1897phae.proj.1345

KG
11366
v.341

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1907phao.proj..1945;

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1897phae.proj.1345.

March 25, 1897. (Thursday)

R. Comae Phot. T. W = Bso

11 5-2 + 20.2
7 40-
4 7
12
7 5-3

11 5-2
7 50
4 2
12
7 5-8
clouds

11 5-7 22.2
7 5-4
4 3
12
7 5-7

clouds

11 40 + 21.0
7 3
3. 37
12
7 23

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1897phae.proj.1345

March 25 1897.

Clouds

α 1α $+20.\alpha$

12

-3 $\not<2$

α 3 7 $\nabla\alpha$

11 $\not<0$ 11 $\not<0$

-3 37 -3 $\not<2$

∴ Subtract ∇ min. from chron. time.

" " $0^{\circ}.2$ " " dec. circle.

11. 52 $+20.2$

4 3

3 49

12

8 11

11 57 $+19.4$

4 47

3 40

12

8 20

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1607phac.proj.1515

March 25 1597.

11 5·7 +19.4

8 ~~XX~~ 36

12 24

8 ~~4~~ 36

α 3α

11 √7

3 19

α 4 1

η compared with k

Index above

82.1 < comp. dis.

110.5 2α.K <

81.9 2α.0 <

109.9 √6.K < 3.00 <

81.6 2.9K < (2.97) <

111.0

82.6 2α.√ <

111.1 √7.9 < 2.9K <

Index below

173.2 26.0 <

199.2

171.0 29.0 <

200.0 √√.0 < 3.06 <

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March 25 1897

	170.7	30.0 <	(2.9 α) <
δ 32	201.7		
	172.2	2 α.7 <	
	200.9	√α.7 < 2.91 <	mean = 2.9 α <

θ compared with h

Index right and below

	172.5	
δ 37	199.0	26.√ <
	174.9	23.α <
	198.3	α9.9 < 3.2 α <

	175.6	
	197.1	21.√ < (3.2 α) <
	171.0	2α.6 <
	199.6	√0.1 < 3.27 <

Index left and above

	260.9	
	284.0	23.1 <
	263.8	1α.α <
	282.2	α1.√ < 3.69 <

	265.9	
	288.6	22.7 < (3.√6) <
δ 48	262.3	2α.1 <
	286.4	α6.α < 3.α2 < mean 3.α2 <

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March 25 1897

δ compared with h

~~δ compared~~ Index above

262.8
292.6 29.2

259.8
293.2 3K.9 / 6K.1 2.71

259.8
293.0 33.7 (2.64)

259.8
294.0 3K.2 / 67.9 2.65

Index below

307.0
23.2 32.2

350.0
22.9 32.9 / 6V.1 2.67

350.1
20.2 3V.1 (2.64)

357.0
22.7 31.7 / 66.4 2.61 mean 2.64

ε compared with h

Index below

346.0
22.2 3V.7

345.3
24.1 34.4 / 7K.5 2.36

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March 25 1897.

348.6
24.5 — 3V.9 — (2.KV)
348.1
21.2 — 33.1 / 69.0 — 2.VK

Index above
258.9 — 3K.1
293.0
256.5 — K0.V / 7K.6 — 2.36

~~255.4~~
259.0 — 3V.7 — (2.K2)
294.7
258.9 — 3K.A / 70.V — 2.K9 Mean 2.KK

Kb compared with b
Index above
254.8 — KV.0
299.8
252.0 — KA.K / 93.K — 1.A2
300.4

253.1 — V0.V — (1.A1)
303.6
255.0 — K3.9 / 9K.K — 1.A0
295.9

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1897phae.proj.1345.

March 25 1897
Index below

# 342.5			
28.0	K 5.5		
340.1	5 0.7		
30.8	96.2	1.7 5	
341.9	K 9.4		(1.7 K)
31.3			
343.3	K 7.1		
30.4	96.5	1.7 K	Mean 1.7 K

n	5	a'
a'	4	a
a	5	ε
ε	# 5	9
9	4	η
η	3.5	θ
θ	6	K

Measurements made with much difficulty: and much of the time through clouds, ~~the~~ mich delayed also through out by clouds

1897phae.proj.1345.

March 25 1897.

Σ 1864 π Bootis Phot H W Obs.

14	30	+17.0
10	35	
8	57	
12		
8	.3	

Clouds.

Clouds thick.

~~Observed~~

14	30	
11	00	
8	30	
12		
8	20	

Index right and below

	357.5		
10 40	59.0	63.5	
	353.1	66.2	
	59.3	129.7	-0.99
	353.3		-1.02
	60.4	67.1	
	359.4	59.9	
	58.3	127.0	-1.04

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1897phae.proj.1345.

March 2-5 1897

Index left and above

Mean = 0.07

83.9			
151.0	67.1		
79.0	75.1		
154.1	142.2		−0.73
79.9			−0.72
154.9	75.0		
82.7	68.3		
151.0	143.3		−0.71

Position ang. 100°; dist 5″; Mags 5.0 6.0

Σ 1888 ξ Bootis Phot H N-Obs

14	46	+19.6
11	20	
3	26	
12		
8	34	

14	46	
11	25	
3	21	
12		
8	39	

10 49

Apparently the right stars found but no companion 7″ distant seen. If star has companion it must either be very close or pretty faint? variable?

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1897phae.proj.1345.

March 26 1897 (Friday)

7	15	~~Cloudy~~ Thickly clouded.
7	30	" " no stars visible.
8	00	" " " " "
7	30	still cloudy " " "
8	45	Still too cloudy for any work.

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1897phae.proj.1345.

March 29 1897 (Monday)

S. Cancri Phot T ... W-Obs

8 36 +19.6

8 00

36

12

11 24

Index above

126.8 Var. dec.

7 28 4 247.1 120.3<

129.0 108.1< +0.95<

228.4<

237.1 131.6<

131.2 (0.94)<

7 29 46 240.4 109.2<

116.8 118.5<

227.7< I +0.93<

245.3 132.3<

Index below

218.2

7 31 32 334.3 116.1<

224.7 102.5<

218.6< +0.95<

327.2 141.4<

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1897phae.proj.1345.

March 29 1897

225.5

7 38 33 (23)
4(12) 57
12 31 59
−2 40
12 29 19

326.9 101.1 <
218.6 115.6 <
334.2 216.7 <
143.3 <

(0.73) −
+0.71 <
III = +0.84 <

216.6

7 36 56

331.9 115.3 <
223.8 109.7 <
338.5 225.0 <
113.0 <

+0.88 −

(0.82) −

123.0

7 33 47

328.3 105.3 <
220.2 114.7 <
334.9 220.0 <
140.0 <

II
+0.77 −

Index above

306.4

7 42 22

63.0 116.6 <
310.8 108.5 <
59.3 225.1 <
134.9 <

+0.88 <

312.6

(0.88) −

7 44 23

4(15) 28
12 39 22
−2 40
12 36 42

61.3 108.7 <
308.1 116.9 <
65.0 225.6 <
134.6 <

+0.89 <
III = +0.85 <

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1897phae.proj.1345

March 29 1897.

304.5⁻
7 47 25⁻ 65.5⁻ 121.0 <
312.0 107.8 <
59.8 228.8 <
131.2 <
+0.95 <

314.4 (0.87)
7 52 9 60.0 105.6 <
308.1 115.7 <
63.2 220.7 < +0.79 <
139.3 <

I noted below
39.1
7 58 57 150.9 111.8 <
49.9 104.3 <
147.2 216.1 < +0.70 <
143.9 <

43.8 (0.68)
8 00 1 146.0 102.2 <
4(21 8 32 40.0 111.8 < +0.65 < III = +0.78 <
12 54 38 v 215.0 214.0 <
−2 40 v 1511.9 146.0 <
12 51 58 v

#37.9
8 3 7 150.7 112.8 <
46.0 101.1 <
147.1 213.9 <
156.1 < +0.65 <

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3 7

March 29 1897

46.0
8 5 11 147.1 101.1 <
40.4 108.5 <
148.9 IV 209.6 < +0.57
15 0.4 <

(0.61)

Under above
129.0
8 8 37 242.9 113.9 <
133.1 106.9 <
240.0 220.8 < +0.79 <
139.2 <

(0.84) <

130.0
8 11 8 140.3 110.3 <
4(28 3 < 128.5 115.6 < +0.89 <
13 7 1 < 244.1 134.1 <
-2 40 III = +0.72
13 4 21 <

128.5
5 13 43 243.8 115.0 <
131.7 109.9 <
241.6 225.9 < +0.87 <
135.1 <

(0.91) <

130.0
8 15 29 241.8 111.8 <
126.7 116.7 <
243.4 V 228.5 < +0.95 <
131.5 <

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1897phae.proj.1345.

March 29 1897

Index below.

220.3

δ 17 53

333.8 113.5<

224.8 106.1<

330.4 219.6< +0.77-

140.4<

224.7 (0.76)-

δ 19 30

327.8 103.1<

4(26 37< 57 218.2 115.8<

13 16 39< 218.9< +0.75- M = +0.84<

-2 40 334.0 141.1<

13 13 59<

218.2

δ 21 16

334.4 116.2<

221.9 109.0<

330.9 225.2<

137.4< +0.44<

223.2

δ 23 13

331.2 1080< +(0.85-)

220.0 1144<

334.4 VI 2224<

137.6< +0.42-

Index above

306.2

δ 26 18

62.9 126.7<

309.7 112.1-

61.8 238.8<

131.2- +0.9-<

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March 29 1897

	312.3		(0.94)	
8 28 0	64.6	112.3 <		
4(8 47 -17)	308.0	115.4 <	+093 <	III = +0.90
13 4 42 <	63.4	227.7 <		
-2 40		132.3 <		
13 22 2 <				
	308.5			
8 31 33	63.2	114.7 <		
	311.6	110.1 <	+0.87 <	
	61.7	224.8 <		
		135.2 <		
			(0.81) <	
	313.0			
8 34 1	59.4	106.4 <		
	309.7	112.3 <	+0.75 <	
	62.0	218.7 <		
	VII	141.3 <		
	Index below			
	40.8			
8 38 5	151.5	110.7 <		
	41.8	107.5 <	+0.74 <	
	149.3	218.2 <		
		141.8 <		
	42.4		(0.70) <	
8 39 44	149.7	107.3 <		
4(23 31 -211	42.2	107.3 <		
13 35 53 <		214.6 <	+0.67 <	III = +0.76 <
-2 40	149.5	145.4 <		
13 33 13 <				

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1897phae.proj.1345.

March 29 1897

41.1

δ 42 15 150.2 109.1 <
41.3 109.0 <
150.9 218.1 <
148.1 <
+0.74 <

42.2 (0.71) <

δ 44 58 146.8 104.6 <
39.6 110.9 <
150.5 215.5 <
144.5 <
+0.68 <

VIII

Index above
130.5

δ 47 48 240.4 109.9 <
129.3 114.6 <
243.9 224.5 <
135.5 <
+0.87 <

128.1 (0.90) <

δ 50 2 244.3 116.2 <
4(180 − 3 < 180.5 111.4 <
13 46 16 < 241.9 227.6 <
− 2 40 132.4 <
13 43 36 <
+0.93 <

III = +0.80 <

134.0

δ 55 30 242.2 108.2 <
129.4 113.9 <
248.3 222.1 <
137.9 <
+0.82 <

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55- 30

March 29 1897

130.1 (0.80-)
8 56 47 244.0 113.9
131.9 111.1
243.0 IX 225.0 +0.88
135.0

Index below

224.0
9 - 05 36 331.4 107.4
221.8 110.3
217.7 +0.73
332.1 142.3

220.9 (0.76)
9 2 30 332.1 111.2
222.0 109.1 +0.78 III = +0.80
331.1 139.7
(23 - 23 = 213)
13 58 51
- 2 40
13 56 11

blonde.

224.0
9 6 18 332.0 108.0
223.1 109.0
217.0 +0.71
332.1 143.0

223.9 (0.68)
9 8 17 332.3 108.4
221.7 105.4
3 27.5 X 214.2
145.4 +0.66

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1897phae.proj.1345.

March 29 1897

Index above

9 11 20

312.0
~~61.7~~ 61.7
309.4
64.0

109.7 <
114.6 <
224.3 <
135.7 <
+0.86 <

310.5
63.1
313.7
60.9

(0.82) <
112.6 <
107.2 <
219.8 <
140.2 <
+0.77 <

9 13 24

4 (39 19 < 1895
14 9 50 <
-2 40
14 7 10 <

M = +0.75

312.3
59.1
312.0
60.9

9 19 20

106.8 <
108.9 <
215.7 <
144.3 <
+0.69 <

311.3
62.0
313.0
59.1

(0.70) <
9 21 24
110.7 <
106.1 <
216.8 <
143.2 <
+0.71 <

Index below

44.6
146.5
~~44.7~~
43.5
151.6

9 24 6

101.9 <
108.1 <
210.0 <
150.0 <
+0.58 <

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1897phae.proj.1345.

March 29 1897

~~151.6~~

9 27 15 — 43.8

4(92 5 — 149.0 — 105.2 — (0.56) —

14 23 1 — 43.4 — 103.4 —

−2 40 — 208.6 — +0.55 —

14 20 21 — 146.8 — 151.4 — & III = +0.63 —

~~146.8~~

47.0

9 35 37 — 145.3 — 98.3 —

~~45.0~~ 46.5 — 99.3 —

145.8 — 197.6 — +0.33 —

162.4 —

44.2 — (0.39) —

9 39 38 — 149.1 — 104.9 —

46.0 — 98.9 —

144.9 — XII — 203.8 — +0.40 —

156.2 —

Index above

133.0

9 42 33 — 239.9 — 106.9 —

130.6 — 111.4 —

242.0 — 218.3 — +0.74 —

141.7 —

131.1 — (0.72) —

9 44 56 — 243.0 — 111.9 —

4(62. 44 16 — 134.0 — 104.7 —

14 40 41 — 238.7 — 216.6 — +0.71 — III = +0.56

−2 40 — 143.4 —

14 ~~43~~ 1

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1897phae.proj.1345.

March 29 1897

141.4
9 48 32 235.9 794.5<
130.8 110.2<
241.0 2047< +0.47<
155.3<

(0.55)<

129.2
9 49 30 240.0 110.8<
135.8 101.9< +0.63<
237.7 XIII 212.7<
147.3<

Index below

227.3
9 53 12 323.9 96.6<
225.4 101.9< +0.35<
327.3 198.5<
161.5<

~~146.1~~ (0.41)<
225.2
10 00 00 330.4 105.2<
4(211 14=194 225.4 99.6< +0.47< M = +0.48<
14 52 48< 325.0 205.2<
-2 40
14 50 8<

226.3
10 2 5 325.0 98.7<
222.9 100.1<
323.0 198.8< +0.36<
161.2<

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1897phae.proj.1345.

March 29 1897.

223.7
10 4 32 326.5 102.8 (0.40)
227.3 99.9
327.2 XIV 202.7 +0.43
157.3

Index above
319.4
10 8 8 54.8 95.4
312.9 104.9
200.3 +0.39
57.8 159.7

314.9 (0.40)
10 10 37 57.0 102.1
4)26 22 314.7 99.3
15 6 20 201.4 +0.41 III = +0.40
-2 40 54.0 158.5
15 3 40

317.1
10 12 48 55.1 98.0
315.7 99.6
55.3 197.6 +0.33
162.4

313.5 (0.26)
10 14 52 56.2 92.7
316.5 97.8
54.3 XV 190.5 +0.20
169.5
blends

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1897phae.proj.1345.

March 29 1897
Index below

~~10 20 0~~

~~140.9~~
~~226.3~~
~~131.2~~
~~231.5~~

~~[illegible]~~
47.1
10 22 18 140.5
44.7
~~[illegible]~~
142.7

93.7 <
98.0 <
191.7 < +0.22 <
168.3 <

(0.26) <

45.1
10 25 33 144.8
48.8
145.2

99.7 <
96.4 <
196.1 < +0.30 < M = +0.29
163.9 <

6

4(75 31 < 211
15 18 53 <
-2 40
15 16 13 <

49.0
10 27 17 142.1
49.3
143.4

93.1 <
94.1 <
187.2 < +0.14 <
172.8 <

(+0.25) <

45.8
10 28 44 145.5
45.3
143.6

99.7 <
98.3 < +0.34 <
198.0 <
162.0 <

XVI

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1897phae.proj.1345.

March 29 1897

Index above

138.4

10 81 7

235.6 97.2 <

136.0 99.0 <

235.0 196.2 < +0.31 <

163.8 <

137.8 (0.28) <

10 33 16

235.0 97.2 <

136.9 96.5 <

233.4 193.7 < +0.26 <

166.3 <

M = +0.26 <

4(20 24 -

15 30 6 <

-2 40

15 27 26 <

140.3

10 35 52

231.8 91.5 <

blinds 100.6 <

136.4 192.1 < +0.23 <

167.9 <

237.0

(0.28) <

135.5

blinds thick

10 39 14

235.1 99.6 <

137.5 98.2 <

235.7 XVII 197.8 < +0.34 <

162.2 <

Index below

~~10 43 42~~

233.0

~~31~~.6

32.4

229.2

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1997phae.proj.1345

March 29 1897

~~10 46 20~~

322.1
~~230.8~~
322.3
~~231.5~~

230.8

10 51 0 — 322.2 — 91.9 <
230.4 — 91.1 <
322.5 — 183.0 < — +0.06 <
177.0 <

232.3 — +(0.02) <

10 52 30 — 320.3 — 88.0 <
231.0 — 91.1 < — −0.02 < — Mn = +0.15 <
322.1 — 179.1 <

~~4(178 36 < 156~~
~~15 44 39 <~~
~~−2 40~~
~~15 41 59 <~~

233.9

10 56 50 — 319.7 — 85.8 <
230.8 — 91.6 < — 0.05 −
322.4 — 177.4 <

232.2 — −(0.04) −

10 58 45 — 321.9 — 89.7 <
232.0 — 88.2 < — −0.04 <
320.2 — 177.9 <

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1897phae.proj.1345.

March 29 1897

Index above

322.5

11 1 13

51.0 88.5<
317.3 94.2<
58.5 182.7<
177.3<

+0.05<

(0.00)<

319.7

11 3 3

49.9 90.2<
324.0 87.6< −0.04<
51.6 177.8<

XVIII

M = −0.02

4(239 5-1 < 231
15 5-9 58<
−2 40<
15 57 18<

324.0

11 3 50

51.9 87.9<
320.6 91.2< −0.01<
52.8 179.6<

−(0.02)<

321.7

11 5 18

51.2 89.5<
322.9 88.9< −0.03<
51.8 178.4<

XIX

Index below

53.8

11 7 30

138.0 84.2<
49.4 88.7< −0.13<
138.1 172.9<

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1907PDAE..proj..15J5.

March 29 1897.

	52.6		−(0.14)ᶜ
11 9 25	139.3	86.7ᶜ	
4(26 3ᶜ 123	53.9	85.3ᶜ	− 0.15ᶜ
16 6 31ᶜ	139.2	172.0ᶜ	M = −0.08ᶜ
−3 40			
16 3 51ᶜ			

Watch used in preceding means was 2ᵐ 40ˢ fast.

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1897phae.proj.1345.

March 30 1897. (Tuesday)

δ Cephei Phot W-Obs

21	33	+78.4
32 ~~8~~	17	
~~+8~~	16	
+		
+10	~~44~~	

21	33
32	22
10	49

δ 4 C 4 nar.
c var 1.5 d in finder.

c 2.5 nar.
c var 2.5 d in large telescope
meast. of δ Cephei. Phot. T. Nr. ds.
Compared with star c.
Index to left
146.9 c var dist.
δ 7 30 226.0 79.6
152.3 66.1 −0.66
218.4 145.7

1897phae.proj.1345.

March 30 1897

$-(0.66)$

152.3		
220.2	67.9	
146.8	73.2	-0.65
225.0	140.1	

Index to right.

238.9		
314.4	75.6	
242.7	67.3	-0.72
310.0	142.9	

$-(0.82)$

244.2		
307.1	62.9	
240.6	70.6	-0.91
311.2	133.5	

$M = -0.74$

8 16

2 | 23 30

13 11 45

−2 43

13 9 2

Same again.

240.0

8 19

313.5	73.5	
243.4	65.8	-0.78
309.2	139.6	

$-(0.77)$

243.3		
309.6	66.3	
238.7	74.6	-0.76
313.3	140.9	

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March 30 1897

Index to left

328.3

43.0	74.7 <	
333.4	66.5 <	−0.70 <
39.9	141.2 <	

333.3 −(0.80)

36.9	63.6 <	
329.4	72.8 <	−0.85 <
42.2	136.4 <	

M = −0.78

8	27
13	23 0 <
	−2 43
13	20 17

Comparison stars for

R Cancri Photo N−Obs

8	5	+11.7
9	48	
1	43	

8	10	+12.1
9	58	
1	48	

8	10
10	3
1	53

Abandoned

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1897phae.proj.1345

March 30 1897

S. Canaries Phot. W. Obs

8 36 +19.6

10 5

1 32

Index below

65.4 Lvar dis

9 28 26 126.2 60.8 <

69.9 5 1.3 < −1.37 <

121.2 11 2.1 <

−(1.38) <

69.5

9 30 3 121.7 5 2.2 <

66.4 5 9.5 < −1.38 <

125.9 I 11 1.7 <

Index above

155.0

9 32 36 219.8 64.8 <

161.1 5 4.4 < −1.21 <

215.5 11 9.2 <

−(1.28) <

159.9

9 34 18 213.1 5 3.2 <

4 12 5 23 < 53 156.4 6 0.4 < −1.34 <

14 31 21 < 216.8 11 3.6 <

−2 53

14 28 35

M = −1.33 <

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March 30. 1897

		156.0		
9	36	0	216.6	60.6 <
			158.5	56.1 < −1.27 <
			214.6	116.7 <
				−(1.24) <
			158.7	
	37	31	215.3	56.6 <
			155.5	62.6 < −1.21 <
			218.1	II 119.2 <
			Index below	
			252.0	
9	40	39	303.1	51.1 <
			249.2	56.3 < −1.48 <
			305.5	107.4 <
				−(1.44) <
			248.0	
9	42	37	306.8	58.8 <
			249.7	51.6 < −1.41 <
			301.3	110.4 <
4(156 47) <				
14	39	12 <		
	−2	43		
14	36	29		
			250.6	
9	46	32	303.4	52.8 <
			246.5	57.9 < −1.40 <
			304.4	110.7 <

Mi = −1.34

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March 30 1897

247.5 — (1.40)

9 48 13

305.3		57.8
248.1		52.9
301.0	III	110.7 — 1.40

Index above

339.2

9 50 41

33.9		54.7
335.0		60.7 — 1.29
35.7		115.4

334.9 — (1.28)

9 52 15

34.0		59.1
~~338~~ 337.2		57.5 — 1.27
34.7		116.6

M = −1.34

4 | 197 41

14 49 25

−2 43

14 46 42

339.6

9 54 10

34.8		55.2
335.0		63.7 — 1.22
38.7		118.9

— (1.24)

335.5

9 56 4

36.4		60.9
337.8		56.3 — 1.25
34.1	IV	117.2

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1897phae.proj.1345.

March 30 1897

Index below

69.0

9	58	3	122.0	53.0	
			64.3	61.8	−1.31
			126.1	114.8	
			66.2		−(1.31)
9	59	32	126.4	60.2	
	4	27 49	68.0	54.6	−1.31
14	56	57	122.6	114.8	
	−2	43			
14	54	14			

$\mathcal{M} = -1.28$

67.3

10	1	30	123.3	56.0	
			66.4	58.6	−1.31
			125.0	114.6	
			65.8		−(1.32)
10	3	2	123.9	58.1	
			67.6	55.2	−1.34
			122.8	113.3	

Index above.

158.9

10	5	16	214.9	56.0	
			155.2	61.4	−1.25
			216.6	117.4	

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1897phae.proj.1345.

March 30 1897.

	154.7		
10 6 56	217.0	62.3 <	−(1.22) <
4 16 44 <	157.7	52.9 <	−1.19 <
15− 4 11 <	215.6	120.2 <	$\mathfrak{M} = -1.27$ <
−2 43			
15− 1 28			

Comparison stars for

R Cancri Phot $\mathfrak{M}=8^{m}$

8	5−	+11.6
11	41	
2	5−9	

B ~~B~~ v compared with m
Index left and above

	246.9		
10 49	308.3	61.4 <	
	245.2	63.8 <	+1.08 <
	309.0	125.2 <	
	243.4		+(1.06)
	309.0	65.6 <	
	247.3	60.8 <	+1.05 <
	308.1	126.4 <	

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1897phae.proj.1345.

March 30 1897

Index right and below

337.8
38.5 60.7 -
334.4 61.7 - + 61 4 -
36.1 122.4 -

335.7 + (1.12) -
38.7 63.0 -
334.7 61.7 - + 1.09 - M = + 1.09
36.4 124.7 -

10 57
15 53 0 -
-2 43
15 50 17

γ compared with m

Index above

72.4
11 2 119.9 47.5 -
71.5 49.1 - + 1.74 -
120.6 96.6 -

71.5 + (1.80) -
118.9 47.1 -
73.2 44.8 - + 1.86 -
118.0 91.9 -

Index below

~~159.6~~
~~212.4~~
160.2
211.4 51.2 -
159.5 55.5 - + 1.89 -
215.0 106.7 -

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1897phae.proj.1345.

March 30 1897

	160.1		+ (1.52) <
11 10	213.4	53.3 <	
16 6 0 <	160.7	51.1 <	+ 1.55 <
− 2 43	211.8	104.4 <	
16 3 17			

III = + 1.66

l	4	m
m	4.5	n
n	4	0
0	5	p

Watch used to night was 2m 43s fast.

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1897phae.proj.1345.

March 31 1897. (Wednesday)

S. b Ophi. Phot T. 9"-Obs

21 33 + 78.4
32 15
10 4 5"

Comp. with star e.

21 33
37 30
10 57

Index to left
334.4 < wandi
7.46 25 38.6 64.2 <
330.4 74.2 <
45.2 139.0 < 0.79 <

329.3
7 44 34 43.1 73.2 < (0.21) <
334.8
38.0 63.2 <
137.0 < 0.23 <

Index to right
62.3
7 51 53 127.8 65.5 <
59.1
132.4 73.3 <
138.4 < 0.20 <

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1897phae.proj.1345.

March 31 1897

	61.1			
7 54 26	132.5	71.4 <	(0.44) <	
	64.3	62.7 <		
4 | 201 21	127.0	134.1 <	0.49 <	mean 0.42 <
12 50 20				

Same again

	65.0	62.2 <		
7 57 40	127.2			
	61.3	71.6 <		
	132.9	133.8 <	0.90 <	

	60.0	71.1 <	(0.90) <	
7 59 64	131.1			
	64.3	63.3 <		
	127.6	134.4 <	0.49 <	

Index to left

	148.0			
8 4 26	225.4	77.4 <		
	150.1	70.8 <		
	220.9	147.2 <	0.61 <	

	157.0	69.2 <	(0.63) <	
8 8 22	220.2			
	148.0	77.1 <		
4 | 10 32	225.1	146.3 <	0.61 <	mean 0.76 <
13 2 38				

General mean 0.70

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1897phae.proj.1345.

March 31 1897

✓ c 3.5 var
var 2 d in finder

✓ c 2 var
var 3 d in large telescope

R Cancri Phot T. W. Obs.

8	5	+ 11.6
9	21	
1	16	
8	5	
9	30	
1	25	

B. compared with m
Index to left.
67.1 < comp. dist.

8 52

126.2	59.1 <	
64.0	63.1 <	1.14 <
127.1	122.2 <	

64.4 (1.14)
128.0 63.3 <
66.1 59.4 < 1.13 <
125.5 122.7 <

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1897phae.proj.1345

March 31 1897

Index to right

154.8
218.1 63.3 <
155.2 60.9 < 1.10 <
216.1 124.2 <

156.6 (1.10)
215.0 58.4 <
153.7 65.2 < 1.11 < M1 = 1.12
218.9 123.6 <

8 59
13 55 30

Y compared with X
161.5 < comp. dis.
211.0 49.5 <
160.3 53.3 < 1.59 <
213.6 102.8 <

9. 10

161.3 (1.62)
212.2 50.9 <
161.2 49.6 < 1.64 <
210.8 100.5 <

Index left and above
253.2
~~300.0~~
299.8 46.6 <
253.4 45.9 < 1.77 <
302.3 92.5 <

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1897phae.proj.1345.

March 31 1897

252.5
301.0 48.5<
252.7 48.6< 1.73 M = 1.68
301.3 97.1<

9 16
14 13 0

l 3.5 m
m 5 n
n 3 0
0 4 p

S. Cancri Phot. W-Obs.

8 36 +19.6
10 20
1 44

Index above
154.2 < var dir.
217.6 63.4<
156.9 56.4< 1.20<
213.3 119.8<

9 40

156.8 (1.18)<
214.3 57.5<
153.9 63.4< 1.17<
217.3 120.9<

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1897phae.proj.1345.

March 31, 1897.

Index below

245.9
305.0 59.1 <
250.7 52.9 < 1.37 <
303.6 112.0 <

257.2 (1.44) <
9 51 301.2 50.0 <
14 40 30 < 249.1 55.9 < 1.51 < III = -1.31
305.0 105.9 <

246.0
305.9 59.9 <
9 52 30 252.6 50.6 < 1.41 <
303.2 110.5 <

250.9 (1.40) <
9 53 57 301.1 50.2 <
244.6 II 61.3 < 1.38 <
305.9 111.5 <

Index above

836.3
9 57 12 ~~37.9~~
36.8 60.5 <
341.2 50.8 < *1.39 <
32.0 111.3 <

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March 31 1897

	341.1		(1.40)	
10 0 8	32.9	∨1.8 <		
4(223 41 < 221	336.3	∨8.8 <	1.40 <	
14 ∨∨ ∨∨ <	35.1	110.6 <		M = 1.40
	336.2			
10 8 22	35.9	∨9.7 <		
	335.1	∨7.8 <	1.25 <	
	32.9	117.5 <		
	339.1		(1.30) <	
10 10 24	33.9	∨4.8 <		
	337.8	∨8.2 <	1.35 <	
	36.0 III	113.0 <		
	Index below			
	66.3			
10 14 35	128.2	60.9 <		
	70.3	∨2.2 <	1.35 <	
	122.5	113.1 <		
	70.2		(1.38) <	
10 16 15	121.9	∨1.7 <		
4(49 36 < 46	67.5	∨8.3 <		
10 12 24 <	125.8	110.0 <	1.42 <	M = 1.34 <

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1897phae.proj.1345.

March 31 1897

66.0

10 15 50	127.1	61.1		
	71.9	49.8	1.40	
	121.1	110.9		
	70.5		(1.38)	
10 20 32	122.0	51.5		
	65.8	61.4	1.35	
	127.2	112.9		

IV

Index above

153.3

10 23 46	217.1	63.8		
	158.6	55.9	1.20	
	214.5	119.7		
	159.0		(1.22)	
10 26 13	214.6	55.6		
4 89 21	155.8	61.6	1.25	M = -1.30
10 22 20	217.4	117.2		
	156.2			
	217.8	61.6		
10 27 36	159.6	54.8	1.27	
	214.4	116.4		

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1897phae.proj.1345.

March 31 1897

157.2
10 30 00 214.0 ~5.8 (1.28)
156.9 ~9.6 1.29
216.5 11 ~5.4

Index below
~~247.4~~
~~3450~~ ~~3050~~

248.1
10 37 00 303.0 ~4.9
245.9 ~9.5 1.32
305.4 11 4.4

246.7 (1.30)
10 39 25 307.0 6.3
~~4~~ 135 31 248.0 ~6.1
15 33 ~3 11 6.4 1.27 M = -1.29
304.1

Went over to Great Dome and
revised R Hydrae with Mr. Reed.

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1897phae.proj.1345.

March 31 1897

A. & N. 9 v R.			B. 39 C.		
11	20	4.2	11	19	0.0
	21	4.3		20	0.0

Reappearance of Sup. Two Phot R Terbushes W. Obs compared with nearer of two satalites on following side equals satalite I.

11	31	5-1	11	32	5-5	183.3	Checked
	32	06		33	10	167.1	
		16			20	132.8	
		24			28	168.0	
		32			36	132.0	
		39			43	171.0	
		45			5-2	124.8	
		56		3-4	00	174.8	
	33	01			5	123.2	
		08			12	177.0	
		15			19	121.11	
		23			27	182.0	
		31			35	118.2	
		39			43	185.0	
		49			5-3	113.0	
		59		3	3	189.0	
	34	05			9	114.2	
		10			14	187.0	
		14			18	111.8	

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1897phae.proj.1345.

Mar. 31. 1897.

11	34	25	11	32	196.1
		33		37	112.1
		39		43	191.0
		46		50	108.5
		56		36 00	192.0
				15	110.1
11	36	27		28	F4.3 194.4
	1	4		31	F1.0 110.8 1
11	35	23		38	F2.6 191.8
				49	109.2
	37	07		58	F2.5 192.0
	1	4		37 16	F3.5 108.0 2
	36	03		25	F3.3 191.8
				35	109.1
	37	50		45	F3.9 193.0
	1	4		54	F0.5 109.0 3
	36	46		38 4	F2.4 189.8
				15	109.3
	35	25		23	F2.7 192.0
	1	4		32	79.5 112.2 4
	37	24		41	F1.2 192.0
				48	108.9
	39	04		39 00	F1.1 190.0
		04		8	79.9 110.2 5
	35	00		19	F0.5 190.1
				34	110.1
	39	46		42	F0.9 191.0
	1	04		50	79.0 110.0 6
	35	42		55	F0.5 190.0

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1897phae.proj.1345.

Mar. 31. 1897.

11 40 24 11 — 40 — 7 — 109,0
1 4 — 16 — F1.1 — 190,1
11 39 20 — 23 — F4.2 — 108,8 — 7
— 49 — F2.6 — 193,0

11 42 44 — 4 — 109,8
1 4 — 11 — F2.4 — 192.2
11 41 40 — ~~49~~ 44 — 12 — F2.1 — 109,8 — A
— 30 — F2.2 — 191,9

Diam. of Vis. Sat. I.

45 04 — 44 — 58 — 135,0
1 04 — 23 — F2.0 — 169,0
11 44 00 — 41 — 242 — ~~140,1~~ ~~137~~
— 45 — 22 — 26.1 — 137,1
— 35 — 161,3

A. & D. 9 v. A. — B. 39 C.

12 — 1 — 4,5 — 12 — 0 — 0,0
2 — 4,4 — 1 — 0,0

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1897phae.proj.1345.

April 1 1897 (Thursday)

S. Coronae. Phot T. W. Obs.

21	23	+78.4
38	25	
11	2	

Compared with e. = 9.0A

Index to left

328.7	77.5<	
46.2		
333.4	68.7<	
42.1	146.2<	0.6 v<
332.0	70.0<	(0.6 2)<
42.0		
328.5	78.6<	
47.1	148.6<	0.60<

Index to right

62.6	66.7<	
129.3		
59.4	71.6<	
131.0	138.3<	0.61<
60.1	70.7<	(0.62)<
130.8		
62.2	66.1<	
128.3	136.8<	0.64<

mean 0.72<

8 42

7 50

12 46 0

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April 1 1897

Same again

63.8
127.9 64.1<

61.7
130.6 68.9<
133.0< 0.92<

60.5
130.5 70.0< (0.90)<

63.2
129.8 65.6<
135.6< 0.47<

Index to left

150.7
220.8 70.1<

148.1
224.8 76.7<
146.4< 0.6K<

147.9
224.5 76.6< (0.6K)<

150.9
220.6 69.7<
146.3< 0.6<

mean 0.77<

General mean 0.7K<

8 52

8 3
12 57 30

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1897phae.proj.1345.

April 1 1897

C 3 var.

a L 10m var 1.5m d in finder

var = b

C var 1.5m C in large telescope.
Eye piece found to be loose and tipped in its bearings. causing the field to be darkened. When properly adjusted. the field is lighter. the stars planier. and ζ Cephei both as above.

Nova Aurigae Phot R W-Obs

5m	23	+32.0
9	35m	
4	12	

Index left and above

	210.5	comp. dist.
5 55m	273.1	62.6
	209.1	
	272.7	63.6
	126.2	+1.06

209.0	63.1	(+1.03)
272.1		
209	66.0	
274.9	129.1	+1.00

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1897phae.proj.1345.

April 1 1897.
Index right and below

297.5 6K.3
1.8
298.5 61.A
0.3 126.1 +1.06

301.5 62.1 (+1.02)
3.6
301.1 61.9
3.0 124.0 +1.11 mean +1.06

9 1
13 58 00

variable star is the fainter.

R Cancri W-Bb

8 5 +11.6
10 4
1 5 9

l 4.5 m
m 4 n
n 4.5 o
o 5 p

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1897phae.proj.1345.

April 1 1897

R. Comas — Phot T — W. Obs

11	5-2	+20.2	
10	27		
1	~~3-5~~	20-	
12			
10		30-	

11	5-2	
10	30	
1	22	
12		
10	38	

11	.40	
10	30-	
1	5-	
12		
10	5-5-	

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1897phae.proj.1345.

April 1 1897

Under right and above

77 Compared with L

262.9

10 1 290.9 28.0 <

261.6 29.8 < 2.94 <

291.4 57.8 <

~~261.~~

261.7 (2.94)

292.0 30.3 <

262.9 28.0 < 2.93 <

290.9 58.3 <

Index left & below.

307.5

15.4 26.9 <

352.0 27.3 < 3.09 -

19.3 54.2 <

357.8 (3.08)

11 5 19.2 27.4 <

352.1 27.2 < 3.07 <

19.3 54.6 <

M = 3.01

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1897phae.proj.1345.

April 1 1897
I index right and above
a' compared with b

	249.9			
10	304.7	54.8		
5	250.4	52.6	1.48	
	303.0	107.4		
	℞			
	252.0		(1.51)	
	302.4	50.4		
	250.2	54.2	1.54	
	304.4	104.6		

Index left & below.

	338.7			
	31.6	52.9		
	341.4	48.1	1.63	
	29.5	101.0		
	340.6		(1.62)	
11	32.8	52.2		
1	341.7	49.4	1.62	
	31.1	101.6		

$\mathcal{M} = 1.56$

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1897phae.proj.1345.

April 1 1897
a compared with b
Index right and above

	249.2		
10 11	301.4	√2.2 <	
	253.9	44.√ <	1.74 <
	248.4	96.7 <	
			(1.80) <
	255.1		
	297.6	42.√ <	
	252.0	49.4 <	1.86 <
	301.4	91.9 <	

Index left & below.

	342.8		
	30.3	47.√ <	
	343.3	45.4 <	1.84 <
	25.7	92.9 <	
			(1.83) <
	343.4		
10 53	19.2	45.8 <	
	343.0	47.7 <	1.82 <
	30.7	93.√ <	

M = 1.82

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April 1 1897

γ compared with $\underline{b}$

Index right and above

260.0

10 16

293.1 33.1<

260.4 30.6< 2.73<

291.0 63.7<

261.9 (2.76)<

293.0 31.1<

261.1 30.7< 2.79<

291.8 61.8<

Index left & below.

351.3

21.1 29.8<

349.8 31.1< 2.83<

20.9 60.9<

350.3 (2.80)<

10 56

21.0 30.7<

350.9 31.9< 2.76<

22.8 62.6<

M = 2.78

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April 1 1897.

ε compared with ζ

Index right & above

		259.0		
10	19	297.4	38.4 <	
		258.9	35.1 <	2.39 <
		294.0	73.5 <	
		257.7		(2.40) <
		293.8	36.1 <	
		257.1	37.1 <	2.40 <
		294.2	73.2 <	

Index left & below.

		346.6		
		25.2	38.6 <	
		346.4	38.4 <	2.28 <
		24.8	77.0 <	
		347.2		(2.30) <
11	do	25.3	38.1 <	
		348.0	37.9 <	2.32 <
		25.9	76.0 <	

M = 2.30

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1897phae.proj.1345.

April 1 1897.

K compared with h
Index above

		267.0		
10	24	285.4	18.4	
		269.1	15.9	4.11
		285.0	34.3	
				(4.16)
		268.2		
		285.3	17.1	
		269.0	15.5	4.22
		284.5	32.6	

Index below.

		359.2		
		14.3	15.1	
		358.0	16.4	4.30
		14.4	31.5	
		358.4		(4.32)
10	47	13.7	15.3	
		358.5	15.6	4.34
		14.1	30.9	

M = 4.24

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April 1 1897

θ compared with h
Index above

		265.0		
10	29	288.8	23.8 <	
		264.9	24.0 <	3.37 <
		288.9	47.8 <	
		265.4		(3.48)
		287.4	22.0 <	
		264.9	21.6 <	3.58 <
		286.5	43.6 <	

Index below.

		355.1		
		19.0	23.9 <	
		354.6	23.5 <	3.39 <
		18.1	47.4 <	
		354.8		(3.46)
10	43	16.5	21.7 <	
		355.3	23.0 <	3.52 <
		18.3	44.7 <	

m 4.5 n
n

M = 3.47

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April 1 1897

Altitude at beginning of measurements high and increasingly so throughout. Observations quite difficult on this account.

Aurora throughout latter part of evening in north. Bright Aurora arch at present time under pole with some faint streamers. Alt. of arch about $\frac{1}{5}$ that of pole star.

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1897phae.proj.1345.

April 2 1897. (Friday)

δ. Cephei. Phot T. N-S bar.

21 37 +78.3
32 22
10 45

21 37
32 26
10 49

Index to right.
58.1 < mean dist.

7 44 12 128.3 70.2 <
60.3 68.9 <
129.2 139.1 < −0.79 <

−(0.83)

64.2
7 47 35 125.7 64.5 <
59.7 70.6 <
130.3 135.1 < −0.87 <

Index to left
148.0
8 52 4 223.2 75.2 <
152.5 67.7 <
220.2 142.9 < −0.72 <

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1897phae.proj.1345.

April 2 1897.

	152.8		−(0.68)	
7 51 9	221.3	68.5<		
4(19 5 0	147.4	77.6<	−0.65	M = −0.86<
12 48 45	225.0	146.1<		

Same again.

	147.3			
7 59 34	225.7	78.4<		
	151.0	69.4<	−0.62<	
	220.4	147.8<		

	151.5		−(0.62)	
8 2 8	220.6	69.1<		
	147.2	78.1<	−0.63<	
	225.3	147.2<		

Index to night

	241.7			
8 6 56	312.2	70.5<		
	243.5	65.2<	−0.86<	
	308.7	135.7<		

	243.6		−(0.84)	
8 10 47	309.0	65.4<		
4(19 2 5 205	241.1	71.9<	−0.83<	M = −0.73
13 4 57	313.0	137.3<		

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1897phae.proj.1345.

April 2 1897

c 3 var, var 1.5 d in finder
d 16 var = b, } is large telescope
c var 2c }

R Comae Phot T WGb

11	52	+ 20.2
9	28	
2	24	
12		
9	36	

11	42	
9	39	
2	13	
12		
9	47	

a compared with b
Graded above

	251.2		
9 12	302.4	51.2 <	
	250.0	54.8 <	1.01 <
	304.8	106.0 <	

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1897phae.proj.1345.

April 2 1897.

248.7 (1.51)
305.6 56.9
251.9 49.3 1.51
304.2 106.2

Index below
344.0
30.7 46.7
339.9 52.1 1.69
32.0 98.8

341.4 1.69
9 35 31.5 50.1
~~14 24 30~~ 341.9 48.6 1.69 M = 1.60
14 13 30 30.5 98.7

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1897phae.proj.1345.

April 2 1897

K compared with h
Index above

	268.0			
9	18	285.0	17.0 <	
		268.0	18.7 <	4.02 <
		286.7	35.7 <	

(4.06)

	268.0			
		286.0	18.0 <	
		267.9	16.7 <	4.09 <
		284.6	34.7 <	

Index below

	358.6		6	
	15.5		18.9 <	
		359.4	17.1 <	4.13 <
	16.5		34.0 <	

(4.22)

	358.6			
9	28	15.2	16.6 <	
14	230	358.9	14.6 <	4.32 <
		13.5	31.2 <	

M = 4.14

m · 5 m

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1897phae.proj.1345.

April 2 1897.

R Hydrae W. Obs.

13	11	−22.4
11	16	
1	5⁻ 5⁻	
12		
10	5⁻	

ω	5⁻	ω
ω	3	α
α	4, 5⁻	β
β	3	γ
γ	2, 5⁻	δ
δ	5⁻, 5⁻	η
η	4, 5⁻	θ
θ	5⁻	κ
κ	4	λ
λ	3, 5⁻	μ
μ	4	ν
ν	3	ξ

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1897phae.proj.1345.

April 3 1897 (Saturday)

S. Leonis Phot W. Ute.

21 37 +78.3
32 45
11 8

Index to left.
147.2 Variable.

7 53 47
222.6 75.4
149.3 70.7 −0.60
146.1

220.0

−(0.66)

152.0

8 55 40
221.1 69.1
149.0 76.8 −0.66
225.8 145.9

Index to right.
241.9

7 57 39
313.8 71.9
66.7 −0.80
143.3 138.6
310.2

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1897phae.proj.1345

April 3 1897

	245.6		−(0.82)	
8 0 10	310.1	64.5 <		
4(22 7 16 < 96	240.0	72.8 <	−0.83 <	III = −0.74
12 56 49 <	312.8	137.3 <		

Same again

	239.7			
8 3 44	312.8	73.1 <		
	242.0	67.7 <	−0.76 <	
	309.7	140.8 <		

	242.6		−(0.78) <	
8 5 34	310.1	67.5 <		
	240.8	71.4 <	−0.80 <	
	312.2	138.9 <		

Index to ~~right~~ left

	329.0			
8 9 45	45.0	76.0 <		
	332.8	66.2 <	−0.73 <	
	39.0	142.2 <		

	330.6		−(0.71) <	
8 13 28	40.8	70.2 <		
4(32 31 <	329.8	73.9 <	−0.69 <	
13 8 8 <	43.7	144.1 <		III = −0.74 <

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1897phae.proj.1345

April 3 1897.

A 1A C 2.5 var, var 2.5 d in finder
C var = b, var 2.5 a in large telescope

W Bruce W.Obs

5	46	+ 20,2
9	37	
3	51	

5	46
9	38
3	52
5	46
9	40
3	54

Region identified
Star 1172 estimate 9.2
Star 1182 estimate 9.2
Star 1188 estimate 9.3
Star 1172 & Star 182 are practically of same brightness
Star 1188 is one or two tenths fainter; perhaps two tenths.

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1897phae.proj.1345

April 3 1897

n compared with Fe

Index to left and above

8	39.4	Lk. dia		
9	8.7	36.2	56.8 <	
		341.5	50.8 <	1.47 <
		32.3	107.6 <	
		340.3		(1.40)
		35.0	57.7 <	
		337.4	59.7 <	1.32 <
		37.1	117.4 <	

Index to right and below

257.8			
304.1	52.3 <		
250.6	52.6 <	1.54 <	
303.2	104.9 <		
250.9			(1.52)
9 5.9	303.7	52.8 <	
	250.8	53.9 <	1.49 <
	304.7	106.7 <	

III = 1.46

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1897phae.proj.1345.

April 3 1897
q compared with k
Index left and above

		164.6		
9	41	207.4	42.8 <	
		169.5	33.0 <	2.32 <
		202.5	75.8 <	
				(2.30)
		170.0		
		202.9	32.9 <	
		165.1	44.3 <	2.28 <
		209.4	77.2 <	

Index right and below

		252.9		
		301.2	48.3 <	
		259.5	36.8 <	2.00 <
		296.3	85.1 <	
				(2.11)
		260.4		
9	55	295.3	34.9 <	
		253.9	45.8 <	2.17 <
		299.7	80.7 <	

III = 220

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1897phae.proj.1345.

April 3 1897.

F compared with K

Index left and above

163.3

9 45 212.1 48.8 <

161.9 48.5 < 1.72 <

210.4 97.3 <

160.6 (1.68) <

210.9 50.3 <

161.3 50.7 < 1.63 <

212.0 101.0 <

Index right and below

253.5

302.9 49.4 <

253.1 49.9 < 1.67 <

303.0 99.3 <

252.0 (1.65) <

9a 57 302.3 50.3 <

257.1 50.9 < 1.63 <

302.0 101.2 <

M = 1.66

n 1 m

10 8 n 3 0

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1897phae.proj.1345.

April 3 1897

R Coronae W. Obs

11 52 +20.2
11 48
4

12
11 56

10 15 m 5 m

R Hydrae W. Obs

13 11 -22.4
11 26
1 45

12
10 15

u 5 w
w 3.5 a
a 4 β
β 3 γ
γ 3 δ
δ 4.5 η
η 4 θ
θ 5 K

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April 3 1897

		κ	λ
		λ	3
10	45	μ	3.5⁻
		ν	3.5⁻
			ξ

λ compared with ν

Index to left.

174.8 < comp dis.

10	56	195.0	20.2 <
		176.8	18.5⁻ <
		195.3	38.7 <

3.84 <

(3.86)

177.0	
195.3	18.3 <
176.0	19.5⁻ <
195.5⁻	37.8 <

3.89 <

Index to right

267.2	
286.7	19.5⁻ <
267.8	19.1 <
286.9	38.6 <

3.85⁻ <

(3.80)

		265.3	
11	4	286.0	20.7 <
		266.1	19.8 <
		285.9	40.5⁻ <

3.74 <

/// = 3.83

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April 3 1897

K compared with w

Index to right

		263.4		
11	7	288.2	24.8 <	
		263.3	26.5 <	3.22 <
		289.8	51.3 <	
		263.7		(3.21)
		290.9	27.2 <	
		263.7	24.5 <	3.20 <
		288.2	51.7 <	

Index to left

		353.9		
		18.0	24.1 <	
		354.4	25.6 <	3.28 <
		20.0	49.7 <	
		353.9		(3.29)
11	14	20.0	26.1 <	
		354.2	23.2 <	3.30 <
		17.4	49.3 <	

M = 3.25

θ compared with w

Index to left.

		347.0		
11	17	27.5	40.5 <	
		346.9	41.9 <	2.12 <
		28.8	82.4 <	

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April 3 1897.

346.1 (2.18)
26.0 39.9 <
348.3 37.7 < 2.27 <
26.0 77.6 <

Index to right
76.2
113.7 37.5 <
69.8 47.9 < 2.04 <
117.7 85.4 <

(2.13)
75.6
11 23 115.7 40.1 <
76.0 38.9 < 2.22 < M = 2.16
114.9 79.0 <

η compared with W
Index below
69.8
11 28 121.6 51.8 <
72.7 47.1 < 1.68
119.8 98.9 <

(1.70)
73.3
120.7 47.4 <
70.8 50.2 < 1.72
121.0 97.6 <

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1897phae..proj.1345.

April 3 1897

Index above

160.9

212.2 51.3 <

161.6 50.4 < 1.61 <

212.0 101.7 <

(1.59)

159.9

11 34 211.4 51.5 <

161.0 51.9 < 1.57 < M = 1.64

212.9 103.4 <

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1897phae.proj.1345.

Posted to here.

April 12 1897. (Monday)

~~22~~ 21 37 +73.3
19 26

21 37
38 1
11 24

Abandoned.

U Brown, Nat. J. Grobs.

5 46 +20.2
9 14
3 2.8

5 46
9 17
3 3.1

q compared with k
Index left and above
~~340.7~~ 343.1 compidia
27.3
350.2 ~~44~~.2
21.4 31.2
~~)~~ 2.33

7 59

350.8 31.~~5~~
22.3 ~~5~~ 0.1
346.2 ~~4~~ 1.6 2.1~~4~~
31.3

(224)

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1897phae.proj.1345.

April 12 1897.

Index right and below

68.8 v1.6
120.4
77.5 3v.v
113.0 Av! 1.99

78.9 3v.A (2.07)
114.7
8 21

72.0 Kv.7 2.1v
117.7 A1.v

mean = 2.16

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April 12 1897

$\frac{\gamma_2}{1}$ compared with $\frac{\gamma_1}{1}$

Index left and above

8 5

342.2		
33.0	↓0.2	
345.2	↓4.2	
30.0	9↓.6	1.77

344.0		
26.9	↓2.9	(1.20)
341.1	↓0.4	
31.5	9 3.3	1.43

Index right and below

68.9		
120.6	↓1.7	
71.5		
119.3	↓7.2	
~~72~~	9 9.↓	1.67

8 17

73.0	↓7.6	(1.64)
120.6		
68.9	↓0.9	
119.8	9 2.↓	1.69

mean = 1.74

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1897phae.proj.1345.

April 12 1897.

n compared with Fe

~~339.7~~ Index to left

8 8

339.7 ✓1.3
81.0
334.9 63.9
38.8 11✓.2 1.30

333.7 66.7 (1.24)
40.4
340.1 ✓0.7
80.8 117.8 1.2✓

Index to right.

70.3 ✓0.✓
120.8
63.7 63.2
126.9 113.7 1.33

63.7 60.✓ (1.36)
8 14 124.2
69.3 ✓1.2
120.5 111.7 1.34

mean 1.32

n 0.5 m

~~n 8.5 0 4 0~~

5 23 n 4 0

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1897phae.proj.1345.

April 12 1897

~~21h 0h 2s~~

δ Cephei Phot T 21h 0h 2s

21	37	+78.3
10	14	
11	23	
12		
	37	

3€	1€
21	37
12	37

var. compared with ℓ
Index to right

	243.1	ℓ var dis.
δ 4 5 24	308.7	65.6<
	242.2	68.7< −0.89<
	~~310.2~~	134.3<
	310.9	

−(0.88)

	241.7	
δ 4 20	310.8	69.1<
	242.5	65.5< −0.88<
	308.0	134.6<

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1897phae.proj.1345.

April 12 1897

Index to left

8 51 5

332.8	6	
37.7	~~+3~~ 5.4 <	
330.3	69 1 <	−0.89 <
39.4	134.5 <	

−(0.88)

8 53 42

4 (196 31 <

13 49 8 <

330.2		
42.2	72.0 <	
334.4	63.6 <	−0.86
38.0	(3 5.6 <	

$M = -0.88$

Same again

8 56 40

334.9		
38.6	63.7 <	
330.9	71.1 <	−0.88 <
42.0	134.8 <	

(0.89)

8 57 18

331.2		
42.8	71.6 <	
334.7	62.3 <	−0.90
37.0	133.9 <	

Index to right

9 0 20

62.7		
125.0	62.3 <	
60.8	69.1 <	−0.95 <
130.0	(3 1.4 <	

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1897phae.proj.1345.

April 12 1897

61.5 −(0.91)

9 2 31 130.1 68.6<

62.1 66.6< −0.87−

13 5 7 12 128.7 13 5.2< III = −0.90

cc 4 var, var 2 d in finder

9 25 var = c in large telescope

S. Cancri Phot T W. Obs

8 36 +19.6

11 12

2 36

Index left and below

246.8 <var dist

9 40 30 306.4 √9.6<

248.5

√√.3<

303.8 11 K.9< −1.31<

247.7 √6.√<

304.2 √2.2<

11 √.3<

247.0 −(1.30)<

305.8 I −1.30<

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1897phae.proj.1345.

April 12 1897

Index right and ~~below~~ above

336.0 62.2 <
38.2
339.0 √4.4 <
33.8 117.0 < − 1.26 <

338.9 √4.2 < − (1.29) <
33.1
336.0 √9.9 <
35.9 114.1 < − 1.32 <

mean − 1.30 <

9 − 46
2(6 30
14 43 15
+1 18
14 44 33

335.0 √9.√ <
34.0
389.2 √3.3 <
89.5 112.8 < − 1.3√ <

388.8 √6.2 < − (1.30) <
35.0 61.7 <
334.9 117.9 < − 1.24 <
36.6

9 50

Index left and ~~above~~ below

67.0 √7.2 <
124.2
68.3 √3.6 <
121.9 110.8 < − 1.40 <

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1897phae.proj.1345.

April 12 1897

9	57	69.8	√3.2 <	−(1.34)<
		123.0		
14	√3 30 <	66.3	√9.7 <	
	+1 18	196.0	113.9 <	−1.3√ <
14	√4 48			mean 1.34 <

9	58	65.9	60.1 <	
		126.0		
		69.1	√3.√ <	
		122.6	113.6 <	−1.34 <

		67.8	√K.2 <	−((1.34)<
		122.0	√9.0 <	
		67.1	113.2 <	−1.34 <
		126.1		~~mean 1.36~~

Index right and above

		153.4	63.2 <	
		217.0		
		157.9	√7.1 <	
		215.0	120.3 <	−1.19 <

		158.0	√4.2 <	−(1.16)<
10	4	216.2		
		153.6	6.4.√ <	
15	1 0 <	219.1	122.7 <	−1.13 <
	+1 18 <			
15	2 18 <			mean 1.2√ <

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April 12 1897.

10 9

154.8 63.K
218.2
157.5 ~~57.7~~
213.2 119.1 − 1.2 −

~~77~~ − (1.1 R)

156.8 ~~5~~A.K
215.2 ~~63.4~~
153.1 ~~121.0~~ − 1.1 R
217.3 IV

Index left and below

247.0 ~9.1
306.1
249.0 ~3.6
302.6 112.7 − 1.36

249.7 ~2.~ − (1.36) :
302.2
246.3 ~9.6
305.9 112.1 − 1.37 mean 1.27

10 17

15 13 0
1 18
15 14 18

245.4 60.K
10 21 305.8
248.9 ~3.9
302.8 111.3 − 1.3

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April 12 1897.

248.4 ✓✓.1 < — (1.33) <
303.5
247.4 ✓A.✓ <
305.9 11 3.6 < — 1.34 <

Index right and above
337.3 60.6 <
37.9
338.2 ✓4.4 <
32.6 11 ✓.0 < — 1.30 <

337.1 ✓✓.4 < — (1.24) <
32.5
334.0 61.1 <
35.1 11 6.✓ < — 1.27 <
Mean — 1.30 <

10	28	
15	24	30
	+1	18
15	25	48

U. Leonis 91 Oph.

9 55 + 22.7
12 23
9 28
9 55
12 25
9 30

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April 12 1897

Examination of companion star for father Hagen. He is right as to location of companion Companion preceds var. 3.5 11 3 and is .08' south of it. Region identified var. about 8.5 mag. and slightly reddish. Campanion abt. 17 magn.

No companion seen in corresponding ant. to fall. and north.

Watch used in preceding meats this evening was 1m 10s slow.

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Apr. 13. 1897. (Tuesday)

Considerably cloudy.

Σ 3^II 7 Aur. H. V. 22. Phot. R. Trds.

∨	10	+4 0.0
9	1∨	
+4	∨	

Abandoned.

1 Cepheï. Fr. obs.

~~9~~		
21	37	+7 2.3
~~339~~	16	
11	39	

7 4∨ c 3.∨ var., var ∨ d in finder.
Var. = c in var. tel.
Ext. through some light cloud.
Clouds increasing, in this region.

U Orionis. Fr. obs.

∨	4 6	+20.2
9	3∨	
+3	4 9	

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Apr. 13. 1897.

A 2 — Gr. obs.

Σ 3H 2 Aur. K.V. 22. Gr. obs. Phot. R.

Pos. Aug. 270°. Dist. 1.7 Mags. V.1, A.V

Index to right.

A 20

114.0		
142.7	64.7	
123.2	54.8	
179.0	119.5	— 1.20
123.2		— 1.18
179.2	56.6	
119.0	60.0	
184.0	121.6	— 1.16

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Apr. 13. 1897.

Index to left.

204.6		
272.7	641	
210.0	578	
269.4	1219	−1.11
212.0		
271.0	590	−1.12
209.2	628	
272.0	1218	−1.15
	Mean =	−1.16

Δ 31

Last settings made with much difficulty. Clouds growing much thicker everywhere.

Σ 1224. Hot. R. Wds.

Δ 19	+ 24.9	
10 20		
+2 1		

Clouds too thick.

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Apr. 13. 1897.

Σ 6^{m} Phot. R. Sr. 60.

10	2	+12.6
10	30	
+0	2A	

Clouds to thick.

Clouds thick every where and growing worse. No prospect for further work.

A V2

1897phae.proj.1345.

April 16 1897 (Friday)

W Leporis N Obs

0	30	+81.7
9	31	
9	1	

abandoned for present

Σ 24'

13	4.1	+39.2
9	42	
8	22	
12		
8	38	

Abandoned.

S. Cephei. Phot. N. Obs.

21	37	+74.3
33	45	
+12	8	

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1897phae.proj.1345.

April 16 1897

R. Capella. Phot T

W Obs.

0	30	+81.7
9	54	
9	24	

Index left ~~and above~~

	339.7	∠ var dia.	
8 ~~6~~ 43	33.9	√K2 <	
	345.6	K1.2 <	−1.76 <
	27.4	9 6.0 <	
			−(1.70) <
	343.5	K6.3 <	
8 8 0	29.8.	√K.2 <	−1.63 <
	339.1	101.1 <	
	33.9		

Index right ~~and below~~

	70.0	√K.K <	
8 10 15	124.4		
	70.0	K9.2 <	−1.55 <
	119.8	10 K.2 <	
			−(1.56) <
	71.3	K9√ <	
8 11 42	120.8		
	68.7	√3.9 <	−1.07 <
	122.6	103.4 <	

K36 40 <

13 9 10 <

−1 34

13 7 36 <

M = −1.63 <

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April 16 1897

69.8 ∨2.6 <
8 15 38 122.4
68.9 ∨1.9 — 1.05 <
120.8 10 ∨.7 <

(1.06) <

69.7 ∨1.3 <
8 16 20 121.0 ∨2.1 < — 1.07 <
70.3 10 3 <
122.4 II

Index left ~~and above~~

156.3 ∨6.1 <
8 18 40 212.4
160.6 4 9.2 < — 1.03 <
209.8 10 ∨.3 <

(1.05) <

160.0 ∨2.6 <
8 20 17 212.6 — 1.47 <
158.2 ∨∨.3 <
213.5 10 7.9 <

M = −1.03 <

4(70 ∨∨ < 1.75
13 17 ~~44~~ 34 <
−1
13 16 10 <

156.9 ∨∨.1 <
8 31 18 212.0
161.2 ∨0.2 < — 1.051 <
212.0 10 ∨.9 <

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1897phae_proj_1345

April 16 1897

δ 33 46

161.4 K9.1 <
210.5 V3.9 <
158.2 103.0 <
212.1

−(1.54) <
−1.58 <

Index right ~~corr. below~~

δ 37 30

251.1 V2.9 <
304.0
253.0 K7.9 <
300.9 100.8 <

−1.64 <

δ 38 10

252.3 K2.7 <
304.0
249.7 V3.1 <
302.8 101.2 <

−(1.62) <
−1.61 <

K(20 44 <
13 35 11 <
−1 34
13 33 37 <

III = −1.58 <

δ 40 0

249.8 V4.9 <
304.7
250.5 V2.1 <
302.6 107.0 <

−1.49 <

δ 41 25

250.9 V1.1 <
302.0
249.9 V2.7 <
302.6 103.8 <

−(1.52) <
−1.56 <

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April 16 1897.

Index to left <

340.1
33.0 √2.9 <
339.2
31.6 √2.4 <
10 √3 <
− 1.√2 <

340.7 − (1.√1) <
29
31.1
338.7 √0.4 <
34.6 √√.9 <
106.3 <
− 1.√0 <
M = − 1.√2 <

8 45 30

8 46 32

4 13 30 <
13 43 22 <
−1 34
13 41 48 <

337.9
31.6 √3.7 <
340.0 49√ <
29.5 10 3.2 <
− 1.√8 <

339.5 − (1.√6) <
31.9
339.1 √2.4 <
31.7 V. √2.6 <
10 √.0 <
− 1.√4 <

5 51 22

8 √2 √5

Index right
67.2
122.1 √4.9 <
67.8 √3.6 <
121.4 10 8.√ <
− 1.4√ <

8 √5 18

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April 16. 1897

68.0 — (1.46)<
122.1 ∨4.1<
68.5 ∨3.2< — 1.48 < M = −1.5−1<
101.7 107.3<

T. 57 44
4 17 19 < 1
13 ∨4 20 <
−1 34
13 ∨2 46 <

67.7
9 9 15 121.8 ∨4.1<
69.5 ∨4.2< — 1.46 <
121.7 108.3<

— (1.46) <

68.5
9 11 1 120.9 ∨2.4<
67.8 ∨∨.∨< — 1.47 <
122.0 VI 107.9<

Index to left
158.5

9 13 18 212.0 ∨3.∨<
160.6 ∨1.3< — 1.54 <
211.9 104.8<

162.7 — (1.57) <
9 14 07 211.0 48.8<
4 48 20 158.5 ∨3.∨<
14 12 6 < 212.0 102.3< — 1.60 < M = −1.5−2
−1 34
14 10 32 <

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April 16 1897

157.6

9 16 50 — 213.1 — √5.5 <
160.8 — 49.8 < — −1.√3 <
210.6 — 10 √.3 <

−(1.√2) <

160.0

9 18 40 — 211.7 — √1.7 <
158.8 — √4.0 < — −1.√2 <
212.0 — VII — 10 √.7 <

Index to right.

250.3

9 21 23 — 301.6 — √1.3 <
248.4 — √.8 < — −1.49 <
304.2 — 107.1 <

248.6

−(1.49) <

9 23 4 — 302.9 — √4.3 <
480 1 < — 249.0 — √2.7 < — −1.49 < III = −1.0√ <
14 20 0 < — 301.7 — 107.0 <
−1 34
14 18 26 <

245.9

9 27 5 — 302.5 — √3.6 <
249.0 — √3.7 < — −1.48 <
302.7 — 107.3 <

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249.8 — (1.52) <

9 28 44 — 303.6 — 53.8 <

250.5 — 50.3 < — −1.56 <

300.8 — VIII — 104.1 <

Index to left.

340.9

9 31 28 — 31.0 — 50.1 <

340.2 — 50.9 < — −1.63 <

31.1 — 101.0 <

341.2 — −(1.64) <

9 33 5 — 31.0 — 49.8 <

340.3 — 50.3 < — −1.65 < M = −1.58

30.6 — 100.1 <

4 | 120 25 <

14 30 6 <

−1 34

14 28 32 <

340.9

9 34 42 — 30.2 — 49.3 <

341.0 — 50.1 < — −1.67 <

31.1 — 99.4 <

341.0 — −(1.66) <

9 36 20 — 30.2 — 4 — 49.2

341.6 — IX — 50.5 < — −1.66 <

32.1 — 99.7

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Index to ~~00~~ right.

	68.3			
9 39 ~~8~~	120.7	52.4 <		
	70.8	50.1 <		−1.60 <
	120.9	102.5 <		
				−(1.56) <
9	68.7			
~~8~~ 41 10	121.6	52.9 <		
~~1~~ 51 20 <	68.2	52.9 <		−1.52 < M = −1.61 <
1~~4~~ 37 50 <	121.1	105.8 <		
−1 34				
1~~4~~ 36 16 <				
	68.2			
9 43 16	120.9	52.7 <		
	69.6	52.1 <		−1.54 <
	121.7	104.8 <		
				−(1.56) <
	70.2			
9 45 ~~8~~	122.8	52.6 <		
	70.9	50.7 <		−1.58 <
	121.6	103.3 <	X	
	Index to left.			
	160.3			
9 47 30 212.6 prob.	~~122.6~~	58 2.3 <		
	159.4	53.6 <		−1.51 <
	213.0	105.9 <		

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157.9 — (1.50) <

9 48 56 — 211.0 — 3.1 <

4(24 50 < — 159.0 — 3.5 < — 1.50 < III = −1.53 <

14 46 12 < — 213.0 — 106.6 <

−1 34

14 44 38 <

157.9

9 52 32 — 213.1 — 5.2 <

159.0 — 4.8 < — 1.42 <

213.8 — 100.0 <

— (1.48) <

158.0

9 54 25 — 210.7 — 22 <

158.9 — 2.8 < — 1.54 <

211.7 — X II — 100 <

Index to right

249.0

9 56 54 — 303.1 — 3.6 <

249.8 — 1.9 < — 1.02 <

301.7 — 105.5 <

250.2 — (1.03) <

9 58 32 — 303.6 — 3.4 <

4(22 23 < (143 — 250.0 — 1.2 < — 1.54 < III = −1.50 <

14 55 36 < — 301.2 — 104.6 <

−1 34

14 54 2 <

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250,0

10 5 2 — 301.7 ~~1.7~~ <
249.2 ~~4.2~~ < — 1.0 ~~7~~ <
303,4 10 ~~5~~.9 <

— (1.0 ~~4~~) <

251,3

10 6 25 — 301,7 ~~0.4~~ <
250,9 ~~2.8~~ < — 1.0 ~~8~~ <
303,0 XII 10 3.2 <

Index to left

339.8

~~10~~ 10 9 12 — 31.5 ~~1.7~~ <
340.1 ~~0.4~~ < — 1.6 1 <
30.5 10 2.1 <

339.6

— (1.62) <

10 10 50

~~4~~ (31 32 < 2/2
10 7 ~~5~~3 <
-1 3~~4~~
10 6 19 <

339.6
31,7 ~~2.1~~ <
341,2 ~~4.9.4~~ <
10 1.5 <
30.10

— 1.62 < MM = — 1.58 <

341,2

10 13 14 — 32.9 ~~1.7~~ <
339,0 ~~1.1~~ <
30.1 10 2.8 <

— 1.0 ~~5~~9 <

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340.5 (-1.60) <

10 14 50 31.0 ~0.5 <

339.2 ~1.2 < -1.61 <

30.4 XIII 101.7 <

Index to right ~~(-1.06)~~

67.8

10 18 27 122.7 ~4.9 <

69.4 ~1.4 < -1.50 <

120.8 106.3 <

69.6 -(1.54) <

10 19 48 121.2 ~1.6 <

4(26 19 < 139 68.7 ~2.0 < -1.57 < MM = -1.57 <

10 16 35 < 120.7 103.6 <

-1 34

10 10 1 <

65.7 ~~(1.51)~~

10 22 34 124.8 ~9.1 <

71.2 ~9.4 < -1.45 < ~~MM~~

120.6 108.5 <

69.5 -(1.50) <

10 23 40 120.6 ~1.1 <

67.7 ~3.9 < -1.54 <

121.6 XIV 105.0 <

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April 16 1897

Index to left.

158.5

10 27 25 — 214.1 — √5.6 <

158.3 — √2.7 < — 1.46 <

211.0 — 108.3 <

160.4 — −(1.46) <

10 29 15 — 211.7 — √1.3 <

156.2 — √7.2 < — −1.45 < M = −1.48 <

213.4 — 108.5 <

15 — 4 (22 5 < 174

25 44 <

−1 34

5 24 10 <

~~10 31 46~~ — 157.6

10 31 46 — 213.6 — √6.0 <

158.3 — √3.1 < — −1.44 <

211.4 — 109.1 <

−(1.44) <

158.1

10 33 32 — 211.3 — √3.2 <

156.9 — √5.7 < — −1.44 <

212.6 — XV — 108.9 <

Index to right

~~209.8~~

~~10 36 24~~ — ~~302.2~~

~~25~~

251.8

10 38 32 — 301.8 — √0.0 <

250.2 — √25 < — −1.60 <

302.1 — 102.5 <

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April 16, 1897.

10 40 6

4|14 3 ∨6 <
10 35 ∨9 <
−1 31
10 34 25 <

249.3
302.9
251.3
301.0

∨3.6 <
49.7 <
103.3 <

−(1.59) <
−1.58 <
MM = −1.52 <

10 42 18

251.2
301.1
249.7
301.6

49.9 <
∨1.9 <
101.8 <

−1.61 <

250.2
302.0
251.2
299.6 XVI

−(1.63) <
∨1.8 <
48.4 <
100.2 <
−1.65 <

Index to left.

10 47 ∨

340.8
32.0
338.2
30.3

∨1.2 <
∨2.1 <
103.3 <

−1.58 <

339.2
34.7
341.0
30.3

−(1.56) <
∨∨.∨ <
49.3 <
104.8 <
−1.54 <
MM = −1.60 <

10 49 6

4|22 49 <
10 40 42 <
−1 34
10 44 8 <

16

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April 16 1897

	340.4		
10 5 22	29.4	48.0 <	
	329.5	54.0 <	
	33.0	102.0 <	−1.61 <
	358.2		−(1.08) <
10 53 22	84.0	55.8 <	
	341.1	50.0 <	−1.02 < XVII.
	31.1	105.8 <	

Index to left right.

	70.8		
10 56 14	120.0	49.2 <	
	68.8	53.2 <	
	122.0	102.4 <	−1.60 <
	67.7		−(1.05) <
10 58 13	123.3	55.6 <	
4 19 11 <	69.5	51.0 <	−1.00 < III = −1.06
15 54 48 <	120.5	106.6 <	
−1 34			
15 53 14 <			

Watch used in preceding meeto, was 1 min. 34 secs. fast.

Troubled throughout latter part of evening by increasing boundness.

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Posted to here.

April 17 1897 (Saturday)

Cloudy first of the evening

Clearer now

S. Cephei. Shot T. 21 Obs.

~~22~~	~~25~~	
21	37	+7.83
~~38~~	38	
12	1	

7 50 Clouds

Divided to left

150.9 < vars dia

7 55 218.8 67.9 <

150.7 69.3 < −0.83 <

220.0 137.2 <

Clouds −(0.90) <

151.6

219.0 67.4 <

154.1 63.7 < −0.96 <

217.8 131.1 <

Clouds

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1897phae.proj,1345

April 17 1897
Index to right

246.5
307.6 61.1
242.8 66.0 −1.04
308.8 127.0

blends

−(1.02)

244.0
309.9 65.9
245.0 63.2 −1.00 MM = −0.96
308.2 129.1

8 20

13 ? ~~30~~ 38
−1
13 ν− ν−2

Same again.
244.8
307.7 62.9
244.3 62.6 −1.07
306.9 125.5

8 23

−(1.06)

243.8
308.5 64.7
blends 61.8 −1.05
244.8 126.5
306.6

Index to left
335.0
37.8 62.8
333.1 65.9 −1.00
39.0 128.7

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April 17 1897

332.6 −(0.96)<

42.1 6 9.5<

335.1 6 3.2< − 0.92<

38.3 132.7<

M = −1.01<

5 33

13 : 28.0

−1 38

13 26 22<

A 40 c c 3 2.5 var, var 2.5 d in finders.
cvar = c in larg telescopes,

considerably troubled, and delayed throughout preceding measurements by clouds

Σ 75.3 PhotR Nr Obs.

5 30 + 30.4

10 49

5 19

Index to left.

47.0 <brtr dip

8 54 74.9 27.9<

45.0 31.2< 2.89<

76.2 59.1<

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April 17, 1897.

45.9
76.2 30.3 <
45.2 29.9 < 2.85
75.1 60.2 <

2.87

Index to right

197.0
163.5 26.5 <
135.2 30.6 < 2.97
165.8 57.1 <

2.90 = mean =

135.0 197.0 assumed
~~137.0~~ 32.0 <
137.6 26.4 <
164.0 ~~58.4~~ ~~2.34~~ 2.92

2.94

δ 57
α 55 30
-1 38
δ 53 52

Position angle 260 ; dist 9"
Mags 5.6 8.0

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1897phae.proj.1345

April 17 1897

A + D. 9 - 2.

B 39 K.

9 — 0 — 0.0

— 1 — 0.0

9 1 44.0 9 2 0.0

2 44.0 3 0.0

Reappearance of Jupiter III

Phot R & W. Refr. Telbush Rec.

compared with first of two sats.

free = sat 1.

Checked.

9 19 04	9	18	4.8	94.0
24		19	8	111.9
30			14	93.0
37		21	21	114.0
46			30	90.0
56			40	116.5 —
20 03			47	87.7
11			53 —	121.1
17		20	1	84.0
26			9	122.0
33			17	83.5 —
39			23	126.6
52			36	79.1
59			43	128.5 —
21 05			52	77.9
14		2	58	130.0

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9 21 25	9	21	9		73,5
34			15		129,5
44			28		70,3
51			35		135,0
59			48		69.2
22 07			51		137,5
22		22	6		64,5
31			15		137,6
22 39			25		60,5
+16			33	75.2	141,0
22 54			43	76.2	65,5
			50	76.7	142,0
23 17		23	0		63.0
+16			10	79.6	142,6
23 33				84.0	
			25	81.8	61,0
			34		145,0
24 04			49		58,0
+16			55	87.0	145,0
24 20		24	10	87.8	60,0
			22	87.4	147,5
24 44			29		58,0
+16			39	88.0	146,0
25 00			49	86.8	60,0
		25	0	87.4	146,5
25 30			10		58,0
+16			25		147,5
25 46					

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			89.8	
	25	37	86.0	58,0
		49	87.9	144,0
	26	2		53,0
		17	98.0	157,0
		29	93.2	57,8
		40	95.6	157,0
		53		56,8
	27	2	94.4	157,2
		13	95.9	53,3
		24	95.2	157,2
		38		58,0 57,0
		48	94.0	157,0
	28	1	94.9	53,6
		12	94.4	157,0
		20		53,9
		28	95.9	157,8
		38	95.4	53,4
		46	95.6	157,8
		57		56,0
	29	3	93.8	149,8
		25	94.2	57,0 1
		43	94.0	157,2
	30	12		55,0
		19	96.8	151,8 2
		25	94.5	54,7
		33	95.6	149,2
		40		55,0

9 26 22
+16
26 38

27 08
+16
27 24

27 53
+16
28 11

28 33
+16
28 49

29 16
+16
29 32

30 22
+16
30 38

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April 17 1897

9 30 54
+16
9 31 10

9 31 33
+16
9 31 49

32 04
+16
32 20

32 37
+16
32 53

33 23
+16
33 39

33 57
+16
34 13

9	30	50	97.8	152,8
		58	97.2	54,5 — 3
	31	8		157.2
		19		52,0
		29	1020	154,0
		38	97.2	53.1 4
		46	99.6	150,3
		52		54,8
	32	1	95.2	150,0
		8	1000	57,2 5
		16	97.6	157,2
		25 —		55,5 —
		33	94.5	150,0
		42	95.8	56,2 6
		49	95.2	152,0
	33	9		56,5 —
		20	93.5	150,0
		29	93.4	55,8 7
		35 —	93.4	149,2
		43		53,1
		53	98.1	157,2 8
	34	1	95.1	55,0
		10	96.6	150,1

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April 17 1897

Limit of visibility

9 38 02	9	37	40	96.1	
+16			50	144.4	110.5
9 38 18		38	8	140.0	96.0
			28	142.7	110.0

A. + 9.9 v - c. B. 39 Y.

9	47	44.0	9	46	0.0
	46	44.0		47	0.0

S Cancri. Phot T. W Obs

8	36	+ 19.6
11	55	
3	19	

Index right and above

10 3 25	136.8	Var. dec.
	234.9	98.1 c
	148.0	89.3 c
	232.3	187.4 c + 0.1 c
		172.6 c

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April 17 1897

137.7 +(0.23)<
10 5 2 230.7 93.0<
133.3 I 104.1<
237.4 197.1<
162.9<

Index left + below

227.2
10 7 13 327.0 99.8<
231.7 93.5<
325.2 193.3<
166.7< +0.25<

225.9
10 9 2 325.0 96.1< +(0.14)
4(24 42< 234.3 95.7<
15 6 10< 320.0 181.8<
-1 38 178.2< +0.03<
60 4 32< III = +0.18

230.5
10 10 57 323.0 92.5<
230.4 93.8<
324.2 186.3<
173.7< +0.12<

231.1
10 12 57 324.0 +(0.09)
231.7 92.9<
321.9 II 90.2<
183.1< +0.06<
176.9<

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1897phae..proj..1345.

April 17 1897

Index right and above

	322.3		
10 16 8	50.0	87.7 <	
	320.4	91.3 <	±0.02 <
	51.7	179.0 <	
	319.7		−(0.06)
10 17 31	50.9	91.2 <	
17 36 <	322.9	84.2 <	−0.09 <
10 14 24 <	47.1	175.4 <	
−1 38			
10 12 46 <			
	321.9		
	50.4	88.5 <	
10 19 12	320.0	92.3 <	
	52.8	180.8 <	+0.02 <
		179.2 <	
	320.9		+(0.01)
10 20 38	50.3	89.4 <	
	319.4	90.6 <	
	50.0	180.0 <	0.00 <

Index left and below

	50.1		
10 23 32	141.3	91.2 <	
	49.0	92.9 <	
	141.9	184.1 <	+0.08 <
		175.9 <	

MM = +0.02

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April 17 1897

	50.9			
10 25 18	141.1		+(0.05)	
4(88 40 <	49.1	90.2 <		
15 22 10 <	140.0	90.9 <		
−1 38		181.1 −	+0.02 <	M = +0.03
15 20 32 <		178.9 <		
	51.2			
10 27 34	141.3	90.1 <		
	49.2	90.5 <		
	139.7	180.6 <	+0.01 <	
		179.4 <		
	48.3		−(0.00)	
10 29 38	139.0	90.7 <		
	51.7	88.3 <		
	140.8 IV	179.0 <	−0.02 <	

Index right and above

	139.2			
10 33 18	231.8	91.6 <		
	140.0	91.8 <		
	231.8	183.4 <	+0.06 <	
		176.6 <		
	139.9			
	230.3		+(0.04)	
10 34 56		90.4 <		
4(25 26 <	141.3	89.9 <		
10 31 22 <	231.2	180.3 <		
−1 38		179.7 <	+0.01 <	M = +0.02
10 29 44 <				

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1897phae.proj.1345.

April 17 1897

	140.3		
10 40 33	280.2	89.9 <	
	143.1	87.8 <	−0.04E <
	230.9	177.7 <	
			−(0.00)
	143.3		
10 41 8	232.0	88.7 <	
	141.5	88.0 <	−0.06 <
	229.8	176.7 <	

V

Index left and below

	232.1		
10 46 18	318.1	86.0 <	
	231.0	87.8 <	−0.12 <
	318.8	173.8 <	
			−(0.14)
	233.0		
10 48 6	318.5	85.5 <	
4 16 5 <	234.0	86.1 <	−0.16 <
10 44 1 <	320.1	171.6 <	M = −0.10
−1 38			
10 42 23 <			
	231.3		
10 50 12	317.9	86.6 <	
	232.8	87.5 <	−0.11 <
	320.3	174.1 <	

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April 17, 1897.

	233.4			−(0.08)
10 51 53	319.0		85.6 <	
	229.8		91.4 <	−0.06 <
	321.2	VI	177.0 <	

Index right and above

	325.0		δ	
10 54 48	46.1		91.1 <	
	324.6		86 1.5 <	
	~~+22.6~~		~~162.6~~	−0.33 <
	46.1		162.6 <	

	324.6		δ	−(0.31)
10 56 31	47.0		62.4 <	
	325.0		δ 26 <	−0.29 <
	47.6		165.0 <	

M = −0.20

	K(13	24 <		
15	5 3	21 <		
	−1	38		
15	51	K3 <		

	324.5			
11 2 0	49.7		δ 5.2 <	
	325.4		δ 1.8 <	−0.25 <
	47.2		167.0 <	

	326.5			−(0.26)
	~~48.6~~			
11 3 45	51.9		δ 5.4 <	
	324.3		δ 0.7 <	−0.26 <
	45.0	VII	166.1 <	

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1897phae.proj.1345.

April 17 1897

Order left and below

54.8

11 6 27 136.4 81.6 <

52.4 83.8 < −0.2 A <

136.2 165.4 <

−(0.26)

57.1

11 7 36 137.0 86.4 <

4(20 48 < 55.1 80.4 < −0.2 V < M = −0.26

16 5 12 < 135.0 166.8 <

−1 38

16 3 34 <

56.2

11 10 30 136.1 79.9 <

55.1 82.9 < −0.33 <

135.0 162.8 <

−(0.34)

54.3

11 13 19 134.0 80.2 <

54.1 82.1 < −0.34 <

136.2 162.3 <

VIII

Order right and above

146.8

11 17 26 225.0 78.2 <

143.1 83.1 < −0.36 <

226.2 161.3 <

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1897phae.proj.1345

April 17 1897

	144,9		−(0.36)	
11 19 10	225,1	δ0.2 <		
4(20 25 <	145,8	δ0.2 <		
16 15 6 <	160.7 <		−0.37 <	M = −0.35
−1 38	226.0			
16 13 28 <				
	145,6			
11 21 3	226,0	δ0.4 <		
	143,2	δ3.1 <		
	163.5 <		−0.31 <	
	226,3			
	144,1		−(0.29) <	
11 22 30	226,4	δ2.3 <		
	143,3	δ3.5 <		
	16 5-8 <		−0.27 <	
	226,8 IX			
	Index left and below			
	236,8			
11 25 0	315,7	78.9 <		
	235,1	79.5 <		
	1 5-8.4 <		−0.41 <	
	~~317,5~~			
	314,6			
238				
	238,2		−(0.45-)	
11 27 25	314,2	76.0 <		
4(15- 5-8 <	236,1	78.3 <		
16 23 5-9.5- <	314,4	15-4.3 <	−0.49 <	M = −0.37
16 24 0 <				
−1 38				
16 22 22 <				

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April 17 1897

239.0

11 25 57 — 318.1 — 74.1 <

235.3 — 82.8 <

314.1 — 79.6 <

237.9 — 154.7 <

318.6 — −0.49 <

−(0.5−0)

235.3

11 30 21 — 314.1 — 78.8 <

237.9 — 25.7 <

318.6 — 154.5 <

X — −0.49 <

Index right and above

327.8

11 32 33 — 43.7 — 75.9 <

325.7 — 74.6 <

43.3 — 150.5 <

−0.57 <

−(0.5−8)

329.8

11 33 57 — 44.3 — 74.5 <

327.5 — 75.1 <

42.6 — 149.6 <

−0.58 <

4 (125 − 48 <

16 31 27 <

−1 38

16 29 49 <

M = −0.54

326.4

11 36 8 — 43.8 — 77.4 <

325.0 — 27.0 <

45.0 — 154.4 <

−0.49 <

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April 17 1897

328.3 — (0.52)

11 37 40 — 44.1 — 75.8 <

328.5 — 26.1 < — −0.54 <

44.6 — XI — 101.9 <

Index left and below

58.8

11 40 21 — 135.0 — 76.2 <

55.1 — 79.9 < — −0.46 <

135.0 — 156.1 <

55.2 — (0.45)

11 41 52 — 133.3 — 78.1 <

4(15-6 1 < — 56.3 — 79.0 < — −0.44 < — III = −0.48

16 39 0 < — 135.3 — 157.1 <

−1 38

16 37 22 <

57.2

11 44 45 — 133.5 — 76.3 <

55.7 — 78.3 < — −0.49 <

134.0 — 154.6 <

57.4 — (0.53) <

11 47 20 — 131.1 — 73.7 <

56.0 — 76.4 < — −0.57 <

132.4 — XII — 150.1 <

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April 17 1897.

Index right and above

147.5

11 49 36	224.0	78.5 <		
	147.0	76.9 <	−0.47 <	
	223.9	155.4 <		
	145.7		−(0.50) <	
11 52 7	224.3	78.6 <		
4 19 3 48 <	147.9	76.8 <	−0.53 <	M = −0.52
16 48 27 <	224.7	152.4 <		
−1 38				
16 46 45 <				
	148.0			
11 54 10	225.1	77.1 <		
	150.0	76.2 <	−0.51 <	
	226.2	153.3 <		
	151.2		−(0.58) <	
11 55 31	222.5	71.3 <		
	148.0	74.9 <	−0.65 <	
	222.9	146.2 <		

Index left and below

	240.0			
11 58 37	312.3	72.3 <		
	238.5	75.5 <	−0.62 <	
	314.0	147.8 <		

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April 17. 1897

240.2
314.6
~~237.4~~ 240.3
~~244.2~~
312.0

12 1 0
4(229 18 c
16 57 20 c
-1 38
66 55 42 c

74.4 c -(0.64)
71.7 c -0.65 c
146.1 c

M = -0.61

Region low - last few settings made with much difficulty. Clouds also in this region so that equalizations could not be continued farther

Watch used in preceding meats, was 1 min. 38 secs. fast.

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1897phae.proj.1345.

Apr. 19. 1897. (Monday)

7 0 Cloudy.

7 30 "

8 0 Some clearer.

S Cephei. Phot. I. Sp. ds.

21	37	+7A.3
3K	16	
12	39	

Compared with star e.

Index to left.

33 K.V

A 1V

39.2	6K.7 <	
33 2.2	72.8 <	−0.82 <
K V.0	137.5 <	

Clouds.

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Apr. 19. 1897.

−(0.81)

331.3
44.0 72.7<
333.3 69.9< −0.80<
39.2 138.6<

Index to right.

63.0
124.1 65.1<
61.7 70.7< −0.86<
132.0 135.6<

−(0.86)

61.8
131.9 70.1<
62.9 68.4< −0.87<
124.3 138.5<

M = −0.84

f 34
13 24 30

Clouds

Lt. cloud.

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1897phae.proj.1345.

Apr. 19. 1897.
Same again.

Index to right.

	66.5	
2 43	130.2	63.7 <
	6 K.1	69.9 < −0.90 <
	13 K.0	133.6 <
		−(0.92)
	60.0	
	129.9	69.9 <
	6 K.2	62.2 < −0.94 <
	12 2.0	132.1 <

Index to left.

	149.2	
	221.0	71.8 <
	1K9.9	70.2 < −0.73 <
	220.1	142.0 <
		−(0.74)
	1K0.3	
	221.0	70.7 <
	1K9.6	70.4 < −0.75 <
	220.0	141.1 <

9 1
13 52 0

M = −0.83

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April 19, 1897.

	A. + D. 9 v A.			B. 394.		
12	30	47.2		12	31	0.0
	31	47.2			32	0.0

Reap. Just. I, Phot. R, W. Sq. Waiting.
Comp. with first of three sets.
on following side = Set. II.
Limits of Visibility. clouded.

12 52 52	12	57	50		178.3
+13		53	50		
		52	17	24.4	207.8
12 53 05		52	37	21.3	181.7
		53	10	22.8	203.0 (+3.5)

12 53 50	12	53	37	174.0
54 04			51	210.1
09			56	169.0
14		54	05	215.0
23			10	168.0
31			18	223.0
37			24	156.0
47			34	224.0
53			40	153.8
55 00			47	226.5
05			52	153.0
13		55	00	228.0
21			08	153.8

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1897phae.proj.1345.

Apr. 19, 1897.

12 55 27	12	55	14	229.0	
33			20	151.3	
39			26	232.0	
44			31	147.9	
51			38	239.3	
57			44	145.1	
56 04			51	237.5	
10			57	147.3	
18		56	05	235.8	
26			12	148.3	
32			19	237.9	
39			26	148.8	
47			34	237.2	
			44	148.0	
56 56			51	88.0 236.0	
+13		57	00	90.2 147.0	1.
57 09			07	89.1 237.2	0.0
			13	149.0	
57 24			21	89.0 238.0	
+13			27	90.9 147.0	2.
57 37			33	90.0 237.9	0.0
			48	147.1	
58 06		58	04	89.9 237.0	0.0
+13			12	89.0 147.0	.3
58 19			21	89.4 236.0	
			30	143.8	
			39	237.7	4.

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1897phae.proj.1345

Apr. 19, 1897.

			93.9		
12 58 49	12	58	57	90.9 146.0	
+13		59	09	92.4 236.9	(−0.1)
12 59 02			20	149.0	
59 33			28	86.0 235.0	5.
+13			38	88.2 146.9	
59 46			45	87.1 235.1	(+0.1)
			56	146.5	
13 00 11	13	00	05	90.5 237.0	
+13			14	89.4 146.9	6.
13 00 24			20	90.0 236.3	(0.0)
			53	147.0	
01 10			58	88.8 235.8	
+13		01	08	86.6 149.1	(+0.1) 7.
01 23			~~48~~	~~87.7~~ ~~240.6~~	
			49	146.9	
02 05		02	00	89.1 236.0	
+13			10	88.0 148.8	8.
02 18			21	88.6 236.8	(+0.1)
			31	147.0	
02 44			39	90.0 237.0	
+13			49	94.8 143.2	9.
02 57			58	92.4 238.0	(−0.1)
		03	04	143.9	
03 22			14	97.0 240.9	
+13			22	93.0 146.0	10.
03 35			46	96.0 239.0	(−0.2)

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1897phae.proj.1345.

Apr. 19, 1897.

Seeing somewhat blurry on account of high wind and cold waves.

Sets seemed to reappear somewhat suddenly, perhaps when the wind was more quiet.

A + D. 9 T A.			B. 394.		
13	12	47.4	13	13	0.0
	13	47.3		14	0.0

Chron. Corr = +13 secs. throughout.

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1897phae.proj.1345

April 20 1897 (Tuesday)

Sky too bright for faint comparison yet. Will take

S. Cephei Phot T. Wlbs.

21	37	+77.3
33	33	
11	56	

Twilight still pretty strong

Index to left

331.1 < var dis.

40.2	69.2 <	
332.5	70.8 <	-0.77 <
43.3	140.0 <	

7 35

-(0.77)

331.1		
44.3	73.2 <	
333.0	66.9 <	-0.77 <
39.9	140.1 <	

Index to night.

64.6		
125.4	60.8 <	
59.5	73.2 <	-0.90 <
132.7	134.0 <	

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1897phae.proj.1345.

April 20 1897.

	58.9		−(0.86)	
7 43	131.6	72.7 <		
12 39 0	63.7	64.4 <	−0.83 <	M = −0.82 ~~−0.72~~
	128.1	137.1 <		
	63.5			
7 46	127.0	64.0 <		
	62.0	69.1 <	−0.91 <	
	131.1	133.1 <		
	60.9		−(0.90)	
	130.3	69.4 <		
	63.1	64.7 <	−0.89 <	
	127.8	134.1 <		
	Index to left.			
	152.1			
	220.9	68.8 <		
	148.0	74.1 <	−0.72 <	
	222.1	142.9 <		
	149.8		−(0.72)	
7 56	222.5	72.7 <		
12 57 0	151.3	69.9 <	−0.72 <	
	221.2	142.6 <		M = −0.81

Final mean = −0.82

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1897phae.proj.11845

April 20 1897.

δ Cep 3 var, var 1.5d in finder
δ Cep 1 var, var 3d in large telescope

Twilight gradually decreasing during above measurements. At time of relative estimate, Twilight was about gone.

Comparison stars for

R Geminorum W Webb.
Selection and revision of faint comps.
7 11 +22.2 stars.

10	29
3	18

m 2 r,
n 3 b
D 4.5 a
a b B''
B'' 3 B'
B' 4 β
β 5 δ'
δ' 5 ε'
ε' 3 ε
ε 4 ζ
ζ 3.5 η

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1897phae.proj.1345

April 20 1897

b compared with k Phot. I.

Index left and above

179.3 < comp dis.

9	32	192.0	12.7 <	
		177.4	15.2 <	4.56 <
		192.6	27.9 <	

(4.61)

		179.0		
		192.5	13.5 <	
		178.3	13.2 <	4.66 <
		191.0	26.7 <	

Index right and below

		269.4		
		251.8	12.4 <	
		268.2	14.1 <	4.67 <
		282.3	26.5 <	

(4.82)

		269.9		
9	39	281.1	11.2 <	
		270.0	11.8 <	4.98 <
		281.8	23.0 <	

M = 472

e compared with k

Index right and below

		268.8		
9	45	254.0	Skipped t/s. 14K	
		267.1	accidentally.	
		283.5	15.2 <	
			16.4 <	4.29 <
			31.6 <	

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1897phae.proj.11345

April 20 1897

B compared with k
Index to right

	262.8		
10 10	288.4	25.6 <	
	262.3	27.9 <	3.12 <
	290.2	√3.5 <	

(3.24)

	263.9		
	288.8	24.9 <	
	263.2	23.2 <	3.36 <
	286.4	48.1 <	

Index to left

	354.4		
	18.3	23.9 <	
	349.3	31.7 <	3.03 <
	21.0	√5.6 <	

(3.08)

	350.0		
10 15	19.1	29.1 <	
	353.1	24.4 <	3.12 <
	17.5	√3.5 <	

M = 3.16

B' compared with k
Index to right and below

	348.1		
10 19	22.4	34.3 <	~~Skipped to 6.~~
	349.0	32.6 <	
	21.6	66.9 <	2.61 <

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April 20 1897

348.5
~~20~~ (260)
21.4 32.9 <
350.3 31.7 < 2.69 <
~~22.0~~ 64.6 <

Index left and above
78.9
111.1 32.2 <
79.4 32.1 < 2.70 <
111.5 64.3 <

79.5 (2.68)
10. 25 112.0 32.5 <
79.2 33.2 < 2.65 < M = 2.68
112.7 65.7 <

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1897phae.proj.1345

April 20 1897

E compared with k con.

269.6			(4.34)
284.4	15.8 <		
268.8	14.3 <	4.80 <	
283.1	30.1 <		

Index left and above

357.0			
13.2	16.2 <		
357.3	15.7 <		
13.0	31.9 <	4.27 <	

357.9			(4.31)	
9 50	12.5	14.6 <		
358.2		16.1 <		
14.3		30.7 <	4.35 <	M = 4.32

8' compared with k

Index left and above

354.2			
9 54	16.9	22.7 <	
353.9		24.6 <	3.40 <
18.5		47.3 <	

(3.33)

354.4			
18.2		23.8 <	
352.5		26.5 <	3.26 <
19.0		50.3 <	

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1897phae.proj.1345

April 20 1897

Index right and below

83.9

104.1	20.2 <	
84.1	22.7 <	3.61 <
106.8	42.9 <	

(3.62)

10 00

85.3		
106.5	21.2 <	
84.4	21.3 <	3.63 <
105.7	42.5 <	

M = 3.48

α compared with k

Index above

10 32

71.5		
119.3	47.5 <	
70.6	48.7 <	1.75 <
119.3	96.2 <	

(1.81)

72.7		
120.0	47.3 <	
73.2	44.3 <	1.87 <
117.5	91.6 <	

Index below

163.6		
209.0	45.4 <	1.76 <
160.1	50.5 <	
210.6	95.9 <	

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1897phae.proj.1345.

April 20 1897.

160.7
209,8
161.7
208,9

49.1 <
47.2 <
96.3 <

(1.76)

1.75

M = 1.78

10 38

Comparison stars for

TP. Hydrae.

13 11 - 22,4

13 5-

6

11 5-4

ν	4	ν
ν	4	α
α	5	β
β	4	γ
γ	3.5-	δ
δ	5-	η
η	5	θ
θ	4	κ
κ	5	λ
λ	4	μ
μ	4.5	ν
ν	4	ξ

11 N-

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1897phao.proj.1345

April 21 1897 (Wednesday)

Decl. Photo T. Refbs.

0 30 +81.7
9 18
8 48

Index left & above

	158.0	Lvar dia	
7 23 50	213.9	⌐⌐.9⌐	
	159.9	⌐2.3⌐	
	212.2	10⌐.2⌐	−1.⌐6⌐
	160.3	⌐0.9⌐	(1.⌐8)
7 25 12	211.2	⌐⌐.6⌐	
	158.2	106.⌐⌐	−1.⌐0⌐
	213.8		

Index right and below

7 27 41	245.5	⌐3.7⌐	
	309.2		
	251.7	⌐0.⌐⌐	
	302.1	10⌐.1⌐	−1.⌐6⌐
	250.8	⌐0.2⌐	(1.⌐⌐)
7 29 17	301.0		
⌐(26 0⌐	250.7	⌐2.⌐⌐	
12 26 30⌐	303.1	10⌐.6⌐	−1.⌐9⌐
−3			
12 23 30			

Mean −1.⌐⌐ 3

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1897phae.proj.1345.

April 21 1897

248.8 ν5.1 <
7 30 56 303.9
249.9 ν0.9 <
304.8 10 6.0 < −1. ν−1 <

257.4 4A.A <
7 32 21 301.2 ν6.1 <
248.0 10 4.9 < −1. ν4 <
304.1

Index left and above

337.5 ν2.6 <
7 35 18 36.1
341.3 4 7.0 <
28.3 10 ν.6 < −1. ν2 <

342.0 4 6.0 <
7 37 30 28.0
4 16. ν− <
337.4 ν ν.6 <
12 34 1 < 33.0 10 1.6 < −1.6 2 <
−3
12 31 1

339.1 ν4.6 <
7 39 34 33.7
343.9 339.8 ν−1.1 <
30.9 10 ν.7 < −1. ν2 <

−(1. ν2) <

−(1. ν7) −

mean −1. ν4 <

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1897phae.proj.1345.

April 21 1897

7 42 4

340.1 r0.4 ~~K9.8~~ <
30.9 r6.1 −1.49 <
338.8 ~~10.69~~ ~~+.51~~
34.9 III

(1.r−2) <

Index right and below

7 45 25

69.7 r2.1 <
121.8
71.2 ~~K8.2~~ <
100.3 < −1.6 r <
119.4

7 47 26

4 17 4 29 <
12 43 37 <
−3
12 40 37

71.0 K9.3 <
120.2
71.5 K7.r <
119.0 96.F <

−(1.70) <

−1.7(K mean −1.60 <

7 50 27

70.7 K8.r <
119.2
73.1 r0.3 <
123.4 9A.A < −1.69 <

(−1.6 K) <

7 53 10

71.7 r0.3 <
122.0 K9.7 <
71.2 1000 < −1.66 <
120.9 IV

1897phae.proj.1345

April 21 1897

Index left and above

7 55 30

162.8 ⟨2.2⟩
211.0
158.3 ⟩6.3⟨
214.6 ⟨0.7⟩ −1.⟩⟩

157.0 ⟩4.0⟨ −(1.⟨8⟩)⟨
215.0

7 58 6

159.1 ⟩2.2⟨
211.3 ⟨1.0⟩ −1.⟨1 under −1.⟩8⟨

12 54 18⟨
−3
12 51 18

160.2
208.8 ⟨9.3⟩
209.5

8 3 18

157.1 ⟩7.3⟨
214.4 ⟨06.6⟩ −1.⟩0⟨

156.0 ⟩4.6⟨ −(1.⟨8⟩)⟨
214.6

8 4 48

160.8 ⟩0.0⟨
210.8 ⟨04.6⟩ −1.⟨⟩⟩⟨

Index right and below

252.7 ⟨6.3⟩
299.0

8 9 2

250.7 ⟩2.2⟨
302.9 ⟨9⟨.⟩⟨ −1.69⟨

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1897phae.proj.1345

April 21 1897

δ 10 2

4(2) 10 < 1.90

13 6 48<

−3

13 3 48

249.8 V3.5<

303.3

252.3 K2.6<

300.9 102.1< −1.61< mean −1.56<

−(1.6V<)

δ 12 8

251.0 K9.2<

301.3

257.0 V3.3<

303.3 103.1< −1.V4<

δ 13 43

249.7 V3.9<

303.6

252.5 K7.5<

101.K< −1.6 2<

29

300.8 VI

−(1.60)<

Index left and above

δ 16 26

343.1 KV.K<

28.5

339.0 VV.7<

34.7 101.1< −1.6 3<

δ 18 20

4(20 37<

13 15 9<

−3

13 12 9

339.1 V3.K<

32.5

341.9 K2.3<

342 101.7< −1.61< mean −1.61<

−(1.62)<

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1897phae.proj.1345

April 21 1897.

8 20 16

338.9 ⌐1.0⌐
29.9
337.5 ⌐4.9⌐
32.4 10⌐.9⌐ −1.⌐1⌐

8 21 48

338.1 ⌐⌐.2⌐ −(1.⌐6)⌐
33.3 ⌐6.6⌐
341.7 101.2⌐ −1.61⌐
28.3 ~~VII~~ ~~bottom 1.⌐9~~

Index ~~left~~ right and below

8 24 56

12.0
120.2 ⌐8.2⌐
68.5 ⌐2.1⌐
120.6 1003⌐ −1.6⌐⌐

67.9 ⌐4.2⌐ −(1.64)⌐

8 27 15

4(14 18⌐ 138
13 23 34⌐
−3
13 20 34

122.7 ⌐6.7⌐
70.9 101.⌐⌐ −1.62⌐ mean 1.60⌐
117.6

8 29 7

70.6 ⌐4.9⌐
119.5
68.9 ⌐3.6⌐
122.5 102.⌐⌐ −1.60⌐

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1897phae.proj.1345

April 21 1897

δ 31 19

66.0 ∨6.3 <
202.3
4 4.3 <
71.0 10 4.6 < −1.∨4 <
119.3 VIII

~~mean 1.60~~

Index left and above

δ 3335

161.6 ∨0.∨ <
212.1
159.0 ∨4.7 <
213.7 10 ∨.2 < −1.∨3 <

δ 35-36

4 (129 37 < 97
13 32 24 <
−3
13 29 24

157.4 ∨∨.6 < −(1.∨4) <
213.0
162.8 4 9.1 <
211.9 10 4.7 < −1.∨4 < mean −1.∨6 <

δ 4384

339.6 ∨1.7 <
31.3
340.2 ∨3.2 <
34.0 10 ∨.∨ < −1.∨2 <

δ 4544

337.2 ∨4.1 < (−1.∨0) <
35.3
341.6 4 9.4 <
~~2.5.7~~
31.0 IX

~~mean 1.∨2~~

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1897phae.proj.1345

April 21 1897

Index right and below

8 5 0 21

71.4
120.2 44.8 <
67.5
129.0 103.3 < −1.5 <

8 5 2 38

67.8 45.6 <
122.4
70.5 49.4 <
119.9 100.0 < −1.6 <

13 45 2

mean −1.4 <

8 5 6 3

70.5
120.0 49.5 <
67.7
121.1 103.9 < −1.9 <

8 5 8 22

68.0
122.0 54.0 <
68.3
120.4 52.1 <
106.1 < −1.1 <

Index left and above

9 1 3

160.8
212.0 51.2 <
158.5
214.6 56.1 <
107.3 < −1.8 <

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April 21 1897

156.9
214.6 ∨7.7 <
159.5 ∨0.6 <
210.1 10 A.3 < −1.46 <

9 3 15
A238 43 <163
13 ∨9 41 <
−3
13 56 41

−(1.47)

mean −1.∨1 <

Comparison stars for
R Leonis minorum Phot. 1. 11 Obs.

7 11 +22.2
11 41
4 35

b compared with k.
Index left and above

178.0 L comp dis
9 42 194.0 16.0 <
178.9 1∨.1 <
193.0 30.1 < 4.40 <

180.2 11.1 < (4.54)
191.3
178.7 1∨.3 <
194.0 26.∨ < 4.68 <

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April 21 1897

Index right and below

268.7 13.9 <
282.6
269.6 12.9 < 4.65 <
282.5 26.8 <

270.1 12.1 < (4.71)
282.2
9 50
270.0 13.5 < 4.75 < M = 4.62
283.5 25.6 <

ε compared with k.

Index right and below

268.0
284.4 16.4 <
9 53
268.8 14.2 < 4.36 <
283.0 30.6 <

(4.38)

268.7
282.9 14.2 <
267.3 16.0 < 4.39 <
283.3 30.2 <

Index left and above

357.5
12.9 15.4 <
358.8 14.1 < 4.44 <
12.9 29.5 <

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April 21 1897

	359.2		(4.44)		
10 1	12.8	13.6 <			
	357.7	15.7 <	4.45 <	M = 4.41	
	13.4	29.3 <			

Index left and by above
8' compared with K.

	355.4			
10 5	16.0	21.1 <		
	354.7	22.5 <	3.58 <	
	17.2	43.6 <		

(3.58)

	354.2			
	16.8	22.6 <		
	355.0	21.1 <	3.57 <	
	16.1	43.7 <		

Index right and below

	83.8			
	106.5	22.7 <		
	83.7	23.8 <	3.43 <	
	107.5	46.5 <		

(3.52)

	85.2			
10 12	107.8	22.6 <		
	85.0	20.1 <	3.62 <	M = 3.50
	105.1	42.7 <		

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1897phae.proj.1345

April 21 1897

B compared with D

Index right and ~~above~~ below

#52.2

10 20

110.3	28.1 <	
83 8	24.4 <	3.16 <
108.2	√2.5 <	

83.0 (3.16)

107.8	24.5 <	
83.1	27.8 <	3.17 <
110.9	√2.3 <	

Index left and above

171.6		
199.9	28.3 <	
171.3	29.1 <	2.96 <
200.4	√7.4 <	

171.3 (3.00)

10 25

199.2	27.9 <	
172.9	27.8 <	3.03 <
200.7	√5.7 <	

M = 3.08

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1897phae.proj.1345

April 24 1897

B' compared with k

~~Index left and above below~~

168.9 Index left and above

10 25

201.5 32.9 <

166.7 36.9 < 2.51 <

203.6 69.8 <

168.0 (2.50)

203.5 35.5 <

168.2 34.9 < 2.49 <

203.1 70.4 <

Index ~~left~~ right and ~~above~~ and below

261.0

293.4 32.4 <

259.2 32.4 < 2.68 <

291.6 64.8 <

259.2 (2.71)

10 35

291.5 32.3 <

261.0 31.0 < 2.74 < M = 2.60

292.0 63.3 <

L compared with k

~~252.5~~ Index above

252.5

10 35

301.2 48.7 <

253.8 46.1 < 1.79 <

299.9 94.8 <

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April 21 1897

253.7		(1.79)
300.0	46.3 <	
253.2	48.3 <	1.79 <
301.5	94.6 <	

Index below

340.4		
31.1	5	
339.7	50.3 <	1.63 <
30.0	101.0	

341.4		(1.68)
30.3	48.9 <	
341.8	48.2 <	1.73 < M = 1.74
30.0	97.1 <	

10 45

m	2	n
n	3	ν
ν	3.5	α
α	4.5	B''
B''	3	B'
B'	3.5	B
B	4	δ'
δ'	4	ε'
ε'	3	ε
ε	4	ζ
ζ	4	η

11 10

Mr. Sabusha's watch, used in above measts. was 3 min. fast.

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1897phae.proj.1345.

April 22 1897 (Thursday)

δ Cephei Phot T W. Obs.

21	37	+	78.3
38	38		
22	1		

Considerably cloudy

Somewhat clearer but still cloudy.

Under to left
152.1 variable.
224.0
151.4
220.2

151.3
clouds thick
222.6
143.1
223.7

clouds thick
Under to right
clouds thick

7 49

8 8

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1897phae.proj.1845

April 22 1897

δ 23

239.9
308.1
246.4

Index to right

δ 37

242.1
312.4 70.3 v
240.6
310.8 70.2 v
140.v v −0.76 c

244.4
315.1 70.7 v −(0.88)
247.9
306.7 v+2 v
129.v v −0.9.9 c

Index to left

~~341.1~~
328.5
42.7 ?4.2 v
332.7
40.0 67.3 v
141.v v −0.74 c

325.9
42.6 76.7 v −(0.72)
335.1
41.9 66.2 v
143.v v −0.70 c

δ 52

13 44 30

9.08
M = −0.80
8.28

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1897phae.proj.1345.

April 22 1897

It is too cloudy to continue photometric measurements on S. Cephei. Probably above group should be rejected. Images seemed to vary relatively to each other so that it is almost impossible to get equalization

9 cc 3 var, var 2d in finder
~~14~~ 0 ± cc 1 var in large telescope
Observations made through cloud.

Sky ~~all~~ pretty cloudy in region of W Cephei.

Σ 1268

8	39.	+29.2
11	27	
2	48	

le bands thick, abandoned.

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1897phae.proj.1345

April 22 1897

Σ 1969 ζ Coronae N Obs
Phot T

15	35	+87.0
11	33	
4	2	
12		
7	38	

Clouds too thick

Σ 2010 K Herculis N Obs
Phot R

16	2	+17.4
11	42	
4	40	
12		
7	20	

Clouds too thick no stars visible

Clouds thick everywhere
no chance for anything farther.

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1897phao.proj.1245

April 23 1897 (Friday)

δ Cephei. Phot T W Obs.

21	37	+78.3
33	48	
12	11	
21	37	
34	00	
12	23	

Cloudy

δ Cancri

8	36	+19.6
10	18	
1	42	

δ Cephei

21	37	+78.3
34	18	
12	41	

Impossible to get δ Cephei. Clouds especially bad in this region

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1897phae.proj.1345.

April 23 1897

Σ 1220 Phot H W.Lobe

8	19	+27.4
11	~~35~~	
2	16	

8	19	+27.4
10	~~41~~	
2	22	

The right double apparently found. There is not much of any difference in brightness between components. In fact it is rather difficult to decide which is the brighter.

Position angle 200 dist 3-"
Mags 6.8 6.1

Seeing very unsteady; stars rather dim in clouds.

8 34

~~2 54.8~~	
2 52.5	
06.0	Rej. wrong image dis.
163.5	

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1897phae.proj.1345.

April 23 1897

65.0 / 64.7 Rej: wrong image dec.
Order to right A.
155.9 < N. fol. and brtr dia.

8 42

249.1	93.2	
162.8	80.8	
243.6	174.0	−0.11
		−0.04
160.3		
246.8	86.5	
153.1	95.0	
248.1	181.5	
	180.5	+0.03

Order to left B. Mean = +0.02

244.1		
340.9	96.8	
247.5	86.0	
333.5	182.8	
	171.2	+0.17
248.7		
333.0	84.3	+0.08
244.6	95.6	
340.2	179.9	0.00

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1897phae.proj.1345.

April 23 1897

Σ 1965 Phot H
15 35 + 37.0
11 21
4 14
12
7 46

Pos. Angle 300: dist 6". Magn 4.2, 5.1

Index to left
172.9 Lbtr dis

9 16	233.6	60.7	
	166.7	70.0	
	236.7	130.7	− 0.96
	162.7		− 0.86
	242.0	79.3	
	172.1	61.3	
	233.4	140.6	− 0.76

Mean = −0.86

Index to right:

	257.4		
	322.3	64.9	
	254.6	71.5	
	326.1	136.4	− 0.85
	254.4		− 0.85
9 28	326.0	71.6	
	258.3	64.5	− 0.85
	322.8	136.1	

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April 23 1897

Σ 1970 Phot H Wbz.

15⁻ 40 + 15.8
11 54
3 46
12
8 14

Index left and above

~~8.1~~ X

Position ang 270°; dist 30" Magn 3.2, 9.2

15.3 Inter dis

9 00	22.1	6.8	
	16.5	4.5	
	21.0	11.3	−6.53
	15.1		−6.34
	22.0	6.9	
	14.8	6.6	
	21.4	13.5	−6.15

Index right and below Mean −6.32

107.0		
112.3	5.3	
105.4	6.6	
112.0	11.9	−6.42

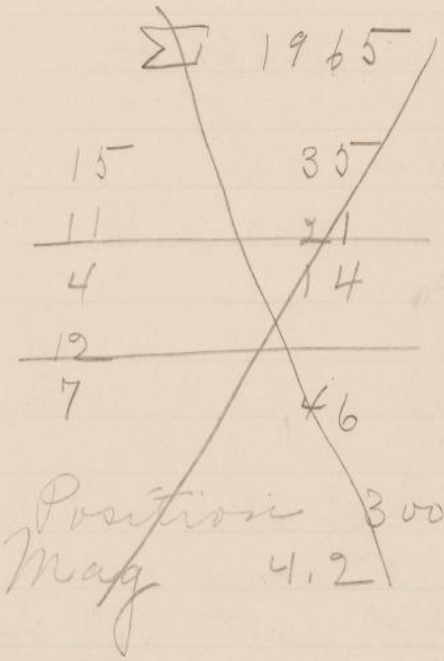
−6.31

−6.20

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1897phae.proj.1345.

April 23 1897



Position 300° dist 6"
Mag 4.2 3.1

	105.0		
10	102.4	7.4	
	106.6	5.8	
	112.4	13.2	6.20

Phot H used instead of Phot R as the clouds were so thick faint companion was brighter on account of less absorption in double image prism

~~position angle 270~~

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1897phre.proj..1345

April 23 1897

Σ 1962 Phot R Wbb

15	32	-8.3
12	81	
3	1	
8	59	

Position ang 195°: dia 12" Mags 6.3 6.4

Index to left B.

59.4 Lbrtr dia.

10 19	146.2	86.8
	57.3	88.5
	145.8	175.3 - 0.09
	57.1	-0.10
	145.6	88.5
	58.5	85.6
	144.1	174.1 - 0.11

Index to right A. Mean = -0.11

	147.5	
	236.2	88.4
	146.6	86.9
	233.7	175.3 - 0.09
		0.12
		-0.16

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1897phae.proj.11345.

April 23 1897

		148.8		
10	26	233.4	85.0	
		148.7	86.6	
		235.3	171.6	−0.16

Σ 1972 Phot R Wolbe

10	36	+80.9	
12	37		
2	41		
12			
9	19		

Position ang. 70°; dis 30" Mag 6.1 7.0

Index right and below
334.0 < after dis.

10	43	46.6	72.6	
		336.5	68.3	
		44.8	140.9	−0.76
		335.1		−0.70
		45.9	70.8	
		332.7	75.3	
		48.0	146.1	−0.65

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1897phae.proj.1345

April 23 1897

Index left and above

65.3
140.8
66.4
141.0

75.5
746
150.1 − 057

65.9
137.5
62.1
141.0

−056
71.6
789
150.5 − 056

Mean = −0.63

10 49

Σ 31′ Phot R 97 Obs.

16 34 +4.4
13 15
2 19
12
9 41

16 34
13 20
3 14
12
8 46

Pos; Ang. 240° Dist 70″ Mag 5.9 6.0

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1897phae.proj.11345

April 23 1897

Index left and below

246.52 better dia

" " 317.4 70.9 v

252.4 59.3 v

311.7 130.2 — 0.97

251.8 — 1.04

309.7 57.9

249.2 66.1

315.3 124.0 — 1.11

Index right and above

Mean = — 1.12

341.8

43.0 61.2

344.0 59.1

43.1 120.3 — 1.19

343.2 — 1.21

" " 40.0 56.8

341.1 61.6

42.7 118.4 — 1.23

much troubled throughout evening by clouds so that many of the observations were somewhat difficult

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1897phae.proj.1345

April 24 1897 (Saturday)

S. Cephei Phot. W Obs

21	37	+78.3
83	54	
12	17	

21	37
33	56
12	19
21	37
34	10
12	33

Index to left.

150.4 Var dis.

8 10

217.6 67.2<
153.1 62.3< −0.99<
215.4 129.5<

−(0.91)

152.5
216.1
147.6 63.6<
221.1 73.5< −0.83<
137.1<

Index to right

245.1
307.9 62.8<
244.3 64.0< −1.04<
308.8 127.3<

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1897phae.proj.1345

April 24 1897

	243.4		−(1.04)	
δ 29	308.4	65.0 <		
13 16 0	244.6	62.7 <	−1.03 <	M = −0.98
	307.3	127.7 <		

	245.2			
δ 23	307.4	62.2 <		
	242.5	67.8 <	−0.98 <	
	310.3	130.0 <		

−(0.99)

243.2			
309.5	66.3 <		
245.2	62.4 <	−1.00 <	
307.6	128.7 <		

Index to left.

335.4			
38.6	63.2 <		
330.0	74.5 <	−0.82 <	
44.5	137.7 <		

	328.7		−(0.81)	
δ 32	44.1	75.4 <		
13 27 30	334.0	63.3 <	−0.80 <	M = −0.90
	37.3	138.7 <		

Final mean = −0.94

δ 37 ± 2c. 3 var., var. 2d in finder
2c 1 var., var 3d in large telescope.

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1897phae.proj.1345

April 24 1897.

R. Geminorum W Obs

7 11 +22.2

11 15

5 7

m 1.5 n

n 3 0

0 3,5 α

α 4 β''

β'' 3,5 β'

9 10 β' 3,5 β

β 4 δ'

δ' 3,5 ε'

ε' 3,5 ε

ε 3 ζ

ζ 4 η

R. Leonis Min. W. obs.

Selection and revis. of facit comp. stars.

9 40 +34.8

11 43

2 5

1897phae.proj.1345.

April 24 1897

Abandoned for an eclipse.

	A + D 9 v E.		B. 39 K.	
9	33 v 4.0	9	3 K	0.0
	3 K v 4.0		3 v	0.0

Disappearance of Sup. III Phot R. W Obs Con same side
Terdus Rec. compared with Sat closest to Sat III
equals Sat II.

	~~4~~	~~43~~	~~56~~	~~127.1~~		
9 44 19 x	9	43	56	127.1		
06 x		44	5 128.9 x	256.0		
44 25 x			29 129.8 x	125.3		1
			42 129.4 x	255.1		
45 18 x			56	127.9		
06 x		45	11 127.9 v	255.8		
45 24 x			27 132.7 v	125.7		2
			38 130.3 x	258.4		
46 09 x			49	125.8		
06 x		46	3 129.4 x	255.2		
46 15 x			16 129.7	126.8		3
			29 129.6 x	256.5		
			~~48~~	~~129~~		
47 15 x			54	126.0		
06 x		47	6 131.8	257.8		
47 21 x			20 126.0 x	128.0		4
			30 128.9 x	254.0		
			47	127.0		

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1897phae.proj.1345

April 24 1897

				128.8	
9		47	53	128.7	255.8
48 02		48	13	128.4	127.0
+06			22		255.7
48 08			33		127.8
48 52			49	129.1	256.9
06			59	130.1	127.9
48 58		49	8	129.6	258.0
			22		127.8
49 08			33	128.0	255.8
+06			44	131.0	127.0
49 44			55	129.6	258.0
		50	6		124.6
50 40			27	132.4	257.0
+06				127.1	
50 46			57	129.8	127.9
		51	8		255.0
			20		128.7
51 36			31	128.2	256.9
+06			41	131.2	126.8
51 42			54	129.7	258.0
		52	1		128.0
52 18			13	129.0	257.0
+06			21	130.8	126.2
52 24			35	129.9	257.0
			53		127.8
53 02		53	2	126.0	253.8
+06			11	130.9	125.2
53 14				128.4	

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1897phae.proj.1345.

April 24 1897

9	53	25	255.9	
		34	130.0	
53 48		46	122.3 × 252.3	
+06		53	122.6 × 131.2	12
53 54	54	1	122.4 × 253.8	
		11	132.0	
54 25		20	116.0 × 248.0	
+06		30	116.0 × 133.8	13
54 31		39	116.0 × 249.8	
		47	132.0	
		56	117.8 × 249.8	
55 01	55	0	118.3 × 132.9	14
+06		16	118.0 × 251.2	
55 07		29	131.2	
		39	118.6 × 249.8	
55 44		48	111.8 × 134.0	15
+06		59	115.2 × 245.8	
55 50	56	11	140.0	
		20	103.1 × 243.1	
56 30		41	100.3 × 141.9	16
+06		48	101.7 × 242.2	
56 36		56	143.7	
9 57 02	57	10	240.8	
16		20	145.8	
26		31	224.8	
37		41	146.9	
47				

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1897phae.proj.1345.

April 24 1897.

9 57 56	9	57	50	233.5
58 04			58	148.6
11		58	5	232.0
20			14	152.7
31			25	228.9
42			36	154.9
50			44	223.0
59			53	162.0
59 12		59	6	221.0
27			21	166.3
39			33	215.0
46			45	172.2
51			59	208.1
10 00 05				
17	10	0	11	174.0
36			30	208.0

Not seen later

Limit of visibility.

10 01 34 x		1	14	174.7
+06 x			28	208.8
10 01 40 x			41	175.0
			54	208.0

3.41 - 3.30 = 33.6

* Seeing rather fine

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1897phae.proj.1345.

April 24 1897

A. + 2 9 ✓2.

10	14	✓4.1
	1✓	✓4.2

B. 39 Y.

10	1✓	0.0
	16	0.0

R Leonis Minoris

9	36	+ 34.8
12	5-1	
3	15	

Abandoned haze getting too thick for faint comparison star.

Σ 19 Phot R Wolbr

11	22	+ 3.6
13	14	
	~~8~~	
~~11~~	~~5 9~~	
	~~8~~	
+1	✓2	

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1897phae.proj.1345.

April 24 1897

Index right and below

170.3 < bottom dia.

10	59	210.2	39.9	
		174.0	34.4	
		208.4	74.3	−2.37″
		173.8		−2.34″
		208.5	34.7	
		170.8	41.7	
		212.5	76.4	−2.30″

Index left and above Mean = −2.36″

		260.3		
		302.4	42.1	
		264.1	34.3	
		298.4	76.4	−2.30″
		266.0		−2.38″
11	4	296.6	30.6	
		261.0	40.8	
		301.8	71.4	−2.46″

Pos. Ang. 200°: Dist 1.6′. Mags 5.D, 7.2

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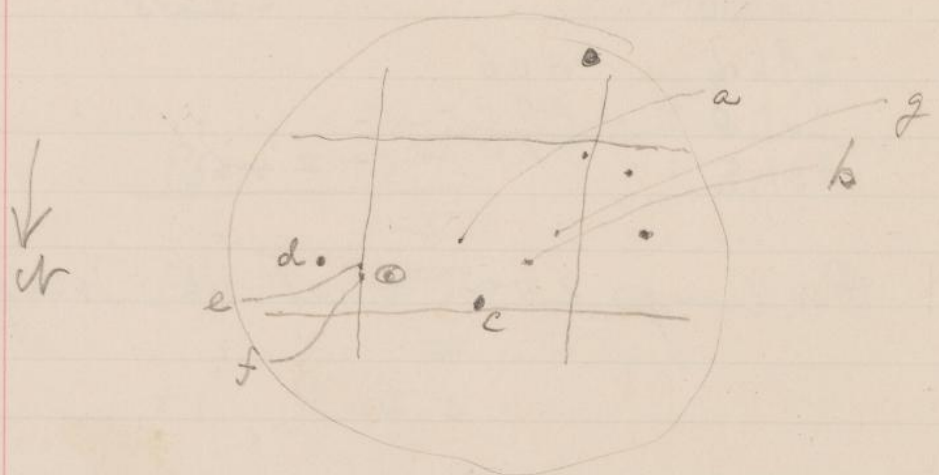
1897phae.proj.1345.

April 24 1897

Iapetus W Bbg

15	50	-17.7
13	38	
2	12	
12		
9	48	

a. A faint star foll. Sat. 13.4 v 2.6 south.
b. " " " " " 31.4 v 0.6 v ~~south~~
c. Albriget's " " " 16.4 v 1.' west.
d. " " " proc. " 9.4 v 1.' south.
e. A sat. " " 4.4 1' "
f. " " " " 3.4 v 0.' v "
g " ft. star foll. " 3 v.4 4.' v "



Haze pretty thick and observations difficult.

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1897phae.proj.1345.

April 26 1897 (Monday)

δ Bancri Phot ? W Obs

8	36	+19.6
9	45	
1	12	
8	36	
10	00	
1	24	

Index above

340.7 Lower disc

7 36 55

32.2	51.5 <	
336.3	58.9 <	1.41 <
35.2	110.4 <	

336.8 (1.40) <

7 39 24

36.0	59.2 <	
339.9	52.2 <	1.39 <
32.1	I 111.4 <	

Index below

67.8

7 43 10

192.9	55.1 <	
64.8	61.2 <	1.27 <
126.0	116.3 <	

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1897phae.proj.1345.

April 26. 1897.

7 46 3	67.7		(1.33)<		
	126.3	∽8.6<			
4(16∽32<	68.9	∽2.∽<			
12 41 23<	121.4	111.1<	1.39<	M = 1.36<	
-4 17					
12 37 6<					
	69.0				
7 45 11	123.2	∽4.2<			
	66.9	∽7.9<	1.37<		
	124.8	112.1<			
	66.0		(1.30∽)<		
7 47 44	124.1	∽8.1<			
	68.0	∽∽.9<	1.33<		
	123.9	114.0<			
	Index above				
	158.4				
7 50 26	215.7	∽7.3<			
	153.3	6∽.0<	1.14<		
	218.3	122.3<			
	154.2		(1.10)<		
7 52 46	220.1	6∽.9<			
4(196 7<	154.6	60.9<	1.0∽<	M = 1.22<	
12 49 2<	215.5	126.8<			
-4 17					
12 44 ∽5<					

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1897phae..proj..1345

April 26 1897

156.4

7 56 17 215.5 59.1<
153.2 63.4<
246.6 122.5< 1.14<

(1.13)<

154.5

7 58 32 217.7 63.2<
157.3 60.1<
217.4 III 123.3< 1.12<

Index above

248.6

8 2 18 303.0 54.4<
246.5 59.6<
306.1 114.0< 1.33<

246.1 (1.29)<

8 4 38 307.0 60.9<
x(1 45)< 248.2 56.4< 1.25<
13 0 26< 304.6 117.3<
-4 17
12 56 9<

249.1

8 8 39 303.9 54.8<
246.1 59.2<
305.3 114.0< 1.33<

247.2 (1.29)<

8 10 31 305.3 58.1<
246.7 59.1< 1.25<
305.4 IV 117.2<

M = 1.21<

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1897phae.proj.1345.

April 26 1897

Index above

~~13 40~~ 337.9

8 13 40 33.0 55.1 <

336.5 59.5 < 1.31 <

36.0 114.6 <

(1.32) <

335.7

8 15 37 34.8 59.1 <

~~48 27~~ 337.3 55.1 < 1.32 < M = 1.30 <

13 12 7 < 32.4 114.2 <

-4 17

13 7 50 <

337.1

8 19 21 32.8 55.7 <

335.2 60.4 <

35.6 116.1 < 1.28 <

~~3 37.3~~

~~8 20 46~~ ~~34.6~~ (1.29) <

~~339.~~

338.8

8 22 20 34.6 55.8 <

336.2 59.5 < 1.30 <

35.7 V 115.3 <

Index ~~above~~ below

67.1

8 25 34 125.7 58.6 <

67.5 56.3 < 1.31 <

123.8 114.9 <

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1897phae.proj.1345

April 26 1897.

68.8 (1.36)<
δ 27 20 123.3 -4.5<
4(94 3 52 155 68.0 -6.0< 1.41< M = 1.32<
13 23 39< 124.0 10.5<
-4 17
13 19 22<

66.5
δ 30 43 125.1 -8.6<
68.7 -5.5< 1.32<
124.2 14.1<

68.0 (1.37)<
δ 32 20 123.0 -5.0<
68.5 -4.9< 1.42<
123.4 VI 109.9<

Index above
154.7
δ 35 8 216.8 62.1<
155.3 60.4< 1.14<
215.7 122.5<

155.6 (1.14)<
δ 37 23 21 216.9 61.3<
4(5 34< 154.0 60.8< 1.14< M = 1.26<
13 33 54< 214.8 122.1<
-4 17
13 29 37<

Fast set taken through clouds. Stars have now disappeared.

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1897phae.proj.1345.

April 26 1897.

10 15 Still thickly clouded with no prospect of clearing.

Watch used in prec. meets was 4 min. 17 secs. fast.

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1897phae.proj.1345

April 28 1897 (Wednesday)

Σ 1694

12 48 +84.1
10 7
2 41
12
9 1.9

abandoned.

L. Lephi Drift W Pk.

21 37 +783
10 11
11 26.
12
34
21 37
34 11
12 34

Clouds

Index to left.
3.34.32 var dig.
38,2 63.9<
330.9 70.9< −0.88
41.8 134.8<

7 55

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1897phae.proj.1345.

April 28 1897.

331.0 — (0.91)
39.9 68.9 <
333.9 63.2 < — 0.9 K
37.1 132.1 <

Index to right
62.6
126.2 63.6 <
61.5 69.6 < — 0.91
131.1 133.2 <

60.9 — (0.9 K)
8 1 128.4 67.5 <
12 5 0 69.0 63.6 < — 0.96 M = — 0.92
126.6 131.1 <

65.1
8 3 126.3 61.2 <
60.9 70.9 < — 0.9 K
131.8 132.1 <

58.9 — (0.90)
131.7 72.8 <
63.6 62.6 < — 0.87
~~125.9~~ ~~126~~ 135.4 <
126.2

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1897phae.proj.1345

April 28 1897

Under the left

151.7
222.2 70.5<
151.2 67.9< -0.81<
219.1 138.4<

-(0.80)

152.0
218.3 66.3<
148.9 73.3< -0.78< M = -0.8v
222.2 139.6<

8 11
13 7 0

cC 3.5; var 1.d in finder.
8 17 ± var = c in large telescope

Nova Aurigæ Phot R. W Glas
Compared with stars.

5 23 +32.0

11 9
5 46

8 under right and below
339.5 < comp dig.
43.1 63.6<
340.3 61.3< +1.09
41.6 124.9<

8 42

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1897phae.proj.1345.

April 28 1897.

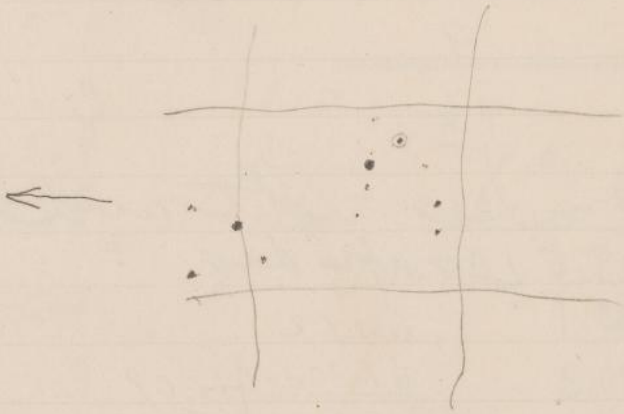
338.7 (1.07)
43.0 64.3 <
340.9 62.2 < 1.05
43.1 126.5 <

Index left and above

69.4
132.2 62.8 <
78.7 58.5 < 1.16
132.2 121.3 <

70.9 (1.14)
129.0 58.1 <
67.5 64.8 < 1.13 M = 1.10
132.3 122.9 <

8 48
13 45 0



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1897phae.proj.1845

April 28 1897

		A L D. 9 ν ^.			B. 39 K.	
9	6	2.0		9	6	0.0
	7	2.0			7	0.0

Reappearance of Jup. I Phot R W Obs Telescope Rec. compared with nearest Sat. on preceding side = Sat II.

Limit of visibility.

9 13 20*	9	12	50		87.0
-02		13	3	26.2*	113.2
9 13 18*			34	21.8*	91.2
			54	240	113.0

9 17 24*	9	17	30		86.9
36*			38		120.5
42*			44		81.5
48*			50		123.0
53*			55		77.2
18 00*		18	2		126.0
05*			7		73.1
07*			9		138.0

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1897phae.proj.11345.

April 28 1897

9	18	10	9	18	~~12~~ 17		69.8
		23			25		135.2
		28			30		69.0
		36			38		184.0
		43			45		67.0
		48			50		141.0
		56			58		63.0
	19	02		19	4		143.5
		08			10		62.2
		15			17		144.0
		24			26		61.2
		30			32		143.0
		36			~~44~~ (prob. 34)		57.2
		42			44		143.0
		48			50		60.0
		54			56		146.2
	20	01		20	3		57.5
		08			10		146.7
		15			17		55.2
		28			30		147.1
9	20	48			37		62.0
		-02			44	82.5	144.5
9	20	46			51	86.1	58.0
					59	84.3	144.1
	21	24		21	7		59.1
		-02			16	84.8	143.9
	21	22			27	86.1	58.0
						85.4	

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1897phae.proj.1345

April 28 1897

	9	21	07	~~49.8~~	2
			45	144.1	
			58	~~58.8~~	
9 22 10		22	8	85.5	144.3
− 02			9	91.8	56.2 3
9 22 08			24	88.6	145.0
			31		56.9
22 40			40	89.4	146.3
− 02			57	87.2	58.0 4
22 43			59	88.3	145.2
		23	16		~~59.7~~
23 32			27	85.8	145.0
− 02			37	90.2	57.8 5
23 30			46	88.0	148.0
			59		62.0
24 12		24	7	84.0	146.0
− 02			17	87.7	~~59.1~~ 6
24 10			26	85.8	146.8
			~~49~~ 43		~~58.8~~
25 08			58	86.3	145.1
− 02		25	5	86.4	60.9 7
24 58			18	80.0	144.5
			26		57.0
26 26			36	89.0	146.0
− 02		27	11	88.0	59.0 8
26 24			32	88.5	147.0

Seeing somewhat blurry from east wind.

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1897phae.proj.1345.

April 28 1897

A. + D gr. ∠. B. 394.

9	36	21		9	36	0.0
	37	2.0			37	0.0

Comparison stars for R Hydrae Photo Wilbe

13	11	-224
12	37	
	84	
12		
11	26	
13	11	
12	42	
	29	
12		
11	23	

12	4gr	
13	11	
	26	
11	34	

λ compared with W
Index to left

	177.5	∠ comp. dir.
10 36	193.6	16.1 ∠
	174.0	21.8 ∠ 3.89
	195.8	37.9 ∠

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1897phae.proj.1345.

April 28 1897

176.0 (3.86)
196.6 20.6 <
176.1 18.2 < 3.84
194.3 38.8 <

Index to right
85.1
106.5 21.4 <
83.6 22.4 < 3.57
106.0 43.8 <

(3.67)

83.6
~~104.0~~ 105.2 21.6 <
10 44 86.4 18.4 < 3.77
15 40 0 104.8 40.0 <

M = 3.76

K Compared with W
Index to left
170.0
10 50 199.3 29.3 <
173.0 27.4 < 2.99
200.4 56.7 <

(3.12)

171.6
199.0 27.4 <
174.2 22.9 < 3.26
197.1 50.3 <

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1897phae.proj.1345.

April 28 1897

Index to right

~~241.0~~
263.3
286.3 23.0 <
262.4 29.6 < 3.16
292.0 $\sqrt{}$ 2.6 <

(3.16)

264.1
290.0 25.9 <
261.7 26.3 < 3.17 π = 3.14
288.0 $\sqrt{}$ 2.2 <

10 55

$\sqrt{}$ 5 4 0

θ compared with ω

Index to right.

259.2
292.7 33.5 <
257.7 38.1 < 2.45
295.8 71.6 <

(2.42)

256.2
294.6 38.4 <
258.2 35.1 < 2.39
293.3 73.5 <

11 08

Index to left

346.1
24.4 38.3 <
345.5 39.6 < 2.26
25.1 77.9 <

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1897phae.proj.1345.

April 28 1897

		345.7		(2.22)	
11	7	27.4	K1.7 <		
		346.5	38.8 <	2.18	III = 2.32
16	3 30	25.3	80.5 <		

2 compared with 11
Index to left

		324.3			
11	10	48.5	84.2 <		
		326.2	82.4 <	0.20	
		48.6	166.6 <		

		324.2		(0.29)	
		51.0	86.8 <		
		328.5	29.9 <	0.33	
		44.4	116.7 <		

Index to right

		52.9			
		136.0	83.1 <		
		52.0	85.1 <	0.22	
		137.1	168.2 <		

		51.1		(0.24)	
11	17	137.6	86.5 <		
		52.9	29.2 <	0.27	III = 0.26
16	13 30	132.1	165.7 <		

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1897phae.proj.1345.

April 28 1897.

δ compared with W
Index below

		63.0		
11	23	125.0	62.0 <	
		59.1	68.2 <	0.97
		127.3	130.2 <	
		62.2		(1.02)
		127.7	65.5 <	
		65.3	60.8 <	1.06
		126.1	126.3 <	

Index above

		156.9		
		213.4	56.5 <	
		153.0	61.5 <	1.24
		214.5	118.0 <	
		156.8		(1.24)
11	30	217.3	60.5 <	
		156.2	57.8 <	1.23
		214.0	118.3 <	

W = 1.13

η compared with W
Index above

		159.9		
11	32	212.1	52.2 <	
		160.0	49.8 <	1.61
		209.8	102.0 <	

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1897phae.proj.1345.

April 28 1897.

160.2 (1.62)
210.8 S-0.6 <
160.7 S-0.6 < 1.63
211.3 101.2 <

Index below
250.3
301.6 S-1.3 <
250.0 S-3.0 < 1.55
303.0 104.3 <

249.1 (1.56)
11 40 302.3 S3.2 <
16 36 0 251.1 S0.5- < 1.57 M = 1.59
301.6 103.7 <

B compared with no
Index below
241.0
11' K2 ≠ 311.0 70.0 <
236.6 74.5- <
311.1 144.5- < 0.68 <

238.9 (0.62)
314.3 75.4 <
240.7 70.9 < 0.65- <
311.6 146.3 <

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1897phae.proj.1345.

April 28 1897

Index above

333.1
39.6 66.5<
331.3 69.5< 0.86
40.8 136.0<

(0.86)

331.4
41.8 70.4<
333.5 66.0< 0.80 M = 0.74
89.5 136.4<

11 5 42
16 47 0

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1897phae.proj.1345.

April 29 1897 (Thursday)

δ Cephei Phot T. W Obs

21	37	+78.3
34	16	
12	39	

Index To left.

334.9

~~37.7~~

7 50

38.2	63.3<	
337.2	60.9<	−1.10
38.1	124.2<	

332.0		−(1.00)
41.9	69.9<	
333.9	64.5<	−0.89
38.4	134.4<	

Index to right

62.1		
127.8	65.7<	
61.9	65.8<	−0.95
127.7	131.5<	

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1897phae.proj.1345

April 29 1897.

61.8 −(0.96)

7 58 125.7 66.9 <

12 57 0 64.5 63.2 < −0.98 M = −0.98

127.7 130.1 <

63.0

8 0 128.1 65.1 <

61.7 67.7 < −0.92

129.4 132.8 <

61.7 −(0.98)

127.2 65.5 <

64.2 62.0 < −1.03

126.2 127.5 <

Index to left.

153.7

218.8 65.1 <

149.5 73.2 < −0.81

222.7 138.3 <

149.2 (0.79)

8 10 222.2 73.0 <

13 5 0 152.2 67.3 < −0.77 M = −0.88

219.5 140.3 <

C 3 var, var 2 b in finder.

8 26 b 1 var, var 2 c in large telescope

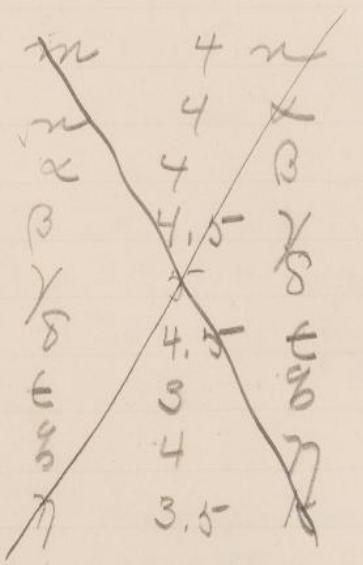
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1897phae.proj.1345.

April 29 1897.

T Virginis Phot W Obz

11	5-8	- 0?.0
11	39	
	19	
12		
11	41	



Reject. Night ~~bad~~ bad and troubled continually by clouds. Selection not considered very good.

Went over in west dome and revised comparison stars for R. Leonis.

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1897phae.proj.1845

April 29 1897

R Auriga

5	3	+ 5-3.0
13	4	
8	1	

All cloudy: no chance for anything further.

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1897phae.proj.1345.

April 30 1897 (Friday)

δ Cephei Phot — W Obs

21 37 +78.3
34 87
12 40

Index to right.
248.6 < var. dist.
306.8 63.2<
242.5 68.7< −0.94<
311.2 131.9<

−(0.90)<

241.3
312.1 70.8<
244.4 65.5< −0.85<
309.9 136.3<

Index to left
332.9
37.2 64.3<
329.7 72.3< −0.84<
42.0 136.6<

−(0.84)<

331.1
48.6 72.5<
334.1 63.6< −0.85<
37.7 136.1<

M = −0.87<

7 50

8 00
12 55 0

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1897phae.proj.1345

April 30 1897

	334.8			
8 1	37.2	62.4 <		
	380.1	73.8 <	−0.85 <	
	43.9	136.2 <		
			−(0.95)	
	334.3			
	42.5	68.2 <		
	333.6	58.4 <	−1.05 <	
	32.0	126.6 <		
	Index to right			
	61.1			
	127.2	66.1 <		
	58.5	72.2 <	−0.81 <	
	130.7	138.3 <		
			−(0.85)	
	61.0			
8 10	129.9	68.9 <		
13 v 30	62.7	65.3 <	−0.89 <	M = −0.90
	128.0	134.2 <		

8 18 J c 3 var, var 2 d in finder.
J t 2 var var 1 c in large telescope

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1897phae.proj.1345.

April 30 1897

T Virginis Phot 21 Obs

11 5-8 -5.0
11 2 3
3 5-

12
17 2 5-

m 5 m
m 4,5- α
α 6 B
B 3 B'
B' 3,5- γ
γ 5- δ
9 25 δ δ 4 ε
ε 3,5- ζ
ζ 5- η
η 3 κ
κ 4 λ

11 58 -5.0
12 18
20

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1897phae.proj.1345

April 30 1897

Index to right

71.2
10 16 124.9
69.8
blonde

69.4
10 37 121.0
62.3
129.2
~~62.3~~

66.0
127.7
69.2
~~123.4~~

B' compared with m
Index to right

68.0
10 45 118.5 ~~0.~~<
68.4 ~~0.6~~<
124.0 10 6.1 <

1.~~0~~1<

68.7 (1.~~0~~2)
124.5 ~~0.8~~<
69.0 49.7<
119.2 10 ~~0.5~~<

1.~~0~~2<

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1897phae.proj.1345.

April 30 1897

Index to left

158.7		
212.4	53.7 <	
158.9	54.8 <	1.40 <
213.7	108.5 <	
158.0		(1.40)
215.3	57.3 <	
157.7	55.0 <	1.36 < . III = 1.46
218.7	112.3 <	

10 52
15 48 30

B compared with m

150.0		
217.7	67.7 <	
153.1	63.0 <	0.96 <
216.1	130.7 <	
		(0.98)
153.6		
213.9	60.3 <	
150.8	68.0 <	1.01 <
218.8	128.3 <	

10 54

Index to right

245.7		
306.6	60.9 <	
241.8	68.6 <	0.99 <
310.4	129.5 <	

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1897phae.proj.1345

April 30 1897

243.7		(1.02)	
305.9	62.2 <		
245.3	64.9 <	1.04 <	$\mathcal{M} = 1.00$
310.2	127.1 <		

11 0 ≤ night hazy and poor throughout. Preceding measurements made with much difficulty through clouds.

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1897phae.proj.1345.

May 4 1897 (Tuesday)

S. Cephei Phot T. W. Obs.

21 37 +78.3
34 30
12 5-8

A.

Index left and below
334.7 < var dist
35.1 60.4<
332.9 64.7<
37.6 125.1< -1.0R<

334.6 63.4< -(1.09)
38.0
334.9 60.9<
35.8 124.3< -1.10<

Index right and above
61.5
127.0 65.5<
59.1 70.9< -0.85<
130.0 136.4<

61.0 -(0.88)
127.4 66.4<
62.0 66.2< -0.92<
128.2 132.6<

M = -0.98

7 49

7 59
12 54 0

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1897phae.proj.1345.

May 4 1897

8 H

62.4
125.1 62.7 <
59.2
127.8 64.6 < −0.9v <
131.3 <

60.9 66.4 < −(0.9v)
127.3

61.8 64.6 < −0.9v <
126.4 131.0 <

Index left and

152.1
219.2 67.1 <

148.0 72.2 < −0.7x <
223.2 142.3 <

149.0 72.2 < −(0.7x)
221.2

8 8
13 x 0

151.3 64.6 < −0.7v < M = −0.8v
219.9 140.4 <

2 13 x C @ 3 var, var 2 d in finder
C var = b in large telescope

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1897phae.proj.1345.

May 4 1897
Comparison stars for
T Virginis Plot 1 21 Obs

11 h 8 - 0°.0
11 30

23
27

m h n
n h α
α h.5 - β
β 4.5 β'
β' 4 γ
γ 5 δ
δ 4 ε
ε 4 ζ
ζ 3.5 η
η 4 κ
κ 3.5 λ

8 40

δ compared with m
Index left and below
3 49.3 L comp dis
4 38 17.2 28.9 <
346.9 35.2 < 27 <
22.1 64.1 <

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1897phae.proj.1345

May 4 1897.

345.7 (2.66)
23.9 38.2 <
348.7 28.4 < 2.62 <
17.1 66.6 <

Index right and above
76.8
106.4 29.6 <
74.3 36.3 < 2.65 <
110.6 65.9 <

73.2 (2.96)
9 45 106.6 33.4 <
78.2 26.6 < 2.86 < M = 2.71
104.8 60.0 <

8 compared with m
Index to right
71.3
9 49 113.0 41.7 <
70.8 43.2 < 2.05 <
114.0 84.9 <

68.0 (2.04)
113.3 45.3 <
71.6 40.4 < 2.03 <
112.1 85.7 <

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1997phac.proj.1245

May 4 1897
Index to left

161.5			
203.0	41.5 <		
157.6	49.4 <	1.89 <	
207.0	90.9 <		
		(1.80)	
159.2			
208.1	48.9 <		
159.0	44.0 <	1.81 <	M = 1.94
203.0	93.9 <		

E compared with the ma
Index to left

163.6			
202.9	39.3 <		
167.2	34.1 <	2.40 <	
201.3	73.4 <		
		(2.48)	
170.1			
199.7	29.6 <		
163.6	36.4 <	2.57 <	
202.0	66.0 <		

Index to right

255.0			
291.8	36.8 <		
256.6	32.6 <	2.53 <	
289.2	69.4 <		

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1897phil..proj..220

May 4 1897

		258.3		(2.56)	
10	15	288.9	30.6 <		
		255.0	37.3 <	2.58 <	M = 2.52
		292.3	67.9 <		

B compared with M
Index to right

		240.0			
10	27	300.1	59.6 <		
		236.1	69.9 <		
		306.0	129.5 <	0.99 <	

		238.0		(1.02)	
		303.1	65.1 <		
		239.3	61.9 <		
		~~298.1~~ 301.2	127.0 <	1.04 <	

Index to left

		331.9			
		31.2	59.3 <		
		330.2	63.3 <	1.14 <	
		33.5	122.6 <		

		327.1		(1.12)	
10	31	30.4	63.3 <		
		327.0	61.1 <	1.10 <	M = 1.07.
		28.1	124.4 <		

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1897phae.proj.1345.

May 4 1897

γ compared with m

Index to left

	334.8			
10 35	25.1	5 0.3 <		
	334.7	5 1.9 <	1.60 <	
	26.6	10 2.2 <		
			(1.60) <	
	333.0			
	24.2	5 1.2 <		
	335.9	5 0.9 <	1.61 <	
	26.8	10 2.1 <		

Index to right

	61.7			
	114.0	5 2.3 <		
	62.1	5 2.6 <	1.54 <	
	114.7	10 4.9 <		
	59.0		(1.50)	
10 43	115.0	5 6.0 <		
	62.1	5 2.1 <	1.46 <	M = 1.50
	114.2	10 8.1 <		

B' compared with m

Index to right

	55.7		
10 50	122.0	66.3 <	
	56.8	5 3.0 <	0.99 <
	119.8	10 9.3 <	

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1897phae.proj.1345

May 4 1897

57.1
115.2 58.1<
59.1 60.9< 1.21<
120.0 119.0<

(1.10)

Index to left.

157.7
210.2 58.5<
148.2 59.6< 1.23<
207.8 118.1<

(1.26)

10 55 | 149.9
| 208.8 58.9<
| 152.0 56.2< 1.30<
208.2 115.1<

III = 1.18

α compared with m

10 56 | 142.3
| 212.5 70.2<
| 141.2 77.3< 0.62<
| 218.5 147.5<

(0.62)<

139.2
~~138.5~~ 218.5 79.3<
144.2 68.2< 0.61<
213.0 148.0<

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1897phae.proj.1345.

May 4 1897 Order to right

233.2				
305.3	72.1 <			
229.3	77.9 <		0.5-A <	
307.2	(5-0.0 <			
			(0.57) <	
11.5	231.4			
	308.2	76.8 <		
	284.1	73.8 <	0.56 <	III = 0.60
	307.9	(5-0.6 <		

S Virginis

18	26	-6.4
14	22	
	52	

ν	4	A
ν	4.5-	α
α	3	B
B	4	γ
γ	3.5-	δ
δ	5-	ε
ε	4	ζ
ζ	4	η

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1897phae.proj.1345.

Engr. C. 1897.

R Hydrae, Phot. D. Gr. obs.

13 22 −22.v

14 30

+1 ∓8

J compared with w
index above.

157.0 v5.0 v
< comp. star dis.

11 26 212.0

157.0

21K.1 −9.1 v / 11K.1 v 1.3 v

157.1 v4.9 v (1.2 v)

205.8

156.v v4.6 v

21v.1 / 117.3 v 1.2v v

Index below.

6K.2 60.v v

12K.7

63.v 66.3 v

129.4 / 126.4 v 1.0v v

63.7 6K.K v 1.0 v

11 37 124.1

6K.9 60.3 v

12v.2 / 12K.7 v 1.09 v mean 1.1 A v

+ compared with w
index to left.

323.6 8K.K v

K4.0

11 41 324.1 8K.0 v

K4.1 / 164K 0.2 v

326.1 8K.4 v (0.2 v)

v0.9

327.6 7.7 v

K73 / 162v v 0.33 v

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Index to right.

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v−3.3 AK.K v
137.7

v3.0
134.2 Δv.2 v / 169.6 v 0.20 v

v2.3 AK.9 v (0.22 v)
11 v0 137.2
v−2.0
13K.4 A2.4 v / 167.7 v 0.23 v mean 0.2v.

B compared with v.
Index above.

33K.0 6K.A v
11 vv− 34.4
333.1
K1.0 67.9 v / 132.7 v 0.92 v

333.0
K2.7 69.7 v (0.A6 v)
333.7
K2.2 6A.v / 13A.2 v 0.A1 v

Index below.

2K3.3 71.A v
31v.1

234.6
310.1 71.2 v / 1K3.0 v 0.71 v

239.2
312.7 73.v v (0.69 v)
12 9 240.K
312.2 71.A v / 1Kv.3 v 0.67 v

mean 0.7A v

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