1895phae.proj...4420

KG
11365
441

Special Light Curves
with Photometer

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

RG11365.441

(Book 1.) Observations of H Delphini

Date	Page	
95. 12. 14	132	F.B.
" " "	137	
" " 16	132	F.B.
" " "	137	
" " 17	134	
" " "	137	
" " 19	132	F.B.
" " "	137	
" " 20	132	F.B.
" " "	137	
" " 22	137	
" " 31	137	
" " "	138	
" " "	164	
	136	Measts. of Comp. Stars
96. 1. 3	132	
" " 5	164	
" " 5	139	
" 37	140	
" " "	164	
" 54	162	
" " "	164	
" " "	165	

HARVARD UNIVERSITY LIBRARY MAY 7 1956

Date	Page	
96. 6. 2.	176	
" " "	177	
" " "	178	
" " 16	178	
" " 26	182	
" " "	183	
" " "	184	
" 7. 25.	186	
" " "	187	
" " "	188	
" 9. [illegible]	189	
" " "	190	
" " "	191	
" " 7	192	F.B.
" " 11	196	
" " "	197	
" " "	198	
" " 25	199	
" " 30.	200	
" " "	201	
" 10.22.	193	F.B.
" " 24	194	
" " "	195	
" " 26	202	
" " "	178	
" 11.22	204	
" " "	205	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Cephei, p. 10.
β Lyrae p. 20.
Var. disc. Phot. p. 30.
X Cygni. p. 40.
Expts. with Phot. T. p. 50.
U Ophiuchi p. 60.
δ Librae p. 70.
~~U Cephei p. 90. 124.~~
Z Herculis. p. 80.
T Andromedae. p. 92.
o Ceti p. 44.
Chandler's new Var p. 98. 129, 128
~~U Cephei p. 99. 102~~
N.P. 099 p. 32
~~Wells-Var p. 132 140~~
W. R. 441. p. 150.
Var. in Ursae Min. p. 148.
~~T Cephei p. 160.~~
~~U Cephei p. 142, 144,~~
Expts. on leak of Arch. p. 152.
β Lyrae (Cram obs.) p. 16.
Nova Aurigae p. 158.

U Cephei, pg. (90) 124, 99, 102, 104, 106, (108, 174) 142, 144, 146, 170, (172-3) 130. 74. 175
Lepelius. 34.
U Pegasi. 122. 98.
Miscellaneous Objects. p. 166.
Var. in Urs. Min. p. 148.
Zilan p. 38.
Comp. Obs for Lepelius p. 42.
Wells Variable. p. 132. 138. 136. 137. 134. 140. 162. 166. 176. (182-4) (186-8) (189-91) (194-5) (196-7)
Wells Var. (Full br.) 192. 193.
N Cancri p. 222. 215 " " 140. " " 76 " " 216.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Book #1. Observations of U Cephei.

Date.	Page.		Date.	Page.
95. 6.19.	90.	Comp. Star +81° #26	97. 2.19.	213.
" 10.24	124-125	Comp. Star +81° #27	2.24	214.
" 12 3	102-103	" " " "		
96. 1.22.	104-105	" " " "		
1.27.	106	" " " "		
1.30	108	Full Brightness.		
2.11	142-143	Comp. Star +81° #27		
2.21	144-145	" " " "		
3. 7.	146-147	" " " "		
3.17.	170-171	" " " "		
4.27	108 & 172	F.B. (Rejected.)		
5.25	173	" "		
5.27.	174	" "		
6.23	108-109	" "		
10.26.	130-131	" "		
10.27.	74-75			
11.16.	175			
12.19.	174	F.B.		
97. 1.25.	208-209	Comp. Star. +81° #27		
1.30.	210			
2. 4.	211			
2. 9.	212			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Observations on Wells Variable. 20h 31m +17°.2

Time of max. G.M.T.

1895.	Dec.	14.	1 group.	(16 setting's)	(Sep.	132)	
	"	16.	1 "	" "	"	"	
	"	17.	4 "	12 "	"	"	134
	"	19.	1 "	16 "	"	"	132
	"	20.	1 "	" "	"	"	"
	"	22.	5 "	40 "	"	"	135
	"	31.	16 "	256 "	"	"	132
1896	Jan.	5.	6 "	96 "	"	"	139
	Mar.	7.	11 "	176 "	"	"	140

13h 55m

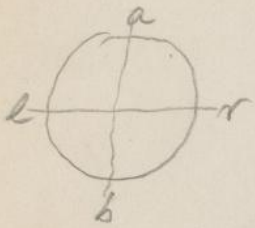
1h 31m Mar. 7.

KG-11365.#39

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

Order of rods with Photometer.



A	B
a	b
r	l
r, a,	l, b,
r b	a, l,

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Index.

Desig.	Page.
δ Cephei.	10
β Lyrae.	20
Phot. Var.	30.
χ Cygni.	40.
U Ophiuchi	60.
δ Librae	70.
~~U Monocerotis~~	~~80.~~
U Cephei	90.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Date.	Tab. Eq.	Mean.				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Kreuzes:

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Cephei.

Comp. Star = 2 Cl. +57° 2 V K5 (8 V)

Date.	Tab. Eq.	Mean.	S.M.S.	Reads.	J.D. 244	Book & Page.	Obs.	Rem.
1895. Apr. 4.	2.13, 1.97, 1.87, 1.81, 1.83, 1.82<	1.90	14.7<	14, 02, 12, 01, 01, 00	3288	74. 61.	°	.0
" Apr. 5.	2.53, 2.50, 2.35, 2.53, 2.47, 2.49<	2.48	14.1<	07, 04, 11, 03, 03, 01	3289	74. 67	°	.0
" Apr. 10.	2.29, 2.05, 2.21, 2.23, 2.13, 2.17<	2.18	14.1<	11, 13, 03, 05, 05, 01	3294	74. 77.	°	.0
" May 6.	1.78, 1.74, 1.72, 1.63, 1.71, 1.70<	1.73	15.5<	03, 01, 03, 02, 00, 07.	3320	74. 181.	°	.0
" May 7.	2.43, 2.29, 2.44, 2.28, 2.30, 2.25<	2.34	15.5<	04, 10, 05, 00, 02, 03	3321	74. 189	°	.0
" May 9.	2.23, 2.43, 2.46, 2.20, 2.24, 2.28<	2.30	16.1<	14, 06, 09, 04, 00, 04	3323	74. 199	°	.0
" May 10.	2.08, 2.10 2.12 2.03, 2.07, 2.03<	2.07	15.3<	02, 00, 02, 01, 03, 01	3324	74. 206	°	.0
" May 11.	2.08, 2.05, 1.97, 1.87, 1.83, 1.85<	1.94	15.5<	05, 02, 06, 01, 03, 01	3325	" 213.	°	.0
" May 13.	2.69, 2.67, 2.78, 2.50, 2.64, 2.62<	2.68	15.4<	02, 04, 07, 15, 13, 03	3327	" 220.	°	.0
" May 16.	1.98, 1.94, 2.00, 1.78, 1.79, 1.79<	1.88	15.4<	01, 03, 03, 01, 00, 00	3330	75. 6.	°	.0
" June 7.	2.06, 1.87, 1.89, 1.78, 1.79, 1.85<	1.86	14.7<	12, 07, 05, 05, 00, 06	3352	75. 23.	°	.0
" June 17.	2.19, 2.25, 2.17, 1.94, 1.73, 2.05<	2.05	13.8<	.01 .05 .03 03. 18. 14	3362	" 78	°	.0
" July 6.	2.58 2.60 2.76 2.48 2.45 2.45<	2.56	14.0<	07 .05 .11 .02 .01 .01	3384	" 131	°	.0
" July 10.	2.21 2.13 2.03 1.79 2.05 2.08<	2.03	16.8<	09 .01 .09 .15 .11 .14	3385	" 145	°	.0
" July 11.	2.71 2.82 2.87 2.54 2.59 2.65<	2.70	14.9<	.09 .02 .07 .03 .01 .05	3386	" 149	°	.0
" July 12.	2.50 2.66 2.59 2.33 2.41 2.43<	2.48	15.6<	.08 .08 .01 .06 .02 .04	3387	" 165	°	.0
" July 29.	2.58, 2.51, 2.58, 2.07, 2.19, 2.16<	2.35	13.2<	.02 .05 .02 .07 .05 .02	3404	76 34	°	.0
" July 31.	2.25, 2.07, 2.04, 1.92, 2.00, 1.90<	2.03	13.6<	.13 .05 .08 .02 .06 .04	3406	" 45	°	.0
" Sept. 4.	2.43, 2.41, 2.40, 2.36 2.42 2.37	2.40	13.0	.02 .00 .01 .02 .04 .01	3441	" 80	°	.0
" Nov. 4	2.05 2.06 2.05 2.07 1.86 2.08	2.03	15.9	.00 .01 .00 .07 .14 .08	3502	77 221		.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Obs. Less Resids.	Diff. A-B.	G. M. T. of obs. Sec. Day	Gr. M. T. Maximum.	Time of obs. after Maximum.		
.050	.17	4.612	Aug. 0.670	3.934		Plotted.
.048	.04	5.582	Aug. 0.670	4.911		"
.063	.00	10.584	Aug. 6.047	4.544		"
.037	.04	6.646	May 2.877	3.769		"
.040	.11	7.645	May 2.877	4.768		"
.062	.13	9.675	May 8.243	1.432	− 6.798	"
.015	.06	10.640	May 8.243	2.397	− 7.763	"
.030	.17	11.646	May 8.243	3.403		"
.043	.06	13.641	May 13.610	0.031	− 5.397	"
.013	.18	16.643	May 13.610	3.033	− 8.399	"
.058	.15	7.612	June 4.079	3.537		"
.073	.30	17.576	June 14.808	2.768	− 8.134	"
.061	.19	6.585	July 6.274	0.311	− 5.677	"
.098	.18	10.669	July 6.274	4.395	−	"
.050	.14	11.619	July 11.640	5.345 ~~0.021~~	−	"
.048	.19	12.648	July 11.640	0.008	− 5.374	"
.038	.42	29.552	July 27.740	1.812	− 7.178	"
.063	.18	31.567	July 27.740	3.827		"
.017	.03	4.542	Sept. 3.300	1.237	− 6.603	"
.050	.05	4.662	Nov. 1.332	3.327		"

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Cephei.

G. m. T.

of Maxima.

1895

Apr. 4. d. 61

" 5. 59

" 10. 59

May 6. 644

" 7. 647

" 9. 672

" 10. 640

" 11. 647

" 13. 641

" 16. 643

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

B Lyrae, Cram obs.
Phot. R. mounted horizontally on East Balcony, with Pros in in front. Comp. Star = 2 M. + 32° 3224 (v.v)

Date.	Tab.		Zy.		Mean.	S.M.T.	Results.				J.D.	Book + Page.
1896. July 2.	1.90	2.06	1.92	1.87	1.94	1h 27m	.02	.04	.02	.03		A2. 170.
" " "	1.96	2.00	1.79	1.82	1.89	16 3h	.02	.02	.01	.02		A2. 177.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

β Lyrae.

Comp. Star = δ Her. +33° 32 2K Aᵛ

Date.	Tab. Eqs.	Mean.	G.M.T.	Results.	J.D. 241	Book & Page.	A K
1895 Apr. 4.	3.79, 3.85, 3.72, 3.87, 3.88, 3.87	3.84	15 hr 15.3	00, 06, 07, 01, 01, 01	3284	74. 62	.0
" Apr. 5.	3.49, 3.60, 3.64, 3.86, 3.49, 3.64	3.65	16 14.8	09, 02, 06, 05, 02, 03	3289	" 73.	.0
" Apr. 10.	3.79, 3.89, 3.76, 3.69, 3.75, 3.72	3.76	15 20.2	02, 08, 05, 03, 02, 00	3294	" 81	.0
Apr 11	3.65 3.46 3.59 3.48 3.50 3.49	3.53	15 38.0	.08 .11 .02 .01 .01 .00	3295	" 88	.0
" May 3.	3.22, 3.20, 3.20, 3.07, 3.08, 3.16	3.16	15 14.0	01, 01, 01, 03, 02, 06	3317	" 170	.0
" May 6.	3.49, 3.76, 3.85, 3.62, 3.85, 3.85	3.86	15 3.8	11, 16, 05, 10, 06, 03	3320	" 179.	.0
" May 7.	3.50, 3.46, 3.83, 3.82, 3.86, 3.87	3.69	15 5.2	00. 04, 03, 04, 02, 01,	3321	" 184.	.0
" May 9.	2.82, 2.95, 2.66, 2.71, 2.76, 2.68	2.70	15 45.7	02. 01, 08, 06, 11, 17,	3323	" 194.	.0
" May 10.	3.20, 3.23, 3.20, 3.34, 3.13, 3.26	3.23	14 45.3	02, 01, 02, 10, 11, 02	3324	" 204.	.0
" May 11.	3.63, 3.67, 3.68, 3.68, 3.66, 3.84	3.82	15 14.0	04, 08, 11, 09, 09, 01	3325	" 211.	.0
" May 13.	3.80, 3.60, 3.62, 3.86, 3.68, 3.69	3.82	14 37.6	07, 03, 05, 00, 10, 11	3327	" 216	.0
" May 16.	3.11, 3.34, 3.26, 3.11, 3.16, 3.11,	3.18	15 9.2	13, 10, 02, 00.00.00	3330	75 4.	.0
" June 7.	3.82, 3.66, 3.66, 3.83, 3.83 3.68	3.84	14 17.3	09, 05, 05, 05, 05, 00	3352	75 21	.0
" Apr. 11.	3.65, 3.46, 3.59, 3.48, 3.50, 3.49	3.53	15.6	.08, .11, .02, .01, .01, .00	3295	74 88	.0
" June 17.	2.90, 3.03, 2.96, 2.89, 2.85 2.54	2.86	13 30.3	.06, .07, .00, .13, .09, .22	3362	75 69	.0
" July 6.	1.24 1.36 1.23 1.21 1.01 0.99	1.17	13 45.6	.03, .09, .04, .14, .06, .08	3381	75 130	.0
" Nov. 4	3.50 3.51 3.57 3.71 3.62 3.71	3.60	14 42.6	03 02 .04 03 .06 .03	3502	77 : 218	.0
1896. 6. 20	3.60 3.71 3.31 3.28	3.48	13 52.	.06 .05 .01 .02	3721	82 : 76	.0

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Arb Day. Resids.	Diff. A−B.	Gr. M. Time of obs. Sec. Days	Gr. M. T. Minimum	Time of obs. after Minimum.
.053	.28	4.635	0.605	4.030
.047	.07	5.677	0.605	5.072
.033	.19	10.637	0.605	10.032
.038	.08	11.651	0.605	
.023	.11	3.635	25.815	
.047	.18	6.628	25.815	
.023	.02	7.628	25.815	
.047	.09	9.656	8.723	
.047	.02	10.616	8.723	
.070	.02	11.635	8.723	
.060	.01	13.624	8.723	
.042	.13	16.631	8.723	
.042	.13	7.595	3.538	
~~.038~~	~~.08~~	~~11.651~~	~~0.605~~	
.095	.20	17.562	16.446	
.073	.20	6.573	29.353	
.035	.15	4.619		
.035	.36	20.577		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Pegasi. Phot. I.

Comp Star = D M. +13° 4916 (8.5)

Nov 16, 1895.

Gr. M. Time		Diff Magn.	Av. Dev.	Gr. M. Time		Diff Magn.	Av. Dev.	Gr. M. Time		Diff Magn.	Av. Dev.
	f	+0.58	+.06		f	+0.53	+.08		f	+0.55	-.01
		+0.47	-.05			+0.37	-.08			+0.58	+.02
11 7 44		+0.52	±.055	12 11 8		+0.45	±.080	13 19 42		+0.56	±.015
-5 45	a	+0.88	+.04	-5 45	a	-0.02	-.19	-5 45	a	+0.55	-.04
+5 23		+0.81	-.03	+6 26		+0.36	+.19	+7 35		+0.63	+.04
		+0.84	±.035			+0.17	±.19			+0.59	±.040
	+.32	+0.68	±.045		-.28	+0.31	±.135		+.03	+0.58	±.028
	a	+0.61	+.04		a	+0.37	-.01		a	+0.68	+.02
		+0.53	-.04			+0.39	+.01			+0.64	-.02
11 31 52		+0.57	±.040	12 29 0		+0.38	±.010	13 50 16		+0.66	±.020
-5 45	f	+0.45	+.05	-5 45	f	+0.36	+.06	-5 43	f	+0.80	.00
+5 47		+0.35	-.05	+6 44		+0.24	-.06	+8 5		+0.79	-.01
		+0.40	±.050			+0.30	±.060			+0.80	±.005
	+.17	+0.48	±.045		+.08	+0.34	±.035		-.14	+0.73	±.012
	f	+0.49	-.03		f	+0.26	-.06		f	+0.86	-.04
		+0.55	+.03			+0.38	+.06			+0.94	+.04
11 50 44		+0.52	±.030	12 43 47		+0.32	±.060	14 22 49		+0.90	±.040
-5 45	a	+0.50	-.04	-5 45	a	+0.54	+.04	-5 45	a	+0.95	-.01
+6 6		+0.59	+.05	+6 59		+0.45	-.05	+8 38		+0.97	+.01
		+0.54	±.045			+0.50	±.045			+0.96	±.010
	+.02	+0.52	±.038		+.18	+0.41	±.052		+.06	+0.93	±.025
	a	+0.40	-.02		a	+0.62	+.04				
		+0.45	+.03			+0.55	-.03				
12 4 41		+0.42	±.025	13 3 37		+0.58	±.035				
-5 45	f	+0.44	-.02	-5 45	f	+0.59	+.04				
+6 29		+0.49	+.03	+8 19		+0.51	-.04				
		+0.46	±.025			+0.55	±.040				
	-.04	+0.44	±.025		+.03	+0.56	±.038				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Pegasi Phot. T.

Comp. Star. = DM. +15° 4916 (8.8)

Nov. 30 1895

Gr.	M.	Time		Diff. Magn.	Av. Dev.	Gr.	M.	Time		Diff. Magn.	Av. Dev.	Gr.	M.	Time		Diff. Magn.	Av. Dev.	Gr.
			a	+0.32	+.02				a	+0.22	−.06				a	+0.76	.00	
				+0.28	−.02					+0.35	+.07					+0.76	.00	
13	16	12		+0.30	±.020	14	16	30		+0.28	±.065	15	31	47		+0.76	.000	
−11	35					−11	35					−11	35					
+1	41		b	+0.53	+.07	+2	41		b	+0.65	+.03	+3	57		b	+1.03	−.01	
				+0.39	−.07					+0.58	+.04					+1.04	.00	
				+0.46	±.070					+0.62	±.035					+1.04	±.005	
		−.16		+0.38	±.045			−.34		+0.45	±.050			−.28		+0.90	±.002	
			b	+0.49	+.03				b	+0.78	.00				b	+0.97	+.05	
				+0.43	−.03					+0.78	.00					+0.88	−.04	
13	30	48		+0.46	±.030	14	44	56		+0.78	.000	15	47	19		+0.92	±.043	16
−11	35					−11	35					−31	35					−11
+1	56		a	+0.42	−.02	+3	10		a	+0.58	+.05	+34	12		a	+0.85	+.03	+3
				+0.45	+.01					+0.48	−.05					+0.79	−.03	
				+0.44	±.015					+0.53	±.050					+0.82	±.030	
		−.02		+0.45	±.022			−.25		+0.66	±.025			−.10		+0.87	±.038	
			a	+0.40	+.01				a	+0.59	+.01				a	+0.72	+.02	
				+0.38	−.01					+0.57	−.01					+0.69	−.01	
13	43	32		+0.39	±.010	15	8	39		+0.58	±.010	16	0	29		+0.70	±.015	1
−11	35					−11	35					−11	35					−11
+2	9		b	+0.16	−.02	+3	34		b	+0.58	+.01	+24	25		b	+0.72	.00	+4
				+0.21	+.03					+0.56	−.01					+0.73	+.01	
				+0.18	±.025					+0.57	±.010					+0.72	±.005	
		+.21		+0.28	±.018			+.01		+0.58	±.010			−.02		+0.71	±.010	
			b	+0.25	−.01				b	+0.56	+.01				b	+0.88	+.09	
				+0.27	+.01					+0.54	−.01					+0.70	−.09	
13	59	36		+0.26	±.010	15	20	6		+0.55	±.010	16	22	25		+0.79	±.090	
−11	35					−11	35					−11	35					
+2	25		a	+0.39	+.01	+3	45		a	+0.52	−.03	+21	47		a	+0.53	+.01	
				+0.37	−.01					+0.58	+.03					+0.52	.00	
				+0.38	±.010					+0.55	±.030					+0.52	±.005	
		+.12		+0.32	±.010			.00		+0.55	±.020			−.27		+0.66	±.048	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Pegasi. Phot. I

Comp Star = DM +15° 4916 (5.5)

Nov. 30, 1897						Feb. 25, 1896			
Gr. M. Time	Diff Magn	Av Dev	Gr. M. Time	Diff Magn	Av Dev	Gr. M. Time	Diff Magn	Av Dev	
	a +0.53	.00					b +0.26	+.08	
	+0.53	.00					+0.11	−.07	
16 34 12	+0.53	.00				11 58 32	+0.18	±.075	
−11 35						+10 32			
+4 59	b +0.78	+.01				+1 27	a +0.60	−.04	
	+0.76	−.01					+0.68	+.04	
	+0.77	±.010					+0.64	±.040	
−.24	+0.65	±.005				+.46	+0.41	±.058	
	b +0.86	+.08					a +0.39	+.04	
	+0.71	−.07					+0.31	−.04	
16 56 58	+0.78	±.075				12 13 30	+0.35	±.040	
−11 35						+10 32			
+5 22	a +0.40	+.01				+1 42	b +0.38	−.03	
	+0.38	−.01					+0.44	+.03	
	+0.39	±.010					+0.41	±.030	
−.39	+0.58	±.042				−.06	+0.38	±.035	
	a +0.45	+.05					b +0.38	+.02	
	+0.34	−.06					+0.35	−.01	
17 9 6	+0.40	±.055				12 22 0	+0.36	±.015	
−11 35						+10 32			
+5 34	b +0.39	−.09				+1 50	a +0.38	+.02	
	+0.56	+.08					+0.34	−.02	
	+0.48	±.085					+0.36	±.020	
−.08	+0.44	±.070				.00	+0.36	±.018	
							a +0.32	+.10	
							+0.11	−.11	
						12 30 15	+0.22	±.105	
						−10 32			
						+1 58	b +0.47	+.09	
							+0.30	−.08	
							+0.38	±.085	
						−.16	+0.30	±.095	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Variable discovered by Photography.

Comp. Star = 9h 2m. + 26° 27° 1901 (7.3 K)

Date.	Lab. Sy.	Mean.	G.M.T. h	Resids.	J.D. 241	Book & Page.	
1895. May 10.	v.96, v.04, 4.87, v.16, v.12, v.13	v.04	1K.2	00, 02, 02, 01, 01, 00,	3324	7K. 202.	.0
" May 11.	v.23, v.24, v.19, v.07, v.26, v.17, v.19		1K.1	01, 02, 03, 02, 10, 01,	3325	" 210.	.0
" May 13.	v.17, v.17, v.14, v.28, v.16, v.22 v.18		1K.1	00, 02, 01, 06, 06, 00,	3327	" 216.	.0
" May 16.	v.32, v.19, v.19, v.43, v.35, v.39	v.31	1K.3	09, 04, 04, 04, 04, 00,	3330	N. 2.	.0
" June 11.	6.10, v.89, v.92, v.76, v.76, 6.11	v.92	1K.7	13, 02, 05, 12, 12, 23,	3346	7v. v2.	.1

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phaer.proj...4420

Av. Dev. Reids.	Diff. A-B.		
.033	.17	R	332R
.043	.07		332V
.027	.07	V	3327
.042	.16		3330
.122	.09		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

H. P. 499. (Lelands' Var.)

Comp star = DM +0° 934 (9.3)

Date.	Lab. Ly.				Mean.	G.M.T.	Resids.				J.D.	Bk. & Pg.
1895 Nov. 27.	3.36	3.49	3.28	3.34	3.37	17.0	.06	.07	.03	.03	241 3525	78 : 54

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Av. Dev. Resids.	Diff. A-B
4	.048	.11

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Meast. of Satellites with Refl. T. Equ.

1896.

Date	Tabular Quantity		Mean	G. M. Time	Resids.				J.D. 241-	Bk. & pg.	
96. 4. 15	1.43	1.61	1.04 0.97 +1.26	17 16.2	.09	.09	.04	.03	3665	81 : 47	
" "	1.64	1.55	1.08 1.07 +1.34	17 37.0	.04	.05	.00	.01	3665	81 : 48	
4. 22	1.14	1.10	0.77 0.79 +0.95	16 43.5	.02	.02	.01	.01	3672	81 : 64	
" "	0.87	0.90	0.99 0.85 +0.90	17 03.5	.01	.02	.07	.07	3672	81 : 65	
4. 24	0.84	0.88	0.76 0.78 +0.82	17 11.2	.02	.02	.01	.01	3674	81 : 72	
" "	0.75	0.68	0.79 0.77 +0.75	17 31.2	.03	.04	.01	.01	3674	81 : 73	
4. 30.	1.35	1.26	1.46 1.37 +1.36	16 43.0	.05	.04	.04	.05	3680	81 : 98	
" "	1.45	1.43	1.36 1.27 +1.38	16 50.2	.01	.01	.04	.05	3680	81 : 99	
5. 7	1.27	1.19	1.41 1.40 +1.32	16 45.0	.04	.04	.01	.00	3687	81 : 135	
" "	1.19	1.22	1.41 1.17 +1.24	16 52.0	.01	.02	.12	.12	3687	81 : 136	
" "	1.52	1.39	1.27 1.41 +1.40	17 8.2	.06	.07	.07	.07	3687	81 : 137	
" "	1.54	1.33	1.37 1.33 +1.40	17 10.5	.10	.11	.02	.02	3687	81 : 138	
5. 11	1.40	1.45	1.33 1.42 +1.40	17 33.7	.02	.03	.05	.04	3691	81 : 145	
" "	1.47	1.52	1.33 1.44 +1.44	17 24.2	.03	.02	.05	.04	"	81 : 146	
5. 16	1.77	1.72	1.76 1.71 1.74	15 56.2	.03	.02	.02	.03	3696	81 : 165	
" "	1.65	1.68	1.81 1.88 1.75	16 4.0	.01	.02	.03	.04	"	81 : 166	
5. 29	2.71	2.71	2.50 2.44 2.59	14 28.0	.00	.00	.03	.03	3709	81 : 196	
" "	2.66	2.71	2.60 2.49 2.61	14 41.5	.02	.03	.06	.05	"	81 : 197	
6 4.	2.53	2.46	2.84 2.64 2.62	16 3.5	.03	.04	.10	.10	3715	82 : 26	
" "	2.49	2.57	2.55 2.72 2.64	16 14.8	.04	.04	.01	.02	"	82 : 27	
6. 10	4.38	4.32	4.14 4.12 4.24	14 47.5	.03	.03	.01	.01	3721	82 : 39	
" "	4.13	4.18	4.18 4.22 4.18	14 56.5	.03	.02	.02	.02	"	"	
6. 18	4.21 b	4.34	4.33 a 4.28 4.29	16 51.	.07	.06	.03	.02	3729	82 : 62	
" "	4.13 a	4.15	4.17 b 4.11 4.14	17 11.5	.01	.01	.03	.03	"	82 : 63	
" 30.	3.69 a	3.56	3.78 b 3.71 3.68	14 43.2	.07	.06	.04	.03	3741	82 : 145	
" "	3.77 b	3.83	3.60 a 3.66 3.72	14 54.5	.03	.03	.03	.03	"	82 : 146	
7 9	3.07 b	3.00	3.25 a 3.30 3.16						3750		
" "	3.20 a	3.32	3.13 b 3.11 3.19						"		
" 21.	5.45 a	5.51	5.10 b 5.28 5.34						3762		
" "	5.19 b	5.45	5.23 a 5.39 5.32								

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Cor Rev Epoch	Diff A−B	Comp. Star.			Red to Dist. 1.	Final Values at Dist. 1.
.062	.52	S.S. −14° 4118	9.0	10.26 10.26 10.47 10.42 10.34 10.27 9.99	10.22 10.44 10.30	9.73 9.72 9.72	1.09 0.71 0.72 0.44 0.58 0.30
.025	.52	" " " "					
.015	.34	" " " "					
.042	.04	" " " "					
.015	.09	" " " "					
.225	.06	" " " "					
.045	.12	" −14 4091	A7	10.20	10.21	9.72	0.49
.028	.12	" " " "		10.22			
.022	.17	" " " "		10.16	10.12	9.72	0.40
.068	.09	" " " "		10.08			
.068	.12	" −14 4087	AK	10.19	10.19	9.72	0.47
.062	.09	" " " "		10.19			
.035	.04	" " " "		10.19	10.21	9.72	0.49
.035	.12	" " " "		10.23			
.025	.00	" −13 4022	A9	10.14	10.14	9.72	0.42
.025	.18	" " " "		10.15			
.015	.24	" " " "		10.99			
.040	.14	" " " "		11.01	11.00	9.74	1.26
.068	.24	" −13° 4003	9.0	11.76	11.77	9.75	2.02
.028	.21	" " " "		11.78			
.020	.22	" −13° 3994	7.5	12.02	11.99	9.76	2.23
.022	.02	" " " "		11.96			
.045	.02	" " " "		12.07	12.00	9.79	2.21
.026	.00	" " " "		11.92			
.050	.12	" 12 4144	5.0	11.56	11.56	9.82	1.74
.030	.17	" " " "		11.56			
		" −12° 4141	A0	11.02	11.04	9.85	1.19
		" " " "		11.05			
		" −13 3986	6.0	10.72	10.71	9.90	0.81
		" " " "		10.70			

Dist. 1. Looks that on this date S.S. −12° 4141 A0 was the Comp. Star.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Iapetus. continued.

Date.	Tabular Quantity.				Mean.	For W. Time.	Resids.	J. D. 24[illegible]	BK. & Pge.
96. 7. 30.	v.32 b	v.27	v.v0 a	v.v2	v.K0			3771	
" "	v.KK a	v.K.v	v.76 b	v.70	v.60			"	
" "	v.v6 b	v.6K	v.v9 a	v.v0	v.v8			"	
" "	v.66 a	v.v9	v.K6 b	v.K7	v.v.K			"	
" 31	v.KK	v.38	v.K0	v.61	v.K6			3772	
" "	v.67	v.vK	v.33	v.33	v.K6			"	
" "	2.89	2.96	2.91	2.9v	2.62			"	
" "	2.91	2.9K	2.87	2.93	2.81			"	
" "	v.39	v.28	v.62	v.v0	v.Kv			"	
" "	v.K8	v.v0	v.KK	v.K7	v.K8			"	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Lapeles. con.

Comp. Star.	Mags.	Mean.	Red. to Asst. 1.	Final Value at Asst. 1
Ast. -13° 3946 * 6.0	10.7 A	10.8A	9.93	0.95
" " " "	10.9 A			
" " " "	10.96	10.9K	9.93	1.01
" " " "	10.92			
" " " * "	10.8K	10.8K	9.9K	0.90
" " " "	10.8K			
Ast. -12° KKK * 8.0	10.6A	10.6A	9.9K	0.7K
" " " "	10.67			
Ast. -13° 3946 * 6.0	10.83	10.8K	9.9K	0.90
" " " * "	10.86			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Measst. of Titan with Plot. I.

Date.	Tabular Quantity.				Measm.	G. Mc. Time.	Resids.				J. D.	Book + Page.
						h m					2 41	
96. 4. 22	1.02	1.14	1.31	1.33	1.20	17 31.5	.06	.06	.01	.01	3672	A1 : 66
" "	1.22	1.27	1.33	1.36	1.29	17 49.5	.02	.03	.01	.02	3672	81 : 67
4 30	0.38	0.40	0.26	0.25	0.32	17 4.8	.01	.01	.00	.01	3680	81 : 100
" "	0.37	0.42	0.30	0.22	0.33	17 10.2	.03	.02	.04	.04	3680	81 : 101
5. 11	0.14	0.26	0.19	0.19	0.20	17 57.1	.06	.06	.00	.00	3691	81 : 147
" "	0.18	0.27	0.23	0.38	0.26	17 59.0	.04	.05	.07	.08	"	81 : 148
6 10	0.70	0.64	0.85	0.77	0.74	15 57.0	.03	.03	.04	.04	3721	82 : 41
" "	0.80	0.84	0.68	0.56	0.73 0.56	15 57.0	.02	.02	.06	.06	"	82 : 42

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Meast. of Titan with Phot. T.

	Av. Dev. Brightness	Diff. A-B	Comp. Star	
56	.035	.24 .19	SD. -14° 4118	9.0
7	.020	.10	" " "	"
50	.008	.13	" -14 Kopf	8.7
01	.032	.14	" " "	"
47	.030	.01	" -14 Kopf	8.4
18	.060	.08	" "	"
11	.035	.14	" -13° 3994	7.5
2	.040	.20	" " "	"

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

χ Cygni.

Date.	Tab. Dy.	Mean.	S. M. T.	Resids.	J. D. 241	Book & Page.
Apr. After. 17.	1.16, 1.27, 1.18, 1.27, 1.27, 1.34,	1.24	16.7	04, 07, 02, 02, 02, 07,	3301	74, 116.
" After. 19.	1.26, 1.14, 1.39, 1.25, 1.27, 1.11,	1.20	17.4	00, 12, 13, 09, 13, 03,	3303	" 125.
" After. 20.	1.32, 1.34, 1.43 1.19, 1.13, 1.19	1.26	16.4	04, 02, 07, 02, 04, 02,	3304	" 131.
" After. 23.	1.05, 1.02, 1.10, 0.94, 0.90, 0.89	0.97	17.9	01, 04, 04, 04, 02, 08,	3307	" 138.
" After. 25.	0.83, R 1.04, 0.71, 0.79, 0.76	0.80	17.9	11, R, 10, 04, 08, 04,	3309	" 143.
" May 2.	0.67, 0.75, 0.78, 0.67, 0.77, 0.71	0.66	17.9	00, 08, 09, 02, 08, 06,	3316	" 163.
" May 3.	0.62, 0.70, 0.64, 0.60, 0.79, 0.62	0.76	17.7	10, 02, 08, 00, 01, 02,	3317	" 172.
" May 16.	0.17, 0.24, 0.26, 0.36, 0.41, 0.29,	0.24	16.0	07, 02, 04, 01, 06, 06,	3330	75, 8.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Av. Dev. Resids.	Diff. A-B.
.037	.09
.023	.12
.035	.19
.027	.14
.076	.27
.055	.02
.034	.04
.040	.13

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Meast. of Diff. in Brightness between comparison stars for Lapeletes. with Plat. I.

Date	Tabular Quantity				Mean	Gr. M. Time. h m	Resids				Jul Day 2410+	Bk & Pg	
96. 6. 10	2.05	2.06	1.90	1.98	2.00	14 38	.01	.00	.04	.04	3721	82 : 37	
" "	1.85	1.91	2.04	2.00	1.95	14 13.5	.03	.03	.02	.02	"	82 : 38	
" "	0.17	0.06	~~-0.04~~ 0.12	0.12	0.09	16 9.0	.05	.06	.07	.06	"	82 : 43	
" "	-0.03	-0.10	0.09	0.03	0.00	16 16.8	.03	.04	.03	.03	"	82 : 44	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Pg.	Av Dev	Diff. A-B	Comp Star
7	.022	.12	-14° K118 (9.0) compared with -14° K123 (7.4) (K123 dis.)
8	.025	.14	" " " " " " "
3	.060	.06	-13° 3994 (7.5) compared with -12° K161 (8.0). (399K diffuse) 399K al. brt.
4	.032	.16	" " " " " " " " " " " "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Images of Comp. Star = 9.2 Cet

Phot R.

RA hrs 2 m 12 Dec − 3°.6

Comp. Star = ~~Doc~~.

SD. −3° 35′ (9.0)

Date.	Lab. Cy.						Mean.	G.M. Time	Resids.						Julian Day.	Book.	pg.
1895.																	
Oct. 21.	0.13	0.11	0.07	0.02	0.13	0.02	0.07	14.7	.03	.01	.03	.02	.09	.06	2413488	77	123
" "	0.01	0.07	0.10	0.01	0.02	0.02	0.04	15.1	.05	.01	.04	.01	.00	.00	"	"	124
" 23	0.05	0.08	0.01	0.11	0.13	0.14	0.09	15.0	.00	.03	.04	.02	.00	.01	3490	"	133
" 25	0.10	0.16	0.30	0.01	0.06	0.02	0.10	13.7	.09	.03	.11	.01	.04	.04	3492	"	152
Nov 4	0.21	0.19	0.20	0.28	0.24	0.30	0.24	14.0	.01	.01	.00	.01	.03	.03	3502	"	216
" 7	0.34	0.27	0.29	0.43	0.35	0.32	0.33	14.7	.04	.03	.01	.06	.02	.05	3505	78	18
Sept. 20	0.20	0.24	0.14	0.00	0.02	0.02	0.10	15.5	.01	.05	.05	.01	.01	.01	3457	76	177
" 21	0.11	0.02	0.11	0.14	0.12	0.16	0.07	15.6	.13	.00	.13	.00	.02	.02	3458	"	188
Nov 21	0.53	0.52	0.45	0.64	0.58	0.50	0.54	12.9	.03	.02	.05	.07	.01	.07	3519	78	42
" 27	0.68	0.68	0.72	0.89	0.91	0.80	0.78	13.2	.01	.01	.03	.02	.04	.07	3525	"	50
Dec 4	0.82	0.88		1.14	1.05		0.98	13.0	.03	.03		.04	.05		3532	"	101
" 6	1.00	1.04		1.04	1.03		1.03	15.6	.02	.02		.00	.01		3534	"	107
" 14	1.62	1.60		1.60	1.66		1.62	15.9	.01	.01		.03	.03		3542	"	125
" 16	1.72	1.81		1.73	1.81		1.76	14.4	.04	.05		.04	.04		3544	"	134
" 17	1.82	1.92		1.87	1.92		1.88	15.5	.05	.05		.03	.02		3545	"	151
1896																	
Jan 1.	4.47	4.46		4.52	4.52		44.9	13.2	.01	.00		.00	.00		3560	"	205
" 3	4.58	4.79		4.72	4.84		4.73	12.9	.10	.11		.06	.06		3562	79	7
" 4	4.87	4.94		4.79	.01		.490	12.9	.03	.04		.11	.11		3563	79	22
" 6	.87	.71		.14	.30		.50	13.6	.08	.08		.08	.08		3565	"	35
Jan 8	.36	.32		.10	.08		.22	~~12.3~~ 13.3	.02	.02		.01	.01		3567	"	44
Jan 11	.58	.38		.30	.43		.44	13.4	.10	.10		.04	.04		3570	"	54
Jan 14	.46	.47		.52	.33		.44	11.9	.00	.01		.10	.09		3573	"	63
Jan 15	.63	.47		.45	.46		.50	12.6	.08	.08		.01	.00		3574	"	79
Jan 16	.64	.39		.45	.33		.46	12.4	.12	.13		.06	.06		3575	"	93
Jan 18	.51	.56		.48	.51		.52	12.7	.03	.02		.02	.01		3577	"	101
Jan 30	.58	.57		.54	.47		.54	12.6	.00	.01		.04	.03		3589	"	150
Feb 8	.64	.63		.71	.79		.70	12.7	.00	.01		.04	.04		3598	"	166
" 10	.70	.71		.89	.86		.79	12.5	.00	.01		.01	.02		3600	"	170
" 14	.74	.72		.85	.74		.76	13.1	.01	.01		.05	.06		3604	"	214

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Av. Dev. Resids.	Diff. a-B		
3	.040	.06	9.27 c	Magn of comp olen = 9.20
.4	.018	.04	9.24 c	920 609 911
3	.017	.08	9.11 c	
52	.053	.17	9.30 c	920 024 596
6	.015	.07	8.96 c	
8	.035	.07	8.87 c	920 033 887
77	.023	.18	9.30 c	
88	.050	.15	9.27 c	
2	.042	.07	8.66 c	920 054 866
70	.030	.18	8.42 c	920 078 342
01	.038	.25	8.22 c	
07	.012	.02	8.17 c	920 162 758
05	.020	.02	7.98 c	
34	.042	.01	7.KK	
71	.038	.03	7.32	
05	.002	.06	K.71	
7	.082	.10	K.K7	
22	.072	.01	K.30	—
35	.080	.57	3.70	—
44	.015	.25	3.29	—
54	.070	.09	3.76	—
63	.050	.04	3.76	—
79	.042	.09	3.70	—
3	.092	.13	3.74	—
1	.020	.04	3.68	—
70	.020	.08	3.66	—
6	.022	.11	3.50	—
0	.010	.18	3.K1	—
4	.032	.07	3.44	—

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

o Celi Phot R

Date	Tabular Quantity				Mean	Gr. M. Time	Resids		Julian Day	Bk. & Pg.
						h m			2400+	
1896. 2. 16	589	586	602	602	595	13 21.5	.01 .02	.00 .00	3607	80 : 4
2. 20	576	574	587	605	586	12 27.5	.01 .01	.09 .09	3610	80 : 16
2. 22	573	576	579	580	572	12 39.8	.11 .12	.01 .00	3612	80 : 43
2. 24	566	567	570	568	565	12 37.8	.00 .01	.06 .06	3614	80 : 47
2. 25	564	563	567	570	561	12 57.0	.04 .05	.07 .06	3615	80 : 60
2. 27	570	561	574	575	570	12 23.0	.04 .04	.00 .01	3617	80 : 67
3. 5	517	536	554	552	540	13 4.0	.09 .10	.01 .01	3624	80 : A1
3. 9	506	537	516	505	516	12 37.5	.16 .15	.06 .05	3628	80 : 133
~~3. 10~~	~~411~~	~~098~~	~~432~~	~~087~~	~~099~~		~~07 06~~			
3. 12	492	499	541	528	514	12 33.5	.04 .03	.09 .09	3631	80 : 143
" "	513	517	522	517	517	12 46.2	.02 .02	.02 .03	"	" : 144
3. 14	488	492	512	503	499	12 34.2	.02 .02	.04 .05	3633	80 : 154
3. 21	487	487	469	482	481	12 9.0	.00 .00	.07 .06	3640	80 : 195
~~3. 24~~	~~335~~	~~354~~	~~334~~	~~347~~	~~341~~	~~12 36.2~~	~~07 08~~	~~06 07~~	~~3643~~	~~80 : 207~~
* 1896. 9. 4	0.37 a	0.28	0.46 b	0.22	0.33	16 22.0	.05 .04	.12 .12	3807	84 : 45
9. 7	0.30 b	0.34	0.30 a	0.24	0.30	15 57.0	.02 .02	.03 .03	3810	84 : 56
9. 23	0.36 a	0.41	0.45 b	0.44	0.41	15 57.0	.02 .03	.01 .00	3826	84 : 101
10. 19	1.30 a	1.30	1.34 b	1.32	1.32	14 19.0	.00 .00	.01 .01	3852	85 : 10
10. 22	1.50 b	1.45	1.42 a	1.53	1.48	15 38.5	.02 .03	.06 .05	3855	85 : 31
11. 2	2.26	2.36	2.32	2.31	2.32	16 6.0	.05 .05	.00 .01	3866	85 : 147
11. 11	3.09	3.13	3.07	3.14	3.10	15 8.0	.02 .02	.03 .04	3875	86 : 14
" "	3.16	3.21	3.11	3.24	3.14	15 28.5	.02 .03	.07 .06	"	86 : 15
11. 24	3.77 b	3.84	4.01 a	4.01	3.90	14 21.0	.03 .04	.00 .00	3888	86 : 82
" "	3.99 a	4.09 b	4.04 b	3.80 a	3.98	14 32.0	.05 .05	.12 .12	"	" : 83
11. 27	4.25 a	4.30 a	3.97 b	4.26	4.20	13 57.0	.03 .02	.15 .14	3891	86 : 90
" "	4.25 a	4.26	4.25 b	4.19	4.24	14 13.0	.01 .00	.03 .03	"	" : 91
12. 5	5.24 a	5.01 b	4.88 a	4.74	4.96	15 19.5	.12 .11	.07 .07	3899	86 : 120
12. 10	4.92 b	5.08	5.13 a	5.27	5.10	13 37.5	.05 .05	.07 .07	3904	86 : 129

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Av. Dev. Resids	Diff. A−B		
4	.008	.14	3.2v	—
6	.050	.21	3.3K	—
43	.060	.16	3.KL	—
47	.032	.02	3.vv	—
60	.05v	.06	3.v9	—
67	.022	.08	3.v6	—
71	.052	.27	3.K0	
33	.105	.12	K.0K	
43	.062	.36	K.06	
44	.022	.05	K.03	
54	.032	.18	K.21	
95	.032	.11	K.39	
[illegible]	[illegible]	.02		
48	.082	.02	8.87<	
56	.025	.05	8.90<	
01	.015	.06	8.79<	
10	.005	.03	7.88<	
31	.040	.00	7.72<	
147	.028	.01	6.88	
1K	.028	.01	6.10	
15	.045	.00	6.06	
82	.018	.21	5.30	
83	.085	.12	5.22	
90	.085	.14	5.00	
91	.018	.04	4.96	
20	.092	.31	4.24	
29	.075	.20	4.10	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

o Cetæ Photo R.

Date	Tabular Quantity		Mean	G.M.T.	Rinds	Julian Day	Bk & Pg	C
	b a	a b		h m		24—		
1896. 12. 12	.23 .31	.20 .19	.24	14 14.5	.04 .04 .00 .01	3906	86. 138	±
" "	.08 .19	.13 .20	.17	14 22.0	.06 .05 .03 .04	"	139	±
12. 17	.18 .41	.32 .37	.32	14 54.0	.12 .11 .02 .03	3911	86 163	±
	.30 .36	.19 .24	.28	15 04.0	.03 .03 .03 .02	"	164	±
12. 24	.40 .44	.39 .35	.40	15 42.0	.02 .02 .02 .02	3918	86 195	±
	.35 .38	.38 .48	.40	15 49.5	.01 .02 .05 .05	"	196	±
1897. 1. 8	.40 .41	.37 .20	.34	12 05.5	.00 .01 .09 .08	3933	87 34	±
	.24 .22	.33 .35	.28	13 0.5	.01 .01 .01 .01	"	35	±
1. 11	.40 .37	.40	.39	13 8.0	.02 .01	3936	87 57	±
	.37 .36	.29 .06	.27	13 18.0	.01 .00 .11 .12		52	±
1. 12	.24 .22	.26 .23	.24	12 39.5	.01 .01 .02 .01	3937	87 62	±
	.30 .31	.35 .37	.33	12 49.0	.00 .01 .01 .01		63	±
1. 16	.28 .26	.16 .13	.20	12 32.0	.01 .01 .02 .01	3941	87 72	±
	.24 .25	.33 .39	.30	12 39.5	.00 .01 .03 .03		73	±
1. 18	.20 .15	.20 .27	.21	12 34.0	.02 .03 .04 .03	3943	87 84	±
	.40 .25	.52 .43	.40	12 46.0	.08 .07 .04 .05		85	±
1. 19	.33 .36	.26 .29	.31	12 46.0	.01 .02 .02 .01	3944	87 95	±
	.25 .28	.20 .28	.25	12 56.5	.01 .02 .04 .04		96	±
1. 26	.03 .08	.08 .06	.06	12 39.0	.03 .02 .01 .01	3951	87 129	±
	.07 .16	.20 .23	.17	12 48.0	.05 .04 .02 .01		130	±
1. 29	.33 .39	.06 .08	.22	13 2.5	.03 .03 .01 .01	3954	87 140	±
	.13 .11	.26 .25	.19	13 18.0	.01 .01 .00 .01		141	±
	.20 .25	.13 .24	.20	13 35.0	.02 .03 .05 .06		142	±
	.22 .08	.31 .26	.22	13 40.5	.07 .07 .03 .02		143	±
2. 3	.16 .20	.24 .28	.22	12 49.5	.02 .02 .02 .02	3959	87 173	±
	.12 .23	.07 .04	.12	13 2.0	.06 .05 .01 .02		174	±
2. 5	.08 .00	.18 .19	.11	12 1.0	.04 .04 .00 .01	3961	87 201	±
	.20 .13	.03 .49	.07	12 11.5	.04 .03 .05 .04		202	±

Continued on page 66.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

K	Rumb. Av Dev	A−K	
			3.96
8	±.022	+.07	4.05
39	±.045	+.02	3.88
63	±.070	+.04	3.92
64	±.028	+.11	3.80
95	±.020	−.05	3.80
96	±.032	−.09	3.86
3K	±.045	+.12	3.92
30	±.010	+.11	3.81
17	± ...	+.02	3.93
12	±.060	+.18	3.96
62	±.012	+.01	3.87
63	±.008	−.06	4.00
72	±.012	+.13	3.90
73	±.018	+.12	3.99
fK	±.030	−.06	3.80
80	±.060	+.16	3.89
95	±.015	+.06	
96	±.028	−.02	395
29	±.018	+.01	4.14
30	±.030	−.10	4.03
40	±.020	+.29	3.98
41	±.008	+.14	4.01
42	±.040	+.04	4.00
43	±.048	+.13	3.98
23	±.020	+.08	3.98
74	±.035	+.12	4.06
01	±.022	+.14	4.09
02	±.040	+.18	4.13

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Expts. with Plat. I. on Stars Dm.
+79° 169 (v.2), +79° 171 (A.v) and 12th mags.

Date.	Tab. Eq.	Mean.	S. M. T.	Results.	J. D.	Book and Page.	Av. R
1895. May 3.	3.62, 3.67, 3.64, 3.32, 3.50, 3.55,	3.54	13.1h	04, 01, 02, 03, 01, 03		74. 166	.0
" " "	2.52, 2.56, 2.57, 2.74, 2.69, 2.60	2.61	13.7	06, 02, 03, 06, 01, 04		" 168	.0
" " "	6.55, 6.13, 6.17, 6.16, 6.31, 6.21	6.24	14.7	20, 11, 09, 07, 04, 02		" 169	.0
" May 6.	3.51, 3.50, 3.57, 3.36, 3.47, 3.54	3.46		04, 01, 04, 06, 05, 02		" 17v	.0
" " "	2.59, 2.57, 2.63, 2.51, 2.59, 2.52	2.58		01, 03, 03, 04, 04, 00		" 177	.0
" " "	6.25, 6.23, 6.21, 6.54, 6.57, 6.65	6.40		02, 00, 02, 09, 00, 04		" 178	.0
" May 2.	3.50, 3.46, 3.61, 3.53, 3.51, 3.54	3.54	14.1	02, 06, 09, 06, 04, 09		" 160	.0
" " "	2.51, 2.52, 2.52, 2.76, 2.67, 2.62	2.62		03, 04, 06, 01, 04, 07		" 162	.0
" May 29.	3.54, 3.50, 3.52, 3.51, 3.57, 3.37	3.54	15.0	05, 01, 03, 03, 09, 11		7v 16	.0
" " "	2.71, 2.74, 2.72, 2.65, 2.72, 2.76	2.72		03, 04, 02, 06, 01, 05		" 18	.0
" " "	6.34, 6.42, 6.10, 6.42, 6.54, 6.50	6.34		04, 12, 20, 05, 01, 03		" 19	.0
" June 10.	3.51, 3.55, 3.59, 3.64, 3.62, 3.62	3.56		03, 03, 01, 01, 01, 01		" 43	.0
" " "	2.64, 2.73, 2.63, 2.72, 2.69, 2.72	2.69		03, 06, 04, 01, 02, 01		" 4v	.0
" " "	6.55, 6.69, 6.76, 6.52, 6.55, 6.23	6.54		12, 02, 09, 22, 15, 07		" 46	.1
[" " "	6.42, 6.96, 6.93, 6.34, 6.23, 6.21	6.52		04, 06, 03, 11, 04, 06		" 44	.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Av. Dev. Results.	Diff. A-B.			
.023	.25	169 and 171	3.49 ± .030	} Means of 3 nights leaving out image 2.
.043	.14	171 " 12 th " image	2.64 ± .057	
.094	.01	169 " " "	6.34 ± .067	
.050	.07	169 " 171		
.025	.05	171 " 12 th "		
.035	.34	169 " " "		
.060	.15	169 " 171		
.042	.27	171 " 12 th "		
.053	.01	169 " 171		
.035	.03	171 " 12 th "		
.042	.17	169 " " "		
.017	.15			
.024	.04			
.112	.37			
.063	.63]			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

γ Andromedae Phot. I.

$0^h\ 14^m$ $+26.1$

Comp. Star = 2 Mm. $+26°$ K0 (Ys)

Date.	Tab. Zy.	Mean.	G.m.T.	Acids.	J.D.	Book + Page.
1895 July 29	1.86, 1.84, 1.78, 1.83, 2.03, 1.88, 1.94, 2.00.	1.90	hrs. 15.3	.03.01 .00 .07 .08 .02.04 ~~.04.06.12.07.13.02.04.10~~	2413404	76 : 40
" 30	0.75, 0.60, 0.39,				3405	" 44
" 31	1.70, 1.71, 1.68, 1.66, 1.89, 1.86, 1.83, 1.89,	1.78	15.9	.01.02.01.03.02.01.04.02	3406	" 48
Aug. 1	~~1.63, 1.60, 1.56, 1.30, 1.15, 1.19,~~				3407	" 50
" 5	1.63, 1.60, 1.56, 1.30, 1.15, 1.19,	1.40	16.7	.03.00.04 ~~.04.01.03~~ .09.06.02	3411	" 53
" 7					3413	" ~~55~~
" 10	1.13, 1.36, 1.16, 1.25, 1.26, 1.22,	~~1.18~~ ~~1.23~~	17.2	.09.14.06 .01.02.02	3416	" 57
" 14	1.11, 1.06, 0.95, 1.02, 0.87, 0.76,	.0.96	16.9	.07.02.09.14.01.12	3420	" 60
" 16	1.04, 1.16, 0.90, 0.91, 0.93, 0.93,	0.98	15.6	.01.13.13.01.01.01	3422	" 66
" 21	0.84, 0.81, 0.76, 0.60, 0.58, 0.70,	0.72	17.8	.04.01.04.03.05.07	3427	" ~~69~~ 69
" 27	0.48		18.0		3433	" 75
Sept. 5	0.27, 0.30, 0.28, 0.29, 0.45, 0.43,	< 0.34	13.2	.01.02.00.10.06.04	3443	" 89
" 12	0.25, 0.18, 0.30, 0.58, 0.80, 1.09,	< 0.53	13.7	.01.06.04.14.02.27	3448	" 110
" 13	0.31, 0.25, 0.24, 0.69, 0.73, 0.58	< 0.47	12.8	.04.02.03.03.07.08	3449	" 127
" "	0.09, 0.07, 0.17, 0.15, 0.08, 0.06,	< 0.23	13.5	.14.02.12.05.02.04	"	"
" "	0.22, 0.30, 0.28, 0.28, 0.19, 0.24,	< 0.25	13.8	.05.03.01.04.05.00	"	"
" "	0.11, 0.29, 0.21, 0.50, 0.57, 0.63,	< 0.38	14.2	.09.09.08.07.00.06	"	"
" "	1.24, 1.13, 1.26, ~~0.66~~ 0.32 0.06	< 0.50	15.1	.03.08.05 ~~.25~~	"	"
" 14	0.07, 0.28, 0.21, 0.50, 0.42, 0.47,	< 0.32	13.1	.12.09.02.04.04.01	3455	" 139
" "	0.23, 0.24, 0.03, 0.15, 0.08, 0.15,	< 0.02	13.4	.06.07.14.02.05.02	"	"
" 17.	0.30, 0.25, 0.22, 0.57, 0.55, 0.74	< 0.44	13.0	.04.01.04.05.07.12	3458	" 163
" 20	0.18, 0.19, 0.20, 0.51, 0.48, 0.49,	< 0.34	12.6	.01.00.01.02.01.00	3467	" 169
" "	0.21, 0.27, 0.14, 0.54, 0.55, 0.63,	< 0.39	12.8	.00.06.07.03.02.06	"	" 171
" "	~~0.17 0.14 0.18~~ 0.20 0.28 0.30	< 0.20	13.2	.04.01.04.06.02.04	"	" 173
" "	0.49, 0.39, 0.46, 0.28, 0.25, 0.29,	< 0.36	13.6	.04.~~06~~.01.01.02.02	"	" 174

~~+0.96~~
July 31.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4426

Av Dev Resid	Diff A-B	
.048	.13	1.90
.027	.18	1.78
.040	.39	1.40
.057	.02	1.23
.075	.16	0.96
.050	.11	0.98
.040	.17	0.72
.038	.11	0.34
.107	.58	0.53
.045	.40	
.048	.15	
.030	.03	0.42
.053	.37	
.108	.13	
.053	.27	0.32
.060	.30	
.048	.36	0.47
.008	.30	0.34
.040	.37	
.035	.13	
.027	.17	

(Eye-slip off)

7.V is 0.46 better than V.
8.1 is 0.23 better than V.
7.V " 0.25 " " " 8.1
7.V " 0.30 " " " V.
7.V " 0.50 " " " 8.1
7.V " 0.32 " " " V.
8.1 " 0.02 < " V.
7.V " 0.44 better than V.
7.V " 0.37 " " " V.
7.V " 0.39 " " " 8.1
8.1 " 0.20 < " " V.
7.V " 0.36 > 8.1

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

T. Andrews. Phot. T.

hrs mm
0. 14 +26.1

Date		Lat Eq						Mean	Y M T	Results.	Julian Day	Book	Pg
1895 Sept	21.	0.30	0.57	0.17	0.44	0.45	0.57	0.41	13.0	.02.19.15 .05.04.08	3452	76	180
"	"	0.24	0.06	0.17	0.56	0.63	0.46	0.36	13.3	.08.10.01.01.08.08	"	"	181
"	"	0.07	0.08	0.09	0.30	0.33	0.14	0.09	13.7	.01.01.00.04.07.12	"	"	183
"	"	0.06	0.04	0.01	0.20	0.26	0.26	0.10	14.1	.04.02.02.03.05.04	"	"	184
"	"	0.31	0.34	0.40	0.24	0.22	0.33	0.30	14.4	.04.01.05.02.04.07	"	"	185
"	23	0.30	0.34	0.36	0.69	0.64	0.71	0.50	13.5	.03.01.03.01.04.03	3460	"	191
"	"	0.09	0.05	0.07	0.21	0.20	0.22	0.07	13.7	.02.02.00.00.01.01	"	"	192
"	"	0.48	0.43	0.43	0.18	0.33	0.29	0.36	14.1	.03.02.02.02.06.02	"	"	194
"	24	0.25	0.30	0.22	0.69	0.62	0.75	0.48	12.6	.01.04.04.00.07.06	3461	"	201
"	"	0.00	0.18	0.02	0.09	0.29	0.27	0.14	13.0	.05.13.07.12.08.06	"	"	202
"	"	0.35	0.47	0.42	0.19	0.16	0.19	0.30	13.5	.06.06.01.01.02.01	"	"	204
"	28	0.26	0.41	0.24	0.54	0.40	0.53	0.40	13.0	.04.11.06.05.09.04	3466	77	1
Oct	1	0.18	0.24	0.24	0.61	0.61	0.58	0.41	12.6	.04.02.02.01.01.02	3468	"	20
"	11	0.02	0.09	0.18	0.23	0.14	0.15	0.14	12.9	.08.01.08.06.03.02	"	"	21
"	"	0.35	0.47	0.44	0.38	0.39	0.42	0.41	13.1	.07.05.02.02.01.02	"	"	22
"	5	0.48	0.31	0.49	0.64	0.60	0.72	0.54	12.8	.05.12.06.01.05.07	3472	"	42
"	11	0.69	0.62	0.67	0.97	0.87	0.85	0.78	13.3	.03.04.01.07.03.05	3478	"	84
"	"	0.65	0.64	0.45	1.00	0.94	0.88	0.76	14.4	.07.06.13.06.00.06	"	"	85
"	17	0.69	0.76	0.63	1.13	1.06	1.05	0.88	12.8	.00.07.06.05.02.03	3484	"	106
"	18	0.20	0.20	0.14	0.16	0.05	0.12	0.14	12.9	.02.02.04.05.06.01	3485	"	111
"	"	0.99	1.02	1.02	1.17	1.05	1.07	1.06	13.2	.02.01.01.08.04.02	"	"	112
"	19	0.84	0.93	0.88	0.89	0.87	0.91	0.88	13.0	.04.05.00.00.02.02	3486	"	117
"	21	1.08	1.05	1.08	1.02	0.94	0.98	1.02	12.9	.01.02.01.04.04.00	3488	"	121
"	23	1.45	1.46	1.47	1.24	1.05	1.06	1.29	13.5	.01.00.01.12.07.06	3490	"	130
		1.46			1.08	1.17				00 .04.05			
"	24	1.11	1.09	1.13	1.20	1.03	1.06	1.10	12.7	.00.02.02.10.07.04	3491	"	136
"	25	1.16	1.13	1.11	1.11	0.99	1.10	1.11	12.9	.03 00.02 .02.10.01 .07	3492	"	151
					1.16								

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Pg	Av. Res. Residals	Diff. A−B							
80	.088	.16 <	7.9			X 3455	7.5	10	0.41 > T.
81	.068	.39 <	0			" Extreme care. →	7.5	"	0.36 > T.
83	.042	.34 —					8.1	"	0.17 > T.
84	.022	.27 —				Extreme care. →	8.1	"	0.10 > T.
85	.038	.09 < —					7.5	"	0.30 > 8.1
91	.025	.25 < —				3460	7.5	"	0.50 > T
92	.008	.28 —	0.50				8.1	"	0.07 > T
94	.040	.18 —					7.5	"	0.36 > 8.1
01	.037	.43 <	0.48			3461	7.5	"	0.48 > T
02	.085	.17 —					8.1	"	0.13 > T
04	.028	.23 —					7.5	"	0.30 > 8.1
1	.065	.19 <				3465	7.5	"	0.39 > T
0	.020	.38 <				3468	7.5	"	0.41 > T
21	.050	.07 —					8.1	"	0.14 > T
22	.032	.03 —					8.1	"	0.41 < 7.5
42	.060	.22 <				3472	7.5	"	0.54 > T
84	.038	.23 <		0.77		3478	7.5	"	0.78 > T
85	.063	.36 <				3478	7.5	"	0.76 > T
06	.038	.39 <				3484	7.5	"	0.88 > T
11.1	.033+	.07 —					8.1	"	0.14 > T
12	.030	.09 <				3485	7.5	"	1.05 = T
17	.022	.01 <				3486	7.5	"	0.88 > T
21	.020	.09 <				3488	7.5	"	1.02 > T
30	.040	.34 <				3490	7.5	"	1.29 > T
36	.042	.01 <				3491	7.5	"	1.10 > T
51	.036	.04 <				3492	7.5	"	1.11 > T

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

τ Andromadae — Phot. τ

hrs m
0 14 +26.1

Date	Tab. Eq.						Mean	G.M.T.	Resids.	Julian Day	Book + Pg.
1895. Oct. 26.	1.58	1.49	1.52	1.39	1.27	1.31	1.42	12.0	.05 .04 .01 .07 .05 .01	241- 3493	77 : 160
" "	1.30	1.26	1.17	1.33	1.33	1.26	1.28	12.5	.06 .02 .07 .02 .02 .05	"	" 161
" 28	1.32	1.28	1.34	1.22	1.26	1.31	1.28	12.9	.01 .03 .03 .04 .00 .05	3495	" 167
" "	1.18	1.26	1.34	1.43	1.29	1.28	1.30	13.2	.08 .00 .08 .10 .04 .05	"	" 168
Nov 4	1.70	1.57	1.97	1.98	1.77	1.65	1.78	12.6	.05 .18 .22 .18 .23 .15	3502	" 213
" "	1.69	1.53	1.65	1.77	1.65	1.59	1.65	12.9	.07 .09 .03 .10 .02 .08	"	" 214
1894 Jan 8	0.49	0.55	0.50	0.46	0.31	0.59	0.48	12.7	.02 .04 .01 .01 .14 .14	2837	68 150
Jan 17	—	—	0.38	0.17	—	—	0.28	12.8	0 — — 0 — —	2845	" 173
~~1895~~ Oct 20	0.91	0.81	0.91	1.04	0.96	0.97	0.94	13.4	.03 .07 .03 .05 .03 .02	3246	73 167
Feb 21	0.96	0.90	0.94	1.21	1.05	1.14	1.00	12.8	.09 .03 .13 .08 .08 .01	3246	" 174
Feb 22	0.89	0.96	0.81	0.82	0.78	0.70	0.82	12.8	.00 .07 .08 .05 .01 .07	3247	" 180
Feb 23	1.04	0.89	0.87	0.96	0.74	0.70	0.87	12.7	.11 .04 .06 .16 .06 .10	3248	" 186
Feb 26	0.74	0.70	0.54	0.65	0.31	—	0.57	12.9	.08 .04 .12 .17 .17 —	3251	" 200
1895 Oct 22	1.13	1.08	1.07	1.07	1.03	0.97	1.06	13.0	.04 .01 .02 .05 .01 .05	3489	77 . 127
Nov 27	2.53	2.51	2.43	2.55	2.66	2.86	2.59	14.5	.04 .02 .06 .14 .03 .17	3525	78 52
Dec 6				3.20	3.40	3.20	3.27	16.0	" .07 .13 .07	3534	" 108
Dec 16	3.30	3.32	3.29	3.58	3.31	3.52	3.38	15.0	.00 .02 .01 .11 .16 .05	3544	" 135
1896 Jan. 3	3.94	3.88	3.98	3.59	3.67	3.55	3.76	13.1	.01 .05 .05 .01 .07 .05	3562	79 . 8
Feb. 12.	4.01	4.17		4.54	4.21		4.74	12.8	.04 .04 .16 .17	3602	" 206
~~" 14~~	~~3.38~~	~~3.54~~		~~3.24~~	~~3.30~~		~~3.36~~	~~12.7~~	~~.06 .07 .03 .03~~	~~3604~~	~~" 212~~
July 31.	1.27 b	1.41. a		1.04 a	1.01 b		+1.14	15 380	.07 .07 .02 .01	3772	83 : 111
" "	1.12 a	1.07		1.16 b	1.21		+1.14	15 470	.02 .03 .02 .03	"	" : 112

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Incer. Phot. Values of Comp. Stars.

+26° 40 (7.5) ~~+2.0~~ 8.08
+26 37 (8.4) 9.13
+26 42 (8.1) 8.77

Pg.	Av Dev Resids	Diff a-B			
60	.038	.21	<	1.35	7.5 is 1.42 > T
61	.040	.07	<		7.5 is 1.28 > T
67	.027	.05	<	1.29	" 1.28 > T
68	.043	.07	<		" 1.30 > T
13	.135	.07	<	1.71	" 1.78 > T
14	.065	.05	<		" 1.64 > T
50	.060	.06			Var. comp. with a
73		.21			" " " "
67	.038	.11			" " " "
74	.070	.27			" " " "
80	.047	.12			" " " "
86	.088	.13			" " " "
00	.116	.18			" " " "
27	.030	.07	<	1.06	7.5 is 1.06 > T
52	.077	.20	<	2.59	7.5 is 2.59 > T
08	.090	...		3.27	7.5 is 3.27 > T
35	.058	.12		3.38	" " 3.38 > T
5	.060	.33		3.76	
206	.122	.71		4.74	Var Comp with 7.5 " "
12	~~.048~~	~~.17~~			
111	.042	.32			Varr. comp. with 7.5
112	.025	.04			" " " "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

T Andromedae

Date.	Lat.	Lg.	Mean.	G.m.t.	Resids.	Julian Day.	Book & Page.
1896.				h m		24–	
Feb. 12.	2.95, 2.71,	2.27, 2.25	2.54	13:10	.12 .12 .01 .01	3602	79 : 207
Feb. 14.	3.38, 3.51.	3.24, 3.30	3.36	12:43	.06 .07 .03 .03	3604	79 : 212
" "	2.62, 2.57	2.70, 2.60	2.62	13: 2	.08 .07 .01 .01	"	" : 213
Sept. 1	3.20 b 3.16	2.80 a 2.77	+2.98	14 11.1	.02 .02 .02 .01	3804	84 : 105
" 7	3.23 b 3.07	2.95 a 3.00	+3.06	13 44.2	.08 .08 .03 .02	3810	84 : 49
" 26	3.98 a 4.00	3.30 b 3.55	3.70	13 1.0	.01 .01 .12 .13	3829	84 : 110
" "	3.77 a 3.76	3.93 b 3.91	3.84	13 15.2	.01 .00 .01 .01	"	84 : 116
12 31	4.05 a 4.60	4.48 b 4.30	4.48	12 58.0	.07 .07 .09 .09	3925	86 : 210
~~97. 1 23~~	~~3.46 b 3.54~~	~~3.07 a 3.01~~	~~3.52~~	~~12 54.0~~	~~.04 .04 .03 .03~~	~~3948~~	~~87 : 106~~
~~" "~~	~~3.54 a 3.58~~	~~3.28 b 3.29~~	~~3.42~~	~~13 3.0~~	~~.02 .02 .00 .01~~	~~" "~~	~~" : 107~~

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Av. Day Results.	Diff. A.A.
07	.065	.57
12	.048	.17
13	.042	.15
10	.018	.40
29	.052	.12
0	.068	.37
6	.008	.16
0	.080	+.19
~~26~~	~~.035~~	~~+.04~~
~~27~~	~~.012~~	~~+.28~~

A.A (+26° 37') compared with ☉ (see R 6 & p. IV 1)
A.1 (+26° 42') " " " " " " " "
A.A (+26° 37') " " " " " " " "

Var comp with (7.5) mag = +26° 40
" " " " "
" " " " "
" " " " "
" " " " "
" " " " "

Con. in Book. 1K. p. 60.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Ophiuchi: Plat. V.

June 2, 1895.

Comp. Star = Dm. +1° 3411 (6.2)

East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.
	0.52	.02 <		0.71	-.01 <		0.95	-.06 <
	0.41	+.09 <		0.75	-.05 <		0.93	-.04 <
9h 9m 3.6s	0.56	.06 <	10. 9 22	0.62	+.08 <	11 1 55	0.84	+.05 <
9 16 44	0.46	.04 <	10 17 34	0.72	-.02 <	11 9 36	0.84	+.05 <
	0.50	±.060		0.70	±.040		0.89	±.050
	0.51	-.23 <		0.71	+.06 <		1.13	-.02
	0.36	-.06 <		0.83	+.06 <		1.10	+.01
9 21 34	0.02	+.26 <	10 17 25	0.80	.03 <	11 13 58	1.15	-.04
9 29 152	0.23	+.05 <	10 25 64	0.75	±.082 <	11 21 39	1.07	+.04
	0.200	±0.15		0.77	±.062		1.11	±.028
	0.53	+.0.0 <		0.80	+.06 <		1.10	+.06
	0.48	+.0.5 <		0.81	+.05 <		1.26	-.10
9 32 36	0.58	-.0.5 <	10 34 34	0.89	.03 <	11 32 39	1.16	+.00
9 40 17	0.52	+.0.1 <	10 42 15	0.96	.10 <	11 40 20	1.12	+.04
	0.53	±.0.28		0.86	±.060		1.16	±.050
	0.53	-.0.2 <		0.97	.10 <		1.23	+.00
	0.58	-.0.7 <		0.45	+.32 <		1.23	+.00
9 43 15	0.43	+.0.8 <	10 42 50	0.84	.07 <	11 44 33	1.27	-.04
9 50 56	0.50	+.0.1 <	10 50 31	0.92	.15 <	11 52 14	1.20	+.03
	0.51	±.045		0.72	±.135		1.23	±.018
	0.55	+.0.1 <		1.07	.13 <		1.23	+.06
	0.54	+.0.2 <		0.81	+.13 <		1.35	-.06
9 54 52	0.47	+.09 <	10 51 56	0.92	+.02 <	11 53 51	1.24	+.05
10 2 33	0.66	-.10 <	10 59 37	0.95	-.01 <	12 1 32	1.33	-.04
	0.56	±.055		0.94	±.072		1.29	±.052

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

η Ophiuchi Phot. I.

June 8, 1895. Continued

Comp. Star = D.M. +1° 3411 (6.8)

East. Time	Diff. Mag.	Av. Dev.	East. Time	Diff. Mag.	Av. Dev.	East. Time	Diff. Mag.	Av. Dev.
	1.32	+.02						
	1.31	+.03						
12 0 55	1.32	+.02						
12 8 36	1.39	-.05						
	1.34	±.030						
	1.27	-.01						
	1.37	-.11						
12 9 49	1.22	+.04						
12 17 30	1.16	+.10						
	1.26	±.065						
	1.25	-.03						
	1.13	+.09						
12 20 49	1.25	-.03						
12 28 30	1.23	-.01						
	1.22	±.040						
	1.25	-.05						
	1.13	+.07						
12 28 36	1.19	+.01						
12 36 17	1.22	-.02						
	1.22	-.02						
	1.20	±.034						

Times in Green are times of observation corrected for Light Eqn. = +7m 41s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Ophiuchi. Phot. I.

July 15, 1895.

Comparison star = 2 Lib. +1° 3411 (6.2)

East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.
	0.56	−.38		0.88	+.14			
	1.49	+.45		0.89	+.15			
hrs m s								
8 46 27	0.90	−.04	9 23 10	0.41	−.33			
8 52 44	0.72	−.15	9 29 27	0.76	+.02			
	0.94	±.255		0.74	±.160			
	0.86	+.08		0.93	−.01			
	0.77	−.01		0.86	−.08			
8 54 23	0.79	+.01	9 29 49	1.02	+.08			
9 0 40	0.69	−.09	9 36 6	0.95	+.01			
	0.78	±.048		0.94	±.045			
	0.81	+.03		0.93	+.05			
	0.75	−.03		0.87	−.01			
9 1 11	0.79	+.01	9 37 20	0.84	−.04			
9 7 28	0.78	−.00	9 43 37	0.88	+.00			
	0.78	±.018		0.88	±.025			
	0.71	−.09		0.90	+.01			
	0.80	+.00		0.89	+.00			
9 9 20	0.84	+.04	9 43 53	0.86	−.03			
9 15 37	0.83	+.03	9 50 10	0.91	+.02			
	0.80	±.042		0.89	±.015			
	1.01	+.11		0.92	+.02			
	0.86	−.04		0.87	−.03			
9 16 25	0.84	−.06	9 48 2					
9 22 42	0.90	+.00	9 54 19					
	0.90	±.052		0.90	±.025			

Times in Green are times of obs. corrected for Lgt. Eq. = +6m 17s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Ophiuchi.

Gr.	Time		Mean Mags
14	9	3	0.50
			0.28
			0.53
			0.51
			0.56
			0.70
			0.77
			0.86
			0.77
			0.94
			0.89
			1.11
			1.16
			1.23
			1.29
			1.04
			1.26
			1.22
17	28	36	1.20

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

W. Ophiuchi. Phot. I.

July 15, 1895.

Comp. Star =, —

East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.
	0.56	−.22		0.89	+.14			
	0.90	+.12		0.41	−.34			
hrs mm s						Times in Green are times of obs.		
8 48 11	0.79	+.01	9 24 54	0.76	+.01	corrected for Light Eq. = + 6 m 17 s		
8 54 28	0.86	+.08	9 31 11	0.93	+.18			
Mean =	0.78	±.10		0.75	±.16			
	0.77	+.01		0.86	−.08			
	0.79	+.03		1.02	+.08			
8 56 1	0.69	−.07	9 32 14	0.95	+.01			
9 2 18	0.81	+.05	9 38 31	0.93	−.01			
	0.76	±.04		0.94	±.04			
	0.75	−.01		0.87	−.01			
	0.79	+.03		0.85	−.03			
9 2 55	0.78	+.02	9 38 41	0.88	+.00			
9 9 12	0.71	−.05	9 44 58	0.90	+.02			
	0.76	±.02		0.88	±.01			
	0.80	−.07		0.89	±.00			
	0.84	−.03		0.86	−.03			
9 11 27	0.83	−.04	9 46 18	0.91	+.02			
9 17 44	1.01	+.14	9 52 35	0.92	+.03			
Mean =	0.87	±.07		0.87	−.02			
			Mean	0.89	±.02			
	0.86	−.01						
	0.84	−.03						
9 18 42	0.90	+.03						
9 24 59	0.88	+.01						
	0.87	±.02						

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Ophiuchi Phot I.

July 25, 1895.

Comparison star =

Gr.	M.	Time.	Diff. Magn.	Av. Dev.	Gr.	M.	Time.	Diff. Magn.	Av. Dev.	Gr.	M.	Time.	Diff. Magn.	Av. Dev.
			0.41	+.07				0.51	+.05				0.51	−.03
			0.35	+.01				0.35	−.11				0.61	+.07
13	34	10	0.32	−.02	14	15	32	0.45	−.01	14	58	22	0.49	−.05
13	39	37	0.28	−.06	14	20	59	0.55	+.09	15	3	49	0.56	+.02
			0.34	±.040				0.46	±.065				0.54	±.042
			0.17	−.11				0.49	−.04					
			0.31	+.03				0.51	−.02					
13	40	36	0.35	+.07	14	23	8	0.57	+.04					
13	46	3	0.29	+.01	14	28	35	0.54	+.01					
			0.28	±.035				0.53	±.028					
			0.29	−.03				0.43	−.03					
			0.32	±.00				0.40	−.06					
13	47	19	0.32	±.00	14	29	46	0.50	+.04					
13	52	46	0.36	+.04	14	35	13	0.50	+.04					
			0.32	±.018				0.46	±.042					
			0.31	−.01				0.53	+.01					
			0.41	+.09				0.47	−.05					
13	54	39	0.29	−.03	14	42	5	0.57	−.01					
14	0	6	0.28	−.04	14	47	32	0.57	+.05					
			0.32	±.042				0.52	±.030					
			0.30	−.04				0.60	+.04					
			0.34	±.00				0.52	−.04					
14	0	59	0.33	−.01	14	48	16	0.53	−.03					
14	6	26	0.39	+.05	14	53	43	0.59	+.03					
			0.34	±.025				0.56	±.035					

Lines in Green are Times of obs corrected for Light Eqn = + 2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

o Cet.

Phot. R.

Con. from p. 45

(Magn. of Comp. Slit 9.20)

Date	Tabular Quantity		Mean	Sidereal Time	Reticle				J.D. 24—	Bk + Pg	
1897				h m							
2.10	.09 .10	.86 .05	.04	13 0.41	.03	.03	.10	.09	3966	88	7
2.11	4.92 4.89	.05 .06	4.98	13 4.0	.02	.01	.01	.00	3967	88	17
" "	.07 .01	4.89 4.90	4.97	13 5.0	.03	.03	.01	.00	"		18
2.13	.00 .07	4.81 4.99	4.97	13 4.5	.04	.03	.09	.09	3969	88	28
" "	4.98 .01	.08 4.95	.01	13 5.0	.02	.01	.06	.07	"		29
2.16	4.84 4.79	4.77 4.91	4.83	12 46.0	.02	.03	.07	.07	3972	88	35
" "	4.95 4.83	4.80 4.77	4.84	12 57.0	.06	.06	.02	.01	"		36
2.23	4.98 4.64	4.68 4.65	4.64	12 22.0	.03	.03	.02	.01	3979	88	72
" "	4.68 4.71	4.73 4.64	4.69	12 33.2	.02	.01	.05	.04	"		73
3.4	4.31 4.36	4.29 4.30	4.33	12 4.0	.03	.02	.03	.03	3988	88	122
" "	4.33 4.35	4.32 4.35	4.34	12 16.0	.01	.01	.02	.01	"		123
" "	4.41 4.37	4.29 4.30	4.36	12 26.0	.02	.02	.03	.03	"		123
3.10	4.24 4.18	4.15 4.09	4.16	12 33.0	.03	.03	.02	.03	3994	88	141
" "	4.02 4.08	3.95 3.98	4.00	12 41.5	.03	.03	.01	.02	"		142
3.11	4.11 4.06	3.96 3.91	4.01	12 28.0	.03	.02	.02	.03	3995	88	159
" "	3.93 4.03	4.01 4.01	4.00	12 38.0	.05	.05	.00	.00	"		160
3.13	3.99 3.98	3.87 3.89	3.93	12 2.0	.01	.00	.01	.01	3997	88	170
" "	3.91 4.00	3.98 3.97	3.92	12 10.0	.05	.04	.00	.01	"		171
3.15	3.98 4.03	3.71 3.86	3.89	12 5.0	.02	.03	.07	.08	3999	88	183
" "	3.86 3.73	3.78 3.86	3.81	12 13.0	.06	.07	.04	.04	"		184

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Geo. Dec. Resids.	A–B	
7	±.062	+.16	4.16
17	±.010	+.16	4.22
18	±.018	+.14	4.20
28	±.062	+.14	4.23
29	±.040	+.02	4.19
35	±.048	+.02	4.37
36	±.038	+.11	4.36
72	±.022	−.05	4.56
73	±.030	−.02	4.51
22	±.028	+.02	4.87
23	±.012	.00	4.86
23	±.025	+.07	4.84
141	±.037	+.09	5.04
142	±.022	−.09	5.20
159	±.025	+.14	5.19
160	±.025	+.03	5.20
170	±.008	−.10	5.27
171	±.028	−.02	5.23
183	±.050	−.22	5.31
184	±.052	−.02	5.39

(Continued in Book 14 Page 54.)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Librae. Phot. I.

June 18, 1895.

Comp. star = : SD −7° 3943 (7.0 Sh.)

East Time.	Diff. Mag.	Av. Dev.	East Time.	Diff. Mag.	Av. Dev.	East Time.	Diff. Mag.	Av. Dev.	E
	1.74	−.14		1.24	−.02		1.01	−.10	
	1.59	+.01		1.20	+.02		0.86	+.05	
9 1 39.5	1.59	+.01	9 57 41.2	1.30	−.08	10 44 43	0.78	+.13	9
9 7 49	1.60	+.00	10 3 50	1.14	+.08	10 47 52	0.97	−.06	9
	1.60	±.040		1.22	±.050		0.91	±.085	
	1.60	−.05		1.15	+.01		0.88	+.01	
	1.58	−.03		1.13	+.01		0.93	∓.04	
9 12 46.5	1.52	+.03	10 5 41.5	1.13	+.01	10 49 23.8	0.83	+.06	9
9 18 55	1.49	+.06	10 11 51	1.15	−.01	10 55 33	0.91	−.02	9
	1.55	±.042		1.14	±.010		0.89	±.032	
	1.56	+.00		1.44	−.09		0.73	+.13	
	1.59	−.03		1.42	−.07		0.85	+.01	
9 21 13.2	1.55	+.01	10 15 37.7	1.24	+.11	10 56 35	0.89	−.03	9
9 27 22	1.55	+.01	10 21 47	1.29	+.06	11 2 44	0.94	−.08	9
	1.56	±.012		1.35	±.082		0.86	±.062	
	1.38	+.01		1.08	+.08		0.86	+.11	
	1.39	+.00		1.19	−.03		1.01	−.04	
9 37 56	1.41	−.02	10 25 27.8	1.34	−.18	11 3 14.5	1.07	−.10	9
9 44 5	1.38	+.01	10 31 37	1.02	+.14	11 9 23	0.95	+.02	9
	1.39	±.010		1.16	±.108		0.97	±.068	
	1.39	−.07		0.91	+.11	Times in Green are			
	1.30	+.02		1.10	−.08	times of obs. corrected for			
9 46 37.2	1.34	−.02	10 32 44.5	1.10	−.08	Syst. Eqn. = +6			9
9 52 46	1.27	+.05	10 38 53	0.97	+.05				9
	1.32	±.040		1.02	±.080				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Librae. Plt. I.

July 2. 1895

Comp. Star = N3 − 7° 3943 (7.0 Vis.)

East Time.	Diff. Mag.	Av. Dev.	East Time.	Diff. Mag.	Av. Dev.	East Time.	Diff. Mag.	Av. Dev.
	1.58	+.06		1.13	+.05		0.90	−.04
	1.59	+.07		1.07	−.01		0.89	−.05
9 8 23	1.50	−.02	9 44 54	1.05	−.03	10 15 41	0.92	+.05
9 13 4	1.43	−.09	9 49 35	1.09	+.01	10 20 22	0.98	+.04
	1.52	±.060		1.08	±.025		0.94	±.045
	1.56	+.02		1.18	+.02		0.78	−.06
	1.50	−.04		1.14	−.02		0.95	+.11
9 20 24	1.56	+.02	9 57 6	1.14	−.02	10 22 38	086	+.02
9 20 52	1.54	+.00	9 57 47	1.17	+.01	10 27 19	0.78	−.06
	1.54	±.020		1.16	±.018		0.84	±.062
	1.55	+.13		1.16	+.09		0.90	+.12
	1.42	+.00		1.06	−.01		0.84	+.02
9 26 34	1.36	−.06	9 58 29	1.07	+.00	10 28 48	0.80	−.02
9 31 15	1.34	−.08	10 3 10	0.98	−.09	10 33 29	0.74	−.08
	1.42	±.068		1.07	±.048		0.82	±.060
	1.49	+.05		1.01	+.00		0.71	−.02
	1.41	−.03		1.11	+.10		0.76	+.03
9 32 4	1.46	+.02	10 5 19	1.00	−.01	10 37 30	0.69	−.04
9 36 45	1.41	−.03	10 10 0	0.92	−.09	10 42 11	0.76	+.03
	1.44	±.032		1.01	±.050		0.73	±.030
	1.33	+.11		1.01	−.02		0.77	+.02
	1.13	−.09		1.00	−.03		0.84	+.09
9 38 07	1.25	+.03	10 10 45	0.96	−.07	10 44 4	0.66	−.09
9 43 32	1.15	−.07	10 15 26	1.18	+.12	10 48 45	0.73	−.02
	1.22	±.075		1.03	±.060		0.75	±.055

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Librae. Con. from previous page.

July 2. 1895.

Comp. Star = S.D. −7° 39′ 3 (7.0 M.)

East. Time.	Diff. Mag.	Av. Dev.	East. Time.	Diff. Mag.	Av. Dev.	East. Time.	Diff. Mag.	Av. Dev.
	0.73	+.04						
	0.62	−.07						
10 49 11	0.66	−.03						
	0.76	+.07						
	0.69	±.052						
	0.72	+.05						
	0.64	−.03						
10 54 11	0.64	−.03						
	0.69	+.02						
	0.67	±.032						
	0.78	+.08						
	0.68	−.02						
10 59 26	0.69	−.01						
	0.64	−.06						
	0.70	±.042						
	0.73	+.00						
	0.69	−.04						
11 3 37	0.76	+.03						
	0.73	±.023						

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

δ Librae

h	Time	Mean Mass		
14	1 39.5	1.60	+.30	+.39
		1.55	+.25	+.34
		1.56	+.26	+.35
		1.39	+.09	+.18
		1.32	+.02	+.11
		1.22	−.08	+.01
		1.14	−.16	−.07
		1.35	+.05	+.14
		1.16	−.14	−.05
		1.02	−.28	−.19
		0.91	−.39	−.30
		0.89	−.41	−.32
		0.86	−.44	−.35
15	3 14.5	0.97	−.33	−.24
		~~16.94~~		
		~~1.30~~		
		~~1.21~~		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei

Tuesday, October 27, 1896.

Gr. M. Time.	Diff. Mag.	Gr. Dev.	Gr. M. Time.	Diff. Mag.	Gr. Dev.	Gr. M. Time.	Diff. Mag.	Gr. Dev.	Gr.
hrs m s			hrs m s			hrs m s			
	b -1.38	+.03		b -1.49	+.07		b -1.46	-.06	
		-.03			-.06			+.05	
12 20 23		±.030	13 7 4		±.065	13 45 4		±.055	
-4 52 37	a	+.01	-4 57 56	a	+.02	-3 27 56	a	+.03	
		-.02			-.02			-.03	
		±.015			±.020			±.030	
	-.17	-1.50		+.03	-1.54		-.04	-1.42	
	a -1.58	-.04		a -1.59	-.08		a -1.48	-.07	
		+.05			+.08			+.07	
12 26 34		±.045	13 10 7		±.080	13 55 24		±.070	
-4 46 26	b	+.04	-3 57 53	b	-.04	-3 17 36	b	-.02	
		-.05			+.03			+.03	
		±.045			±.035			±.025	
	+.02	-1.50		+.01	-1.52		+.17	-1.50	
	b -1.61	+.03		b -1.59	+.01		b -1.54	-.02	
		-.02			.00			+.01	
12 38 27		±.025	13 23 6		±.005	14 4 0		±.015	
-4 34 33	a	+.04	-3 49 54	a	-.09	-3 9 0	a	-.05	
		-.05			+.10			+.04	
		±.045			±.095			±.040	
	+.22	-1.53		+.16	-1.52		+.28	-1.38	
	a -1.48	+.02		a -1.34	+.06		a -1.23	-.01	
		-.03			-.06			.00	
12 51 44		±.025	13 30 53		±.060	14 18 58		±.005	
-4 21 16	b	-.05	-3 42	b	+.06	-2 54 2	b	-.03	
		+.04			-.05			+.04	
		±.045			±.055			±.035	
	+.04	-1.52		+.00	-1.40		+.10	-1.27	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei

October 27, 1896.

Gr. M. Time hrs m s	Diff. Obj.	Cor. Dev.	Gr. M. Time hrs m	Diff. Obj.	Cor. Dev.
	b	-1.33 +.01		b	-0.76 +.06
		-1.36 -.02			-0.88 -.06
14 27 2		-1.34 ±.015	15 25 59		-0.82 ±.060
-2 45 58			-1 47 1		
	a	-1.31 .00		a	-0.90 -.06
		-1.31 .00			-0.79 +.05
		-1.31 .000			-0.84 ±.055
	+.03	-1.32		-.02	-0.83
	a	-1.23 -.05		b	-0.72 +.02
		-1.13 +.05			-0.75 -.01
14 39 46		-1.18 ±.050	15 48 25		-0.74 ±.015
-2 33 14	b	-1.19 +.01	-1 24 35	a	-0.49 -.06
		-1.21 -.01			-0.37 +.06
		-1.20 ±.010			-0.43 ±.060
	+.02	-1.19		+.31	-0.58
	b	-1.25 -.01		b	+0.24 -.02
		-1.22 +.02			+0.29 +.03
14 52 27		-1.24 ±.015	16 31 50		+0.26 ±.025
-2 20 33		-0.99 +.03	-0 41 10	a	+0.45 +.11
	a	-1.04 -.02			+0.24 -.10
		-1.02 ±.025			+0.34 ±.105
	+.22	-1.13		+.08	+0.30
	a	-0.92 -.05			
		-0.82 +.05			
15 12 55		-0.87 ±.050			
-.2 0 55	b	-0.99 -.02			
		-0.95 +.02			
		-0.97 ±.020			
	+.10	-0.92			

Gr. M. Time of minimum = Oct 27d 17h 16m

Correction for light

Corr. = +3

Comp. star = D.M. +81°27 (8.6)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

S Cancri. Phot. 7

Wednesday, March 10, 1897. (Comp star = +19° 2088 (9.0 May))

G M Time	Diff. Magn	Cor Dev
hrs m s		
a	+0.84	+02
	+0.80	−02
13 55 49	+0.82	
b	+0.80	−16
	+1.13	+17
	+0.96	
	+0.89	A−13 −.14
b	+0.92	+04
	+0.83	−00
14 5 21	+0.88	
a	+0.69	00
	+0.69	00
	+0.69	
	+0.78	A−13 −.19
d	+0.81	+.03
	+0.75	−.03
14 16 35	+0.78	
b	+0.60	+02
	+0.57	−01
	+0.58	
	+0.68	A−13 +20
b	+0.65	+01
	+0.63	−01
14 25 19	+0.64	
a	+0.74	00
	+0.74	00
	+0.74	
	+0.69	A−13 +.10

G M Time	Diff. Magn	Cor Dev
hrs m s		
a	+0.70	−03
	+0.76	+03
14 36 15	+0.73	
b	+0.89	+04
	+0.81	−04
	+0.85	
	+0.79	A−13 −.12
b	+0.80	+.06
	+0.67	−07
14 45 18	+0.74	
a	+0.67	+04
	+0.59	−04
	+0.63	
	+0.68	A−13 −.11
a	+0.56	00
	+0.57	+01
14 56 32	+0.56	
b	+0.58	00
	+0.59	+01
	+0.58	
	+0.57	A−13 −.02
b	+0.52	00
	+0.53	+01
15 5 48	+0.52	
a	+0.72	00
	+0.72	00
	+0.72	
	+0.62	A−13 +.20

G M Time	Diff. Magn	Cor Dev
hrs m s		
a	+0.71	+01
	+0.68	−02
15 15 38	+0.70	
b	+0.69	−01
	+0.71	00
	+0.70	
	+0.70	A−13 00
b	+0.67	+01
	+0.65	−01
15 25 13	+0.66	
a	+0.53	00
	+0.53	00
	+0.53	
	+0.60	A−13 −.13
a	+0.53	+07
	+0.38	−08
15 36 22	+0.46	
b	+0.33	+06
	+0.21	−06
	+0.27	
	+0.36	A−13 +.19
b	+0.21	−06
	+0.33	+06
(5 47) 37	+0.27	
a	+0.37	−01
	+0.40	+02
	+0.38	
	+0.32	A−13 +.11

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

March 10, 1897.

Gr. M. Time	Diff. Magn.	Arc Dev.	Gr. M. Time	Diff. Magn.	Arc Dev.
h m s			h m s		
	a +0.44	+04		a +0.14	+06
	+0.37	−03		+0.03	−05
15 56 28	+0.40		16 36 13	+0.08	
	b +0.32	−05		b +0.12	00
	+0.42	+05		+0.11	−01
	+0.37			+0.12	
	+0.38	A−B +.03		+0.10	A−B −.04
	b +0.31	+01		b 0.00	+01
	+0.29	−01		−0.02	−01
16 5 9	+0.30		16 45 29	−0.01	
	a +0.28	+04		a −0.05	+03
	+0.20	−04		−0.10	−02
	+0.24			−0.08	
	+0.27	A−B −.06		−0.04	A−B −.07
	a +0.29	−01		a −0.16	+02
	+0.32	+02		−0.20	−02
16 14 22	+0.30		16 54 40	−0.18	
	b +0.15	+01		b −0.20	+05
	+0.14	00		−0.30	−05
	+0.14			−0.25	
	+0.22	A−B +16		−0.22	A−B +.07
	b +0.01	+01			
	−0.01	−01			
16 24 45	0.00				
	a +0.08	−02			
	+0.11	+01			
	+0.10				
	+0.05	A−B +.10			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj:.4420

80. Diurnal times of Sun. = July 18. 13h 6m East. T.

Z Herculis.

July 18, 1895.

Phot. S.

Comp. star = 2 m. + 1° 3316 (9.3)

Times in with respect of Sun.

East. Time.	Diff. Mag.	Av. Dev.	East. Time.	Diff. Mag.	Av. Dev.	East. Time.	Diff. Mag.	Av. Dev.
(−2h v−6.2)	2.57	+.06		2.31	+.08		2.00	−.02
	2.52 A			2.23 B			2.04 A	
	2.46	−.05		2.15	−.08		2.08	+.06
hrs m			hrs m s			hrs m s		
16 41 49.	2.55	+.04	17 30 21	2.29	+.06	18 6 7	2.01	−.01
	2.50 B			2.23 A			2.01 B	
	2.47	−.04		2.17	−.06		2.01	−.01
	2.502							
	2.51	±.048		2.23	±.070		2.02	±.025
	2.46	+.08		2.22	+.01		2.02	+.04
	2.38 B			2.23 A			1.98 B	
(−2 K.6)	2.30	−.08		2.24	+.03		1.95	−.03
16			17			18		
17 49 37	2.39	+.01	18 38 43	2.23	+.02	19 15 13	2.02	+.04
	2.38 A			2.20 B			1.97 A	
	2.36	−.02		2.16	−.05		1.92	−.06
	2.38	±.048		2.22	±.028		1.98	±.042
	2.41	+.01		2.26	+.08		1.96	+.02
	2.40 A			2.18 B			1.90 A	
	2.38	−.02		2.10	−.08		1.94	+.00
16			17			18		
17 55 31	2.43	+.03	18 49 10	2.23	+.05	19 21 50	1.93	−.01
	2.40 B			2.19 A			1.92 B	
	2.38	−.02		2.15	−.03		1.92	−.02
	2.40	±.020		2.18	±.060		1.94	±.012
	2.42	+.08		2.17	−.01		1.84	−.06
	2.42 B			2.14 A			1.90 B	
	2.41	+.07		2.12	−.06		1.95	+.05
17			17			18		
18 13 57	2.25	−.09	18 54 28	2.24	+.06	19 27 55	1.91	+.01
	2.26 A			2.22 B			1.92 A	
	2.28	−.06		2.19	+.01		1.92	−.02
	2.34	±.075		2.18	±.035		1.96	±.035
	2.35	+.03		2.13	+.05		2.00	−.03
	2.32 A			2.10 B			2.04 A	
	2.30	−.02		2.08	+.00		2.09	+.06
17			18			18		
18 18 42	2.27	−.05	19 1 5	2.06	−.02	19 35 51	2.01	−.02
	2.32 B			2.04 A			2.02 B	
	2.36	+.04		2.03	−.05		2.02	−.01
	2.32	±.035		2.08	±.030		2.03	±.030

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

parentheses in red are to Hartwig Times

ζ Herculis. Phot I. 81

July 18, 1895.

Continued.

East Time	Diff. Mag.	Av. Dev.	East Time	Diff. Mag.	Av. Dev.	East Time	Diff. Mag.	Av. Dev.
	1.82	−.06	Corr −0.01 mg.	1.52	−.19			
	1.81	B		1.84	A			
	1.80	−.08		1.97	+.06			
hrs m s			hrs m s					
13 46 14	1.96	+.08	14 35 56	1.97	+.06			
	1.94	A		1.97	B			
	1.92	+.04		1.97	+.06			
	1.88	±.065		1.90	±.092			
	1.98	+.06	Corr. −0.01 mg.	2.05	+.08			
	1.90	A		1.98	B			
	1.83	−.09		1.92	−.05			
13 54 20	2.01	+.09	14 53 7	1.91	−.06			
	1.92	B		1.96	A			
	1.84	−.08		2.01	+.04			
	1.97	±.080		1.97	±.058			
				1.96	−.06			
	1.97	+.03	Corr. −0.01 mg.	1.98	A			
	1.96	B		1.99	−.03			
	1.96	+.02		2.03	+.01		.02	
14 6 8	1.94	±.00	14 7 5 1 15	2.01	−.01		.04	
	1.90	A		2.05	B			
	1.87	−.07		2.12	+.10		.07	
	1.93	±.030		2.02	±.042			
	1.75	−.15						
	1.86	A						
	1.98	+.08						
14 14 54	1.97	+.07						
	1.94	B						
	1.91	+.01						
	1.90	±.078						
	1.95	−.03						
	1.93	B						
	1.91	−.07						
14 21 57	2.01	+.03						
	2.02	A						
	2.03	+.05						
	1.98	±.045						

Times in Green are the observed times corrected for Lt. eq. = +5m 52s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis. Phot. I.

July 22, 1895. ~~Heat~~

Comparison Star = D.M. +15° 3316 (9.3)

East. Time.	Diff. Magn.	Av. Dev.	East. Time.	Diff. Magn.	Av. Dev.	East. Time	Diff. Magn.	Av. Dev.
	2.59	-.04						
	2.60	A						
	2.61	-.02						
9 23 13	2.62	-.01						
-36.	2.66	B						
9 24 37	2.71	+.08						
	2.63	±.038						
	2.82	+.03						
	2.80	B						
	2.77	-.02						
9 30 29	2.73	-.06						
-36.	2.70	A						
9 29 53	2.83	+.04						
	2.79	±.038						

The above two ~~sets~~ groups (taken under difficult circumstances, through increasing clouds) are theoretically measurements of full brightness, the mean of the times being 6 minutes (according to Duner) before the beginning of the down slope of the curve. But my curve on July 18 makes the minimum some ¾ three quarters of an hour to an hour later than Duner's Ephm. indicates, (and some half hour or more earlier than Chandler's Elements) so that it would seem that the above are really measures of full brightness.

No corr. for diff. Absorp. on this date.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae_proj..4420

Z Herculis. Phot. I.

July 23. 1895. Measts. of full brightness with comp. star 2 Her. +18° 3316 (9.3). These measts were taken on a night which was midway between principal and secondary minimum.

Gr. No. I.	Diff. Magn.	Av. Dev.	Gr. No. I.	Diff. Magn.	Av. Dev.	Gr. No. I.	Diff. Magn.	Av. Dev.
	2.64	−.06		2.67	−.04			
	2.68	A		2.70	B			
	2.73	+.03		2.73	+.02			
hrs m s.			hrs. m. s.					
15 27 20	2.70	+.00	16 12 5	2.72	+.01			
	2.70	B		2.70	A			
	2.71	+.01		2.72	+.01			
	2.69							
	2.70	±.025		2.71	±.020			
	2.55	−.10						
	2.62	B						
	2.70	+.05						
15 35 20	2.67	+.02						
	2.68	B						
	2.69	+.04						
	2.65	±.052						
	2.69	−.01						
2.70	2.69	A						
	2.70	+.00						
15 45 13	2.67	−.03						
2.70	2.69	B						
	2.72	+.02						
	2.70	±.012						
	2.73	+.04						
	2.72	B						
	2.71	+.02						
15 53 40	2.67	−.02						
	2.66	A						
	2.65	−.04						
	2.69	±.030						
	2.72	+.01				No corr. for diff. Abs. on Gr. I data.		
	2.70	A						
	2.68	−.03						
16 2 36	2.71	+.00						
	2.72	B						
	2.73	+.02						
	2.71	±.012						

Times in Greenwich Mean Abs. Times corrected for Light Eq. = +1s.3k

See next page.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

July 23. 1895.

Z Hercules. Values from page 23.

Diff. by Groups.	Resids.	Diff. by Sets.	Resids.
2.70	+.01	2.64	−.05
2.65	−.04	2.73	+.04
2.70	+.01	2.70	+.01
2.69	.00	2.71	+.02
2.71	+.02	2.55	−.14
2.71	+.02	2.70	+.01
	+.06	2.67	−.02
mean = 2.69	−.04	2.69	.00
	±.017	2.69	.00
		2.70	+.01
		2.67	−.02
		2.72	+.03
		2.73	+.04
		2.71	+.02
		2.67	−.02
		2.65	−.04
		2.72	+.03
		2.68	−.01
		2.71	+.02
		2.73	+.04
		2.67	−.02
		2.73	+.04
		2.72	+.03
		2.72	+.03
		2.69	+.37
			−.32
			±.029

Observations of diff. of full brightness between Z Hercules and Comp. Star.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Dunner's East. Time of Chron. is 12h 42m

Z Herculis. Phot. No. 85

July 26, 1895.

Comparison star = D.M. +15° 3316 (9.3)

Gr. M. Time	Diff. Magn.	Av. Dev.	Gr. M. Time	Diff. Magn.	Av. Dev.	Gr. M. Time	Diff. Magn.	Av. Dev.
	2.69 +.01			2.71 +.07			2.66 ±.00	
	2.70 A			2.64 B			2.65 A	
hrs m s	2.72 +.04		hrs m s	2.56 −.18		hrs m s	2.64 −.02	
13 33 15	2.64 −.04		14 23 7	2.62 −.02		15 24 1	2.68 +.02	
17 43	2.66 B			2.67 A			2.68 B	
−4 10	2.67 −.01		−3 20	2.67 +.03		−2 19	2.68 +.02	
13 38 41	2.64 ±.025		14 28 32	2.64 ±.050		15 29 26	2.66 ±.015	
	2.59 −.01			2.63 −.07			2.61 −.02	
	2.57 B			2.66 A			2.64 B	
	2.56 −.04			2.70 +.00			2.66 +.03	
13 40 22	2.70 +.10		14 33 52	2.69 −.01		15 35 37	2.65 +.02	
−4 3	2.62 A			2.73 B			2.64 A	
	2.53 −.07		−3 10	2.77 +.07		−2 7	2.60 −.03	
13 40 47	2.60 ±.058		14 38 30	2.70 ±.038		15 41 2	2.63 ±.025	
	2.51 −.05			2.68 −.09			2.53 ±.00	
	2.57 A			2.76 B			2.51 A	
	2.52 −.04			2.85 +.08			2.49 −.04	
13 49 40	2.56 ±.00		14 43 59	2.75 −.02		15 43 52	2.51 −.02	
−3 57	2.60 B			2.74 A			2.56 B	
	2.63 +.07		−2 59	2.80 +.03		−1 59	2.60 +.07	
13 55 52	2.56 ±.040		14 49 24	2.77 ±.055		15 49 17	2.53 ±.032	
	2.67 +.02			2.64 −.06			2.41 −.03	
	2.66 B			2.66 A			2.42 B	
	2.62 −.03			2.69 +.01			2.42 −.02	
13 57 4	2.63 −.02		14 55 11	2.74 +.04		16 0 36	2.40 −.04	
−3 46	2.66 A			2.73 B			2.46 A	
	2.69 +.04		−2 48	2.72 +.02		−1 58	2.51 ±.07	
14 2 29	2.67 ±.028		15 0 36	2.70 ±.032		16 6 1	2.44 ±.040	
	2.66 +.01			2.69 −.01			2.47 −.04	
	2.62 A			2.73 B			2.50 A	
	2.59 −.06			2.73 +.03			2.52 +.01	
14 10 11	2.70 +.10		15 9 9	2.66 −.04		16 11 7	2.54 +.03	
−3 33	2.62 A			2.68 A			2.52 B	
	2.59 −.06		−2 34	2.71 +.01		−1 32	2.50 −.01	
14 15 36	2.67 ±.058		15 14 34	2.70 ±.022		16 16 32	2.51 ±.022	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis.

July 26. 1895.

Continued

Gr.	M. Time.		Diff. Magn.	Av. Dev.	Gr.	M. Time.		Diff. Magn.	Av. Dev.	Gr.	M. Time.		Diff. Magn.	Av. Dev.
			2.37	+.01				2.19	+.05				1.97	+.01
			2.36 B					2.14 A					1.94 B	
hrs	m	s	2.36	±.00	hrs	m	s	2.08	−.06	hrs	m	s	1.91	−.05
16	23	42	2.43	+.07	17	24	30	2.12	−.02	18	23	56	1.96	±.00
			2.35 A					2.1 B					1.93 A	
−1	19		2.27	−.09	−0	19		2.18	+.04	+0	41		1.98	+.02
16	29	7	2.36	±.042	17	29	5	2.14	±.042	18	29	21	1.96	±.020
			2.34	−.02				2.10	+.01				1.78	−.07
			2.36 A					2.11 B					1.80 A	
			2.39	+.03				2.12	+.03				1.83	−.02
16	38	28	2.39	+.03	17	38	4	2.15	+.04	18	34	13	1.91	+.06
			2.36 B					2.06 A					1.90 B	
−1	5		2.32	−.04	−0	5		1.97	−.12	+0	51		1.88	+.03
16	43	54	2.36	±.030	17	43	29	2.09	±.050	18	37	38	1.85	±.045
			2.25	−.05				2.08	+.03				1.98	+.09
			2.38 B					2.04 A					1.94 B	
			2.38	+.08				1.99	−.06				1.89	±.00
16	57	32	2.25	−.05	17	48	4	2.05	±.00	18	40	42	1.88	−.01
			2.22 A					2.06 B					1.84 A	
−0	51		2.30	±.00	+0	5		2.08	+.03	+0	58		1.87	−.08
16	56	57	2.30	±.045	17	53	29	2.05	±.025	18	46	7	1.89	±.045
			2.23	−.06				2.13	+.12				1.94	+.00
			2.3 A					2.0 B					1.90 A	
			2.44	+.15				2.02	+.01				1.86	−.03
16	59	13	2.25	−.04	17	56	26	1.94	−.07	18	50	55	1.88	−.01
			2.2 A					1.9 A					1.88 B	
−0	44		2.23	−.06	+0	13		1.96	−.05	+1	8		1.88	−.01
17	4	38	2.29	±.078	18	1	51	2.01	±.062	18	56	20	1.89	±.025
			2.20	±.00				1.98	+.03				1.83	−.05
			2.2 B					1.9 A					1.84 B	
			2.23	+.03				1.89	−.06				1.85	−.03
17	17	16	2.17	−.03	18	16	55	1.98	+.03	18	57	44	1.94	+.06
			2.1 A					1.97 B					1.93 A	
−0	26		2.20	±.00	+0	34		1.96	+.01	+1	13		1.92	+.04
17	22	36	2.20	±.015	18	22	20	1.95	±.032	19	3	9	1.88	±.045

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis

8/26/95 Continued

Gr. M. Times	Diff. Magn.	Av. Dev.
	1.80	-.02
	1.76	
hrs m s	1.52	-.10
19 9 10 44	1.87	+.05
+31 27	1.99	
	1.91	+.09
19 15 9	1.82	±.060
	1.96	+.05
Corr 0.00 mag	1.92	
	1.80	-.11
19 15 56 52	1.94	+.03
+31 33	1.98	
	1.93	+.02
19 21 17	1.91	±.052
	1.96	+.06
Corr −0.01 mag	1.94	
	1.93	+.03
19 26 38	1.83	-.07
+1 44	1.86	
	1.89	-.01
19 32 3	1.90	±.042
	1.99	+.03
Corr −0.01 mag	1.96	
	1.93	-.03
19 34 50 49	1.83	-.13
+1 52	1.97	
	2.11	+.15
19 40 14	1.96	±.082
	2.00	-.04
Corr −0.01 mag	2.00	
	2.01	-.03
19 47 57	2.09	+.05
+2 5	2.06	
	2.04	±.00
19 53 16	2.04	±.030

No corr for diff. abs. prec. 19 15 56 52

Times in Green are the observed times corrected for Light Eq. = +5m 25s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

88 Dunér Gr. M. T. of Min. is 14h 17m

Z Herculis.

Times in green are times corrected for light equation

September 10, 1895.

(Secondary Minimum.) (No cor. for diff. Absorption)

Gr. M. Time	Diff. Mag.	Dev.	Gr. M. Time	Diff. Mag.	Dev.	Gr. M. Time	Diff. Mag.	Dev.
	2.69	- 03		2.80	+ 04		2.72	+ 06
	-2.72	A		-2.80	B		-2.66	A
hu m s	2.76	00	hu. m.	2.80	+ 04	hu. m. s.	2.63	- 03
13 4 33.5	2.73	- 03	13 54	2.72	- 04	15 24 24.8	2.71	+ 05
	-2.76	B		-2.72	A		-2.66	B
	2.80	+ 04		2.71	- 05		2.56	- 10
	2.76	±.026		2.76	±.043		2.66	±.060
	2.71	- 07		2.85	+ 02		2.61	- 01
	-2.81	B		-2.82	A		-2.60	B
	2.91	+ 13		2.80	- 03		2.59	- 03
13 12 21.7	2.73	- 05	13 56	2.87	+ 04	15 29 19.0	2.63	+ 01
	-2.77	A		-2.83	B		-2.66	
	2.76	- 02		2.80	- 03		2.67	+ 05
	2.78	±.068		2.83	±.030		2.62	±.025
	2.68	- 04		2.77	+ 03		2.60	- 01
	-2.62	A		-2.76	B		-2.66	A
	2.67	- 05		2.76	+ 02		2.68	+ 07
13 20 25.5	2.77	+ 05	14 18 39.0	2.71	- 03	15 44 49.0	2.55	- 06
	-2.77	B		-2.72	A		-2.72	B
	2.77	+ 05		2.73	- 01		2.61	+ 00
	2.72	±.048		2.74	±.023		2.61	±.035
	2.83	+ 08		2.69	- 07		2.44	- 16
	-2.82	B		-2.76	A		-2.60	B
	2.80	+ 05		2.78	+ 02		2.64	+ 04
13 30 37.5	2.71	- 04	14 23	2.77	+ 01	15 46 59.5	2.59	- 01
	-2.69	A		-2.76	B		-2.66	A
	2.67	- 08		2.78	+ 02		2.71	+ 11
	2.75	±.063		2.76	±.030		2.60	±.080
	2.64	- 09		2.71	+ 04		2.82	+ 15
	-2.70	A		-2.62	B		-2.72	A
	2.77	+ 04		2.65	- 02		2.69	+ 02
13 36 55.2	2.79	+ 06	14 35	2.69	+ 02	15 56 19.0	2.60	- 07
	-2.72	B		-2.66	A		-2.72	B
	2.71	- 02		2.64	- 03		2.56	- 11
	2.73	±.053		2.67	±.028	+0.00	2.62	±.088

No correction for diff. Absorption in Magn.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

East time of Minimum
h m
10 46.0

U Cephei. Phot. J.

June 19, 1895.

Comp. star = +81° 26 (9.5)

East Time	Diff. Mag.	Av. Dev.	East Time	Diff. Mag.	Av. Dev.	East Time	Diff. Mag.	Av. Dev.
	2.16	.43 .30		0.99	+.00		1.27	.13 .11
	1.50	.23		1.05	−.06		1.10	.04 .05
10 46.0	1.25	+.11 .05	10 46.0	0.97	+.02	10 39.2 16.8	1.10	.04 .05
9 22.6 36.5	1.68	+.18 .15	10 2.8 33.0					.03
−1 23.4	1.83	+.03	−0 43.2	0.95	+.04	0 6.8	1.11	+.04
May = 7.77	1.86	±.213	M = 8.51	0.99	±.030	M = 8.90	1.15	±.065
	1.67	−.17		0.91	+.01		1.07	+.09
	1.50	+.00		0.97	−.05		1.20	−.04
10 46.0	1.44	+.06	10 46.0 29.7	0.90	+.02	10 46.0 44.8 57.2	1.12	+.04
9 30.3 17.2	1.39	+.11	10 11.5 34.5	0.89	+.03	−0 1.2	1.26	−.10
−1 15.7	1.50	±.085		0.92	±.027		1.16	±.068
8.00			8.58			8.34		
	1.58	−.14 .12		0.95	+.03		1.23	+.03
	1.45	+.01 .00		1.03	−.05		1.30	−.04
10 46.0	1.46	+.02 .01	10 46.0	0.99	−.01	10 46.0 51.5 30.5	1.22	+.04
9 37.3 19.4	1.31	+.16 .14	10 19.1 26.9	0.94	+.04	+0 5.5	1.28	−.02
−1 8.7	1.47	±.074	4.5	0.98	±.032	8.24	1.26	±.032
8.05			8.52					
	1.25	−.04 .05		1.02	+.01 .00			
	1.29	−.08 .09		0.96	+.07 .06	No. of settings = 208		
10 46.11 5.6	1.15	+.06 .05	10 46 25	0.95	+.08 .07			
9 44.9 46	1.13	+.08 .07	−0 2.0	1.17	−.14 .15			
−1 1.1	1.20	±.065	5.9	1.02	±.070			
8.30			8.48					
	1.08	−.04		1.21	−.04 .05	Lines in Green are times of obs. corrected for Lgt Eq. = −3 43		
10 46	1.03	+.01		1.14	+.03 .02			
9 53 0.2			10 46.0					
9 54 30.2	1.04	+.00	10 32.8 48.5	1.11	+.06 .05			
−0 53	1.01	+.03	−0 13.2	1.20	−.03 .04			
8.46	1.04	±.020	8.34	1.16	±.040			

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

East Time.	Diff. Mag.	Av. Dev.	East. Time.	Diff Mag	Av Dev	East. Time.	Diff. Mag.	Av. Dev.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

W Cephei.

d	Time	Mean Mag's.		June 19, 1895: Gr. M. Time	+4 Mag
14	22 36.5	1.86	+.65	14 22 36.5	1.73
		1.50	+.29		1.50
		1.45	+.24		1.45
		1.21	+.00		1.20
		1.04	−.17		1.04
		0.99	−.22		0.99
		0.92	−.29		0.92
		0.98	−.23		0.98
		1.03	−.18		1.02
		1.17	−.04		1.16
		1.15	−.06		1.14
		1.16	−.05		1.16
15	1 30.5	1.26	+.05		1.26
		5.72	+1.23	13	15.55
		1.21	−1.24		1.196
			±.190		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Prin. Min. Z Herculis. Plat. V.

Sept. 24, 1895.

Gr. m. T. (Dunér's Gr. m. T. of min. = 14h 50m)

Gr. m. T.	Diff. mean	Dev.	Gr. m. T.	Diff. mean	Dev.	Gr. m. T.	Diff. mean	Dev.
	2.49	+.00		2.32	+.00		2.08	-.01
	2.48 A			2.32 B			2.08 A	
14h 14m 46s.	2.47	-.02	14h 38m 44s.	2.32	+.00	16h 22m 29s.	2.08	-.01
14 10 23.	2.51	+.02	14 51 14.	2.34	+.02	15 58 57.	2.08	-.01
(-0 31 59)	2.50 B		(+0 0 52.)	2.32 A		(+0 54 23.)	2.10 B	
	2.48	-.01		2.30	-.02		2.11	+.02
14 18 6	2.49	±.012	14 50 57	2.32	±.010	15 48 28	2.09	±.012
	2.54	+.02		2.27	+.02		2.07	-.02
	2.54 B			2.30 A			2.07 B	
14 51 46.	2.53	+.03	14 [illegible] [illegible].	2.32	+.07	16 29 [illegible].	2.07	-.02
14 22 56.	2.50	-.02	15 9 3.	2.24	+.03	15 53 54.	2.11	+.02
(-0 27 26.)	2.48 A		(+0 12 41.)	2.25 A		(+1 3 32.)	2.12 A	
	2.43	-.05		2.22	-.03		2.12	+.03
14 22. 39	2.52	±.030	15 8 46	2.25	±.038	15 53 37	2.09	±.022
	2.44	-.04		2.18	-.04		2.01	-.11
	2.46 A			2.18 B			2.08 A	
15 9 3.	2.49	+.01	15 15 54.	2.13	-.05	16 16 [illegible].	2.09	-.03
14 27 29.	2.52	+.04	15 14 51.	2.27	+.09	16 1 54.	2.21	+.09
(-0 22 53.)	2.49 B		(+0 24 29.)	2.22 A		(+1 11 32.)	2.12 B	
	2.46	-.02		2.17	-.01		2.15	+.03
14 27 12	2.48	±.028	15 14 34	2.18	±.048	16 1 37	2.12	±.065
	2.36	-.02		2.11	-.04		2.12	+.04
	2.39 B			2.16 A			2.10 B	
15 14 51.	2.42	+.04	15 [illegible] 54.	2.22	+.07	16 6 56.	2.07	-.01
14 39 43.	2.40	+.02	15 20 0.	2.21	+.06	(+1 16 28.)	2.06	-.02
(-0 10 39.)	2.36 A		(+0 37 38.)	2.14 B			2.07 A	
	2.33	-.05		2.07	-.12		2.08	+.00
14 39 26	2.34	±.032	15 27 43	2.17	±.072	16 6 39	2.02	±.018
	2.39	+.04 .03		2.18	+.05		2.07	-.07
	2.37 A .01			2.14 B			2.07 A	
15 20 0.	2.37	-.04	15 [illegible] 56.	2.10	+.03	16 22 39.	2.07	-.07
14 54 11.	2.31	-.07 .05	15 35 11.	2.16	+.03	(+1 32 17.)	2.17	+.03
(-0 [illegible] 11.)	2.34 B .02		(+0 43 49.)	2.12 A			2.20 B	
	2.38	+.00		2.09	-.04		2.24	+.10
14 44 54	2.36	±.028	15 23 54	2.13	±.038	16 22 22	2.14	±.042
	2.36	±.028						

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Z Herculis. Phot. I.

Sept. 24. 1895.

G. M. T.	Diff. Incyn.	Av. Dev.
	2.07	-01
	2.04 B	
16 29 42.	2.02	-.06
(+1 39 20.)	2.06	-.02
	2.12 A	
	2.12	+10
16 29 25	2.08	±048
	2.09	+03
	2.06 A	
16 46 40.	2.03	-.03
(+1 56 18.)	2.06	+00
	2.06 B	
	2.07	+01
16 46 23	2.06	±018
	2.16	+02
	2.14 B	
16 53 0.	2.21	+07
(+2 2 46.)	2.10	-04
	2.10 A	
	2.10	-04
16 52 57	2.14	±042

Times in Gmt are times of obs. corrected for Light Eqn. $t - \Delta T$

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

96 Gr. Time min. = 13h 20m

ζ Herculis. Phot V.

Sept. 30, 1895. (Secondary min.) Corrected

Gr. M. Time	Diff. Mag.	Dev.	Gr. M. Time	Diff. Mag.	Dev.	Gr. M. Time	Diff. Mag	Dev.
	2.64	+08		2.59	-11		2.65	-05
	2.70 A			2.66 B			2.64 A	
	2.76	+20		2.72	+02		2.71	+01
hrs m			hrs m			hrs m		
12 36	2.47	-09	13 23	2.79	+09	14 18	2.69	-01
	2.46 B			2.74 A			2.72 B	
	2.38	-18		2.68	-02		2.74	+04
	2.56	±138		2.70	±060		2.70	±028
	2.74	00		2.63	-01		2.66	+02
	2.76 B			2.60 A			2.63 B	
	2.74	00		2.56	-08		2.60	-04
12 42	2.80	+06	13 37	2.73	+09	14 23	2.66	+02
	2.74 A			2.74 B			2.64 A	
	2.70	-04		2.74	+10		2.62	-02
	2.74	±025		2.64	±070		2.64	±025
	2.73	-02		2.69	-01		2.68	+01
	2.76 A			2.68 B			2.70 A	
	2.79	+04		2.67	-03		2.72	+05
12 57	2.70	00		2.73	+03		2.64	-03
	2.74 B			2.71 A			2.64 B	
	2.74	-01		2.69	-01		2.64	-03
	2.75	±018		2.70	±020		2.67	±030
	2.74	-02 00		2.68	-04		2.68	+02
	2.77 B	04		2.68 A			2.67 B	
	2.80	+06		2.67	-05		2.66	+00
13 3	2.73	-01 03	13 54	2.75	+03		2.67	+01
	2.76 A			2.76 B			2.66 A	
	2.79	+03		2.77	+05		2.65	-01
	2.76	±030		2.72	±042		2.66	±010
	2.71	+01		2.70	-04		2.61	00
	2.73 A			2.70 B			2.62 A	
	2.75	+05		2.80	+06		2.63	+02
13 16	2.73	+03	13 59	2.76	+02	15 4	2.63	+02
	2.66 B			2.72 A			2.60 B	
	2.60	-10		2.68	-06		2.58	-03
	2.70	±048		2.74	±045		2.61	±078

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Period of Z Herculis according to Dunner (See Ash Obs Vol I pg 289) is
3.99201 = 3d 23h 48m 30s

for Geogr. Obs.

Gr. M. Time	Diff. Mag.	Dev.	Gr. M. Time	Diff. Mag.	Dev.
	2.71	+06		2.74	+09
	2.66 B			2.70 A	
	2.62	-03		2.65	+00
hrs m 51.3			hrs m s		
15 9 20.5	2.59	-06	16 1 51.3	2.59	-06
	2.63 A			2.61 B	
	2.67	+02		2.63	-02
	2.64			2.66	
	2.65	±042		2.65	±042
	2.59	-04		2.62	-09
	2.61 A			2.66 B	
	2.63	+00		2.71	+00
15 28 22.5	2.64	+01	16 7 34	2.77	+06
	2.66 B			2.74 A	
	2.67	+04		2.73	+02
	2.64			2.70	
	2.63	±022		2.71	±042
	2.73	+03			
	2.72 B				
	2.71	+01			
=					
15 34 9.5	2.67	-03			
	2.64 A				
	2.69	-01			
	2.80				
	2.70	±020			
	2.67	+03			
	2.64 A				
	2.63	-01			
=					
15 44 18.5	2.63	-01			
	2.66 B				
	2.65	+01			
	2.64				
	2.64	±015			
	2.70	+04			
	2.69 B				
	2.68	+02			
15 49 57.5	2.63	-03			
	2.66 A				
	2.65	-01			
	2.66				
	2.66	±025			

See page 116

Times in Green are times of obs corrected for Eq Eq = -0m 5s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Compend with +15° K916.

Chandler's New Variable Phot J. <<<c

November 16, 1895. RA 23 hrs 51 Dec +15.1

Gr.	M.	Time.	Diff. Mag.	Av. Dev.	Gr.	M.	Time.	Diff. Mag.	Av. Dev.	Gr.	M.	Time	Diff. Mag.	Av. Dev.
			0.58<	−10<				0.37<	+03<				0.86<	−07<
hrs	m	s	0.47<	−21<	hrs	m	s	0.39<	+05<	hrs	m	s	0.94<	+01<
11	7	44.5<	0.88<	+20<	12	29	0.2<	0.36<	+02<	14	22	49.2<	0.95<	+02<
11	13		0.81<	+13<	12	34		0.24<	−10<	14	28		0.97<	+04<
			0.68<	±.160<				0.34	±.050<				0.93<	±035<
			0.61<	+13<				0.26<	−15<					
			0.53<	+05<				0.38<	−03<					
11	31	52.0<	0.45<	−03<	12	43	47<	0.54<	+13<					
11	31.9		0.35<	−13<	12	43.8		0.45<	+04<					
11	87		0.48	±.085<		49		0.41<	±.088<					
			0.49<	−04<				0.62<	+05<					
			0.55<	+02<				0.55<	−02<					
11	50	43.8<	0.50<	−03<	13	3	37<	0.59<	+02<					
11	50.7		0.59<	+06<	13	3.6		0.51<	−06<					
11	56		0.53<	±038<	13	5		0.57<	±038<					
			0.40<	−04<				0.55<	−03<					
			0.45<	+01<				0.58<	+00<					
12	4	41.2<	0.44<	+00<	13	19	41.5<	0.53<	−03<					
12	4.7		0.49<	+05<	13	19.7		0.63<	+05<					
12	9	57	0.44<	±025<	13	24	58	0.58<	±028<					
			0.53<	+22<				0.68<	−05<					
			0.37<	+06<				0.64<	−09<					
12	11	7.8<	−0.02<	−33<	13	5−0	15.5<	0.80<	+07<					
12	11.1		0.36<	+05<	13	5−0.3		0.79<	+06<					
12	16	24	0.31<	±165<	13	50	32<	0.73	±068<					

No of settings = 276

Times in Greenwich Mean Time of obs corrected for Light Eq. = +5s.16

Copied on page 23 of this book.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei. Nov. 18. 1895. Phot. T.

Comp. star = DM +81° 27 (8.6)

Gr. M. T.	Diff. Incpn.	Diff. Av.	Gr. M. T.
	+.07	1.14 < −.12	
−2 27 17	−1.02 b	+.12	
	0.90 <	−.08 <	
14/		+.04	
9 41 7.5 <	0.91 <	−.07 <	
14 42 <	−0.95 a	−.04	
17 12 <			
−2 30 <	0.99 <	+.01 <	
		±.00	
M = 7.62	−0.98 <	±.080 <	
		±.00	
+.02	0.92 <	−.01 <	
−2 17 58	−0.92 a	−.01	
	0.93 <	+.00 <	
14		−.01	
9 50 26 <	0.95 <	+.02 <	
17 12 <	−0.94 b	+.02	
−2 22 <	0.92 <	−.01 <	
		±.00	
7.67	−0.93 <	±.010 <	
		−.05	
+.02	0.93 <	+.06 <	
−2 8 11	−0.88 b	+.05	
	0.43 <	−.04 <	
15		−.03	
10 0 13 <	0.89 <	+.02 <	
17 12 <	−0.86 a	+.02	
−2 12 <	0.84 <	−.03 <	
		±.00	
7.73	−0.87 <	±.038 <	
		−.06	
−.21	0.91 <	±.16 <	
−1 58 56	−0.85 a	+.06	
	0.79 <	+.04 <	
15		+.04	
10 9 28 <	0.60 <	−.15 <	
17 12 <	−0.64 b	−.05	
−2 3 <	0.69 <	−.06 <	
		±.00	
7.85	−0.75 <	±.102 <	
		+.01	
+.04	0.79 <	+.01 <	
−1 42 18	−0.60 b	−.01	
	0.61 <	+.03 <	
15		−.06	
10 26 6 <	0.62 <	+.04 <	
17 12 <	−0.56 a	+.06	
−1 46 <	0.50 <	−.08 <	
		±.00	
8.02	−0.58 <	±.040 <	

Times in Green are times of observations corrected for Light Eq. = +3 56

Gr M Time of min = Nov 18 d 17 h 12 m

No of settings = 80

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

γ Andromedae.

Date	Lab. Qty.	Mean	G. M. S.	Resids.	J.D.	Book & Page
1895. July 29.	1.86, 1.84, 1.78, 1.83, 2.03, 1.88, 1.94, 2.00,	1.90	hr 15 m 44 s 37.6	03.01.05 00.07.08.02.04	241-3404	76 : 40

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj..4420

	Av. Dec. Reads.	Diff. a–b

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.:4420

Gr. Mean Time of Minimum = 16 hrs 10.0

U Cephei. Phot. I

December 3, 1895. Comp. star = DM +81°27 (8.6)

Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.	Gr.
hrs m s	(1.71)	-.20	hrs m s		-.06	hrs m s			
12 12.4 27 c	1.52	-.01	13 27.6 33 c	1.39	-.21	14 36 24	0.57	-.03	
16 10.0			16 10.0	1.33	+.06	-4 28	0.48	-.02	
	b 1.44	+.07	a	1.27	-.09	14 31.9 56 b	0.45	+.03	
-3 57.6			-2 42.5		-.05	16 10.0 [-.02]		+.04	
12 16 14	1.45	+.06	13 31 17	b 1.08	+.10	-1 38.1	0.58	-.08	
-3 53 49	a 1.45	+.06	-2 38 43	1.03	+.05	14 35 40	0.50	-.09	
				0.98	+.20		0.43	+.07	
Mag = 7.09	1.51	±.080	Mag = [-.30] 7.42	1.18	±.150	-1 34 20 Mag = 8.11	0.49 c	±.052	
		+.01			-.01			+.04	
12 25.7 41 a	1.61	-.09	13 36.7 44 c	1.01	-.07	14 53 17 a	0.22	-.06	
16 10.0	1.62	-.02	16 10.0	1.00	+.02	-4 28	0.26	-.03	
-3 44 3	1.64	-.12	b	0.98	+.02	14 48.8 49	0.29	-.13	
		-.04	-2 33.3		-.04	16 10.0		+.05	
12 29 25	1.44	+.08	13 40 28	1.06	-.06	b	0.01	+.15	
-3 40 35 b	1.40	+.03	a -2 29 32	1.02	+.05	-1 21.2	-0.06	-.05	
	1.37	+.15		0.97	+.03	14 52 33	0.11	+.05	
[-.22] 7.08	1.52	±.110	[-.02] 7.60	1.00 c	±.030	-1 17 22 [-.20] 8.44	0.16 c	±.098	
		-.06			+.08	7.0 c		.01	
12 39.1 6 c	1.40	-.05	13 53 36 c	0.84	+.06	15 6 58 b	+0.17	.06	
16 10.0 b	1.34	+.07	-4 30 a	0.92	-.07	16 10.0	+0.18	+.01	
-3 30 9	1.27	+.08	13 49.1 6	0.99	-.09		+0.19	.04	
		+.05	16 10.0		.00	-1 3.0		.03	
	1.31	+.04	b -2 20.9	0.88	+.02	a	+0.23	+.02	
-3 27 10 a	1.36	-.06	13 52 50	0.86	+.01		+0.28	+.02	
	1.42	-.07		0.87	+.03	15 10 42	+0.30	+.07	
[-.02] 7.25	1.35 c	±.060	-2 17 10 [-.04] 7.70	0.90 c	±.050	-0 59 18 [-.10] 8.37	+0.23 c	±.048	
		-.01			+.03			+.01	
12 57 34 c	1.33	-.04	14 2.6 39 c	0.77	+.07	15 18.3 20 c	+0.41	.05	
-4 32 a	1.32	+.02	16 10.0	0.80	-.04	16 10.0 a	+0.40	+.07	
12 53.0 2	1.30	-.01	-2 7.4	0.84	+.00		+0.39	.07	
16 10.0 b		.04			+.02	-0 51.7		+.02	
-3 17.0	1.22	+.07	14 6 23	0.86	-.02	15 22 4 b	+0.54	+.08	
12 56 46	1.286	.05	a -2 3 37	0.88	-.02	-0 47 56	+0.52	+.03	
	1.31	-.02		0.90	-.06		+0.49	+.03	
-3 13 14									
[-.06] 7.31	1.29 c	±.035	[-.08] 7.76	0.84 c	±.038	[-.12] 8.14	+0.46 c	±.058	
		+.01			+.02			.05	
13 5.5 31 c	1.29	+.03	14 16.4 25 c	0.78	-.06	15 29.4 26 c	+0.61	.00	
16 10.0 b	1.30	-.01	16 10.0	0.80	-.03	16 10.0	+0.66	+.06	
-3 4.5	1.31	+.01		0.83	-.11		+0.72	+.11	
		-.02	-1 53.6		-.01	-0 40.6		.06	
	a 1.36	-.04	14 20 9	0.65	+.07	15 33 10	+0.49	.12	
-3 0 45	1.34	+.01	b -1 49 51	0.64	+.02	-0 36 a 50	+0.51	+.06	
	1.33	-.01		0.62	+.10		+0.61	.00	
[-.04] 7.28	1.32 c	±.023	[-.16] 7.88	0.72 c	±.085	[-.11] 7.99	+0.60 c	±.058	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei.

December 3, 1895. Continued.

Gr. M. Time.	Diff. Mdg.	Av. Dev.	Gr. M. Time.	Diff. Mdg.	Av. Dev.	Gr. M. Time.	Diff. Mdg.	Av. Dev.
hrs m s			hrs m s			hrs m s		
15 36 8.57	+0.54	±.00	17 0.4 21	+0.95	+.09	18 14.8 50	+.17	-.07
16 10.0 a	0.55	+.11	16 10.0 b	0.86	+.14	16 10.0 a	+0.24	+.07
-0 33.2	+0.55	+.01	+0 50.4	+0.78	-.08	+0.30	+0.30	+.20
15 40 35	+0.77	+.10	17 4 54	+0.73	.03	+2 4.8		-.02
-0 29 25 b	0.75	+.12	+0 54 54 a	0.76	-.03	18 18 34	-0.05	-.15
	+0.73	-.02		+0.79	+.03	+2 8 34 b	-0.03	+.02
[-.21]		+.08	[-.10]		+.02	[+.27]	-0.01	-.11
Mag = 7.95	+0.68	±.102	Mag = 7.79	+0.81	±.068	Mag = 8.50	+0.10	±.132
15 55 63.3	+0.82	-.01	17 16.1 6	+0.82	+.03	18 27.6 36	-0.10	-.05
16 10.0 b	0.83	+.03	16 10.0	0.79	.02	16 10.0 b	-0.05	+.05
-0 14.4	+0.84	+.01	+1 6.1 a	+0.76	-.03		0.00	+.13
15 59 17	+0.71	-.05	17 19 50	+0.93	.08	+2 17.6		-.04
-0 10 43 a	0.76	-.08	+1 9 40 b	0.88	+.05	18 31 20	-0.24	-.11
	+0.80	+.04		+0.83	-.05	+2 21 20 a	-0.20	+.03
[-.07] 7.81	+0.80	+.01	[-.09] 7.76	+0.84	.01	[-.15] 8.47	-0.13	±.078
	+0.79	±.042		+0.84	±.050			
16 10.5 30	+0.72	-.04	17 31.8 51	+0.74	-.02	18 34.425	-0.25	+.01
16 10.0 a	0.76	-.08	16 10.0	+0.76	+.03	16 10.0	-0.26	-.01
+0 0.5	+0.80	+.04	+1 21.8 b	+0.78	+.02	a	-0.28	-.02
16 14 14	+0.84	.00	17 30 36	+0.70	+.07	+2 24.4		-.04
+0 4 14 b	0.84	+.04	+1 25 36 a	0.66	.01	18 38 9	-0.15	+.07
	+0.83	-.01		+0.61	-.05	+2 28 9 b	-0.22	+.09
[-.08] 7.80	+0.80	+.03	[-.10] 7.89	+0.71	.00	[-.04] 8.36	-0.29	-.07
		±.038			±.052		-0.24	±.048
16 30 50	+0.83	+.01	17 46.1 5	+0.55	+.01			
-4 23 b	0.82	+.07	16 10.0 a	+0.54	.09			
16 26.4 27	+0.81	-.01	+1 36.1	+0.54	.00			
16 10.0	+0.71	+.05	17 49 49	+0.78	.10			
+0 16.4	0.70	+.01	+1 39 49 b	0.72	+.06	No of settings = 448		
16 30 11 a	+0.70	.00		+0.67	+.14			
+0 20 11		.06			-.05			
[-.12] 7.84	+0.76	±.058	[-.18] 7.96	+0.64	+.03			
		+.03			±.090			
16 41.4 23	+0.79	-.01	17 59.1 6	+0.58	.00			
16 10.0 a	0.76	-.02	16 10.0 b	+0.58	.02	Times in Green are		
+0 31.4	+0.74	.06	+1 49.1	+0.58	.00	times of obs. corrected		
16 45 7	+0.80	-.03	18 2 50	+0.66	.02	for Eph Eq = +0.46		
	0.83	.00		+0.61	+.06			
b	+0.86	+.03	+1 52 50 a	+0.56	-.05			
+0 30 7		+.06			.04			
[-.07] 7.80	+0.80	±.032	[+.03] 8.00	+0.60	±.035			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr M Time of Min = 12 42

U Cephei Phot I

January 22, 1896. Comp. star = DM +81°27 (8.6)

Gr M Time	Diff Mag	Dev	Gr M Time	Diff Mag	Dev	Gr M Time	Diff Mag	Dev
hrs m s			hrs m s			hrs m s		
−1 43 22	−0.40	+02	−0 57 52	+0.32	+05	+0 15 38	+0.76	+10
	b 0.38			a		44 22		
10 56 15	−0.35	+07	11 41 45	+0.34	+03	13 55 15	+0.75	+11
−1 46	−0.43	∓01	−1 0	+0.39	∓02	+1 13	+0.98	∓12
−0.074	a 0.46			b			a	
	−0.50	∓08	−0.042	+0.43	∓06	+0.051	+0.96	∓10
10 58 38			11 44 8			13 57 38		
Mag = 8.18	−0.42	±045	Mag = 8.97	+0.37	±040	Mag = 9.46	+0.86	±108
−1 35 22	−0.38	+01	−0 41 22	+0.66	∓04	h m s	+1.01	∓09
	a 0.38			b		+1 27 53	a	
11 4 15	−0.38	+01	11 58 15	+0.74	∓12	14 7 30	+0.96	∓04
−1 34	−0.45	∓06	−0 44	+0.48	+14	+1 26	+0.77	+15
−0.062	b 0.40			a			b	
	−0.35	+04	−0.031	+0.59	+03	+0.060	+0.96	∓04
11 6 38			12 0 38			14 9 53		
8.21	−0.39	±030	9.22	+0.62	±082	9.52	+0.92	±080
−1 27 7	−0.32	+10	−0 32 37	+0.53	+06	+1 39 38	+0.95	∓08
	b 0.32			a			b	
11 12 30	−0.32	+10	12 7.0	+0.59	00	14 19 15	+0.98	∓11
−1 30	−0.62	∓20	−0 35	+0.63	∓04	+1 37	+0.86	+01
−0.062	a 0.53			b			a	
	−0.44	∓02	−0.024	+0.61	∓02	+0.067	+0.70	+17
11 7 4 53			12 9 23			14 21 38		
8.22	−0.42	±105	9.19	+0.59	±030	9.47	+0.87	±092
−1 18 22	−0.50	∓20	−0 23 7	+0.73	+15	+1 50 8	+0.70	+ 05 ∓ 00
	a 0.37			b			a 0	
11 21 15	−0.24	+06	12 16 30	+0.75	+13	14 29 45	+0.77	∓ 00
−1 21	−0.13	+17	−0 26	+0.97	∓09	+1 42	+0.66	− 04 + 06
−0.056	b 0.22			a			b 0.60	
	−0.32	∓02	−0.018	+1.09	∓21	+0.075	+0.70	+8.8
11 23 38			12 18 53			14 32 8		22
8.30	−0.30	±112	9.48	+0.88	±145	9.32	+0.78	±049
−1 9 7	+0.03	∓03	−0 8 22	+0.96	∓19	+1 56 53	+0.72	∓01
	b			a			b	
11 30 30	−0.03	∓09	12 31 15	+0.66	+11	14 36 30	+0.56	+15
−1 12	+0.15	+09	−0 11	+0.81	∓04	+1 54	+0.80	∓09
−0.050	a			b			a	
	+0.11	+05	−0.008	+0.66	+11	+0.079	+0.76	∓00
11 32 53			12 33 38			14 38 53		
8.66	+0.06	±065	9.37	+0.77	±112	9.31	+0.71	±075

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

1896

U Cephei

January 22. 1896 Continued

Gr. M. Time hrs m s	Diff. Mag	Av Dev	Gr. M. Time hrs m s	Diff. Magn	Av Dev	Gr M Time hrs m s	Diff. Mag	Av Dev.
+2 17 √3	+0.14	∓06	+3 3 8	∓0.63	∓05	+4 0 √3	∓1.22	+02
a 0.10			b			b		
14 √7 30	+0.06	+02	15 42 45	∓0.77	∓19	16 48 30	∓1.18	+06
+2 16	+0.01	+07	+3 1	∓0.45	+13	+3 √8	∓1.34	∓10
b −0.04			a			a		
+0.094	+0.09	∓01	+0.126	∓0.46	+12	+0.165	∓1.22	+02
14 √9 √3	36		15 45 8			16 42 √3		
Mag = 8.68	+0.08	±040	Mag = 8.02	∓0.58	±122	Mag = 7.36	∓1.24	±050
+2 24 √3	∓0.14	15	+3 28 √3	∓1.07	00	+4 7 √3	∓1.36	+02
4								
b			a			a		
15 4 30	∓0.19	∓20	16 8 30	∓1.09	∓02	16 47 30	∓1.26	+12
+2 23	−0.20	+19	+3 26	∓1.05	+02	+4 6	∓1.38	∓10
a				b		b		
+0.099	−0.17	+16	+0.143	∓1.08	∓01	+0.171	∓1.32	+06
15 6 √3			16 10 √3			16 49 √3		
8.61	−0.18	±175	9.67	∓1.07	±012	9.98	∓1.38	±100
+2 30 8	−0.10	∓12	+3 30 23	∓1.02	∓06	+4 14 √3	∓1.34	∓08
a				b		b		
15 14 45	−0.02	∓24	16 15 0	∓1.09	∓13	16 √4 30	∓1.32	∓06
+2 33	−0.24	+02	+3 33	∓0.90	+06	+4 12	∓1.25	+01
b			a			a		
+0.106	−0.36	+34	+0.142	∓0.81	+15	+0.175	∓1.15	+11
15 17 8			16 17 23			16 √6 √3		
8.82	−0.18	±180	7.64	∓0.96	±100	7.34	∓1.26	±065
+2 44 23	−0.36	+43	+3 46 23	∓0.98	∓10	+4 20 23	∓1.25	+01
b			a			a		
15 24 0	−0.42	+49	16 26 0	∓0.91	∓03	17 0 0	∓1.14	+12
+2 42	−0.51	∓44	+3 44	∓0.87	+01	+4 18	∓1.39	∓13
a				b		b		
+0.112	−0.56	∓49	+0.156	∓0.74	+14	+0.179	∓1.27	∓01
15 26 23			16 28 23			17 2 23		
8.53	−0.46	±462	7.72	∓0.88	±070	7.34	∓1.26	±068
+2 √0 23	∓0.65	+02	+3 √√ 8	∓0.99	+12	+4 25 √3	∓1.33	+03
a			b			b		
15 35 0	∓0.66	+01	16 34 45	∓1.06	+05	17 √ 30	∓1.27	+09
+2 √3	∓0.69	∓02	+3 √3	∓1.17	∓06	+4 24	∓1.34	+02
b			a			a		
+0.120	∓0.67	+00	+0.162	∓1.21	∓10	+0.183	∓1.49	∓13
15 37 23			16 37 8			17 7 √3		
9.27	∓0.67	±012	9.74	∓1.11	±082	7.24	∓1.36	±068
7.93			7.49					

No of settings = 4.80

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei Phot. I.

January 27, 1896. Comp. star = D.M. +81°27 (8.6)

Gr. M. Time	Diff. Magn.	Var. Dur.	Gr. M. Time	Diff. Magn.	Var. Dur.
hrs m s			hrs m s		
	−0.18	−18		+0.84	+06
12 21			12 21		
11 12 15	+0.01 (b)	+01	11 51 30	+0.72 (a)	−05
−1 8.7	+0.05	+05	−0 29 5	+0.78	00
11 14 22	+0.12 (a)	+12	11 53 37	+0.76 (b)	−02
−1 6 38			−0 27 23		
Mag = 8.60	±0.00	±090	Mag = 9.38	+0.78	±032
	+013	−11		+0.79	+11
12 21			12 21		
11 19 30	+017 (a)	−07	11 57 30	+0.73 (b)	+05
−1 1.5	+0.30	+06	−0 23.5	+0.43	−25
11 21 37	+0.34 (b)	+10	11 59 37	+0.76 (a)	+08
−0 59 23			−0 21 23		
8.84	+0.24	±085	9.28	+0.68	±122
	+0.32 (b)	−07		+0.68	−12
12 21			12 21		
11 30 20	+0.41	+02	12 4 15	+0.71 (a)	−09
−0 50.7	+0.52	+13	−0 16.8	+0.94	+14
11 32 27	+0.32 (a)	−07	12 6 38	+0.87 (b)	+07
−0 48 33			−0 14 38		
8.99	+0.39	±072	9.40	+0.80	±105
	+0.63	−02		+0.86	−02
12 21			12 21		
11 38 0	+0.74 (a)	+09	12 11 0	+0.94 (b)	+06
−0 43	+0.58	−07	−0 10.0	+0.90 (a)	+02
11 40 7	+0.65 (b)	00	12 13 7	+0.82	−04
−0 40 53			−0 7 53		
9.25	+0.65	±045	9.48	+0.88	±035
	+0.66	−06			
12 21					
11 44 30	+0.80 (b)	+08			
−0 36.5	+0.76	+04			
11 46 37	+0.64 (a)	−08			
−0 34 23					
9.32	+0.72	±065			

Gr. M. Time of Min. = 12h 21m

Times in Green are times of obs corrected for Eq. Eq. = +2m

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.14420

U Cephei. Phot. I.
Full Brightness.

Jan. 30. 1896.

Gr. M. T.	Diff. Magn.	Asr. Ser.
hrs m s		
		−.04
	−1.70	−.10
	a 1.66	+.03
13 16 45	−1.63	−.03
		+.13
	−1.41	+.19
	b 1.54	−.14
	−1.68	−.08
	−.12 c	−1.66 ±.100
		00
	−1.64	−.04
	b 1.64	00
13 29 15	−1.64	−.04
		−.02
	−1.58	+.02
	a 1.56	+.02
	−1.54	+.06
	+.08 c	−1.60 ±.040
		+.06
	−1.58	+.06
	a 1.64	−.07
13 39 30	−1.71	−.07
		−.04
	−1.68	−.04
	b 1.64	+.03
	−1.61	+.03
	00 c	−1.64 ±.050
		−.02
	−1.67	−.05
	b 1.65	+.03
13 48 30	−1.62	−.00
		−.01
	−1.59	+.03
	a 1.58	+.00
	−1.58	+.04
	+.07 c	−1.62 ±.030
		−.04
	−1.60	−.05
	a 1.56	+.04
13 54 45	−1.52	+.04
		00
	−1.50	+.03
	b 1.50	−.01
	−1.51	+.02
	−.06 c	−1.53 ±.032

Apr. 27. 1896.

Gr. M. T.	Diff. Magn.	Asr. Ser.
hrs m s		
	−1.90	±.26
	b	
12 47 52		
12 48 10	1.88	±.24
12 45 0		
12 51 20	−1.38	+.26
	a	
−18 s	−1.40	+.24
	−1.64	±.250
	−1.70	+.01
12 56 29	a	
12 56 48	−1.85	±.14
12 53 38		
12 59 8	−1.55	+.16
	b	
−19 s	−1.74	±.03
	−1.71	±.085
	−1.53	+.05
13 4 52	b	
13 5 12	−1.45	+.13
13 2 2		
13 8 22	−1.73	±.15
	a	
−20 s	−1.63	±.05
	−1.58	±.095

These observations not considered good and to be rejected April 27, 1896.

June 23, 1896.

Gr. M. Time	Diff. Mag	Asr. Ser.
hrs m s		
	−1.58	+.04
a	−1.65	−.03
14 42 43	−1.62	±.035
14 39 7		
	−1.61	+.01
b	−1.63	−.01
	−1.62	±.010
.00 c	−1.62	±.022
	−1.58	.00
b	−1.57	+.01
14 50 22	−1.58	±.005
14 46 46		
	−1.69	+.09
a	−1.87	−.09
	−1.78	±.090
−.20 c	−1.68	±.048
	−1.79	−.02
a	−1.75	+.02
14 57 48	−1.77	±.020
14 54 12		
	−1.83	.00
b	−1.83	.00
	−1.83	±.000
+.06 c	−1.80	±.010
	−1.80	−.03
b	−1.74	+.03
15 6 4	−1.77	±.030
15 2 28		
	−1.60	+.02
a	−1.65	−.03
+.15 c	−1.62	±.025
	−1.70	±.028

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei Phot. I.

Full Brightness

Dec 17, 1896.

June 23, 1896. Continued.

Gr. M. Time.	Diff. Mag.	Err. Obs.
hrs m s		
	−1.67	+.01
a	−1.69	−.01
15 15 37	−1.68	±.010
	−1.50	.00
b	−1.51	−.01
	−1.50	±.005
−.18	−1.59	±.008

Gr. M. Time	Diff. Mag.	Err. Obs.
hrs m s		
	−1.75	+.01
b	−1.72	−.02
13 0 20	−1.74	±.015
	−1.47	−.03
a	−1.53	+.03
	−1.50	±.030
	−1.62	+.24 A−13
	−1.55	+.05
a	−1.46	−.04
13 13 0	−1.50	±.045
	−1.68	+.02
b	−1.65	−.01
	−1.66	±.015
	−1.58	+.16 A−13
	−1.66	−.02
b	−1.70	+.02
13 25 0	−1.68	±.020
	−1.57	−.03
a	−1.62	+.02
	−1.60	±.025
	−1.64	+.08 A−13
	−1.41	−.09
a	−1.58	+.08
13 40 0	−1.50	±.085
	−1.65	−.03
b	−1.71	+.03
	−1.68	±.030
	−1.59	+.18 A−13

Gr. M. Time	Diff. Mag.	Err. Obs.
hrs m s		
	−1.55	−.03
b	−1.62	+.04
13 53 45	−1.58	±.035
	−1.51	−.04
a	−1.59	+.04
	−1.55	±.040
	−1.56	+.03 A−13

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

110 Dunér's Gr. Mn. T.

$\frac{1}{2}$ Min. = $\frac{15^h\ 25^m}{15\quad 24\quad 5\ 3^s}$ <

Z. Herculis.

September 12, 1895.

Prin. Mins.

R 76 : B. 105

Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.
	2.37	+ 01 <		2.52	− 07 <		2.31	− 06 <
	2.36 A			2.52 B			2.36 A	
	2.36	00 <		2.58	+ 01 <		2.40	+ 03 <
hrs. m. s.			hrs. m. s.			hrs. m. s.		
12 44.9 57.5 <	2.39	+ 03 <	14 2.3 17.5 <	2.58	+ 01 <	14 40.7 43.2	2.47	+ 10 <
15 24.9	2.37 B			2.66 A		15 24.9	2.38 B	
−2 43.0	2.31	− 05 <	−15 24.9	2.66	+ 07 <	−0 44.2	2.30	− 07 <
12 42 57	2.76	± .022	−1 22.6 14 3 21	2.58	± .040	14 41 46	2.37	± .065
	2.78	+ 02 <		2.65	+ 08 <		2.27	− 04 <
	2.77 B			2.60 A			2.22 B	
	2.77	+ 01 <		2.55	− 02 <		2.28	− 03 <
12 46.8 49.8 <	2.74	− 02 <	14 8.7 43 <	2.55	− 02 <	14 56.8 50.2	2.36	+ 05 <
15 24.9	2.77 A		15 24.9	2.52 B		15 24.9	2.34 A	
−2 38.1	2.74	− 02 <	−1 16.2	2.54	− 03 <	−0 28.1	2.33	+ 02 <
12 47 53	2.76	± .018	14 9 46	2.57	± .038	14 57 53	2.31	± .035
	2.66	− 02 <		2.65	+ 12 <		2.28	− 03 <
	2.70 A			2.52 B			2.32 A	
	2.75	+ 07 <		2.45	− 08 <		2.36	+ 05 <
12 59.7 44.0 <	2.66	− 02 <	14 12.6 37.2 <	2.46	− 07 <	15 1.4 22.5 <	2.28	− 03 <
15 24.9	2.67 B		15 24.9	2.50 A		15 24.9	2.30 B	
−2 25.2	2.64	− 04 <	−1 12.8	2.54	+ 01 <	−0 23.5	2.31	+ 00 <
13 0 47	2.68	± .038	14 13 40	2.52	± .070	15 2 20	2.31	± .028 <
	2.68	− 06 <		2.54	+ 03 <		2.30	+ 05 <
	2.73 B			2.50 A			2.39 B	
	2.75	+ 01 <		2.47	− 08 <		2.48	+ 23 <
13 4.9 52.2 <	2.79	+ 05 <	14 26.8 50.2 <	2.44	− 07 <	15 10.8 47.0 <	2.12	− 13 <
15 24.9	2.77 A		15 24.9	2.51 B		15 24.9	2.16 A	
−2 20.0	2.75	+ 01 <	−0 58.1	2.58	+ 07 <	−0 14.1	2.11	− 14 <
13 4 55	2.74	± .032	14 27 53	2.57	± .052	15 11 50	2.26	± .138 <
	2.70	− 06 <		2.38	− 06 <		2.20	− 04 <
	2.72 A			2.47 B			2.24 A	
	2.74	+ 02 <		2.56	+ 12 <		2.28	+ 04 <
13 17.4 21.5 <	2.80	+ 04 <	14 36.0 35 59.8 <	2.43	− 01 <	15 15.1 6.8 <	2.25	+ 01 <
15 24.9	2.80 B		15 24.9	2.40 A		15 24.9	2.24 B	
−2 7.5	2.79	+ 03 <	−0 48.9	2.37	− 07 <	−0 9.8	2.23	− 01 <
13 18 25	2.76	± .038	14 37 3	2.44	± .065	15 16 10	2.24	± .025 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Z Herculis

September 12, 1895.

Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.
	2.05	+ 00		2.03	+ 01
	2.10		Corr −0.01 mg.	2.00	
	2.15	+ 10		1.97	− 05
hrs. m. s.	2.00	− 05	hrs. m. s.	2.08	+ 06
15 32.9 05.8	2.00		16 24.9 57.8	2.04	
15 24.9	2.01	− 04	15 24.9	1.99	− 03
+0 8.0			+1 5.0		
15 33 05	2.05	± .048	16 20 58	2.02	± .038
	1.93	− 05		1.96	− 07
	1.96			1.96	
	1.98	+ 00	Corr −0.01 mg.	1.99	− 04
15 37.9 02.5	2.01	+ 03	16 34.6 36.2	2.13	+ 10
15 24.9	2.01		15 24.9	2.09	
+0 13.0	2.01	+ 03	+1 9.7	2.05	+ 02
15 38 02	1.98	± .028	16 35 37	2.03	± .058
	2.01	− 05		2.00	− 01
	2.04			2.04	
	2.08	+ 02	Corr −0.01 mg.	2.08	+ 07
15 57.1 16.5	2.07	+ 01	16 43.4 26	2.02	+ 01
15 24.9	2.04		15 24.9	1.96	
+0 32.2	2.08	+ 02	+1 18.5	1.93	− 08
15 58 29	2.06	± .025	16 44 29	2.01	± .049
	2.14	+ 10	Corr. for diff. Abs. pres.		
	2.10				
Corr 0.000 mg.	2.05	+ 01	16 19.6 37.0 is Zero.		
	2.02	− 02	+0 54.7		
16 2.2 13.2	1.99				
15 24.9	1.96	− 08			
+0 37.3					
16 3 16	2.04	± .052			
	2.04	− 02			
	2.06				
Corr −0.01 mg.	2.08	+ 02			
16 19.6 37.0	2.06	± 00			
15 24.9	2.05				
+0 54.7	2.04	− 02			
16 20 40	2.06	± .015			

All times in Green are times of obs corrected for Light Eq. = +1 s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

112 Dunsink Gr. Mn. T.

Diff. mags. have been cor. for diff. abs.

f min = 14h 6m

Z Herculis. Secondary Minimum.

September 14, 1895. R76 : P142

Gr. M. Time.	Diff. Mag.	Av. Dev.	Gr. M. Time.	Diff. Mag.	Av. Dev.	Gr. M. Time.	Diff. Mag.	Av. Dev.
	2.87	+.08		2.73	+.01		2.90	-.03
	2.82	A		2.72	B		2.72	B A
hrs. m. s.	2.78	-.01	hrs. m. s.	2.71	-.01	hrs. m. s.	2.75	+.02
13 50 34.2	2.74	-.05	14 34 05.4	2.74	+.02	15 33 27.5	2.71	-.02
-0 6 15.1	2.76	B	+0 28.9	2.72	A	+1 27.5	2.74	A B
	2.77	-.02		2.69	-.03		2.77	+.04
	-2.79	±.040		-2.72	±.018		-2.73	±.028
	2.65	-.14		2.70	+.01		2.83	+.07
	2.76	B		2.70	A		2.74	A B
	2.87	+.08		2.71	+.02		2.74	-.02
13 56 57.7	2.84	+.05	14 47 28.8	2.63	-.06	15 38 44.5	2.74	-.02
-0 9.1	2.82	A	+0 39	2.68	B	+1 33	2.74	B A
	2.81	+.02		2.73	+.04		2.74	-.02
	-2.79	±.072	+0 41.1	-2.69	±.032	1 32.7	-2.76	±.032
	2.64	-.12		2.78	+.09		2.66	+.04
	2.74	A		2.68	B		2.67	B A
	2.84	+.06		2.57	-.12		2.68	+.06
14 7 48.2	2.79	+.01	14 52 30.0	2.74	+.05	15 44 41.0	2.59	-.03
+0 2.2	2.82	B	+0 46.5	2.70	A	+1 39	2.57	B A
+0 1.8	2.86	+.08		2.67	-.02		2.58	-.07
	-2.78	±.068		-2.69	±.070	+1 38.7	-2.62	±.050
	2.91	+.06		2.73	+.01		2.63	-.01
	2.89	B		2.72	A		2.60	A B
	2.87	+.02		2.76	+.04		2.58	-.06
14 13 19.7	2.81	-.04	15 6 51.8	2.62	-.10	15 49 44.	2.65	+.01
+0 7.3	2.80	A	+1 0.9	2.70	B	+1 44	2.67	B A
	2.79	-.06		2.78	+.06		2.69	+.05
	-2.85	±.045		-2.72	±.052	+1 43.7	-2.64	±.032
	2.66	-.06		2.73	+.04		2.71	+.04
	2.70	A		2.72	B		2.66	B A
	2.73	+.01		2.71	+.02		2.61	-.06
14 28 43.5	2.78	+.06	15 12 31.5	2.58	-.11	16 4 19.8	2.67	+.00
+0 23.	2.74	B	+1 7	2.65	A	+1 58.3	2.66	A B
	2.71	-.01		2.72	+.03		2.69	+.02
+0 22.7	-2.72	±.035	+1 6.5	-2.69	±.050	3	-2.67	±.030

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Z Herculis. Continued

Lines in Green are times of obs. corrected for Light Eq. = +0.05

Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.
	2.64	-.06		2.67	-.04
	2.62 B-A			2.64 B-A	
hrs m s	2.72	+.02	hrs m s	2.69	-.02
16 10 1.8	2.68	-.02	17 15 38.0	2.68	-.03
+2 4.0	2.72 B-A		+3 10	2.73 B-A	
	2.75	+.05		2.78	+.07
	-2.70			-2.70	
	-2.70	±.038	+3 10.0	-2.71	±.040
	2.62	-.05		2.67	-.03
	2.66 B-A			2.69 B-A	
	2.69	+.02		2.71	+.01
16 34 22.5	2.69	+.02	17 22 13	2.67	-.03
+2 28.4	2.69 B-A		+3 16.2	2.70 B-A	
	2.69	+.02		2.73	+.03
	-2.68			-2.70	
	-2.67	±.032		-2.71	±.025
	2.66	-.05		2.60	-.02
	2.64 B-A			2.60 B-A	
	2.71	+.00		2.59	-.03
16 40 8.5	2.73	+.02	17 35 20.5	2.53	-.09
+2 34.1	2.74 B-A		+3 29.3	2.64 B-A	
	2.75	+.04		2.74	+.12
	-2.71			-2.62	
	-2.71	±.028		-2.62	±.065
	2.66	-.03			
	2.64 B-A				
	2.62	-.07			
16 50 4.8	2.73	+.04			
+2 44	2.74 B-A				
	2.75	+.06			
	-2.68				
2 42.0	-2.69	±.050			
	2.66	-.07			
	2.70 B-A				
	2.74	+.01			
16 52 57.2	2.77	+.04			
+2 47	2.73 B-A				
	2.73	+.00			
+2 46.9	-2.72				
	-2.73	±.030			

Av. Dev. of above sets = 0.040 mags.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis.

See page 94-5 for this series

September 24, 1895. R76 : Hr 207

Hr	M	Time	Diff. Mag.	Dev.	Hr	M	Time	Diff. Mag.	Dev.	Hr	M	Time	Diff. Mag.	
			2.49	+.00				2.32	+.00				2.08	-.01 <
hrs	m	s	2.47	-.02	hrs	m	s	2.32	+.00	hrs	m	s	2.08	-.01 <
14	18	23	2.51	+.02	14	57	14	2.34	+.02	15	48	45	2.08	-.01 <
			2.48	-.01				2.30	-.02				2.11	+.02 <
			2.49	±.012				2.32	±.010				2.09	±.012
			2.54	+.02				2.27	+.01				2.07	-.02
			2.55	+.03				2.32	+.01				2.07	-.02
14	22	56	2.50	-.02	15	9	3	2.28	+.01	15	53	54	2.11	+.02
			2.47	-.05				2.22	-.05				2.12	+.03
			2.52	±.030				2.27	±.028				2.09	±.022
			2.44	-.04				2.14	-.04				2.01	-.11
			2.49	+.01				2.13	-.05				2.09	-.03
14	27	29	2.52	+.04	15	14	51	2.27	+.09	16	1	54	2.21	+.09
			2.46	-.02				2.17	-.01				2.15	+.03
			2.48	±.028				2.18	±.048				2.12	±.064
			2.36	-.02				2.11	-.04				2.12	+.04
			2.42	+.04				2.22	+.07				2.07	-.01
14	39	43	2.40	+.02	15	28	0	2.21	+.06	16	6	56	2.06	-.02
			2.33	-.05				2.07	-.08				2.08	+.00
			2.38	±.032				2.15	±.062				2.08	±.018
			2.39	+.03				2.18	+.05				2.07	-.07
			2.35	-.01				2.10	-.03				2.07	-.07
14	45	11	2.31	-.02½	15	34	11	2.16	+.03	16	22	39	2.13	+.03
			2.38	+.08				2.09	-.04				2.24	+.10
			2.36	±.028				2.13	±.038				2.14	±.068

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Time in Sun and times of obs. corrected for Eq. of ☉

G. M. Time	Diff. May	Am. Sun	
		2,07	-.01 <
		2,02	-.06 <
16 29 42		2,06	-.02 <
		2,18	+.10 <
		2,08	±048 <
		2,09	+.03 <
		2,03	-.03 <
16 46 40		2,06	+.00 <
		2,07	+.01 <
		2,06	±018 <
		2,16	+.02 <
		2,21	+.07 <
16 53 8		2,10	-.04 <
		2,10	-.04 <
		2,14	±042 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

2 Hyculis

September 30, 1895. R.A. 17h 3

Gr. M. Time.	Diff. Mag.	Av. Dev.	Gr. M. Time.	Diff. Mag.	Av. Dev.	Gr. M. Time.	Diff. Mag.	Av. Dev.
	2.64	+08		2.79	-11		2.65	-05
hrs m s	2.76	+20	hrs m s	2.72	+02	hrs m s	2.71	+01
12 36 50	2.47	-09	13 23 10.3	2.79	+09	14 18 15.3	2.69	-01
	2.38	-18		2.68	-02		2.74	+04
12 35 53	2.56	±138	13 22 13	2.70	±060	14 17 18	2.70	±028
	2.74	+00		2.63	-03		2.66	+02
	2.74	+00		2.56	-10		2.60	-04
12 42 50.5	2.80	+06	13 37 33.	2.73	+07	14 23 2	2.66	+02
	2.70	-04		2.74	+08		2.62	-02
12 41 53	2.74	±025	13 36 36	2.66	±070	14 22 5	2.64	±025
	2.73	-02		2.69	-01		2.68	+01
	2.79	+04		2.67	-03		2.72	+05
12 57 18.8	2.75	+00	13 42 58.8	2.73	+03	14 37 47.5	2.64	-03
	2.74	-01		2.69	-01		2.64	-03
12 56 22	2.75	±018	13 42 2	2.70	±020	14 36 41	2.67	±030
	2.74	+00		2.68	-04		2.68	+02
	2.80	+06		2.67	-05		2.66	+00
13 3 10.3	2.73	-01	13 54 20.5	2.75	+03	14 43 44.5	2.67	+01
	2.79	+05		2.77	+05		2.65	-01
13 2 53	2.74	±030	13 53 23	2.72	±042	14 42 37	2.66	±010
	2.71	+01		2.70	-04		2.61	-00
	2.75	+05		2.80	+06		2.63	+02
13 16 59.8	2.73	+03	13 59 20	2.76	+02	15 4 10.5	2.63	+02
	2.60	-10		2.68	-06		2.58	-03
13 15 3	2.70	±048	13 58 23	2.74	±045	15 3 17	-0.01	2.61 ±018

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr. M. time hrs m s	Diff. Mag	Corr Dec	Gr. M. time hrs m s	Diff. Mag	Corr Dec
	2.71	+06		2.74	+09
	2.62	-03		2.65	+00
15 9 20.5	2.59	-06	16 1 57.3	2.59	-06
	2.67	+02		2.63	-02
-0.01	2.65	±042	-0.02	2.65	±042
	2.59	-04		2.62	-09
	2.63	-00		2.71	+00
15 28 22.0	2.64	+01	16 7 34	2.77	+06
	2.67	+04		2.73	+02
-0.01	2.63	±022	-0.02	2.71	±042
	2.73	+03	~~Correction for diff. Abs is given~~		
	2.71	+01	Corr. for diff. Abs. is given at		
15 34 9.5	2.67	-03	left of mean mag.		
	2.69	-01			
-0.01	2.70	±020			
	2.67	+03			
	2.63	-01			
15 44 18.8	2.63	-01			
	2.65	+01			
-0.01	2.64	±015			
	2.70	+04			
	2.68	+02			
15 49 57.5	2.63	-03			
	2.65	-01			
-0.01	2.66	±025			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Corrected for diff. abs.

Z Herculis.

October 2, 1895. R 77 : pg 29.

h	m	Time	Diff Mag.	Dev.	h	m	Time	Diff Mag.	Dev.	h	m	Time	Diff Mag.	Dev.
			2.58	+02				2.35	−03				2.12	−02
			2.60 A					2.36 B					2.17 A	
hrs	m	s	2.61	+05	hrs	m	s	2.38	+00	hrs	m	s	2.22	+08
13	30.5	29	2.52	−04	14	18.7	49.5	2.42	+04	15	15	57.25	2.00	−84
14	27.4		2.53 B		−0	8.7		2.40 A		14	27.4		2.10 B	
−0	56.9		2.54	−02				2.39	+01	+0	48.6		2.21	+07
13	29	19	2.56	±032	14	17	30	2.38	±020	Corr	−0.01	Mag	2.14	±052
			2.55	+03				2.32	+05				2.15	+04
			2.53 B					2.24 A					2.12 B	
			2.51	−01				2.23	−04				2.10	−01
14	27.4				1									
13	36.2	13	2.51	−01	14	37.8	48.2	2.32	+05	15	20.9	54	2.04	−07
−0	51.2		2.50 A		14	27.4		2.29 B		14	27.4		2.09 A	
			2.49	−03	+0	10.4		2.22	−05	+0	53.5		2.14	+03
13	35	3	2.52	±020	14	37	38	2.27	±048	Corr	−0.01	Mag	2.10	±038
			2.56	+04				2.34	+06				2.15	+02
			2.54 B					2.32 B					2.17 A	
			2.52	+00				2.29	+01				2.19	+06
14	27.4													
13	50.8	48	2.52	+00	14	43.5	27.8	2.20	−03	15	33.5	01.8	2.06	−07
−0	36.6		2.50 B		14	27.4		2.24 A		14	27.4		2.08 B	
			2.49	−03	+0	16.1		2.23	−05	+1	6.1		2.11	−02
13	49	39	2.52	±018	14	42	18	2.28	±038	Corr	−0.01	Mag	2.13	±042
			2.40	−04				2.23	+02				2.08	+05
			2.40 B					2.22 A					2.06 B	
			2.40	−04				2.20	−01				2.04	+01
14	27.4					58.0					39.4			
13	56.3	20.0	2.45	+01	14	57	58.25	2.22	+01	15	44.4	22	2.01	−02
−0	31.1		2.42 A		14	27.4		2.21 B		14	27.4		2.00 A	
			2.52	+08	+0	30.6		2.20	−01	+1	17.0		1.98	−05
13	55	10	2.44	±042	Corr	−0.01	Mag	2.22	±012	Corr	−0.01	Mag	2.03	±032
			2.40	+03				2.12	−08	Corr for diff. Abs is to left				
			2.40 A					2.20 B						
			2.39	−02				2.28	+08	of mean mag.				
14	27.4													
14	13.2	14.8	2.32	−05	15	2.9	56.8	2.25	+05					
−0	14.2		2.38 B		14	27.4		2.24 A						
			2.38	−09	+0	35.5		2.14	−06					
14	12	5	2.47	±098	Corr	−0.01	Mag	2.20	±068					
			2.37	±028										

Times in green are time of [illegible] corrected for Light Eq. = −1 hr 10

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis (Secondary min)

October 8, 1895. RJJ: pg. 56.

Gr. Mn. Time	Diff Mag	Corr Dur.	Gr. Mn. Time	Diff Mag	Corr Dur.	Gr. Mn. Time	Diff Mag	Corr Dur.
	2.69	+00		2.60	-01	-0.01	2.61	+01
	2.73			2.56			2.54	
hrs m s	2.77	+08	hrs m s	2.53	-08	hrs m s	2.48	-12
13 35 2	2.65	-04	14 21 43	2.57	-04	15 13 10	2.59	-01
	2.64			2.66			2.66	
	2.64	-05		2.74	+13		2.73	+13
	2.69	±042		2.61	±060		2.59 2.66	±068
	2.76	+04		2.62	-04		2.57	-07
	2.75			2.64			2.60	
	2.74	+02		2.66	+00	-0.01	2.65	+03
13 42 8	2.72	+00	14 29 8	2.70	+04	15 18 8	2.61	-01
	2.68			2.66			2.65	
	2.66	-06		2.66	+00		2.69	+07
	2.72	±030	-0.01	2.66	±020		2.62	±045
	2.65	+01		2.61	-02		2.62	+02
	2.62			2.64			2.62	
	2.59	-05	-0.01	2.68	+05	-0.01	2.53	-07
13 54 20	2.68	+04	14 44 40	2.64	+01	15 24 14	2.67	+07
	2.66			2.62			2.66	
	2.65	+01		2.60	-03		2.57	-03
	2.64	±028		2.63	±028		2.60	±048
	2.74	+08		2.67	+07		2.63	-01
	2.62			2.62			2.62	
	2.63	-03	-0.01	2.57	-03	-0.02	2.62	-02
13 59 49	2.66	+00	14 58 22	2.54	-06	15 29 34	2.58	-06
	2.63			2.62			2.66	
	2.60	-06		2.63	+03		2.74	+10
	2.66	±042		2.60	±048		2.64	±048
	2.61	-02		2.66	+06		2.61	+08
	2.64			2.62			2.54	
	2.66	+03	-0.01	2.57	-03	-0.02	2.48	-05
14 17 13	2.66	+03	15 3 39	2.59	-01	15 35 7	2.49	-04
	2.62			2.62			2.51	
	2.59	-04		2.58	-02		2.53	-00
	2.63	±030		2.60	±030		2.53	±042
							2.62	+02
							2.62	
						-0.03	2.61	+01
							2.59	
						15 40 18	2.59	-01
							2.58	-02
						6 12	2.60	±015

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

Z Herculis

October 10, 1895. R 77: Pg. 68.

Gr. hrs	M	Time s	Diff Mag	Acc Dev	Gr. hrs	M	Time s	Diff Mag	Acc Dev	Gr. hrs	M	Time s	Diff Mag	Acc Dev
			2.64	−02				2.70	+10				2.39	+00
			2.66	A				2.62	B				2.40	A
			2.69	+03				2.53	−08				2.41	+02
11	32	22.5	2.64	−02	12	20	56	2.60	−00	13	21	58	2.39	+00
	−5	46	2.64	B		−5	46	2.58	A		−5	46.	2.38	B
11	26	36	2.65	−01	12	15	10	2.57	−03	13	15	198	2.36	−03
11	24	35	2.66	±020	12	13	9	2.60	±052	13	13	19	2.39	±012
			2.76	+06				2.58	−01				2.39	+01
			2.73	B				2.60	A				2.38	B
			2.69	−01				2.62	+03				2.37	−01
11	40	47	2.66	−04	12	35	1.8	2.56	−03	13	26	26.2	2.38	+00
	−5	46	2.62	A		−5	46.	2.58	B		−5	46.	2.32	A
11	35	1	2.71	+01	12	29	15.8	2.61	+02	13	20	40.2	2.39	+01
11	33	0	2.70	±030	12	27	10	2.59	±022	13	18	39	2.38	±008
		51	2.62	−01				2.67	+06				2.31	+00
			2.63	A				2.63	B				2.30	A
			2.65	+02				2.59	−02				2.29	−02
11	50	2	2.59	−04	12	39	10.2	2.55	−06	13	46	58.8	2.37	+06
	−5	46	2.62	B		−5	46.	2.58	A		−5	46	2.32	B
11	44	16	2.65	+02	12	33	24.2	2.62	+01	13	41	12.8	2.28	−03
11	42	10	2.63	±022	12	31	23	2.60	±038	13	39	12	2.31	±028
			2.65	+05				2.48	−02				2.28	−06
			2.63	B				2.51	A				2.30	B
			2.61	+01				2.54	+04				2.32	+02
11	56	47	2.56	−04	12	58	26.8	2.49	−01	13	53	58.8	2.32	−02
	−5	46	2.56	A		−5	46.	2.50	B		−5	46.	2.32	A
11	51	1	2.57	−03	12	52	40.8	2.50	−00	13	48	12.8	2.44	+10
11	49	0	2.60	±032	12	50	40	2.50	±018	13	46	12	2.34	±050
			2.64	+04				2.59	+05				2.27	+04
			2.62	A				2.57	B				2.29	A
			2.60	−00				2.55	+01				2.31	+08
12	15	45	2.63	+03	13	3	46.8	2.50	−04	14	9	56	2.17	−06
	−5	46	2.59	B		−5	46	2.54	A		−5	46	2.16	B
12	9	59	2.55	−05	12	58	0.8	2.54	−00	14	4	10	2.16	−07
12	7	58	2.60	±030	12	56	0	2.54	±025	14	2	9	2.23	±062

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr. M. Time	Diff. Mag.	Cor. Dec.	Gr. M. Time	Diff. Mag.	Cor. Dec.
	2.12	− 05 <		~~0.01~~	2.03 − 00 <
	2.16 B				2.06 ct
hrs m s	2.20	+ 03 <	hrs m s		2.09 + 06 <
14 15 18.2	2.20	+ 03 <	15 1 5.48		2.05 + 02 <
− 5 46	2.15 ct		− 5 46.		2.00 B
14 9 32.2	2.15	− 00 <	14 56 8.8		1.94 − 07 <
	2.17 ✓	± 028 <	− 0.01		2.03 ✓ ± 038 <
	2.12	+ 01 <			2.01	+ 06 <
	2.13 ct				1.96 B
	2.14	+ 03 <		~~0.01~~	1.90 − 05 <
14 30 31.2	2.08	− 03 <	15 2 21 <		1.95 + 00 <
	2.02 B				1.94 ct
14 24 45.2	2.09	− 02 <			1.93 − 02 <
− 0.01	2.10 ✓	± 022 <	− 0.01		1.95 ✓ ± 032 <
	2.10	− 03 <	Times in Gr. M. are times of obs. corrected		
	2.12 B				
~~0.01~~	2.13	− 00 <	for Light Eq. = − 2 s.		
14 35 5.4	2.17	+ 04 <			
	2.14 ct				
− 5 46.					
14 30 8	2.11	− 02 <			
− 0.01	2.13 ✓	± 022 <			
	2.16	+ 02 <			
	2.12 ct				
~~0.01~~	2.08	− 06 <			
14 50 59.8	2.18	+ 04 <			
	2.16 B				
− 5 46					
14 45 13.8	2.14	+ 00 <			
− 0.01	2.14 ✓	± 030 <			
	2.11	+ 05 <			
	2.02 B				
~~0.01~~	2.06	+ 00 <			
14 55 40.5	2.01	− 05 <			
	2.04 ct				
− 5 46					
14 49 54.5	2.06	+ 00 <			
− 0.01	2.06 ✓	± 025 <			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Z Herculis.

October 14, 1895. R.77: Z.87.

G.M.T. hrs	m	s	Diff Mag	Adv Der	G.M.T. hrs	m	s	Diff Mag	Adv Der	G.M.T. hrs	m	s	Diff Mag	Adv Der
			2.69	+01				2.60	+04				2.42	+01
			2.62	A				2.56	B				2.40	A
11	41	42.8<	2.66	-02	12	17	47.8<	2.52	-04	13	4	23<	2.39	-02
11	39	17<	2.68	+00	12	15	22<	2.59	+03	13	1	57<	2.42	+01
			2.62	B				2.56	A				2.42	B
			2.67	-01				2.54	-02				2.41	-00
			2.68	±010				2.56	±032				2.41	±010
			2.67	-01				2.52	+04				2.47	+08
			2.66	B				2.51	A				2.44	B
10	46	34.5<	2.66	-02	12	32	57.5<	2.50	+02	13	8	50.8<	2.41	+02
11	44	8<	2.72	+04	12	30	26<	2.43	-05	13	6	25<	2.30	-09
			2.66	A				2.46	B				2.34	A
			2.65	-03				2.48	-00				2.37	-02
			2.69	±025				2.48	±028				2.39	±052
			2.68	+06				2.50	+03				2.35	+03
			2.62	A				2.46	B				2.34	A
11	57	59.5<	2.55	-07	12	37	17.8<	2.41	-06	13	22	54<	2.33	+01
11	55	34<	2.58	-04	12	34	52<	2.52	+05	13	20	28<	2.35	+03
			2.66	B				2.49	A				2.30	B
			2.69	+07				2.46	-01				2.26	-06
			2.63	±065				2.45	±038				2.32	±032
			2.66	+04				2.55	+08				2.32	+01
			2.62	B				2.46	A				2.30	B
12	2	37<	2.59	-03	12	49	38<	2.40	-07	13	28	13<	2.28	-03
12	0	11<	2.64	+02	12	47	12<	2.54	+07	13	25	47<	2.27	-04
			2.62	A				2.46	B				2.32	A
			2.60	-02				2.38	-09				2.36	+05
			2.62	±028				2.47	±078				2.31	±032
			2.57	-06				2.46	+02				2.27	-00
			2.61	A				2.44	B				2.24	A
			2.65	+02	12	55	1.5<	2.42	-02	13	41	45<	2.30	+03
12	12	59.8<	2.67	+04	12	52	36<	2.41	-03	13	39	19<	2.25	-02
12	X10	34<	2.66	B				2.44	A				2.25	B
			2.64	+01				2.46	+02				2.25	-02
			2.63	±032				2.44	±022				2.29	±018

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Gr. hrs	M. m	Time s	Diff. Mag.	Av. Dev.	Gr. hrs	M. m	Time s	Diff. Mag.	Av. Dev.	Gr. hrs	M. m	Time s	Diff. Mag.	Av. Dev.
			2.19	-03				2.02	+02				1.89	-03
			2.17	-05				2.05	+03				1.99	+07
			2.23	+01				1.99	-01				1.89	-03
			2.27	+05				1.96	-04				1.89	-03
			2.22	±035			-0.01	2.00	±030			-0.01	1.92	±040
			2.12	-04				1.98	-05					
14	2	2.2	2.15	-01	14	41	55.2	2.03	+00					
			2.16	-00				2.00	-03					
			2.19	+03				2.10	+07					
			2.16	±020			-0.01	2.03	±038					
			2.13	-01				2.06	+04					
14	7	7.5	2.15	+01	14	48	57	2.00	-02					
			2.14	+00				2.08	+06					
			2.13	-01				1.96	-06					
			2.14	±008			-0.02	2.02	±045					
			2.05	-01				1.92	-03					
14	21	16.8	2.11	+05	14	53	59	1.98	+03					
			2.01	-05				1.97	+02					
			2.08	+02				1.95	-00					
	-0.01		2.06	±032			-0.01	1.96	±020					
			2.00	-07				1.96	+00					
14	26	2.8	2.09	+02	14	58	50.8	1.95	-01					
			2.12	+05				1.93	-03					
			2.08	+01				2.01	+05					
	-0.01		2.07	±038			-0.01	1.96	±022					

Times in Green are times of
obs corrected for Light Eqn = +2.26

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

U Ophei. Plat. I.

Oct. 24. 1895.

Comp star = DM +81° 27 (8.6)

Gr. m. T.	Diff. Incpn.	Av. Dev.
16h 16m 33s	-1.72	+.03
	-1.63	+.06
	1.66 a	-.02
	-1.64	-.01
5 37 32	1.70	
M = 6.91	-1.69	±.038
	-1.60	-.01
23 49.	1.58 a	+.03
	-1.66	+.06
32	-1.61	+.00
	1.64 b	-.03
	-1.67	+.06
5 30 21		
6.99	-1.61	±.032
	-1.57	+.04
39 22.	1.58 b	-.03
	-1.61	+.00
17	-1.64	+.07
	1.64 a	+.04
5 14 48	-1.60	-.01
6.99	-1.61	±.038
	-1.57	+.03
K6 0.	1.66 a	-.04
	-1.64	+.04
10	-1.61	-.01
	1.60 b	+.02
5 8 10	-1.58	-.02
7.00	-1.60	±.025
	-1.58	+.00
9 8.	1.58 b	-.01
	-1.59	-.01
7	-1.66	+.06
	1.62 a	+.03
5 7 2	-1.59	-.01
7.00	-1.60	±.025

Gr. m. T.	Diff. Incpn.	Av. Dev.
14h m	-1.65	-.02
	1.63 a	+.02
K 29.	-1.61	-.01
	-1.62	.00
4 2	1.62 b	.00
	-1.62	+.00
4 49 41		
Mag = 6.98	-1.62	±.010
	-1.57	-.03
21	1.54 b	+.03
	-1.51	+.01
34	-1.50	-.04
	1.46 a	+.04
	-1.52	-.08
4 32 13		
7.10	-1.50	±.040
	-1.63	-.01
2A A.	1.62 a	+.02
	-1.60	+.02
2A	-1.57	.00
	1.55 b	.00
	-1.57	-.03
4 26 02		
7.02	-1.57	±.032
	-1.57	-.02
K3 V0	1.58 b	+.02
	-1.50	-.02
12	-1.52	+.01
	1.53 a	-.01
4 10 20	-1.54	+.02
7.08	-1.52	±.015
	-1.52	.00
K9 11.	1.52 a	-.01
	-1.53	-.01
7	-1.52	+.02
	1.54 b	-.03
4 4 59	-1.57	
7.06	-1.57	±.020

Gr. m. T.	Diff. Incpn.	Av. Dev.
15h m	-1.50	-.02
	1.48 b	+.03
A 2	-1.54	-.04
	-1.52	-.02
KA	1.50 a	+.01
	-1.49	+.00
3 45 45		
Mag = 7.11	-1.49	±.020
	-1.43	+.03
13 30.	1.46 a	-.02
	-1.44	+.02
K2	-1.47	.00
	1.47 b	.00
	-1.47	+.01
3 40 40		
7.14	-1.46	±.018
	-1.21	.00
37 1V.	1.21 b	.00
	-1.21	+.01
19	-1.19	-.01
	1.18 a	.00
3 16 55	-1.18	-.02
7.40	-1.20	±.010
	-1.34	-.04
KK 2K.	1.30 a	+.03
	-1.27	-.04
12	-1.36	+.05
	1.32 b	+.04
3 9 46	-1.28	-.03
7.29	-1.31	±.038
	-1.26	-.04
V6 20.	1.22 b	+.00
	-1.17	-.03
0	-1.14	+.04
	1.18 a	-.00
2 V7 V0	-1.23	+.03
7.40	-1.20	±.045

5 | 184 52.2 | 12.45
5 | 147 35.2 | 1.0 5 7
5 | 159 54 2 | 665

36.0	58.4	
29.5	31	
10 3 1	54.8	
1.6225		
1.5285		
1.3325		
1.62		
1.53		
1.33		

10 19.0
-14.0
8 37.0
12 56.0
-5 18.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr. ms. I.	Diff. weight	Obs. Res.	Gr. ms. II.	Diff. weight	Obs. Res.	Gr. ms. III.	Diff. weight	Obs. Res.
16	−.02	−1.13			+.01			
~~16~~ 2 32		−1.14 a			+.00			
~~2 ✓3~~		−1.16			~~+.01~~			
16 4 23		−1.12 b			−.04			
−2 ✓1 38		−1.09			~~+.03~~			
Mag = 7.47		−1.13			+.03			
					−.04			
					~~±.020~~			
	+.14				−.03			
16		−1.23			~~+.09~~			
~~16~~ 10 ✓6.		−1.20 b			+.02			
		−1.14			~~+.04~~			
−2 ~~✓~~		−1.02			−.02			
16 12 46		−1.06 a			~~−.06~~			
−2 43 14		−1.0✓			+.01			
		7.46 −1.1~~3~~			−.09			
					~~±.070~~			

2 13 28 8 | 10 6 (4)
11 6.7 44 | 1.1325
~~10 49.0~~
+0 ~~47.7~~ 1.13
11 6.7
13 ✓6.0
−2 49.3

Times in green are times of obs. corrected for Lgh Eq. = +1 ✓0

Gro M. Time of min. = Oct ~~2✓~~ d h m 20 21
24 18 ✓6

No of settings = 272

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.44420

Z Herculis. Princ. Min.

October 30, 1895. Time of Min = 13 hrs 6 m 49 s Green.

Gr. M. Time	Diff. Mag.	Av. Dev.	G. M. Time	Diff. Mag.	Av. Dev.	S. M. Time	Diff. Mag.	Av. Dev.
	2.71 − 03			2.73 + 06			2.47 + 00	
	2.72 A			2.70 B			2.50 A	
hrs m s	2.73 − 01		hrs m s	2.66 − 01		hrs m s	2.54 + 07	
10 40 31.	2.80 + 06		11 25 37.	2.61 − 06		12 18 43.	2.44 − 03	
	2.72 B			2.64 A			2.44 B	
	2.70 − 04			2.67 − 00			2.43 − 04	
hrs m			hrs m			hrs m		
−2 26.3	2.74 ± 035		−1 41.2	2.67 ± 032		−0 48.1	2.47 ± 035	
	2.67 − 05			2.63 + 01			2.42 + 04	
	2.67 B			2.64 A			2.37 B	
	2.67 − 05			2.64 + 02			2.32 − 06	
10 47 42.	2.79 + 07		11 39 7.	2.59 − 03		12 23 19.	2.42 + 04	
	2.72 A			2.60 B			2.39 A	
	2.76 + 04			2.61 − 01			2.36 − 02	
−2 19.1	2.72 ± 052		−1 27.7	2.62 ± 018		−0 43.5	2.38 ± 040	
	2.66 − 05			2.56 − 03			2.43 + 04	
	2.68 A			2.59 B			2.43 A	
	2.71 + 00			2.62 + 03			2.43 + 04	
10 59 43.	2.74 + 03		11 44 45.	2.59 + 00		12 35 38.	2.32 − 07	
	2.73 B			2.60 A			2.38 B	
	2.73 + 02			2.60 + 01			2.38 − 01	
−2 7.1	2.71 ± 025		−1 22.0	~~2.60~~ 2.59 ± 018		−0 31.2	2.39 ± 040	
	2.80 + 12			2.53 − 02			2.34 − 04	
	2.73 B			2.56 A			2.33 B	
	2.66 − 02			2.60 + 05			2.40 + 02	
11 5. 8.	2.68 + 00		11 58 58.	2.52 − 03		12 42 7.	2.40 + 02	
	2.64 A			2.54 B			2.36 A	
	2.60 − 08			2.55 + 00			2.36 − 02	
−2 1.7	2.68 ± 055		−1 7.8	2.55 ± 025		−0 24.7	2.38 ± 025	
	2.75 + 07			2.56 + 03			2.47 + 13	
	2.72 A			2.54 B			2.42 A	
	2.68 + 00			2.54 + 01			2.38 + 04	
11 20 28.	2.67 − 01		12 5 23.	2.54 + 01		12 54 3.	2.28 − 06	
	2.66 B			2.52 A			2.22 B	
	2.64 − 04			2.49 − 04			2.22 − 12	
−1 46.3	2.64 ± 030		−1 1.4	2.53 ± 022		−0 12.8	2.34 ± 088	

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Gr. M. Time.	Diff. Mag.	Av. Dev.	Gr. M. Time.	Diff. Mag.	Av. Dev.
	2.28	+06	−0.01	2.12	+04
	2.26 B			2.18 A	
hr m s	2.25	+03	hrs m s	2.23	+15
12 57 48.	2.16	−06	13 49 0.	2.02	−06
	2.16 A			1.99 B	
hrs m	2.17	−05	hrs m	1.96	−12
−0 7.0	~~2.21~~ 2.18	±050	+0 42.2	2.08	±092
−0.01	2.27	+01			
	2.29 A				
	2.31	+05			
13 11 45.	2.22	−04			
	2.22 B				
13 7 49	2.22	−04			
+0 5.0	2.26	±035			
−0.01	2.23	+04			
	2.24 B				
	2.24	+05			
13 13 47.	2.16	−03			
13 13 49	2.14 A				
	2.13	−06			
+0 9.0	2.19	±045			
−0.01	2.22	+07			
	2.20 A				
	2.18	+03			
13 29 25.	2.16	+01			
13 20 27	2.10 B				
	2.05	−10			
+0 22.6	2.15	±052			
−0.01	2.02	−02			
	2.04 B				
	2.05	+01			
13 35 18.	2.05	+01			
13 31 20	2.05 A				
	2.05	+01			
+0 2.8.5	2.04	±012			

Times in Green are times of observation corrected for Eqn = −3.58

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Chandleri near Variable.

(2 m. + 1° 49 5) Compared with + 1° 4916)

Nov. 30, 1895.

Gr. M. Time.	Diff. Mag	Av Dev.	Gr M Time	Diff. Mag	Av Dev.	Gr M Time	Diff. Mag	Av Dev.
	0.32	−06		0.78	+12		0.72	+00
hrs m s	0.28	−10	hrs m s	0.78	+12	hrs m s	0.69	−03
13 16 12	0.53	+15	14 44 56	0.58	−08	16 0 29	0.72	+00
13 19 50	0.39	+01	14 48 34	0.48	−18	16 4 7	0.73	+01
	0.38	±080		0.66	±125		0.72	±010
	0.49	+04		0.59	+01		0.88	+12
	0.43	−02		0.57	−01		0.70	+04
13 30 48	0.42	−03	15 8 39	0.58	+00	16 22 25	0.53	−13
13 34 26	0.45	+00	15 12 17	0.56	−02	16 26 3	0.52	−14
	0.45	±022		0.58	±010		0.66	±108
	0.40	+11		0.56	+01		0.53	−02
	0.38	+08		0.54	−01		0.53	−12
13 43 32	0.16	−13	15 20 6	0.52	−03	16 34 12	0.78	+13
13 47 10	0.21	−08	15 23 44	0.58	+03	16 37 50	0.76	+11
	0.29	±100		0.55	±020		0.65	±120
	0.25	−07		0.76	−14		0.86	+27
	0.27	−05		0.76	−14		0.71	+12
13 59 36	0.39	+07	15 31 47	1.03	+13	16 56 58	0.40	−19
14 3 14	0.37	+05	15 35 25	1.04	+14	17 0 36	0.38	−21
	0.32	±060		0.90	±138		0.59	±198
	0.22	−23		0.97	+10		0.45	+01
	0.30	−10		0.88	+01		0.34	−10
14 16 30	0.65	+20	15 47 19	0.85	−02	17 9 6	0.39	−05
14 20 8	0.58	+13	15 50 57	0.79	−08	17 12 44	0.56	+12
	0.45	±165		0.87	±052		0.44	±070
5 226 38 5 189			5 356			5 183 10 5 30 6		
13 45 19.6	0.378		5 26 32 47	0.712		16 36 38	0.612	
			15 18 33.4					

Copied on page 24 of this Book.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Chandler's Variable = 41 Pegasi. DM +15° 4915

Compared with +15° 4916. February 25, 1896. Phot. J.

Gr. M. Time.			Diff. Mag	Av. Dev.
hrs	m	s	+0.26	−.15
11	58	32	+0.11	−.30
12	2	10	+0.60	+.19
			+0.68	+.27
			+0.41	±.228
			+0.39	+.01
12	13	30	+0.31	−.07
12	17	8	+0.38	.00
			+0.44	+.06
			+0.38	±.035
			+0.38	+.02
12	22	0	+0.35	−.01
12	25	38	+0.38	+.02
			+0.34	−.02
			+0.36	±.018
			+0.32	+.02
12	30	15	+0.11	−.19
12	33	53	+0.47	+.17
			+0.30	.00
			+0.30	±.095

Times in Green are times of obs. corrected for Lgt Eqn. = +3m 38s

Copied on page 25 of this book

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei.

October 26, 1896.

Gr. M. Time	Diff. Mag.	Av. Dev.
hrs mn s		
	b −1.86	+.02
		−1.90	−.02
12 19 29		−1.88	±.020
+1d 6h 56m 27s		−1.61	−.01
	a	−1.59	+.01
		−1.60	±.010
	+.28	−1.74	
	a	−1.54	+.04
		−1.63	−.05
12 27 22		−1.58	±.045
+1d 9h 4m 20s		−1.57	+.03
	b	−1.63	−.03
		−1.60	±.030
	+.02	−1.59	
	b	−1.55	+.01
		−1.57	−.01
12 38 5		−1.56	±.010
+1d 9h 15m 33s		−1.48	+.08
	a	−1.63	−.07
		−1.56	±.075
	+.00	−1.56	
	a	−1.68	−.04
		−1.61	+.03
12 47 59		−1.64	±.035
+1d 9h 24m 53s		−1.75	+.03
	b	−1.82	−.04
		−1.78	±.035
	+.14	−1.71	

Gr. M. Time	Diff. Mag.	Av. Dev.
hrs mn s		
	b −1.61	+.02
		−1.65	−.02
13 0 11		−1.63	±.020
+1d 7h 37m 9s		−1.62	+.02
	a	−1.67	−.03
		−1.64	±.025
	−.01	−1.64	
	a	−1.62	00
		−1.62	00
13 14 27		−1.62	±.000
+1d 9h 51m 25s		−1.80	−.02
	b	−1.76	+.02
		−1.78	±.020
	+.16	−1.70	
	b	−1.55	−.02
		−1.57	+.02
13 26 38		−1.53	±.020
+1d 8h 3m 36s		−1.41	+.03
	a	−1.47	−.03
		−1.44	±.030
	+.09	−1.48	
	a	−1.57	−.07
		−1.43	+.07
13 41 32		−1.50	±.070
+1d 8h 18m 30s		−1.58	00
	b	−1.59	−.01
		−1.58	±.005
	+.08	−1.54	

Gr. M. Time	Diff. Mag.	Av. Dev.
hrs mn s		
	b −1.63	+.01
		−1.64	.00
13 59 21		−1.64	±.005
+1d 8h 36m 19s		−1.74	−.02
	a	−1.70	+.02
		−1.72	±.020
	−.08	−1.68	
	a	−1.62	.00
		−1.61	+.01
14 6 53		−1.62	±.005
+1d 8h 43m 56s		−1.71	−.02
	b	−1.67	+.02
		−1.69	±.020
	+.07	−1.66	
	b	−1.58	+.06
		−1.71	−.07
14 17 58		−1.64	±.065
+1d 8h 54m 56s		−1.49	+.01
	a	−1.50	.00
		−1.50	±.005
	+.14	−1.57	
	a	−1.52	−.04
		−1.43	+.05
14 24 35		−1.48	±.045
+1d 9h 1m 33s		−1.62	.00
	b	−1.63	−.01
		−1.62	±.005
	+.14	−1.05	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

October 26, 1896.

G. M. Time	Diff. Mag.	Cor. Dur.
h m s		
	b	−1.55 ± .01
14 34 7		−1.58 − .02
14 31 9		−1.56 ± .015
+1d 9h 8m 7s		
	a	−1.62 ± .03
		−1.68 − .03
		−1.65 ± .030
−.09c		−1.60
	a	−1.49 ± .03
14 40 20		−1.54 − .02
14 37 22		−1.52 ± .025
+1d 9h 14m 20s		
	b	−1.62 ± .06
		−1.75 − .07
		−1.68 ± .065
+.16c		−1.60
	b	−1.69 ± .03
14 47 4		−1.74 − .02
14 44 6		−1.72 ± .025
+1d 9h 21m 5s		
	a	−1.59 − .03
		−1.54 ± .02
		−1.56 ± .025
+.16c		−1.64
	a	
	b	

G. M. Time of minimum =
1896. 10m. 25d 9h 2m

Correction for Eph. Eqn. Oct. 25 }
= +2m 58s }

Times in red underscored are the differences between observed times and last preceding minimum.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Comp. Star = 2 Lac. +17° 4362 (9.1)

Rolls Variable. 20h 31m +17.0°

BD +17° 4367 & Comp Stars

Date	Tabular Quantity				Mean	h m Time	Resids				J.D. 241-	Bk. & pg.
1895 Dec. 14	3.33	3.19	3.33	3.33	3.30	hr m 12: 48	.07	.07	.00	.00	35-42	78 : 114
" "	3.30	3.22	3.24	3.44	3.30	13 12	.04	.04	.10	.10	"	" 115
" "	0.12 a	0.40	0.05 b	0.00	0.12	13 34	.14	.14	.03	.02	"	" 116
" "	3.24	3.18	3.15	3.25	3.20	13 42	.03	.03	.05	.05	"	" 117
" "	0.46	0.53	0.53	0.55	0.52	13 53	.04	.03	.01	.01	"	" 118
" "	1.72	1.78	1.49	1.56	1.64	14 3	.03	.03	.03	.04	"	" 119
Dec 16	0.09 a	0.25	0.04 b	0.03	0.08	13 29.0 27	.08	.08	.04	.03	35-44	78 128
" "	1.59	1.61	1.67	1.74	1.65	12 48	.01	.01	.03	.04	"	" 129
" "	1.81	1.78	1.50	1.43	1.63	12 51	.01	.02	.03	.04	"	" 130
" "	0.51	0.51	0.52	0.47	0.50	13 2	.00	.00	.02	.03	"	" 131
" "	0.84	0.89	0.77	0.30	0.70	13 1	.02	.03	.23	.24	"	" 132
" "	2.75	2.89	3.23	3.32	3.00	13 0	.07	.07	.05	.14	"	" 133
	...	...	3.02	3.15					.16	.03	"	
Dec 19	0.06	0.12	0.06	0.00	+0.06	12 40	.03	.03	.03	.03	35-47	78 155
" "	3.24	3.43	3.86	3.87	3.58	13 00	.10	.09	.02	.03	"	" 156
" "	1.72	1.66	1.61	1.82	1.72	12 48	.03	.03	.13	.08	"	" 157
			1.80						.06		"	
" "	0.84	0.77	0.29	0.37	0.57	12 55	.04	.03	.04	.04	"	" 158
" "	1.52	1.52	1.56	1.73	1.58	12 44	.00	.00	.08	.09	"	" 159
" "	0.69	0.49	0.30	0.32	0.45	13 32	.10	.10	.01	.01	"	" 160
Dec 20	0.23	0.12	0.26	0.23	0.21	13 24	.05	.06	.02	.01	35-48	78 167
" "	0.56	0.62	0.65	0.42	0.56	13 23	.03	.03	.11	.12	"	" 168
1896 Jan. 3	3.47	3.36	4.01	4.10	3.74	12 30	.05	.06	.05	.04	35-62	79 . 4
" "	1.70	1.68	1.42	1.48	1.57	12 5	.01	.01	.03	.03	"	" . 5
~~Jan 6~~	~~2.01~~	~~1.94~~	~~2.49~~	~~2.54~~		~~12 6~~					~~35-65~~	~~" 32~~
~~" "~~	~~0.96~~	~~1.01~~	~~1.89~~	~~1.29~~		~~12 45~~						~~" 33~~
~~" "~~	~~2.81~~	~~2.68~~	~~2.84~~	~~3.14~~		~~12 26~~						~~" 34~~

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Ar. Dec. Resids	Diff. A-B			
.035	.07	26	33	Phot. R.
.070	.08	26	34	" "
.082	+.28	26	02	Full Br. ✓
.040	.01	21	20	
.022	.04	50	54	
.032	.23	75	52	
.058	.17	17	04	Full Br. ✓
.022	.10	60	70	
.025	.34	80	46	
.012	.01	51	50	
.130	.32	86	54	
.087	.36			
.030	.06	09	03	Full Br. ✓
.060	.50	34	84	
.082	.05	69	74	
.038	.47	80	33	
.042	.12	52	64	
.055	.28	59	31	
.035	.06	18	24	Full Br. ✓
.072	.05	59	54	
.050	.64	342	406	3.74
.020	.24	69	45	57

Var comp with +17° 4370

" " " " "

" " " star A

C is 3.20 < 7.0 mag

C " 0.52 > Star a

C " 1.64 > " d

A. 0.08 > Var

C " 1.65 > E

C " 1.63 > d

C " 0.50 > a

C " 0.70 > b

C " 3.00 < 7.0 mag

A. 0.06 > Var

C " 3.5-8 < 7.0

C " 1.72 > e

C " 0.5-6 > b

C " 1.58 > d

C " 0.45 > b

A > Var

C " > d

7th mag. + intermediate star.

Intermediate star and star A.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable. (20h 31m +17.2°)

Phot. I. Compared with Star C.

Dec. 17. 1895.

Gr. M. T.	Diff. Magn.	Av. Dev.	Gr. M. T.	Diff. Magn.	Av. Dev.	Gr. M. T.	Diff. Magn.	Av. Dev.
hrs m s	+0.87	+.25	hrs m s	+0.07	−.10			
	a 0.90			b −0.01				
12 31 51	+0.93	+.31	13 2 52	−0.09	−.26			
+4h 2.2m	+0.44	−.18	+4 57.9	+0.33	+.16			
	b 0.84			a +0.36				
	+0.25	−.37		+0.38	+.21			
	9.89			9.46				
	+0.62	±.278		+0.17	±.182			
	+0.53	−.01		+0.46	+.25			
	b 0.48			a 0.44				
12 43 43	+0.42	−.12	13 4 52	+0.43	+.22			
+4 12.7	+0.59	+.05	+4 14.9	−0.01	−.22			
	a 0.62			b −0.03				
	+0.66	+.12		−0.05	−.26			
	9.81			9.47				
	+0.54	±.075		+0.20	±.238			
	+0.56	+.11		−0.14	−.22			
	a 0.56			b −0.08				
12 58 12	+0.56	+.11	13 5 52	−0.01	−.09			
+4 27.2	0.38		+4 24.9					
	+0.44	−.01		+0.31	+.23			
	b 0.34			a +0.23				
	+0.34	−.11		+0.15	+.08			
	−0.37	−.08						
	9.74			9.35				
	+0.47	±.084		+0.08	±.152			
	+0.30	−.08						
	b 0.31							
13 18 31	+0.32	−.06						
+4 32.5	+0.41	+.03						
	a 0.44							
	+0.47	+.09						
	9.65							
	+0.38	±.065						
	+0.44	+.21						
	a +0.47							
13 19 28	+0.50	+.27						
+4 44.0	+0.01	−.22						
	b −0.03							
	−0.05	−.28						
	9.42							
	+0.23	±.245						

Time in Sec. are time of observation for Eq.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Wells Var. Phot. 5. Compared with Star c.

December 22, 1895.

Gr.	M.	Time s	Diff. Mag.	av. dev.
hrs	m	s	− 0.03	− 0.09
			a 0.06	
10	19	22	− 0.08	− 0.14
+6	27	4	0.19	+ .13
			b 0.18	
			0.16	+ .10
			+ 0.06	± .115
			0.24	+ .04
			b 0.26	
10	30	26	0.28	+ .08
+6	34	4	0.07	− .13
			a 0.14	
			0.22	+ .02
			0.20	± .068
			0.08	− .02
			a 0.14	
10	36	10	0.20	+ .10
+6	44	2	0.03	− .07
			b 0.06	
			0.09	− .01
			0.10	± 050
			0.10	+ .04
			b 0.09	
10	48	0	0.08	+ .02
+6	56	0	0.02	− .04
			a 0.04	
			0.06	.00
			0.06	± 025
			0.08	− 14
			a 0.08	
10	57	57	0.07	− 05
+7	6	0	0.18	+ 06
			b 0.17	
			0.16	+ 04
			0.12	± 072

Times in Greenwich time of observation, for Long. = +7 32

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

Kells Var. Meast. of Light of Comp. Stars with Phot. I.

		Dec. 14	Dec. 16.	Dec. 19	Dec. 20.	Mean Values.	New notation See R. 79. p. 2.
Comp.	betw. stars	A.	0.52	0.50	—	0.56	0.53	$\overset{a}{\wedge}$ betw. stars B b
"	"	"	B.	—	0.70	0.51	0.56	0.59	$\overset{a}{\wedge}$ " " C. c
"	"	"	D.	1.64	1.63	1.54		1.62	$\overset{a}{\wedge}$ " " D. e
"	"	"	E.	—	1.64	1.72			
"	"	"	Var.	0.12	0.04	0.06	0.21		
"	Phot.	"	Imag.	3.20	3.00	3.54		3.26	
~~betw~~	~~stars~~	~~"~~	1896 Jan. 6.	2.25					$\overset{a}{\wedge}$ betw. stars F. f
"	"	"	"	"	1.16				$\overset{a}{\wedge}$ " " D. d
"	"	"	"	"	2.06				$\overset{a}{\wedge}$ " " K. h

The magn. of +17° 4354 (Dm. 6.7) is 7.02 by Potsdam.
" " " " " " " " " 7.32 " Ha. P.
7.17 = mean Val.

The diff. of magn. betwn +17° 4354 & A.
through intermediate star is on Jan. 3. 96 = 2.17
" " 4 " = 2.03
2.10 = mean Val.

∴ Comp. Star A (see diagram R. 79. p. 2) = 9.27

Comp. Star used with Phot. I. is Dm.
+17° 4362 (9.1)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Obs. of Algol Variable.

Date.	J.d. 241	G.m.T.	Mean Magn.	Remks.	Diff. A-B	Corr.	O-C	Magn.
9v.12.11K	35K2	13h 3K	+0.12				Full Br.	9.39 v
9v.12.16.	35KK	13 27	+0.0A				" "	9.3v v
9v.12.17	35Kv	12 3K	+0.62				Ah 3[illegible]4h 2.A	9.A9 v
" " "	"	12 KK	+0.vK				+K 12.7	9.A1 v
" " "	"	12 vA	+0.Kv				+K 27.2	9.72 v
" " "	"	13 9	+0.3A				+K 3A.v	9.6v v
" " "	"	13 19	+0.23				+K KA.0	9.v0 v
" " "	"	13 29	+0.17				+K v7.9	9.KK v
" " "	"	13 Kv	+0.21				+v 14.9	9.KA v
" " "	"	13 v6	+0.0A				+v 24.9	9.3v v
9v.12.19.	35K7	12 K0	+0.06				Full Br.	9.33 v
9v.12.20	35KA	13 2K	+0.21				" "	9.KA v
9v.12.22	35v0	10 19	+0.06				3h v2.0 +6 27.K	9.33 v
" " "	"	10 30	+0.20				+6 3A.K	9.47 v
" " "	"	10 36	+0.10				+6 KK.2	9.37 v
" " "	"	10 KA	+0.06				+6 v6.0	9.33 v
" " "	"	10 vA	+0.12				+7 6.0	9.39 v
" " 31	35v9	10 29	+0.11				18 34.0 -A K.6	9.3A v
		10 vv	+0.06				-7 3A.A	9.33 v
		10 K2	+0.07				-7 v1.7	9.3K v
		10 KA	+0.10				-7 Kv.9	9.37 v
		10 vK	-0.02				-7 K0.0	9.2v v
		11 A	+0.02				-7 26.1	9.29 v
		11 16	-0.0A				-7 17.6	9.19 v
		11 2K	+0.02				-7 9.7	9.29 v
		11 37	+0.11				-6 v7.2	9.3A v
		11 v0	+0.1K				-6 KK.K	9.K1 v
		11 v9	+0.12				-6 3v.v	9.39 v

(Con. on p. 164)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable. 20h 31m +17.°4

Dec. 31, 1895

Comp. 11G = Dm. +17° K36.4 (9.1)

G. M. T.	Diff. for Mag.	Diff. for Dec.	G. M. T.	Diff. for Mag.	Diff. for Dec.	G. M. Time	Diff. for Mag.	Diff. for Dec.	G.
h m s	+0.30	+.19	h m s	−0.0A	±.00	h m s	+0.19		h
10 32 24	0.28 a		11 19 24	−0.06 a		12 16 42	a+0.14		10
10 29 26.	+0.2r	+.14	11 16 26.	−0.0K	+.04	12 12 KK.	+0.09		
3r5g.437	−0.1r	−.26	.K70	−0.1r	−.07	.509	+0.09		
−0.347	−0.05 b		−.3s4	−0.10 b		−.315−	b+0.17		
	+0.0r	−.06		−0.0r	+.03		+0.25		
−9h 16.6	+0.11	±.162	−8 29.6	−0.0A	±.035	−7m 33.3	+0.16		
10 58 32	+0.13	+.07	11 27 34	−0.11	−.13 −.09	12 26 21	+0.20		
10 4r 1K.	+0.02 b		11 2K 16.	−0.01	−.3	12 23 3	0.21 b		10
−.4rr	−0.09	−.15		−0.04 b			+0.22		
	+0.12	+.06	.47r	+0.0A	+.06	.516	+0.32		
−0.369	0.10 a		−.349	0.10 a		−308	0.22 a		
	+0.0A	+.02		+0.13	+.11		+0.12		
−4h r0.f	+0.06	±.075	−8 21.7	+0.02	±.082	−7 23.0	+0.22		
10 40 36	+0.06	−.01	11 36 47	+0.2r	+.14	12 31 59	+0.27		
10 K2 1A.	0.10 a		11 36 K9.	0.21 a		12 28 41	+a 0.31		10
	+0.13	+.06		+0.17	+.06		+0.35		
.446	+0.0K	−.03	.KAK	+0.06	−.05	.520	+0.06		
−.378	0.04 b		−.340	0.00 b		−.304	b 0.14		
	+0.0r	−.02		−0.0r	−.16		+0.23		
−9 3.7	+0.07	±.032	−8 09.2	+0.11		−7 17.3	+0.23		
10 51 22	+0.01	−.09	11 52 51	+0.07		12 47 16	0.33 +0.44		
10 KA K.	0.01 b		11 K9 33.	b 0.08		12 43 r8	a b		10
	+0.01	−.09		+0.0A			+0.22		
.Krr0	+0.1A	+.08	.K93	+0.23		.r31	+0.25		
−.334	0.18 a		−.331	a 0.22		−.293	b 0.22		
	+0.19	+.09		+0.20			+0.19		
−8 57.6	+0.10	±.088	−7 56.4	+0.1K		−7 2.0	+0.28		
10 57 16	+0.16	+.14	12 1 40	+0.31					
10 r3 rA.	0.18 a		11 rA 32.	+ 0.29 a					
	+0.20	+.18		+0.27					
.4r4	−0.1K	−.16	.K99	−0.07					
−.370	−0.14 b		−.325	b 0.05 r					
	−0.13	−.15		−0.03					
−8 52.0	+0.02	±.158	−7 47.5	+0.12					
11 11 14	−0.0K	−.06	12 8 4K	−0.0r					
11 7 r6.	−0.02 b	−.04	12 r 26.	b −0.11	−0.17				
.46K	+0.03	+.01	.r0K		−0.11				
−.360	+ a 0.06		−320	−0.04 a					
	+0.10	+.08		+0.03					
−8 38.1	+0.02	±.048	−7 40.6	−0.0					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

h m
20 31 +17.8

Jan. 5. 1896.

G. M. Time	Diff. Mag.	Aw Dw
hrs m s	0.82	−.12
10 40 9	0.77 a	
10 37 2	0.72	−.22
5	1.12	+.18
4.442	1.11 b	
0.188 27'	1.10	+.16
h m		
+3 4 31 18.0	+0.944	
10 46 40	1.16	+.01
	1.16 b	
10 43.633	1.17	+.02
5	1.16	+.01
4.447	1.13 a	
0.183 263	1.10	−.05
h m		
+3 4 11.42 7	+1.14	
10 53 11	1.05	−.14
	1.06 a	
10 50.1 4	1.06	−.13
5	1.19	00
4.451	1.32 b	
0.179 258	1.45	+.26
h m		
+3 4 4.9 8	+1.19	
11 2 5	1.32	+.07
	1.38 b	
10 59.7 44	1.44	+.19
5	1.18	−.07
4.458	1.12 a	
0.172 248	1.05	−.20
h m		
+2 5 58.3 8	+1.25	
11 11 13	1.18	−.12
	1.20 a	
11 8.1 6	1.21	−.09
5	1.47	+.17
4.464	1.41 b	
0.166 239	1.35	+.05
h m		
+2 4 6.9 59	+1.30	
11 17 5	1.38	−.04
	1.42 b	
	1.47	+.05
11 14.8 57	1.39	−.03
	1.41 a	
4.469	1.43	+.01
0.161 232		
+2 4 0.7 2	+1.42	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.4420

Lr. M. Time of minimum = 25 31. (96/3/7)

Wells Variable

hrs m
20 31 +17°.8

March 7, 1896.

Lr. M. Time	Diff. Mag.	Dev.	Lr. M. Time	Diff. Mag.	Dev.	Lr. M. Time	Diff. Mag.	Dev.
hrs m s	+0.31	-.15	hrs m s	+0.91	+.17	hrs m s	+0.90	-.05
20	0.34a		21	0.84b		22	0.96a	
~~X~~ 32.5 30	+0.38	-.08	~~X~~ 24.6 36.5	+0.77	+.03	~~X~~ 3.6 38.8	+1.02	+.07
25 31			25 31			25 31		
-4 58.5	+0.58	+.12	-4 6.4	+0.68	-.06	-3 27.4	+0.86	-.09
20 32 2.98	0.58b		21 24 2.63	0.63a		22 3 0.76	0.94b	
	+0.58	+.12		+0.58	-.16		+1.01	+.06
	9.73c			10.01			10.22c	
	+0.46	±.118		+0.74	±.105		+0.95	±.068
	+0.63	+.05		+0.56	-.21			
20	0.54b		21	0.58a				
~~X~~ 44.5 29.8	+0.45	-.13	~~X~~ 32.9 56.5	+0.61	-.16			
25 31			25 31					
-4 46.5	+0.68	+.10	-3 58.1	+0.98	+.21			
20 44 2.87	0.62a		21 32 2.33	0.96b				
	+0.56	-.02		+0.93	+.16			
	9.85c			10.04				
	0.58	±.075		+0.77	±.185			
	+0.60	-.08		+0.89	+.05			
20	0.54a		21	0.90b				
~~X~~ 52.1 52	+0.48	-.20	~~X~~ 40.3 15.2	+0.91	+.07			
25 31			25 31					
-4 38.9	+0.74	+.06	-3 50.7	+0.81	-.03			
20 51 2.74	0.82b		21 39 2.52	0.98a				
	+0.89	+.21		+0.75	-.09			
	9.95c			10.11c				
	+0.68	±.138		+0.84	±.060			
	+0.82	+.06		+0.79	-.11			
21	0.86b		21	a0.85				
~~X~~ 1.4 25.8	+0.90	+.14	~~X~~ 45.8 49.2	+0.91	+.01			
25 31			25 31					
-4 29.6	+0.72	-.04	-3 45.2	+0.97	+.07			
21 1 2.73	0.66a		21 40 2.26	b0.96				
	+0.60	-.16		+0.94	+.04			
	10.03c			10.17c				
	+0.76	±.100		+0.90	±.058			
	+0.74	+.01		+1.02	+.04			
21	0.71a		21	0.98b				
~~X~~ 6.9 56	+0.68	-.05	~~X~~ 57.9 52.2	+0.95	-.03			
25 31			25 31					
-4 24.1	+0.67	-.06	-3 33.1	+0.96	-.02			
21 6 2.48	0.72b		21 5 2.29	0.98a				
	+0.83	+.10		+1.01	+.03			
	10.00c			10.25c				
	0.73	±.055		+0.98	±.030			

Times in Lr. M. are times of obs. corrected for Lpt. Eq. = I - O

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.4420

142

Gr M Time of minimum = 11 hrs 19 m

U Cephei — Phot J.

February 11, 1896. Comp star = DM +81°27 (8.6)

Gr M Time	Diff. Mag	Av Dev	Gr M Time	Diff. Mag	Av Dev	Gr M Time	Diff. Mag	Av Dev
+.22		−.04	+.10		+.01	+.11		+.17
hrs m s	+0.60	−.05	hrs m s	+0.71	−.05	hrs m s	−0.29	+.11
11 19	0.62 b	+.03	11 19	0.70 b	.00	11 19	−0.46 b	−.17
11 7.5 30	+0.69	−.06	13 1.5 30	+0.70	−.06	13 59.5 30	−0.63	−.23
+0 4.5		−.05	+1 42.5		−.02	+2 40.5		−.02
−0 11.5	+0.81	+.06		+0.78	+.02		−0.37	+.03
11 8 44	0.86 a	+.04	13 2 44	0.80 a	+.03	14 0 44	−0.35 a	+.02
−0 10 16	+0.90	+.15	+1 43 44	+0.83	+.07	+2 41 44	−0.33	+.07
Mag = 9.35	+0.75 c	±.105	Mag = 9.36	+0.76	±.050	Mag = 8.20 9.00	−0.40 c	±.135
+.27		+.02	−.09		−.07	+.16		+.01
11 19	+0.92	+.15		+0.46	−.12		−0.43	+.09
11 19.8 45	0.90 a	−.01	11 19	0.53 a	+.07	11 19	−0.44 a	−.02
+0 0.8	+0.89	+.12	13 17.2 15	+0.60	+.02	14 7 0	−0.46	+.06
11 20 59		−.02	+1 58.2		+.14	+2 48		+.04
+0 1 59	+0.61	−.16		+0.76	+.18		−0.56	−.04
	0.63	+.02	13 18 29	0.67 b	−.14	14 8 14	−0.60 b	−.04
	+0.65	−.12	+1 59 29	+0.48	−.10	+2 49 14	−0.64	−.12
9.37	0.76 +0.77	±.138	9.18	+0.58	±.105	8.08	−0.52	±.078
+.10		−.05	+.01		+.04	+.06		+.07
11 19	+0.63	−.11		+0.46	+.04		−0.59	+.04
11 28 0	0.68 b	+.06	11 19	0.52 b	−.04	11 19	−0.66 b	−.07
+0 0.9	+0.74	.00	13 24 0	+0.38	−.04	14 14.8 45	−0.73	−.10
11 29 14		−.01	+2 5		−.01	+2 5 5.8		+.06
+0 10 14	+0.73	+.03		+0.42	±.00		−0.54	+.09
	0.78 a	+.02	13 25 14	0.43 a	+.01	14 15 59	−0.60 a	−.06
	+0.80	+.06	+2 6 14	+0.44	+.02	+2 56 59	−0.66	−.03
9.34	0.73 +0.74	±.050	9.02	+0.42	±.025	7.97 9.23	−0.63	±.065
−.11		−.01	+.25		+.16	+.46		−.02
11 19	+0.80	−.07		+0.30	+.29	+.54	−0.74	+.25
11 35.8 45	0.81 a	+.01	11 19	+0.14 a	−.17	11 19	−0.72 a	+.02
+0 16.8	+0.82	−.05	13 34 30	−0.03	−.04	14 25.5 30	−0.70	+.29
11 36 59		−.01	+2 15		+.08	+3 6.5		+.25
	+0.91	+.04		−0.03	−.04		−1.01	−.02
+0 17 59	0.92 b	+.02	13 35 44	−0.11 b	−.08	14 26 44	−1.26 b	−.26
	+0.94	+.07	+2 16 44	−0.19	−.20	+3 7 44	−1.52	−.33
9.47	+0.86 +0.87	±.058	0.87	+0.02	±.142	7.61	−0.99	±.272
+.02		+.05	+.01		−.02	+.18		+.01
11 19	+0.93	+.05		−0.20	−.02		−1.05	−.08
11 43 0	0.88 b	−.06	11 19	−0.18 b	+.03	11 19	−1.06 b	−.02
+0 24	+0.82	−.06	13 42.8 45	−0.17	+.01	14 35.2 15	−1.08	−.11
11 44 14		−.03	+2 23.8		+.03	+3 16.2		+.04
+0 25 14	+0.87	−.01		−0.14	+.04		−0.84	+.13
	0.90 a	+.02	13 43 59	−0.17 a	−.03	14 26 29	−0.88 a	−.03
	+0.92	+.04	+2 24 59	−0.20	−.02	+3 17 29	−0.91	+.06
9.48	+0.88	±.040	8.42	−0.18	±.022	7.63	−0.97	±.095
+.15		+.09	+.13		+.06	+.26		−.03
11 19	+0.88 a	.00		−0.16	+.01		−0.91	+.11
12 45.8 45	+0.88	+.09	11 19	−0.16 a	+.01	11 19	−0.88 a	+.02
+1 26.8	+0.73	−.06	13 49 0	−0.15	−.01	14 48.8 45	−0.86	+.16
12 46 59	0.79 b	+.03	+2 3 0	−0.30	−.08			+.04
+1 27 59	+0.66	−.13		−0.29 b	+.01	+3 2 9 8	−1.10	−.08
9.39	−0.84 +0.79	±.092	+2 31 14 8.38	−0.28 −0.22	−.06 ±.068	+3 30 59 7.58	−1.14 b −1.19 −1.08	−.05 −.17 ±.180

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei

February 11, 1896. Continued.

Gr. M. Time	Diff. Mag.	Cor. Dur.	Gr. M. Time	Diff. Mag.	Cor. Dur.	Gr. M. Time	Diff. Mag.	Cor. Dur.
+.34			+.12			+.41		
hrs m s	−1.32	−.04	hrs m s	−1.59	−.01	hrs m s	−1.86	.00
11 19	−1.28b	−.21	11 19	1.58	−.07	11 19	−1.86b	−.30
14 56.8 45	−1.23	+.05	16 0.5 30	−1.56	+.02	16 49.5 30	−1.87	−.01
+3 37.8		−.42	+4 41.5		−.04	+5 30.5		−.31
	*0.85	+.09		−1.56	−.10		−1.34	−.09
	−0.94a	+.26		1.46a	−.04		−1.25a	+.22
	*1.04	−.10		−1.36	+.10		−1.16	+.09
+3 38 49		+.07	+4 42 44		+.16	+5 31 44		+.46b
7.49								
Mag = 7.74	−1.11	±.165	Mag = 7.78	−1.52	±.078	Mag = 7.04	−1.56	±.308
+.12			+.60			+.26		
	−1.24	−.02		−1.40	+.00		1.48	−.02
11 19		+.04	11 19		+.30	11 19		+.11
15 21.5 30	1.22a	+.02	16 8 0	1.40a	−.01	17 6.8 45	1.46a	+.01
+4 2.5	−1.20	+.08	+4 49	−1.41	+.29	+5 47.8	1.40	+.14
		−.09			+.00			−.02
	−1.43	+.15		−1.95	−.25		1.74	−.15
	1.34b	+.09		2.00b	−.04		1.72b	+.03
+4 2 44	−1.25	+.03	+4 50 14	−2.04	−.34	+5 48 59	1.69	−.10
6.32	−1.28	±.075	6.90	−1.90	±.295	7.01	−1.59	±.125
+.30		+.02	+.65		−.04	+.01		+.06
	−1.53	−.13		−1.86	−.36		1.65	+.00
11 19	1.55b	−.02	11 19	1.82b	+.00	11 19	1.71b	−.06
15 28.5 30	−1.57	−.17	16 21 0	−1.77	−.27	17 11.5 30	1.73	−.07
+4 9.5		−.04	+5 2		.00	+5 52.5		−.04
	−1.29	+.11		−1.17	+.33		1.74	−.04
	1.25a	+.04		1.17a	.00		1.70a	+.05
+4 10 44	−1.21	+.19	+5 3 14	−1.17	+.33	+5 53 44	1.65	+.05
7.20		.00	7.10			6.90		
+0.00	−1.40	±.105	+0.10	−1.50	±.322	+0.30	−1.70	±.052
+.22		+.07	+.58		−.06	+.22		+.01
	−1.21	+.18		−1.26	+.23		1.45	+.12
11 19	1.28a	−.08	11 19	1.20a	+.07	11 19	1.46a	−.02
15 36.5 30	−1.36	+.03	16 27.5 30	−1.13	+.36	17 16.5 30	1.48	+.09
+4 12.5		+.01	+5 8.5		−.00	+5 57.5		−.02
	−1.49	−.10		−1.83	−.34		1.70	−.13
	1.50b	.00		1.78b	+.05		1.68b	+.02
+4 18 44	−1.50	−.11	+5 9 44	−1.73	−.24	+5 58 44	1.66	−.09
7.21	−1.39	±.105	7.11	−1.49	±.292	7.03	−1.57	±.108
+.32		−.08	+.25		+.04			
	−1.59	−.24		−1.76	−.08			
11 19	1.51b	+.08	11 19	1.80b	−.04			
15 42.5 30	−1.43	−.08	16 33.2 15	−1.84	−.16			
+4 23.5		−.03	+5 14.2		−.06			
	−1.22	+.13		−1.61	+.07			
	1.19a	+.03		1.55a	+.06			
+4 24 44	−1.16	+.19	+5 15 29	−1.49	+.19			
7.25	−1.35	±.160	6.92	−1.68	±.125			
+.41	−1.19	+.02	+.06		+.02			
	1.21a	+.23		−1.61	+.05			
11 19	−1.23	−.03	11 19	1.63a	−.02			
15 50 0		+.19	16 43.5 30	−1.65	+.01			
+4 31	−1.67	−.05	+5 24.5		.00			
	1.62b	−.25		1.69	−.03			
	−1.58	+.04		1.69b	.00			
+4 32 14		−.16	+5 25 44		−.03			
7.18	−1.42	±.208	6.94	−1.66	±.070			

Times in Greenwich time of obs. corrected for Light Eq. = + 1 14

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Lr. M. Time of minimum = 10 hr 37 m

U Cephei Phot. 7.

February 21, 1896. Comp Star = DM +81° 27 (8.6)

Lr. M. Time.	Diff. Mag.	Av. Dev.	Lr. M. Time.	Diff. Mag.	Av. Dev.	Lr. M. Time.	Diff. Mag.	Av. Dev.
hrs m s	−0.73	+.07	hrs m s	−1.23	+.01	hrs m s	−1.32	−.05
+3 14 37	0.80a	+.06	+3 45 37	1.24b	−.02	+4 24 52	1.27a	+.01
13 57 0	−0.87	−.07	14 22 0	−1.26	−.02	15 1 15	−1.22	+.05
10 37		−.08	10 37		−.05	10 37		+.11
+3 14	−0.74	+.04	+3 45	−1.24	−.06	+4 24.3	−1.42	−.02
13 57 37	0.78b	+.05	14 22 37	−1.18a	−.03		1.40b	−.09
	−0.82	−.04		−1.11	+.07		−1.37	+.03
		−.03			+.10			−.04
Mag = 7.81	−0.79c	±.055	Mag = 7.39	−1.21c	±.050	Mag = 7.27	−1.33	±.062
	−0.80	+.02		−1.20	+.01		−1.56	−.05
+3 19 37	0.82b	+.10	+3 57 52	1.26a	+.07	+4 29 7	1.51b	−.19
13 56 0	−0.83	−.01	14 28 15	−1.22	−.01	15 5 30	−1.46	+.05
10 37		+.07	10 37		+.05	10 37		−.09
+3 19	−1.02	−.04	+3 57 13	−1.34	.00	+4 28 5	−1.25	−.02
13 56 37	0.98a	−.12		1.34b	−.07		1.23a	±.12
	−0.95	+.03		−1.33	+.01		−1.21	+.02
		−.05			−.06			+.16
7.70	−0.90c	±.085	7.33	−1.27c	±.062	7.23	−1.37	±.140
	−1.03	−.03			+.04		−1.39	−.01
+3 25 7	1.00a	−.02	+3 57 37	−1.26	+.01	+4 48 25	1.38b	+.03
14 1 30	−0.96	+.04	14 34 0	1.30b	−.04	15 24 48	−1.36	+.02
10 37		+.05	10 37	−1.34	−.07	10 37		+.06
+3 24.5	−1.00	+.02	+3 57 37	−1.31	−.07	+4 47.8	−1.42	+.04
14 2 7	1.02b	+.01		1.24a	−.04		1.46b	−.00
	−1.04	−.02		−1.18	+.06		−1.51	−.05
		−.03			+.09			−.09
7.59	−1.01c	±.028	7.33	−1.27c	±.052	7.18	−1.42	±.065
	−1.06	+.02		−1.14	+.12		−1.55	+.07
+3 30 52	1.08b	.00	+4 2 22	1.26a	+.07	+4 53 52	1.62b	−.03
14 7 15	−1.09	−.01	14 38 45	−1.37	−.11	15 30 15	−1.68	−.06
10 37		−.03	10 37		−.06	10 37		−.16
+3 30.3	−1.03	−.01	+4 1.8	−1.16	.00	+4 53.3	−1.50	−.06
14 7 52	1.04a	+.03		1.16b	+.05		1.44a	+.02
	−1.04	.00		−1.10	−.01		−1.37	+.07
		+.02			+.04			+.15
7.54	−1.06c	±.020	7.39	−1.21c	±.080	7.08	−1.52	±.090
	−1.07	+.02		−1.13	+.10		−1.48	−.05
+3 49 37	1.09a	+.07	+4 13 37	1.23b	+.15	+5 0 37	1.58	+.05
14 16 0	−1.11	−.02	14 50 0	−1.33	−.10	15 37 0	−1.43	−.15
10 37		+.03	10 37		−.05	10 37		−.04
+3 39	−1.18	.00	+4 13	−1.43	−.09	+5 0	−1.30	+.02
14 16 37	1.18b	−.04		1.34a	−.15		1.35	+.09
	−1.18	.00		−1.24	+.10		−1.35	+.04
		−.04			+.04			
7.46	−1.14c	±.045	7.32	−1.28c	±.098	7.17	−1.39	±.065

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Continued

G. M. Time.	Diff. Mag.	Av. Dev.
		+.10
hrs m s	1.24	+20
+5 6 37	b 1.34	-.09
15 43 0	1.43	+01
10 37		-.03
+5 6	-1.57	-13
	a 1.54	+.03
15 43 37	-1.51	-07
Mag = 7.16	-1.44	±102
		+04
+5 12 22	-1.42	+17
	1.46a	-.03
15 48 45	-1.49	+10
10 37		-.04
+5 11.8	-1.77	-18
15 49 22	1.73b	+.04
	-1.69	-10
7.01	-1.59	±138
		-.03
+5 18 52	-1.75	-09
	1.72b	+.02
15 55 15	-1.70	-04
10 37		+.01
+5 18.3	-1.58	+08
15 55 52	1.59a	-.01
	-1.60	+06
6.94	-1.66	±068
		+01
+5 24 37	-1.69	-02
	1.70a	-.02
16 1 0	-1.72	-05
10 37		+.13
+5 24	-1.51	+16
16 1 37	1.64b	-.13
	-1.77	-10
6.93	-1.67	±082

Time of obs corrected for
Lgt eq = +0 2 37

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr. M. T. min. = 9 hrs 30 m

U Cephei.

Mar. 2. 1896. Comp. Star = +01°27

Gr M. Time	Diff. Mag	Cor Dw	Gr M Time	Diff. Mag	Cor Dw	Gr M. Time	Diff. Mag	Cor Dw
hrs m s	a (0.88) (0.77) 0.66	*.05	hrs m s	-.02		hrs m s	-.02	
12 44 45			13 24 15			13 #55 30		
9 35			9 35			9 35		
+3 9.8	b -0.86	+.04	+3 #9.2			+4 20.5		
+3 9 26								
Mag = 7.78	-0.82	±.046	Mag = 7.46			Mag = 7.34		
-.02	-1.01	+.04	-.03			+.13		
	-0.95	-.02						
13 0 30	-0.87	-.10	13 30 15			14 6 0		
9 35	-1.04	+.07	9 35			9 35		
+3 25.5			+3 50.2			+4 31.0		
7.63	-0.97	±.058	7.43			7.18		
-.11	-0.86	+.04	+.08			-.15		
	-0.93	-.02						
13 7 45	-1.02	-.06	13 36 30			14 12 15		
9 35	-1.00	+.01	9 35			9 35		
+3 32.8			+4 1.5			+4 37.2		
+3 32 26			+4 1 11			+4 36 56		
7.65	-0.95	±.058	7.40			7.19		
+.18	-0.92	+.04	-.02			.00		
	-0.96	-.05						
13 13 15	-1.01	-.04	13 43 0			14 22 30		
9 35	-1.10	+.04	9 35			9 35		
+3 38.2			+4 8			+4 47.5		
+3 37 56			+4 7 41			+4 47 11		
7.55	-1.05	±.088	7.27			7.22		
-.06	-1.18	.00	+.06			.00		
	-1.17	-.03						
13 19 0	-1.17	+.01	13 49 15			14 29 0		
9 #50	-1.21	-.04	9 35			9 35		
+3 44.0	-1.27	+.03	+4 14.2			+4 54		
+3 43 46			+4 13 56			+4 56 41		
7.39	-1.21	±.032	7.34			7.10		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei.

Mar. 7. 1896. Comp. Star = +81° 27.

G. M. Time	Diff.	Mag	Corr	Diff.	G. M. Time	Diff.	Mag	Corr	Diff.
h m s					h m s				
14 36 15		1.49	+.03		15 23 0		1.62	−.04	
			−.01					+.03	
		1.56	−.04				1.54	+.04	
			+.06					−.05	
9 35			−.06		9 35			−.04	
+5 1.2		1.54	+.04		+5 48.0		1.64	+.05	
		1.548	+.05				1.600	+.05	
+5 0 0.6		1.43	−.07		+5 47 41		1.55	−.04	
Mag = 7.10		1.58	±.045		Mag = 7.01		1.59	±.042	
	−.10					−.04			−.01
		1.46	+.04				1.63	−.03	
			−.09					+.03	
		1.558	−.03				1.62	+.02	
14 44 15		1.53	−.02		15 30 0		1.60	.00	
9 35			−.02		9 35			−.03	
+5 9.2		1.62	+.07		+5 5.5		1.61	+.01	
		1.668	+.01				1.558	+.02	
+5 8 5.6		1.59	+.04		+5 54 41		1.56	−.04	
		7.05	1.55	±.055		7.00	1.60	±.020	
	−.20					−.05			−.04
		1.60	+.02				1.56	+.02	
		1.602	−.02				1.502	+.05	
14 59 15		1.64	±.12		15 38 0		1.47	−.07	
9 35			.00		9 35			+.02	
+5 24.2		1.42	−.10		+6 3.0		1.55	+.01	
		1.542	+.01				1.502	−.02	
14 58 56		1.41	−.11		15 37 41		1.59	+.05	
+5 23 56		7.08	1.52	±.102	+6 2 41		7.06	1.54	±.038
	+.02					−.03			+.07
		1.39	+.03				1.57	−.05	
			−.02				1.508	−.06	
		1.442	−.03				1.64	+.08	
15 4 45		1.45	+.04		15 46 0			−.05	
9 35			−.01		9 35		1.60	+.04	
+5 29.8		1.41	.00		+6 11.0		1.558	+.05	
		1.408	+.01				1.50	−.06	
15 4 26		1.39	−.02		15 45 41				
+5 29 26		7.19	1.41	±.020	+6 10 41		7.04	1.56	±.058
	+.10					−.12			+.07
		1.48	.00				1.45	−.03	
		1.488	−.05				1.502	−.07	
15 11 0		1.48	.00		15 52 30		1.59	+.01	
9 35			−.06		9 35			−.02	
+5 36.0		1.64	+.11		+6 17.5		1.66	+.08	
		1.598	+.05				1.644	+.01	
15 10 41		1.53	.00		15 52 11		1.63	+.05	
+5 35 41		7.07	1.53	±.052	+6 17 11		7.02	1.58	±.068

Times in green are times of obs. corrected for Δt Eq = −0.19

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.4420

Comp. Star = 2 m. +79° (6) (9.4)

Var. in Ursae Min. (Ursae min.)

~~(14h 50m +79° 2)~~ 14h 35m +79° 11

Date	Tabular Quantity				Mean	Gr. Mean Time	Residu				J.D.	Bk. & Page	
1896.											241-		
~~Jan. 16~~	~~2.13~~	~~1.88~~	~~2.33~~	~~2.18~~	~~2.28~~	~~15h 26.5m~~	~~.13~~	~~.12~~	~~.08~~	~~.07~~	~~30775~~	~~79 : 100~~	
~~Apr. 29~~	~~0.36~~	~~0.45~~	~~0.21~~	~~0.29~~	~~0.32~~	~~14~~	~~28.0~~	~~.04~~	~~.05~~	~~.04~~	~~.04~~	~~3679~~	~~81 : 86~~
~~May 23~~	~~0.29~~	~~0.24~~	~~0.33~~	~~0.36~~	~~+0.30~~	~~13~~	~~5 2.0~~	~~.03~~	~~.02~~	~~.01~~	~~.02~~	~~3703~~	~~81 : 173~~
95. 4. 20	1.36	1.39	1.50	1.52	1.39	1.31	1.42	13h 27.5m	.06	.03	.08	.11	.02	.10	3304	74: 128
4. 23	1.42	1.45	1.42	1.41	1.42	1.39	1.42	13	52.9	.01	.02	.01	00.	01	.02	3307	74: 135
4. 25	1.23	1.31	1.37	1.31	1.33	1.27	1.30	14	14.3	.07	.01	.07	.01	.03	.03	3309	74: 140
4. 26	1.30	1.23	1.06	1.24	1.37	1.11	1.22	13	50 ±	.10	.03	.14	.00	.13	.13	3310	74: 140
4. 29	1.17	1.12	1.19	1.17	1.17	1.26	1.18	14	1.5	.01	.04	.03	.03	.03	.06	3313	74: 149
5. 9	1.05	1.02	0.92	1.00	1.10	1.07	1.03	14	30.9	.05	.02	.08	.06	.04	.01	3323	74: 195
6. 7	0.29	0.38	0.39	0.41	0.39	0.29	0.36	16	13.4	.06	.03	.04	.05	.03	.07	3352	75: 26
7. 23	0.96	0.89	0.83	0.82	0.72	0.76	0.83	13	49.4	.07	.00	.06	.05	.05	.01	3398	75: 209
96. 1. 16	2.13	1.88		2.33	2.18		2.28	15	26.5	.13	.12	.08	.07			3575	79 : 100
4. 29	0.36	0.45		0.21	0.29		0.32	14	28.0	.04	.05	.04	.04			3679	81 : 86
5. 23	0.29	0.24		0.33	0.36		0.30	13	52.0	.03	.02	.01	.02			3703	81 : 173
5. 29	1.92	1.90		2.21	2.14		2.04	15	35.5	.01	.01	.03	.04			3709	81 : 198
" "	1.96	2.06		2.09	2.15		2.06	15	45.8	.05	.05	.03	.03			"	81 : 199
6. 20	0.70	0.70	a	0.86	0.86	b	0.78	15	53.8	.00	.00	.00	.00			3721	82 : 80
12. 14	2.49	2.57	a	2.57	2.61	b	2.54	13	30.0	.01	.01	.02	.02			3908	86 : 146
97. 7. 16	+0.25	+0.24	a	+0.24	+0.16	b	+0.22	15	26.0	.01	.00	.04	.04			4122	91 117	±
9. 8	-1.11	-1.16	a	-1.37	-1.46	b	-1.28	13	54.5	.03	.02	.05	.04			4176	91 194	±
" "	-1.39	-1.40	b	-1.61	-1.34	a	-1.44	14	3.5	.01	.00	.13	.14			"	" "	±
10. 9	-1.61	-1.70	a	-1.85	-1.82	b	-1.75	15	5.0	.05	.04	.01	.02			4207	93 7	±
" "	-1.68	-1.73	b	-1.71	-1.83	a	-1.74	15	12.5	.02	.03	.06	.06			"	" 8	±
11. 6	-1.63	-1.62	b	-1.81	-1.81	a	-1.72	17	9.0	.01	.00	.00	.00			4235	93 202	±
" "	-1.85	-1.92	a	-1.71	-1.77	b	-1.81	17	14.0	.03	.04	.03	.03			"	" 203	±
12. 11	-1.51	-1.53	a	-1.38	-1.45	b	-1.47	15	37.0	.01	.01	.04	.03			4270	94 89	±
" "	+1.36	-1.56		-1.44	-1.42		-1.44	15	49.5	.10	.10	.01	.01			"	" 90	±

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Page	Resids Aa Dec Oc − B	Diff.	
	~~.100~~	~~.36~~	Comp. Star = Dm. +79° 467. 9.4
6	~~.042~~	~~.10~~	" " " " " "
2	~~.020~~	~~.08~~	" " " " " "
.8	.067	.01	Comp. Star = Dm. +79° 467. 9.4
30	.012	.02	" " " " "
40	.036	.00	" " " " "
40	.088	.04	" " " " "
49	.033	.04	" " " " "
95	.043	.06	" " " " "
.6	.046	.01	" " " " "
09	.040	.12	" " " " "
70	.100	.36	" " " " "
6	.042	.10	" " " " "
73	.020	.08	" " " " "
98	.022	.27	Observation of diff. in br. between +79° 467 (Comp. Star) (9.4) and +78° 511 (A.2)
99	.040	.11	" " " " " " " " " " " " " "
70	.000	.16	Comp. star = DM +79° 467 (9.4)
46	.015	+.09	Posted up to Feb 13, 1897. Resids between
17	±.022	+.04	Comp Star = DM +79° 467 9.4
94	±.035	−.28	" " " " " "
	±.070	−.08	" " " " " "
7	±.030	+.18	
8	±.042	−.07	
.02	±.002	−.19	
03	±.032	−.14	
59	±.022	−.10	
90	±.055	+.03	

Continued in Book 14, Page 106.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

Measts. of Nr. P. 4411 with Phot. R.

(Magn. of Comp. Star assumed to be 9.1 R)
Comp. Star = Dm. +62° 1994 (9.2)

Date.	Tabular Quantity.				Mean	G.M.T.		Resids				J.D.	Bk. & Pg.	
1896, Jan. 6	1.72	1.61	,	1.66	1.73	1.68	hrs 14	m 33.8	.06	.05	.04	.03	241-3506	79 : 37
2. 16	1.69	1.64	,	1.65	1.62	1.65	15	48.2	.03	.02	.01	.02	3607	80 : 11
3. 12	1.59	1.66	,	1.78	1.82	1.71	15	18.8	.03	.04	.02	.02	3631	80 : 151
5. 18	1.64	1.56	a	1.68	1.67	1.64	14	6.8	.04	.04	.00	.01	3699	81 : 167
6. 19	1.57	1.63	a	1.71	1.59	1.62	15	42.5	.03	.03	.06	.06	3730	82 : 71
6. 20	1.68	1.68	b	1.74	1.71	1.70	14	38.5	.00	.00	.02	.01	3731	82 : 75
" " 6 30	1.64	1.69	a	1.50	1.58	1.60	14	43.8	.02	.03	.04	.04	"	82 : 79
9. 4	1.31	1.17	a	1.22	1.24	1.24	14	20.0	.07	.07	.01	.01	3807	84 : 41
4. 27	1.69	1.70	b	1.77	1.84	1.76	13	57.2	.03	.03	.03	.04	3677	81 : 77 5
7. 30	1.34	1.35	b	1.37	1.35	1.35	16	7.2	.00	.01	.01	.01	3771	83 . 9
9. 26	1.41	1.38	b	1.20	1.20	1.32	14	18.0	.01	.02	.00	.00	3829	84 : 117
10. 19	1.34	1.27	b	1.30	1.29	1.30	14	46.0	.04	.03	.00	.01	3852	85 : 11
10. 22	1.36	1.42	a	1.39	1.34	1.42	13	52.0	.07	.07	.03	.02	3855	85 : 24
10. 19	1.28	1.45	a	1.34	1.26	1.33	14	57.0	.08	.09	.04	.04	3852	85 . 12
12. 14	1.59	1.61	a	1.76	1.80	1.69	12	47.0	.01	.01	.02	.02	3908	86 114
" "	1.79	1.51	a	1.83	1.86	1.82	12	55.0	.01	.01	.01	.02	"	115
1897. 1. 1	1.94	1.86	a	1.73	1.74	1.82	15	42.0	.04	.04	.01	.00	3926	87 7
1. 16	2.05	2.08	b	1.98	1.93	2.01	14	18.0	.01	.02	.02	.03	3941	87 77
2. 11	1.67	1.67	a	1.53	1.63	1.62	14	52.0	.00	.00	.05	.05	3967	88 19
3. 13	1.43	1.58	b	1.42	1.47	1.47	12	57.5	.07	.08	.02	.03	3997	88 172
" "	1.51	1.44	a	1.41	1.51	1.47	13	1.5	.03	.04	.05	.05	"	" 173
5. 17	1.44	1.54	a	1.58	1.58	1.54	14	21.0	.05	.05	.00	.00	4062	90 49
" "	1.68	1.65	b	1.65	1.54	1.63	14	40.0	.02	.01	.05	.06	"	" 50
6 22	1.71	1.70	a	1.68	1.66	1.70	16	41.0	.03	.04	.01	.01	4098	" 218
" "	1.60	1.70	b	1.69	1.64	1.66	16	48.0	.05	.05	.03	.02	"	" "
7 4.	1.64	1.70	a	1.72	1.74	1.72	14	57.0	.03	.03	.02	.02	4114	91 42
" "	1.93	1.83	b	1.82	1.66	1.81	14	12.5	.05	.05	.06	.06	"	"
9 6	1.41	1.61	b	1.65	1.69	1.54	14	57.0	.00	.00	.02	.02	4174	91 184
" "	1.59	1.55	a	1.53	1.51	1.54	14	58.0	.02	.02	.01	.01	"	" "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Av. Dev. Resids	Diff. A-B	Absolute Mags
.045	.04	7.50
.020	.02	7.53
.028	.18	7.47
.022	.08	7.54
.045	.05	7.56
.008	.04	7.48
.032	.08	7.58
.040	.00	7.94
.032	.08	7.42
.008	.02	7.83
.008	.15	7.86
.020	00	7.88
.048	.13	7.76
.062	.06	7.85
.015	−.18	
.012	+.06	
.022	−.16	
.020	−.10	
.025	+.09	
.050	−.06	
.042	+.02	
.025	+.09	7.60 (9/8, 15/8, 7.60)
.035	−.06	
± .045	−.07	7.50
± .075	−.01	
	−.09	7.42
	−.14	
	−.26	7.64
	−.05	

Continued in Book 14. Page 72.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Expts. on lack of Accid Press.

Feb. 25. 1896. (See R. A0. p. 61. ff.)

Let C = K Orionis (mean by A. P. 2.22)
" D = Nd − 9° 123 K (7.8)
" a = Brtr. of 11th mag. stars.
" b = Fr. " " " "
(Plat. Used)

For identification of above stars, see R. A0. p. 67.

C with D

v. b.	b. a
v.72	v.Av
v.92	v.9v
v.A2 (v.A6)	v.90
v.96	v.Av
v.9A	v.A6
v.97 (v.92)	v.A6

Final mean = v.89

D with B

b	a
2.92	2.6A
2.9v	2.67
2.9K (2.A1)	2.6A
3.0v	2.71
3.10	2.67
3.0A (2.AK)	2.69

Final mean = 2.AK

D with A.

a	b
2.v0	1.A)
2.K7	2.v1
2.KA (2.3K)	3.19
2.K0	2.7K
2.K6	2.v9
2.K3 (2.vK)	2.66

Final mean = 2.90

K Orionis = 2.22
v.89
2.KK
10.vv = mean a

K Orionis = 2.22
v.89
2.AK
10.9v = mean b.

Est. of K when exactly united by Micrometer as much as possible =
a 3 K. K / b.

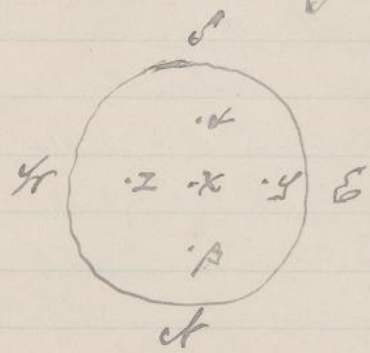
John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Expts. on Leak of Axial Pressure. con.

Feb. 27. 1896. (See R 40. p. 69. ff)

Same region in heavens used, as on previous days. Stars a, b, c, d, are the same. Two new stars added; for which see R 40. p. 76. These added stars are e and f.



Leak of Axial. Index above.

Position X.

2 = star b

" = " "

" = " "

Circle reads V 3.2

Index above. Position Y.

2 = 4 star e

2 = V " "

2 = 4 " "

Circle reads V 3.6

Index above. Position E.

e V 2. 2 1 b

2 = b

2 = b

Circle reads. V 2.1

Index above. Position Z.

Leak practically extinguished.

" " "

" " Circle reads V 3.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

Expts. on Leak of Accol. con.

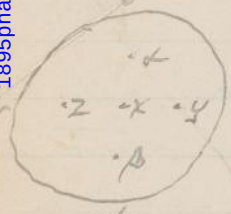
Feb. 27: 1896.

Index above. Position B.

Leak almost extinguished. Z = d

Z = d

" = d



Circle reads. V V. 2

Pos. Circle =

Expts. con. Index below. Position x.		
323.2	b 3 Z. Z 1 f	11.30
324.1	b 3 Z. Z 1 f	11.30
324.1	Z = f	11.V
323.A		11.3V

Expts. con. Index above. Position x.	
V2.9	a 2 Z. Z 2 b
V2.V	a 1.V Z. Z 2 b
V2.6	a 1.V Z. Z 1 b
V2.7	

Index below. Position y.	
32V.3	f 1 Z
324.V	Z = f
32V.A	f 1 Z
32V.2	Leak about extinguished.

Index above. Position y.	
V2.V	Z 3 e
V2.V	Z 3.V e
V2.3	Z 3.V e
V2.4	

Index below. Position x	
324.2	Z 2.V e
324.1	Z 2.V e
324.V	Z 2 e
324.3	

Index above. Position x	
V0.2	b 2.V Z. Z 2.V f
V0.2	b 3 Z. Z 2 f
V1.2	b 2.V Z. Z 2.V f
V0.V	

Index below. Position z	
322.V	b 3 Z. Z 1 f
322.9	b 2 Z. Z 2 f
322.6	b 3 Z. Z 2 f
322.7	

Index above. Position z.	
V1.9	Z extinguished.
V1.9	" "
V1.A	" "
V1.9	

Index below. Position B	
323.6	Leak extinguished.
323.4	" "
323.2	" "
323.V	

Index above. Position B.	
V3.7	b 2.V Z. Z 2 f
V3.6	b 2.V Z. Z 2.V f
V3.4	b 3 Z. Z 2 f
V3.6	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Results of Expts. on Leak of Arcail.

Feb. 27. 1896.

Wavelength of K Arcing by H.P. = 2.22

Diff. wavelength c + d = 5.49

wavelength of d = 4.11

Diff. wavelength d + e = 1.56

wavelength e = 9.67

Diff. wavelength d + f = 3.34

wavelength f = 11.45

---

wavelength c = 2.22

" d = 4.11

" e = 9.67

" a = 10.55

" b = 10.95

" f = 11.45

Finial wavelengths of Leak.

Index below. Pos. X			
323.2	11.30	.05	.05
32K.1	11.30	.05	.05
32K.1	11.45	.	.
323.2	11.40		

Index below. Pos. Z			
322.5	11.30	.05	.05
322.9	11.20	.05	.05
322.6	11.25	.00	.00
322.7	11.25		

Index below. Pos. Y.			
325.3	11.55	.	.
32K.5	11.45	.	.
325.2	11.55	.	.
325.2	11.552		

Index below. Pos. B.	
323.6	Leak exhausted.
323.4	" "
323.4	" "
323.5	

Index below. Pos. X			
32K.2	9.42	.	.
32K.1	9.42	.	.
32K.5	9.47	.	.
32K.3	9.44		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Results of Expts. on Leak of stcl. con.

Feb. 27. 1896.

Final exp. of Leak.

Index above.	Pos. X		
r2.9	10.7r	.00	.00
r2.r	10.72	.02	.03
r2.6	10.74	.04	.07
r2.7			

Index above.	Pos. Y		
r2.r	9.37	"	"
r2.r	9.32	"	"
r2.3	9.32	"	"
r2.4	9.34		

Index above.	Pos. +		
r0.2	11.20	.00	.00
r0.2	11.2r	.00	.00
r1.2	11.20	.00	.00
r0.r	11.22		

Index above.	Pos. Z	
r1.9	Leak extinguished.	
r1.9	"	"
r1.4	"	"
r1.9		

Index above.	Pos. B		
r3.7	11.22	.02	.03
r3.6	11.20	.00	.00
r3.4	11.2r	.00	.00
r3.6	11.22		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Nova Aurigae.

Comp. Star = v = 11.00

Date	Lab. Obs.	Mean	G.M.T.	Reads	241-	Bk & Bz	R
96. 12. 31.	1.06 1.10 0.93 1.04	+1.03	13	42.5	.02 .02 .05 .06	3925	86	216	±
97. 4. 1.	+1.06 +1.00 +1.06 +1.11	+1.06	13	58.0	.03 .03 .02 .03	4016	89	52	±
4. 28	+1.09 +1.05 +1.16 +1.13	+1.10	13	45.0	.02 .05 .02 .01	4043	89	193	±
9. 25	+1.37 +1.30 +1.17 +1.25	+1.28	16	34.0	.03 .04 .04 .04	4193	92	102	±
10. 2	+1.42 +1.31 +1.18 +1.19	+1.27	16	32.0	.06 .05 .00 .01	4200	92	180	±
" "	+1.27 +1.22 +1.45 +1.34	+1.32	16	38.0	.03 .02 .05 .06	"	92	181	±
98. 10. 24	+1.76 +1.80 +1.90 +1.87	+1.83	15	26.3	.02 .02 .02 .01	4587	101	89	±
99. 2. 4.	+2.06 +2.15 +2.27 +2.31	+2.20	16	1.3	.04 .05 .02 .02	4690	103	212	±
" "	+2.10 +2.12 +2.12 +2.13	+2.12	16	4.5	.01 .01 .00 .01	"	"	213	±
" 9.	+1.90 +1.91 +2.01 +2.03	+1.96	15	54.0	.00 .01 .02 .02	4695	"	222	±
3. 16.	+1.81 +2.00 +2.10 +2.05	+1.99	15	53.2	.09 .10 .02 .03	4730	104	205	±
" "	+2.06 +2.00 +1.96 +2.05	+2.02	16	2.0	.03 .03 .04 .05	"	"	206	±
4. 5.	+1.97 +2.01 +1.95 +2.01	+1.98	13	14.5	.02 .02 .03 .03	4750	105	124	±
" "	+1.94 +1.93 +2.07 +2.07	+2.00	13	27.5	.00 .01 .00 .00	"	"	125	±

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

	Gordon Reids	Diff a-b
6	±.038	+.10
"	±.028 "	+.05 "
"	±.025 "	−.07 "
2 "	±.038 "	+.13 "
0	±.030	+.18
1	±.040	+.16
9	±.018	+.10
2	±.032	+.19
	±.007	+.10
2	±.012	+.13
5	±.04	+.18
6	±.037	+.03
	±.022	−.01
5	±.002	+.13

→ Spectrum monochromatic

Phot W

" "

Phot. R.

" "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Measst. of Dm. + 59° 2810 and 2812
(the first bpt. orange and the second very blue)
with Plat. R.

Date	Tabular Quantity				Mean	Gr. Mn. Time	Residuals.				J.D. 241-	BK+Pz	A Re
1896. Jan. 18.	0.96	0.88	0.96	0.90	0.92	15 37.2	.04	.04	.03	.03	3577	79:110	
" Jan. 30.	1.03	1.11	1.12	1.07	1.08	14 56.0	.04	.04	.02	.03	3549	79:156	
" March, 10	1.11	0.98	1.02	0.87	0.99	12 46.8	.07	.06	.08	.07	3629	80:139	
" " 27	1.09	1.06	1.06	1.05	1.07	12 42.0	.01	.02	.00	.01	3646	81 : 2	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

	Av. Dev. Resids.	Diff. A-B	
0	.035	.01	No moon. Orange + bstr. Leis.
6	.032	.03	Moonlight. " " " "
9	.070	.10	No moon. " " " " . A little hazy.
2	.010	.02	Moonlight " " " "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable

May. 4. 1896.

Gr. M. T.	Diff. Magn.	Av. Var.	Gr. M. T.	Diff. Magn.	Av. Var.	Gr. M. T.	Diff. Magn.	Av. Var.
	2.95	-.01		2.62	.00	times in green are times of obs. corrected for Light Eqn. = -3.24		
	2.96a			2.62a				
16 53 50.	2.90	+.02	18 19 23.	2.62	.00			
-0h 51.2m	2.88	.00	+0 34.4	2.80	+.04			
16 50 26	2.54b		18 15 59	2.76b				
	2.88	.00		2.72	-.04			
	12.17			11.96				
	+2.90			+2.69				
	2.82	-.09		2.74	-.03			
	2.91b			2.76b				
17 13 36.	3.00	+.09	18 26 57.	2.80	+.03			
-0 31.4	2.92	+.02	+0 42.0	2.79	+.01			
17 10 14	2.70a		18 23 33	2.98a				
	2.69	-.01		2.78	.00			
	12.07			12.05				
	+2.81			+2.78				
	2.77	-.01		2.54	-.02			
	2.98a			2.56a				
17 23 16.	2.79	+.01	18 46 40.	2.59	+.03			
-0 21.7	2.96	-.06	+1 1.7	2.54	+.02			
17 19 52	2.82b		18 43 16	2.52b				
	2.87	+.05		2.50	-.02			
	12.07			11.81				
	+2.80			+2.54				
	3.02	+.04		2.73	+.09			
	3.04b			2.64b				
17 46 42.	2.99	-.05	18 52 14.	2.55	-.09			
+0 1.2	2.95	+.01	+1 13.2	2.72	+.03			
17 43 24	2.94a		18 54 50	2.09a				
	2.93	-.01		2.06	-.03			
	12.26			11.63				
	+2.99			+2.36				
	2.84	+.02		1.89	-.01			
	2.82a		19 21 23.	1.90a				
17 55 26.	2.79	-.03		1.92	+.02			
+0 10.4	3.01	+.05	+1 36.4					
17 52 2	2.96b		19 17 59					
	2.91	-.05						
	12.16			11.17				
	+2.89			+1.90				
	2.87	-.01	20 14 36.	1.70				
	2.88b							
18 11 40.	2.89	+.01	+2 29.6					
+0 26.7	2.72	+.03	20 11 12					
18 7 16	2.69a							
	2.66	-.03						
12.05	2.78							

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Gr Delphini.

Oct. 24. 1896.

Gr. m. T.	Diff. Comp.	Ar. Dec.	Gr. m. T.	Diff. Comp.	Ar. Dec.	Gr. m. T.	Diff. Comp.	Ar. Dec.

Com. on p. 164.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

 (Con. from p. 137.)

Algol. Variable.
Tabulation of Observations.

Date.	J. D. 24[illegible]	G.m.t.	Diff. mean.	Resids.	Diff. A−B.	Curve.	O−C.	Mean.
95. 12. 31.	35[illegible]9	12h [illegible].	−0.0[illegible]			18h 3[illegible].0	−6h 2[illegible].6	9.19
		12 13	+0.16				−6 21.3	9.43
		12 23	+0.22				−6 11.0	9.49
		12 29	+0.23				−6 [illegible].3	9.[illegible]0
		12 [illegible]	+0.2[illegible]				−[illegible] [illegible]0.0	9.[illegible][illegible]
96. 1. [illegible].		10 37	+0.9[illegible]			13 [illegible]0	−3 1[illegible].0	10.21
		10 [illegible]	+1.1[illegible]				−3 11.[illegible]	10.[illegible]2
		10 [illegible]0	+1.19				−3 [illegible].9	10.[illegible]6
		11 0	+1.2[illegible]				−2 [illegible]7.3	10.[illegible]2
		11 [illegible]	+1.30				−2 [illegible]6.9	10.[illegible]7
		11 [illegible]	+1.[illegible]2				−2 [illegible]0.2	10.69
						Interp. A.		
96. 3. 7.		20 32	+0.[illegible]6			1 31.0	−[illegible] [illegible]8.[illegible]	9.73
		20. [illegible]	+0.[illegible][illegible]				−[illegible] [illegible]6.[illegible]	9.[illegible][illegible]
		20 [illegible]2	+0.6[illegible]				−[illegible] 38.9	9.9[illegible]
		21 1	+0.76				−[illegible] 29.6	10.03
		21 7	+0.73				−[illegible] 2[illegible].1	10.00
		21 2[illegible]	+0.7[illegible]				−[illegible] 6.[illegible]	10.01
		21 33	+0.77				−3 [illegible]8.1	10.0[illegible]
		21 [illegible]0	+0.8[illegible]				−3 [illegible]0.7	10.11
		21 [illegible]6.	+0.90				−3 [illegible].2	10.17
		21 [illegible]8.	+0.98				−3 33.1	10.2[illegible]
		22 [illegible].	+0.9[illegible]				−3 27.[illegible]	10.22
96. [illegible]. [illegible].		16 [illegible][illegible]	+2.90			17 [illegible].0	−0 [illegible]1.2	12.17
		17 1[illegible]	+2.81				−0 31.[illegible]	12.08
		17 23	+2.80				−0 21.7	12.07
		17 [illegible]7	+2.99				+0 1.8	12.26
		17 [illegible][illegible]	+2.89				+0 10.[illegible]	12.16
		18 12	+2.78				+0 26.7	12.0[illegible]

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

(Con. from p. 164)

Tabulation of Observations.

Date.	J. D. 24[illegible]	G. M. T.	Diff. from.	Results.	Diff. A-B.	Curve.	O-C	Magn.
96. V. 4.	3642	18h	19.	+2.69		17	+0h 34.4	12.06
		18	27	+2.72			+0 42.0	12.05
		18	47	+2.54			+1 1.7	11.81
		18	54	+2.36			+1 13.2	11.63
		19	21	[+1.90]			+1 36.4	11.17
		20	15	[+1.50]			+2 2.6	10.77

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Meast. of Miscellaneous Objects.

Date	Tabular Quantity				Mean	G.M.T.	Resids				J.D. 2241-	Bk + Pg	
1896. Jr. 13	2.08	2.01	2.06	2.12	2.06	h 15	m 37.5	.04	.03	.03	.03	3693	81: 15-5	
" "	1.97	2.03	2.08	2.07	2.04	15	49.5	.03	.03	.00	.01	3693	81: 15-6	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Av. Dev. Resids	Def. A–B	
.032	.05	Means with Phot. I. of the diff. in brightness between +17° 3317
.018	.08	and 3327. Lindemann's Comp. Stars for Z Herculis (A.N. 137, 11) (R.A. p. 155)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable.

Gr. M. T.	Diff. Comp.	Ar. Dec.	Gr. M. T.	Diff. Comp.	Ar. Dec.	Gr. M. T.	Diff. Comp.	Ar. Dec.

See p. 163.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

170 Gr. M. Time of minimum = $8^{h}\ 5^{m}.3$ — U Cephei — Phot J.

March 17, 1896. — Comp. star = DM + 81° 27

Gr. M. Time			Diff. Mag	Av. Dev	Gr. M. Time			Diff. Mag	Av. Dev	Gr. M. Time			Diff. Mag	Av. Dev
		−.02		+.03			−.10		−.01			+.07		.00
hrs	m	s	−0.33	−.02	hrs	m	s	−0.75	−.04	hrs	m	s	−1.20	−.03
			0.36a	−.04				0.74b	+.01				1.20a	+.01
11	37	27	−0.40	+.05	12	7	5.6	−0.73	−.06	12	5.3	10	−1.19	−.04
8	53			+.02	8	53			+.05	8	53			.00
			−0.32	−.03				−0.79	.00				−1.27	+.04
+2	44	27	0.34b	−.01	+3	14	56	0.84a	−.04	+4	0	10	1.27b	.00
11	36	25	−0.35	.00	12	6	54	−0.88	+.09	12	52	8	−1.27	+.04
			8.25					7.81					7.37	
+2	43	25	−0.35	±.025	+3	13	54	−0.79	±.048	+3	59	8	−1.24	±.038
		−.14	−0.38	+.04 −.11			−.18	−0.86	+.06 +.03			+.06	−1.27	−.07 +.10
			0.42b	−.04				0.92a	−.05				1.20b	+.06
11	44	26	−0.46	−.03	12	13	25	−0.97	+.14	13	1	24	−1.14	−.03
8	53			−.01	8	53			−.08	8	53			+.06
			−0.57	±.08				−0.82	−.01				−1.08	−.09
+2	51	26	0.56a	+.02	+3	20	25	0.74b	+.07	+4	8	24	1.14a	−.06
11	43	24	−0.54	+.05	12	12	23	−0.67	+.16	13	0	22	−1.19	+.02
			8.11					7.77					7.43	
+2	50	24	−0.49	±.068	+3	19	23	−0.83	±.085	+4	7	22	−1.17	±.060
		−.10	−0.61	+.03 +.01			+.12	−0.96	−.04 ±.10			−.01	−1.29	+.03 −.03
			0.64a	−.04				0.92b	+.05				1.32a	−.03
11	50	11	−0.68	+.08	12	19	10	−0.87	+.01	13	9	24	−1.36	+.04
8	53			+.03	8	53			+.04	8	53			+.02
			−0.51	−.09				−0.76	−.10				−1.29	−.03
+2	57	11	0.56b	−.04	+3	26	10	0.80a	−.05	+4	16	24	1.31b	−.02
11	49	9	−0.58	−.02	12	18	8	−0.85	−.01	13	8	22	−1.33	+.01
			8.00					7.74					7.28	
+2	56	9	−0.50	±.050	+3	25	8	−0.86	±.050	+4	15	22	−1.32	±.028
		−.11	−0.50	+.04 −.09			+.17	−0.97	.00 −.09			−.04	−1.36	.00 −.02
			0.54b	−.03				a0.97	.00				1.36b	.00
11	55	56	−0.57	−.02	12	34	25	−0.97	−.09	13	15	54	−1.36	−.02
8	53			+.03	8	53			+.09	8	53			−.08
			−0.62	+.03				−1.05	−.01				−1.48	+.10
+3	2	56	0.65a	−.03	+3	41	25	b1.14	−.09	+4	22	54	1.40a	+.07
11	54	54	−0.68	+.09	12	33	23	−1.23	+.17	13	14	52	−1.33	−.05
			8.01					7.54					7.22	
+3	1	54	−0.59	±.058	+3	40	23	−1.06	±.090	+4	21	52	−1.38	±.048
		+.14	0.60	−.02			−.03		+.06			−.26		+.03
			−0.66	−.05				−1.00	−.08				−1.45	+.10
			0.64a	+.02				1.06b	−.06				1.48a	−.04
12	2	26	−0.62	+.00	12	39	55	−1.12	+.04	13	21	39	−1.52	+.17
8	53			+.02	8	53			−.04	8	53			−.08
			−0.76	+.05				−1.13	+.05				−1.30	−.05
+3	9	26	0.78b	−.01	+3	46	55	1.09a	+.04	+4	28	39	1.32b	+.08
12	24	24	−0.79	+.08	12	38	53	−1.05	−.03	13	20	37	−1.14	−.21
			7.89					7.52					7.25	
+3	8	24	−0.71	±.068	+3	45	53	−1.08	±.050	+4	27	37	−1.35	±.132

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Times in Green are times of obs. corrected for Lgt. by $= -1^{s}.02$

Gr. M. Time			Diff. Mag.	Av. Dev.
				−.04
hrs	m	s	− 1.26	+.02
			1.28b	−.04
13	28	52	− 1.31	−.03
				+.01
8	53			+.06
			− 1.26	−.04
+4	35	52	1.32a	−.05
13	27	50	− 1.37	+.07
			7.30	
+4	34	50	− 1.30	±.040
				−.10
			− 1.31	+.09
				−.03
			1.40a	−.08
13	35	5	− 1.48	+.14
				+.11
8	53		− 1.19	−.15
				−.10
+4	42	5	1.30b	+.06
13	34	3	− 1.40	
			7.26	
+4	41	3	− 1.38	±.095
				−.02
			− 1.49	+.01
			1.47b	+.02
13	42	56	− 1.45	−.03
				+.07
8	53		− 1.42	−.06
			1.49a	−.07
+4	49	56	− 1.56	+.08
13	41	54	7.12	
+4	48	54	− 1.48	±.045
				−.06
			− 1.48	+.08
			1.42a	+.07
13	47	55	− 1.35	−.05
				+.01
8	53		− 1.39	−.01
			1.40b	.00
+4	54	55	− 1.40	.00
13			7.20	
+4	53	53	− 1.42	±.035
				.00
			− 1.42	+.02
			1.42b	+.01
13	54	56	− 1.41	+.01
				−.04
8	53		− 1.42	+.02
			1.38a	+.04
+5	1	56	− 1.34	−.06
13	53	54	7.20	
+5	0	54	− 1.40	±.028

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

256
1.64

U Cephei. (Full Brightness.)

Apr. 27. 1896.

G. M. T.	Diff. Magn	Av. Dev.	G. M. T.	Diff. Magn	Av. Dev.	G. M. T.	Diff. Magn	Av. Dev.
hrs m s	−1.38	+.26						
	b							
12 47 52	−1.40	+.24						
12 44 42	−1.90	−.26						
	a							
	−1.88	−.24						
	−1.64	±.250						
	−1.70	+.01						
	a							
12 56 29	−1.85	−.14						
12 53 19	−1.55	+.16						
	−1.76	−.03						
	b							
	−1.71	±.085						
	−1.73	−.15						
	b							
13 4 52	−1.63	−.05						
13 1 42	−1.53	+.05						
	−1.48	+.13						
	a							
	−1.582	±.095						

3/193

Mean = 1.64

These observations not considered reliable

Times in Green are time
of obs corrected for Eq. Eqn
= −3 10

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei. (Full Brightness)

May. 25. 1896.

G. M. T.	Diff. Magn.	Obs. Err.	G. M. T.	Diff. Magn.	Obs. Err.	G. M. T.	Diff. Magn.	Obs. Err.
hrs m s			Times in Greenwich are to be corrected for Light Eq. e = −3 49					
	−1.61	+.13						
14 53 30	−1.77 a	−.03						
14 49 41	−1.87	−.13						
	−1.73 b	+.01						
	−1.74 c	±.075						
	−1.66	−.05						
	−1.70 b	−.09						
15 3 30	−1.58	+.03						
14 59 41	−1.49 a	+.11						
	−1.67 c	±.070						
	−1.63	−.01						
	−1.64 a	−.02						
15 12 00	−1.67	−.05						
15 8 11	−1.54 b	+.08						
	−1.62 c	±.040						
	−1.58	+.06						
	−1.61 1660	+.03						
15 22 00	−1.70	−.06						
15 18 11	−1.69 1758 a	−.05						
	−1.65 c	±.050						
	−1.78	−.06						
	−1.74 a	−.02						
15 30 00	−1.73	−.01						
15 26 11	−1.65 b	+.07						
	−1.72 c	±.040						
	3.33							
	Mean = 1.666							

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei. (Full Brightness)

May 27. 1896.

G. m. T.	Diff. resp.	Sev.
hrs mi s	−1.54	±.02
	a −1.49	+.03
14 57 33	−1.52	±.025
14 53 43 c	−1.42	+.02
	B −1.47	±.03
	−1.44	±.025
	−1.48	±.025
	−1.77	±.03
	B −1.72	+.02
15 6 19	−1.74	±.025
15 2 29 c	−1.56	.00
	a −1.57	±.01
	−1.56	±.005
	−1.65	±.015
	−1.70	+.03
	a −1.81	±.03
15 14 33	−1.78	±.030
15 10 43 c	a −1.68	±.04
	B −1.61	+.03
	−1.64	±.035
	−1.71	±.032
	−1.64	+.18
	b −1.51	±.19
15 23 20	−1.32	±.185
15 19 30 c	−1.73	±.02
	a −1.69	+.02
	−1.71	±.020
	−1.52	±.102

Dec 19, 1896.

G. m. T.	Diff. resp.	Sev.
	−1.50	+.04
	a −1.58	±.04
12 48 33	−1.54 c	±.040
	−1.62	±.05
	b −1.52	+.05
	−1.57 c	±.050
	−1.56 c	±.045
12 04 44		
13 06 12		
13 16 36		

Times in Green are times of obs corrected for Light Eqn

Dec 19, 1896. Continued

G. m. T.	Diff. resp.	Sev.
	a −1.66	+.04
V.	−1.59	−.03
13 27 32	−1.62	±.035
	b −1.64	−.06
	−1.77	+.07
	−1.70	±.065
	−1.66	

G. m. T.	Diff. resp.	Sev.
	a −1.70	+.05
I.	1.60	−.05
	−1.65	±.050
	b −1.66	−.03
	−1.72	+.03
	−1.69	±.030
	−1.67	
	b −1.68	−.03
II.	−1.74	+.03
	−1.71	±.030
	a −1.56	+.02
	−1.53	−.01
	−1.54	±.015
	−1.62	
	a −1.50	−.02
III.	−1.53	+.01
	−1.52	±.015
	b −1.58	−.04
	−1.67	+.05
	−1.62	±.045
	−1.57	
	b −1.58	−.01
IV.	−1.60	+.01
	−1.59	
	a −1.67	+.01
	−1.64	−.02
	−1.66	±.015
	−1.62	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei.

Monday, November 16, 1896.

Sr M Time	Diff Mag.	Cor Dur.	Sr M Time	Diff Mag.	Cor Dur.	Sr M Time	Diff Mag.	Cor Dur.
hrs m s			hrs m s			hrs m s		
	b +0.41	−.01		+0.77	+.02		b +0.82	+.04
	+0.44	+.02		b +0.73	−.02		+0.75	−.03
15 17 24	+0.42	±.015	15 48 32	+0.75	±.020	16 23 56	+0.78	±.035
−35 36	+0.60	−.02	− 4 28	a +0.85	+.01	+ 30 56	a +0.82	−.02
	a +0.65	+.03		+0.83	−.01		+0.85	+.01
	+0.62	±.025		+0.84	±.010		+0.84	±.015
+.20	+0.52		+.09	+0.80		+.06	+0.81	
	a +0.74	+.04		a +0.91	+.01		a +0.91	+.02
	+0.65	−.05		+0.89	−.01		+0.87	−.02
15 25 39	+0.70	±.045	15 58 14	+0.90	±.010	16 31 6	+0.89	±.020
−27 21	b +0.62	−.03	+ 5 14	b +0.87	−.01	+ 38 6	b +0.92	+.02
	+0.68	+.03		+0.88	±.00		+0.89	−.01
	+0.65	±.030		+0.88	±.005		+0.90	±.015
+.05	+0.68		+.02	+0.89		−.01	+0.90	
	+0.65	−.04		b +0.68	−.02			
	b +0.73	+.04		+0.71	+.01			
15 33 12	+0.69	±.040	16 5 52	+0.70	±.015			
−19 48	+0.77	−.03	+ 12 52	a +0.87	+.01			
	a +0.82	+.02		+0.84	−.02			
	+0.80	±.025		+0.86	±.015			
+.11	+0.74		+.16	+0.78				
	a +0.79	−.02		a +0.89	+.05			
	+0.83	+.02		+0.80	−.04			
15 40 32	+0.81	±.020	16 13 35	+0.84	±.040			
−12 28	b +0.75	−.05	+ 20 35	b +0.81	−.04			
	+0.86	+.06		+0.89	+.04			
	+0.80	±.055		+0.85	±.040			
+.01	+0.80		−.01	+0.84				

Sr M Time of min. = 1896 Nov 16 d 15 h 53 m

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable. June 2. 1896.

Mean of Comp star = 9.27

Light Time of Min = 13h 52m

G. M. T.	Diff. Mean.	Av. Dev.	G. M. T.	Diff. Mean.	Av. Dev.	G. M. T.	Diff. Mean.	Av. Dev.
hrs m s			hrs m s			hrs m s		
a	2.64	+.08	a	1.97	+.02	a	1.45	+.01
	2.47	-.09		1.93	-.02		1.44	.00
14 45 40	2.56	±.085	15 38 41	1.95	±.020	16 16 32	1.44	±.005
+0 53 40 b	2.59	+.03	+1 46 41 b	1.62	-.01	+2 24 32 b	1.24	-.06
14 41 49	2.54	-.02	15 32 50	1.64	+.01	16 12 41	1.36	+.06
	2.56	±.025		1.63	±.010		1.30	±.060
	11.83			11.04			10.64	
	2.56	±.0150		1.79	±.0150		1.37	±.0325
b	2.20	+.05	b	1.76	+.06	b	1.28	+.02
	2.16	-.04		1.63	-.07		1.23	-.03
14 55 48	2.20	±.045	15 48 8	1.70	±.065	16 32 13	1.26	±.025
+1 3 48 a	2.45	+.03	+1 56 8 a	1.70	-.01	+2 40 13 a	1.22	+.04
14 57 57	2.40	-.02	15 44 17	1.72	+.01	16 28 22	1.13	-.05
	2.42	±.025		1.71	±.010		1.18	±.045
	11.58			10.97			10.49	
	2.31	±.035		1.70	±.0375		1.22	±.0350
a	2.05	-.01	a	1.60	.00	a	1.09	-.02
	2.06	.00		1.59	-.01		1.13	+.02
15 16 40	2.06	±.005	16 1 6	1.60	±.005	16 42 53	1.11	±.020
+1 24 40 b	2.14	+.03	+2 9 6 b	1.65	-.05	+2 50 53 b	1.15 / 1.14	-.04 / 00
15 12 49	2.08	-.03	15 57 15	1.75	+.05	16 39 2	1.15 / 1.14	-.05 / +.01
	2.11	±.030		1.70	±.050		1.14 / 1.14	-.04 / ±.005
	11.35			10.92			10.39	
	2.08	±.0175		1.65	±.0275		1.12	±.0125
b	2.05	+.01	b	1.54	+.02	b	1.13	-.01
	2.03	-.01		1.50	-.02		1.15	+.01
15 24 38	2.04	±.010	16 7 59	1.52	±.020	16 54 43	1.14	±.010
+1 32 38 a	2.03	+.01	+2 15 59 a	1.48	-.06	+3 2 43 a	1.05	.00
15 20 47	2.00	-.02	16 4 8	1.60	+.06	16 50 52	1.05	.00
	2.02	±.015		1.54	±.060		1.05	.00
	11.30			10.80			10.37	
	2.03	±.0125		1.53	±.0400		1.10	±.005

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.:44420

Wells Variable.
June 2. 1896.

Continued.

G. M. T.	Diff. wges.	Str. Der.	G. M. T.	Diff. wges.	Str. Der.	G. M. T.	Diff. wges.	Str. Der.
hr m s			hr m s			hr m s		
	a 1.01	−.04		a 0.74	+.02		a 0.58	+.13
	1.09	+.04		0.71	−.01		0.32	−.13
17 6 7 c	1.05	±.040	17 46 12 c	0.72	±.015	18 28 31 c	0.45	±.130
+3 14 7 b	0.87	+.03	+3 54 12 b	0.61	+.05	+4 36 31 b	0.29	−.01
17 2 16	0.82	−.02	17 42 21	0.51	−.05	18 24 40	0.30	.00
	0.84	±.025		0.56	±.050		0.30	±.005
	10.20			9.91			9.65	
	0.94	±.0325		0.64	±.0325		0.38	±.0675
	b 0.78	−.04		b 0.68	+.06		b 0.32	−.02
	0.87	+.05		0.57	−.05		0.36	+.01
17 12 28 c	0.82	±.045	17 57 53 c	0.62	±.0550	18 33 55 c	0.34	±.015
+3 20 28 a	0.73	−.06	+3 59 53 a	0.48	−.02	+4 41 55 a	0.32	−.06
17 8 37	0.85	+.06	17 48 2	0.53	+.03	18 30 4	0.43	+.05
	0.79	±.060		0.50	±.025		0.38	±.055
	10.07			9.83			9.63	
	0.80	±.0525		0.56	±.0400		0.36	±.0350
	a 0.77	+.01		a 0.47	−.01		a 0.30	−.01
	0.76	.00		0.50	+.02		0.32	+.01
17 26 17 c	0.76	±.005	18 5 3 c	0.48	±.010	18 46 53 c	0.31	±.010
+3 34 17 b	0.78	−.02	+4 13 3 b	0.60	+.04	+4 44 53 b	0.42	.00
17 22 26	0.81	+.01	18 1 12	0.52	−.04	18 43 2	0.41	−.01
	0.80	±.015		0.56	±.040		0.42	±.005
	10.05			9.79			9.63	
	0.78	±.0100		0.52	±.0275		0.36	±.0075
	b 0.76	+.02		b 0.52	.00		b 0.30	.00
	0.73	−.01		0.53	+.01		0.30	.00
17 32 13 c	0.74	±.015	18 10 45 c	0.52	±.005	18 52 41 c	0.30	.00
+3 40 13 a	0.77	−.01	+4 18 45 a	0.52	−.05	+5 0 41 a	0.40	+.05
17 28 22	0.78	.00	18 6 54	0.62	+.05	18 48 50	0.36	−.04
	0.78	±.005		0.57	±.050		0.40	±.040
	10.03			9.81			9.62	
	0.76	±.0100		0.54	±.0275		0.35	±.0225

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells' Variable = BD +17° 4367

$13^h\ 52^m$ = G.S.T. mean.

June 2. 1896.

$23^h\ 17^m$ = G.S.T. mean.

June 16. 1896.

Oct 26. 1896.

Gr. M. Time	Diff. Mag	Av. Dev.
hrs m s		
	0.32	.00 a
	0.33	+.01
		c
19 6 47	0.32	±.005
+5 14 47	0.26	00 b
19 2 56	0.25	−.01
	0.26	±.005
	9.56	
	0.29	±.0050
	0.43	+.07 b
	0.30	−.06
		c
19 12 9	0.36	±.065
15 20 9	0.20	+.02 a
19 8 18	0.16	−.02
	0.18	±.020
	9.54	
	0.27	±.0425

Times in Gr. mean time if to be corrected for Eq. Eq. = −3m 51s

Gr. M. Time	Diff. Mag	Av. Dev.
hrs m s		
	0.39	−.02 A
	0.43	+.02
17 24 19	0.41	±.020
	0.20	−.13 B
	0.46	+.13
	0.33	±.130
	0.37	±.075
	0.26	−.09 B
	0.44	+.09
17 30 32	0.35	±.090
	0.46	+.02 a
	0.41	−.03
	0.44	±.025
	0.40	±.058

October 26. 1896 continued

	0.00	
	−0.03	
15 54 25	−0.02	
	+0.05	
	+0.05	
	+0.05	
V	+0.02	

Gr. M. Time	Diff. Mag	Av. Dev.
hrs m s		
15 14 5	±.000	
		b +0.02
		−0.01
		a +0.01
		+0.01
		+0.01
I		±0.00
		a +0.13
		+0.18
15 20 31	+0.15	
		b +0.01
		+0.01
		+0.01
II		+0.08
		b −0.01
		−0.04
15 35 34	−0.02	
		a +0.09
		+0.09
		+0.09
III		+0.04
		a +0.12
		+0.07
15 45 24	+0.10	
		b +0.02
		+0.06
		+0.04
IV		+0.07

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

S Cancri.

Friday, February 19, 1897.

Gr. M. Time.	Diff. Wgn.	Av. Dev.	Gr. M. Time.	Diff. Wgn.	Av. Dev.	Gr. M. Time.	Diff. Wgn.	Av. Dev.
h m s	+1.00	+.02	h m s	+0.97	+.02	h m s	+0.85	+.02
a	+0.90	−.03	a	+0.93	−.02	a	+0.81	−.02
14 4 22	+0.98		14 50 24	+0.95		15 39 40	+0.83	
+1 2 57	+0.56	−.04	+1 45 31	+061	−.03	+2 38 20	+0.65	+.05
+.0438 b	+0.65	+.05	+.0757 b	+0.66	+.02	+.1099 b	+0.54	−.06
	+0.60			+0.64			+0.60	
	+0.79	A − B +.38		+0.80	A − B +.31		+0.72	A − B +.23
b	+0.68	+.04	b	+0.58	00	b	+0.47	−.03
	+0.60	−.04		+0.59	+.01		+0.52	+.02
14 14 47	+0.64		14 58 31	+0.58		15 55 34	+0.50	
+1 13 22	+0.84	−.06	+1 57	+1.03	+.05	+2 54 9	+0.73	−.02
+.0510 a	+0.90	+.05	+.0513 a	+0.93	−.05	+.1209 a	+0.77	+.02
	+0.90			+0.98			+0.75	
	+0.77	A − B +.26		+0.78	A − B +.40		+0.62	A − B +.25
a	+0.98	−.10	a	+1.02	+.04	a	+0.44	−.02
	+1.17	+.09		+0.94	−.04		+0.48	+.02
14 24 8	+1.08		15 10 28	+0.98		16 20 12	+0.46	
+1 22 43	+0.68	−.04	+2 14 3	+0.88	−.04	+3 18 47	+0.62	−.01
+.0594 b	+0.76	+.04	+.0931 b	+0.90	+.03	+.1381 b	+0.64	+.01
	+0.72			+0.92			+0.63	
	+0.90	A − B +.36		+0.95	A − B +.06		+0.54	A − B −.17
b	+0.87	.00	b	+0.92	+.02	b	+0.51	−.03
	+0.87	.00		+0.87	−.03		+0.57	+.03
14 39 39	+0.87		15 27 22	+0.90		16 28 0	+0.54	
+1 38 [illegible]	+0.94	+.02	+2 25 57	+0.94	−.02	+3 26 35	+0.54	00
+.0682 a	+0.91	−.01	+.1014 a	+0.97	+.01	+.1435 a	+0.53	−.01
	+0.92			+0.96			+0.54	
	+0.90	A − B +.05		+0.93	A − B +.06		+0.54	A − B .00

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

	Gr. M. time. h m s		Diff. Mean.	Av. Dev.
2		a	+0.44	.00
2			+0.44	.00
	16 36 34		+0.44	
	+3 35 9			
	+.1494	b	+0.43	−.04
6			+0.51	+.04
			+0.47	
B				A − B
23			+0.46	−.03
3		b	+0.49	+.07
2			+0.35	−.07
	16 45 22		+0.42	
	+3 43 58			
2		a	+0.21	+.01
2			+0.20	.00
			+0.20	
B				A − B
5			+0.31	−.22
2				
2				
1				
1				
B				
7				
3				
3				
0				
1				
B				
0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

These obs corrected in red for Light Equation.

Wells Variable = BD +17° 4367.

June 26, 1896. Comp star = Star (a) = 9.27

Cor. for Light Eq. = +ᵛᵐ 9ˢ

Gr M Time	Diff. Mag	Av Dur	Gr M Time	Diff. Mag	Av Dur	Gr M Time	Diff. Mag	Av Dur
hrs m s	2.74	+.01	hrs m s a	2.78	+.18	hrs m s a	2.01	-.01
a	2.72	-.01		2.41	-.19		2.02	.00
14 5 39	2.73	±.010	15 17 13	2.60	±.185	16 6 83	2.02	±.005
14 0 38			15 12 4			+6 1 27		
-0 33 21	2.81	+.01	+0 38 13	2.41	+.09	+1 27 33	1.95	+.03
b	2.79	-.01	b	2.24	-.08	b	1.89	-.03
	2.80	±.010		2.32	±.085		1.92	±.030
	(2.03)			(11.73)			(11.24)	
	2.76			2.46			1.97	
b	2.78	+.02	b	2.21	-.09	b	1.79	-.05
	2.75	-.01		2.38	+.08		1.88	+.04
14 25 2	2.76	±.015	15 34 21	2.30	±.085	16 15 80	1.84	±.045
14 19 53			15 29 12			+6 10 11		
-0 13 58	2.62	-.06	+0 5 5 21	2.57	+.05	+1 36 20	2.00	+.08
a	2.74	+.06	a	2.47	-.05	a	1.84	-.08
	2.68	±.060		2.52	±.050		1.92	±.080
	(11.99)			(11.68)			(11.15)	
	2.72			2.41			1.88	
a	2.65	-.05	a	2.50	-.08	a	1.78	+.26
	2.74	+.04		2.65	+.07		1.26	-.26
14 41 59	(11.99)		15 44 10			16 31 50		
14 36 50	2.70	±.045	15 39 1	2.58	±.075	16 26 43	1.52	
+0 2 59			+1 5 10			+1 5 2 5 2		
b	2.73	+.07	b	2.44	+.05	b	1.80	+.04
	2.59	-.07		2.34	-.05		1.71	-.05
	2.66	±.070		2.39	±.050		1.76	
	(11.95)			11.75			(10.91)	
	2.68			2.48			1.64	
b	2.43	.00	b	2.43	-.01	b	1.67	-.07
	2.43	.00		2.44	.00		1.80	+.06
15 4 23	2.43	±.000	15 5 31	2.44	±.005	16 37 33	1.74	
14 59 14			15 5 0 22			+6 32 24		
+8 2 5 23	2.53	-.08	+1 16 31	2.31	+.03	+1 5 8 33	1.55	-.01
a	2.69	+.08	a	2.24	-.04	a	1.58	+.02
	2.61	±.080		2.28	±.035		1.56	
	(11.78)			(11.63)			(10.92)	
	2.52			2.36			1.65	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Lr. M. Time of Minimum = 14h 39m 5s

Continued from pg 182.

Lr M Time	Diff Mag	Av Dev
hrs m s		
a	1.09	−.15
	1.38	+.14
+6 50 17	1.24	
+6 45 8		
+2 11 17		
b	1.27	+.04
	1.19	−.04
	1.23	
	(10.5−1)	
	1.24	
b	1.42	+.08
	1.27	−.07
+6 55 50	1.34	
+6 50 46		
+2 16 5−3		
a	1.45	−.01
	1.48	+.02
	1.46	
	(10.6 7)	
	1.40	
a	1.40	−.02
	1.44	+.02
+7 1 24	1.42	
+6 56 15		
+2 22 24		
b	1.18	−.04
	1.26	+.04
	1.22	
	(10.5 9)	
	1.32	
b	1.25	+.01
	1.24	.00
+7 15 0	1.24	
+7 9 5−1		
+2 36 0		
a	1.19	+.03
	1.14	−.02
	1.16	
	(10.4 7)	
	1.20	

Lr M Time	Diff Mag	Av Dev
hrs m s		
a	1.19	+.04
	1.11	−.04
+7 19 5−3	1.15	
+7 14 44		
+2 40 5−3		
b	1.03	+.01
	1.02	.00
	1.02	
	(10.3 5)	
	1.08	
b	0.92	−.04
	0.99	+.03
+7 30 33	0.96	
+7 25 24		
+2 5−1 39		
a	1.14	+.08
	0.99	−.07
	1.06	
	(10.2 8)	
	1.01	
a	1.03	−.01
	1.05	+.01
+7 50 57	1.04	
+7 30 48		
+2 5−6 57		
b	0.97	−.03
	1.03	+.03
	1.00	
	(10.2 9)	
	1.02	
b	1.00	.00
	0.99	−.01
+7 42 9	1.00	
+7 37 0		
+3 3 9		
a	0.95	+.07
	0.82	−.06
	0.88	
	(10.2 1)	
	0.94	

Lr M Time	Diff Mag	Av Dev
hrs m s		
a	0.84	−.02
	0.87	+.01
+7 48 15	0.86	
+7 43 6		
+3 9 15		
b	0.61	−.05
	0.70	+.04
	0.66	
	(10.0 3)	
	0.76	
b	0.52	−.04
	0.60	+.04
+8 7 37	0.56	
+8 2 28		
+3 28 37		
a	0.78	−.10
	0.97	+.09
	0.88	
	(9.9 9)	
	0.72	
a	0.88	+.01
	0.86	−.01
+8 14 57	0.87	
+8 9 50		
+3 35 59		
b	0.74	+.01
	0.72	−.01
	0.73	
	(10.0 7)	
	0.80	
b	0.71	−.01
	0.74	+.02
+8 22 31	0.72	
+8 17 22		
+3 43 31		
a	0.65	−.01
	0.67	+.01
	0.66	
	(9.9 6)	
	0.69	

OVER

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Continued from page 183

Gr. M. Time	Diff. Mag.	Au. Dur.	Gr. M. Time	Diff. Mag.	Au. Dur.	Gr. M. Time	Diff. Mag.	Au. Dur.
hrs m s			hrs m s			hrs m s		
a	0.55	−.07	a	0.31	.00			
	0.70	+.08		0.31	.00			
~~18 38 20~~			~~19 58 49~~					
18 33 16	0.62		19 53 40	0.31				
+3 −9 −25			+45 −19 −99					
b	0.49	−.07	b	0.23	+.03			
	0.62	+.06		0.16	−.04			
	0.56			0.20				
	(9.86)			(9.53)				
	0.59			0.26				
b	0.69	.00	b	0.14	−.07			
	0.69	.00		0.28	+.07			
~~18 47 29~~			~~20 5 17~~					
18 42 20	0.69	.00	20 0 8	0.21				
+4 −8 −29			+5 −26 −17					
a	0.58	−.02	a	0.20	−.08			
	0.63	+.03		0.35	+.07			
	0.60			0.28				
	(9.91)			(9.51)				
	0.64			0.24				
a	0.47	+.03						
	0.41	−.03						
~~19 7 10~~								
18 2 6	0.44							
+34 −28 −15								
b	0.58	.00						
	0.57	−.01						
	0.58							
	(9.78)							
	0.57							
b	0.67	+.07						
	0.52	−.08						
~~19 19 0~~								
19 13 57	0.60							
+4 40 0								
a	0.61	+.11						
	0.38	−.12						
	0.50							
	(9.82)							
	0.55							

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable = B.D. +17° 4367

July 25, 1896. Comp star (a) = (9.27) Mag.

Gr. M. Time	Diff. Mag	Diff. Dec	Gr. M. Time	Diff. Mag	Diff. Dec	Gr. M. Time	Diff. Mag	Diff. Dec
hrs m s	1.30	+.00	hrs m s	1.03	-.03	hrs m s	0.81	-.03
a	1.29	-.01	a	1.09	+.03	a	0.87	+.03
13 20 07	1.30	±.005	14 2 41	1.06	±.030	14 34 40	0.84	±.030
b	1.28	+.04	b	0.99	+.07	b	0.64	+.02
	1.21	-.03		0.60	-.07		0.61	-.01
.06	1.24	±.035		0.72	±.070		0.62	±.015
10.54.			10.16.			10.00.		
+2 40 47.	1.27	±.020	3 23 21.	0.89	±.050	3 55 20.	0.73	±.0225
b	1.27	+.01	b	0.62	-.01	b	0.64	+.02
	1.25	-.01		0.64	+.01		0.60	-.02
13 29 03.	1.26	±.010	14 10 05.	0.63	±.010	14 47 31.	0.62	±.020
a	1.14	+.04	a	1.03	+.05	a	0.74	±.00
	1.06	-.04		0.92	-.06		0.75	+.01
	1.10	±.040		0.98	±.055		0.74	±.005
10.45.			10.07.			9.95.		
2 49 43.	1.18	±.025	3 30 45.	0.80	±.0325	4 8 11.	0.68	±.0125
a b	1.01	-.07	a	0.90	+.01	a	0.64	-.08
	1.14	+.06		0.94	±.00		0.80	+.08
13 45 32.	1.08	±.065	14 17 49.	0.94	±.005	14 58 05.	0.72	±.080
b	1.04	-.04	b	0.89	+.09	b	0.49	+.05
	1.12	+.04		0.72	-.08		0.39	-.05
	1.08	±.040		0.80	±.085		0.44	±.050
10.35.			10.14.			9.85.		
3 6 12.	1.08	±.0525	3 38. 29.	0.87	±.045	4 19 35.	0.58	±.065
b	1.08	+.04	b	0.79	+.05	b	0.44	+.04
	1.00	-.04		0.68	-.06		0.36	-.04
13 54 03.	1.04	±.040	14 25 46.	0.94	±.055	14 54 58.	0.80	±.040
a	1.10	-.04	a	0.86	+.02	a	0.48	-.01
	1.19	+.05		0.81	-.03		0.50	+.01
	1.14	±.045		0.84	±.025		0.49	±.010
10.36.			10.06.			9.71.		
3 14. 43.	1.09	±.0425	3 46. 26.	0.79	±.040	4 26 38.	0.64	±.025

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

G. M. Time of minimum = 10h 46m 0s.

Continued from pg 186.

Correction for Light Eq. = +6m 40s.

G. M. Time	Diff. May	Diff. Dev	Av. Dev	G. M. Time	Diff. May	Diff. Dev	Av. Dev	G. M. Time	Diff. May	Diff. Dev	Av. Dev
hrs m s			-.06	hrs m s				hrs m s			
		0.44	-.04			0.53	+.03			0.36	-.04
	a	0.56	+.06		a	0.48	-.02		a	0.44	+.04
15 14 58.		0.50	±.060	15 50 43.		0.50	±.025	16 34 08.		0.40	±.004
15 21 33.		0.17	-.05	15 57 23.		0.17	-.03	16 40 48.		0.16	-.02
	b	0.27	+.05		b	0.22	+.02		b	0.20	+.02
		0.22	±.050			0.20	±.025			0.18	±.020
		9.63.				9.62.				9.56.	
4 35 33.		0.36	±.055	5 11 23.		0.35	±.025	5 54 48.		0.29	±.012
	b	0.20	±.00		b	0.14	-.02		b	0.20	+.05
		0.20	±.00			0.19	+.03			0.10	-.05
15 23 25.		0.20	±.000	16 0 56.		0.16	±.025	16 41 52.		0.15	±.050
15 30 5.		0.60	-.04	16 7 36.		0.32	-.04	16 48 32.		0.43	+.13
	a	0.68	+.04		a	0.39	+.03		a	0.17	-.13
		0.64	±.040			0.36	±.035			0.30	±.130
		9.69.				9.53.				9.49.	
4 44 5.		0.42	±.020	5 21 36.		0.26	±.030	6 2 32.		0.22	±.090
		0.70	±.00			0.31	+.01			.016	-.04
	a	0.69	-.01		a	0.30	±.00		a	0.20	+.05
15 34 13.		0.70	±.005	16 11 26.		0.30	±.005	16 54 05.		0.20	±.045
15 40 53.		0.33	+.02	16 18 6.		0.06	±.00	17 0 45.		-0.03	-.02
	b	0.29	-.02		b	0.00	-.01		b	0.01	+.02
		0.31	±.020			0.06	±.005			-0.01	±.020
		9.77.				9.45.				9.37.	
4 54 53.		0.50	±.0125	5 32 6.		0.18	±.005	6 14 45.		0.10	±.0325
	b	0.24	+.05		b	0.01	-.03		b	0.12	+.06
		0.24	-.05			0.06	+.02			-0.01	-.07
15 41 47.		0.29	±.050	16 20 55.		0.04	±.025	17 0 10.		0.06	±.065
15 48 27.		0.58	+.02	16 32 35.		0.41	-.01	17 6 50.		0.44	+.03
	a	0.53	-.03		a	0.42	±.00		a	0.41	-.01
		0.56	±.025			0.42	±.005			0.42	±.015
		9.69.				9.50.				9.51.	
5 2 27.		0.42	±.0375	5 46 35.		0.23	±.015	6 20 50.		0.24	±.040

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Continued from pg 187.

G. M. Time.	Diff. Obs. Mag. Dev.
hrs m s	
	a 0.37 − .03
	0.43 + .03
17 6 28.	0.40 ± .030
8.	b 0.04 + .00
	0.03 − .01
	0.04 ± .005
6 27 8.	9.49. 0.22 ± .0175

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable.

Sept. 1. 1896. Phot. 7.

Comp. Star = Star. + Star a (formerly c)

Gr. M. T.			Diff. Magn.	Err. Det.
		b	+0.12	+.02
			+0.09	−.01
15	6	30	+0.10	±.015
15	12	47		
		a	+0.25	−.07
−6	23	13	+0.38	+.06
			+0.32	±.065
			9.48	A−13
			+0.21	+.22
		a	+0.51	+.05
			+0.40	±.06
15	21	17	+0.46	±.055
15	27	34		
		b	+0.20	+.06
−6	8	26	+0.09	−.05
			+0.14	±.055
			9.57	A−13
			+0.30	+.32
		b	+0.17	−.03
			+0.22	+.02
15	30	31	+0.20	±.025
15	36	48		
		a	+0.25	−.03
−5	59	12	+0.30	+.02
			+0.28	±.025
			9.51	A−13
			+0.24	+.08
		a	+0.38	+.04
			+0.30	−.04
15	39	19	+0.34	±.040
15	45	36		
		b	+0.23	+.02
−5	50	24	+0.19	−.02
			+0.21	±.020
			9.55	A−13
			+0.28	+.13

Gr. M. T.			Diff. Magn.	Err. Det.
		b	+0.29	+.05
			+0.19	−.05
15	47	44	+0.24	±.050
15	54	1		
		a	+0.51	−.07
−5	41	59	+0.66	+.08
			+0.58	±.075
			9.68	A−13
			+0.41	+.34
		a	+0.52	−.06
			+0.63	+.05
15	57	48	+0.58	±.055
16	4	5		
		b	+0.41	+.01
−5	31	55	+0.39	−.01
			+0.40	±.010
			9.76	A−13
			+0.49	+.18
		b	+0.37	+.09
			+0.20	−.08
16	7	21	+0.28	±.085
16	13	38		
		a	+0.52	+.00
−5	22	22	+0.51	−.01
			+0.52	±.005
			9.67	A−13
			+0.40	+.24
		a	+0.55	+.02
			+0.51	−.02
16	14	20	+0.53	±.020
16	20	37		
		b	+0.17	−.07
−5	15	23	+0.31	+.07
			+0.24	±.070
			9.65	A−13
			+0.38	+.29

Gr. M. T.			Diff. Magn.	Err. Det.
		b	+0.21	−.08
			+0.37	+.08
16	21	59	+0.29	±.080
16	28	16		
		a	+0.74	+.02
−5	7	44	+0.71	−.01
			+0.72	±.015
			9.77	A−13
			+0.50	+.43
		a	+0.77	+.05
			+0.67	−.05
16	28	24	+0.72	±.050
16	34	41		
		b	+0.42	−.04
−5	1	19	+0.50	+.04
			+0.46	±.040
			9.86	A−13
			+0.59	+.26
		b	+0.35	−.04
			+0.43	+.04
16	35	57	+0.39	±.040
16	42	14		
		a	+0.64	+.02
−4	53	46	+0.59	−.03
			+0.62	±.025
			9.77	A−13
			+0.50	+.23
		a	+0.65	+.03
			+0.60	−.02
16	43	26	+0.62	±.025
16	49	43		
		b	+0.52	+.04
−4	46	17	+0.45	−.03
			+0.48	±.035
			9.82	A−13
			+0.55	+.14

Continued

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells' Variable — Continued

Sept. 1. 1896.

Gr.	M.	Time		Diff. Mag.	Cor. Dur.
			b	+0.45	−.01
				+0.48	+.02
16	50	36		+0.46	±.015
16	56	53			
			a	+0.72	−.00
−4	39	7		+0.73	+.01
				+0.72	±.005
				9.86	A−13
				+0.59	+.26
			a	+0.75	−.03
				+0.81	+.03
17	2	08		+0.78	±.030
17	8	25			
			b	+0.62	−.02
−4	27	35		+0.67	+.03
				+0.64	±.025
				9.98	A−13
				+0.51	+.14
			b	+0.63	+.02
				+0.59	−.02
17	9	26		+0.61	±.020
17	15	43			
			a	+0.91	−.09
−4	20	17		+1.10	+.10
				+1.00	±.095
				10.07	A−13
				+0.80	+.39
			a	+1.05	−.02
				+1.09	+.02
17	18	18		+1.07	±.020
17	24	35			
			b	+0.85	+.03
−4	11	25		+0.80	−.02
				0.82	±.025
				10.22	A−13
				0.95	+.25

Gr.	M.	Time		Diff. Mag.	Cor. Dur.
			b	0.75	−.01
				0.76	+.00
17	20	13		0.76	±.005
17	31	30			
			a	0.94	−.02
−4	4	30		0.97	+.01
				0.96	±.015
				10.13	A−13
				0.86	+.20
			a	0.96	−.05
				1.06	+.05
17	31	33		1.01	±.050
17	37	58			
			b	0.82	−.00
−3	58	10		0.83	+.01
				0.82	±.005
				10.19	A−13
				0.92	+.19
			b	0.83	+.01
				0.80	−.02
17	43	06		0.82	±.015
17	49	23			
			a	1.21	−.01
−3	46	37		1.22	+.00
				1.22	±.005
				10.29	A−13
				1.02	+.40
			a	1.26	−.02
				1.30	+.02
17	50	36		1.28	±.020
17	56	53			
			b	1.03	−.05
−3	39	7		1.14	+.06
				1.08	±.055
				10.45	A−13
				1.18	+.20

Gr.	M.	Time		Diff. Mag.	Cor. Dur.
			b	1.25	+.05
				1.14	−.06
18	3	59		1.20	±.055
18	10	16			
			a	1.25	−.03
−3	25	44		1.31	+.03
				1.28	±.030
				10.51	A−13
				1.24	+.08
			a	1.35	+.03
				1.30	−.02
18	9	30		1.32	±.025
18	15	47			
			b	1.17	+.01
−3	20	13		1.15	−.01
				1.16	±.010
				10.51	A−13
				1.24	+.16
			b	1.20	−.02
				1.23	+.01
18	15	46		1.22	±.015
18	22	3			
			a	1.50	+.05
−3	13	57		1.40	−.05
				1.45	±.050
				10.61	A−13
				1.34	+.23
			a	1.63	−.01
				1.66	+.02
18	21	38		1.64	±.015
18	27	55			
			b	1.39	−.01
−3	8	5		1.41	+.01
				1.40	±.010
				10.79	A−13
				1.02	+.24

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Grello Variable.

Sept. 1. 1896.

Gr. M. Time	Diff. Gr. Mag. Gr.	
	b	1.45 − .04
		1.53 + .04
18 30 49		1.49 ± .040
18 37 6	a	1.60 − .04
− 2 58 54		1.67 + .03
		1.64 ± .035
		10.83 A − 13
		1.56 + .15
	a	1.58 − .09
		1.76 + .09
18 37 43		1.67 ± .090
18 44 0	b	1.56 + .06
− 2 52 0		1.45 − .05
		1.50 ± .055
		10.85 A − 13
		1.58 + .17
	b	1.59 − .03
		1.64 + .02
18 44 07		1.62 ± .025
18 50 24	a	1.81 − .09
− 2 45 36		1.98 + .08
		1.90 ± .085
		11.03 A − 13
		1.76 + .28
	a	2.05 + .03
		1.98 − .04
18 49 50		2.02 ± .035
18 56 7	b	1.59 − .02
− 2 39 53		1.63 + .02
		1.61 ± .020
		11.09 A − 13
		1.82 + .41

Light equation correction for BD+17°4067
Sept 1, 1896. = +6m 17s

Times in green are times of observation corrected for Light equation.

Times in red are the "O − C" times corrected for Lt. eq.

Gr. M. Time of minimum = Sept. 1 (1896.) d 21 h 36 m

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Kello Var. Full Brightness.

Sept 6.^{d} 16^h 57.^{m} = Sept 7.

September 7, 1896.					September 7, 1896.				
Gr M Time		Diff Mag	Gr Dev.		Gr M Time		Diff Mag	Gr Dev.	
	b	+0.05	+.03			b	−0.01	+.01	
		−0.01	−.03				−0.02	.00	
14 39 30		+002	±.030		15 20 30		−0.02	±.005	
	a	+0.33	+.01			a	+0.30	−.02	
		+0.30	−.02				+0.34	+.02	
		+0.32	±.015				+0.32	±020	
+21^h KA.^{m}		9.45	A−B		+22^h 29.3		9.82	A−B	
		+0.17	+.30				+0.15	+.34	
	a	+0.28	.00						
		+0.29	+.01						
14 49 45		+0.28	±.005						
	b	−0.08	−.01						
		−0.06	+.01						
		−0.07	±.010						
+21^h 54.^{m}		9.37	A−B						
		+0.10	+.35						
	b	−0.06	−.02						
		−0.01	+.03						
15 1 0		−0.04	±.025						
	a	+0.16	−.02						
		+0.20	+.02						
		+0.18	±.020						
+22^h 9.9^m		9.34	A−B						
		+0.07	+.22						
	a	+0.12	−.01						
		+0.14	+.01						
15 11 15		+0.13	±.010						
	b	−0.02	.00						
		−0.02	.00						
+22^h 20.^{m}		−0.02	000						
		9.33	A−B						
		+0.06	+.15						

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Trails Variable Full Brightness

Lr. M. T. of min. = Oct 19 d 23 h 08 m

October 22, 1896.

Lr. M. Time		Diff. Mag.	Av. Dev.
hrs	m	s	
			a +0.08 +.02
			+0.05 −.01
14	24	32	+0.06 ±.015
14	26	31	
			b +0.10 +.04
			+0.02 −.04
			+0.06 ±.040
			9.33 A − B
			+0.06 .00
			b +0.06 +.02
			+0.01 −.03
14	33	16	+0.04 ±.025
14	35	15	
			a +0.05 +.01
			+0.04 .00
			+0.04 ±.005
			9.31 A − B
			+0.04 .00
			a +0.04 −.04
			+0.11 +.03
14	41	31	+0.08 ±.035
14	43	30	
			b +0.14 +.04
			+0.06 −.04
			+0.10 ±.040
			9.36 A − B
			+0.09 −.02
			b +0.09 −.01
			+0.12 +.02
14	49	09	+0.10 ±.015
14	51	58	
			a +0.06 .00
			+0.05 −.01
			+0.06 ±.005
			9.35 A − B
			+0.08 −.04

Lr. M. Time		Diff. Mag.	Av. Dev.
hrs	m	s	
			a +0.09 −.03
			+0.16 +.04
14	58	48	+0.12 ±.035
15	0	47	
			b +0.03 −.01
			+0.06 +.02
			+0.04 ±.015
			9.35 A − B
			+0.08 +.08

Correction for Eph. eq. 96.1023.
= +1m 59s. BD. +17°4367

1895phae.proj..4420

Algol Variable BD+17°4367

October 24, 1896.

Gr. M. Time. hrs m s		Diff. Wag.	Gr. Dev.
	b	+0.14	+.06
		+0.02	−.06
12 19 36		+0.08	±.060
−6 9 39	a	+0.22	−.02
		+0.25	+.01
		+0.24	±.015
		9.43 A−B	
		+0.16	+.16
	a	+0.29	+.01
		+0.28	.00
12 27 46		+0.28	±.005
−5 −9 29	b	+0.28	−.01
		+0.30	+.01
		+0.29	±.010
		9.5 A−B	
		+0.28	−.01
	b	+0.29	−.03
		+0.35	+.03
12 46 18		+0.32	±.030
−5 49 −7	a	+0.42	+.02
		+0.39	−.01
		+0.40	±.015
		9.63 A−B	
		+0.36	+.08
	a	+0.41	−.02
		+0.45	+.02
12 58 36		+0.43	±.020
−5 28 39	b	+0.34	−.03
		+0.40	+.03
		+0.37	±.030
		9.67 A−B	
		+0.40	+.06

Gr. M. Time. hrs m s		Diff. Wag.	Gr. Dev.
	b	+0.39	−.03
		+0.45	+.03
13 10 0		+0.42	±.030
−5 17 15	a	+0.49	−.03
		+0.55	+.03
		+0.52	±.030
		9.74 A−B	
		+0.47	+.10
	a	+0.56	+.02
		+0.52	−.02
13 17 −52		+0.54	±.020
−5 9 23	b	+0.40	−.06
		+0.53	+.07
		+0.46	±.065
		9.77 A−B	
		+0.50	+.08
	b	+0.55	+.01
		+0.52	−.02
13 26 28		+0.54	±.015
−5 0 47	a	+0.52	−.02
		+0.57	+.03
		+0.54	±.025
		9.81 A−B	
		+0.54	.00
	a	+0.66	.00
		+0.66	.00
13 34 4		+0.66	±.000
−4 −53 11	b	+0.60	+.01
		+0.58	−.01
		+0.59	±.010
		9.89 A−B	
		+0.62	+.07

Gr. M. Time hrs m s		Diff. Wag.	Gr. Dev.
	b	+0.61	+.02
		+0.57	−.02
13 42 14		+0.59	±.020
−4 45 1	a	+0.70	−.02
		+0.73	+.01
		+0.72	±.015
		9.93 A−B	
		+0.66	+.13
	a	+0.72	−.02
		+0.76	+.02
13 51 9		+0.74	±.020
−4 36 7	b	+0.77	+.01
		+0.75	−.01
		+0.76	±.010
		10.02 A−B	
		+0.75	−.02
	b	+0.74	.00
		+0.73	−.01
14 2 43		+0.74	±.005
−4 24 32	a	+0.94	+.03
		+0.88	−.03
		+0.91	±.030
		10.09 A−B	
		+0.82	+.17
	a	+0.81	−.05
		+0.92	+.06
14 10 20		+0.86	±.050
−4 16 50	b	+0.65	−.07
		+0.78	+.06
		+0.72	±.065
		10.06 A−B	
		+0.79	+.14

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Gr Time of min = 18:29

October 24, 1896.

Gr. M. Time hrs m s			Diff. Weg.	Aur. Dev.	Gr M Time hrs m s			Diff. Weg.	Aur. Dev.	Gr M Time hrs m s			Diff. Weg.	Aur. Dev.
			+0.82	+.02				+1.08	−.06				+1.64	.00
		b	+0.78	−.02			b	+1.19	+.05			b	+1.63	−.01
14	18	5	+0.80	±.020	14	9	5	+1.14	±.055	15	40	18	+1.64	±.005
−4	9	10			−3	28	10			−2	46	57		
		a	+0.90	.00			a	+1.27	−.07		4	a	+1.93	−.07
			+0.90	.00				+1.41	+.07				+1.86	+.06
			+0.90	±.000				+1.34	±.070				+1.80	±.065
			(0.12	A−B				(0.51	A−B				(0.99	A−B
			+0.80	+.10				+1.24	+.20				+1.72	+.16
		a	+1.08	+.05			a	+1.38	00			a	+1.80	−.04
			+0.98	−.05				+1.37	−.01				+1.88	+.04
14	28	30	+1.03	±.050	15	8	30	+1.38	±.005	15	51	42	+1.84	±.040
−3	58	49			−3	18	49			−2	31	33		
		b	+1.04	.00			b	+1.33	.00			b	+1.95	−.06
			+1.03	−.01				+1.32	.00				+2.07	+.06
			+1.04	±.005				+1.32	±.000				+2.01	±.060
			(0.31	A−B				(0.62	A−B				(1.19	A−B
			+1.04	−.01				+1.35	+.06				+1.92	−.17
		b	+1.11	−.01			b	+1.34	−.04			b	+2.01	−.01
			+1.13	+.01				+1.43	+.05				+2.03	+.01
14	43	26	+1.12	±.010	15	15	58	+1.38	±.045	16	4	28	+2.02	±.010
−3	43	49			−3	13	2			−2	22	52		
		a	+1.29	+.01			a	+1.56	−.02			a	+2.13	−.02
			+1.26	−.02				+1.61	+.03				+2.17	+.02
			+1.28	±.015				+1.58	±.025				+2.15	±.020
			(0.47	A−B				(0.75	A−B				(1.35	A−B
			+1.20	+.16				+1.48	+.20				+2.08	+.13
		a	+1.36	+.01			a	+1.75	+.07			a	+2.25	−.09
			+1.34	−.01				+1.61	−.07				+2.43	+.09
14	50	38	+1.35	±.010	15	29	36	+1.68	±.070	16	22	50	+2.34	±.090
−3	36	37			−2	57	39			−2	4	25		
		b	+1.11	+.02			b	+1.59	−.01			b	+2.36	+.06
			+1.07	−.02				+1.62	+.02				+2.24	−.06
			+1.09	±.020				+1.60	±.015				+2.30	
			(0.49	A−B				(0.91	A−B				(1.59	A−B
			+1.22	+.26				+1.64	+.08				+2.32	+.04

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable = BD +17°4367

September 11, 1896. [Gr. M. Time of min = 12 hrs 19 m] Comp. star (a) = 9.27

Gr M Time hrs	m	s	Diff Mag	Av Dev
		b	+2.83	.00
			+2.83	.00
12	37	0	+2.83	.00
+0	23	44	a +2.71	−.03
			+2.77	+.03
			+2.74	±.030
			12.0 5	A−K
			+2.78	−.09
			a +2.64	−.08
			+2.80	+.08
12	47	52	+2.72	±.080
+0	34	36	b +2.56	−.01
			+2.58	+.01
			+2.57	±.010
			11.91	A−K
			+2.64	+.15
		b	+2.45	+.07
			+2.32	−.06
12	59	42	+2.38	±.065
+0	46	42	a +2.60	+.01
		26	+2.58	−.01
			+2.59	±.010
			11.75	A−K
			+2.48	+.21
		a	+2.74	+.04
			+2.65	−.05
13	10	7	+2.70	±.045
+0	56	51	b +2.35	+.11
			+2.12	−.12
			+2.24	±.115
			11.74	A−K
			+2.47	+.46
		b	+2.38	+.07
			+2.24	−.07
13	18	40	+2.31	±.070
+1	5	24	a +1.88	−.16
			+2.19	+.15
			+2.04	±.105
			11.45	A−K
			+2.18	−.27
		a	+2.28	+.04
			+2.19	−.05
13	24	52	+2.24	±.045
+1	11	36	b +2.12	−.06
			+2.24	+.06
			+2.18	±.060
			11.48	A−K
			+2.21	+.06
		b	+1.87	+.06
			+1.75	−.06
14	3	9	+1.81	±.060
+1	49	53	a +1.58	.00
			+1.57	−.01
			+1.58	±.005
			10.97	A−K
			+1.30	−.23
		a	+1.60	−.04
			+1.67	+.03
14	8	22	+1.64	+.035
+1	54	6	b +1.41	−.03
			+1.48	+.04
			+1.44	±.035
			10.81	A−K
			+1.54	+.20
		b	+1.38	.00
			+1.39	+.01
14	13	47	+1.38	±.005
+2	0	31	a +1.69	−.01
			+1.72	+.02
			+1.70	±.015
			10.81	A−K
			+1.57	+.32
		a	+1.95	+.14
			+1.67	−.14
14	20	27	+1.81	±.140
+2	7	11	b +1.41	+.03
			+1.35	−.03
			+1.38	±.030
			10.87	A−K
			+1.60	+.43
		a	+1.49	+.05
			+1.38	−.06
14	42	4	+1.44	±.055
+2	28	48	b +1.07	+.03
			+1.00	−.04
			+1.04	±.035
			10.51	A−K
			+1.24	+.40
		b	+0.97	−.05
			+1.07	+.05
14	50	35	+1.02	±.050
+2	37	19	a +1.18	+.03
			+1.12	−.03
			+1.15	±.030
			10.30	A−K
			+1.08	+.13

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

BD +17°4367 Continued

Gr M Time h m s	Diff Mag	Var Dev	Gr M Time h m s	Diff Mag	Var Dev	Gr M Time h m s	Diff Mag	Var Dev
				+(0.69)	-(07)			
	a +1.23	+.07		a +0.71	-.05		a +0.35	+.01
	+1.08	-.08		+0.88	+.12		+0.34	.00
14 58 57	+1.16	±.075	15 56 9	+0.76	±.080	16 50 10	+0.34	±.005
+2 40 35	b +1.01	+.03	+3 42 53	b +0.58	+.06	+4 36 54	b +0.11	+.01
	+0.96	-.02		+0.47	-.05		+0.10	.00
	+0.98	±.025		+0.52	±.005		+0.10	±.005
	10.3 4 A-K3			9.91 A-K3			9.49 A-K3	
	+6.07	+.18		+0.64	+.24		+0.22	+.24
	b +0.73	+.03		b +0.52	+.02		b +0.16	-.03
	+0.66	-.04		+0.48	-.02		+0.22	+.03
15 8 17	+0.70	±.030	16 7 20	+0.50	±.020	17 7 20	+0.19	±.030
+2 55 1	a +1.07	+.03	+3 54 4	a +0.70	+.02	+4 54 4	a +0.39	+.02
	+1.00	-.04		+0.67	-.01		+0.35	-.02
	+1.04	±.035		+0.68	±.015		+0.37	±.020
	10.1 4 A-K3			9.86 A-K3			9.55 A-K3	
	+0.87	+.34		+0.59	+.18		+0.28	+.18
	a +1.19	+.01		a +0.73	+.01		a +0.30	-.01
	+1.16	-.02		+0.70	-.02		+0.32	+.01
15 10 46	+1.18	±.015	16 18 28	+0.72	±.010	17 20 53	+0.31	±.010
+3 2 30	b +0.74	-.02	+4 3 12	b +0.59	+.07	+5 7 37	b +0.31	+.02
	+0.78	+.02		+0.46	-.06		+0.27	-.02
	+0.76	±.020		+0.52	±.065		+0.29	±.020
	10.2 4 A-K3			9.89 A-K3			9.57 A-K3	
	+0.97	+.21		+0.62	+.20		+0.30	+.02
	b +0.72	-.02		b +0.43	+.02		b +0.19	-.01
	+0.77	+.03		+0.39	-.02		+0.22	+.02
15 36 58	+0.74	±.025	16 35 57	+0.41	±.020	17 31 33	+0.20	±.015
+3 23 42	a +0.71	-.03	+4 22 41	a +0.48	+.08	+5 18 17	a +0.16	+.02
	+0.77	+.03		+0.31	-.09		+0.13	+.01
	10.0 1							
	+0.74	±.030		+0.40	±.085		+0.14	±.015
		A-K3 .00		9.67 A-K3			9.44 A-K3	
				+0.40	-.01		+0.17	-.06

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

B.D. +17°4367 Continued.

G. M. Time hrs m s			Diff. Mag.	Dev.
			a	+0.14 −.03
17	54	3		+0.20 +.03
17	48	19		+0.17 ±.030
+5	35	13		
			b	+0.11 +.07
				−0.03 −.07
				+0.04 ±.070
				9.37
				+0.10
			b	+0.01 −.01
18	3	7		+0.04 +.02
17	58	53		+0.02 ±.015
+5	44	57		
			a	+0.27 +.03
				+0.22 −.02
				+0.24 ±.025
				9.40
				+0.13
			a	+0.26 +.00
18	14	13		+0.25 −.01
18	8	29		+0.26 ±.005
+5	55	13		
			b	+0.14 +.06
				+0.01 −.07
				+0.08 ±.065
				9.44
				+0.17
			b	+0.20 +.06
18	26	53		+0.08 −.06
18	21	9		+0.14 ±.060
+6	7	53		
			a	+0.18 −.02
				+0.21 +.01
				+0.20 ±.015
				9.44
				+0.17

Light Equation correction for BD+17°4367
Sept. 11, 1896. = +5m 44s

Times in Green are times of observation corrected for Light equation.

Times in red are the, "O−C", with lgt eqn. applied.

G. M. Time of minimum = 1896. Sept. 11d 12h 19m

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

BD +17° 4367 September 25, 1896.

Gr. M. Time			Diff. Mag. <<<	Av. Dev. <<<	Diff. A-B <
hrs	m	s			
		a	+0.54	.00	
16	49	13	+0.55	+.01	
16	44	31	+0.54	±.005	
−5	32	47			
		b	+0.33	−.03	
			+0.40	+.04	
			+0.36	±.035	+.18
			9.72		
			+0.45		~~+.09~~
		b	+0.34	−.06	
17	4	10	+0.45	+.05	
16	59	28	+0.40	±.055	
−5	17	50			
		a	+0.25	−.09	
			+0.42	+.08	
			+0.34	±.085	
			9.64		
			+0.37		−.06
		a	+0.47	+.03	
17	15	24	+0.40	−.04	
17	10	42	+0.44	±.035	
−5	6	36			
		b	+0.54	−.02	
			+0.58	+.02	
			+0.56	±.020	
			9.77		
			+0.50		−.12

Light Equation correction for BD +17° 4367
Sept. 25, 1896. = + 4m 42s

Times in Green are times of observation corrected for Lgt. Eqn.

Gr. M. T. of min. = Sept 25d 16h 22m 22s : 1896.
Times in red are [O − C] with Lgt. Eqn.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

BD +17°4367 (γ Delphini)

September 30, 1896 [Gr. M.T. of min = 17h 43m] Comparison (a) = 927

Gr. M. Time. hrs. m. s.	Diff. Mag.	Cor. Dec.
	a	+0.53 −.07
		+0.66 +.06
11 57 43		+0.60 ±.065
−5 41 2	b	+0.10 −.11
		+0.32 +.11
		+0.21 ±.110
		9.67 A−B
		+0.40 +.39
	b	+0.26 .00
		+0.25 −.01
12 7 0		+0.26 ±.005
−5 31 45	a	+0.50 +.02
		+0.46 −.02
		+0.48 ±.020
		9.64 A−B
		+0.37 +.22
	a	+0.53 .00
		+0.53 .00
12 24 30		+0.53 ±.000
−5 14 15	b	+0.61 +.03
		+0.56 −.02
		+0.58 ±.025
		9.83 A−B
		+0.56 −.05
	b	+0.63 −.04
		+0.71 +.04
12 04 59		+0.67 ±.040
−5 3 46	a	+0.55 −.01
		+0.56 .00
		+0.56 ±.005
		9.89 A−B
		+0.62 −.11

Gr. M. Time. hrs. m. s.	Diff. Mag.	Cor. Dec.
	a	+0.55 −.05
		+0.65 +.05
12 44 20		+0.60 ±.050
−4 54 25	b	+0.47 −.03
		+0.52 +.02
		+0.50 ±.025
		9.82 A−B
		+0.55 +.10
	b	+0.51 −.01
		+0.53 +.01
13 2 19		+0.52 ±.010
−4 36 26	a	+0.76 −.06
		+0.88 +.06
		+0.82 ±.060
		9.94 A−B
		+0.67 +.30
	a	+0.86 −.04
		+0.94 +.04
13 26 25		+0.90 ±.040
−4 13 20	b	+0.97 +.01
		+0.96 .00
		+0.96 ±.005
		10.20 A−B
		+0.93 +.06
	b	+0.97 +.02
		+0.93 −.02
13 40 55		+0.95 ±.020
−3 57 50	a	+1.08 +.02
		+1.05 −.01
		+1.06 ±.015
		10.27 A−B
		+1.00 −.11

Gr. M. Time. hrs. m. s.	Diff. Mag.	Cor. Dec.
	a	+1.10 .00
		+1.09 −.01
13 53 18		+1.10 ±.005
−3 45 27	b	+1.07 −.03
		+1.12 +.02
		+1.10 ±.025
		10.37 A−B
		+1.10 .00
	b	+1.28 −.02
		+1.32 +.02
14 11 19		+1.30 ±.020
−3 27 26	a	+1.07 −.08
		+1.23 +.08
		+1.15 ±.080
		10.49 A−B
		+1.22 +.15
		+1.07 −.05
		+1.16 +.04
14 23 26		+1.12 ±.045
−3 15 19		+1.32 −.08
		+1.47 +.07
		+1.40 ±.075
		10.53 A−B
		+1.26 +.28
		+1.57 −.03
		+1.62 +.02
14 34 0		+1.60 ±.025
−3 4 45		+1.62 −.02
		+1.65 +.01
		+1.64 ±.015
		10.89 A−B
		+1.62 −.04

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phee.proj...4420

B.D. +17°4367

Continued

Correction for Eq. eq. = +4m 1s

September 30/896.

Gr. M. Time. hrs m s.	Diff. Mag	Av. Dev.	Gr. M. Time. hrs m s.	Diff. Mag	Av. Dev.	Gr. M. Time. hrs m s.	Diff. Mag	Av. Dev.
	+2.49 −.01 b		Reject this set and the 6 foll.	+2.56 −.06 b			+2.91 b +.12	
15 47	+2.50 .00		16 50 47	+2.98 +.06		17 45 4	+2.73 −.12	
15 42 48	+2.50 ±.005		.16 46 32	+2.92 ±.060		17 40 49	+2.85 ±.120	
−1 55 57	+2.45 +.08 a		−0 52 13	+2.69 +.01 a		+0 2 4	+2.50 a −.12	
	+2.29 −.08		See R.A. p. 149.	+2.68 .00			+2.74 .12	
	+2.37 ±.080			+2.68 ±.005			+2.62 ±.120	
	11.7 14 −13			12.07			12.01	
	+2.44 −.13			+2.80			+2.74	
	+2.56 +.08 a			+2.62 −.04			+2.77 a +.05	
15 53 21	+2.41 −.07		16 59 41	+2.71 a +.05		18 0 51	+2.66 −.06	
15 51 6	+2.48 ±.075		16 55 26	+2.66 ±.045		17 56 36	+2.72 ±.055	
−1 47 39	+2.20 b		−0 43 19	+2.49 b −.01		+0 17 51	+2.08 b −.18	
				+2.52 +.02			+2.45 +.19	
				+2.50 ±.015			+2.26 ±.185	
				11.8 5			11.7.6	
				+2.58			+2.49	
	+2.54 −.02 b			+2.52 b .00			+2.19 b +.16	
16 31 13	+2.57 +.01		17 17 8	+2.52 .00		18 22 34	+1.87 −.16	
16 26 58	+2.56 ±.015		17 12 03	+2.52 .000		18 18 19	+2.03 ±.160	
−1 11 47	+2.79 +.01 a		−0 25 52	+2.76 a +.08		+0 39 34	+2.23 a −.03	
	+2.77 −.01			+2.59 −.09			+2.28 +.02	
	+2.78 ±.010			+2.68 ±.085			+2.26 ±.025	
	11.9 44 A −13			11.8 7			11.4 1	
	+2.67 +.22			+2.60			+2.14	
	+2.87 −.01 a			+2.74 a −.10				
16 40 32	+2.88 .00		17 29 26	+2.93 +.09				
16 36 17	+2.88 ±.005		17 25 11	+2.84 ±.095				
−1 2 28	+2.73 b −.09		−0 13 34	+2.92 b +.04				
	+2.90 +.08			+2.84 −.04				
	+2.82 ±.085			+2.88 ±.040				
	12.12 A −13			12.13				
	+2.85 +.06			+2.86				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

BD +17°4367.

Tuesday, October 26, 1896. Comp star (a) = 9.27

Gr. M. Time hrs m s	Diff. Magn	Av Dev
b	+0.02	+.02
	−0.01	−.01
15h 14m 5s	±0.00	±.015
a	+0.01	.00
	+0.01	.00
	+0.01	.00
	±0.00	+.01 (A−B)
a	+0.13	−.02
	+0.17	+.02
15h 25m 31s	+0.15	±.020
b	+0.01	.00
	+0.01	.00
	+0.01	.00
	+0.08	+.14 (A−B)
b	−0.01	+.01
	−0.04	−.02
15h 35m 34s	−0.02	±.015
a	+0.09	.00
	+0.09	.00
	+0.09	.00
	+0.04	+.11 (A−B)
a	+0.12	+.02
	+0.07	−.03
15h 45m 24s	+0.10	±.025
b	+0.02	−.02
	+0.06	+.02
	+0.04	±.020
	+0.07	+.06 (A−B)

Gr. M. Time hrs m s	Diff. Magn	Av Dev
b	±0.00	.02
	−0.03	−.01
15h 54m 25s	−0.02	±.015
a	+0.05	.00
	+0.05	.00
	+0.05	.00
	+0.02	+.07 (A−B)

Gr. M. Time of minimum = October 24d 18hrs 29m

Correction for Gt. Eq. Oct 26 = +1m 32s

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj. .4420

BD +17°4367

Sunday, November 22, 1896. Comp. star (a) = 9.27

Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.	Gr. M. Time	Diff. Mag.	Av. Dev.
hrs m s			hrs m s			hrs m s		
	b +1.03	−.03		b +1.14	+.02		b +1.48	+.02
	+1.10	+.04		+1.09	−.03		+1.44	−.02
10 9 42	+1.06	±.035	10 57 18	+1.12	±.025	11 22 34	+1.46	±.020
	+0.96	+.03		+1.23	+.02		+1.47	−.01
	a +0.90	−.03		a +1.19	−.02		a +1.49	+.01
	+0.93	±.030		+1.21	±.025		+1.48	±.010
	10.27			10.43			10.74	
−.13	+1.00		+.09	+1.16		+.02	+1.47	
	a +0.90	−.01		a +1.26	+.08		a +1.39	−.06
	+0.98	+.02		+1.10	−.08		+1.57	+.06
10 20 21	+0.96	±.015	11 0 28	+1.18	±.080	11 29 12	+1.48	±.060
	b +0.94	+.02		b +1.08	−.08		b +1.34	−.04
	+0.91	−.01		+1.23	+.07		+1.41	+.03
	+0.92	±.015		+1.16	±.075		+1.38	±.035
	10.21			10.44			10.69	
+.04	+0.94		+.02	+1.17		+.07	+1.42	
	b +0.90	.00		b +1.19	−.01		b +1.37	−.07
	+0.90	.00		+1.20	.00		+1.51	+.07
10 34 8	+0.90	.000	11 8 8	+1.20	±.005	11 38 56	+1.44	±.070
	a +1.12	+.06		a +1.15	+.01		a +1.43	−.07
	+1.01	−.05		+1.12	−.02		+1.58	+.08
	+1.06	±.055		+1.14	±.015		+1.50	±.075
	10.27			10.44			10.74	
+.11	+1.00		−.06	+1.17		+.06	+1.47	
	a +1.01	−.01		a +1.07	−.05		a +1.59	−.01
	+1.02	.00		+1.18	+.06		+1.62	+.02
10 41 18	+1.02	±.005	11 14 32	+1.12	±.055	11 48 10	+1.60	±.015
	b +1.14	+.05		b +1.56	+.08		b +1.70	−.09
	+1.04	−.05		+1.41	−.07		+1.88	+.08
	+1.09	±.050		+1.48	±.075		+1.79	±.085
	10.33			10.57			10.97	
−.07	+1.06		−.36	+1.30		−.19	+1.70	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

BD +17°4367

Sunday, November 22, 1896.

Gr M Time hrs m s	Diff. Mag.	Av. Dev.	Gr M Time hrs m s	Diff. Mag.	Av. Dev.	Gr M Time hrs m s	Diff. Mag.	Av. Dev.
	b +1.84	.00		b +2.15	−.03		b +2.64	+.02
	+1.80	+.01		+2.21	+.03		+2.61	−.01
11 54 57	+1.84	±.005	12 25 5	+2.18	±.030	13 1 23	+2.62	±.015
	a +1.89	+.02		a +2.20	−.02		a +2.54	+.02
	+1.85	−.02		+2.24	+.02		+2.71	−.01
	+1.87	±.020		+2.22	±.020		+2.72	±.015
	+.03 +1.86	11.13		+.04 +2.20	11.47		+.10 +2.67	11.94
	a +1.93	+.03		a +2.27	−.05			
	+1.86	−.04		+2.38	+.06			
12 4 14	+1.90	±.035	12 34 14	+2.32	±.055			
	b +1.94	+.06		b +2.32	.00			
	+1.83	−.05		+2.32	.00			
	+1.88	±.055		+2.32	.000			
	+.02 +1.89	11.16		.00 +2.32	11.59			
	b +1.86	−.06		b +2.29	−.05			
	+1.97	+.05		+2.38	+.04			
12 10 18	+1.92	±.055	12 42 31	+2.34	±.045			
	a +1.87	+.03		a +2.32	−.02			
	+1.82	−.02		+2.36	+.02			
	+1.84	±.025		+2.34	±.020			
	−.08 +1.88	11.15		.00 +2.34	11.61			
	a +1.90	−.04		a +2.40	−.03			
	+1.98	+.04		+2.50	+.02			
12 16 36	+1.94	±.040	12 54 16	+2.48	±.025			
	b +2.19	.00		b +2.07	+.01			
	+2.19	.00		+2.54	−.02			
	+2.19	.000		+2.56	±.015			
	−.25 +2.06	11.33		−.08 +2.52	11.79			

Gr M Time of min. =
Nov 22d 14h 07.0m

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Grouping of observations of Z Herculis. (Secondary minima) for Sept. 10. 14. 30. and Oct. 4. 1895.

h	m		h	m		h	m					
−1	11.2	2.76	+0	36.2	2.69	+1	44.6	2.64	+2	52.9	2.64	
1	3.4	2.78	+0	38.4	2.74	+1	45.9	2.62 2.63	+2	46.6	2.69	
0	55.3	2.72	0	42.0	2.69	1	48.4	2.64 2.65	+2	47.7	2.72	
0	45.1	2.75	0	43.3	2.72	1	59.2	2.67		3(17.2	3(20.9	
−0	44.1	2.76	+0	47.3	2.69	+1	59.6	2.64 2.66	+2	45.7	2.6	
	5(29.1	5(30.7		5(20.7	5(35.3		(25.7	5(31.6			2.70	
−0	55.8	2.71	+0	41.4	2.72	+1	51.5	2.63				
−0	38.8	2.73	+0	50.5	2.64	+2	4.8	2.59 2.60	+3	10.2	2.62	
0	38.1	2.74	0	57.3	2.70	2	4.9	2.69 2.70	+3	17.0	2.67	
0	23.6	2.75	1	1.7	2.72	2	7.4	2.62 2.63	+3	30.2	2.57	
0	21.0	2.76	1	2.1	2.64	2	13.2	2.69 2.70		3(58.0	3(19.2	
−0	17.8	2.76	+1	1.2	2.66	+2	14.4	2.59 2.60	+3	19.3	2.64	
	5(39.3	5(24		5(29.8	5(33.6		5(44.7	5(31.5				
−0	27.9	2.75	+0	59.6	2.67	+2	8.9	2.64				
−0	16.9	2.83	+1	7.4	2.69	+2	19.3	2.61 2.62				
−0	14.3	2.79	1	8.7	2.66	2	23.4	2.63 2.64				
−0	8.3	2.79	1	13.6	2.62	2	25.4	2.59 2.60				
−0	4.0	2.70	1	16.8	2.67	2	29.0	2.65 2.66				
+0	2.2	2.70	+1	18.4	2.63	+2	29.2	2.66 2.67				
	5(40.7	5(38.1		5(64.7	5(2)		5(126.3	5(31.4				
−0	8.3	2.76	+1	12.98	2.65	+2	20.3	2.63				
+0	2.6	2.78	+1	22.8	2.66	+2	30.8	2.62 2.64				
0	2.9	2.74	1	22.9	2.61	2	35.0	2.70 2.71				
0	8.1	2.76	1	26.1	2.61	2	36.3	2.71 2.73				
0	8.2	2.85	1	28.3	2.73	2	40.9	2.63 2.65				
+0	16.6	2.64	+1	30.3	2.65 2.66	+2	41.5	2.57 2.60				
	5(38.4	5(32.7		5(30.4	5(32.1		5(84.5	5(30.3				
+0	7.7	2.75	+1	26.1	2.64	+2	36.9	2.61				
+0	20.2	2.67	+1	31.3	2.60	+2	42.9	2.64 2.69				
0	22.0	2.70	1	33.6	2.76	2	46.6	2.69 2.71				
0	23.6	2.72	1	39.5	2.62	2	47.7	2.72 2.73				
0	29.7	2.72	1	40.6	2.67	3	10.8	2.64 2.71				
+0	33.4	2.72	+1	43.3	2.69 2.64	3	17.0	2.67 2.70				
	5(28.9	5(35.3		5(18.3	5(32.5		3	30.2	2.57 2.62			
+0	20.8	2.71	+1	37.7 2.76	2.65			6(61.2	6(40.1			
								+3	2.67			

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.4420

U Cephei.

January 25, 1897. Phot. I.

Gr. M. Time.			Diff. Magn.	Av. Dev.	Gr. M. Time.			Diff. Magn.	Av. Dev.	Gr. M. Time.			Diff. Magn.	Av. Dev.
h	m	s			h	m	s			h	m	s		
			+1.09	+.14				+0.84	−.01				+0.23	+.01
		a	+0.81	−.14			a	+0.86	+.01			a	+0.20	−.02
12	20	43	+0.95	±.140	13	1	27	+0.85	±.010	13	42	8	+0.22	
+1	21.9				+2	2.6				+2	43.3			
			+0.67	+.05				+0.67	.00				−0.08	+.04
		b	+0.56	−.06			b	+0.67	.00			b	−0.17	−.05
			+0.62	±.055				+0.67	.00				−0.12	±.045
			+0.78	A − B +.33				+0.76	A − B +.18				+0.05	A − B +.34
			+0.64	.00				+0.66	−.02				−0.21	−.05
		b	+0.63	−.01			b	+0.70	+.02			b	−0.10	+.06
12	29	25	+0.64	±.005	13	12	13	+0.68	±.020	13	49	59	−0.16	±.055
+1	30.6				+2	13.4				+2	51.2			
			+0.83	+.11				+0.62	+.06				−0.26	−.01
		a	+0.62	−.10			a	+0.50	−.06			a	−0.24	+.01
			+0.72	±.105				+0.56	±.060				−0.25	±.010
			+0.68	A − B +.08				+0.62	A − B −.12				−0.20	A − B −.09
			+0.67	−.02				+0.37	−.02				−0.45	+.07
		a	+0.71	+.02			a	+0.41	+.02			a	−0.58	−.06
12	38	56	+0.69	±.020	13	23	22	+0.39	±.020	14	9	24	−0.52	±.065
+1	40.1				+2	24.6				+3	10.6			
			+0.85	+.01				+0.51	+.02				−0.43	+.05
		b	+0.84	.00			b	+0.47	−.02			b	−0.52	−.04
			+0.84	±.005				+0.49	±.020				−0.48	±.045
			+0.76	A − B −.15				+0.44	A − B −.10				−0.50	A − B −.04
			+0.86	−.02				+0.40	+.05				−0.63	−.01
		b	+0.90	+.02			b	+0.30	−.05			b	−0.62	.00
12	49	47	+0.88	±.020	13	33	37	+0.35	±.050	14	16	55	−0.62	±.005
+1	51.0				+2	34.8				+3	18.1			
			+0.88	−.01				+0.37	+.04				−0.47	+.01
		a	+0.90	+.01			a	+0.29	−.04			a	−0.49	−.01
			+0.89	±.010				+0.33	±.040				−0.48	±.010
			+0.88	A − B +.01				+0.34	A − B −.02				−0.55	A − B +.14

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Gr. M. Time of minimum Jan 25.
= 11h 1m

Correction for light eqn = + 2m 13s

11h 1.0m
−2.2
10h 58.8m

	Gr. M. Time.			Diff. Magn.	Cor. Dev.
	h	m	s		
				−0.54	+.09
			a	−0.72	−.09
	14	28	12	−0.63	±.090
	+3	29.2			
			b	−0.94	+.04
				−1.01	−.03
				−0.98	±.035
					A − B
				−0.80	+.35
			b	−0.74	+.08
				−0.89	−.07
	14	36	47	−0.82	±.070
	+3	38.0			
			a	−0.98	+.03
				−1.04	−.03
				−1.01	±.030
					A − B
				−0.92	−.19
			a	−1.25	−.17
				−0.90	+.18
	14	39	47	−1.08	±.175
	+4	1.0			
			b	−1.17	+.01
				−1.18	.00
				−1.18	±.005
					A − B
				−1.13	+.10

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei.
Jan. 30. 1897.

Gr. M. Time		Diff. Magn	Av. Dev.
h m s			
	b	+ 0.70	− 01
		+ 0.72	+ .01
12 38 30		+ 0.71	
+1 59.5	a	+ 0.97	+ 04
		+ 0.89	− 04
		+ 0.93	
		+ 0.82	A − K3 + .22
	a	+ 0.91	− .01
		+ 0.92	.00
12 47 0		+ 0.92	
+2 8.0	b	+ 0.78	+ .04
		+ 0.69	− .05
		+ 0.74	
		+ 0.83	A − K3 + .18
	b	+ 0.76	+ 03
		+ 0.70	− .03
12 56 30		+ 0.73	
+2 17.5	a	+ 0.66	+ .03
		+ 0.60	− .03
		+ 0.63	
		+ 0.68	A − K3 − .10
	a	+ 0.54	+ .04
		+ 0.46	− .04
13 06 0		+ 0.50	
+2 27.0	b	+ 0.41	+ .01
		+ 0.38	− .02
		+ 0.40	
		+ 0.45	A − K3 + .10

Gr. M. Time		Diff. Magn	Av. Dev.
h m s			
	b	+ 0.31	+ .07
		+ 0.16	− .08
13 16 0		+ 0.24	
+2 37.0	a	+ 0.27	− .05
		+ 0.37	+ .05
		+ 0.32	
		+ 0.28	A − K3 + .08
	a	+ 0.21	+ .03
		+ 0.14	− .04
13 27 0.		+ 0.18	
+2 48.0	b	− 0.08	+ .03
		− 0.14	− .03
		− 0.11	
		+ 0.04	A − K3 + .29
	b	− 0.11	− .03
		− 0.05	+ .03
13 36 30		− 0.08	
+2 57.5	a	− 0.37	− .02
		− 0.33	+ .02
		− 0.35	
		− 0.22	A − K3 − .27
	a	− 0.58	− .05
		− 0.48	+ .05
13 46 0		− 0.53	
+3 7.0	b	− 0.53	+ .01
		− 0.54	.00
		− 0.54	
		− 0.54	A − K3 + .01

Gr. M. Time		Diff. Magn	Av. Dev.
h m s			
	b	− 0.67	00
		− 0.67	00
13 54 0		− 0.67	00
+3 15.0	a	− 0.42	+ .08
		− 0.59	− .09
		− 0.50	
		− 0.58	A − K3 + 17
	a	− 0.59	+ .01
		− 0.61	− .01
14 02 0		− 0.60	
+3 23.0	b	− 0.80	+ .05
		− 0.90	− .05
		− 0.85	
		− 0.72	A − K3 + .25

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei.

Feb. 4. 1897.

	Gr. m. T.	Diff. magn.	Av. Dev.	Gr. m. T.	Diff. magn.	Av. Dev.	Gr. m. T.	Diff. magn.	Av. Dev.
		b	+0.79	+.03		b	+0.20	+.07		b	-0.59	+.05
			+0.72	-.04			+0.06	-.07			-0.68	-.04
	12 20 43		+0.76		13 1 4		+0.13		13 36 24		-0.64	
	+2 24.4	a	+0.91	+.05	+2 43.1	a	+0.05	-.04	+3 18.3	a	-0.62	-.01
			+0.80	-.06			+0.13	+.04			-0.60	+.01
			+0.86				+0.09				-0.61	
			+0.81	A - K3 +.10			+0.11	A - K3 -.04			-0.62	A - K3 +.03
		a	+0.85	-.01		a	+0.04	.00		a	-0.69	-.07
			+0.88	+.02			+0.05	+.01			-0.56	+.06
	12 29 13		+0.86		13 9 42		+0.04		13 46 28		-0.62	
	+2 11.2	b	+0.76	+.03	+2 57.4	b	-0.18	.00	+3 28.2	b	-0.70	+.03
			+0.70	-.03			-0.19	-.01			-0.76	-.03
			+0.73				-0.18				-0.73	
K3			+0.80	A - K3 +.13			-0.07	A - K3 +.22			-0.68	A - K3 +.11
		b	+0.64	+.10		b	-0.24	.00				
			+0.53	-.11			-0.24	.00				
	12 40 44		+0.54		13 19 10		-0.24					
	+2 22.4	a	+0.59	+.03	+3 0.9	a	-0.27	+.07				
			+0.52	-.04			-0.42	-.08				
			+0.56				-0.34					
			+0.55	A - K3 +.02			-0.29	A - K3 -.10				
		a	+0.46	-.04		a	-0.36	-.04				
			+0.53	+.03			-0.29	+.03				
	12 49 48		+0.50		13 24 57		-0.32					
	+2 31.5	b	+0.26	+.02	+3 6.7	b	-0.58	.00				
			+0.22	-.02			-0.58	.00				
			+0.24				-0.58					
			+0.37	A - K3 +.26			-0.45	A + K3 +.26				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei

Tuesday, February 7, 1897. Phot I.

Gr M Time		Diff. Magn.	Av Dev	Gr M Time		Diff. Magn.	Av Dev	Gr M Time		Diff. Magn.	Av Dev
hs m s				hs m s				hs m s			
	a	+0.68	+.05		a	+0.04	+.04		a	-0.55	+.02
		+0.58	-.05			-0.04	-.04			-0.59	-.02
12 11 9		+0.63		12 41 32		0.00		13 14 1		-0.57	
+2 13.2	b	+0.69	+.03	+2 43.9	b	-0.12	-.02	+3 16.4	b	-0.66	+.04
		+0.62	-.04			-0.09	+.01			-0.74	-.04
		+0.66				-0.10				-0.70	
		+0.64	A-B -.03			-0.05	A-B -.10			-0.64	A-B +.13
	b	+0.67	+.07		b	-0.16	+.06		b	-0.71	+.02
		+0.52	-.08			-0.27	-.05			-0.75	-.02
12 18 28		+0.60		12 51 28		-0.22		13 22 27		-0.73	
+2 20.9	a	+0.77	+.05	+2 53.9	a	-0.04	+.08	+3 24.8	a	-0.53	+.07
		+0.68	-.04			-0.20	-.08			-0.68	-.08
		+0.72				-0.12				-0.60	
		+0.66	A-B +.12			-0.17	A-B +.10			-0.66	A-B +.13
	a	+0.69	+.05		a	-0.27	-.07				
		+0.60	-.04			-0.13	+.07				
12 20 48		+0.64		12 58 56		-0.20					
+2 28.2	b	+0.32	-.03	+3 1.3	b	-0.30	+.04				
		+0.38	+.03			-0.38	-.04				
		+0.35				-0.34					
		+0.50	A-B +.29			-0.27	A-B +.14				
	b	+0.29	-.13		b	-0.44	+.02				
		+0.55	+.13			-0.49	-.03				
12 33 32		+0.42		13 6 50		-0.46					
+2 35.9	a	+0.04	-.01	+3 9.2	a	-0.51	+.06				
		+0.06	+.01			-0.63	-.06				
		+0.05				-0.57					
		+0.24	A-B -.37			-0.52	A-B -.11				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei.

Friday. Feb. 19. 1897.

Gr. m. T.		Diff. Mags.	Av. Dev.	Gr. m. T.		Diff. Mags.	Av. Dev.	Gr. m. T.		Diff. Mags.	Av. Dev.
hs m	s a	+0.83	−.01	hs m	s a	+0.35	+.09	hs m	s a	−0.45	+.03
		+0.86	+.02			+0.16	−.10			−0.52	−.04
11 25 45		+0.84		12 2 17		+0.26		12 40 37		−0.48	
+2 9.5	b	+0.73	.00	+2 46.0	b	+0.08	+.10	+3 24.3	b	−0.69	+.08
		+0.73	.00			−0.13	−.11			−0.85	−.08
		+0.73				−0.02				−0.77	
		+0.78	A − K3 +.11			+0.12	A − K3 +.28			−0.62	A − K3 +.29
	b	+0.70	+.03		b	−0.15	+.01		b	−0.80	.00
		+0.64	−.03			−0.17	−.01			−0.81	−.01
11 38 13		+0.67		12 12 7		−0.16		12 57 8		−0.80	
~~+2 22.2~~ +2 21.9	a	+0.73	+.07	+2 56.1	a	−0.16	+.05	+3 35.1	a	−0.77	+.05
		+0.60	−.06			−0.26	−.05			−0.86	−.04
		+0.66				−0.21				−0.82	c
		+0.66	A − K3 −.01			−0.18	A − K3 −.05			−0.81	A − K3 −.02
	a	+0.66	+.10		a	−0.26	−.02				
		+0.46	−.10			−0.23	+.01				
11 45 31		+0.56		12 21 29		−0.24					
+2 29.82	b	+0.39	−.01	+3 5.2	b	−0.38	+.02				
		+0.41	+.01			−0.43	−.03				
		+0.40				−0.40					
		+0.48	A − K3 +.16			−0.32	A − K3 +.16				
	b	+0.41	+.09		b	−0.40	+.04				
		+0.22	−.10			−0.49	−.05				
11 54 9		+0.32		12 30 29		−0.44					
+2 ~~8.2~~ 37.9	a	+0.42	+.08	+3 14.2	a	−0.45	−.01				
		+0.27	−.07			−0.42	+.02				
		+0.34				−0.44					
		+0.33	A − K3 +.02			−0.44	A − K3 .00				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

ζ Cephei.

Wednesday, February 24, 1897.

G M Time		Diff. Magn	Dev	G M Time		Diff. Magn	Dev	G M Time		Diff. Mag	Dev
h m s				h m s				h m s			
	a	+0.65	+.06		a	-0.07	+.09		a	-0.89	-.05
		+0.53	-.06			-0.26	-.10			-0.80	+.04
11 19 29		+0.59		11 57 56		-0.16		12 43 44		-0.84	
+2 23.9	b	+0.51	+.09	+3 2.3	b	-0.49	-.04	+3 48.1	b	-1.14	-.06
		+0.33	-.09			-0.41	+.04			-1.03	+.05
		+0.42				-0.45				-1.08	
		+0.50	A-B +.17			-0.30	A-B +.29			-0.96	A-B +.24
	b	+0.33	+.00		b	-0.52	-.02		b	-1.09	-.03
		+0.24	-.04			-0.47	+.03			-1.04	+.02
11 28 12		+0.28		12 10 14		-0.50		12 53 54		-1.06	
+2 32.6	a	+0.35	+.01	+3 14.2	a	-0.39	-.01	+3 5-8.3	a	-1.02	+.01
		+0.33	-.01			-0.38	.00			-1.04	-.01
		+0.34				-0.38				-1.03	
		+0.31	A-B +.06			-0.44	A-B +.12			-1.04	A-B +.03
	a	+0.27	+.01		a	-0.41	.00				
		+0.25	-.01			-0.41	.00				
11 37 48		+0.26		12 19 49		-0.41					
+2 42.2	b	+0.03	+.02	+3 24.2	b	-0.75	+.03				
		-0.01	-.02			-0.80	-.02				
		+0.01				-0.78					
		+0.14	A-B +.25			-0.60	A-B +.37				
	b	-0.01	+.03		b	-0.83	-.01				
		-0.08	-.04			-0.80	+.02				
11 46 50		-0.04		12 33 50		-0.82					
+2 51.2	a	-0.02	+.04	+3 38.2	a	-0.82	-.01				
		-0.11	-.05			-0.80	+.01				
		-0.06				-0.81					
		-0.05	A-B -.02			-0.82	A-B +.01				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

S Cancri.

Sunday Feb. 26. 1897.

(Continued on next page)

Gr. m. T.		Diff. Magn.	Obs. Dev.	Gr. m. T.		Diff. Magn.	Obs. Dev.	Gr. m. T.		Diff. Magn.	Obs. Dev.
h m s				h m s				h m s			
	b	−1.18	−.02		b	−1.16	−.06		b	−1.38	.00
		−1.15	+.01			−1.05	+.05			−1.37	+.01
14 18 40		−1.16		14 56 0		−1.10		15 51 36		−1.38	
	a	−1.51	−.07		a	−1.43	−.03		a	−1.25	+.01
		−1.36	+.08			−1.38	+.02			−1.28	−.02
		−1.44				−1.40				−1.26	
		−1.30	−.28 A−B			−1.25	−.30 A−B			−1.32	+.12 A−B
	a	−1.46	.00		a	−1.26	+.04		a	−1.21	+.02
		−1.45	+.01			−1.34	−.04			−1.25	−.02
14 29 10		−1.46		15 12 1		−1.30		16 0 21		−1.23	
	b	−1.27	−.01		b	−1.12	+.10		b	−1.46	−.04
		−1.26	.00			−1.33	−.11			−1.38	+.04
		−1.26				−1.22				−1.42	
		−1.36	+.20 A−B			−1.26	−.08 A−B			−1.32	+.19 A−B
	b	−1.24	−.03		b	−1.37	+.04		b	−1.18	+.05
		−1.18	+.03			−1.45	−.04			−1.28	−.05
14 38 45		−1.21		15 21 59		−1.41		16 15 36		−1.23	
	a	−1.47	−.03		a	−1.14	−.02		a	−1.23	−.01
		−1.41	+.03			−1.11	+.01			−1.21	+.01
		−1.44				−1.12				−1.22	
		−1.32	−.23 A−B			−1.26	+.29 A−B			−1.22	+.01 A−B
	a	−1.37	−.01		a	−1.06	+.08		a	−1.20	.00
		−1.36	.00			−1.23	−.09			−1.20	.00
14 47 12		−1.36		15 40 50		−1.14		16 25 52		−1.20	
	b	−1.21	−.05		b	−1.35	−.03		b	−1.23	+.05
		−1.10	+.06			−1.30	+.02			−1.32	−.04
		−1.16				−1.32				−1.28	
		−1.26	−.20 A−B			−1.23	+.18 A−B			−1.24	+.08 A−B

Continued.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Feb. 28, 1897.

(Cont. from previous page.)

Canari.

Mar. 29. 1897.

Gr. M. T.	Diff. Magn.	Gr. Dev.	Gr. M. T.	Diff. Magn.	Gr. Dev.	Gr. M. T.	Diff. Magn.	Gr. Dev.
h m s			h m s			h m s		
	b −1.20	+.06		a +0.95	+.01		a +0.87	−.04
	−1.32	−.06		+0.93	−.01		+0.95	+.04
16 35 42	−1.26		12 29 19	+0.94		13 13 59	+0.91	
	a −1.14	.00		b +0.75	+.02		b +0.77	+.01
	−1.14	.00		+0.73	−.02		+0.75	−.01
	−1.14			+0.73			+0.76	
	−1.20	A−B +.12		+0.84	+.21		+0.84	+.15
	a −1.12	+.01		b +0.88	+.06		b +0.88	+.03
	−1.14	−.01		+0.77	−.05		+0.82	−.03
16 44 1	−1.13		12 36 42	+0.82		13 22 2	+0.85	
	b −1.28	−.04		a +0.88	.00		a +0.95	+.01
	−1.21	+.03		+0.89	+.01		+0.93	−.01
	−1.24			+0.88			+0.94	
	−1.18	A−B +.11		+0.80	+.06		+0.90	+.09
	b −1.25	−.02		a +0.95	+.08		a +0.87	+.06
	−1.21	+.02		+0.79	−.08		+0.70	−.06
16 53 15	−1.23		12 51 58	+0.87		13 33 13	+0.81	
	a −1.46	−.20		b +0.70	+.02		b +0.74	+.04
	−1.05	+.21		+0.65	−.03		+0.67	−.03
	−1.26			+0.68			+0.70	
	−1.24	−.03		+0.78	+.19		+0.76	+.11
				b +0.65	+.04		b +0.74	+.03
				+0.57	−.04		+0.68	.03
			13 4 21	+0.61		13 43 36	+0.71	
				a +0.79	−.05		a +0.87	−.03
				+0.89	+.05		+0.93	+.03
				+0.84			+0.90	
				+0.72	+.23		+0.80	+.19

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Camera.

Nov. 29. 1897.

	Gr. M. T.		Diff. Magn.	Av. Dev.	Gr. M. T.		Diff. Magn.	Av. Dev.	Gr. M. T.		Diff. Magn.	Av. Dev.
04	Two	s	+0.82	−03	Two	s	+0.47	−08	Two	s	+0.23	−05
04		a	+0.88	+03		a	+0.63	+08		a	+0.34	+06
	13	56 11	+0.85		14	50 8	+0.55		15	41 09	+0.28	
01			+0.73	−.03			+0.35	−06			+0.06	+04
01		b	+0.78	+.02		b	+0.47	+.06		b	−0.02	−04
			+0.76				+0.41				+0.02	
15			+0.80	+.09			+0.48	+.14			+0.15	+.26
03			+0.71	+03			+0.36	−04			−0.05	−01
03		b	+0.66	−02		b	+0.43	+03		b	−0.04	00
	14	7 10	+0.68		15	3 40	+0.40		15	57 18	−0.04	
01			+0.86	+04			+0.39	−01			+0.05	+05
01		a	+0.77	−05		a	+0.41	+01		a	−0.04	−04
			+0.82				+0.40				0.00	
09			+0.75	+14			+0.40	00			−0.02	+04
06			+0.69	+01			+0.33	+07			−0.01	+01
06		a	+0.71	+01		a	+0.20	−06		a	−0.03	−01
	14	20 21	+0.70		15	16 13	+0.26		16	3 51	−0.02	
04			+0.58	+02			+0.22	−04			−0.13	+01
03		b	+0.55	−.01		b	+0.30	+04		b	−0.15	−01
			+0.56				+0.26				−0.14	
11			+0.63	+.14			+0.26	.00			−0.08	+12
33			+0.33	−06			+0.14	−10				
33		b	+0.45	+.06		b	+0.34	+10				
	14	38 1	+0.39		15	27 26	+0.24					
03			+0.74	+.02			+0.31	+03				
23		a	+0.71	−.01		a	+0.26	−02				
			+0.72				+0.28					
19			+0.56	+.33			+0.26	+.04				

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

S Cancri.

Date	Lab	Sky	Mean	G.M. Time	Resids	J.D.	BK & Pg	
97. 3. 30	1.37 b 1.38	1.21 a 1.34	-1.33	14 31.4 (28.6)	.01 .00 .07 .06	241- 4014	89	31 ±
" "	1.27 a 1.21	1.48 b 1.41	-1.34	14 39.2 (36.5)	.03 .03 .04 .03	"		32 ±
" "	1.40 b 1.40	1.29 a 1.27	-1.34	14 47.4 (46.7)	.00 .00 .01 .01	"		32 ±
" "	1.22 a 1.25	1.31 b 1.31	-1.28	14 57.0 (54.2)	.02 .01 .00 .00	"		33 ±
" "	1.31 b 1.34	1.25 a 1.19	-1.27	15 4.2 (1.5)	.01 .02 .03 .03	"		34 ±
3. 31	1.20 a 1.17	1.37 b 1.51	-1.31	14 45.5	.02 .01 .07 .07	4015	89	42 ±
" "	1.41 b 1.38	1.39 a 1.40	-1.40	14 55.9	.01 .02 .01 .00	"		43 ±
" "	1.25 a 1.35	1.30 b 1.42	-1.34	15 12.4	.00 .00 .03 .04	"		44 ±
" "	1.40 b 1.35	1.20 a 1.25	-1.30	15 22.3	.02 .03 .02 .03	"		45 ±
" "	1.27 a 1.29	1.32 b 1.27	-1.29	15 33.9	.01 .01 .02 .03	"		45 ±

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

O 2	Orbit Errors	A-B
1	± .035	+ .10
2	± .038	+ .20
2	± .005	+ .12
3	± .008	+ .09
4	± .022	+ .10
42	± .042	+ .26
43	± .010	.00
44	± .042	+ .08
45	± .025	+ .16
45	± .018	+ .02

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

S Cancri. Plat. I.

Date.	Tab.	Sys.	Mean.	G.M.T.	Resids.	J.D.	Book + Page.	C.
1897. Feb. 9.	0.82 0.92 (0.87) A.	0.81 0.69 (0.75) A.	-0.79 +0.81	20 19.0	.0 .0 .06 .06	3967	A7. 218.	+
" " "	0.71 0.71 (0.90 A)	0.82 0.90 (1.0) B)	-0.78 +0.82	20 25.8	.03 .03 .01 .01	"	" 219	
" " "	0.91 0.84 (1.30 A)	1.11 1.03 (1.24 A)	-0.62 +0.98	20 32.8	.01 .02 .04 .04	"	" 220	
" Feb. 10.	1.32 1.27 (1.23 A)	1.26 1.21 (1.23 A)	1.27	11 49.8	.02 .03 .02 .03	3966	A8 1	+
" " "	1.21 1.25 1.26	1.26 1.24 1.29	1.25	11 57.2	.02 .02 .01 .01	"	" 2	
" " "	1.26 1.31 1.44	1.71 (1.5) 1.30	1.44	12 04.2	.02 .03 .11 .12	"	" 2	
" " "	1.39 1.44 0.14 A	1.31 1.29 0.22 B	1.37	12 17.9	.05 .04 .01 .01	"	" 3	
" " "	0.08 0.19 0.14 B	0.23 0.22 0.31 A.	+0.18	12 37.9	.06 .05 .01 .00	"		+1
" " "	0.18 0.19 +1.39 B	0.42 0.20 +1.49 A	+0.24	12 44.8	.00 .00 .11 .11	"		"
" " "	1.45 1.33 +1.48 A	1.42 1.46 +1.44 B.	+1.44	13 6.7	.06 .06 .07 .07	"		+1
" " "	1.48 1.49 1.26 B	1.49 1.40 1.24 A	+1.46	13 21.0	.00 .01 .03 .04	"		"
" Feb. 11.	1.22 1.29 1.22 A	1.29 1.27 1.24 B.	-1.27	12 27.6	.04 .03 .01 .01	3967		V
" " "	1.25 1.20 0.14 A	1.25 1.23 0.24 B	-1.23	12 34.6	.03 .02 .00 .01	"		
" " "	0.14 0.13 0.23 B	0.20 0.28 0.31 A.	-0.19	12 49.1	.00 .01 .04 .04	"		+
" " "	0.27 0.23 1.40 B	0.31 0.31 1.34 A.	-0.27	12 57.9	.04 .00 .00 .00	"		
" " "	1.42 1.34 1.32	1.37 1.32 1.10	-1.37	13 13.9	.02 .02 .03 .02	"		
" " "	1.33 1.31 1.35 A.	1.05 1.17 1.26 B.	-1.24	13 23.3	.01 .01 .05 .05	"		
" Feb. 13.	1.29 1.41 1.24 B.	1.32 1.21 1.24 A.	-1.30	12 26.4	.06 .06 .06 .05	3969		V
" " "	1.23 1.25 0.20 A.	1.30 1.25 0.24 B.	-1.26	12 35.0	.01 .01 .02 .03	"		
" " "	0.24 0.17 0.24 B.	0.27 0.22 0.20 A.	0.22	12 47.6	.04 .03 .03 .02	"		+
" " "	0.24 0.23 1.34 B.	0.15 0.24 1.36 A.	0.22	12 57.5	.00 .01 .05 .04	"		
" " "	1.34 1.39 1.40 A.	1.35 1.36 1.36 B.	1.37	13 12.5	.00 .01 .01 .00	"		+
" " "	1.39 1.42 1.36 B	1.34 1.37 -1.37 A	1.34	13 23.0	.01 .02 .02 .01	"		
" Feb. 16	1.35 1.36 -1.36 B	1.39 1.35 1.33 A	1.36	13 21.3	.01 .00 .02 .02	3972	88 37	V
" " "	1.37 1.36 1.24	1.39 1.27 1.20	1.34	13 35.9	.01 .00 .06 .06	"	" 37	
" " "	1.21 1.26	1.21 1.20	1.22	13 48.1	.03 .02 .01 .00	"	" 38	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Comp. Star.

+19° 2097 (A.2) with Var. ∴ Var. is 0.41 fainter than A.2
" " " " " " " 0.42 " " "
" " " " " " " 0.94 " " "
} means and results on p. 222 reported to 9.0 mags.

+19° 2088 (9.0) with Var. " " " 1.27 brighter. " 9.0
" " " " " " " " 1.25 " " "
" " " " " " " " 1.44 " " "
" " " " " " " " 1.37 " " "

+19° 2088 (9.0) compared with +19° 2092 (9.1) ∴ 9.0 is 0.16 fainter than 9.1
" " " " " " " " " " " 0.24 " " "
+19° 2092 (9.1) compared with +19° 2097 (A.2) ∴ 9.1 " 1.44 " " A.2
" " " " " " " " " " " 1.46 " " "
Var. compared with 2088 (9.0) ∴ Var. is 1.27 brighter than 9.0
" " " " " " " " 1.23 " " "
+19° 2088 (9.0) with +19° 2092 (9.1) ∴ 9.0 is 0.19 fainter " 9.1
" " " " " " " " " " " 0.27 " " "
" 2092 (9.1) " " 2097 (A.2) ∴ 9.1 " 1.37 fainter " A.2
" " " " " " " " ∴ " " 1.24 " " "
Var. compared " +19° 2088 (9.0) ∴ Var. is 1.30 brighter " 9.0
" " " " " " " " " " 1.26 " " "
+19° 2088 (9.0) " +19° 2092 (9.1) ∴ 9.1 " 0.22 brighter " 9.0
" " " " " " " " 9.1 " 0.22 " " "
+19° 2092 (9.1) " " 2097 (A.2) " A.2 " 1.37 " " 9.1
" " " " " " " " " " " 1.34 " " "
Var. compared " " 2088 (9.0)
" " " " " "
" " " " " "

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

From previous page.

Dm. + 19° 2092 (9.1) is 0.21 brighter than +19° 20AA (9.0) Feb. 10.
" " " " " " 0.23 " " " " " " " 11.
" " " " " " 0.22 " " " " " " " 13.

" +19° 2092 (9.1) " 1.5 mm filter. " +19° 2097 (A.2) " 10.
" " " " " 1.30 " " " " " " " 11.
" " " " " 1.32 " " " " " " " 13

" " +19° 20AA (9.0) " 1.66 " " " " " " " 10.
" " " " " " 1.53 " " " " " " " 11.
" " " " " " 1.60 " " " " " " " 13.
" " " " " " 1.60 " " " " " "

Mer. Phot. diff. mag. = 1.53
1.56 mean adopted.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Z Hercules. = +15° 3311.

✓ 189 July 18. < 36 < comparisons. (P. 40-1) (Prin.)
✓ " July 22. < 32 < " (P. 42) Full brightness.
✓ " July 23. < 96 < " (P. 43-4) " "
✓ " July 26. < 160 < " (P. 47-7) (Prin.)
✓ " Sept. 10. < 240 < " (P. 44) (Lec.)
✓ " Sept. 24. < 244 < " (P. 94-5) (Prin.)
✓ " Sept. 30. < 372 " (P. 96-7) (Lec.)
✓ " Sept. 12. < 364 < " (P. 110-1) (Prin.) <
✓ " Sept. 14. < 364 < " (P. 112-3) (Lec.)
✓ " Oct. 2. < 224 < " (P 118) (Prin.) <
✓ " Oct. 4. < 256 < " (P 119) (Lec.)
✓ " Oct. 10. < 372 < " (P 120-121) (Prin.)
✓ " Oct. 14. < 416 < " (P 122-123) (Prin.)
✓ " Oct. 30. 336 " (P 126-127) (Prin.)

Grouping of Secondary Luminia. (P. 206.)

~~189 Oct. 30. 336 comps. (P. 126.) (Prin.)~~
~~" Sept. 24. 244 " (P. 114-115)~~
~~" " 30 (P 116-117)~~

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

U Cephei.

1895	June	19	Pz 90.	(Comp. star = DM +81° 26)
"	Oct	24	124–5.	(Comp. star = DM +81° 27)
"	Nov	18	99.	(On this and following dates +81° 27 was used as Comp. Star. +81° 26 having been abandoned)
"	Dec	3	102–3.	
1896	Jan	22	104–5.	
"	"	27	106.	
"	"	30	108.	FB.
"	Feb	11	142–3.	
"	"	21	144–5.	
"	Mar	7	146–7.	
"	"	17	170–1.	
"	April	27	108	FB Rejected
"	May	26	173	FB.
"	"	27	174	FB.
"	June	23	108–9	FB.
"	Oct	26	130–1	F. B.
"	Oct	27	74–5	
"	Nov	16	175 c.	
"	Dec	17	109 c.	FB.
"	Dec	19	174 c.	FB
1897	Jan	25	208–9 c.	
"	"	30	210.	
"	Feb	4	211	
"	"	9	212	
"	"	19.	213.	
"	"	24	214	

U Cephei Continued in V. 14.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

U Cephei.

Observations especially wanted from

$-3^h\ 0^m$ to $-0^h\ 30^m$

also from

$+2^h\ 0^m$ to $+4^h\ 0^m$

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...4420

Comp. Stars used with 8 Holometers S + K.

Variable.	Comp. Stars.
U Ophiuchi	Dm. +1° 3411 (6.2)
S Librae	SD −7° 3963 7.0
Z Herculis	Dm. +14° 3316 9.3
O Ceti.	SD. −3° 355 9.0
M. P. 6461	Dm. +62° 594 9.2
S Ursae Min.	Dm. +79° 467 9.4
U Cephei	Dm. +81° 2623 9.5 + A.6
U Pegasi	Dm. +14° 4916 A.2
Gr Delphini	Dm. +17° 4368 9.1
β Lyrae	Dm. +33° 3222 8.5
δ Cephei	Dm. +57° 2567 7.5
X Cygni	
Phot. Var. (9h +27°)	Dm. +26° 1901 7.3
T Andromed.	Dm. +26° 60 7.5
M. P. 499	Dm. +0° 933 9.3
Nova Aurigae	Star 8 (assumed to be 11.0 mag.)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

Wells Variable.

$20^h\ 31^m\ +17.7^\circ$



over.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..4420

20h 31m +17.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1995phae.proj..4420

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System