NEGATIVES WITH THE 24-INCH REFLECTOR

Observers:- Parkhurst, Gushee, Wickham, Farnsworth, Parsons, Van Biesbroeck, Struve (G.H.S.), Bigelow, Yamamoto

Hubble

Contents

Ocular for finding and setting

Field lens 24 mm in diameter

Field 35′ on reflector ($136^s \alpha + 5^\circ = 34' \cos\delta$)

Focal length = 36 mm

Magnifying power on reflector = $\frac{2360}{36} = 66$

Guiding ocular

Diam of field 12′

Collimation. Jan. 3, 1917.

Setting of Plate-holder Screws.

ℓ N.	α	δ	Zenith	α	δ	
	11+	9		11	8−	
	10+	9½		10	7	
	11+	10+		10−	8	
	11	9		10	8	
	11+	9−		9.9	8.1	Most accurate-made lines on black extension of lines of cross.
	11+	10−		10.8	7.8	
	11+	10−		11.5	7.2	
				11	7.0	
	11	9		10.8	7.5	
				11	8	

Nov. 20. $\alpha = 10$, $\delta = 12$. (Col. screw No 3. should come out)

N. 24. 7 10

Nov. 25 δ, $\alpha = 8$, $\delta = 9$. See page 13 for new method

1917 Jan. 5
Rheostat used since 1912± on guiding eyepiece circuit with 110 volts; has 100± ohms resistance and 11 points

April 17, 1917.

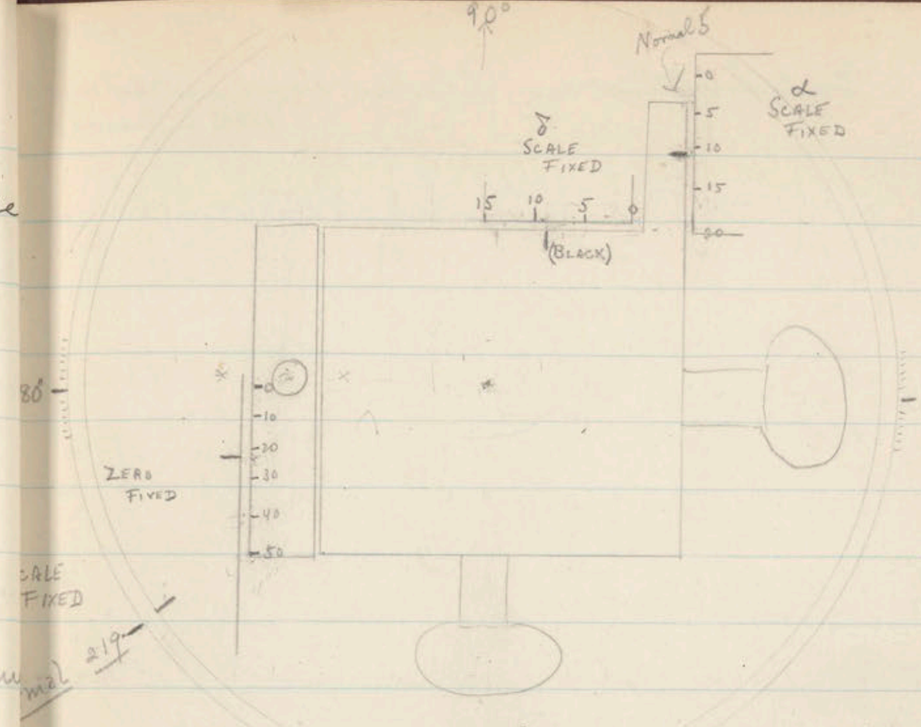
Right Ascension slow motion must be turned to right (west) to release it.

1917 July 16. (Fan) Slow motion motor takes 0.31, 0.37, 0.40 } amperes on slow, medium, high

1924 March 6. Slide scales read 1' = 0.02705 inch = 0.687 mm

DOUBLE-SLIDE PLATE-HOLDER

Apr. 14, 1917



	α	δ (dark mark)	GE	⊙
Normal position	11	8	22	219
Extreme up	-4		40	
" down	20		-5	
Extreme right		2		
" left		10 13		

1.28, '17 normal α : 8, δ = 9 ∴ look for guiding star dist. 1°11' to 1°22'

Plate center to g.o. = 53 mm = 77'
" " " " = 18~ on UV plate

See Book 7, p. 3.

1917

Calibration Plates (move S slow one 1 or 2 turns)

Focus

(See Book III p. 5 for list of Knife-edges

Relation of focus by Knife-edge No. 1 (in holder 5) to plate-focus.

1917 Jan. Add to Knife-edge focal reading —

Filter	div.
No filter	+4
W 12	0
J 1	29 ~~11~~

Knife-edge No. 2 in its own aluminum frame

Filter	1917 July 24	Aug 14	Aug 15	Aug. 16	Sept. 24 *	1918 Aug 19+30
No filter		−7	−5		−6 (near zenith)	0
J 1	+18			+15		

Relation of Knife-edges

	July 24
No 1	202
No 2	214

* Plate 3661 shows no difference in focus resulting from reve
Telescope. It indicates possibly −6 (instead of −5 at the Pole) as corr for

1918 Aug. 19. Knife-edge No 2. had an adjusting screw put under it, (3-56 brass screw ∴ about ½ mm pitch, or 1 rev. = 9 or 10 div.) to avoid the correction of −5d between Knife-edge and plate focus.

31. Adjusting screw replaced by brass strip 0.013 inch thick, ∴ Knife edge 1 to 3d above plane of film

1919 June 20, Focussing screws. 1/32 inch pitch, 18 teeth ∴ one division = 1/32 × 1/18 inch = 1/576 inch = 0.044 mm = 1/22.7 mm

Light-filters

① B 7, Wallace. 77×77×3 mm over binding strips (glass 2½

② W 12 (= minus blue) Mees.

Thickness over binding strips = 4 mm

③ Recess in holder 4 is 3 mm deep and 78×78 mm

④ K 3

⑤ Jena (Catalog 1909) Medium yellow F 4351

	λ	644	578	546	509	480	436
Called J 1	Transparency	0.98	0.97	0.96	0.93	0.44	0.15

Received 1907 July 7. price #15.00. 75×75×3 mm

Used from 1917 July 9

Potsdam letter 1917/6/2

Driving clock. 1919 July 10

Drum 14.45 inches in circum. to center of cable × 12 turns of cable ∴

total length of cable = 173.4 inches = 14 feet 5 inches

One turn of drum takes $33^m 0^s$ to $46^m 30^s = 13^m 30^s$

17½ inches on 2-foot reflector

① Seed 30 plates

10 m. give images of HPS#10 (9.m1) as large as scale 1

② C.I. filter J1

Collimation Oct. 22, 1917.

diaph = $\frac{5}{16}$ inch = $\frac{7}{10}$ mm

ter M with O by guiding-screws.

α	δ	
7	10	F
7	9	F
7.2	10	F
.3	10.2	P
.4	10.2	P

New method for collimating by telescope

917 Nov. 28. ⓐ The plate B carrying the collimating telescope was provided with leveling screws which were adjusted till the optical axis (there the cross C) was normal to the plane of the feet of the screws. Therefore the telescope does not need reversing.

ⓑ The telescope was provided with a rack and pinion for focussing, so that, on the reflector, one can readily ~~see~~ focus on the small paper circle m on the 2-foot mirror M or on the image of the objective O, reflected from the mirror, i.e. at double the distance of m.

(ford)

i is 6 mm in diam

New method of collimating. con from p. 13

The procedure was then as follows:-

(1) $\overset{m}{\wedge}$ and $\overset{\text{the reflected image of O}}{\wedge}$ O were made concentric by the double slide screws.

(2) The images of $\overset{m}{\wedge}$ ~~and O was~~ then made to coincide with C, by the collimating screws which tilt ~~R and~~ B & R

(3) $\overset{m}{\wedge}$ and O will now be eccentric by a small amount, so (1) and (2) are repeated till the $\overset{\text{concentric}}{\wedge}$ images of m and O are bisected by C

(4) When this adjustment is made -

(a). O is reflected back upon itself at m, and is therefore in the optical axis of

(b) The images of O and m are bisected by C, therefore the optical axes of R and M are in the same line, and B is normal to both

1919 Jan

Van B   's new comet-following device for moving guiding ocular has a screw of $\frac{1}{5}$ $\frac{1}{4}$ mm pitch ∴ 1 rev = ~~22~~ 17.5 (guiding ocular 79' from axis).

Divided head has ~~32~~ or 36 divisions

one click = $\frac{1}{2}$" of arc

~~Knife edges for focuss~~

		ap	Temp	Focus
	1921			
Polaris	April 18	17½	+9.8	229
Polaris	"	"		229

" " " " end of 10⁴ 20cm Seal T

Plateholder		a	W	P
5	f₇ 6	12		
	free			
	P7			
	free			
	P7 6			
	P7 6			
	free			
6	P7			
	free			
	P7 6			

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min.	Aperture	Temp. C	Focus: Knife Edge	Focus: Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Scale Readings: Decl.	Scale Readings: Guiding eye-piece	Scale Readings: Position circle	Development: Devel. Number	Development: Temp.	Development: Time	Quality	Sky and Remarks
✓ 3520	Nova Persei	3h 26m +43° 38'	1916 Dec. 14	3h 4m 3 39	35	24"	-17°	—	225	E O W O	7			11	4	33	203	Hg		10		Bad seeing! Guiding by Miss Wickham
	Focus on Vega →		"	23h		"	-15½	221	225	W												
	Focus on α Arietis		"	4h 15m		"	-19	228	232	W												
3521	D.C. 1827	2 36 +1 13	"	4 35 5 5	30	"	-19		232	W W	9			11	12	21	225	"		10		Guiding by Miss Wickham
3523	Duplicate of 3505, Comet Field	3 37 +16 42	Dec 15	3 25 3 42	17	"	-16½		227	E W	4			6	5	22	205					" " " "
3522	RT Cygni (Variable)	19 40 +48 32	"	23 46 23 57	10	"	-16	223	227	W W	7			11	6	0	236					V.M.G.
Camera removed to dry snow. Rep. but not re-collimated																						
	Focus on Aldebaran		Dec. 16			"	-11	225	229	W												
	Focus on α Arietis		Dec. 17	23h		"	-11	222		E												
3524	Focus plate	3h 25m +43° 38'	"	about 0h	35s each	"			230 28 26 24 22 20	E	4											V.M.G.
✓ 3525	Nova Persei	3h 26m +43° 37'.5	"	1 15 4 15 0	150	"	-14		224		7					29	214					V.M.G.
✓ 3526	Nova Persei		Dec. 21	0h 5m 4 5 10 0	~~35~~ 240	"	-18	—	224		8					29	214					P + W N dec. mark reads 43°56' ± Guiding star too faint, " poor.
Dec 23 Re-collimated																						
✓ 3527	Pole	+90°	Dec. 23	1h 20m 2 20	68	24"	-8.9	223	223	[illegible]	6											Guiding * +88°11.5', 8m.8 clock gaining, tilt drift to N 0.01

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding eye-piece	Scale Readings Position circle	Development Developer	Development Temp.	Development Time	Quality	Sky and Remarks	Tel.
		Polaris	1916 Dec. 27	23h			-8.0	225															23
		"	"	3h 40m			-11.0	225															
3528	Pole		"	4 ~~16~~ 12				225	226	3 12	4	P7	W12	8	12	11	219	G. Ext Cond	19	9m			F+P F
				4 ~~16~~ 42	30	17½																good	
				4 ~~16~~ 43																		clouds in west	
				5 ~~17~~ 18	30	"		"	"	"		P7	"	10	12	12	"					{Plate + filter not seated in holder, images are rings}	P
	Kap 23			5h 40	30							P7										good	P
				6 10			-11.0																
				6 21	30					+												guided on C	
				6 51			-11.6	"	"	+		—		6	11	35							F
	α Cass	+56° 0 35	" 28	1 20			-14.0	223															
	~~R Pegasi~~ γ Androm	2h 12m +43°56'	" 28	2 1 / 2 51	50	24"	-15.2		227	30	6	—	—	8	9	20	219					Seed fog spoiled plate	
✓ 3529	Kap. 22	2 39 +45°15	" 29	1 53 / 2 23	30	17½	-15.0	—	224½	-2	4	—	W12	11	7	18½	214	CEC		15		Image variable; guiding is bad; Clouds prevented polar	P
									"								Image in good seeing > ; " " bad " =						
✓ 3530	" 22	2 39 +45°15	" 30	1 38 / 2 08	30	"	-11.2	—	224½		4	—	W12	10	8	25	219					Tel drifts N 0.01±	P
	Pole			2 28 / 2 58	30	"			"			—		11	10	19	219						
				3 2 / 3 32	30	"	-12.9					P7		11	10	18	"						
✓ 3531	Kap 26	6h 37m +44°48'	" 30	4 10 30 / 4 40	30	"			"		4	—	"	7	11	7	"			16			Wickham
	Pole			4 56 / 5 26	30	"	-12.4	—				—											
				5 40 / 6 10	30		-12.7					P7		13	10	21							
✓	Kap. 20	0 41 +45°26	1917 Jan 1	0 25 / 0 55	30	"	-4.0		220		4	—	"	10	12	6	"			28		π* 7'± S of axis; guid * 8M+	P
3532	Pole			1 10 / 1 40	30		-6.0			12		—		11	10	26	"					moon too bright for second exp. Sky good (Seeing good, 40 min)	

R No.	Field	R. A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	Ho Ar	ate and mulsion	Plate Holder	Gitter	olor Filter	Scale Readings R. A.	Decl.	uiding e-piece	sition ircle	Development evel per.	mp.	ime	Quality	Tel Sky and Remarks	
			1917	2 17																				
			Jan. 1	2 47	30	17½		—	220		II	4	—	W12	11	10	26	219						25
✓	Pole			2 53																				
3533		#90		3 23	30	"	-7.0				212		P7		11½	10	27							
		1 37		4 0																				
	Kap. 21	45 9		4 30	30								—		10		20							F
				4 45																				
				5 15	30		-7.5						—		7½	3	21							P
				2 0			-1.0																good	
	Polaris		Jan. 3					224																
✓				2 0	1^s 2																			
3534	HPS #5		" "		3	18"			225		9	4	—	W12	4	8		219						
					4																			
	Scale				6						212												good ↑	
	Plate				10																			
					16^s																			
					25^s																			
					40^s																			
					63^s																			
					100^s																		Scale R1 cut from this plate – star #5.	
				St'd $7^h\ 1^m\ 40^s$	m s																			
				3 18	1 38																		Ratio of exp. times $\sqrt{2.5}$	
				$3^m\ 20^s$																				
				5 58	2 38																			
				6 0																				
				10 11	4 11																		Scale R2 · BD 88°.2 images slightly out of focus.	
				10 12																				
				16 50	6 38																			
				16 51																				
				27 22	10 31																			
				27 23																				
				44 3	16 40																			
				Sid. 2 43											16								↓ good	

See Collimation settings on page 3

20 R No.	Field	R.A. Decs.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C	Focus: Knife Edge	Focus: Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Scale Readings: Decs.	Scale Readings: Guiding Eye-piece	Scale Readings: Position Circle	Development: Developer	Development: Temp.	Development: Time	Quality	Sky and Remarks. Tel
			1917	3h 45m																		27
✓ 3535	+88°2 scale plate		Jan. 3	Sid 8 49	1s	18"	-1.2		225	99 9212	4	- W12	4									
					2																	
					3																	
					4																	
					6																	
					10																	
					16																	
					25																	
					40																	
					63																	
					100																	
				8 53 54 ?	1m+																	clouds
				Sid. 5h																		
✓ 3536	+88°2 Scale Plate		"	9 58	1s	"			225	+5 99 9212	4	- W12	4?									
					2																	
					3																	
					4																	
					6																	
					10																	
					16																	
					25																	
					40																	
					63																	
					100																	
				10 3 6	1m																	clouds
				5 44	2m 38s																	
				5 45	4 11																	
				9 56																		
				9 57	6 38																	
				16 35																		
				16 36																		
				27 7	10 31		-1.0															
				27 8																		
				43 48	16 40																	

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding eye-piece	Scale Readings Position circle	Development Developer	Development Temp.	Development Time	Quality	Tel	Sky and Remarks	
			1917 Jan. 5		1 2 3	18			225					11	16	–	219						good	29 P
					5 9					DD	4	–	H12										~~√2~~ √3	
					16 27					212													Scale plate	
			C.S.T.		52 81																		moved δ screw	
✓ 3537	Pole +88°7	1^h +89°	5^h $56^m 45^s$	59 5	140^s									11				CEC	18±	12^m			2/3 rev. between	
			6^h $59^m 6^s$	3 9	243					0													exposures	
			$3^m 10^s$	10 11	421																		Bright moon	
			10. 12	22 ~~21~~ 30	738		5.0							11	8								seeing	
3537½		7^h	46^m 0	8 7 2																				
		8	11 0	23 9																				
			24 0	31 1	421																			
			31 2	35 5	243																			
			35 6	37 26	140																			
					81 52 27 16 9 5 3 2 1																			

Jan. 6 Clock found at 20 and 30. Running fast ∴ cha
to 20 and 20. Then too slow: set at 21, 21. still slow: 22, 22.

R No.	Field	R. A. Decl.	Date	Sid. Time	Exposure Time in Min.	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R. A.	Scale Readings: Decl.	Scale Readings: Guiding eye-piece	Scale Readings: Position circle	Development: Devel. number	Development: Temp.	Development: Time	Quality	Sky and Remarks	
	HPS #6	8h +89°	1917 Jan. 7	5 36 07 5 57 2	s 1262	18	-5.0	—	225	-8?9 21	4	—	W12	11	20			C&C	20.5	7m			31
			5 57 3	6 9 12	729																	Scale R3 cut from this.	P
			6 9 13	6 16 14	421																		
			6 16 15	6 20 18	243																		
✓ 3538			6 20 18	6 22 38	140																		
					81																		
					52																		
					27																		
					16																		
					9																		
					5																		
					3																		
					2																		
					1										12								
✓ 3539	HPS #6	8h +89°	Jan. 13 6 19 00	6 40 2	1262s	18	-16.0	—	225	"	4	—	W12	11	12	—	219					good	P
			6 40 2	6 52 11	729																		
			6 52 12	6 59 13	421																		
			6 59 14	7 3 17	243																		
					140																		
					81																		
					52																		
					27																		
					16																		
					9																		
					5																		
					3																		
					2																		
					1										11	3							

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C	Focus Knife Edge	Focus Focal Setting		Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding Eye-piece	Scale Readings Position Circle	Development Developer	Development Temp	Development Time	Quality	Tel.	Sky and Remarks	Observer
✓ 3540	Nova Gem. No. 2	6h 50m +32° 20'	1917 Jan 13	5h 26m	60	24"	-19°	221	225	4h	30	8	–	–	12	7	-5	227				fair		Poor definition.	33 G
✓ 3541	Nova Androm	2h 12m +43.9°	" 15	2 5 2 51	46	24	-18		225	+0h	ed 30	6	–	–	11	10	28	219						clock stopped	P
✓ 3542	IC 1827	2h 35m +1° 13'	" 15	4 35 6 25	90	24	-19		225		"	8	–	–	12	9	-5	221				poor		Seeing good. Double images	Gushee G
✓ 3543	RR Androm.	0h 47m +33° 57'	" 18	2 20 3 20	60	18"	-11		225	+1 +2	ed 30	8	–	–	12	10	19	221					W	doubled images	F+G
	Focus on Aldebaran						-12	223	227	+0															
✓ 3544	SU Tauri	5h 44m +19° 0	" 18	5 55 8 35	120	24"	-12 -13		227	+0	99	7	–	–	12	9	8	221				good		Sky thick near end of exp.	G
	Focus on Betelgeuse						-4½	217	221	+1															
3545	N.G.C. 2245	6 27 10 17	" 19	7 35 8 15	40	24"	-5½	"	221		30	8	–	–	11	8	16	221						Dome needed to be turned at end - Field nearly covered	G
✓ 3546	RR Androm	0 43 +33.9	" 22	2 22 3 22	60	18	-15		225	+2	ed 30	6	–	–	13	5	15	219					W		P
3547	Nova Persei	3 26 +43 48	" 22	4 55 9 35	240	24(?)	-15 -18		"		"	8	–	–	11	4	37	221					W		G
3548	S Arietis	2h 0m +12° 8'	" 24	3 2 4 2	60	18	-9		225	+2	30 050	6	–	–	12	9	21	219					W	good Faint guiding-star	F
3549	U Arietis	3h 6m +14° 30'	"	4 35 5 35	60	18	-13.5		225	+2	ed 30	7	–	–	12	7	22	219					W	Good guiding * Images doubled	G

20 R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding Eye-piece	Scale Readings Position Circle	Development Level per.	Development Temp.	Development Time	Quality	Sky and Remarks.
3550	Nova Persei	3h 26m +43° 37'	Jan 25	4h 46m 4 56	10	?	-14.5		225	O 30	6	-	-	11	4	37	219					W (35) G
3551	" "	"	"	5 1 6 3	60	?	-18.5		225	99	4	-	W	"	"	"	"					W poor focus G
3552	Nebulous Region Polaris	9h 46m -11° 49'	"	7:36 9:30	99		+0.8	221	225 221	O 30	7	-	-	11	10	1	219					E 15 min int. EW
3553	λ Urs. Min.	17h +89°	Jan. 29	CST (8 34 13 8 43 30 9m 17s)					221	I G 9221	4											clouds
	Scale Plate.			8 46 12 9 22 39					36 27													good
				9 23 48 44 50					21 2													
				9 45 56 58 5					12 9								15					Images elongated, faint ones diffuse, brightest shows horns.
				9 58 7 10 5 8					7 1													
				(10 5 10 8 53					3 43)													
				10 8 52 12 56					4 3													
				12 58 15 18					2 20													
				19					81s													
									52													
									27													
									16													
									9													
									5													
									3													
									2													
				190			-1.0		1					06			219					

R No.	Field	R. A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: P.A.	Scale Readings: Decl.	Scale Readings: Guiding eye-piece	Scale Readings: Position Circle	Development: Developer	Development: Temp.	Development: Time	Quality	Tel.	Sky and Remarks	Observers (37)
3554	Kap. 27 Pole	7 39 +44.9	1917 Jan. 29	7 45 8 15 9 0 9 30 9 34 10 4	30 30 30	$17\frac{3}{4}$	-1.0		221	+0 99 +5 +5 +5	4	– – P7	W12	0	2	39	219					E		F.
3554a	y Monoc.	6 52 +11 21	Mar. 21	8 32 9 18	46	24	+4.8	213	217	+2 30	8			14	6	16	219					W		G
3555	V Cancri		Mar. 23	8 5 9 0		24"	+3.5	212	216	ed 30	7	–	–	20	2	-5	216					W		
3556	y Monoc.		" 23	9 24 10 11	47	18	+0.9		216	+2	8			12	8	16	216				good			VMG
3557	Nebulae NGC 3504	+28°50' $11^h\,0^m$	" "	11:07 11:52	45	24	0		218	d 30	6			12	4	12	180				fair	W	Faint spiral. (trail like defect in smooth edge)	Hubble
3558	NGC 3550	+29°30' $11^h\,4^m$	" "	10:38 11:18	40	"	0		"	"	4			10	10	12	140				weak	W	Clock very fast.	
3559	Nova Persei	3 26 +43 38'	Mar. 24	7 54 10 48	150	24	+6.0	217	221	"	8			2(?)	5(?)	40	222					W	double exp. Clock stopped & too slow.	VMG
3560	NGC 2261	6-35 +8-50	" 27	8:20 8:50	30	"		216	220	"	8			13	5	11	136				excel.	W	Neb. shows remarkable changes in 5 months time	Hubble
3561	NGC 3663	11-20 -11-50	" 28	10:46 11:33	45	"	+3°	215	219	"	7			11	11	38	10				weak.	W	(not cometary as commonly reported. globular.	
3562	NGC 2245	$6^h\,28^m$ +10°18'	Apr. 10	11:00 11:40	40	"	+9°	218	222					?	8?	11?	217							VMG

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min.	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding Eye-piece	Scale Readings Position Circle	Development Developer	Development Temp.	Development Time	Quality	Sky and Remarks. Observers
3563	Pollux		1917 Apr. 13				0	210	-	+1				15	13	37	215					
	V Gem.	7h 19m		9 34		18			214	2	ed	7	- -								W	(Hagen 3) 5 v 3 (Hagen 14) ∴ v = 9h-0 (10.5 photog) unsteady
		+13 15'		10 32	58		-1.6			3 4												δ circle 13°35'
3564	U Gem			11 24																		Dome cutting off N side of field
				11 45	21	18								10	9	25	215				W	Clock stopped
		7h 38																				
	Pollux	+28°3	" 14				+1.8	213		+1	6											
				10.10																		
3565	S Hydrae	+3°50'		11 10	60±	18			217	+2	14 7	-	-	11	16 (or 26)	24	289					F
	Pollux	4h 40						217		+1												trouble with did not expose, light in guiding eyepiece
		28, 14																				
		9h 43m																				
	Neb. Region	-11°35'	April 17			24			221					11	10	37	219					W
	Pollux		" 21				+13.0	216														
	Pole	+90°	" 21	10 24 46	30	18			220	130	8	P7	-	12	5	5	219		9m	Poor		
3566				10 55						114												
				10 58	30	"				4		-	-									
				11 28																		
	Kap 30	10h 38m		12 35	30±	"						-		4	4	22	168				W	7
		+45° 4'		1 5						+2												
				1 20	30	"	+11.4			3		-	-									F
				1 50																		
✓ 3567	N.G.C 2261	6h 35m +8° 54'	May 9	11 47 12 9	22	34"	+7°		220	5 30	8	-	-	5(7)	12	9	161				W	Sky thick Field very low. Miscentered. nebula very faint G
		20 42		17 50																		
3568	N.G.C 6960	30 21	June 10	18 20	30	24	-	—	—	.30	-	—	—	—	—	—	—	α = 10				G
Large mirror silvered June 19				Brashear method, Collimate reading, s June 20														δ = 12½				R.H.
			" 20				+15.7 +15.2	216														

20 R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min.	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Hydrometer and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Scale Readings: Decl.	Scale Readings: Guiding Screw-piece	Scale Readings: Position Circle	Development: Developer	Development: Temp.	Development: Time	Quality	Sky and Remarks. Observers
	Arcturus		1917 June 21				+19.6															
			June 26	Diving clock dismounted + b																		smoothed, runs well.
		14 10	by mistake	15 20																		
3569	RS Virginis	+44+5°.1	June 26	16 20	60	18			220	+1h	d30	8	—	—	14	11	38	172	CEC	—	4½"	W	Thick at first but improving P
	Arcturus		" "				+19.7	205														
	adjusted clock governor		" 29	balls from 17d to 18d towards F																		
	Arcturus	+19½	" "				+20H	213		+1h												S circle reads A +19°20'. B +19°50'
3570	Kap. 31	11h38m	"	16 5	15	18		213	213	+4h	29	4	—	W12	10½	13.6	219					fair P
		+44° 37'		16 20								P7		"		14.8	"					clouds
				16 26																		
				16 31																		
	Arcturus		July 1				+20.4	209	2.	+1h												
	Kap. 33	44 55A		16 58																		
		45 25B	1	16 28	30	17½		"	209		29	4	—	W12	11	10	10	"				good P
3571	Pole			17 39																		
				18 9	30				"				—	"			24	"				"
				18 11																		
				18 41	30		+16.0		"			P7	"		9	13	25	"				" moon low
	Kap. 33			16 36																		
	Pole			16 46	10				213		d30	8	—	—	10	11	9	"				"
3572	~~Kap. 33~~		" 1	17 7																		
				17 27	10				"				—	—			25	"				" P
				17 34																		
				17 34	10				"			P7	—				24	"				"
3573	Dond. Nebr.	21h-31m																				
		39°-16'	" 1	20 32	32				"													Pt Ft
3574	Wolf's Comet	22-48	" 1	21 20	14				"													
		24-32																				
		A +19° 15'																				
	Arcturus	B 50	" 7	15 35			+21.3	212														
		A-26 15																				
	Antares	B-26 10							256													
		15h 30m		16 22																		clock stopped once; rate about right
3575	X Librae	-20° 48	" 7	17 22	60	18			216		d30	6	—	—	12	7	40	208			W	good P
		A-26° 12																				
	Antares	B-26 10	" "	17 40			+19.2	210														

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Hour Angle	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Decl.	Guiding eye-piece	Position circle	Development: Developer	Temp.	Time	Quality	Tel	Sky and Remarks	Observers
	Polaris		1917 July 9	$17^h 30^m$		24	+18.2	199 199 200		-7					10	10								Test of focus for new Jena yellow filter J1 (43)	
3576	"		" 9	17 45 / 17 50	20^s each	"			220,215 210,205 200,195 190–185		83	4	–	J1	best foci, ~~220, 215, 210,~~ 212 ± 1								under axis	good	P
	Polaris		"	18 45		"	+15.8	211 211 211		-6															
3577	HPS #5		"	18 55 / 19 0	15^s each	"			225,222 219,216 213,210 207.204–201		33	4	–	J1	best focus 221 ± 1								" "	Focus for J1 is 12 more than Knife edge	P
	Polaris		"	19 10		"	+15.2	207 208 208																	
	"		10	16 15		"	+18.3	211 213 210		-9															
3578	HPS #5		"	16 25 / 16 30	15^s each	"			225,22,19 16,13,13,10 7,4–1	-8	33	4	–	J1	best focus 222 ± 1									Focus for J1 is 11 more than ~~good~~ Knife edge	P
	Polaris		"	16 40		"	+17.7	210		-8															
3579	~~H 6908~~	20 18 / 19 47	"	19 07	48	"	16.0	210	214	+1	[illegible] 30	~~8~~ 6			10	10	33	219½					E	fairly clear - m. m.	Pt
3580	α Cygni	$20^h 38^m 36^s$ / 44 5–9	13	20–14	21	"	18.	212	216	+	[illegible] 30	8	–	–	10	10	30	308½	Hydro.				W	Exposure cut short by clouds	Pt
	Polaris	+89 0 A / 88 45 B	14	15 50			+21.4	211		-9															
3581	HPS #5		"	16 10	15^s each				230,28,26 24,22,20 18–16	-9	33	4	–	J1	16	10								Best focus 230.	P
	Polaris		"	16 22			+21.0	209		-9															
3582	R Camel	$14^h 23$ / +84°	"	17 41 / 18 41	60	24	+18.9		214	+4	[illegible] 30	6	–	–	10	6	39	220						good	P
3587	α Cygni		15	17 02 / 17 27		24	22.0	210	214	-3	[illegible] 30	8	–	–	10	10	22		Hydro				E		Pt

Silvered flat mirror July 16 with 2 coats by Brashear methods, 3 minutes each, tap water.

Re-collimated " 17, result: scales read α this changes focus

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Hour Angle	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Decl.	Guiding eye-piece	Position circle	Development: Developer	Temp.	Time	Quality	Tel	Sky and Remarks	Observers
	Polaris		"	16 25		24	+19.0	203 204 204		-8															
3583	HPS #5	+88° 45' A / +88 20 B	"	16 42	15^s each 24				240,37,34 31,28,25 22,19–16		83	4	–	J1	7/10/8	17	–	–	Best focus 232 ± 1					∴ Focus for J1 = 29 + K.e. light clouds	P
	Polaris		"	16 50			+18.3	201 201		-8															

R No.	Field	R. A. Decl.	Date	Sid. Time	Exposure Time in Min.	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	H. A. / Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R. A.	Scale Readings Decl.	Scale Readings Guiding Eye-piece	Scale Readings Position Circle	Development Devel. oper.	Development Temp.	Development Time	Quality	Sky and Remarks Tel.	Observers
	β Bootis	14h 58m +41	1917 July 17	18h 5m		24	+	203		+3	5	–	–	10	15								45
✓ 3584	Kap. 34	14h 48m +44° 58'	"	19 5 19 35	30	17½	+16.2		231 +4	283	4	–	J1	11	18	22	130					good	P
	Clouds prevented polar exposure																						
✓ 3585	TW Cygni	21h 2m +29°3	July 18	19 21 20 21	60	18	+19.0		207	−0 ed30	8	–	–	10 to 7	2	5	219					good clock losing a little	P
✓ 3586	H 1023	2h 35m 38° 38'	" "	21 – 40 22 – 52	72	24	+19	"	"	3 ed30	6 9	–	–	4	7	−1	219					guiding star brightest component of double. Bright star in field.	Pt
3587	– see opposite sheet – following 3582																						
	Arcturus	A=19°20 B=19 50	July 19	16h 40m			+23.8	202		+2													
	"		" 20	16 30			+23.9	202	~~206~~	+2												unsteady	
✓ 3588	T Ophiuchi	16 28 −15.9	" "	17 6 18 22	76	18	+23.2		206	+1 ed30	6	–	–	10	9	22	184					seeing fair to good guide star faint	P
✓ 3589	H 1023	2h 35m 38° 38'	" "	21 30 23 4	86	24	+22	"	"	−3 "				8	18	−1	219					Same guiding star as in 3586	Pt
3590	M 17	18h 15m −16 14	" 23	18 25 20 15	110	24	+20	201	205	+2 "	8			10	14	32	225½					hazy at this low alt.	Pt
	Verniers placed		" 24	on declination circle, but high above circle																			
	Polaris	A 89.0 B 88.8	" "				+22.0	202 214	Knife edge "	"													
✓ 3591	HPS #5	A 88.7 B 88.3	"	18 30	15s each	24	+21.8	245, 42, 39 36, 33, 30, 27, 24 – 21		ed283 −6 39	4	–	J1	10 to 3	10	–	219	Best focus 233±				Sky dull and variable	P
✓ 3592	" "		"	18 45	10s each	"		215, 12, 9 6, 3, 200 197 – 94		ed30	6	–	–				"	" " 210±				" " " "	P
	Polaris			18 55				215	Knife edge														
	Vega	A +38.5 B +38.8±																					W
	Altair	A + 8.5 B + 8.7																					W
	"	A + 8.4 B + 8.9																					E

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Hour Angle	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Scale Readings: Decl.	Scale Readings: Guiding Eye-piece	Scale Readings: Position Circle	Development: Developer	Development: Temp	Development: Time	Quality	Tel.	Sky and Remarks	Observers
	Vega		1917 July 26					215	#2	-1h 10												W	W	good	47 P
✓ 3593	Kap. 36		"	18h 28m / 18 58	30	17½	+28		error 208		CSS	4	–	J1	15	8	39	208	much out of focus				"	"	"
			"	19 4 / 19 34	30	"			232			–	"	"	"	"	37	"	guiding star out of focus. images elongated					"	"
	Pole		"	19 52 / 20 22	30	"			"			–	"		10	5	-0.3	251	Very dirty film					"	"
			"	20 27 / 20 57	30		+25.6		"	+5 43		P7	"		10	5	1.0	"	last plate in box					"	"

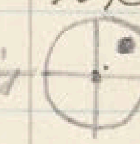
1917 July 27. as focus with yellow filter J1 is about 1mm (= 20d) longer than without, the guiding wire are that much out of focus. so I cut 1mm ± (exactly 0.031 inch) from the lower end of tube holding wires.

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure Time in Min	Aperture	Temp. C.	Focus: Knife Edge	Focus: Focal Setting	Hour Angle	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings: R.A.	Scale Readings: Decl.	Scale Readings: Guiding Eye-piece	Scale Readings: Position Circle	Development: Developer	Development: Temp	Development: Time	Quality	Tel.	Sky and Remarks	Observers
	Vega	A 38.6 B 38.8	July 27	17h 15m / 17 20		24	+20.1	201½ 214	No. 1 .. 2	-1 19															
✓ 3594	Kap. 37		"	18 53 / 19 23	30	17½			232		CSS	4	–	J1								W		fine	P
	Pole		"	19 45 / 20 15	30	"			"			–	"											"	
			"	20 20 / 20 50	30	"			"	+5 50		P7	"		10	5	23	214						"	
95	M 76	1h 36m 51° 4'	"	21:38 / 23:40	24	19				-1 55	Sed 30	8	–	–	3	16	2	214						guiding star bright	Pt
96	Ngc. 6946	20 33 59 52	28	21 21 / 22 08	"			201	205			8			15	15	37	213	Ritchey's nova				W	guid star has quit comp., is in center of Δ of faint stars near edge of field	Pt
97	" "	" "	28	22 10 / 23 43	"			"	"		"	6			"	"	"	"	"				W		Pt
	Arcturus		29	18 42			+26.5	212	No. 2	+4h 30															
✓ 3598	Kap. 36		"	19 13 / 19 43	30	17½			230		CSS	4	–	J1	17	6	29	209	at 20h 4. H = +5h 4m			W		guid star faint good	P
	Pole		"	20 05 / 20 35	30	"	+26.3		"			–	"		3	7	31.6 ~~33~~	191						good guiding star	
															2	8	30.6	191½						not on polar point α = 15h, δ = +87° 44'	
			"	20 40 / 21 10	30	"	-26.1		"	at end -5 50		P7	"		"	"	30.6	"						"	
3599	Ngc 6946	20 33 59 52	"	22 00 / 23 50	24		24½	201½	205½		Sed 30				15	15	37	213	Ritchey nova				W		

R No.	Field	R.A. Decl.	Date	Sid. Time	Exposure time in Min.	Aperture	Temp. C.	Focus Knife Edge	Focus Focal Setting	H.A.	Plate and Emulsion	Plate Holder	Gitter	Color Filter	Scale Readings R.A.	Scale Readings Decl.	Scale Readings Guiding Eye-piece	Scale Readings Position Circle	Development Developer	Development Temp.	Development Time	Quality	Tel.	Sky and Remarks	Observers
																									49
	Arcturus		1917 July 30	16h 50m		24	+28.5	211	No 2	+2h															
✓	Kap. 37		"	17 42 18 12	30	17½			230		29	4	–	J1	11	4	20	183				Ж	W	good	P
				18 30											12	3	20	183							
3600	Pole		"	19 0	30		+28.4		"		50	"	–	"	3	8	31	191						"	"
		89.9		19 3 19 33	30				"	+5m		"	P7	"	4	8	32	191						"	"
	Arcturus		" 31	17 0		24	+28.4	211	No 2	+2															P
✓ 3601	Kap. 35	α = 15h 50m A +44.5 } δ B 45.0	" "	17 35 18 5	30	17½			230		9 50	4	–	J1	~~11~~ 9	12 12	~~36½~~ 38	~~215~~ 215					W	" good	"
				18 7 18 37	30	"						"	P7	"	11	12	36½	"						"	"
—	—	—	—	—	—																				
✓ 3602	Kap 35		July 30	18 47 18 57	10	17½	+27.6		203		d30	5	P7	–	11	12	36½	215					W	Clouds prevented polar exposure good till 18h 56m then floating clouds out of focus	P
✓ 3603	" 35		Aug. 1	17 52 18 22	30	17½	+22.8	No 2 214	232	+2	9	4	–	J1	9	11½	35	215					W	good	P
	Pole			19 28 19 58	30				"			"	–	"	1	9	26	191	guided a little in α					"	"
				19 59 20 29	30							"	P7	"	0	9	25	191	H = +5h 15m at 20h 20m	{ no guiding					"
✓ 3604	Kap 35		1	18 27 18 37	10	17½			205		d30	5	–	–				215					W	good	"
				18 44 18 54	10	"			"				P7	–	9	12	34	"					W	"	"
	Pole			19 14 19 24	10	"	+19.6		"				–	–	1	9	26	191						"	"
3605	NGC 6946	20 33 59 52	Aug 1	23 35 0 20		24	+18.0		205	+3m		6	–	–	15	15	41	213	Bright moon				W	seeing poor	Pt
	Arcturus	14h 12m +19½	3	16 47			+18.8	212	No 2	+2															
	Polaris			17 18 17 1				203 207	" 2	-8															
3606	~~HPS~~ #5	HPS #5		17 30	15s each		+17°.9	245, 40. 35 30. 25. 20 15. – 10		35	35 M	4	–	J1	10	10			best focus 220					unsteady	
3607	"			17 45	20s			210	235, 33. 31 re to 219 No 2	"		"							" " 225						

R No	Field	R.A. + Dec.	Date	Sid Time	Exposure Time	Aperture	Temp. C.	Focus Knife edge	Focus Setting	Hour Angle	Plate + Emuls.	Holder	Sitter	Filter	Scales α	Scales δ	Scales guide oc.	Scales Pos. circ	Develop.	Tel.	Observ.	Remarks.
	Polaris		1917 Aug. 3	19h 0m		24	+16.6	210 No 2		6h 0.0												unsteady
	Vega	A+38°.5 B 38.9	" "	19 15		"		210	2	40												
		A+45.0		19 47							CSM											
✓	Kap. 38	B 45.4		20 17	30	17½	+15.6		22	.5	9435	4	—	J1	10	10	38	219	Driving clock losing	W	P	good
				20 36															guided in δ			
3607	Pole		"	21 6	30	"			"			"	—	"	2	8	29	190		"		"
				21 10			+16.1			50												
			"	21 40	30				"			"	P7	"	3	8	30	"	no guiding	"		"
	Polaris		"	21 58			+15.5	215 No 2		15												unsteady
		A 38.7		16 42			Test for clock - ratballs had been moved from 19 to 20 towards F															
	Vega	B 38.9	4	17 2		24	Clock losing started rots. from 21.8 to 22.5 = 0.7 in 20m													E		
				17 5			Clock balls moved to 21															
	"		"	17 15			23.8 losing from 22.5 to 2															
				17 17			" balls turned to 22															
	4		"	25			" correct															
								222½	No 2													
	"		"			24	+23.8															
	"		"	17 38		Test of clock rate + again 56																
	"		"	58		Clock gained from 19.4 to 19.25 in an hour, nearly correct														E		
	"		"	18 4					222		30									E		
	Arcturus		10	17 20		24	+20.5	218		38												
				18 6							CSM											
✓	Kap 35		"	18 36	30	17½			23		9475	4	—	J1	9	½	30	215		P		good
				18 43																		
3608				19 13	30	17½	+19.1		"				P7	"	7	12	34	"		"		"
	Pole			20 16																		
				20 46	30				23	20			—							"		"
				19 25																		
✓	Kap 35		"	19 35	10	17½			20	30		5	P7	—	11	11	34	215		"		"
				19 37																		
3609				19 47	10	"			"			"	—	—	11	11	35	"		"		"
				20 52																		
	Pole			21 2	10				20	40			—							"		"
				20 5		"	+18.9	219														

(53

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus: Knife edge	Focus: Setting	Hour Angle	Plate + Emuls.	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: guid oc.	Scales: Pos. Circ	Develop.	Tel.	Observ.	Remarks
✓ 3610	ngc 6946	20 33 59 52	1917 Aug 10	21-50 22-57	67m	24	18	4	20	-26	Seed 30	6	—	—	15	15	41	213	Hyd.	W	Pettit	
	Polaris		" 14	17 30			+21.5	#2 218														
✓ 3611	HPS #5	focus plate	" 14		10s each	24		#2 ~~218~~	220, 17, 11, 8, 5, 2-1[illegible]		Seed 30	8	-	-					208, 211 + 214 all good best focus 211			mirror just uncovered 15m before
	Polaris		" "	18h 10m		"	+19.9	216 1/2														
	Antares	A-26°.2 B-26.1		18 24				216 1/2														
✓ 3612	T Delphini	20h 41m +16° 5'	" 14	20 12 21 12	60	18	+17.5		212	30	Seed 30	8	—	—	7.3 10	11 10	34	193	outside true focus faint images so 0		P	clock losing sky good
✓ 3613	AI 156	2 - 35 +38-38	" "	23-36 [illegible] 22	106	24	+17	214	20[illegible]	-12	Seed 30	5	—	—	13	5	13	231.5			Pettit	 finder field
	Polaris		15					214 1/2 212	#2 F+[illegible]													
✓ 3614	HPS 5		"	18 34	10s each	24	+24	215, 12, 9, 6, 3, 200, 197-194			Seed	5		—					best focus 208			
~~3615~~	~~HPS #5~~		~~"~~	~~18 46~~	~~15s each~~	~~"~~	~~23.5~~	~~240, 37, 34, 31, 28, 25, 22.~~		~~60~~	~~C99~~	~~4~~	~~-~~	~~J1~~	~~5~~	~~7~~						
	Polaris			19 5				214														
✓ 3615	T Delphini	20h 41m +16° 5'	15	20 10 20 56	46	18	+22.0	~~205~~.3	205.0	8 20	Seed 30	5	-	~~J1~~ —	9	8	36	194	images in good focus	E	P	good
	Polaris		16			24	+20.5	211														
✓ 3616	HPS #5		"	18 12	15s each	"		2	240, 37, 31, 28, 2[illegible] 19-2[illegible]	30	C 99	4	-	J1					best focus 226			"
	Vega	{A +38° 5' {B+ 38° 9'	"	18 58		"		210	F+P	20												
✓ 3617	RS Herculis	17h 18m +23° 0'	"	19 32 20 32	60	18		~~205.2~~	205	14	Seed 30	5	—	—	10	9	7	219		W	F	"
	Polaris		17	8 32 29			+19.2	215														
				±41 5					230													

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus Knife edge	Focus Setting	Angle	Plate + Emuls.	Holder	Gitter	Filter	Scales α	Scales δ	guid. oc.	Pos. Circ.	Develop.	Tel.	Observ.	Remarks
		C.S.T. 8h 32m	Aug. 17 29s to	8h 41m 5s	8m +	24"				2	C9 M 9 9	4	–	G1							F+P	Turned R.A. screw once
		8 44	26 9	5 28	21m 2s	18	1															" δ screw
✓ 3618	+88° 2	9 5	29	17 38 17 38	12m 9s		2															betw. exp.
	Scale	9 17	39	24 40 24 40	7m 1s		3															
	Plate	24	41	28 44 28 44	4m 3		4															Focus good
		28	45	31 5 31 5	2m 20		5															R4 cut fr. this plate
		31	6	32 27 32 27	1 21		6															
		32	28 52		52s		7															
					27		8															
					16		9															
					9		10															
					5		11															
				Sid. T. 19h 25m 34 22	3 2 1		12															
	Attair		Aug. 17			24	+17.2	216														
✓ 3619	γ Cap	21 30 -14 21	"	20 20 21 21	61	24	+16.3	[illegible]		2 9	C9M	5	–	–	7	7	32	202		E	P	[illegible]-14.6 B-14.0 good {sky focus}
	α Cygni	19 47 A+B +45° 0'	18	18 30		24	+23.2	22 221		15												
✓ 3620	Kap. 39	19h 47 +44.9	"	19 24 19 54	30	17½				48 250	C99 9350	4	–	J1	10	10	41	203		E	F	good
			"	20 4 20 14	10	"	+21.7						–	"						"	F	"
	Polaris for focus only			20 33		"		214		38												
	Pole			20 45 21 15	30			229					–									turned [illegible] screw
				21 17 21 27	10								–									to right ½ turn between exp.

con on next page

R No	Field	R.A. + Dec.	Date	Sid Time	Exposure Time	Aper.	Temp. C.	Focus Knife edge	Focus Setting	Hour Angle	Plate + Emuls.	Holder	Sitter	Filter	Scales α	Scales δ	Scales guid oc.	Scales Pos. Circ	Develop.	Tel.	Observ.	Remarks.
			1917																			(57)
3620	Pole		Aug. 18	21 29	30	17½	+20.2		22		C9D		P7	J1								good
con	"			21 59																		
				22 0							9250		"	"	10	5						"
	Pole			22 10	10																	
				22 16							Sud30	8	P7	—								
				22 26	10				20													
				22 27							"		P7	—								
3621				22 37	10				"													
				22 39							"		—	—								
				22 49	10				"													
	7 Cass for Knife edge focus					17½	+19.8	216														
									21													
~~3622~~	N.G.C663	1h 40m 60° 14'	Aug. 18	23 52 24 2	10	"		8	"		"	8	—		13	11	17½ 219 ~~221~~					Images slightly horned. Measured.
✓		3h 26m		0 50																		
3622	Nova Persei	43° 38'	"	1 50	60	17½					"	5			11	11½	14	235				
			" 23			24"	+21.6	218-19														real difference in focus but merely in appearance
	Polaris					18"		217										219				
	~~HPS #5~~							216										98				
			Aug. 23	48 28																		
✓ 3623	Scale Plate HPS #5		CST 9 27 26	48 28	21m 2s	18"			23		C9M 9435	4	—	J1						P		Thick
			48 29	10 0 38	12 9	2																
			10 0 39	7 40	7 1	3																
			7 41	11 44	4 3	4																
			11 45	14 05	2 20	5																
			14 6		1 21	6																
					52	7																
					27	8																
					16	9																
					9	10																
					5	11																
					3	12																
					2	13																
			Sid. T.	20 27	1	14																

R No	Field	R.A. + Dec.	Date	Sid Time	Exposure Time	Aper.	Temp. C.	Focus Knife edge	Focus Setting	Hour Angle	Plate + Emuls.	Holder	Sitter	Filter	Scales α	Scales δ	Scales guid oc.	Scales Pos. Circ	Develop.	Tel.	Observ.	Remarks.
			1917																			
	Scale Plate		Aug. 23																			Thick.
✓ 3624	HPS #5		10 25 1		5 5± 12 9	18"			23		Seed 30	5	—	—							P	V3
		C3T	10 28 50	40 59 40 59	12 9				2													
			41 0	48 1	7 1																	
			48 2	52 5 52 5	4 3																	
			52 6	54 26 54 26	2 20 1 21 52 27 16 9 5 3 2 1																	
			Sid.T.	21h 7m		+20°.5																
3625	Pole		Aug. 23	21 28 21 38 21 39	10	17½			212		Seed 30	6	P7	—	10	7	219			P	thick	
				21 49	10	"							—		9	7	"			P		
	γ Cass for focus only					"	+20.0	218-19		50m												
	N.G.C. 663 60° 51'		Aug 22	23h 5 23 15	10	17½				26	Seed 30	6			13	11½	20	219		E	G	Elong.
								214														
					24			220														
			Aug. 23	18 55m	18	180		218														Clouds.
	Polaris for focus						+10.0	222	21													
~~3626~~	~~Pole~~ (over)		Aug. 21	22h 2m 46	18				"		Seed 8											
			"	0 2 12 0 12	"				"													

R No	Field	R.A. + Dec.	Date	Sid Time	Exposure Time	Aper.	Temp. C.	Focus Knife edge	Focus Setting	Corr. angle	Plate + Emuls.	Holder	Sitter	Filter	Scales α	Scales δ	guid oc.	Pos. Circ	Develop.	Tel.	Observ.	Remarks.
3626	Pole		Aug 24	0h 28 0 38 0 38 0 48 0 48 0 58	10m	18"			21		5									G	Hopelessly fogged (61)
	ν Cass for focus						8.0	214	21													
			Aug 25	Test of new focussing device			+19.8			finding ocular focus					F 4.8	3.0						
										finding ocular					P 3.0							
									23						F 6 P 6	} at end of run						
	Polaris			19 5		24	+18.6	221½ F 221 P														Aurora.
	"			18 45		18		222 F 220 P														
ν				CST 9 15 41						CDM												
3627	HPS #5		"	36 43	21m 25s	18			23	9h35	4	–	J1	10	1d 22	110	guided		P	R.A. screw ½ turn betw. exposures.
	Scale-Plate.			9 40 41 52 50	12 9												"				√3.
				9 53 43 10 0 44	7 1												"				Good sky.
				10 0 45 4 48	4 3																Excellent scale R5 cut from this plate.
				10 4 49 7 9	2 20																
				8 30	1 21																
					52																
					27																
					16																
					9																
					5																
					3																
				Sid. T. 20h 30m	2																
					1									1							

(63)

R. No.	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus: Knife edge	Focus: Setting	Hour Angle	Plate + Emuls.	Holder	Grating	Filter	Scales: α	Scales: δ	Scales: guid. oc.	Scales: Pos. Circ.	Develop.	Tel.	Observ.	Remarks.
✓ 3628	+88°2 Scale Plate.		1917 Aug. 25	CST. 10 28 22 40 31 ~~40 32~~ 41 31 48 32 48 33 52 36 52 37 54 57 Sid.T. 21h 17m	12m 9s 7 1 4 3 2 20 1 21 52 27 16 9 5 3 2 1	18"			216		Seed 30	5	—	—	14 4	8	11	219			P	Largest images not large enough. Some images elongated.
✓ 3629	Calibration Midway between Polaris + HPS 5		25	22 25	10s 25s	18			216		Seed 30	6	} 14 exposures moving dec. screw 1 turn									Good plate.
✓ 3630	"		25	23 1	30s 60s		+16.8		236		CIM 9435	4		J1	} 14 exposures each moved dec screw 1 turn							
✓ 3631	NGC 6946	20 33 59 52	Aug 26	19 30 24 16	4h 46m	24	+21½	213	2 08 42		Sed 30	6	—	—	Same as 3610 ——					W	E/P	Cloud at times moonlight at half.
✓ 3632	Pole		" 26	2 7 2 15	8m	18"	17.0	218 on Polaris hr.L. 0h	21½h		S 30	8									G	Spoiled in washing. Polar images trailed.
				2 17 2 25	8m	18"					"	"										
	N.G.C. 663	1h 40m 60° 51'	" "	2 45 2 57	8m	18"	"		"		"	"			10	11	13	219			G	
			{ " 28	Test of focus of 18" guiding ocular					213 133	ms of ocular on HPS 5 = (F 3+)(P 3+)												means 3+ " 6+

(65)

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus: Knife edge	Focus: Setting	Hour angle	Plate + Emuls.	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: guid. oc.	Scales: Pos. Circ.	Develop.	Tel.	Observ.	Remarks
	Focus on Polaris		Aug. 28	0 50		18 ~~18~~	14.0	209	20	h											G	
3633	Pole		"	2 0 – 2 5	10	18				"	Seed 30	6	.								G	
	N.G.C. 663	1h 40m 60° 51'	"	2 7 – 2 17	10	"					"	"									G	
	N.G.C. 663	1h 40m 60° 51'	"	2 52 – 3 2	10	"					"	"										wrong field
	Polaris		Aug 29				+17.0	218	50													
✓ 3634	"	calibration			16 exp 10s each	18			22		9465 C99	4	–	J1	10	7		219	moved δ screw 1 turn		P	Polaris images too large. 9465 a slow sky plate.
	"	"	"		16 exp 20s each										8				"	"	"	" good
	"			19 15	22 exp 10s each		+15.2								6				"	"	"	" moon
3635	Pole		Aug 29	~~20~~ 35 – ~~21~~ 5	30	18			22		C99	4	–	J1							P & G	
	"		" "	8 7 – 8 17	10	"			22		"										"	
3636	"		" "	8 25 – 8 31	6	"			20		Seed 30	6	–	–							"	
3635	N.G.C. 663		" "	9 17 – 9 47	30	"	Focus on γ Cas	211½	22		C99	4	.	J1	10	7	42	128		E	G	
3636	"		" "	9 52 – 9 58	6	"	13		20		Seed 30	6	–	–						E	G	
✓ 3637	HPS #5 Calibration		" "	14 exp. of 3m each 23 25m		"	+13.		22		C9M 9454	4	–	J1					Clouds during 8th & 9th; turned δ screw 1 turn.		P & F	Measurable rows of #5, 5 pp, and 2 other stars.

Aug. 31 Collimated to make plate to optical axis (not to bring axis to center of plate).

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus: Knife edge	Focus: Setting	Hour angle	Plate + Emuls.	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: guid. oc.	Scales: Pos. Circ.	Develop.	Tel.	Observ.	Remarks
	Polaris		"	19 10			+19.7	212														
✓ 3638	HPS #5	Calibration	"	9	5 min. exp.	18"			22		C9M 9454	4	—	J1	10	7		219	Turned δ screw 1½ turns.		P	nearly full moon. Good but ~~larger~~ images not large enough.

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus: Knife edge	Focus: Setting	Hour Angle	Plate + Emuls.	Holder	Gitter	Filter	Scales α	Scales δ	guid. oc.	Pos. Circ.	Develop.	Tel.	Observ.	Remarks
✓ 3639	HPS #5	calibration	1917 Aug. 31	20 33	9 m exp	18"	+19.0	'	207	4h 15m	Seed 30 16114	5	–	–	10	7		219	turned δ screw 1½ turns			Full moon; good but not large enough.
✓ 3640	" 5	Scale plate	"	10 13 20 / 34 13	m s 21 3	"			227		C3M 9454	4	–	J1	12 / 10	14 / 18	22	110	Guided		F	turned α screw
				10 40 22	129														"			½ turn
				" 52 31																		
				10 56 0	71														"			
				" 11 3 1																		
				11 3 44																		
				7 47	43																	
				7 47	140																	R6 cut fr. this.
				9 7	81																	
				10 28	47																	
				13	27																	
					16																	
					9																	
					5																	
					3																	
				Sid. T.	2																	
				9 57	1		+18.7								4	14		110				
✓ 3641	Ngc 6946	20–33 59–50	Sept 2	19–07 20–50	1h 43m	24																
	Polaris		" 4				+16.5	211½														
✓ 3642	" calibration		"		28 exp 5s each				226½	6 20	C3M 9454	4	–	J1	10	7		219			F	good, rather dull
	"		"	19 5	28 exp 7s each					10											F	
–	#588 Calibration	13h 30m +88°	" 4	20 40	10 exp. of 1 min. each				226½		Seed 30 16114	5	–	–	10	7		219			F	Out of focus.
	Polaris		Sept. 8	19 15			+17.3°	213														
✓ 3643	" calibration		" 8	2	29 exp. 4s / 29 " 8s / 29 " 16s	18			228		C3M 9454	4	–	J1	10	7		219	δ screw ½ turn.		F	dull at first improving
																					"	
				19h 50			+16.2			5 28											"	

R No	Field	R.A. + Dec.	Date	Sid. Time	Exposure Time	Aper.	Temp. C.	Focus Knife edge	Focus Setting	Hour Angle	Plate + Emuls.	Holder	Sitter	Filter	Scales α	δ	guid. oc.	Pos. Circ.	Develop.	Tel.	Observ.	Remarks
3644	NGC 6946	20-33 59-52	1917 Sept. 9-17	19-57 21-52	$1^h 55^m$	24	+07.7	214	212	$1^h 17^m$	sec'd 30	8	—	—	same as 3610					W	Pettit	69
3645	Nova Persei	3-26 43-38	" "	22-38 24-3	25^m	24	+06.0			$1^h 20^m$	sec'd 30				9	14	38	222	Exp. shortened by clouds	E	Pettit	
	Polaris		Sept. 10			18	+10.0	219				10			10	7		217½				
3646	"	Test for exposure time		18 50	4^s 8^s 16^s	"			234	30	C II 9471	4	—	Jr				"			F	good best between 4^s & 8^s
3647	"	Calibration	10	29 exp. 19 20	3^s 6^s 4 5	"	+9.0		"	50	" "	"1	—	"	10 9	"		"			P	good
3648	HPS #5	"	" 10	20 53	10^s 20^s 30^s	"	+8°8		"	53	" "	"2	—	"	10½ 9	7		"			F	good
3649	588 Scale Plate	+88°	" "	CST 10 0 1 21 4	$21^h 3^s$	"			"	20	C9m 9454	"	—	"	10	2	18	"			P	good
				10 30 37 42 46	12 9																"	
				10 43 49 50 50	7 1																.	
				10 51 30 55 33	4 3																.	Images somewhat
					2 20																.	elongated.
					1 21																"	
					47																	
					27																.	
					16																	
					9																.	
					5																	
					3																.	
				Sid.T.	2																	
				$22^h 25^m$	1		+7.5								0						:	
✓	Vega	δ A 38.4 B 38.8	Sept. 15			17½	+20.8	208												W		
3650	Kap. 38	$18^h 46^m$ +45°.2	" "	19 52 20 2	10	17½			203		Sec'd 30	5	P7	—	10	8	36	217½		W	F	a little dull
				20 7 20 17	10								free	—	9½						F	
				20 21 31	10								P7	—	9						P	

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Se	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks
			1917																			71
	Polaris		Sept. 15	20 50		17½	+18.2	209					–	–	12	14	22	110				
	HPS # 5		"	9h 27m 0	729s						Seed 30	6	–	–	12	14	22	110			F	Images elong. #5 too bright does not give small enough images from short exp.
				39 9																		
				43 18	421																	
				50 19																		
				53 5	243																	
✓				57 8																		
3651				57 8	140																	
				59 28																		
					81																	
					47																	
					27																	
					16																	
					9																	
					5																	
					3																	
				End	2																	
				21h 45m	1					0					4	14	22	110				
		δA +19.4																				
	Arcturus	D 19.8	Sept 17			M½	+18.0	218		35												
✓		15 50		19 24																		
3652	Kap. 35 +44.8		"	19 29½	5½	17½				2h	Seed 30	5	P7	–	10	9	40	217		W	F	clock stopped
				19 30																		
			"	19 40	10	"							P7	–							F	very good
				19 44																		
				19 54	10	"							free	–							F	
				19 59																		
				20 09	10	12	+16.8			20			P7	–							P	
					2s																	
	Polaris		"		4s	17½		216														
✓											GSM											
3653	"		"	2s, 4s	8s	17½				2h	9454	4	–	VI	10	7		"				
					4																	
			,		8	12																

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Se	Hour Angle	Plate + Emulsion	Holder	Gitter	Fitter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks
			1917	G.S.T. 9 54 21			°	Polaris														73
✓ 3654	+88°2		1 Sept. 17	10 15 23	21ᵐ2ˢ	17½"	+15.8	215	2		Seed 30 16114	6	—	—	14	11	7	217			P	
			2	16 42	12 9														Turned R.A. plate-holder screw ½ turn.			
			3	28 51																		
				29 48	7 1																	
			4	36 49																		Fair. Images not large enough.
				37 42	4 3																	
			5	41 45	2 20																	
			6		1 21																	
			7		47																	
			8		27																	
			9		16																	
			10		9																	
			11		5																	
			12		3																	
			13		2																	
			14	Sid.T. 20ʰ40ᵐ	1																	
	Polaris		" 18		5ˢ	17½	+20.7	210														
✓ 3655	"	Calibration		19 30	10ˢ						CSM 9484	4	—	J1	10	7		217	Rows extend only to middle of plate	F		½ turn of δ screw
					20ˢ																	1 " " "
																						1 " " " a little dull
✓ 3656	"	"			8ˢ						"											
					10						"	4	—	J1	"	"		"				
					12																	
				20 30			+18.8			4J										F		1 turn rather dull
	Polaris	1ʰ12ᵐ +88°.95	" 21	19			+16.3	217														seeing good
✓ 3657	HPS #5		" "	17 exp.	5ˢ	12"					Seed 30 16114	5	—	—	7	7		"			P	
	Calibration			" "	10ˢ																	
				" "	20ˢ																	
				Sid.T. 19ʰ45ᵐ																		

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Screw	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks[105]
✓ 3658	HPS #5 Calibration		1917 Sept. 21	17 exp.	10^s	17½"					Seed 30 16114	6	—	—	10	7		217	~		F	good seeing 75
				"	25^s																	
				"	50^s																	
				Sid T. $20^h 35^m$																		
	α Cygni	20 39 +44 59	" "					218		40												
✓ 3659	Kap 42	22 50 +45 12	" "		10^m	17½"					Seed 30 16114	6	free	—	14	5	10	238		E?	F	Guiding-star too faint for gitter.
					2^m								"									
					2^m								P7									
				$22^h 40^m$	10^m		+13.8			0			P7									
✓	Altair		" 22	19 55			+14.1	219		8											F P	
✓ 3660	RS Aquarii	$21^h 7^m$ $-4° 26'$	" "	20 20		17½					Seed 30	5	—	—	10	8	22	115			F	254, 1813 previous plates.
				21 20	60^m					15												
	Polaris		" 24	20 30		17½	+16.5	213		0												
✓ 3661	α Cygni near " "	20 39 +44 59	" "					214½		0										E		
		+45° Focus Plate	" "	21 0	15^s	"		220-17-14 08-05-02		30	Seed 30 16114	5	—	—	No difference for reversing telescope.				Best focus { 207 7 208 P	E	P	Double exposure at 220 and 217 at first, then 220-7
	α Cygni near α Cyg Focus Plate	A 44.8 B 45.1		21 10		"		214½		30										W		
				21 33	10^s	"	+15.4	223, 20, 17, 14 208, 05, 02, 1		50	"				10 to 16	Coin of −6 instead of −5.			" { 209 7 208 P		F	no offset 1 of exp on marked end of plate
✓ 3662	Polaris Calibration		" 27	25 exp.	3^s 6^s	17½"					"	6	—	—							F	Polaris too bright. Images too fuzzy for measurement with R5.
				" "	4^s 8^s	12"																
				17 "																		
				$2^h 40^m$																		

9th Tu Long. Offsets in R.A. showed end of row.

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Scr.	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jcl	Obs.	Remarks
	Polaris		1917 Sept. 28	19 45		17½"	+14.7	217½	5	20												77
✓ 3663	"		" "	17 exp.	60s	12"			2		C 9 g 9465	4	—	J1							F	Bright moon.
	Calibration			"	30																	
				"	10																	
				25 "	5																	
✓ 3664	Polaris		" "	25 exp.	2s	"			21		Seed 30 16114	5	—	—							F	
	Calibration			" "	4																	
				17 "	8																	
				end 21h 10m						4	0											
✓ 3665	HPS#5		" "	CST 9 11 40	21m 2s	17½"			22		C 9 m 9454	4½	—	J1	02	14	11/22	110	Guided		P	40-inch "Pretty good" ∴ focus set 5 divisions off — to assure diffuse images.
	Scale Plate			32 42															"			
				9 35 1	12 9																	
				47 10															"			
				48 57	7 1																	
				55 58																		
				56 58	4 3																	
				10 1 1																		
					2 20																	
					1 21																	
					47																	
					27																	
					16																	
					9																	
					5																	
					3																	
				Sid. T.	2					2	05											
				22h 40m	1																	
✓ 3666	SW Androm.	0h 16m +28° 56'	" "	23 11	2m	17½				21	05	Seed 30 16114?	5½	—	—	10	7	34	313		ε	P
				23 13																		
✓ 3667	"		" "		1m					22	55	Seed 30 16114	6	P7 "	—	10 11 12		34 5 6			"	"
				23 25	3																	
✓ 3668	"		" "	23 30	10m	"				23		C 4 m 9454	4½	"	g1	13		36			"	"
				40																		
				23 42	15											14		37				
				57			+12.3			0	22											

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Sc	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Tel	Obs.	Remarks
	Polaris		1917 Oct. 5			17½	+8.2															
			Oct. 8	Mirror (2-foot) silvered in basket with two coats. Brashear method, new reducer. (But only 3/10 proper amount of rock candy used)																		
			" 9	" replaced in tube, but not collimated																		
✓	Polaris		" 10	21h 43			+5.9	225		35												
3669	HPS #5		"	8 38 15 59 17	21m 2s	18	Sid. T. 22h 22m		22		Seed 30	5	—	—	12	14	2	110°				Dull, image quiet clouds near
				9 2 30 14 39	12 9																	
				9 18 0 25 1	7 1																	Images somewhat elong.
				25 1 29 4	4 3																	#5 too bright-streak between images.
				29 4 31 24	2 20																	
				31 24 32 45	81																	
				32 45 33 32	47																	
				33 32 33 59	27																	
					16																	
					9																	
					5																	
					3																	
					2																	
					1	End	Sid. T. 22h 58m								2	14		110				
	Capella		" 13	1 6		24	+4.5	224		5												
✓ 3670	W Androm.	2h 12m +43.9	" "	1 30 1 57	20±	24			2		Seed 30	5	—	—	10	11	26	218		E	P	clouds after 47m
	Polaris		" 15	20 5			+11.4	216½		5												

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks
			1917	7h 48m 58s																		81
	~~+88°2~~		Oct. 15	8 10 0	21m 2s	18			21h		Seed 30	5	—	—	12	15		219			P	No guiding
	HPS 10			10 0																		Trails - telescope not clamped tight.
				22 9	12 9																	
3671				22 9	7m 1s																	
				29 10																		
				29 10	4m 3s																	
				33 13																		
				33 13																		
				35 33	2 20																	
					1 21																	
					47																	
					27																	
					16																	
					9																	
					5																	
				Sid. T.	3																	
					2											8						
				21 20	1																	
	HPS 10		" 15	10 36 33	17m 4s				21h		Seed 30	6			7	13						Fair scale.
				53 37																		R+O cut from this.
3672	"			10 53 37	8 32																	
				11 2 9																		
				2 9				Sid T = 0h 45m														
				6 25	4 16																	
					2 8																	
					1 4																	
					32																	
					16																	
					8																	
					4																	
					2			+8.2														
					1			End 0h 51m							7	7						
	Altair	19 47 +8°.6	" 16	20h				18" +7.8° 222									E	F				Clouds prevent exp. on R Aquarii

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Sc[ale]	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Tel	Obs.	Remarks
	Polaris		1917 Oct. 19	23		18	+0°.4	220														
3673	H PS #10		" "	0 13		"				2 47	Seed 30 16114?		–	–	10	3	31	178				Stopped.
	Scale Plate																					
	γ Androm	+42	Nov. 2	21 55		18	+1.0	225		0												
	α Cass	A 56°.4 B +56.0	"	22 10				225½		25												
✓ 3674	M Androm		"	22 41 / 23 45	60	18	+1.0			2[illegible]	C[illegible] 9465	4	–	J1	7 / 5	12	20	6 / 218		E	P	guiding star 9.0^m faint; good
	Polaris		3	21 15		"	+6.5	218		10												
✓ 3675	Guiding star λ Urs min; HPS 10 near axis	A +88°.55 B 89.15	"	21h 50m 36s; 22 7 40; 10 38; 19 10; 21 7; 25 23	±17m 4s; 8 32; 4 16; 128; 64; 32; 16; 8; 4; 2; 1	1; "; 2; 3; 4; 5; 6; 7; 8	+4.9			21[illegible]; 25m	Seed 30	5	–	–	12; 4	4; 4	24	216; "		M	P	Scale plate on HPS #10; Guiding ocular lamp failed; R9 cut from this.
✓ 3676	M And.		" 3	22 30; 23 50; 0 50	60	18	+3.6			23 23	CSS 9465	4	–	J1	4	13	25	216		E	P	good
✓ 3677	" "		" 3	2 13; 2 28; 2 34; 2 49	15; 15	"				23	CSS	4	P7; –	J1; "						M; ..	"; ..	"; .. ? fog
	Polaris		" 5	21h 0m		17½	+12.8	218		h 20m												

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate & Emulsion	Holder	Grtter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jcl	Obs.	Remarks
			1917 Nov. 5	21h 23m 45s	34m 8s	17½	+12		21		Seed 30	6	—	—	12	4	28	218		W	F	Guided on λ 85
				57 53																		
				22 0 0																		
				17 4	17 4																	
3678	HPS #10			18 50	8 32																	R7 + R8 cut from this.
				27 22																		
				28 55	4 16																	
				33 11	128																	
					64																	
					32																	
					16																	
					8																	
					4																	
					2																	
					1																	
✓ 3679	Kap. 40	20h 47m +45° 2'	"	"	23 55	30m	17½				C4m 9484	4	free	g1	7	7	22	219		W.	F.	Bright guiding-star.
					24 25																	
					0 30	30m							P7									
					1 00																	
					1 05	5m							P7									
					1 10																	
					1 12	5m							free									
					1 17																	
					1 22	30m		+10.					free		10	7	18					
					1 52						05m											
✓ 3680	W Andromeda	A 43.4 B 44.1	"	"	2 50	30	"				05m	4	"	J1	7	12	25	"		W	P	good
					3 20																	
					3 23								P7		10	10+	24	"				"
					3 53	30	"															
✓ 3681	W Androm		"	"	4 2						Seed 30	8	"	—	7	10	"	"		"	"	" moon
					4 12	10	"	+9.5		2 0												
			Nov. 6					+6.0														

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate & Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Derelop.	Jel	Obs.	Remarks
																						87
	α Cygni	20h 38m A +44°.45 B 45.2	1917 Nov. 8	21h 30m		18"	+6.2	220														
			" "	22 55	30m	12"			2		Seed 30 (1628 1/2)	5"	—	—	14	12	-4	219		W	F	Good.
				23 25																		Faint guiding star
3682	X Cygni	A +32°.2 B 32°.8±		23 30	30m	18"									16							
				0 0																		
				0 05											19							
				0 15	10m	18"				27												
	α Cass.	0h 35m A +55.6 B +56.4	" "	1 52				221		17												
			" "	2 20	30	17½"			2		Cf M 9484	4	P7	g1	5	7	22	219	Dome cutting off nearly ½ at end	W	F	Bright guiding star.
3683	X Persei	2h 16m + 56°.46'		2 50									free									
				2 55	20					48m												
				3 15						53m			P7									Jump in δ.
				3 17																		
				3 37	20m					20m												
			" "	3 57	10m	17½			2		Seed 30	6	P7	—	10	7	22	219		W	F	
3684	X Persei			4 07																		
				4 10			+4.0			3m			free									
				4 20	"																	
	α Cygni		" 9				+10.0	220½														
			" "	22 8	25	12			2		Seed 30	5	free	—	5	11	10234			W	F	X-throw N, 5'± good
3685	X "			22 33																		
				22 35	5	12																
				22 40																		
				22 45	15	18½					Seed 30	6	free	—						W	F	
3686	X "	See 3682	" "	23 0																		
				23 2	3	18																
				23 5																	F	
	α Cygni		" 15	21 50		18"		220½														

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate & Emulsion	Holder	Gitter	Fitter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Derelop.	Jel	Obs.	Remarks
			1917 Nov. 15	22 39	15m	18"				2h 52m	16114 Seed30	5	—	—	17	13	0	221		W	F	89 Not very transparent
3687	X Cygni			22 54																		
				22 58	5																	
				23 3						R 20												Improving
				23 5	3																	
				23 8																		
3688	" "		" "	23 15	10m	12"				2	" "	6	—	—						W	F	600 counts by clock
				23 25																		
				23 27	10m	18"																
				23 37																		
				23 40	10m	24"				R 05					18+	13	-4	221				
				23 50																		
3689	Polaris		" "	28 exp. each	12s	18"				2h 15m	Seed30 16114	5	—	—						W	F	Not measurable with RS.
	[Calculation]			" " "	6s																	
				" " "	3s																	
				22 exp. each	15s	"					C&M 9484	8	—	—						W	F	Camera without filter.
3690	"		" "	28 " "	5					R 45												
				End Sid. T. 2h 25m																		
	# HPS 10	2h 32m +89.4°					+5.0								3	3	-2	227	#5 guiding star			
	α Cygni	20 38 +44.4	Nov. 16	21 44		18"	+12.5	218		R 05											F	
3691	X Cygni 66		Nov. 16	20 21	15m	18"				2h 57m		6			12	12	-1	222		W	F	
				20 36																		
				20 40	5	"																
				20 45																		
3692	" "		" "	22 51	10m	12"				2h 38m		5			13	12				W	F	
				23 2	"	18																
				23 12																		
				23 16	"	24																
				23 26																		

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate & Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Tel	Obs.	Remarks
			1917	2h 27m							Seed 30											
	HPS #10	+89.5	Nov. 17	3 1	34m 8s	18"			21	↑	16114	8	—	—	~~12~~ 9	2	-4	219	Guide on #5.	W	F	Good. Rather unsteady.
				3 6	17m 4s																	
~~3693~~ 3696	Scale Plate.			3 23						7												
				3 25	8 32																	
				3 33															Betw. 3rd & 4th a jump in δ.			R11 + R12 cut from this. #10 not on axis.
					4 16																	
					2 8																	
					1 4																	
					32																	
					16																	
					8																	
					4																	
					2																	
				~~3~~ 3 45	1		+9.0			h 25m					18							
✓	Wolf's Comet	23h 54		9 7 CST	12	24					Seed 30										v.B	
3693		-8° 28	Nov. 16	9 19					21													
				9 34																		
✓ 94	" "	"	" "	9 46	12	18					"										"	
✓ 95	Moon's position at eclipse Dec. 27 1917	6h 24m +22° 26	" "	12 50	10	18					"										"	
				13 0																		
				13 3																		
				13 5	2																	
				13 7																		
				13 8	1																	
✓ 3697	Wolf's Comet	23h 54m -8° ½	" 18	8 24	20	24					Seed 30										"	Verniers A adjusted
				8 44																		
	α Cygni	A+44°.58 B+45.2	20	22 15				222												W		
✓ 3698	Kap. 40	20h 47m +45° 2'	"	6 33 CST	5	17½	+9.0		23		C & M 9484	4	—	J1	5	7	22	219		W	F	
				6 38																		
				22 45																		
				23 15	30								P7							W	F	
				23 25																		Very much elong. drift in δ.
				23 55	30								—									
				23 57	05								—									Clouds prevent
				0 02						15												
															12	7½	24	219				polar exposures.

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Scale	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks[105]
			1917																			
	Polaris		Nov. 23	7 25		18"	-6.2	221														93
J 3699	"		" "		10^s 5 3 10, 10 30 60					$21^h 6^m$	Seed 30 16714	5	–	–								
	HPS# 5																					
✓ 3700	HPS #10		" "	8 16 0 50 8	$34^m 8^s$	18"				$21^h 5^m$	"	6	–	–	5	2	27	290		W		
				8 51 23 9 8 27	17 4																	Scale R13 cut from this
				9 12 0 20 32	8 32																	
				9 23 5 27 21	4 16																	
					$2^m 8^s$																	
					64																	
					32																	
					16																	
					8																	
					4																	
					2																	
					1																	
				9 35																		

Camera removed Nov. 28 from telescope, bearings loosened, loosened screws in ring which holds position circle in place

" 28 Camera replaced and collimated, with reading telescope by new method,

See page 13

		A 44.7																				
	α Cygni	B 45.15	Dec. 1	23 33			-0.6	223														
✓		1 44.8		23 53 40							Seed 30											
3701	Kap. 40	B 45.2	"	0 3 40	10	17½				21		8	P7	–	8	7	22	219		W	F	good clouds
				0 7 0																		
				0 17 0	10	"							Free								F	Do not compare Kap with P7.

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set.	Hour Angle	Plate + Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jcl	Obs.	Remarks
✓ 3702	Kap 40	20h 47m +45°	1917 Dec. 1	0h 29 30	48	17½"	0° -1.3		238	k 30	C 3m 9484	4	P7	J1	11 13	7	24	219		W	P	occasional light clouds
	α Cygni		" 3	1 17 30		17½	0.0	223														[95]
✓ 3703	γ Cass	23h 59m A 55°0 B 55.4	" "	0h 45m 1 45	60m	24			21	45m	Seed 30	5	—	—	8 11	12	30	219		M	F	Very thick. Improving.
	α Cass.		" 6			18"	-8.8	227		2 20												
3704	RR Cass	A 53.2 B 53.1	" "	22 58 23 58	60	"			22	5	Seed 30	5	-	—	-3	3	0	234		E	F	Out of focus
	Kap 40	A 44.9 B 45.2	" "	0 44	7	17½		"	22		"	6	-	—	8	7	19	219		W	P	
3705					7								P7	—				"		M	P	
				1 7	7		-11.9			19			—	—	11	7	21	"			"	
✓ 3706	γ Persei	2h 16m	" 6	CST 9 21 0 9 26 0	5	17½			22		Seed 30	8	P7	—	8	9	22	"		W	F	Out of focus.
				9 30 22 35 22	5								—	—								
				9 39 54 44 54	5								P7	—								
✓ 3707	X Persei		" "	3 0 35 20 35	20m	"			24	03	C 3m	4	P7	J1	10	9	23	"		W	P	Out of focus.
				3 26 15 46 15	20								—								F	
				3 50 55 4 10 55	20		-13.2			54			P7		14	9	25				P	
	Capella		" 10	1 0			-17.0	230														
✓ 3708	X Aurigae	6h 6m A +50.3 B +50.2	" 10	1 30 2 30	60m	18"	-17.5		22-3	35	Seed 30	5	—	End	1	9	40	215		E	F	

Camera was removed to make focusing easier. It was back with focusing screws at different place.

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate + Emulsion	Holder	Grtter	Fitter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jcl	Obs.	Remarks [105]
			1917																			
	α Cass	0h 35m A +56.2 B +55.8	Dec. 13	23h 20m		18"	-13.2 +2.2	242		1 15												(97)
✓ 3709	RR Cass	23h 54m A +53.4 B 53.2 0h	" "	21 22 43 3	60m	18"	-14.8		237	53	Seed 30	5	-	-	0	3	4	234		E	P	Guiding star too faint.
	α Androm	+28 1/2						243													vB	
✓ 3710	Wolf comet	0h 16m -8° 40	Dec. 14	23h 35 24 0	25	24	-16		238		Seed 30	6	-	-	8	9	25	219			vB	Clear but unsteady
✓ 3711	R Ceti	2h 22m A -0.8 B -0.6	" "	0 41 1 52	65±	18"	-17.		238	30	Seed 30	5	-	-	13	5	22	160		E	P	Bright guiding star, very unsteady
	α Cygni	α Cygni	" 21	0 0			-2.1	239														δ { A 44.7 B 45.15 image quiet
✓ 3712	Kap. 42	22h 45.0 B 42.4	"	0 40 1 20 1 32	30	17½			254	30	CGM 9484	4	-	J1	9	12	46	217		N	P	
				2 2	30		-3.3			12			P7	"	9	12	45	216				good
				3 42 4 2	20				1.	46	"	4	-	"	5	5	22	219		N	P	"
✓ 3713	χ Persei	A 56.5 B 56.9	21	4 10 4 30	20								P7	"	5	5	21					
				4 33 4 53	20		-4.6		254	37			-	"	5	5	20					
	Polaris		29	2 50			-160	241														
✓✓ 3714	Pole	A 89.8 both verniers B 89.9 west 90°		3 7 3 17	10	17½			256	5 27m	CGM 9534	4	-	J1	8	9	no guid	219	Trails	N	P	good
	" "			3 21 3 31	10					39												"
	χ Persei			3 59 4 9	10										5	5	22	"				"
	" "			4 21 4 31	10										7	5	23					"
	Pole			4 40 4 43	3±																	streaks
✓ 3715a	Wolf's comet	0h 33m -7° 18	Dec. 31	7h 6m C 7 31 Sy	25	24	—	244	249		Seed 30		—	—	8	8	28	244			vB	out of focus

R No.	Field	R.A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set	Hour Angle	Plate & Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Guid. Ocular	Pos. Circle	Develop.	Tel	Obs.	Remarks
	α Orionis		1917 Dec. 31			17½	-12.8	243														
✓ 3715	Orion Neb	5h 30m A -5°.6 B -5.2	"	4 10 4 20	10				25		CIm 9534	4	–	J1						E	P	stopped by clouds
				5 2 5 18	16 49								–				28					good
				5 20 5 43	23																	4
				5 49 5 51±	2±					10		"	P7	'	5	3	29	219				stopped by clouds
✓ 3716	Wolf's comet	0h 38m -7° 0'	1918 Jan. 4	1h 5m 1 15	10	24		243	23		Seed 30				8	4	30	245		W	✓B	
✓ 3717	Encke's "	23h 3 +3° 35'	"	1 29 1 53	24	"			"		Seed 30 16114				8	8	35	242		W	✓B	
✓ 3718	Orion	A -5°.6	Jan. 4	3 48 3 53	5	17½	-8.5		23		"	5	–	–			29	219		E	P	Dull
				3 54 4 4	10								–	–			30					
				4 7 4 17	10								P7	–	10	6	31					
✓ 3719	"		" 4	5 27 5 37	10	"			25		CIM 9534	4	P7				29					better
				5 40 5 50	10								–				29½					
				5 57 6 17	20		-8.5								7	7	30					rather dull
				8 3 16 8 37 18	34m 8	18	-11		23		Seed 30	5			11	9		219				
✓ 3720	HPS #10 guiding on			8 39 5 8 56 9	17 4															W	P	clear unsteady
			" 7	8 58 8 9 6 40	8 32																	images fuzzy
	HPS #5	A 88°.4 B 88.7			4 16 2 8 1 4																	Set at α of #5 #10 not on axis should be set at α of #10, and holder rotated, See R3700
✓ 3720a ✓ 3720b	Wolf's comet Encke's "	See above	" 7		32 16 8 4 2 1										4	3						H. images show fan-shape

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Set.	Hour Angle	Plate & Emulsion	Holder	Gritter	Fitter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks
	Polaris		1918 Feb. 6	3 50		18	-3.3	243		10										W	T	disk quiet 101
	HPS# 10	1	OBJ	8 0 55 / 8 35 3	34m 8s				238		Seed 30 16114	5	–	–								
		2	"	8 36 7 / 8 53 11	17 4																	
✓		3	"	8 54 44 / 9 3 16	8 32					23												Sid T = 6h 5m
3721		4	"	9 4 20 / 9 8 36	4 16																	
		5			2 8																	
		6			1 4																	very good
		7			32																	
		8			16																	
		9			8																	
		10			4																	
		11			2																	
		12			1		-5.0			42					16	8	22	297				Sid T = 6h 24m
	β Androm	1h 5m +35.2	7 Feb. 12	4h 25m		17½	+1.0	237														
✓ 3722	Kap. 21	1 35 +45.2	" "	4 50 50 / 5 0 50 / 6 7 2	10	"				23	Seed 30 16114	5	–	–	13	3	0	219		W	F	good
				6 17 2	10	"						"	P7	–							F	
				5 22 45 / 32 45	10	"				3 57			–	–	17	"	2	"			P	image crawling
✓ 3723	HPS #10 Scale Plate			5 56 14 / 6 30 22	34m 8s	17½				0 53	"	8	–	–	2	3	19 ~~24~~	285		W		sky goes bad.
			7 Feb. 13				+3.8															Sky overcast.
	Polaris	32m	7 Feb. 16	cst 8 18 5 / 28 5	10m	24"	-8.8m	232							8½	11	7	309		E		
✓ 3724	Wolf's Object	+36.7	"	9 36 42	10m	"				23	"	5	–	–						E	Van B	
✓ 3725	"	"	"	46 42	10m	"				22	"	8	–	–	9	8	15	39		E	"	

R No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate & Emulsion	Holder	Gritter	Filter	Scales α	Scales δ	Scales Guid. Ocular	Scales Pos. Circle	Develop.	Jel	Obs.	Remarks
✓ 3726	Wolf's Object	7 33 36.6	1918 Febr. 16	C.T. 9 55 56? 10 5 56	10m	24"	Pollux 245					5	–	–	10	8	15	39		E W	F	103
✓ 3727	"	"	"	10 36 31 47 31	11m	"			24			6	–	–	8	9	13	219		W	VB	
✓ 3728	"	"	"	10 52 9? 11 2 9?	10	"						5								"	F	
✓ 3729	"	"	"	11 6 42 17 42	11m	"						8								"	VB	
✓ 3730	"	"	"	11 20 8 11 31 8	11m	"						5								"	F	
✓ 3731	"	"	"	11 34 22 44 30	10m 8s	"						6			10	9	13			"	VB	
✓ 3732	"			11 48 14 58 14	10m	"						8									F	
✓ 33	"		"	12<49-00 13 -01-40	12m 40s	"	–						4	–	–	11½	14	13				Pol	
✓ 34	"			13 -10-00 20-00	10m	"						8									Pol	
✓ 35	"			13-23-45 33-45	10m							5									Pol	
✓ 36	"	7-36 36-40	7th 17	8 20-30 24-30 28-30 32-30	4 10	"	-10	234	23	Sun 30		5	–	–	13	12	47 9	3025				

R. No.	Field	R. A. and Dec.	Date	Sid. Time	Exp. Time	Ap.	Temp. C.	Focus: Knife-edge	Focus: Set	Hour Angle	Plate & Emulsion	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: Guid. Ocular	Scales: Pos. Circle	Develop.	Tel	Obs.	Remarks
			1918	EST																		105
			1918																			
✓ 37	wolf's object	7-34 34-40	Feb. 17	8 45-45 47-45 49-08 59-03	2 10	24"						6	—	—								
		δ A 49.3																			Pet.	
	α Persei	B 49.7 or .8	Mar. 7	5 43		17½	+1.2	242		25										W	P	quiet
	Wolf's Nova	{A -6.7 {B -6.4	"						23	25					9	9	22	344		W		
	Procyon	A + 5.2 B + 5.6 K	" 14	6 35		24	-1.0	251														image
	Wolf's Nova	A - 6.7 B - 6.4	" 14						24		Seed 30 16114											sky not fit for exp. for nebula.
✓ 3738	X Persei	$2^h 16^m$ {A +56.45 {B 56.9	" 14	7 35 7 45 7 52	10	18"			24		"	5	—	—	1	3	20	219		W	7	
				8 2	10																7	
	α Persei			8 10			-1.8	240														
✓ 3739	X Persei		"	" 8 20 8 30	10	"			2[illegible]		"	8	—	—	10	6	20	219		W	7	
				8 34 8 44	10																7	
✓ 3740	HPS 10			CST 9 41 10 15 8	$34^m 8^s$	"						5	—	—	7	3	15	297			P	somewhat
				10 16 15 33 19	17 4																F	unsteady
				35 30 44 2	8 32																F	Scale 14 cut
				46 0 50 16	4 16																F	from this.
					2 8																P	
			(32,16, 8,4,2,1 s)		1 4																"	
			End	10 57						40m					15	2	18	297			"	

No.	R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Grtg	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
		Pollux		1918 Mar. 14	11 15		18"	−3	243		35												107
✓	3741	Praesepe	8h33m A 19.6 B 20.0	" "	11 34 11 44 11 50 12 00 +3m	10m 13m	"			23		Sped 30 16114	8	—	—	10	10	18	159		W	7	
																						7	Dome cutting off. Trails attempted
✓	3742	Pole (center betw. #10 + 11)		" "	13h 2m 14 2	1h	12"			25	15 15	C9m 9500	4	—	J1	No guiding					W		A 90 Face North 89.4 to 90.6 Elong.
		Procyon		Mar. 15			24"	−2.4	241		40												
✓	3743	Wegs Mira	7h22m −6°.5	" "	7h 17m 9 20	120	24"			23		Sped 30 16114	5	—	—	7 16	6	24 24	219 "		W	P	small moon good
		Polaris			10 40				242														
		β Leonis	A +14°.9 B 15.1		10 45			−4.8	248		1h 0m												
✓	3744	R Comae		" "	11 16 12 05	45m	17½			24	0 7	Sped 30	6	—	—	5 2	2	22	167		E	7	
		α Persei	A +49.3 B +49.7	" 16	6		18"	45.2	240														
✓	3745	X			6 55 7 00	5	18"			2	44	Sped 30	5	—	—	5	7	22	219		W	F	okay good smoke
					7 3 7 8	5					50							32				F	moon
					7.9 to 10	1 1												32½ 42				F	unsteady
					7.18 to 23	5					5							42½				F	

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Hour Set Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Development Pos. Circle	Development	Tel.	Obs.	
✓ 3746	χ Persei		1918 Mar. 16	7 40																	
				7 46	6	18			23	Seed30	6			5	5	22	219		W	F	109
				7 49																	
				7 55	6				37							12					
					1m											12					
					1m											2					
				8 2																	
				8 8	6		+3.2		50					8	5	2					
				8 21																	
				8 31	10m	12"				"	8	—	—	6	5	22	219		W	"	
✓ 3747	χ Persei		"	8 35																	
				40	5m	18"															
				8 44																	
				47	3m	24"			32					9	5	24					
✓ 3748	T Virginis	12-10.5 -5-35	mar 16	11-32																	
				12-32	60m	24"	+3.0	243	10-15	"	5			5	10	0	312½		E	Pet	Double exp.
✓ 3749	R Monc	6-34 +8-49	mar 17	8-30																	
				9-17	47m	24"	+7.0	240	22-22	"	5			8	9	48	211		W	Pet	3f morn
✓ 3750	T Virginis	12-10.5 -5-35	" "	12-25																	
				12-25	60m	18"			0-15	"	6			10	9	0	145		E	Pet	
✓ 3751	55 Herc	16-29 +7-02	" "	14-60																	
				15-00	60m	18"			2-00	"	8			10	8	3	35		E	Pet	Double exp. Hazy
	α Persei		" 18			18"		238													
✓ 3752	χ Persei	2h 16m A+56.45	" 18		10m	12			23	"	6	—	—	6	5	22	219		W	7	guided on E
					3m	18															
			End	7 50	1m	24			34												
✓ 3753	χ Persei	"	" 18		1	24				Seed30 16114	8	—	—						W	F	
					3	18															
				15m 25s	10	12	+12.5		37					10	5	26					

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Set.	Tour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	d Pole		1918 March 18	CST 8 56 42		17½			25		C 9 m 9500	4	—	J1	12	3	19	297		W	P	111
				9 26 42	30m																	
	✓		(ℒ ST 28 40) Sid.T. 9 16 46			"							P7							"	no drift
✓ 3754				46 46	30m					57					10	4	28	"				drifted a little left
	Capella	5h 11m A +45.7		1		17½	+11.3	238														moon
	Kap. 25	5h 39m A +		10 15 0 10 45 0	30				25	7			—		7	5	16	297				bum
	α Persei	3h 18m A +49.3 B +49.7	" 22	7 15		18"	+3.0	232														
✓ 3755	χ Persei	2h 16 A +56.45 B 56.9	" "		1m	24"			22		Seed 30 16114	5	-	-		5		219		W	7	Moon
					75s	22"																"
				7 51 56	5m	8" + 23-4 zone																"
				8 02 07	5m	6" + 23-4 zone				51					9	5	24	219				Five round guiding range
56	χ Persei 1°21'S of Capella		" 22 "	9 2 9 12 9 28 10 8	10 40m	2			22	54 0	Seed 27	5	—	—						W	P	not guided
✓	α Persei		" 26	7 30		24	-1.0	240														
57	χ "	A +56.5 B +57.0	" "	7 44	1m	24"			25			6	—	—	8	5	25	219		W	F	
					1m	22"																
					1m	4" + 23-4" zone																
					1m	8" + " "																
				8 5	1m	23-4" zone alone				49		not guided 11					28					

No.	R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Hour Set	Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	3758	X Persei		1918 Mar. 26	8 12 22	10m	6"+ 23-4" zone					Seed 30 16114	8	–	–	11	~~5~~ 28	28	219		W	F	113
					8 24 34	10m	23-24" zone alone																	
					8 38 39	1m	24"									14		30		no guiding			nothing visible in eye-piece
	3759	"		" "		1m	22"					"	5₁	–	–	14		30			W	F	
						1m	5"+ 20-22" zone																
					8 52 57	5m	" " "																
						1m	20-22" " alone													"			
					9 2 9 7	5m	" "			6	50					17		33		"			
	3760	"		" "	9 25 28	3m	18"					"	5₂			8	5	23					
					31 34	3m	5"+ 16-18" zone																
					35 38	3m	16-18" zone alone									10		25		no guiding			
	3761	"		" "	9 43 48	5m	5"+16-18" zone + 11-12"					"	6₂			10	5	25					
					52 57	5m	16-18" zone alone													turned screws some			
					10 1 6	5m	5"+ 11-12" zone																
					10 11 16	5m	11-12" zone alone			7	57					14		28		guided on faint gleam			
			5h 11m			End		-2.2															
		Capella	A 45.7 B 46.1	Apr. 1	7h 40m		17½"	+15.2	237½		29												
		Polaris	1h 31m	"	7h 45m		"		237½														

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus: Knife-Edge	Focus: Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: g.o.	Scales: Pos. Circle	Development	Tel.	Obs.	
✓ 3762	HPS #10	{A 89.6 {B 90.0	1918 April 1	8h 5m		17½"			23.2	1h 19m	Seed 30 16214	5	—	—	6	3	21	298		W	P	115
				8h 10m 14s																		star left cross.
				44 22	34m 8s																	
				46 4																		
				9 3 8	17 4±																	
				37																		
				4 7	8 32																	
				12 39																		
				13 37																		
				17 53	4 16																	Scale 15 calc fr. this.
					2 8																	
					1 4																	
					32																	
					16																	
					8																	
					4																	
					2																	
					1																	
		9h 14m −8°.3		9 22						3 35					15	8 3	23	298				
	α Hydrae	A −8.5	" 1	9 30		"		232														
✓ 3763	T Hydrae	8h 52m A −8.9	" 1	9 58																		
				10 55	57m	"	+9.6		22	2 4	Seed 30 16216	6	—	—	13	4	19	129		H	F	
		11h 45m																				
	δ Leonis	A 14.8 B 15.1	" 1	11 15		"		237												E		
	Coma Ber. Cluster	{A +26.0 {B +26.3	" 1	11 39					23	0 36					8	6	22	219		E		Sky goes bad .. no exposure.
		5h 11m																				
	Capella	A +45.7	" 4	8 10		"	+7.2	237												W		uns Tealy
		4h 40m		8 27																		
✓ 3764	Kap. 24	A +44.8	" 4	8 57	30m	"			25		23m	4	—	J1	8	8	16	219		H	P	good
	HPS Pole #10			9 09						55			—					297			F	"
				9 39	30m																	
				9 43																		
				10 13	30m					4 30			P7		10	2	32	303			P	"

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Set.	Hour Angle	Plate and Emulsion	Holder	Grtg.	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	Pollux	7h40m A28.0 B 8h30m	1918 apr. 4	10h 25m		17½	+1.0	237			~~Sed30~~		—	—						W	F	117
✓ 3765	U Canesi	+19°14′	" "	10 43 11 43	60m	"			232	12	Seed30	5	—	—	8 11	4 6	17	264		W	F	
✓ 3766	Coma Cluster Centre dec +26°2330	12h 15m A +26.0	" "		4m 2m 1m	"			23		Seed 30 16214	6	—	—	?	5?	?	219		E	7	Guiding-star double.
✓ 3767	Centre ½°S	12h 15m A +25.5 B +25.7	" "	12 55	4m 2m 1m	"				40		8	—	—	10	12	32	219		E	7	Good guiding-star 2174
											~~Sed30~~											
	α Persei	3h 18m A +49.3 B +49.7	" 8	8 30		18"	+0.8	234														
✓ 3768	X Persei	2h 16m A +56.5 B +57.0	" 8 (No 3)	8 52 8 56 8 57 9 1 9 3 9 7	4m 4m 4m	8" 16-18" zone alone 18"			23		Seed 30 16214	6	—	—	3	5	19.3	219		W	F	Transparent Seeing not very steady
															5		20.8					
				9 15 9 21 23 9 29	6m 6m	6" + 16-18" zone + 11-12" zone 6" + 11-12" zone					"	8	—	—	5		20.8	219		W	F	
✓ 3769	X Persei		" (No 4) 8	31 9 37 40 46 49 9 55	6m 6m 6m 6m	6" 11-12" zone alone 12"									8	5	23					

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus: Knife-Edge	Focus: Set	Tour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: g.o.	Scales: Pos. Circle	Development	Tel.	Obs.	
			1918	9 59							Seed30 16214	5	—	—	8	5	23	219		W	F	119
				10 00	1m	22"			22													
				10 02 03	1	6" + 20-22" zone																
				04																		
3770	X Persei		April 8	10 07	3	"	"	"														
				10																		False start on last exp.
				10 11	1		20-22"	"	abou													
			(No. 2)	14 17	3		"	"	"													
				23																		
				10 26	3	22"									12	5	28					
				10 36					22		"											
				37	1m	22"						62	—	—	12	5	28	219		W	F	
				38																		
				10 39	1m	24"																
				39																		
3771	X Persei		(No. 1) "	40	1m	8" + 22-4" zone																
				40																		
				41	1m		22-4" zone alm															
				10 42 3	10m	8"	22-4"	"	"													
				10 52																		
				10 54	5m	8" + -1.8"		"	.		43m				17	4	31		Clock refuses to go.			
				59																		
	Pollux		April 9	10 10		18"	0.	237														
		7h 44m		10 53							Seed30											Faint guiding-star.
3772	T Gem	A +23.8	" "	11 48	55m	18"			23		16214	5	—	—	8	3	14	261		W	F	Clock stops - star runs off.
																						Seeing quiet.
	α Persei		April 12	8 45		18"	+8.0	237														
		2h 16m		9 10	30s						Seed30											
3773	X Persei	A +56.5	" "	11	1m	18"			23		16214	5	—	—	5	5	22	219		W	F	
				12																		
				14	2m																	
				9 15																		
				19	4m																	
				9 22																		
				9 30	8m										8		25					

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Grtter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
			1918 April 12		3m	Diaph. 9"		+ Dholes 232	12-4		Seed 30 16214	8	—	—	8	5	25	219		W	F	121
✓ 3774	χ Persei				3m	Diaph.		with cent. hole				clock stopped 7s before end.										
				9 47 9 50	3m	18"				7 32					13		26					
✓ 75	W Cancri Spica B Leonis	9h 5m A +25°.4	" "	10 25 11 45	80m	18"		232 246 241		2 43	C9M 9534	6	—	—	10	3	22	180	End	W	F	
✓ 76	γ Virginis	12h 30m A −3°.8	" "	13 50 14 50	60m	"			236	2 25	C9M 9534	5	—	—	9	4	22	130		W	+ Var. just seen.	To get guiding-star moved Field in a radius of g.o. field. Why?
	Regulus	10h 4m +12.4	" 13	10 50		18	+9.	239½														
✓ 3777	ζ Leonis	11h 7m +5°54'	" "	11 30 12 40	>80m	18"			234	1 34	Seed 30 16214	6	—	—	8	5	30	159		W	F	Var. not seen
	Pollux	7h 40m A +27.9	May 2	10 40		17½	+17°.2	237														
	Kap 26	6h 37m A +44°.4	" "			"			25		C9M 9500	4		J1	7		23	194		W		No guiding-light ∴ no disp.
	Polaris	A 88.5, B 88.9	May 7	10 55		17½	+16.5	235-6												E		
✓ 3778	HPS ♯ 10		" "	11 34 12 9 12 12 12 29 39 41	34m 8s	"			23		Seed 30	8	—	—	6	2	21	298	1½ min. out	E F	while clock stopped	Double Exp. Guided on HPS ♯ 5. good sharp scale.
				17 4 8 32 4 16 2 8 1 4 3 2 1 6																		
				12 50						7 10					15	2	22					

123

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	Vega	18 34 A 39.0	1918 June 10	14 15		17½"	15.8	220½														
									215													
✓ 3779	Barnard's Nova Aquilae	18 41 A +0°.4 B+0°.8	"	15 24	5,3,1 s 5,3,1	12"		232½	227		Seed 30	5	free P7	—	8	9	No guiding	219		E	F	Turned R.A. screw ½ turn
					5,3,1	17½"							"									δ screw whole betw. apertures.
				15 28	5,3,1					3 9			free									
✓ 3780	"		"	16 ±	10 s	24"					"	6	—	—			"			E	F	Thro' clouds clock nearly stops!
		A +0.4 B+0.8	June 11	13 55		24"	+22.8	227	22													Very poor seeing Wind. Low!
✓ 3781	"	"	"		10s 30s	"			"		"	5	—	—	8	9	"	219		E	F	Sky light. Dev. 2 min. Crm.
					60s																	
				14 1	5s					4 42						4						
✓ 3782	"	"	"		10s 30s				"		"	6			8	2	25	211	CEC 8m	Guided "	"	
				14 35	60s 120s 5s																	
				14 40	1s										14		28					
								230														
✓ 3783	Nora	"	"	Exp. 1 { Group of " " 15 12	1s 1s 2s 2s	17½			22		"	7	free P7 P7 free		8 15	9			"	No guiding		All but first (last) thro' slide!
	Altair	19h 47m +8°.6		2 { Group of " " 15 45	1,1 1 2 2				24				free P7 P7 free		8 17	8						Out of focus
	Altair			3 { 16 0	1s... 1s... 2s... 2s				22				free P7 P7 free		8 16	11						
	Nora			4 { 16 18	1,1,2,2 1,1,2,2								free P7			5						

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Focus. Set.	Tour Angle	Plate and Emulsion	Holder	Grtter	Filter	Scales α	Scales δ	Scales g.o.	Development Pos. Circle	Development	Tel.	Obs.	
	Nora		June 11		1s 2 5	17½			245		C9 m	4	free	J1	8	9		211	C E C 8 m	E	F	No guiding 125
					1,1 2,2 5								P7 " "									
				15 18	10								"		13							
				(av 15 25						(3 20)													
✓ 3784	Altair	19 47 + 8.6		15 35	5 1,2,5								free		8	8						Offsetting 1 turn
					1,1,1 2,2								P7 "									
				15 38	5,10								"		13							
	Nora				1,1 2,2 5 10				24				P7		8	11						
				16 25	1 2½ 10								Free		15							
				17 20		17½		234														
✓ 3785	Nora	"		17 25	20s 60 30				229		Seed 30	6	—	—	8	2	31	211		E	F	
					20 60 30					0 57					14		38					
	Nora			5 sp.	½s ±	12"			"		"	5	P7	—	8	9		219				No guiding E F
				17 57 5 sp.	1s								P7		15							
✓ 3786	Altair			5	1s	"									8	7						
				18 18 5	½s ±										15							
	Nora			5	½s	"									8	11						
				5	1s										15							
				18 34																		

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Focus. Set.	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	Nora		1918 June 11	1 Exp. 17 58	1s 2s	12"			24		C4M 9639	4	P7	J1	8 15	9		219		E	F	Wrong ap. 127
	"			2 Exp. Exp. 18 3	1s 2s	18"									8 15	11						
✓ 3787	Altair			3 5 18 5 10	2s 1s	18"									8 15	7						
	Nora			4 5 18 5 38	1s 2s	"				-0 5					8 15	5						
	Nora		June 12	15 55		17½		230														
✓ 3788	"	18h 43m A +0.°4	" "	16 1 16 5	4m				22½ 38		Seed 30	5	—	—	10	2	31	211		E	F	For purposes of Cater comparisons.
	"			1 16 12	3½s Exp.	8"					Seed 30	6	P7	—	8 10	5	No guiding	219		E	F	
✓ 3789	Altair	19h 47m A +8.6		2 16 38	4 "	"							"		8 10	8						
	Nora			3 16 49	"	"							"		8 10	11						
	Nora			16 15	3½s 3 1s 3 2s	17½"			22		Seed Process	7	P7	—	8 15	5	=	219		E	F	
✓ 3790	Altair			16 35	"	"							"		8 15	8						
	Nora			16 51	"	"							"		8 15	11						

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Focus. Setting	Hour Angle	Plate and Emulsion	Holder	Grtg.	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
✓ 3791	Nora		1918 June 12	h m 16 21	4 1s 4 2s	17½"			245		C4m 9439	4	P7	J1	8 15	5	no grating	219		E	F	129
	Altair				3m4 1s 3m4 2s	"							"		8 15	8						
	Nora			16 33	4 1s 4 2s	"	+13.0			1 53			"		8 15	11						
	Nora		" "	17 21 25	4m	"			223		Seed30	5½	—	—	10	2	31	211		E	F	
✓ 3792	Harvard St. Region	19h 3m A +15.05		17 56	4m	"							free		15	4½	30	129				at 17 53 −1 10 Out of focus.
				18 00 18 4																		
				18 8	4m	"				0 54			P7		16	"	31					Limit = W Pl 13.48 Too long for α.
	Altair	19h 47m +8.6°	June 14	15 40		"	+14.5	231														
✓ 3793	Altair		"	15 47	4 ½s 4 1s 4 2s	"			226		Seed Process	7	P7	—	8 15	9		219		E	F	
	Nora			16 5	2s 1½										8 15	4						
	Altair			16 13	2s 1s ½s										8 15	13						
✓ 3794	Altair		"	15 52	4 ½s 4 1s 4 2s	"			244		C4m 9639	4	"	J1	15 8	9		219		E	F	
	Nora			16 2	2s 1s ½s										8 15	4						
	Altair			16 15	2s 1s ½s										8 15	13						
	Polaris	89°	"	16 40				232½		8 42												

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Focus. Setting	Tour Angle	Plate and Emulsion	Holder	Grtg	Filter	Scales α	Scales δ	Scales g.o.	Development Pos. Circle	Development	Tel.	Obs.	
			1918	6 43 45																		
3795	Pole		June 14	6 53 45	10	17½"			227	16 E	Seed 30	6	—	—	10	13	23	137		E W	F	131
3796	"		"	6 57 0							C9m 9534	4	—	J1								
				7 27 0	30				247													
	N.G.C. 663	1h 40m 61.0		8 12 55	10													128		E		Guiding star very faint. Dawn!
	"			8 22 55																		
				8 27 50	30																	
				57 50																		
~~3797~~	Altair	19 47 A +8.5	June 18	15 50		17½	+14.4	233														
3797	"		" "	16 0	2s 1½				225		Seed Process	7	P7	—	8 17	5		219		E	F	Good Moon.
	Nova	18 43 A +0.4		16 18	"				"						8 17	9						clock not running well.
	Altair			16 25	"				"						8 17	13						
3798	Altair		" "	16 4	2s 1½	"			247		C9m 9680	4	P7	J1	8 17	5		"		E	F	"
	Nova			16 15	"				"						8 17	9						Nova red Altair 3 v 1 ∝ pl.
	Altair			16 28	"				"	3.19					8 17	13						
	δ Scorpii	15 55 −22.4	July 1	15 50		17½"		236														
3799	A+S Scorpii	16h 13m A −22.7	" 1	16 18 17 20	60m	17½"	+16.2		231	0 b	Seed 30	6	—	—	12	9	5	219		W	F	Shows both variables.
	Altair							237														
3800	Nova Harvard St. Begin	18h 43m +0.4	" 1	18 35	25+ 25 60+ 5	"			23		Seed 30	5	—	—	8 4	2	31 26	211		E	F	
				11 19 40	60? 25 20± 5 60								P7 fell		12	2	20	127	moved RA. slow motion to get guiding - 5th in.			Done cutting off.
										0 95			"									

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus Knife-Edge	Focus Sett.	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
✓ 3801	Nova Aq. No3 Harvard St. Region C10	3	1918 July 1	18 43 19 27	60s 120s 60 120 120	17½"			25[illegible]		CIM 9639	4	— free free P7	S1	4 12	2 2	26 20	211 #27		E	F	133
	β Librae		2	15 30		"	+23.5	234		[illegible] 15												
✓ 3802	RR Virginis	14h 0m A −9°.9	" 2	15 55 17 3	65m	"			229	.3 4	Seed 30	5	—	—	8 11	14 12	47	194	CEC 15m	W	F	Thick at first - Good improves - [illegible]
	Polaris		" 5	15 30		17½	+23.8	231		9 47												
3803	BD+88°104 α = 17h.8	* +88°.2 A +85.8 B +85.5		12 2 25 ~~12 36 33~~ 12 25	23m 1 ~~34 8~~	"			22[illegible]			5			8	12	46	43		E	F	+0 5 at 17h 36m Stopped by clouds
	Arcturus	{ readjusted dec. vernier arm, changing reading from +16°.9 to +19°.6 {A 19.5 B 19.7 Tel East	July 6	14h 30m																		
	Arcturus	{A 16.9 B 17.3} 17.1 Tel W	July 8	14h 45m 21.8 22.2 } 22.0 − 19.6 = 2°.4 } Tel E [illegible]ted verniers [illegible]at they read: {A 19.5 B 19.7 Tel E} 19.3 19.7 Tel W changed to A 19.5 B 19.7																		
	Polaris		8	15		17½	+17.2	231		[illegible] 2 40							~~37~~					Fair to good.
✓ 3804	BD +88° 104 Scale Plate.		July 8	16 16 31 50 39 51 19 17 8 23 9 28 18 0 18 50 23 6 24 12 28 28	34m 8s 17 4 8 32 4 16 2 8 1 4 32 16 8 4 2 1	"			22[illegible]	[illegible] 0 3	Seed 30 16214	5	—	—	3 12	14 14	33 36	37° 37		E	P	-1 17 at 16 13 Guiding-star = HPS 4. First exp. is double exp.

R No.	Field	R. A. and Decl.	Date	Sid. Time	Exp.	Ap.	Temp. C.	Focus. Knife-Edge	Focus. Setting	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. Circle	Development	Tel.	Obs.	
	Polaris		1918 July 9	16 50		17½"	+17.0	232												W		135
✓ 3805	BD +88° 104	A+88.0 B+88.2	" "	17 38 37 18 12 45	34m 8s ⑦ 17½"				227		Seed 30 16214	5	—	—	10	15	37	219		W	P	
				13 23 30 27	17 4 ②																	R16 from this
				32 27 40 59	8 32 ③																	
				41 22 45 38	4 16 ④																	
				45 39	2 8 ⑤																	
					1 4 ⑥																	
					32 ⑦																	
					16 ⑧																	
					8 ⑨																	
					4 ⑩																	
					2 ⑪																	
				18 50	1 ⑫		+15.0			1 2					1	15	35	219				
	Vega	Reads 3° too low in δ	" 10	17 0			+19.0	234												E	F	
									22[illegible]													Clouds prevent exposure.
✓ 3806	Nova	Focus plate	" 11	16 12	20s	24	+16	230			Seed 30	5	—	—	260. 250. 240, 230 220, 210, 200, 200				210 in night.	E	F	Plate reversed in holder.
✓ 3807	"		" "		10s	"			210		1621 4	5	—	—	7.2 ~~7.6~~	2.1	31	211	Spot plate.			" "
✓ 3808	"	18 43 +0.5	" "	End 18 30	20m 5 10	"			22[illegible]		Seed 30 2283	8	—	—	17	2	36	211		E	F	
✓ 3809	"		"		15s	"	+14.2	220, 215, 210 205, 200, 19[illegible]			" "	5	—	—	12	8		211	202 in night.	E	F	Focus there #3807
✓ 3810	"		" 12	15 25 15 40	15m	"			20[illegible]		" "			3807	2	2	31	211		E	F	
✓ 3811	"		" " 12	16 0	30s	"			210		"	5	—	—	7.8	3	31	211		E	F	Plate reversed. Plate with larger spot.
✓ 3812	"		" " 11	17 17 17 18	1m	24			21[illegible]		" "	5	—	—	~~7.7~~ 8.6	9.8	15	259		W	F	" against lower left corner reversed for
3813			" "	17 23 30 17 24 0	30s	"			21[illegible]		" "	5	—	—	8.9	10.0	15	259		W	F	spot plates

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Sc	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	Pos. ⊙	Tel.	Obs.	
	α Persei	3h 18m +49.5	1918 July 18	21 15		18"	+20.	233½											ε		137
3814	X Persei	2 16 +56.8	"	22 27	5m	"			22		Seed 30 2283	5	—	—	5	3	25	39	ε	F	Tel moved a little in δ to get guiding-star in.
				32												Tel moved in R.A.	35				
				34-39	5m																Clouds & dawn.
				39-40	1m												45				
				42-3	1m																
				44	1m																
				End 22 50	6m																
3815	Nova Aq.	18 44 +0°.5	" 19	17 58							14875 Seed Graflex	5	—	—	end 9.7	10.0	15	259	W	P	thru R 3813 moon + haze
				18 8	10	24	+25.5		20h	36m											
Resulting plate 3813 against lower left sides of holder. Developed 6m with CEC																					
	α Persei	A +49.7	" 19	21 15		18"		236½ ±													Very uncertain.
3816	X Persei		" "	22 10	10m	"			23		Seed 30 2283	8	—	—	5	3	25	39	ε	F	Thick sky
				20											5		40				improving.
				22											4		39				
				32	10m																
				22 35																	
				36	100s																
				22 53	5m	"					16214?	6	—	—			25	39	ε	F	Seeing much better than for preceding.
					5										3		35				Dawn.
3817	"		" "		1										4		34				
					1												45				
				End 23 17	5												44				

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. ⊙	Tel.	Obs.	
	Altair	A +8.5 B +8.9	1918. means too big.	0.1																	
																					139
3818 ✓	Nova		July 21	17 20 25	5m	24"			2		Seed 30 2283	5	–	–	9.0 8.6	10.1 9.8	14.95 15	258.95 259	stand W	P	moon thru R 3812
3819	"		"	18 33 18 43	10m	"			"		C33 9494	5	–	end	9.3	10.6	15.0	259.0	W	F	all scales moved thru R 3812 moon
3820 ✓	"		July 29	17 8 17 11	3m	"	+21.2		200		Seed 30	5	–	–	9.3	10.6	15.0	259.0	W	P	reversed for occulter light clouds
3821 ✓	"		" "	17 13 17 19	6m	"			"		2283	5	–	–					"	"	reversed for occulter clock losing
3822 ✓	"		" " Summer Time	10 15 10 30	30 15	"			"										three "3812"		broth back by slow motion moon rose 11:50
				10 55 12 10	75		+16.0			4h 0m					7.5	9.6	15.0	259.0			clock gaining

July 30 PM. I removed 12 rods from east side of Gitter P7, leaving 33 rods. St. is now P7a

	Nova		July 30	17		24	H4.3	241													
						17½		234													
3823 ✓	Nova		" "	18 9 12 3 18 13 16 3 18 17 18 20 3		"			229		Seed 30	5	–	–	9.3	10.6	15	259	W	P	(Even Overexposed)
													P7a	–	8		14				
													–	–	0		13				
3824 ✓	Nova					60s 30 60 30 60 30							–	–	10		13	"	"	P	(Even 30s too long, try 10s + 20s
				19 45							Seed 30 2283 19-101		P7a –	–	6		9				

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set.	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
			1918	19 58																	
✓		18h 44m	July 30	20 3	5	17½			249		C31	4	—	J1	10	10	15	259	W	P	seeing very good, transparent (141
3825	Nova	+0.5°		20 4							9494										(Exp. too long for Nova, try 2+3m
				20 9	5	"							P7a	"				"			
				20 10																	
				20 15	5	-	+12.3						—	.	9		14	.			

1918 July 31. 8 PM, I removed 6 rods on each side from Gitter P7a. leaving 21 rods across middle. This gitter will be called P7b

	Nova		July 31	17 0							C31										
				17 2	2		+19.6		249		9494	4	free						W	P	good
				3																	
				6	3								"								
✓				7																	
3816				10	3								P7b								
				11																	
				13	2								"								
				14																	
				16	2								free								
				17 18																	
				21	3					-1	23		"	.	3	11	11	259	.		
				17 30	10s																
					10				224		Seed30	5	"						W	P	good
✓					20																
3827	Nova		31		20																
					30																
					10								P7b								
					10																
					20																
					20																
					30																
					10																
					10								free								
					20																
					20																
				17 37	30		+18.4			1	7	.			-1	11	11	259			

R No.	Field	R. A. and Decl.	Date	Sid. Time Begin.	Sid. Time End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
3828	Nova		1918 Aug.	17	0	10s 20 30	17½			219		Seed 30	5	free	—	11	11	15	159	H	P	streaks
						10 20 30								P76								
						10 20 30								free								
				17	10	60s								"			6	"				
			1	17	16	2m 1				229		Seed Process	6	"	—	11	15					
3829	Nova					2 1								P76								
				17	29	2 1		+11.5						free								
				17	36	2 1				249		CSD 9494	4	"		11	15					
			1			2 1								P76								
3830	Nova					2 1								free								
				17	55	5					0	50		"		8 10	13 12	11 15	"			
3831	Nova		" 2	17	3																	
				17	5	2		+16.3		149		CSD 9444	4	P76					"			fair
				17	6									"								dull
				17	11	5																
				17	16									11								better
				17	20	4																
3832	"		" 2			10s 10 10				229		Seed 30	5	"								fair
						20 20 20								"								"
				17h	28m	30s																
3833	"		" 2	17	30	1						Seed Process	6	"								fair
				17	33	2				"				"								"
				17	34	4																
				17	38			+15.2			1	6		"								"

R No.	Field	R. A. and Decl.	Date	Sid. Time Begin.	Sid. Time End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Sett	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
✓ 3834	Nova		1918 Aug 4	21	4	2m	17½		239			949d C99	4	P76	J1					W	F	good
				21	6																	
				21	7																	
				21	10	3				254												
						10s																
	Seed					10				234		Seed	5	"	—					"	"	"
✓ 3835			4			15																
						15	"															
						20																
				21	18	20																
✓				21	19							Seed								"	"	"
3836			4	21	21	2	"			234		Process	7	"	—							
				21	22																	
	"			21	25	3		23.8								8	8	13	259			
		+56°.8		22	37																	
3837	χ Persei		" 4	22	42	5	"			234		Seed 30	5½	"	—	5	3	27	39	E	"	"
3838	" "		" 4	22	52	7	"			"		" "	7½	"	—	"	"	"	"	"	"	"
				17	53								4	P76	J1							
	Nova		" 5	17	55	2		+30.2	238													
✓				17	56																	
3839				18	59	3				253		C99		"						P		" unsteady
				18	0							949d										
				18	4	4								"		8	9	29	269	W		
						10s																
						10																
✓						10																
3840	"		5			20				233		Seed 80	5	"	—					"	"	"
						30																
				18	13	30																
✓				19	1																	
3841	Nova		" 6		2	1m		+30.4	234	249		C99	4	P76	J1	9	10	18	259	W	P	Knife edge image very unsteady
					3																	
					5	2																
					6																	
				19	9	3																

R No.	Field	R.A. and Decl.	Date	Sid. Time Begin. / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
3842	Nova		1918 Aug. 6	19 12	5, 5s	17½"			229		Seed30	8	P74	—	10	18	259	W	P	Out of focus	149
				13	10, 10s																
					15, 15s																
3843	"		"	19 15	1m	"			"		W M	6	"	—				"	"		
				16																	
				17	2m																
				19																	
				20	3m																
				23																	
				23 10s	4m																
				27																	
				27 33	5m																
				19 32						+0 48											
3844	Nova		Aug. 7	18 36	1m ±	17½"	+26.8		24		C99 9494	4	P74	J1	9	10	18	259	W	P	Passing clouds
					2m ±																
					2m ±																
				1845																	
				18 49	4m ±																
				18 55	5m ±																
3845	"		"	19h Comp.		"			22		Seed30 2283	5	"	—	"	"	"	"	W	P	" "
3846	"		" 8	17 39	1m	17½"	+23.7	234	24		C99 9494	4	"	J1	8	9	18	259	W	P	out of focus
				40																	
				40																	
				41	1																
				42																	
				44	2																
				44																	
				47	3																
3847	"		" 8	17 50	5, 5s	"			22		Seed30 2283	5	"	—							Out of focus
				51	10, 10																
					15, 15																
					20, 20										5	10	19	"	W	P	

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. {End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour-Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. ⊙	Tel.	Obs.	
✓ 3848	Nova		1918 Aug 10	18 10 18 20	1m 2m 3m	17½	+26.0	236	251		C33 9494	4			8 6	9 9	18 16	259 "	W	P	good visually IV3 θ
✓ 3849	"		" 10	18 25	5s 5 10 10 15 15 20 20s				(231) recorded Aug 1		Seed 30	5			8	9	18	259	"	"	"
	α Cass					"	+24.5	240													
3850	χ Persei	2h 16m	" "	23 36 23 56	20	"			255	-2 46 -2 20	C33	4			7	10		270	E	"	good } All out of focus (outside)
3851	" "		" "	0 5 0 10 0 11 0 16	5 5	"			235		Seed 30	5			7	11 11	4 3	"	"	"	"
3852	" "		" "	0 24 0 46	22				"	-1 30	Seed Process	6			6	10	3	"	"	"	haze after 0h 35m
	Nova		" 12	18 25		17½	+28.6	233													
3853	+0° 40 27	focus plate	"		10s each	"			250, 44, 38, 31, 28,		Seed 30 2283	5	–	–					W	P	unsteady reversed? 228 + 225 offset
3854	"	"	" "	19 10	10s			240, 37, 34, 31 28, 25 – 222		+0 26	"	6		"0					"	"	Best focus 228
✓ 3855	Nova		" "	20 8	1m 2 3	"			248		C33 9680	4	P76	J1	5	10	16	259	"	"	good
✓ 3856	"		" "	20 16	5s 5 10 10 15 15 20 20s	"			228		Seed 30 2283	5	"	–	8	9	18	"	"	"	"
3857	Focus plate	+57°	" "	20 37	10s each	"	+27.5	240, 37, 34, 31 28, 25 – 222		2h 31m	" "	6									Best focus 228

R No.	Field	R. A. and Decl.	Date	Sid. Time Begin.	Sid. Time End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
			1918																			
3858	χ Persei		Aug. 12	22 1	22 4	3m	17½	+26.5	233	228	4h 10m	Seed 30	8	P76	—	8	9	32	219	E	P	good, unsteady ? (151)
				22 48		½																
3859	" "		" "	22 50			"			"		"	5	"	—	7	9	31	"	"	"	"
				22 51		3					-3 16	"										
				22 54																		
				23 4																		
3860	" "		" "	23 19		15	"			248	-2 56		4	"	J1	8	9	32	"	"	"	"
										240,32												Nova faint for focussing
✓ 3861	Nova	Focus plate	14	17	30		"	+20.1	223	32,24	-1 14	Seed 30	5	—	—	8	9	18	259	W	"	but 223 is definite Best focus on plate is 220
				18	19	5s, 5																
✓ 3862	"		" "	18	21	10, 10 15, 15	"		~~216~~	218		"	5	P76	—	8	9	18	259	W	"	clear space clouds interfered
						150s																
				18	32																	light clouds
✓ 3863	"		" "	18	35	3	"			238		CJ	4	"	J1	8	9	18	"	"	"	clouds denser
				18	36																	
				18	38	2m																
	Nova		" 18	18	0		"	+18.9	233		-0 44											
						10s				240,32												best 228
	"		" "	Focus rod		each	"			28,24		Seed 30	5	—	—				W	P		good moon
						10, 10																
✓ 3864						10, 10 60s			228					P76	-							

1918 Aug. 19. 3 P.M. Adjusting screw put under Knife-edge No. which will probably change its relation to plate focus

	Altair		-2h 16m +8° 39'	Aug. 19	17	30				228												
							10s				240,32											
3865	Nova focus plate		"		17	44	each	"	+21.0		28,24	Seed 30	6	—	—	8	9		219	W	P	best focus 231 moon elongated not guided
	"				17	47	60	"		228												
							5s 5															
✓ 3867							10, 10 15, 15	"			23											
	"				19	4	2m					" "	7	P76	-	8	9	18	259	"	"	haze clouds

R No.	Field	R. A. and Decl.	Date	Sid. Time Begin. / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
3868 ✓	Nova {		1918 Aug. 19	19 11																	
				19 14	3	17½		231	251	+0 34	CSI	4	P76	J1	8	9	18	259	W	P	clouds thage
				19 15																	moon
				19 20	5																
			" 22	Dec. circle again changed by turning crank; reset by Altair											A+8°.5 B+8.85	Eph δ = +8°39'					A+16°.7 Spectrum B+17.1
(33 OR) ✓	Nova Spec.	B+9°.0		18 33																	
				19 3	30	6	+25°.2		235		CSI	8			10	5	6	204	W	P	15° prism copy in OR book
	Nova		" 24	19 30			+25.0	230	240.36?	+0 46											
3869 ✓	"			19 36	10s each	17½			28;24-?	+0 52	Seed 30	7	-	-					W	P	best focus 229
	Visually	B 4 N.	N 3 (4 Aquilae) prismatic glasses. 11 PM.							20h 8m	Sid. T.										
3870 ✓	Nova {		" "		10s.10 } 15.15 } 20,20 } not guided				229		Seed 30	5	P76	—	8	9	18	259	W	P	good. moon
				20 33	20 } guided					+1 49											
3871 ✓	" {		" "	20 39																	
				20 42	2	17½			249		CSI 9680	4	"	J1	"	"	"	"	"	"	"
				20 45	3																

Aug. 31. 8 PM Put brass strip under knife-edge N° 2. to raise edge 0.013 inch = 0.3 mm = 6 divisions of focusing scale
This is very nearly same as since Aug. 19. i.e. edge 1st of scale outside of film position { O.K. Sept. 6. See 3874

	Nova		Aug 31	19 50		24	+17.4	230													
3872 ✓	"		" "	19 58	30m	"			200		Sud 30 2283	5	—	—	8	9	15	259	W	P	plate reversed in holder for occultor seeing good
3873 ✓	" {		Sept 2	18 53	2h	"			200		" "	5	—	—	8	9	15	259			
				20 53			+15.0								11	11	"	"	W	P	quite good, moist
	Altair	B+8.85	" 5	18 5			+16.2	240													
3874 ✓	Nova		" "	18 43					240		Sud 30 2283	6			14	13	12	259	W	P	Nova behind paper occultor 0.043 inch in diameter

136 R No.	Field	R. A. and Decl.	Date	Sid. Time Begin.	Sid. Time End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate and Emulsion	Holder	Grtter	Filter	Scales α	Scales δ	Scales g.o.	Pos. ⊙	Tel.	Obs.	
	Nova		1918 Sept. 8	19 5		20s 20 20	17½	+20.1	224	224		Seed 30 2283	5	P76 –		8	9	18	259	W	P	Regulator 20 to 21 (155)
3875	focus row			19 8		60s			240.35.30.2 20,15-10		best focus 226 or 27											(3 overlaps) perhaps 2 overlaps
				19 22																		
				19 27		5m	"			25		CJ9	4	P76J1		8	9	16	259	"	"	
3876	Nova		" 8	19 30																		
				19 35		5				24		9680						15				
				19 36																		
				19 41		5				24						6	9	14				
	Altair			19 50					224		0 10											
						1m										δ						
3877	Nova		" 13			1m	"	+18.4	225	225		Seed 30 2283	5	P76 –		●	13	18	259	W	P	hazy, moon
						1m																
				Mr. 29 19	6	30s 30																
				19	+9	30																
				19	9½	9½																
3878	"		" "	19	18		"			24		CJ9 9680	4	" J1	8	13	18	"	"	"	"	"
				19	20																	
				19	25	5																
	Altair		" 16				24	+11.9	229													
						10s																
		A +23.7				20																
3880	Alcyone	B +23.8	Dec. 7	23	16	40	24	+4.0	228 ±	23												
						80																
						30 30	"	superposed ±														
3881	"		" "			30	"			23												
						30				23												
						30				22												
				0	16	30				22												
						30				23												
						30				23												
3881	"		" "			30	"			22												
						30				22												
						30																

	Seed 30	5	–	–						W	P	good										
															6	"	12	259				
														grnd glass								three ground glass 2 mm thick
	"	7	–	Glass A																		
	"	7																				" "
	"	8																				ground glass 2½ mm thick

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
		4h 17m	1919	3h 8m				α Tauri													157
3883	T Tauri	+19° 20'	Jan. 25	4 8	60m	18	+3.6°	228	232		Seed 30	6	—	—	6	8	16	219	E	P	clear windy
	set	5h 33m		3 23																	
3884	Neb. of Orion	-5° 27'	Jan 26	4 26	63m	24	+4.0		22	1 38	" "	5	—	—	12	10		220	E	Pet	bright guiding star
	Field East	6h 43m		5 23																	
3885	Jupiter	23° 19'	"	5 45	22	24	"		"	1h 06m	" "	5	—	—	12	8	22	129	E	HP	
		A 3°.3	Jan. 28																		guiding star faint
	α Orionis	B 3.5				18	-1°.0	230			" "	5	—	—	8	9	16	219	E	P	good
		5h 2m		3 32																	good
3886	V "	+4° 0'	" "	4 36	64	18			23		" "	5	—	—	8	9	16	219	E	P	guiding star faint

1919 Jan. 30, Readjusted dec. verniers, and remeshed crank & pinions, which has caused disturbance of dec. circle

	Capella	A 45.8 B 46.0	OK															E			
		A 16.2																			
	Aldebaran	B 16.4		2 40			+2.2	232		1h 45m								E			
		A 3.8		3 22							2560 - fresh box 59-67					9					guiding star bright
3887	V Orionis	B 4.0	Jan. 30	4 30	68	18	+1.6		23		Seed 30	5	—	—	8	11	-2	129	E	P	good, unsteady
	Aldebaran		" 31				0.0	230													
		4 24		3 11							Seed 30										wires faint + unsteady
3888	R Tauri	9 59	" "	4 21	70	18			23		2560	5	—	—	9	2	34	219	E	P	good
	γ Cass			3 15			-2.0	232													
		1h 35m		3 42							CDD										A 38.8, B 39.3
3889	γ Androm	+38° 56	Feb. 1	5 1	79	18			23		9688	5	—	—	8	8	3	219	W	P	good
		A 38.6								3h 14m											Nova 0.6 of radius to N of block. eyepiece, 2.03 N of axis.
	Vega	B 38.4	" 7-8	13 20		24	-11.9	232													
		A +0.1		14 11																	
3890	Nova Aql 3	B +0.35	" "	14 57	40	"			23	3h 53	Seed 30	5	—	—	8	5	39	219	E	P	
					39 30 30 5																three Allegheny ground glasses good more
3891	Algenib		" 15	6 5		"	-3.5		23		"	5									" " "
					39 30 30 10 5																
3892	"		" "	6 10		"	"		"		"	5½						W	P		" " "
		A 49.5								4h 5m											
	α Persei	B 50.0	" 18				-2.0	232													
		4h 32		4 52																	v = 9.5 Hagen visual
3893	T Camelop	65° 59	" "	5 58	66m	18			23		Seed 30	8	—	—	8	5	11	219	W	P	good
		A 65.9 B 66.5																			

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. ⊙	Tel.	Obs.	
136																					171
✓		A 22.6	1919	4 37							2560										159
3894	R Gem	B 22.6	Feb. 19	5 17	40	12	-1.1		232	-2h	Seed 30	6	—	—	6	12	27	219	E	P	dull
	Pollux	A 28.0 B 28.0	" 23	4 45		18	-0.3	231							7	11	26	"	E	P	
✓		A 22.		5 12							2560										
3895	R Gem 7½m	B 22	" "	5 37	25	18			23		Seed 3	8	—	—	5	10	"	"			good
	S Aurigae	A 34.1 B 34.6	" "																		
	v "	A 47.7 B 48.2	" "																		
	Pollux	28.0	" 25	4 55		18	-9.0	231													
✓		A 22.6		5 30							2560				8	8	27				
3896	R Gem	B 22.6	" "	6 15	45	18			231		Seed 30	6	—	—				"	E	P	unsteady clear dawn at end
✓		A + 0.1		15 15							2560										
3897	Nova Aqr. 3	B + 0.35 1 - 0.5	March 11-12	16 25	70	24	+1.8		23		" "	5	—	—	5	5	38	"	E	P	plate backed
	δ Orionis	B 0.0	" 18	6 30		24	+5.2	231		+1h 3m											
✓		A -5.4		6 57							Seed 30										Clock slowed down
3898	Orion Neb.	B - 5.0	" 18	7 54	57	24			231		2560	5	—	—	8	13	6	219	W	P	at 7h 54
✓											Wratten								W	P	Clock slowed down three times. Battery failed. Fuse blew out on dome cement
3899	"		" 21	7 8	75±	"	+3.0		"		Pan.										
				9 0																	
	S Orionis		" 22	7 7		24	+4.5	229½		+1 40											
✓		A -5.6									C9										
3900	Orion Neb.	B -5.1	" 22	7 38 9 6	88m	24			22	+3.35	9664	5	—	—	8	7	35	191	W	P	
	Pollux	A +28.0 B +28.6	" 27	8 0		24	+4.3	231													
✓		A +22.6		8 26							Seed 30										Guiding lamp fluctuating
3901	R Gem		" 27	9 30	60m	24			23	28 End	2560	5	—	—	9	11	38	219	W	F	Shows traces down to HPS #22.
3902	Pole	Centre at h +90°	" 27	10 15 11 15	60m	18			23		C9 M 9577	4	—	J1							Out of focus. No guiding.
✓				14 23							Seed 30										
3902	RR Virginis	A -4.9	" 27	15 25	60m	18	+0.7		23	26 End	2560	6	—	—	15	11	38	194	W	F	

136 R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour. Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
	Pollux		1919 Mar. 28	7 30		24	+5.8	230½											W		161
3903	R Gem.	A +22.7	" 28	8 11 9 11	60m	24			230	08	Seed 30	5	—	—	10	12	37	219	"	F	
	Pole	+90°	" "	9 45 10 45	60m	18			250	10 10	C3M	4	—	J1					E		
3904	Orion	A - 5.6 B - 5.2	" 31	8 3 9 3	60m	24	-0.5		231		Seed 30 2360	5	—	—	8 11	9 11	45 47	198 200	W	P	bright guide * A one [illegible] 5 good
3905	Nova Aq. 3		" "	14 50 15 50 16 0 17 0	120m	24	-4.2		234		"										
											"	6	—	—	6	3	38	220	E	P	good
	Spica	A - 11.1 B - 10.8	Apr. 28			24 18	+3.0	223½							8	3	39	220	E	P	
3906	S Virg	A - 7.1 B - 7.0	"	13 20 18 20	60	18			223		Seed 30	5	—	—	10	3	"	"	"	"	good
	Antares	A - 26.6 B - 26.2	May 29	15 34			+18.5	225		0 50											
3907	W Scorpii	A - 20.2 B - 20.0	" "	16 21 17 21	60	24	+17.1	"	"	+0 15 +1 15	C3I 9664	6	—	—	7	10	0	227	E	P	not very transparent. fairly quiet
	α Cygni	A 44.95 B 44.75	June 7	17 44		24	+14.7	229		2 55											
3908	V "	A 47.8 B 47.6	" "	18 18 19 15	57	"	+13.8		229		Seed 30	5	—	—	8 6	6 6	27	219	E	P	good Fair, stopped by clouds. clock losing
	Arcturus	A +19.3 B +19.4	" 17	13 35		"	+25.0	221½		0 37											
	RS Virg	A + 4°.7 B + 4°.95	" "	v = 7.2 too bright											8	6 4	26 30		E		Bright guiding star good " "
	RS Librae	A - 23.0 B - 22.8	" "	v = 8.8															E		
	RU "	A - 15°.45 B - 15°.2	" "	not seen. try with 40-inch															E		
	U "	A - 21.2 B - 21.0	" "	v = 10.2 probably too bright											8	12	51		E		
	R "	A - 16.3 B - 16.1	" "	v = 12.M6											8	13	50		E		good guiding star
	Z Cygni	A +49.8 B +49.7	" "	v = 10.5											8	3	0		E		" " "

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour. Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
	Arcturus		1919 June 20				21.8	230													163
3909	R Librae	15 49 A − 16°3	"	15 20 / 16 56	60m±	18"			2	29	Seed 30	5	—	—	8	13	50	219	E	F	clouds. Double exp.
3910	T N Cygni	A+28.9 B+28.9	" 20	17 40 / 18 10	30	"	+19.4		2	52	" "	6	—	—	7	9	5	219	E	P	moon rose at 17h 45m
	Arcturus	A+19.3	" 21			18"	+21.6	227													
	T Herc.	A 30.9 B 30.8	" "	V < 12.5m		24"									8	9	4	219	E		Excellent guiding star
	T Serp	A+5.9 B+6.1		V = 12±																	
	N Oph	A-7.8 B-7.6		V = 12m.											8	5	0	"	E		
	X Scorp	A-21.6		V = 10.3 probably at max																	
	Antares	A −26.2 B−25.9																	E		δ = −26.2 Axeads OK
3911	X Scorpii	A-21.3	" 21	16 55 / 17 15	20	18	+20.8		2			5	—	—	9	4	43	129	N	P	stopped by clouds
~~3912~~	Arcturus	A +19.4 14h 12m 16h 7m	" 23	15 20 / 15 30	10 sec 30 30	Hartmann Diaph	R1	226	2			5	—	—				219	W	F	Nothing on plate.
3912	RU Herculis	A +25.2 13h 21m	" 23	16 35 / 45	10m±	18"	+21.5		2			8	—	—	11	7	18	309	W	F	Guiding wires not suffic. illum. clouds.
	Spica	A −10.8 14h 0m	" 24	14h 40m		18"	+22.3	225½													
3913	RR Virginis	A −8.9 14h 12m	" 24	15 7 / 16 0	20m±	"			2		Seed 30	5	P76	—	3	12	47	194	W		three clouds
	Arcturus	A+19°.4	" 25	14 28 / 14 30 / 14 31 / 14 32	10s / 30s / 1m / 2m		+24.4	—			Seed 30	5			-3 +3 +9 +15	2 2 2 2		219			Diaph. R2
3914															+15 9 3 -3	2 2 2 2		"			Diaph R2 " " R1 Twilight logs
3915	"		"	14 43 / 14 44 / 14 45 / 14 47	10 / 30 / 1m / 2m						"	8									
	"							225½													
3916	RR Virg	14h 0m A −8.9	" 25	15 10 / 16 12	60m	17½			2	13m	" "	5	P76		7	10	46	196	W	P	clock from 19 to 19½ still losing

R No.	Field	R.A. and Decl.	Date	Sid. Time Begin. / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales Pos. ⊙	Tel.	Obs.	
✓ 3917	RU Herc.	A +25°.2	1919 June 25	16 30 / 17 30	60m	18"			225	1 23	Seed 30	8	—	—	12	11	18	309	W	F	Elong. images. 165
	Vega	A + 38.6	" "	17 45				225½ O.K.											E		
✓ 3918	χ Cygni		" "	20 0	15m	18			255			8			10	7½	13	230	E		Film on concave glass surface
				20 13	5				263								15½				Out of focus
				20 21	5				247						11		17				
	Arcturus	A +19.4					+13.6	227							~~219~~	~~3~~	~~2~~	~~40~~	~~E~~		
✓ 3919	Nova Aql. 3d		June 27	16 32 / 19 30 / 20 25	4h±	24"				1 40	Seed 30	5	—	—	219	3	2	40	E	P / F	Developed 15m clouds at end.
✓ 3920	RS Aquarii	A −4.7 / B −4.4	" "	21 6 / 40	34m	18"			22	0 30	Seed 30	6	—	—	125½	−3	7	22	E	F	Dawn!
	Vega	A 38.65 / B 38.5	" 28	14 45		18	+15.2	220		3 45											
✓ 3921	Z Cygni	A +49.9 / B 49.7	" "	15 27 / 16 30	60m	"			22	3 30	" 30	5	–	–	6 / 8	3 / 3	−2 / −2±	219 / 219	E	P	unsteady at first / improving, clear
	Arcturus	A +19.3	" 29	14 45			+19.5		22										E		
	"	A + 19.5	" "				+19.2		22										Wp		
✓ 3922	γ Bootis	14h 29m / A +38°.5	" 29	15 20 / 40	10s / 20s	18"		220,15,10,07,05,03,00,… / 190,195,200,03,05,07,…			Film on L1	8			2-8-16 / 16-8-2	9 / 7		219	W	F	Fiske long exposure. Best 10s 190 … 20s 195, a' a° ⊙ •a" a 2 v 3a' a 3 v 2a"
✓ 3923	RU Herc.	A +25.1	" 29	16 20 / 17 20	60m	18"			22	1 15	Seed 30	5	—	—	10	8.5 / 10	12	309	W	F	
	Vega	A +38.6	" 30	15 21		24"	+23.0	228½											E		
3 ✓ 3924	Z Cygni	A + 49.7	" 30	15 50 / 16 10	1m 2m 10m 5m	24"			22		" "	5			{9 / 11	5	−4}	219	E	F	
3 ✓ 3925	"		" "	16 20 / 40	2m	"			248	3 17	C?	4	–	J1	11	5	0	219	E	F	
✓ 3926	T Serpentis	A +6.0 / 18h 25m	" "	18 5 / 19 5	60m	18"			22	0 40	Seed 30	6	—	—	7 / 4	9 / 11	24	175	E		H. guiding star. Poor seeing.
	Z Sag.	A −21°.5	" "												9	9	24	30	E		Bl. guiding-star shows seeing atrocious.

R No.	Field	R. A. and Decl.	Date	Sid. Time {Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Pos. ⊙	Tel.	Obs.
	Antares	A −26.2	1919 July 2	15 45		18"	+26.6	221		0 40										Very unsteady muddy image. 167
3927	X Scorpii	A −21.3	"	16 20 17 20	60m	"			22	+ 17	Seed 30	6	—	—	8	2	2	126	W	F
	Arcturus	A +19.5	" 6			18	+19.4	224												Good g. star.
3928	Arcturus		" "	16 42 17 24		.		See table in [illegible]			Seed 30	5	—	—		→			W	F
3929	Kap 34	A +44.8	" "	18 17 18 47	30m	17½			24		C.Gm	4	Pyb	J.	16	14	24	129	W	F
				± 18 51 18 21	±30m	17½				+ 35	9680	"	free	"						F

July 9 Silvered 2-foot mirror and flat. Brashear method, one coat. Reduced (boiled) was made July 7.
" 10

Focus \ α \ δ	2	6	10	14	
377	−3	R2 1m	R3 30s	R3 1m	
324	+1	R2 1m	R2 30s	R3 1m	
274	+5	R2 1m	R2 30s	R3 1m	
150	+9	R2 1m	R2 30s	R3 1m	
71	+13	R2 1m	R3 30s	R3 1m	R3 1m

Focus 390 (outside) (71 inside)

α \ δ	2	6	10	14	18±
−3	R4A 30s	R5A 30s	R5A 30s	R4A 30s	
+1	1m	1m	1m	1	
+5	2m	2m	2	2	
+9	1m B	B	1 B	B	
+13	2m	2	2	2	R4 B 3m

								215	215											
3930	Arcturus ~~July 15~~	A +19.5	Jm 4 15	± 17:15 18:15		Hartmann Diagh.	+18.8	See table in last column		5m	Seed 2933 Process	8	—	—	→				W	F

July 16 Camera attachment removed, also graduated focusing circle and 3 focusing screws adjusted separately so that plane attached to ring tube remains parallel to fixed plate as camera is focused.

	Arcturus ~~July 1~~	A +19.5	July 16	~~16 25 35~~		18"	+23.0	229												
3931	Kap 34	A +44.8	July 16	16 25 35	10	17½			22		Seed 30	8	Pyb	—	15	14	24	129	W	F
				16 38 48	10								free							
				16 51 17 1	10					2m 19 end			Pyb		13	12	22			

136 R No.	Field	R. A. and Decl.	Date	Sid. Time Begin. End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set	Hour-Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
✓ 3932	Kap 34	A=+44.8	July 16	17 16 / 46	30m	18½			249		C.9.9 9664	4	P7b	J1			129	W	F	Bt. guiding star.	169
				17 48 / 18 18	30m								free						F	Bright moon.	
				18 26 / 56	30m					+49m			P7b						Ps	Tel strikes chair.	
✓ 3933	Ophiuchi	A = -7.5	July 17	16 44 / 17 45	61m	18"			226		Seed 30	8	—	—	12	10	25	198	W	F	Thick - guiding star faint.
	Arcturus	+19.5	" 18				25°	227													
✓ 3934	RR Librae	A = -18.0	"	17 4 / 18 8	64m	18			227		Seed 30 2560	8	—	—	4	3	22	235	W	F	
✓ 3935	RW Hercul.	18h 2.5m A 22°.1	July 18	18 50 / 19 5	15 m.	18"		227	227		Seed 30	5			7.0	8.5	18	219	W	P.B.	Moon rising
	Arcturus		July 19			17½	+26.	228													
✓ 3936	Kap 33 (Center N fall)		"	16 50 / 17 20	30m	"			248		C.9.M 9577	4	free	J1				219	W	F	Ft. g. star.
				18 21 / 51	30m								P7b						F		
✓ 3937	Kap 33		"	17 24 / 30±	6±	17½			249		Seed 30 2560	5	free	—					W	F	Ft.
	"			17 33 / 43	10m				228				free	—	8	14	8	219		F	Ft.
	(Center N fall.)			18 06 / 16	10m								P7b		5±	13	11	89		F	Bt. g. star.
✓ 3938	RT Pyxae	18h 58' A=+37°.3	" 19	19 48 / 20 17	29	17½	+22.5		228		Seed 30	8	—	—	10	4	-1°	219	Wr	PB	
	Arcturus	+19.4	July 21			18"	+22.2	228	~~228~~										W		
✓ 3939	γ Scorpii	-19.2	July 21	17 15 / 18 15		18"			228	N 50m	C.9.M 9577	8	—	—	5	3	24	39	W	F_{Ps}	
3940	Vega	+38.6	July 21	18 40± / 19 5		Hartmann — Depth R4+R5		See table in last column			Seed Process see c30	5	—	—	→				W	F_{Ps} →	
✓ 3941	RZ Herc.	18 33 +25°.9	" 22	17 57 / 18 57	60	18	+25.0		228			6	—	—	-3	6	16	219	E	PB	

α \ δ	2	6	10	14	18
	outside S = 390			inside S = 73	
	R4A	R5A	R5A	R4A	
-3	10^s	10^s	10	10	
+1	20^s	20	20	20	
	R4B	R5B	R5B	R4B	
+5	10^s	10^s	10	10	
+9	20	20	20	20	R4B
+13	30	30	30	30	15^s

136 R No.	Field	R. A. and Decl.	Date	Sid. Time Begin. End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Sett	Hour. Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙ Pos.	Tel.	Obs.	
	Arcturus		1919 July 23	16 35		17½	26.2	228													
3942	Kap 34	A +44.8	July 23	17 6 18 7	60m	12"			22	20	C9 9 10	4	P7b	J1	14	14	24	129	W	F	Center following tube
3943	" "		" "	18 15 35	20m±	12"			22		Seed 30	5	P7b	—	12	14	24	129	W	F	High wind.
				18 37 47	10m					3 56					13		23				Good g. star.
	Vega	A+38.6 B 38.5	" 25				+27.6	226													
3944	RU Lyrae	19h 9m +41°.1	" "	18h 18 19 18	60m	18			226		Seed 30	5	—	—	3	4.5	40	219	E W	PB	dull at first but improving
	Arcturus		" 28			18	25.5	230													
3945	Kap 34	14 48 A +44.8	" 28	17 52 18 10 18 10 19 10	5m± 60m	12"			25	4 20	C 9 9 10 11 9	4	P7b	J1	14	14	24	129	W	F	Passing clouds.
	✓ Arcturus	A 54.7	" 29	18 10		"		221½					"								
3946	✓ Drac.	17h 56m 54	" 29	19 10	60m	17½			22½		Seed 30	6	—	—	5	9½	-3	219	W	PB	Clear Var. off field repeated # 3954
	✓ α = 18h 56m	A 34.7		20 3	60m	17½					Seed 30	8	—	—	5	9	32.5	219	W	PB	
3947	Lyrae	B 35.2	" 29	21 3						-3 20									E		
	α Cygni	A +45.0	Aug. 1	17 15		17½	+17.4	226½		-3 15									W		
	Arcturus		" 1	" 30				226		-2 15	C9M 9975	4	P7b	J1	14	12½	24	129	W	F	very clear
3948	Kap 34	14h 48m A=44.8	" 1	17 43 17 48 17 50 18 20	5m 30m	17½ 17½			24				"		13	11½	23				
	"	"	"	18 25 30	5m				24		Seed 30	8	"	—	13	11½	23	129	W	F	
				18 32 52	20m						Seed 30	5	"	—	11	10	21	129	W	F	
3949	"	"	"	18 59 19 19	20m				22	4 32											

(Con. on p. 194)

Watch Record

Ingersol Radiolite # 48199915 - Field

1918 Day	Hour	Sid Error	Rate	Reg.
Sept 4	9:10 A	-0m 15		20
"	11 0 A	+0 40	+30s an h	18
"	11:52 A	+1 2		
"	2:30 P	+0 0	-1 an h	
"	8:45 P	+4 10	+40	
"	10:55 P	+5 0	+25	
"	"	+0 0		16
5	12:0 M	-10 0	-55	
"	"	-0 2		
"	3:00 P	+0 45	+16	
"	5:00 P	+1 7	+11	14
"	"	+0 7		
"	7:50 P	-60m	← wound	
"	"	-0 30		
6	11:10 A	+3 3	+14	
"	6:50 P	+8m	+40	10 wound
"	"	-0 35		
7	10:20 A	Stopped		

+ 49208934 Booth

Day	Hour	Mean T Error	Rate	Reg.
Sept 4	9:10 A	+0m 40s		
"	11:0 A	+0 48	+4s an h	
"	11:52 A	+0 55	+6 " "	
"	2:30 P	+1 1	+2 " "	
"	"	+0 1		
"	8:45 P	+0 10	+2 " "	
5	12:0 M	-0 45	-4	
"	"	+0 45		
"	3:00 P	+0 27	+4	
6	11:10 A	+1 48	+4	
"	"	-0 12		
"	6:50	-0 45	-5	
7	10:20 A	0 0	+3	
"	Reg faster to keep Sid T. 5-			
"	10:30 A	-0 20		
"	6:00 P	+0 42	+8	
"	"	-0 18		
8	7:40 P	+1 10	+6	
"	"	+0 10		

Booth

Day	Hour	Error	Hourly rate	Reg.
11 Sept 9	9:30 A	+0m 44s	+2	16
10	10:50 A	+2 50	+5	
"	"	-0 10		15 "
11	10:30 A	+0 54	+2	
"	7:30 P	+1 30	+4	
"	"	-0 30		
12	10:10 A	+0 15	+3	14
13	9:50 A	-0 14	-1	
"	11:40	-0 12	+1	
14	9:10 A	-1 0	-5	
"	"	0 0		
"	7:20 P	0 0	0	
15	10:0 A	0 0	0	
16	9:0 A	-0 28	-2	
18	9:20 A	-2 10	-2	
"	"	-0 10		
19	8:30 A	-0 4		

2½ turns of screw correct error in o.a. corresp. to drift of {1 rad. of g.e. per hr. {= 7'

Azimuth Test.

{ See R book III, p. 14 for constants relating to adjustment of axis

1917	δ	H	Begin S.T.	End	T	Tel. drifts Direction	in T	in 1 hr.	N end of axis too far	Cor
Jan. 3	+38°	−0h 26m	18h 8m	18h 58m	50m	S	0.01±		W (Driving clock stopped)	
" 6	Vega +38.7	−1 50	16 45	17 30	45m	S	0.01±	0.01±	W	10[illegible]
"	"	−0 48	17 47	18 26	39	S	0.01±		N	10[illegible]
"	"	−0 6	18 28	18 53	25	—	0	—	—	—
						Clock losing, moved balls from 21½ to [illegible]				
8	α Cyg +45°	+0 5	20 43	21 14	31	N	0.01+		E	5[illegible]
"	α Ceph +62	+0 20	21 36	22 13	37	N	0.01−		E	
						Clock gaining, balls should be moved b[illegible]				
9	Vega +38.7	−0 50	17 43	18 22	39	N	0.08	0.12	E	
						Clock gaining, balls moved fr. 22 to 21½				
						Clock losing —				
"	"	+0 4	18 38	19 08	30	—	0	—	—	
June 29	+27½	−0h 0m (~~20~~)	14 40	15 20	40	N	0.02	0.03		

[?] turns etc.

Altitude Test.

1917	δ	H	Begin	End	T	Telescope drifts Direction	in T	in 1 hr.	N end of Axis too	Cor'd
Jan. 8	+89°	−6 20 (~~5 40~~)	18 57	20 2	65	N	0.015±	0.015±	low	10°
	Polaris in guiding eyepiece δ reads 87°30'									
11	+89	−5 50	19 12	19 40	28	—	0.00	0	—	—
"	HPS 6 +89	−7 25	0 40	1 40	60	N	perhaps doubtful 0.06		low	—
"		−5 19 / −6 18	1 48	2 48	60	S	quite sure 0.01	.01	high	
22	"	−6h	19 32	20 8	36	—	0.00 —	—	—	none

(Con. from p. 171)

Con. in Book 6

R No.	Field	R.A. and Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate Emulsion No.	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	Remarks
✓ 3950	Z Aquilae	20h 11m −6°.6	1919 Aug. 1	19 50 20 50	60m	18"			22[illegible]		Seed 30	8	—	—	5	5	34	219	E	P	Guiding star double Pos. Ang. 290° Dist. 10". 9 & 9 Mag. (179)
✓ 3951	Y Cap.	21h 30m −14°.3	" 1	21 10 22 10	60m	24			22[illegible]	0 43	C 9 M 9975	6	—	—	5 6	9 9	2	219	W	P	Guid star about 9th tel drifts N on meried.
3952	χ Persei		" 1	22 38 23 38	60m	12	+16.2		24[illegible]		C 9 M 9975	4	P76	J1	4	14	20	270	E	F	
3953	"		"	23 45 0 5	20m	17½"				2 7	"	4	"	"	5	11	19	270	E	F	Dawn.
↓ 3954	(Arcturus) V Drac	A +55.2 17h 57m	Aug 2	18 25 19 28	60m	17½"		221½	22[illegible]		Seed 30	8			8	10½	14	219	W	Bf	Print made Var. too far So. 26' any W. 25'
✓ 3955	TY Cygni α = 19h 30	A + 28.2 B 28.5	Aug 2 ✓	20 40 21 40	60m	17½"		221½	221[illegible]		" "	5			6.0	6.5	15.0	219	W	Bf	Var too far So. 45' any E. 47'
✓ 3956	UZ Cygni α = 21h 56m	A +43.9 B 44.3	2	22 40 23 40	60m	17½"		221½	221[illegible]		" "	6			8.0	6.5	30.0	219	W	Bf	Print made Good
	Arcturus		" 5				+25.	227											W		image quiet
✓ 3957	Kap. 34	14h 48m +44.8	" "	17 20 34 17 35 55	14m 15m±	12" "			24[illegible]	3 5	C 9 M 9986 "	4	See ~~&~~ P7f	J1	14	13	23	129	W	F	Center at 10+11. stopped by clouds
	ζ Ophiuchi	16 33 A −10.5	" 7	17 20		18"	+22.4	230											W		
	"	A −10.7		17 35		18"		229±		1 0									E		clouds.
	Vega	A + 38.6	Aug. 8	17 0		18"	16.3	227		1 35									E		
✓ 3958	Kap 38	A +45.2	" "	17 22 27 17 29 39 17 40 18 34	5m 10m 54m	12" " "			24[illegible]		C 9 M 9986	4₁	P7f " "	J1	2	7	45	219	E	P	α δ 4 8.5
✓ 3959	Kap 39	19 47 A +45.0	" "	18 50 19 45	55	12	+15.0		2[illegible]	0 13	"	4₂	P7f	"	−3 0 −0	6.5 11 .11	47 39 .	206 "	E	P	Centered at pencil circle on chart 4 8.5
✓ 3960	U Drac.	19h 10 A 67.0	" "	22 50 23 45	55	18			24[illegible]		Seed 30				6	7	23	129	W	Bf	Plate retaken aug 17 R-3967
✓ 3961	TY Cygni	19 28 A 28.1	"	0 55 1 10	15	18					" "				6	3	44	129	W	Bf	Dawn

(Con. from p. 171)

Con. in Book 6

(181)

R No.	Field	R.A. and Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate Emulsion No.	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	Remarks
	Vega	A+38.6	1919 Aug. 13	17h 55m		18"	22.8°	231		[illegible]0 40									E	Ps	Clear
✓ 3962.	Kap 39	A +45.0	"	18 40 19 30	50m	12"	21.1°		25[illegible]		C.9.M. 99~~75~~86	4	Ptb	J1	-3.8	12.5	99	206	E	Ps	Bright moon.
3963	Vega	+38.6	"	20 10 20 30		R4 and R5				[illegible]1 57	Process	6	–	–				219	W	Ps	δ: 2, 6, 10, 14, 18 (120 over 2–6; 73 over 10–14) R4A R5A R5A R4A R4 B α −3: 4[5] 4 4 4 10 α +1: 6 6 6 6 B B B B B α +5: 2 2 2 2 α +9: 4 4 4 4 α +13: 6 6 6 6 120 = 270+120 = 390 out. 73 inside
	Vega		Aug. 14	17 20		17½	24.8	228											E		4 8.5
64	"		" "	17 30 50		24			~~24~~[illegible]		Process	5	R4 & R5								Same as above except that exp. times are 1[5], 2, ½±, 1, 2
✓ 3965	Kap 41	A+45.0	" "	18 20 19 20..	60m	12"			24[illegible]	[illegible]2 30	C.9.M. 9986	4	Ptb	J1	14	2^3	-4	219	E	Ps	Bro't x to cross by δ slow motion ½ rad. of field of g.o. clouds very unsteady
	Arcturus	A+19.5	" 16	17 57			+22.7	222													
	η Urs. Maj	A+49.6	" "	18 15				221		[illegible]4 30'											
	Arcturus		" 17	18 0				231	~~[illegible]~~										W		Very unsteady
✓ 3966	Kap 34		" "	18 19 22	3m	12"			2[illegible]		Seed 30	6	Ptb	–						F	
				18 29 49	20										13	13	23	129	W	F	
✓ 3967	U Drac.	19h 10 A+67.0°	" 17	13h 15 14 15	60m	18"		231	23[illegible]		Seed 30	8			4	14	2	219	W	Bf	Plate retaken to replace #3960
	Vega	18 34 A+38.6	" 18	17 40		17½	+21.8	229											E		Clouds.
✓ 3968	Kap. 39	A+45.0	" "	19 10 35	15m±	12"			22[illegible]		Seed 30	5	Ptb	–					E	F	Passing clouds.
				19 36 41	5m					[illegible]0 5					−1 +2	+12	39	206	E		
				19 42	100s																

(Con. from p. 171)

R No.	Field	R.A. and Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Set	Hour Angle	Plate Emulsion No.	Holder	Grit	Filter	α	δ	g.o.	⊙	Tel	Obs.	Remarks
			1919								Seed 30										
✓ 3969	Kap 41	+45.0	Aug 18	20 21 / 20 41	20m	12	+19.6		22			6	Pt	—	14	9	-4	219	E	T	clear.
				20 45 / 21 5	20m	"				0 45		"			13	3	-3				Moon towards end.
							+22.4	226							5	1					
	Vega	A -17.1		18 40																	
✓ 3970	SS Sag	B -16.7	19	19 30	50m	18		225	22		Seed 30	8	—	—	5	1	17	219	W	Bf	
		21h 43m																	E		
	δ Cap	A -16.7	" "			17½		226		2 0											
		21h 18m		20 4																	
✓ 3971	T Cap	A -15.6	" "	21 4	60m	17½			22	1 13	Seed 30	5	Pt	—	2	8.5	10	129	E	P	good
		A=+45.0		21 22																	
✓ 3972	Kap. 38		" "	21 1/2	20	12			22		"				10	10	45	219	W	F	"
				21 43						3 0											
				21 45	2	"															
	γ Draconis	A: 51.3	Aug 21			17½	+21.9	233													
✓ 3973	Kap 36	16h 46m	"	18 9 / 18 29	20m	12 / 17½			23		Seed 30	5	Pt	—	3	3	28	253	W	F	
				18 31 / 33	2m	12				49m				2	6	9	29	253		"	
✓ 3974	S Sag.	19h 15m	"	19 5		17½			23		Seed 30	6	Pt	—	5	3	16	269	W	F	Moved α slow motion about 2' Clouds. Jump in δ at end of exp.
		A=-19.3		19 35 / 20 20	45m+5±														W		
	Altair	A +8.5	"	20 30				231½							4	7	0				
✓ 3975	RR Aquarii	21h 11m	"	20 55 / 21 45	5m±	24 17½ 18			23		" "	8	—	—				219	W	P	clouds
		A -3.4								0 10	" "		—	—					W		
	γ Draconis	17h 55m +51.4	" 23	18 5			+25.0	230							-2	8	38				
✓ 3976	Kap. 37	17h 49m A+44.8	" "	18 20 / 50	30m	12°			23		" "	5	Pt	—				129	W	F	Dull.
				18 51 / 54	3	"				1 5											
✓ 3977	χ Cygni	19h 48m A +32.6	" "	19 20 / 51	31m	"			23		" "	6	—	—	-1	11	37	230	E	P	Dull
3978	S Peg	23h 16m A +8.2	" "	20 23 / 21 38	75	18"		228½	22		" "	8	—	—	1	11	17	219	E	P	Dull Plate destroyed thro' accident.

Con. in Book 6

Scales

Power for winding driving clock 1918 Sept. 7
By spring balance. 9 inches from shaft. 12 lbs to start
10 " " wind

Circumference traveled by end of lever = π 18 = 57 inches
40 complete turns × 57 inches = 2280 inches = 190 feet
10 lbs × 190 feet = 1900 foot-lbs
To wind in 2 minutes requires $\frac{1900}{66000} = \frac{1}{33}$ horse-power

Aug 23. α Peg. δ reads +14.6. focus (Tel E. 3h) 228

3978 "	RS Lyrae A +33°.3	22 30 / 23 10	40m	18" ●	228	Fed 50	#5	Ven	δ:11	α:10	g.o. 11	Very thick	●	219
79 / 80-24	S S Saggittae A −16.4	18 50 / 19 40	50m	18"	223		#5	"	"6	10	14	Transp.		"
-80-24	T V Cygni A +28.1	20 45 / 21 40	55m	"	223		#6	"	"7	8	21	"		"
-81-24	U W Cygni A +42.9	22 35 / 23 25	50m	"	223		#5'	"	"9	5	20	"		"
3982½+	W X Draconis A +65.8	24 20 / 25 10	50m	"	223		#6'	"	"4	10	30	"		"

Feb. 16. 1925 focus 254 temp −16±

186

33m 05

February Moonless nights

Time with the 24-inch reflector

Park

Monday till 12
Friday till 10

Yamamoto

Wed. till 10
Sunday after 2
Sunday " 2

Van Biesbroeck and Struve

Monday after 12
Tuesday all night
Wednesday after 10
Thursday all night
Friday after 10
Saturday all night
Sunday till 2

Sunday Van B till 2 Yam after 2

Monday Park till 12 Van B after 12

Tuesday Van B all night

Wednesday Yamamoto till 10, Van B after 10

Thursday Van B all night

Friday Park till 10, Van B after 10

Saturday Van B ~~all night~~ Yam after 2

Focus with Knife-edge + filters

Holder 4. filter J 1, (yellow) focus out 20d beyond Knife

1922 Dec. 4 Charles Ridel put strips 0.035 inch thick in holder so that the focus is the same as without the filt

Storage battery circuit for guiding lamp

23 Jan. 23. Voltage at floor plug is 2.7

4

Collimation

1920 Aug. 20

$\alpha = 6$

$\delta = 9$

191
5

1920 a
$\alpha = 6$
$\delta = 9$

TWO-FOOT REFLECTOR

Settings for plate screws

1919 August

			Tel. E.		Tel. W.	
H.A.	δ	Z.D.	α	δ	α	δ
$0^h 0^m$	+42°	0°	3.5	8.5	4.2	8.5
	+32	10S		8.1		8.6
	+22	20		7.8		8.8
	+12	30		7.5		8.9
	+ 2	40		7.3		9.1
	- 8	50		7.0		9.3
	-18	60		6.8		9.4
	-28	70		6.5		9.6
0 0	+52	10N	3.5	8.6	4.2	8.2
	+62	20		8.8		8.1
	+72	30		9.1		7.9
	+82	40		9.4		7.7
	+88	50		9.6		7.5
	+78	60		9.9		7.4
	+68	70		10.1		7.2
$0^h 0^m$	+45	3°	3	8.5	3.8	8.5
1 50		20	4	8.4	3.8	8.5
3 45		40	4.2	8.0	3.8	8.5
5 44		60	4.5	7.5	3.8	9.0
7 00		70	5.0	7.5	3.8	9.0
1 00	+60	20	3.5	8.5	4	8.0
4 2		40	4.5	8.0	4	8.0
6 55		60	5	7.5	4	8.5
8 40		70	5	7.0	4	9.0
6 00	+90	48	5	8		

4

19
α
δ

TWO-FOOT REFLECTOR

Settings for plate screws

1919 August

			Tel. E.		Tel. W.	
H.A.	δ	Z.D.	α	δ	α	δ
0^h0^m	+42°	0°	3.5	8.5	4.2	8.5
	+32	10S		8.1		8.6
	+22	20		7.8		8.8
	+12	30		7.5		8.9
	+ 2	40		7.3		9.1
	- 8	50		7.0		9.3
	-18	60		6.8		9.4
	-28	70		6.5		9.6
0 0	+52	10N	3.5	8.6	4.2	8.2
	+62	20		8.8		8.1
	+72	30		9.1		7.9
	±82	40		9.4		7.7
	+88	50		9.6		7.5
	+78	60		9.9		7.4
	+68	70		10.1		7.2

0^h0^m	+45
1 50	
3 45	
5 44	
7 00	
1 00	+60
4 2	
6 55	
8 40	
6 00	+90

From Collimation July 1922.

Use α = 5 everywhere

	δ
Zenith	8
For south Tel E	7
" " Tel W	10
Pole	10

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
3978	RS Cygni		Aug. 23						
3979	SS Sagitarii								
80	TY Cygni								
81	UW "								
82	W+X Draco								
	α Cor. Bor.	15h 31m A +26.8 org	" 25	18h		17½	+8.5	226½	
3983	Kap. 35	A +44.8	" "	18 28	20m	12"			22
			" "	18 48					
			" "	18 49	2				
			" "	18 51				226	
	α Cygni		" "						
3984	χ "	19 48 A +32.6	" "	19 11	20m	12"			22
				19 31					
3985	Kap. 40		" "	19 51	20m	12"			"
				20 11					
				20 12	2m				
				20 14					
3986	S Peg.	23h 16m A = +8.2	" "	20 38	60m	18			"
				21 38					
	r Drac	A = +51.4	Aug 27		~~20~~	17½	+18.8	224	
3987	Kap 36	A = +45.2	"	18 20	20	12"	+18.8		22
				18 40					
			..	18 41	2	..			
				18 43					
3988	Kap 36	..	..	18 53	60m	12"	"		22
				19 53					
3989	Kap 37	A +44.8	"	20 09	20m	12"			22
				29					
				31					
				33	2				
3990	RR Aquarii	21h 11m A −3.°3	"	21 23	60m	18"	+16.5		22
				22 23					
3991	Vega	A +38.6	" 28	18 10	16 exp.	18" H II		226½	17
				30		R4 R5			7

195

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
									PB	Copied	
									"	from	
									"	Books	
									"	to 200	
									"		
									W		
	Seed 30	8	P7b	—	2	9	43	219	W	F	good
										F	
16	" "	5	—	—	−0 −1	11	38	230	E	P	
					4	6	25	219	E.	F	
33	" "	~~6~~8	P_1b	—	~~2~~	~~11~~	~~17~~	~~219~~	~~2~~	~~P~~S	
32	" "	5	—	—	2	11	17	219	2	PS	
			P_1b	—	~~5~~	~~3~~	~~29~~	~~253~~	W	F	
58	Seed 30	5	P_1b		5	3	29	253	W	F	
										F	
	C.9.m	4	P_1b	J.	7	3	30	253	W	F	
	Seed 30	8	P_1b	—	−2	8	40	129	W	PS	
45										PS	
17	" "	6	—	—	10	9	3	219	W	PS	
22	Seed Process	5	—	—					W		

δ \ α	120 (out) 2	6	10	14	73 (in) 18
	R4A	R5A	R5A		R4A
+1	½	½	½		½
5	1	1	1		1
	B	B	B	R5B	R4B
9	½	½	½		½
13	1	1	3/4	1	1

R No.	Field	R. A. and Decl.	Date 1919	Sid. Time Begin / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
3992	X Cyg	A=+32.5	Aug 28	19 14 / 19 19	5	18	+17.7		22
				19 22 / 19 27	5				
				19 29 / 19 30	1				
				19 33 / 19 38	5				
				19 39 / 19 40	1				
93	X Cyg	"	"	19 45 / 48	200sec	24			
				19 49 / 50	40sec				
				19 52 / 55	200sec				
				19 56 / 57	40s				
				20 1					
				20 4	200sec				
94	X Cyg	"	"	20 10 / 17	7m	12			
				20 20 / 27	7m				
				20 28 / 30	90s				
				20 32 / 39	7m				
				20 41 / 43	90s				
	ε Peg	A=+9.4	"				+16.8	230	
95	RR Aquarii	A=-3.3	"	21 12 / 22 12	60m	18			
	σ Sag	-26°.6	Sept. 1			24	+19.0	225	
3996	Z Sag	A=-21.4	"	19 26 / 19 46	20m	24			
	σ Sag	A=-26.3	"	20 16			+17.0	225	
3997	W Cap	A=-22.2	"	20 38 / 21 38	60m	18			
	α Cygni	A=45.0	4			17½	+18.8	224	

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
	Seed 30	6	—	—	2	5	20	219	W	F	Center at 1201
							30				
							31				
							40				
					4	5	39				
	"	8	—	—	5	5	40	219	W	F	
							39				
							30				
							31				
					6	5	20				
	"	5	—	—	2	5	20	219	W	F	
							30				
							~~31~~				
0 58							~~30~~				
					3.5	5	39				
2 5	Seed 30	6	—	—	10	10	3	219	W	Ps	
2 30	Seed 30	6	—	—	2	4½	12	219	E	Ps	out of focus
2 30	Seed 30	5	—	—	1½	14	0	219	W	Ps	

197

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time Begin / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Set
✓ 3998	Kap 39	19h 47m +44°	~~Aug~~. 4. Sept	18h 51 / 19 36	45m	F 1/2			24
				19 39 / 19 49	10	12 "			
	Vega					17 1/2	+16.5	225 1/2	~~24~~
~~3997~~	Kap. 38	A 18 47 +45° 0	~~Sept~~. 4	20 30 / 21 30	60m	12			245
				21 31 / 21 36	5m	"			
				~~18~~ 54 / ~~19~~ 35		17 1/2	+25.1	229	
	Vega	A 38.6	Sept. 6	18 54 / 19 35 / 19 43 / 20 0	58	12			249
✓ 3999		Kap. 37	" "	20 1 / 20 9	8	"	+24.0		
	Vega		" "	20 25	17 1/2			230	
	"	A +38.5 B +39.1	" "	18 15			+17.8	230	
✓ 4000	Kap. 38		" "	18 47 / 19 42	12	55			250
			" "	19 44 / 19 54	"	10	+16.1		
		22h 39m					+15.8	229	
	η Pegasi	+29°.7 B: +44.8	" "						249
	Kap. 43	A: +45.0	" "						
	α Peg	A = +14.6	" 12	20 35		17 1/2	+14.8	224	
✓ 4001	Kap 43		" "	21 10 / 21 50	40m	12			247
	Vega	A 38.6	" 15	18 25		17 1/2	+20.3	231	
	α Cygni	A 45.0	" "	18 35				229	
✓ 4002	Kap. 42	A 45.2	" "	19 57 / 20 17	20	12			229
	~~Kap 43~~	A	"	20 21 / 20 26	5				
✓ 4003	Kap 43	A = +45.0	" "	20 50 / 21 10	20	12			23
				21 11 / 21 16	5				

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
	c3m	4	P76	J1	4	9 51		210	E	Ps	199
									"	"	
	c3m 9986	4½	~~P76~~	J1	6	8½	45	219	W	Ps	
h 2 52 m									"	"	
	c3m 9986	4	P76	J1	4.2	8.0	47	129	W	P	unsteady clear, at first, bright moon thin clouds came between clouds
					3	5	46	129			" "
									W	P	
	c3m 9986	4	P76	J1	2	10	36	219	W	"	S side of field cutting off by clouds focus OK
					2	10	34	"	"	"	" "
									E		
											Must be taken W
	c3m	4	P76	J1	9	3	25	249	E	Ps	8 scans at end of run
									E	P	
	2560-59-67 Seed 30	5	—	—	5	16	-4	129	E	Ps	
					8	8		~~219~~		"	
	" " " Seed 30	6	P76		8	3	0 -5 +3	219	E	P	
										"	

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time Begin / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
4004	Kap 43	A=+45.0	Sept. 15	21 23 / 22 23	60m	12			249
				22 25 / 22 35	10				
	α Cygni	A=+45.0	Sept 16	18 50 / 19 7		17½	+20.0	230	
4005	Kap 41	A=+45.0	" "	19 27	20	12			230
				19 29 / 19 34	5	4			
4006	Kap 41	A=+45.0	"	19 43 / 20 43	60	12			250
				20 44 / 20 54	10				
4007	S Cass	A+72°.3	" 16	21 17 / 22 17	60	17½	+18.8		236
	Vega	B 39.1 / A+38.5	" 19	18 30		"	+21.0	230	
		α=18h 5m		19 2	15				
4008	H.C.0.85	A +46.5	" "	19 17	15	"			230
	H.C.0.85	A +46.5	" "	19 23 / 19 33	10	"			"
4009	Kap 37	A +44.8	" "	19 46 / 19 56	10	"			"
	H.C.0.85	A +46.6	" "	20 7 / 20 17	10	"			"
	B Cass	A +58.7				"	+19.5	230	
		1h 14m		20 54					
4010	S "	A +72°.3	" "	21 14	20m	12			230
4011	S Cass	A +72.3	" "	21 23 / 22 23	60m	17½			"
	α Cor. Bor.	15h 31m / A+26.8	" 22	18 48		17½	+16.3	231	
4012	H.C0.85	16h 0m / A+46°.1	" "	19 11 / 19 4[illegible]	5±	"			231
4013	H.C.0.85	20h 1m / A +46.4	" "	20 15 / 20 25	10	17½			231
	Kap 39	A +44.7	" "	20 35 / 20 45	10	"			"
	H.C.0.85	20 1 / A +46.4	" "	20 52 / 21 2	10	"			"
4014	H.C.0.85	20h 1m / A +46.4	" "	21 33 / 21 48	15	17½			"
	B Cass	A +58.7	" "	22 15		"	+17.6	228	

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
	C.P.M.	4	Pt	J.	8	3	+3	219	E	Ps	very good 201
	2560-59-67 Seed 30	5	Pt	—	4	8½	17	219	E	Ps	good
			"						"	"	
	C.P.M	4	Pt	J.	4	8	18	219	E	P	good
					2	8	16		"	"	
54	2560-59-67 Seed 30	6	—	—	4	9½	37	"	E	Ps	in violent motion
	Seed 30	5	—	—	4	9	10	219	W	P	
	Seed 30	6	—	—	4/5	9	10	219	W	P	
		"			3½	3	25	219	W	P	
	"	"			4	9	12	219	W	P	
									E	Ps	
	Seed 30	8	Pt	—	4½	11	38	219	E	Ps	
	"	5	—	—	4½	11	98	219	E	Ps	
3 17	2560-59-67 Seed 30	5	—	—	4	8½	16½	219	W	P	dull & clouds
	Seed 30	6	—	—	4	7	0	219	W	P	
	"	"			4½	12½	29	219	W	P	
	"	"			4	7s	2	219	W	P	
	"	8	—	—	6	5	2	219	W	Ps	
									E	Ps	

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
	S Cass	A +72.3	Sept 22	22 59 23 16	17m	17½			228
	Deneb	A +44.9	Sept 23	18 35		17½	+16.3	230	
✓ 4015	H.C.0.85	22h 1m A +46.6	" "	19 1 19 16	15m	17½			230
	H.C.0.85	22h 1m A +46.6	" "	19 20 19 30	10m	17½			230
✓ 4016	Hap 41	A +45.0	" "	19 56 20 6	10	17½			230
	H.C.0.85	22 1 A +46.6	" "	20 14 20 24	10	17½	~~+17.8~~		"
	Altair	A+8°.5	" 24	19 20		"	+17.8	229½	
✓ 4017	R Aquilae	A +8°.0	" "	19 42 20 12	30	12			229½
"	"	"	" "	20 19 20 29	10	"			"
	β Cass	A +58.7	" "	21h 5m		17½	+15.3	230	
✓ 4018	S Cass	A +72.3	" "	21 27 22 57	90m	17½			230
	Deneb	A +44.9	Sept 25	19 0		17½	+11.9	230½	
✓ 4019	R Vulpec	A +23.4	"	19 37 20 7	30m	12			230½
"	"	"	"	20 10 20 20	10m	"			"
✓ 4020	S Cass	A +72.3	"	21 15 21 45	30	12			"
"	"	"	"	21 48 21 58	10	"			"
	Deneb	A.+44.8	"	22 20		17½	+10.4	232	
✓ 4021	R Vulpec	A +23.4	"	22 48 23 48	60	17½			232

1919 Oct. 7. Holder 7 repaired by Lloyd, new spring clamping legs made to fit camera surface

							+11.7	234		
✓ 4022	α Cyg. Kap. 40	α 20 47 +45.0 ~~0h 0m~~ +46½.	Oct. 7 " 7 "	19 10 19 33 20 33 20 35 45	60m 10	12 "			234	
4023	near Kap. 43	0h 0m +46°30	" "		10	17½			234	

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
	Seed 30	5	P7b	—	5	11½	40	219	E	Ps	203
									E	P	
	Seed 30	5	—	—	4	2½	9	219	E	P	
	Seed 30	8	—	—	4	2½	9	219	E	P	
	"	"	—	—	9½	9	12	219	E	P	
	"	"	—	—	4	2½	11	219	E	P	cloud? for a few seconds only.
0 27											
	Seed 30	5	P7b	—	5	4½	42	219	W	Ps	
	"	"	"		5½	4½	40	219	W	Ps	
									E	Ps	
	C.9.m	6	—	—	7	12	40	219	E	Ps	
									E	Ps	
	Seed 30	8	P7b	—	5	5½	12	219	E	Ps	
	"	8	P7b	—	5½	5½	14	219	E	Ps	
	"	8	P7b	—	5	12	39	219	E	Ps	
	"	8	P7b	—	6	12	41	219	E	Ps	
									W	Ps	
	"	8	—	—	2	7	19	219	W	Ps	
	Cl 10039	4	P7b	J1	4	7	25	219	E	F	Poor plate.
										F	
	Seed?	8	P7b	—				219	E	Pv	

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
	α Cygni	A +45.0	Oct. 9	20 30		17½	+19.6	232	
	Kap 42	A +45.2	" "	21 11 15±	4m ±	12			252
	α Cygni	A +45.0	Oct. 11	19 45		17½	+8.6	232	
4024	Kap 40	A +45.0	"	19 57 20 57	60m	12m			252
4025	Kap 42	A +45.2	"	21 15 22 15 22 17	60m	12m			252
	Vega	A +38.5	" 16	22	5		+7°.7	~~234~~ 234	234
✓✓ 4026	Kap 37	A +44.8 17h 49m	" 16	20 4 24	20m	12"	+6.9		234
	H.C.O. 85	A +46.3 20h 1m	" "	20 37 57	20m	"			
	Kap 37		" "	21 13 33	20m	"			
✓✓ 4027	Kap. 39	19h 47m A +44.8	" "	22 2 22 22	20	17½	+4.9		234
	HA 85	22h 1m A +46°.4	" "	22 41 23 1	20	"			
	Kap. 39	A +44.8	" "	23 11 23 31	20				
✓ 4028	Kap 37		" 18	21 47 22 07 22 08 10	20m 2m	12"			234
	Vega		" 21			17½		240	240
✓ 4029	Kap 38	A +45.0	" "	21 48 50 51 52	2m 1m	12"			240
				21 53 22 13 14 15	20m 1m		+5.7		
	Deneb			22 45				240	
✓ 4030	Kap 42	22h 49m A +45.2	" "	23 13 33 34 35	20 90s	12"			

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
									E	7	
	cym 9666	4	Pth	J1	16	4	-2	131	E	7	R.A. coil burns out. g.a lamp goes out.
									E	F	
-0 10	C.9.m 9666	4	P7b	J.	4	7	24	219	E	P5	Images elong.
~~-0 26~~	C.9.m	4	P7b	J.	16	3	-3	131	E	F	Plate fogged by moon-light. Fuzzy images.
-0 26											
									W	P	
-2 21	Seed 30	7	—	—	4	8½	43	129	W	P	good
-2 58					4	~~8½~~ 10	21	219	W	P	"
-3 45					4	8½	45		W	P	"
					5	15	27	219	W	F	"
	" "	5			6	15	27				
					4	6	8	219	W	F	"
					7	15	29	"	W	F	"
-4 22	" "	7	Pth	—	4	8	43	129	W	F	
	Seed 30	7	Pth	—	9 13	6	33.5 36	219	W	F	Center ½ way betw. f & h. O.K.
-3 25											
									W		
	" "	5	Pth	—	1	10	46	219	W	F	O.K.

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time Begin / End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Set
✓ 4031	Kap 42		Oct. 21	23h 45m / 0 45	60m	12"			260
				0 47 / 0 52	5				
	Denel	A +45.0	" 22	20 15		24"		236	
✓ 4032	X Cygni	19h 48m A +32.5	" "	20 55 / 21 1	6m	24"			236
				5 / 11	6				
				12 / 13	1				
				14 / 15	1				
				17 / 21 23	6		+10.5		
	Vega			21 30		17½	+1.4	242½	
	"	A +38.55	Nov. 10	20 40		"	+7.2	234	
	Vega	A +38.5	Nov. 11	21 20		17½	+4.3	239½ 244	
✓✓ 4033	Kap 38	A +45.0	Nov. 11	21 38 / 21 53	15m	12			239½
	H. A. 85	18h 1m A = 46.3	"	22 20 / 22 35	15m	"			"
	Kap 38	18 14 A +45.0	"	22 44 / 22 59	15m	"			"
✓ 4034	R Vulpec.	21h 1m A +23.4	"	23 20 / 24 10	50m	22"			"
✓ 4035	Kap 42	22h 49m A +45.1	"	24 40 / 1 40	60m	12"			259½
				1 41 / 1 46	5m		+2.7		
	Altair	A = +8.55	Nov. 19	21 30		17½	-4.0	240	
✓ 4036	γ Aquarii	20h 39m A -5.2	"	21 55 / 22 55	60m	17½"			240
✓ 4037	R Ceti	2h 22m A = -0.75	"	1 2 / 1 10	8m ±	17½			240
	S Y Cygni	19h 44m A +32.4	"	23 5		Var. = 11.0m			
	R Z Cygni	20h 49m A +46.9	"	23 20		Var. < 13.7			
	U Aquarii	21h 59m A -17.1	"	23 35		Var. < 12.2			

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
	60m 9666	4	Pfb	J1	1	10	46	219	W	F	Diagonally elong. 207
+2 4					2	10	45				1
									W		
	Seed 30		—	—	2.5	5.5	30	219	W	F	Center at 1201.
							30				High wind. g. star fuzzy.
							31				
							39				
					.5		40				
									W	F	
	Seed 30	6	Pfb	—	2	9½	38	219	W	F	
	"	.			9	2	2	236	W	F	Tel. Turned N. ½ n. 9 9.0.
+4 12	"	4			1	9½	40	219	W	F	
8 10	"	5	—	—	4	6½	20	219	W	Ps	
	60m 9666	4	Pfb	J1	0	10	45	219	W	F	
2 55										F	
					4	8	36	219	W		
+2 15	Seed 30	7	—	—	4	8	36	219	W	Ps	Poor. Clouds before, during, and after.
	"	8	—	—	2	2	19	160	E	F	
					4	5	33	219	W		

R No.	Field	R. A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap. Temp C.	Focus Knife-Edge	Focus Setting
	RT Aquarii	22h 19m A −22.4	Nov. 13	23 40	Var. = 13.0			
	S Lacertae	22h 25m A +39.7	"	23 50	Var. = 12.2			
	α Pair	19h 47m A +8.6	Nov. 14	21h 0m		17½ −1.3	236	
4038	γ Aquarii	20h 39m −5.2	"	22 20 23 15	55m	"		236
	α Cass	0h 36m A +56.1	Nov. 17	23h 0m		17½ +5.0	236	
4039	Kap 20	0h 41m A +46.4?	"	23 30 50 53 55	20m 2m	12		236
40	R Ceti	2h 22m A −0.75	"	0 16 50	25m±	17½		236
	Vega	A +38.6	Nov. 18	21h 0m ~~20~~ ~~35~~		17½ +2.8 17½ +4.8	231	7
41	SY Cyg	19h 44m A +32.4	" "	21 38 22 38	60m	17½		231
	Deneb	20 39 A +44.9	" "	22 40		17½ +0.5	234	
	H.A. 85	20h 1m A +46.5	" "	23 1 23 16	15m	12		234
4042	Kap 40	20h 47m A +44.9	" "	23 31 23 46 23 54	15m 15m	" "		" "
	H.A. 85		" "	0 9	15m	"		"
43	R Ceti	1h 22m A −0.75	" "	0 28 1 30 1 51	53m	17½		"
44	γ Cass	23h 59m A +55.1	" "	2 10	19	17½		"
45	"	"	" "	2 30 35	5	"		"
				2 46 56	10	12"		"
4046	γ Cass.	"	" "	3 2 12	10			
				13	1			
				14 22	10			
				32 34	1	−2.5		
				35				

209

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
									W	F	
	Seed 30	5	—	—	4	8	~~35~~ 39	219	W	Ps	
	Seed 30	5	Pyro	—	0	2	44	219	E	Ps	Move tel. south ½ radius g.o.
−0 45					1	2	46	219		Ps	High wind. g. Star trails 34
	Seed 30	7	—	—	3	2	19	160	E	F	atrocious seeing. Very thick sky.
+1 26									W	P	Fine night.
	Seed 30	6	—	—	4	7	5	219	W	Ps	
									W	F	
	Seed 30	5	—	—	~~12~~ 10	~~6~~ 7	~~15~~ 2	219	W	F	
	" "	—	—		4	6	22	219	W	F	fifteen for g.o.
+4 9	" "	—	—		13	6	16	219	W	F	
−0 50	Seed 30	8	—	—	4	3	19	160	E	F	
2 10	Seed Process	7	—	—	7	11	35	219	W	Ps	
	Seed 30	5½	—	—	7	11	35	219	W	F	much stronger than 4044.
	" "	6½	—	—	7.5	11	35	219	W	"	
					8.5		25			"	
					7.5		24			"	
					9		15			"	
3 33					10		16			"	

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap. Temp C.	Focus Knife-Edge	Sett
	Altair	19h 47m A 8.55	Nov. 19	21 35		17½ +0.7	236	
4047	u Aquarii	21h 58m A -17.0	" "	21 55 / 23 0	63m	17½		236
4048	R Pegasi	23h 3m A +10.1	" "	1 25 / 2 25	60m	24		236
				3 10				
				15	5m	24"		"
		23h 59m		20				
49	γ Cass	A +55.1	" "	25	5			
				26				
				27	1			
				31				
				36	5			
				37				
				38	1			
				3 50				
				57	7	18"		"
				4 1				
				8	7			
				9				
50	γ Cass	"	" "	10	1			
				14				
				21	7			
				22				
				23	1	-1.0		
	Deneb		" 22	21 20		12" +6.0	234	
51	RZ Cygni	20h 49m A +46.9	" "	21 40 / 22 40	60m	12"		234
	α Cyg	A +44.9	Dec. 2	22 50		12" -13.8	243	
52	Kap 40	20h 47m A +44.9	"	23 14 / 0 14	60	12		263
			"	15				
				20	5	-17.		
	α Cygni	20h 39m A +44.9	Dec. 3	22 40		17½ -11.5	249	
53	Kap 40	20h 47m A +44.9	" "	23 2 / 0 2	60	12		264
				4				
				9	5			
4054	Kap 42	22h 49m A +43.1	" "	0 25 / 1 25	60	12		24
				1 26 / 1 31	5			

211

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel	Obs.	
50m			—	—					W	F	
0	Seed 30	6	—	—	4	6	1	219	W	F	
10	"	5	—	—	3	3	26	219	W	Ps	not centered on ⊙
	"	7	—	—	7.5	11	35	219	W	F	
					8		25				
					7		24				
					8		15				
					9		16				
	"	8	—	—	7.5	11	35	219	W	F	
							25				
							24				
							15				
							16				
20									W	F	
52	"	5	—	—	12	3	-1	219	W	F	g.o. filter. Good plate.
35	9666 C.9.m	4	Pγ	J1	4	6	23	219	W	F	guided on spectral image. g.o. filter. Jump in decl. see in decl.
									W	F	
									W	F	
	9666 C.9.m	4	Pγ	J1	4	5	24	219	W	F	Images round. Spectra
22									"	F	fuzzy. Partly fogged. Why?
	9666 C.9.m	4	Pγ	J1	-1	10	47	219	W	Ps	Round images. Fuzzy
40									W	Ps	spectra.

R No.	Field	R.A. and Decl.	Date 1919	Sid. Time {Begin / End}	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	BCass	A 58°.7	Dec. 19				-6°.8	242.5	
11	H.A. 85	0h 2m	"	23 45	10m	12"			242.5
4055	Kap 20	A +46.6		55					
		+45.4		0 9	10m	"			
	"			19					
				19	5m	"			
✓		23h 59m		24					
56	γ Cass	+55.1	" 19	0 44 45	5	24			242.5
				49 45					
				54 18					
				59 10	5	"			
				1 1 20	1	"			
				2 20					
				1 6 2	6	"			
				12 2					
				14 0					
				15 0	1	"			
✓	Near γ Cass	0h 18m		1 34					
59	+53°52	+53° 50'	" 19	39	5m	"			242.5
				43					
				48	5m	"			
				49					
				50	1m	"			
				54					
				59	5	"			
				2 0					
				1	1	"			
✓				2 48	10	12"			
58	"	"	" "	58					
				3 4	10				
				14					
				15					
				17	2				
				23					
				33	10				
				34					
				36	2		-8.6		
✓				3 52					
59	"	"	" "	59	7	18"			
				4 1					
				8	7				
				9					
				10	1				
				14					
				21	7				
				22-23	1		-8.9		

213

very quick

Hour Angle	Plate and Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	Seed 30	5	—	—	4	10	40	219	E	P	
			—	—	4	4	48	219	E	P	g.o. filter
									E	P	
16											
	Seed 30	6	—	—	7	12½	35	219	W	F	
					"	"	25	"			
					6		24				
							15				
							15.7				
	" "	5½	—	—	7.2	9.2	35	129	W	F	g.o. filter
							25				
							24				
							15				
							16				
	"	6₂	—	—	7.8	9.0	35	129	W	F	"
							25				
							24				
							15				
							16				
		5₃	—	—	7.5	9.5	35	129	W	F	"
							25				
							24				
45							15				
							16				

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
		20 39	1919																		215
	α Cyg	A +44.9	Dec. 26	23h 40m		17½	+0.5	243													
✓ 4060	Kap 40	20 47 δ +44.8	"	0 0 / 15	15m	12"			243		Sept 30 3345	5	P7½	—	4	6	23	219	W	P	4 days moon. somewhat unsteady Smashed. more "
✓ 4061	"	"	"	0 17 / 0 38	21	"			"		"	6	"	—		"	"	"	"	P	
✓ 62	BD+53°52	0h 18 53° A+53.7	" "	1 21 / 24	3m±	17½	0.0		"		"	7	—	—	7	9	35	129	W	F	Wires poor
✓ 63	"		" "	1 28 / 46	18m	"			"		"	5½	—	—	6.				W	F	
✓ 4064	Kap. 22		" 28	3 5 / 4 5	60m	12	-9		263		CDm	4	P76	J1	6.5	6.7	16.4	219	W	P Pv	good
		22 39	1920			17½"													W		
	η Pegasi	A +29.7	Jan. 13	1 20		+2m	-75	236													
✓ 4065	Kap 43	23h 51m +44.8	"	2 3 / 2 8 / 3 0 / 3 2 / 34	25m	12"			236		Seed 30	5	P7½	—	4	12	25	164	W	F	High wind.
				2 39 / 3 12	5m					47					2	11	22				
	Kap 21	1h 37 +45 0	" "	3 5 / 38 / 40	23m 2	12"	-9.1		23		"	7	"	—	13	2	5	219	W	F	
✓ 4066				41 / 45	4																
										28											
	α Cass.		Jan. 16	3 15		17½	-10.5	241													
✓ 67	Kap 20	0 41 A +45.4	" "	3 50 / 55 / 3 58 / 4 23	5m / 25	12"			24		"	5	P7½	—	5 / 7	2	27	183	W	F	
✓ 68	Kap 22	2 39 A +45.1	" "	4 41 / 46 / 47 / 49 / 50 / 55±	5m / 2 / 5±	"				41	"	7	"	—	4	6	17	219	W	F	
				5 5 / 30	2 5																Smoke Wind rising.
	Kap 23	3h 40m A +45.0													4	5	41	219	W		G. star too faint.
✓ 4069	Kap 24	4h 40m A +44.8	" "	6 33 / 51	18m	12"					"	5½	"	—	7	7	20	219	W	F	Getting thick.

No fog on any of these plates.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	α Persei	3h 18m +49.6	1920 Jan. 17	3 15		17½	-16.	244	244
✓ 4070	Kap 24	4h 40m +44°.9	" "	3 50 / 4 15	25m	12"			244
				16 / 19	3m				
✓ 4071	Kap 25	5h 39m A +44.8	" "	4 40 / 5 0	20m	12"			244
				2 / 5	3				
	Kap 27	7h 39m A +44.8	" "				-17.5*		
	α Persei	3h 18m A +49.5	Jan 20	3 20		17½	-9.2	240	
✓ 4072	Kap 21	1h 37m A +45.0	" "	4 32 / 54	22m	12			240
				58 / 5 3	5				
	α Persei	3h 18m A +49.6	Jan 21	2 35		17½	-9.4	238	
✓ 4073	Kap 20	0 41 A +45.3	"	2 54 / 3 14	20m	12			238
				15 / 17	2				
✓ 4074	Kap 22	2 39 A +45.1	" "	3 29 / 54	25m	12			238
				55 / 4 0	5				
75	U Arietis	3h 7m A+14.	" "	5 9 / 6 9	60	17½			238
	α Persei	3h 18m A +49.6	Jan 24	3 45		18	-12.5	232	
75	U Arietis	3h 7m A +14.4	" "			18			232
	α Persei	3h 18m A +49.6	Jan 28	2 40		17½	-8.0	242	
✓ 4075	Kap 21	1h 37m A +45.0	" "	3 10 / 4 1[illegible]	60m	12			240
				[illegible] / 20	5				
	Kap 22	2h 39m A +45.1	"			12"			240
	α Persei	3h 18m A +49.6	Jan 29	2 30		12	-0.9	240	

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
									E		Unsteady. Wind. 217
	Seed 30	5	P76	—	4	8.5	12	264	E	F	
22	" "	7	P76	—	4	7	31	129	E	F	
35					4	10	2	129	E		Guiding * o.k.
									W		Very unsteady. Thick - variable seeing.
	Seed 30	5	P76	—	12	2	5	219	W	F	
	Seed 30	6	P76	—	4	2	27	183	W	F	
	Seed 30	7	P76	—	3	6	17	219	W	F	
3	Seed 30	5	—	—	6	5	24	219	W	Ps	
									W	F	
	Seed 30		—	—					W	Ps	Clouds - no exposure
									W	F	
	C.J	4	P76	J.	10	3	3	219	W	F	
2 43	C.J 10100	4	P76	J1	4	6	17	219	W		Clouds prevent exp.
									W	F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
4076	Kap 21	1h 37m A +45.0	1920 Jan 29	2 42 3 42	60	12			260
				3 42 47	5				
77	Kap 22	2h 39m A +45.1	" "	3 57 4 57	60	12"			21
				4 58 5 3	5				
	β Cass.	0h 5m A +58°.6	Feb. 4	3h		17½	-3.2	234	
4078	Kap 43	23 51 A +44.8	" "	3 22 4 22	60	12"			254
				4 25 4 35	10				
	υ Tauri	4h 47m A +17.3	Feb. 9	5 20		Var. = 9.″5			
79	S Camp.	5h 22m A +33.9	" "	5 47 5 53	6m±	18" :	-2.6		27
				5 55 6 15	20m				
	β Tauri	5h 21 +28.4	" "	5 45	For focus			236	
	χ Gemini	6h 42 +30.3	" "	6 30		Var. =		10.3m	
	V Aurigae	6h 15m +47.6	" "	Var. = 11.8		18"			
	β Cass	0h 5m A +58.6	Feb 10	3 25		17½	-4.5	240	
80	Kap 43	23 51 A +44.8	" "	3 42 4 02 4 04	20m	12			24
				6	2				
81	ν Aurigae	3h 9m + 14.4	" "	4 21 5 21	60	18"			24
82	S Aurigae	5h 2m A +33.9	" "	5 38 6 8	30m	18			24
83	V Aurigae	6h 18m A +47.6	" "	7 17 8 17	60m	18			27
	β Androm.	1h 5m A +35.1	Feb 12	9 40 4 07	15m	18"	-6.0	234	
84	V Androm	0h 46m A +35.1	" "	22		18"	Var. =	10.1	24
	β Tauri	5h 21 A +28.4	Feb 18	4 14		17½	-7.3	234	

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	C.9.9	4	P7	J1	12 2	3	219		W	F	219
									W	F	
	C.9.2	4	P7	J1	6 7	17	219		W	Ps	
22									W	Ps	
									W	Ps	
45	C99/10100	4	P7h	J1	5 11	16	159		W	Ps	Very thick sky.
									W	Ps	
									W	F	
J	seed 30	5	—	—	3 5	41	219		W	F	
55									W	F	
									W	Ps	
					10 11	3	219		W	F	
	Seed 30		—	—	9 14	12	219		W	F	Tel moved south. Clouds displaced slightly in δ
									W	F	Good sky
	Seed 30	5	P7	—	3 12	16	159		W	F	
	Seed 30	7	—	—	6 6	24	219		W	Ps	
41	Seed 30	6	—	—	2 5	41	219		W	F	
55	Seed 30	8	—	—	9 14	12	219		W	F	
									W	F	
	Seed 30	5	—	—	8 10	25	150		W	F	Clouds come.
									E	F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
✓ 4085	Kap 25	5h 39m +44.8	1920 Feb 18	4 33 / 53	20m	12	-7.5		23		Sed 30	6	P,b	—	5	7	31	129	E	F	Fine seeing 221
				54 / 55	1														E		
				56 / 58	2					40											
✓ 86	Kap 25	"	"	5 6 / 5 26	20	12			23½		"	5	"	—	"	"	"	"	E	Ps	
				5 27 / 5 29	2	12													E	Ps	
	SS Aurigae	6h 7m +47°.8 A	"	5 45		12"		Var.	= 10.9										E	Fr Ps	
✓ 87	Kap 27	7h 39m A +44.8	"	6 2 / 22	20m	12			23		"	7	P7b	—	2	7	4	129	E	F	
				24 / 44	20								"								
				45 / 47	2								"								
				48 / 54	6					42			free		5		7				
✓ 88	V Tauri	4h 47m A +17.3	"	7 45 / 8 5	20	12"			23½		"	5	P,b	—	7	7	4	129	W	Ps	
				8 6 / 8 9	3	12							P,b	—					W	Ps	
✓ 89	V Tauri		"	8 21	60	24				35	C99.	8	—	—	7	7	4	129	W	Ps	
	α Androm	0h 4m A +28.5	Feb. 19	4 22		22	-5.2	236											W	F	
✓ 90	T Androm	0h 18m A +26.4	" "	4 40 / 5 40	60m	22			23	22	C99.	5	—	—	4	9	39	174	W	F	G. star good throughout.
	U Arietis	3h 7m +14.4	" "			12			23				P7b	—					W		No exp. Cross-wire broken.
	SS Aurigae		" "	6 38				Var.	= m = 11											P S+F	
✓ 91	U Puppis	7h 57m A -12.7	" "	8 32 / 9 32	60	17½			23	38	C9 10117 m	7	—	—	8	6	22	219	W	Ps	Other set of wires.
	α Persei	3h 18m A +49.6	Feb. 23			12	-6.1												W		g.o. out of commission
	SS Aurigae		"	6 20		17½		Var.	= 12.5											P S+F	
	α Persei		Feb. 26	4 55			-11.0	237												P S	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
✓ 4092	Kap 22	2h 39m A +45.1	1920 Feb. 26	5 10 / 6 10	60m	12"			259
				6 12 / 6 17	5				
✓ 4093	Kap 24	4h 40m A +44.9	"	6 42 / 7 42	60	12"			257
				7 43 / 7 48	5				
	α Persei	3h 18m A +49.6	Feb. 28	5 58		17½	-8.2	240	
✓ 4094	Kap 23	3h 40m A +45.0	Feb 28	6 14 / 7 14	60	12			260
				7 16 / 7 21	5				
✓ 4095	Kap 24	4 40 A +44.9	"	7 35 / 8 35	60	12			"
				8 36 / 8 41	5				
	α Persei	3h 18m A +49.6	Mar. 1	4 55		17½	-3.0	234½	
✓ 4096	Kap 22	2h 39m A +45.1	" "	5 25 / 6 20	55	12			254
✓ 4097	Kap 24	4h 40m A +44.9	"	7 19 / 7 49	30m	17½			"
	α Persei	A +49.6	March 8	5:40		17½	-1.8	238½	
✓ 4098	Kap 22	2h39 A +45.1	" "	6 13 / 7 13	60	12			258½
				7 14 / 7 19	5				
✓ 4099	Kap 23	3h 40 A +45.0	"	7 52 / 8 12	20	12		2	238½
				8 13 / 8 15	2				
✓ 4100	Kap 26	6h 37 A +44.7	" "	8 32 / 9 2	30m	12			238
				3 / 4	1				
				6 / 8	2				
✓ 4101	"		"	9 20 / 45	25m	"			
				46 / 48	2				
				50 / 10 5	30 / 15				

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	C9m 10117	4	P76	J1	9	7	22	219	W	F	223
3 40										F	
	C9m 10117	4	P76	J1	11	7	22	219	W	P5	
3 10									W	P5	
									W	F	
	C9m 10117	4	P76	J1	3	5	40	219	W	F	0.1"
3 40									W	F	
	"	4	"	"	11	7	22	219	W	P5	Clock running badly. 0.1"
									W	P5	
									W	F	Quiet image.
40	C9m	4	P76	J1	8	6	22	219	W	P5	Sky clouded
	C9m 10100	4	P76	J1	9	6	22	219	W	F	Clouds
									W	F	
	C9m 10117	4	P76	J1	9	7	22	219	W	P5	Good
40									W	P5	
	Seed 30	6	P76	—	3	5	40	219	W	B5	"
									W	B5	
	Seed 30	8	P76	—	4	8	24	194	W	F	Thick, changing sky
										E	
										F	Dropped # 5.
	" "	7							W	F	
										F	
										F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	Pollux	7h 40m A +28.0	1920 March 9	5 55		17½	+4.5	236	
	Kap 27	7h 39m A +44.8	" "			12			256
	Pollux		" 15	7 00		18"		234	
✓ 4102	V Geminis	9h 57m +21.4	"	7 40 8 40	60m	18"	+7.6		234
	Pollux		" 17	6 30		24"		234½	
	Kap 27	12h	" "	6 50 7 50	60m	12"	-0.6		234½
	Capella	5h 11m +45.7	" 20	7 00		17½		234½	
✓ 4103	Kap 23	3h 40m +45.0	" "	7 21 46 47 49	25m 2	12"			234½
✓ 4104	Kap 24	4h 40m +44.9	" 20	8 00 25 26 28	25 2	12"	+2.0		"
✓ 4105	Kap 28	8h 41m +44.7	" "	9 4 24 25 27	20 2	12"			"
	Pollux	7h 40 +28.0	" 21	7:07		17½	+7.0	233	
✓ 06	Kap. 27	7h 39m +44.8	" "	7 19 21 22 47 48 50	2m 25 2	12"			233
✓ 07	S Gem.	7h 38 +23 05	" "	8 31 9 33	60m	18"			"
	Capella	5h 11m +45.7	Mar 29	7 38		17½	+3.9	235½	
✓ 08	Kap 24	4h 40m A +44.9	" "	7 50 8 50 8 51 8 56	60 5	12"			255½
	Kap 26	6h 37 A +44.7	" "			12			"
						12			

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
									E	F	225
	C.9.m 10100	4	P+	J₁	2	8	4	129	E	F	g. star too faint. Poor seeing.
	C9	8	—	—	2	11.5	26	219	E		High wind.
									E		
8	C9	4	P7b	S1	2	8	4	129	E	F	Quiet. Focus not changed.
	Seed 30	6	P7b	—	4	6	42	219	W	F	Fine sky.
4 8										F	Ft. g. star.
	" "	8	"		10	8	26	219	W	F	" "
										F	
	" "	5	"	—	4	8		174	W	F	Ot. g. star.
0 46										F	
									E	F	
	Seed 30	5	P7b	—	3	7	4	129	E	F	G.-star faint. Sky not very transparent?
										F	
3 12					5					F	
55	C9m 10117	7	—	—	7	3	22	219	W	F	Good g.star.
									W	F	
	C9m	4	P7b	J₁	12	8	26	219	W	Ps	
4 15m									W	Ps	
	C.9.m	H	P7b	J₁	4	8	24	194	W	F	Clouds prevent exposure.
									W	F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	Capella	5h 11m A+45.7	Mar 30 1920	4h 40m		17½	+12.8	232											W	F	227
✓ 4109	Kap 24	4h 40m A+44.9	" "	7 51 7 56	5				252		C9m	4	Pg	J.	12	7	26	219	W	Ps	
			" "	7 57 9 27	90m	(12)				47									W	Ps	
	Capella	5h 11m A+45.7	April 5	8 16		17½	-1.4	242											W	F	
✓ 4110	Kap 24	4h 40m A+44.9	" "	8 30 57	27m	12			242		Seed 30	6	Pg		12	7	26	219	W	F	
				58 9 00	2														W	F	
✓ 4111	Kap 26	6h 37m A+44.7	" "	9 21 10 31±	60m	12			262		10117 C.9.m	4	Pg	J.	4	8	24	194	W	Ps	clouds interrupted exposure twice
				10 32 10 37	5														W	Ps	
✓ 4112	Kap 28	8h 41m A+44.7	" "	10 48 11 48	60m	12			262		c.9.m	4	Pg	J.	4	8	25	174	W	F	
				50 55	5					15										F	
	Ills. Maj.	8h 54m + 48.2	" 7			17½													W	Ps	Clouds!
	Capella	5h 11m A+45.7	April 8	8 35		17½	+2.2	236											W	F	
13	Kap 24	4h 40m A+44.9	" "	8 45 9 10	25	12			236		Seed 30	7	Pg	—	12	7	26	219	W	Ps	
				9 11 9 13	2														W	Ps	
✓ 14	Kap 26	6h 37m A+44.7	" "	9 25 10 25	60	12			256		10117 C.9.m	4	Pg	J.	4	8	24	194	W	Ps	
				10 25 10 30	5					350									W	Ps	
	L Ursa Maj	8h 54m + 48.2	April 9	9 30		17½	+2.6	230											W	Ps	
✓ 15	Kap 28	8h 41m A+44.7	"	9 50 10 50	60	12			250		10100 C.9.m	4	Pg	J.	6	6	25	174	W	Ps	~~field does not identify as Kap 28~~
			"	10 55 11 01	6	17½									9	6	28	174	W	Ps	Clouds
	L Ursa Maj	8h 54m A+48.2	April 12	9 00		17½	-0.4	236½											W	F	
✓ 4116	Kap 28	8h 41m A+44.7	"	9 15 10 8	53	12"			256½		10117 C.9.m	4	Pg	J.	4	8	25	174	W	F	
			"	10 11 16	5	"														F	
			"	18	2	17½														F	
			"	30	30	"									10		30		W	Ps	
				10 55																	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
✓ 4117	Kap 28	8h 41m A +44.7	1920 April 12	11 7	10m	17½			236½
				17					
				17	50s	"			
				18					
				20	2m	12			
				22					
				25	28	"			
				53					
	Pollux	7h 40 +28.1	April 30	10 30		17½	+9.0	231	
✓ 4118	Kap 28	8h 41 A +44.7	"	11 9					
				12 9	60	12			251
				12 10					
				12 15	5				
	Regulus	10h 4m A +12.2	May 5	10h 40m		18	+11.8	231	
	W Leonis	10h 49m A +14.0	"	11 15					
✓ 4119				12 50	70m	18			231
	Kap 29	9h 39m A +44.7	" "						
	Kap 29		" "						
	Kap 30	10h 38m A +44.9	" "						
	Kap 31	A +44.4	" "						
	Spica	13 21 A -10.8	May 9	12 55		24		231	
✓ 4120	S Virginis	13h 29m A -6.9	"	13 10					
				14 50	90m	18	+11.7		231
	L Ursae Maj	8h 54m +48.2	May 13	11 20		17½	+6.9	232	
✓ 4121	Kap 29	9h 39 A +44.7	"	11 46					
				49	3m	12		232	232
				50					
				12 3	25				
✓ 4122	Kap 30	10h 38 A +44.9	"	12 31					
				12 56	25	12			"
				12 57					
				12 59	2				
✓ 4123	S Virginis	13 29 A -6.9	"	1 22					
				2 52	90m	18			"
✓ 4124	RR Sextantis	15 52 −18.3	"	3 8					
				4 38	90	18			"

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	Seed 30	7	P7+	—	4	8	25	174	W	F	229
										F	
										F	
										F	
15±					9	7	29	174		F	
									W	Ps	
335		4	P7+	J1	6	8	25	174	W	Ps	
									"	"	
									W	F	
20	Seed 30	7	—	—	3.5	9.5	34	219	W	Ps	Clock stops. Good g. star
					4	2	24	219	W	F	Too faint for 12 inches
					9	2	24	183	W	F	More tel. north no dif. 4' O.K. for 12"
					6	6	24	165	W		O.K. for 12 inches
					7	13	24	174	W		clouds. Not bright enough for 12".
									W	F	
22	Seed 30	7	—	—	0	4½	23	219	W	Ps	a jump in δ. Elong. images due
									W	F	
	Seed 30	5	P7+	—	8	2	24	183	W	F	More tel. N. 4' Much seeing "poor".
									W	F	Clock slows 4
	Seed 30	6	P7+	—	6	6	24	165	W	Ps	times during evening
30									W	Ps	
25	Seed 30	7	—	—	3	4	25	219	W	F	good plate.
45	"	8	—	—	0	9	50	129	E W	Ps	" "

R No.	Field	R.A. Decl.	Date	Sid. Time {Begin / End}	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
		10h 4m	1920																		231
✓	Regulus	A +12.2	May 20	11h 50		17½	+17.9	290											W	Ps	
4125	Kap 29	9h 39 A +44.7	"	12 23 / 12 48	25"	12			230	3 15	Seed 30	5	Pγb	—	10	3	19	183	W	Ps	Tel moved ~~N~~ South ?
				12 49 / 12 51	2																
	Kap 30	10h 38 A +44.8	" "	1 21 / 1 23	2	12			230	3 10	Seed 30	6	Pγb	—	6	6	24	165	W	Ps	2 exp. superposed.
				1 24 / 1 49	25																
✓		11h 38m		2 22																	
4126	Kap 31	A +44.3		2 47 / 2 48	25	12			230		Seed 30	7	Pγb	—	1	7½	30	174	W	Ps	Centered at #15=π6
				2 50	2																
		10h 4m																	W	Ps	
	Regulus	A +12.2	May 21	12 20		17½	+20.0	227½													
✓		10h 38m		12 40																	
4127	Kap 30	A +44.9	"	12 52 / 1 53	60	12			257½		C.9.M	4	Pγb	J.	6	6	24	165	W	Ps	Light clouds Wrong focus.
			"	1 58	5					3 20											
✓		11h 38m		2 34															W	Ps	
4128	Kap 31	A +44.3	"	2 36 / 2 37	2	12			227½		Seed 30	8	Pγb	—	1	11	28	174	W	Ps	Centered at #15
			"	3 2	25					3 26											
		10h 4m																	W	Ps	
	Regulus	A +12.2	May 24	12h 15		17½	+17.8	227											W	Ps	
✓		10h 38m		0 32																	
4129	Kap 30	A +44.9	"	1 32 / 1 33	60	12			247	3 0	C.9.M	4	Pγb	J1	6	6	24	165	W	Ps	
				1 38	5																
✓		12h 51m		2 18																	
4130	Kap 32	A +44.6	"	3 18 / 3 19	60	12			247		"	4	Pγb	J1	8	2	40	219	W	Ps	Center slightly North
				3 24	5					3 40									"	"	
✓		13h 51m		15 52											4	5	48	129			
4131	Kap 33	A +44.9	"	15 57 / 16 0	5	12		"	247		"	4	Pγb	J1	4	13	9	219	W	F	Ft. g. star-very.
				17 0	60					3 13									F	F	
		10h 4m																	W	F	
	Regulus	A +12.2	May 25	13h 0		17½	+19.3	232													
✓		10h 38m		13 10																	
4132	Kap 30	A +44.9	May 25	14 10 / 14 11	60	12"			252		C99 0039	4	P7b	S1	6	6	24	165	W	F	
				16	5					3 42										F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
✓ 4133	Kap 32	12h 51m A +44.6	1920 May 25	2 45 / 3 45	60m	12"			252	2h 58m	C.Q.M	4	P1b	J1	7	6	38	219	W	Ps	233
			June 5	13 30		17½	+17.8	229													
✓ 4134	Kap30	10 38 +44.8	"	14 5 / 7	2m	12			229		Seed 30	5	P7b	—	6	6	24	165	W	F	good g. star. & plate.
				14 10 / 35	25					3 55											
✓ 4135	Kap 31	11 38 +44.3	"	14 50 / 51	1	12			"		Seed 30	6	"	—	2	11	20	174	W	F	Ft. " Centered at π star.
				52 / 54	2																
				55 / 15 20	25					3 40											
✓ 4136	Kap 32	12h 51m +44.6	"	15 43 / 45	2						Seed 30	7	"	—					W	F	" "
				48 / 16 13	25					3 22					10	7	39	219			
✓ 4137	Kap 33	13 51 +44.9	"	16 20 / 22	2	12					"	8	"	—	4	13	10	219	W	F	" " Moon.
				23 / 43	20					2 56			"	—							
	U Serpentis	16h 3m +10.0	"	17 7		Var. just seen. Same mag. as on print or slightly fainter															O.K. to take. Moonlight
	SS Herc.	16h 29m +6.9	"	17 17		Var. like a on print O.K. to take.															
	S Serpentis	15 18 +14.5	"	25		Var. (red) like 14-	+12.2			about 11.9. O.K. to take on Cramer plate.											
	S. Scorpii	15h 55 -22.5	June 7	16 30		17½	+19.8	231							1	15	30	266	W	F	→ brighter.
	U Sc[illegible]	-21.0	"			17½			231			5	—	—	4	8	10	129	W		
	R Ophiuchi	-16.1	"			"													W	F	Var. too bright V>10
	R Sc[illegible]	15h 49m -16.1	"			"													W	F	take - not seen V<12
	R U [illegible]	-15.1	"	17 15		"													W	F	O.K. take like early plate
	R Cygni	+50.0																	E	F	V=12.5 100 faint
	Polaris	+88.8	June 8			18	+21.1	225.5											E	F	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
4138	R Camelop	14h 23m +84.3	1920 June 8	14h 1m 15 1	60m	18"			225½
4139	Kap 32	12h 51m +44.6	"	15 18 20 20 45 48 16 03	2 25 15	12"			"
4140	Kap 33	13h 51 +44 9	"	16 14 34	20m	12"			"
	Arcturus			14 5		17½"		231½	
4141	SS Herculis	16h 29m +6°.7	June 10	14 35 15 37	60m	18"	+25.2		231½
	a Bootis	14h 12m 19°.5	" 11	14 22		24	+24.4	228	
4142	R Here	+18.4	" "	15 25 16 25	60m	18	+23.9		227⅞
	Vega	+38°.8		16 50				223½	
4143	Nova Oph	18 10 +11.5	" "	18 10 18 25	15	24			223½
4144	" "	18 10 +11,5	" "	18 28 39 18 36 18 46	5 10	" "			" "
	α Urs. Maj.	17+62,0	" 12	13 55		17½	+27.0	223	
4145	Kap 30	10 38 +44.8	" "	14 26 14 28 14 30 14 55	2 25	12			223
4146	Kap 33	13 51 +44.9	" "	15 2 4 6 31	2 25	12			"
	Arcturus		June 17	14 10		18	+14.3	233	
4147	U Serpentis	16h 3m A +9.9	" "	15 0 16 0	60m	18			233
4148	U Librae	15h 37m −20°.9	" "	16 28 17 30	62m	18	+12.4		233
4149	Nova Aquilae		" "	18 13 38 14 38 16 25	1	"			"
	con. on next page		" "			"			

283

235

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Jel	Obs.	
40	Seed 30	7	—	—	5	12	10	219	E	Ps	
	"	6	Pγb	—	7	6	39	219	W	F	
										F	
14m										Ps	
45	"	5	Pγb	-	4	12	10	219	W	F	Sky very poor & thick
53	"	6	—	—	3	2:	13	219	E	F	Moved Tel. 4' south
10											
	Seed 30	5	—	—	3	7	23	219	E	Pv	Poor plate. dull, improving
		6	—	—				309	E	Pv	good
" "		4	—	—	α 7	δ 9	45	"	E	"	"
								"	"	"	"
											neg. clock from 19½ to 20½
49	Seed 30	4	Pγb	—	6	7	24	165	W	F	
	"	8	"	—	6	12	10	219	W	F	
40			"		'		"				
									E		
3	Seed 30	7	—	—	4,	7	20	219	E	F	
55	Cramer	5	—	—	3	7	11	129	W	F	
	Seed 30	6	—	—	6	3	38	219	E	Pv	good

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
cor 4149	Nova Aquilae		1920 June 17	18h 19m 35s	4m	18½			
				23 35					
				24 40	10	"			
				34 40					
4150	" "		" "	39 25	5m+	"			253
				44 45					
				47 10	13	"			
				60 0					
				19 1 50					
				16 50	15	"	+11.3		
	Arcturus	A+19.4	" 18	14h 20m		17½	+15.8	234	
				15 2					
4151	Kap. 33		" "	15 4	2m	12			234
				15 6					
				15 11	5				
				15 13					
		A+44.9		15 38	25		+15.0		
									Exp.
	?	17 55 +36.8	" 18	17 15	3m	22-24"	zone	1	
					1				
					3	20-22"	"	2	
					1				
					3	16-18		3	
4152					1				
					3	11-12		4	
					1				
					3	8"		5	
					1				
					3	6"		6	
					1				
				18 15	3	18"		7	
					1				
	Polaris	13h 32m A 89.0 B 88.5	June 24				+19.9	227	
	HPS 46	A 89.2, B 88.7							
4153	Between HPS 5, 8 and 9		" "	16 13	1m	17½			
				16 14					
				16 14					
				16 06	2				
				16 16	5				
				16 20	to				
				16 22 30	4m	12			
				16 26 30					
				16 36 30	10				

283

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o. ⊙	Jel	Obs.	
	Seed 30	6	·	—	6	3	219	E	Pv	good (237)
	"									
	C 9	4	—	J 1						Out of focus. dome cutting off
					4	3	31 219			changed spider cross
0 8								W	P	
	Seed 30	5	P 76	—	6	12	10 219	W	P	good
										"
					9	9	12 219			"
234	0 40 Seed 30	6	—	—	4	9	15 129	E	F	Nothing to guide on
										"
										"
										Something " " "
										"
										"
	0 20									"
	10039 C 9	4	P 76	J 1						No guiding
		½	"	J 1						

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.
✓ 4154	Betw. H PS 5, 8, + 9.		1920 June 24	16 39	5m	12"			227		Seed 30	8	P7b	—						No guiding (239)
		13h 51m A 88°.9		16 44																
				17 32	2m	12"			227		" "	7	P7b	—						With free space on either side the bars covered.
✓ 4155				34																
				34	4															
				38									P7b	—						No guiding as usual.
	"		"	48																
				50	2	"														
				50																
				54	4		+17.2			4 5					1	8		219		

June 5. replaced 10 rods on each side of P7b; making 4 rods, ∴ completely covering 12 inch aperture, P7,12
See 1918 July 31. for arrangement of P7b.

	Betw. H. PS. 5, 8, + 9.		June 25				+19.6		227											clouds prevent exposure.
✓	Polaris		" 27	15h 10m		17½ 24	+25.8		225											
✓ 4156	Betw. H.P.S. 5, 8, + 9.		" 27	15 17	3m	12"			225		Seed 30	5	free	—	5					
				20									P7(12)	—	4					
				22																
				25	3	12"							free	—	3	8				
				26																
				29	3	12"														
✓ 4157	"		"	15 56	3	12			"		" "	6	P7b	—	5	8				
				59									P7b	—						
				59																
				16 2	3	"														

July 3 raised axis 12", see p 197

	K Oph	A+9° 16h 50m	" "	16 40		24	+15°.3		223											
	L "	A+10.1	" "												5	3	22	171		
	Polaris		" ✓	1545	10s, 30s 1m, 2m		+17.2		223		22-24" diaph.									
	"		"	16 35	2,5s	22-24" zone, partial					Seed 30	7		-	0	2		219		
✓ 4158				16 38	2,5	10-12" zone, all.														
				40	2,5	16-18" " partial														
				42	2,5	9" central														

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Setting
✓ 4159	HPS #5		1920 July 4	16 48	2m	9" central			223
				50					
				52	2m	16-18" partial			
				54					
				56	2m	11-12 whole			
				58					
				59	2m	22-24" partial			
				17 1					
					10s				
	Polaris		July 11	17 25			+21.8	229	
				17 40	3	12			227
4160	5.8 and 9		" 11		3	"			
					3	"			
					3	"			
				18 2	3	"			
	Polaris		" 16	17 7		17½	+17.5	222	
				15					
			" "	17 ~~21~~		"			
				17 21					
				17 24	3	12 superposed			
				17 25					
4161	HPS, 5, 8, 9			17 28	3	"			
				17 34					
				17 37	3	"			
				17 39					
				17 42	3	"			
				17 43					
				17 46	3	"			
	Polaris		" 19	16 15		24	+20.0	225	
4162	HPS 5, 8, 9		" "		150s	12			
					"				
					"				
					"				
				16 57	"				

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o. ⊙	Jel	Obs.
	Seed 30	5	—	—					
									Last exp. is offset in declination.
					5	7			
	Seed 30	5	free ~~P76~~	—					good, aurora
	"		P76						
	"		Normal						
	"		P76						
	"		free						
			(P76)						
			P76						
	" "		free						good
			Normal						
			free						
			P76						
			free ~~P76~~						good; some twilight
			P76						
"	"	5	Normal						
			P76						
			free						

283

241

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
			1920	17 20±	150s	12			225
			July 19		"				
4163	HPS 5,8,9				"				
					"				
				17 39	"		+19.°0		
	Polaris		Aug. 3	16 46			+20.8		225
				17 25	150	17½			
	5,8,9				"				
					"				
4164				17 41	"				
				17 47	150				
					"				
	"				"				
					"				
				18 4	"				
	Polaris		Aug. 14			12"	+21.3	225	
				17 56	150s				225
				18 2	150				
4165	5, 8, +9		" "	all exp. were 150 after.	150				
					150				
					150				
				18 30	150				

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	Scales
											283
Seed 30	6	P76	–						P	fine	243
		free									
		normal									
		free									
		P76									
	4										
		P76									
		free									
		normal									
		free									
	5	P76									
		P76									
		free									
		normal									
		free									
		P76									
Seed 30	1	P76							P		
	2	free	7	normal							
	3	normal	8	free							
	4	free	9	P76							
	5	P76								clock winding.	
	6	free									

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.
1920 Aug. 15	Both mirrors taken to basement and										cleaned with nitric acid only									
" 16	" "	silvered, two coats Brashear									method, 2-foot, 3m each at 22° C.									
" 17	"	replaced in telescope																		
Polaris	A 89°.0	1920 Sept. 12	20h 20m			17½	+19.0	227				6	9				227	E	P	
			20 25	150s		12		227	5h		P76 —									fine
			"	"							free									
			"	"							normal									
			"	"							free									
4165, 8 and 9	A 88°.8	" 12	"	"						Seed 30	P76									
			"	"							free									
			"	"							normal									
			"	"							free									greater space
			21 - 2m	"	"		+18.0			4		P76 —	2	9						
	Polaris		" 23	20	0		17½	+22.4	228											
1 4167	Pole	B 89.8 A 89.8	" "	20 21	13 4	51	12			248	4 20	Cel	4	P76	J1	5	8		227	Tel ⊼ under Tel ⊻	no guiding good. moon
4168	"	"	" 24	20	0		"	+23.3		"	5 15 30	"	"	"	"	"	"		"	"	" "
	Polaris		" 27				17½	+17.2	225											E	
1 4169	Pole	B 89.8 A 89.8		21 21	3 48	45	12			245	0	"	4	"	"					E	good moon
	Uranus	20h 39m A +45.0	Oct. 1	19h	30m 19h	30m	17½	+10.0	231											E	Ps
1 4170	R Ursae	21h 0m A +23.3	"	19h 20s	51m 31	40m	17½			231		Seed 30	8	P76		5	6	12	219	E	Ps slow fair - fault stars
			"	20s	33											2½	6	12½	219		Ps
				20s	43	10														E	Ps
	Uranus		" 2	19	45			+14.5	230½												Clouds

283

245

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
			1920						
	Uranet	20h 39m A +45.0	Oct. 3	19h 50m		17½	+18.8	230	
4171	R Vulpec	21h 0m A +23.3	"	20 7 20 47 20 49	40	17½			230
	"	"	"	20 59	10	"			"
4172	S Cass	A +72.3	" "	20 20 21 0	40	17½			"
	"	"	"	21 1 21 11	10	"			"
	Uranet	A +45.0	Oct 5	19h 35m		17½	+13.6	227.5	
4173	R Vulpec	A +23.3	"	19h 54m 20h 14m	20	12			227.5
→	HCO. C11	21h 0m A +15.0	"	20 35 20 55	20	12			"
4174	R Vulpec	A +23.3	"	21 5 21 25	20	12			"
~~4175~~	S Cass	A +72.3	"	21 50 22 50	60m	17½			"
			"	22 51 22 56	5m	"			"
4176	Pole		" 5	23 25 1 00	95m	12			247½
	Uranet	A +45.0	Oct. 6	19h 50m		17½	+15.3	223½	
4176	R Vulpec	A +23.3	" "	20 9 20 14	5m	12			223
	"	1h 14m	" "	20 15 20 45	30m	"			"
4177	S Cass	A +72.3	" "	21 15 22 15	60m	17½			"
4178	S Cass	"	"	22 27 22 37	10	17½			"
	"	"	"	22 38 23 38	60	"			"
	Uranet	A +45.0	Oct 7	19h 35m		17½		226	
4179	H.C.O. C11	21h 0m A +14.9	"	20h 0m 20h 20m	20m	12			226
	R Vulpec	A +23.3	"	20 33 20 53	20m	12			"
	~H.C.O.C11	A +14.9	"	21 7 21 27	20	12	+14.3		"

283
247

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	Scales E	Scales Ps	
		~~7~~	~~P_7b~~								E	Ps	
	Seed 30	7	P_7b	—							E	Ps	
0h 0m	"	"	"	—	5	5	12	219			E	Ps	
	"	8	P_7b	+	5	11	38	219			E	Ps	
3h 2m	"	"	"	—	6	11	40	219			E	Ps	
											E	Ps	
	Seed 30	8	—		6	4	12	219			E	Ps	Timed by S.S.
	"	8	—		5	9	5	129			E	Ps	" " [poor]
	"	5	—		7.5	4	13	219			E	Ps	" "
	"	7	P_7b	—	6	10	38	219			E	Ps	no good
2h 15m	"	"	"	—			39				E	Ps	
6 40	C 11	4	P_7b	J1	5	8					E	P	good. no guiding
											E	Ps	
	Seed 30	5	P_7b	—	5	5½	10	219			E	Ps	good
0h 15m	"	"	"	—	6	"	12	"			"	"	"
2 55	"	8	—	—	7	11½	38	219			E	Ps	good
1 32		7	P_7b	—	7	11½	38	219			E	Ps	fair
		"	"	—	8	"	40	"			E	Ps	
											E	Ps	
	Seed 30	7	—	—	5	9	5	129			E	B	Timed by D.B.
	"	"	—	—	5	4.5	11	219			E	Ps	" "
0h 22	"	"	—	—	7	9	7	129			E	Ps	" "

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
			1920						
✓ 4180	S Cass	A +72.3	Oct 7	2h 46	75m	17½			226
	"	"	"	23 1					
				23 2	10m	"			
		20h 39m		23h 12					
	Uersek	A+45.0	Oct 8	19h 42m		17½	18.5	226	
✓✓ 4181	H.C.O. Cii	21h 0m A +14.9	"	20 8	20	12			226
				20 28					
	R Ursae	21h 0m A+23.3	"	20 36	20	"			"
				20 56					
	H C O. Cii		"	21 6	20	"			"
				21 26					
✓ 4182	Nova Cyg	19h 57m A+53.3	"	21 54	30m	17½			"
				22 24					
	"	"	"	22 26	10m	"			"
				22 36					
✓ 4183	S Cass	1h 14m A+72.3	"	22 59	3m	12			"
				23 2					
	"	"		23 4					
				23 34	30m	"			"
				23 36					
	"	"	"	23 46	10m	"			"
	Uersek	A +45.0	Oct. 9	20h 0m		17½	+20.0	226	226
✓ 4184	R Ursae	21h 0m A +23.3	"	20 18	30m	12		~~226~~	"
				20 48					
	"	"	"	20 52	10m	"			"
				21 2					
	Uersek	A+44.9	"	21 15		17½	+18.8	229	
✓ 4185	Nova Cyg	A+~~72.3~~	"	21 27					
				21 52	25	"			229
	"	"	"	21 53					
				21 58	5	"			"
				22 28					
✓ 4186	R Ursae	A+23.4	"	23 28	60m	22			"
	η Pegasi	A+29.8	Oct 11	21h 30m		17½	+16.0	222	
✓ 4187	S Cass	A+72.3	"	21 42					
				22 45	63	"			222
	Uersek	A+45.0	Oct. 12	20h 20m		17½	+21.4	228	

283
249

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
	Seed 30	5	P_7b	—	5	11	37	219	E	Ps	
2m	"	"	"		4	11	38	219	E	Ps	
									E	Ps	
	Seed 30	8	—	—	4	7	5	129	E	Ps	Timed by Per
	"	"	—	—	4	5	11	219	E	Ps	" " "
	"	"	—	—	3.5	7	4	129	E	Ps	" " "
	"	5	—	—	7	13.5	37	219	W	Ps	
40m	"	"	—	—				219	W	Ps	
	"	7	—	—	5	10	37	219	E	Ps	
	"	"	P_7b	—	5.5	10	38	"	"	"	
25	"	"	P_7b	—	6.5	10	39	"	"	"	
									E	Ps	
	Seed 30	5	P_7b	—	4	4.5	12	219	E	"	
02	"	5	"	—	4.5	4.5	13	219	"	"	
									W	"	
	"	7	—	—	7	13.5	39	219	W	"	
	"	"	—	—	9	13.5	41	"	"	"	
	"	8	—	—	3	5	18	219	W	"	
		~~5~~	—	—	5	~~11~~	~~35~~	~~219~~	~~E~~	Ps	
	"	5	—	—	5	11	35	219	E	Ps	Good but not strong enough
					~~3.5~~	~~10.5~~	~~35~~	~~219~~	E	"	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	S Cass	1h14m A+45.0	1920 Oct. 12	20 ~~22~~ 21 47	75 ~~60~~	17½			228
	"	"	"	21 49 21h 59m	10	"			
	Menk		"	22h10m		"	+20.5	228	
4188	R Vulpec	A+23.4	"	22 25 23 25	60	22			228
	Menk	A+45.0	Oct. 13	21h10m		17½	+21.5	228	
	S Cass	A+72.3	"	21 29 22 44	75	"			228
	"	"	"	22 45 22 55	10				
	Menk	A+45.0	Oct. 16	21h15m		17½	+15.7	228	
	S Cass	A+72.3	"	21 32 21 34	2	"			228
	"	"	"	21 ~~40~~ 35 22 40	65	"			
	β Cass	0h5m A+58.8	" 21	22h10m		17½	+20.2	226	
4189	S Cass	A+72.3	"	22 25 23 5	40m	17½			246
	"	"	"	23 16	10				
	Menk	20h39m A+44.9	Oct 28	21h0		17½	+1.9	231	
	Nova Cyg	19h57m A+53.3	"	21 30 22 30	60	"			251
	"	"	"	22 31 22 41	10	" "			
	R Vulpec	A+23.4	"	23 22 23 29	60	" " "	"	"	
	"	"	"	0 29 0 30	60	" " "			
	"	"	"	0 30 0 40	10	" " "			
	Menk	20h39m A+44.9	Oct. 29	21h0m	55	17½	+3.4	236	
4190	R Vulpec	21h0m A+23.4	"	~~21h35m~~ 22 55	55m	"			256
	"	"		22 57 23 5	8m	"			
	Menk	A+44.9	Oct 30	21h25m		"	+9.0	233	
4191	Nova Cyg	A+53.3	"	21h40 22h0	20m	"			233

283
251

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
	Seed 30	7	P7b	—	5	11.5	36	219	E	Ps	badly elongated — discarded
5h12m	"	"	"	"	6	"	38	"	"	"	
									W	"	
25	"	8	—	—	3	5	17	219	"	"	
									E	Ps	
	"	8	P7b	—	5	10.5	36	219	E	"	Sight struck discarded
18					4.5	"	38	"	"	"	
									E	"	
		7	free P7b	—					E	"	Gitter not on Poor
		7	P7b	—					"	"	Thick fog at end
									E	Ps	
	W. & W. ash 2824	4	P7b	J1	4.5	11	36	219	E	"	
54					5.5	11	38	219	W	"	
	W. & W. ash 2824	4	P7b	J1	7	15	38	219	W	"	9.0. wires faint
		"	"	"		11	39	219	W	"	elongated
"	"	"	"	"	2	6	17	219	W	"	"
4h40m		"	"	"	4		18		"	"	
									W	"	
	C.9.9 10249	4	P7b	J1	3½	6	19	219	"	"	
4h5m	"	"	"	"	2		21		"	"	
									W	"	
	Seed 30	7	—	—	10	14	39	219	"	"	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp C.	Focus Knife-Edge	Focus Setting
4192	Nova Cyg	19h 57m A+53.3 0h 5m	1920 Oct. 30	22 15 23 15	60m	17½			253
	β Cass	A+58.8	Nov. 4	21h 25 21 45		17½	+12.8	232	
4193	S Cass	A+72.3	"	22 55	70m	17½			232
	Dneb	A+44.9	Nov. 10	21h 50m		12	-2.2	235½	
4194	Nova Cyg	A+53.3	"	22 6 23 6	60	12			255½
			"	23 7 23 17	10	"			"
4195	Nova Cyg		"	23 26 23 46	20	12			235½
			"	23 47 23 52	5	"			
4196	X Persei	A+56.7	"	0 21 0 31	10	12			235½
				0 33 0 43	10	"			
				0 45 0 55	10	"			
				0 57 1 7	10	"			
				1 9 1 19	10	"			
	β Cass	0h 5m A+58.8 1h 14m	Nov. 13	21 55		17½ +2	-4.6	235	
4197	S Cass	A+72.3	"	22 13 23 25	75m	17½			235
	S Cass	"	"	23 54 1 9	75	"			"
	"		"	1 10 1 15	5	"			"
	Dneb	20h 39m A+44.9	Nov. 15	22 45		22	-5.4	235½	
4198	R Aquilae	21h 0m A+23.4	"	23 00 24 00	60	22			235½
	Mira Ceti	2h 15m A-3.4	"	0 57 1 1	4m	12			"
4199	R Leo		"	1 31 2 31	60	24			"
	Dneb	20h 39m A+44.9	Nov. 16	21h 35m	12		-1.5	235½	

283
253

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o. ⊙	Jel	Obs.	
3h 18m	C.9.9.	4	Pγb	J.	10	14	39 219	W	Ps	passing clouds
	~~Seed~~		—	—	~~5~~	~~11.5~~	~~38~~ ~~219~~	E	Ps	
20m	Seed 30	6	—	—	5	11.5	38 219	"	"	
								W	"	
	C.9.9	4	Pγb	J.	7	14	37 219	W	"	
	"	"	"	"	8.5		36	"	"	
	Seed 30	6	Pγb	—	7	14	35 219	"	"	
55					7	14	33 219	"	"	
	Seed 30	8	Normal	—	7	15	22 270	E	Ps	Timed by J.H.
			Pγb		3½	15	20 270	"	"	"
			Leo		1	14½	19 270	"	"	
			Bγb		-½	14	18 270	"	"	
			Norm		-2	14	17 270	"	"	
								E	Ps	
	Seed ~~30~~	~~7~~	—	—	6	~~11~~	~~38~~ ~~219~~	~~—~~	"	ink froze.
	"	8	Pγb	—	6	11	38 219	E	"	
	"	"	"	—	7	11	36 219	E	"	
0m	Seed 30	6	—	—	2	7	18 219	W	Ps	Moon pretty bright
	"	7	—	—	4	11.5	28 129	E	"	
30m	"	8	—	—	3	3	26 219	W		Cloudy all night
								W	"	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
✓	Kap 40	20h 47m A +44.9 21h 0m	Nov. 16	21 58 22 58	60	12			255½
4200	R Vulpec	A +23.4	"	23 13 0 13	60	"			"
	Kap 40		"	0 25 1 25	60	"			"
	Deneb	20h 39m A +44.9	Nov. 18	21 50 22 10		17½	+4.4	234	
✓ 4201	R Vulpec		"	23 40	90m	17½			254
	R Peg	A +10.0	"						
	α Ceti	2h 58 +3.5	"	1h 15m		"		234	
✓ 4202	o Ceti	2h 18m A -3.4	"	1 31 1 35	4m	12			234
✓ 4203	χ Persei	A 56.6	"	2 25 15 30 15 2 33 37 38 37 45 45 60 45 54 55 59 55	5m 6m 5 5	12"			234
	α Cygni	A 44.8	Dec. 5	22 14			+2.2	233½	
✓ 4204	R Vulpec.	A 23.4	" "	22 45 23 45	60	22			233½
	χ Persei			2 41 46 47 46 2 53 14 58 14 3 0 40 5 40 3 8 25 13 25 16 14 21 14 23 46 28 46 3 31 43 36 43	5 5 5 5 5 5 5 5 5	12 " " " " "			"
✓ 4205	α Cyg R Vulpec		Dec 8 "	23h 15m 3 30 0 30	60	17½ 12	0.0	237½	257½

283

(255

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
	C.F.7	4	—	J1	10	5.5	27	219	W	Ps	
	"	"	—	"	2	6	17	219	W	Ps	Clouds during
40m	"	"	—	"	11.5	55	28.5	219	W	Ps	Past 30 min.
									W	"	
	C.F.9	4	Pl6	J1	2	6	18	219	W	"	
					3	3	26	219	W	"	More star to left in S - no exposure
									E	"	
	Seed 30	8	—	—	4	12	19	129	"	"	
	"	7	Pl6		9	5	31	219	W	"	
			free								
			normal				28				
			free				27				clouds
									W	"	
45m	Seed 30	7			2	9	22	219	"	"	
		8	normal		12-	3-	19-	"	"	"	good
			free		11		18+	"			"
	" "		Pl6		10½		18	"			"
			free		9½		17	"			"
			Pl6		8½		16	"			"
			free		7½						"
			normal		6½		14				"
									W		
30m	C.F.9	4	Pl6	J1	6	6	19	"	"		

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
	R Peg	23h 3m +10.0	Dec 8	1 24	5 sec	12			237½		Seed 30	8	—	—	2	3	26	219	W		Center above * 13
				1 25 – 1 45	20m								Pyb	—			27				
				1 46 – 1 48	2m								Pyb	—			28				
	α Cyg	20h 39 +44.9	Dec 11	0h 40m		24	+3.0	237											W	Ps	
✓ 4206	R Peg		"	1 35 – 2 35	60m	24			237		Seed 30	6			2	3	26	219	"	"	Centered off *5
			1921																		
	α Cyg	+44.9	Jan 4	1h 6m		24	+2.1	237											W	Ps	
✓✓ 4207	H.C.O. C12	+15.1 (~~+10.1~~)	"	1 37 – 1 47	10	12					Seed 30	7	—	—	4.5	2.5	28.5	219	W		
	R Peg	+10.0	"	2 00 – 2 10	10	12						7			2	3	26	219	W		Center above * 13
	α Peg	A +14.7	Jan. 5	0h 30m		24	+0.4	236.5											W		g.o. ~~faint~~ centered on * Very Thick sky
✓ 4208	R Peg	A +10.0	"	1 3 – 1 58	55m	24			236.5	?0m	Seed 30	8	—	—	5	6	13	219	W		Exp. stopped by clouds
	α Cygni	A +44.9	Jan. 8	0 58		24	-1.5	235											W		
✓ 4209	Kap 40		"	1 9 – 1 39	30	12			255	52	C.9.9	4	—	J1	4	5.5	25	219	"		Good sky
✓✓ 4210	R Peg	+10.0	"	2 2 – 2 12	10	12			235		Seed 30	7	—	—	4.5	6	13	219	"		Centered on * Good sky
	H.C.O. C12	+15.1	"	2 23 – 2 33	10	12			"			"			3	3	28	219	"		" "
	R Peg	+10.0	"	2 41 – 2 51	10	12			"			"	—	—	3	6	11.5	219	"		" "
	Kap 20	0h 41m +45.3	"	3 58 – 4 28	30	12			255?		C.9.9	4		J1	6	3	27	183	"		out of focus
	S Cass	1h 14m +72 0m	"	4 58 – 5 28	30	"			"?		"	"		"	7	3	14	129	"		
✓✓ 4211	S Cass	"	"	5 38 – 5 40	2	"			255		Seed 30	8	—	—	7	3	14	129	"		wrong focus
	"		"	5 41 – 5 56	15	"		235			"	8	—	—	8	3	15	129	"	"	good sky
	H.C.O.A1	4h 0m +75.0	"	6 15 – 6 30	15	"		"			"	8	—	—	4	6	11	219	"		"
	S Cass	+72.0		6 43 – 6 58	15			"				8	-	-	10	3	1.6	129	"		"

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
			1921						
✓	α Cyg 9	A+44.9	Jan 9	0h 45m		12	-0.8	234.5	
4212	R Vul pec	A+23.4	"	1 15 / 1 45	30	12			254.5
	Tap 40	20h47m A+44.8	"	2 3 / 2 33	30	12			"
✓✓	U Aur 10	3h7m A+14.4	"	3 31 / 3 46	15	12			234.5
	H.C.O.C2	3h68m A+14.9	"	4 12 / 4 27	15	12			"
	U. Aur 10	A+14.4	"	4 42 / 4 57	15	"			"
	α Cass	0h36 A+56.0	Jan. 11	2h 30m		24	-6.0	230	
	S Cass	1h14m A+72.0	"	2 52 / 4 22	90	17½			230
	"	"	"	4 23 / 4 28	5	"			"
✓ 4214	χ Persei	A+56.6		5 16 50 / 5 21 50	5	12			"
				5 25 48 / 5 30 48	5				
				5 35 30 / 5 40 30	5				
				5 42 42 / 5 47 42	5				
				5 49 51 / 5 54 51	5				
				5 57 5 / 6 2 5	5				
	α Cygni	20h39 A+44.9	Jan 12	1 30		17½	-10.2	235.5	
✓ 4215	R Peg	23h3m A+10.0	"	1 42 / 2 42	60	"			235.5
				2 43 / 2 48	5	"			"
✓ 4216	S Cass	1h14m A+72.0	"	2 49 / 2 54	5	"			"
	"	"	"	2 56 / 3 56	60	"			"
	α Cyg 9		Jan 22			"	+1.0	227.5	
✓ 4217	R Peg	23h3 A+10.0	"	3 2 / 3 52	50	"			247.5

Four Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	Scales			
													283	
									W	PS			259	
C.9.9	4	—	J.		0	5	35	229 219	"					
	4	—	J.		5	5	36	229 219	"					
Seed 30	6	—	—		6	6	37.5	229 219	W	"				
"	6	—	—		5	3	23	219	W		Center a little south of X			
"	6	—	—		45	6	36	229	"	"				
Seed 30	7	—	—						W					
Seed 30	7	Pγb	—		7	4	12.5	129	W		poor			
"	7	Pγb	—		5	4	11	129	W	"				
"	6	Pγb	—		12	"	33½	219	W	"				
		free			11	4	33	"						
		normal			10	4	32	"						
		free			9	4	31	"						
		normal			8	4	30	"						
		Pγb			7	4	29	"						
									W	"				
	"	6	Pγb	—	5	5.5	9.5	219	"	"				
45m		"	"	—		5.5	11.0	219	W	"	(poor)			
		7	Pγb	—	3	5	11	129	W					
42m	"	"	"	—	4	5	9.5	129	"	"				
									"	"				
	C.9.9	4	Pγb	J.	2	6	9	219	W	"				

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Jel	Obs.	
			1921	4 39 10																	283
✓	h+χ Persei		Jan. 22	4 40 16	1m	12			227.5												261
4218				4 42 8																	
				43 8	1m																
				45 9																	
				46 9	1m																
				48 25																	
				49 25	1m																
				50 44																	
				51 44	1m																
				55 40																	
			" 22	56 40	1m	12															
				58 37																	
				59 37	1m																
✓	h+χ Persei			5 1 38																	
4219				2 38	1m																
				4 12																	
				5 12	1m																
				6 35																	
				7 35	1m																
		1h 14m		5h 38																	
4220	S Cass	A +72.0	" 22	6 38	60m	12"			247.5												good guiding star
		20h39																			
	α Cyg	A +44.9	Jan 23			17½	+3.0	231													
✓	R Pegasi	23h3m		2 20																	
4221		A +10.0	"	2 40	20	12			251												
	Kap 42	22h49m		2 55																	
		A +45.0	"	3 15	20	"			"												
		1h27m		4 9																	
4222	N.9. C.584	A -7.°3	"	4 19	10	17½			231												Wrong field. Not just off plate
✓		3h7m		4 50																	
4223	U Aurig	A +14.4	"	5 20	30	12			251												
		2h39m		5 37																	
	Kap 22	A +45.1	"	6 7	30	12			"												
				2 15		17½	-1.1	232													
	α Cyg	23h3m	Jan. 26	2 30																	
✓	R Peg	A +10.0	"	3 25	55	17½			252												
4224				3 54																	
✓	N.9.C.584	A -7.3	"	4 14	20	"			232												
4225																					
										Seed 30	6	P76	—		11½	3½	31½	219	W	
												free			10½		30½				
												normal			9		30				
												free			8		29+				
												P76			7		28				
												normal			8	3½	28	219			
												free			9		29½				
										" "	7	P76			10		30½				
												free			11		32				
												normal			12		33				
										C.9.9	4	P76	J1		2	3	5	219	W		
																			W	P5	
										C.9.9	4	—	J1		3	5	6	219	W		
										"	4	—	J1		5	6	11	219	W	"	
										Seed 30	8	—	—		5	9	8	173	W	"	
										C.9.9	4	—	J1		7	5	24	219	W		
										"	"	"	"		9	7	22	219	"	"	
																			"	"	
										C.9.9	4	P76	J1		3	6	10	219	"	"	
										Seed 30	8	—	—		4	4	45	219			

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Setting	Scales Four Single	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.
			1921																	283
4226	χ Persei	A+56.6	Jan. 26	4 28	2m	12			282		Seed 30	6	$P_{7}b$	—	5½	5	27	219	W	fs	263
				4 30																
				4 34							free				6½		28½			
				4 36	2						Normal				7½		30			
				4 38							free				8½		31			
				4 40	2						Normal				9½		32			
				4 43							free				10½		34			
				4 45	2						$P_{7}b$				11½		35			
				4 48																
				4 50	2															
				4 52																
				4 54	2															
				4 55																
				4 57	2															
✓				5 15																
4227	U Aurig	A+14.4	"	6 15	60m	17½			252		C.99	4	$P_{7}b$	J_1	4	6	22	219	W	"
		20h39																	W	"
	α Cygni	A+44.9	Jan. 28	2 25		17½	+2.3	230												
		23h3m		2 43																
4228	R Peg	A+10.0	"	3 35	52m	"			230		Seed 30	5	$P_{7}b$		3	6	9	219	W	
		6h33																	E	
	χ Cygni	A+16.3	"	3 58		24	+1.0	234												
		6h18m		4 14																
4229	V Auriga	A+41.7		5 14	60m	24	+		234		"	6	—	—	5	11	2	219	E	"
		4h47m		6 17																
—	V Tauri	A+17.3	"	7 22	65m	24			"	133	"	7	—	—	5	5	10	129	W	"
		2h3m																		double images
	α Arietis	A+23.0	Jan 31	2h40m		24	-2.5	234											W	"
		1h27m		4 55																
4230	19 C.584	A-7.3		4 45	110m	24			234		"	8	—	—	7	4	47	219	"	"
		0h41m																		
	~~Kap 20~~	A+45.3	"			12			254		C.99	4	J_1	—	6	3	27	183	"	"
		4h31m																		Clouds! No exp
	Aldebaran	A+16.3	Feb 4	7 15		17½	0.0	235											W	"
		4h47m		7 25																
4231	V Tauri	A+17.3	"	7 50	25	17½			235		Seed 30	7	$P_{7}b$	-	5	3	14	129	"	"
		4h31m																		Sky thickened + g.s. disappeared
	Aldebaran	A+16.3	Feb. 5	4 28		17½	0.0	235											"	"
		3h7m		4 40																
4232	U Aurig	A+14.4	"	5 20	40	17½					Seed 30	5	$P_{7}b$	—	7	5	24	219	"	"
		3h18																		Clouds at end
	α Persei	A+49.4	Feb 17	4 00		17½	-7.0	236												
		0h41m		4 42																
4233	Kap 20	A+45.3	"	4 52	20	12			256		C.99	4	—	~~I_1~~	6	2	28	183	"	"
		1h14		5 00																
	S Cass	A+72.0	"	5 20	20	"			"		"	4	—	J_1	9	9	14	129	"	"

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	S Cass	1h 14m A+72.0	1921 Feb 17	5 40 / 6 40	60	12			256
	V Tauri	4h 47m A+17.3	"	7 12 / 8 12	60	17½			"
	α Persei	3h 18m A+49.4	Feb. 18	4h 5m		17½	-2.0	234	
	S Cass	1h 14m A+72.0	"	4 28 / 4 43	15	"			254
	V Tauri	4h 47m A+17.3	"	6 00 / 6 35	35	17½			254
	α Persei	A+49.4	Feb 19	4h 30m		17½	-4.8	233	
4234	S Cass	A+72.0	"	4 45 / 5 45	60	17½			253
4235	V Tauri	A+17.3	"	6 20 / 7 20	60	17½			"
	α Persei	3h 18m A+49.4	Feb 23	4h 25		17½	-4.9	234	
4236	U Arietis	3h 7m A+14.4	"	4 50 / 5 20	30	12			234
	"		"	5 20 / 5 25	5				
4237	U Arietis		"	5 39 / 6 39	60	12			257
4238	V Tauri	A+17.3	"	7 39 / 8 39	60	12			"
	α Persei		Feb. 28	7h 5m		17½	+2.3	238	
4239	V Tauri	4h 47m A+17.3	"	7 21 / 7 51	30	12			238
	"	"	"	7 54 / 7 57	2	"			"
4240	V Tauri	A+17.3	"	8 10 / 8 25	15	24			"
	α Tauri	4h 31m A+16 3	March 2			24	+5.4	234	

Moved regulator on clock from 19 to 18

4241	V Tauri	4h 47m A+17.3	March 2	6 31 / 7 31	60	17½			234
	"	"	"	7 32 / 7 35	2	"			"
4242	"	"	"	8 00 / 9 05	65	24			"

283

(265)

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
1h 30m	C.Y.9	4	P_7b	J_1	9	3	14	129	W	"	elongated
	"	4	P_7b	J_1	5	5	14	129	"	"	moon shucks
									W	"	
	C.9.9	4	P_7b	J_1	3	2	1	219	"	"	Clouds!
	C.99	4	P_7b	J_1	5	7	5	219	"	"	Clouds!!
									"	"	
	C.9.9	4	P_7b	J_1	5	2	0	219			
	"	4	"	"	7	7	8	219	"	"	
									"	"	
	Seed 30	8	P_7b	—	7	6	25	219	"	"	
						"	27	"	"	"	
	C.9.9	4	P_7b	J_1	8	6	25	219	"	"	Sky Thick
	"	4	"	"	5	5	14	219	"	"	Clouds at end
	Seed 30	7	P_7b	—	8	7	9	219	"	"	
	"	"	"			"	10	"	"	"	
	"	6	—	—	10	7	10	219	"	"	Clouds
									"	"	
	Seed 30	8	P_7b	—	8	7	9	219	"	"	
	"	"	"			"		"	"		
	"	7	—	—	8	7	9	219	"	"	Clouds at end. good.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Four Single	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Jel	Obs.		
	Aldebaran	4h31m A+16.3	1921 March 3	5h 5m		17½	-1.4	231½											W	Ps		
4243	α Aurig	3h7m A+14.4	"	5 32 6 32	60	17½			231½													
	α Tauri		March 9	6h 30m		17½	-1.2	235											W	"		
4244	α Aurig		"	6 45 7 15	30	12			235													
4245	H.C.O.C3	5h 00 A+14.9	"	7 35 7 50	15	12			235													
	V Tauri		"	8 02 8 17	15	12			"													
4246	5.8+9	A+88.6	"	10 5	150s	12			"													
	Polar Square				150s	"																
					150s	"																
					150	"																
					150	"																
					150	"																
					150?	"																
					150	"																
				10h 40	150	"			"													
4247	W Leonis	A+14.0	"	11 05 12 05	60	17½			"	"	Seed 30	5	Pgb	—	7	5	25	219	"	"	Clouds at very end.	
	α Tauri	4h31m A+16.3	March 10	5h 35		17½	+6.3	232											W	"		
4248	W Aurig	3h7m A+14.4	"	6 05 6 10	65m	17½			232													
4249	V Tauri	4h47 A+17.3	"	7 25 7 40	15	12"		"	"		"	6	Pgb	—	7	5	25	219	"	"		
	H.C.O.C3	5h00m A+14.9	"	7 52 8 08	15	12					"	7	pee	—	5	14	48½	129	"	"		
	V Tauri	A+17.3	"	8 23 8 38	15	12			"		"	7	"		8	7	9	219	"	"		
4250	S Cass		"	8 50 10 20	90	17½						8	Pgb		15				E			
													pee		14½							
													Normal		14							
													pee		13½							
													Pgb		13							
													pee		12½							
													Normal		12							
													pee		11½							
													pee		11							
													Pgb		10½							
											"	5	pee	—	8	8	37	219	W	"		
																			"	"		
												5	Pgb	—	7	5	25	219	"	"		
												6	—		8	7	9	219	"			
												6	—	—	5	13	47	129	"	"		
												6	—	—	10	7	11	219				
												7	Pgb		9	3	14	129	"	"		

283
267

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	α Tauri	$4^h 31^m$ A +16.3	March 15 1921	$6^h 35^m$		17½	+0.9	239	
	α Tauri		March 16	6 20		17½		230	
	U Ursae		"	6 40 7 35	55s	12			250
	Polar Seq 5,8+9	A +88.6	"						
	Polaris	A +88.8	March 17	$10^h 35^m$		17½		235½	
	5,8,+9	A+88.6	"	$10^h 45$	150s	12			235½
↓ 4250	Polar Sequence				150				
					150				
					150				
					150				
					150				
					150				
				$11^h 20^m$	150				
↓ 4251	"	"	"	11 22	60s	17½		"	
					60				
					60				
					60?				
					60				
					60				
					60				
					60				
				$11^h 40$	60				

283
269

Your Single	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Jel	Obs.	
									W	Ps	
									"	"	
	C.9.9	4	P_7 b	J1	7	5	25	219			Slay Too Thick
											Clouds no exposure
50^m									W.	"	
	Seed 30	7	P_7 b		15				"	"	
			pee		14½						
			P_7		14						
			pee		13½						
			P_7 b		13						
			pee		12½						
			P_7		12						Clock wound
			pee		11½						
			P_7 b		10½						
	"	8	P_7 b		15						
			pee		14½						
			P_7		14						
			pee		13½						
			pee		13						
			P_7 b		12½						
			pee		12						
			P_7		11½						
			pee		11						
			P_7 b		10						

R No.	Field	R.A. Decl.	Date 1921	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Setting	Four Single	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Tel	Obs.
		10h49m		12 9																
4252 ✓	W Leonis	A+14.0	March 19	13 9	60m	17½			255½		C.9.9	4	P7b	J1	12	7	31	219	W	"
		4h31m		7h20m															W	"
	α Tauri	A+16.3	March 21			17½	+3.5	228												
✓✓		4h47		(7 40																
4253	V Tauri	A+17.3	"	(8 00	20	12			248		C.9.9	4	—	J1	9	7	10	219	W	"
		4h40m		(8 12																
	Kap 24	A+44.9		(8 32	20						"	"	"	"	11	7	22	219	"	"
																			"	"
	α Tauri		Mar 22	7h25m		17½	0.0	229												
✓✓				(7 37																
4254	V Tauri		"	(8 7	30	12			249		C.9.9	4	—	J1	8	7	9	219		
				(8 21																
	Kap 24	A+44.9	"	(8 51	30	12			"		"	"	"						"	"
		6h33m																		Seeing poor
	γ Gem	A+16.4		8 50		17½	+7.5	233½											W	"
				9 13																
	S Cass		Mar. 25	10 13	60	17½			253½		0.9.9	4	P7b	J1	9	3	14	129	"	"
																				Thick fog
	α Tauri		Mar. 28	8h 0m		17½	-4.4	231											"	"
				8 18																
	S Cass		"	9 38	80m	17½		231	231		Seed 30	5	P7b		5	6	44	219	W	"
	5 δ+9		"	10 5	150s	12			231		"	6	P7b		15					
↓													yee		14½					
4255	Polar Seq				150								P7		14					
					"								yee		13½					
					"								P7b		13					
					"								yee		12½					
					"								P7		12					
					"								yee		11½					
					"						"		P7b		11					
				10 27	"															

283
273

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Jel	Obs.
↓ 4256	Polaris 5.8+9		Mar 28	10h 30	60s	17½			231		Seed 30	7	P7b		15				P5	
					"								hee		14½					
					"								P7		14					
					"								hee		13½					
					"								P7b		13					
					"								hee		12½					
					"								P7		12					
					"								hee		11½					
			"	16h 45m	"	"					"	"	P7b		11				"	
	α Tauri		Mar. 29	8h 05m		17½	+2.2	234											"	"
	S Cass		"	8 30 9 30	70m	17½			234		Seed 30	8	P7b		5	6	44	219	"	"
✓ 4257	W Sconis	10h 49m A +14.0	"	11 25 12 25	60	17½			234		Seed 30	7	—	—	12	7	41	219	"	"
	Regulus	10h 4m A +12.3	Mar. 31	10h 35m		17½	+1.4	232							1				"	"
✓ 4258	W Sconis	10h 49m A +14.0	"	10 47 10 52	5	17½			232		"	5	P7b	—	12	8	41	219	"	"
	"	"	"	11 00 12 00	60m	"						"	"		13		42	219	"	"
✓ 4259	"	"	"	12 12 12 42	30	12			232			6			13	8	42	219	"	"
	α Tauri		April 2	8:30		17½	+16.8	230											"	"
	V Tauri		"	8 40 9 10	30	12			250		C.9.9	4	—	J1	8	7	9	219	"	"
	Kap 24		"	9 20 9 50	30	"			"			"		"	11	7	22	219		

Plate spoiled in development

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Jel	Obs.
4260	Polaris 5.8		April 2	$10^h 15^m$	150^s	12			230		Seed 30	7	P_7 b	—	15	8	219	W	Ps	
													pee		$14\frac{1}{2}$					
													P_7		14					
													pee		$13\frac{1}{2}$					
													P_7 b		13					
													pee		$12\frac{1}{2}$					
													P_7		12					
													pee		$11\frac{1}{2}$					
													P_7 b		11					
✓ 4261	Polaris 8+9		"	10 45	11	11						8	P_7 b		15					
				10 52	60s	$17\frac{1}{2}$							pee		$14\frac{1}{2}$					Clock wound
													pee		14					
													P_7		$13\frac{1}{2}$					
													pee		13					
													P_7 b		$12\frac{1}{2}$					
													pee		12					
													P_7		$11\frac{1}{2}$					
													pee		11					
													P_7 b		$10\frac{1}{2}$					
				$11^h 10^m$	60'	"														
✓ 4262	W Leonis		"	11 25	90^m	$17\frac{1}{2}$				"	Seed 30	5	P_7 b	—	12	7	41	219	"	"
	W Leonis			12 55																
				13 10	15'	12				"	"	5	—	—	11	8	41	219	"	Fox
				13 25																

Wrong plate

283
275

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel	Obs.	
✓✓ 4263	W Leonis		1921 April 2	13 35 / 13 50	15	12					Seed 30	6	—	—	11	8	41	219	W	Fox	
	H.C.O. ζ 6	A+14.8	"	14h 0m / 14h 15m		12						6	—	—	6	11	19	129	"	Ps	
	α Cor Bor	15h31m A+26.9	April 4	15h 20m		17½	+14.0	232											W	"	
✓ 4264	R Serpentis	15h46m A+15.3	"	15 40 / 17 10	90m	17½			232		Seed 30	5	—	—	10	12.5	7	~~219~~ 229	W	"	
	α Tauri		April 7	8h 13m		17½	+16.2	228													
✓✓ 4265	V Tauri		"	8 28 / 8 58	30m	12"			248		C.9.9	4	—	J₁	8	7	9	219	"	"	
	Kap 24	4h 40m A+44.8	"	9 23 / 9 43	30m	12			"		"	4	—	"	~~11~~ 9	~~7~~ 6	22	219	"	"	Sky thick during half of exposure
✓ 4266	W Leonis	10h49m A+14.0	"	[illegible] / 12 25	90m	17½			228		Seed 30	5	P₇b	-	12	8	41	219			Thick sky
	α Urs. Maj	10h59m A+62.2	April 8	8h 50m		17½	+9.0	226											E	"	
✓ 4267	R Camelop	14h24m A+84.2	"	9h 23 / 9 53	30m	12			226		Seed 30	6	P₇b	–	7	13	12	219	"	"	
✓ 4268	"	"	"	10 00 / 11 00	60m	17½			"		"	7	P₇b	–	7	13	12	219	"	"	
	"	"		11 01 / 11 03	2m	"			"		"	7	"			"	11	"	"	"	
✓ 4269	R Camelop	"	"	11 45 / 12 00	15m	"			"		"	8	—	—	7	13	12	219	"	"	Sky entirely covered with clouds.
	α Tauri	4h31m +16.3	April 10	8h 28m		"	+4.3	230											W	"	
✓✓ 4270	V Tauri	4h47m (A)+17.3	"	8 37 / 9 7	30	12			250		C.9.9	4	—	J₁	8	7	9	219	W	"	
	Kap 24	A+44.8	"	9 15 / 9 45	30	12			"		"	"	—	"	9	6	22	219	"	"	
~~4271~~	Polaris		"	10h 00m		17½	+2.5	23~~8~~4											W	"	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Scales	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
4271	Polaris 5+8	A+88.5	April 10	$10^h 10^m$	60^s	$17\frac{1}{2}$			2 34												
				$10^h 30^m$	"	"					Seed 30	5	P_7b	—	15				W	Ps	Centered on +5
													pee		$14\frac{1}{2}$						
													P_7		14						
													pee		$13\frac{1}{2}$						
													P_7b		13						
													pee		$12\frac{1}{2}$						
													P_7		12						
													pee		$11\frac{1}{2}$						
													P_7b		11						
													pee		$10\frac{1}{2}$						
													P_7		10						
													pee		$9\frac{1}{2}$						
													P_7b		$8\frac{1}{2}$						
4272	Polaris 8+9	A+88.6	"	$10^h 37$	100^s	$17\frac{1}{2}$			"		Seed 30	6	P_7b		15				"	"	Centered between 8 & 9
													pee		$14\frac{1}{2}$						
													P_7		14						
													pee		$13\frac{1}{2}$						
													P_7b		13						
													pee		$12\frac{1}{2}$						
													P_7		12						
													pee		$11\frac{1}{2}$						
													P_7b		11						
													pee		$10\frac{1}{2}$						
													P_7		10						
													pee		$9\frac{1}{2}$						
				$11^h 5^m$		"							P_7b		$8\frac{1}{2}$				"	"	

283

279

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Scales Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Jel	Obs.	
4273	Polaris 5+8	A+88.6	April 10 1921	11h 10m	150s	12			234	Seed 30	γ	P7b		15				W	P5	Centred between +5 & +8
												free		14½						
												P7		14						
												free		13½						
												P7b		13						
												free		12½						
												P7		12						
												free		11½						
			"	11h 37m	"	"			234	"	..	P7b		10½				..	"	
4274	R Camelop	14h 24m A+84.2	"	11h 56m	64m	17½			234	Seed 30	8	—	—	8	12	12	219	E	"	
4275	R Camelop	"	"	13 00	45m	17½			"	"	5	P7b	—	8	12	12	219	"	"	
4276	N.C.O. A2	12h 00m A+74.8	"	13 35	15	12			"	"	6	—	—	10½	2	51	219	W	"	
	R Camelop	14h 24m A+84.0		13 58						"	6	—	—	6	11	11	219	W		
				14 35																
				14 50	15	12			"											
4277	Polaris 5+BD5		April 18	10 10	50s	17½	+9.8	229	229	"	5	P7 and P7b	—	12 to 10	8	—	"	E	P	P7b. free, P7, free, P7b
4278	"	"	"	10 15	each	"			"	"	6	P7 + P7b						..	..	" " " " "
	Regulus	10h 4m A+12.3	April 28	11h 25m		17½	+9.8	229										W	P5	Clouds
	Arcturus	A+19.4	" 29	13h 15m		"	+9.5	221										E		
4279	R Serpentis	A+15.1	"	13 43	62m	17½			227	Seed 30	5	P7b		5	11	21	129	E	"	
4280	R Serpentis		"	15 15	25m	12			"	"	6	P7b	—	5	9	21	129 219	E	"	
	Regulus		May 3	10h 58m		17½	+5.0	230										W	"	
4281	W Scorpii		"	11h 15m	90m	"			230	"	5	P7b	—	12	8	41	219	W	"	
4282	W Scorpii	10h 49m A+14.0	"	12h 45m 13h 2m	15	12			"	"	6	—	—	12	8	41	219	"	"	
	H.C.O. 56	A+14.8	"	13 17	15m	"			"	"	"	—		2	7	51	219			
	W Scorpii		"	13h 42m 57) 14h 5m 20m)	15	"			"	"	"	—	—	14	8	43	219	"	"	

283

281

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting
	α Urs. Maj	10h 59m H+62.3	May 4 1921	10h 50m		17½	+11.2	229	
	R Camelop	14h 24m A+84.2	"	11h 5m 12h 35	90m	"			229
	R Serpentis	15h 46m A+15.1	"	13h 5m 13 20	15m	12			"
✓✓ 4283	H.C. 0 C8	15h 0m A+14.7	"	13 39 13 54	15m	"			"
	R Serpentis			14 08 14 23	15m	"			"
✓ 4284	R Draconis	16h 32m A+67.0	"	14 40 16 20	100m	17½			"
	Regulus	10h 4m A+12.3	May 5			17½		227½	
	W Leonis	10h 49m A+14.0	"	11h 7m 11 27	20m	12	+15.0		247½
✓✓ 4285	Kap 30	10h 38m A+44.8	"	11 45 12 5	20	12			"
	W Leonis		"	12 15 12 35	20	12.			"
✓ 4286	R Camelop	14h 24m A+84.2	"	12 55 14 10	75m	17½			227½
✓ 4287	R Draconis	16h 32m A+67.0	"	14 53 15 23	30m	12			227½
	Regulus		May 6	10h 55		17½	+14.1	224	
✓ 4288	W Leonis		"	11 10 12 10	60m	17½			224
	W Leonis		"			"			244
	Regulus		May 7	11h 10m		"	+15.0	226	
✓ 4289	W Leonis		"	11 30 12 30	60m	"			246
✓ 4290	R Draconis		"	13 00 14 25	85m	17½			226
✓ 4291	R Draconis		"	14 55 16 35	100m	"			"
	Regulus		May 8	11h 45		"	+14.0	226	
✓ 4292	W Leonis		"	11 55 12 55	60m	12			246
✓ 4293	R Camelop		"	13 25 14 25	60	17½			226

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Scales Tel	Obs.	
									E	Ps	
	Seed 30	5	Pgt	—	7	13	12	219	E	"	Poor
	"	6	—	—	5	11	21	129	E		
	"	"	—	—	5	4	4	129	"	"	
	"	"	—	—	7	11	23	129	"	"	
	Seed 30	7	—	—	9	3	21 17	219	E	"	elongated
									W	"	
	C.9.9	4	—	J.	12	8	41	219	"	"	
	"	"	"		5	6	25	165 219	"	"	
	"	"	"		14	8	43	219	"	"	
	Seed 30	5	Pgt	—	7½	11	14	219	E	"	
	Seed 30	85	Pgt	—	9	3	21	219	"	"	
									W	"	
	Seed 30	6	—	—	12	8	41	219	"	"	
	C.9.9	4	Pgt	J.	12	8	41	219	"	"	Clouds. No exposure
									"	"	
	C.9.9	4	Pgt	J.	12	8	41	219	"	"	
	Seed 30	7	Pgt	—	11	3	22	219	E	"	
	"	8	—	—	"	"	"	"	"	"	
									W	"	
	C.9.9	4	Pgt	J.	14	8	41	219	"	"	
	Seed 30	5	Pgt	—	8	12	12	219	E	"	

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting
	R Draconis	16h32m A+67.0	May 8	14 40 / 14 55	15m	12"			226
4294	H.C.O. A2	12h00m A+74.8	"	15 15 / 15 30	15m	"			"
	R Draconis		"	15 45 / 16 00	15m	"			"
	η Ursa Maj	13h44m +49.7	May 16	11h50m		17½	#+12.8	227	
4295	R Camelop	14h24m A+84.2	"	12h10m / 13h10m	60m	"			247
4296	R Camelop	"	"	13 28 / 14 28	60	12			"
	Regulus	10h4m A+12.3	May 19	12h5m		17½	#+22.6	226	
4297	W Leonis	10h49m A+14.0	"	12 25 / 13 25	60	17½			246
	η Draconis	16h23m A+61.7	May 28	13h5m		17½"		227	
4298	R Draconis	16h32m A+67.0	"	13 25 / 14 25	60m	17½			247
	R Drac	16h32m A+67.0	"	14 50 / 15 10	20	12			"
4299	Kap 36	16h46m A+45.3	"	15 29 / 15 49	20	12			"
	R Drac		"	16 02 / 16 22	20	12			"
4300	R Serpentis	15h46m +15.3	"	16h40 / ~~17h10~~ 40	60	17½			"
	η Drac.		May 29	13h45m		17½	+25.0	224	
4301	R Drac		"	14h4m / 15h4m	60	12"			244
	R Camelop	14h24m A+84.0	"	16h10m / 16 30	20	12			"
4302	Kap 33	13h51m A+44.9	"	16 47 / 17 7	20	"			"
	R Camelop		"	17 25 / 17 45	20	"			"
~~4303~~	R Serpentis	15h46m A+15.3	"	18 20 / 19h5m	45m	12			"
	α Cor. Bor	15h31m A+26.9	June 5	16h10m		17½	+13.3	228	
									248

Hour Angle	Plate Emulsion	Holder	Slitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
	Seed 30	6	—	—	11	3	22	219	E	P5	285
	"	6	—	—	6	4	51	219	W	"	
	"	6	—	—	9	3	20	219	E	"	
					~~7~~	~~13~~	~~12~~		E		
	C.9.9	4	P7b	J.	7	13	12	219	"	"	
	"	"	"	"	"	"	"	"	"	"	
									W	"	
	C.9.9	4	P7b	J.	12	8	41	219	W	"	
									E	"	
	C.9.9	4	P7b	J.	11	3	22	219	E	"	
	"	4	—	J.	11	3	22	219	"	"	
	"	"	—	"	6	13	13	219	"	"	
	"	"	—	"	13	3	25	219			
	"	4	P7b	J.	6	11	5	229	W	"	
									E	"	
	C.9.9	4	P7b	J.	6	5	22	219	E	"	
	"	"	—	J.	7½	12½	12	219	W	"	
	"	"	—	"	5	12	10	219	"		
	"	"	—	"	9	12½	14	219	"	"	
	C.9.9	4	P7b	J.	9	7	35	219	"	"	poor
									W	"	

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting
✓	R Serpentis	15h 46m	June 5	16h 25	20m	12			248
4303	Kap 35	A +15.3	"	16h 45					
		15h 50m		17 02	20	12			"
		A+44.6		17 22					
	R Serpentis		"	17 55	20	12			"
				18 15					
4304	S Cas		"	18 48	60	17½			"
				19 48					
4305	S Cas		"	19 53	30m	12			"
				20 23					
	α Ursæ Maj	+62.0	" 11	14 10			+22.7	224	
		10 38		14 35					
4306	Kap. 30	+44.9	" "	15 35	60	12"		~~244~~	244
		15h 46m		15 54					
4307	R Serpen.		" "	16 54	60	12			244
		20h 39		~~17h 15m~~					
	ε Cygni	A+45.0	" 11	17h 14m		17½	+21.0	228	
		19h 47		17 31					
4308	Kap 39	A+44.9	" "	17 56	25	12			228
				17 58					
				18 3	5		+20.3		
	α Ursæ Maj	+62.0	" 13	14 30			+19.7	224	~~224~~
✓				15 20					
4309	Kap 32	45°.0?	" "	16 8	48	12			244
				16 32					
				16 40	8		19.0		
	α Ursæ Maj	+62.0	" 19				+22.4	226	
		+45.0 for guiding star							
	Kap. 32	+44.5							246
	Vega	A 38.7	June 30				+26.6	221 ~~212~~	
				16 26					
4310	Nova Cyg 3	A 53.4	" "	17 26	60	12			241
				17 35					
4311	" " "		" "	18 0	25	12			221
				18 0					
				18 5	5	"			

Mirror silvered July 12

Collimated July 19 & 20 $\alpha = 4.5$ $\delta = 9.6$ for zenith

Hour Angle	Plate Emulsion	Holder	Grtter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
	C.9.9	4	—	J1	10	2.5	41	219	W	Ps	287
	"	"	—	"	10	10	48	219	"	"	
	"	"	—	"	12	3	43	219	"	"	
	~~C.9.9~~	~~4~~	~~Pg~~	J1	5	11	37	219	E	"	
	C.9.9	4	Pg	J1	5	11	37	219	E	"	Dawn
3 11								~~165~~	W	P	
	10401 Cdl	4	R76	J1	3	9	19	165	W	P	very good
	"										
	"	4	Pg	J1	10	2½	41	219	W	Ps	
									E	P	
	Seed 30	5	Pg		4	9	51	210	E	P	very good
					4	9	50	"	"	"	" "
	10330 CJJ	4	P76	J1	8	~~4~~? 2	29	219	W	P	clear, unsteady stopped by clouds
							30				" "
											" " "
											set, but sky too streaked in recording
	CJJ	4	P76	J1	9	8	10	129	E	P	good
	Seed 30	5	"	—	12	7	12	"	"	"	"

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Setting
	Vega		Aug. 2				+17.5	231	
4312	W Aquarii	20h 42m 13s / -4° 22' 1"	"	19h 32m / 20 32	60s	18	"		231
	Vega		Aug. 7				+17.4	227	
4313	W Aquarii	"	" "	19 36 / 20 36	60	24	"		227
	Vega		" 8					227	
4314	W Aquarii	"	" "	19 37 / 20 37	60	18	+19		227
	α Cygni		Aug. 24				+21.2	235	
4315	Kap 43	23h 55m / +44 55'	N	20h 45m / 21 45	60	12"	+21.2		255
	Polaris Pole	+89.0	Sept. 11	20 50			+17.5	221	
4315	HPS 5s	1h 30 / 89.77	" 11	21 1 / 21 5	4	17½ +12		244	241
				21 7 / 21 41	34	12			
	Polaris Pole		" 14			17½	+21.2	227	
			" "	clouds		12			247
	Polaris HPS 5s		" 17			17½	+19.7	228	
4316	Pole	89°.7	" "	18m 50 / 19 35	45	12			248
4317	"	"	" "	19 56 / 20 56	60	12	+16.2		248
	Polaris HPS 5s		Oct. 4	21 0 / 21 14				235	
4318	Pole		" "	22 45	91	12	+10.0		255
	Pollux	+28.0	Dec 3	9 28			-3.8	240	
4319	Kap 28	+44.7	" "	10 58	90	12			260
	Pollux	+28.0	Dec. 5				-1.8	236	
4320	Kap. 28	+44.7	" "	9 0 / 11 0	120	12			256
4321	" 28	+44.7	" 19	9 55 / 10 50	55	12	-2.5	238	258

289.

Hour Angle	Plate Emulsion	Holder	Grating	Filter	Scales α	δ	g.o.	⊙	Tel.	Obs.	
h											
4h 30m	3533-3-28	5	–	–	8	13	13	219	E	Pv.	
40m											
4h 30m		5	–	–	8	13	13	219	E	Pv.	
h											
"		5	–	–	8	13	13	219	E	D.B.P.v.	
34m											
contrast											
3h 8h	4373	¼		J1	8	2	22	249	E	Pv.	Poor seeing
3h	10401	4	P76	J1	5	9		219		P	Seeing fair clear, moon
3h 50m											
	C33 10463	4	P76	J1	5	9					
	C33 10463	4	P76		5	9					good
5h 55m											clouds at 20:55
20 attend	10463 C3m	4	P76	J1	12	9				P	good
	C33 10520	4	"	"	3	8	26½	174	W	P	double images good
	"	4	"	"	2½	9	26½	174	W	P	
	"	4	"	"	5	5	15	192	W	P	stopped by clouds

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Grater	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
				11 34																	
				11 36	2																
				11 39																	
4322	Kapt. 28	+44°.8	Dec. 19	11 44	5												15				291
				11 49													15 3/4				
				11 57													16 1/2				clouds

Asteroid plates 4323 & 4372 not indexed with the other plates in this book.

4323	(944)	13 33 +13 40	1922 Jan 23	16 50 48 to 17 52 48	62m	24		239	234		Seed 30	6	–	–	8	4	30	219		VB	
4324	(944)	13 33 +13 40	Jan 26	16 1 47 17 17 47	76				236		"	6			8	4		219		V	
4325																					
4325	(944)	13 33 +13 40	Jan 27	16 54 8 17 54 8	60				232											VB	
4326	(944)	13h 33m +13°40'	1922 Jan 28	15h 46m 0s to 17 C.S.T. 6 0	80m	24		239	234		Seed 30	6	–	–	8	4		219	W	V	
4327	(944)	13 32 +13 40	Feb. 3	15 35 23 to 16 35 23	60	24			234½		Hurricane	5			8	8		219		VB	
4328	(944)	13 32 +13 40	Feb. 3	16 39 53 17 27 53	48	24			234		"	6			8	8		219		VB	
4329	(944)	13 20 +14 7	Feb. 25	15 49 9 16 29 9	40	"			233		"	5			8	8		219		VB	
4330	(944)	13 20 +14 7	Feb. 25	16 37 1 17 17 1	40	"			233		"	8			8	8		219		VB	Haze!

R No	Field	R.A. Decl.	Date 1922	Sid. Time Begin End (C.S.T)	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting
4331	(944)	13h 20m +14° 9'	Feb. 27	15h 51 56 to 54 56	23m	24			235
4332	(944)	13 20 +14 9	Feb. 27	15 58 56 16 16 56	18	"			235
4333	Jup. VI	13 10 −5 30	Mar 2	14 34 to 14 44	10	"			
4334	Jup. VI	13 10 −5 30	ibl.	16 43 to 16 55	12	"			
4335	(944)	13 16 +14 15	"	15:32 to 56 16:04 to 28	24	"			
4336	Phoebe	12 23 +0 22	Mar 3	13:50 to 14:26	36	"			233
4337	Jup. VI	13 10 −5 30	"	14:40 15: 8	28	"			233
4338	Phoebe	12 23 +0 22	"	15:22 15:58	36	"			233
4339	(944)	13 15 +14 16	"	16:14 16:37	23	"			233
4340	(944)	13 16 +14 16	"	15:20 15:44	24	"			228
4341	(944)	13 10 +14 20	Mar 8	16:43:45 to 17:08:45	25	"			234

Scales

Plate Emulsion	Holder	Filter	Filter	α	δ	g.o.	⊙	Tel.	Obs.	
Hurricane	7	~~8~~	-	8	8	23	219		VB	with motion of 293 eyepiece.
"	6					24	219		VB	
"	6								V	
"	8								V	
"	7								V	
"	7			8	8	4	219		VB	motion 0.1R after 18 min
Seed 30	5			8	8	7	~~236~~ 7	236	VB	0.1R after 14 m
Hurricane				8	8	8	~~219~~ 4	219	VB	0.1R after 18 m
"				9	8	8	0	219	VB	0.1R after 6 min
				7	8	8	5	219	VB	0.1R after 6 min
				7	8	8	20	219	VB	0.1R after 5 min

R No	Field	R.A. Decl.	Date 1922	Sid. Time Begin End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting	Colour Angle	Plate Emulsion	Holder-grtter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	Remarks
4342	(944)	12h 58m +14°25	1922 Mar 21	11h 28m 14s to 11 53 14	27	24			232		Kerrison	7		8	8	19	39		VB	0.1R in 4½ min. 295
4343	(944)	12 58 +14 25	"	11 57 14 12 24 14	27	"			232		"	8		8	8	21	39		VB	id.
4344	(944)	12 34 +13 47	April 14	9 3 33 9 33 33	30	"			230		"	7		8	8	18	26		VB	0.1R in 5 min.
4345	(944)	12 34 +13 47	"	9 36 27 10 5 27	29	"			230		"	8							VB	no motion of eyepiece.
4346	Jup. VIII	12 56 −3 40	April 15	9 16 12	47	"			229		"	7		8	8		241		▽	0.1R in 9 min.
4347	Jup. VIII	12 56 −3 40	"	10 4 44	45	"			229		"	8		8	8		241		▽	id.
4348	Jup. VIII	12 56 −3 40	April 17	11 46 47	45	"			229		"	6					61		VB	id.
4349	Jup. VIII	12 56 −3 40	"	12 32 18	40	"			229		"	5					61		VB	id.
4350	Phoebe	12 11 +1 40	April 19	9 10 17	35	"			230		"	5		8	8		39		▽	no motion
4351	Phoebe	12 11 +1 40	"	9 49 36	35	"			230			6		8	8		39		▽	id.
4352	Jup. VI & VII	12 46 −3 20	"	10 55 27	36	"			230			7		8	8	10	241		V.B	0.1R in 9 min.

R No	Field	R.A. Decl.	Date 1922	Sid. Time Begin End C.S.T.	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Grating	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	Remarks
4353	Jup. VI-VII	12h 46m −3° 20′	April 19	11 34 14	36	24			230		Hurricane	8			8	8	10	241		VB	0.1R in 9 min.
4354	(944)	12 28 +13 20	April 21	10 40 55	27	"			230		"	6			8	8		23		VB	0.1R in 5½ min
4355	Jup. VI-VII	12 44 −3 20.	id.	11 38 59	30	"			230		"	7			8	8		241		VB	0.1R in 9 min.
4356	Phoebe	12 10 +1 40	April 22	8 53 22	30	"			227		"	8			8	8	20	219		VB	no motion
4357	Jup. VI-VII	12 43 −3 20	"	10 19 41	30	"			226		"	6			8	8	10	241		▽	0.1 in 10 min.
4358	Jup. VIII	12 55 −3 25	"	11 31 49	50	"			226		"	7			8	8	10	241		▽	id.
4359	Jup. VIII	12 55 −3 25	"	12 42 27	60	"			226		"	5			8	8	10	241		▽	0.1 in 10 min.
4360	Jup. VIII	12 55 −3 25	April 23	9 49 13	10?	"			226		"	6			8	8	10	24		▽	clouds! n.g.
4361	Jup. VIII	12 53 −3 12	April 28	10 31 30	40	"			228		"	6			10	8	44	240		VB	0.1R in 10 min.
4362	Jup. VIII	12 53 −3 12	"	11 16 30	40	"			228		"	7			10	8	44	240		VB	id.
4363	Jup. VII	12 40 −3 1	April 29	12 10 42	40	"			228		"	7			8	8		61		▽	0.1R in 10 min

297

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin End	Exp. Time	Ap.	Temp. C	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Grating	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
			1922	CST																	299
4364	Jup. VII	12h 40m −3 1	April 29	12 53 45	40 min	24			228		Hurricane	8			8	8	60	61		σ	R 0.1 in 10 min
4365	Jup. VIII	12 53 −3 12	April 30	11 3 30	40	"			228		"	7			8	8	·	235		∇	R 0.1 in 10 min.
4366	Jup. VIII	12 53 −3 12	"	11 45 30	40	"			228		"	8			8	8		235		∇	R 0.1 in 10 min.
4367	Jup. VIII?		May 21																	∇	Poor "Hurricane" emulsion - None of these objects found -
4368	Jup. VIII?		May 27																	σ	
4369	(944)?		May 27																	VB	
4370	Jup. VIII?		May 28																	VB	
4371	(944)?		May 28																	VB	
4372	Jup. VII?		May 29																	VB	
✓ 4373	Pole	A +90 9a, B 89.5	June 22	15 37 16 37	60m	12"			226½	E bq. 2 W 6 26	Seed 30	5	P7b	—	5	8	—	224	E	F	no guiding. Dec. 12m
				16 41 17 11	30	"							free	—	4						
	Vega	for focus	1922 June 22			12"	20.5	226½											E	F	
	Vega	for focus	June 23			12		221½													

R No	Field	R.A. Decl.	Date 1922	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting
—	Pole		June 23	15h 35m 16 37 16 40 17 42 17 57 19 57	62m 62 120m	12	25.8		241½
✓ 4374	"		" "			12			"
	Polaris	for focus	June 24			12	21.8	221	
✓ 4375	Pole	Xen 55	June 24	15 27 16 27 16 30 18 30	60m 120m	12			241
	Arcturus		July 3	15 15		18	+19.0	226	
	Coma Ber. A +26.1	12h 19m	" "	15 50 56 16 3 33 16 36 46 17 9 18 9 18 12 19 12 19 17 19 47	6m 30 10m 60m 60m 30	12" 12 17½" 12 17½ "			246
✓ 4376	Pole h								
4377			" "	13 44 55 to 50 5		24	228		223
4378				13 53 5 14 8 5					
✓ 4379	Pole #2		" "	21 18 22 12	54m	17½			247
✓ 4380	Arcturus A +19.5 Pole (½ betw. 10 & 15)	14h 12m	July 4 " "	17 3 18 3	60m	17½	+17.9	227½	247½

Both mirrors silvered July 5.
Collimated July 7 : at zenith $\alpha = 6$, $\delta = 7\frac{1}{2}$.

Hour Angle	Plate Emulsion	Holder	Slitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
45 W	Cg 10634	4	P7h	J1	5	8	—	219	W	F	Tel. not clamped. Plate not preserved. (300)
			free	J1	4						
0 W 0 W	"	4	P7h	J1	4	8	—	219	W	F	High warm wind.
+											
50 W 50 W	Cg 9 10634	4	free	J1	5	8		219	W	F	Good. No guiding. Dec. axis would stick flow 5h 12m W. at Dev. 30m.
52 52			P7h		4						
5m W									W	F	
	Cg 9 10634	4	P7h	J1	4	8	15	219	W	F	
					4½		15½				
28 W					5	3	16				
5 W 5 W		"	free	"	4	8	—	219			goes down to #20
5 W			P7h								
40			free		5						
0 W	SL30	7									no motion of eyepiece
		5									
E 6 E 30m W	C9 9 10634	4	P7h	J1	4	8		219	E	F	Dawn. Goes down to #22.
5 E 5 E	"	4	P7h	J1	4	8	—	219	E	F	Goes down to #19

R No	Field	R.A. Decl.	Date 1921	Sid. Time Begin End	Exp. Time	Ap.	Temp. C	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Grating	Filter	Scales α	δ	g.o.	⊙	Tel.	Obs.	Remarks
	Polaris		1922 July 8	16^h		18"	+15.0	205													
✓ 4381	Focus Plate HPS # 5		"	16 45 / 17 5	10^s ± (last 20^s)	"		220-215-212-209-206-203-200-197-194			Seed 30	5	–	–	2-10	Does not dispute 205.				F	Set off in δ for last (20s) exp.
✓ 4382	"		"	17 35	40^s ±	"		245-240-237-234-231-228-225-222-219-216-213		½ E	C 9 m	4	–	J1	2-13	Not definitive within 6 div. 228?				F	Set off in δ for last. Through Clouds.
	Polaris		" 10	18 5 (7?)		18	+22.2	214½		½			–								
✓ 83	HPS # 5		" "		last 30^s 1^m each	"		247-244, 241, 238, 235, 232, 230, 227, 224-221			C 9 m	4	–	J1	1-11	7	239 the best.				Set off in δ for last at 224
✓ 84	" "	A+88°.7	" "		8^s each	"		227, 224, 221, 219, 217, 215, 213, 211, 208, 205, 202, 199			Seed 30	5	–	–	1-11	4th from beginning the best.					Set off | Only 10 exp. on plate.
✓ 85	Pole near 14		" "	17 55 / 18 10	15^m	12	+20.4		237	E	C 89 10634	4	free	J1	6	7½:	:1		E		Clouds.
	Polaris	$1^h 33^m$	July 12	$17^h 30^m$		18	18.4	214		3^h E									W	F	
	near 24 Cephei	$22^h 8^m$ +71°.7	" "	18^{26} 10 21	20	12			236	10 E	C 49 10634	4	P7b	J1	6	2	12	219	E	F	
				18^{48} 23 33	10																
✓ 86				59 34 39	5																
				1 40 42	2										9		15				
	Pole	Pole		18 50 / 19 2	12^m	12				20 Begin			free		6	7½					Lights + power go off –
	Vega	A +38.7	July 13			17½	+20.0	215		25^m E											
✓ 87	R Cygni	$19^h 35^m$ +50°.0	" "	16 37 / 17 37	60^m	"			215	55 E	Seed 30	5	—	—	7	7½	4	219	E	F	Bright meteor at CST 9:10
				18 23 38	15^m	12"			236	45 E	C 99 10634	4	P7b	J1	6	2	12	219	E	F	
	near 24 Cephei	$22^h 8^m$ + 71°.7	"	" 40 50	10																
✓ 4388	without changing hour angle –			51 56	5																
				57 59	2										9						
	Pole			19 5 / 20 10	60	12			E	3 E					6	7½					
				20 10 / 21 40	90					30 E											

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Op.	Temp. C.	Focus Knife-Edge	Focus Setting
	Vega		1922 July 14	16 15		17½	20.8	212	
									~~235~~
✓ 4389	near 24 Cephei	22h8m +71°.7	" "	16 44 16 59	15m	12"			235
				17 0 17 5	5				
4390	✕E 1922 b	16 38 +31 35	id	10 4 CST to 10 19	15	24		213	208
4391	✕E 1922 b	id	id.	10 22 to 10 43	21				
4389 (con.) ✓	Pole (✕)	23h7m A 90.4 slight	"	18 48	64	12"			235
				19 52 19 52	53				
				20 45 20 45	66				
	24 Cephei			21 51 22 5	5				
				12 12	2				
				14					
92 ~~91~~	✕E 1922 b	16 50 +29 26	July 17	10 4 47 to 19 47	15	24		213	208
93	✕E 1922 b	16 50 +29 26	id.	10 29 45 to 37 45	15	24			
	Vega		July 18			17½	20.0	215	
✓ 92	24 Cephei	22h8m +71.7	" "	16 55 17 10	15	12			236
				11 16	5	"			
	Pole (Centered ✕)			17 30 18 30	60m	"			
				20 28 21 28	60				

303

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
	C4g	4	Pfk	J1		2		219	E	F	
E					9	2	15½	219			
	Hurricane	5			8	8	25	80	W	VB	dR 1 in 1 min.
		6						80	"	VB	
20 E			free								
15 E											
15											
2 E			Pfk								
	Hurricane	5						84	W	VB	
	Seed 30	6						84	W	VB	too weak!
E									E		very transparent. Good seeing.
	C4g	4	Pfk	J1	6	2		219	E	F	
50 E			"		6¾	2	12½				
47 E			free		6	9½	25				
47											
53 E											Moon was Pos I also.
50											

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	Scales g.o.	⊙	Tel.	Obs.	
4392[4] (con)	24 Cephei		1922 July 18	21 43 / 48 / 49 / 51	5 / 2	:2"							pr								305
4393[5]	T Sagittarii	19h11m −17°.1		19 5 / 20 5	60m	17½			215	5 E / 55 W	Seed 30	5	—	—	6	7	3	129	W	F	
4394[6]	24 Cephei		" "	21 55 / 22 5 / 6 / 9	10m / 3	12			236		C99 10 290	4	pr	J1					E	F	
	Pole (X)			22 18 / 23 18 / 23 18 / 28	60m / 10	12				0 50 E / 20 W			free								3:30 A.M.
4397	Vega / 24 Cephei	22h8	July 19 " "	16 10 / 16 47 / 17 07 / 07 / 17 / 17 / 21	20m / 10 / 4	12	17½	+19.2	214½ / 235	h 25m E	C99 10 290	4	pr	J1	6	2		219	E	F	Seeing like July 18. Zel hits at HAE greater than 5h 30m.
	Pole (X)			17 55 / 18 55 / 18 55 / 19 55 / 22 10 / 23 10	60m / 60 / 60	12				15 E / 15 0m E			fre		6	7½					Images round. goes down to 21. / Images round.
4398	x Skjellerup	16h57m 28°4	July 19	C.S.T. 12 38 27 to 13 18 27 / 106	30	24		213	208		Hurricane	6	—	—	8	8	20	262°			R 0.1 in 66 sec. VB
4399	id.		"	13 11 27 / 13 43 27	32	"			"		"	8	—	—	"	"	"	"			VB
	Vega		July 20	16 15		17½		213½	234										E	F	Too many clouds.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Op.	Temp. C.	Focus Knife-edge	Focus Setting
134	Vega		1922 July 26	17 40		17½		215	
✓ 4400	24 Cephei	22h 8m +71.7	"	18 0 5 7 12 13 28	5m 5 15	12 " "			236
	Pole (near 28)			18 36 19 36		12			
° 4401	✗ Skjell.	17h 17m 23° 31′		11h 41m 12s c.S.T. 12 1 39	20	24		213	208
° 4402	id.	id.		12h 3m 33s 12 24 5	21	24			
✓ 4403	Pole ½ between h+ Ss.		"	21 53 55 21 55 22 26 22 27 23 0 23 0 5 5 6	2m 31m 33 5 1	18" 12			
	Vega		July 28	17 30				213½	
✓ 4404	Pole (6s 5s c 15)		"	18 1 18 31 32 55	30m 8±	12	22.0		213½
	Vega		July 31	16 15		17½	+23.3	"	
✓✓ 4405	24 Cph ± c		" "	19 7 17 17 21	10m 4	12 "			234
	Pole (x)			19 29 20 29 39 34	60 8	"			

307

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
E											
8m E	C99 10634	4	P7h	J1	7	2	10	219	E	F	
			"								
			"								
15m E			free		6	7½					
		6	—	—	8	8	20	264			VB R 0.1 in 7 sec
		8	—	—	id	id	id	id.			VB looked up α Cap R Cygni S Cygni
	Seed 30	5	P7h	—							hymic Take Very thick
06 E			"								
35 E			free								Very damp.
55											
									E	F	adj. clock to 22½
15 E	Seed 30	7	P7h	—	4	8		219	E		
12 E											Clouds during last 15m!
											Balls put at 21¼
0 E	C99	4	P7h	J1	14	8	3	219	E		new center.
			"		15						
20 E			free		5	10					clouds.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting
136 4406 ✓	Pole (x)		1922 July 31	21 15	30m	12			213½
				45					
				46					
				51	5				
				51					
				22 16	25				
4407 ✓	Y Cass.	23 59 +55.°2	" "	22 36	60m	17½			"
				23 37					
	R Androm. & S Cass.								
4408 ✓	Pole (x)		" "	0 11	49m	12			234
				0 50					
	Vega		Aug. 2	16 30		17½	+22.6	210	
4409 ✓	24 Cyg. * C *		" "	18 47	4m	12"			232
				51					
				52	8				
	Pole (x)			19 0					
				19 19	60				
				20 19					
				20 23					
				21 23	60				
	Deneb							213½	
4410 ✓	RZ Cygni	20 47 +47.°0	" "	22 1	58m	17½"			213½
				22 59					
4411 ✓	Pole (x)		" "	23 31	15m	12			"
				46					
				47					
				24 2	15				
				2					
				7	5				
				7					
				10	3				
				10					
				15	5				
	Polaris		Aug. 3	18 45		17½		215	
4412 ✓	24 Cyg. v C x			19 13	3	12"			236
				16					
				17					
				27	10				

Four Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
	Seed 30 5506	5	P7h	—	5	10			E	F	309
			free								
			free								
35 E											
	" "	7	—	—	6	2	17	219	E	F	
40 W	C49 10634	4	Pric	J1	5	10			W	F	Dawn. Very good.
											changed balls to 18½
	C49 "	4	P7h	J1							
5 E		4	"		15	10	6				
20 E			P7h free								Double exp.
			free								" "
E											
	Seed 30	5	—	—	6	7	44	219	W	F	as soon as moon went down. (RT Cygni found.)
10 W	" "	7	P7h	—	5	10				F	Measurable.
			free								
			"								
			"								
			P7h								
E											
	C99	4	P7h	S1					E	F	No guiding attempt with 44 star.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	⊙	Tel.	Obs.	
138 4412 (cnd)	pole 65		1922 Aug. 3	19 48 20 48 20 50 50 21 50 22 52	60 60 62	12			236	35 E	C99	4	—	J1							Very thick moon. Some clouds. 3/1
4413	Y & RS Pegasi	22h 8m +14°.1	"	23 30 ± 0 30	60m ±	17½	+17.3		215	25 W	Seed 30	5	—	—	−1	2	44	129	W	F	Clouds passing. Tests of axis.
			Aug. 7				+14.7														
	Polaris		Aug. 8					210½		E										F	Adj. balls to 20
4414	24 Ceph.	22h 8m +71°.7	" "	18 40 47 52 58 19 1 5 9 14 20 23 25 31	7m 6 4 5? 3 6	12"	+14.3		232		C99 10634	4_1	PTb	J1	14½	6	12	219	E	F	Moon No guiding adj. to 21. No guiding adj. to 22. adj. to 21+ ~~to 20½~~ to 20½ to 20 to 20¼.
	Pole * 14			19 51 20 53	62					30 E 28			free		5	4	20				Fl. star here — images round!
4415	Pole (15 c*)		" "	21 11 22 09	58m	"			"	0 E 2 E	"	4_2	free						E		Images round.
	24 Ceph.			22 17 22	5								PTb								
4416	24 Ceph.		" "	22 25 30 30 32	5m 2	"			"		"	4_3	PTb "								
	Pole (h c 14)			22 50 23 48	58m					30 E			free								Somewhat elong.
	Pole (h c 14)			23 55 0 51	56					33 E			"								
	"			51 55	4		+11.7			33 E			"								For ident.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting
140			1922						
✓	Polaris		Aug. 9	17 15		17½"	+20.7	210	
4417	Pole 65-C-5		" "	17 35					
				18 35	60	12			231
	" 65-C-7			35					
	↓			45	10				
				18 52					
				20 5	73m				
	24 Cephei.	22h 8m +71.°7		20 16					
				21	5	"			
				22					
				23	1				
				23					
				20 26	3				
	24 Cephei.	"	" "	20 40					
				45	5m	"			
				46					
				48	2				
✓ 4418	Pole h 14 c			20 57	10m	"			
				21 7					
				22 9	62				
	" h x 14			22 16					
				23 16	60m				
			" "	20 30					
				35	5m	"			
4419	24 Cephei.	" "		35					
↑				36	1				
				36					
4419	near Polaris			38	2				
↓	* c		Aug. 10	18 4					
4420	.8			24	20m	12		Polaris 213	234
				25					
	Pole #14			33	8				
				35					
				43	8				
				43					
				57	14m				
				G.M.T.					
4421	Skjell.	17h 55m +14° 33'	Aug. 12	8 57 28	45m	24		210	205
4422	id.	id.	Aug. 12	9 36 20	27m	"		210	205

Hour Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	g.o.	⊙	Tel.	Obs.	
20 E										F	313
30 E	c9m 10677	4₁	free	J1					E	Elong. Some clouds about. Trailed moonlight exposure.	
			"								
25 E end			"								
			p7b								
			"								
			"								
	"		p7b								
17 E end.			p7b								
35 E		4₂	free	J1						Both exp. Clouds close during this exp. Elong.	
30 E											
	"	4₃									
"		4	p7b							started with 18".	
			free								
			free								
			p7b							Clouds come.	
Hurricane		6	-	-	8	8	-	82° W	VB	0.1 in 100 sec	
		8	-	-		id.		W	VB	"	

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel.	Obs.	
142			1922																		315
4423	x Skjell.	17h 57m +14°6′	Aug 13	C.S.T 8h 48m 50s	45	24"		200	195		Hurricane	6			12	12	—	263°	W	U	R 0.1 in 105 sec.
4424	x Skjell.	id.	"	9 45 17	56	"		200	195		"	8				id.		"	"	H.Big.	id.

Aug. 14 Axis of telescope turned 360° in its bearing effort to get rid of "declination shift."

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel.	Obs.	
	Polaris		Aug. 14			17½"		218													
4425	24 Ceph.	22h 8m +71.7	" "	18h 55m / 19 01 / 19 02 / 04	6m / 2m	12"			238		C.J.J. 10634	4	P7b	J1					E	F	
	Pole center at 23 (α=10)			20 46 / 21 46	60m					35 / 35 E											Images round.
4426	Pole (x)		" "	19 16 / 31 / 32 / 47 / 47 / 52 / 52 / 20 2 / 2 / 22 / 23 / 36	15m / 15m / 5 / 10 / 30 / 13	12"	+25.0	~~✗~~	218	23 E	Seed 30	5	P7b / free / " / P7b / " / free	—							Not very transparent. Images all o.k. Moon rose
	δ Oph.	16h 33m −10.4	Aug. 15	17 45				208													
4427	R Oph.	17h 3m −16.°	"	18 11 / 19 11	60m	17½"			208		Seed 30	7	—	—	−1	14	21	219°	W	F	
4428	W Aquarii	20h 42m −4.4	"	19 32 / 20 32	60	"			"		" "	5	—	—							

R No.	Field	R.A. Decl.	Date	Sid. Time Begin	Sid. Time End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Your Angle	Plate Emulsion	Holder	Gitter	Filter	α	δ	Scales g.o.	⊙	Tel.	Obs.	
144 ✓ 4429	24 Ceph.	22h 8m +71.7	1922 Aug. 15	21 48	50	2m	12"			230		CYM 10677	4	Plain	J1					E	F	317
					51									"								
					58	7								"								
				22	0	1								"								
	Pole (x)		"	22	7						h 50m			"								
				22 23	14	67m	"							free	"							
					14																	
					29	15m														!		
				22 23	33																	what was that noise?
	Pole c 14 h			23 34	7	34m					h 12m											
				0	19						33 E											
				1	19	60m																
4430	Skjellerup	18h 2.5m +12°48'	Aug 16	8 45	54	45	24		205	100									263	W	T	0.1R in 105 sec
4431	Skjellerup	18 · 2.5 12 48	Aug 16	9 45	29	55	"												263	W	Big.	Clouds
4432 ✓	Pole c 65 15		Aug. 16	20 25	55	30m	12		213	213		seed 30	5	free	—					E		goes down to #27 mag. 14.9
					56									Plain								
				21 26		30								free								
					27																	
					32	5																
					34																	
					49	15		+25.3				50		"								
4433	Skjellerup	18h 4m 12°24'	Aug 17	8 32	30	49min	24		203	198									262	W	VB	0.1R in 110 sec
4434	Skjell.	18h 4m 12°24	Aug. 17	9 6	23	8min	24													W	Big	id. Stopped because of broken wire of guiding lamp

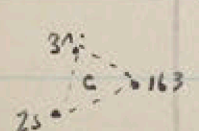
R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Op.	Temp. C.	Focus Knife-edge	Focus Setting	Your Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
146	Altair		1922 Aug. 18				21.5°	207½													
4437 ✓	U Cap.	20h43m −15°.1	" "	20 56 / 21 50	54m	18"			207½	0	Seed 30	7,	—	—	11	8	44	129	W	F	(319) Jump in δ at end. Post also.
		1h 58m B +88.3																			
4435	Skjellerup	18h 6m +11° 59'	Aug. 18	C.S.T. 8 42 22	50m	24		212	207	0, 30	Hurricane	6			8	8	—	81	W	VB	R 0.1 in 110 sec. Clock fast
4436	id.	18 6 +11 59	id.	9 37 20	52m	24		"	"	1. 30	"	8							W	Big	"
	HPS #5, 8, 9	1h 58m B +88.3	Aug. 18	22h 20m	2½m	12			207½		Seed 30	5,	Pth free free Pth	— —	5	9½			E	F	
					1																
					2½										7½						
4438 ✓	Pole 14. 10.	Same α B +89.4			2½								Pth free			9½					10+14 show 10 shows spectra.
					1																
	5, 8, 9				1								free Pth " free			7					
					2½																
					2½																
				22 55	5s 1m																
4439 ✓	HPS #6 with 6 & 4s	20h40m B +89.5 (beyond)		23 10	5				"	"		72	Pth "						W	F	Out of focus.
					2																
					3								free " "								
					2																
					1																
					½																
					2								Pth "								
				23 35	5																

R No.	Field	R.A. Decl.	Date	Sid. Time Begin / End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Four angle	Plate Emulsion	Holder	Grating	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.
148			1922																	
		23h 0m ± 36m	Aug. 18	0h ±	1m	12"			207½		Seed 30	S2	free	–	5	9½				F
	HPS				30s								free							
	# 7+2s	B 88.5 (beyond)			2								P7h							
					2								P7h							
					2								P7h							
4440	Pole 14c				1								free							
	10.	B +89.7			30s								free							
					1m								free		8	7				
	7+2s				30s								free							
					2m								P7h							
	Polaris		Aug. 23	18 15		18½	+25.3°	212												
				21 15		17½	+22.8	same												
		45																		
4441	HPS # 6 c 6n		" "	18h 29m	2½m	12"			212	40 E	Seed 30	7,	P7h	–	5					F
		20h 9m			2								"							
		B +89.5 beyond			1½								"							
					1								"							
					30s								"							
					20								"							
					10								"							
					5								"							
					1m								free							
					30s								"							
					15s								"							
					10								P7h							
					20								"							
					30								"							
					1m								"							
					1½								"							
					2								"							
				18 53	2½								"		18½					
	7α2s 2s c 7	23 39 B +88.6 (beyond)	See next page.																	

Out of focus

No motors in use, Dome stationary.

Thick sky, improving.

R No.	Field	R.A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	g.o.	☉	Tel.	Obs.	
150		23h 39m δ +88°.6	1922 Aug. 23	19h 30m	2½m	12"			212		Seed 30	5,	P7b		5	10					(323) Sky much more transparent than at beginning of evening.
					2								"								
	7 & 25	(beyond)			1½								"								
					1								"								
	(Center ½ way betw.)				30s								"								
					20								"								
					10								"								
					30s								free								
					15								"								
				19 42	30s								free		5	10					
					15								"								
					15								"								
					30								"								
	Pole	c .14	"		10								P7b								
4442		.10			20								"								
					30								"								
					1m								"								
					1½								"								
					2								"								
					2½m								"								
				19 55	10s								P7b			13					
					20								"								
	7 & 25				30								"								
					1m								"								
					1½								"								
					2								"								
					2½								"			12					
					1								"								
					15s								free								
					15								"								
					30								"								
					30					30m E			"								
				20h 20m	1½m								P7b								
					1	12"			212			8,	"								Centered with δ at 12 by mistake.
	Jr & 25	0h 37m +88°.6 (beg.)	"		1								"								
					30s								"								
4443					30s								"								
con. on next page					20								free								
					10								"								

R No.	Field	R. A. Decl.	Date	Sid. Time Begin End	Exp. Time	Ap.	Temp. C.	Focus Knife-	Setting	our gle	Plate Emulsion	Holder	Gitter	Filter	Scales α	δ	g.o.	⊙	Tel.	Obs.	
.5r √ 4443 (con.)	HPS 5n Center betw. 163 - C - 5n	0h 36m + 89°.0 (beyond)	1922 Aug.23	20h 30m	10s								free		8	10					325 Displaced in δ.
					20								"								
					30								"								
					30								P7b								
					30								"								
					1m								"								
					1								"								
					2								"								
					2								"			3					
	Pole +89°.7 c 14. 10.			20 45	2m								P7b		5	10					
					1½								"								
					1								"								
					30s								"								
					30								free								
					20								"								
					10								"								
	3n + 2s c				20s								free		−2	5					
					10								"								
					1½m								P7b								
					1								"								
					1								"								
					30s								"								
					30								"								
					20 ±								free								
					20																
				21h 7m	10					33m E											
4444	HPS 5,8,9 Pol. c 8	2h 0m +88.3		21 25	1m					39 E	Seed 30	6,	free								
					5s								"								
					10								"								
					10								"								
					15								"								
					15								"								
					20								"								
					5								P7b								
					10								"								
					20								"								
					30								"								
					2½m								"								
	Pole 14. c 10.			21 35	2½m								P7b								
					30s								"								
					1m								free								
					20s								"								

R No.	Field	R.A. Decl.	Date	Sid. Time Begin Field	Exp. Time	Ap.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Grating	Filter	α	δ	g.o.	⊙	Tel.	Obs.	
4444 (corr)	5, 8, 49		1922 Aug. 23	21 45	1m 20s								free			8					(327)
					2½m 30s 20								"								
													"								
													"								
				21 50																	
4446	Pole		"	23 7	30m	12"			212	0m	Seed 30	6_2	pfr							F	
				23 37																	
				38	19								prog								
				57									"								
				57																	
				24 02	5								"								
				2																	
				10	8																
		19h 38m	"	22h 5m	2½m	12"			212		Seed 30	8_2	pfr			10				F	close phase as to dome clearing.
	2n + 4n	B+88.6			2								"								
					2								"								
					1½								"								
					1								"								
					1								"								
					30s								"								
					15								"								
					15s								pfr			10					
					30m								"								
4445	Pole				1								"								
					1½								"								
					2								"								
					2½								"								
					15s								pfr			6					
					30								"								
					30								"								
	2n + 4n				1m								"								
					2								"								
					1½								"								
					2½								"								
				22h 50m	3m					10m W			"								
	Polaris		Aug. 24	17 40		17½			213												

R No.	Field	R.A. Decl.	Date	Sid. Time Begin	Sid. Time End	Exp. Time	Op.	Temp. C.	Focus Knife-edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
156	Polaris		1922 Aug. 25	18h ±		17½+16.8	209														F	(329)
✓ 4447	HPS 1+4	18h 2m +86.5	" "			12 20s, 15, 10, 5, 5, 4, 3, 2, 1s.				209		Seed 30	5,	Pfl			10				F	
	1 r	~~18h 0m~~ 19h 0m +87.6 (beyond)				1s, 2, 3, 4, 5, 10, 15, 20, 15, 10, 5, 4, 3, 2, 1s								"		0-						Poor. Repeat
	5	1h 6m +88.2				{20s, 1, 2, 3, 4, 5, 5, 10, 15, 20s								"			7					Prob. not clamped ∴ repeated at 5.
	1+4			18 50		?s ?s ?s 1, 2, 3, 4, 5, 10, 5, 15, 20, 1, 2, 3, 4.								"			5} 12					
✓ 4448	6 with {4s 6r	20h 9m 89.5 beg.	" "	19 0m		12" 4m, 3, 2, 1, 1, 30s, 15, 30, 1m, 1m, 2m				209		" "	6,	Pfl							F	0.K.
				19 20		1m, 30s								free								
✓ 4449	HPS 2	22h 21m +85.6	" "			12" 20s, 15, 10, 5, 5, 4, 3, 2, 1s.				209		"	7,	Pfl							F	O.K. but streaks between exp. are bothersome
	5					20s, ?1, ?2, ?3, 4, 5, 10 | set off ins | 10, 15, 20, 1, 2, 3, 4.								"								
	3	23h 28m +86.7				?1s, 2, 3, 4, 5, 10, 15, 20, ?15, 10, 6, 5, 4, 3, 2, 1s.								"			11					
	2			19h 40m		1, 2, 3, 4, 5, 5, 10, 15, 20.								"			12					
✓ 4450	H.P.S. 3s	0h 11m +87.°2 (beyond)	" "			20s, 15, 10, 5, 5, 4, 3, 2, 1s.						"	8,	"							F	O.K. repeat
	5					20s, 1, 2, 3, 4, 5 | 5 | 10, 15, 20s.								"								
	3 s			20 0		1s, 2, 3, 4, 5, 5, 10, 15, 20s											12					
✓ 4451	ζ Capricorni	21h 6m −16.°9	" "	20 26 21 26		60m	17½			209		Seed 30	5₂	—	—	5 7½	2	7	219	E	F	
✓ 4452	π Aquarii	22h 19m A −22.6	" "	22 12 23 12		60m	"			"		" "	6₂	—	—							

R No	Field	R.A. Decl.	Date 1922	Sid. T. Begin	Sid. T. End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting
	mean 15									
4453	Pole Center at 65	B 90.0	Aug. 25	23 34	57	23 m 3	18½			209
	"			0 9	57 60					
					26	15	12			
				0 28	53	25	"			
	Polaris		Aug. 27	18h 15m			17½ 12"		212	
4454	HPS 1 5 4	1h 6m +88.2	" "	18h 30m		s 20, 15, 10, 5, 4, 3, 2, 1, ½-½……				212
	1 + 4	18h 2m +86.5				s 1, 2, 3, 4, 5, 10, 15, 20, ½-….				
	1n	19h X +87.6 beyond				s 1, 2, 3, 4, 5, 10, 15, 20, 15, 10, 5, 4, 3, 2, 1, ½, ½…				
	5			19h 0		s 20, 15, 10 slow ing 5, 4, 3, 2, 1, ½, ½….				
4455	2n + 4n	19h 38m +88.6		19h		2m, 1m, 30s	12"			212
	Pole C 14 10					2m, 1m, 30s				
	2n + 4n			19h 30m		30s, 1m, 2m				
4456	2	22h 21m +85.6		19h 30m		s 20, 15, 10, 5, 4, 3, 2, 1, ½……	12"			212
	3	23h 28m +86.7				s 20, 15, 10, 5, 4, 3, 2 1, ½, ½….				
	5					s 20, 15, 10 slow ing 5, 4, 3, 2, 1 (3/4), ½½…				
	2			20h		s 1, 2, 3, 4, 5, 10, 15, 20, ½, ½, ½….				
4457	5			20h		s 20, 15, 10, 5, 4, 3, 2, 1	12"			212
	35	04 11m +87.2 beyond				s 20, 15, 10, 5, 4, 3, 2, 1, 2, 3, 4, 5, 10, 15, 20s				
	5			20h 15m		1, 2, 3, 4, 5, 10, 15, 20.				

Scales.

Hour Angle	Plate Emulsion	Holder	Filter	Filter	α	δ	g.o.	⊙	Tel.	Obs.	
58 W	Seed 30	7₂	P7h	—				L	W	F	Very poor 15" exp. 331
			"								
			free								OK.
			P7h								OK.
	" "	5₁	P7h								
			"								
			"								0K.
			"								
	" "	7₁	"					10			
			"					10-8			Displaced in δ. 0K.
			"					12			
	" "	8₁	"								
							2	10-2			
								8			Dome? 0K.
								12			
	" "	6₁	"					10			Dome?
								8			0K
								12			

R No	Field	R.A. Decl.	Date	Sid.T. Begin	Sid.T. End	Exp. Time	Focus Ap	Temp. C.	Knife Edge	Setting
160			1922		20h 15m		12"			212
✓ 4458	HPS 5	1h 6m +88.°2	Aug. 27			60, 30, 20, 15, 10, 5, 4, 3, 2, 1				
	7 + 2s	23h 39m +88.6 beyond				1.2, 3, 4, 5, 10, 15, 20, 30, 60				
	5				20h 45m	5, 60, 30	20, 15, 10, 5, 4, 3, 2, 1			
✓ 4459	X Capricorni	21h 4m −21.°7	Aug. 27	21h 18m	22 18	60m	17½	+16.1		212
	Polaris		Aug. 30	17 50			17½	+30.°8	211	
	"		Sept. 1	18 15			17½	+29.3	212	
✓ 4460	HPS 5	1h 6m +88.2	"	"	18 25±		12"			232
	1+4	18h 2m +86.5				10, 5, 15, 20, 25, 30, 35, 40, 50, 60s.				
	1n	19h 0m +87.°6 (beyond)				60, 50, 40, 35, 30, 25, 20, 15, 10, 5.				
	5					5, 15, 25, 35, 60, 50, 40, 30, 20, 10.				
						60, 50, 40, 35 / 30, 25, 20, 15, 10, 5, ----				
✓ 4461	HPS 5		"	"			12"			
	1+4					1, 2, 3, 4, 5, 10, 15, ...				212
	1n					15, 10, 5, 4, 3, 2, 1				
	5					1, 2, 3, 4, 5, 15, 10, 4, 3, 2.				
					19 20±	15, 10, 5 / 4, 3, 2, 1				
✓ 4462	HPS 5		"	"		15, 30s, 1m, 2m 3m				232
	2n + 4n	19h 38m +88.°6				3m, 2, 1m, 30s, 45s				
	5					15, 30s, 1m / 2m, 3m				

Hour Angle	Plate Emulsion	Holder	Filter	Filter	Scales α	Scales S	g.o.	⊙	Tel.	Obs.	
	Seed 30	5_2	P7R	—	10					F	333
			"		10						2R.
			"		8						
	Seed 30	6_2	—	—					W	F	very unsteady. g. star faint.
	C9 9	4,	P7R	J1					E		
									W		
					8						
					12						
	Seed 30	6									
					8						
					12						
	C9 m 10590	4_2	P7R	J1							clouds around.
					8						

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	Ap	Temp. C.	Focus Knife Edge	Focus Setting
			1922			12"			
4463	6½ inch 4s 6n	20h9m @89°.5 (Beyond)	Sept. 1		15,60s,90s,2m,4m,3m each wound				232
~~4464~~	HPS 5	1h6m +88°.2	" "		5, 10, ~~20~~, 30, 38, 50s				232
	2			20h 15m±	50, 38, 30s				
	Polaris		Sept 11	18 50			+15.2	210	
4464	HPS #5	+88°.2	" "			12			.230
	2n and 4n	+88.6							"
	HPS #5	+88.					+14.0		"
	Polaris		" "	20 10				210	
	"		" 15	18 40		18	+18.2	220	
4465	HPS #5	+88.2	" "	18 55 15s;30s,1m,2m,3m		12			240
	2n and 4n	+88.6		and 19 12 3,2m,1m,30s,15s		"			"
	HPS #5			and 19h 29m 15s;30s 1m 2m 3m		"	+17.4		"
	Polaris			19 40 and 20h 4m		18		218½	
4466	HPS #5	23h33m +88.6	" "	30s,60s,90s,2m,3m		12			218½
	7 and 2s		"	30s,60s,90s,2m,3m and 21h 8m		"			239
	HPS #5			3m,2m,90s,60s,30s and 21h 25m					"
	7 and 2s			30s,60s,90s,2m,3m					"
	Polaris		Sept. 16			18	+13.0	218	
4467	HPS #5		" "	and 18h 49m 10,20,40,60,90,120s		12			238
	3s			120,90,60,40,20,10s					
	HPS #5								

Hour Angle	Plate. Emulsion	Holder	Gitter	Filter	Scales. α	δ	g.o.	⊙	Tel.	Obs.	
											335
	C J M 590	4₃	P76	-							6 only shows. Clouds about
	C J M 10590	4₄						No good.			Clouds cover Polaris.
	C J J 10634	4	~~P76~~	J1	5 to 8.6	10	-	219		P	good
					5 to 8.7	10	-	"	E	"	"
					5 to 8.8	8 to 7.5	-	"		"	
	C J J 10634	4,	P76	J1	5 to 8.0	10	-	219		P	good
					5 to 8.1	10					
					5 to 8.7	8					
	C J J 10634	4₂	5m P76	J1	5 to 7.7	10		219	E	P	double beats of Seth Thomas clock; only 3m exp. with P76
		"	P76	J1	5 to 8.2	10		"			seconds. good
		"	"	"	5 to 8.0	8		"			" "
		"	"	"	5 to 8.0	10 9		"			" "
	C J J 10634	4.	"	"	5 to 4	10					
					5 to 8.8	8					
					5 to 9	6					

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting
164	HPS #10		1922 Sept 16	5, 10, 20, 30, 60, 2m, 3, 4.5					239
4468	5, 8, 9			end 20h 22m 5m, 4, 3, 2, 1m, 40s, (40s), 30, 20, 10, 5					
	HPS #10			end 20h 50m 20, 30, 60s, 2m, 3m, 4m, 5m					
4469	(320)	21h 58m +1:91	"	CST 9 48 0 10 8 0	20			205	205
4470	(320)	"	"	10 10 6 300	20				
4471	(265)	23 50 +19 0	"	" 20 22 0	20				
4472	(265)	"	"	" 24 0 440	20				
	Polaris		Sept 17	19h 0m End 19h 15m			+12.7	215	
	HPS #5		" "	5, 10, 20, 30, 40, 50, 60s 12					235
	" 2	22h 21m +85.6		end 19h 29m 60, 50, 40, 30, 20, 10.5s					
4473	" 3	23h 28m +86:7		end 19h 40m 5, 10, 20, 60, 50, 40, 30s					
	" 5			5, 10, 20/30, 40, 50, 60s					
	" 5			30s, 40, 50, 60s end 20h 21m					
4474	" 6	20 9 +89.5	" "	15, 30, 60s, 2m, 3m, 5m	12	+11.7			235
4475	(275)	23 32 -17 30	"	CST 8 28 0	15			215	
4476	(275)	"	"	8 46 0	20				
4477	(587)	23 50 +26 55	"	9 36 0	20				
4478	(587)	"	"	9 58 0	20				
4479	(320)	21 55 +0:33	Sept 20	8 35 0	20				
4480	(320)	"		57 0	20				
4481	(587)	23:46 +27:00		9 31 0	20				
4482	(587)	"		54 0	20				

Hour Angle	Plate. Emulsion	Holder	Filter	Filter	Scales. α	S	g.o.	⊙	Tel.	Obs.	
	CSD 10634	4₂	P76	J1	5to 9.9	10		219		P	good 337
					5to 12.5	10					
					5to 10	8					
	Hurricane									E	
										E	
										E	
										E	
	10634 CSD	4₃	~~P76~~ —	J1	5to 10	10	–	219		P	good
			—		5to 10	8					
			—		5to 10	6					
			—		5to 10	12					
			P76		10to 13	14				"	
	10634 CSD	4₄	"	J1	5to 10	10	–	219	"	P	good. clouds lower down
										G	
										"	
										"	
										"	
										"	
										"	
										"	

339

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	Ap	Temp. C.	Focus Knife Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
1160			1922																		
4483	(587)		Sept. 20	10 36 0	20	24													"		
4484	(587)			10 57 30	20														"		
4485	(587)			11 38 0	20														"		
4486	(587)			11 59 0	20														"		
4487	(677)	$0^h 39^m$ +17°35	~~$0^h 39^m$ +17 35~~	12 48 0	20														"		
4488	(677)		"	13 9 0	20														"		
4489	Pleiades	$3^h 44^m$ +24°	Sept. 20	1^h 54 / 1 59	5^m	24			215	Developed 6^m at +20°C. Fresh developer	Single layer	5	—	—				219	E	P	no guiding
				2 0 / 2 8	8^m										4.0	10	44.8				guided
				2 14 / 2 18	4										2.0		43.2				"
				2 20 / 2 22	2										0.7		42.2				"
				2 24 / 2 25	1										0.0		41.7				"
					30^s																no guiding
					15^s										1.0						" "
	Polaris						+22.0	218													
4490	"		Sept. 22	19^h 4 / 19 20	16	24		218	218		Single layer	5	—	—	10	10	—	219		P	good twilight
				19 20 / 19 28	8											"					
					4											"					
					2											"					
					1										7	"					
				end $19^h 54^m$ 12																	
4491	HPS # 5		" "	5^s,10,20,30,40,50,60^s					238		10634 C I I	4,	P76	J1	5 to 9	10	—	219		P	good
	" # 2			60,50,40,30,20,10,5^s											5 to 10	8	—	"			"
	" # 3			5,10,~~15~~,20,30,40,50,60											5 to 10	6	—				"
	" 5			5,10,20,30,40,50,60											5 to 10	12	—				" no jog in δ

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	ap	Temp. C.	Knife Edge	Focus Setting	Hours Dugle	Plate. Emulsion	Holder	Filter	Filter	Scales. α	Scales. δ	Scales. g.o.	Scales. ⊙	Tel.	Obs.	
4491	HPS #6	α = 20h 9m δ B+89.5	1922 Sept. 22	20h 49m / 20 51	2	12			238		CJ 10634	4½	P76	J1	7	10	—	219	E	P	good 341
				20 51 / 20 55	4																
				20 55 / 21 3	8																
				21 3 / 21 19	16		+19.6														
	Polaris		Sept 23				+23.6	215													
4493	HPS #5		" "	End 19h 17m 15,30,45,60 90,120		12			215		Seed 30	8	P76	—	6 to 12	10	—	219		P	good
	3R, 2S, 163			End 20h 3m 120,90,60,45,30.15s					"							10	—	"			
	5R + 163			15.30,45,120,90.60 end 21h 0m					"							10	—	"			
	HPS #5			15,30.45/60.90.120					"						5 to 9	12	—	,			
4494	HPS #5		Sept 23	End 19h 34 30,60,90.5 2m.3m		12			235		CJ 10634	4	P76	J1	5 to 8	10	—	219		P	good
	3R, 2S, 163			End 19h 52m 3m.2m 90,60,30s					"						5 to 8	10	—	"			
	5R, + 163			End 20h 32m 30.60s 3m, 2m, 90s					"						5 to 8	10	—	"			
	HPS #5			end 20h 50m 30,60.90/120s 3m					"						5 to 7½	12	—	"			
	Polaris		" "				+21.0	215													
	" 3R+163		" 25	18 50			+13.6	219													
4495	HPS 2S +88.55	0h 38m	" "	19h 0m / 19 2 30	2½m / 24	24			239		CJ 10634	4	P76 J1 / P76 "		5 / 6	10	—	219		P	good twilight
				19 4 / 19 20	16m / +2	12															
				19 20 / 19 28	8																
				19 28 / 19 32	4																
				19 32 / 19 34	2										7½						
4496	S Herculis	16h 48 +15° 6	" 25	20 6 / 21 6	60		12+11.8		"		10634 "	4½	P76	J1	8	8	35	189	W	P	Guiding motor blew out; unsteady
	Altair		" "	19 17 / 19 33			18	212													
4497	R Aquilae	19h 2m A+8.0	" 26	20 38	60		12+15.0		232		CJ 10674	4	P76	J1	8	7	43	219	W	P.8+	Good unsteady

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	ap	Temp. C.	Knife Edge	Focus Setting
170	Polaris		1922 Oct. 1	$19^h 55^m$		24	+22.5	218	
✓ 4498	"		" 1	$16^s,8^s,4^s,2^s$		24			218
✓ 4499	"		1	$20^h\ 3^m$ / 20 19	16				
				20 19 / 20 27	8	24			218
				20 27 / 20 31	4				
✓ 4500				20 31 / 20 33	2				
				20 40 / 20 56	16				
				20 56 / 21 4	8				218
				21 4 / 21 8	4				
				21 8 / 21 10	2		+21.0		
✓ 4501	Altair / R Aquilae	+8°.6 $19^h\ 2^m$	Oct 12	20 15 / 20 41		18	+8.0	222	
			" "	20 51 / 20 52 / 21 7	10 / 15	12			221
✓ 4502	" "	"	" "	21 15 / 22 15	60	"	+6.4		241
	Altair	+8.6	" 17			18	+5.0	222½	
✓ 4503	X Cygni	$19^h\ 47^m$ +32.6		20 26 / 20 41 / 20 44	15	12			242½
✓ 4504	" "	"		20 54 / 21 17	10	"			
			" "	22 17	60	"	+3.3		242½
4505	(907) Rhoda	$23^h 54^m$ $-20°.44'$	Oct. 17	17 04 / 17 24	20	24		224	224
4506	"	"	"	17 25 / 17 45	20	"		"	"
4507	(1916 ZC)	$0^h 36^m$ $+6°\ 55'.1$	Oct. 18	$16^h 30^m$ 0 / 16 50 0	20	"		224	224
4508	"	"	"	16 51 0 / 17 11 0	"			"	"

Hour Angle	Plate Emulsion	Holder	Slitter	Filter	Scales. α	δ	g.o.	⊙	Tel.	Obs.	
											343
	Seed 30	5	—	—	10 / 7½	19 / 10	—	219	blue	P	dull. moon
					10/10	10	—	"	"	P	
	ingle layer	8	—	—	—						
											" "
					7.8						
					10 to	10					" "
	ingle layer	8₂	—	—						P	
					7.8						
30											
	Seed 30	5	P76	—			43	219	W	P	good
	10706				6	7	42	"			
	CJm	4	"	J1	9	6	42	"	"	"	"
	Seed 30	5	P76	—	7	12	21	235	W	P	good
					8	12	20	"	"	"	"
	CJm	4	P76	J1	17	11	20	"	"	"	"
	Hurricane	6	—	—					W	G	
	"	7							"	"	
	"	6							"	"	
	"	7							"	"	

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	Ap	Temp. C.	Knife Edge	Focus Setting
17v			1922						
	Altair	+8°.6	Oct. 19	20h 0m		18 +10.2		217½	
				20 22					
4509	R Aquilae	+8.0	" "	21 52	90	12			237½
	α Cass	+56°.1	" 21	21 40		18 +14.2		220½	
		0h 43m		22 3					
4510	U "		" "	22 13	10	12			220½
				22 14					
				22 29	15				
4511	U "		" "	22 36					
				23 36	60	12 +12.5			248½
		0h 43m		20 15		6.2			
4512	U Cass	+47.8	" 23	21 15	66	18 + 7.3			240½
				21 35					
				21 45	10	12			240½ } by
				21 46					} mistake
4513	U Cass		" 24	21 48	2	"			" }
				21 50					
				21 60	10	" +11.2			220½
4514	(756)	1h 5.7m	Octol. 24	G.M.T. 17 23 0	20	24		217	217
		+10°.51'		43 0					
4515	"	"	"	17 44 15					
				18 4 15	20	"		"	"
4516	"	"	25	17 8 15					
				24 15	"	"		"	"
4517	"	"	"	17 30 30					
				30 30	"	"		"	"
4518	near astr.	"	"	17 0 0					
				4 0	"	"		"	"
4519	"	"	"	18 23 0					
				43 0	"	"		"	"
	Altair			20 46		17½ +13		217	
		19h 47m		21 4					
4520	χ Cygni		Oct 26	22 4	60	12			237
		22h 39m		22 53					
4521	R Lacertae	42° 0	" "	23 53	60	" +9.3			
				GMT					
4522	(756)	1h 56.5m	"	18 10 30	20	24		217	217
		+10°51'		30 30					
4523	"		"	32 0					
				52 0	20	"		"	"
4524	new astr.	"	"	19 6 30					
				26 30	20	"		"	"
4525	"	"	"	29 0					
				49 0	20	"		"	"

Hour Angle	Plate Emulsion	Holder	Filter	Filter	Scales. α	δ	g.o.	⊙	Tel.	Obs.	
											345
					1						
	CDm 10706	4	P76	J1	8	6	42	219	W	P.	good
	Seed 30	5	P76	—	4	10	13	219	E	P	good center 3' N of variable
					5	10	15	219			
					7½						
	CDM 10706	4	"	J1	4	10	17	"	"	"	
					3½		13				
	"	4	"	"	5	10	15	"	E	P	clear unsteady
	Seed 30	5	"	—	6	10	15	"	E	P	" "
	"				8	10		"	"	"	Brighter guide star at circle 222 center at #55
	"				10	10		"	"	"	
	Hurricane								W	G	
	"								"	"	
	"								"	"	
	"								"	"	
	"								"	"	
	"								"	"	
	CDm	4	P76	J1	7	10	20	235	W	P	good
	"	4½	"	"	12	10	14	237	"	"	clear, unsteady
	Hurricane								"	G	
	"								"	"	
	"								"	"	
	"								"	"	

R No	Field	R.A. Decl.	Date	Sid. T. Begin / End	Exp. Time	ap	Temp. C.	Knife Edge	Focus Setting
4526	new asteroid	1h56m +11°	1922 Oct. 29	G.M.T. 19 29 30 / 19 39 30	20	24"		217	217
4527	"	"	"	19 52 0 / 20 12 0	"	"		"	"
				Sid. T.					
	α Cygni	A+44.9	" 30	22 33 / 22 59			+11.8	221½	
4528	R Lacertae	A+42.0	" "	23 4	5	12			221½
	Kap. 42	A+45.1		0 20 / 0 25	5	"			
	R Lacertae			0 44 / 0 49	5				
	R Lacertae		" 30	23 13 / 23 28	15	12			241½
4529	Kap. 42			0 0 / 0 15	15				
	R Lacertae			0 56 / 1 11	15		11.0		
	Altair						+11.0	220	220
	R Aquilae		Oct. 31?	21 2 / 21 7	5	12			
4530	Kap. 38			22 5 / 22 10	5				
	R Aquilae			22 21 / 22 26	5				
	R Aquilae		" "	21 13 / 21 28	15	12			240
4531	Kap. 38			21 45 / 22 0	15				
	R Aquilae			22 31 / 22 46	15		+9.5		
	S Piscium	A +8°3	Nov. 14						
4532	asteroid	1h47m +10°	"	G.M.T. 18 38 0 / 19 3 0	25	24		218	
4533	"	"		19 4 0 / 19 34 0	30	"		"	
	α Cass	A +56.1 0h44m	Nov. 16	23 40 / 0 18			+4.0	221	
4543	U "		" "	0 28	10	12			221 ~~241~~

Hour Angle	Plate. Emulsion	Holder	Filter	Filter	Scales. α	S	g.o.	⊙	Tel.	Obs.	
	Hurricane 6								W	G	347
	" 7								"	"	
	Seed 30	5	P76								
		5	P76	–	11.8 +12	10.0 10.-	14.0 +14	232.4	W	P	clear, moon uncomfy elongated, guid * too faint. do not use P76
					17	10	15	212	"	"	
					13.4	10.0	15.0	232.4	"	"	"
	C9 M	4	–	J1	123	9.9	14.0	232.4	W	P	
					17	10	15	212	"	"	"
					15.0	10.0	16.0	232.4	"	"	"
	Seed 30	5	P75	–	8.6	5.8	46.0	219	W	P	good, moon
					6	12	42	"			
					10.9	5.5	441	"			
	C9 M	4	P76	J1	9.1	5.3	45.8	219	W	P	good moon
					6	12	42	"			
					11.5	6.2	44.2	"			
					10	15	11	243	W	P	Sm Wedge of field due grinding star
	Hurricane	6	–	–	11	12			"	G	
	"	7			"	"				"	
56	Seed 30	5	P76	—	5	13	2½	219	E	P	clear, windy

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
1760 4534	Comet Baade	19h 58m +36°20'	1922 Oct. 24	0h 0m – 0h 22m	20 min	24	–		203 (wrong focus)	–	Hurricane	6	–	–	8	8	–	249	W	VB	Eyepiece moved 0.R1 in 125 sec 349
4535	x Baade	19 58 +36 20	Oct. 24	0h 28m – 0h 32m	4 min	24	–		203		"	7						249	W	VB	"
4536	x Baade	20 0 +36 0	Oct. 25	23h 47m to 57m	10 min	24	–		217		"	6						248	W	VB	"
4537	x Baade	20 0 +36 0	Oct. 25	0h 0m to 30 min	30 min	24	–		218		"	7						248	W	VB	"
4538	x Baade	20 3 +35 42	Oct. 26	0h 56m to 1h 56m	60	24	–		217		"	6						247	W	VB	"
4539	x Baade	20 48 +30 20	Nov. 14	12h 36m to 13h 9m Gr. m. T.	33	24	–		219	–	"	6						247	W	VB	0.R1 in 115 sec
4540	x Baade	20 53 +29 45	Nov. 16	12h 45m to 13h 25m Gr. m. T.	40	24	–		218	–	"	6						247	W	VB	"
4541	aster.	1h 46 +9°50'	Nov. 16	15h 32m 0 – 53 0	21	24			220		"	6							"	G	
4542	"	"	"	16 12 0 – 34 0	19	24			"		"	7							"	G	
4543	V Cass See preceding page for record																				
	α Cyg	21h 35m	Nov. 20			18	-1.0	228			Seed 30	5	–	–	5.5	10.0	40.0	219	"	P	
√√	X "		21 57 – 22 2		5m	18			228												
4544	Kap. 39	+44.8		22 55 – 22 60	5				"						7	12	24	"			guid * faint
	X Cyg			23 14 – 23 19	5m										5.5	10.0	42.0	"			
√√ 4545	X "		Nov 20	22 9 – 22 19	10	18			248		CIM	4						219			
	Kap 39			22 39 – 22 49	10				"						7	12	24	"			
	X Cyg			23 26 – 23 35	10										6.0	10.6	42.0				

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting	Hour Angle	Plate. Emulsion	Holder	Scales. Grtr.	Filter	α	S	g.o.	⊙	Tel.	Obs.
4546	Aster. Rhoda	23h44m −17 15	1922 Nov. 20	0h4m−0h24m	20min.	24″	-2°	224	224	,	Seed 30	6	—	—	—	—	—	—	W	Yamamoto (351)
4547	x← Baade	21h34m +28°38′	"		30min	"				,	Hurricane	7							W	VB 0.1R in 90sec in 242°
4548	"	"	"		60 sec 30 — 10 — 8 — 6 —	"				,	Seed 30	6							"	VB
4549	Aster. Rhoda	23 44 −17 15	"	1h44−2h09m	25min	"		—	—	,	Seed 30	7								Yoc
4550	Asteroid	1h43m +9 1/2	"	10h21m to 10h41m C.S.T	20	"					Hurricane	6								VB
4551	"	"	"	10h44m to 11h4m C.S.T.	"	"					"	7								Ya
4552	Pole	—	"	Begin 4h 25m	60 min 20 min 7 m 2½ m 40 sec	"				,	"	6								"
4553	Aster. Dike	"	"	6h35m−6h55m	20	"					"	7								"
4554	Aster. Dike	"	"	7h11m−7h31m	20	"					"	6								"
4555	Aster. Rhoda	23 45 −18 11	Nov. 14	8h23m−43m C.S.T.	20m	"		220			Hurricane	7							W	Yam.
4556	"	"	"	8h47m−910 C.S.T.	23m	"		"			"	6							W	"
4557	Androm. Nebula		Nov. 15.	10h53m−58m	5m	"		"			Seed 30	7							W	Yam.

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting	Scales. Hours Angle	Plate. Emulsion	Holder	Sitter	Tilter	α	S	g.o.	⊙	Tel.	Obs.	
4558	150 Andromeda Neb.		1922 Nov. 15.	$11^h 9^m$ C.S.T.	30^m	24					Seed 30								W	Yerx.	353
4559	Orion Nebula		Nov. 16	A.M. C.S.T. $1^h 54^m - 57^m$	3	24					"								W	"	
4560	"		"	$1^h 59^m - 2^h 19^m$	20	"						Seed 30								W	"	
	α Cyg		Nov. 22	$22^h \ 0^m$			+4.7	223½													
4561	R Lacertae			22 47 23 47	60	17½			243½		10706 Cdm	4	P7	J1	14	13	8	232	W.	P	some floating clouds unsteady
4562	~~+~~ Baade	$21^h 8^m$ $28°10'$	Nov. 22	9 27 47 C.S.T.	90 sec.	24		224			Seed 30	6	—	5	10	40	243		W	VB	
4563	Asteroid	$3^h 27^m$ $30°20'$	"	10 28	15 min	"					"	6					219		E	VB	
4564	id.	"	"	10 50	15 min	"					"	7					219		E	VB	
	α Cass		" 23	21 40			+3.7	220													
✓ 4565	U "	$0^h 41^m$ A+47.8	"	21 1 22 6	5	12			220		Seed 305	6	—	5.0	13.0	1.0	219		E	P	good
	Kap 20	+45.3		22 53 22 55	5							—	—	1	3	26	"				"
	U Cass			23 19 to 24	5							—	—	5.0	13	3.0	"				"
~~4566~~			"	23 26 to 32	6	"						P76	—	6.0	13	4½	"				"
✓ 4566	V Cass			22 10																	
	Kap 20			22 20 22 38	10	"			240		1907 04 4	4	J1	4.8	13.0	1.0	219				"
~~4567~~	U Cass		"	22 48 23 0	10	"			"		"	—	"	1	3	26	"				"
				23 50	10	"						—	"	5.7	13.0	4.2	"				mostly
4568			"			"															
4569	(933)	$4^h 7^m$ $27°19'$	"	C.S.T. $13^h 34.6^m$	15^{min}	"					Seed 30	6					219		W	VB	

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting	Tours Angle	Plate. Emulsion	Holder	Gitter	Zitter	α	S	g.o.	⊙	Tel.	Obs.
4568	(933)	4h 7.0 27° 20′	1922 Nov. 22	13h 54m.1 C.S.T.	16 min	24′		224			Seed 30	7						21g	W	VB
4569	Asteroid	1h 38m +8° 50′	"	11 26 0 to 41 0 C.S.T.	15 min	"					Hurricane	6						21g	W	▽
4570	Asteroid	1h 38m +9° 30′	"	11 47 0 12 7 0 C.S.T	20 min						"	7								▽
4571	Asteroid	1h 38m +8 50	"	12 18 0 to 33 0 C.S.T.	15 min						"	6								▽
4572	Asteroid	1h 38m +9 30	"	12 36 0 to 56 0 C.S.T	20 min						"	7								▽
4573	(910)	4h 17m +14 35	"	14 30.0 to 50 0 C.S.T.	20 min						"	6								▽
4574	(910)	4 17 +14 35	"	14 51. 0 to 15 11 0	20 min						"	7								▽
4575	← Baade	21 10 +27 50	Nov. 23.	9 8 11 11 16 13 41 C.S.T	2 min 2 min 2 min			220			"	6								▽
4576	← Baade	21 10 +27 50	"	9 41 6 C.S.T.	43 min			"			"	7								▽
4577	(784)	3 27 +30 21	"	11 19 0 C.S.T	20 min						"	6						21g		▽
4578	(784)	3 27 +30 21	"	11 41 20 C.S.T	20 min						"	7						21g		▽
4579	(954)	3 40 +18 0	"	12 51 45 C.S.T.	15						Seed 3	6						39		VB

355

R No	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	ap	Temp. C.	Focus Knife Edge	Focus Setting	Hour Angle	Plate. Emulsion	Holder	Slitter	Filter	α	S	g.o.	⊙	Scales. Tel.	Obs.	
4580	954	3h 40m +18 0	1922 Nov. 23	13h 12m 15s C.S.T.	15min 24"						Seed 30	7						39	W	VB	357
4581	955	4h 33m 36° 2'	"	13 43 15 CST	20	"					Hurricane	6						39	W	VB	
4582	955	4h 33m 36° 2'	"	14 4 27 C.S.T.	20	"					"	7						39	W	VB	
4583	α Baade	21h 13m +27° 36'	Nov. 24	8 40 — 8 42 44 43 47 45 48 C.S.T.	3 min 1 min 1 min 1 min	"					Seed 30	6						21g	W	VB	
4584	955	4h 32m 36° 0'	"	12 27 13 C.S.T.	20	"					Hurricane	6						21g	W	VB	
4585	955	4h 32m 36° 0'	"	12 48 13	20	"					Hurricane	7						21g	W	VB	
	α Cass	22h 0m	" 25					-2.5	224												
	α r		" 28	22 55				+0.3	221												
4586	Kap. 20	+45° 3½	" "	23 17 23 27	10	12			241	10704	@ 99	4	P76	J1	1.1	3.0	43.2	219	E	P	
	U Cass			0 24 0 34	10	"					"	4	"	"				"	"	Y	
	Kap 20			0 47 0 57	10	"					"	"	"	"	-4	2.5	40	219	"	P	
	S Psc										"	"	"	"	10	15	11	243	W		Hagen 4 in Wedge
	Polaris							-0.5	226												
	HPS #5	+88°.2	Dec. 1	20°.30.40.50.60.90 22 58		12			246	10704	C 99	4	P76	J1	5.0 1.1	10	—	219	E	P	good. moon
✓	" 2	85.3½		20.40.30.50.60.90 23 16											5-6 1.1	12	—	"			floating clouds?
4587	" 3	86.5		20.30.40.50.60.90 23 44											5-6 2.0	14	—	"			
	" 5			5°.10.20.30.40.50.60± clouds 0 14 60,90 0 35											5	8	—	"			floating clouds
															2±	6	—	!			

R No.	Field	R.A. Decl.	Date	Sid. T. Begin Sid	Exp. Time	Ap	Temp. C.	Focus Knife Edge	Setting	Scales. Hour Angle	Plate Emulsion	Holder	Filter	Filter	α	δ	g.o.	⊙	Tel.	Obs.	
186	Polaris		1922 Dec. 2	23h 10m				22 6													359
	HPS 5	88.2	"	5s 10, 15, 20, 30, 40, 50, 60, 90 23 24		12	+1.8		246	10704	C99	4	P76	J1	5 to 0	10	—	219	E	P	good moon
4588	λ	85°.3 ½		90, 60, 50, 40, 30, 20 23 40											5 to 3	12	—	"			"
	3	86.5		20, 30, 40, 90, 60, 50 23 52											5 to 3	14	—	"			"
	5			20, 30, 40 jog 50, 60, 90 0 5				+1°.4								5 to 3	8	—	"			"
4589	S Psc.	1h 12m +8°31	Dec. 2	3h 40m - 3h 50m	10m	12						4		J1	10	15	11	243	W	Y	moon
				353 - 4	3	10m	12								10	15	10	243	W	Y	

Dec. 4. Chas Ridel put strips of thickness 0.035 inch = 20d. ilder 4. raising plate so that it is in focus behind filter J1, at same focal setting as plates without filte.

" 8, Ridel dismounted & cleaned camera assembly; re-assed the scale reading wer α = 7. δ = 8

" 11 One of the platinum stadia wires in guiding ocular cross broken, awaiting new wire, a spider line cross was substituted

" 15, Re-collimated camera, settings are, α = 9. δ = 9

	Polaris	+88°5	Dec 24			17½	-0°.4	267													
4590	HPS 5	+88.2		15, 30, 1m, 2, 3m end 0h 2m		12			267	CJ	4	P76	J1	9 to 7	9.0	—	229	E	P	good guest	
	λ	+89.3		3m, 2, 1m, 30s, 15 end 0 29		"								9 to 6	11.0	—	"				
	5	+88.2		15, 30 / 1m - 2 - 3m										9 to 7	6½	—	"			several exposures for scale	
	5			2m, 2m± 1s, 2s, 2s, 2s ..... end 0h 51									P76	7 to 3		—	"				
	Polaris		1925	0h 0m			+2.9 -5.1	266													
	α Cygni		Jan 12	1 0		-5.1	0.6	0													
4591	R Lacertæ	22h 39m +42.0		1 37																	
	Kap. 42	45.1		1 42	5	18			0	Sued 36	5	—	—	1	8.3	83	-2±	231.2	W	P	Centered N of 14 good
	R Lacertæ			½ 05	5										17	10	11	212			"

Poor cross in guiding ocular caught too bright

Clouds

R No.	Field	R.A. Decl.	Date	Sid. T. Begin End	Exp. Time	Ap	Temp. C.	Focus Knife Edge	Focus Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
188	α Cygni		1923 Jan 15	1h 20			-1.7	+0.5							18.8	10.0	10.0	231.0			
	R Lacertae	22h 39m +42,0		1 47 1 52	5m	12			+0.5		Seed 30	5	—	—					W	P	Clear unsteady
✓ 4592	Kap. 42	+45.1		2 6 2 11	5	"									4	11	45	219			
	R Lacertae			2 22 2 27	5	"									19.0	10.0	12.0	230.3			
	B Androm	+35°	Jan 18	1 35			-1.8	262							20	3	3	231			
✓ 4593	S Pisc	1h 12m +8.4		2 5 3 5	60	12			262		CII	4	P76	J1					W	P	guided on fainter comp of double, clear, unsteady
	B And						-3.0	265													
✓ 4594	S Pisc	1h 12m +8°.4	Jan 20	3 30 3 50	20	12			265		Seed 30	8	P76	—	18	10	8	232.2	W S	P	guided on brighter comp of clouds (double
	Capella	+45.9	" 22				-5.0	267													
	V Aurigae	+47.7	no current on guiding lamps.												18	5	8	219	E	P	guid * faint, usa 17½ inches
✓ 4595	V "	6h 16m "	Jan. 23	3 15 4 0	45	18	-3.0	"	266		18704 CII	4	P7		19	5	11	219	E	P	good
	B Androm	+35.0	" 28	2h 30m	1	17½	-4.6	267													
✓ 4596	S Pisc	1h 12m	" "	2 37 2 42	5	"			267		Seed	5	—	—	9	13	40.2	219	W	P	good guid * good moon
	Kap 69	+15.1		3 1 3 6	5	"									9	2	34	"			good guid *
	S Pisc			3 18 3 23	5	"					"	[illegible]	[illegible]	—	9	13	38.6	"			" " "
✓ 4597	S Pisc	1h 12m		3 31 3 44	13	"					"	8	P7	—	9	13	38.6	"	"		guid * too faint for P7
	Polaris	B+89.2	Jan 29	2 30	24	24		267½													
✓ 4598	" + 5	B +89.1	" "	10m each 10,7.4.1,268.265.262.259. offset 256		24				both plates reversed in holders as was 1.5/0.044 smaller than nor	Seed 30	8	—	—	15 to 10	—	—	—	W	P	best focus 259 clouds + moon
✓ 4599	" " "		" "	270,267,264.261,258,255,252 offset 249							" "	5			12 to 7				W	P	clouds + moon
	Polaris			4h 35		24	-2.0	270													
	"			4 40		18		268													
✓ 4600	"		Jan. 29	15,11.7.3.269,265.261.257 offset 253 5h 45m		24					" "	52							"	"	best focus 2 ± clouds + moon
						mean	-3.0	267													

190 363

δ = 9

1922 Dec. 9

	α	δ	
α	9½	5½	} am first approx
	10	5½	
	7	8	PM, final collimation

R No	Field	R.A. Decl	Date	Sid. T. Begin	Exp. Time	Ap	Temp. C	Focus Knife Edge	Focus Setting		Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
			1923 Feb. 11	3h 30			18	− 8°.5	263													
✓ 4601	S Pisc	1h 12m + 8° 4	" "	4 3 / 4 13	10		18			263		CII 10704	4	—	J1	9.4	9.5	37.7	219	W	P³	Center 5' S of Hagen 15 Good, clouds after close
✓ 4602 {	S Pisc	8.4	" 23	4 58 / 5 3	5		18			263		CII	4	-	J1	9.3	8.7	226	"	W	P	low, dull, stopped
	Kap. 69			5 12 / 5 17	5		"				h.0	10704				2	8	28	"			by cloud streaks
✓ 4603	Pleiades	+ 23°.8	" 24	5h 20m 1s, 2s, 4s, 8s, 16s			24			263		Seed 30	5	—	—	9 to 12	0 13	0 to 3	"	W	P	good, moon
✓ 4604	"			5h 30m to 6h 5m 1m, 2m, 4m, 8m, 16m			"	+ 0.9		"		Single Layer	8	—	—	9 to 12	13	0 to 3	"	"	"	center on Alcyone
✓ 4605	U Virginis	12h 46m	Feb. 24 ~~Mon~~	14:57–15:07	10m		17½		263													
	Capella	+ 45°.7	Mar 7	5h 20m				− 2.0	264													
✓ 4606	R Persei	3h 24m + 35.3	" "	6 0 / 7 0	60		12			264		CII	4	P76	J1	11	10	3	219	W	P	guiding star faint 6m.8 good
✓ 4607	"	"	"	7 31–51	20		12		264	~~254~~		Seed 30	5	P76	—	11	10	3	219	W	Yam	
	α Tauri	+ 16.3	" 23		17'		17½	− 1.2	263													
✓ 4608 {	R Persei	3h 24m + 35.3	" 23	7h 22–32	10m		12			263		CII 10704	4	—	J1	9.5	7.1	2.8	219	W	P	centered on v moon good
	Kap. 22	45.0		7h 44–54	10m		"			[illegible]		"				8	7	14	219			unsteady
	R Persei			8h 5–15	10m		"			"						7.5	7.1	4.8	"			
✓ 4609 {	R Persei	3h 24m 35.3	Mar 26	7 33 / 7 37	4		12			263		Seed 30	6	—	—	10.5	7.0	42.0	"	W	P	moon, good center on v.
	Kap 22	45.6	"	7 50 / 7 54	4		"			"		"		—	—	7	8	14	"			center on π
	R Persei		"	8 2 / 8 6	4		"			"		"		—	—	7.8	7.0	40.2	"			" " v

R No.	Field	R.A. Decl	Date 1923	Sid. T. Begin	Exp. Time	Aperture	Temp. C	Knife Edge	Focus Setting		Plate Emulsion	Holder	Filter	Filter	Scales α	Scales δ	Scales g.o.	Scales ⊙	Tel.	Obs.	
4610	R Persei	+35.3	Mar. 26	8h 11m-21m	10	12				263.0	Seed 30	7	P76	—	8	7	40	219	W	P	moon, low (365)
4611	Polaris	B+89.2 α 1h 47m	Apr. 4	8 40m 1s,2.4.8,16s		24		+0.7	263.0	263.0	Seed 30	5	—	—	10 to 7.5	9	—	"		P	twilight
4612	"		"	1m	1m	"				"	Single Longer	8			10	9	—	"		P	good
					2m																
				8 11																	
				8 15	4																
				8 15																	
				8 23	8																
				8 23											7.5			"			
				8 39	16																
				8 42																	
4613	"		" "	1s,2,4,8,16s		"				"	Seed 30	5a			10 to 7.5	9	—	"		P	
4614	V Aurigae	6h 16m	" "	9 30	60	17½				"	See C99	4	P76	J1	5	11	12	219		Y	
4615	"	6h 16m		10 30						"											
				10 33	10																
				10 43																	
	Capella	+45°.7	apr. 5 8h 10m			17½	+3.8	262½													
				5 38																	
	V Aurigae	47.5	Apr. 5	8 53	15	4				262½	C99	4	—	J1	16.0	12.0	~~15.7~~ 12.6	219	W	P	good
4616	Kap 25	44.7		9 21																	center 5' N of V
	V Aurigae			9 36	15	"					"	"	"	"	10	7	18	"	"	"	"
				1 58																	center at π
				10 13	15	"					"	"	"	"	16	12	14.6	"	"	"	"
	V Aurigae	47.5	" "	8 59																	
				9 4	5	"				262½	Seed 30	5	—	—	16.0	12.0	12.6		"	"	"
4617	Kap. 25	44.7		9 39																	
				9 44	5	"									10	7	18	"	"	"	"
	V Aurigae			10 17																	
				10 22	5	"	+2.9								16	12	14.6		"	"	"
	Capella	+45.7	Apr. 11	9h 0		17½	+3.0	260													
		6h 16m		9 25																	
4618	V Aurigae	+47.5	" "	10 15	50	"				260	C11	4	P7	J1	17	14	15	219	W	P	clear unsteady
				10 25																	
4619	" "		" "	10 41	16	"				"	Seed 30	5	"	—	17	14	15	"	"	"	" better
				10 42																	
			" "	10 55	13	"						"	"	—	17	14	14	"	"	"	
	Capella	+45.7	" 13	9 10		"	+3.5	261													
		6h 16m		9 23																	
4620	V Aurigae	+47.5	" "	10 18	55	"				261	C99 10782	4	P7	J1	18	12	16	"	W	P	fair dull, improving

367

R No.	Field	R.A. Decl.	Date	Sid. T. Begin	Exp. Time	Ap	Focus: Temp. C.	Focus: Knife Edge	Focus: Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: g.o.	Scales: ⊙	Tel.	Obs.	
196 4621	V Aurigae	6h 16m +47°.5	1923 Apr. 13	10 25 / 10 30 / 10 31 / 10 41	5 / 10	17½			261		Seed 30	5	P7	—	18	12	16	219	W	P	fair
4622	V Cancri	8h 16m +17° 5½'	" 16	11 0 / 11 25	15m ±	12	+2.8		265		C33	4	P76	J1	17 / center 5	12 / 5' north 4	15 / of V 31½	"	"	"	guid * bright enough 6.7 floating clouds, trans.
	Capella						+7.5	263													
	V Aurigae								263												
	Pollux	+28.6	Apr. 23	9h 45		17½	+8.3	261													
4623	R Leo Min	9h 40m +34.8	" "	10 20 / 11 20	60	12			261		C33	4	P76	J1	20	2	3	219	W	P	center & 10' N of V moon
~~4624~~	U Virginis	12h 46m +5.7	" "	12 20 / 13 20	60	12			"		C33	4	"	"	7	4	20	149	E	"	center 10' fol V
	Pollux	+28.0	" 25	10 16		17½	+11.5	260													
4625	V Cancri	8h 16m +17.	" "	10 49 / 11 4	15	12	+11.5		260		C33	4	P76	J1	5.1	4	30	219	W	Y	

Mirror brot down April 30, + cleaned with nitric caustic. Silvered May 2. one coat. Brashear process.

" collimated by P + Σ May 4. settings, δ = 6 ~~8 41~~ ~~W P~~

R No.	Field	R.A. Decl.	Date	Sid. T. Begin	Exp. Time	Ap	Focus: Temp. C.	Focus: Knife Edge	Focus: Setting	Hour Angle	Plate Emulsion	Holder	Gitter	Filter	Scales: α	Scales: δ	Scales: g.o.	Scales: ⊙	Tel.	Obs.	
	Pollux	+28.0	May 5	11 20	17½		+12.1	250				4	~~P76~~	~~J1~~	~~-2~~	~~8~~	~~43~~		W		
4626	R Gem	7h 1m	" "	11 45 / 12 0 / 12 4	15	12			250		C33	4	~~P76~~ free	J1	-4	8	43		W	P	good low centered 10' fol V
				12 19	15	"			"		"	"	P76	J1	-2	8	43				
	Regulus		" 10	12 25			+12.2	255	2'		"	4	"	"	19	3	14	219			
4627	R Leo min	+34°.85	" "	13 0 / 14 0	60	12			255		"	4	P76	J1	19	3	14	219	W	P	dull fair center 10' N of V
4628	" " "		" "	14 7 / 14 20	13	"			"		Seed 30	8	"	—	"	"	"	"	"	"	
	Regulus		" 17	11 50		17½	+9.4	260													
4629	T Urs Maj	+59.8	" "	12 36 / 13 21 / 13 31 / 13 46	45 / 15 60	12			260		C33	4	P76	J1	19	3	7	239	W	P	good clock stopped
											~~Seed 27~~										
4630	T " "			13 52 / 14 8	16	12			260		Seed 30	5	"	"	"	"	"	"	"	"	
4630-1	Polaris		" 18	13 25 / 14 0	1/2, 1, 2 / 4, 8	24			"		Single layer	5 / 8	—	—	10 / 7	6	—	"	"	"	Sent to Silberstein clouds May 24

(See Gerrish's letter 1922 May 17)

Azimuth Test

See R book III, p. 14 for constants of axis adjustments

{ 1° of turn of azimuth screw moves axis 10.8 = 648" / 360 = 1".78 and corrects for drift of 0".47 per hour

Tel drifts

1920	δ	H	Begin Sid Time	End	T	Direction	in T	in 1 hr	Need of Corr axis too far
Apr. 5	−8	−0h 7m	5h 4m 67.4d	5 45	41m	N			
9 1921	+7° 24'	+0 6	5h 57 (84d)	6 18	21	— 48.0	0	0	0
Sept 8	+10.2(A)	−0 39	19h 3m						

Field of mic ocular is 8' in diam.

Tel drifts

Date 1921	δ	H at begin	Beginning Sid T	Beginning mic head	End Sid T	End mic head	ΔT	Δm read	Δm "	Direction	Drift in ΔT	Drift in 1h	axis too far	Corr
Sept. 8	+10.2A	−0h 39	19h 3m	48.0	20 0	71.1	57	23.1	3.5	N	~~3.6~~ E 2.4	3".7	E 14"	W
9	+13.6A	−0 12	18 50	52.2	19 30	61.0	40	8.8	2.4	S	E 2.4	3.6	W	
9	−1.2 β Aquilae	−0 25	19 43	54.6	20 14	59.5	31	4.9	1.3	S	E 1.3	2.6	W	
					2033	59.5	50	4.9	1.3	S	E 1.3	1.6	W	
10	+2.8 β Lyrae	−0 31	18 51	47.8	19 35	68.0	44	20.2	5.9	N	W		E	
11 1922	+32.5 γ Lyrae	−0 35	18 22	42.7	19 7	52.6	45	9.9	2.6	S	E	3.5	W	
June 6	A −11°.0 spica	−0 27	12 54	84	13 58	100	64	16	4.3	N	E 4.3	4.0	E	8°
"	−16.0 α Librae	−0 29	14 15	87	15 25	98	70	11	4.0	N	E 4.0	3.4	E	
7	A 88.8 Polaris	+1 18	3 0	10.87	4 15	10.29	75	58	15.8	N				
11	+15.7 η Bootis	−0 28	13 23	84	13 45	1.01	22	17	4.6	~~N~~ S	W	13		
	δ Bootis				14 26	1.08	63	24	6.5	S		10		
					15 30	1.05	49	14	3.8	S	W	4.6		
"		−0 31	14 41	91	15 41	1.06	60	15	4.1	S		4.1		
12	A 89.0 Polaris	−0 15	12 57	90	14 8	1.46	71	56		N	W			
13	+88.7 Draconis	−0 46	12 55	87	13 50	85½	55	2½	1	S	E			
Aug. 7	+51.5 Vega	0 0	17 53	0	18 08	0	15m	0			E			
"	+38.7	−0 20	18 14	0	18 56	0	42m	0			E			

Aug 14 Axis of telescope turned 360° on its bearings in effort to get rid of "declination drift"

{ 1 turn of altitude screw moves axis 1".5 and corrects drift of 0".39 per hour

Altitude Test

{ 1r = 1 div = .127" = 3.1 div
1 thread interval = 27".0 (Ocular micrometer) = 6".75
Right-hand turn decreases reading + moves threads left

Tel drifts

	δ	H at begin	Beginning Sid. Time	Beginning Mic head	End Sid. Time	End Mic head	ΔT	Δm read	Δm "	Direction	Drift in ΔT	Drift in 1h	axis too	Corr
0	88°.9						m							
13	Polaris	+4h 12m	5h 42	61d	6 32	81	50	+20	5".4	S	5".4	6".5	24".7 low	16°
			6 32	81	7 42	109	70	+28	7.6	"	7.6	6.6	"	
			7 42	109	8 57	116	75	7	1.9	"	1.9	1.5	"	16°
	circle 89.0	+4 45	6 ~~23~~ 18	52	7 43	35	75	17	4.6	N	4.6	3.7	high 14".1	10°
1	"		6 29	39	6 53	55	24	16		S	4.3	10.8	low	25' moved 25°I
	"		6 59	55	7 42	84	47	29	7.8	S			low	
			7 45	55	8 15	76		21						25' more
14	A 89.9	+5 50	15 24		15 55		31			S		very slight	low	
13	81.3	−5 40	14 55	40	15 22	67	27	27	7.3	N	7.3	16"	61" low	raised axis 12"
"	82.8	+5 16	15 37	40	16 4	57	27	27	3.6	S	3.6	8.1	low	
8	81.3	−5 35	14 58	38 ~~40~~	15 33	54	35	16	4.3	N	4.3	7.0	low	r.
"	82.85	+5 23	15 42	40	16 13	61	31	21	5.7	S	5.7	11.0	low	9 × 3.8 = 33" = 1r.22
	84.0	−5 27												raised axis 33"
"			17 25	40	17 50	15	25	25	6.8	S	6.8	16"	high	
		−5 40												
0	+62.2		15 37	35	16 42	34	65	001	0		lowered axis 1r = 27"			
					star drifted down ∝. + wires tilt ∴ reading not									
	+69.8	+5 26	16 56	32	17 36	57	40	25	6.8	S	6.8	10.2	low	

Near pole if wires drift to left, the axis is low

1	+70.1	+5 20	16 17	40	17 2	46	45	6	1.6	S	1.6	2.1	low	raised axis 10" axis too high by 6".5
0	+70.3	−5 26	16 2	41	16 35	62	33	21	5.7	~~N~~ S	5.7	10.	low	
6	A 89.05	−6 15 ~~+5 45~~	19 3	1.8 ½	20 3	−45	60	6.3	1.7	S	1.7	1.7	high	
4	A 68.5 ∝ Cephei	+5h 45m	13 50	96	14 30	1.00	40	4	1.0	S	1.0	1.3	low	
2	A 62.4	−6 35	14 40	94										
3	A 88.7	5 30	14 9	85½	14 55	85½	46	0						

Tel W * W

{ Axis error = 3.8 × drift in 1h

(See Gerrish's letter 1922 May 17)

Azimuth Test

See R book III, p. 14 for constants of axis adjustments

{ 1° of turn of azimuth screw moves axis $\frac{10.8 = 648''}{360} = 1''.78$ and corrects for drift of 0''.47 per hour

1920 Date	δ	H at Begin	Beginning Sid. T.	Beginning Mic Head	End Sid. T.	End Mic Head	ΔT	ΔM read	ΔM "	Tel drifts Direction	Tel drifts in T	Tel drifts in 1 hr	Need of axis the far axis too far	Corr
1924 Aug 13	A 88.7		11h 55m	Place star in 2d quadrant of large ocular 0.2 T from end										
" "	"	-1h 45m	12h 0m	93.8	12:40	79.2 ?	40m	14.6 ?	3.9	N	E	5.9	N	
" "		-1 5	12:45	79.2	1:20	39.1		140 ?		N			N	
" "	"	-0 21	13:24	91.5	1:45	42.0	25	49.5	13.4	N		32.2	N	
" "		0 0	13:45	42.0	14:20	8.0	35	34.0	9.2	N		16.5	N	
" 14			11 and 8:30										probably 90° 45°	
" "	88.7	-1 17	12:30	0	12:55	33.8	25	0.8 int. 33.8		S	E			
			12:55	0	13:25	33.5	30	33.5		S	E			
		11 40	13:25	33.5	14:10	70.4	45	1.5 int. 63.1		N	"			
		-11 35	14:10	70.4	14:25	85.0	15	0.6 int. 14.6		S	"		E	

11 14 about 7:30 P.M.

~~11 16 88.7~~

{ 1 turn of altitude screw moves axis 1''.5 and corrects drift of 0''.39 per hour

Altitude Test

{ 1r = 1 div = .27" 1" = 3.7 div
1 thread interval = 27".0 Ocular micrometer
right-hand turn decreases reading 6".75
+ moves threads left

{ axis error = 3.8 x drift in 1h

δ	H at begin	Beginning Sid. Time	Beginning Mic head	End Sid. Time	End Mic head	ΔT	Δm read	Δm "	Sel. drifts Direction	Sel. drifts Amt. in ΔT	Sel. drifts Amt. in 1h	Axis too	Corr
Polaris +89.	-6h 22m	19h 16m	0	20 7	0								
Polaris B88.5	-7h 4 3 57	18:06	91.2	18:32	91.2	26m	0						
		19		19:12	120.8	66			N			low	
Polaris B89.2	+5 10	6:45	91.8	7:25	102.4	40			S			cost motion	
	+5 55	7:26	98.2		18.2		80		N			low cost motion high	uncertain
	+7 0	8:33	0.0	8:56	0.6 int. 81.4	23	18.6		N			high	
"				9:12	73.2	39	26.8		N			"	
(B88.5) 2.	+4 45	16:58	0	17:28	0.6 int. 9.3	30	9.3		S			low	
~~B88.5~~ B89.2	+6 15	7:49	0	8:29	0.5 int. 86.2	40	13.8		N			high	

Adj. in az. made.

wrong on account of lost motion

45°