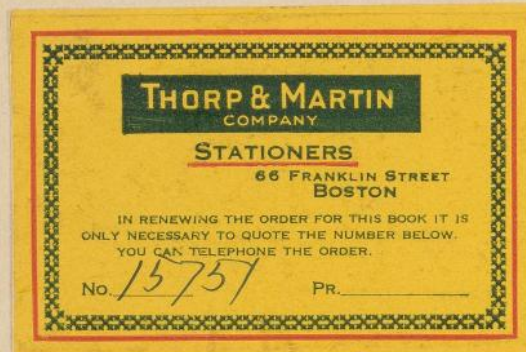


3



Herbert A. Swope

April 1928

I n d e x

Page	
4	compared A 12506 with 12587
6	" A 12506 " 12925
8	" " " 12958
10	" A 3829 with A 3825, 3832 + 3698
12	" MF 10671 " MF 10488
14	" MF 10671 " MF 8755, 10592, + 10354
16	" A 12506 " A 3698 and A 3830
18	found sus. Nova on A 10207 - " A 12506 with A 13958
30	" A 3829 " A 13937 and A 12971 positions of MWF 186
150-176	Position measurements - by C.D.B.

210 I n d e x * M W F 185

(7.0 km + 380 H/H S)

of 450 variable in MWF 185

estimated mag. for 61%

+ periods for 22%

Of number 274 measured

good periods for 36%

many more with known type but too faint
or too obs.

Page

measured magnitudes

60

measured vars - 394, 395, 351, 444, 415, 438, ~~498~~, 450, 423
 399, 424, 417, 445, 391, 446 not measured 324, 416, 418
 451?

72

measured vars. 326, 335, 17w, 337, 447, 380, 425, 456,
 338, 440, 381, 400, 401, 382, "A"
 ?

84

measured variables - 503, 405, 482, 426, 481, 427, 428, 495, 406, 407,
 508, 491, 492, 493, 494, "A" remeasured and 490a

96

measured vars. - 339, 483, 431, 404, 512, 390, 498, 409, 386,
 497, 402, 430, 429, 388, 484, and 496

108

measured vars - 343, 509, 408, 432, 433, 385, 448, 443,
 504, 455, 387, 488, 506, 490, and 507 390 remeasured

120

measured vars - 38w, 486, 510, 499, 500, 487, 480, 505, 501,
 489, 354, 72w, 289, 355, 101, 100, and 485.

132

remeasured vars - 38w 17w 483 489 419 441 348 + 197

Partially measured vars 2164930, BESco, BCSco, BFSco, BBSco, 164129, 164329,
166828; + ABSco.

184

remeasure var - 7, measured. AYSco, ABSD, 164128, AESco, BH, BISco, AC, ADScO
BGSco, 145, 303, 27w, 20, 21, 207, 225, and 22.

196

measured XZ Oph, 361, 365, 58, 208, 369, 367, 368, 370, 412, 371, 66, 328,
 372, 329, 373, 34w and 71w

208

measured vars - 6w and 123 remeasured 264, 308, 309,
 268, and 366

A plates on MWR 125 centered for N.C. 6266
 - superposed with Contact of A 3829
 " " " 12506

	Plate No	Date	Qual	Exp	JD	Remarks
A	3698	July 10 '99	3		14846.503	contact of A 3829 Nos 452 thro 455 contact of A 3829 Nos 481 thro 490
out	3825	Aug 11 '99	4		14878.498	Nos 439 thro 446 WJL proper motions marked WJL has the plate.
	3826	" "	4	35	.528	
	3827	" "	4		.556	
	3828	" "	4	35	.585	
	<u>3829</u>	" "	4	35	.613	
	3830	" "	4		.642	contact of 12506 Nos 491 thro
	3831	" "	4		.672	
	3832	" 11 '99	4		.706	Contact of A 3829 Nos 447 thro 451
A	11293	July 13 '15	3i	60	20692.659	WJL var. marked
out	12503	July 9 '23	4	40	23610.587	WJL has the plate
	<u>12506</u>	" 9 "	4	40	23610.713	
	12587	Aug 15 "	4i	40	23647.492	contact of A 12506 Nos 380 thro 399
	12590	" 15 "	4i	36	23647.602	
	12593	" 16 "	3+	40	23648.493	
	12596	" 16 "	4i	40	23648.603	
	12896	Apr 14 '24	3i	30	23890.697	
	12925	May 3 "	4	40	23909.728	contact of A 12506 Nos 400 thro 424
	12943	" 12 "	3	40	23918.629	contact of A 12506
	12958	" 27 "	4	41	23933.655	Nos 425 thro 438 contact of 3829
	12971	June 2 '24	4i	40	23939.636	Nos 508 thro 512
	13181	centered at N.C. 6273			not 247243.869	
out	13909	July 14 '26	3	30	24711.660	cont. 3829
	13937	" 30 "	3	30	24727.626	Nos 502 thro 507 cont. 12506
	13958	Aug 5 "	3+	30	24733.618	Nos 492 thro 501

A 10207

Nova

E 5

~~38~~ KS

38 KS

Bh II 102

Marked on

M F 10230

10238

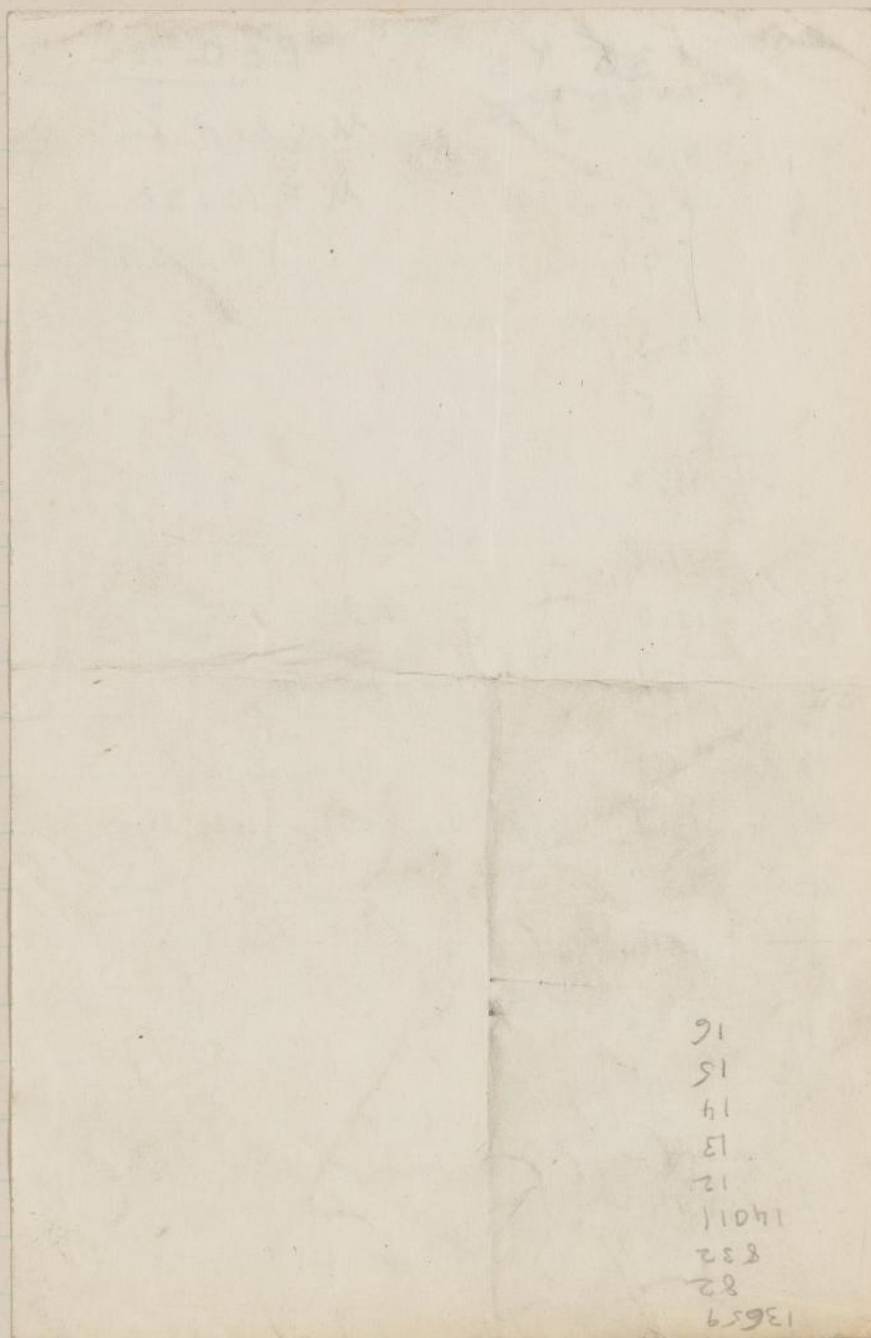
1	8.0
2	9.2
3	9.7
4	10.3
5	10.5
6	11.2
7	11.8
8	12.0
9	12.4
10	12.6
11	12.9
12	13.0
13	13.6
14	13.8
15	14.4
X	15.0
A	15.2
8	15.4
8	16.1
E	16.5

E 3

16.1
16.3
16.5

... - 8

13



4

Apr 20, 1928

outlet of A12506

A12587 H.V.

used binocular & eye piece - Hand plates to compare
quality of images for diff mag. varied so differently
on the two plates

does not vary
defect

southern of pair
cl. type cep

defect in film of 12586

defect

short period
defect in film A12506
b does not vary

4540 ✓	380	Br 12587	FT 12506	
4591 ✓	381	Br "	FT "	
4497 ✓	382	Br 12506	FT 12587	
	383	Br 12587	FT 12506	
	384	Br "	ms "	
4568 ✓	385	Br "	ms "	
4594 ✓	386	Br	FT	
4576 ✓	387	Br	FT	
4541 ✓	388	Br "	FT "	
	389	Br "	FT	
4610 ✓	390	Br "	FT	
4623 ✓	391	Br "	FT "	
4516 ✓	392	Br "	FT "	
	393	Br 12506	FT 12587	
4571 ✓	394	Br 12587	FT 12506	
4593 ✓	395	Br 12506	ms 12587	
4507 ✓	396	Br 12587	FT 12506	
4518 ✓	397	Br "	FT "	
4600 ✓	398	Br "	FT "	
4594 ✓	399	Br "	FT	

\rightarrow Br^A 12596, ft^A 12590 Br 13958 380
 Ft 12503 Br 12596 Br 12958 Ft 12925
 Br 12503 Ft 12590, Br 12925, Ft 13958

Br A 3698 Ft A 3829
 ms 12503 Br 12590, 12596 Br 12925 385
 Ft 12503 Br 12590 " Ft 3825 Br 12593
 Br 12593 Ft 3825 Ft 12925 Br 12896
 Br 12593 Ft 12503, 12590, 12596, Br 12925

Br 12506 Ft 12590 (Ft 12503 Br 12590,) ms 13937 2506
 Br 12503 Ft 12596 (506 596) 2 all stars small Apr 390 15.5
 Ft 12503 Br 12590 + 596 Br 12925 Br 3698
 Ft 12503 Br 12590 + 596 Br 3698 Ft 12958
 Br 12503 Ft 12590 + 596 Ft 12925
 Ft 12503 Br 12590 + 13958
 Br 12503 Ft " " ms 12925 395
 Ft 12503 Br " "
 Br 12503 + 12596 Ft 12590 \rightarrow Ft 12971
 Ft " Br 12598 Br 13958
 Ft " Br " + 12596

6

Apr 25, 1928

contact of A 12506
A 12925

4492	✓	400	B _r 12925	ms 12506	
4488	✓	401	B _r "	FT "	
4572	✓	402	B _r "	FT "	
doubt varies	✗	403	B _r 12506	FT 12925	
4598	✓	404	B _r 12925	ms 12506	
4494	✓	405	B _r "	ms "	
4505	✓	406	B _r "	FT "	
4524	✓	407	B _r 12506	FT 12925	
4549	✓	408	B _r 12925	ms 12506	
4589	✓	409	B _r "	FT "	
4491	✓	410	B _r "	FT "	
4521	✓	411	B _r "	FT "	
4534	✓	412	B _r "	ms "	
4536	✓	413	B _r "	FT "	
4587	✓	414	B _r "	FT "	
4607	✓	415	B _r "	FT "	
4613	✓	416	B _r 12506	FT 12925	
	✓	417	B _r "	FT "	
	✓	418	B _r "	FT "	
4502	✓	419	B _r "	FT	
4522	✓	420	B _r 12925	ms 12506	
4560	✓	421	B _r 12506	FT 12925	
4576	✓	422	B _r 12925	FT 12506	
4592	✓	423	B _r 12506	FT 12925	
4604	✓	424	B _r 12925	FT 12506	

pre 4 Co of pair very slight
variation

full app

no. app
short cluster

pre of pair

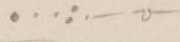

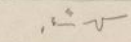
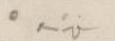

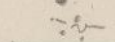



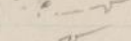
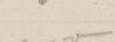
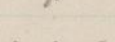
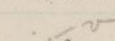
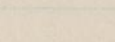
so of pair

A
 Ft 12503 Br 12943 Br A 12958 ms 12587
 Br 12943 Ft 12958 Br 13958
 Br 12943 Ft 12503 Br 3825
 Br 12587, 12958 Ft 12971
 Ft 12503 Br 12943 MS 12596 Br A369P Ft A3829
 Br 12943 ms 12503 Br 12958 Ft 12587
 Br " Ft " Br 12958 Ft 12587
 Br 12503 Ft 12943 Br 12958 Ft 13958
 Br 12943 Ft 12503 Ft " Br "
 Br " Ft " Ft 12958 Btu 12587
 Br " Ft " mg-measured 10 A 12958 A 12506
 Br " Ft " 15.5 16.5
 Br " Ft " 15
 Br 12958 MS 12943 Ft 12503
 Br 13958 Ft 12958
 Ft 12503, 12943, Br 12958 15
 Ft 12503, 12943, Br 13958 16.5 15.6
 Br 12587 Ft 13958 mg-measured per short 15.5
 Br 12958 Ft 12958 15.5
 Ft 12503, 12943 Br A3822 Ft A3829
 Br 12503, 12958, Ft 13958 20 15.9 ms
 Btu 13957 Ft 12503, 12943 16.2 15.5
 Br 12958 Ft 12503, 12943
 Br 12503 Ft 12943
 Br 12943 Ft 12503 15.9 A 12958
 16.0
 A 12506
 16.6

8

Apr. 28, 1928

Contact of A 12506
12958 N.V.

4551	✓	425	Br	12958	FA	12506		short
4504	✓	426	Br	12958	MS	"		
	✓	427	Br	12506	MS	12958		ms + foll of pr
4528	✓	428	Br	"	FA	"		so ^{yellow} of pair
4547	✓	429	Br	12958	Ftr	12506		
4564	✓	430	Br	"	Ftr	"		
4584	✓	431	Br	"	FA	"		So + foll of pair
4559	✓	432	Br	"	FA	"		Br. eel?
4565	✓	433	Br	"	MS	"		
4515	✓	434	Br	"	MS	"		short eel or aph
4527	✓	435	Br	"	FA	"		
4537	✓	436	Br	"	FA	"		short
4570	✓	437	Br	"	FA	"		
4603	✓	438	Br	"	FA	"		

A 12958 A 12506

12503

Br 12943, 12958, Ft 12971

Br 12971, ms 12503, 13958

15.9 ms

Br 12503, ms 12971, Br 12958

Br 12503, Ft 12971 Br 12587 Ft 12925

Br 13958, 13937 Ft 12925

Br 12943 Br 12925 Br 13958 *same pl. as br.*

Br 12503 Ft 12971 Br 13958 Ft 12925

15.9 16.5

Br 12596, 13958, Br 12587 Ft 12925

Br 12971 ms 12503 Br 12925 Ft 12587

Br " Ft " Br A3832 Ft A3829 Br 3698

Br " Ft " Br 3698

Br 12503, Ft 12971

Br 12943 Ft 13937, Br 12596 Ft 12971

Br 12971 Ft 12503

15.5 ms

May 1, 1928

Contact of

		No	Ref	FT	
A 3829	def	439	Bu 3829	FT 3832	is ^{prob} perhaps def on 3829
A 3832	4602 ✓	440	Bu "	FT "	
4514	✓	441	Bu 3832	FT 3829	
4533	✓	442	Bu 3829	FT 3832	
4566	✓	443	Bu "	FT "	
		444	Bu 3832	FT 3829	
4620	✓	445	Bu 3829	FT 3832	faint
4618	✓	446	Bu "	FT "	

Contact of

A 3829	4523 ✓	447	Bu 3825	FT 3829	short ^{rel on} cap
A 3825	one of Bailey's in M62 HA 38	448	Bu 3825	FT 3829	pre of p
4644	✓	449	Bu "	FT "	rel a. claps
4586	✓	450	Bu "	FT "	rel a. claps
4597	✓	451	Bu "	FT "	

Contact of

A 3829	4508 ✓	452	Bu 3698	FT 3829	double?
A 3698	4529 ✓	453	" "	FT "	
4642	✓	454	" "	FT "	
4582	✓	455	" "	FT "	short

Verification

FA 43831, FA 3825, FA 3828
 FA 3831 Br 3825? ^{mg meas. shows clearly on}
 Br " FA 3828, 3825 ^{short pen - supposedly}
 FA 3831 Br 3828 3825 FA 12971
 FA " Br " ¹²⁵⁹⁶ FA 3698
 Br 12587 Br 13958
 Br 3828 FA 3831
 Br 3828 FA 3825, Br 3830 Br 3698 FA 12506

FA 3830 v Br 3826 Br A 12506 FA A 13958
 FA 3838 v Br 3698 Br FA 12506
 FA 3830 Br 3826
 FA 3832 Br 3826
 FA 3830 Br 3826? FA 13958 Br 12506

A 3825 A 3832
 16.5 15.9

A 3698 A 3829

→ FA 3827 Br 12958?, Br 12596, 12587
 → FA " ns 12590, 13909, FA 12502 v Br 11293
 → FA " Br 12506 v Br 12971, 13909
 → FA " Rtn " 12590, v Br 12503 Br 12971
 → Br 125671 ns 12488

15.9 16.6

16.0 ns

15.3 16.2

15.5

May 10, 1928

instead of

MF 10671	✓	456 B	10488	ms 10671		short
MF 10488	✓	457 B	"	FT		short
4513	✓	458 B	10671	FT 10488		short
4526	✓	459 B	10488	FT 10671		faint
	✓	460 B	10671	FT 10488		
no variation		461 B	"	FT "		
	✓	462 B	"	FT "		
"K" pub	✓	463 B	"	FT "		
4626	✓	464 B	"	FT "		so + full of pr follow low double
4630	✓	465 B	"	FT		short
4481	✓	466 B	"	FT "		short
4483	✓	467 B	10488	FT 10671		so + close pr short
4511	✓	468 B	"	FT "		short
4520	✓	469 B	"	FT "		faint
defect		470 B	10671	FT 10488		defect of Contact
HAS 282 but	✓	471 B	"	FT "		
unpub -	✓	472 B	10488	ms 10671		
4627	✓	473 B	"	"		

				10488	10671	
Ri 10671 ⁸³	10456, ms 10472	FT prior of 10214		15.1	ms	
Br 10683	Ftr 10456	Br " " "		15.1	16.4	
Br 10456	FT 10683			16.0	15.4	
Br 10456	FT 10683			15.8	16.2	
Br 10683	FT 10265	Br 10456, 10570	460?	15.3 ⁰	14.9 15.1	
Br 10683	FT 10472?		red ?	14.4 ¹	14.3	
Br 10683	10456, 10469	FT 10265	?	15.0 ¹	14.7 15.0	
Br "	FT 10456					
Br "	FT 10472			15.0	14.3	
FT 10683 ⁰	Br 10456	FT 10472	Br 10570 Ftr 10440	465	15.1	14.0
FT " 15.7	Br " "	FT " "	1	15.5	15.0	
Br 10683	FT 10456	FT 10269		15.1	15.9	
FT 10472	FT 10440 Br 10683	Br 10456	Br 10570 - 15.3	?	15.9	16.1
ms 10683	Br 10456 + 10472			15.9	16.4	
Br 10456			470			
Br 10683	FT 10456			16.5	15.7 ⁵	
ms 10683	Br 10456	Br 10515	ms 10214	14.9	16.5	
Br 10456	ms 10683			15.4	ms	

14

Images of MF 8755 small + pl. did not go faint enough —

Contact of
MF 10671

MF 8755 *no var*
no variation?

4546 ✓

474 Br 10671

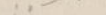
Ft 8755



475

"

"



476 Br 8755

Ft 80671



l.p.

Contact of

MF 10671

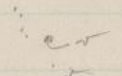
MF 10592

MF 10592: did not go faint enough to satisfactorily compare with contact plate.

no variation

477 Br 10671

Ft 10592



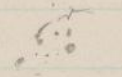
80 + preceding of 2 ^{other} stars

no variation

477

"

"



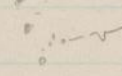
4681 ✓

479

"

"

"



eclipsing

Contact of

MF 10671

4588 ✓

480 Br 10671

Ft 10354



Apl -
So of double

eclipsing

MF 10354

				MF 8755	10677
Br 10683	Br 10666			14.0	13.9
FT 10132	FT 8723			14.9	15.0
Br 8723	Ents 10683	→ FT 10666	Br 10138	13.9	ns

MF 10592 10671

Br 10666

Harvard 15.1

15.3 14.4

15.5 14.5

FT 8755 Br 10683, 10440, FT 10265

Br on all other MF pl to 10683 this there appear slight variations
 Br 10666, 10345, 10683 Br 12593 MF FT 8723, 10308 FTA 12590

Contact of

A 2506 & H.V.

A 3698	4503	✓	481	B ₁	3698	FT 12506		
	4512	✓	482	"	"	"		L.P.
	4583	✓	483	"	"	"		
	4563	✓	484	"	"	"		
	4509	✓	485	"	"	"		
	4525	✓	486	"	"	"		
	4596	✓	487	B ₁	12506	FT 3698		
	4601	✓	488	B ₁	3698	FT 12506		
	4616	✓	489	"	"	"		
	4622	✓	490	"	FT	"		not pre of pr

found when comparing a var. on dff. plate to verify
 A 10207 ^{490a} ~~Hova?~~ ^{not + fol opp}
 spurious image
 This is a spurious image of

Contact of

A 12506 &

Images of A 3830 too large for superposing

A 3830 4538 ✓ 491 B₁ 12506 FT 3830

eclips?
small variation

ns FTA 3825, 12587, 13958 Br 12593 Br 12971
 FTA 12593, 12971, 11293 BA 13685, MF 10269
 Br 3825 Ftr 12587, 12593, 12971, 13958 Br 13937
 Br 3825 Br 12593 med 12971 FTA 13958
 Br 3825 FTA 12587, 12593, 12971, 13958 Br 13070
 Br 12587, 12593, 12971, 13958, FTA 12896, 12943
 FTA 3825 Br 12587, 12593 FTA 12971
 Br 3825 FTA 12587 Ftr 12593 Br 12971
 Br 12590 FTA 3829 FTA MF 10671 MF pl.
 med 12593 FTA 12971, 13958 Br 13937 Br MF 9178
 ns A 3825 Br MF 10671 Br 12587, 12593 MF MF 10488
 FTA 12971, MF 10381

not seen on any other A or MF plate
 maybe on B 42232 but stars so faint ^{hard to identify} ^{with imagination?}
 which there are many on A 10207

with any good results

Br on several MF pl. - A 10623 etc
 Br 12943 FTA 3832? FTA 3828 FTA MF 10570

18

August 1928

Contact of
2506

Br

Ft.

A 13958	4567 ✓	492	Br 13958	ins 12506	
	4612 ✓	493	" "	v Ft "	
no var - ?		494	" "	Ft "	
	4506 ✓	495	" "	v Ft "	
only seen once	4548 ✓	496	Br 12506	Ft 13958	
point	? ✓	497	Br 13958	v Ft 12506	
		498	" "	Ft "	
	4563 ✓	499	" "	Ft "	
	4679 ✓	500	Br 12506	Ft 13958	
	4614 ✓	501	Br 13958	Ft 12506	

slip?

Contact of

A 3829	no var	502	Br 13937	3829	
A 13937	4493 ✓	503	Br 3829	13937	
	4678 ✓	504	Br 13937	3829	
	4593 ✓	505	" "	"	
	4617 ✓	506	" "	"	
	4619 ✓	507	Br 3829	13937	

bright star

so of p

Contact of

A 3829	4510 ✓	508	Br 12971	Ft 3829	
A 12971	4545 ✓	509	" "	Ft "	
	4556 ✓	510	Br 3829	v Ft 12971	
no variation		511	Br 12971	Ft 3829	
	4608 ✓	512	" "	"	

224
163
389
70
457

140
50
100

Br 13937 ns 12587

FA 13937 Btr 12587

FA 13937 & 12587

can not find other Br - maybe
something fainter than usual have
not examined it yet.

FA 13937 Br 12587

FA 13937 Br 12587

FA 12587 Br 12596

Br 13958 ?

Br 12971

FA 3829

def. mean (EXID A + ME PC) then seem to be right
var but never as faint as 12586

FA 12587 Br 3698, 3827 FA 12943

Br 13937 FA 12587

FA 13937 & 12587 Br 3698

FA 13937 & 12587 med 3698 n FA 12925 Br 3827

Btr 13958 Br 12506 Br 12943, 12971 FA 3828

Br 3828 Ftr 13958 Br 12506, FA 12971, 12943

FA 13958 & 3828, 12506 Br 12971, 12925 FA 3698

ns 3828 Br 13958 ns 12506

ns 3828 Br 13958 ns " Br 12971

Br 3828 FA 13958 Br 12506

FA 12943, 3828, 12596 Btr 13958 Br 12506 Br 12958

n Br 12943 FA 3828 Br 13958 P

FA 12943 Br 3828 Br 12506 FA 12958 Br 12596

Br 12958 ns 12943, 3828, ns 12596

30

M W F I P6

A 8492

1	-28° 57' 80	17	36	32.9	- 28	11.1	2	4
	-28° 57' 61	17	35	64.4	- 28	39.0	18.2	3.8
							8.0	24.1
			1	28.5		27.9	20.2	27.9

17	35	39.6	28	14.9
	35	39.4		14.9
17	35	40	- 28	14.9

2	-29° 48' 76	17	40	13.2	- 29	37.5	6.9	0.1
	-29 48' 54		38	26.8		42.0	17.0	3.9
			1	46.4		4.5	23.9	4.0

17	39	42.4	29	37.6
	39	42.6		37.6
17	39	42	- 29	37.6

44	-29° 48' 17	17	31	43.2	- 29	40.9	12.2	5.4
	-30 48' 08		28	44.7	- 30	03.7	27.2	17.2
			2	58.5		22.8	39.4	22.6

17	30	48.1	29	46.3
	30	47.5		46.5
17	30	48	- 29	46.4

38	-30 48' 08	17	28	44.7	- 30	03.7	14.8	18.5
	-29 47' 69		26	44.5	- 29	41.8	11.3	3.7
			2	00.2		21.9	26.1	22.2

17	27	36.5	- 29	45.5
	27	36.4		45.4
17	27	37	- 29	45.5

A 8492

9 - 29° 4769

- 30 4769

17 26 44.5 - 29 41.8

24 32.4 - 30 09.4

2 12.1 27.6

 π
13.815.2

29.0

y
14.013.8

27.8

17-25 41.5 - 29 55.8

25 41.6 55.6

17 25 42 - 29 55.7

41 - 30° 4800

- 31° 4834

17 27 39.9 - 30 49.3

29 52.7 - 31 07.7

2 12.8 18.4

16.3

12.4

28.7

14.2

4.3

18.5

17 28 55.3 31 03.5

28 55.7 03.4

17 28 56 - 31 03.5

27 - 28° 5701

- 5695

17 26 46.2 - 28 22.0

25 44.9 45.5

1 01.3 23.5

2.9

10.4

13.3

11.9

11.6

23.5

17 26 32.8 - 28 33.9

26 32.9 33.9

17 26 33 - 28 33.9

25 - 28° 5683

- 28 5668

17 24 33.4 - 28 58.2

22 38.1 45.7

1 55.3 12.5

14.5

11.1

25.6

5.4

7.1

12.5

17 23 28.2 28 52.8

23 28.1 52.8

17 23 28 - 28 52.8

A 8492

					V	y
29	-29°4701	- 17 20 18.3	- 29 12.6		4.0	1.9
	-29°4692	19 18.8	27.5		8.8	13.1
		59.5	14.9			15.2

17	19	59.7	- 29 14.5
		59.8	14.4

17	20	00.	- 29 14.5
----	----	-----	-----------

30	-29°4692	17 19 18.8	- 29 22.5	17.5	8.7
	- 29,4664	16 06.8	03.1	25.4	15.5
		3 12.0	24.4	42.9	24.2

17

17	18	00.3	- 29 18.8
----	----	------	-----------

17	18	00.8	18.6
----	----	------	------

17	18	01	- 29 18.7
----	----	----	-----------

10.

				36.9	20.4
17	16	33.3	- 29 07.1	5.8	2.8
	16	32.8	66.9	42.7	24.2
17	16	33	- 29 07.0		

20	-30°4738	17 21 29.1	- 30 59.2	3.1	4.1
	- 31°4720	21 09.6	31 09.4	1.3	6.2
		19.5	10.2		10.3

17	21	15.3	31 03.3
----	----	------	---------

21	15.4	31 03.2
----	------	---------

17	21	15	- 31 03.2
----	----	----	-----------

A 8492

4	-30 ⁰ 4708	17	18	22.2 -	30	31.5	7	4
	- 30 4691		16	32.7		57.3	6.8	12.7
			1	49.5		25.8	16.6	14.0
								26.7

17	17	50.5 -	30	43.8
	17	50.1		43.8
17	17	50 -	30	43.8

A 9031

46	-28 ⁰ 5628	17	17	47.3 -	28	10.5	3.8	12.7
	- 29 4664		16	06.8 -	29	03.1	19.4	39.9
			1	40.5		52.6	23.2	52.6

17	17	30.8 -	28	23.2
	17	30.8		23.2
17	17	31 -	28	23.2

10	-29 ⁰ 4664	17	16	06.8 -	29	03.1	5.7	4.0
	- 29 4673		17	15.2 -	29	09.1	9.2	22
			1	08.4		6.0		6.2

17	16	33.0 -	29	07.1
	16	33.1		06.9
17	16	33 -	29	07.0

34

A 9031

31	- 28° 5618	17 13 44.6 - 28 29.9	7	4
	- 29 4634	12 29.0 - 29 04.6	5.3	17.2
		1 15.6 34.7	11.7	17.5
				34.7

17 13 21.0 - 28 47.1
 13 21.0 47.1
 17 13 21 - 28 47.1

39	- 29° 4634	17 12 29.0 - 29 04.6	9.7	9.6
	- 29 4639	13 18.3 19.1	1.0	5.1
		49.3 14.5		14.7

17 13 13.5 14.2
 13 13.7 14.0
 17 13 14 - 29 14.1

11	- 28° 5584	17 09 37.9 - 28 50.6	8.5	8.3
	- 28 5576	08 06.1 29 01.8	12.0	2.9
		1 31.8 11.2		11.2

17 08 59.9 28 58.9
 08 59.7 58.9
 17 09 00 - 28 58.9

60	- 30° 4631	17 09 49.8 - 30 09.7	3.8	8.0
	- 30 4623	08 50.2 24.5	9.3	6.9
		59.6 14.8		14.9

17 09 32.5 - 30 17.7
 09 22.6 17.6
 17 09 33 - 30 17.6

A 9031

40	- 31° 46.57	17 13 14.9 - 31 35.0	10.8	6.6
	- 31° 46.42	11 01.7 - 23.8	17.6	<u>4.8</u>
		2 13.2 11.2		11.4

17 12 24.1 - 31 28.4
 12 24.4 28.6
 17 12 24 - 31 28.5

61	- 30° 45.85	17 02 11.2 - 30 12.0	5.9	0.8
	- 30 45.82	01 17.2 10.0	4.9	<u>1.0</u>
		54.0 2.0		

17 01 41.7 - 30 11.2
 01 41.7 11.0
 17 01 42 - 30 11.1

56	- 30° 45.86	17 02 25.2 - 30 44.8	6.1	10.7
	- 30° 45.84	01 38.2 - 31 00.1	3.8	<u>4.7</u>
		47.0 15.3		15.4

17 01 56.2 - 30 55.5
 01 56.2 55.4
 17 01 56 - 30 55.5

3948	- 28 55.76	17 08 06.1 - 29 1.8	9.0	5.1
	55.62	06 39.3 28 49.6	<u>10.4</u>	<u>7.1</u>
		1 26.8 12.2	19.4	12.2

17 07 25.9 - 28 56.7
 07 25.8 56.7
 17 07 26 - 28 56.7

36

A 2725

6M80 - 32 4756

17 34 28 - 32 09.6

17 - 31° 4901

17 34 53.4 - 31 238

7.1

5.5

4853

21 32.7

- 47.1

36.1

17.6

3 20.7

23.3

43.2

23.1

17 34 20.4 - 31 29.3

34 20.4

29.5

17 34 21 - 31 29.4

65

17 33 21.9 - 31 36.1

19.7

12.3

33 22.2

36.3

23.5

10.8

17 33 22 - 31 36.2

43.2

23.1

45 - 32° 4781

17 35 22.5 - 32 08.9

14.5

10.8

- 32° 4806

36 44.6 - 32 21.7

2.7

2.5

1 22.1

12.8

13.3

17 36 21.5 - 32 19.3

36 31.3

19.3

17 36 31 - 32 19.3

A 51 - 340 7047

17 39 25.7 - 34 16.7

7.5

10.8

- 33° 4561

37 12.1 - 33 54.0

19.8

12.8

2 13.6

22.7

27.3

23.6

17 38 49.1 - 34 06.3

38 49.1

06.3

17 38 49 - 34

05.8

using
other
stars got
same points

203 - 32° 4780

17 35 45.0 - 32 28.3

2.2

17 35 45 - 32 28.3

A 2725

$$\begin{array}{r}
 -32^{\circ} 46' 16'' \quad 17 \quad 26 \quad 53.5 - 32 \quad 29.4 \quad 6.6 \\
 \quad \quad \quad 1 \quad 37.9 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 28 \quad 11.4 \quad 32 \quad 30.7
 \end{array}$$

26 24 30.5

$$\begin{array}{r}
 -32^{\circ} 46' 08'' \quad 17 \quad 26 \quad 24.5 - 32 \quad 30.8 \quad 9.4 \\
 \quad \quad \quad 1 \quad 37.9 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 28 \quad 02.4 - 32 \quad 32.1
 \end{array}$$

2 31

→ 50 28 06 32.3

$$\begin{array}{r}
 -32^{\circ} 46' 11'' \quad 17 \quad 26 \quad 28.5 - 32 \quad 29.6 \quad 9.4 \\
 \quad \quad \quad 1 \quad 37.9 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 28 \quad 06.4 - 32 \quad 30.9
 \end{array}$$

A 8492

17 26 - 30.1)

A 720-35

X 1 edge

A 908

A 9429

A 2672 1260-37

2

u

A 225

46

X 12 edge

8

A 15467

44



45

10

32

40

13

38

19

31

37

52

6 edge

9

65

39

48

33

43

27

(521)

11

21

63

18

25

42

60

49

53

17

29

55

40

55

54

36

30

50

61

50
(522)

35

59

10

49 edge

56

42

A H 800

511

46

29

13

16

A 15456

31

edge

48

6

512

12

39

u

37

66

26

✓

49

32 edge

43

64

65

A 57 ✓

18 edge

511

41

50 ✓

17

66 edge

20

4

1/2

✓

X

✓

✓

✓

13

7

9

11

13

6

59

57
 56
 —
 08
 98 25

- 34 70 40

17	37	30.0	-	34	6.3
	1	39.7			0.8
<hr/>				<hr/>	
39		09.7		34	07.1

36 47 3.3

4.1 1.0

- 34 70 27

17	36	44.0	-	34	3.4
	1	37.9			0.8
<hr/>				<hr/>	
17	38	21.9		34	04.2
		47.8			2.9

5.2 2.7

38 48.7

- 34 06.1 ✓

38 48.4

- 34 06.3

33 - 20

31 22.6

A 2725

- 32 4573

X

$$\begin{array}{r}
 17 \quad 23 \quad 38.5 - 32 \quad 47.5 \quad 8.4 \\
 \quad \quad 1 \quad 37.9 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 25 \quad 16.4 - 32 \quad 48.8
 \end{array}$$

- 33 4426

$$\begin{array}{r}
 17 \quad 22 \quad 34.6 - 33 \quad 30.5 \quad 8.6 \\
 \quad \quad 1 \quad 38.6 \quad \quad \quad -1.5 \\
 \hline
 17 \quad 24 \quad 13.2 \quad 33 \quad 32.0
 \end{array}$$

- 32 4591

X

$$\begin{array}{r}
 17 \quad 25 \quad 37.3 - 32 \quad 41.0 \quad 9.6 \\
 \quad \quad 1 \quad 37.9 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 27 \quad 15.2 \quad 32 \quad 42.3
 \end{array}$$

- 32 4626

X

$$\begin{array}{r}
 17 \quad 27 \quad 02.0 - 32 \quad 23.7 \\
 \quad \quad 1 \quad 37.9 \quad \quad \quad -1.2 \\
 \hline
 17 \quad 28 \quad 39.9 \quad 32 \quad 24.9
 \end{array}$$

- 32 4806

X

$$\begin{array}{r}
 17 \quad 35 \quad 06.6 - 32 \quad 20.8 \quad 10.0 \\
 \quad \quad 1 \quad 38.0 \quad \quad \quad -0.9 \\
 \hline
 17 \quad 36 \quad 44.6 \quad 32 \quad 21.7
 \end{array}$$

- 32 4790

X

$$\begin{array}{r}
 17 \quad 34 \quad 7.1 - 32 \quad 27.3 \quad 8.2 \\
 \quad \quad 1 \quad 37.9 \quad \quad \quad 1.0 \\
 \hline
 17 \quad 35 \quad 45.0 \quad 32 \quad 28.3
 \end{array}$$

- 33 4561

X

$$\begin{array}{r}
 17 \quad 35 \quad 33.3 - 33 \quad 53.1 \\
 \quad \quad 1 \quad 38.8 \quad \quad \quad 0.9 \\
 \hline
 17 \quad 37 \quad 12.1 \quad 33 \quad 54.0
 \end{array}$$

- 34 4047

X

$$\begin{array}{r}
 17 \quad 37 \quad 46.0 - 34 \quad 15.9 \quad 9.1 \\
 \quad \quad 1 \quad 39.7 \quad \quad \quad -0.8 \\
 \hline
 17 \quad 39 \quad 25.7 \quad 34 \quad 16.7
 \end{array}$$

- 32 4551

$$\begin{array}{r}
 17 \quad 20 \quad 51.2 - 32 \quad 53.9 \quad 8.2 \\
 \quad \quad 1 \quad 37.8 \quad \quad \quad 1.4 \\
 \hline
 17 \quad 22 \quad 29.0 \quad 32 \quad 55.3
 \end{array}$$

- 32 4643

$$\begin{array}{r}
 17 \quad 28 \quad 51.5 - 32 \quad 02.8 \quad 7.7 \\
 \quad \quad 1 \quad 37.9 \quad \quad \quad 1.1 \\
 \hline
 17 \quad 30 \quad 29.4 \quad 32 \quad 03.9
 \end{array}$$

17 25 43 32 40.5

22 00 32 30.5

17 20 52 32 54.0

17 24 37 32 41.1

24 37 32 41.1

27 2 32 23.0

17 35 32 32 21.7

28 52 32 02

17 35 07 34 11.0

33 54 7

35 71 21.0

17 35 15 34 1

37 48 34 16

38 21 34 16

37 29 34 55

$$\begin{array}{r}
 46 \\
 35 \\
 \hline
 21
 \end{array}$$

A 2725

450
630

43

$$\begin{array}{r} 90 \\ - 31.4851 \\ \times \end{array}$$

$$17 \ 33 \ 56.3 - 31 \ 22.8 \ 9.6$$

$$17 \ 26 \ 30 - 31 \ 29$$

$$\begin{array}{r} 1 \ 37.1 \\ 17 \ 34 \ 53.4 - 31 \ 23.8 \\ \hline \end{array}$$

$$29 \ 56 \ 31 \ 45$$

$$\begin{array}{r} - 31^{\circ} 48' 53 \\ \times \end{array}$$

$$17 \ 29 \ 55.6 - 31 \ 46.0 \ 9.2$$

$$\begin{array}{r} 1 \ 37.1 \\ 17 \ 31 \ 32.7 - 31 \ 47.1 \\ \hline \end{array}$$

$$\begin{array}{r} - 32 \ 47' 81 \\ \times \end{array}$$

$$17 \ 33 \ 44.6 - 32 \ 07.9 \ 9.4$$

$$17 \ 32 \ 49 \ 32 \ 08.5$$

$$\begin{array}{r} 1 \ 37.9 \\ 17 \ 35 \ 22.5 - 32 \ 08.9 \\ \hline \end{array}$$

$$\begin{array}{r} - 32^{\circ} 45' 63 \\ \times \end{array}$$

$$17 \ 22 \ 00.6 - 32 \ 30.7 \ 9.2$$

$$18 \ 54 \ 49.7$$

$$\begin{array}{r} 1 \ 37.9 \\ 17 \ 23 \ 38.5 - 32 \ 32.1 \\ \hline \end{array}$$

$$\begin{array}{r} - 32^{\circ} 45' 37 \\ + \end{array}$$

$$17 \ 18 \ 51.0 - 32 \ 49.0 \ 9.8$$

$$17 \ 17 \ 48 \ 33 \ 04$$

$$\begin{array}{r} 1 \ 37.8 \\ 17 \ 20 \ 28.8 - 32 \ 50.5 \\ \hline \end{array}$$

$$\begin{array}{r} - 33^{\circ} 43' 92 \\ \times \end{array}$$

$$17 \ 14 \ 44.1 - 33 \ 03.8 \ 9.8$$

$$\begin{array}{r} 1 \ 38.6 \\ 17 \ 19 \ 22.7 - 33 \ 05.4 \\ \hline \end{array}$$

$$- 32^{\circ} 47' 56$$

$$17 \ 32 \ 49.6 - 32 \ 08.6$$

$$\begin{array}{r} 1 \ 37.9 \\ 17 \ 34 \ 27.5 - 32 \ 09.6 \\ \hline \end{array}$$

A 9429

4.8
62.44.8
14.44.8
43.24.8
59.2

-34° 6795

17	09	5.1	-	34	42.2	9.5
	1	39.3			1.8	
17	10	44.4	-	34	44.0	

09 14 34 26
17 10 30 35 05

-34° 6796

17	09	20.6	-	34	26.2	9.4
	1	39.3			1.8	
17	10	59.9	-	34	28.0	

16 03 34 16 -

-34° 6800

17	10	07.6	-	34	16.2	9.2
	1	39.3			1.7	
17	11	46.9	-	34	17.9	

-35° 6929

17	10	33.7	-	35	04.5	9.6
	1	40.1			1.8	
17	12	13.8	-	35	06.3	

17 14 5 35 47

-35° 6961

17	16	14.4	-	35	43.1	9.1
	1	40.2			1.6	
17	17	54.6	-	35	44.7	

17 34 35 36.6

-35° 6963

17	16	33.9	-	35	36.6	10.2
	1	40.2			1.6	
17	18	14.1	-	35	38.2	

18 14 35 15

-35° 6973

17	18	17.9	-	35	15.6	9.6
	1	40.3			1.5	
17	19	58.2	-	35	17.1	

- A 15456

-36° 7499

17	33	27.0	-	36	14.8	9.1
	1	41.3			1.0	
17	35	08.3	-	36	15.8	

42 36 25.4

27.8

-36° 7497

17	33	11.0	-	36	26.0	9.4
	1	41.3			1.0	
17	34	52.3	-	36	27.0	

- 33 4426

$$\begin{array}{r}
 17 \quad 22 \quad 34.6 - 33^\circ 30.5 \quad 8.6 \\
 \quad \quad 1 \quad 38.6 \quad \quad 1.5 \\
 \hline
 17 \quad 24 \quad 13.2 \quad \quad 33 \quad 32.0
 \end{array}$$

- 33 4435

$$\begin{array}{r}
 17 \quad 24 \quad 08.1 - 33^\circ 27.1 \quad 10.2 \\
 \quad \quad 1 \quad 38.6 \quad \quad 1.4 \\
 \hline
 17 \quad 25 \quad 46.7 - 33^\circ 28.5
 \end{array}$$

- 33 4429

$$\begin{array}{r}
 17 \quad 23 \quad 07.1 - 33^\circ 53.2 \quad 9.4 \\
 \quad \quad 1 \quad 38.6 \quad \quad 1.4 \\
 \hline
 17 \quad 24 \quad 45.7 \quad \quad 33^\circ 54.6
 \end{array}$$

- 34 6852

$$\begin{array}{r}
 17 \quad 23 \quad 30.2 - 34^\circ 02.1 \quad 9.0 \\
 \quad \quad 1 \quad 39.4 \quad \quad 1.4 \\
 \hline
 17 \quad 25 \quad 09.6 - 34^\circ 03.5
 \end{array}$$

- 33° 4485

$$\begin{array}{r}
 17 \quad 29 \quad 24.0 - 33^\circ 50.7 \quad 9.7 \\
 \quad \quad 1 \quad 38.7 \quad \quad 1.2 \\
 \hline
 17 \quad 31 \quad 02.7 - 33^\circ 51.9
 \end{array}$$

- 34° 6872

$$\begin{array}{r}
 17 \quad 25 \quad 54.2 - 34^\circ 36.9 \quad 9.2 \\
 \quad \quad 1 \quad 39.5 \quad \quad 1.3 \\
 \hline
 17 \quad 27 \quad 33.7 - 34^\circ 38.2 \\
 \quad \quad \quad \quad \quad 12.1
 \end{array}$$

- 34 6889

$$\begin{array}{r}
 17 \quad 28 \quad 01.2 - 34^\circ 10.3 \quad 10.0 \\
 \quad \quad 1 \quad 39.5 \quad \quad 1.3 \\
 \hline
 17 \quad 29 \quad 40.7 - 34^\circ 11.6
 \end{array}$$

- 34 6900

$$\begin{array}{r}
 17 \quad 29 \quad 01.7 - 34^\circ 57.8 \quad 9.5 \\
 \quad \quad 1 \quad 39.5 \quad \quad 1.2 \\
 \hline
 17 \quad 30 \quad 41.2 - 34^\circ 59.0
 \end{array}$$

- 34 6937

$$\begin{array}{r}
 17 \quad 31 \quad 02.0 - 34^\circ 48.7 \quad 9.0 \\
 \quad \quad 1 \quad 39.6 \quad \quad 1.1 \\
 \hline
 17 \quad 32 \quad 41.6 \quad \quad 34^\circ 49.8
 \end{array}$$

- 34 6928

$$\begin{array}{r}
 17 \quad 31 \quad 3.0 - 34^\circ 12.2 \quad 9.2 \\
 \quad \quad 1 \quad 39.6 \quad \quad 1.1 \\
 \hline
 17 \quad 32 \quad 42.6 \quad \quad 34^\circ 13.3
 \end{array}$$

27° 11° <u>A 15 461</u> 170			$\frac{3}{130}$		
- 36 72 11	17 06 31.4	- 36 18.1	9.1	07 46 36 46	
	1 41.0	1.9		03 21 36 40	
	17 08 12.4	- 36 20.0			
- 36 72 19	17 07 47.9	- 36 45.4	9.8	08 20 37 16	
	1 41.0	1.8			
	17 09 28.9	- 36 47.2			
- 36 71 94	17 05 19.4	- 36 40.6	9.2	02 39 32	
	1 40.8	2.0			
	17 05 00.2	- 36 42.6			
- 36 71 87	17 02 37.9	- 36 32.5	10.0	16 59 42 35 48.0	
	1 40.7	2.0		58 02 35 55	
	17 04 18.6	- 36 34.5		17 00 30 - 35 52	
- 37° 70 62	17 08 18.4	- 37 16.0	9.2	10 8 3.5	
	1 41.8	1.9			
	17 10 00.2	- 37 17.9			
- 37° 70 77	17 10 11.4	- 37 03.6	9.8		
	1 41.8	1.8			
	17 11 53.2	- 37 05.4			
- 35° 68 63	17 09 00.6	- 35 43.2	8.3	17 00 20 61	
	1 39.8	2.2			
	17 00 40.4	- 35 45.4			
- 35° 68 78	17 00 31.4	- 35 51.6	9.8		
	1 39.8	2.2			
	17 02 11.2	- 35 53.8			

A 2672

$$\begin{array}{r}
 -34^{\circ}6711. \quad 16 \quad 57 \quad 58.8 - 34 \quad 31.2 \quad 8.8 \quad 37 \quad 34 \quad 43 \\
 \quad \quad \quad 1 \quad 38.9 \quad \quad \quad 2.2 \\
 \hline
 \quad \quad 16 \quad 59 \quad 37.7 \quad 34 \quad 33.4
 \end{array}$$

$$\begin{array}{r}
 -34^{\circ}6714 \quad 16 \quad 58 \quad 18.8 - 34 \quad 30.5 \quad 9.0 \\
 \quad \quad \quad 1 \quad 38.9 \quad \quad \quad 2.2 \\
 \hline
 \quad \quad 59 \quad 57.7 \quad 34 \quad 32.7
 \end{array}$$

$$\begin{array}{r}
 -34^{\circ}6707 \quad 16 \quad 57 \quad 36.8 - 34 \quad 43.1 \quad 9.1 \quad 58 \quad 56 \quad 34 \quad 49 \\
 \quad \quad \quad 1 \quad 38.8 \quad \quad \quad 2 \quad 2.3 \\
 \hline
 \quad \quad 16 \quad 59 \quad 15.6 \quad 34 \quad 45.4
 \end{array}$$

$$\begin{array}{r}
 -34^{\circ}6721 \quad 16 \quad 58 \quad 56.8 - 34 \quad 49.1 \quad 8.8 \\
 \quad \quad \quad 1 \quad 39.0 \quad \quad \quad 2.2 \\
 \hline
 \quad \quad 17 \quad 00 \quad 35.8 \quad 34 \quad 51.3
 \end{array}$$

A 2672

$$\begin{array}{r} 120 \\ 120 \end{array}$$

- 32 4433

X

$$\begin{array}{r} 17 \quad 07 \quad 45.7 - 32 \quad 26.3 \quad 9.2 \quad 1711 \quad 10 \quad 32 \quad 01 \\ 1 \quad 37.5 - 1.9 \\ \hline 17 \quad 09 \quad 23.2 \quad 32 \quad 28.2 \end{array}$$

- 32 4486

X

$$\begin{array}{r} 17 \quad 11 \quad 10.0 - 32 \quad 00.6 \quad 8.8 \quad 13 \quad 40 \quad 32 \quad 15.6 \\ 1 \quad 37.6 - 1.7 \\ \hline 17 \quad 12 \quad 47.6 - 32 \quad 02.3 \end{array}$$

- 32 4503

X

$$\begin{array}{r} 17 \quad 13 \quad 44.0 - 32 \quad 05.3 \quad 10.3 \quad 14 \quad 34 \quad 32 \quad 27 \\ 1 \quad 37.7 \quad 1.6 \\ \hline 17 \quad 15 \quad 21.7 \quad 32 \quad 6.9 \end{array}$$

- 32 4509

X

$$\begin{array}{r} 17 \quad 14 \quad 36.5 - 32 \quad 26.8 \quad 9.2 \\ 1 \quad 37.7 \quad 1.6 \\ \hline 17 \quad 16 \quad 14.2 \quad 32 \quad 28.4 \end{array}$$

- 31 4657

X

$$\begin{array}{r} 17 \quad 11 \quad 38.1 - 31 \quad 33.2 \quad 9.0 \quad 09 \quad 38 \quad 31 \quad 11.0 \\ 1 \quad 36.8 - 1.8 \\ \hline 17 \quad 13 \quad 14.9 \quad 31 \quad 35.0 \end{array}$$

- 31 4643

X

$$\begin{array}{r} 17 \quad 09 \quad 41.9 - 31 \quad 11.4 \quad 9.5 \\ 1 \quad 38.8 \quad 1.8 \\ \hline 17 \quad 11 \quad 18.7 - 31 \quad 13.2 \end{array}$$

- 32 4406

$$\begin{array}{r} 17 \quad 04 \quad 57.7 - 32 \quad 10.9 \quad 9.4 \quad 17 \quad 04 \quad 45 \quad 31 \quad 59.5 \\ 1 \quad 37.5 \quad 2.0 \\ \hline 17 \quad 06 \quad 35.2 \quad 32 \quad 12.9 \end{array}$$

- 31 4603

$$\begin{array}{r} 17 \quad 04 \quad 17.3 - 31 \quad 59.5 \quad 9.0 \quad 03 \quad 09 \quad 32 \quad 10.0 \\ 1 \quad 36.6 \quad 2.1 \\ \hline 05 \quad 53.9 - 32 \quad 01.6 \end{array}$$

- 32 4382

$$\begin{array}{r} 17 \quad 03 \quad 10.1 - 32 \quad 10.0 \quad 9.1 \\ 1 \quad 37.5 \quad 2.1 \\ \hline 04 \quad 47.6 \quad 32 \quad 12.1 \end{array}$$

- 32 4342

$$\begin{array}{r} 16 \quad 57 \quad 55.3 - 32 \quad 33.4 \quad 9.7 \\ 1 \quad 37.4 \quad 2.2 \\ \hline 16 \quad 59 \quad 32.9 \quad 35.6 \end{array}$$

A2672

34 67 10 16,57 50.3 - 34 10.6
 1 38.9 - 0.2

X 16 59 29.2 34 12.8

-33 4205 17 00 08.1 - 33 41.8 8.5

X 1 38.0 - 2.3
 17 01 46.1 33 44.1

-33 4212 17 01 10.6 - 33 20.0 8.6

XX 1 38.0 - 2.2
 17 02 48.6 33 22.2

-33 4262 17 05 07.7 - 33 49.0 9.8

X 1 38.2 2.0
 17 06 46.9 33 51.0

-33 4249 17 04 28.7 - 33 6.6

XX 1 38.0 2.1
 17 06 06.7 33 8.7

-32 4395 17 04 29.1 - 32 47.8 8.8

X 1 37.5 2.0
 17 06 06.6 32 49.8

-32 4357 17 00 60.8 - 32 24.0 9.7

X 01 37.4 2.2
 17 01 38.2 - 32 26.2

-32 4419 17 06 12.2 - 32 37.8 9.4

X 1 37.5 2.0
 17 07 49.7 32 39.8

10.3 - 33 4202 16 58 55.8 - 33 57.6
 1 38.0 2.3
17 00 33.8 33 59.9
 2.5
 57.4

A 8492

- 28 5761

X

$$\begin{array}{r}
 17 \quad 33 \quad 29.5 - 28 \quad 38.0 \quad 8.7 \\
 \quad \quad \quad 1 \quad 34.9 \quad \quad \quad 1.0 \\
 \hline
 17 \quad 35 \quad 4.4 - 28 \quad 39.0
 \end{array}$$

- 28 5780

X

$$\begin{array}{r}
 17 \quad 34 \quad 58.0 - 28 \quad 10.2 \quad 9.4 \\
 \quad \quad \quad 1 \quad 34.9 \quad \quad \quad 0.9 \quad 9.5 \\
 \hline
 17 \quad 36 \quad 32.9 \quad 28 \quad 11.1 \quad 4
 \end{array}$$

- 28 5668

X

$$\begin{array}{r}
 17 \quad 21 \quad 03.4 - 28 \quad 44.3 \quad 8.4 \\
 \quad \quad \quad 1 \quad 34.7 \quad \quad \quad 1.4 \\
 \hline
 17 \quad 22 \quad 38.1 \quad 28 \quad 45.7
 \end{array}$$

- 28 5683

X

$$\begin{array}{r}
 17 \quad 22 \quad 58.7 - 28 \quad 56.8 \quad 8.8 \\
 \quad \quad \quad 1 \quad 34.7 \quad \quad \quad -1.4 \\
 \hline
 17 \quad 24 \quad 33.4 \quad 28 \quad 58.2
 \end{array}$$

- 28 5695

X

$$\begin{array}{r}
 17 \quad 24 \quad 10.2 - 28 \quad 44.2 \quad 8.7 \\
 \quad \quad \quad 1 \quad 34.7 \quad \quad \quad 1.3 \\
 \hline
 17 \quad 25 \quad 44.9 - 28 \quad 45.5
 \end{array}$$

- 28 5701

X

$$\begin{array}{r}
 17 \quad 25 \quad 11.4 - 28 \quad 20.8 \quad 9.5 \\
 \quad \quad \quad 1 \quad 34.8 \quad \quad \quad 1.2 \\
 \hline
 17 \quad 26 \quad 46.2 - 28 \quad 22.0
 \end{array}$$

- 29° 4701

X

$$\begin{array}{r}
 17 \quad 18 \quad 42.9 - 29 \quad 11.1 \quad 9.2 \\
 \quad \quad \quad 1 \quad 35.4 \quad \quad \quad 1.5 \\
 \hline
 17 \quad 20 \quad 18.3 - 29 \quad 12.6
 \end{array}$$

- 29 4692

XX

$$\begin{array}{r}
 17 \quad 17 \quad 43.4 - 29 \quad 26.0 \quad 8.8 \\
 \quad \quad \quad 1 \quad 35.4 \quad \quad \quad 1.5 \\
 \hline
 17 \quad 19 \quad 18.8 \quad 29 \quad 27.5
 \end{array}$$

- 29° 4664

X

$$\begin{array}{r}
 17 \quad 14 \quad 31.5 - 29 \quad 1.4 \quad 9.4 \\
 \quad \quad \quad 1 \quad 35.3 \quad \quad \quad 1.7 \\
 \hline
 17 \quad 16 \quad 06.8 \quad 29 \quad 3.1
 \end{array}$$

$$\begin{array}{r}
 22 \quad 55 \quad 28.5 \\
 17 \quad 18 \quad 4.8 \quad 29 \quad 11.8
 \end{array}$$

$$\begin{array}{r}
 17 \quad 24 \quad 6 \quad 28.44 \\
 1725 \quad 4 \quad 29 \quad 40.8
 \end{array}$$

$$17 \quad 25 \quad 8 \quad 28 \quad 20$$

$$17 \quad 17 \quad 49 \quad 29 \quad 26$$

$$17 \quad 14 \quad 34 \quad 29 \quad 0.2$$

$$\begin{array}{r}
 18.8 \\
 29 \quad 45.5 \\
 \hline
 16 \quad 33.3
 \end{array}$$

A 8492

- 29° 4769
X

17	25	9.0	- 29	40.5	8.9
		1 35.5		1.3	
17	26	44.5	- 29	41.8	

17	30		29	40.0
17	23	3	30	09.5
27	6		30	2.5

- 29 4817
X

17	30	7.7	- 29	39.9	9.5
		1 35.5		1.0	
17	31	43.2	- 29	40.9	

31	19		29	27.4
----	----	--	----	------

- 30 4769
X

17	22	56.2	- 30	8.1	9.0
		1 36.2		1.3	
17	24	32.4	- 30	9.4	

- 30 4808
X

17	27	08.4	- 30	02.5	9.0
		1 36.3		1.2	
17	28	44.7	- 30	03.7	

26 01 3048

- 30 4800
X

17	26	03.7	- 30	48.1	9.4
		1 36.2		1.2	
17	27	39.9	- 30	49.3	

17	20	48	30	49
28	10		31	07

- 30° 4738
X

17	19	53.0	- 30	57.7	10.3
		1 36.1		1.5	
17	21	29.1	- 30	59.2	

17	19	35	31	8.2
17	16	33	30	30
17	43		36.7	

- 31 47.20
X

17	19	32.6	- 31	07.9
		1 37.0		1.5
17	21	09.6	- 31	09.4

30 20.7

- 30° 4708
X

17	16	46.1	- 30	29.9	9.8
		1 36.1		1.6	
17	18	22.2	- 30	31.5	

17 15 02 30 55.9

- 30° 4691
X

17	14	56.6	- 30	55.7	9.6
		1 36.1		1.6	
17	16	32.7	- 30	57.3	

- 31° 4834
X

17	28	15.6	- 31	06.5	9.8
		1 27.1		1.2	
17	29	52.7	- 31	07.7	

1 A 8492

X

$-29^{\circ} 48' 54''$ 17 36 51.3 - 29 41.1 9.2 38 39 29 37.1
 1 35.5 - 0.9
 X 17 38 26.8 29 42.0

$-29 48' 6''$ 17 38 37.6 - 29 36.7 8.9
 1 35.6 - 0.8
 X 17 40 13.2 - 29 37.5

$$\begin{array}{r} 45 \\ 12 \\ \hline 57 \end{array}$$

$$\begin{array}{r} 45 \\ 9 \\ \hline 54 \end{array}$$

A9031

- 30° 45 85

R

17 00 35.4 - 30 9.9

79.7.

40

36

14.8

$$\begin{array}{r} 1 \\ 35.8 \\ \hline 17 \ 02 \ 11.2 - 30 \ 12.0 \end{array}$$

41

40 49

7.9

50 42.4

- 30 45 82

X

16 59 41.4 - 30 7.9

9.1

~~46 55~~

30 40.4

$$\begin{array}{r} 1 \\ 35.8 \\ \hline 17 \ 01 \ 17.2 - 30 \ 10.0 \end{array}$$

- 30 45 86

X

17 00 49.4 - 30 42.7

8.9

17 00 99

30 58

$$\begin{array}{r} 1 \\ 35.8 \\ \hline 17 \ 02 \ 25.2 - 30 \ 48.8 \end{array}$$

- 30 45 84

X

17 00 02.4 - 30 58.0

10.3

$$\begin{array}{r} 1 \\ 35.8 \\ \hline 17 \ 01 \ 38.2 - 31 \ 0.1 \end{array}$$

- 31 46 57

X

17 11 38.1 - 31 33.2

9.0

09 30 31 21

$$\begin{array}{r} 1 \\ 36.8 \\ \hline 17 \ 13 \ 14.9 - 31 \ 35.0 \end{array}$$

- 31 46 42

X

17 09 24.9 - 31 22.0

9.6

$$\begin{array}{r} 1 \\ 36.8 \\ \hline 17 \ 11 \ 01.7 - 31 \ 23.8 \end{array}$$

- 28 55 62

17 05 04.9 - 28 47.6

7.4

$$\begin{array}{r} 1 \\ 34.4 \\ \hline 17 \ 06 \ 39.3 \end{array} \quad \begin{array}{r} 2.0 \\ \hline 28 \ 49.6 \end{array}$$

A 9031

$$\begin{array}{r} 58.5 \\ 6.5 \\ \hline 22.8 \\ 76.5 \end{array}$$

$$\begin{array}{r} - 29 \ 4664 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 14 \ 31.5 - 29 \ 1.4 \ 9.4 \\ \quad 1 \ 35.3 \quad 1.7 \\ \hline 17 \ 16 \ 86.8 - 29 \ 3.1 \end{array}$$

$$\begin{array}{r} 12 \ 14 \ 53 \ 29 \ 5 \\ \quad 15 \ 38 \quad 7.2 \\ \hline 11 \ 44 \ 21 \ 17 \end{array}$$

$$\begin{array}{r} - 29 \ 4673 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 15 \ 39.9 - 29 \ 7.5 \ 9.4 \\ \quad 1 \ 35.3 \quad 1.6 \\ \hline 17 \ 17 \ 15.2 - 29 \ 9.1 \end{array}$$

$$\begin{array}{r} - 29 \ 4639 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 11 \ 43.0 - 29 \ 17.3 \ 9.7 \\ \quad 1 \ 35.3 \quad 1.8 \\ \hline 17 \ 13 \ 18.3 \ 29 \ 19.1 \end{array}$$

$$17 \ 10 \ 58 \ 29 \ 0.2$$

$$\begin{array}{r} - 29 \ 4634 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 10 \ 53.7 - 29 \ 02.8 \ 9.2 \\ \quad 1 \ 35.3 \quad 1.8 \\ \hline 17 \ 12 \ 29.0 - 29 \ 04.6 \end{array}$$

$$\begin{array}{r} 17 \ 12 \ 9 \ 28 \ 27.6 \\ 17 \ 8 \ 07 \ 28 \ 48.3 \end{array}$$

$$\begin{array}{r} - 28 \ 5618 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 12 \ 10.1 - 28 \ 28.2 \ 9.1 \\ \quad 1 \ 34.5 \quad 1.7 \\ \hline 17 \ 13 \ 44.6 - 28 \ 29.9 \end{array}$$

$$16 \ 14 \ 28 \ 09$$

$$\begin{array}{r} - 28 \ 5628 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 16 \ 12.8 - 28 \ 8.9 \ 9.8 \\ \quad 1 \ 34.5 \quad 1.6 \\ \hline 17 \ 17 \ 47.3 \ 28 \ 10.5 \end{array}$$

$$17 \ 16 \ 00 \ 28 \ 22$$

$$\begin{array}{r} - 28 \ 5584 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 08 \ 03.4 - 28 \ 48.7 \ 8.8 \\ \quad 1 \ 34.5 \quad 1.9 \\ \hline 17 \ 09 \ 37.9 - 28 \ 50.6 \end{array}$$

$$\begin{array}{r} 06 \ 33 \ 28 \ 59.7 \\ 17 \ 7 \ 50 \ 30 \ 104 \end{array}$$

$$\begin{array}{r} - 28 \ 5576 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 06 \ 31.7 - 28 \ 59.9 \ 9.5 \\ \quad 1 \ 34.4 \quad 1.9 \\ \hline 17 \ 08 \ 06.1 \ 29 \ 1.8 \end{array}$$

$$17 \ 05 \ 6 \ 28 \ 47.6$$

$$\begin{array}{r} - 30 \ 4631 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 08 \ 13.8 - 30 \ 07.8 \ 10.3 \\ \quad 1 \ 36.0 \quad 1.9 \\ \hline 17 \ 09 \ 49.8 - 30 \ 9.7 \end{array}$$

$$\begin{array}{r} 17 \ 07 \ 15 \ 30 \ 22 \\ 11 \ 04 \ 31 \ 13 \end{array}$$

$$\begin{array}{r} - 30 \ 4623 \\ \times \end{array}$$

$$\begin{array}{r} 17 \ 07 \ 14.3 - 30 \ 22.6 \ 9.7 \\ \quad 1 \ 35.9 \quad 1.9 \end{array}$$

A 2725

 π

37

50	-32° 4626	17	28	39.9	-	32	24.9	7.1	7.0
	-32 4591		27	15.2	-	32	42.3	10.4	<u>10.2</u>
			1	24.7			17.4		17.2

17 28 05.6 - 32 31.9

28 05.3 32.1

17 28 05 - 32 32.0

57	-32° 4573	17	25	16.4	-	32	48.8	4.4	9.2
	-32 4563		23	38.5	-	32	32.1	<u>16.6</u>	<u>7.6</u>
			1	37.9			16.7	21.0	16.8

17 24 55.9 - 32 37.6

24 55.6 39.7

17 24 56 - 32 39.6

22	-32° 4537	17	20	28.8	-	32	50.5	9.2	4.1
	-33° 4392		19	22.7	-	33	05.4	4.5	<u>11.0</u>
			1	6.1			14.9		15.1

17 19 44.3 - 32 54.6

19 44.4 54.4

17 19 44 - 32 54.5

521,	-32° 4573	17	25	16.4	-	32	48.8	25.9	5.7
	4551		22	29.0	-		55.3	<u>9.6</u>	<u>0.9</u>
			2	47.4			6.5	35.5	6.6

17 23 14.4 - 32 54.5

23 14.3 54.4

17 23 14 - 32 54.5

202: -32° 4643 17 30 29 - 32 03.9

38

A 2672

8	-32°	4509	17	16	14.2	-	32	28.4	3.8	7.4
		4503		15	21.7			06.9	7.0	<u>14.3</u>
					52.5			21.5		21.7

17 15 55.7 32 21.0

15 55.7 21.2

17 15 56 - 32 21.1

40	-31	4657	17	13	14.9	-	31	35.0	10.9	5.9
		31 4643		11	18.7	-		13.2	13.7	<u>15.7</u>
				1	56.2			21.8		21.6

17 12 23.5 - 31 29.1

12 23.2 28.9

17 12 23 - 31 29.0

52	-32°	4486	17	12	47.6	-	32	0 2.3	4.8	16.1
		4433		09	23.2			28.2	39.1	<u>9.7</u>
				3	24.4			25.9	43.9	25.8

17 12 25.0 - 32 18.4

12 25.2 18.5

17 12 25 - 32 18.5

33			17	11	35.1	-	32	15.3	15.6	13.0
				11	34.2		32	15.5	28.2	<u>12.7</u>
			17	11	35	-	32	15.4	45.8	25.7

A 2672

39

63	- 32 4419	17 07 49.7	- 32 39.8	5.2	21.0
	- 33 4249	06 ^{2.8} 06.7	- 33 08.7	16.7	<u>8.0</u>
		1 43.0	28.9	21.9	29.0

17 07 25.1	- 33 00.8
07 25.5	00.7
17 07 25	- 33 00.8

53	17 07 11.9	32 57.0	8.0	17.2
	07 11.7	57.1	13.8	11.6
	17 07 12	- 32 57.0	21.8	28.8

54	- 32 ⁰ 4395	17 06 06.6	- 32 49.8	18.9	10.4
	- 32 4357	01 ⁹ 38.2	- 26.2	38.4	<u>12.9</u>
		4 28.4	23.6	57.3	23.3

17 04 37.8	32 39.4
17 04 38.4	39.1
17 04 38	- 32 39.2

35	17 03 11.6	- 32 40.8	37.3	9.0
	03 12.2	40.5	<u>20.0</u>	14.3
	17 03 12.	- 32 40.6	57.3	23.3

46	17 02 19.6	- 32 46.5	48.4	3.3
	02 19.9	46.2	<u>8.9</u>	20.0
	17 02 20	- 32 46.4	57.3	23.3

40

A 2672

						γ	y
58	- 33° 42' 49"	17	06	06.7	- 33	08.7	32.6
	42' 12"		02	48.6		22.2	9.6
			3	18.1		13.5	41.6
							10.6
							13.8

17	03	34.6 - 33	11.8
	03	34.3	11.8
17	03	34 - 33	11.8

58a		17	03	41.2 - 33	17.4	30.6	9.0
			03	41.4	17.4	11.7	4.9
		17	03	41 - 33	17.4	41.7	13.9

26	- 33° 42' 62"	17	06	45.9 - 33	51.0	11.5	14.5
	33.42' 12"		02	48.6	22.2	38.6	14.0
			3	57.3	28.8	50.1	28.5

17	05	51.5 - 33	36.4
	05	51.1	36.4
17	05	51 - 33	36.4

64	- 33° 42' 05"	17	01	44.1 - 33	44.1	12.3	13.4
	34' 67" 10"	16	59	29.2 - 34	12.8	16.0	16.2
			2	16.9	28.7	28.3	29.6

17	00	46.7 - 33	57.1	γ
	00	46.5	57.2	
17	00	47 - 33	57.2	

- 33° 42' 02"	17	00	33.8 - 33	59.9	25	25
position of 64	17	00	45.8	33	57.4	

A 9429

			γ	g
37 - 34 ⁰ 6938	17 32 42.6	- 34 13.3	8.0	7.8
- 33 4485	31 02.7	- 33 51.9	<u>12.1</u>	<u>14.6</u>
	1 39.9	21.4	20.1	22.4

17 32 03.0 - 34 05.7

17 32 02.7 05.8

17 32 03. - 34 05.8

48	17 31 18.2	- 33 53.5	17.0	20.7
	31 18.5	53.6	<u>3.2</u>	<u>1.8</u>
	17 31 18	- 33 53.5	20.2	22.5

32 - 34 ⁰ 6937	17 32 41.6	- 34 49.8	7.8	2.9
32 - 34 ⁰ 6900	30 41.2	59.0	<u>17.6</u>	<u>6.3</u>
	2 00.4	9.2		9.2

17 32 04.7 - 34 52.7

32 04.7 52.7

17 32 05 - 34 52.7

21 - 34 ⁰ 6889	17 29 40.7	- 34 11.6	5.3	12.4
- 34 6872	27 33.7	38.2	<u>21.8</u>	<u>13.7</u>
	2 07.0	26.6	27.1	26.1

17 29 15.9 - 34 24.2

29 15.7 24.2

17 29 16 - 34 24.2

49	17 28 28.5	- 34 19.5	15.4	5.8
	28 29.0	19.6	<u>11.8</u>	<u>18.3</u>
	17 28 29.5	- 34 19.5		26.1

42

A 9429

x y

42 - 33° 4426

17	24	13.2	- 33	32.0
17	24	13.2	- 33	32.0

55 - 33 4435

17 25 46.7 - 33 28.5

6.1 10.6

- 33 4429

24 45.7 54.6

7.3 15.4

1 01.0

26.1

26.0

17 25 19.0 - 33 39.1

25 18.9 39.2

17 25 19 - 33 39.2

50 - 33° 4429

17 24 45.7 - 33 54.6

0.9

4.0

- 34 6852

25 09.6 - 34 03.5

3.9

4.9

23.9

08.9

4.8

8.9

17 24 50.2 - 33 58.6

50.1

58.6

17 24 50 - 33 58.6

13 - 35° 6973

17 19 58.2 - 35 17.1

8.5 9.7

6963

18 14.1 - 38.2

12.8 11.4

1 44.1

21.1

21.1

17 19 16.6 - 35 26.8

19 16.7

26.8

17 19 17 - 35 26.8

522. - 34° 6852

17 25 09.6 - 34 03.5

17.3

20.2

- 34 6845

23 41.6

24.1

1.5

0.4

1 28.0

20.6

18.8

20.6

17 23 48.6 - 34 23.7

48.6

23.7

A 9429

66	- 34	6800	17	11	46.9	- 34	17.9	46.9	4.1
	- 34	6796		10	59.9	34	28.0	<u>2.4</u>	<u>6.1</u>
					47.0		10.1	9.3	10.2

17	11	12.1	34	22.0
	11	12.0		21.9
17	11	12.1	- 34	22.0

6	- 35 ⁰	6929	17	12	13.8	- 35	06.3	12.0	6.8
	- 34	6795		10	44.4	- 34	44.0	6.7	15.4
				1	29.4		22.3		22.2

17	11	16.4	- 34	59.5
	11	16.4		59.4
17	11	16	- 34	59.5

A 15456

12	- 36 ⁰	7499	17	35	08.3	- 36	15.8	2.7	5.6
		7497		34	52.3	36	27.0	<u>0.5</u>	<u>5.2</u>
					16.0		11.2	3.2	11.4

17	34	54.8	- 36	21.4
		54.8		21.2

17	34	55	- 36	21.3
----	----	----	------	------

44

A 15467

43	- 37° 7077	17	11	53.2	- 37	05.4	15.1	7.1
	7062		10	00.2	- 37	17.9	7.6	5.4
			1	53.0		12.5	22.7	12.5

17	10	39.0	- 37	12.6
17	10	38.6		12.5
17	10	39.	- 37	12.5

18	- 36° 7219	17	09	28.9	- 36	47.2	5.3	2.2
	7211		08	12.4		20.0	10.0	23.3
			1	16.5		27.2	15.3	27.5

17	09	02.5	- 36	45.0
	09	02.4		45.0
17	09	02	- 36	45.0

17		17	08	35.9	- 36	31.7	10.6	15.5
			08	36.4		31.8	4.8	11.8
		17	08	36	- 36	31.8	15.4	27.3

36	- 36° 7194	17	05	00.2	- 36	42.6	4.6	4.3
	7187		04	18.6		34.5	4.1	3.7
				41.6		8.1	8.7	8.0

17	04	38.2	- 36	38.3
	04	38.2		38.2
17	04	38	- 36	38.2

A 15467

59	-35° 6878	17 02 11.2	- 35 53.8	10.6	3.8
	6863	00 40.4	45.4	<u>8.3</u>	<u>4.2</u>
		1 30.8	8.4	18.9	8.0

17	01 20.0	- 35 49.8
	01 20.4	49.8
17	01 20	- 35 49.8

A 2762

515	-32 4406	17 06 35.2	- 32 12.9	8.1	7.0
	4603	05 53.9	<u>61.6</u>	<u>0.7</u>	<u>4.3</u>
		41.3	11.3	8.8	11.3

17	05 57.2	- 32 05.9
	05 57.2	05.9
17	05 57	- 32 05.9

ANS₀₀ - 32° 4382

512	-32° 4357	17 01 38.2	- 32 26.2	9.2	1.9
	4342	16 59 32.7	35.6	<u>17.2</u>	<u>8.2</u>
		2 55.5	9.4	26.4	10.1

17	00 54.5	- 32 28.0
17	00 54.5	28.0
17	00 54	- 32 28.0

46

A 2672

					x	y	
511. - 34° 6721	17	00	35.2	- 34	51.3	8.5	11.0
6711	16	59	37.7		33.4	3.4	6.8
			58.1		17.9	11.9	17.8

16	59	54.3	- 34	40.3
	59	54.3		40.2
16	59	54	- 34	40.2

- 34° 6714	16	59	57.7	- 34	32.7	0.6	7.5
6707		59	15.6		45.4	8.0	5.4
			42.1		12.7	8.6	12.9

16	59	54.8	- 34	40.2
	59	54.7		40.0
16	59	55	- 34	40.1
16	59	5 ⁵	- 34	40.2

60

416 middle of 4s
not measured324 foll of 4
not measured451 pr 4i
not measured418 too close adouble
MF Plate to measure

short

long

short

short
double + red

double

long
double 0.6092sshort
vary?too near
At. stars

no of d. pr.

394

395

351

444

415

438

398

2423912.769

MF 8544

16.3

16.13?

15.0

16.3

16.0

16.1

15.8

992.590

8723

14.5

15.3

15.3

15.8

—

15.8

—

24018.530

8755

15.0

15.9

15.7

15.8

15.3

15.7

16.0

294.754

9178

15.3

14.6

15.4

15.9

16.3

16.0

15.4

370.562

9648

15.5

15.4

15.6

15.4

15.7

15.7

15.5

24623.762

10132

15.1

15.3

15.3

15.7

16.0

15.7

15.7

626.753

10138

15.5

16.1

15.3

15.7

15.8

15.8

15.9

627.755

10143

15.1

15.5

15.8

15.8

15.8

15.8

15.8

642.760

10189

15.4

16.0

15.8

15.9

16.3

15.7

16.2

646.699

10214

15.7

16.2

16.1

15.9

15.7

16.0

16.0

647.886

10222

15.8

16.3

15.9

15.8

blurred

16.2

16.1

648.687

10230

15.3

16.2

14.9

15.8

15.9

16.3

15.9

649.688

10238

15.6

16.1

15.9

15.8

16.1

16.3

15.8

650.692

10247

15.4

16.1

16.0

15.9

15.8

15.6

15.8

653.749

10265

15.9

—

15.8

15.8

16.0

—

16.1

654.744

10269

15.5

16.1

15.1

15.8

16.1

15.8

15.9

655.787

10277

15.5

16.3

16.0

15.6

15.8

—

16.0

656.786

10282

15.7

16.0

16.0

15.6

16.2

16.2

16.0

669.687

10308

15.5

15.5

15.7

15.7

15.5

Br

16.2

670.680

10315

15.5

15.5

15.7

15.7

15.2

ms

16.1

678.683

10345

15.5

—

15.7

15.6

16.0

15.8

15.8

679.682

10354

15.7

—

15.5

15.7

16.2

Br

15.7

683.766

10381

15.7

—

15.9

15.9

15.1

15.5

15.5

697.622

10425

15.4

—

16.0

16.0

16.2

16.1

15.9

699.689

10440

15.5

16.0

16.0

15.6

16.2

16.2

16.0

702.685

10466

15.2

—

16.0

16.0

16.2

16.2

16.0

704.682

10472

15.1

ms

15.5

16.1

16.0

16.4

16.2

706.687

10488

15.0

ms

15.6

15.7

15.6

16.5

16.1

710.691

10516

15.1

ms

16.1

15.9

16.2

16.5

15.9

1928phae-proj-2367

0.421250

long
341[±]
so of pc

long
456[±]
m

long?

short

<1d

short

<1d

450

423

399

424

417

445

391

446

16.2

ns

16.2

16.0

15.9

14.6

15.0

14.5

15.4

ns

15.8

—

15.3

15.0

15.3

13.8

16.0

15.1

16.2

ns

15.5

14.3

14.4

14.6

16.0

16.0

15.4

—

15.3

14.8

15.0

14.6

15.9

16.2

16.0

—

15.5

15.2

14.9

14.8

16.0

ns

16.4

ns

15.5

15.3

15.5

14.0

15.3

ns

16.4

ns

15.5

15.1

15.6

15.0

15.8

ns<15.8

ns<15.8

ns<15.8

15.7

14.9

15.7

13.8

15.4

ns

ns

ns

15.6

14.5

15.4

13.7

15.6

ns

16.4

ns

15.4

14.8

15.3

14.0

16.0

ns

ns

ns

15.8

14.9

15.3

14.4

15.5

16.2

ns

—

15.6

14.7

15.5

13.7

16.0

16.2

16.5

ns

15.7

14.8

15.0

14.6

16.2

16.2

ns

ns

15.9

14.5

15.3

14.8

15.7

ns

ns

ns

15.5

14.4

15.5

14.7

15.9

ns

16.5

—

15.5

14.5

15.1

14.6

16.0

ns

ns

—

15.9

15.1

15.2

14.9

15.4

ns

ns

ns

15.9

14.7

15.4

14.5

16.2

16.3

16.6

ns

15.5

15.0

15.6

13.9

15.9

ns

ns

ns

16.0

15.0

15.4

14.8

15.5

16.0

16.3

—

15.5

14.5

15.3

13.9

16.3

16.5

16.6

ns

15.3

14.8

15.1

14.5

15.5

16.1

16.6

—

15.5

14.7

14.8

14.3

15.4

16.0

16.2

—

15.7

14.8

15.2

14.9

15.4

16.1

16.3

—

16.0

14.8

15.2

14.3

15.5

15.5

16.3

—

15.2

14.6

14.8

13.8

15.9

15.8

16.0

—

15.5

15.1

15.2

14.3

16.0

16.0

16.0

—

15.5

15.0

15.3

14.3

15.5

15.9

16.2

—

15.5

14.9

15.4

14.5

		394	395	351	444	415	438	398
2424727.568	MF10570	15.0	12	16.2	15.9	16.3	16.0	16.2
731.558	10592	15.3	15	15.3	16.0	16.3	15.9	16.0
733.564	10614	15.0	—	15.8	15.9	16.2	16.4	15.7
753.532	10666	15.3	ns	15.4	15.7	15.8	16.5	16.1
755.529	10671	15.0	ns	15.3 ⁸	15.6	16.0	16.5	16.2
759.474	10683	15.2	ns	15.3	15.5	15.6	16.6	15.8

450	423	399	424	417	445	391	446
15.8	16.2	<u>15.7</u>	<u>15.5</u>	15.5	15.1	15.7	14.9
16.2	16.2	15.4	—	15.7	15.1	16.0	14.8
15.7	16.2	15.5	—	15.4	14.5	15.7	13.9
15.6	16.4	15.3	—	15.2	14.8	14.8	14.3
16.0	16.1	15.3	—	15.3	14.6	15.4	14.1
15.5	15.3	15.5	—	15.5	14.8	15.2	14.0

J. D.	Plate No	294	395	351	444	415	438	398
414212.533	A 2826							
15632.573	5625							
638.568	5642							
667.	5708							
18470.750	9362							
794.871	10052							
830.743	10121							
882.612	10207							
242402.535	18070							
025.533	18073							
641.682	13659	15.5	16.4	16.0	15.7	16.2	16.4	15.5
644.679	13682	15.5	<16.5	16.0	15.8	16.0	ns	15.6
682.584	13832	15.7	ns	16.2	16.0	16.4	ns	15.8
762.496	14011	15.1	ns	16.2	16.0	16.2	16.2	15.7
.524	14012	1-						
.552	14013	14.7	ns	15.9	15.7	16.3	16.6	15.8
.580	14014	14.8	ns	15.5	15.9	16.2	ns	15.9
.611	14015	14.6	ns	15.5	15.8	16.3	ns	15.4
.641	14016	14.9	ns	15.7	16.0	16.0	ns	15.3

near edge of α
plates

450 428 399 424 417 445 391 446

16.4	16.7	<16.5	ns	15.5	15.41	15.41	—
16.2	ns	ns	ns	15.4	15.01	—	—
16.2	16.1	16.3	ns	15.4	15.11	—	Br
15.7	<16.5	15.7	ns	15.51	—	—	—
16.0	ns	15.7	ns	15.51	Br	—	—
16.1	ns	15.8	ns	15.51	—	—	Br
15.9	ns	15.8	ns	15.71	—	—	—
16.2	ns	15.5	ns	15.41	plate	plate	FT

0.56851

138^d

8.7774

long

836

335

1700

337

447

380

425

423912.769	MF 8544	16.1	ns	13.8	ns	15.4	15.7	16.2
992.590	P723	16.1	14.9	14.9	15.8	15.1	16.0	15.8
24018.530	P755	15.7	15.7	13.7	15.3	14.7	15.4	15.4
294.754	9178	defect	ns	14.3	15.4	15.4	15.7	15.4
370.552	9648	16.1	13.7	15.4	16.0	15.2	15.8	15.5
24623.762	10132	16.5	15.3	15.2	15.7	15.4	16.1	15.4
626.753	10138	ns		14.8	15.3	15.6	15.3	15.5
627.755	10143	ns	14.7	15.6	15.9	15.7	16.0	15.7
642.760	10189	16.0	14.0	13.5	15.1	14.5	15.8	15.8
648.699	10214	ns		13.9	14.8	15.4	15.7	15.5
647.686	10222	16.0		14.4	14.9	14.4	15.4	15.5
648.687	10230	16.5	14.5	15.0	14.7	15.1	15.0	15.6
649.688	10238	15.9		14.5	14.8	15.1	16.5	16.2
650.692	10247	16.3	13.9	14.1	14.4	15.6	16.0	15.8
653.749	10265	16.2	13.7	13.5	13.9	15.7	16.0	defect
654.744	10269	15.5	13.6	13.9	14.5	15.5	15.8	15.7
655.787	10277	ns	14.1	15.3	14.4	14.3	15.3	15.9
656.786	10282	16.6	13.9	13.8	13.9	15.5	15.5	15.5
669.687	10308	16.3	13.9	15.1	13.9	15.3	15.2	15.5
670.680	10315	15.5	14.6	13.9	14.3	15.0	15.3	15.7
678.683	10345	16.2	14.9	13.9	14.2	14.9	16.2	16.3
679.682	10354	ns	14.9	14.9	14.8	15.7	16.5	16.4
683.766	10381	15.7	15.0	14.8	14.4	15.0	15.4	15.3
697.622	10425	16.6	16.5	14.8	14.9	15.4	15.5	16.6
699.689	10440	15.4	16.3	15.6	15.0	14.6	15.4	15.5
702.685	10456	16.5	16.5	13.5	15.0	14.6	15.8	15.5
704.682	10472	16.6	16.6	15.1	15.1	14.7	15.7	15.7
706.687	10488	16.7	16.5	13.6	15.0	15.1	15.0	15.2
710.691	10515	16.5	ns	13.7	15.3	15.6	15.9	15.3

eclips

480.200
or 134 dayswrong
star
"A"

73

	456	338	440	381	400	401	382	"A"
	15.5	14.9	13.9	16.2	16.0	15.7	13.9	13.7
	15.3	14.8	13.7	16.0	ns	15.6	15.0	13.9
Ke	15.3	14.7	14.6?	15.7	ns	15.1	15.5	13.9
	14.7	14.8	14.3	15.5	15.5	15.3	14.2	14.1
	15.4	15.5	14.8	16.0	ns	15.7	15.5	13.8
	15.3	15.4	13.9	15.8	ns	16.0	14.8	13.8
	15.5	15.0	15.0	15.8	.	15.5	14.8	14.2
	15.5	14.7	14.2	ms 15.8	ns	15.6	14.7	14.4
	15.3	15.0	13.9	15.9	ns	15.7	15.0	13.9
	15.7	15.4	14.8	16.0		15.4	15.3	14.4
	15.3	14.9	14.0	15.6		15.5	14.9	14.2
	15.3	14.7	13.9	15.5	ns	15.9	15.0	14.5
	15.4	14.8	14.5	15.7		15.8	15.4	14.3
	15.4	14.9	14.5	15.6	ns	15.9	15.3	14.1
	15.5	15.0	14.0	15.9	ns	15.4	14.9	13.8
	15.4	13.9	14.5	15.5		15.5	15.0	14.0
	15.3	15.0	14.6	15.8		15.6	15.0	14.2
	15.3	15.1	14.6	15.4	ns	15.5	14.6	13.9
	15.3	14.8	14.3	15.6	16.6	15.5	14.6	14.2
	15.3	15.0	14.9	16.0		15.9	15.0	14.2
	15.5	15.2	14.5	16.0		15.7	15.0	13.9
	15.4	15.1	14.0	15.9	ns	15.2	15.1	14.3
	15.2	14.0	13.8	15.3	16.6	15.5	14.9	13.9
ns	15.1	14.5	15.2	16.4	15.6	15.0		14.3
15.3 14.7	14.6	14.0	15.5	16.3	14.9	15.1		13.9
15.1	14.7	14.2	15.4	16.2	15.7	15.2		14.1
16.5 15.1 14.9	15.4	14.8	15.7	16.1	15.5	15.3		14.3
14.9	14.5	13.9	15.6	15.8	14.7	15.1		13.9
15.3	15.3	14.3	15.9	15.7	15.5	15.5		13.9

		336	335	17w	337	447	386	425
2424727.568	MF 10570	15.5 ⁹	ms	13.5	15.5	14.7	16.3	15.6
731.558	10592	16.0	ms	13.9	15.9	15.5	16.0	16.0
733.564	10614	16.5	ms	15.3	15.9	15.7	15.4	15.5
753.532	10666	16.6	16.3	14.0	16.1	14.3	15.5	15.4
755.529	10671	16.6	16.0	13.7	16.0	15.4	15.6	15.7
759.474	10683	16.6	15.7	13.6	15.8	15.5	16.1	15.6

456	338	440	381	400	401	382	"A"
15.1	15.0	14.2	15.8	15.7	14.9	15.3	13.9
15.4	14.6	14.4	16.0	15.9	15.5	15.5	13.9
16.5	<u>16.0</u>	13.9	16.2	15.9	14.9	15.6	14.2
15.2							
14.6	14.6	14.3	15.2	16.3	<u>14.3</u>	15.4	13.9
ms	15.7	14.3	15.4	16.5	15.2	15.3	13.7
15.8	15.0	14.3	15.6	ms	15.7	15.4	13.9

76

 right at
 edge
 long
 337

24 14212.533	A 2826
15 632.573	5625
6 38.568	5642
667,	5708
18 470.750	9362
794.871	10052
830.743	10121
882.612	10207
2424024.535	18070
025.533	13073
641.682	13659
644.679	13692
682.584	13832
762.496	14011
524	14012
552	14013
580	14014
611	14015
641	14016

14.5?

15.5?

15.5

long

400

401

382

ms 157

mean edge

ms

15.71

15.31

15.11

15.12

Cing

10+ per
two clonets
another star
on MF pl.
50 g per
very close
difficult to
measure

		503	405	482	426	481	427	428
24 23 912.769	MF 8544	15.1	15.4	14.4	ns < 16.2	15.3	ns < 16.2	?
992.590	8723	15.4	ns < 16.0	13.9	ns < 16.1	16.0	ns < 16.0	Br
24 018.530	8755	15.5	ns < 16.0	13.9	ns < 16.0	15.5	ns "	15.3?
294.754	9178	14.3	ns "	14.1	ns "	15.5	ns "	?
370.552	9648	14.6	15.5	14.2	16.5	15.5	ns	15.5
24 623.962	10132	15.5	15.4	13.9	ns	16.0	ns	15.5
626.753	10138	15.2	15.5	14.8	ns	16.0	ns	15.7
627.755	10143	15.3	15.7	14.8	ns	15.8	ns < 15.8	ns < 15.8
642.760	10189	15.2	15.8	14.1	ns	15.9	ns	15.6
646.699	10214	15.3	15.9	14.5	ns	defect	ns	15.8
647.686	10222	15.3	15.8	13.9	ns	15.1	ns	blurred
648.687	10230	15.0	16.0	14.5	ns	16.2	Fl	15.4
649.688	10238	15.0	16.3	14.6	ns	15.8	ns	15.6
650.692	10247	15.5	16.4	14.7	ns	16.0	ns	15.5
653.749	10265	15.3	16.4	13.9	ns	16.2	ns	15.7
654.744	10269	15.0	16.5	13.7	ns	15.9	ns	15.4
655.787	10277	15.1	16.5	14.3	ns	15.5	16.5	15.5
656.786	10282	15.5	16.5	13.7	ns	16.0	16.4	15.4
669.687	10308	15.5	16.7	14.0	ns	15.1	16.3	15.7
670.680	10315	15.6	ns	14.5	ns	15.1 ⁹	blurred	15.7
678.683	10345	15.4	ns	14.3	ns	16.2	bl	15.5
679.682	10354	15.3	ns	14.6	ns	15.7	ns	16.0
683.766	10381	15.3	ns	14.1	ns	15.0	ns	15.8
697.622	10425	15.0	ns	15.1	ns	15.5 ⁷	ns	15.1
699.689	10440	14.7	ns	14.6	ns	15.4	ns	15.3
702.685	10456	14.8	ns	14.6	ns	15.1	16.3	15.4
704.682	10478	15.1	ns	15.0	ns	15.4 ⁹	ns	15.6
706.687	10488	15.4	ns	14.5	ns	15.4	16.1	15.7
710.691	10515	15.3	ns	14.7	ns	15.4	16.4	15.6

long

Does not vary

CL Sco

490a Nova?

495	too close to other stars on MF 406	fall of the cloud from MF 407	it stars surrounded it so do not get again. 408	491	492	polys of stars too near it stars to measure length 493	494	" " " A	
ns < 16.2	14.9	15.7	16.2	13.5	ns < 16.2	16.3	15.6	12.3	ns
ns < 16.2	—?	13.2	15.5	13.7	15.5	15.4	15.5	13.4	ns
ns < 16.0	15.3	15.4	15.8	13.7	ns < 16.0	16.2	15.0	13.5	ns
15.7	15.2	?	15.1	13.6	ns < 16.0	15.2	15.5	13.4	ns
16.1	15.7	15.7	15.4	13.5	ns	15.8	15.7	12.2	ns
16.4	15.3	15.7	15.8	13.7	ns	15.8	15.6	12.3	ns
16.5	15.7	15.5	15.7	13.9	ns	bright ns star	15.8	12.2	ns
ns < 15.8	ns < 15.8	—	blurred	13.7	ns	15.6	15.5	12.5	ns
16.0	15.9	15.6	16.0	13.5	ns	15.5	15.7	12.1	ns
16.0	15.9	15.5	15.8	13.8	ns	15.7	15.6	12.0	ns
15.8	blurred	run together	15.9	13.6	ns	15.8	15.6	12.5	ns
16.3	15.3	15.2	15.7	13.3	ns	15.5	15.8	12.2	ns
16.5	15.7	15.6	15.8	13.5	ns	15.6	15.7	12.3	ns
16.3	15.9	blurred	15.7	13.0	ns	blurred	15.6	11.9	ns
16.4	15.8	—	16.0	13.6	ns	15.7	15.7	12.1	ns
16.4	15.7	—	15.7	13.7	ns	15.7	15.7	11.9	ns
16.0	15.6	15.7	15.8	13.7	ns	16.2	15.7	12.1	ns
16.4	15.6	15.6	15.7	13.7	ns	15.8	15.6	12.1	ns
16.0	16.0	15.8	15.6	13.8	ns	16.3	15.7	11.8	ns
16.3	15.9	15.1	15.7	13.4	ns	16.2	15.7	12.1	ns
16.5	15.8	15.7	15.8	13.7	ns	16.4	15.6	12.0	ns
16.2	15.9	15.8	15.7	13.8	16.4	ns	15.6	11.9	ns
16.4	15.8	15.9	15.7	—	ns	16.0	15.6	—	ns
16.5	15.5	—	15.5	13.5	16.0	blurred	15.6	12.1	ns
16.3	15.4	15.9	16.0	13.7	15.8	16.4	15.6	12.2	ns
16.3	15.3	15.1	16.0	13.5	16.0	ns	15.5	12.2	ns
16.2	15.5	15.4	16.2	13.6	16.1	16.3	15.8	12.3	ns
16.1	15.4	15.5	16.0	13.3	16.0	blurred	15.5	12.4	ns
15.5	blurred	15.6	15.9	13.5	15.9	blurred	15.6	12.1	ns

		503	405	482	426	481	427	428
2424 727. 568	MF10570	15.3	ms	14.3	12.2	15.8 ⁹	16.11	16.1
731. 558	10592	15.2	ms	14.5	ms	15.8	16.2	15.7
733. 564	10604	15.2	ms	14.7	ms	16.0 ^{defect}	ms	15.6
753. 532	10666	15.0	ms	14.5	16.5	15.9 ⁵	16.0	15.4
755. 529	10671	15.0	ms	14.3	15.8	15.9	ms	15.6
759. 474	10683	15.0	ms	15.1	ms	15.4	16.3	15.7

1.1.

	one of four in row	class pr			alone to other ft staff	done to bright star		"A"	490a Nova
495	406	407	508	491	492	493	494		
15.5	15.7	15.6	15.5	13.5	15.8	16.0	15.6	12.1	ms
15.8	16.0	15.8	15.7	13.7	15.4	15.6	15.7	12.3	ms
16.5	15.7	15.5	15.6	13.5	15.7	15.9	15.7	11.8	ms
16.4	16.2	15.8	15.5	13.4	15.8	15.6	15.7	12.3	ms
16.5	15.4	15.7	15.4	13.0	16.2	15.4	15.6	11.8	ms
<16.5	15.3	15.6	15.5	13.7	16.2	15.7	15.7	11.8	ms

		503	<i>long</i> 405	482	426	481	427	428
2424212.533	A 2826	15.5	ms	15.3	11.4	15.6		
15632573	5625							
638568	5642							
667.	5708							
18470760	9362							
794.871	10052							
830.743	10121							
882.612	10207							
24024.535	13070							
025.533	13073							
641.682	13659	15.0	16.2	—	—	—	16.6	15.5
644.679	13682	15.0	16.0	—	—	—	16.4	15.2
682.584	13832	15.4	ms	—	—	—	ms	15.4
762.496	14011	15.5	ms	15.3	16.4	15.6	16.5	15.4
524	14012	15.4	ms	15.0	16.4	15.3	ms	15.4
552	14013	15.3	ms	—	—	—	16.1	15.5
580	14014	15.3	ms	—	—	—	16.3	15.3
611	14015	15.3	ms	—	—	—	16.1	15.0
641	14016	15.1	ms	<i>edge</i> Br	16.2	15.5	16.4	<i>Br</i> 15.0

495

406

407

508

493

490a

16.2	15.8	15.5	15.5
16.4	15.6	15.4	15.5
16.2	16.1	15.7	15.4
16.4	15.5	15.8	15.1
16.3	15.6	15.8	15.5
16.4	15.6	15.6	15.5
16.4	15.5	15.8	15.5
16.5	15.4	15.6	15.6
ms	15.3	15.7	15.4

ms

1928phae.proj.22

96

		2 ft camp to no. of var	2 ft + close to other stars to meas on H Fpl	long	long	one of pr & very ft.	very ft var near other stars	
		339	483	431	404	512	390	498
2423912.	MF 8544	16.2	15.5	—	15.5	ns	16.0	16.0
992.	8723	ns < 16.1	15.6	—	16.1	ns < 16.1	15.8	—
24018.	8755	15.3	15.2	—	16.3	16.4	16.2	—
294.	9178	15.0	15.0	—	15.2	16.2	16.1	16.1
370.	9648	15.3	15.4	—	ns	ns	15.8	ns
24623.	10132	16.1	15.7	—	ns	ns	15.5	16.5
626.	10138	16.1	15.5	—	ns	ns	ns	16.3
627.	10143	15.8	15.8	—	—	ns < 15.8	ns < 15.8	ns < 15.8
642.	10189	14.9	15.5	ns	15.9	16.4	16.0	16.4
646.	10214	15.4	15.7	ns	15.5	16.3	16.4	16.2
647.	10222	15.1	15.2	—	blue	16.5	16.0	—
648.	10230	14.8	15.9	—	15.5	16.3	16.2	16.4
649.	10238	16.0	15.3	—	15.7	16.1	16.2	16.2
650.	10247	15.3	15.8	—	blue	16.2	16.3	16.3
653.	10265	15.5	15.7	—	blue	16.1	16.0	16.2
654.	10269	15.0	15.3	—	15.5	16.0	16.0	16.1
655.	10277	15.3	15.6	—	15.5	16.2	16.5	16.4
656.	10282	15.3	15.7	—	15.4	16.3	15.8	16.3
669.	10308	15.9	15.2	—	15.0	16.6	16.1	16.4
670.	10315	16.1	15.8	blue	ns ii	ns	ns	blue
678.	10345	16.3	15.3	Br	blue together	ns	16.2	16.0
679.	10354	16.2	15.5	Blue	15.3	ns	16.3	16.3
683.	10381	15.9	15.2	Br	15.2	ns	15.8	16.1
697.	10425	15.2	15.4	blue	15.5	ns	15.8	16.3
699.	10440	15.2	15.4	blue	15.4	ns	16.1	16.1
702.	10456	14.8	15.1	ns	15.4	ns	16.0	16.2
704.	10472	14.8	15.4	—	15.6	ns	16.1	16.1
706.	10488	14.7 15.0	15.3	16.5	15.2	ns	15.7	16.2
710.	10515	15.8	15.5	blue	15.4	ns	16.3	16.6

0.4104

long

97

near bright
star -ft comp
starclose to
ft stars

409	386	497	402	430	429	388	484	496
15.7	15.5	16.1	15.9	15.9	16.1	15.5	15.8	16.1
—	15.4	16.1	—	15.4	15.6	15.8	15.6	ns
15.7	15.9	16.0	16.0	15.3	15.3	15.5	15.0	ns
15.5	15.3	16.0	15.5	15.2	15.7	15.9	15.5	ns?
15.7	16.2	16.1	15.5	15.5	15.7	15.6	15.8	ns
16.3	16.0	16.3	15.5	15.6	16.2	15.5	16.1	blue?
15.4	15.7	16.1	15.8	15.9	15.5	15.4	16.0	blue
blue	15.5	ns 15.8	15.1	15.8	—	—	—	—
15.3	15.5	16.3	15.4	15.6	15.7	16.0	16.0	def
16.0	15.6	16.6	15.4	15.8	16.4	16.1	16.3	ns
15.4	15.7	16.0	15.2	15.5	15.8	15.8	15.9	ns
16.0	15.8	16.4	15.3	15.9	15.7	15.5	15.8	ns
15.5	15.6	16.2	15.4	16.3	16.0	15.6	16.2	ns
15.7	15.4	16.2	15.5	15.6	15.8	15.7	15.9	16.6
15.9	15.9	16.3	15.5	15.8	15.9	15.7	16.0	ns
15.8	15.0	16.0	15.3	15.8	15.9	15.5	16.0	ns
15.7	15.5	16.4	15.3	15.4	15.9	15.7	16.3	ns
15.9	15.5	16.0	15.4	15.5	16.0	15.5	16.2	ns
15.8	15.8	16.1	15.1	15.8	15.7	16.1	16.0	ns
blue 15.5	16.6	15.9	blue	15.6	15.9	16.0	15.7	16.5
16.0	16.0	16.5	15.3	15.5	16.0	15.8	15.3	ns
16.1 15.7	16.1	16.2	15.4	15.5	15.7	15.7	15.6	ns
15.7 4	16.0	16.1	15.2	15.1	16.0	15.6	15.6	ns
16.3	16.1	16.2	15.3	15.2	15.5	16.2	16.1	ns
15.7	16.1	16.2	15.5	15.5	16.2	16.0	16.0	ns
15.7 5	16.1	15.9	15.1	15.4	16.1	16.3	16.1	ns
16.0 15.6	16.2	16.0	15.3	15.9	16.0	16.0	16.3	16.5
15.7 6	15.1	16.2	14.9	15.5	15.6	15.3	15.8	16.4
15.8	15.5	16.2	15.3	15.5	16.2	15.4	15.8	16.3

So a/d double
right change.

		339	483	431	404	512	390	498
2424727.	MF10570	15.7	15.7	—	16.2	ms	16.5	16.4
731.	10592	15.5	15.5	16.0	16.0	ms	16.3	16.3
733.	10614	15.4	15.5	15	16.5	ms	16.2	16.2
753.	10666	16.2	15.5	—	16.5	16.6	16.0	16.3
755.	10671	16.3	15.5	16.2	ms	16.6	16.0	16.1
759.	10683	16.3	15.5	—	16.7	16.8	16.4	16.2

409	386	497	402	430	429	388	484	496
16.3	15.5	16.2	15.5	15.6	16.3	16.2	16.2	16.3
16.1	15.6	16.2	15.4	15.5	16.0	15.7	16.1	15.9
16.0	15.7	16.2	15.7	15.7	15.9	15.7	16.0	16.0
^{5.8} 16.2	15.8	16.2	15.5	15.4	15.9	16.1	16.2	15.8
^{5.8} 16.0	15.7	16.3	15.5	15.6	16.0	15.9	15.7	15.8
15.8	15.6	16.2	15.5	15.9	16.3	16.0	15.7	15.8

339 483 431 ^{long} 404 512 390 498

2414212.533 A 2826

15632 573 5625

638 568 5642

667 5708

18470.750 9362

794.871 10052

830 743 10121

882.612 10207

24024.535 13070

025.533 13073

* 641.682 13659 Br — — — 16.3 16.3 —

644.679 13682 Br — — — 16.8 16.8 —

682.584 13832 — — — — 16.2 —

762.496 14011 ms 15.2 16.2 ms ms 16.3 16.0

524 14012 ms 15.4 ft ms ms 16.3 16.2

552 14013 — 15.5 — ms ms 16.2 16.3

580 14014 — 15.4? — ms ms 16.4 16.2

611 14015 — 15.5 ft ms ms 15.7 16.3

641 14016 16.3 15.4 edges ms ms 16.2 16.3

most of these measures

* on A 13659 γ is brighter than β

409

486

497

402

430

429

388

484

496

long

15.1	15.4	—	^{14.7} 15.1	too	far	from	regular	16.0	—
15.5	15.4	—	14.5	—	—	—	—	15.6	—
15.9	15.9	—	15.5	—	—	—	—	15.5	—
15.8	15.8	16.0	15.3	15.6	15.9	15.5	15.3	15.6	—
15.4	15.5	15.9	15.1	1.5	—	—	—	15.0	—
15.5	15.4	16.2	14.8	—	—	—	—	15.4	—
15.6	15.4	16.3	15.1	—	—	—	—	15.5	—
15.5	15.5	16.2	15.4	—	—	—	—	15.4	—
15.5	15.6	16.3	15.0	16.12	—	15.92	15.3	15.4	—

mean rolling all too near edge of plate

		no of pi 343	several ft comparison 509	no of very v. close ft comp 408	ft starts no. of near 432	several ft stars near 433	long 385	pie of very ft. comp 448
423912.	MF 8544	14.6	15.2	15.8	13.6	?	15.2	—
992.	8723	14.9	15.4	MS 16.3	13.6	15.6	MS	15.8
24018.	8755	14.5	14.9	15.6	13.6	—	MS	15.2
294.	8178	14.4	15.3	15.4	13.9	—	16.4	16.0
370.	9648	14.1	16.0	15.7	13.7	MS	MS	15.3
24623.	10132	15.0	15.7	MS	13.7	15.6	MS	16.2
626.	10138	14.3	15.8	16.0	14.0	MS	MS	16.2
627.	10143	14.5	15.6	MS 15.8	13.4	MS 15.8	MS 15.8	15.8
642.	10189	14.7	15.4	16.0	13.7	16.0	MS	15.8
646.	10214	15.1	15.5	16.0 dyman	13.9	16.2	MS	16.1
647.	10222	14.8	15.5	15.7	13.6	15.9	MS	15.7
648.	10230	14.3	15.7	16.3	13.8	15.6	16.6	16.2
649.	10238	14.9	15.4	16.2	13.9	16.3	MS	16.1
650.	10247	15.0	15.6	16.0	14.0	16.2	MS	15.9
653.	10265	14.8	15.2	16.1	13.8	16.1	16.5	15.9
654.	10269	14.6	15.2	16.0	14.0	15.9	16.6	15.8
655.	10277	14.9	15.0	16.0	13.9	16.3	MS	16.9
656.	10282	14.6	15.2	16.4	13.8	16.3	MS	16.2
669.	10308	14.4	15.1	16.5	13.9	16.5	16.3	16.3
670.	10315	15.0	15.1	MS 16.0	13.6	16.0	16.2	16.2
678.	10345	15.0	15.5	16.5	13.8	15.9	16.1	16.1
679.	10354	14.4	15.0	16.3	13.9	16.4	16.0	16.2
683.	10381	14.2	15.5	15.9	13.6	16.2	15.8	15.7
697.	10425	14.9	15.9	16.1	13.9	16.3	15.5	16.0
699.	10440	14.2	15.6	16.0	13.9	16.0	15.5	15.8
702.	10463	14.6	15.5	15.5	13.7	15.7	15.6	15.7
704.	10472	14.3	15.7	15.5	14.3	16.3	15.5	16.0
706.	10488	14.8	15.6	15.4	13.9	16.1	15.6	16.0
710.	10515	14.6	15.7	15.7	14.1	16.2	15.4	15.8

	cluster	δ 0.56596		done copy		390	long 109
443	too near cluster to measure 504	455	387	488	A 3698	ms	800 pail 507
15.9	ms?	ms/160	13.9	16.0	3825	ms	15.0
15.3	—	15.2	14.0	15.5			16.1
15.1	ms	ms	14.7	15.7	27	ms	15.5
15.5	—	ms	15.1	15.6	29	ms	15.4
15.4	Br	ms?	14.3	15.3	31	ms	16.0
15.6	ms	15.6	14.2	15.5			15.1
15.6	—	16.3	14.3	15.7	32	ms	14.7
15.7	—	ms/15.8	14.5	15.7	11 293	ms	15.1
15.3	Br	16.4	15.0	15.9	12 587	med	15.3
15.5	med	16.3	14.5	15.7	12 590	"	15.1
15.2	15.5	16.6	14.9	15.4			15.5
15.7	Br	16.3	14.6	15.7	593	FA	15.2
15.5	—	15.5	14.6	15.5	596	med	15.4
15.7	med	ms	14.8	15.7	896	Trace	15.4
15.6	—	16.0	15.0	15.9			15.8
15.7	—	16.1	14.4	15.7	925	"	15.4
15.5	med	16.4	14.8	15.7	943	WFA	15.5
15.6	FA	16.4	14.4	15.8	958	ms	15.5
15.2	Br?	16.2	14.6	16.1			15.9
15.3	Br	15.7	14.8	ms/16.1	971	ms	ms/16.0
15.5	med	16.3	14.5	15.4	13 937	ms	16.1
15.4	FA	15.5	14.8	15.7	958	ms	16.0
15.3	ms	16.0	14.8	15.3			16.1
15.1	ms	16.5	14.7	15.9			16.3
15.4	ms	16.4	14.4	15.5			15.9
15.6	16.0	16.3	14.5	15.3			16.0
15.3	med	15.7	14.6	16.0			ms
15.5	med	16.2	14.6	15.9			16.0
15.3	—	16.6	14.5	15.7			16.3?

	cluster	δ 0.56596		done	re-measure of comp	long		long	
	too near cluster to measure			copy?			no 4 prec close pr.	soy pair	109
443	504	465	387	488	390	506	490	507	
15.9	ns?	ns/160	13.9	16.0	16.2	16.1	16.0	15.0	
15.3	—	15.2	14.0	15.5	15.8	ns	—	16.1	
15.1	ns	ns	14.7	15.7	16.2	ns	ns?	15.5	
15.5	—	ns	15.1	15.6	15.8	ns	ns	15.4	
15.4	Br	ns?	14.3	15.3	15.8	15.5	15.5	16.0	
15.6	ns	15.6	14.2	15.5	16.1	ns	15.3	15.1	13
15.6	—	16.3	14.3	15.7	16.2	ns	ns	14.7	
15.7	—	ns/158	14.5	15.7	ns/158	ns/158	ns/158	15.1	21
15.3	Br	16.4	15.0	15.9	16.2	ns	ns?	15.3	42
15.5	med	16.3	14.5	15.7	16.5	ns	—	15.1	42
15.2	15.5	16.6	14.9	15.8	16.1	ns	—	15.5	
15.7	ns	16.3	14.6	15.7	16.2	ns	—	15.2	42
15.5	—	15.5	14.6	15.5	16.1	ns	—	15.4	
15.7	med	ns	14.8	15.7	16.1	ns	—	15.4	50
15.6	—	16.0	15.0	15.9	16.2	ns	—	15.8	53
15.7	—	16.1	14.4	15.7	16.2	ns	15.8	15.4	
15.5	med	16.4	14.8	15.7	16.3	ns	ns	15.5	
15.6	Br	16.4	14.4	15.8	16.1	ns	—	15.5	66
15.2	Br?	16.2	14.6	16.1	16.1	ns	15.8	15.9	
15.3	Br	15.7	14.8	ns/162	ns/162	ns	15.8	ns/160	70
15.5	med	16.3	14.5	15.4	16.0	ns	Br	16.1	
15.4	Br	15.5	14.8	15.7	16.2	ns	Br	16.0	77
15.3	ns	16.0	14.8	15.3	15.9	ns	Br	16.1	83
15.1	ns	16.5	14.7	15.9	16.2	ns	Br	16.3	77
15.4	ns	16.4	14.4	15.5	16.2	ns	—	15.9	
15.6	16.0	16.3	14.5	15.3	16.0	ns	ns	16.0	82
15.3	med	15.7	14.6	16.0	16.3	16.5	ns	ns	
15.5	med	16.2	14.6	15.9	16.2	ns	ns	16.0	88
15.3	—	16.6	14.5	15.7	16.2	ns	ns?	16.3?	

		343	509	408	432	433	385	448
2424727.	MF10530	14.9	15.5	16.1	13.7	16.6	15.6	16.1
734.	10592	14.9	15.6	15.9	13.7	15.8	15.9	15.4
733.	10614	14.7	15.1	15.7	13.9	—	16.0	16.3
753.	10666	14.8	15.5	16.0	13.8	16.0	ms	16.3
755.	10671	14.1	15.7	15.8	13.9	16.3	16.6	15.7
759.	10683	14.4	15.5	15.8	13.9	16.4	ms	16.5

443	504	455	487	488	390	506	490	507
15.4	und	16.6	14.6	15.5	16.3	16.4	16.5	nd
15.8	—	16.6	14.6	15.6	16.3	16.2	nd	16.4
15.5	nd	15.9	14.8	15.7	16.2	16.3	16.3	16.3
15.3	Br	16.4	14.8	16.0	16.2	16.3	16.5	15.9
15.5	—	15.6	14.8	15.7	16.2	15.9	16.2	15.3
15.7	—	15.5	14.9	15.6	16.3	16.0	15.8	15.4

112

343

509

408

432

433

long
385

448

2414 212.533 A 2826

15632.573 5625

638 568 5642

667 5708

18470.750 9362

794.871 10052

830.743 10121

882.612 10207

24024.535 13070

025.533 13073

641.682 * 13659 14.8 15.4 15.8 13.5 16.1 ~~75.8~~ ^{ms} 15.8

644.679 13682 15.1 15.3 15.9 13.3 16.5 ms 16.3

682.584 13832 14.6 15.4 16.1 13.3 16.0 15.9 15.8

762.496 14011 14.7 15.1 15.9 14.0 16.5 ms 15.9

524 14012 14.6 15.4 15.8 13.9 16.2 ms 15.9

552 14013 14.9 15.1 15.7 13.9 16.5 ms 15.9

580 14014 15.0 15.4 15.7 13.9 16.5 ms 16.8

611 14015 15.0 15.3 15.9 13.9 16.0 ms 16.3

641 14016 15.3 15.4 15.9 13.9 15.6 ms 16.4

* 13659 X is brighter than B

443 504 455 387 488 506 490 507 *Long*

15.4	—	16.4	13.9	15.2	ms	<i>mean</i>	
15.5	—	15.8	13.9	15.1	ms	15.1	Br
15.4	15.7	15.7	14.7?	15.5	ms	15.5	15.7
15.6	ms	16.0	13.7	15.7	15.7	15.7	15.7
15.4	16.5	16.3	14.8	15.6	15.7	15.5	15.5
15.5	16.3	16.3	14.2	15.5	15.6	15.6	
15.7	1	16.3	14.2	15.4	15.5	—	—
15.6	—	16.1	14.5	15.4	15.4	15.8	15.4
15.5	16.3	16.3	14.2	15.4	15.3	15.8	

120

		<i>Wolbach</i> 38w	<i>so of it at</i> 486	<i>measures</i> <i>at stars</i> 510	499	<i>too near</i> 500	<i>long</i> 487	480
2423912.	MF 8544	14.5 11.9	15.3	<i>recalcd</i> 15.4/6.1	15.4/6.1	15.4/6.1	16.3	13.4
992.	8723	11.9	15.4	ns	ns	15.7	16.1	13.9
24018.	8755	<i>ns</i> 11.9	15.9	ns	16.3	ns	16.2	13.5
294.	9178	12.0	—	ns	16.0	15.4	15.3	13.6
380.	9648	12.0	16.0	15.9	16.1	16.0	16.0	13.5
24623.	10132	12.1	16.1	?	15.5	ns	16.3	13.6
626.	10138	15.3 11.9	15.9	ns	15.9	ns	ns	13.9
627.	10143	12.1	15.4	ns	15.7	15.8	15.8	13.7
642.	10189	12.1	15.5	16.0	ns	16.1	16.3	13.7
646.	10214	16.0 11.9	16.0	ns	16.3	16.0	16.3	14.5
647.	10222	11.9	ns	ns	ns	16.3	16.3	13.6
648.	10230	12.0	—	15.9	16.2	16.1	16.0	13.6
649.	10238	12.2	16.0	16.3	16.2	16.0	16.3	13.9
650.	10247	11.9	15.4	ns	16.2	16.1	15.8	13.9
653.	10265	15.7 11.8	15.4	—	16.4	16.0	15.8	13.9
654.	10269	15.8 11.9	15.9	15.9	16.1	15.8	16.1	13.9
655.	10277	12.1	15.3	16.1	16.3	16.2	15.9	13.7
656.	10282	12.1	15.5	16.2	16.3	16.3	16.5	14.4
669.	10308	11.8	16.0	16.2	16.4	16.2	15.9	13.8
670.	10315	11.9	—	—	16.5	16.4	15.8	13.6
678.	10345	12.1	—	16.0	15.5	15.6	15.6	13.9
679.	10354	11.8	15.8	16.0	15.5	15.8	15.8	15.0
683.	10381	11.9	defect	16.3	16.1	15.4	15.7	13.7
697.	10425	12.1	15.1	ns	16.2	16.0	15.7	13.8
699.	10440	11.9	15.5	16.2	defect	15.5	15.5	13.8
702.	10456	11.9	15.3	16.2	16.1	15.7	15.4	13.5
704.	10472	12.1	15.8	16.4	16.3	16.2	15.7	13.9
706.	10488	<i>ns</i> 12.0	15.8	15.9	16.4	16.2	15.5	13.7
710.	10515	11.9	15.3	16.1	16.3	16.0	15.3	13.5

			long		long		long	long	121
805	501	489	3.54	720	289	50 of very close pt to comp? 355	ft star near 101	ft star near 100	485
ns	16.0	14.9	14.9	16.3	ns	15.8	ns	15.2	16.1
ns < 16.1	15.7	14.9	15.8	ns < 16.1	ns	—	16.0	ns	ns
16.4	16.2	15.1	ns	14.8	ns	15.3	ns	ns	16.0
ns < 16.1	ns	14.2	—	16.2	—	—	—	—	15.4
ns	16.3	15.2	ns	16.4	ns	15.8	15.4	16.5	15.4
16.5	16.0	15.1	ns	15.1	ns	16.4	ns	ns	15.7
ns	16.4	15.4	ns	ns	ns	16.0	ns	16.4	16.0
ns < 15.8	ns < 15.8	15.0	ns < 15.8	15.3	ns	ns < 15.8	ns	15.8	15.5
ns	15.7	15.3	ns	ns	ns	15.9	ns	ns	15.5
16.5	16.5	14.7	ns	16.2	16.5	15.9	ns	16.5	15.6
ns	ns	15.4	ns	16.2	ns	15.7	ns	16.3	15.8
ns	16.4	14.9	ns	15.0	ns	15.8	ns	16.5	15.9
ns	16.4	14.8	ns	16.2	ns	15.8	ns	ns	15.7
ns	16.1	14.9	ns	16.2	ns	15.7	ns	16.5	15.8
16.5	15.9	15.3	ns	15.9	ns	15.9	ns	16.5	15.8
16.3	15.7	15.3	ns	16.3	ns	15.9	ns	ns	15.8
ns	16.0	14.8	ns	15.3	ns	15.9	ns	ns	16.0
ns	15.5	15.1	ns	16.1	ns	16.0	ns	ns	16.0
ns	15.9	15.0	ns	16.1	ns	16.0	ns	ns	16.2
ns	15.7	15.3	ns	16.5	ns	16.0	ns	ns	15.9
ns	16.4	15.0	ns	16.1	ns	15.6	16.4	ns	16.0
ns	16.5	14.9	ns	16.0	ns	15.5	ns	16.3	16.1
ns	16.3	14.8	ns	16.0	ns	15.7	ns	ns	16.0
ns	16.0	15.3	ns	16.5	ns	16.3	16.5	ns	16.0
ns	15.9	15.4	ns	16.4	ns	15.8	16.4	ns	15.9
ns	15.1	15.1	ns	16.0	ns	16.1	15.9	16.5	15.9
ns	16.0	15.5	ns	16.5	ns	15.4	16.5	16.3	15.7
ns	16.2	15.4	ns	15.7	ns	16.1	16.2	16.3	15.9
ns	16.3	15.0	ns	15.9	ns	15.9	16.0	16.2	15.8

		38w	486	510	499	500	487	480
2424727.	MF 10570	^{ms} 12.1	15.4	16.2	16.2	16.6	16.0	13.9
731.	10592	11.9	16.0	—	16.2	ms	16.0	13.7
733.	10614	12.1	15.6	—	15.8	16.5	15.7	13.9
753.	10666	^{ms} 11.8	15.5	—	16.1	ms	16.5	13.6
755.	10671	^{ms} 12.1	16.0	16.2	16.2	16.5	16.4	13.7
759.	10683	^{ms} 12.2	15.6	16.0	16.4	ms	16.4	13.9

506	501	489	354	720	289	355	101	100	485
16.4	16.3	14.8	15.4	15.6	15.9	15.7	15.5	15.7	15.8
ms	15.6	15.2	15.5	15.3	15.5	16.5	15.4	15.8	16.2
16.5	16.6	14.7	15.5	16.5	15.7	15.7	15.4	15.9	15.8
ms	16.5	15.4	15.2	16.4	15.3	15.3	15.0	15.9	16.0
16.5	16.3	14.9	15.3	16.0	15.2	15.3	15.1	15.3	15.8
ms	15.8	15.1	15.1	16.5	15.9	15.1	15.1	15.7	15.7

		38 w	486	510	ft m - 499	500	prec of cen. ft stars 487	prec of pc 480
2414212.	A 2826							
15622	5625							
638	5642							
667	5708							
18470	9362							
794	10052							
830	10121							
882	10207							
124024	13070							
025	13073							
641	13682	15.8	⁵⁹ 15.8	15.7	16.3	16.2	16.4	shows double 15.3
644	13682	16.2	15.3	15.8	16.4	16.3	16.3	13.9
682	13832	16.7	15.7	16.2	15.6	15.7	15.7	13.7
762	14011	ns	15.7	15.9	16.2	16.4	16.2	13.8
	14012	ns	15.8	15.5	16.3	16.6	15.8	12.9
	14013	ns	15.8	15.6	16.3	ns	16.4	14.0
	14014	ns	15.7	15.9	16.3	16.7	16.5	13.9
	14015	ns	15.5	15.9	16.4	ns	ns	13.9
	14016	ns	15.4	15.8	16.5	ns	ns	13.9

505 501 489 ^{long} 354 720 ^{long} 289 355 ^{long} 101 ^{long} 100 485

16.6	16.7	13.8	—	16.0	ns?	15.4
16.2	16.4	14.5		15.4	blue	15.7
	15.7	^{blue} 14.3?		15.6	or	16.0
16.2	16.3	13.8	15.8	15.6	15.6	15.4
16.0	15.5	14.3		16.5	Br	15.7
^{15.9} 16.9	15.4	14.7		16.5	Br	15.4
16.0	15.8	14.7		16.5	Br	15.7
15.9	15.9	14.7		16.6	Br	15.7
15.9	15.8	13.9		ns	Br	15.8

38 w

17 w

483

489

-419

441

3418

2423912.	MF8544	14.9	13.6	15.5	15.0	15.1	15.7	15.9
992.	8723	15.51	14.91	15.91	15.0	15.71	15.5	15.7
24018.	8755	ms 16.1	13.5	15.3	15.1	16.0	14.8	15.8
294.	9178	blue bl	13.9	15.0	14.61	?	15.4	16.51
370.	9648	ms	15.3	15.4	15.2	15.6	15.5	15.5
24623.	10132	15.2	14.9	15.4	15.0	15.3	15.61	15.6
626.	10138	15.4	15.0	15.7	15.3	15.3	15.5	15.0
627.	10143	15.3	15.1	15.54	15.1	?	15.41	15.3
642.	10189	15.5	13.5	15.4	15.1	15.3	15.5	15.5
646.	10214	16.2	14.4	15.5	15.2	15.7	15.1	15.4
647.	10222	15.6	14.3	15.41	15.41	14.9	15.8	15.5
648.	10230	15.8	15.1	15.6	15.3	15.9	15.4	15.9
649.	10238	15.9	13.8	15.7	15.3	15.4	15.6	16.0
650.	10247	15.81	14.1	15.8	14.8	15.8	15.5	15.8
653.	10265	15.9	13.6	15.7	15.5	15.9	15.6	15.5
654.	10269	15.9	13.91	15.7	15.1	15.0	15.1	15.7
655.	10277	16.2	15.3	15.5	14.9	15.5	15.8	16.2
656.	10282	16.1	13.7	15.6	15.3	15.4	15.4	15.0
669.	10308	16.3	15.0	15.5	15.0	15.8	15.4	15.8
670.	10315	16.0	13.7	15.8	15.71	15.5	15.6	15.0
678.	10345	blue	14.0	15.4	15.0	15.7	15.4	15.3
679.	10354	ms	15.3	15.4	15.0	15.6	15.6	15.5
683.	10381	ms	15.21	15.3	14.8	15.8	15.5	15.1
697.	10425	ms	14.61	15.8	15.5	15.7	15.7	14.6
699.	10440	ms	13.5	15.8	15.5	15.4	15.4	15.9
702.	10456	16.7	13.3	15.2	14.9	16.0	16.1	14.3
704.	10472	ms	14.9	15.5	15.7	16.0	15.7	15.7
706.	10488	ms	13.7	15.2	15.1	15.0	14.8	15.9
710.	10515	ms	14.01	15.5	15.0	15.4	15.6	15.3

		<i>double</i>		HHS 275				133	
		HSL 82	HSL 81	HSL 84	HSL 80	HSL 83	HSL 75	HSL 62	HSL 78
458	164930	BESco	BC	BF	BB	164129	164329	163828	AG
14.8	10.8		16.5	14.9	13.9		12.5	16.0	16.1
14.8	11.3		15.0	13.4	15.6		12.8	15.3	14.8
15.8	11.0		15.6	14.6	15.0		12.5	15.3	13.5
15.9	10.9		14.0	14.3	14.2		13.2	15.7	ns 16.0
15.3	10.7	Blu	16.1	15.4	ns 16.2	15.2	13.2	13.3	13.9
15.6	10.2	15.2	16.1	13.8	13.9	15.1	12.9	16.0	ns
15.8	10.5	15.4	16.2	14.5	13.7	14.7	12.4	15.8	ns 16.0
14.6	11.0	15.3	ns 15.8	14.9	13.6	13.8	12.5	15.2	ns 15.8
15.1	10.6	15.0	ns	14.5	13.4	13.5	12.6	15.3	16.5
16.2	10.9	—	ns	14.1	13.2	14.6	12.3	15.4	15.1
15.8	11.1	Bl	ns	15.0	13.3	14.9	13.3	14.8	15.1
16.0	10.4	R	ns	14.7	13.3	15.1	12.6	15.1	15.0
15.9	10.8	15.6	ns	15.3	13.6	15.0	12.6	15.0	14.9
13.7	18.6	15.5	ns	15.5	13.7	15.1	12.5	15.0	15.6
15.7	14.8	10.4	15.7	ns	15.3	13.7	13.5	14.6	14.7
14.8	14.6	10.4	15.8	ns	13.9	13.6	13.3	14.9	15.0
15.7	14.8	10.3	—	ns	15.7	13.4	13.5	14.8	14.7
15.7	14.9	10.5	—	ns	12.7	13.7	13.6	14.3	14.2
15.1	13.5	10.5	—	ns	15.0	13.6	13.9	14.5	13.7
15.9	13.6	10.6	Bl	ns	15.4	13.6	14.0	12.6	13.3
15.1	14.3	10.5	—	ns	15.3	13.9	13.8	12.7	14.3
15.8	13.4	10.4	—	ns	14.8	13.9	13.6	12.5	14.2
15.8	15.1	10.5	—	—	—	—	—	—	—
15.7	15.3	10.6	—	15.5	13.7	14.0	14.3	12.6	13.9
15.3	13.9	10.5	—	16.0	13.6	13.9	14.4	12.7	13.9
14.7	14.5	10.6	—	16.9	13.9	14.6	15.0	12.8	14.5
15.9	15.2	—	R	15.5	15.3	14.9	13.5	12.9	14.3
16.1	15.1	10.6	R	15.3	15.1	14.3	13.6	12.7	14.5
15.7	14.8	10.3	—	15.5	13.6	15.3	13.9	12.5	15.1

No. of pa

38w

17w

483

489

419

441

348

2424727.

MF10670

ns

13.6

15.8

15.0

15.8

15.3

15.4

731.

10592

ns

14.0

15.7

15.3

15.2

15.1

15.3

733.

10614

ns

15.3

15.5

14.9

15.5

15.3

15.8

753.

10666

ns

13.9

15.7

15.1

15.3

14.9

15.8

755.

10671

ns

13.7

15.3

15.0

15.6

15.1

14.6

759.

10683

ns

13.9

15.7

15.1

15.3

15.8

16.0

burn plate
25330.613

11492

Hus

13.7

plate blurred particularly in center

6.54

197	16 4930	BESco	B _C	B _E	B _B	16 4129	16 4329	16 3828	AG
15.0	10.6	—	14.5	15.0	15.6	14.6	12.3	15.4	15.5
13.8		—	13.7	13.9	15.3	13.6	13.0	15.3	15.8
14.7	10.6	—	14.6	15.2	15.7	13.6	12.4	15.8	16.0
14.3		Br	14.8	13.9	15.8	13.7	12.7	15.5	16.4
14.7		Blu	15.4	15.4	16.2	13.5	12.6	16.2	16.4
13.7	11.1	+	15.8	13.9	16.4	14.2	12.6	16.3	16.5
14.6	70.6	—	Br 14.0	ft	ms/52	Br		ft	Br

136

long (these have been measured on
 38w 17w 483 ^{except} 489² 419 441 348

A 2826

5625

5642

5708

9362

10052

10121

10207

13070

13073

13659

13.8

13682

14.0

13832

blue

14011

15.0'

14012

15.1'

14013

14.7

14014

14.9

14015

14.7

14016

13.9

A plates
197

164930

BFSa

long
BC

a=15.1
or so
BF

long
BB

164129

164329

long
163828

long
AG

137

La 14.5:
f₀ -
= a

< La
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13.3? med 2.5?
too edge
12.2?

12.4

144

24 239 12	AX 513	221
24 239 67.	AX 650	10.6
23 969	663	10.8
24 026	786	10.8
24 033	792	10.9
24 285	1048	10.8
24 292	1071	11.0
24 317	1145	10.7
24 348	1219	10.8
24 370	1263	11.0
24 399	1302	10.9
24 623	1574	10.9
24 641	1602	10.7
24 649	1632	10.8
24 651	1638	10.8
24 671	1679	—
24 672	1683	10.7
24 703	1742	10.7
24 709	1763	—
24 709	1764	—
24 710	1769	—
24 710	1770	—
24 731	1816	10.8
24 753	1852	10.8
24 766	1885	11.1

out of focus

4 images

getting fit?

4

4

getting better

21

11-?

150

August 1928

Positions measured by C.D. Boyd

14012

 $-30^{\circ} 44' 79''$ $16:42:46.8$ $-30^{\circ} 19' 3''$
 $-30^{\circ} 44' 87''$ $16:44:10.1$ $-30^{\circ} 05' 0''$

83.3

14.3

17.9

14.8

 $16:43:41.7$ $-30^{\circ} 12' 4''$

11.8

7.1

 $16:43:41.7$ $-30^{\circ} 12' 4''$

6.1

7.7

 $16:43:41.7$ $-30^{\circ} 12' 4''$

(340)

 $-28^{\circ} 54' 15''$ $16:42:38.7$ $-28^{\circ} 46' 6''$
 $-28^{\circ} 54' 23''$ $16:42:57.9$ $-28^{\circ} 56' 8''$

79.2

10.2

17.7

9.8

 $16:41:14.9$ $-28^{\circ} 49' 0''$

4.6

2.3

 $16:42:14.9$ $-28^{\circ} 49' 0''$

13.1

7.5

 $16:42:14.9$ $-28^{\circ} 49' 0''$

(344)

 $-29^{\circ} 45' 11''$ $16:42:09.1$ $-29^{\circ} 24' 2''$
 $-29^{\circ} 45' 14''$ $16:45:15.1$ $-29^{\circ} 14' 4''$

126.0

9.3

14.3

10.2

 $16:42:38.9$ $-29^{\circ} 17' 9''$

3.4

6.6

 $16:42:38.9$ $-29^{\circ} 17' 9''$

10.9

3.6

 $16:42:38.9$ $-29^{\circ} 17' 9''$

(320)

 $-29^{\circ} 45' 11''$ $16:42:09.1$ $-29^{\circ} 24' 2''$
 $-30^{\circ} 45' 07''$ $16:47:21.2$ $-30^{\circ} 14' 7''$

19

50.5

42.3

50.0

 $16:45:46.5$ $-29^{\circ} 40' 6''$

15.9

16.2

 $16:45:46.4$ $-29^{\circ} 50' 6''$

26.4

33.7

 $16:45:46.5$ $-29^{\circ} 50' 6''$

(341)

These are
measures
bet. stars
slide rule comp.
using not written
down

-30° 45'07	16:47:21.2	-30° 14'7		
-29° 45'27	16:48:39.7	-29° 41'2		
	78.5	33.5	17.0	33.4

(405)

16:48:24.5	-30° 07'0	13.7	7.7
16:48:24.3	-30° 07'0	3.3	25.7
16:48:24.3	-30° 07'0		

-29° 45'24	16:47:51.2	-29° 13'3		
-29° 45'27	16:48:39.7	-29° 41'2		
	48.5	27.9	11.0	28.2

(410)

16:48:09.3	-29° 21'3	4.1	8.1
16:48:09.3	-29° 21'3	6.9	20.1
16:48:09.3	-29° 21'3		

-29° 45'24	16:47:51.2	-29° 13'3		
-28° 54'81	16:52:31.2	-28° 18'5		
	280.0	54.8	61.7	55.2

(458)

16:50:43.6	-28° 21'1	38.0	52.6
16:50:43.5	-28° 21'1	23.7	2.6
16:50:43.5	-28° 21'1		

(457)

16:48:43.5	-28° 33'9	11.5	59.7
16:48:43.5	-28° 33'9	50.2	15.5
16:48:43.5	-28° 33'9		

(345)

16:49:13.8	-28° 35'4	18.2	38.2
16:49:13.8	-28° 35'2	43.5	17.0
16:49:13.8	-28° 35'2		

16:47:51.2 -29°:13.3
16:52:31.2 -28°:18.5

16:51:20.5 -28°:42.6 46.1 30.9
16:51:20.4 -28°:42.6 15.6 24.3
16:51:20.4 -28°:42.6

(420)

16:49:42.0 -28°:53.5 24.4 20.0
16:49:41.9 -28°:53.4 37.3 35.2
16:49:42.0 -28°:53.5

(346)

16:50:00.7 -29°:04.0 28.6 9.4
16:50:00.7 -29°:04.0 33.1 45.8
16:50:00.7 -29°:04.0

(419)

-28°:54.1 16:52:31.2 -28°:18.5
-29°:45.5 16:54:21.9 -29°:06.5
110.7 48.0 23.7 48.3

16:54:17.5 -28°:23.9 22.8 5.4
16:54:17.5 -28°:23.8 .9 42.9
16:54:17.5 -28°:23.8

(350)

16:54:19.9 -28°:36.1 23.3 17.7
16:54:20.0 -28°:36.0 .4 30.6
16:54:20.0 -28°:36.0

(437)

16:53:23.4 -28°:44.1 11.2 25.8
16:53:23.6 -28°:44.2 12.5 22.5
16:54:20.0 -28°:36.0

(349)

16:53:47.4 -28°:45.5 16.3 27.2
16:53:47.6 -28°:45.6 7.4 21.1
16:53:47.6 -28°:45.6

(322)

(347)

16:52:49.8 -28° 49' 1
 16:52:49.9 -28° 49' 1
16:52:49.8 -28° 49' 1

4.0 30.8
 19.7 17.5

(460)

16:53:59.5 -28° 49' 4
 16:53:59.5 -28° 49' 4
16:53:59.5 -28° 49' 4

18.9 31.1
 4.8 17.2

(449)

16:52:49.8 -28° 55' 4
 16:52:49.9 -28° 55' 5
16:52:49.8 -28° 55' 5

4.0 37.2
 19.7 11.1

(348)

16:53:24.0 -29° 05' 8
 16:53:24.1 -29° 05' 9
16:53:24.0 -29° 05' 9

11.3 47.7
 12.4 6

-27° 55' 12

16:47:⁵38.8

-27° 57' 1

-27° 55' 26

16:50:38.7

-27° 21' 5

18.9⁵ 9

35.6

35.3

35.8

(362)

16:47:^{8 0}11.7

-27° 46' 9

16:47:^{8 2.0}11.7

-27° 46' 9

16:47:^{8 2.0}11.7

-27° 46' 9

.6

10.3

34.7

25.5

(363)

16:49:^{19.6}15.4

-27° 45' 2

16:49:^{20.5}15.4

-27° 45' 1

16:49:^{20.}15.4

-27° 45' 1

18.0

12.0

17.3

23.8

-27° 55' 26

16:50:38.7

-27° 21' 5

-28° 54' 20

16:52:27.4

-28° 04' 7

10.8⁷

43.2

23.9

43.5

16:51:37.4

-27° 42' 6

12.9

22.2

16:51:37.4

-27° 42' 5

11.0

21.3

(459)

16:51:37.4

-27° 42' 5

(365)

16:51:10.0	-27° 30' 5	6.9	9.1
16:51:10.1	-27° 30' 5	17.0	34.4
<u>16:51:10.1</u>	<u>-27° 30' 5</u>		

-27° 55' 26	16:50:38.7	-27° 21' 5	
-26° 57' 78	16:52:18.4	-26° 57' 6	✓
	99' 7	23' 9	22.2 24.2

(369)

16:52:03.0	-27° 07' 0	18.8	14.7
16:52:02.9	-27° 07' 0	3.4	9.5
<u>16:52:02.9</u>	<u>-27° 07' 0</u>		

-26° 57' 67	16:50:46.7	-26° 40' 0	
-26° 57' 78	16:52:18.4	-26° 57' 6	✓
	91' 7	17' 5	20.2 17.6

(367)

16:51:03.5	-26° 47' 7	3.7	7.7
16:51:03.5	-26° 47' 7	16.5	9.9
<u>16:51:03.5</u>	<u>-26° 47' 7</u>		

(368)

16:51:58.9	-26° 44' 5	15.9	4.5
16:51:58.9	-26° 44' 5	4.3	13.1
<u>16:51:58.9</u>	<u>-26° 44' 5</u>		

-26° 57' 78	16:52:18.4	-26° 57' 6	✓
-27° 55' 49	16:54:29.5	-27° 16' 2	29.1 19.1
	131' 1	18' 6	

16:53:35.3	-27° 01' 9	17.1	4.4
16:53:35.5	-27° 01' 9	12.0	14.7
<u>16:53:35.4</u>	<u>-27° 01' 9</u>		

(370)

-27° 55' 48	16:54:25.0	-27° 38' 6		
-27° 55' 68	16:57:49.2	-27° 04' 3		
	204.2	34.3	45.6	33.9

(462)

16:54:51.9	-27° 20' 9	6.0	16.3
16:54:51.9	-27° 22.1	39.6	17.6
<u>16:54:51.9</u>	<u>-27° 22' 1</u>	39.6	

(371)

16:55:47.0	-27° 22' 0	18.3	16.4
16:55:46.7	-27° 22' 0	27.3	17.5
<u>16:55:46.9</u>	<u>-27° 22' 0</u>		

(328)

16:56:55.0	-27° 32' 1	33.5	6.4
16:56:54.9	-27° 32' 1	12.1	27.5
<u>16:56:54.9</u>	<u>-27° 32' 1</u>		

(329)

16:57:33.0	-27° 19' 1	42.0	19.3
16:57:33.0	-27° 18' 8	3.6	14.3
<u>16:57:33.0</u>	<u>-27° 18' 9</u>		

-27° 55' 68	16:57:49.2	-27° 04' 3		
-26° 58' 24	17:02:23.8	-26° 42' 3		
	274.6	22.0	61.8	20.9

(373)

16 58 50.4			
17:01:22.7	-26° 56' 5	13.8	7.4
16 58 49.8			
17:01:22.7	-26° 56' 5	48.0	13.5
16 58 50			
<u>17:01:22.7</u>	<u>-26° 56' 5</u>		

(374)

00 33.4			
17:02:33.6	-26° 53' 0	37.0	10.7
00			
17:02:33.6	-26° 53' 0	24.8	10.2
0			
<u>17:02:33.6</u>	<u>-26° 53' 0</u>		

156

these stars
near edge of
plate

-27° 55' 80	17:01:26.0	-27° 34' 0		
-26° 58' 36	17:04:24.2	-26° 52' 8		
	178.2	41.2	41.0	40.6

17:02:41.6	-27° 04' 2	17.4	29.2
17:02:41.6	-27° 04' 4	23.6	11.4
<u>17:02:41.6</u>	<u>-27° 04' 3</u>		

(465)

-27° 55' 68	16:57:49.2	-27° 04' 3		
-27° 55' 80	17:01:26.6	-27° 34' 0		
	216.8	29.9	47.5	30.9

16:58:50.0	-27° 29' 8	13.3	26.3
16:58:49.8	-27° 29' 5	34.2	4.6
<u>16:58:49.9</u>	<u>-27° 29' 6</u>		

(372)

-27° 55' 69	16:57:58.8	-27° 51' 8		
-27° 55' 80	17:01:26.6	-27° 34' 0		
	207.2	17.8	45.9	16.9

17:00:48.0	-27° 40' 6	37.5	10.6
17:00:48.1	-27° 40' 6	8.4	6.3
<u>17:00:48.1</u>	<u>-27° 40' 6</u>		

(464)

-27° 55' 86	17:01:26.0	-27° 34' 0		
-28° 55' 48	17:04:15.8	-28° 12' 1		
	179.8	38.1	36.4	39.3

47.8			
17:02:52.2	-27° 46' 0	17.5	12.4
47.8			
17:02:53.3	-27° 46' 1	18.9	26.9
47.8			
<u>17:02:52.2</u>	<u>-27° 46' 0</u>		

(357)

^{42.5}
 17:03:50.7 -27° 55' 8" 29.3 22.5
^{42.7}
 17:03:50.6 -27° 55' 8" 7.1 16.8
^{42.6}
17:03:50.6 -27° 55' 8"

(358)

-27° 55' 69" 16:57:58.8 -27° 55' 1" 8
 -27° 55' 33" 17:00:13.5 -28° 27' 1" 1
 13 4' 7" 3 5" 3 28.7 36.1
 16:59:55.1 -28° 18' 2" 24.8 27.0
 16:59:55.2 -28° 18' 2" 3.9 9.1
16:59:55.2 -28° 18' 2"

(353)

-28° 55' 41" 17:02:07.9 -28° 46' 2" 2
 -28° 55' 48" 17:04:25.8 -28° 12' 1" 1
 13 7' 9" 34.1 29.1 33.6
 17:02:37.7 -28° 19' 3" 6.3 26.5
 17:02:37.7 -28° 19' 3" 22.8 7.1
17:02:37.7 -28° 19' 3"

(356)

17:03:25.7 -28° 38' 5" 16.4 7.6
 17:03:25.5 -28° 38' 5" 12.7 26.0
17:03:25.6 -28° 38' 5"

(355)

-28° 55' 41" 17:02:07.9 -28° 46' 2" 2
 -28° 55' 49" 17:04:19.3 -28° 55' 7" 7
 13 1' 4" 9.7 28.7 10.4

17:02:25.7 -28° 53' 8" 3.9 8.1
 17:02:25.5 -28° 53' 8" 24.8 2.3
17:02:25.6 -28° 53' 8"

(354)

158

near edge
of plate

-28° 55' 49	17:04:19.3	-28° 55' 9 ✓		
-29° 46' 00	17:05:33.0	-29° 34' 1 ✓		
	73.7	38.2	14.9	38.9
	17:04:48.0	-29° 23' 4	5.8	28.0
	17:04:48.0	-29° 23.4	9.1	10.9
✓ (359)	<u>17:04:48.0</u>	<u>-29° 23' 4</u>		
-29° 45' 55	16:54:21.9	-29° 06' 5		
-28° 58' 11	16:57:37.8	-28° 18' 4		
	19.5.9	48.1	43.6 ✓	47.7
	16:55:33.3	-28° 56' 7	15.9	9.7
	16:55:33.2	-28° 56' 5	27.7	38.0
L (450)	<u>16:55:33.3</u>	<u>-28° 56' 7</u>		
	16:55:50.0	-28° 50' 4	19.6	16.0
	16:55:49.8	-28° 50' 4	24.0	31.7
✓ (423)	<u>16:55:49.9</u>	<u>-28° 50' 4</u>		
	16:56:26.9	-28° 55' 5	27.8	10.9
	16:56:26.8	-28° 55' 5	15.8	36.8
L (451)	<u>16:56:26.8</u>	<u>-28° 55' 5</u>		
	16:56:51.8	-28° 51' 7	33.3	14.7
	16:56:51.5	-28° 51' 7	10.3	33.0
L (424)	<u>16:56:51.5</u>	<u>-28° 51' 7</u>		
	16:56:06.7	-28° 41' 2	23.3	25.1
	16:56:06.6	-28° 41' 2	20.3 ✓	22.6
L (399)	<u>16:56:06.6</u>	<u>-28° 41' 2</u>		

(324)

16:56:39.9	-28°:34'1	30.7	32.2
16:56:39.8	-28°:34'0	12.9	15.5
<u>16:56:39.8</u>	<u>-28°:34'0</u>		

(352)

16:57:16.7	-28°:27'1	38.9	39.1
16:57:16.7	-28°:27'1	4.7	8.6
<u>16:57:16.7</u>	<u>-28°:27'1</u>		

-29° 45'41

-29° 45'55

16:52:08.8	-29°:15'1		
16:54:21.9	-29°:06'5		
133.1	8.6	29.2	8.3

(421)

16:53:46.5	-29°:10'3	21.5	4.6
16:53:46.9	-29°:10'3	7.7	3.7
<u>16:53:46.7</u>	<u>-29°:10'3</u>		

-29° 45'27

-29° 45'55

16:48:39.7	-29°:41'2		
16:54:21.9	-29°:06'5		
342.2	34.7	74.5	34.8

(452)

16:50:30.9	-29°:28'7	24.2	12.5
16:50:30.9	-29°:28'6	50.3	22.3
<u>16:50:30.9</u>	<u>-29°:28'8</u>		

(396)

16:50:28.6	-29°:13'8	23.7	27.5
16:50:28.5	-29°:13'8	50.8	7.3
<u>16:50:28.6</u>	<u>-29°:13'8</u>		

(434)

16:50:53.9	-29°:20'0	29.2	21.3
16:50:53.9	-29°:20'0	45.3	13.5
<u>16:50:53.9</u>	<u>-29°:20'0</u>		

160

16:48:39.7 -29°:41'2
 16:54:21.9 -29°:06'5
 5 42.2

16:51:05.8 -29°:13'1 31.8 28.2

16:51:05.8 -29°:13'1 42.7 6.6

16:51:05.8 -29°:13'1

(397)

corrected
 Mar 1932

52 08.7
 16:50:52.9 -29°:31'6 45.5 9.6

52 08.9
 16:50:52.9 -29°:31'6 29.0 133 25.2

16:50:52.9 -29°:31'6
 16 52 09 74.5 342

(441)

16:52:16.8 -29°:26'8 47.3 14.5

16:52:16.9 -29°:26'8 27.2 20.3

(413)

16:52:16.9 -29°:26'8

16:51:54.9 -29°:22'0 42.5 19.3

16:51:54.9 -29°:22'0 32.0 15.5

(453)

16:51:54.9 -29°:22'0

16:52:11.9 -29°:19'8 46.2 21.4

16:52:11.9 -29°:19'9 28.3 13.4

(412)

16:52:11.9 -29°:19'8

wrong star
 was mfas

457 35.4
 16:52:44.0 -29°:32'6 53.2 5.9
 45.9 35.4
 16:52:44.1 -29°:32'6 0.9 8.6
 46 35.4
 16:52:44.1 -29°:32'6 28.8 29.1
 74.6 26.2
 246 35.0
 96 5.8
 28.9

(454)

16:53:29.4 -29°:30'8 63.1 10.4

16:53:29.5 -29°:30'8 11.4 24.4

(414)

16:53:29.5 -29°:30'8

$-29^{\circ}45'63$ $16:56:17.6$ $-29^{\circ}10'0$
 $-28^{\circ}55'11$ $16:57:37.8$ $-28^{\circ}18'4$
 80.2 51.6 18.4 51.6

(398)

$16:56:41.2$ $-29^{\circ}07'5$ 5.4 2.5
 $16:56:41.1$ $-29^{\circ}07'5$ 13.0 49.1
 $16:56:41.1$ $-29^{\circ}07'5$

$-29^{\circ}45'63$ $16:56:17.6$ $-29^{\circ}10'0$
 $-29^{\circ}45'66$ $16:57:19.6$ $-29^{\circ}33'3$
 62.0 23.3 39.0 13.5 23.9

(438)

$16:56:49.8$ $-29^{\circ}15'3$ 7.0 5.4
 $16:56:49.8$ $-29^{\circ}15'3$ 6.5 18.5
 $16:56:49.8$ $-29^{\circ}15'3$

(444)

$16:56:48.8$ $-29^{\circ}24'4$ 6.8 14.8
 $16:56:48.8$ $-29^{\circ}24'4$ 6.7 9.1
 $16:56:48.8$ $-29^{\circ}24'4$
 $16:57:01.2$ $-29^{\circ}20'5$
 $16:57:01.2$ $-29^{\circ}20'5$ 9.5 10.8
 $16:57:01.2$ $-29^{\circ}20'5$ 4.0 13.1

(415)

$-29^{\circ}45'66$ $16:57:19.6$ $-29^{\circ}33'3$
 $-28^{\circ}55'33$ $17:00:13.5$ $-28^{\circ}27'1$
 173.9 66.2 39.0 66.2

(416)

$16:58:13.1$ $-29^{\circ}29'7$ 12.0 3.6
 $16:58:13.11$ $-29^{\circ}29'7$ 27.0 62.6
 $16:58:13.1$ $-29^{\circ}29'7$

16:58:44.0	-29°:22'0	18.9	11.3
16:58:43.9	-29°:22'0	20.1	54.9
<u>16:58:44.0</u>	<u>-29°:22'0</u>		

(417)

16:59:16.9	-29°:32'1	26.3	1.2
16:59:16.8	-29°:32'1	12.7	65.0
<u>16:59:16.8</u>	<u>-29°:32'1</u>		

(445)

-29° 45'66	16:57:19.6	-29°:33'3		
-30° 45'76	17:00:14.7	-30°:04'5		
	175.1	31.2	37.3	31.9

17:00:00.6	-29°:45'9	34.3	12.9
17:00:00.6	-29°:45'9	3.0	19.0
<u>17:00:00.6</u>	<u>-29°:45'9</u>		

(418)

-30° 45'59	16:56:57.4	-30°:29'7		
-30° 45'76	17:00:14.7	-30°:04'5		
	197.3	25.2	43.1	25.1

16:57:18.9	-30°:11'6	4.7	18.0
16:57:18.9	-30°:11'6	38.4	7.1
<u>16:57:18.9</u>	<u>-30°:11'6</u>		

(390)

16:59:16.1	-30°:07'8	30.3	21.8
16:59:16.1	-30°:07'8	12.8	3.3
<u>16:59:16.1</u>	<u>-30°:07'8</u>		

(446)

17:00:08.2	-30°:05'5	41.7	24.1
17:00:08.1	-30°:05'5	1.4	1.0
<u>17:00:08.1</u>	<u>-30°:05'5</u>		

(391)

-29° 45'27	16:48:39.7	-29°:41'2		
-30° 45'48	16:54:23.4	-30°:21'6		
	343.7	40.4	74.4	40.6

16:50:53.6	-29°:47'9	290.	6.7
16:50:53.7	-29°:47'9	45.4	33.9
<u>16:50:53.6</u>	<u>-29°:47'9</u>		

(392)

16:51:15.9	-29°:42'6	33.8	1.4
16:51:16.0	-29°:42'6	40.6	39.2
<u>16:51:15.9</u>	<u>-29°:42'6</u>		

(411)

16:51:31.5	-29°:42'1	37.2	.9
16:51:31.6	-29°:42'1	37.2	39.7
<u>16:51:31.5</u>	<u>-29°:42'1</u>		

(393)

16:51:41.6	-29°:42'0	39.4	.8
16:51:41.7	-29°:42'0	35.0	39.8
<u>16:51:41.7</u>	<u>-29°:42'0</u>		

(435)

16:51:21.4	-30°:07'4	35.0	26.3
16:51:21.5	-30°:07'4	39.4	14.3
<u>16:51:21.4</u>	<u>-30°:07'4</u>		

(407)

-29° 45'41	16:52:08.7	-29°:15'1		
-30° 45'46	16:52:23.4	-30°:21'6	29.1	67.3
	134.7	66.5		
	21.2			
	16:52:15.6	-29°:41'5	2.7	26.7
	16:52:15.6	-29°:41'5	26.4	46.6
	16:52:15.6	-29°:41'5		

(436)

53 12.7	16:52:44.7	-29°:56'3	13.2	41.7
3 12.4	16:52:44.7	-29°:56'3	15.3	25.6
3 12.6	16:52:44.7	-29°:56'3		

(408)

164

$52:08.7 - 29:15.1$ (343)
 $58:23.4 - 30:21.6$
 34.7 66.5
 29.1 67.3

(432)

$16:52:12.8 - 29:59.8$ 1.3 45.2
 $16:52:12.0 - 29:59.8$ 27.8 22.1
 $16:52:15 - 29:59.8$
 $53.38.9$
 $16:52:58.8 - 29:58.9$
 $16:52:58.8 - 29:58.9$ 19.5 44.3
 $16:52:58.8 - 29:58.9$ 9.6 23.0
 338.9
 $16:52:58.8 - 29:58.9$

56.5
 $16:53:08.3 - 29:59.1$ 23.2 44.5
 56.0
 $16:53:08.3 - 29:59.0$ 5.9 22.8
 56.2
 $16:53:08.3 - 29:59.0$

(433)

$54.13.7$
 $16:53:18.0 - 30:00.0$ 27.0 45.4
 $4.13.7$
 $16:53:18.0 - 30:00.0$ 2.1 21.9
 $4.13.7$
 $16:53:18.0 - 30:00.0$

(385)

$54.17.1$
 $16:53:20.1 - 29:55.1$ 27.8 40.5
 $4.17.4$
 $16:53:20.1 - 29:55.1$ 1.3 26.8
 $4.17.2$
 $16:53:20.1 - 29:55.1$

(448)

58.9
 $16:53:10.1 - 29:51.3$ 23.9 36.6
 59.3
 $16:53:10.1 - 29:51.3$ 5.2 30.7
 59.0
 $16:53:10.1 - 29:51.3$

3

(448)

 $-29^\circ 45'55''$ $-29^\circ 45'61''$ $16:54:21.9 - 29:06.5$ $16:55:50.6 - 29:52.5$

88.7

46.0

19.3

46.6

100

(394)

see p. 166

$16:54:37.9 - 29:25.0$ 3.5 18.7
 $16:54:38.1 - 29:24.9$ 15.8 27.9
 $16:54:38.0 - 29:25.0$

V. (395)

(351)

16:55:35.2	-29°35'0	16.0	28.9
16:55:35.5	-29°35'0	3.3	17.7
<u>16:55:35.4</u>	<u>-29°35'0</u>		

(387)

16:54:51.7	-29°51'5 ✓	6.5	45.5
16:54:51.9	-29°51'4	12.8	1.1
<u>16:54:51.8</u>	<u>-29°51'4</u>		

(455)

16:55:13.3	-29°52'1	11.2	46.2
16:55:13.5	-29°52'1	8.1	.4
<u>16:55:13.5</u>	<u>-29°52'1</u>		

-30° 45'46

-29° 45'61

16:54:23.4	-30°21'6		
16:55:50.6	-29°52'5		
8.7.2	29.1	19.2	29.3

(386)

16:54:50.6	-30°11'5	6.0	10.2
16:54:50.6	-30°11'5	13.2	19.1
<u>16:54:50.6</u>	<u>-30°11'5</u>		

(409)

16:55:43.3	-30°10'5	17.6	11.2
16:55:43.3	-30°10'5	1.6	18.7
<u>16:55:43.3</u>	<u>-30°10'5</u>		

-30° 45'33

-29° 45'55

16:51:45.3	-30°03'7		
16:54:21.9	-29°06'5		
156.6	57.2	34.0	57.6

(442)

16:52:06.5	-29°11'9	4.6	52.1
16:52:06.5	-29°12'0	29.4	5.5
<u>16:52:06.5</u>	<u>-29°12'0</u>		

-29° 45' 41	16:52:08.7	-29° 15' 1		
-29° 45' 61	16:55:50.6	-29° 52' 5		
	221.9	37.4	48.3	38.0

16:54:21.0	-29° 32' 4	28.8	17.6
16:54:21.0	-29° 32' 4	19.5	20.4
16:54:21.0	-29° 32' 4		

(394)

-28° 54' 86	16:52:27.4	-28° 04' 7		
-27° 55' 48	16:54:25.0	-27° 38' 6		
	117.6	26.1	26.2	26.2

16:53:20.8	-27° 50' 5	11.9	14.3
16:53:20.8	-27° 50' 5	14.3	11.9
16:53:20.8	-27° 50' 5		

(366)

16:53:15.5	-27° 47' 8	10.7	16.9
16:53:15.4	-27° 47' 9	15.5	9.3
16:53:15.5	-27° 47' 9		

(325)

-29° 45' 55	16:54:21.9	-29° 06' 5		
-28° 55' 11	16:57:37.8	-28° 18' 4		
	195.9	48.1	43.4	48.0

16:54:56.2	-28° 31' 5	7.6	35.0
16:54:56.3	-28° 31' 5	35.8	13.0
16:54:56.2	-28° 31' 5		

(422)

16:55:12.5	-28° 26' 5	11.2	39.9
16:55:12.6	-28° 26' 4	32.2	8.1

(323)

16:55:12.6	-28° 26' 4		
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-28° 55'49	17:04:19.3	-28° 55'9		
-28° 55'61	17:06:31.8	-28° 09'1		
	132.5	46.8	30.4	46.3

17:05:09.5	-28° 37'6	25.3	18.1
17:05:09.6	-28° 37'6	5.1	28.2
17:05:09.6	-28° 37'6		

(360)

A 7289

-30° 45'21	16:49:15.3	-30° 29'0		
-30° 45'32	16:51:13.3	-30° 55'7		
	118.0	26.7	25.7	27.0

16:50:10.0	-30° 42'9	11.9	14.1
16:50:49.9	-30° 42'9	13.8	12.9
16:50:10.0	-30° 42'9		

(481)

A 7289

-30° 45'28	16:50:15.8	-30° 25'1		
-30° 45'32	16:51:13.3	-30° 55'7		
	57.5	30.6	12.7	30.9

16:50:42.0	-30° 54'2	5.8	29.4
16:50:42.1	-30° 54'2	6.9	1.5

(482)

16:50:42.1	-30° 54'2
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A 7289

-30° 45'28	16:50:15.8	-30° 25'1		
-30° 45'29	16:50:46.8	-30° 11'7		
	31.0	13.4	6.8	13.5

16:50:21.3	-30° 23'3	1.2	1.8
16:50:21.3	-30° 23'3	5.6	11.7

(495)

16:50:21.3	-30° 23'3
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168

A 7289

 $-29^{\circ} 45' 27''$

16:48:39.7

 $-29^{\circ} 41' 2''$ $-30^{\circ} 45' 29''$

16:50:46.8

 $-30^{\circ} 11' 7''$

127.1

30.5

27.7

30.7

16:50:38.1

 $-29^{\circ} 59' 7''$

25.8

18.8

16:50:38.1

 $-29^{\circ} 59' 7''$

1.9

12.1

16:50:38.1 $-29^{\circ} 59' 7''$

(508)

A 7289

 $-31^{\circ} 45' 25''$

16:50:43.2

 $-31^{\circ} 03' 6''$ $-31^{\circ} 45' 36''$

16:53:34.7

 $-31^{\circ} 26' 5''$

171.5

22.9

36.7

23.2

16:52:29.2

 $-31^{\circ} 18' 2''$

22.7

14.8

16:52:29.2

 $-31^{\circ} 18' 2''$

14.0

8.4

16:52:29.2 $-31^{\circ} 18' 2''$

(491)

A 14012

 $-29^{\circ} 45' 27''$

16:48:39.7

 $-29^{\circ} 41' 2''$ $-29^{\circ} 45' 41''$

16:52:08.8

 $-29^{\circ} 15' 1''$

209.1

26.1

45.4

25.5

16:50:37.6

 $-29^{\circ} 21' 2''$

25.5

20.1

16:50:37.3

 $-29^{\circ} 21' 4''$

19.9

6.4

16:50:37.2 $-29^{\circ} 21' 3''$

(485)

16:51:35.5

 $-29^{\circ} 18' 4''$

38.2

28.1

16:51:35.6

 $-29^{\circ} 18' 4''$

7.2

3.5

16:51:35.6 $-29^{\circ} 18' 4''$

(486)

A7289

-30° 45'33	16:51:45.3	-30° 03'7		
-30° 45'46	16:54:23.4	-30° 21'6	✓	
	158.1	17.9	34.2	18.4

16:53:52.5	-30° 15'1	27.5	11.9	127.5
16:53 ^{54.} 22.4	-30° 15'1	6.7	6.7	31.0
16:53 ^{53.} 22.4	-30° 15'1			

(484)

16:53:06.7	-30° 17'8	17.6	14.5
16:53:06.7	-30° 17'8	16.6	3.9
16:53:06.7	-30° 17'8		

(496)

A14012

-30° 45'07	16:47:21.2	-30° 14'5		
-29° 45'27	16:48:39.7	-29° 41'2	✓	
	78.5	33.3	17.0	33.5

16:48:17.1	-30° 13'7	12.1	.8
16:48:17.1	-30° 13'7	4.9	32.7
16:48:17.1	-30° 13'7		

(503)

A7289

-31° 45'25	16:50:43.2	-31° 03'6		
-31° 45'43	16:54:40.2	-31° 18'2 -31° 23.1	✓	
	237.0	14.6	51.5	14.8

16:54:12.4	-31° 09'5	45.4	6.0
16:54:12.1	-31° 09'5	6.1	8.8
16:54:12.2	-31° 09'5		

(492)

45.3	23.4
127.5	31.0
53	54.4

127.5
45.3
52.9
54.5
54.4

170

A7289

-31° 45'49	16:56:51.2	-31°:28'3	
-31° 45'54	16:58:20.7	-31°:13'4	✓
	89.5	14.9	19.2 14.7

16:57:48.1	-31°:17'5	12.2	10.7
16:57:48.1	-31°:17'5	7.0	4.0

(493)

<u>16:57:48.1</u>	<u>-31°:17'5</u>
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A7289

-30° 45'46	16:54:23.4	-30°:21'6	
-30° 45'58	16:56:24.9	-30°:54'9	✓
	121.5	33.3	26.2 33.6

16:55:20.0	-30°:52'2	12.2	30.9
16:55:20.0	-30°:52'2	14.0	2.7

(483) -3

<u>16:55:20.0</u>	<u>-30°:52'2</u>
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A7289

-30° 45'59	16:56:57.3	-30°:29'9	
-29° 45'68	16:57:36.1	-29°:56'4	✓
	38.8	33.5	8.9 33.7

16:57:08.9	-30°:29'0	2.2	.9
16:57:06.9	-30°:29'0	1.7	32.8

(512)

<u>16:57:06.9</u>	<u>-30°:29'0</u>
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A7289

-30° 45'46	16:54:23.4	-30°:21'6	
-29° 45'61	16:55:50.6	-29°:52'5	✓
	87.2	29.1	19.3 29.3

16:55:02.7	-29°:57'5	8.7	24.2
16:55:02.7	-29°:57'6	10.6	5.1

(504)

<u>16:55:02.7</u>	<u>-29°:57'6</u>
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A14012

-29° 45' 61 16:55:50.6 -29° 52' 5

-29° 45' 66 16:57:19.6 -29° 33' 3

89.0 19.2

19.7 19.2 ✓

16:56:41.7 -29° 43' 6

11.3 8.9

16:56:41.7 -29° 43' 6

8.4 10.3

(498)

16:56:41.7 -29° 43' 6

A7289

-29° 45' 72 16:58:44.8 -29° 53' 4

-29° 45' ⁷⁶~~67~~ 17:00:07.2 -30° 00' 9

82.4 7.5

17.8 7.7 ✓

16:59:06.5 -29° 54' 5

4.7 1.1

16:59:06.5 -29° 54' 5

13.1 6.6

(506)

16:59:06.5 -29° 54' 5

-27° 55' 12 -16:47:58.8 -27° 57' 1

A14012

-28° 54' 62 16:49:34.8 -28° 50' 6

96.0 53.5 21.4 53.8 ✓

16:49:03.4 -28° 44' 5

14.4 47.6

16:49:03.4 -28° 44' 4

7.0 6.2

(384)

16:49:03.4 -28° 44' 4

A6042

-25° 58' 90 16:49:59.4 -25° 50' 7

-25° 59' 06 16:54:09.1 -25° 11' 1

249.7 39.6 55.9 40.3 ✓

16:52:57.8 -25° 35' 0

39.9 16.0

16:52:57.7 -25° 35' 0

16.0 24.3

(476)

16:52:57.7 -25° 35' 0

172

-26° 58' 24	17:02:23.8	-26° 42' 3		
-26° 58' 38	17:04:40.2	-26° 19' 6	✓	
	136.4	22.7	30.9	22.6

17:02:45.8	-26° 29' 6	5.0	12.6
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17:02:45.9	-26° 29' 6	25.9	10.0
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(479) 17:02:45.8 -26° 29' 6

A 148¹/₂

-29° 45' 55	16:54:21.9	-29° 06' 5	
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-28° 55' 11	16:57:37.8	-28° 18' 4	✓
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195.9	48.1	43.7	48.0
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16:55:38.1	-28° 35' 7	17.0	30.7
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16:55:38.2	-28° 35' 7	26.7	17.3
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(480) 16:55:38.2 -28° 35' 7

A 148¹/₂

-29° 45' 63	16:56:17.6	-29° 10' 0	
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-29° 45' 66	16:57:19.6	-29° 33' 3	✓
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62.0	23.3	13.6	23.8
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16:56:20.8	-29° 14' 6	7	4.7
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16:56:20.8	-29° 14' 6	12.9	19.1
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(487) 16:56:20.8 -29° 14' 6

A 148¹/₂

-28° 55' 11	16:57:37.8	-28° 18' 4	
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-29° 45' 75	16:59:44.7	-29° 10' 1	✓
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126.9	51.7	27.2	52.5
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16:58:57.1	-28° 43' 9	17.0	25.9
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16:58:57.1	-28° 43' 9	10.2	26.6
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(489) 16:58:57.1 -28° 43' 9

16:58:24.9	-28°57'5	10.1	39.7
16:58:25.0	-28°57'5	17.1	12.8

(501)

16:58:25.0 -28°57'5

16:59:17.2	-29°07'1	21.3	49.5
16:59:17.2	-29°07'1	5.9	3.0

(507)

16:59:17.2 -29°07'1
A1442⁰¹

← see comparison of (480)

43.6 47.9

16:55:53.1	-28°39'0	20.3	27.4
16:55:53.1	-28°39'0	23.3	20.5

(506)

16:55:53.1 -28°39'0
A1442⁰¹

-30°45'33 16:51:45.3 -30°03'7

-29°45'55 16:54:21.9 -29°06'5

156.6 57.2

34.3 57.4

16:53:21.2 -29°26'1 21.0 37.7

16:53:21.2 -29°26'1 13.3 19.7

(499)

16:53:21.2 -29°26'1

16:52:55.9 -29°54'2 15.4 9.5

16:52:55.5 -29°54'3 18.9 47.9

(509)

16:52:55.7 -29°54'3

16:53:25.6	-29°34'6	22.0	29.2	29.0	3.7
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16:53:25.7	-29°34'6	12.3	28.2	28.2	29.2
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(518)

16:53:25.7 -29°34'6

3.7
29.2
34.5
28.2
34.7

174

012
A14102

-29° 45'66	16:57:19.6	-29° 33'3		
-30° 45'76	17:00:14.7	-30° 04'5	✓	
	17 5.1	3 1.2	37.5	31.8

17:00:03.1	-29° 36'2	35.0	3.0
17:00:03.0	-29° 36'3	2.5	28.8
17:00:03.1	-29° 36'3		

(490)

A7289

-30° 45'28	16:50:15.8	-30° 25'1	
-31° 45'25	16:50:43.2	-31° 03'6	✓
	27.4	38.5	6.0 38.7

16:50:35.9	-30° 56'3	4.4	31.4	20.1
16:50:35.9	-30° 56'3	1.6	7.3	7.3
16:50:35.9	-30° 56'3			

(490a)

A7289

-30° 45'46	16:54:23.4	-30° 21'6	
-29° 45'68	16:57:36.1	-29° 56'4	✓
	19 2.7	25.2	42.4 25.2

16:54:32.0	-30° 15'8	1.9	5.8
16:54:32.3	-30° 15'8	40.5	19.9
16:54:32.2	-30° 15'8		24.7
			5.9
			19.3

js (497)

16:58:21.4	-30° 17'7	16.4	3.9
16:58:21.7	-30° 17'7	26.0	21.3
16:58:21.7	-30° 17'7		

(498)

55	38.0	74.6
55	37.9	118.2

A1402

-29°45'55"	16:54:21.9	-29°06'5"	✓	
-29°45'60"	16:55:34.1 72.2	-29°15'0" 8.5	15.9	8.8
	16:55:03.7	-29°11'9"	9.2	5.6
	16:55:03.7	-29°11'9"	8.7	3.2
	<u>16:55:03.7</u>	<u>-29°11'9"</u>		

(500)

		Remainder	HSL No 72	HSL No 63	HSL No 65	HSL No 67	HSL No 86	HSL No 87
	Plate No	7	AY	AB	164128	AE	BH	BI
2423912.769	MF 8544	15.0	15.0	13.7	15.2 ⁷	14.8	13.5	ns
992.590	8723	15.5	15.3	13.5	15.8 [✓]	14.4	13.5	15.5
24018.530	8755	15.9	14.0	13.2	15.1 [✓]	13.6	13.9	15.5
294.754	9178	15.3	—	13.2	15.7 [✓]	ns	—	—
370.552	9648	15.5	14.0	13.3	15.2 ⁴	11.9	13.2	15.5
2424623.762	10132	15.3	14.7	13.7	15.3	14.9	13.9	ns
626.753	10138	15.4	15.1	13.3 ²	15.5	15.5	14.4	ns
627.755	10143	15.9	14.6	13.3	15.5	15.4	14.5	ns 15.8
642.760	10189	16.0	14.8	13.1	15.7	15.8	14.1	ns
646.699	10214	16.2	14.6	13.6	15.5	16.5	13.8	ns
647.686	10222	15.6	15.2	13.7 ²	15.6	15.9	14.5 ¹	ns
648.687	10230	15.7	15.0	13.0	15.8	16.3	14.3	ns
649.688	10238	15.7	15.0	13.6	15.7	16.2	13.9	ns
650.692	10247	15.8	15.3	13.4 ²	15.8	15.9	14.3	ns
653.749	10265	15.8	15.1	13.0 ²	15.8	16.5	13.7	ns
654.744	10269	15.6	14.8	13.6	16.0	16.2	13.7	ns
655.787	10277	15.5	15.4	12.4	15.7	16.4	13.6 ¹	ns
656.786	10282	15.4	15.3	13.0	15.8	16.3	13.5	ns
669.687	10308	15.7	15.7	13.2 ²	15.9	16.2	13.3	16.2
670.680	10315	15.7	15.4	13.5	15.8	16.2	13.1	16.0
678.683	10345	15.6	15.5	13.7	15.8 ⁹	15.5	12.9	15.7
679.682	10354	15.5	15.3	12.5	15.7	15.7	12.7	15.6
683.766	10381	—	—	—	—	—	—	—
697.622	10425	14.7	14.2	13.7	16.2 ¹	14.7	13.3	15.1
699.689	10440	15.0	14.2	13.7	15.7	14.6	13.5	15.0
702.685	10456	15.0	14.7	13.5	15.9	13.8	12.9	15.0
704.682	10472	15.3	14.2	13.6	15.5	14.1	12.7	14.9
706.687	10488	15.0	13.9	13.3	15.4	13.7	13.5	15.0
710.691	10515	15.4	14.2	13.5	15.0	13.6	13.6	14.7

<i>12</i> HSL No 73 AC	<i>12</i> HSL No 66 AD	<i>12</i> BG	<i>12</i> 145	<i>12</i> 303	<i>12</i> 27W	<i>12</i> 20	<i>12</i> 21	<i>12</i> 207	<i>12</i> 225	<i>12</i> 22
12.8	13.9	16.0	15.6	15.4	15.9	16.1	15.0	16.1	16.2	15.1
13.6	ns<16.1	15.5	15.6	15.4	<16.3	ns<16.1	ns<16.1	15.1	ns	15.9
13.1	ns	14.7	15.8	15.2	ns<16.1	ns<16.1	ns	15.0	15.5	16.0
12.7	13.9	15.9	16.0	15.4	ns	ns	ns	14.9	13.2	16.0
12.5	15.4	15.8	15.8	15.7	15.4	ns	15.5	13.6	16.0	ns
12.7	15.7	14.8	15.4	15.3	15.5	ns	15.5	14.1	16.2	ns
12.8	15.6	15.1	15.3	15.2	15.1	ns<15.8	15.2	13.9	ns<15.8	ns<15.8
12.7	16.5	15.7	15.9	15.5	15.8	ns	14.9	15.0	13.7	16.4
12.9	16.7	16.0	16.4	15.4	15.7	ns	14.8	15.1	13.9	ns
13.3	ns	15.7	15.7	15.7	15.8	ns	14.9	15.2	13.9	ns
12.8	ns	14.8	15.7	15.7	16.0	16.3	14.8	15.1	13.7	ns
12.8	ns	14.7	15.5	15.8	16.2	16.5	14.6	15.1	13.9	ns
13.0	ns	16.0	15.9	15.5	16.1	16.3	14.8	15.0	13.9	ns
13.1	ns	15.7	15.7	15.8	16.2	ns	14.1	15.3	14.0	ns
13.1	ns	15.5	15.3	15.5	15.9	16.3	13.9	15.5	13.7	ns
12.6	16.6	15.2	16.3	15.5	16.3	ns	14.5	15.3	13.7	ns
12.5	ns	13.9	16.2	15.3	16.2	16.2	14.3	15.3	13.6	ns
13.0	ns	16.3	16.0	15.7	16.4	16.1	15.5	16.1	13.7	ns
12.5	ns	15.5	15.7	15.4	16.3	16.0	15.2	16.0	13.6	ns
13.7	ns	14.8	16.0	15.5	16.3	15.6	15.3	16.0	13.5	ns
13.2	ns	15.7	15.9	15.5	16.0	15.8	15.5	16.0	13.6	ns
							15.4	16.4	13.6	ns
12.6	ns	15.5	15.7	15.5	ns	15.0	15.8	16.5	13.8	15.5
12.6	ns	15.4	15.3	15.2	ns	15.3	15.7	16.2	14.0	15.6
12.6	ns	14.9	15.5	15.3	ns	15.1	15.9	16.3	14.0	15.4
12.7	ns	15.7	15.7	15.7	ns	15.1	15.7	16.2	14.5	14.9
13.1	ns	15.6	16.3	15.5	ns	15.1	16.4	16.5	14.2	15.0
12.9	ns	15.8	16.0	15.5	ns	15.2	16.0	16.3	15.0	14.6

186

1234

190mp.

		7	AY	AB	164128	AE	BH	BI
2424 27.565	MF10570	15.5	14.9	12.0	15.5	12.2	13.7	14.7
731.558	10592	16.2	15.0	13.5	15.0	12.5	13.9	15.4
733.564	10614	15.9	15.2	13.3	15.1	11.9	13.9	15.3
753.532	10666	15.5	14.3	13.7	15.0	12.1	15.0	15.5
755.529	10671	15.3	14.8	13.5	15.3	12.0	15.1	16.0
759.474	10683	15.5	15.1	12.4	15.5	12.1	15.1	16.2
25330.613	11492	15.4	15.0	13.2	15.1	15.5?	14.8	15.0

when
it has
it compo

187

AC	AD	BG	145	303	270	20	21	207	225	22
12.4	ns	15.8	16.2	15.6	ns	15.9	16.5	16.0	15.6	14.1
12.8	ns	15.5	16.3	15.5	ns	15.8	ns	15.8	15.7	14.4
12.6	ns	15.7	15.8	15.5	ns	16.0	ns	15.8	15.7	13.9
13.1	ns	15.7	15.5	15.5	ns	16.0	16.1	15.0	ns	14.0
12.9	ns	16.0	16.0	15.1	ns	16.0	16.1	15.1	16.5	13.9
12.9	ns	16.2	16.1	15.5	ns	16.2	ns	15.0	ns	14.8
—	see faintly	15.17	—	15.5	15.0	ns	15.6	15.71	ns	15.6

188

Plate No	7	AY	^{a=13.5} AB	164128	long AE	long BH	long BI
A 2826			Ja				
5625							
5642							
5708							
9362							
10052							
10121							
10207							
13070							
13073							
13659		edge	v 1 > a	edge	13.9	n s	
13682		"	v 1 > a	"	13.9	n s	
13832		"	2 > a	"	12.0	15.6	
14011		"	>> a Br	"	15.4	16.7	
12		"	Br	"		16.3	
13			>> a Br			16.3	
14			p >> a			16.4	
15			> a			16.4	
16			=> a			16.3	

AC	long AD	BG	145	303	long 270	long 20	long 21	long 204	long 225	long 22
----	------------	----	-----	-----	-------------	------------	------------	-------------	-------------	------------

edge	15.8	16.4	15.3
"	16.1	15.9	16.3
"	15.4	16.0	16.0
"	15.8	15.9	15.7
	15.8	15.7	15.8
	16.2	15.7	15.8
	16.2	15.9	16.1
	16.1	15.9	16.2
	16.3	15.7	16.3

J D	Plate No	XZoph	Soof pr 361	Not good pr 365	shapely outlined star 58	208	369	367
2423 912. 769	MF 8544	12.9	15.7 <i>ca</i>	15.3	13.8 <i>ca</i>	14.4	ms 16.4	15.4
992. 590	8723	13.2	15.8 <i>ca</i>	15.4	13.5 <i>ca</i>	13.9	blu	15.3
24018. 530	8755	13.5	15.9 <i>ca</i>	15.3	14.5 <i>ca</i>	13.9	ms 16.5	15.4
294. 754	9178	13.4	—	—	—	—	—	—
370. 552	9648	13.6	15.9 <i>ca</i>	15.5	13.7 <i>ca</i>	15.1	15.8	15.0
24623. 762	10132	13.3	15.9 <i>ca</i>	15.5	13.8	14.0	ms	15.0
626. 753	10138	12.7	16.0 <i>ca</i>	15.7	14.1	14.8	16.5	15.0
627. 755	10143	12.6	15.8 <i>ca</i>	15.9	15.3	15.0	15.7	15.1
642. 760	20189	13.3	15.7 <i>ca</i>	15.5	15.0	14.9	15.5	15.0
646. 699	10214	13.5	16.2 <i>ca</i>	15.3	14.0	14.6	15.5	15.0
647. 686	10222	12.8	15.7 <i>ca</i>	15.7	15.2	14.9	blu	15.3
648. 687	10220	13.0	15.8 <i>ca</i>	15.5	14.6	14.9	15.8	15.4
649. 688	10238	12.8	15.9 <i>ca</i>	15.3	13.8	14.5	16.3	15.4
650. 692	10247	13.3	15.9 <i>ca</i>	15.5	15.3	14.6	16.5	15.3
653. 749	10265	13.0	15.9 <i>ca</i>	15.3	15.3	15.0	16.4	15.4
654. 744	10269	12.6	16.0 <i>ca</i>	15.3	14.2 <i>ca</i>	14.3	15.5	15.1
655. 787	10277	12.5	15.9 <i>ca</i>	15.4	13.7	14.3	16.2	15.4
656. 786	10282	13.5	15.8 <i>ca</i>	15.3	15.0	14.9	16.5	15.2
669. 687	10308	13.2	15.7 <i>ca</i>	15.5	13.8	14.9	16.2	16.1
670. 680	10316	12.5	15.7 <i>ca</i>	15.3	14.9	14.9	15.5	15.8
678. 683	10345	13.4	15.8 <i>ca</i>	15.4	13.7	14.5	16.2	15.7
679. 682	10354	13.3	15.7 <i>ca</i>	15.5	15.3	15.0	ms	16.0
683. 766	10381	13.0	—	15.4	14.2 <i>ca</i>	15.0	16.0	15.9
697. 622	10425	12.7	16.1 <i>ca</i>	15.5	14.8	14.5	16.5	15.1
699. 689	10440	13.5	15.7 <i>ca</i>	15.4	15.2	14.8	16.5	15.2
702. 685	10456	12.8	15.6 <i>ca</i>	15.3	14.7	13.9	15.8	14.8
704. 682	10472	12.7	15.9 <i>ca</i>	15.8	13.7	14.8	16.5	15.1
706. 687	10488	13.3	16.0	15.4	14.7	15.0	16.5	15.2
710. 691	10515	13.7	15.7	15.4	13.6	14.8	15.6	15.0

504 hit also but
no yr. ft camp

20 of
double

3000
in a
camp
to station

368	370	462	371	66	328	372	329	373	34.0	71.0
ms	ms	14.6	ms	15.5	ms	ms/16.2	16.0	15.2	14.6	13.6
ms	16.3	14.9	16.4	15.5	14.8	blue	15.6	15.4	15.3	14.9
16.3	16.2	14.7	ms	16.4	14.9	ms/16.1	16.1	15.2	15.4	15.1
15.1	16.2	14.8	ms	15.8	ms	ms	15.9	15.4	15.7	13.5
16.0	16.3	14.8	16.5	16.5	16.5	16.2	15.8	15.2	15.0	15.2
16.0	15.9	15.3	ms	ms	ms	16.5	16.1	15.8	15.7	15.2
15.0	15.8	15.1	ms/15.8	ms/15.8	ms/15.8	blue	15.7	15.5	15.3	13.0
15.7	16.5	15.3	15.7	ms	ms	15.8	16.0	15.5	15.5	16.0
15.5	16.4	14.8	16.1	ms	ms		16.2	15.3	15.3	15.7
15.6	16.3	15.1	15.7	ms	ms	blue	16.4	15.9	15.5	15.0
15.7	16.0	15.0	16.3	ms	ms	15.7	16.1	15.5	15.3	16.0
15.7	16.4	15.0	16.3	16.3	16.4	15.8	15.7	15.4	15.5	16.0
15.3	16.4	15.0	ms	16.0	ms	15.8	15.8	15.7	15.3	14.9
15.6	16.3	15.2	ms	16.5	ms	16.3	16.3	15.8	15.7	15.3
15.7	15.7	15.0	15.5	15.9	ms	16.0	15.9	15.7	14.9	15.0
15.1	16.6	14.9	15.8	16.2	ms	16.1	15.8	15.4	15.3	15.3
15.4	16.0	15.3	16.1	15.9	ms	16.0	15.9	15.5	15.2	15.7
15.1	16.3	15.5	16.1	15.5	ms	16.4	16.0	15.6	15.4	15.6
15.6	16.0	15.5	16.0	15.3	ms	ms	15.9	15.7	16.1	15.6
15.1	15.8	14.8	15.4	15.4	ms	16.2	15.8	15.3	15.5	15.3
15.1	16.2	14.9	15.5	15.0	ms	16.5	16.0	15.4	15.3	15.1
14.9	16.4	14.6	ms	16.2	ms	ms	15.9	15.4	15.1	15.0
13.9	16.1	14.9	ms	14.8	16.5	ms	16.3	15.7	15.4	15.2
14.3	16.3	15.2	ms	14.9	ms	ms	16.4	16.1	15.9	15.4
14.3	16.3	14.8	15.6	15.0	16.2	ms	16.4	15.7	15.3	15.6
14.0	16.5	15.1	16.4	15.1	16.1	ms	16.0	15.7	15.4	15.7
13.9	ms	15.4	ms	15.2	16.2	ms	16.3	15.7	15.7	15.5
13.7	16.6	14.9	16.5	15.3	15.9	ms	16.2	15.5	15.5	15.6

		X20ph	361	365	58	208	269	367
2424 727.565	MF 10570	13.6	15.8 ^{=a}	17.3	13.7	14.3	16.5	14.5
731. 558	10592	13.5	15.7 ^{=a}	15.7	15.3	13.9	16.0	15.2
733. 564	10614	13.1	15.7 ^{=a}	15.3	13.9	15.0	15.5	15.0
753. 532	10666	13.6	15.5 ^{<a}	15.6	13.7	14.3	16.6	15.3
755. 589	10671	13.2	15.7 ^{=a}	15.1	14.2	14.9	16.5	14.8
759. 474	10683	13.5	15.9 ^{<a}	15.1	14.7 ⁵	14.8	15.8	15.0
25330. 613	11492	13.2	15.9 ^{=a}					

Wrong
plot

368	370	462	871	66	328	372	329	373	340	710
13.7	15.3	15.1	15.5	15.7	15.1	ns	15.8	15.6	15.4	15.4
13.6	16.4	15.4	16.3	16.3	15.0	ns	16.0	15.4	16.0	16.5
13.9	16.3	15.1	16.4	15.9	14.8	ns	16.0	15.6	15.6	15.6
14.7	16.6	15.3	15.9	ns	15.1	ns	15.8	16.2	15.5	15.7
14.9	16.1	15.0	16.5	16.7	14.3	ns	16.0	15.4	15.3	15.7
14.6	15.9	14.9	16.6	ns	14.9	ns	15.9	15.5	15.5	15.8

Plate No	XZoph	50 of pr 361	no + fall of 2 365	58	30 of 2 ft stars 208	several ft stars 369	367
A 2826							
2825							
5642							
5708							
9362							
10052							
10121							
10207							
13070							
13073							
13659	13.0	16.0 ^{La}	14.6	15.3	13.9	16.2	13.9
13682	13.1	La	15.0	15.3	14.9	ns	15.1
13832	13.3	La	15.4?	15.5	15.4	16.6	15.8
14011	12.1	La	15.3	14.7	14.6	16.4	14.5
12	12.3	= a def - over La	15.4	14.3	14.0	16.5	14.3
13	12.4	La	15.4	14.1	13.7	ns	13.9
14	12.4	La	15.3	13.9	13.9	16.4	14.0
15	12.5	< La	15.5	13.8 14.1	14.1	16.6	13.9
14016	12.7	La	15.4	13.9 14.1	14.3	ns	13.9

not comp
long
368

pure of pp
370

462

371

long
66

soof p
long
3287

long
372

329

373

340

714

201

which?

..

15.8	16.6	14.0	16.6	ns	ns	15.5	16.0
15.9	16.5	14.9	15.8	ns	ns	15.7	15.9
15.3	16.4	15.2	15.7	15.5	ns	16.6	16.0
14.3	15.9	15.4	15.8	ns	15.3	16.7	16.1
14.0	16.0	15.3	15.6				16.2
12.9	16.3	15.2	15.9			16.0	
14.2	16.4	15.0	16.0	ns		16.1	
14.3	16.4	15.1	16.2			15.9	
13.9	16.5	15.1	16.3			16.0	

Plate No	264	308	309	268	6w	123	366
MF8544	15.4	ns<16.1	16.1	15.0	14.6	ns<16.1	ns<16.0
8723	13.9	ns<16.1	15.9	15.3	ns<16.0	13.7	med?
8755	15.0	ns "	16.1	14.5	ns<16.1	14.8	Pr:
9178	defut	15.5:	15.4	14.7	15.7	ns<16.2	-
9648	16.0	ns<16.5	16.0	15.2	16.0	15.0	ft
10132	14.2						
10138	14.5	16.1	16.0	15.5	ns	16.1	ft.
10143	14.7	16.2					
10189	14.7	16.2	16.0	14.8	16.3	16.5	ns
10214	14.6	16.2	15.7	14.8	16.3	16.5	ns<16.0
10222	15.1	15.8	15.6	15.1	ns<16.4	16.5	ns
10230	15.0	15.8	15.7	14.6	16.5	ns	ns
10238	15.2	15.8	15.7	15.1	16.5	ns	ns:
10247	15.0	15.7	15.9	15.0	16.0	ns	15.2:
10265							
10269	14.8	15.7	15.6	14.8	16.0	ns	ns
10277	15.2	15.8	15.6	14.9	16.3:	ns	ns
10282							
10308							
10315	ns	15.8	16.2	14.8	15.6	ns	ns
10345							
10364	15.0	15.5	15.7	14.8	14.9	ns	ns:
10381	14.6	-	-	-	14.4	ns	ns
10425	15.2	16.5	16.4	15.1	13.7	ns	ns
10440	15.1	15.8	16.4	14.7	13.9	ns	ft:
10456							
10472							
10488							
10515	15.0	16.6	16.5	15.0	13.7	ns	ns?

Plate No	264	308	309	268	60	123	366
MF 10570	16.2	16.6	16.16	15.3	14.5	15.5	R
10592							
10614	16.6	ms	16.5	15.3	15.0	15.6	v'B
10666							
10671	15.1	16.0	15.7	15.1	15.3	14.2	14.7:
10683	15.7	15.7	15.8	15.2	15.4	14.3	14.5:

210

INDEX to MWF 185 1653-28.2

Name	H V	Var NO	Position	MF	B early	
TSco	4415	1	2, 12	13, 168		Eclip ^d 9.5872
EP	4259	3	2, 8	2, 136	4 12, 24, 28	Long 240.7
EF.	4299	4	2, 10			
EX	4292	5	2, 8	2, 136	4 12, 28	Long 181.5
EK	4236	7	2, 22	3-184 2, 112		
DR Oph*	4294	8	2, 20	2, 124	4, 14 30	Long 220
73 W		9				
GA Sco	1107	10	2, 32	2, 112		Long 162.5
4247 6 W pub	4247	13				
DO Oph	4289	14	2, 34	2, 160	4, 38	Long 234.
DV	4300	15	2, 34	2-160 (172)	4, 38	Long 182
FQ	4343	16	2, 36	2-160		
BN	4360	17	2, 24	2-148	4, 14, 30	Long 186.8
IP	4402	18	2, 28	15, 24	15, 42	Long 215
CD	4249	20	2, 42	3-184	4 46	Long ^d 261.
CT	4267	21	2, 42	3-184	4 46	Long 188.3
29 W	4290	22	2, 44	3-184	4 46	Long 213.4
HH Oph	4374	23	2, 48			
KK	4413	24	2, 36	19, 22 ^{Staln}		
DJ Sco	4228	26	2, 40	19, 22 ^{Staln}		clust 0.59297
CE Oph	4250	27	2, 42	19, 22 ^{Staln}		CERPHID 15.89
CO Oph	4262	28	2, 32	19, 6 ^{Staln}		Long 344
BV	4241	29	2, 32	19, 6 ^{Staln}		
EB	4309	31	2, 31	19, 6 ^{Staln}		
ET	4322	32	2, 50	19, 6 ^{Staln}		
FN Oph	4340	34	2, 50	19, 6 ^{Staln}		Long 163
FT	4346	35	2, 75			
IK	4395	37	2, 46			
24 W IEW pub	3263	38				
ON	4287	41	2, 56	19, 6 ^{Staln}		Long 215

Name	HV	# Var	Pos.	M F	Early Bpldts	
HQ	4353	42	2, 58			
DESec	4209	47	2, 6			
DF Oph	4278	58	2, 38	3-196		clust ^d 0.6041
FG Oph	4334	60	2, 58			
FGSec	4301	62	2, 8	2, 136	4 12, 28, 74	LONG 127.9
FZ Oph	4352	65	2, 36	2-160		
EO Oph	4371	66	2, 50	3-196	4 46-62	LONG 149.2
CS Oph	4253	67	2, 32	19, 40	Stale	LONG 355
CF Oph	4252	69	2, 60			
CU Oph	4268	70	2, 56	19, 52	Stale	clust 0.70167
DZ	4306	71	2, 56	19, 52	Stale	clust:
DV	4302	74	2, 60			
DK	4264	76	2, 60			
FISec	4353	77	2, 12			
FO	4372	78	2, 12	13, 168	15, 54	LONG 231.6
FR	4400	79	2, 14	13, 168	15, 54	LONG 202.
CZSec	4267	80	2, 6			
EV	4288	81	2, 14	2, 136	4 12-28-74	LONG 350
BCSec	known	82	2, 17			
CM Oph *	4258	83	2, 22	2, 112		LONG 131.1
EW	4329	84	2, 22	2-136	4 14-30-74	
ET	4333	85	2, 22	2-136	4 14-30-74	LONG 114.5
HY	4392	86	2, 26	2-172	15, 42	LONG 209.2
HZ	4393	87	2, 26	2-172	15, 42	LONG 348
OVSec	4225	88	2, 32	2, 112	4 38, 62	
DZ	4229	89	2, 32	2, 112		
CL Oph *	4257	91	2, 32	2, 124	4 38 62	LONG 181.7
EQ	4319	93	2, 75	2-160	4 38	LONG 320
FO	4341	94	2, 36	2-160	4, 46	LONG 211.7
FX	4351	95	2, 26	2-148	4, 44-70	LONG 195.7

212

Name	HV	Var	M.F	Early plate	
IR Oph	4344	96	2,26	2-148	
BU	4367	97	2,75	2-148 4.62 15.24	LONG 234 ^d
HS	4385	98	2,76	2-172	
HT	4386	99	2,76	2-172 15.24	LONG 290
IN	4398	106	2,28	3-120 13.182	LONG 280.3
IR	4404	101	2,26	3-120 15.42	LONG 201.4
FW	4349	103	2,50		
DO Sec	4218	104	2,38	19,40 ^{stale}	CLUST:
CS Oph	4266	106	2,42	19,6 ^{stale}	LONG 222
DI Sec	4213	107	2,55	19,52 ^{stale}	LONG 198
EU Oph	4323	108	2,58		
GH "	4359	109	2,64		
DF Sec	4210	82a	2,16	2,124	
FH "	4313	112	2,8	2,136 4.12	
IG Oph	4403	113	2,58		
FM Sec	4328	114	2,10	2,148 4.62 4.12,28	LONG 267.7
DD Oph*	4276	118	2,18	2,124	
BL Oph	4358	120	2,20	2,136 4.14,30 74	LONG 227.
DT Oph*	4298	123	2,34	3-208 4.38	LONG 193.5
BO Oph	4361	124	2,30	2-172	LONG 450 ±
BZ	4248	127	2,40	19,52 ^{stale}	LONG 174
EM Sec	4239	128	2,55	19,40 ^{stale} 19,40 ^{stale}	LONG 171
KP Oph	4421	129	2,70		
DX Sec	4227	130	see	No 174	
DS Oph	4295	134	2,60		
16W	4270	135			
II Oph	4394	136	2,58		
EO Sec	4251	137	2,10		
ET Sec	4280	138	2,10		
DD Sec	4208	139	2,6		

upside

MF

213

Name	H.V.	Var No				
DK Sec	4214	140	2, 6	2-160 ⁴⁻⁶²	4, 12, 28	LONG 115.3 ^d
CU	4202	142	2, 73			
FS Oph	4345	144	2, 24	2-148 ⁴⁻⁶²	4, 14, 30	
CH	4254	145	2, 36	3-184		
DL Sec	4215	148	2, 38	19, 40 ^{State}		LONG 157
EM Oph	4315	149	2, 46	19, 52 ^{State}		CLUST 0.69317
IO Oph	4399	150	2, 58			
EG Sec	4210	151	2, 6	2, 136	4, 12, 28	
EP Oph	4318	153	2, 46			
CX Oph	4271	155	2, 62			
ER Sec	4274	157	2, 14			
EZ "	4297	158	2, 8	2, 136 ⁽¹³⁶⁾	4, 12, 28	LONG 220.6
EN	4234	159	2, 20	2, 112 ⁽¹³⁶⁾	4, 38	LONG 217.2 ^d
BW Oph*	4244	160	2, 20	2, 124	4, 38	LONG 306.5
DE " *	4277	161	2, 18	2, 124		CLUST 0.37573
DM *	4286	162	2, 20	2, 124	4, 38, 32 ^{13, 192}	LONG 217
IS Oph	4405	163	2, 26	2-172	15, 42	LONG 191.8
KM "	4418	164	2, 69	13, 192 ^{15, 24}	15, 42	LONG 216.
HR	4384	167	2, 28	2-172	15, 42	LONG 214.8
DS Sec	4222	168	2, 34	2-160		
EH Oph*	4310	169	2, 34	2-160	4, 38, 32	LONG 243.8
gk "	4357	170	2, 36	2-166	4, 46	LONG 184.6
gV	4368	171	2, 40			
EF	4308	172	2, 44	19, 40 ^{State}		LONG 346
ER	4320	173	2, 46	19, 22 ^{State}		LONG 211
DX Sec	4227	174	2, 55	19, 52 ^{State}		LONG 190
BR Oph	4232	175	2, 60			
W 62		176				
CS Sec	4200	177	2, 73			
EW Sec	4291	178	2, 10			

214

Name	H V	Var No	Pos	MF		
DV Seo	4224	179	2, 6	2, 160	4, 12, 28	
DY Oph	4304	181	2, 56	19, 52	stahn	LONG 206 ^d
FV	4348	183	2, 64			
HM	4379	184	2, 28	15, 24	2-172	LONG 435:
DW	4363	186	2, 44	19, 6	stahn	LONG 322
EL Seo	4235	188	2, 38	19, 40	stahn	LONG 181
CZ Oph	4273	189	2, 56	19, 52	stahn	LONG 161
HL Oph	4378	191	2, 46			
EF Seo	4231	193	2, 20	2, 112		CLUST 0.6056
EG "	4233	195	2, 22	2, 112	4, 38	LONG 227.5
CN Oph	4261	196	2, 24	2, 112		CLUST 0.70208
DH *	4281	197	2, 32	2-148		
EL	4314	198	2, 24	2, 124	4, 38	LONG 237.3
FIH	4336	199	2, 36	2-160		
GG	4354	200	2, 24	2-148		
GG	4363	202	2, 24	2-148	4, 14, 30	LONG 92.6
BR	4365	203	2, 22	2-148	4, 14, 30	LONG 127.3 change
BY	4371	204	2, 30	2-172		
HM	4382	205	2, 26	15, 24	2-172	LONG 159
CV	4269	207	2, 42	3-184	4, 46	LONG 163.3
DI	4283	208	2, 38	3-196		CLUST 0.56445
	4377	209	2, 40			
76W		212				
KO Oph	4420	213	2, 70			
FF	4332	215	2, 62			
BT	4366	216	2, 62			
EV Seo	4292	217	2, 10			
FV	4416	218	2, 12	13, 168		ECLIP 11.2682
DY Oph	4305	220	2, 24	2, 124		
CY *	4242	221	2, 32	2-148		

	Name	H.V.	Var No	Pos	MF	
	IM	Oph 4397	222	2,28	15.24	CLUST 0.412531
	IV	4408	223	2,28	15.24 15.42	LONG 273.2
	DL	4285	224	2,34	2-148	
	8W		225	2,44	3-184 4,46	
	CI	Oph 4255	226	2,42	19,6 ^{stat}	ECLIP 3.48992
	DB	4279	227	2,44	19,52 ^{stat}	
	IT	4411	228	2,48		
	DG	Sec 4211	229	2,38	19,40 ^{stat} 15.24	CLUST 0.70127
6	HO	Oph 4381	230a	2,28	2-172	SEMI REG.
	IL	4376	230	2,30	15.24 15.42	SEMI REG.
8	BY	Oph 4370	234	2,40		
	BT	4240	235	2,40	19,22 ^{stat}	CLUST 0.62954
	EJ	4311	236	2,44	19,52 ^{stat}	IRREG
	FR	4350	237	2,46		
	FG	Sec 4389	240	2,12	13,168	SS Cyg
	CY	Sec 4206	241	2,5		
change	CV	4203	244	2,6		
	CW	4204	245	2-17	2,124	
	EE	Sec 4230	248	2,20	2,112	
	KD	Oph 4422	250	2,69	13,192	IRREG
445	EE	4307	253	2,56	19,22 ^{stat}	
	FV	4347	254	2,64		
	GI	4356	255	2,64		
	DR	Sec 4221	256	2,5		
	FI	4324	257	2,8	2,136 4,12,28,74	LONG 200.3
	FP	Oph 4342	259	2,36	2-160 4,46	LONG 251
	BS	4258	261	2,60		
2	DG	Sec 4220	262	2,76	2,124	CLUST 0.4146
	BX	Oph 4245	263	2,18	2,124 4,38	LONG 108.3
	DQ	4293	264	2,18	3-208 4,38	

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Name	HV	Var No	Pos	MF		
ES Oph	4321	265	2, 18	2-136	4, 30, 14	LONG 284.8 ^d
DP Sco	4219	268	2, 30	3-208		
CP Oph*	4264	269	2, 32	2-148		
FS Oph	4338	271	2, 46			
FM "	4338	272	2, 62			
MW Oph	4369	273	2, 62			
EN Sco	4243	274	2, 6	2, 136		
KN Oph	4419	276	2, 69	13, 192		CLUST EDGE
EK	4312	277	2, 44	19, 52 ^{stat}		ECLIP:
KN HN	4380	279	2, 62			
DM Sco	4216	281	2, 38	2, 160		
FL Sco	4326	283	2, 10	2-148		
DN Sco	4226	286	2, 18			
FW	4417	285	2, 12	13, 168 13, 192	15, 54	LONG 339.3
IW Oph	4407	289	2, 26	3-120	15, 42	LONG 323.6
IT Oph	4406	290	2, 30	15, 24		CLUST:
KR	4423	291	2, 70	13, 192		IRREG
FX	4410	293	2, 36	19, 22 ^{stat}		
EV	4325	294	2, 50			
CX Sco	4205	295	2, 5			
Ey	4296	296	2, 8	2, 136	4, 13, 28	LONG 235 ^d
FP	4376	297	2, 14	13, 168		CLUST EDGE
FS	4401	298	2, 14	13, 168	15, 54	LONG 262.5
EL	4237	300	2, 20	2, 112		
Ey Oph	4331	301	2, 22	2-136		
PS	4246	302	2, 34	2, 160		
CA	4256	303	2, 42	3-184		
KL Oph	4414	304	2, 30			
BS	4364	305	2, 58			

Name	HU	Var No.	Pos	MF		
CT						
CT Sco	4201	306	2,74			
DH Sco	4212	308	2,80	2,112		
DN Sco	4217	309	2,80	2,112		
ZZ Oph	4373	310	2,82	2-148		LONG 157.5 ^d
HU	4387	311	2,84	13,192 2-172 15.24	4,46	SEMI REG 76.43
HW	4390	312	2,82	2-172 15.24	15,42	LONG 128.2
HX	4391	313	2,82	2-172	15,42	LONG 237.7
HI	4375	314	2,82	2-172		
IZ	4412	316	2,82	19,22 ^{stat}		LONG 268
HV	4388	317	2,82			
GM	4359	318	2,68			
HX Sco	4539	319	2,97			
GV "	4485	320	3,150	2-184		
OT OPH	4562	322	3,152	2-196		CLUST 0.44573
PY "	4581	323	3,166	2-208		
QZ "	4599	324	3,156			
NV "	4550	325	3,166	2-196	4,38,32	LONG 344
V339 "	4665	328	3,154	3-196		
KX "	4495	331	2,90	19,6 ^{stat}		3,120,138
PT "	4577	332	2,86	2-196		
QW "	4595	333	2,88			
HH						
GY Sco	4484	335	2,94	3-72	4,12,28	LONG 137.1
GY						
HH "	4488	336	2,94	3-72		CLUST 0.5681
HN "	4498	337	2,94	3-72	4,12,28	LONG 205.5
IZ "	4606	338	2,97	3-72		
IU "	4585	339	2,97	13,192 3-96	4,28,14	LONG 68.9
GT "	4484	340	3,150	2-184		CLUST 0.5093
GX "	4486	341	3,150	3-184		
MZ OPH	4535	343	3,164	3-108		
GR Sco	4482	344	3,150	2-184		CLUST ^d 0.6196

Name	HV	* Var No	Pos			
KZ OPH	4499	345	3, 150	2-184		
LM "	4501*	346	3, 152	2-164	4, 14 30	LONG 289 ^d
NQ "	4543	347	3, 152	2-196		
NW "	4553	348	3, 152	2-196		CLUST 0.4634
NY "	4554	349	3, 152	2-196		
OX "	4569	350	3, 152	2-208		CLUST 0.57106
QQ "	4587	351	3, 164	3-60		CLUST 0.6092
V541 "	4609	352	3, 158			
V350 "	4621	353	3, 156			
V557 "	4628	354	3, 156	3-120	15, 42	LONG 277.7
V362 "	4633	355	3, 156	3-120	15, 54	LONG 248
V358 "	4629	356	3, 156	15. 24		LONG 107:
V361 "	4632	357	3, 156			
V363 "	4634	358	3, 156	15. 24	15, 42	LONG 270:
V364 "	4635	359	3, 156	13, 192		LONG 120
V365 "	4636	360	3, 166	13, 192		CLUST 0.601685
KV OPH	4489	362	3, 152	2-196		
LL "	4500	363	3, 152	2-196	4, 46	ECLIP 9.38 ^d
MM "	4519	365	3, 154	3-196		
NX "	4552	366	3, 166	2-196	4, 74, 30	
LY "	4517	367	3, 154	3-196		
MU "	4530	368	3, 154	3-196	4, 46	LONG 297 ^d
MW "	4532	369	3, 154	3-196		CLUST 0.66693
OQ "	4558	370	3, 154	3-196		
QS "	4590	371	3, 154	3-196		CLUST 0.47897
V345 "	4615	372	3, 156	3-196		
V353 "	4625	374	3, 154	3-196		
PW "	4580	377	2, 86			
V342 "	4611	379	2, 88			

Name	W V	Var No	Pos	
HY Sco	4540	380	2, 96	3-72
IW "	4591	381	2, 97	3-72
HM "	4497	382	2, 95	3-72
OW OPH	4568	385	3, 164	3-108
4 IR Sco	4574	386	3, 164	3-96
PQ OPH	4575	387	3, 164	3-108
06 HZ Sco	4541	388	2, 95	3-96
72 K6 "	4610	390	3, 162	3-96 12-192
KO "	4623	391	3, 162	3-60
LX OPH*	4516	392	3, 162	2-208
OZ "	4571	394	3, 166	3-60
PP "	4573	395	3, 164	3-95
LP *	4507	396	3, 158	2-184
LZ *	4518	397	3, 166	2-184
V335 "	4600	398	3, 160	3-60
QV "	4594	399	3, 158	3-60 4, 46
1685 HI Sco	4492	400	2, 94	3-72
GZ "	4488	401	2, 94	3-72
IQ "	4572	402	2, 96	3-96
IX "	4598	404	2, 97	3-96 4, 14, 30
HL "	4494	405	3, 150	3-84 4, 46
HQ "	4505	406	2, 95	3-84
HL "	4524	407	3, 162	3-84
693 NU OPH	4549	408	3, 162	3-108
IV Sco	4589	409	3, 164	3-96
897 KW OPH	4491*	410	3, 150	2-184
MO "	4528*	411	3, 162	2-208
MY "	4534	412	3, 160	2-196
NN "	4536	413	3, 160	2-196
OP "	4557	414	3, 160	2-208
V340 "	4607	415	3, 160	3-60

I R A E G R E P I S T

L O N O — 380

L O N O 231.6

c l u s t 0.4104

c l u s t 0.4916

c l u s t 0.49726

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Name	Name	HV	VarNo	Pos	VarNo	Pos	
KZ OPH	V343	OPH 4613	416	3,160	3-132		
LM "	LO	" *4502	419	3,152	2-184		
NQ "	MP	" *4522	420	3,152	2-184		
NW "	OS	" 4560	421	3,158	2-196		
NY "	PS	" 4576	422	3,166	2-208		clust 0.49967
OX "	QT	" 4592	423	3,158	3-60		LONG 341 ±
QQ "	V338	" 4604	424	3,158	3-60		
V541 "	IL	Sco 4551	425	2,96	3-72		
V350 "	HV	" 4528	426	2,95			
V357 "	HP	" 4504	426	2,94			
V362 "	II	" 4547	429	2,96	2-96		
V358 "	IO	" 4564	430	2,96	2-96		
V361 "	IT	" 4584	431	2,97	3-96		
V363 "	OR	OPH 4559	432	3,164	3-108		
V364 "	OU	" 4565	433	3,164	3-108		
V365 "	LW	" *4515	434	3,154	2-184		clust 0.54690
KV OPH	MS	" *4527	435	3,162	2-208		
LL "	NO	" 4537	436	3,162	2-208		
MM "	OY	" 4570	437	3,152	2-208		clust 0.6857
NX "	V337	" 4603	438	3,160	3-60		
LY "	IY	Sco 4602	440	2,96	3-72		
MU "	LV	OPH 4514	441	3,160	2-208		clust 0.7313
MW "	MX	" 4533	442	3,164	2-184		
OQ "	OV	" 4566	443	3,164	3-108		
QS "	V349	" 4620	445	3,162	3-60		
V345 "	KN	Sco 4618	446	3,162	3-60		
V353 "	HT	Sco 4523	447	2,96	3-72		clust 0.6187
PW	NR	OPH 4544	449	3,152	2-196		
V342	PZ	" 4586	450	3,158	3-60		clust 0.4212
	QY	" 4597	451	3,158			
		(97 45)					

Name	HV	Var No	Poo		
LQOPH [*] 4508	452	3,158	2-208		
MTOPH 4529	453	3,160	2-196		LONG 306 ^d
NP " 4 ⁵ 42	454	3,160	2-208		
PX " 4582	455	3,164	3-108		CLUST 0.56586
IM Sco 4561	456	2,96	3-72	4,46	ECLIP 0.782524
KYOPH [*] 4486	457	3,150	2-184		CLUST 0.528077
LU " 4513	458	3,150	2-194		CLUST 0.59943
MR " 4526	459	3,152	2-196		CLUST 0.4504
V354 " 4626	464	3,156			
V359 " 4630	465	3,156	19,22 Stale		
GP Sco 4481	466	2,90	19,52 Stale		CLUST:
GS Sco 4483	467	2,90	19,40 Stale		CLUST 0.628306
LTOPH 4511	468	2,86	19,6 Stale		
MN " 4520	469	2,86	19,6 Stale		
MV " 4531	471	2,86	19,6 Stale		CLUST 0.43474
V352 " 4624	472	2,88			
V355 " 4627	473	2,88			
NT " 4546	476	3,170			
V360 " 4631	479	3,172			
QR " 4588	480	3,172	3-120		
HOSCO 4503	481	3,166	3-84		CLUST 0.61098
HS " 4512	482	3,166	3-84		
IS " 4583	483	3,176	3-96		CLUST 0.2825?
IN " 4563	484	3,166	3-96		
LR OPH [*] 4509	485	3,168	3-120		
MQ [*] 4525	486	3,168	3-120		
QX " 4596	487	3,172	3-120		
V336 " 4601	488	3,170	3-108		
V346 " 4616	489	3,172	3-132		
V351 " 4622	490	3,174	3-108	15,64	LONG 110±
			13-192		

Name	H.V.	Var No	Pos	M.P		
HW Sco	4538	491	3,168	3-84		
IP Sco	4567	492	3,166	"		
KM "	4612	493	3,170	"		
HR "	4506	495	3,166	3-84		
IK "	4548	496	3,168	3-84		
NW OPH	4553	499	3,172	3-120		
PV "	4579	500	3,175	3-120		
V344 "	4614	501	3,172	3-120		CLUST ^d 0.51606
HK Sco	4493	503	3,168	19.66 3-84		
PU OPH	4578	504	3,170	3-108		
QU "	4593	505	3,172	3-120		
V847 "	4617	506	3,170	3-108		
V348 "	4619	507	3,172	3-108	4, 74, 30	
LS "	4510	508	3,168	3-84		
NS "	4545	509	3,172	3-108		
OO "	4556	510	3,172	3-120		
KK Sco	4608	512	3,170	3-96		
CQ OPH	4265*	6w	2,78	3,208	<u>4</u> 38	LONG 257.8
FK Sco	4327	11w	2,14			
CC OPH	4247	15w	2,66			
CW "	4270	16w	2,66			
ES Sco	4275	17w	2,8	3-132 3-72		
FK OPH	4337	20w	2,78			
EX "	4330	23w	2,78			
EN "	4316	24w	2,66	19.52 ^{stat}		LONG 218
DT Sco	4223	26w	2,78	19.52 ^{stat}		LONG 232
BU OPH	4242	27w	2,78	3-164	4, 46	LONG ^d 181.1
IW "	4409	33w	2,78			
GP "	4362	34w	2,80	19.22 ^{stat} 3-196		LONG 219
FL OPH	4339	36w	2,80			
CR "	4263*	36w	3,170	3-132		LONG 245.7

		HSC var. prob. H.C. 90 HSL No 148 marked in B 28159 L B 32063 photog. photog. chart	
SUSCO		HSL No 71 B 28159	MF 10570
AX Sec	19,40 ^{Stahn}		IRREG
TV Oph		HSL No 71 B 28159	
AY Sec	3, 184	" No 76 "	
AA "	19,40 ^{Stahn}		MF 10515 ^{or} 10488 ^{or} FA.
AZ "	19,40 ^{Stahn} + HSL No 64	B 28159	CLUST ^d 0.732972
AB "	3, 184	" No 63 "	IRREG
BB "	3, 132		MF 10269 ^{or} 10671 ^{or} FA
AC	3, 184	HSL No 73 B 28159	LONG 182.5
BC	3, 132		MF 10472 ^{or} 10214 ^{or} FA
BD	3, 112		LONG 146.3
BE	3, 132		HH 8 307
AL			
BF	3, 132		off HH 8 275
AD	3, 184	HSL No 66 B 28159	CLUST 0.4244
BG	3, 184		LONG 227.4
AE	3, 184		MF 10345 ^{or} 10488 ^{or} FA
BH	3, 184		M 10671 ^{or} 10269 ^{or} FA
IF	19,40 ^{Stahn}		MF 9648
BI	3, 184		250
AG	3, 132		MF 10472 ^{or} FA
			MF 10269 ^{or} 10671 ^{or} FA
			5
Nor 50 ph		B 50523	7" Norm
XZ Oph *	3, 196, 478	B 19684	
SS Sec			CLUST 0.550184
AA "			IRREG
UU Oph		B 26009	LONG 277.3
BF OPH			LONG ^d 4.4
TH Sec			ECLIP 4.06790
			LONG 377.5
AH "	13, 213, 220, 168 15, 10, 70	B 26009	LONG: 230 ±
ZZ "	19, 40 ^{Stahn}		LONG ^d 210
GQ ^{Sec} 16 41 28	3, 184	HSL No 65 B 28159	CLUST ^d 0.49724
CRS ^{Sec} 16 38 28	3, 132	No 62 "	LONG 223 ±
16 43 29	3, 132	A 5708	
16 44 29	3, 132		
16 49 30	3, 132		
GW Sec	4, 78		

Name	WJL		MF		
1633 29				HNS 286	
CH Sco				MF 10345 BH 10230 FH	
CJ Sco					
CL Sco	"A"	3, 72, 84	1966	A 3829 BH Δ 12506 FH	
BL Oph	B			MF 10269, BH 10671 FH	LONO 278 ^d
CM Sco	C				LONO 292
CN "	D			MF 10472 BH 10214 FH	LONO 210
BM Oph	E			MF 12506 BH 3825 FH	Clust 0.554
BO oph	F ₂			A 3825 BH 3829 FH	
BN "	F ₃			MF 10472 BH 10214 FH	
CO Sco	G			MF 10269 BH 10621 FH	LONO 176
CP "	H			A 12506 BH 3829 FH	
BP Oph	I			MF 10570 BH 10214 FH	LONO 132
BQ "	K			MF 10671 BH 10269 FH	LONO 385
LV Oph		NV	IEW		
		3910, 8w		HHS 225	LONO 279.5
		3911 51w			
		3912 49w			
		3916 23w			
		3919 56w		HHS 22	
		3920 55w			
		3921 85w		A 590 B	
		3923 22w			
		3925 71w	2, 196		
		3926 16w		HHS 135 HNS 176	
		3927 62w			
		3931 42w			
		3932 43w			
		3933 76w		HNS 212	
V 356 Oph		3935 42w	3, 120, 15 24, 15 42	MF A 3828 BH 2829 FH	Clust 0.445355
		3936 65w	19, 22 Stars	MF 10269 BH 10671 FH	LONO 359.
		3937 2w		HHS 187	
		3939 66w		MF 10269 BH 10671 FH	
		3941 63w	19, 22 Stars	MF 10269 BH 10671 FH	LONO 236
		3943 77w		HNS 68C	
		3944 24w		HNS 38	
		3946 70w		MF 10345 BH 10458 BH	
		3948 73w		HNS 9:	

BAN

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