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MEMORANDA
ON
VARIABLE STARS.

L. Campbell.

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Index.

1 Data when to observe algol Vars. for corr. to elem.

10 Calender of Minima of algol Vars.

50 Annual Ephemeris of U Ophei.

100 Photog. List of Comp. Stars for Long Pers.

150 Annual Magns. of Comp. Stars for Vars.

60 Light Equations.

200 Enlargements rec'd from B. B. since Oct. 9, 1903—

70 Observations communicated since Oct. 1905.

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W Delphi	-4:06 to -1:24	0	+1:24 to 4:6
U Cephei	-2:15 to -1:15	0	+1:15 to 2:15
S W Cyg.	-3:40 to -1:48	0	+1:41 to 3:24
R R Lyrae	-1 0	0	

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1904phae.proj..762c

December 1904.
Edw. T. Jenkins.

Dec.

1
2 SW Cygni 4:06
3 W Delph. 7:5 SY Cygni 14:36 Y Camelop 13:22
4 U Cephei 14:30 U Sagittae 5:23 Z Draco 6:1 Z Per. 12:13
5 RV Lyrae 10:4 Z Draco 14:36 V W Cygni 14:49
6
7 W Cygni 6:47 Z Persei 13:35
8 Z Draco 7:46
9 U Cephei 14:10 SY Cygni 14:42 Z Draco 16:21
10 Y Camel. 4:3 Z Persei 14:57
11 SW Cygni 8:26
12 Z Draco 9:31
13 Y Camel. 11:23 Z Draco 18:06 Z Persei 16:19
14 U Cephei 13:50 U Sagittae 8:48 U W Cygni 4:26
15 SY Cygni 14:48
16 RV Lyrae 5:11 Z Draco 11:16 Z Persei 17:41
17
18
19 U Cephei 13:30 Z Draco 4:26 Z Persei 19:23
20 SW Cygni 11:56 Z Draco 13:01
21 SY Cygni 14:54 U Sagittae (3:4)
22 W Delph. 12:30 V W Cygni (11:35)
23 RV Lyrae 9:56 Y Camel 9:23 Z Draco, 6:11
24 U Cephei 13:10 W W Cyg. 12:54 Z Drac, 14:46
25
26 Y Camelop 16:43
27 W Delph. 7:51 SY Cygni 15:00 Z Draco 7:56
28 Z Draco 16:3
29 U Cephei 12:50 SW Cygni 15:27
30 RV Lyrae 14:40
31 U Sagittae 6:29 Z Draco 9:41

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1904phae.proj..7612

January 1905
E. M. T. Minima.

Jan 1
2 RV Lyrae (17:03) Y Camel. (7:24)
3 U Cephei (12:30) Z Draco. (2:45)
4 SW Cygni. (5:12) Z Draco. (11:21)
5 Y Camel. (14:44)
6
7 UW Cygni (8:11) Z Draco (4:35)
8 U Cephei (12:10) Z Draco. (13:11) VW Cygni (8:21)
9
10 ~~Z Persei.~~ 4:34
11 Z Draco. (6:22)
12 Y Camel. (6:25) Z Draco. (14:57)
13 U Cephei (11:50) SW Cygni (8:43) Z Per. (5:55)
14 UW Cygni (5:50)
15 RV Lyrae (2:38) Y Camel (12:46) Z Draco (8:28)
16 Z Per. (7:23)
17
18 U Cephei (11:30) RV Lyrae (5:03) Z Draco. (1:19)
19 Z Per. (8:40) Y Camel. (3:19) Z Draco (9:55)
20 W Delph (8:34) Z Draco. (18:30)
21 RV Lyrae (7:26) UW Cygni (3:29)
22 SW Cygni (12:13) Z Persei (10:02) Y Camel. (10:44) Z Draco. (3:16)
23 U Cephei (11:10) Z Draco. 11:43
24 RV Lyrae (9:50) ~~Z Persei (11:24)~~
25 W Delph. (3:55) Z Persei (11:24) Y Camel. (18:00) VW Cygni (5:00)
26 Z Draco. (4:53)
27 RV Lyrae (12:15) Z Draco. (15:52)
28 U Cephei (10:50) Z Persei (12:46)
29 Y Camel. (1:21)
30 RV Lyrae (14:38) Z Draco (6:39)
31 Z Persei (14:08) Z Draco (15:14)

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1904phae.proj..7621

February 1905.

E. M. T. Minima.

Feb 1

2 U Cephei (10:30) Y Camel (1:20)

3 Z Persei (15:23) Z Draco (8:02)

4 Z Draco (16:36)

5 Y Camel (8:40)

6 Z Persei (16:45) ~~Z Draco (9:46)~~

7 U Cephei (10:10) Z Draco 9:47

8 Y Camel (16:00)

9

10

11 ~~Z Draco (11:30)~~

12 U Cephei (9:50) ~~Z Draco 11:32~~

13

14

15 Y Camel. (6:40) Z Draco. (13:24)

16

17 U Cephei (9:30)

18 Y Camel. (14:00) Z Draco (6:33)

19 Z Draco. (15:08)

20

21

22 U Cephei (9:10) Z Draco (8:17)

23

24

25 Y Camel. (4:40)

26 Z Draco (10:02)

27 U Cephei (8:50)

28 Z Persei (2:45)

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1904phae.proj..7614

March 1905.
E. M. T. Minima.

Mar 1
2 Z Draco (11:36)
3 R T Persei 8:52
4 U Cephei 8:12
5
6
7
8 R T Persei (11:11)
9 U Cephei 7:52 Y Camelop. (10:04) Z Draco (6:29) R T Per (7:34)
10
11
12 Z Persei 7:15
13
14 U Cephei 7:31 R T Persei (9:53)
15 Z Persei 8:36
16
17 Z Draco 9:57
18 Z Persei 9:58
19 U Cephei 7:11 Y Camelop (8:06)
20 R T Persei (8:36)
21 Z Persei 11:19 Z Draco 11:42
22
23
24 U Cephei 6:51
25 R T Persei (10:55)
26 R T Persei (7:18)
27
28
29 U Cephei 6:50
30
31 R T Persei (9:37)

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1904phae.proj..76

April 1905.

E. M. T. Minima.

April
1
2
3 ~~S W Cygni (16:12)~~ U W Cygni (14:39)
4 S W Cygni (16:12)
5 Z Draco. (10:4) R X Herc (13:46)
6 R T Persei (8:19) V V Cygni (11:5)
7
8 W W Cygni (14:57)
9 Z Draco. (11:48)
10 U W Cygni (12:17)
11 γ Camelop. (11:27)
12 R T Persei (7:02)
13 Z Draco. (13:32) R X Herc (13:50)
14
15
16 W Delph. (15:48)
17 R V Lyrae (13:53) R T Persei (9:21) Z Draco (15:16)
18 U W Cygni (13:51)
19 V W Cygni (12:27)
20 Z Draco (8:26)
21 γ Camelop. (9:27) R X Herc (13:55)
22
23 R T Persei (8:3)
24 Z Draco. (10:10)
25 V V Cygni (15:56)
26
27 S W Cygni (12:58)
28 U Sagittae (14:20) W W Cygni (12:45) Z Draco (11:54) V V Cygni (14:50)
29 R X Cygni (14:00)
30

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1904phae.proj..7610

May 1905.
E. M. T. Minima.

May 1
2
3 UY Cygni (11.44)
4 J Camelop. (14:47) UY Cygni (14:39) VV Cygni (12:37) RT Per. (9:5)
5 RV Lyrae (13,45) V Serpentis (14:11)
6
7 RX Herc. (14:6)
8 UW Cygni (11:38)
9
10 RT Persei (7:47)
11 UW Cygni (13:40)
12 V Serpentis (11:57)
13 UY Cygni (13:59) Z Draco (10:15)
14 J Camelop. (12:48)
15 W Delphini (11:55) U Sagittae (12:02) RX Herc (14:10)
16 RH Herc. (11:31)
17 Z Draco (11:59)
18 UW Cygni (11:19) UW Cygni (10:32)
19
20 SW Cygni (9:43)
21 Z Draco (13:43) RT Persei (8:49)
22 UY Cygni (13:19)
23 RV Lyrae (13:37) RX Herc. (14:15)
24 Y Camelop. (10:48) RX Herc (11:36)
25 U Sagittae (15:27)
26
27
28 Z Draco (8:37)
29 SW Cygni (13:13) VV Cygni (15:16)
30
31 UY Cygni 12:39

(14:50)

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1904phae.proj..76pc

June 1905.

June 1
2
3 RV Lyrae (8:44) Y Camelop (8:48)
4 VV Cygni (13:3)
5 Z Draconis (12:5)
6
7 VV Cygni (11:57)
8 W Delph (12:41) RX Herc. 14:26
9 Z Draconis (13:49) RX Herc. (11:46)
10 RV Lyrae (13:29) VV Cygni (10:51)
11 U Sagittae (13:8) U W Cygni (15:3)
12 V Serpentis (13:55)
13 VV Cygni (9:45)
14
15
16 Y Camelop (14:9) Z Draconis (8:42) VV Cygni (8:39) RX Herc (14:30)
17 V W Cygni (13:38) RX Herc. (11:50)
18 U W Cygni (12:41)
19 V Serpentis (11:41)
20 Z Draco. (10:26) W W Cygni (14:51)
21 S W Cygni (9:58) RV Lyrae (8:36)
22
23
24 Z Draco. (12:11) RX Herc. (14:34)
25 U W Cygni (10:20) RX Herc. (11:53)
26 Y Camelop. (12:9)
27
28 U Sagittae (10:50) RV Lyrae (13:21) Z Draco. (13:55)
29 U Cephei (late)
30 S W Cygni (13:28) W W Cygni (13:45)

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Eastern Mean Time. 17

August 1905.

Aug.	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	β Persei (9:59)
	14	VW Cygni (14:19) ζ Persei (6:33)
	15	– Tauri (13:39) δ W Cygni (6:59) U Z Cygni (Nov 21:2K)
	16	Z Draco (5:45)
	17	U Coronae (16:49) ζ Draco (14:20) V Serpentis (4:42) U Oph (13:58)
	18	– Tauri (5:55) ζ Persei (5:55) γ Cassiop (9:31) U Oph. (10:06)
	19	W Delph (14:59) U Oph. (9:14) U W Cygni (15:27) WW Cygni (8:13)
	20	Z Draco (7:30)
	21	U Sagittae (13:2) ζ Persei (7:16) Z Draco (9:05) RV Lyrae (12:56) γ Cassiop (16:51)
	22	WW Cygni (5:57) U Oph (14:45)
	23	U Oph (10:52) U Cephei Nov (8:32)
	24	W Delph (10:24) Z Draco (9:15) δ W Cygni (10:29) ζ Persei (8:38)
	25	Z Draco (7:50)
	26	– Tauri (15:28) U W Cygni (3:5)
	27	V Serpentis (13:21) ζ Persei (9:59) U Cephei Nov (11:2) Z Draco (11:00)
	28	U Sagittae (7:19) γ Cassiop (7:31) U Oph. (11:38)
	29	– Tauri (9:56) WW Cygni (7:07) U Oph (7:46)
	30	β Persei (14:53) ζ Persei (11:21)
	31	U Coronae (12:14) U Z Cygni (13:6 Nov) γ Cassiop (14:51)

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September 1905

East. Mean Time

Sept. 1 U Cygni Secondary Min (8:4) Z Draco (17:41)
2 U Cephei (7:52 Min) Z Persei (12:43)
3
4 Z Draco (10:51)
5 Z Persei (14:4) VV Cygni (14:21)
6 RX Hercules (10:01)
7 U Cephei (7:32 Min) U Sagittae (10:44) Y Camelop (5:31)
8 RV Lyrae (12:48) UW Cygni (6:1) Z Persei (15:26)
9 UW Cygni (8:22) RT Persei (15:24)
10 Y Camelop. (12:51) V Serpentis (8:53) RT Persei (11:47)
11 WW Cygni (13:39) Z Persei (16:47) RT Persei (8:10)
12 U Cephei (7:12 Min) W Delph. Min (15:45) RX Herc (15:25)
13 Z Draco (14:11) RX Herc (12:45)
14 U Sagittae (5:1) VV Cygni (11:3) RX Herc. (10:06)
15 RT Persei (14:5) RX Herc (7:26)
16 SW Cygni (7:14) UW Cygni (6:00) U Cygni Prin. Min (4:42)
17 U Cephei (6:52 Min) W Delph. Min (11:6) U Sagittae (14:9)
18 VW Cygni (7:51) WW Cygni (4:54)
19 RV Lyrae (7:55)
20 Y Camelop. (10:52) V Serp. (17:32) Z Draco (9:06)
21 WW Cygni (12:32) RT Persei (12:46)
22 U Cephei (6:32 Min) W Delph. Min (6:28) RT Persei (9:09)
23 VV Cygni (7:45) RX Herc. (7:31) — Tauri (7:59)
24 U Sagittae (8:25) Z Draco (10:51)
25 SW Cygni (10:44)
26 RV Lyrae (12:40) UW Cygni (14:28) VW Cygni (18:14)
27 U Cephei (6:12 Min) V Serp. (15:18) RT Persei (11:27)
28 Z Draco (12:36) RT Persei (7:50)
29
30 Y Camelop (8:52)
31

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1904phae.proj..7610

Sept. 1905 –
East. Mean Time

Sept.
1
2
3
4
5
6
7 RX Herc. (7:21)
8 Z Draco (12:36) VV Cygni (13:15)
9 – Tauri (11:44)
10
11 VV Cygni, 12:09
12
13
14
15
16 Z Draco. (7:21) RT Persei (10:28)
17 V Sept. (6:39) Z Draco (15:56) RT Persei (6:51)
18
19
20 RT Persei (16:23) VV Cygni (9:51) – Tauri (13:32)
21 RX Herc. (12:50)
22 RX Herc. (10:11)
23
24
25
26 RT Persei (15:4) VV Cygni (6:39)
27
28
29
30

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1904phae.proj..7602

October 1905.

East. Mean Time.

Oct 1				
2				
3	U W Cygni 12:6	U Y Cygni 13:41	R T Per. 20:15	
4	S W Cygni (14:14)	U Sagittae (11:50)	V Serpentis 13:4	R T Per 6:38
5	R Z Lyrae 7:17			
6	R Z Lyrae 7:49	V V Cygni 14:47		
7	R V Lyrae (7:47)	R Z Lyrae 8:22	– Tauri (5:29)	
8	R Z Lyrae 8:54	~~V V Cyg~~	R T Per 12:34	Z Draco 9:17
9	R Z Lyrae 9:27	V V Cygni 13:41	R T Per 8:57	Z Per. 5:1
10	U W Cygni (9:45)	γ Cancelop (6:52)	R Z Lyrae 10:0	U Y Cygni 7:11
11	W Delph. (11:53)	U Sagittae (6:7)	W W Cygni 10:20	V Serpen 10:50
12	R Z Lyrae (11:4)	U Y Lyrae 13:1	V V Cygni (2:35)	Z Draco 11:1
13	V W Cygni 15:0	γ Cancelop. 14:12	R Z Lyrae 11:37	
14	U Sagittae (15:15)	R V Lyrae (12:32)	R Z Lyrae 12:10	R T Per. (11:16)
15	R Z Lyrae 12:42	V V Cygni 11:29	R T Per. (7:40)	Z Per. 7:44
16	W Delph (7:14)	R Z Lyrae 13:14	Z Draco (12:45)	
17	U W Cygni (7:23)	R Z Lyrae 13:47		
18	S W Cygni (7:29)	V Serpen. (8:36)	R Z Lyrae 14:20	V V Cygni (0:23)
19	R Z Lyrae (14:52)			
20	R Z Lyrae 15:24	U Y Cygni 9:26	R T Per. (9:59)	
21	U Sagittae (9:32)	W W Cygni 9:13	R Z Lyrae 15:54	U Y Cygni 12:21
22				
23	γ Cancelop (2:13)	Z Draco (7:39)		
24	V V Cygni 8:11	Z Persei 11:48		
25	R V Lyrae 7:39	V Serpentis 6:22	R T Per 12:18	
26	R T Per. (8:41)			
27	S W Cygni (0:59)	V V Cygni (7:5)	– Cephei	
28	Z Draco (9:23)			
29	U Y Cygni 8:46	– Tauri 9:6		
30	V W Cygni (11:46)	U Y Cygni 11:41	– Cephei	
31	U Sagittae (2:57)	W W Cygni 8:7	U Y Cygni 14:36	R T Per. (11:00)

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October — 1905 —
East. Mean. Time.

Oct	1			
	2			
	3			
	4	Z Draco 7:33	— Tauri (11:2)	
	5			
	6			
	7			
	8			
	9			
	10	R T Per. 5;20		
	11	R Z Lyrae 10;32	U Cygni 10;6	
	12	Z Per. 6;22		
	13			
	14			
	15	— Tauri (12:5)		
	16			
	17			
	18	Z Persei 9:6	— Tauri (7:10)	
	19			
	20			
	21	V V Cygni 9:17	R T Per. 6;22	Z Persei 10;27
	22			
	23			
	24			
	25			
	26			
	27			
	28			
	29			
	30			
	31			

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1904phae.proj..7602

December 1904
East Mean Time

Dec.				
1				
2				
3	W Delph. 8:46	Z Persei 5:29	V W Cygni 5:18	V V Cygni 5:18
4	U Sagittae 8:20	Z Draco 9:35	R T Persei 10:17	— Tauri 8:59
5	Y Camelop. 11:34	R T Persei 6:40		
6	Z Persei (6:50)	V V Cygni 4:12		
7				
8	W Delph 4:07	Z Draco 11:19	U Cephei 12:37	
9	— Cephei 22:50	Z Persei 8:12		
10	R T Persei 8:59			
11				
12	S W Cygni 4:29	Z Persei 9:33		
13	W W Cygni 11:20	U Cephei 12:16		
14				
15	Z Persei (10:55)	Y Camelop 9:34	Z Draco 6:13	— Tauri 10:48 R T Persei 11:19
16	R T Persei 7:42			
17				
18	R W Lyrae 10:9	U W ~~Cygni~~ Lyrae 10:9	Z Persei 12:16	— Tauri 5:15 U Cephei 11:56
19	Z Draco 7:57			
20				
21	S W Cygni 7:59	U Sagittae 6:1	R T Persei 10:1	
22	R T Persei 6:24	V V Cygni 10:9	— Cephei 8:55	
23	Z Draco 9:41	W W Cygni 10:14	U Cephei 11:35	
24				
25	U W Cygni 7:47	Y Camelop. 7:35	V V Cygni 9:3	
26	— Tauri 12:36			
27	W Delph 9:32	Z Draco 11:25	R T Persei 8:43	
28	V V Cygni 7:57	U Cephei 11:14		
29	— Tauri 7:4			
30	Z Draco 4:34			
31	U Sagittae 9:26	V V Cygni 6:5		

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1904phae.proj..762c

1907

Date	Design.	Variable	Prec. Side Begin	Prec. Side End	Min.	Foll. Side Begin	Foll. Side End
October 1		λ Tauri			1:55		
		U Oph.			10:9		
		R Can. Maj. Bad			3:35		
		γ Cygni			11:8		
		SW "			16:48		
		U Sagitt			8:38		
		UW Cyg.			15:18		
		Z Draco			21:33		
		RT Persei			9:22		
		WW Cyg.			10:24		
		VV "			20:21		
		RR Drac			7:51		
		RV Oph.			19:19		
		RZ Cass.			1:15		

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Ephemeris of μ Cephei from B15 P.90

Epoch. 2251 = 3501.^{d}7825611

period = 2.4928240

Epoch 3384 = 6824.7968311

3386 = 6829.7826011

3406 = 6879.6402811

3416 = 6904.5691211

3418 =

3487 = 7081.5638851

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1904phae.proj..762C

Amfela.

to be observed
after moon passes,
with Plot X on 5"

Dec. 5, 1903

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1904phae.proj..7612

Light Equations

Date		U Ophei.	SW Cygni	U Sagittæ	Z Draco	Z Persei	W Delph.	γ Camel.	U W Cygni	V
Jan	0	−194	+156	+356	−265	−289	+319		+169	
	10	−173	+180	+367	−285	−225	+357		198	
	20	−146	+199	+366	−296	−154	+383		221	
	30	−115	+211	+354	−298	−78	+398		238	
Feb	9	−80	+217	+331	−290	0	+401		247	
	19	−43	+217	+298	−274	+78	+391		248	
Mar	1	−4	+210	+256	−249	+154	+369		242	
	11	+35	+196	+206	−217	+226	+336		229	
	21	+73	+176	+149	−178	+290	+293		208	
	31	+108	+152	+89	−134	+345	+242		182	
Apr	10	+140	+123	+26	−86	+391	+183		150	
	20	+169	+90	−38	−35	+425	+119		114	
	30	+192	+54	−101	+16	+447	+51		75	
May	10	+210	+17	−161	+67	+456	−18		+33	
	20	+222	−20	−217	+117	+452	−87		−10	
	30	+227	−57	−266	+163	+435	−153		53	
June	9	+226	−92	−307	+204	+405	−215		93	
	19	+219	−125	−341	+239	+364	−271		131	
	29	+205	−154	−364	+268	+313	−319		166	
July	9	+186	−179	−377	+289	+254	−358		196	
	19	+162	−199	−380	+302	+187	−387		221	
	29	+133	−213	−372	+307	+114	−405		239	
Aug	8	+100	−221	−354	+303	+39	−412		250	
	18	+64	−223	−325	+291	−37	−407		255	
	28	+27	−219	−287	+270	−113	−391		252	
Sept	7	−11	−208	−241	+241	−186	−363		242	
	17	−49	−191	−188	+205	−253	−325		225	
	27	−85	−169	−130	+164	−312	−277		−201	

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To be added to time of Minimum computed with the elements.

VW Cyg.	RV Tau	RR Lyr	UZ Cygni	VV Cygni	WW Cyg.	SY Cygni	RR Draco	RW Tauri	β Persei
		1922.42							
+275	+	* +197	+81	+120		+263	+37	-393	-314
+286	+	* +211	+131	+159		+284	+42	-336	-251
+288	+	* +218	+178	+193		+295	+46	-269	-180
+281	+	* +218	+219	+221		+298	+49	-194	-104
+266	+	* +212	+253	+242		+291	+51	-112	-25
+242	+	* +199	+280	+256		+276	+50	-27	+55
+211	+	* +180	+298	+261		+252	+48	+59	+134
+174	+	* +156	+307	+259		+220	+45	+143	+208
+131	+	* +127	+306	+249		+182	+41	+223	+276
+85	+	* +94	+297	+232		+139	+35	+296	+336
+36	+	* +59	+279	+208		+91	+28	+360	+386
-14	+	* +21	+253	+178		+41	+20	+414	+425
-64	-	* +17	+219	+142		-11	+12	+456	+451
-112	-	* -54	+179	+102		-62	+3	+485	+464
-157	-	* -90	+134	+60		-112	-5	+500	+464
-197	-	* -123	+85	+16		-158	-14	+500	+451
-231	-	* -153	+34	-28		-200	-22	+487	+425
-259	-	* -179	-19	-72		-236	-30	+459	+388
-280	-	* -199	-70	-114		-265	-36	+419	+339
-293	-	* -214	-120	-153		-287	-42	+367	+280
-298	-	* -223	-167	-187		-301	-47	+305	+214
-294	-	* -226	-208	-216		-307	-50	+234	+142
-282	-	* -222	-244	-239		-304	-52	+157	+66
-262	-	* -212	-273	-255		-292	-52	+75	+12
-234	-	* -196	-294	-264		-272	-51	-9	-90
-200	-	* -174	-307	-265		-244	-48	-93	-165
-160	-	* -147	-311	-259		-209	-44	-174	-236
-116	-	* -116	-306	-245		-168	-39	-250	-299

* signs corrected Aug 15, 1916.

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Date	U Ophei	SW Cyg	U Sagitt	Z Draco	Z Persei	W Delph.	γ Cassiop.	UW Cygni
Oct. 7	−119	−142	−68	+118	−362	−222		−142
17	−150	−110	−3	+68	−402	−159		−137
27	−176	−75	+61	+16	−430	−92		−98
Nov. 6	−197	−38	+124	−37	−444	−22		−56
16	−211	0	+183	−88	−445	+48		−13
26	−219	+38	+236	−137	−433	+117		+31
Dec. 6	−220	+75	+282	−181	−407	+183		+74
16	−215	+110	+319	−220	−369	+243		+114
26	−203	+141	+346	−252	−319	+295		+151
Dec 36								

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W W Cyg.	R V Lyrae	R R Lyrae	U Gg Cygni	V V Cyg.	W W Cyg.	S Y Cyg.	R R Trac	R W Tauri	β Persei
	−68	+82	−291	−224		−123	−32	−319	−354
	−17	+45	−268	−196		−73	−25	−378	−398
	+33	+6	−238	−163		−21	−17	−426	−430
	+83	+32	−199	−124		+32	−8	−462	−450
	+130	+69	−156	−82		+83	+1	−483	−455
	+173	+104	−107	−37		+132	+9	−489	−447
	+211	+136	−54	+9		+177	+18	−480	−425
	+242	+164	−1	+54		+216	+26	−456	−390
	+266	+187	+53	+98		+249	+33	−419	−343
								):	−245

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Observations communicated since October 1, 1905.

Date rec'd		Observer	No. Obs.	No. Ill's
Oct.	3	Vassar College	11	1
Oct	5	Leander McCormick	21	1
"		Whiteside		
Oct 16	16	J. H. Eadie	125	10
Nov.	1	Whiteside	49	9
"	1	Leander McC.	23	—
Dec.	16	" "	19	—
"	5	Whiteside	47	5
"	5	Vassar College	14	2
Jan	2	Whiteside	55	7
"	3	Leander McC.	11	—
"	4	Vassar College	5	—
Feb.	1	Whiteside	60	3
"	3	Leander McC.	11	—
"	3	Vassar College	17	5
Mar	3	Whiteside	37	3
"	3	Vassar College	12	4
"	19	Eadie	80	2
Apr.	4	Whiteside	51	8
"	4	Vassar College	18	3
"	12	Swartz	12	2
May	4	Whiteside	43	4
"	5	Vassar	9	9
June	4	Whiteside	43	6
"	"	McCormick	37	3
July	3	Whiteside	43	5
"	3	Vassar	18	1
Aug	3	Whiteside	68	5
"	3	Vassar	10	2
Sept	3	"	14	6

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Com. Obs. cont.

Sept 4	Whiteside	7°	5
Oct 3	Whiteside	8 4	A
" 4	Vassar	26	—

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1904phae.proj..76rc

Issued 15/07. Charts for Ryors. Spain. viz.

213443	SS Cygni.	Dm & Photo.
123307	R Vrig.	Dm & Photo.
00	S Ceti	Dm
022000	R Ceti	Dm
022413	U Ceti	Dm
081712	R Cancri	Dm
134440	R Can Ven.	Dm
170215	R Oph.	Dm
191009	R Sag.	Dm
~~123307~~	~~R Virginis~~	

June 17/07 Charts for Navajo Ichinoke Chicago University

004435	V And	Photo
004918	W Cass	"
043274	X Camel.	"
054914	V Camel.	"
150605	γ Lihae	"
161138	W Coronae	"
170627	R Herc	"
175111	R Oph.	"
175654	V Draco	"
192928	T γ Cygni	"

June 26/07 A.T. Hedrick S.F.

181136	W Lyrae	Photo	191350	T Z Cygni	Photo
183225	R Z Herc	"	194604	X Cygni	"
184243	R W Lyr	"	195308	R S	"
185737	R T Lyr	"	201520	V Sagit	"
190418	R X Sagitt.	"	202817	Z Delph	"
190925	S Lyrae	"	202954	S T Cygni	"

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List of photographic comparison stars from Volume entitled a Photographic Study of Variable Stars.

Der	Cat. No	Cat Magn	RA	Dec	x	y	Photog Magn (1900)	X	Y
			X Cati $3^h 14^m.3$	$-1° 26'$					
V	$-1°$ 475	9.1	3 12 25	$-1°$ 36.0	0	0	, ,	0	0
a	−1 477	8.6	3 13 48.0	−1 3.6	1568	1971	8.75		+32.9
b	−0 532	8.6	3 13 44.8	−0 53.9	1502	2526	9.25		+42.1
c	−1 473	9.3	3 11 28.8	−1 33.3	503	158	9.82		+2.6
d	−1 474	9.5	3 11 40.2	−1 29.0	311	369	10.19		+6.2
e	−1 471	9.3	3 11 23.2	−1 48.9	508	777	10.59		−13.0
f					324	571	11.06		−9.5
g					637	607	11.29		−10.1
h					512	1001	11.62		−16.7
k					557	845	11.85		−14.1
l					124	64	12.15		+1.1
m					458	240	12.52		+4.0
n					431	72	12.92		−1.2
o					315	72	13.27		−1.2

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1904phae..proj..7620

T Eridani R.A. 3 57.0 Dec −24° 20′

V	−24.1960	p.6	3 49 52.8	−24 24.0	0	0	Var
a	−24.2001	7.9	3 53 41.1	−24 9.5	2703	929	6.70
b	−23.1642	7.9	3 50 48.9	−23 47.8	720	2218	7.65
c	−23.1641	A.4	3 50 34.3	−23 53.0	530	1758	A.35
d	−24.1940	9.1	3 48 7.6	−24 6.5	1453	1027	A.A3
e	−24.1961	9.1	3 50 11.3	−24 23.1	243	70	9.25
f	−24.1969	9.6	3 50 49.3	−24 15.7	745	558	9.60
g	−24.1965	9.5	3 50 17.8	−24 23.3	345	61	10.20
h	−24.1974	9.8	3 51 3.8	−24 16.7	927	446	10.75
k					118	154	11.43
l					166	320	11.93

W Eridani R.A. 4h 7m.3 −25° 24′

V	−25.1766	9.2	4 6 16.5	−25 27.5	0	0	Var
a	4665	7.5	4 5 30.5	−25 25 14	639	143	7.14
b	4651	7.5	4 4 43.7	−25 22 16	1262	301	7.62
c	4662	A.0	4 5 28.4	−25 44 51	648	1047	7.87
d	4634	A.0	4 3 45.2	−25 20 57	2062	358	A.32
e	−25.1781	A.9	4 7 30.7	−25 6.6	986	1253	A.67
f	4655	A.8	4 4 57.8	−25 44 44	1054	1047	A.95
g	−25.1774	9.0	4 6 46.1	−25 57.2	426	1758	9.27
h	−25.1757	9.2	4 4 57.8	−25 29.5	1060	98	9.67
k	−25.1761	8.8	4 5 18.4	−25 29.5	791	104	10.15
l	−25.1776	9.8	4 6 59.6	−25 20.1	569	444	10.50
m	−25.1768	10.0	4 6 2.35	−25 25.8	A1	72	10.92
n					626	644	11.24
o					366	537	11.74
p					149	14	12.14
q							

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1904phae.proj..7602

T Leporis RA. 5h 0.6m Dec. -22° 2′

V	-22.995	8.7	4	58	40.6	-22	6.5	0	0	Var
a	-21.1067	7.7	4	59	5.4	-21	27.6	326	2339	6.97
b	-21.1065	7.5	4	58	29.3	-21	25.7	171	2645	7.59
c	-21.1061	8.5	4	58	10.4	-21	20.4	432	2747	8.04
d	-21.1068	8.6	4	59	23.2	-21	37.4	579	1736	8.49
e	-22.996	9.0	4	58	52.3	-22	27.5	166	1239	8.97
f	-22.993	9.1	4	58	0.9	-22	0.1	557	408	9.37
g	-22.1001	9.6	4	59	26.0	-22	6.9	636	29	9.82
h	-22.994	9.5	4	58	39.0	-22	3.2	16	179	10.24
k								179	139	10.74
l								244	404	11.14
m										
n										
o										

R Columbae RA. 5h 46.7m Dec -29° 13′

V		
a		
b		
C		
d		
e		
f		
g		
h		
k		
l		
m		
n		
o		
p		

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1904phae..proj..76Z

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1904phae..proj..76J

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1904phae.proj..7602

Charts sent to

Mr. Olcott. Jan 1910. Feb. 1910.

Norwich, Ct.

R Oph. ✓	R Aquilae ✓	S Bootis ✓	T Aquarii ✓	
R Draco ✓	R Canum ✓	R Coronae ✓	Harlow fol chart but can't meter as yet	
U Herc ✓	V " ✓	S Coronae ✓		
T Andr. ✓	S Hydrae ✓	RV Ophei ✓	V Corvi	
R Bootis ✓	T " ✓	~~R Cygni~~	RU Librae	
U Cygni ✓	R Leonis ✓	U Virg. ✓	RS Librae	
T Herc ✓	R Leonis ✓	R Can Ven ✓	U Sgr.	
S & T Muscae ✓	X Cygni ✓	RT Hydrae ✓	Z Oph	
R " " ✓	T Cephei ✓	U Can Ven ✓	RV Herc	
R Corvi ✓	R Pegasi ✓	T Canum ✓	R Coronae	
S Can Ven ✓	R Virg. ✓	R Sagitt. ✓	SS Cygni	
o Ceti ✓	S Herc ✓	S " ✓	R "	
S Librae ✓	R Delphini ✓	R Cancri ✓		
R Can Ven ✓	R Scuti ✓	R Aquarii ✓		

R. M Royse

~~Feb~~ 1910	
RT Hydrae	
Z Puppis	
T Centauri	
R R Scorpii	
R S "	
R Y S Sagitt	
R W "	
SS Aurigae	
V Sagittae	

Jacobs Jr.

R Draco.	✓ 163266
RS Cygni	✓ 200938
U " Nov	✓ 201647
S Cephei. 9/10	✓ 213678
R Lyncis.	✓ 063555
RU Muscae.	✓ 103769
S Herc.	✓ 164715
R Oph. June 9/10	✓ 170215
X Cygni	✓ 194632
R Delphini.	✓ 201008
T Aquarii.	✓ 204405
R Virginis	✓ 205923

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1904phae.proj...7620

1909

D. P. Todd

✓ 070109	V Cam Min.	
✓ 071201	R R Monoc.	
✓ 054615a	Z Tauri	
✓ 054319	S U "	
✓ 013338	Y Andr	
✓ 013238	R U "	
	Sent Sept 1910	
✓ 001046	X Andr.	
✓ 022150	R R Persei	
✓ 060547	S S Aurigae	
✓ 184134	R Y Lyrae	
✓ 190925	S Lyrae	
✓ 210812	R Equulei.	

1910 Oct.

✓ 004746	R V Cass.
✓ 021281	Z Ceph
✓ 023080	R R Ceph
✓ 031401	X Ceti
✓ 043208	R X Tauri
✓ 061702	V Monoc
✓ 063159	U Lyncis
✓ 063558	S' "
✓ 074922	U Gem
✓ 190529	V Lyrae
✓ 201520	V Sagittae
✓ 213843	S S' Cygni

H. M. Vroomans

1909 Sept 22

001838	R Androm
162119	U Herculis
180531	T "
193449	R Cygni
201008	R Delphini
204405	~~R~~ T Aquarii

Stephen C Hunter New Rochelle N.Y.

052920	U Orion.	Y Ceph	003179
070122a	R Gem	R Andr	001838
154428	R Coronae	R Leo Min	093934
213678	S Cephei	U Draco	190967
225120	S Aquarii	S S Cygni	213843
		Y Persei.	032043

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Charts sent to Barcelona S/p. Feb. 23, 1911.

043274	X Camel.	Dm Variety	
063538	S Lyncis	"	"
122532	T Can Ven	"	"
141567	U Ursæ Min	"	"
181103	RZ Oph.	"	"
184243	RW Lyrae		"

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Final Magnitudes

Desig	00 10446 X And.	001726 T And.	001755 T. Cass	001838 R And.	001909 S Cet	003179 Z. Cephei	004047 U Cass.	004435 V And.	004533 RR And.
a		7.47	5.84	5.20	6.60		3 8.36	8.40	
b		7.68	6.47	5.72	6.92		5 8.62	8.60	
c		8.07	6.89	6.40	7.36		7 9.11	9.44	
d		8.40	7.24	6.94	7.86		14 9.54	9.48	
e		8.75	7.87	7.35	8.20		22 9.92	9.98	
f		9.08	8.17	7.71	8.52		31 10.69	10.32	
g		9.29	8.56	8.11	8.71		40 11.08	11.10	
h		9.46	8.98	8.29	9.03		43 11.33 51 11.71	11.39	
k		9.82	9.36	8.65	9.34		54 12.13	11.94	
l		10.04	9.81	8.97	9.87		55 11.78	12.47	
m		10.25	10.14	9.18	10.19		58 12.17	12.66	
n		10.50	10.52	9.40	10.49		60 12.18	13.04	
o		10.69	11.02	9.52	10.94		63 12.36	13.14	
p		10.90	11.32	9.69	11.20		69 12.43		
q		11.24	p' 11.78 12.06	9.80	11.47		75 12.53		
r		11.54	12.43	10.17	11.74		79 12.62		
s		11.77	12.84	10.58	12.14		81 12.77		
t		12.05	13.30	11.04	12.51				
u		12.33	13.60	11.56	12.93				
w		12.58	13.93	11.97	13.28				
x		12.80		12.38	13.72				
y		13.03		12.87					
z		13.30		13.35					
α		13.69		13.94					
β		13.96							
γ		14.42							
δ		14.47							
ε		15.06							

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1904phae..proj..7626

f Comparison Stars.

Desig.	004958 W Cass.	010940 U And.	011272 N Cass.	011208 S Psc.	011712 U Psc.	012502 R Psc.	013238 R U And.	013338 Y And.
a	9.42		6.46	1 8.03	1 7.18	6.37		
b	9.49		7.00	2 8.25 8.88	2 8.90	6.82		
c	9.50		7.27	3 9.20	7 9.49	7.17		
d	9.88		7.72	4 9.57	8 9.68 10.14 10.73	7.59		
e	10.11		8.05	8 10.31	9 11.19	7.98		
f	10.53		8.38	9 10.48	10 11.22	8.19		
g	10.96		8.76	10 10.84	13 11.71	8.57		
h	11.16		9.20	12 11.34	15 12.27 16 12.61	8.72		
k	12.08		9.78	13 11.59	19 13.04	8.95		
l			10.06	14 11.82	21 13.28	9.25		
m			10.36	15 12.03	23 13.67	9.37		
n			10.78	16 12.45		9.82		
o			11.08	25 13.02		10.30		
p			11.48	28 13.58		10.64		
q			11.87	31 13.89		11.12		
r			12.28			11.42		
s			12.61			11.83		
t			12.95			12.06		
u			13.20			12.30		
w			13.56			12.74		
x			13.91			13.13		
y			14.33			13.37		
z						13.66		
α						14.00		
β								
γ								
δ								
ε								

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1904phae.proj..76?C

Design.	014958 × Cass.	015254 U Persei.		015912 δ Arietis		021024 R Arietis	021143 W And.	021241 ν Ceti	021403 ϱ Ceti	021538 δ Persei.
a		3	8.05	1	7.13	6.46			1.26	7.84
b		6	8.73	2	8.60	6.90			1.66	8.10
c		7	8.83	5	9.58	7.43			1.86	8.38
d		8	8.97	7, 12	9.94	7.79			2.03	8.68
e		12	9.50	14	10.77	8.23			2.19	8.88
f		17	9.86	16	11.06	8.71			2.39	9.07
g		23	10.06	17 19	11.56 12.04	9.16			2.68	9.53
h		24	9.95	21	12.34	9.41			2.95	9.92
k		29	10.23	25	12.91	9.75			3.56	10.68
l		34	10.54	30	13.28	10.05			3.83	11.33
m		37	10.76	35	13.56	10.27			4.13	11.80
n		39	10.73	37	13.76	10.76			4.27	12.44
o		42	11.06			11.15			4.39	12.84
p		50	11.55			11.58			4.62	13.29
q		58	11.90			11.90			4.93	13.81
r		61	12.01			12.32			5.10	14.35
s		65	12.34			12.87			5.38	14.78
t		69	12.71			13.26			5.53	
u		71	13.02			13.70			5.67	
w						14.20			5.84	
x						14.64			6.08	
y									6.36	
z									6.67	
α									7.28	
β									8.02	
ρ									8.58	
σ									8.82	
ε									9.19	

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Desig.	022000 R Cati	022426 R Hamac	022813 U Ceti	023000 RR Cassh.	023133 R Trian.	024217 T Arietis	024356 W Persei	030514 U Arietis
a	7.06		5.93	8.09	2 5.85 6.25	7.31	6.54	1 8.20
b	7.46		6.80	9.22	4 6.74	8.44	7.10	2 8.80
c	7.74		7.11	9.56	5 7 7.40 7.74	8.61	7.62	4 9.18
d	8.03		7.48	9.83	8 8.04	8.74	8.22	5 9.74
e	8.25		7.90	9.99	10 8.36	9.07	8.44	8 10.34
f	8.42		8.26	9.98	13 8.56	9.49	8.74	13 10.90
g	8.70		8.51	10.26	15 9.24	9.70	9.10	15 11.54
h	8.97		8.79	10.42	17 9.50	10.02	9.19	16 12.20 17 12.57
k	9.42		9.11	10.94	20 9.80	10.60	9.39	19 12.98
l	9.75		9.43	11.35	26 10.21	10.72	9.69	21 13.14
m	10.22		9.76	12.20	29 10.58		9.86	22 13.12
n	10.60		10.03	12.52	33 10.96		10.25	23 13.34
o	11.20		10.30	12.74	34 11.10		10.62	25 13.70
p	11.53		10.54	12.91	36 11.34			27 13.31
q	12.00		11.05		39 11.64			28 14.50
r	12.51		11.55		40 11.84			
s	13.02		12.06		41 12.01 43.2 12.14			
t	13.55		12.44		44 12.42			
u			12.92		46 12.54			
w			13.22					
x			13.53					
y								
z								
α								
β								
δ								
ε								

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1904phae.proj..7692

Design	031401 χ Ceti	032043 γ Persei	032335 R Persei		034124 ν Hbmacis	032625 υ Eurid.	035724 τ Eridani	040725 w Eridani
a			2	7.06	5.16	8.32	7.88	7.44
b, i			3	7.60		9.14	8.24	7.14
c, i			4	8.81		9.50	8.96 9.35	8.06
d, d'			5	9.00	6.84	10.26	10.06 9.84	8.32
e			9	9.52	7.51	11.22	10.38	9.68
f			11	9.89	7.84	12.34	10.42	9.18
g			17	10.10	8.88		11.27	9.90
h			21	10.36	9.42		11.86	10.42
k			23	10.84	10.52			11.17
l			31	11.34	10.74			11.39
m			33	11.74				
n			34	11.72				
o			35	11.84				
p			36	11.97				
q			40	12.27				
r			45	12.61				
s			49	12.78				
t			51	12.89				
u			57	13.16				
w			62	13.55				
x								
y								
z								
α								
β								
ζ								
ρ								
ε								

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1904phae.proj..7620

Design	044619 T Tauri		042215 w Tauri		042209 R Tauri	042309 S Tauri	043065 T Camel.		043274 X Camel.	044617 V Tauri		045307 R Orionis	
a	1	7.61	5	6.74	5.84	5.84	1	7.5	7.80	1	7.30	1	8.72
b	2	8.27 8.73	6	7.38	6.45	6.45	2 3	8.10 8.39	8.50	2	7.40 7.46 8.10	3	9.18
c	3	9.30 9.80	8	8.46	6.69	6.69	5	9.01	8.72	3	8.94	6	9.67 9.97
d	7	10.10	9	9.13	7.16	7.16	8 10 11	9.56 9.82 10.06	9.77	5	9.22	10	10.34
e	10	10.76	12	10.14	7.49	7.49	12	10.52	10.13	6	9.42	15	10.50
f	12	11.1 11.7	13	10.42	7.79	7.79	17	10.96	10.64	8	9.86	16	10.69
g	13	12.37	16	10.83	8.16	8.16	20	11.16	11.06	11 15	9.97 10.52	18	11.24
h	15	12.92	17	11.42	8.56	8.56	22	11.47	11.50	17	10.88	19	12.12
k	17	13.48	21	12.14	8.79	8.79	25	11.64	11.68	18	11.14	24	12.58
l			22	12.16	9.25	9.25	29	12.04	12.28	21	11.54	30	12.98
m					9.68	9.68	35	12.18		22	12.30	35	13.17
n					9.88	9.88	38	12.66		24	12.46	41	13.40
o					10.26	10.26	43	12.72		25	12.44	44	13.64
p					10.64	10.64	49	12.93		27	12.50 45		
q					11.14	11.14	53	13.16		30	12.45 52		
r					11.66	11.66	56	13.24		35	13.10 12.74		
s					12.04	12.04	59	13.52		38	13.38 12.90		
t					12.46	12.46				41	14.10 12.96		
u					13.01	13.01							
w					13.42	13.42							
x					13.84	13.84							
y					14.12	14.12							
z					14.54	14.54							
α													
β													
γ													
δ													
ε													

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1904phae.proj..7690

Design.	04 5574 R Leporis	05 0022 T Leporis	05 0003 V Chrom.	05 0953 R Aurig.	05 2036 W Aurig.	05 2034 S Aurig.	05 2404 S Chrom.	05 3068 S Camel.
a			2 7.51	6.17		4 6.96	1 7.62	2 8.10
b			4 8.53	6.61		5 7.61	3 8.06	4 8.37
c			6 8.99	7.18		6 8.05	4 8.38	5 8.44
d			9 9.56	7.72		7 8.20	8 8.86	6 8.98
e			13 10.04	8.16		9 8.61	13 9.40	10 9.50
f			18 10.23	8.82		12 8.92	20 9.72	13 10.00
g			21 10.78	9.28		17 9.34	21 9.76	15 10.20
h			24 10.98	9.72		22 9.58	24 10.25	16 10.79
k			27 11.56	10.26		28 9.80	26 10.54	18 11.24
l			33 11.95	10.68		37 10.17	33h 11.42	20 11.97
m			38 12.11	11.13		48 10.58	34 11.74	24 12.29
n			40 12.34	11.48		55 11.08	35 11.60	31 12.39
o			43 12.49	11.93		61 11.14	36 11.72	33 l' 12.48
p			45 12.74	12.36		76 11.53	37 12.14	38 12.78
q				12.82		87 12.00	40 12.10	
r				13.26		91 12.06	46 12.60	
s				13.62		97 12.42	54 13.02	
t				13.96		105 12.51	58 13.33	
u				14.23		110 12.86		
w						112 13.01		
x						113 13.11		
y								
z								
α								
β								
γ								
ρ								
ε								
)								

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1904phae.proj..7621

Design	053805a T Orionis	053326 KR Tauri	053531 U Aurig.	054615 Z Tauri	054647 R Columbae	054715 — Tauri	054974 V Camel.	054920 U Orionis
a	6 6.84		2 7.80				7.72	4.52
b	8 7.26		5 8.12				8.43	4.82
c	13 8.46		6 8.72				9.26	5.28
d	19 8.72		7 8.80				10.00	5.80
	21 8.84							
e	26 9.18		9 9.11				10.86	6.01
f	35 9.66		14 9.32				11.06	6.62
g	45 10.38		17 9.58				11.34	7.04
	53 10.86							
h	57 11.32		24 9.78				11.58	7.61
k	60 11.40		28 10.39				11.94	7.94
l	66 11.68		34 10.39				12.16	8.27
	67 11.76							
m	68 12.32		37 10.97				12.18	8.88
n	72 12.38		41 11.24					9.00
o	74 12.90		48 11.67					9.36
p			52 11.78					9.66
q			57 11.96					10.18
r			60 12.32					10.56
s			65 12.53					11.05
t			70 12.67					11.57
u			73 12.78					12.17
w			76 13.00					12.67
x								13.24
y								13.86
z								
α								
β								
γ								
δ								
ε								

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1904phae.proj..7602

Design	05 33 53 Z Aurig.	06 04 50 X Aurig.	06 16 47 V Aurig.	06 17 02 V Monoc.	06 33 08 K Monoc.	06 35 58 S Lyncis	06 40 30 X Gem.	06 47 07 W Monoc.
a	9.38		1 8.09 8.61	6.54				8.26
b	9.50		4 9.08	7.43				8.74
c	9.60		7 9.40	7.73				8.80
d	9.90		11 9.96	7.90				9.43
e	10.04		14 10.36	8.38				9.36
f	10.60		15 10.61	8.67				9.62
g	10.53		17 10.91	8.86				10.22
h	10.60		19 11.14	9.36				10.48
k	10.88.		21 11.35	9.41				11.07
l			22 11.64	9.92				
m			24 11.76	9.97				
n			27 12.24	10.10				
o			30 12.51	10.29				
p			31 12.40					
q			35 12.62					
r			38 12.68					
s			40 12.82					
t								
u								
w								
x								
y								
z								
α								
β								
δ								
ε								

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1904phae.proj...7610

Desig.	065111 γ Monoc.	065208 χ Monoc	065355 R Lyncis	065530 R Sct Gem.	070122a R Gem.	070109 V Cam. Min	070310 R Cam. Min.	071201 R R Monoc.
a			6.69	9.21	5.20		6.84	8.60
b			7.10	9.65	5.62		7.21	8.91
c			7.52	10.03	5.97		7.89	9.14
d			8.02	10.37	6.47		8.20	9.83
e			8.60	11.14	6.84		8.22	10.12
f			9.02	11.45	7.11		8.53	10.30
g			9.36	12.37	7.60		8.95	10.41
h			9.74		7.92		9.28	10.59
k			10.13		8.25		9.49	10.96
l			10.52		8.66		9.77	11.26
m			10.73		8.87		9.98	11.44
n			11.15		9.28		10.07	11.73
o			11.49		9.65			11.96
p			11.88		10.22			
q			12.42		10.76			
r			12.80		11.14			
s			13.13		11.61			
t			13.46		12.08			
u			13.78		12.51			
w					12.82			
x					13.19			
y					13.53			
z								
α								
β								
γ								
δ								
ε								
⋮								

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1904phae.proj..7602c

Design.	071713 V Gemin.		072708 N Canthin.	072820 b Z Puppis	072811 T Canthin.		073508 U Canthin.		073723 S Gem.		074323 T Gem.		074922 U Gem.
a	1	7.60	6.72		1	f.31	1	f.50	2	7.53	1	7.30	
b	3 4	f.24 f.52	7.06		3	f.65	3 5	9.00 9.50	5	7.90	3 4l	7.86 f.60	
c	5	9.08	7.44		5	f.61	8 13	9.91 10.63	7	f.45	5	f.59	
d	7	9.39	7.70		6	f.54	17	10.70	9	9.00	7	f.67	
e	14	9.75	f.06		8	9.02	23	11.20	14	9.38	9	9.66	
f	16	9.98	f.48		11	9.36	28	11.66	15 18	10.11 10.52	12 14	9.86 10.28	
g	21	10.45	f.79		15	9.86	34	11.94	19	10.81	16 17	10.56 10.78	
h	28	11.19	9.27		20	10.15	43	12.50	28	11.46	19 22	11.24 11.53	
k	34	11.52	9.66		25	10.36	55	12.40	37 40k	11.94 12.36	24	11.91	
l	37 39l	11.69 12.02	10.02		29	10.59	63	12.44	45	12.79	31	12.44	
m	47	12.30	10.44		33 34	10.79 11.30	69	13.01	53	12.78	38	12.92	
n	53	12.48	10.82		38 42	11.38	71	13.06	58	13.13	41	13.09	
o	58	12.66	11.26		43 47	11.75 12.09			61	13.42	45	13.14	
p	63	12.78	11.70		51	12.38			62	13.61	51	13.57	
q	66 66q	12.93 13.17	12.26		56	12.48					52	13.67	
r	69	13.36	12.67		60	13.16							
s			13.18		66	13.68							
t			13.62		68	13.91							
u			14.18										
w													
x													
y													
z													
A													
B													
Γ													
Δ													
E													
Z													

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1904phae.proj..7620

Origin.	075612 Puppis.	081112 R Canis	081617 V Canis	082405 RT Hyd.	083019 U Canis	083350 Δ Vel. maj.	084127 R Pyxidis	084803 S Hydrae
a	1 7.69	5.17	6.00		1 7.12			6.48
b	2 8.00	5.77	6.21		2 7.67			6.79
c	4 8.74	6.12	6.67		3 8.68			7.19
d	12 9.32	6.59	7.16		5 8.88			7.73
e	20 9.80	7.01	7.80		6 9.22			8.25
f	30 10.41	7.32	8.23		9 9.62			8.56
	36 10.80							
g	39 11.12	7.73	8.66		12 9.83			8.91
h	45 11.48	8.06	8.85		14 10.03			9.42
k	47 11.97	8.32	8.83		16 10.31			9.88
l	51 11.83	8.60	9.14		22 10.51			10.23
m	53 11.52	8.90	9.34		24 10.70			10.66
n	56 11.68	9.28	9.61		28 11.14			10.04
o	61 12.15	9.55	10.24		30 11.26			11.52
p	74 12.60	9.93	10.86		31 11.58			11.84
q	92 13.07	10.21	11.27		34 11.90			12.28
r	100 13.64	10.58	11.57		35 11.86			12.82
s		10.78	11.94		36 12.40			13.46
t		11.15	12.33		39 12.88			14.09
u		11.49	12.76		40 13.31			
w		11.91	13.10					
x		12.22	13.47					
y		12.70	13.86					
z		13.17	14.08					
α		13.56	14.53					
β		13.96						
γ								
δ								
ε								
ζ								

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1904phae.proj..7620

Design.	08500f T Hyd.	085120 T Cancri	090024 S Pyxidis	090425 W Cancri	093014 X Hyd.	093178 γ Draco.	093934 R Leo. Min.	094023 RR Hyd.
a	6.92	7.97	8.20			8.04	5.58	8.16
a'								8.50
a''								8.94
b	7.42	8.22	9.38			8.39	5.99	9.88
b'								9.94
c	7.73	8.58	10.32			8.71	6.46	9.58
d	7.91	8.80	10.74			9.53	6.91	10.19
d'								11.20
e	8.21	9.27	11.64			9.70	7.09	11.09
e'								11.84
f	8.57	9.53	12.08			9.84	7.39	12.04
g	8.85	9.65	12.38			10.00	7.70	12.40
h	9.06	9.76	12.59			10.55	8.13	12.78
k	9.37	10.06				10.76	8.47	13.05
l	9.65	10.40				11.32	8.79	
m	9.91					11.98	9.04	
n	10.03					12.00	9.36	
o	10.61					12.18	9.59	
p	10.85					12.88	9.98	
q	11.19						10.51	
r	11.45						10.94	
s	11.79						11.58	
t	12.17						12.03	
u	12.52						12.39	
w	13.00						12.78	
x	13.37						12.97	
y	13.71						13.10	
z	13.94							
α								
β								
γ								
δ								
ε								
[illegible]								

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1904phae.proj..7620

Desig.	094211 R Leonis	094622 γ Hydrae	095421 V Leonis	103212 U Hyd.	103769 R Hya-Maj.	104618 R Sct Hyd.	104620 V Hydrae	104814 W Leonis.
a, a'	4.66		2 7.89	4.07	5.92		6.54	1 7.96
a'' b, b'	4.89		3 5 8.79	4.62	6.21		7.08	2 8.39
c	5.19		6 9.54	5.05	6.42		7.51	3 9.15
d, d'	5.45		9 9.90 10 10.40	5.44	6.70		8.24	5 9.46
e, e'	5.64		12 10.64	5.85	7.08		8.44	7 10.33
f	5.84		13 11.84 14 11.66	6.22	7.48		9.10	9 10.57
g	6.12		15 11.94	6.54	7.71		9.36	12 10.64
h	6.43		17 11.75 18 12.38	6.86	8.18		9.40	18 11.40
k	6.62		19 12.60		8.90		9.96	20 12.32
l	6.88		21 12.78		8.80		10.54	22 12.36
m	7.23		25 12.97		9.43		10.56	23 12.60
n	7.47		30 13.25		9.76		10.62	24 12.67
o	7.67		33 13.38		9.88		11.03	27 12.92
p	8.02				10.46		11.36	31 13.20
q	8.21				11.02			
r	8.41				11.48			
s	8.65				12.02			
t	8.85				12.53			
u	8.98				13.12			
w	9.14				13.50			
x	9.68				14.03			
y	9.64				14.50			
z	10.12				14.89			
α	10.45				15.17			
β	10.84							
δ								
δ								
ε								
ζ								

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1904phae.proj..760C

RW Vir 12 9206

	110506 St Louis	115919 R Comae	120905 T Vir.	121418 R Cor.	122532 T Cam. Ven.	122803 Y Vir.	123160 T Mahaj	123307 R Vir.
a	1 8.56 60	7.11	7.31	6.24		7.29	6.42	5.50
b	3 9.00 5 4 9.36	7.58	7.57	6.93		7.72	6.96	6.04
c	6 9.60 6 7 9.96	7.80	7.87	7.40		7.94	7.30	6.49
d	9 10.38	8.07	8.05	7.96		8.19	7.58	6.87
e	12 10.78	8.38	8.44	8.27		8.69	8.00	7.09
f	14 10.98 11.08 15 11.46	8.51	8.79	8.66		8.90	8.34	7.56
g	16 11.74 F5	8.68	8.90	9.02		9.19	8.84	7.88
h	18 12.36 42	8.96	9.26	9.34		9.46	9.17	8.20
k	19 12.47 52	9.17	9.61	9.58		9.68	9.85	8.58
l	21 12.76 8	9.40	10.06	9.86		9.99	10.40	8.95
m	22 12.81 9	9.66	10.62	10.02		10.34	10.75	9.34
n	24 12.85 9	10.00	11.06	10.24		10.82	11.26	9.62
o		10.57	11.42	10.88		11.07	11.73	9.89
p		10.87	11.81	11.24		11.55	12.09	10.21
q		11.38	12.12	11.69		11.96	12.26	10.59
r		11.76	12.60	12.30		12.39	12.38	10.98
s		12.16	12.78	12.70		12.90	12.67	11.48
t		12.53	13.12	13.19		13.17	12.84	11.79
u		12.95	13.63	13.74		13.63	12.99	12.18
w			13.75				13.17	12.47
x			14.01				13.42	12.79
y			14.32				13.60	
z								
α								
β								
γ								
ρ								
ε								
δ								

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1904phhe.proj...7620

Desig.	123961 S Sus maj.	124204 RU Vir.	124604 U Vir.	125705 RT Vir.	130212 RV Vir.	132202 V Vir.	132422 R Hyd.	132706 S Vir.
a	6.65		7.08			7.15	3.26	4.83
b	7.02		7.33			7.30	3.52	5.59
c	7.30		7.56			7.44	3.86	6.08
d	7.52		7.85			7.72	4.01	6.78
e	7.86		8.15			8.16	4.22	7.32
f	8.50		8.46			8.42	4.41	7.70
g	8.83		8.72			8.59	4.79	7.94
h	9.22		8.98			8.96	5.08	8.42
k	9.74		9.20			9.28	5.28	8.63
l	10.09		9.26			9.84	5.57	9.01
m	10.65		9.31			10.25	5.85	9.26
n	11.08		9.50			10.65	6.33	9.40
o	11.58		10.08			11.04	6.80	9.67
p	11.94		10.44			11.45	7.03	9.99
q	12.54		10.93			11.74	7.34	10.32
r	13.12		11.19			12.09	7.82	10.72
s	13.55		11.52			12.35	8.04	11.05
t	13.98		11.75			12.65	8.49	11.52
u	14.67		12.17			12.91	8.95	12.04
w	15.17		12.49			13.21	9.26	
x			12.83				9.52	
y			13.16				9.89	
z			13.46				10.12	
α							10.36	
β								
δ								
ρ								
ε								
ζ								

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1904phae.proj..760C

Desig.	133273 Tau Min	134327 Wtkyd.	134440 R Cor Ven	135908 R R Vir		140113 Z Bootis	140512 Z Vir		140524 R Ltyd.	141954 S Bootis
a	8.42		6.80	4	8.13	9.70	1	9.02		7.40
b	8.76		7.14	6	8.76	10.08	2 3	9.48 9.68		7.91
c	9.20		7.46	7 8	9.26 9.48	10.31	7	10.12		8.39
d	9.30		7.80	9 10	9.93 10.32	10.29	11	10.14		8.78
e	9.62		8.13	13	10.75	11.18	16	10.32		9.12
f	10.38		8.46	14 15	11.00 11.36	11.87	21 24	10.93 11.02		9.67
g	10.66		8.64	20	11.80	11.72	28 31	11.48 12.23		10.18
h	11.36		8.93	21 23	12.07 12.46	12.50	38	12.72		10.60
k	11.40		9.13	26	12.78	11.62	45	12.68		11.12
l	11.52		9.19	32	13.08					11.57
m			9.59							12.04
n			9.77							12.50
o			10.17							12.94
p			10.44							13.29
q			11.18							13.59
r			11.69							13.94
s			12.14							14.33
t			12.75							
u			13.41							
w										
x										
y										
z										
α										
β										
γ										
δ										
ε										
ζ										

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1904phae.proj..762C

Date	142205 R Virg	142584 R Camel.	142539 V Bootis	143227 R Bootis	143417 V Librae	144918 u Bootis	150018 RT Librae	150519 T Librae
a		7.87	6.82	5.81	3 8.61	1 7.78		2 7.41
b		8.45	7.63	6.22	5 8.04 6 9.31	2 7.90 3 8.55		3 8.97
c		9.02	7.97	6.90	10 9.64 13 10.39	4 9.95		4 9.72 5 10.13
d		9.50	8.44	7.44	15 10.91 16 11.32	5 10.24 6 10.36		8 10.36 10 10.72
e		9.82	8.77	7.88	18 11.52	7 10.54 9 10.99		18 11.04
f		10.32	9.05	8.24	24 12.01	10 11.18 12 11.86		20 11.54 23 f 11.69
g		10.80	9.18	8.44	26 12.00	14 12.12		24 12.05
h		11.22	9.23	8.78	31 12.23	17 12.24		28 12.38
k		11.80	9.77	8.96	37 12.49	19 12.76		32 12.87
l		12.20	10.45	9.24	45 12.93	20 13.08		
m		12.66	10.56	9.68				
n		12.86	10.82	10.09				
o		13.23	11.17	10.48				
p		13.56		10.87				
q		13.86		11.28				
r		14.07		11.73				
s				12.26				
t				12.63				
u				13.05				
w								
x								
y								
z								
α								
β								
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2								
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1904phae.proj..769C

Desig.	150605 γ Librae	151520 ν Librae	151714 ν Serp.	151731 ν Coronae	151822 RS Librae	152714 RU Librae	153020 χ Librae	153215 ω Librae
a	8.72	6.99	7.25	5.00			2 8.62	1 7.94
b	9.12	7.76	7.60	5.62			5 9.40	2 8.70
c	10.08	7.76	7.97	6.19			8 10.18	3 9.41
d	10.02	7.99	8.38	6.61			14 10.53	8 10.18
e	10.32	8.18	8.73	6.96			21 11.04	15 10.98
f	10.74	8.44	8.90	7.38			25 11.56	19 11.62
g	11.17	8.63	9.02	7.82			27 11.96	
h	11.34	8.87	9.32	8.14			33 12.18	22 12.11
k	11.58	9.29	9.68	8.47			40 12.78	27 12.52
l	12.02	9.64	10.08	8.77			44 12.89	37
m	12.43	9.88	10.50	9.05				40
n		10.19	10.91	9.38				
o	12.86	10.35	11.24	9.68				
p		10.80	11.51	10.26				
q		11.20	11.75	11.09				
r		11.67	12.06	11.43				
s		12.14	12.29	12.41				
t		12.46	12.50					
u		12.81	12.72					
w		13.14	13.01					
x		13.61						
y								
z								
α								
β								
δ								
ε								
ζ								

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1904phae..proj..7620

1543-36 Coronae

Desig.	153378 S Ursae Min.	153620 ν Librae	154020 Z Librae	154422 R Coronae	154639 V Coronae	154615 R Scorpii	154715 R Librae	155018 RR Librae
a		1 7.87	1 8.00	5.28	2 7.92	2 6.78		1 8.08
b		2 8.26	2 9.58 3 9.71	5.56	3 8.46	3 7.44		2 8.33 4 8.84
c		3 9.34	4 10.27 5 10.50	5.94	4 8.88	4 7.48		5 9.40
d		5 9.69	9 11.04	6.15	5 9.11	5 8.66		6 9.64 7 10.07
e		7 10.17	13 11.68	6.72	7 9.51	7 9.25		9 10.39
f		10 10.97	16 11.94 2	7.18	9 9.88	9 10.04		12 10.89 14 10.93
g		16 11.32	23 12.40	7.63	11 10.35 6	10 10.28		17 11.48
h		19 12.06	26 12.70	7.93	13 10.86	12 10.68		18 11.50
k		21 12.40		8.28	15 11.54	15 11.34		19 11.50
l		27		8.60	17 11.67	16 11.32		21 11.70
m		30		8.88	20 11.97	17 11.58		22 11.64
n				9.20	23 12.18	20 12.20		25 11.92
o				9.49	26 12.44 2	21 12.38 22 12.60		30 12.67
p				9.82	29 12.84	23 13.24		36 13.08
q				10.29	33 13.29	25 13.42		41 13.49
r				10.66	36 13.54	27 13.63		46 14.03
s				11.10		30 13.87		
t				11.36		32 13.98		
u				11.79				
w				12.20				
x				12.63				
y				13.07				
z								
κ								
β								
φ								
ρ								
ε								
δ								

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1904phae.proj..7621C

Design	[illegible]	153823 RZ Scorpii	160021 Z Scorpii	160150 RR Her.	160118 R Her.	160210 U Serpen.	160221 X Scorpii	160519 W Scorpii
a			1 7.64		7.35		2 7.82	1
b			4 8.64		7.59		3 9.22	2
c			7 9.26		7.94		8 10.26	3
d			10 9.52		8.10		10 10.58	4
e			13 10.32		8.35		16 11.08	5
f			14 10.72		8.63		19 11.55	7
g			18 11.09		8.83		24 12.58	9
h			21 11.23		9.06		29	11
k			24		9.29		35	15
l			29		9.46		38	19
m			33		9.90			28
n			37		10.27			34
o					10.70			38
p					11.38			
q					11.88			
r					12.35			
s					12.90			
t					13.27			
u					13.75			
w								
x								
y								
z								
α								
β								
γ								
ρ								
Σ								
ζ								

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1904phae.proj..7621

Design	160524 R X Scorpii	160625 R U Herc	161138 W Coronae	161122a R S Scorpii	161122b S S Scorpii	161607 W Oph.	162112 V Ophiuchi	162119 N Herc.
a			7.58	6.42	6.42			5.25
b			8.10	6.74	6.74			5.79
c			8.62	7.07	7.07			6.18
d			9.47	7.32	7.32			6.57
e			9.62	7.64	7.64			6.99
f			10.02	8.05	8.05			7.18
g			10.52	8.30	8.30			7.39
h			10.78	8.69	8.69			7.67
k			11.04	8.93	8.93			7.81
l			11.22.	9.07	9.07			8.18
m				9.24	9.24			8.35
n				9.55	9.55			8.61
o				10.16	10.16			8.96
p				10.46	10.46			9.29
q				10.61	10.61			9.76
r				10.86	10.86			10.36
s				11.02	11.02			10.88
t				11.32	11.32			11.60
u				11.54	11.54			12.02
w				11.87	11.87			12.28
x				12.23	12.23			12.86
y				12.43	12.43			13.15
z				12.64	12.64			13.39
κ				12.97	12.97			
λ				13.20	13.20			
μ								
δ								
ε								
ζ								

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1904phae.proj..769C

Design	162319 γ Scorpii	162815 τ Oph.	162807 88 Herc.	162816 80 Ophiu.	163137 w Herc.	163266 R Draco.	164319 RR Oph	164715 δ Herc.
a		1 6.86		1	7.75	6.88	8.84	5.95
b		2 8.48		2	8.12	7.19	9.78	6.41
c		3 10.25		3	8.39	7.44	10.24	6.67
d		6 10.80		6	8.54	7.66	10.56	6.93
e		7 10.96		9	8.78	8.02	10.76	7.18
f		10 11.44		12	9.02	8.28	11.19	7.60
g		12		15	9.15	8.56	11.50	8.09
h		15		16	9.49	9.06		8.61
k		17		19	9.79	9.40		8.78
l		19		22	10.22	9.80		9.15
m		21		26	10.66	10.16		9.39
n				29	11.16	10.56		9.64
o				32	11.60	10.97		10.06
p				37	12.02	11.59		10.52
q				39	12.42	12.01		10.86
r				41	12.90	12.52		11.32
s					13.19	12.85		11.78
t					13.50	13.33		12.48
u					13.82	13.84		12.85
w					14.03	14.43		
x					14.28	15.02		
y					14.51			
z								
α								
β								
∫								
∫								
ε								
ℓ								

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Design.	165631 R Vir Herc.	170215 R Oph.	171401 Z Oph.	171723 RS Herc.	174606 RS Oph.	175111 R T Oph.	175458 T Draconis.	175519 R Y Herc.
a	8.78	6.66			7.88	8.52		
b	9.34	6.84			9.52	9.04		
c	9.65	7.24			9.78	9.46		
d	9.92	7.41			9.18	9.87		
e	10.08	7.60			10.39	9.87		
f	11.24	7.81			10.60	10.26		
g	11.77	8.18			10.90	10.71		
h	12.15	8.58			10.79	10.83		
k	12.74	8.83			11.56	10.97		
l		9.21			11.86	11.64		
m		9.53			12.26	11.78		
n		9.82			12.52			
o		10.20			13.05–			
p		10.69						
q		11.27						
r		11.56						
s		11.99						
t		12.57						
u		12.90						
w		13.43						
x		13.82						
y								
z								
α								
β								
γ								
δ								
ε								
ζ								

1904phae.proj..7620

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1904phae.proj..76?c

Design	175654 V Draco.	180122 RW Herc.	180565 W Draco.	180531 T Herc.	180666 X Draco.	181136 W Lyrae	182306 T Sagitt.	183225 RZ Herc.
a		8.75		6.67		7.77		8.64
b	8.99	9.32		7.02		8.32		9.22
c	8.55	9.72		7.17		8.91		9.44
d	9.18	10.33		7.50		9.44		9.80
e	9.36	10.79		7.82		9.80		10.10
f	9.56	11.00		8.10		10.06		10.35
g	9.97	11.45		8.39		10.00		10.62
h	10.09	11.78		8.69		10.88		10.68
k	10.49	11.86		8.94		10.99		10.95
l	10.81	12.50		9.15		11.22		11.26
m	10.82	12.65		9.44		12.34		
n	11.07	12.96		9.82		12.35		
o	11.71	13.31		10.40		12.31		
p	11.81	13.58		10.97				
q	12.06	13.78		11.65				
r	12.48			12.41				
s	12.60			12.96				
t	13.38			13.30				
u								
w								
x								
y								
z								
α								
β								
γ								
δ								
ε								
ζ								

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1904phae..proj..762c

Desig.	183308 X Oph.	184134 R Y Lyrae	184243 R W Lyrae	184205 R Scuti	185032 R X Lyrae	185512 S T Sag.	185634 Z Lyrae	185737 R T Lyrae
a	6.50		8.88	4.50				10.28
b	7.10		8.94	4.82				10.49
c	7.18		9.51	4.97				11.02
d	7.31		9.84	5.19				11.10
e	8.16		10.36	5.65				11.76
f	8.27		10.70	6.13				11.95
g	8.84		10.90	6.74				11.98
k	9.30		11.14	7.07				12.50
h	9.46		11.52	7.56				
l	9.56			7.63				
m	9.94			8.00				
n	10.05			8.31				
o	10.32			8.62				
p	10.37							
q								
r								
s								
t								
u								
w								
x								
y								
z								
α								
β								
γ								
δ								
ε								
ζ								

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1904phae.proj..762C

Design	190102 R Aquil	190529 V Lyrae	190819 RW Sag.	190818 RX Sag.	190925 S Lyrae	190941 RU Lyrae	190923 RS Lyrae	190967 U Draco
a	1 6.12		8.40	8.40	8.26			9.06
b	2 7.16		9.48	9.48	8.43			9.42
	3 7.77							
c	4 7.94		8.40	8.40	8.86			10.20
d	5 8.30		9.92	9.92	8.95			10.59
e	6 8.50		9.65	9.65	9.45			10.90
f	7 8.85		10.75	10.75	9.82			10.98
g	8 8.88		11.14	11.14	10.19			11.99
h	10 9.12		11.87	11.87	10.69			12.12
k	12 9.46		11.78	11.78	11.27			
l	13 9.49		12.18	12.18	11.27			12.62
m	15 10.12				11.56			
n	17 10.45							
o	19 10.71							
	220 10.94							
p	23 11.14							
q	24 11.41							
r	26 11.57							
s	29 11.76							
t	30 11.56							
u	31 11.78							
w	33 12.15							
x	39 12.88							
y	42 13.24							
z	47 13.84							
α	51 14.00							
β	54 14.28							
γ								
δ								
ε								
ζ								

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1904phae..proj..7621

Desig.	191007 W Aquil	191017 T Sagitt.	191019 R Sagitt.	191350 TZ Cygni	191319 S Sagitt	19321 Z Sagitt.	191637 U Lyrae	191717 T Sagittae
a		1	6.34	9.48	2 7.16	2 8.24		8.07
b		2	6.76	10.00	4 7.58	4 8.71		8.68
c		3	7.06	10.20	7 8.20	7 9.30		8.80
d		4	7.35	10.28	11 8.86	15 9.80		9.01
e		7	7.67	10.62	15 9.46	21 10.54		9.28
f		10	7.92	10.77	19 10.02	25 10.56		9.33
g		17	8.13	11.45	26 10.24	27 10.88		9.81
h		28	8.39	11.46	30 10.79	29 10.94		9.91
k		36	8.63	11.50	35 11.14	30 11.48		10.50
l		39	8.76	11.[illegible]	39 11.75	35 11.63		10.72
m		47	9.06	11.91	43 12.22			
n		62	9.26	12.02	54 12.67			
o		65	9.51	12.07	60 12.94			
p			9.87		63			
q			10.23		69			
r			10.42					
s			10.86					
t			11.16					
u			11.52					
w			11.89					
x			12.14					
y			12.48					
z								
A								
B								
d								
P								
E								

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1904phae.proj..762C

Design	192928 TY Cygni	193311 RT Aquil	193449 R Cygni	193509 RV Aquilae	194048 RT Cygni	194348 TN Cygni	194604 X Aquil.	194632 Y Cygni
a	9.17		5.10					3.30
b	9.35		5.71					3.85
c	9.50		6.16					4.04
d	9.72		6.42					4.41
e	9.93		6.73					4.66
f	10.36		7.03					4.06
g	10.23		7.23					5.55
h	11.16		7.52					5.73
k	11.18		8.03					6.09
l	11.41		8.35					6.40
m			8.76					6.60
n			9.14					6.93
o			9.62					7.32
p			10.02					7.53
q			10.53					7.76
r			10.93					8.11
s			11.32					8.39
t			11.78					8.68
u			12.10					9.01
w			12.39					9.28
x			12.76					9.56
y			13.14					9.88
z			13.54					10.22
α			13.93					10.53
β			14.42					10.79
γ								11.05
δ								
ε								
ζ								

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1904phae.proj...76

Design.	194929 ~~R R S Aq~~	195202 R R Aquil	195308 R S Aquil	195849 Z Cygni	200357 N Cygni	200514 R Capric.	200715a N Aquilae	200812 R H Aquil.
a				2 7.32	7.92	1 8.02 2 8.59		
b				3 7.55	8.36	3 8.83		
c				4 8.00	8.78	4 9.72		
d				5 8.50	9.16	5 10.30		
e				6 8.75	9.48	7 10.64		
f				10 9.04	9.97	9 11.27		
g				15 9.38	10.26	13 11.44		
h				17 9.52	10.66	14 11.36		
k				19 9.64	11.08	19 11.68		
l				26 10.23	11.36	22 12.21		
m				34 10.54	11.69	23 12.46		
n				41 11.11	12.15	27 12.64		
o				45 11.14	12.43	33 12.54		
p				48 11.56	12.85	37 13.05		
q				51 11.44	13.23	41 13.11		
r				53 11.88	13.51	42 13.20		
s				54 12.06	13.88			
t				61 12.13	14.31			
u				70 12.42	14.68			
w				73 12.48				
x				78 12.63				
y				82 12.74				
z								
α								
β								
δ								
ε								
ζ								

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1904phae.proj..7602

Design	200f22 W Capr.	200906 Z Aquil.	200938 RS Cygni	201008 R Delph.	201121 RT Capric	201130 S X Cygni	201437b W I Cygni	201520 V Sagittae
a	1 8.21		6.23	6.76				
b	2 9.08		6.90	6.95				
c	3 9.18		7.25	7.35				
d	5 9.88		7.51	7.66				
e	9 10.38		7.75	8.08				
f	18 11.02		8.15	8.29				
g	26 11.36		8.17	8.78				
h	27 11.64		8.28	9.15				
k	29 11.98		8.58	9.51				
l	34 12.52		8.80	9.81				
m	37 12.80		9.05	10.14				
n			9.38	10.76				
o			9.67	10.99				
p			10.15	11.62				
q			10.58	11.84				
r			11.00	12.28				
s			11.59	12.79				
t			12.13	13.10				
u			12.65	13.46				
w			13.00					
x								
y								
z								
α								
β								
γ								
δ								
ε								
ζ								

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1904phae..proj..762c

Der.	201647	202539	202622	202817	202954	203429	203611	203847
	21 Cygni	RW Cygni	RU Capric	Z Delph.	ST Cygni	IK Vulcan.	γ Delph.	V Cygni.
a	5.84	8.11						6.27
b	6.18	8.24						6.63
c	6.54	8.46						7.13
d	7.10	8.76						7.67
e	7.77	9.11						7.96
f	8.36	9.18						8.29
g	8.82	9.27						8.50
h	9.25	9.45						8.77
k	9.51	9.70						9.00
l	9.78	9.90						9.27
m	9.96							9.96
n	10.16							10.45
o	10.49							10.88
p	10.82							11.28
q	11.08							11.75
r	11.70							12.15
s	12.16							12.53
t	12.91							13.08
u								13.47
w								13.99
x								
y								
z								
λ								
β								
δ								
ε								
ζ								

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1904phae.proj..7620

Designation	203816 S Delphini	203905 Y Aquarii	204016 T Delphini	204104 W Aquarii	204102 V Aquarii	204215 U Capric.	204318 V Delphini	204405 T Aquarii
a	2 8.36		3 7.06		7.06	1 8.74		5.50
b	4 8.58		5 8.48		7.28	3 9.06		6.13
c	5 8.66		6 9.02		7.98	4 9.18		6.48
d	6 8.93		8 9.54		8.53	7 9.86		6.80
e	7 9.30		9 9.68		8.88	8 9.64		7.20
f	8 9.55		11 9.80		9.11	12 10.32 14 10.68		7.43
g	11 9.84		12 10.02		9.76	17 10.98		7.83
h	14 9.90		16 10.58		10.03	19 11.46		8.04
k	17 10.09		21 10.90		10.06	22 11.96 24 12.22		8.38
l	23 10.70		27 11.60		10.15	29 12.72		8.64
m	27 10.96		30 12.04			35 13.13		8.90
n	30 11.49		33 12.17			40 13.48		9.06
o	31 11.77		42 12.49			45 13.65		9.48
p	35 11.96		48 12.83			47 13.87		9.79
q	42 12.22		58 13.27					10.16
r	51 12.30		63 13.50					10.66
s	56 12.47		70 13.96					11.02
t	12.43							11.52
u								11.88
w								12.34
x								12.68
y								12.97
z								13.30
α								13.69
β								
γ								
δ								
ε								
ζ								

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1904phae..proj..762c

Des	204846 RI Cyg.	205017 X Delph.	205030 u X Cygni	205127 ~~R Capric.~~	205923 R Vulpec.	210129 TW Cygni	210124 V Capric		210221 X Capric	
a					6.67		1	7.20	2	7.74
									3	8.13
b					7.23		2	7.59	4	8.86
									5	9.54
c					7.47		3	8.89	7	9.84
d					7.79		4	9.56	12	10.44
									18	11.02
e					8.07		5	9.85	20	11.32
f					8.47		6	10.07	24	11.70
g					8.77		9	10.63	28	12.12
h					9.12		11	11.07	29	12.36
k					9.34		14	11.24	31	12.72
l					9.54		16	11.26		
m					9.79		18	11.42		
n					10.05		19	11.40		
o					10.21		22	11.66		
p					10.34		30	12.07		
r					10.63		34	12.47.		
s					10.86		37	12.72		
t					11.36			"		
u					11.84			"		
w					12.47					
x										
y										
z										
α										
β										
γ										
δ										
ε										
ζ										

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1904phae.proj..7610

Design.	210382 X Cephei	210516 Z Capric	210504 RS Aquar	210868 T Cephi.	210812 R Equulei	210903 RR Aquar.	211614 X Pegasi	211615 T Capric.
a				4.88				1 8.09
b				5.52				2 8.49
c				6.04				3 9.16
d				6.68				4 9.12
e				7.12				5 9.36
f				7.69				6 9.71
g				8.18				7 10.30
h				8.12				9 10.51
k				8.78				13 10.54
l				9.18				15 11.09
m				9.65				16 11.28
n				10.10				23 11.78
o				10.50				27 12.34
p				11.06				30 12.74
q				11.56				32 12.98
r				11.96				
s				12.39				
t				12.71				
u								
w								
x								
y								
z								
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β								
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η								

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1904phae.proj..762c

Des	212814 Y Caphei.	213244 W Cygni	213678 S Cephei	213753 RN Cygni	213843 SS Cygni	214024 RR Peg.	215605 V Pegasi	215717 U Aquarii	
a	1 7.82		7.40		8.00			2 8.36	
								3 8.83	
b	2 8.07		7.83		8.32			5 9.40	
c	4 9.24		8.15		8.50			10 10.51	
d	5 9.21		8.68		8.60			12 10.82	
								15 11.20	
e	8 9.33		9.04		8.90			16 11.63	
								17 11.96	
f	9 9.64		9.37		9.39			19 12.18	
g	15 10.24		9.84		9.62			22 12.68	
h	18 10.65		10.22		9.98			25 12.94	
k	22 11.16		10.70		10.43			26 13.24	
l	25 11.98		11.04		10.92			27 13.42	
m	28 12.40		11.58		10.90				
n	41 12.87		11.95		11.32				
o			12.44		11.77				
p			12.75		12.14				
q			13.12						
r			13.66						
s			14.02						
t			14.38						
u									
w									
x									
y									
z									
α									
β									
γ									
ρ									
Σ									
τ									

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1904phae.proj..7602

Design	215934 RT Pegasi	220412 T Pegasi	220613 Y Pegasi	220714 RS Pegasi	221321 X Aquarii	221722 RT Aquarii	221733 T Lacertae	222439 S Lacertae
a		1						3 8.10
b		2						4 8.10
c		5						5 8.21
d		6						6 8.47
e		8						8 8.82
f		11						10 9.12
g		14						11 8.98
h		17						14 9.48
k		19						18 9.60
l		20						21 9.86
m		23						26 9.98
n		25						31 10.44
o		27						33 10.45
p		31						43 10.98
q		35						50 11.13
r		39						58 11.50
s		41						63 11.64
t								70 12.04
u								77 12.44
w								80 12.84
x								
y								
z								
α								
β								
γ								
δ								
ε								
ζ								

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1904phae.proj..762C

Des.	223841 R Lacertæ	225720 N Aquarii	230110 R Pegasi	230759 V Cassiop.	231425 W Pegasi	231508 N Pegasi	233815 R Aquarii	233956 Z Cassiop.
a	2 7.94	6.57	5.99			7.08	5.55	
b	5 8.44	6.92	6.38			7.30	5.84	
c	7 8.85	7.37	6.63			7.59	6.46	
d	9 9.08	7.62	7.00			7.81	6.92	
e	11 9.32	8.10	7.37			8.18	7.59	
f	15 9.68	8.37	7.72			8.44	8.07	
g	23 10.00	8.53	8.03			8.72	8.35	
h	26 10.37	8.57	8.45			8.96	8.66	
k	30 10.74	8.61	8.70			9.21	8.94	
l	37 11.32	8.86	9.07			9.50	9.22	
m	41 11.62	9.30	9.36			9.72	9.50	
n	45 11.85	9.68	9.64			9.90	9.81	
o	51 12.26	10.04	9.83			10.13	10.14	
p	52 12.32	10.33	10.08			10.59	10.54	
q	54 12.44	10.66	10.54			11.01	10.81	
r	56 12.41	11.06	10.89			11.33	11.14	
s		11.28	11.33			11.74	11.50	
t		11.59	11.67			12.08	11.77	
u		11.85	12.06			12.49	12.11	
w		12.21	12.42			12.94	12.47	
x		12.48	12.79			13.38	12.91	
y		12.81	13.09					
z		13.19						
α		13.53						
β		13.97						
γ		14.28						
δ								
ε								
ζ								

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1904phae.proj..7602C

Design.	234716 Z Aquarii	235053 RR Cass.	235209 V Cati	235350 R Cass.	235525 Z Pegasi	235715 W Cati	235855 Y Cass.	Nova Aquil No. 2.
a			1 7.49	4.00				6.98
b			2 8.36	4.41				9.36
c			3 9.08	4.84				9.42
d			4 9.81	5.17				9.58
e			5 10.36	5.73				9.96
f			9 10.88	6.26				9.90
g			14 16 11.71	6.70				10.02
h			19 12.35	7.17				10.81
k			23 12.75	7.50				10.68
l			24 12.74	8.16				10.26
m			25 12.95	8.80				11.28
n			26	9.40				11.54
o			28	9.93				12.10
p				10.50				12.95
q				10.98				12.38
r				11.36				12.77
s				11.78				13.53
t				12.12				14.17
u				12.40				13.98
w				12.81				14.55
x				13.13				14.98
y				13.48				
z				13.78				15.16
α				14.10				
β				14.37				
γ								
δ								
ε								
ζ								

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1904phae.proj..762C

Design.	170627 RT Hercs
a	9.00
b	9.12
c	9.40
d	9.86
e	10.10
f	10.70
g	10.98
h	11.12
k	11.64
l	11.90
m	12.16
n	
o	
p	
q	
r	
s	
t	
u	
w	
x	
y	
z	
α	
β	
γ	
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1904phae.proj..76?C

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1904phae.proj..762C

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1904phae.proj..76DC

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1904phae.proj..762

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1904phae.proj..769C

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1904phae.proj..762

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1904phae.proj..762C

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1904phae.proj..762

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1904phae.proj..709C

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1904phae.proj..762C

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1904phae.proj..760C

Enlargements recd from B.B. since Sept 30, 1903.

Oct.	10	213843	N Cygni	2
"	"	204318	V Delphini	3
"	"	211614	X Pegasi	2
"	"	190925	N Lyrae	2
"	"	190529	V Lyrae	2
"	12	230759	V Cassiop.	2
"	12	231425	W Pegasi	2
"	12	210812	R Equulei	2
"	12	220714	R Pegasi	2
"	12	220613	Y "	2
"	12	213934	R T "	2
"	12	204102	V Aquarii	2
"	12	214024	R R Pegasi	2
"	12	235350	R Cassiopeiae	2
"	13	191350	T Z Cygni	2
"	13	235715	W Ceti	2
"	13	234716	Z Aquarii	3
"	13	235855	Y Cassiop.	2
"	13	233956	Z "	2
"	13	225914	R W Pegasi	2
"	13	221722	R T Aquarii	2
"	13	221321	X "	2
"	13	215605	V Pegasi	2
"	13	210903	R R Aquarii	2
"	13	194604	X Aquilae	3
"	13	195202	R R "	2
"	13	200938	R S Cygni	2
"	13	194048	R T "	2

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Oct	14	200514	R Capric.	2
"	"	205017	X Delph.	2
"	"	205030	U X Cygni	2
"	"	210129	T W "	2
"	16	185512	S T Sag.	2
"	16	205525	Z Pegasi	3
"	16	195304	R S Aquilae	3
"	16	190941	R U Lyrae	3
"	16	200715a	S Aquilae	2
"	16	200357	S Cygni	2
"	30	200906	Z Aquilae	2
"	30	221733	T Lacertae	3
"	30	210382	X Cephei	2
"	30	235053	R R Cassiop	2
"	30	210516	Z Capricorn	2
Dec.	—	203905		
"		203611		
"		202954		
"		202817		
"		202622		
"		201647		
"		201520		
"		201437b		
"		201130		

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