	+ 70.8
	+ 70.05	− 5.85	− 32.3	+ 70.9
	+ 70.75	− 5.91	− 32.62	+ 71.61
	+ 35.38	− 2.96	− 16.31	+ 35.80

For the original measures of this net work see polye #84. Slight error in checking computations. Make no change in ordinates. RCH

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1909phae.proj.2301B

A8261 No. 18 2 Sept. 22, 1909

a = +26	2241	11	31	55.3	+26	6.7	+127.7	= 11	34	3.0	+35.8	= +26	42.5
b = +26	2248	11	34	18.4	+26	44.2	−15.4	= 11	34	3.0	− 2.5	= +26	41.7
c = +27	2046	11	34	45.1	+27	33.0							
d = +26	2243	11	32	37.1	+26	56.9	+85.5	= 11	34	2.6	−15.9	= +26	41.0
e = +26	2249	11	34	54.1	+26	5.7	−52.6	= 11	34	1.5	+36.2	= +26	41.9
									11	34	2.5	+26	41.8

c − b = + 26.7

$\frac{c_{00} + 27.5}{2}$

.444

+ 11.8

		x	y	x	y
	a	6.6	3.6	11.5	7.3
	b	70.0	79.5	75.0	83.2
	η	63.2	74.6	68.2	78.1
+26 2243	d	25.3	106.1	30.3	109.5
+26 2249	e	86.6	2.8	91.5	6.4

	x	x	x	x
	m−a, + 56.6	m−b, − 6.8	m−d, + 37.9	m−e − 23.4
	+56.7	− 6.8	+ 37.9	− 23.3
	+56.65	− 6.8	+ 37.9	− 23.35
	+57.22	− 6.87	+ 38.28	− 23.58
	÷ .448	÷ .448	÷ .448	÷ .448
	+ 127.7	− 15.4	+ 85.5	− 52.6

	y	y	y	y
	m−a + 71. 69.0	m−b − 4.9	m−d − 31.5	m−e + 71.8
	+ 70.8	− 5.1	− 31.4	+ 71.7
	+ 70.9	− 5.0	− 31.45	+ 71.75
	+ 71.61	− 5.05	− 31.76	+ 72.47
	+ 35.80	− 2.52	− 15.88	+ 36.24

see note for neb. #18 of page 2 error was made in orienting in original mss. (see fig 85 this book)

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1909phae.proj.2301B

see pg 88 for original mean. this net

A8261 No. 189 Sept. 22, 1909 & Dec. 8, 1909

1900 pos 11 58 46.2 + 25 58.9

a =	+26	2288	11	55	20.8	+26	8.0	+68.4	= 11	56	28.8	+ 6.4	= +26	14.4
b =	+26	2301	11	58	50.4	+26	25.6	-146.4	= 11	56	29.6	- 12.4	= +26	13.2
c =	+27	2088	11	55	32.8	+27	16.9							
d =	+26	2291	11	56	1.0	+26	16.7	+ 27.5	= 11	56	28.5	- 2.5	= +26	14.2
e =	+26	2298	11	58	52.9	+26	26.6	- 95.4	= 11	56	27.7	+ 7.8	= +26	14.4
										11	56	27.8	+26	14.0

c - a = + 12.0

cos +27.3 / 2 = .444

+5.3

+0.8 - 1.8 +0.8 +0.3 +0.3 -0.7 +0.2 +0.4

mean pos 11 56 27.2 +26 14.0

(+1.0 - 1.6 + 1.0 + 0.5) (+0.3 -0.7 +0.2 +0.4)

		x	y	x	y
	a	20.0	21.7	25.0	33.0
	b	115.2	58.8	130.1	70.4
	m	50.2	34.4	55.2	45.8
+26 2291	c	37.0	39.4	43.0	50.8
+26 2298	e	92.5	18.6	97.5	30.2

	x	x	x	x
	m-a + 30.2	m-b - 65.0	m-d + 12.2	m-e - 42.3
	+ 30.2	- 64.9	+ 12.2	- 42.3
	+ 30.2	- 64.95	+ 12.2	- 42.3
	+ 30.50	- 65.60	+ 12.32	- 42.72
	÷ .448	÷ .448	÷ .448	÷ .448
	+ 68.1	- 146.4	+ 27.5	- 95.4
	y	y	y	y
	m-a + 12.7	m-b - 24.4	m-d - 5.0	m-e + 15.8
	+ 12.7	- 24.6	- 5.0	+ 15.6
	+ 12.7	- 24.5	- 5.0	+ 15.7
	+ 12.83	- 24.74	- 5.05	+ 15.86
	+ 6.42	- 12.37	- 2.52	+ 7.93

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1909phae.proj.2301B

See pg. 92 for original meas. of this neb.

A8261 No. 193 Sept. 22, 1909 and Dec. 9, 1909.

1900 pos 11 54 35.3 + 26 10.2

a =	+26	2273	11	48	59.0	+26	52.3	+199.1	=	11	53	16.1	− 27.2	= +26	25.4
b =	+26	2284	11	53	21.0	+26	15.6	− 68.0	=	11	52	13.6	+ 8.8	= +26	24.4
c =	+25	2436	11	48	58.8	+25	46.8								
d =	+26	2280	11	52	15.4	+26	18.7	+ 0.8	=	11	52	16.2	+ 7.5	= +26	26.1
e =	+26	2282	11	52	41.3	+26	50.7	− 23.8	=	11	52	18.7	− 25.4	= +26	25.4
										11	52	16.2		+26	25.3

c − a = − 0.2

Coo +25.8 / 2 .450 − 0.1

−0.1 −2.5 0.0 +2.5 +0.1 −0.9 +0.8 +0.1

mean pos 11 52 15.8 +26 25.2

(+0.3 −2.1 +0.4 +2.9) (+0.2 −0.8 +0.9 +0.2)

		x	y	x	y
	a	155.0	158.5	10.0	162.0
	b	123.2	87.2	128.2	90.6
	d	93.1	104.7	98.1	108.2
+26 2280	c	92.7	89.8	97.8	93.4
+26 2282	e	103.6	155.4	108.7	158.8

	x	x	x	x
m-a	+ 88.1	m-b − 30.1	m-d + 0.4	m-e − 10.5
	+ 88.1	− 30.1	+ 0.3	− 10.4
	+ 88.1	− 30.1	+ 0.35	− 10.55
	+ 88.98	− 30.40	+ 0.35	− 10.65
	÷ .447	÷ .447	÷ .447	÷ .447
	+ 199.1	− 68.0	+ 0.8	− 23.8

	y	y	y	y
m-a	∓ 53.8	m-b + 17.5	m-d + 14.9	m-e − 50.7
	∓ 53.8	+ 17.6	+ 14.8	− 50.6
	− 53.8	+ 17.55	+ 14.85	− 50.65
	− 54.34	+ 17.73	+ 15.00	− 51.16
	− 27.17	+ 8.86	+ 7.50	− 25.58

Object star is +26 2282 Neb. 16.92 +20.3

Ra. 11 52 16.1 +3 13.7 −2.1 +3 16.1 −2.1 13.7 +1 16.2 +2.9 18.7

Exchange 34 5

11 52 15.8

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1909phae.proj.2301B

See pg. 93 for original mean. of this neb

A8261 No. 194 Sept. 22, 1909 and Dec. 9, 1909.

1900 pos 11 54 20.9 + 26 1.0

a.	+26	2271	11	48	32.5	+26	18.1	+ 5.6	= 11 52	3.7	− 2.6 = +26 15.5
b.	+26	2284	11	53	21.0	+26	15.6	− 1.9	= 11 51	58.8	− 0.0 = +26 15.6
c.	+25	2436	11	48	58.8	+25	46.8	+ 19.1	= 11 52	5.8	+ 19.5 = +26 16.8
d.	+25	2442	11	50	39.3	+25	57.4				
e.	+26	2280	11	52	15.4	+26	18.7	− 14.8	= 11 52	1.1	− 1.7 = +26 17.0
									11 52	1.8	+26 16.5

c − a = + 26.3

$\frac{c_{00} + 25.8}{2}$ .450 + 11.2

−0.3 −2.2 + 3.2 −0.6 −0.7 −0.6 +0.5 +0.8

mean pos 11 52 1.4 +26 16.0

(+0.1 − 1.8 + 3.6 − 0.2) (−0.5 −0.4 + 0.7 + 1.0)

		x	y	x	y
a		20.0	89.9	25.0	100.5
b		150.6	84.7	155.7	95.5
		113.8	84.7	118.9	95.5
d					
+25 2442		74.4	46.2	79.5	56.7
e					
+26 2280		120.2	88.1	125.2	98.8

	x	x	x	x
	n-a + 93.8	n-b − 36.8	n-d + 39.4	n-e − 6.4
	+ 93.9	− 36.8	+ 39.4	− 6.3
	+ 93.85	− 36.8	+ 39.4	− 6.35
	+ 94.79	− 37.17	+ 39.79	− 6.41
	÷ .449	÷ .449	÷ .449	÷ .449
	+ 211.1	− 82.8	+ 88.6	− 14.3

	y	y	y	y
	n-a − 5.2	n-b − 0.0	n-d + 38.5	n-e − 3.4
	− 5.0	− 0.0	+ 38.8	− 3.3
	− 5.1	− 0.0	+ 38.65	− 3.35
	− 5.15	− 0.0	+ 39.04	− 3.38
	− 2.58	− 0.0	+ 19.52	− 1.69

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1909phae.proj.2301B

see pg 103 for prigenial mean. this nebula

A826, No. 204 Sept. 22, 1909 and Dec. 9, 1909.

1909.0 pos 11 48. 26.1 + 26 4.9

a = +26 2260	11	43	49.2	+26	8.6 +0.1	+137.7	= 11	46	5.5	+10.6	= +26	19.2	20.8	
b = +26 2272	11	48	45.4	+26	29.1	−160.5	= 11	46	4.5	−10.3	= +26	18.8		
c = +26 2259	11	43	36.3	+26	50.2									
d = +26 2262	11	44	57.5	+26	15.2	+74.7	= 11	46	5.4	+4.5	= +26	19.5	20.75	*
e = +26 2274	11	49	19.8	+26	34.2	−194.1	= 11	46	5.8	−14.4	= +26	19.4		
								11	46	5.9	+26	19.9		

c − a = − 12.9

.446

− 5.8

meanpos. 11 46 6.1 + 26 19.9

−0.8 +0.2 −0.9 +1.3 +0.8 −1.1 +0.8 −0.4

(−0.6 +0.4 −0.7 +1.5) (+0.8 −1.1 +0.8 −0.4)

using cat for n dec.

for 2260 + 2262 & combine error. *

+26 19.5

18.9

19.2 −6

18.8 +11

20.5 +1

19.5

56 1

+26 19.4

+26 19.2 −3

18.9 0

19.2 −4

18.8 +3

19.5

19.5 +3

1 1

+26 19.2

	x	y	x	y
a	25.0	12.9	30.0	19.5
b	157.3	54.6	162.3	61.3
n	86.1	34.1	91.1	40.7
d	52.9	25.3	58.0	31.8
e	172.2	63.6	177.2	70.2

	x	x	x	x
n−a, + 61.1	n−b, − 71.2	n−d, + 33.2	n−e, − 86.1	
	+ 61.1	− 71.2	+ 33.1	− 86.1
	+ 61.1	− 71.2	+ 33.15	− 86.1
	+ 61.71	− 72.91	+ 33.48	− 86.96
	+ .448	÷ .448	÷ .448	÷ .448
	+ 137.7	− 160.5	+ 74.7	− 194.1

	y	y	y	y
n−a, + 21.2	n−b, − 20.5	n−d, + 8.8	n−e, − 29.5	
	+ 21.2	− 20.6	+ 8.9	− 29.5
	+ 21.2	− 20.55	+ 8.95	− 29.5
	+ 21.41	− 20.75	+ 8.94	− 29.79
	+ 10.70	− 10.38	+ 4.47	− 14.895

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1909phae.proj.2301B

See pg. 108 for original meas. this neb. ✓

A 8261 — No. 209 Sept. 22, 1909 and Dec. 9, 1909.

1900 pos 11 39 24.0 +25 58.8

a = +26 2249	11 34 54.1	+26 5.7	+ 129.7	= 11 37 3.8	+ 7.7	= +26 13.4
b = +26 2253	11 38 22.7	+26 17.9	− 81.5	= 11 37 1.2	− 4.4	= +26 13.5
c = +27 2051	11 38 23.9	+27 12.8				
d = +26 2250	11 36 41.1	+26 2.3	+ 21.7	= 11 37 2.8	+ 12.3	= +26 14.6
e = +26 2251	11 37 8.4	+26 21.2	− 5.1	= 11 37 3.3	− 7.1	= +26 14.2
				11 37 2.8		+26 13.9

c − b = +1.2

cos +27.2 / 2

.445

+0.5

+1.0 −1.6 0.0 +0.5 −0.5 −0.4 +0.7 +0.3

mean pos 11 37 2.7 +26 13.8

(+1.1 −1.5 +0.1 +0.6) (−0.4 −0.3 +0.8 +0.4)

		x	y	x	y
	a	10.2	31.6	15.1	41.0
	b	105.0	55.7	110.0	65.0
	n	68.4	47.0	73.4	56.4
+26 2250	d	58.7	22.5	63.6	31.8
+26 2251	e	70.7	61.0	75.7	70.4

x x x x

n−a +58.2 n−b −36.6 n−d +9.7 n−e −2.3

+58.3	−36.6	+9.8	−2.3
+58.25	−36.6	+9.75	−2.3
+58.83	−36.97	+9.85	−2.32
÷ .449	÷ .449	÷ .449	÷ .449
+131.0 ✓	−82.3 ✓	+21.9 ✓	−5.2 ✓

y y y y

n−a +15.4 n−b −8.7 n−d +24.5 n−e −14.0

+15.4	−8.6	+24.6	−14.0
+15.4	−8.65	+24.55	−14.0
+15.55	−8.74	+24.79	−14.14
+7.78	−4.37	+12.395	−7.07

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1909phae.proj.2301B

See pg. 110 for original meas. this neb.

A8261 No. 211, Sept. 22, 1909. and Dec. 9, 1909.

Object is very close to edge of plate

1900 pos 12 4 39.0 + 25 35.1

a = +26 2310	12	1	58.5	+26	45.6	+ 18.8	=	12	2	17.9	− 56.2	= + 25	50.0 49.8
b = +25 2467	12	2	40.8	+25	18.6	− 16.1	=	12	2	13.5	+ 32.9	= + 25	50.3 50.6
c = +26 2302	11	58	58.2	+26	2.9	50.9 51.4	=	12	2	23.9	+ 19.5	= + 25	50.9 50.7
d = +25 2466	12	1	32.5	+25	31.6	+ 32.8	=	12	2	17.3	− 52.2	= + 25	49.8
e = +26 2311	12	2	44.6	+26	41.9	− 27.3	=	12	2	4.8			
										20.7			50.2
	e − a = − 180.3							12	2	19.8		+ 25	

Cos + 26.0 / 2 = .449

− 81.0

− 3.6 + 4.2 + 3.7 − 3.4 −0.2 +0.1 +0.7 −0.5

mean pos 12 2 20.8 + 25 50.2

(− 3.7 + 4.1 + 2.6 − 3.5) * (− 0.2 + 0.1 + 0.7 − 0.5)

		x	y	x	y
a		90.0	179.5	95.0	183.0
b		105.5	4.8	110.5	8.5
n		98.3	68.2	103.4	71.7
+25 2466	d	74.5	29.5	79.5	33.1
+26 2311	d	110.6	172.4	115.6	175.8

x x x x

n-a + 8.3 n-b − 7.2 n-d + 23.8 n-e − 12.5

+ 8.4 − 7.1 + 23.9 − 12.2

+ 8.35 − 7.15 + 23.85 − 12.25

+ 8.38 − 7.21 + 23.04 − 12.37

÷ .449 ÷ .449 ÷ .449 ÷ .449

18.8 16.1 51.4 27.6

+ 18.5 − 22.8 + 52.4 − 38.8

y y y y

n-a − 111.3 n-b + 63.4 n-d + 38.7 n-e − 104.2

− 111.3 + 63.2 + 38.6 − 104.1

− 111.3 + 63.3 + 38.65 − 104.15

− 112.41 + 63.93 + 39.04 − 105.19

− 56.20 + 31.96 + 19.52 − 52.695

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1909phae.proj.2301B

See pg. 111 for original meas. of this neb.

A 8261 No. 212 Sept. 22, 1909 and Dec. 9, 1909.

1900 pos 12 3 49.9 + 25 45.3

a	+26	2309	12	1	30.3	+26	45.9	+	3.0	=	12	1	33.3	−	46.8	=	+25	59.1
b	+25	2466	12	1	32.5	+25	31.6	−	1.6	=	12	1	30.9	+	29.8	=	+25	1.4
c	+26	2296	11	57	31.4	+26	14.8	+	56.6	=	12	1	31.4	−	11.4	=	+25	59.8
d	+26	2307	12	0	37.0	+26	10.9	+	39.8	=	12	1	31.7	+	16.4	=	+25	59.8
e	+25	2463	12	0	32.9	+25	43.4												
											12	1	31.8				+25	59.8

c − a = −138.9

Cos + 26.2 / 2

.449

−107.3

+0.4 −1.0 +0.7 +0.1 −0.1 +1.0 −0.4 −0.4

mean for 12 1 31.7 + 26 0.4

(+0.5 −0.9 +0.8 +0.2) (−0.3 +0.8 −0.6 −0.6)

		x	y	x	y
a		115.0	169.5	120.0	178.0
b		116.6	18.5	121.6	27.0
n		116.8	77.7	120.9	86.3
d		91.0	100.0	96.0	108.5
+26 2307	c	98.3	45.8	103.4	55.5
+25 2463	e				

	x	x	x	x
m−a	+ 0.8	m−b − 0.8	m−d + 24.8	m−e + 17.5
	+ 0.9	− 0.7	+ 24.9	+ 17.5
	+ 0.4	− 0.1	+ 25.0	+ 17.6
	0.85	0.75	24.85	17.56
	+ 0.35	− 0.25	+ 24.95	+ 17.58
	+ 0.36	− 0.26	+ 25.00	+ 17.58
	÷ .449	÷ .449	÷ .449	÷ .449
	+ 1.9	− 1.7	+ 56.1	+ 39.4

	y	y	y	y
m−a	− 91.8	m−b + 59.2	m−d − 22.3	m−e + 31.9
	− 91.7	+ 59.3	− 22.2	+ 31.8
	− 91.95	+ 59.25	− 22.25	+ 31.85
	− 92.67	+ 59.84	− 22.47	+ 31.78
	− 46.33	+ 29.92	− 11.24	+ 16.59

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1909phae.proj.2001B

For original meas. see page 117.

A8261 No. 216 Sept. 22, 1909 and Dec. 9, 1909.

1900 pos 12 1 29.5 + 25 40.0

a = +26 2291 11 56 1.0 +26 16.7 + 193.1 = 11 59 14.2 − 21.3 = +25 55.4

b = +25 2463 12 0 52.9 +25 43.4 − 10.9 = 11 59 10.0 + 11.5 = +25 55.9

c = +25 2454 11 56 38.1 +25 45.4

d = +26 2298 11 58 2.7 +26 6.6 + 70.2 = 11 59 19.0 − 11.2 = +25 55.8

e = +25 2462 12 0 16.2 +25 37.8 − 68.9 = 11 59 8.2 + 17.2 = +25 55.4

7.3

c − a = + 37.1

Cos +25.7 / 2 .450 +16.7

11 59 11.5 +25 55.2

+1.1 −0.1 +1.2 −2.2 +0.2 −0.3 +0.3 −0.4

mean pos 11 59 11.3 +25 55.1

(+0.9 −0.3 +1.0 −2.4) (+0.3 −0.2 +0.4 −0.3)

		x	y	x	y
	a	25.0	95.6	30.0	108.0
	b	15.8	29.7	162.3	44.8
+26 2298	η		58.8	116.8	65.4
+25 2462	c	79.5	45.2	84.5	84.7
+25 2462	d	141.3	95.2	146.4	39.6

our catalog is +26 2298 corrected for dec.

12.7 +1.0 −0.8
10.9 +0.3
12.2 −0.7
11.0
12.4
8.9
68

11 59

+25 2462 corrected for bubble. Used the last set.

11.7

11 59

+25 55.4 +3
54.8 −3
55.4 +3
54.9 −2
20 5 6 −5

+25 55.1 same as before

	x	x	x	x
m−a, +86.1	m−b, −47.5	m−d, +31.6	m−e, −30.2	
+86.0	−46.0	+31.6	−30.4	
+86.15	−46.05	+31.652	−30.43	
+87.91	−46.31	+31.97	−30.40	
÷ .450	÷ .450	÷ .450	÷ .450	
+193.1	−102.9	+70.9	−68.9	

	y	y	y	y
m−a, −42.6	m−b, +23.8	m−d, −22.2	m−e, +34.0	
−42.6	+23.8	−22.3	+33.9	
−42.65	+22.95	−22.25	+34.05	
−43.08	+23.18	−22.47	+34.39	
−21.54	+11.59	−11.24	+17.195	

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1909phae.proj.2301B

For original meas. see pg 126 ~~this book~~. ✓

A8261 No. 222 Sept. 23rd, 1909 and Dec. 9, 1909.

1900 pos 11 53 31.7 + 25 52.0

a =	+26	2276	11	49	53.7	+26	1.9	+79.5	= 11	51	15.1	+ 5.6	= +26 6.8
b =	+26	2284	11	53	21.0	+26	15.6	−131.5	= 11	51	9.5	− 9.6	= +26 6.1
g =	+26	2295	11	49	45.2	+26	37.7						
d =	+25	2442	11	50	37.3	+25	57.1	+ 36.8	= 11	51	14.1	+10.7	= +26 8.8
e =	+26	2280	11	52	15.4	+26	18.7	− 63.4	= 11	51	12.8	− 1.6	= +26 7.7
									11	51	12.7		+26 7.2

c − a = − 8.5

cos +26.6 / 2

.447

− 3.8

0.0 − 1.6 + 1.3 + 0.2 −0.4 −1.1 +0.8 +0.6

mean pos 11 51 12.2 + 26 7.0

(+0.2 − 1.4 + 1.5 + 0.4) (−0.2 − 0.9 + 1.0 + 0.8)

		x	y	x	y
	a	20.0	30.1	25.0	36.6
	b	113.8	59.0	118.8	65.5
	n	55.3	39.9	60.4	45.4
+25 2442	d	38.0	18.7	44.0	25.2
+26 2280	e	83.5	61.7	88.6	68.2

Do. using cat for +25 2442 / +26 2280

	x	x	x	x
n−a	+ 35.3	− 58.5	+ 16.3	− 28.2
	+ 35.4	− 58.4	+ 16.4	− 28.2
	+ 35.35	− 58.45	+ 16.35	− 28.2
	+ 35.70	− 59.03	+ 16.51	− 28.48
	÷ .449	÷ .449	÷ .449	÷ .449
	+ 79.5	− 131.5 / 36.8	+ 36.8	− 63.4
	y	y	y	y
n−a	+ 9.8	− 19.1	+ 21.2	− 21.8
	+ 9.8	− 19.1	+ 21.2	− 21.8
	+ 9.90	− 19.29	+ 21.41	− 22.02
	+ 4.95	− 9.64	+ 10.70	− 11.01

+26 6.9 +1 / 6.1 −7 / 6.8 0 / 6.1 −7 / 7.3 +5 / 7.8 +10 / 410 / 16-14 / 1 / 6.8

+26

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1909phae.proj.23018

For original meas. see pg 133 this book.

A8261 No. 225 Sept 23, 1909 & Dec. 9, 1909.

1900 pos * 11 53 0.9 +25 40.2

a	+25 2436	11	48	58.8	+25	46.8	+10 2.6	=	11	50	40.4	+ 7.8	=	+25	55.2
b	+26 2287	11	54	20.5	+26	12.6	−218.0	=	11	50	41.0	−17.4	=	+25	55.2
c	+26 2272	11	48	45.4	+26	29.1	−								
d	+26 2276	11	49	53.7	+26	1.9	+49.0	=	11	50	42.1	− 6.8	=	+25	55.2
e	+26 2285	11	53	26.6	+26	11.6	−164.6	=	11	50	41.4	−15.6	=	+25	56.0
									11	50	41.8			+25	55.6

c − a = − 13.4

$\frac{\text{c to } +26.5}{2}$

.447

− 6.0

−1.2 −0.6 +0.6 +1.4 −0.7 −0.1 −0.1 +0.9

mean pos 11 50 41.4 +25 55.2

(−1.0 −0.4 +0.8 +1.6) (−0.6 +0.0 00 +1.0)

		x	y	x	y
	a	20.0	13.5	25.0	2.2
	b	162.5	65.8	167.5	75.9
	c	65.6	29.0	70.6	39.9
+26 2276	d	43.8	42.5	48.8	53.4
+26 2285	e	138.8	59.8	143.8	70.9

	x	x	x	x
m-a +45.6	m-b	− 96.9	m-d + 21.8	m-e − 73.2
+45.6		− 96.9	+ 21.8	− 73.2
+45.6		− 96.9	+ 21.8	− 73.2
+46.06		− 97.87	+ 22.02	− 73.93
÷ .449		÷ .449	÷ .449	÷ .449
+102.6		− 218.0	+ 49.0	− 164.6

	y	y	y	y
m-a +15.5	m-b	− 36.8	m-d − 13.5	m-e − 30.8
+15.7		− 37.0	− 13.5	− 31.0
+15.6		− 36.9	− 13.5	− 30.9
+15.76		− 37.27	− 13.64	− 31.21
+ 7.88		− 18.64	− 6.82	− 15.60

Dec. 11 cal for [illegible] +26 2285

+25° 55.4 0
55.3 −1
55.3 +1
55.2 −2
55.2 −2
56.0 +6
2.6

+25° 55.4

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1909phae.proj.2301B

see page 149 for meas. this neb

A8261 No. 244 Sept. 24th

					1900 pos	11 50 41.7	+25 22.8	
a	+25 24 34.1	11 46 39.3	+25 39.2	+77.0	= 11 48 33.8	−3.6	= +25 35.6	
b	+25 24 34.8	11 48 58.8	+25 34.9	−58.9	= 11 48 20.8	+3.3	= +25 35.3	
c	+26 22 27.4	11 48 19.8	+26 34.2		11 48 22.8		+25 35.4	
					mean pos	11 48 21.1	+25 34.8	
						+0.8 −0.8	+0.2 −0.1	
						(+1.9 +0.3)	(+0.8 +0.5)	

$\frac{\cos +26.5}{2}$ $\frac{6}{}$

c − b = + 0.1 / 44.7 / 0.0 / +12

	x	y	x	y
a	39.3 / 38.4	21.0 / 28.4	34.3	31.1
b	90.0	7.3 / 20.8	95.0	17.5
m	63.7 / 48.9	13.9 / 19.7	68.7	24.0

	x	x	y	y
a	+34.4	−26.3	−7.1	+6.6
c	+34.4	−26.3	−7.1	+6.5
d	+34.4	−26.3	−7.1	+6.55
	+34.74	−26.56	−7.17	+6.61
	÷ 451	÷ 451	−3.58	+3.30
	+77.0	−58.9		

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1909phae.proj.20018

see pg. 155 for original mean. this nebula

A8261 . No. 249 Sept. 24, 1909. & Dec. 9, 1909.

								1900 pos	11	47	51.0		+25	23.3		
+25	2425	11	42	20.9	+25	50.9	+ 1893 / 191.2 =	11	45	32.1	0.2 − 14.0	3.9 =	+25	36.8	7.0	
+25	2432	11	47	41.4	+25	30.6	− 129.8 / 131.4 =	11	45	30.3	1.6 + 8.6	5 =	+25	39.1	1	
+26	2270	11	47	58.9	+26	19.8										
+25	2428	11	45	14.3	+25	58.5	+ 15.8 =	11	45	30.1	29.9 − 20.6	4 =	+25	39.3	8.1	
+25	2430	11	46	39.3	+25	30.3	− 67.3 / 6.6 =	11	45	32.0	+ 9.1	= +25		39.4		
								11	45	31.1			+25	38.4		
							mean pos.	11	45	31.0			+25	38.3		
								−0.9	+0.5	−1.2	+1.6		−1.4	+0.7	−0.3	+0.9
								(−0.8)	+0.6	−1.1	+1.7)		(−1.3	+0.8	−0.2	+1.0)

c−b = +17.5

$\frac{c_{50}+26.3}{3}$

.448

+7.8

		x	y	x	y
	a	11.4	55.7	16.4	64.2
	b	1550	10.9	160.0	19.5
	η	96.6	28.0	101.6	36.6
+25 2428	d	89.6	68.8	94.5	77.4
+25 2430	e	126.6	9.9	131.6	18.5

corrected pos. + reduced to +25° 38.2 on plates

	x	x	x	x
	m−a + 85.2	m−b − 58.4	m−d + 7.0	m−e − 30.0
	+85.2	−58.4	+7.1	−30.0
	+85.2	−58.4	+7.05	−30.0
	+86.05	−58.98	+7.12	−30.30
	÷ .450	÷ .450	÷ .450	÷ .450
	+191.2	−131.0	+15.8	−67.3
	y	y	y	y
	m−a − 27.7	m−b + 17.1	m−d − 40.8	m−e + 17.1
	−27.6	+17.1	−40.8	+18.1
	−27.65	+17.1	−40.8	+18.1
	−27.93	+17.27	−41.21	+18.28
	−13.96	+8.64	−20.60	+9.14

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1909phae.proj.2301B

see page 160 for first meas this neb.

A8261 No. 25 Sept. 25, 1909

1900 pos 11 36 26.5 + 25° 21.5

a = +25 21 19	11 32 35.1	+25	19.6	+9	= 11 34 5.4	+25	= +25	35.5
b = +26 22 52	11 36 41.1	+26	2.3	−15	= 11 34 5.8	−25.8	= +25	37.3
c = +25 21 27	11 37 8.4	+26	21.2		11 34 5.6		+25	36.4

mean pos 11 34 6.2 +25 36.4

−0.3 +0.3 ∓0.9 +0.9

(−0.8 −0.4) (−0.9 +0.9)

x

c − a = +273.3

.448

+122.4

Coo +26.3 / 2

	x	y	x	y
a	10.0	5.5	15.0	7.1
b	120.6	87.3	125.5	88.7
η	50.7	37.4	55.6	38.8

x	x	y	y
η−a +40.7	η−b −69.9	η−a +31.9	η−b −49.9
+40.6	−69.9	+31.7	−49.9
+40.65	−69.9	+31.8	−49.9
+41.06	−70.60	+32.12	−50.40
÷ .450	÷ 450	+16.06	−25.2
+91.2	−156.9		
✓	✓		

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1909phae.proj.22018

A 8261 No. 254 Sept 25, 1909

a=

b=

c=

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1909phae.proj.2301B

A 8261

No. of Neb	Diff in α	Diff in δ	No. of Neb	Diff in α	Diff in δ
1a	−0.8	−0.8			
1	+2.7	+0.5	29	+0.8	−0.2
2	−0.8	−0.9	30	+1.4	−0.3
3	+0.6	−0.5	31	−1.0	+1.3
4	+2.7		32	+3.2	+1.5
5			33	+3.2	+0.3
6	+6.4	−0.2	34	+3.4	−0.2
7 8	+1.9	+0.2	35	+5.3	−0.2
8	+4.7	+0.4	36	+6.2	−0.1
9	+2.1	+0.6	37	+0.3	−0.5
10	+3.6	−0.4	38	−0.4	−0.4
11	+0.7	−0.3	39	+3.1	+0.1
12	−0.1	+0.2	40	+0.7	−0.2
13	−0.1	+0.2	41	+0.8	−0.1
14	+3.9	+1.8	42	−5.5	0.0
15	−1.2	+0.2	43	+3.8	−0.2
16	+6.7	−0.4	44	+0.1	−0.1
17	+3.2	+1.5	45	−0.2	+0.8
18	+2.9	+1.5	46	+0.3	+0.2
19	+0.4	+0.4	47 (48 is rejected)	−2.1	−0.1
20	+3.6	−0.1	49	−2.1	−0.1
21	+3.0	−0.4	50	+2.6	−0.3
22	+4.1	+0.8	51	+2.6	−0.3
23	+3.9	+0.7	52	+1.9	+0.4
24	+0.1	−1.2	53	+1.7	+2.0
25	+0.1	−1.2	54	+4.4	+1.1
26	+1.5	+1.3	55	0.0	0.0
27	−3.8	+0.1	56	−2.9	−0.1
28	−3.8	+0.1	57	+2.5	−0.5
			32a	+0.9	−0.1

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1900phae.proj.20018

No. of Ref.	Diff in α	Diff in δ	No. of Ref.	Diff in α	Diff in δ
58	+2.7 ~~3.9~~	−0.4 ~~0.2~~	86	+1.2	+1.8
59	+2.4	+1.6	87	+3.1	+0.4
60	+3.9	−0.2	88	−0.2	+0.4
61	−0.5	0.0	89	+1.5	−0.4
62	−2.3	+0.5	90	+1.4	−2.1
63	+5.2	+0.5	91	+1.4	+0.4
64	+1.2	+0.4	92	+3.2	+1.1
65	+1.2	+0.4	93	−0.1	−0.7
66	+0.8	−1.1	94	+2.1	+0.3
67	−0.2	+0.9	95	+2.2	+0.2
68	+1.2	+0.5	96	+2.1	+0.2
69	−4.1	+0.~~7~~5	97	+2.1	+0.2
70	−4.1	+0.4	98	+2.1	+0.2
71	−1.2	−1.2	99	+2.5	−1.3
72	+4.0	−0.1	100	+2.6	−1.3
73	+3.9	−0.1	100a	+2.6	−1.3
74	0.0	−0.3	(102 is rejected.) 101	+2.6	−1.3
75	+1.8	+0.3	103	+2.4	+1.0
76	+0.4	+0.1	104	−0.3	+1.6
77	+0.4	+0.1	105	+4.3	+1.3
78	+1.5	−1.1	106	+0.8	+1.1
79	+1.5	+1.5	107	−0.4	−0.8
80	+1.7	+1.5	108	+1.4	−0.1
81	+1.6	+1.6	109	+4.2	−1.7
82	+1.9	−0.1	110	+3.0	−1.9
83	−0.6	−0.3 (112 is rejected)	111	+2.8	−0.3
84	−1.3	0.0	113	−0.1	+0.2
85	−1.2	0.0 (114 is rejected)	115	+0.6	+2.1

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1909phae.proj.2301B

No. of Neb	Diff in α	Diff in δ	No. of Neb.	Diff in α	Diff in δ
115	+0.5	−0.9	144	+1.2	+0.2
116	−0.4	+0.2	145	+7.0	−0.7
118	−0.4	+0.3	146	+7.0	−0.8
119	−0.5	+0.3	147	+6.9	−0.7
120	−1.1	+1.3	148	+6.9	−0.8
121	+1.3	−1.6	149	+2.5	+0.1
122	+0.5	−0.3	150	+2.5	+0.1
123	−1.0	−1.2	151	−0.8	−2.3
124	−1.0	−1.2	152	−0.7	+1.8
125	+2.9	+1.5	153	−0.1	+0.9
126	−0.3	+0.2	154	+3.5	−1.1
127	+3.5	−0.5	155	+1.4	+0.5
128	+2.1	−0.3	156	+1.2	+0.2
129	+1.3	−0.3	157	+1.5	−1.0
130	+2.9	−0.5	158	+1.6	+0.8
131	+3.0	−0.7	159	+2.1	−1.0
133	−0.9	−1.3	160	+2.1	0.0
132	−1.0	−0.7	161	+2.1	+0.1
134	+1.4	−0.3	162	+2.9	+0.6
135	+1.8	−0.2	163	+2.9	+0.6
136	+1.5	−0.4	164	+2.1	−0.6
137	−1.1	+0.5	165	+2.0	−0.6
138	−1.2	+0.6	166	+2.0	−0.6
139	+0.9	+1.0	167	+0.9	+0.9
140	+0.9	+0.9	167a	+1.0	+0.4
141	−0.7	−0.9	168	+1.0	+0.3
142	−0.7	−0.8	169	+2.8	−0.9
143	−0.3	−1.0	169a	+2.7	−1.0

(95 Hyd

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1900phae.proj.20010

No. of neb.	Diff in α	Diff in δ	No. of neb.	Diff in α	Diff. in δ
170	+2.5	+0.3	199	+3.4	+0.5
171	+1.8	+1.1 +0.9	200	−3.6	0.0
172	+1.8	+1.1	201	−1.6	−0.3
173	−2.8	+1.0	202	−3.6	+0.1
174	+0.4	−0.8	203	0.0	−0.2
175	+2.6	−0.2	207	−0.2	−0.2
176	+1.4	−0.7	204	+2.0	+2.0
177	+3.3	+1.1	205 is nyctal 206	−0.7	+0.7
178	−~~2.3~~ 0.8	+0.2	208	+0.9	−0.7
179	−6.9	+0.3	209	+4.8	−0.2
180	−6.9	−0.1	210	+1.3	−0.3
181	+0.8	+0.8	211	−7.3	−1.1
182	+6.4	−0.9	212	+1.3	−2.0
183	+6.4	−0.9	213	+0.4	−0.4
184	−1.5	−0.5	214	+0.4	−0.4
185	+1.2	+0.3	238	+0.3	−0.4
186	+1.0	+0.3	215	+2.8	−1.1
187	+1.1	+0.3	216	+4.7	+1.3
188	+2.9	+1.3	217	+2.8	+1.1
189	+~~5.7~~ 4	+1.3	218	+3.1	−0.1
190	+2.3	+1.1	219	+3.3	−0.9
191	+2.3	+1.1	220	+3.5	−1.0
192	+3.8	+0.3	221	+1.0	+0.8
193	+5.1	+0.6	222	+4.1	+1.0
194	+5.7	+0.2	228 8	+4.0	+1.0
(195 is nyctal) 196	−0.8	+1.1	229	+4.0	+1.0
197	+0.2	−0.2	230	+4.0	+1.0
198	0.0	−0.2	223	+3.7	+0.4

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1909phae.proj.2301B

No. of neb.	Diff in α	Diff in δ	No. of neb.	Diff in α	Diff in δ
226	+ 3.6	+0.3	259	+ 2.9	+0.6
224	+0.9	− 1.1	261	+ 3.2	−0.6
225	− 1.3	− 2.2	262	0.0	−0.9
227	+0.5	− 1.0	263	+ 2.8	+0.3
231	+ 3.7	+ 1.3	264	+ 1.3	−0.8
232	+0.5	+0.9	265	+ 1.4	− 0.8
233	+0.4	+ 1.3	266	+ 0.1	− 0.2
234	−0.9	−0.3	267	+ 1.6	+0.4
235	− 1.8	−0.6	245	− 2.2	0.0
236	+ 2.9	− 1.0	246	− 0.9	− 0.8
237	0.0	+ 1.4	244	+ 3.0	+0.3
239	+ 4.0	− 0.4			
240	+ 4.0	− 0.5			
241	+ 2.4	+ 1.4			
242	+ 2.7	+0.1			
243	+ 2.4	− 1.4			
248	− 1.0	−0.3			
247	− 0.8	−0.6			
249	+ 1.9	− 2.3			
250	+ 2.5	+ 0.4			
251	+ 1.4	+ 0.9			
252	+ 1.8	+ 0.8			
253	− 2.0	+0.1			
254	+ 5.2	− 1.4			
255	+ 2.0	+ 0.6			
256	+ 0.9	− 0.5			
257	+ 0.5	− 0.8			
258	+ 2.0	+ 1.0			

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