THE JOHNS HOPKINS UNIVERSITY

DEPARTMENT OF PHYSICS

SPECIAL REPORT

NASA/MSC Contract NAS-9-11528

Task I. Principal Investigator Services

Submitted by

Wm. G. Fastie
Principal Investigator

December 1972

Baltimore, Maryland 21218

THE JOHNS HOPKINS UNIVERSITY

DEPARTMENT OF PHYSICS

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From: Wm. G. Fastie, Principal Investigator

Subject: Special Report on the Ultraviolet Brightness of Celestial Targets for Apollo 17. NASA/MSC Contract NAS 9-11528, Task I - Principal Investigators Services.

We submit herewith a special Principal Investigator's report, prepared by Richard C. Henry (co-investigator), giving an evaluation of the ultraviolet flux from the stars that we expect to measure in the various inertial hold positions and PTC scans in lunar orbit and on trans-earth coast during the Apollo 17 mission.

Wm. G. Fastie

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ULTRAVIOLET BRIGHTNESS OF CELESTIAL TARGETS FOR APOLLO 17

Submitted by

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NASA/MSC Contract NAS 9-11528
Task I. Principal Investigator Services

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I. INTRODUCTION

The technical Supporting Studies Plan DRD No. MA-091T under NASA/MSC Contract NAS 9-11528, "Task I. Principal Investigator Services", calls for studies to give maximum scientific support to the flight of Apollo 17 and to the analysis of the data received. In pursuit of this goal, we have made an evaluation of the ultraviolet flux from the stars expected in the various inertial-hold pointing directions and PTC scans during the Apollo 17 mission. These directions and PTC scan poles for the nominal mission are listed in Table I. In subsequent sections we discuss the methodology used in evaluating the flux, and the individual targets themselves. An overview of the targets and scans may be obtained by referring to Figure 1. In that figure, the sky is represented in celestial coordinates (Right Ascension and Declination), with North (the North Celestial Pole) at the top. The left and right edges of the map are at 18^h of Right Ascension, which is near the sun (circle at lower left). The position of the Earth in the sky (viewed from the moon) for December 12 through 18, is indicated, and also the position of the Moon (as viewed from the Earth) for December 17, 18, and 19. The field-of-view of the Apollo UVS is indicated for each of the inertial hold targets. A thirty-degree avoidance circle has been drawn around the sun.

TABLE I

INERTIAL HOLD AND PTC TARGETS

Target	UVS Line of Sight						+X axis direction					
Lyman Alpha Minimum	04^h	35^m	00^s	$+30^o$	00'	00"	09^h	48^m	20^s	$+28^o$	51'	51"
Earth	14	10	33	-18	15	39	09	31	00	-14	00	00
Moon	06	58	00	+22	00	00	11	20	00	+04	00	00
First Sleep PTC			———				10	00	00	+07	00	00
Coma Cluster	12	58	00	+26	00	00	16	36	51	-12	25	21
Mode III 60 x 14	06	27	35	-73	36	31	15	21	52	-35	14	34
Mode III 60 x 60	04	31	58	-71	51	27	15	26	30	-40	47	53
α Eri	01	38	33	-58	10	28	19	00	00	-33	01	59
α Eri, α Gru PTC			———				00	55	00	+08	00	00
Second Sleep PTC			———				20	20	00	+88	00	00
Dark North	14	00	00	+22	00	00	17	40	00	-17	31	14
North Ecliptic Pole	19	00	00	+78	00	00	17	55	01	+11	01	56
Mode IV			———				21	12	14	+60	32	23
Virgo Cluster	12	30	00	+12	00	00	07	51	08	+39	05	31
Dark South	01	05	00	-10	00	00	20	30	00	-25	00	00
NEP, γPeg PTC			———				04	55	00	+46	00	00
Spica	13	24	00	-11	00	00	18	02	00	-30	00	00
Spica, ηU Ma			———				17	40	00	+05	00	00
Third Sleep			———				05	45	00	-47	00	00

The solid lines in the figure represent the various PTC scans. The background shading represents the accumulated expected ultraviolet flux over five-by-five degree blocks. Data are taken from the Smithsonian Astrophysical Observatory Catalog, with no allowance for interstellar reddening. This may be compared with Figure 2, which shows the same data taken from the Bright Star Catalog, with allowance for interstellar reddening (except for a small portion of the stars). In Figure 2, the Right Ascension of the edge of the plot is zero hours. A grid of galactic coordinates has been imposed on the figure. The absolute intensity scale is not the same as in Figure 1.

II. METHODOLOGY

The far ultraviolet spectrometer (UVS) has a field-of-view about 12° by 18°. When it is pointed, for example, above the horizon of the moon it receives radiation from the lunar atmosphere and also from the distant sky. The ultraviolet flux from the sky we assume to be entirely due to direct radiation from stars in the field of view. For targets containing large numbers of stars, such as Lyman Alpha Minimum, this is a fair assumption. For targets in dark regions of the sky, however, additional sources of radiation, such as starlight scattered from interstellar dust, might be important, so the flux values we report here must be regarded as lower limits. The flux was determined in two ways, and is listed in Table II. In the first column of Table II is the flux obtained by adding up the expected flux from stars listed in the "SAO" Star Catalog, with no allowance for interstellar absorption. (The stars involved are illustrated in the figures for the various targets, where the number plotted is the visual magnitude of the star. The size of the plotted number depends, rather weakly, on the ultraviolet flux from the star.) In the second column is the flux obtained by adding the expected flux from stars in the Bright Star Catalog, taking account of interstellar absorption and reducing the flux

TABLE II

EXPECTED FLUX FROM INERTIAL HOLD TARGETS

Target	Flux, in Photons (cm^2 sec A)$^{-1}$	
	Bright Star Catalog	Smithsonian Star Catalog
Lyman Alpha Minimum	166	1109
Earth	30	66
Moon	234	357
Coma Cluster	19	28
Mode III 60 x 14	83	171
Mode III 60 x 60	43	103
α Eridani	2728	2272 (85*)
Dark North	8.3	20
North Ecliptic Pole	42	115
Virgo Cluster	24	44
Dark South	4.4	17
Spica	7805 ($1^m.2$ B2 star)	3631 (22*) ($0^m.96$ B1 star)

*deleting the one bright star.

of supergiants by one magnitude. The calibration in each case was kindly provided by C. F. Lillie from OAO data. The orientation of the field-of-view was chosen for most of the targets so that the instrument would be shaded from the sun during the observation.

For the PTC scans, and the Mode IV Zodiacal Light Scan, figures are provided giving the brightness expected as a function of position along the path of the PTC scan. Sections ten degrees long are taken. The width of the band is taken as 12^{o}. The celestial and galactic positions for each bin are indicated. If, in Table I, the +X axis position has a south declination, the scan is made from top to bottom in the figure. If the +X axis points north, the scan is made from bottom to top in the figure.

A list of all stars that are brighter than 50 photons $(cm^2 sec\ A)^{-1}$ is given as Appendix A.

III. THE TARGETS AND SCANS

In this section, we briefly comment on each of the targets and the various PTC scan paths. Detailed information on each target and each PTC scan is provided in the Tables and Figures.

1. Lyman Alpha Minimum. This is a region that Gary Thomas has found to emit the least Lyman Alpha radiation of any part of the sky. It is rather close to the galactic plane, and is near the bright Pleiades star cluster.

2. Earth. The earth is also observed during the first sleep PTC on TEC.

3. The Moon.

4. Coma Cluster. The position of the cluster of galaxies is indicated by the circle in the figure. We hope to set a limit on redshifted Lyman Alpha radiation from the cluster.

5. Mode III 60 x 14. This target is observed during the moments when it is just above the lunar horizon, in 60 x 14 nautical mile lunar orbit, and also, as a calibration, for a period on trans-earth coast. The mode provides a good means for observing Xenon in the lunar atmosphere.

6. Mode III 60 x 60. As in 5 above, but 60 x 60 nautical miles lunar orbit.

7. Alpha Eridani. This very bright star will be measured as a cross-calibration between Apollo 17 and other UV experiments that have flown. It totally dominates the sum of all other stars in the field of view (see Table II).

8. Dark North. As shown in Table II, this is expected to be one of the darkest regions of the sky observed. It is hoped to set limits on extragalactic radiation entering our galaxy. This target is near the North Galactic Pole.

9. North Ecliptic Pole. The UVS is pointed directly up out of the plane of the solar system. This target is primarily for the purpose of determining the Lyman Alpha intensity in this direction.

10. Virgo Cluster. This is another cluster of galaxies, several degrees in extent. The UVS is in sunlight during the measurement, for unavoidable thermal reasons.

11. Dark South. The remarks under "Dark North" apply here also, except it is the South Galactic Pole region that is observed.

12. Spica. Another very bright star, similar to α Eridani.

13. First Sleep PTC. This scan path has been chosen to pass through the earth as viewed from the spacecraft. Time variations in the UV brightness of the earth may be observed. The extremely bright constellation Orion is also scanned.

14. Second Sleep PTC. This PTC scan path passes through North Ecliptic Pole, Dark North, and Coma Cluster. It is a scan from galactic pole to galactic pole.

15. Third Sleep PTC. This scan passes through Dark South, and also through the bright stars α Grus and α Pavo.

16. α Eri, α Gru. This scan passes through the bright stars α Eridani and α Grus, and also the Orion region.

17. NEP, λ Peg. This scan passes through the north ecliptic pole, and also through the bright star γ Peg.

18. Spica, ηU Ma. This scan passes through the two bright stars Spica (α Virginis) and η Ursae Majoris. The latter star has been previously observed by JHU experimenters from an Aerobee rocket.

IV. CONCLUSION

Data have been presented bearing on the UV brightnesses to be expected during the PTC scans and while pointed at fixed targets during the Apollo 17 mission. These data will aid in real-time decision-making, and in the subsequent analysis of the data.

LIST OF FIGURES

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KEY TO THE STAR-LIST TABLES

HR	Bright Star Catalog number.
NAME	Star Name.
RA (1973) DEC	Celestial Coordinates, precessed to 1973.
B-V	The B-V color of the star.
SP	Spectral type.
LUM	Luminosity Class
DMAG	If the star is double, the difference in magnitude between the two components.
SEP	If the star is double, the separation of the two components in seconds of arc.
V	The V magnitude of the star.
UV	The 1500 A magnitude of the star (Vega is zero.)
FLUX	The 1500 A flux in photons $(cm^2 \text{ sec } A)^{-1}$. An asterisk indicates that the flux has been reduced because the star falls near the end of the target (see Figure 14).
LONG	The galactic longitude of the star.
LAT	The galactic latitude of the star.
E(B-V)	The color excess.

The final unlabelled column gives, for inertial targets, the distance in degrees for nearby stars (for the sharp edge of the field of view) and the distance from the point where the full stellar flux would be seen by the instrument, for stars on the graduated edge of the field of view. Distances are truncated.

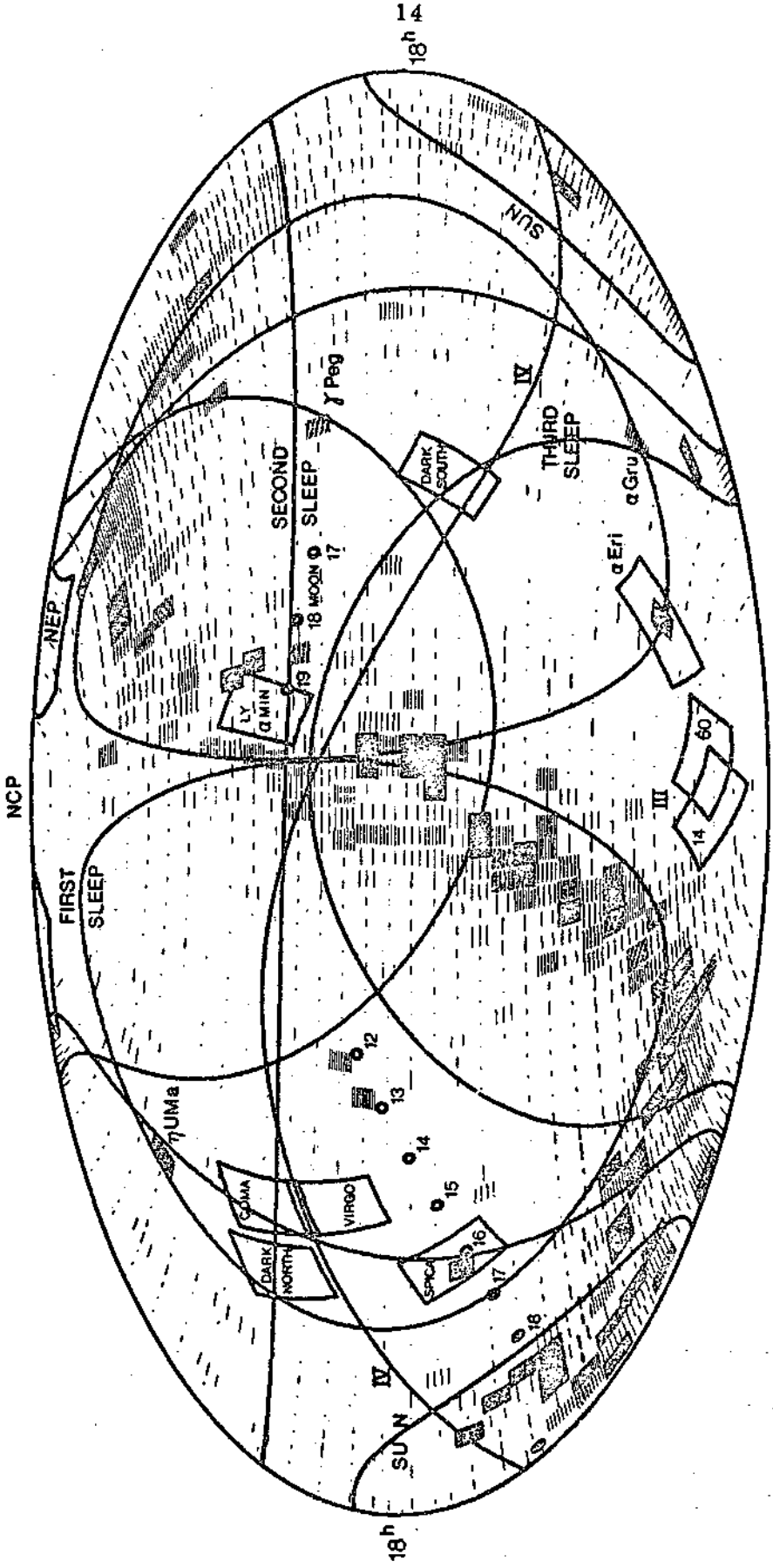
18h
SUN
NEP
γ Peg
IV
SECOND SLEEP
THIRD SLEEP
DARK SOUTH
αGru
αEri
18 MOON 17
19
LY
α MIN
NCP
SCP
FIRST SLEEP
III
60
14
12
13
ηUMa
14
15
16
17
18
COMA
VIRGO
DARK NORTH
SPICA
IV
SUN
18h

Figure 1

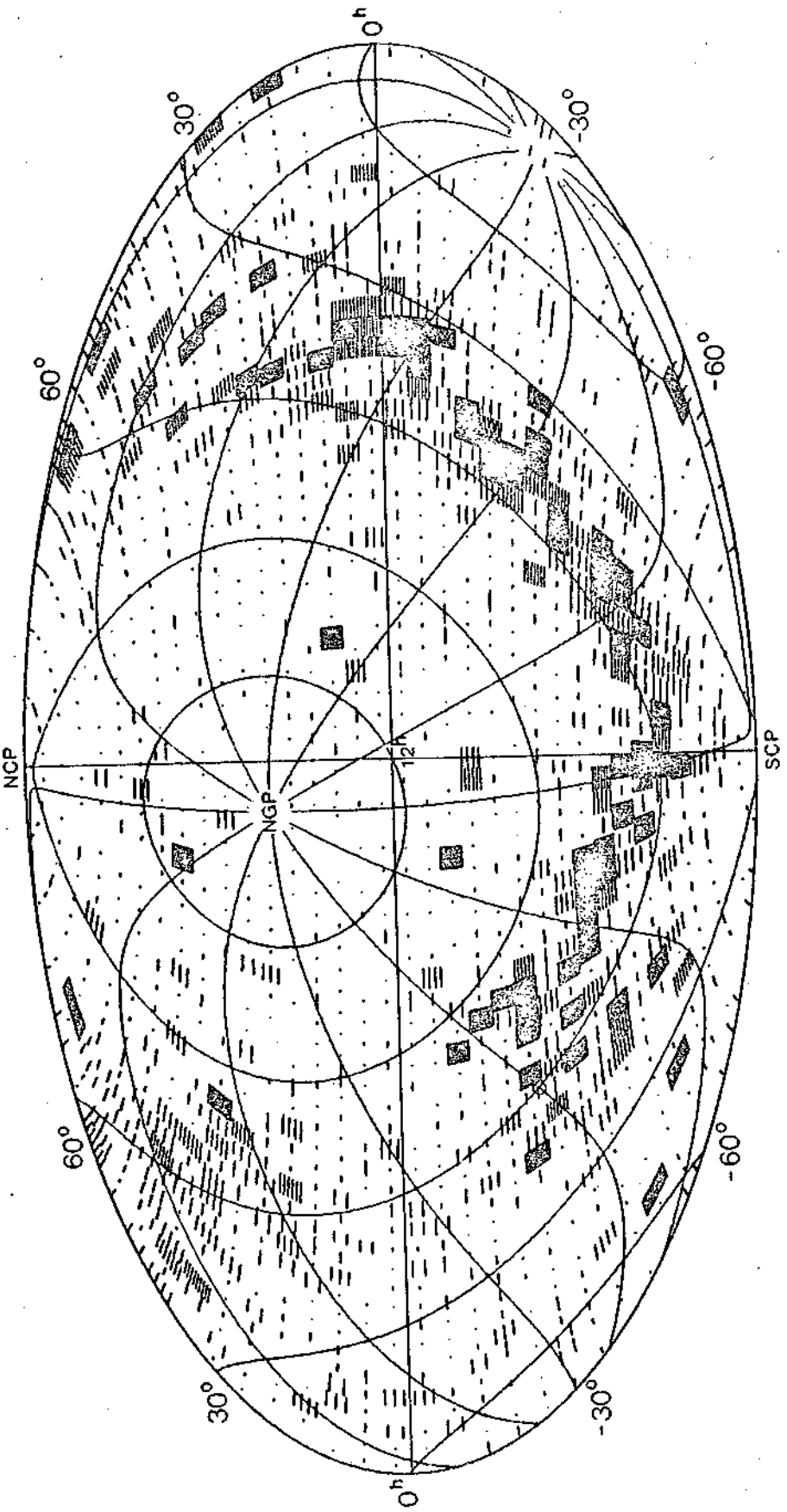

Figure 2

LYMAN ALPHA MINIMUM TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)	
1123	40	PER	3 40.7	33 52	-0.01	B0.5		V		4.5	20.2		4.90	4.65	70.2	158 55	-16 43	0.30	2*
1163			3 46.2	33 31	0.06	B2		V		2.5	3.5		6.50	6.68	6.8	160 4	-16 15	0.30	1
1177	42	PER	3 47.8	33 0	0.07	A2		V					5.00	5.40	2.9	160 42	-16 26		1
1191			3 50.2	34 16	0.00	B1		V		7.5	15.1		5.70	5.43	31.0	160 14	-15 9	0.28	0*
1197			3 50.4	31 5	0.22	A3							6.20	7.50	0.3	162 26	-17 32	0.13	2
1203	ZETA	PER	3 52.4	31 48	0.12	B1	B	I		6.6	12.9	5	2.80	3.70	152.8	162 17	-16 42	0.31	1*
1209	X	PER	3 53.7	30 58	0.31	B	PE			6.0	23.3		6.00	4.19	119.4	163 5	-17 9		1*
1215			3 54.7	35 0	-0.03	B2		V					5.40	5.13	10.5*	160 28	-13 59	0.21	1
1223			3 56.3	34 44		A5							6.30	7.44	0.1*	160 53	-13 58		1
1228	XI	PER	3 57.2	35 42	0.01	B7							4.00	4.24	26.1*	160 22	-13 7	0.41	2*
1268	41	TAU	4 4.9	27 31	-0.13	A	SI						5.10	5.75	1.5	167 25	-17 58		0
1297			4 11.2	22 19	0.19	B8		II	III				6.10	6.82	2.3	172 25	-20 34	0.25	1
1329	OMEGA	TAU	4 15.7	20 30	0.22	A	M						4.90	5.55	1.8	174 36	-21 2		1
1331	51	TAU	4 16.8	21 30	0.27	A8		V					5.60	7.61	0.1	173 59	-20 11	0.03	0
1339	53	TAU	4 17.8	21 4	-0.08	B9	P	QV					5.30	4.97	9.9	174 31	-20 17		0
1341	56	TAU	4 18.0	21 42	-0.13	A	SI						5.30	5.95	1.2	174 2	-19 50		0
1369	CHI	TAU	4 20.9	25 34	-0.04	B9.5		V		2.1	19.9		5.30	4.97	9.9	171 30	-16 45		
1375			4 22.0	20 55	0.03	B9		V					5.80	5.77	2.5*	175 19	-19 40	0.06	1
1377	55	PER	4 22.7	34 4	-0.06	B7		V					5.50	5.02	13.6	165 23	-10 40	0.03	
1378	62	TAU	4 22.4	24 14	0.18	B3		V		1.8	29.1	3	6.30	7.22	2.9	172 46	-17 24	0.39	
1387	KAPPA	TAU	4 23.8	22 14	0.14	A7		V					4.20	5.83	0.4*	174 33	-18 30		0
1388	67	TAU	4 23.8	22 8	0.21	A7		V					4.70	6.33	0.2*	174 39	-18 33		0
1399	72	TAU	4 25.7	22 56		B6		V					5.30	4.56	23.5	174 19	-17 42		
1403			4 26.4	21 33	0.27	A	M						5.70	6.35	0.5*	175 31	-18 28		1
1419			4 28.9	32 23	-0.03	B9.5		V					6.10	5.77	4.7	167 31	-10 52		
1445			4 32.9	28 54	-0.06	A	P			4.9	26.0	3	5.70	6.35	0.8	170 46	-12 32		
1471			4 36.7	20 37	-0.05	B8		V					5.70	5.22	0.1*	177 53	-17 14	0.01	2
1477			4 37.7	25 10		A3							6.20	6.85	0.5	174 24	-14 9		
1490			4 39.6	28 33	0.00	A2		V		5.3	43.5		5.70	6.06	1.6	172 1	-11 39		
1497	TAU	TAU	4 40.6	22 54	-0.12	B3		V					4.20	3.62	50.0*	176 38	-15 5	0.09	1*
1501			4 42.1	32 49		A3							6.40	7.05	0.4	169 3	- 8 30		
1512			4 44.1	23 35	0.06	B5		III					6.10	6.33	3.8*	176 36	-14 2	0.21	0
1528			4 47.6	32 33		A	M						5.80	6.45	0.8	170 1	- 7 47		
1573			4 54.5	36 8	0.41	B2	B	I					6.00	8.55	1.2	168 8	- 4 24	0.58	0
1590	98	TAU	4 56.5	25 0	0.00	B9.5		V	Q	4.3	94.6	3	5.50	5.32	6.2*	177 14	-10 56	0.03	0
1592	4	AUR	4 57.4	37 50	0.03	A0		V		3.0	6.5	3	4.90	5.05	6.1	167 9	- 2 53	0.03	1
1615			5 1.4	41 24	0.16	A3		III					6.10	7.10	0.4	164 49	- 0 5	0.07	2
1627			5 2.9	32 16		A	M						6.40	7.05	0.4	172 14	- 5 25		0
1632			5 2.9	27 38	0.24	A7		V					6.40	8.17	0.0	175 59	- 8 11	0.03	
1639			5 4.2	35 53		A3							6.30	6.95	0.5	169 31	- 3 0		2
1659	103	TAU	5 6.5	24 13	0.06	B2		V		3.0	35.4	3	5.50	5.68	6.8*	179 15	- 9 34	0.30	1
1750			5 19.3	27 55	0.04	B8		V					6.20	6.17	4.1	177 53	- 5 5	0.10	2

TARGET* 165.9

Table III

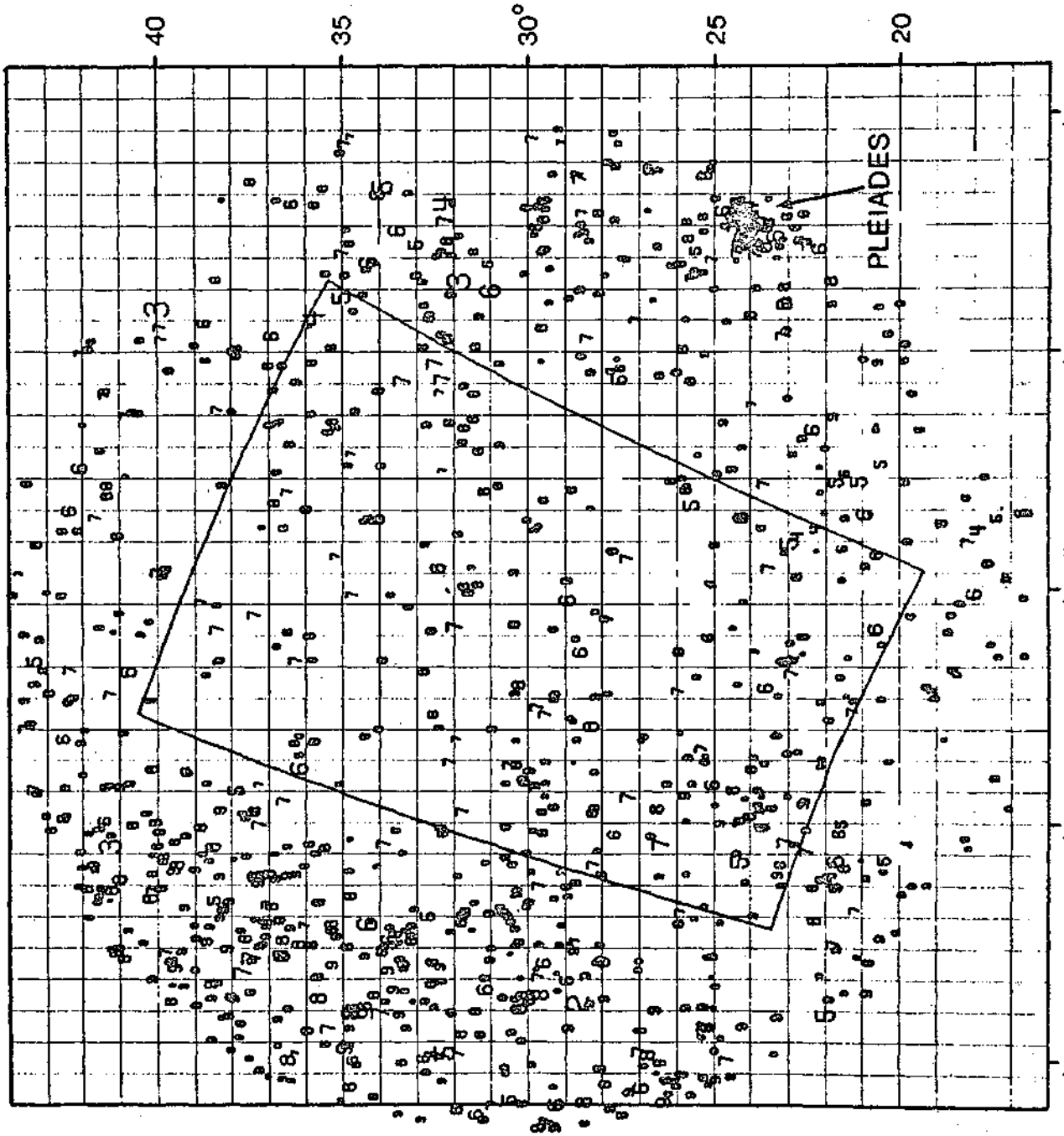

Figure 3

EARTH .TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP		V	JV	FLUX	LONG	LAT	E(B-V)	
5106			13 33.2	-13 4	0.02	A1	P		0.5	0.5	3	5.90	5.87	2.0	318 51	+48 19		1
5120			13 35.3	-26 21	0.22	A7		III	1.9	10.9		5.70	7.37	0.1	315 23	+35 17		2
5146			13 40.0	-23 18	0.07	A0			3.3	31.1	3	6.50	6.85	1.2	317 32	+38 0	0.07	1
5167			13 44.1	-25 58	0.02	A1	N	V				5.80	5.97	2.2	317 50	+35 11		0
5170	85	VIR	13 44.1	-15 37	0.05	A0	N					6.10	6.35	1.8	321 33	+45 9	0.05	
5250	47	HYA	13 57.0	-24 50	-0.10	B8						5.10	4.56	16.5*	321 39	+35 27		0*
5284			14 3.8	-16 12		A2						5.40	6.76	0.8	327 28	+43 0		
5290	95	VIR	14 5.3	-9 11	0.35	A8						5.40	7.91	0.0*	332 7	+49 15	0.11	2
5332			14 13.9	-18 4	-0.03	A0						5.20	5.20	5.3	329 26	+40 19		
5355			14 17.1	-18 35	0.01	A	P					5.80	6.45	0.8	330 3	+39 32		
5359	LAMBDA	VIR	14 17.7	-13 15	0.13	A	M					4.30	5.15	2.5	333 23	+44 15		
5397			14 24.0	-19 50	0.12	A4		V	0.0	35.7	3	5.90	7.79	0.2	331 13	+37 41		
5438			14 33.3	-20 18		A0						5.40	5.40	1.8	333 22	+36 15		
5484	4	LIB	14 41.7	-24 52	-0.01	B9						5.70	5.47	6.2	332 45	+31 20	0.02	0
5514	55	HYA	14 45.8	-25 30		A	SI					5.60	6.25	0.9	333 20	+30 20		1

TARGET= 29.680

Table IV

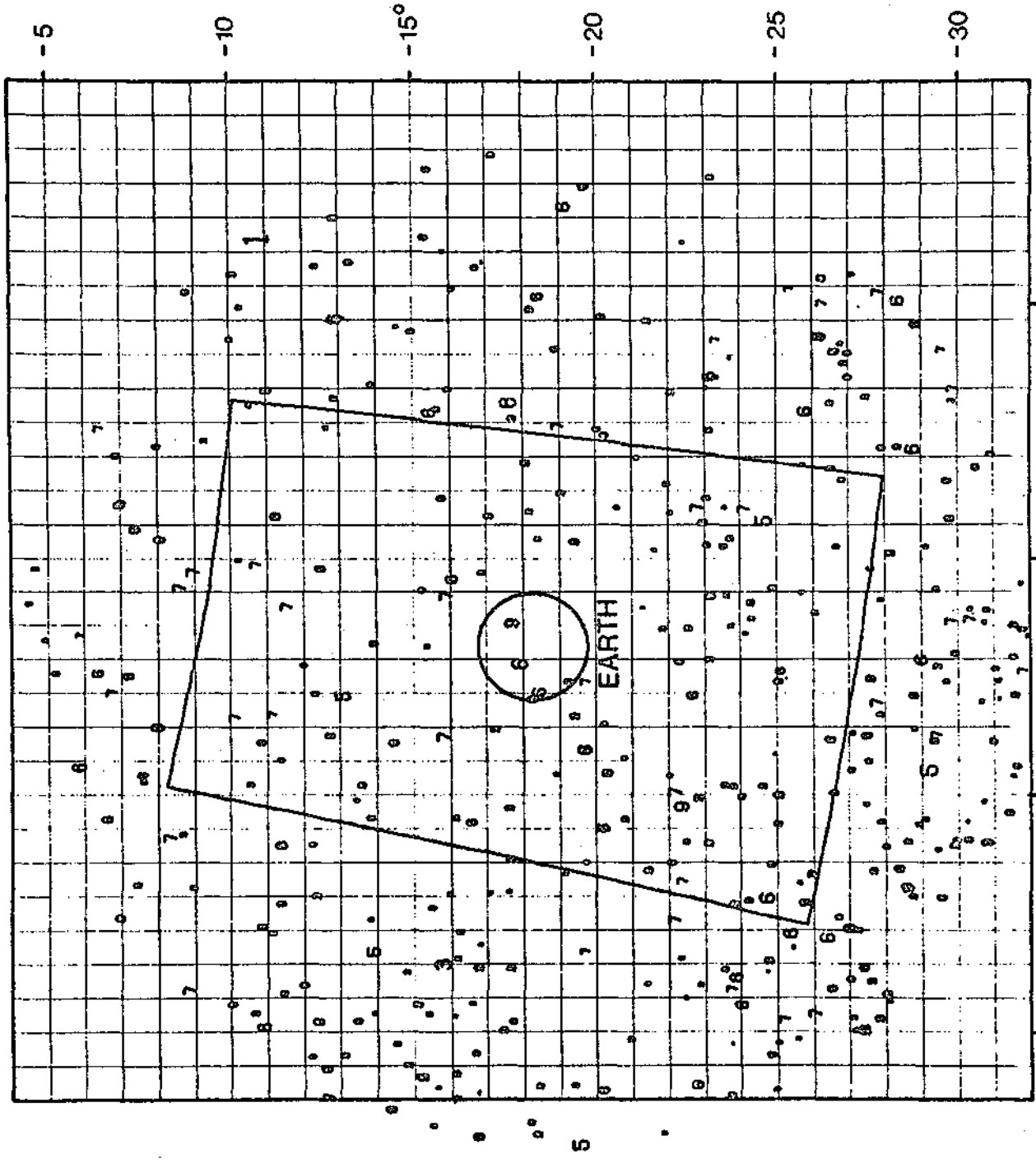

Figure 4

MOON TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
2222			6 13.6	13 51	-0.21	B1		V	6.5	21.4	5.90	4.58	67.8	196 29	- 1 34	0.07	2*
2223	72	ORI	6 13.9	16 8	-0.15	B7		V			5.30	4.66	19.0	194 31	- 0 25		2*
2240	9	GEM	6 15.3	23 44	0.44	B3	AB	I			6.20	9.08	0.5	188 0	+ 3 31	0.59	2
2250			6 16.0	14 4	-0.03	B9.5		V			6.50	6.17	3.2	196 35	- 0 57		2
2253			6 16.5	14 23	0.05	A2		V	6.4	25.3	3 6.10	6.46	1.1	196 22	- 0 41		2
2258			6 17.5	17 19	-0.08	A	P				6.10	6.75	0.6	193 53	+ 0 54		1
2272			6 19.5	29 32	0.06	A1		V			5.20	6.52	1.3	183 17	+ 7 3	0.03	1
2297			6 23.2	29 43	-0.06	B9					6.40	6.07	3.6	183 29	+ 7 51		1
2304			6 23.9	23 20	-0.03	A0		V			6.00	6.00	2.5	189 16	+ 5 4		0
2330	16	GEM	6 26.3	20 30	0.01	A2		V			6.00	6.36	1.2	192 4	+ 4 15		
2343	NU	GEM	6 27.4	20 14	-0.12	B7	E	IV	4.5	112.7	7 4.10	3.46	57.3	192 25	+ 4 20		
2371	19	GEM	6 30.1	15 55		A5					6.30	7.44	0.1*	196 33	+ 2 55		0
2395	49	AUR	6 33.5	28 2	-0.03	B9.5		V			5.10	4.77	11.8	186 2	+ 9 7		
2417			6 35.8	24 36	0.10	A3		V			6.30	7.00	0.5	189 23	+ 8 3		
2421	GAMMA	GEM	6 36.2	16 25	-0.00	A0		IV			1.90	1.90	110.9	196 46	+ 4 26		
2425	53	AUR	6 36.7	29 0	0.01	A	P				5.70	6.35	0.7*	185 28	+10 10		0
2438	54	AUR	6 37.8	28 17	-0.08	B6		III	1.8	0.9	5.80	5.27	12.2	186 14	+10 5	0.04	
2457			6 39.8	16 25	-0.01	A0		V			6.10	6.10	2.3	197 10	+ 5 14		
2466	26	GEM	6 40.8	17 40	0.06	A2		V			5.10	5.46	2.7	196 9	+ 6 1		
2499			6 45.8	18 12	0.07	A2		V	0.5	0.7	6.10	6.50	1.0	196 12	+ 7 19		
2519	33	GEM	6 48.3	16 13	-0.13	B8		III			5.70	5.16	10.5	198 15	+ 6 57		
2529	36	GEM	6 49.9	21 47	-0.02	A2		V	8.8	10.8	5.20	5.56	2.5	193 23	+ 9 45		
2605	40	GEM	6 57.8	25 57	-0.11	B8		III			6.20	5.66	6.6	190 18	+13 8		
2659	44	GEM	7 3.7	22 40	-0.03	B9.5		V			5.80	5.47	6.2	193 56	+13 0		
2669			7 5.7	28 13	-0.09	B9		V			6.20	5.87	3.8*	188 53	+15 39		0
2700	47	GEM	7 9.7	26 53	0.12	A4		V			5.50	6.39	0.6	190 31	+15 57		
2722			7 12.8	24 45	-0.03	B9					6.60	6.27	3.0	192 50	+15 45		
2763	LAMBDA	GEM	7 16.5	16 34	0.10	A3		V	7.1	10.0	3.50	4.20	6.1	200 55	+13 13		0
2780			7 18.6	15 11	-0.02	A2		V			6.40	6.76	0.8	202 25	+13 5		0
2810	58	GEM	7 21.9	22 59	-0.01	A1		V			5.90	6.07	2.0	195 23	+16 58		0
2817			7 22.9	15 34	-0.13	B3	E	III			6.30	5.67	12.3	202 31	+14 11	0.08	1
2837	61	GEM	7 25.4	20 18		A6	N				5.80	7.18	0.2	198 18	+16 39		1
2857	64	GEM	7 27.7	28 10	0.11	A6		V			5.00	6.38	0.3	190 50	+20 7		1
2858			7 27.2	15 10	-0.04	B9		V			6.10	5.77	4.7	203 21	+14 58		2

TARGET= 233.842

Table V

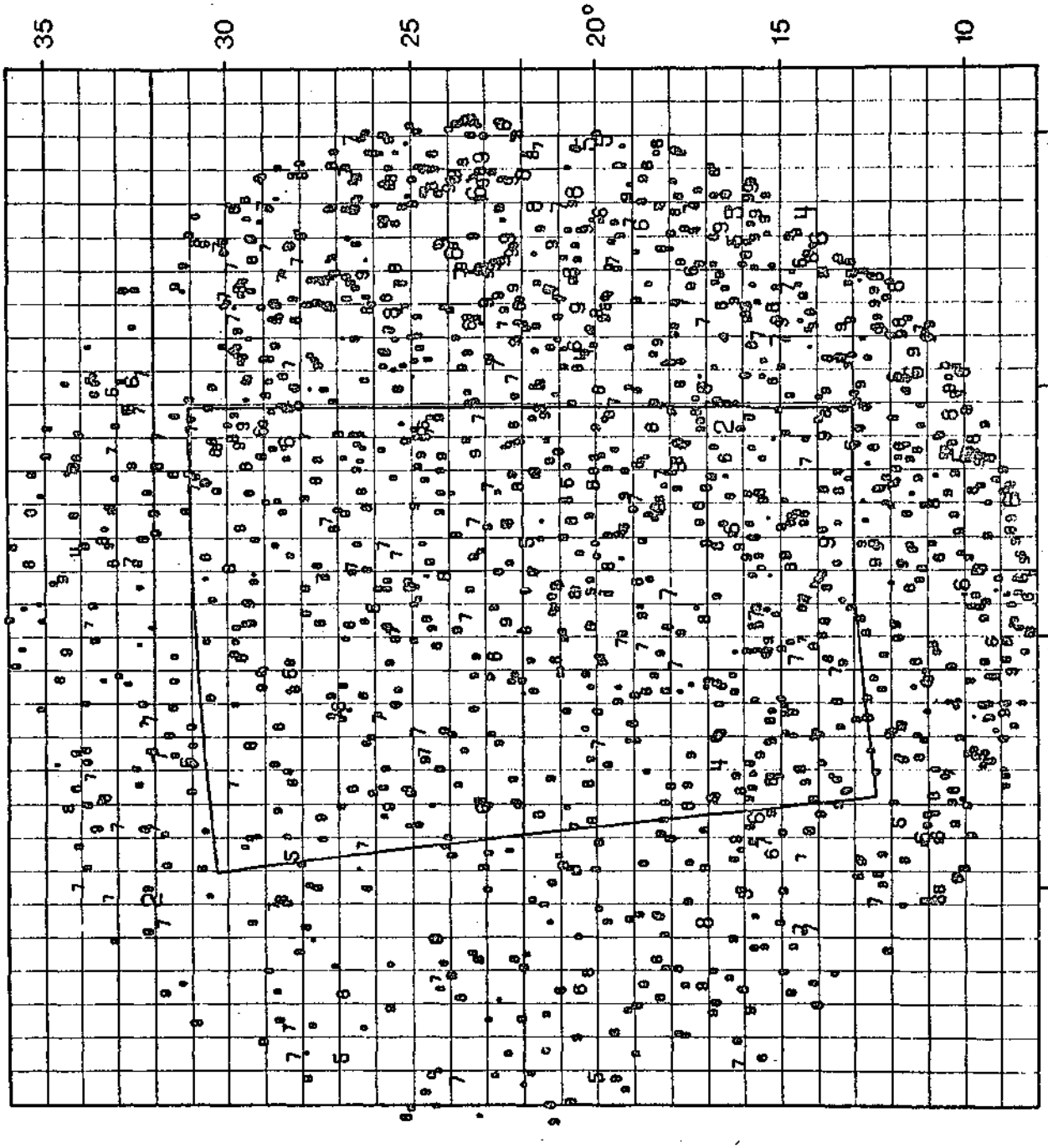

Figure 5

FIRST SLEEP PTC SCAN BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
1712	AE	AUR	5 14.5	34 17		O9.5		V		3.3	8.4		5.30	3.52	212.4	172 5	- 2 16	
1713	BETA	ORI	5 13.2	-8 13	-0.02	B8	A	I		7.0	9.9	4	0.10	0.67	656.2	209 14	-25 15	0.02
1735	TAU	ORI	5 16.3	-6 52	-0.11	B5		III		7.2	36.2	4	3.50	2.88	124.0	208 16	-23 58	0.04
1756	LAMBDA	LEP	5 18.3	-13 12	-0.28	B0.5		IV					4.20	2.60	463.7	214 50	-26 15	0.03
1763			5 20.3	8 24	-0.13	B1		V					5.70	4.78	56.4	194 37	-15 37	0.15
1765	22	ORI	5 20.4	-0 24	-0.17	B2		IV					4.70	3.73	102.7	202 38	-20 2	0.07
1770	23	ORI	5 21.4	3 31	-0.15	B1		V		2.0	32.2		4.90	3.88	129.3	199 9	-17 52	0.13
1781			5 22.3	-0 10	-0.21	B2		V					5.60	4.43	53.9	202 40	-19 30	0.03
1783	8	LEP	5 22.3	-13 56	-0.22	B2		IV					5.20	3.98	81.6	216 1	-25 40	0.02
1788	ETA	ORI	5 23.1	-2 24	-0.19	B0.5		V		1.0	1.7	3	3.30	2.15	701.7	204 52	-20 24	0.12
1789	25	ORI	5 23.3	1 48	-0.21	B1	PE	V	Q				4.90	3.58	170.4	200 58	-18 18	0.07
1790	GAMMA	ORI	5 23.7	6 19	-0.22	B2		III					1.60	0.38	2247.7	196 55	-15 58	0.02
1791	DELTA	TAU	5 24.6	28 34	-0.13	B7		III					1.60	0.96	572.7	178 0	- 3 45	
1810	114	TAU	5 26.0	21 54	-0.14	B3		V		5.6	59.8	4	4.80	4.12	51.2	183 45	- 7 11	0.07
1811	PSI	ORI	5 25.4	3 4	-0.22	B2		IV		5.6	3.0	3	4.50	3.28	155.5	200 5	-17 13	0.02
1833			5 28.5	1 46	-0.20	B1.5		V					5.70	4.43	77.9	201 40	-17 12	0.08
1839	32	ORI	5 29.3	5 55	-0.14	B5		IV		1.5	1.0		4.20	3.43	74.7	198 2	-14 57	0.01
1842	33	ORI	5 29.8	3 16	-0.19	B1.5		V		1.3	2.1	3	5.40	4.18	98.1	200 28	-16 10	0.09
1852	DELTA	ORI	5 30.6	-0 19	-0.21	O9.5		II		4.8	53.0	3	2.20	1.05	2062.3	203 51	-17 45	0.13
1855	UPSILON	ORI	5 30.6	-7 20	-0.26	B0		V					4.60	3.10	292.6	210 27	-19 0	0.05
1858	120	TAU	5 31.9	18 30		B2	P	IV					5.50	4.16	69.4	187 23	- 7 51	
1861			5 31.3	-1 37	-0.19	B1		V		4.5	2.3		5.30	4.08	107.5	205 8	-18 13	0.09
1868	VV	ORI	5 32.2	-1 11	-0.17	B1		V					5.30	4.18	98.1	204 51	-17 50	0.11
1876	PHI	ORI	5 33.3	9 27	-0.18	B0		IV					4.40	3.30	243.3	195 24	-12 18	0.13
1879	LAMBDA	ORI	5 33.6	9 54		O8				2.0	5.4	4	3.60	1.80	1052.9	195 3	-12 0	
1880	LAMBDA	ORI	5 33.6	9 54		B0		V		2.0	5.4	4	5.50	3.77	157.7	195 3	-12 0	
1886			5 33.7	-6 2	-0.22	B1		V		0.9	37.5		5.60	4.23	93.7	209 34	-19 44	0.06
1887			5 33.7	-6 1	-0.24	B0	P	V		0.9	37.5		4.70	3.30	243.3	209 34	-19 43	0.07
1892	42	ORI	5 34.1	-4 51	-0.19	B2		III		3.2	1.7		4.50	3.43	135.4	208 30	-19 7	0.05
1897	THETA	ORI	5 34.1	-5 26	-0.09	O9.5	P	V		1.3	52.8	3	5.00	4.45	90.0	209 3	-19 23	0.25
1899	IOTA	ORI	5 34.1	-5 56	-0.23	O9		III		4.1	11.8	3	2.70	1.45	1426.8	209 32	-19 36	0.11
1903	EPSILON	ORI	5 34.8	-1 13	-0.19	B0	A	I					1.60	0.97	2079.4	205 13	-17 15	0.02
191.	ZETA	TAU	5 30.3	21 7	-0.17	B2	P	IV					2.90	1.93	539.2	185 41	- 5 39	0.07
191.			5 35.3	-6 5	-0.23	B1		V		3.2	5.3		5.70	4.28	89.4	209 49	-19 24	0.05
1918			5 36.1	-5 57	-0.23	B1		V					6.00	4.58	67.8	209 47	-19 9	0.05
1928	125	TAU	5 36.1	25 52	-0.15	B2		V					5.10	4.23	64.8	181 54	- 2 43	0.09
1931	SIGMA	ORI	5 37.4	-2 36	-0.24	O9.5		V		2.0	0.3	5	3.70	2.40	594.8	206 49	-17 20	0.10
1933			5 37.3	-6 35	-0.23	B1		V					5.90	4.48	74.4	210 32	-19 11	0.05
1934	OMEGA	ORI	5 37.8	4 6	-0.09	B3	E	III					4.50	4.07	53.6	200 44	-14 3	0.12
1948	ZETA	ORI	5 39.4	-1 57		O9.5	B	I		3.7	3.3	3	2.00	1.22	1766.7	206 27	-16 36	
1949	ZETA	ORI	5 39.4	-1 57		B3				3.7	3.3	3	4.20	3.14	125.4	206 27	-16 36	
1950			5 39.3	-2 50	-0.22	B1		V					6.20	4.83	53.9	207 15	-17 2	0.06
1952			5 39.5	-1 8	-0.22	B3		III					4.90	3.84	65.8	205 43	-16 12	
1993	133	TAU	5 46.2	13 53	-0.16	B2		V		6.3	25.0	3	5.20	4.28	61.9	193 10	- 7 20	0.08
1996	MU	COL	5 45.9	-32 19	-0.27	O9.5		V					5.10	3.65	188.1	237 18	-27 7	0.07

Table VI

FIRST SLEEP PTC SCAN BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
2004	KAPPA	ORI	5 46.5	-9 40	-0.18	B0.5	A	I					2.00	1.42	1373.8	214 31	-18 30	0.03
2031	55	ORI	5 50.1	-7 31	-0.20	B2		V					5.30	4.18	67.9	212 54	-16 46	0.04
2088	BETA	AUR	5 57.6	44 56	0.03	A2		V		8.5	184.8	3	1.90	2.26	52.1	167 28	+10 24	
2095	THETA	AUR	5 57.9	37 11	-0.08	B9.5	P	V		4.5	2.8	4	2.60	2.27	118.6	174 20	+ 6 43	
2106	GAMMA	COL	5 56.6	-35 17	-0.18	B3		IV		8.4	33.9		4.30	3.42	97.6	241 14	-25 39	0.03
2266			6 17.1	-19 57		B2		V					5.30	3.96	83.4	227 31	-16 4	
2282	ZETA	CMA	6 19.3	-30 3	-0.19	B2.5		V					3.00	1.93	539.2	237 31	-19 26	0.05
2286			6 19.6	-34 8	-0.20	B1.5		V	Q				5.50	4.23	93.7	241 38	-20 47	0.08
2361	LAMBDA	CMA	6 27.2	-32 33	-0.18	B5							4.40	3.56	66.0	240 39	-18 46	
2491	NU	PUP	6 36.9	-43 9	-0.11	B8		III					3.10	2.56	115.1	251 56	-20 32	
2702			7 7.9	-39 37	-0.19	B3		V					4.80	3.87	64.5	250 42	-13 50	0.02
3037			7 46.7	-46 32	-0.14	B1		V					5.20	4.23	93.6	260 15	-10 34	0.14
3089			7 52.3	-49 32	-0.23	B2		III					4.60	3.33	148.5	263 23	-11 12	0.01
3090			7 52.5	-48 2	-0.15	B1	B	I					4.20	3.75	146.0	262 4	-10 26	0.04
3117	CHI	CAR	7 56.1	-52 54	-0.19	B2		IV					3.40	2.33	373.0	266 41	-12 19	0.05
3129	V	PUP	7 57.5	-49 9	-0.17	B2	N			5.3	7.0	3	4.30	3.33	148.5	263 28	-10 17	0.07
3293			8 20.6	-57 52		B1		V					6.00	4.35	83.6	272 52	-11 55	
3447	OMICRON	VEL	8 39.5	-52 49	-0.18	B3		III					3.60	2.72	186.0	270 15	- 6 48	0.03
3457			8 40.0	-59 39	-0.12	B1		III		8.1	16.9		4.30	3.43	195.6	275 49	-10 51	0.16
3467			8 41.6	-53 1	-0.18	B4		IV		0.6	76.6	4	4.80	3.90	53.2	270 36	- 6 40	
3485	DELTA	VEL	8 44.0	-54 37	0.04	A0		V		4.6	3.5	3	1.90	2.10	92.2	272 5	- 7 22	0.04
3498			8 46.0	-56 40	-0.18	B2	NE	V					4.40	3.38	141.8	273 54	- 8 25	0.06
3571			8 54.4	-60 32	-0.10	B8		II		8.5	29.0		3.80	3.26	60.4	277 39	- 9 59	
3582			8 56.3	-59 7	-0.17	B3		IV		1.7	40.6		4.80	3.97	58.8	276 42	- 8 54	0.04
3659		CAR	9 10.3	-58 51	-0.20	B2		IV					3.40	2.28	390.6	277 41	- 7 22	0.04
3663			9 10.7	-62 12	-0.19	B3		IV					3.90	2.97	147.8	280 13	- 9 36	0.02
3734	KAPPA	VEL	9 21.3	-54 53	-0.20	B2		IV					2.40	1.28	981.1	275 53	- 3 32	0.04
3940	PHI	VEL	9 50.9	-54 27	-0.09	B5		II		7.8	37.2		3.50	2.98	113.0	279 21	+ 0 6	0.06
4074			10 19.9	-55 53	-0.13	B3		IV		3.4	7.3		4.50	3.87	64.5	282 59	+ 0 54	0.08
4140			10 31.1	-61 32	-0.10	B5	E	V					3.30	2.73	142.3	287 11	- 3 9	0.05
4196			10 41.3	-64 19	-0.14	B3		V					4.80	4.12	51.2	289 34	- 5 0	0.07
4199	THETA	CAR	10 42.0	-64 14	-0.23	B9.5		V					2.70	1.45	1426.8	289 36	- 4 54	0.11
4222			10 45.9	-64 14	-0.15	B3		IV					4.80	4.07	53.6	289 58	- 4 41	0.06
4390	PI	CEN	11 19.8	-54 21	-0.16	B5	N	V		0.5	0.6		3.80	2.96	114.8	289 57	+ 6 5	
4467	LAMBDA	CEN	11 34.5	-62 52	-0.05	B9		II		8.7	16.6		3.10	2.77	74.8	294 28	- 1 24	
4618			12 6.7	-50 30	-0.16	B6		III		1.7	368.0	3	4.40	3.66	53.9	295 56	+11 38	
4621	DELTA	CEN	12 7.0	-50 34	-0.11	B2	QPE	V	Q	2.0			2.50	1.83	591.2	295 59	+11 34	0.13
4638	RHO	CEN	12 10.2	-52 13	-0.15	B4		V					3.90	3.15	106.1	296 47	+10 2	0.03
4656	DELTA	CRU	12 13.7	-58 36	-0.24	B2		IV					2.80	1.48	816.1	298 14	+ 3 47	
4743	SIGMA	CEN	12 26.6	-50 5	-0.20	B2		V					3.90	2.78	246.5	299 6	+12 28	0.04
4747	KAPPA	CRA	12 32.3	69 55	-0.13	B7	P						3.80	3.16	75.5	125 13	+47 16	
4819	GAMMA	CEN	12 40.0	-48 49	-0.02	A0		III		0.1	1.8		2.10	2.10	92.5	301 15	+13 53	
4864			12 44.8	-56 20	-0.17	B3		IV		3.6	52.6		4.60	3.77	70.7	302 14	+ 6 23	0.04
4942	XI	CEN	13 5.3	-49 45	-0.20	B2		V		5.1	26.0		4.20	3.08	187.0	305 29	+12 54	0.04
5193	NU	CEN	13 47.9	-41 32	-0.23	B2		IV					3.40	2.13	448.5	314 25	+19 54	0.01

FIRST SLEEP PTC SCAN BRIGHTEST STARS

HR	NAME	RA(1973)	DEC	B-V	SP	LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
5191	ETA	UMA 13 46.5	49 27	-0.19	B3	V			1.80	0.87	1022.2	100 43	+65 19	0.02
5193	MU	CEN 13 48.8	-42 20	-0.21	B2	PNE V	Q 9.9	47.9	3.40	2.23	409.0	314 14	+19 7	0.03
5216	3	CEN 13 50.3	-32 51		B5	P III	1.6	9.4	4.70	3.86	50.1	317 17	+28 12	

PTC SCAN FIRST SLEEP PERIOD

ONE PLOT STEP = 70.0 SATURATES AT 4970.0

RA (1973)	DEC	L	B	FLUX	
5 14 24.9	36 37	63 57	67 55	2.17	
15 14 15.1	45 37	86 2	65 5	15.45	
25 13 57.4	54 21	103 9	60 14	1695.65	********** ηUMa
35 13 25.3	62 33	115 3	54 13	37.51	
45 12 29.4	69 30	126 11	47 35	86.04	*
55 10 39.6	73 32	134 36	41 39	6.88	
65 8 33.2	72 28	141 58	33 35	9.51	
75 7 9.5	67 1	148 46	26 31	80.33	*
85 6 17.8	59 26	155 18	19 33	27.38	
95 5 54.5	51 59	161 46	12 47	13.75	
105 5 43.4	42 7	168 22	6 17	211.98	***
115 5 32.7	33 3	175 14	0 10	868.49	**********
125 5 23.3	23 53	182 30	-5 28	776.46	**********
135 5 28.9	14 42	190 16	-13 30	332.60	****
145 5 31.3	5 31	198 36	-14 47	4657.17	**********
155 5 35.7	-3 35	207 30	-18 10	11506.47	********** S
165 5 42.9	-12 35	216 55	-20 32	2102.91	**********
175 5 53.8	-21 26	226 42	-21 44	193.86	**
185 6 7.9	-30 1	236 35	-21 44	1085.23	**********
195 6 28.3	-38 13	246 21	-20 32	199.01	**
205 6 56.2	-45 47	255 46	-18 10	252.77	***
215 7 35.8	-52 19	264 41	-14 47	1079.84	**********
225 8 29.9	-57 13	273 1	-10 30	1196.56	**********
235 9 37.8	-59 39	281 47	-5 28	1868.27	**********
245 10 56.8	-59 2	288 3	0 10	2693.32	**********
255 11 53.2	-56 32	294 55	6 17	1115.94	**********
265 12 41.3	-49 55	301 31	12 47	1404.07	**********
275 13 16.3	-42 55	307 59	19 33	909.12	**********
285 13 43.7	-35 4	314 30	26 31	149.69	**
295 13 58.4	-26 42	321 18	33 35	32.48	
305 14 11.2	-18 0	328 41	40 39	7.08	⟷ EARTH
315 14 22.3	-9 4	337 6	47 35	11.01	
325 14 26.5	-0 1	347 13	54 13	35.63	
335 14 32.1	9 7	0 8	61 14	8.54	
345 14 31.3	18 16	17 15	65 5	25.13	
355 14 29.8	27 29	39 20	67 55	11.63	

TOTAL FLUX = 33452.864 PHOTONS (CM2 SEC A)-1

Figure 6

COMA CLUSTER TARGET

HR	NAME	RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
4533		12 9.4	27 25	0.11	A3		V			6.00	6.75	0.6	209 38	+80 57	0.02 2
4573		12 16.1	29 5	0.15	A4		V	4.1	8.3	5.60	6.64	0.5	197 18	+82 17	0.03 2
4680		12 17.2	30 24	0.29	A9.5		III			6.20	8.26	0.0	187 31	+82 7	0.02 2
4684		12 17.7	26 9	0.18	A	M				5.40	7.05	0.4	219 49	+82 40	0
4685	8 COM	12 18.0	23 10	0.17	A	M				5.20	6.85	0.4:	240 32	+81 39	0
4705		12 20.8	24 54	-0.02	A0		V			6.10	6.10	2.3	231 1	+83 0	
4717	13 COM	12 23.0	26 14	0.08	A3		V			5.10	5.75	1.5	221 0	+83 51	
4738	16 COM	12 25.6	26 58	0.08	A4		V			4.90	5.79	1.1	214 37	+84 32	
4750		12 27.3	26 22	0.18	A	M				6.50	7.15	0.4	221 34	+84 49	
4751		12 27.4	26 2	0.22	A	M		1.2	146.2 3	6.60	7.25	0.4	225 12	+84 46	
4752	17 COM	12 27.6	26 3	-0.05	A	SI		1.2	146.2 3	5.20	5.85	1.3	225 8	+84 49	
4756	20 COM	12 28.4	21 2	0.06	A3		V			5.70	6.35	0.4:	263 12	+82 2	1
4766	21 COM	12 29.7	24 42	0.05	A	P				5.40	6.05	1.1	240 51	+84 44	
4780	22 COM	12 32.2	24 25	0.10	A4		V			6.20	7.09	0.3	247 6	+85 4	
4789	23 COM	12 33.5	22 46	-0.02	A0		IV			4.80	4.80	7.7	262 2	+84 8	
4816		12 38.0	36 5	0.05	A	P				6.40	7.05	0.4	138 34	+80 48	1
4869	30 COM	12 48.0	27 41	0.03	A2		V	5.7	42.9	5.80	6.16	1.4	171 1	+89 21	
4904		12 52.9	33 40	0.21	A5		V			6.20	7.63	0.1:	117 48	+83 33	0.06 0
4948		13 4.9	29 10	0.05	A3		V	5.5	6.5 4	6.50	7.15	0.4	64 16	+86 14	
5010		13 15.2	19 55	0.27	A7		V	2.0	204.0	6.40	8.32	0.0	342 20	+80 41	0.06 1
5057		13 23.8	24 0	0.05	A3		V			5.80	6.45	0.8	11 33	+81 44	1

TARGET= 18.868

Table VII

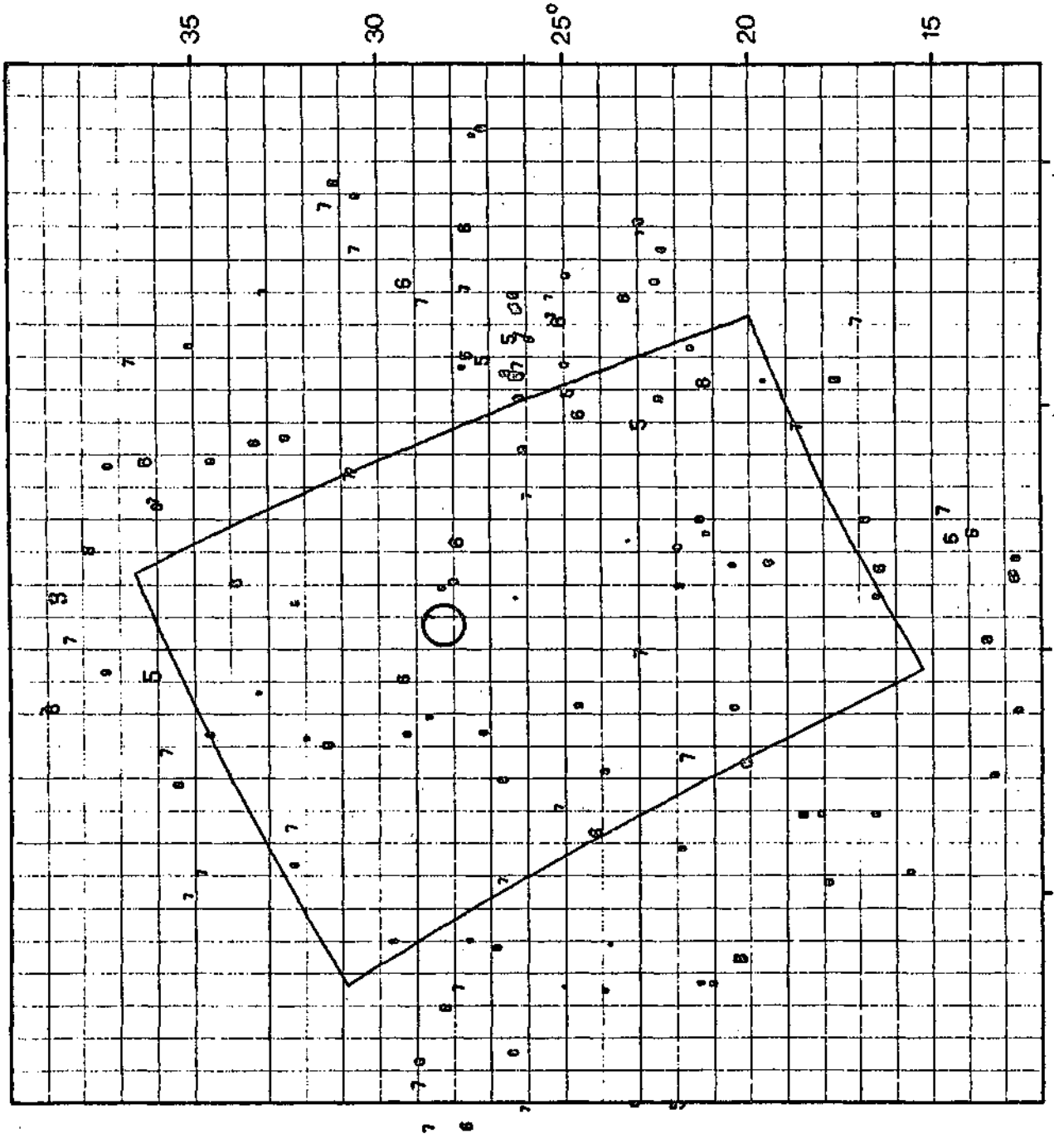

Figure 7

MODE III 60X14 TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
1541	MU	MEN	4 43.3	-70 58	-0.13	B9		IV			5.50	5.17	8.2	282 59	-35 50		0
1700			5 6.7	-73 4	-0.01	A0					6.20	6.20	2.1	284 40	-33 27		
1960			5 36.9	-66 34	-0.07	A0					6.30	6.30	1.9	276 31	-32 6		2
1991	IOTA	MEN	5 37.2	-78 49	-0.02	B9					6.00	5.72	4.9	290 41	-30 13	0.01	
2015	DELTA	DOR	5 44.7	-65 44	0.22	A6		IV			4.30	5.87	0.5	275 28	-31 22	0.04	2
2059			5 35.3	-84 47	-0.02	A1		V			6.10	6.27	1.6	297 21	-28 49		1
2064	EPSILON	DOR	5 49.9	-66 55	-0.15	B5					5.10	4.28	34.1	276 49	-30 48		1*
2125	KAPPA	MEN	5 51.7	-79 22	-0.09	B9.5		V			5.40	5.07	9.0	291 9	-29 26		
2194	ETA	DOR	6 6.1	-66 2	-0.03	B9					5.70	5.37	6.8	275 48	-29 11		1
2221	NU	DOR	6 8.6	-68 49	-0.08	B8		V			5.00	4.46	20.0	279 0	-27 0		
2360			6 24.8	-63 48	-0.14	B5					5.20	5.43	11.8	273 28	-27 2	0.01	1
2410			6 30.9	-61 50	-0.16	B3					5.10	5.32	17.0	271 25	-26 3	0.05	2*
2559	ZETA	MEN	6 42.1	-80 46	0.21	A4		IV			5.60	6.94	0.4	292 36	-27 12	0.09	
2602	IOTA	VOL	6 51.7	-70 55	-0.12	B6		IV			5.30	4.57	23.2	281 44	-25 32		
2689	THETA	MEN	6 58.1	-79 23	0.05	A0					5.40	5.65	3.5	291 7	-26 24	0.05	
2979			7 35.9	-74 13		B9			0.1	2.1	7.10	6.77	1.9	286 7	-23 8		
2980			7 35.9	-74 13		B9			0.1	2.1	7.20	6.87	1.7	286 7	-23 8		
3038			7 44.1	-69 45	-0.06	A0					6.10	6.10	1.8*	281 52	-20 58		0
3171			7 59.5	-73 10	0.14	A2					5.30	7.05	0.6	285 44	-21 12	0.08	
3223	EPSILON	VOL	8 7.9	-68 32	-0.12	B5		III	3.5	5.7	4.30	3.53	4.0*	281 37	-18 33	0.03	2
3301	KAPPA	VOL	8 19.7	-71 25	-0.06	B9			0.3	65.0	3	5.30	4.97	8.0*	284 50	-19 3		0
3302	KAPPA	VOL	8 19.9	-71 24	-0.10	A	P		2.8	38.0	3	5.60	6.25	0.7*	284 49	-19 1		0
3334	ETA	VOL	8 21.8	-73 18	0.01	A1			7.1	31.0		5.20	5.37	3.7	286 40	-19 49		0
3370			8 27.2	-70 0	-0.03	A0						5.50	5.50	1.2*	283 52	-17 48		2
3460	THETA	VOL	8 39.0	-70 17	0.01	A0			9.7	21.5	3	5.10	5.15	5.6	284 41	-17 7	0.01	0
3544			8 49.8	-72 27	0.21	A2						6.10	7.20	0.5	287 4	-17 39	0.15	1
3642			9 5.4	-70 25	-0.16	B2	E	V				4.70	3.78	98.1	286 11	-15 25	0.08	2*

TARGET= 83.012

Table VIII

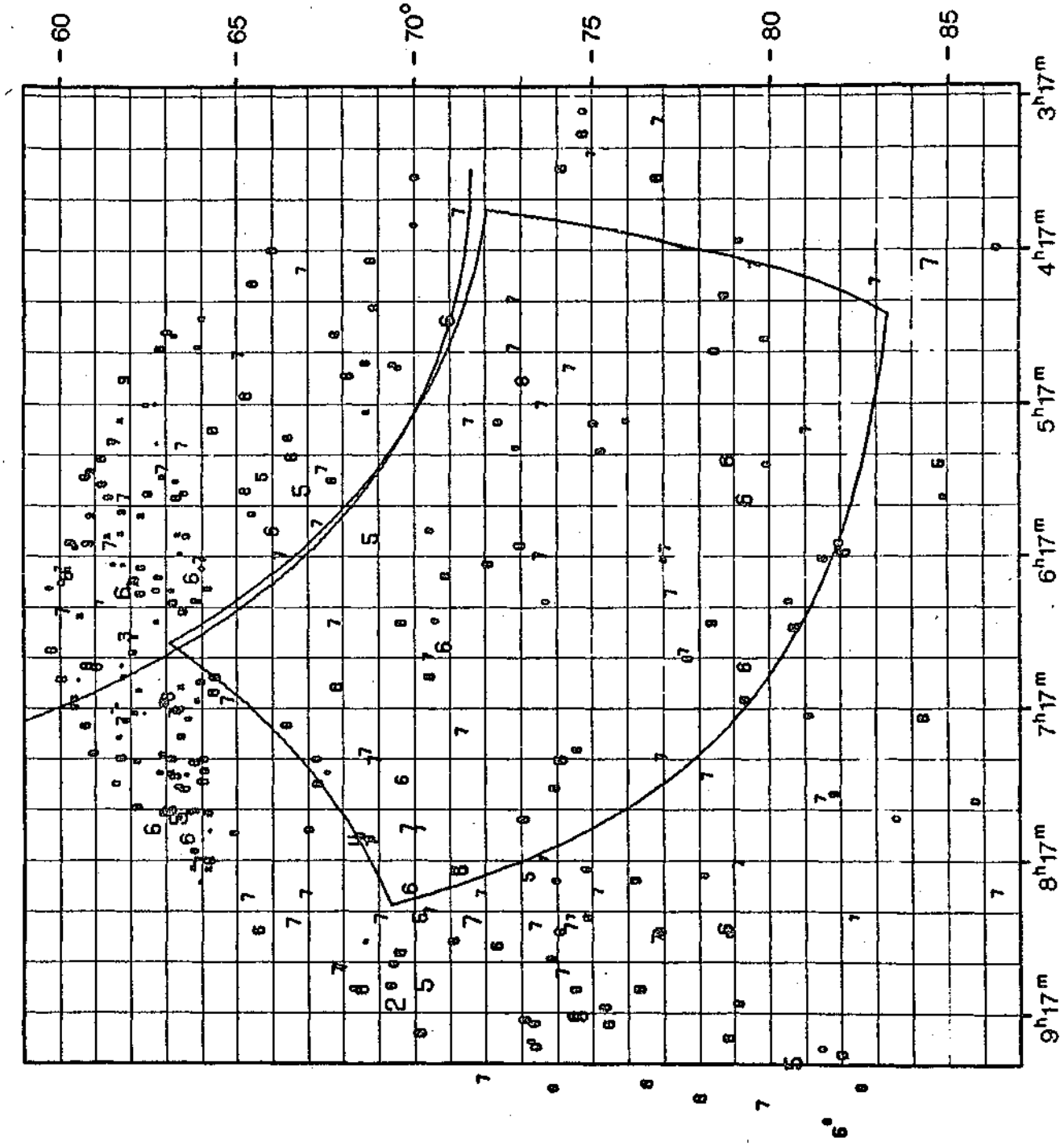

Figure 8

MODE 111 60X60 TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
909	BETA	HOR	2 58.3	-64 10	0.13	A5		V			4.90	5.04	0.6	282 52	-47 47		2
939	THETA	HYI	3 2.2	-72 1	-0.18	B8			0.0	0.1	5.50	4.96	8.7*	289 56	-41 45		0
1014			3 17.7	-67 0	0.13	A3		V			6.00	6.85	0.5*	283 50	-44 23	0.04	0
1053			3 23.9	-69 43	0.48	A3					6.10	8.70	0.1	286 5	-42 9	0.39	
1092			3 30.6	-66 35	-0.06	B7		V			5.80	5.32	10.3	282 15	-43 41	0.03	
1104			3 34.1	-65 51	0.17	A3	M				6.70	7.75	0.2	281 8	-43 50	0.08	0
1372			4 17.4	-63 19		B9			1.8	6.4	6.20	5.67	4.3	275 6	-41 1		2
1541	MU	MEN	4 43.3	-70 58	-0.13	B9		IV			5.50	5.17	8.2	282 59	-35 50		
1700			5 6.7	-73 4	-0.01	A0					6.20	6.20	2.1	284 40	-33 27		
1960			5 36.9	-66 34	-0.07	A0					6.30	6.30	1.1*	276 31	-32 6		1
1991	IOTA	MEN	5 37.2	-78 49	-0.02	B9					6.00	5.72	4.9	290 41	-30 13	0.01	1
2015	DELTA	DOR	5 44.7	-65 44	0.22	A6		IV			4.30	5.87	0.1*	275 28	-31 22	0.04	2
2064	EPSILON	DOR	5 49.9	-66 55	-0.15	B5					5.10	4.28	9.3*	276 49	-30 48		2
2125	KAPPA	MEN	5 51.7	-79 22	-0.09	B9.5		V			5.40	5.07	9.0	291 9	-29 26		2
2221	NU	DOR	6 8.6	-68 49	-0.08	B8		V			5.00	4.46	2.8*	279 0	-27 0		2

TARGET= 43.371

Table IX

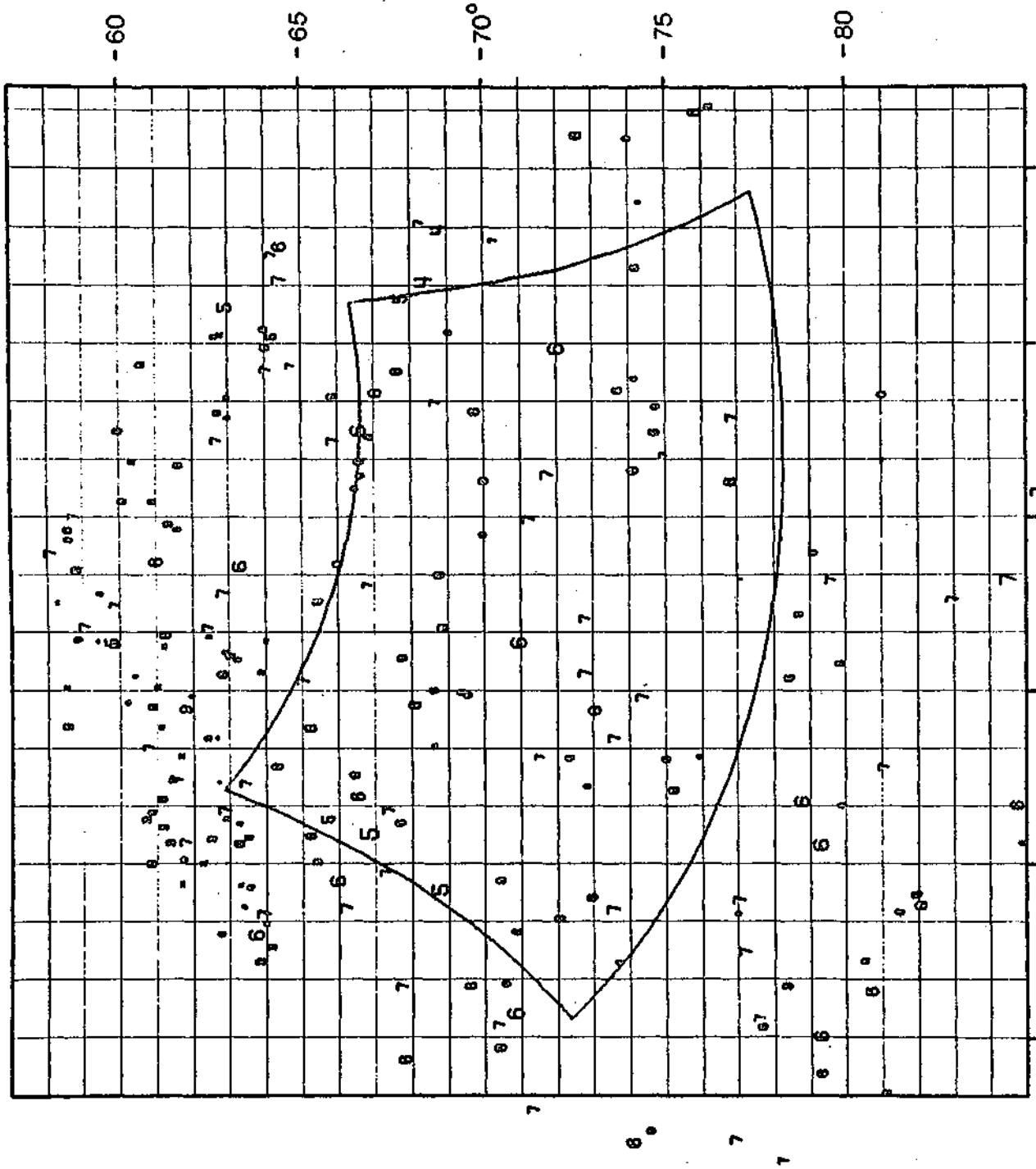

Figure 9

ALPHA ERIDANI TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
126	BETA	TUC	0 30.3	-63 6	-0.06	B8		V	0.0	37.7 6	4.30	3.77	37.8	306 47	-54 1		2*
127	BETA	TUC	0 30.3	-63 6	0.14	A2		V	0.0	37.7 6	4.50	5.25	3.3	306 47	-54 1	0.08	2
136			0 31.5	-63 10	0.02	A2			0.4	0.1 6	5.10	5.46	2.7	306 33	-53 58		2
183	X1	PHE	0 40.5	-56 38	0.21	A8	P		4.2	13.4	5.60	7.47	0.1	305 40	-60 34		0
191	ETA	PHE	0 42.1	-57 36	-0.00	A0		IV	7.2	20.4	4.30	4.30	12.2	305 5	-59 37		0
281			0 57.2	-60 50	0.10	A3					6.20	6.90	0.5	301 25	-56 25		
338	ZETA	PHE	1 7.2	-55 23	-0.10	B6		V	2.8	0.8 3	3.90	3.27	76.9	297 51	-61 42	0.02	
380			1 16.1	-66 32	0.05	A0			3.0	2.8	6.20	6.45	1.7	298 55	-50 31	0.05	
472	ALPHA	ERI	1 36.7	-57 23	-0.17	B5		IV			0.40	-0.44	2629.0	290 52	-58 47		
520			1 45.1	-53 39	0.04	A0					5.00	5.20	4.9*	285 41	-61 44	0.04	0
674	PHI	ERI	2 15.5	-51 38	-0.12	B8		V	4.6	86.3	3.50	2.96	79.6	275 23	-60 49		2*
734			2 27.4	-64 25	-0.04	B9					5.30	5.97	3.9	287 1	-49 44		
762			2 32.9	-62 43	-0.06	B8					6.70	6.17	4.1	284 40	-50 45		
798			2 39.0	-64 24	-0.09	B9					6.50	6.17	2.8*	285 27	-49 0		0
852	NU	HOR	2 48.4	-62 54	0.10	A0					5.20	5.70	3.3	282 45	-49 28	0.10	
909	BETA	HOR	2 58.3	-64 10	0.13	A5		V			4.90	6.04	0.4*	282 52	-47 47		1

TARGET= 2727.590

Table X

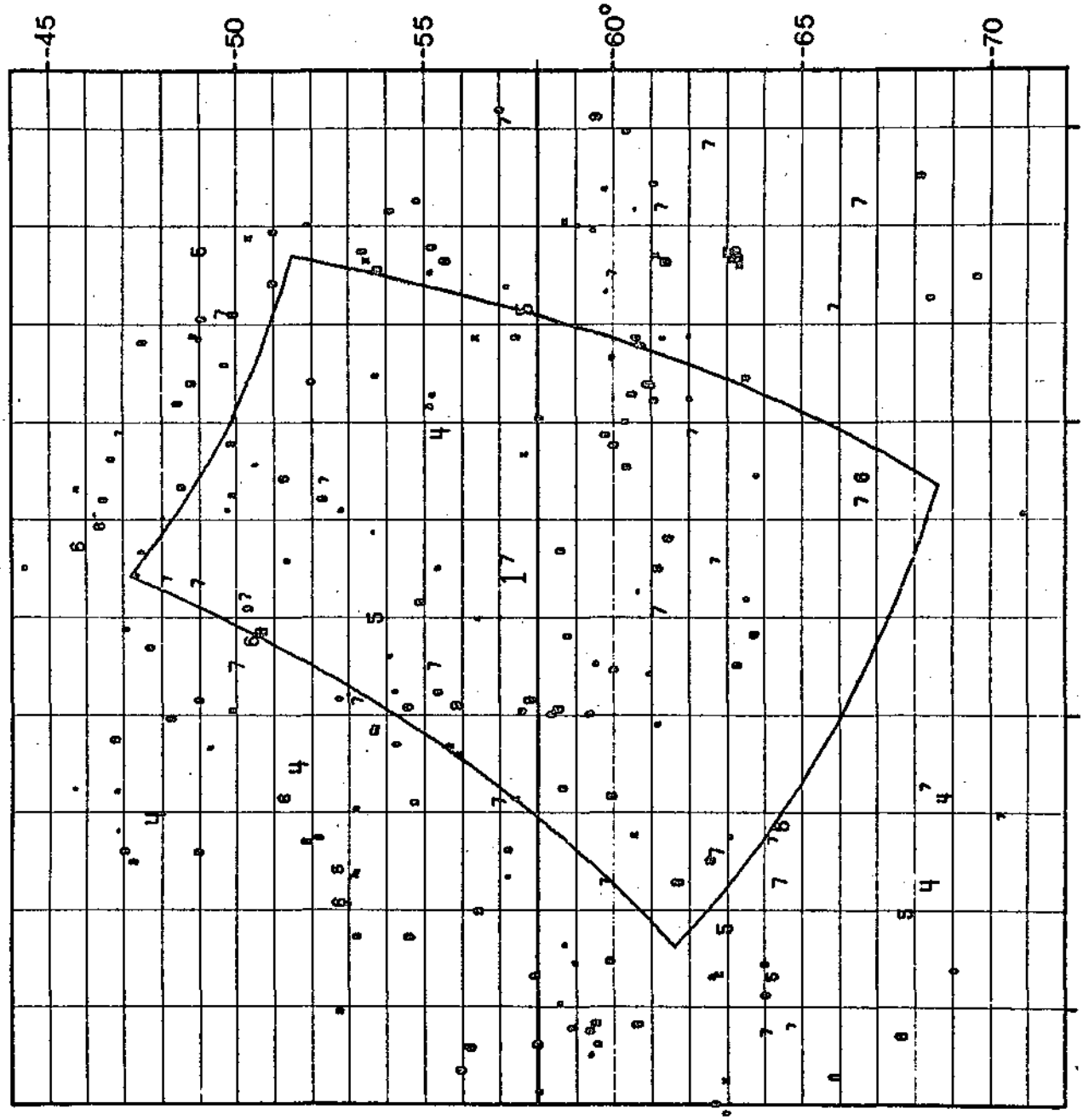

Figure 10

HR	NAME		RA(1973)		DEC		B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG		LAT		E(B-V)
338	ZETA	PHE	1	7.2	-55	23	-0.10	B6		V		2.8	0.8	3	3.90	3.27	76.9	297	51	-61	42	0.02
472	ALPHA	ERI	1	36.7	-57	23	-0.17	B5		IV					0.40	-0.44	2629.0	290	52	-58	47	
674	PHI	ERI	2	15.5	-51	38	-0.12	B8		V		4.6	86.3		3.50	2.96	79.6	275	23	-60	49	
985			3	17.6	65	33	-0.15	B2	E	V					4.80	3.93	85.5	137	27	+ 7	3	0.09
1347	41	ERI	4	16.9	-33	52	-0.12	B8.5		V		1.0	0.6		3.50	2.96	79.6	234	41	-45	29	
1417	1	CAM	4	29.9	53	51		B0		III		1.1	10.6	3	5.40	3.67	173.0	151	54	+ 3	57	
1443	DELTA	CAE	4	3[illegible]	-45	0	-0.20	B3		V					5.00	4.02	56.2	250	23	-43	13	0.01
1595			4	56.5	-14	17	-0.22	B1		V					6.10	4.73	59.1	213	31	-31	32	0.06
1617	PSI	ERI	5	0.1	-7	12	-0.20	B2		V					4.80	3.68	107.6	206	35	-27	42	0.04
1641	ETA	AUR	5	4.6	41	11	-0.18	B3		V					3.10	2.22	294.8	165	21	+ 0	16	0.03
1679	LAMBDA	ERI	5	7.9	-8	47	-0.20	B2		IV					4.20	3.08	187.0	209	9	-26	42	0.04
1702	MU	LEP	5	11.7	-16	13	-0.11	B9	P	III					3.30	2.97	62.2	217	15	-28	55	
1712	AC	AUR	5	14.5	34	17		O9.5		V		3.3	8.4		5.30	3.52	212.4	172	5	- 2	16	
1713	BETA	ORI	5	13.2	-8	13	-0.02	B8	A	I		7.0	9.9	4	0.10	0.67	656.2	209	14	-25	15	0.02
1735	TAU	ORI	5	16.3	-6	52	-0.11	B5		III		7.2	36.2	4	3.50	2.88	124.0	208	16	-23	58	0.04
1756	LAMBDA	LEP	5	18.3	-13	12	-0.28	B0.5		IV					4.20	2.60	463.7	214	50	-26	15	0.03
1763			5	2[illegible].3	8	24	-0.13	B1		V					5.70	4.78	56.4	194	37	-15	37	0.15
1765	22	ORI	5	20.4	-[illegible]	24	-0.17	B2		IV					4.70	3.73	102.7	202	38	-20	2	0.07
1773	23	ORI	5	21.4	3	31	-0.15	B1		V		2.0	32.2		4.90	3.88	129.3	199	9	-17	52	0.13
1781			5	22.3	-0	10	-0.21	B2		V					5.60	4.43	53.9	202	40	-19	30	0.03
1783	8	LEP	5	22.3	-13	56	-0.22	B2		IV					5.20	3.98	81.6	216	1	-25	40	0.02
1788	ETA	ORI	5	23.1	-2	24	-0.19	B0.5		V		1.0	1.7	3	3.30	2.15	701.7	204	52	-20	24	0.12
1789	25	ORI	5	23.3	1	48	-0.21	B1	PE	V	Q				4.90	3.58	170.4	200	58	-18	18	0.07
1790	GAMMA	ORI	5	23.7	6	19	-0.22	B2		III					1.60	0.38	2247.7	196	55	-15	58	0.02
1791	BETA	TAU	5	24.6	28	34	-0.13	B7		III					1.60	0.96	572.7	178	0	- 3	45	
1810	114	TAU	5	26.0	21	54	-0.14	B3		V		5.6	59.8	4	4.80	4.12	51.2	183	45	- 7	11	0.07
1811	PSI	ORI	5	25.4	3	4	-0.22	B2		IV		5.6	3.0	3	4.50	3.28	155.5	200	5	-17	13	0.02
1833			5	26.5	1	46	-0.20	B1.5		V					5.70	4.43	77.9	201	40	-17	12	0.08
1839	32	ORI	5	29.3	5	55	-0.14	B5		IV		1.5	1.0		4.20	3.43	74.7	198	2	-14	57	0.01
1842	33	ORI	5	29.8	3	16	-0.19	B1.5		V		1.3	2.1	3	5.40	4.18	98.1	200	28	-16	10	0.09
1852	DELTA	ORI	5	3[illegible].6	-0	19	-0.21	O9.5		II		4.8	53.0	3	2.20	1.05	2062.3	203	51	-17	45	0.13
1855	UPSILON	ORI	5	30.6	-7	20	-0.26	B0		V					4.60	3.10	292.6	210	27	-19	0	0.05
1858	120	TAU	5	31.9	18	39		B2	P	IV					5.50	4.16	69.4	187	23	- 7	51	
1861			5	31.3	-1	37	-0.19	B1		V		4.5	2.3		5.30	4.08	107.5	205	8	-18	13	0.09
1868	VV	ORI	5	32.2	-1	11	-0.17	B1		V					5.30	4.18	98.1	204	51	-17	50	0.11
1876	PHI	ORI	5	33.3	9	27	-0.18	B0		IV					4.40	3.30	243.3	195	24	-12	18	0.13
1879	LAMBDA	ORI	5	33.6	9	54		O8				2.0	5.4	4	3.60	1.80	1052.9	195	3	-12	0	
1880	LAMBDA	ORI	5	33.6	9	54		B0		V		2.0	5.4	4	5.50	3.77	157.7	195	3	-12	0	
1886			5	33.7	-6	2	-0.22	B1		V		0.9	37.5		5.60	4.23	93.7	209	34	-19	44	0.06
1887			5	33.7	-6	1	-0.24	B0	P	V		0.9	37.5		4.70	3.30	243.3	209	34	-19	43	0.07
1892	42	ORI	5	34.1	-4	51	-0.19	B2		III		3.2	1.7		4.50	3.43	135.4	208	30	-19	7	0.05
1897	THETA	ORI	5	34.1	-5	26	-0.09	O9.5	P	V		1.3	52.8	3	5.00	4.45	90.0	209	3	-19	23	0.25
1899	IOTA	ORI	5	34.1	-5	56	-0.23	O9		III		4.1	11.8	3	2.70	1.45	1426.8	209	32	-19	36	0.11
1903	EPSILON	ORI	5	34.8	-1	13	-0.19	B0	A	I					1.60	0.97	2079.4	205	13	-17	15	0.02
1910	ZETA	TAU	5	36.0	21	7	-0.17	B2	P	IV					2.90	1.93	539.2	185	41	- 5	39	0.07

Table XI

ALPHA ERI, ALPHA GRU BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
1911			5 35.3	-6 5	-0.23	B1		V		3.2	5.3		5.70	4.28	89.4	209 49	-19 24	0.05
1918			5 36.1	-5 57	-0.23	B1		V					6.00	4.58	67.8	209 47	-19 9	0.05
1928	125	TAU	5 38.1	25 52	-0.15	B2		V					5.10	4.23	64.8	181 54	- 2 43	0.09
1931	SIGMA	ORI	5 37.4	-2 36	-0.24	O9.5		V		2.0	0.3	5	3.70	2.40	594.8	206 49	-17 20	0.10
1933			5 37.3	-6 35	-0.23	B1		V					5.90	4.48	74.4	210 32	-19 11	0.05
1934	OMEGA	ORI	5 37.8	4 6	-0.09	B3	E	III					4.50	4.07	53.6	200 44	-14 3	0.12
1946	ZETA	ORI	5 39.4	-1 57		O9.5	B	I		3.7	3.3	3	2.00	1.22	1766.7	206 27	-16 36	
1949	ZETA	ORI	5 39.4	-1 57		B3				3.7	3.3	3	4.20	3.14	125.4	206 27	-16 36	
1950			5 39.3	-2 50	-0.22	B1		V					6.20	4.83	53.9	207 15	-17 2	0.06
1952			5 39.5	-1 8	-0.22	B3		III					4.90	3.84	65.8	205 43	-16 12	
1993	133	TAU	5 46.2	13 53	-0.16	B2		V		6.3	25.0	3	5.20	4.28	61.9	193 10	- 7 20	0.08
7686	17	VUL	20 5.7	23 32	-0.18	B3		V					5.00	4.12	51.2	62 29	- 4 38	0.03
7710	THETA	AQL	20 9.9	-0 53	-0.06	B9.5		III					3.20	2.87	68.2	41 35	-18 5	
7739			20 14.1	25 30	-0.18	B3		V		4.1	1.2		4.70	3.82	67.5	65 11	- 5 10	0.03
7763	P	CYG	20 16.8	37 56	0.42	B	P						4.80	3.74	72.1	75 49	+ 1 19	
7769	25	VUL	20 20.9	24 21	-0.06	B1	E	IV					5.40	4.83	53.9	65 5	- 7 5	0.22
7844	OMEGA	CYG	20 29.2	48 51	-0.08	B2		V		4.5	56.5	3	4.90	4.38	56.5	86 4	+ 5 45	0.16
7852	EPSILON	CEL	20 31.9	11 12	-0.13	B6		III					4.00	3.26	77.9	55 25	-16 35	
7929	51	CYG	20 41.4	50 15		B2		V		6.0	26.2	4	5.30	3.96	83.4	88 22	+ 5 0	
7963	LAMBDA	CYG	20 46.4	36 23	-0.12	B5		V		1.3	1.0	3	4.50	3.83	51.7	78 5	- 4 20	0.03
8047	59	CYG	20 58.9	47 24	-0.04	B1	E	IV	Q	4.3	20.3	4	4.50	4.03	112.6	88 2	+ 0 58	0.24
8053	60	CYG	21 0.2	46 3	-0.23	B1	E	V		4.2	3.1		5.30	3.88	129.3	87 9	- 0 6	0.05
8238	BETA	CEP	21 28.3	70 25	-0.25	B2		III		4.7	13.9		3.10	1.76	633.0	107 32	+14 1	
8353	GAMMA	GRU	21 52.3	-37 29	-0.12	B8		III					3.00	2.46	126.2	6 6	-51 28	
8425	ALPHA	GRU	22 6.5	-47 5	-0.14	B5		V		9.8	28.8		1.70	0.93	746.9	350 0	-52 28	0.01

PTC SCAN ALPHA ERI, ALPHA GRU

ONE PLOT STEP = 70.0 SATURATES AT 4970.0

	RA (1973)	DEC	L	B	FLUX	
5	0 11.5	-74 30	120 21	11 58	47.69	
15	22 22.2	-70 15	111 1	11 1	687.11	*********
25	21 23.1	-63 5	101 52	9 11	205.19	**
35	20 50.6	-54 46	93 0	6 30	104.49	*
45	20 36.1	-45 58	84 26	3 5	620.74	********
55	20 27.3	-36 55	76 11	-0 58	352.90	*****
65	20 23.2	-27 46	68 13	-5 34	269.14	***
75	20 22.5	-18 35	60 27	-10 36	152.37	**
85	20 24.3	-9 24	52 47	-15 58	111.31	*
95	20 30.5	-0 16	45 5	-21 34	80.66	*
105	20 39.4	8 44	37 12	-27 19	83.73	*
115	20 45.1	17 37	28 55	-33 5	71.80	*
125	20 58.5	26 16	19 58	-38 45	34.48	
135	21 15.8	34 34	10 3	-44 11	23.30	
145	21 40.1	42 19	358 46	-49 9	134.77	*
155	22 17.1	49 12	345 42	-53 23	747.59	********** α Gru
165	23 3.1	54 42	330 37	-56 33	17.27	
175	0 7.1	59 5	313 48	-56 16	44.95	
185	1 17.2	58 38	296 17	-58 16	2718.51	************************************ α Eri
195	2 23.4	56 15	279 28	-56 33	80.30	*
205	3 10.7	51 27	264 23	-53 23	1.56	
215	3 56.2	45 0	251 19	-49 9	56.64	
225	4 24.7	37 22	240 2	-44 11	92.40	*
235	4 45.4	29 24	230 7	-38 45	9.28	
245	5 0.4	20 52	221 10	-33 5	58.76	
255	5 11.4	12 4	212 59	-27 19	1768.14	************************
265	5 19.2	3 5	205 0	-21 34	10870.35	**S
275	5 24.4	-6 0	197 18	-15 58	4659.16	**
285	5 27.1	-15 16	189 38	-10 36	325.32	****
295	5 27.4	-24 21	181 52	-5 34	1346.50	*******************
305	5 24.6	-33 32	173 54	-0 58	297.96	****
315	5 17.9	-42 37	165 39	3 5	346.73	****
325	5 4.8	-51 32	157 5	6 30	205.88	**
335	4 44.6	-60 5	148 13	9 11	128.70	*
345	3 54.6	-67 48	139 4	11 1	157.11	**
355	2 25.6	-73 26	129 44	11 58	61.96	

TOTAL FLUX = 26985.334 PHOTONS (CM2 SEC A)-1

Figure 11

SECOND SLEEP PTC SCAN BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
801	35	AKI	2 41.9	27 35	-0.13	B3		V				4.60	3.97	58.8	151 17	-28 56	0.08
938	41	AKI	2 48.4	27 9	-0.11	B8		V	5.4	127.6	4	3.60	3.06	72.6	152 58	-28 37	
1142	17	TAU	3 43.3	24 1	-0.11	B6		III				3.70	3.02	96.8	166 10	-23 51	0.01
1145	19	TAU	3 43.6	24 22	-0.11	B6		V				4.30	3.62	55.7	165 59	-23 33	0.01
1149	23	TAU	3 44.2	24 16	-0.07	B7		III				3.80	3.27	68.2	166 10	-23 32	0.02
1156	23	TAU	3 44.7	23 51	-0.06	B6	NN	IV				4.10	3.67	53.2	166 34	-23 46	0.06
1165	ETA	TAU	3 45.9	24 1	-0.09	B7		III	3.3	117.0		2.80	2.17	187.7	166 40	-23 28	
1178	27	TAU	3 47.6	23 58	-0.08	B8		III	3.0	0.6		3.60	3.06	72.6	167 0	-23 15	
1437	TAU	TAU	4 40.6	22 54	-0.12	B3		V				4.20	3.62	81.2	176 38	-15 5	0.09
1791	BETA	TAU	5 24.6	28 34	-0.13	B7		III				1.60	0.96	572.7	178 0	- 3 45	
1810	114	TAU	5 26.0	21 54	-0.14	B3		V	5.6	59.8	4	4.80	4.12	51.2	183 45	- 7 11	0.07
1910	ZETA	TAU	5 36.0	21 7	-0.17	B2	P	IV				2.90	1.93	539.2	185 41	- 5 39	0.07
1928	125	TAU	5 38.1	25 52	-0.15	B2		V				5.10	4.23	64.8	181 54	- 2 43	0.09
2264	139	TAU	5 56.3	25 56	-0.07	B1	B	I				4.80	4.75	58.1	183 58	+ 0 49	0.12
2343	NU	GEM	6 27.4	20 14	-0.12	B7	E	IV	4.5	112.7	7	4.10	3.46	57.3	192 25	+ 4 20	
5793	ALPHA	CRB	15 33.5	26 48	-0.02	A0		V				2.20	2.20	84.4	41 53	+53 47	
6787	102	HER	18 7.6	20 48	-0.15	B2		V	7.0	23.4		4.30	3.43	135.4	47 25	+18 26	0.09
7318	2	VUL	19 16.6	22 59		B0.5		IV	3.8	2.1		5.30	3.57	189.6	56 22	+ 4 52	
7565	12	VUL	19 49.9	22 31	-0.16	B3	E	V				4.90	4.12	51.2	59 43	- 2 4	0.05
7686	17	VUL	20 5.7	23 32	-0.18	B3		V				5.00	4.12	51.2	62 29	- 4 38	0.03
7739			20 14.1	25 30	-0.18	B3		V	4.1	1.2		4.70	3.82	67.5	65 11	- 5 10	0.03
7789	25	VUL	20 20.9	24 21	-0.06	B1	E	IV				5.40	4.83	53.9	65 5	- 7 5	0.22
8356	16	PEG	21 51.8	25 47	-0.18	B3	E					5.00	4.12	51.2	80 5	-21 45	0.03

Table XII

PTC SCAN SECOND SLEEP PERIOD

ONE PLOT STEP = 7.0 SATURATES AT 4970.0

	RA	DEC	L	B	FLUX	
5	13 9.7	23 49	356 1	84 23	1.79	
15	13 49.9	23 28	20 34	76 0	6.88	
25	14 29.9	23 7	28 7	67 7	7.65	
35	15 7.8	22 47	32 44	58 10	3.68	
45	15 49.6	22 27	36 25	49 14	124.94	*
55	16 29.3	22 8	39 46	40 21	6.16	
65	17 8.9	21 51	43 3	31 33	53.16	
75	17 48.5	21 37	46 25	22 52	53.17	
85	18 28.0	21 26	50 0	14 19	191.09	**
95	19 7.5	21 18	53 53	5 58	346.35	****
105	19 46.9	21 13	58 14	-2 7	167.66	**
115	20 26.3	21 12	63 10	-9 53	357.79	*****
125	21 5.8	21 14	68 53	-17 13	12.39	
135	21 45.2	21 20	75 34	-23 57	82.78	*
145	22 24.7	21 29	83 28	-29 52	14.37	
155	23 4.2	21 41	92 42	-34 44	5.76	
165	23 43.8	21 56	103 16	-38 14	7.37	
175	0 23.5	22 14	114 54	-40 4	6.98	
185	1 3.2	22 33	126 55	-40 4	25.96	
195	1 43.1	22 53	138 32	-38 14	31.79	
205	2 23.3	23 14	149 7	-34 44	20.86	
215	3 3.0	23 35	158 21	-29 52	266.60	***
225	3 43.2	23 55	166 14	-23 57	642.74	*********
235	4 23.4	24 14	172 56	-17 13	153.25	**
245	5 3.8	24 31	178 39	-9 54	49.56	
255	5 44.2	24 45	183 35	-2 8	1459.22	********** βTau, ζTau
265	6 24.7	24 57	187 55	5 58	103.21	*
275	7 5.3	25 5	191 49	14 19	29.23	
285	7 45.9	25 10	195 23	22 51	19.22	
295	8 26.5	25 11	198 45	31 33	15.15	
305	9 7.2	25 9	202 2	40 21	4.48	
315	9 47.8	25 3	205 24	49 13	35.32	
325	10 28.3	24 53	209 5	58 9	18.95	
335	11 8.8	24 41	213 42	67 6	22.64	
345	11 49.2	24 25	221 15	76 0	2.59	
355	12 29.5	24 8	245 45	84 23	20.37	

TOTAL FLUX = 4371.112 PHOTONS (CM2 SEC A1-1

Figure 12

DARK NORTH TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
5010			13 15.2	19 55	0.27	A7		V	2.0	204.0	6.40	8.32	0.0	342 20	+80 41	0.06	1
5057			13 23.8	24 0	0.05	A3		V			5.80	6.45	0.8	11 33	+81 44		1
5144	1	BOO	13 39.4	20 6	0.00	A1		V	2.9	5.0	5.70	5.87	2.4	3 6	+76 39		
5229			13 51.9	28 46	0.23	A7		V			5.80	7.52	0.1	42 52	+76 17	0.02	
5255	10	BOO	13 57.4	21 49	-0.04	A0		V			5.40	5.40	4.4	17 2	+73 47		
5263	11	BOO	13 59.9	27 30		A3					6.10	6.75	0.6	37 54	+74 31		
5333			14 13.4	21 59	0.17	A8		V			6.30	8.17	0.0	21 56	+70 23		
5343			14 14.8	19 2	0.26	A	M				6.00	6.65	0.6	14 31	+68 55		
5405	22	BOO	14 25.2	19 21		A	M				5.20	5.85	1.3	18 5	+66 50		0
5414			14 27.3	28 24		A0			0.6	26.1	7.40	7.40	0.0*	41 42	+68 32		2
5415			14 27.4	28 24		A0			0.6	26.1	6.90	6.90	0.1*	41 42	+68 31		2
5433			14 31.2	26 47	0.21	A7		IV *V	0.2	0.2	5.90	7.53	0.0*	37 35	+67 33		1

TARGET= 8.289

Table XIII

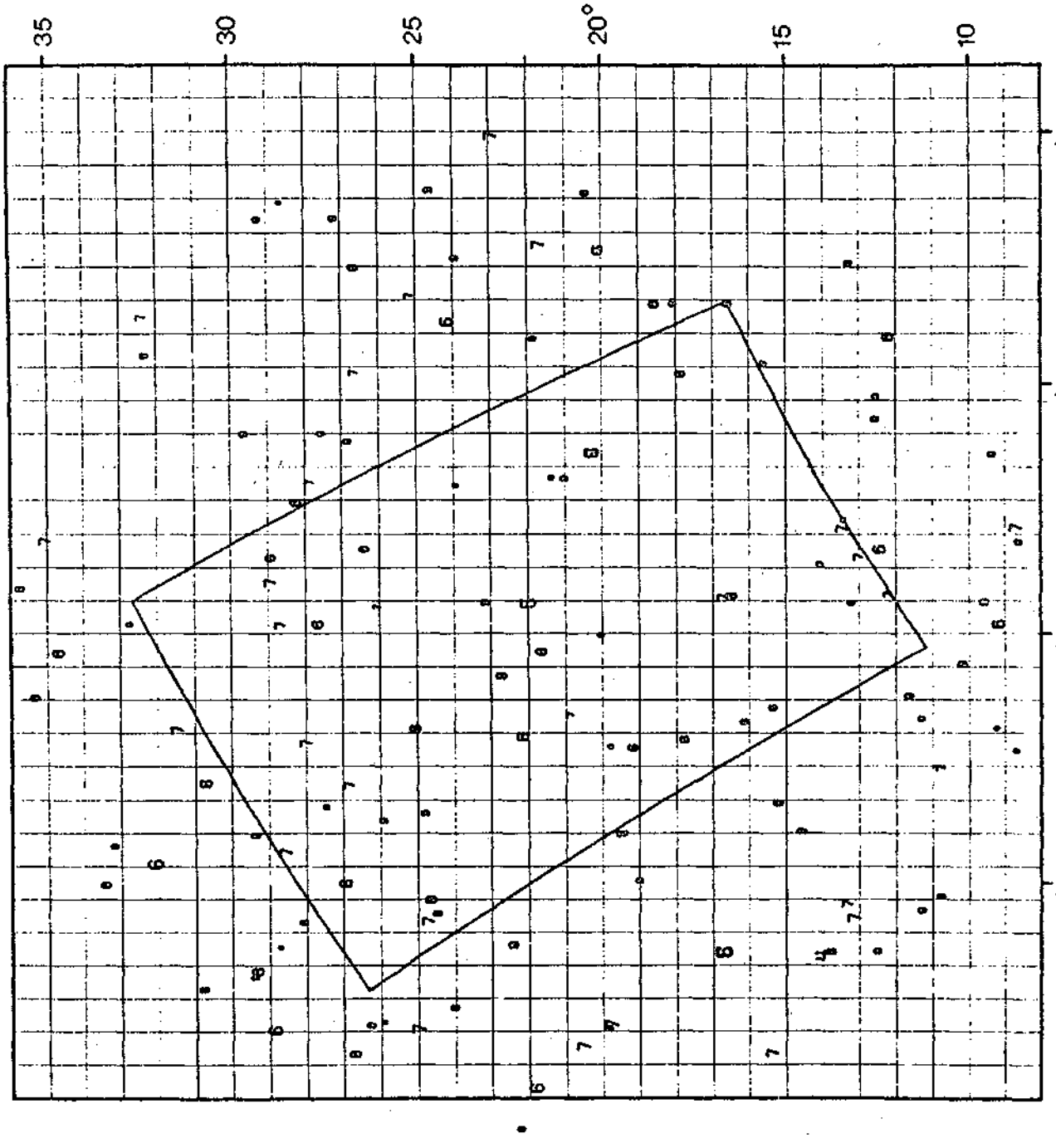

Figure 13

NORTH ECLIPTIC POLE TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
6173			16 26.9	79 1		A3					5.40	6.05	0.5*	112 19	+33 16	1
6335			16 56.3	73 10		A5					6.10	7.24	0.1*	105 3	+34 6	1
6789	DELTA	UMI	17 40.7	86 35	0.02	A1		V			4.30	4.47	8.6	119 17	+28 14	2
6920	PHI	DRA	18 20.9	71 19	-0.10	A0	SI		1.7	0.7 3	4.20	4.20	13.4	101 53	+28 2	0
7025			18 27.6	83 8		A2					6.10	6.46	1.1	115 16	+27 44	
7124	50	DRA	18 47.1	75 24	0.05	A1					5.30	5.57	3.1	106 37	+26 30	0.02
7160			18 47.5	79 55		A5					6.20	7.34	0.2	111 39	+26 56	
7199			18 54.3	75 44		A0			0.8	6.1	6.60	6.60	1.5	107 4	+26 6	
7224			18 58.7	69 28	-0.15	B9					6.30	5.97	3.9	100 19	+24 39	1
7423			19 23.3	79 32		A2					5.90	6.26	1.3	111 31	+25 18	
7425			19 18.2	83 24		A2					6.30	6.66	0.9	115 41	+26 16	0
7545			19 44.3	69 16		A0					5.90	5.90	2.6*	101 23	+20 47	0
7750	KAPPA	CEP	20 9.6	77 38	-0.04	B9		III	4.0	7.6	4.30	3.97	24.8	110 23	+22 30	
7879	73	DRA	20 31.7	74 52	0.07	A	P				5.10	5.75	1.4*	108 26	+20 2	0
7930			20 31.7	83 32		A	M				6.10	6.75	0.6	116 34	+24 21	1
8002	76	DRA	20 44.4	82 26		A0					5.60	5.60	3.7	115 44	+23 28	0
8112			21 6.0	78 0	-0.05	B9					5.90	5.57	5.7	112 24	+20 11	
8174			21 14.4	81 7		A2					5.90	6.26	1.3	115 15	+21 50	0
8525			22 18.0	76 20		A0					6.50	6.50	1.6	114 16	+16 16	0
8550			22 23.5	78 6	-0.06	B9					6.40	6.07	3.6	115 33	+17 32	1
8578	28	CEP	22 26.5	78 39		A2					5.70	6.06	1.6	116 0	+17 55	2
8591	RHO	CEP	22 29.6	78 41		A2					5.50	5.86	1.9	116 10	+17 52	2

TARGET= 42.3

Table XIV

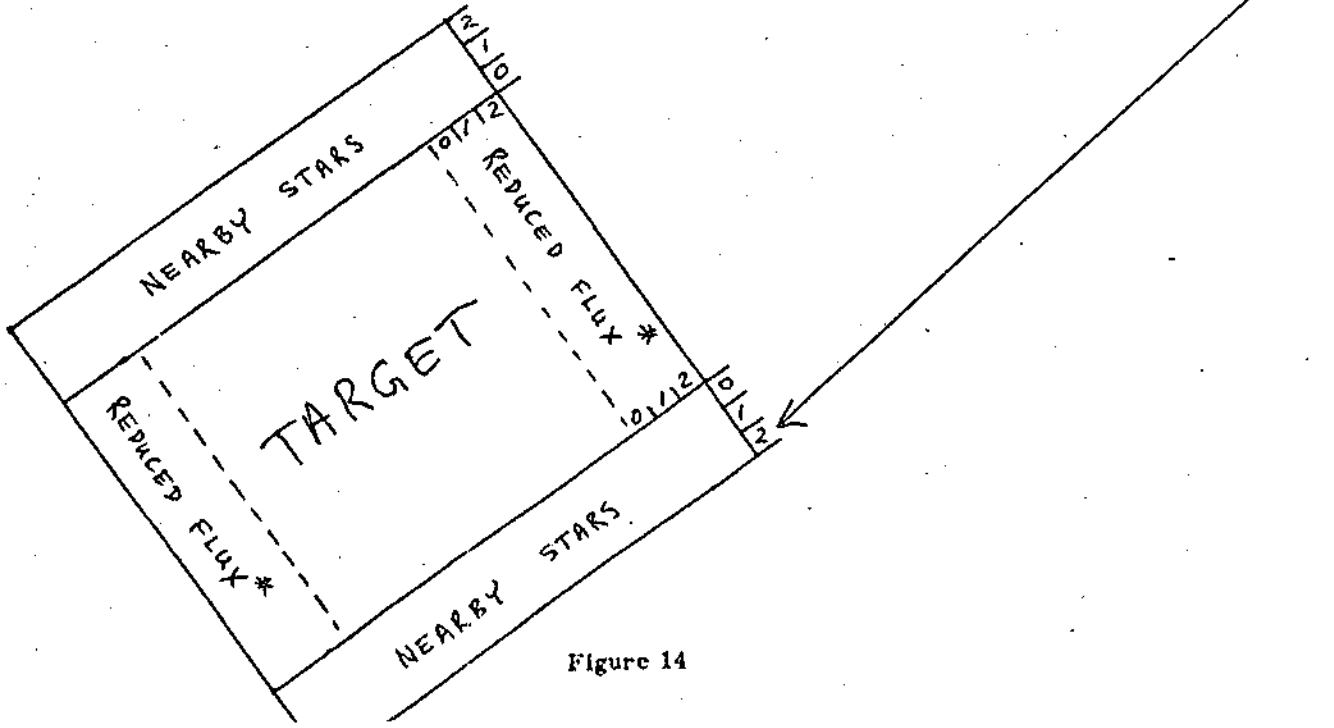

Figure 14

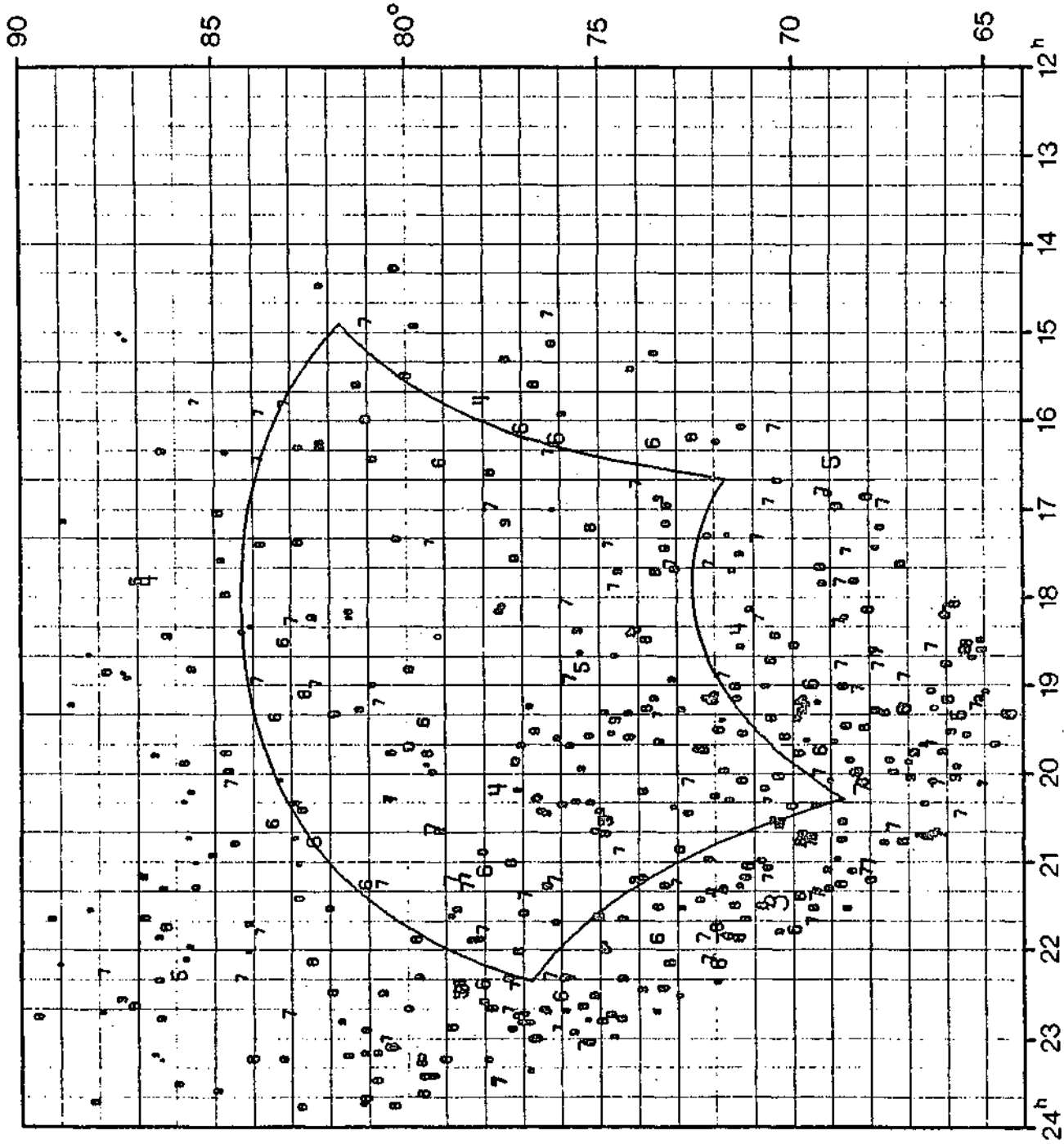

Figure 15

MODE IV SCAN ZODIACAL LIGHT

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP		V	JV	FLUX	LONG	LAT	E(B-V)
779	DELTA	CET	2 38.1	0 12	-0.21	B2		IV				4.00	2.83	235.4	170 45	-52 13	0.03
1320	MU	TAU	4 14.1	8 49	-0.05	B3		V				4.20	3.97	58.8	184 12	-28 52	0.16
1810	114	TAU	5 26.0	21 54	-0.14	B3		V	5.6	59.8	4	4.80	4.12	51.2	183 45	- 7 11	0.07
1858	120	TAU	5 31.9	18 30		B2	P	IV				5.50	4.16	69.4	187 23	- 7 51	
1910	ZETA	TAU	5 36.0	21 7	-0.17	B2	P	IV				2.90	1.93	539.2	185 41	- 5 39	0.07
1993	133	TAU	5 46.2	13 53	-0.16	B2		V	6.3	25.0	3	5.20	4.28	61.9	193 10	- 7 20	0.08
2084	139	TAU	5 56.3	25 56	-0.07	B1	B	I				4.80	4.75	58.1	183 58	+ 0 49	0.12
2343	NU	GEM	6 27.4	20 14	-0.12	B7	E	IV	4.5	112.7	7	4.10	3.46	57.3	192 25	+ 4 20	
6175	ZETA	OPH	16 35.7	-10 30	0.02	09.5		V				2.50	2.50	542.3	6 17	+23 36	0.36
6716			18 0.3	-22 46		B0	B	I	6.5	8.2	3	5.70	4.97	52.2	7 9	- 0 2	
7039	PHI	SGR	18 44.0	-27 1	-0.10	B8		III				3.10	2.56	115.1	7 59	-10 46	
7121	SIGMA	SGR	18 53.6	-26 19	-0.21	B2		V				2.00	0.83	1485.0	9 33	-12 25	0.03
8728	ALPHA	PSA	22 56.2	-29 45	0.09	A3		V				1.10	1.75	58.1	20 30	-64 54	

Table XV

MODE IV SCAN ZODIACAL LIGHT

ONE PLOT STEP = 70.0 SATURATES AT 4970.0

RA (1973)	DEC	L	B	FLUX	
5 17 54.2	-20 8	8 44	2 31	191.29	**
15 18 34.6	-23 34	10 11	-7 21	167.56	**
25 19 17.1	-26 20	11 43	-17 15	1575.36	********** σ Sgr
35 20 1.3	-28 16	13 25	-27 7	18.55	
45 20 46.7	-29 18	15 26	-36 58	34.00	
55 21 32.6	-29 21	18 5	-46 47	25.62	
65 22 18.1	-28 26	21 54	-56 30	54.76	
75 23 2.4	-26 36	28 21	-66 1	115.25	*
85 23 45.1	-23 55	42 10	-74 57	37.66	
95 0 25.8	-20 33	81 58	-81 17	38.41	
105 1 4.6	-16 37	141 8	-78 50	3.84	
115 1 41.8	-12 15	164 20	-70 43	3.35	
125 2 17.7	-7 35	173 31	-61 24	20.09	
135 2 52.8	-2 44	178 23	-51 46	255.30	***
145 3 27.7	2 10	181 31	-42 0	45.53	
155 4 2.8	7 2	183 49	-32 10	213.27	***
165 4 38.6	11 44	185 40	-22 18	72.72	*
175 5 15.6	16 8	187 15	-12 25	214.69	***
185 5 54.2	20 8	188 44	-2 31	983.76	********** ζ Tau
195 6 34.6	23 34	190 11	7 21	89.32	*
205 7 17.1	26 20	191 43	17 15	90.33	*
215 8 1.3	28 16	193 25	27 7	13.37	
225 8 46.7	29 18	195 26	36 58	6.46	
235 9 32.6	29 21	198 5	46 47	1.92	
245 10 18.1	28 26	201 54	56 30	7.78	
255 11 2.4	26 36	208 21	66 1	33.08	
265 11 45.1	23 55	222 10	74 57	3.17	
275 12 25.8	20 33	261 58	81 17	18.69	
285 13 4.6	16 37	321 8	78 50	4.47	
295 13 41.8	12 15	344 20	70 43	1.19	
305 14 17.7	7 35	353 31	61 24	10.09	
315 14 52.8	2 44	358 23	51 46	31.35	
325 15 27.7	-2 10	1 31	42 0	37.49	
335 16 2.8	-7 2	3 49	32 10	39.81	
345 16 38.6	-11 44	5 40	22 18	552.28	******* ζ Oph
355 17 15.6	-16 8	7 15	12 25	81.94	*

TOTAL FLUX = 5093.7 PHOTONS (CM2 SEC A)-1

Figure 16

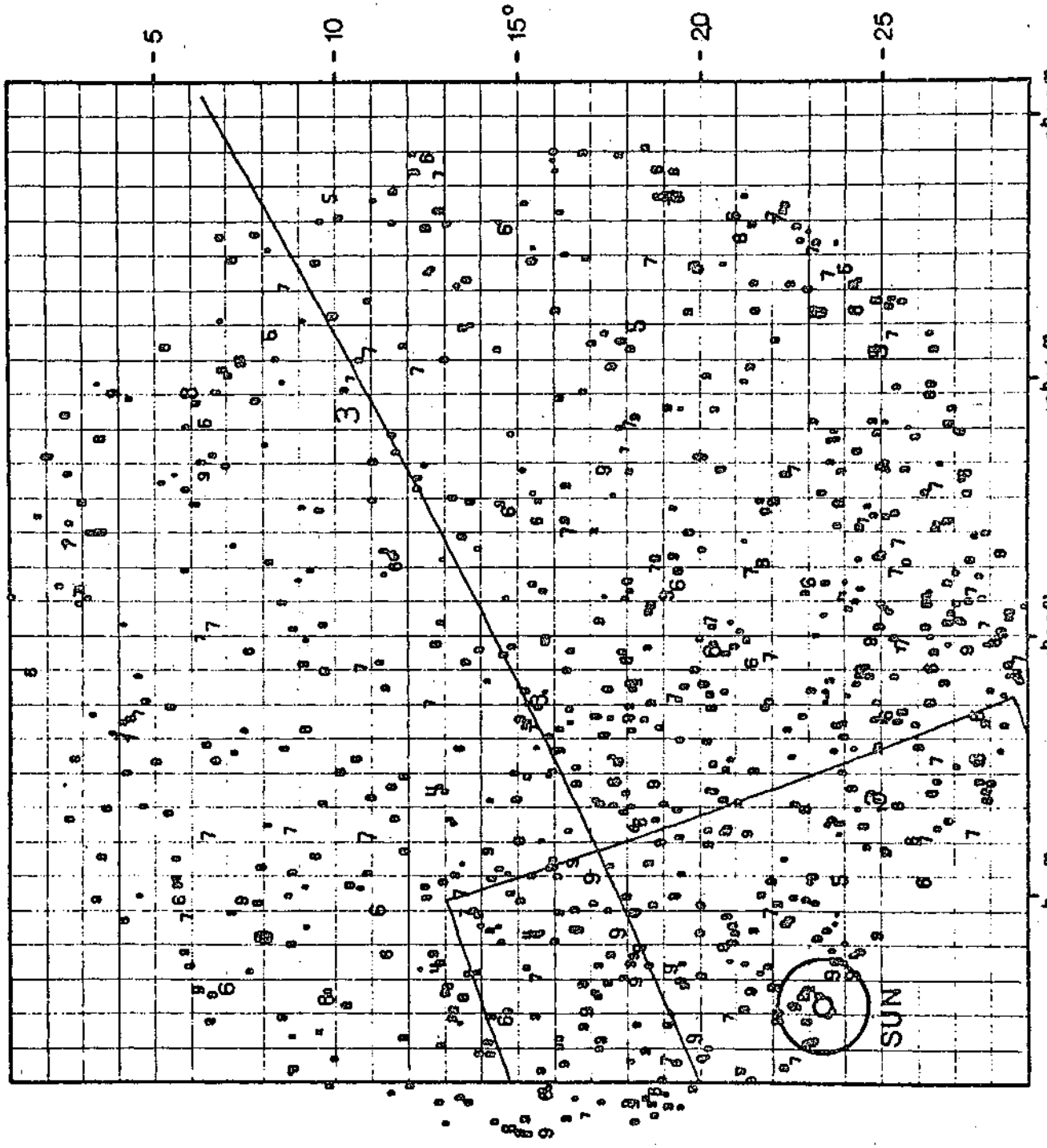

Figure 17

VIRGO CLUSTER TARGET

HR	NAME	RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)	
4515 XI	VIR	11 43.9	8 24	0.17	A3	N				4.80	5.85	1.3	260 9	+65 29	0.08	2
4528 4	VIR	11 46.5	8 23	0.02	A1					5.30	5.47	3.4	261 27	+65 52		1
4543		11 49.5	12 25	0.28	A3			4.8	15.0	6.40	8.00	0.2	256 17	+69 28	0.19	2
4564 95	LEO	11 54.3	15 47	0.11	A3		V			5.50	5.25	0.9	251 39	+72 41	0.02	2
4589 PI	VIR	11 59.5	6 45	0.12	A4		V			4.60	5.49	0.5*	270 17	+66 13		1
4629 11	VIR	12 8.7	5 57	0.36	A	M				5.70	6.35	0.4*	276 17	+66 31		1
4632 3	COM	12 9.2	16 57	0.08	A2		V			6.30	6.75	0.8	258 16	+76 0	0.02	0
4650 12	VIR	12 12.0	10 24	0.27	A	M				5.70	6.35	0.8	273 8	+70 54		
4663 6	COM	12 14.6	15 2	0.06	A2		V			5.00	5.36	3.0	267 9	+75 15		
4685 8	COM	12 18.0	23 10	0.17	A	M				6.20	6.85	0.5	240 32	+81 39		1
4756 20	COM	12 28.4	21 2	0.06	A3		V			5.70	6.35	0.3*	263 12	+82 2		1
4805		12 36.7	3 25	0.03	A0					6.30	6.45	1.2*	294 43	+65 57	0.03	0
4824 27	VIR	12 40.2	10 33		A5					6.30	7.44	0.2	294 31	+73 8		
4828 RHO	VIR	12 40.5	10 22	0.08	A0		V			4.80	5.20	5.3	294 50	+72 58	0.08	
4829 31	VIR	12 40.6	6 56	0.01	B9	N		5.8	4.1	5.50	5.37	6.8	296 9	+69 33	0.04	
4847 32	VIR	12 44.3	7 48	0.33	A	M				5.20	5.85	1.3	298 35	+70 30		
4854		12 45.7	6 5	-0.05	A	P				5.30	6.95	0.5	299 53	+68 48		0
4855 34	VIR	12 45.9	12 5		A3					5.00	6.65	0.6	298 58	+74 48		
4861 28	COM	12 46.9	13 41	0.01	A0		V			6.50	6.55	1.5	299 35	+76 25	0.01	
4865 29	COM	12 47.6	14 15	0.01	A2		V			5.70	6.06	1.6	300 10	+76 59		
4886		12 51.1	16 15	0.17	A5		V			5.30	7.53	0.2*	304 11	+79 0	0.02	0
4900 41	VIR	12 52.5	12 33	0.30	A	M				6.20	6.85	0.5	305 12	+75 17		

TARGET= 24.179

Table XVI

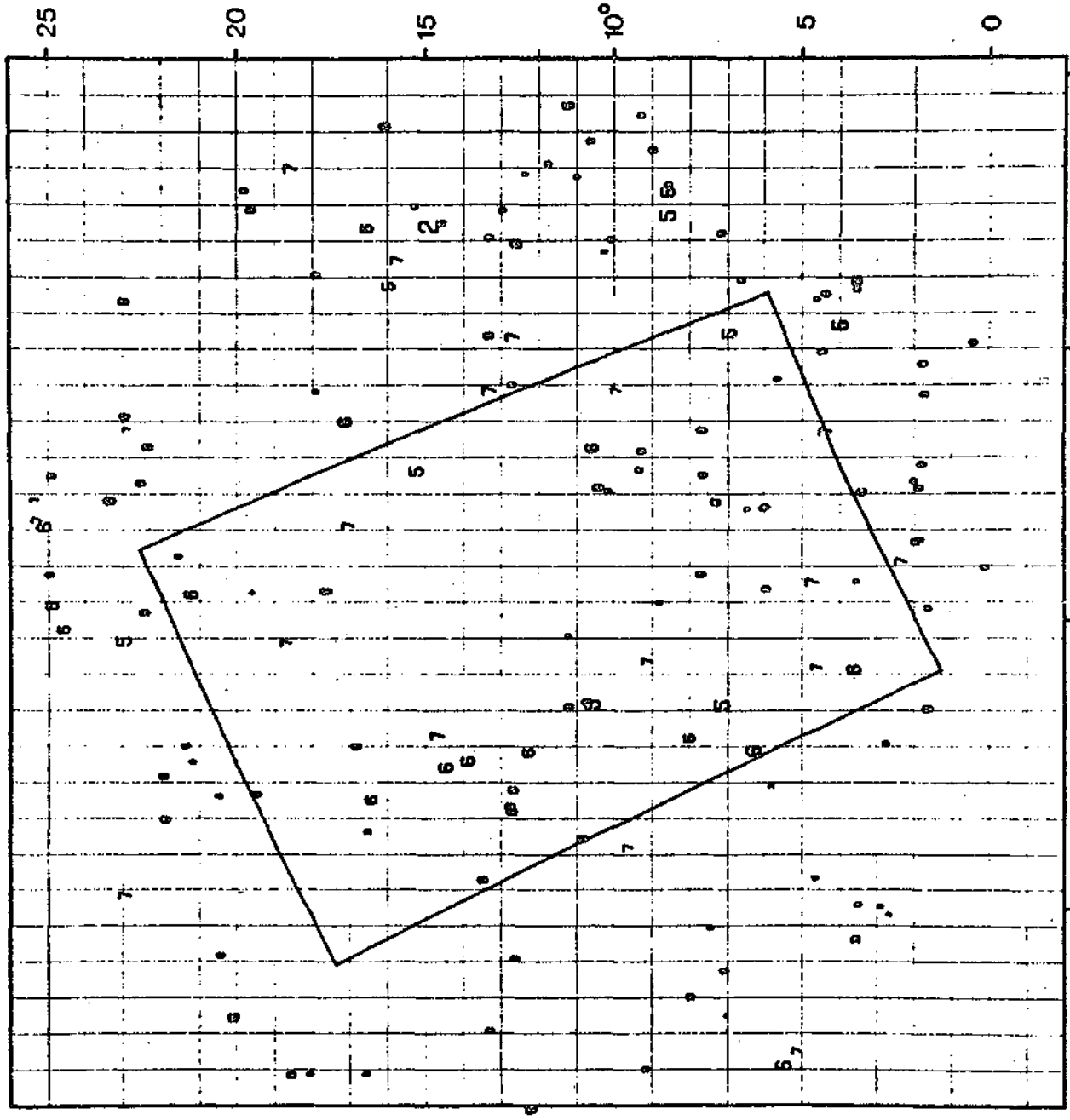

Figure 18

9 DARK SOUTH TARGET

HR	NAME	RA(1973)	DEC	B-V	SP	LUM	DMAG	SEP	V	JV	FLUX	LONG	LAT	E(B-V)	
317	28 CET	1 4.7	-9 59	0.01	A0	IV			5.50	5.55	3.8	134 54	-72 23	0.01	
401	44 CET	1 22.7	-8 9	0.24	A5				5.20	7.78	0.1	146 24	-69 24	0.09	
444		1 31.7	-9 8	-0.04	A0				6.50	6.50	1.6	153 20	-69 23		D
451	49 CET	1 33.3	-15 48	0.09	A2	V			5.60	6.10	0.5*	166 18	-74 47	0.03	2

TARGET= 4.427

Table XVII

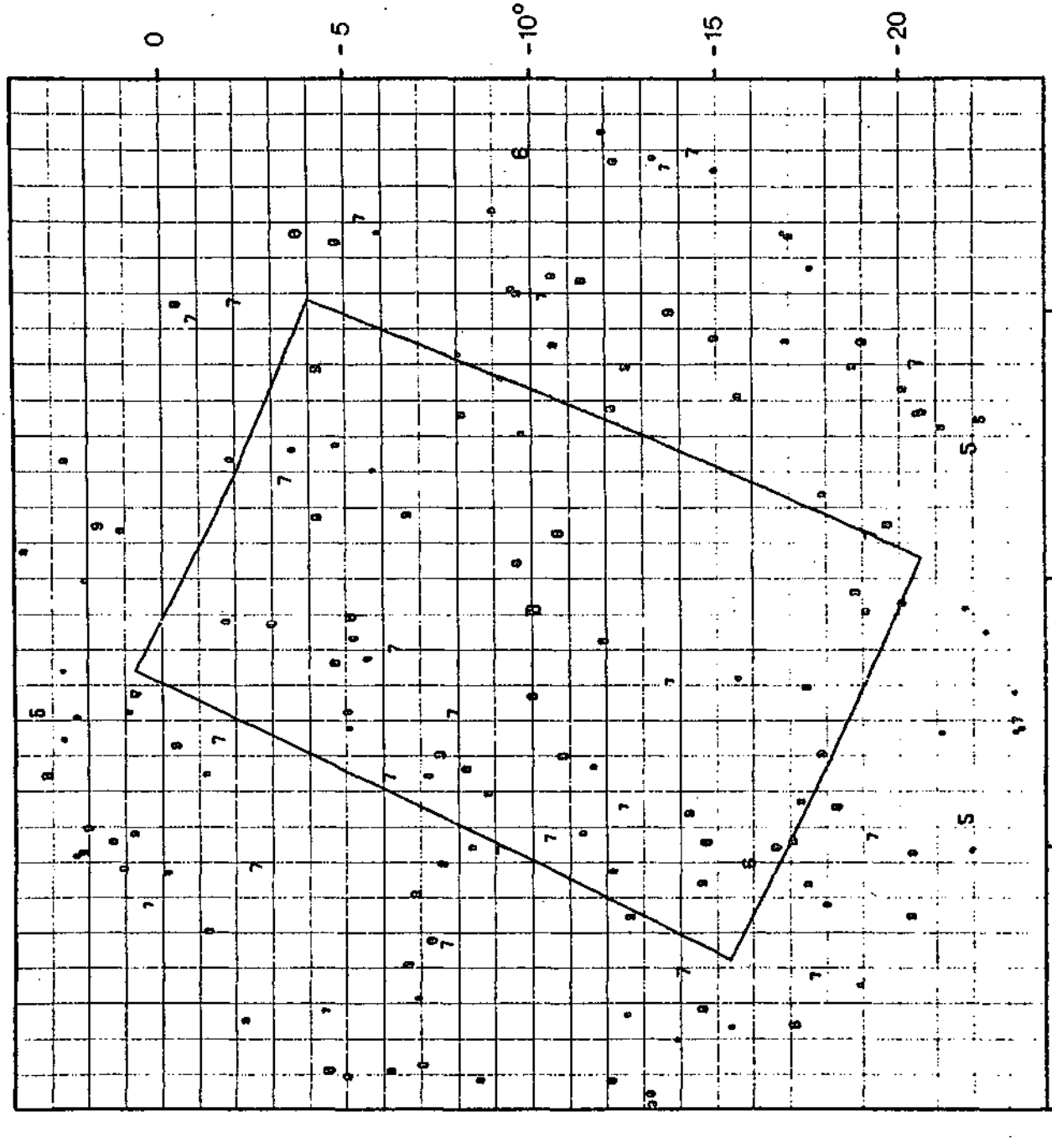

Figure 19

NEP, GAMMA PEG BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
39	GAMMA	PEG	0 11.8	15 2	-0.22	B2		IV					2.80	1.58	744.3	109 25	-46 41	0.02
811	PI	CET	2 42.8	-13 58	-0.14	B7		V					4.20	3.56	52.2	191 49	-60 35	
1213	TAU	ERI	3 52.6	-24 40	-0.14	B5		V					4.60	3.83	51.7	219 59	-49 9	0.01
1702	MU	LEP	5 11.7	-16 13	-0.11	B9	P	III					3.30	2.97	62.2	217 15	-28 55	
2206			6 17.1	-19 57		B2		V					5.30	3.96	83.4	227 31	-16 4	
2294	BETA	CMA	6 21.5	-17 56	-0.23	B1		II					1.90	0.48	2961.6	226 3	-14 16	0.05
2491	ALPHA	CMA	6 44.0	-16 40	0.00	A1		V		10.1	11.9	3	-1.46	-1.29	1726.7	227 13	- 8 52	
2571	15	CMA	6 52.4	-20 11	-0.22	B1		IV					4.80	3.43	195.7	231 18	- 8 38	0.06
2596	IOTA	CMA	6 54.9	-17 0	-0.07	B3		II					4.30	3.97	58.8	228 42	- 6 41	0.14
2739			7 13.2	-10 15	-0.18	B0		IV					6.00	4.90	55.7	224 43	+ 0 21	0.13
3454	ZETA	HYA	8 41.8	3 28	-0.20	B3		V					4.20	3.22	117.4	223 15	+26 19	0.01
4554	GAMMA	UMA	11 52.4	53 50	-0.00	A0		V					2.40	2.40	70.0	140 51	+61 23	
4905	EPSILON	UMA	12 52.8	56 5	-0.03	A0	PV						1.70	1.70	133.7	122 12	+61 10	
6396	ZETA	DRA	17 8.7	65 44	-0.13	B6		III					3.10	2.36	178.4	96 0	+35 2	
7929	51	CYG	20 41.4	50 15		B2		V		6.0	26.2	4	5.30	3.96	83.4	88 22	+ 5 0	
8047	59	CYG	20 58.9	47 24	-0.04	B1	E	IV	Q	4.3	20.3	4	4.50	4.03	112.6	88 2	+ 0 58	0.24
8301	PI	CYG	21 41.1	51 3	-0.12	B3		IV					4.60	4.02	56.2	95 29	- 1 18	0.09
8335	PI	CYG	21 45.8	49 11	-0.13	B3		III					4.20	3.57	85.0	94 50	- 3 13	0.08
8579	6	LAC	22 29.3	42 59	-0.09	B2		IV					4.40	3.83	93.7	97 22	-12 38	0.15
8622	10	LAC	22 38.0	38 54	-0.20	O9		V		3.5	62.1		4.80	3.70	179.6	96 39	-16 59	0.14
8640	12	LAC	22 40.3	40 4	-0.13	B2		III					5.20	4.43	53.9	97 39	-16 11	0.11

Table XVIII

PTC SCAN NCP, GAMMA PEG

ONE PLOT STEP = 70.0 SATURATES AT 4970.0

	RA (1973)	DEC	L	B	FLUX	
5	11 57.0	45 29	148 6	68 6	4.44	
15	12 37.3	52 59	127 25	64 9	213.84	***
25	13 27.0	58 53	113 52	57 42	61.98	
35	14 35.5	63 42	105 31	49 55	36.55	
45	15 56.9	66 39	100 20	41 28	35.79	
55	17 30.8	66 59	97 5	32 39	192.96	**
65	18 58.0	64 36	95 5	23 38	22.87	
75	20 7.9	61 10	94 0	14 30	80.18	*
85	21 1.6	54 29	93 38	5 19	368.23	****
95	21 44.0	48 5	93 54	-3 51	247.64	***
105	22 19.2	41 20	94 49	-13 0	545.64	*******
115	22 49.9	34 25	96 30	-22 3	98.46	*
125	23 18.1	27 29	99 6	-30 56	41.89	
135	23 44.9	20 37	103 2	-39 33	9.03	
145	0 11.4	13 57	108 54	-47 43	779.56	********** γ Peg
155	0 38.2	7 32	117 46	-55 4	6.79	
165	1 5.9	1 28	131 6	-61 0	6.35	
175	1 35.1	-4 6	149 47	-64 29	1.73	
185	2 6.1	-9 7	171 13	-64 29	2.44	
195	2 29.3	-13 24	189 53	-61 0	69.54	
205	3 14.6	-16 49	203 13	-55 4	1.71	
215	3 51.9	-19 15	212 5	-47 43	146.03	**
225	4 30.6	-20 34	217 57	-39 33	7.09	
235	5 9.9	-20 42	221 53	-30 56	117.55	*
245	5 48.8	-19 40	224 30	-22 3	89.97	*
255	6 26.5	-17 30	226 10	-13 0	4952.48	α, β CMa **********
265	7 2.4	-14 16	227 5	-3 51	539.83	*******
275	7 36.1	-10 13	227 22	5 19	113.26	*
285	8 7.6	-5 22	227 0	14 30	26.98	
295	8 37.2	0 4	225 54	23 38	147.49	**
305	9 5.3	6 2	223 55	32 39	75.75	*
315	9 32.2	12 22	220 39	41 28	16.05	
325	9 54.7	19 0	215 28	49 55	44.36	
335	10 25.4	25 49	207 8	57 42	17.52	
345	10 53.1	32 45	193 35	64 9	14.56	
355	11 23.1	39 40	172 54	68 6	7.55	

TOTAL FLUX = 9083.677 PHOTONS (CM2 SEC A1-1

Figure 20

SPICA TARGET

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)	
4901			12 52.9	-11 30	0.08	A1							5.90	6.32	1.6	304 3	+51 14	0.05	0
4911			12 54.5	-15 11		A0							6.10	6.10	1.5*	304 31	+47 32		1
4921	44	VIR	12 58.3	-3 39	0.18	A2				5.2	21.3		5.70	6.65	0.9	306 54	+59 0	0.12	2
4937	48	VIR	13 2.5	-3 31	0.30	A7				0.3	0.7		6.50	8.57	0.0	308 58	+59 4	0.09	1
4963	THETA	VIR	13 8.6	-5 23	-0.01	A1		V		5.0	7.5	3	4.30	4.47	8.6	311 24	+57 2		
4990	54	VIR	13 12.0	-18 41		A0				0.5	6.8		6.20	6.20	0.6*	310 8	+43 44		2
5033			13 20.0	-19 20	0.07	A0							5.90	6.25	0.8*	312 36	+42 49	0.07	1
5056	ALPHA	VIR	13 23.8	-11 0	-0.24	B1		V					0.90	-0.57	7789.8	316 6	+50 52	0.04	
5059			13 24.8	-1 2	0.19	A3							5.90	7.05	0.0*	320 46	+60 29	0.10	2
5088	72	VIR	13 29.0	-6 19	0.33	A5				5.3	30.1		6.00	8.03	0.1	320 1	+55 7	0.18	
5094	73	VIR	13 30.6	-18 35		A4	M			0.0	0.1		5.90	6.79	0.4	316 8	+43 6		
5106			13 33.2	-13 4	0.02	A1	P			0.5	0.5	3	5.90	6.07	2.0	318 51	+48 19		
5163			13 42.5	-5 21	0.05	A0							6.50	6.75	0.8*	326 7	+55 0	0.05	1
5170	85	VIR	13 44.1	-15 37	0.05	A0	N						6.10	6.35	1.8	321 33	+45 9	0.05	0
5290	95	VIR	14 5.3	-9 11	0.35	A8							5.40	7.81	0.1	332 7	+49 15	0.11	2

TARGET= 7804.5

Table XIX

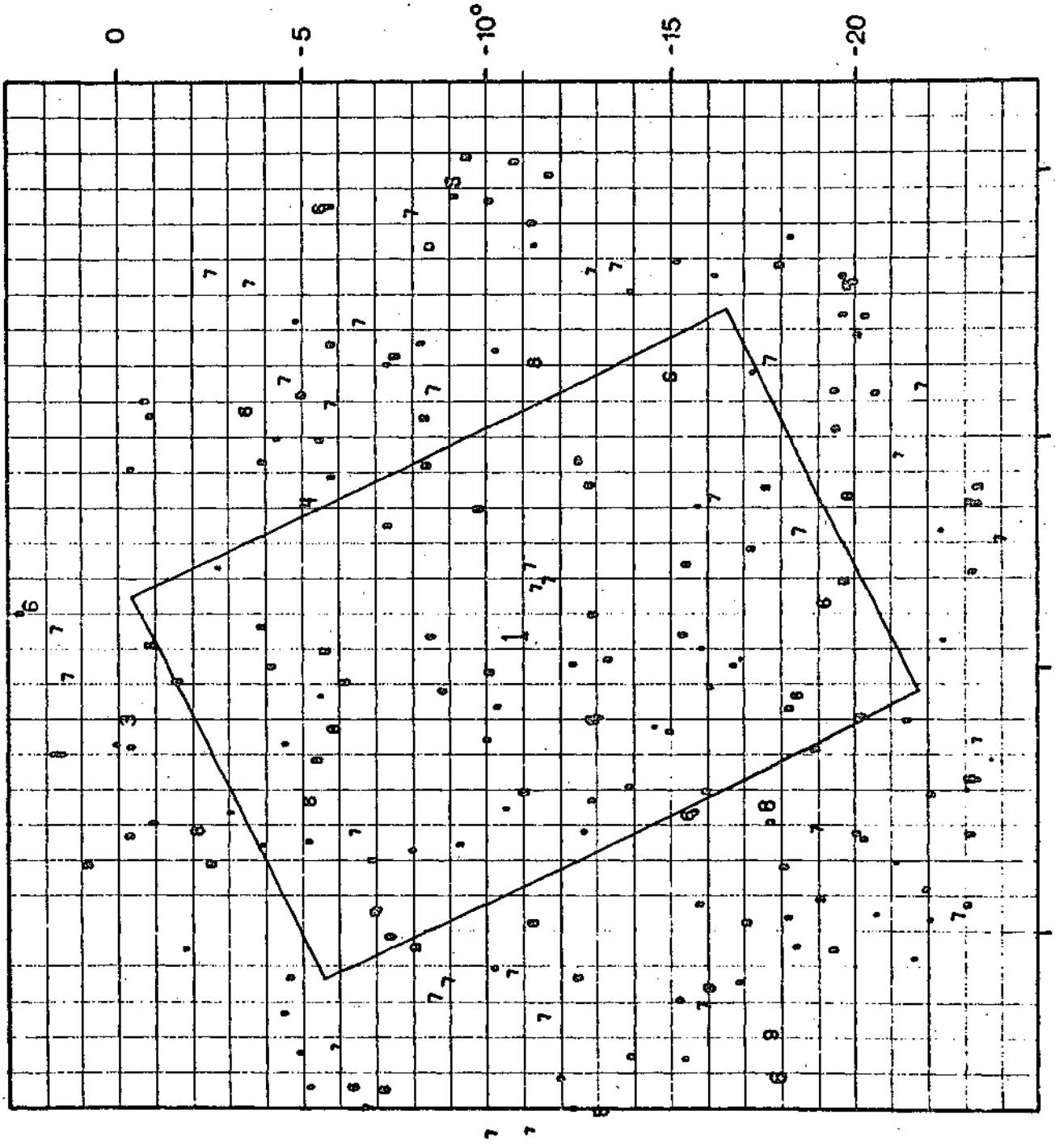

Figure 21

SPICA, ETA URA BRIGHTEST STARS

HR	NAME		RA(1975)	DEC	B-V	SP		LUM		DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
4915	ALPHA	CVN	12 54.8	38 27	+0.11	B9.5	PV			2.5	19.9	2.80	2.47	98.6	118 19	+78 46	
5056	ALPHA	VIR	13 23.8	-11 0	-0.24	B1		V				0.90	-0.57	7789.8	316 6	+50 52	0.04
5190	NU	CEN	13 47.9	-41 32	-0.23	B2		IV				3.40	2.13	448.5	314 25	+19 54	0.01
5191	ETA	URA	13 46.5	49 27	-0.19	B3		V				1.80	0.87	1022.2	100 43	+65 19	0.02
5193	MU	CEN	13 48.9	-42 20	-0.21	B2	PNE	V	Q	9.9	47.9	3.40	2.23	409.0	314 14	+19 7	0.03
5210	3	CEN	13 50.3	-32 51		B5	P	III		1.6	9.4	4.70	3.86	50.1	317 17	+28 12	
5231	ZETA	CEN	13 53.9	-47 9	-0.23	B2		IV				2.50	1.23	1027.4	314 4	+14 12	0.01
5249	PHI	CEN	13 56.6	-41 58	-0.22	B2		IV				3.80	2.58	296.3	315 58	+19 5	0.02
5249	UPSILON	CEN	13 57.0	-44 40	-0.21	B2		V				3.80	2.63	283.0	315 17	+16 27	0.03
5285	CHI	CEN	14 4.4	-41 3	-0.20	B3		V				4.30	3.32	107.0	317 43	+19 33	0.01
5354	IOTA	LUP	14 17.7	-45 56	-0.19	B3		IV				3.50	2.57	213.6	318 28	+14 9	0.02
5378			14 21.4	-39 22	-0.19	B3		V				4.40	3.47	93.2	321 34	+20 2	0.02
5395	TAU	LUP	14 24.4	-45 5	-0.16	B3		III				4.50	3.72	74.1	319 55	+14 31	0.05
5425	SIGMA	LUP	14 30.8	-50 20	-0.19	B2		V				4.40	3.33	148.5	318 56	+ 9 15	0.05
5440	ETA	CEN	14 33.8	-42 1	-0.21	B1.5	NE	V	Q	10.9	5.6	2.30	0.98	1868.6	322 46	+16 41	0.07
5453	RHO	LUP	14 36.1	-49 17	-0.15	B5		V				4.00	3.18	94.0	320 8	+ 9 52	
5469	ALPHA	LUP	14 41.1	-47 16	-0.21	B2		II		10.6	27.6	2.30	1.13	1126.5	321 36	+11 26	0.03
5528	OMICRON	LUP	14 49.9	-43 28	-0.16	B6		III	Q	0.0	0.1	4.30	3.56	59.1	324 54	+14 7	
5605	PI	LUP	15 3.3	-46 56		B5		IV		0.1	1.6	4.70	3.86	50.1	325 19	+ 9 56	
5604	DELTA	CIR	15 14.8	-60 51	-0.06	B9		V		8.3	50.0	5.00	4.60	78.4	319 41	- 2 54	0.28
6396	ZETA	DRA	17 8.7	65 44	-0.13	B6		III				3.10	2.36	178.4	96 0	+35 2	
6440			17 21.5	-62 50		B2		V				5.80	4.46	52.6	328 53	-14 45	
6462	GAMMA	ARA	17 23.1	-56 21	-0.13	B1		III		6.5	17.9	3.30	2.38	514.6	334 39	-11 28	0.15
6509	DELTA	ARA	17 28.7	-60 39	-0.10	B8		V		7.1	47.4	3.50	2.96	79.6	331 16	-14 21	
7074	LAMBDA	PAV	18 49.7	-62 12	-0.15	B1	E	V		9.0	63.1	4.20	3.18	246.3	333 37	-23 52	0.13
7790	ALPHA	PAV	20 23.5	-56 49	-0.20	B3		IV				1.90	0.92	976.2	340 55	-35 11	0.01
8154	58	CYG	21 17.4	43 49	-0.01	B7		V				4.90	5.04	53.4	87 36	- 3 51	0.39
8263	EPSILON	CAP	21 35.5	-19 35	-0.18	B3	P	V	Q	3.7	68.7	4.60	3.72	74.1	31 56	-44 59	0.03
8301	PI	CYG	21 41.1	51 3	-0.12	B3		IV				4.60	4.02	56.2	95 29	- 1 18	0.09
8335	PI	CYG	21 45.8	49 11	-0.13	B3		III				4.20	3.57	85.0	94 50	- 3 13	0.08
8353	GAMMA	GRU	21 52.3	-37 29	-0.12	B8		III				3.00	2.46	126.2	6 6	-51 28	
8356	16	PEG	21 51.8	25 47	-0.18	B3	E					5.00	4.12	51.2	80 5	-21 45	0.03
8538	31	PEG	22 29.2	12 3	-0.16	B2	E	V				5.00	4.08	74.4	75 15	-36 26	0.08
8539	PI	AQR	22 23.9	1 13	-0.04	B1	PE	V				4.60	4.13	102.7	65 59	-44 44	0.24

Table XX

PTC SCAN SPICA, ETA UMA

ONE PLOT STEP = 75.0 SATURATES AT 4970.0

	RA	DEC	L	B	FLUX	
5	13 10.2	22 13	348 55	82 54	0.81	
15	13 10.7	13 2	322 40	74 59	5.57	
25	13 11.9	3 51	316 26	66 1	7.54	
35	13 15.6	-5 17	314 37	56 52	17.07	
45	13 24.0	-14 20	314 28	47 41	7795.70	********** Spica ********** S
55	13 31.8	-23 14	315 10	38 30	24.21	
65	13 45.4	-31 54	316 25	29 22	120.81	*
75	14 5.1	-4[illegible] 11	318 8	2 19	1701.90	**********
85	14 33.3	-47 52	320 17	11 22	4809.53	**********
95	15 14.0	-54 39	322 56	2 33	286.62	****
105	16 11.2	-59 26	326 7	-6 3	139.77	*
115	17 24.1	-61 43	330 2	-14 24	703.39	**********
125	18 41.2	-60 45	334 50	-22 23	299.10	****
135	19 44.5	-56 48	340 49	-29 50	1002.97	**********
145	20 31.6	-50 46	348 20	-36 33	3.73	
155	21 4.5	-43 27	357 43	-42 18	19.30	
165	21 27.3	-35 23	9 10	-46 23	143.27	**
175	21 43.3	-26 51	22 25	-48 38	25.13	
185	21 54.5	-18 2	36 19	-48 38	125.85	*
195	22 2.1	-9 2	49 32	-46 23	85.81	*
205	22 6.9	0 4	60 59	-42 18	178.56	**
215	22 9.1	9 15	70 23	-36 33	119.67	*
225	22 8.8	18 26	77 53	-29 50	43.17	
235	22 5.6	27 36	83 52	-22 23	93.70	*
245	21 58.7	36 41	88 41	-14 24	108.42	*
255	21 46.4	45 34	92 35	-5 3	213.86	***
265	21 25.5	54 7	95 47	2 33	202.77	**
275	20 49.3	62 29	98 25	11 22	144.12	**
285	19 45.4	68 23	102 34	20 19	71.65	
295	19 4.2	71 41	112 17	29 22	18.43	
305	18 11.7	70 15	126 33	38 30	223.12	***
315	17 52.7	64 53	134 14	47 41	39.88	
325	17 7.8	57 29	134 5	56 52	21.99	
335	13 40.9	49 9	102 16	66 1	1083.09	********** ηUMa
345	13 25.6	40 22	96 2	74 59	108.38	*
355	13 15.8	31 21	69 47	82 54	13.62	

TOTAL FLUX = 19952.495 PHOTONS (CM2 SEC A1-1

Figure 22

THIRD SLEEP PTC SCAN BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM	UMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
779	DELTA	CET	2 38.1	0 12	-0.21	B2		IV			4.00	2.83	235.4	170 45	-52 13	0.03
1130	XI	TAU	3 25.7	9 38	-0.08	B8	P				3.70	3.16	66.2	174 1	-37 16	
1239	LAMBDA	TAU	3 59.2	12 24	-0.12	B3		V			3.40	2.82	169.6	178 22	-29 24	0.09
1497	TAU	TAU	4 40.6	22 54	-0.12	B3		V			4.20	3.62	81.2	176 38	-15 5	0.09
1814	114	TAU	5 26.0	21 54	-0.14	B3		V	5.6	59.8 4	4.80	4.12	51.2	183 45	- 7 11	0.07
1856	120	TAU	5 31.9	18 30		B2	P	IV			5.50	4.16	69.4	187 23	- 7 51	
1910	ZETA	TAU	5 36.0	21 7	-0.17	B2	P	IV			2.90	1.93	539.2	185 41	- 5 39	0.07
1993	133	TAU	5 46.2	13 53	-0.16	B2		V	6.3	25.0 3	5.20	4.28	61.9	193 10	- 7 20	0.08
2159	NU	ORI	6 6.0	14 46	-0.16	B3		V			4.40	3.62	81.2	194 48	- 2 44	0.05
2199	XI	ORI	6 10.4	14 13	-0.18	B3		V			4.40	3.52	89.0	195 48	- 2 4	0.03
2222			6 13.6	13 51	-0.21	B1		V	6.5	21.4	5.90	4.58	67.8	196 29	- 1 34	0.07
2343	NU	GEM	6 27.4	20 14	-0.12	B7	E	IV	4.5	112.7 7	4.10	3.46	57.3	192 25	+ 4 20	
2421	GAMMA	GEM	6 36.2	16 25	-0.00	A0		IV			1.90	1.90	110.9	196 46	+ 4 26	
3454	ETA	HYA	8 41.8	3 28	-0.20	B3		V			4.20	3.22	117.4	223 15	+26 19	0.01
4590			11 59.5	-19 30		B1.5		V			5.20	3.55	174.7	286 54	+41 38	
4743	SIGMA	CEN	12 26.6	-50 5	-0.20	B2		V			3.90	2.78	246.5	299 6	+12 28	0.04
4819	GAMMA	CEN	12 40.0	-48 49	-0.02	A3		III	0.1	1.8	2.10	2.10	92.5	301 15	+13 53	
4942	XI	CEN	13 5.3	-49 45	-0.20	B2		V	5.1	26.0	4.20	3.08	187.0	305 29	+12 54	0.04
5336			13 20.6	-52 2		B1					6.10	4.45	76.2	307 43	+10 24	
5132	EPSILON	CEN	13 38.2	-53 19	-0.24	B1		V	10.9	37.6	2.30	0.83	2145.5	310 11	+ 8 44	0.04
5267	BETA	CEN	14 1.9	-60 14	-0.23	B1		II	8.1	1.4	0.60	-0.82	9806.7	311 46	+ 1 16	0.05
5664	DELTA	CIR	15 14.8	-60 51	-0.06	B9		V	8.3	50.0	5.00	4.60	78.4	319 41	- 2 54	0.28
6440			17 21.5	-62 56		B2		V			5.80	4.46	52.6	328 53	-14 45	
6538	DELTA	ARA	17 28.7	-60 39	-0.10	B8		V	7.1	47.4	3.50	2.96	79.6	331 16	-14 21	
7074	LAMBDA	PAV	18 49.7	-62 12	-0.15	B1	E	V	9.0	63.1	4.20	3.18	246.3	333 37	-23 52	0.13
7790	ALPHA	PAV	20 23.5	-56 49	-0.20	B3		IV			1.90	0.92	976.2	340 55	-35 11	0.01
8425	ALPHA	GRU	22 6.5	-47 5	-0.14	B5		V	9.8	28.8	1.70	0.93	746.9	350 0	-52 28	0.01

Table XXI

PTC SCAN THIRD SLEEP PERIOD

ONE PLOT STEP = 7..0 SATURATES AT 4970.0

	RA (1973)	DEC	L	B	FLUX	
5	10 2.7	-8 2	247 56	36 14	50.26	
15	9 34.5	-2 5	236 51	34 33	2.96	
25	9 5.1	3 24	226 35	31 19	160.59	**
35	8 34.8	8 19	217 26	26 47	42.18	
45	8 [illegible].6	12 31	209 26	21 12	22.91	
55	7 25.3	15 53	202 29	14 49	46.10	
65	6 48.1	18 16	196 24	7 49	143.47	**
75	6 9.7	19 34	191 2	0 21	461.74	******
85	5 31.6	19 43	186 12	-7 27	951.94	**********
95	4 51.9	18 43	181 45	-15 33	173.71	**
105	4 14.4	16 37	177 23	-23 51	57.79	
115	3 38.6	13 30	173 26	-32 17	157.30	**
125	3 4.9	9 31	169 14	-40 50	235.44	***
135	2 33.0	4 46	164 40	-49 27	293.73	****
145	2 3.1	-1 34	159 16	-58 5	8.05	
155	1 34.7	-6 25	151 53	-66 37	1.73	
165	1 7.3	-12 39	139 7	-74 50	3.84	
175	0 40.3	-19 9	106 48	-81 35	15.56	
185	0 13.0	-25 52	40 27	-81 34	46.81	
195	23 44.7	-32 40	8 9	-74 50	20.27	
205	23 14.3	-39 28	355 23	-66 37	8.72	
215	22 39.4	-46 8	348 1	-58 4	761.45	**********
225	21 58.5	-52 28	342 36	-49 27	2.48	
235	21 7.7	-58 12	338 3	-40 56	983.64	**********
245	20 2.8	-62 56	333 51	-32 17	43.89	
255	18 41.9	-65 39	329 44	-23 56	282.99	****
265	17 11.7	-66 1	325 31	-15 32	194.87	**
275	15 47.1	-63 47	321 4	-7 27	273.72	***
285	14 37.9	-59 33	316 14	0 21	9936.89	**********
295	13 43.8	-54 4	310 52	7 50	2366.97	**********
305	13 0.7	-47 51	304 48	14 53	652.76	*********
315	12 24.7	-41 15	297 50	21 13	127.47	*
325	11 53.2	-34 28	289 50	26 47	61.33	
335	11 24.3	-27 39	282 41	31 19	13.50	
345	10 56.9	-20 55	276 25	34 33	183.28	**
355	10 29.9	-14 21	269 20	36 14	16.97	

βCen

TOTAL FLUX = 18804.333 PHOTONS (CM2 SEC A1-1

Figure 23

APPENDIX A

THE ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME	RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
15	ALPHA AND	0 7.0	28 56	-0.10	B8		III		9.2	76.2		2.00	1.46	317.0	111 43	-32 51	
39	GAMMA PEG	0 11.8	15 2	-0.22	B2		IV					2.80	1.58	744.3	109 25	-46 41	0.02
153	ZETA CAS	0 35.5	53 45	-0.20	B2		V					3.60	2.48	324.9	120 46	- 8 55	0.04
154	PI AND	0 35.4	33 34	-0.14	B5		V		4.5	36.1	3	4.30	3.53	68.1	119 28	-29 4	0.01
179	XI CAS	0 40.6	50 22	-0.11	B2		V					4.70	4.03	77.9	121 24	-12 20	0.13
193	OMICRON CAS	0 43.2	48 8	-0.06	B2		V		6.5	33.1		4.50	4.08	74.4	121 46	-14 35	0.18
226	NU AND	0 48.3	40 56	-0.15	B5		V					4.50	3.68	59.3	122 36	-21 48	
264	GAMMA CAS	0 55.1	60 34	-0.19	B0	E	IV	Q	8.7	2.2	3	2.50	1.35	1466.1	123 34	- 2 9	0.12
338	ZETA PHE	1 7.2	-55 23	-0.10	B6		V		2.8	0.8	3	3.90	3.27	76.9	297 51	-61 42	0.02
472	ALPHA ERI	1 36.7	-57 23	-0.17	B5		IV					0.40	-0.44	2629.0	290 52	-58 47	
496	PHI PER	1 42.0	50 32	-0.04	B1	PE	III,V	Q				4.00	3.53	178.4	131 19	-11 20	0.24
533	1 PER	1 50.2	55 0	-0.18	B2		V					5.50	4.48	51.5	131 34	- 6 43	0.06
542	EPSILON CAS	1 52.5	63 32	-0.16	B3	P	IV	Q				3.30	2.52	223.6	129 50	+ 1 39	0.05
674	PHI ERI	2 15.5	-51 38	-0.12	B8		V		4.6	86.3		3.50	2.96	79.6	275 23	-60 49	
721	KAPPA ERI	2 26.0	-47 49	-0.14	B5		III					4.20	3.43	74.7	267 8	-62 15	0.01
779	DELTA CET	2 38.1	0 12	-0.21	B2		IV					4.00	2.83	235.4	170 45	-52 13	0.03
801	35 ARI	2 41.9	27 35	-0.13	B3		V					4.60	3.97	58.8	151 17	-28 56	0.08
811	PI CET	2 42.8	-13 58	-0.14	B7		V					4.20	3.56	52.2	191 49	-60 35	
838	41 ARI	2 48.4	27 9	-0.11	B8		V		5.4	127.6	4	3.60	3.06	72.6	152 58	-28 37	
936	BETA PER	3 6.4	40 50	-0.06	B8		V		8.3	82.2	5	2.10	1.57	286.8	148 59	-14 55	
985		3 17.6	65 33	-0.15	B2	E	V					4.80	3.93	85.5	137 27	+ 7 3	0.09
1038	XI TAU	3 25.7	9 38	-0.08	B8	P						3.70	3.16	66.2	174 1	-37 16	
1087	PSI PER	3 34.6	48 6	-0.06	B5	E						4.20	3.83	51.7	149 10	- 6 6	0.09
1122	DELTA PER	3 41.0	47 41	-0.13	B5		III					3.00	2.28	215.4	150 17	- 5 47	0.02
1123	40 PER	3 40.7	33 52	-0.01	B0.5		V		4.5	20.2		4.90	4.65	70.2	158 55	-16 43	0.30
1131	OMICRON PER	3 42.6	32 11	0.06	B1		III		4.5	1.0		3.80	3.83	135.3	160 22	-17 45	0.34
1142	17 TAU	3 43.3	24 1	-0.11	B6		III					3.70	3.02	96.8	166 10	-23 51	0.01
1145	19 TAU	3 43.6	24 22	-0.11	B6		V					4.30	3.62	55.7	165 59	-23 33	0.01
1149	20 TAU	3 44.2	24 16	-0.07	B7		III					3.80	3.27	68.2	166 10	-23 32	0.02
1156	23 TAU	3 44.7	23 51	-0.06	B6	NN	IV					4.10	3.67	53.2	166 34	-23 46	0.06
1165	ETA TAU	3 45.9	24 1	-0.09	B7		III		3.3	117.0		2.80	2.17	187.7	166 40	-23 28	
1178	27 TAU	3 47.6	23 58	-0.08	B8		III		3.0	0.6		3.60	3.06	72.6	167 0	-23 15	
1203	ZETA PER	3 52.4	31 48	0.12	B1	B	I		6.6	12.9	5	2.80	3.70	152.8	162 17	-16 42	0.31
1209	X PER	3 53.7	30 58	0.31	O	PE			6.0	23.3		6.00	4.19	119.4	163 5	-17 9	
1213	TAU ERI	3 52.6	-24 40	-0.14	B5		V					4.60	3.83	51.7	219 59	-49 9	0.01
1220	EPSILON PER	3 56.0	39 55	-0.18	B0.5		V		5.2	9.0	3	2.80	1.70	1062.1	157 21	-10 6	0.13
1228	XI PER	3 57.2	35 42	0.01	O7							4.00	4.24	111.5	160 22	-13 7	0.41
1239	LAMBDA TAU	3 59.2	12 24	-0.12	B3		V					3.40	2.82	169.6	178 22	-29 24	0.09
1273	48 PER	4 6.7	47 38	-0.03	B3	PE	V					4.00	3.87	64.5	153 39	- 3 3	0.18
1320	MU TAU	4 14.1	8 49	-0.05	B3		V					4.20	3.97	58.8	184 12	-28 52	0.16
1347	41 ERI	4 16.9	-33 52	-0.12	B8.5		V		1.0	0.6		3.50	2.96	79.6	234 41	-45 29	
1417	1 CAM	4 29.9	53 51		B0		III		1.1	10.6	3	5.40	3.67	173.0	151 54	+ 3 57	
1423		4 27.9	-13 6	-0.22	B1	NE	V					5.70	4.33	85.4	208 47	-37 25	0.06
1443	DELTA CAE	4 30.0	-45 0	-0.20	B3		V					5.00	4.02	56.2	250 23	-43 13	0.01
1463	NU ERI	4 35.0	-3 24	-0.21	B2		III					3.90	2.73	258.1	199 18	-31 23	0.03

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
1497	TAU	TAU	4 40.6	22 54	-0.12	B3		V					4.20	3.62	81.2	176 38	-15 5	0.09
1520	MU	ERI	4 44.1	-3 17	-0.15	B5		IV					4.00	3.18	94.0	200 31	-29 21	
1552	PI	ORI	4 49.8	5 33	-0.17	B2		III					3.60	2.63	283.0	192 53	-23 32	0.07
1567	PI	ORI	4 52.8	2 24	-0.19	B2		III					3.70	2.63	283.0	196 15	-24 34	0.05
1595			4 56.5	-14 17	-0.22	B1		V					6.10	4.73	59.1	213 31	-31 32	0.06
1617	PSI	ERI	5 0.1	-7 12	-0.20	B2		V					4.80	3.68	107.6	206 35	-27 42	0.04
1641	ETA	AUR	5 4.6	41 11	-0.18	B3		V					3.10	2.22	294.8	165 21	+ 0 16	0.03
1679	LAMBDA	ERI	5 7.9	-8 47	-0.20	B2		IV					4.20	3.08	187.0	209 9	-26 42	0.04
1702	MU	LEP	5 11.7	-16 13	-0.11	B9	P	III					3.30	2.97	62.2	217 15	-28 55	
1712	AE	AUR	5 14.5	34 17		09.5		V		3.3	8.4		5.30	3.52	212.4	172 5	- 2 16	
1713	BETA	ORI	5 13.2	-8 13	-0.02	B8	A	I		7.0	9.9	4	0.10	0.67	656.2	209 14	-25 15	0.02
1735	TAU	ORI	5 16.3	-6 52	-0.11	B5		III		7.2	36.2	4	3.50	2.88	124.0	208 16	-23 58	0.04
1756	LAMBDA	LEP	5 18.3	-13 12	-0.28	B0.5		IV					4.20	2.60	463.7	214 50	-26 15	0.03
1763			5 20.3	8 24	-0.13	B1		V					5.70	4.78	56.4	194 37	-15 37	0.15
1765	22	ORI	5 20.4	-0 24	-0.17	B2		IV					4.70	3.73	102.7	202 38	-20 2	0.07
1770	23	ORI	5 21.4	3 31	-0.15	B1		V		2.0	32.2		4.90	3.88	129.3	199 9	-17 52	0.13
1781			5 22.3	-0 10	-0.21	B2		V					5.60	4.43	53.9	202 40	-19 30	0.03
1783	8	LEP	5 22.3	-13 56	-0.22	B2		IV					5.20	3.98	81.6	216 1	-25 40	0.02
1788	ETA	ORI	5 23.1	-2 24	-0.19	B0.5		V		1.0	1.7	3	3.30	2.15	701.7	204 52	-20 24	0.12
1789	25	ORI	5 23.3	1 48	-0.21	B1	PE	V	Q				4.90	3.58	170.4	200 58	-18 18	0.07
1790	GAMMA	ORI	5 23.7	6 19	-0.22	B2		III					1.60	0.38	2247.7	196 55	-15 58	0.02
1791	BETA	TAU	5 24.6	28 34	-0.13	B7		III					1.60	0.96	572.7	178 0	- 3 45	
1810	114	TAU	5 26.0	21 54	-0.14	B3		V		5.6	59.8	4	4.80	4.12	51.2	183 45	- 7 11	0.07
1811	PSI	ORI	5 25.4	3 4	-0.22	B2		IV		5.6	3.0	3	4.50	3.28	155.5	200 5	-17 13	0.02
1833			5 28.5	1 46	-0.20	B1.5		V					5.70	4.43	77.9	201 40	-17 12	0.08
1839	32	ORI	5 29.3	5 55	-0.14	B5		IV		1.5	1.0		4.20	3.43	74.7	198 2	-14 57	0.01
1842	33	ORI	5 29.8	3 16	-0.19	B1.5		V		1.3	2.1	3	5.40	4.18	98.1	200 28	-16 10	0.09
1852	DELTA	ORI	5 30.6	-0 19	-0.21	O9.5		II		4.8	53.0	3	2.20	1.05	2062.3	203 51	-17 45	0.13
1855	UPSILON	ORI	5 30.6	-7 20	-0.26	B0		V					4.60	3.10	292.6	210 27	-19 0	0.05
1858	120	TAU	5 31.9	18 30		B2	P	IV					5.50	4.16	69.4	187 23	- 7 51	
1861			5 31.3	-1 37	-0.19	B1		V		4.5	2.3		5.30	4.08	107.5	205 8	-18 13	0.09
1868	VV	ORI	5 32.2	-1 11	-0.17	B1		V					5.30	4.18	98.1	204 51	-17 50	0.11
1876	PHI	ORI	5 33.3	9 27	-0.18	B0		IV					4.40	3.30	243.3	195 24	-12 18	0.13
1879	LAMBDA	ORI	5 33.6	9 54		O8				2.0	5.4	4	3.60	1.80	1052.9	195 3	-12 0	
1880	LAMBDA	ORI	5 33.6	9 54		B0		V		2.0	5.4	4	5.50	3.77	157.7	195 3	-12 0	
1886			5 33.7	-6 2	-0.22	B1		V		0.9	37.5		5.60	4.23	93.7	209 34	-19 44	0.06
1887			5 33.7	-6 1	-0.24	B0	P	V		0.9	37.5		4.70	3.30	243.3	209 34	-19 43	0.07
1892	42	ORI	5 34.1	-4 51	-0.19	B2		III		3.2	1.7		4.50	3.43	135.4	208 30	-19 7	0.05
1897	THETA	ORI	5 34.1	-5 26	-0.09	O9.5	P	V		1.3	52.8	3	5.00	4.45	90.0	209 3	-19 23	0.25
1899	IOTA	ORI	5 34.1	-5 56	-0.23	O9		III		4.1	11.8	3	2.70	1.45	1426.8	209 32	-19 36	0.11
1903	EPSILON	ORI	5 34.8	-1 13	-0.19	B0	A	I					1.60	0.97	2079.4	205 13	-17 15	0.02
1910	ZETA	TAU	5 36.0	21 7	-0.17	B2	P	IV					2.90	1.93	539.2	185 41	- 5 39	0.07
1911			5 35.3	-6 5	-0.23	B1		V		3.2	5.3		5.70	4.28	89.4	209 49	-19 24	0.05
1918			5 36.1	-5 57	-0.23	B1		V					6.00	4.58	67.8	209 47	-19 9	0.05
1928	125	TAU	5 38.1	25 52	-0.15	B2		V					5.10	4.23	64.8	181 54	- 2 43	0.09

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME	RA(1973)	DEC	B-V	SP		LUM	OMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
1931	SIGMA ORI	5 37.4	-2 36	-0.24	O9.5		V	2.0	0.3	5	3.70	2.40	594.8	206 49	-17 20	0.10
1933		5 37.3	-6 35	-0.23	B1		V				5.90	4.48	74.4	210 32	-19 11	0.05
1934	OMEGA ORI	5 37.8	4 6	-0.09	B3	E	III				4.50	4.07	53.6	200 44	-14 3	0.12
1948	ZETA ORI	5 39.4	-1 57		O9.5	B	I	3.7	3.3	3	2.00	1.22	1766.7	206 27	-16 36	
1949	ZETA ORI	5 39.4	-1 57		B3			3.7	3.3	3	4.20	3.14	125.4	206 27	-16 36	
1950		5 39.3	-2 50	-0.22	B1		V				6.20	4.83	53.9	207 15	-17 2	0.06
1952		5 39.5	-1 8	-0.22	B3		III				4.90	3.84	65.8	205 43	-16 12	
1956	ALPHA COL	5 38.7	-34 5	-0.13	B8	E	V	8.7	12.6		2.60	2.06	182.4	238 49	-28 52	
1993	133 TAU	5 46.2	13 53	-0.16	B2		V	6.3	25.0	3	5.20	4.28	61.9	193 10	- 7 20	0.08
1996	MU COL	5 45.0	-32 19	-0.27	O9.5		V				5.10	3.65	188.1	237 18	-27 7	0.07
2004	KAPPA ORI	5 46.5	-9 40	-0.18	B0.5	A	I				2.00	1.42	1373.8	214 31	-18 30	0.03
2031	55 ORI	5 50.1	-7 31	-0.20	B2		V				5.30	4.18	67.9	212 54	-16 46	0.04
2084	139 TAU	5 56.3	25 56	-0.07	B1	B	I				4.80	4.75	58.1	183 58	+ 0 49	0.12
2088	BETA AUR	5 57.6	44 56	0.03	A2		V	8.5	184.8	3	1.90	2.26	52.1	167 28	+10 24	
2095	THETA AUR	5 57.9	37 11	-0.08	B9.5	P	V	4.5	2.8	4	2.60	2.27	118.6	174 20	+ 6 43	
2106	GAMMA COL	5 56.6	-35 17	-0.18	B3		IV	8.4	33.9		4.30	3.42	97.6	241 14	-25 39	0.03
2159	NU ORI	6 6.0	14 46	-0.16	B3		V				4.40	3.62	81.2	194 48	- 2 44	0.05
2199	XI ORI	6 10.4	14 13	-0.18	B3		V				4.40	3.52	89.0	195 48	- 2 4	0.03
2205		6 10.6	-6 32	-0.21	B2		V				5.00	3.83	93.7	214 19	-11 47	0.03
2212	DELTA PIC	6 9.8	-54 57	-0.25	B1	N					4.80	3.28	224.7	263 19	-27 41	0.03
2222		6 13.6	13 51	-0.21	B1		V	6.5	21.4		5.90	4.58	67.8	196 29	- 1 34	0.07
2266		6 17.1	-19 57		B2		V				5.30	3.96	83.4	227 31	-16 4	
2273	7 MON	6 18.4	-7 49	-0.20	B2		V				4.20	3.08	187.0	216 22	-10 36	0.04
2282	ZETA CMA	6 19.3	-30 3	-0.19	B2.5		V				3.00	1.93	539.2	237 31	-19 26	0.05
2288		6 19.6	-34 8	-0.20	B1.5		V	Q			5.50	4.23	93.7	241 38	-20 47	0.08
2294	BETA CMA	6 21.5	-17 56	-0.23	B1		II				1.90	0.48	2961.6	226 3	-14 16	0.05
2343	NU GEM	6 27.4	20 14	-0.12	B7	E	IV	4.5	112.7	7	4.10	3.46	57.3	192 25	+ 4 20	
2344	10 MON	6 26.6	-4 44	-0.18	B2		V				5.00	3.98	81.6	214 31	- 7 24	0.06
2356	BETA	6 27.5	-7 0	-0.10	B3	E	V	0.5	7.4	4	4.60	4.12	51.2	216 39	- 8 13	0.11
2361	LAMBDA CMA	6 27.2	-32 33	-0.18	B5						4.40	3.56	66.0	240 39	-18 46	
2387	XI CMA	6 30.7	-23 23	-0.25	B0.5		IV	9.1	28.9	3	4.30	2.85	368.3	232 7	-14 32	0.06
2421	GAMMA GEM	6 36.2	16 25	-0.00	A0		IV				1.90	1.90	110.9	196 46	+ 4 26	
2451	NU PUP	6 36.9	-43 9	-0.11	B8		III				3.10	2.56	115.1	251 56	-20 32	
2456	15 MON	6 39.5	9 54	-0.25	O7		III	2.8	3.0	5	4.60	3.54	212.6	202 56	+ 2 11	0.15
2491	ALPHA CMA	6 44.0	-16 40	0.00	A1		V	10.1	11.9	3	-1.46	-1.29	1726.7	227 13	- 8 52	
2492	10 CMA	6 43.4	-31 2		B3	P		5.5	36.3		5.10	4.04	54.7	240 31	-14 59	
2538	KAPPA CMA	6 48.8	-32 29	-0.24	B2	E	V				3.90	2.58	296.3	242 22	-14 30	
2571	15 CMA	6 52.4	-20 11	-0.22	B1		IV				4.80	3.43	195.7	231 18	- 8 38	0.06
2596	IOTA CMA	6 54.9	-17 0	-0.07	B3		II				4.30	3.97	58.8	228 42	- 6 41	0.14
2618	EPSILON CMA	6 57.6	-28 55	-0.21	B2		II	6.4	8.2		1.50	0.33	2353.6	239 50	-11 20	0.03
2648	19 MON	7 1.6	-4 12	-0.20	B1		V				4.90	3.63	162.7	218 1	+ 0 36	0.08
2653	OMICRON CMA	7 1.9	-23 47	-0.09	B3	A	I				3.00	3.23	115.9	235 33	- 8 14	0.06
2688		7 5.9	-26 36		B1		V				6.30	4.65	63.4	238 31	- 8 40	
2690		7 6.3	-23 47		B1	QE	V				5.70	4.05	110.2	236 0	- 7 21	
2702		7 7.9	-39 37	-0.19	B3		V				4.80	3.87	64.5	250 42	-13 50	0.02

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
2739			7 13.2	-10 15	-0.18	B0		IV					6.00	4.90	55.7	224 43	+ 0 21	0.13
2745	27	CMA	7 13.2	-26 18	-0.12	B3	PE	III		0.0	0.1		4.40	3.82	67.5	238 58	- 7 5	0.09
2749	OMEGA	CMA	7 13.7	-26 43	-0.14	B3	E	IV					3.80	3.12	128.7	239 24	- 7 10	0.07
2770			7 15.9	-36 33	-0.18	B2		V					5.00	3.98	81.6	248 31	-11 7	0.06
2781	UW	CMA	7 17.6	-24 31	-0.15	O7	F						4.90	4.34	101.7	237 50	- 5 23	0.25
2782	TAU	CMA	7 17.6	-24 54	-0.15	O9		III		3.7	84.4	5	4.30	3.45	226.1	238 11	- 5 33	0.19
2787			7 17.3	-36 41	-0.13	B3	E	V					4.70	4.07	53.6	248 47	-10 55	0.08
2827	ETA	CMA	7 23.0	-29 14	-0.07	B5	A	I					2.40	2.73	141.2	242 36	- 6 29	0.04
2845	BETA	CMI	7 25.7	8 20	-0.10	B7		V					2.80	2.16	189.6	209 31	+11 40	
2855			7 25.8	-23 1		B0	PE	IV	Q				5.40	3.67	173.0	237 24	- 3 0	
2928			7 35.5	-19 38		B2		III					5.60	4.26	63.3	235 32	+ 0 36	
2949			7 37.7	-26 44		B5	N			0.0	10.0	3	4.60	3.76	54.9	241 57	- 2 26	
2961			7 38.5	-38 15	-0.20	B3	N						4.80	3.82	67.5	252 8	- 7 54	0.01
3004			7 43.4	-24 36	-0.20	B1		V					5.60	4.33	85.4	240 45	- 0 16	0.08
3023			7 46.1	-22 26	-0.20	B1		IV					5.80	4.53	71.0	239 11	+ 1 21	0.08
3034			7 47.0	-25 51	-0.05	B0	PE	V	Q	8.5	27.7		4.40	3.95	133.7	242 14	- 0 13	0.26
3037			7 46.7	-46 32	-0.14	B1		V					5.20	4.23	93.6	260 15	-10 34	0.14
3055			7 48.4	-46 17	-0.19	B0.5		III		5.5	60.0		4.10	2.95	335.9	260 10	-10 11	0.12
3084			7 51.7	-38 47	-0.20	B3		V					4.40	3.42	97.6	253 54	- 5 56	0.01
3089			7 52.3	-49 32	-0.23	B2		III					4.60	3.33	148.5	263 23	-11 12	0.01
3090			7 52.5	-48 2	-0.15	B1	B	I					4.20	3.75	146.0	262 4	-10 26	0.04
3116			7 56.4	-44 1	-0.18	B3				7.5	9.8	3	5.00	4.12	51.2	258 54	- 7 50	0.03
3117	CHI	CAR	7 56.1	-52 54	-0.19	B2		IV					3.40	2.33	373.0	266 41	-12 19	0.05
3129	V	PUP	7 57.5	-49 9	-0.17	B2	N			5.3	7.0	3	4.30	3.33	148.5	263 28	-10 17	0.07
3159			7 60.0	-63 29	-0.18	B3		IV					4.80	3.92	61.6	276 32	-16 55	0.03
3165	ZETA	PUP	8 2.6	-39 55	-0.28	O5	F						2.20	1.28	1738.3	255 58	- 4 42	0.18
3192	16	PUP	8 7.8	-19 10	-0.16	B5		V					4.40	3.56	66.0	239 2	+ 7 24	
3206			8 8.7	-47 16	-0.23	B3	N			2.6	42.5		4.20	3.14	125.4	262 48	- 7 42	
3223	EPSILON	VOL	8 7.9	-68 32	-0.12	B5		III		3.5	6.7		4.30	3.63	62.1	281 37	-18 33	0.03
3237			8 12.5	-35 49	-0.12	B3	NE						4.70	4.12	51.2	253 35	- 0 51	0.09
3283			8 20.3	-36 23	-0.20	B3				7.8	7.3		5.10	4.12	51.2	254 57	+ 0 8	0.01
3293			8 20.6	-57 52		B1		V					6.00	4.35	83.6	272 52	-11 55	
3294			8 21.7	-48 23	-0.16	B1		V		1.4	0.8		4.80	3.73	148.4	264 58	- 6 30	0.12
3358			8 28.2	-47 50	-0.14	B2		III		2.2	4.4	3	5.30	4.48	51.5	265 9	- 5 17	0.10
3447	OMICRON	VEL	8 39.5	-52 49	-0.18	B3		III					3.60	2.72	186.0	270 15	- 6 48	0.03
3454	ETA	HYA	8 41.8	3 28	-0.20	B3		V					4.20	3.22	117.4	223 15	+26 19	0.01
3457			8 40.0	-59 39	-0.12	B1		III		8.1	16.9		4.30	3.43	195.6	275 49	-10 51	0.16
3467			8 41.6	-53 1	-0.18	B4		IV		0.6	76.6	4	4.80	3.90	53.2	270 36	- 6 40	
3468	ALPHA	PYX	8 42.5	-33 6	-0.19	B2		III					3.60	2.53	310.3	255 0	+ 5 46	0.05
3476			8 42.8	-49 44	-0.21	B0	N	V					5.10	3.85	146.6	268 6	- 4 30	0.10
3485	DELTA	VEL	8 44.0	-54 37	0.04	A0		V		4.6	3.5	3	1.90	2.10	92.2	272 5	- 7 22	0.04
3498			8 46.0	-56 40	-0.18	B2	NE	V					4.40	3.38	141.8	273 54	- 8 25	0.06
3527			8 49.6	-46 25	-0.21	B0		III		6.6	3.7		5.00	3.75	160.8	266 15	- 1 32	0.10
3571			8 54.4	-60 32	-0.10	B8		II		8.5	29.0		3.80	3.26	60.4	277 39	- 9 59	
3582			8 56.3	-59 7	-0.17	B3		IV		1.7	40.6		4.80	3.97	58.8	276 42	- 8 54	0.04

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
3642			9 5.4	-70 25	-0.16	B2	E	V					4.70	3.78	98.1	286 11	-15 25	0.08
3658			9 10.6	-46 28	-0.22	B2		IV					5.70	4.48	51.5	268 40	+ 1 9	0.02
3659		CAR	9 10.3	-58 51	-0.20	B2		IV					3.40	2.28	390.6	277 41	- 7 22	0.04
3663			9 10.7	-62 12	-0.19	B3		IV					3.90	2.97	147.8	280 13	- 9 36	0.02
3685	BETA	CAR	9 12.9	-69 36	-0.00	A1		IV					1.60	1.77	103.1	285 59	-14 24	
3734	KAPPA	VEL	9 21.3	-54 59	-0.20	B2		IV					2.40	1.28	981.1	275 53	- 3 32	0.04
3819			9 33.2	-51 8	-0.20	B3	N						5.00	4.02	56.2	274 36	+ 0 25	0.01
3940	PHI	VEL	9 55.9	-54 27	-0.09	B5		II		7.8	37.2		3.50	2.98	113.0	279 21	+ 0 6	0.06
3982	ALPHA	LEO	10 6.9	12 5	-0.11	B7		V		6.5	176.9	4	1.30	0.66	755.0	226 26	+48 56	
3990			10 7.9	-51 40	-0.13	B2		V					4.80	4.03	77.9	279 9	+ 3 24	0.11
4037	OMEGA	CAR	10 13.1	-69 53	-0.08	B7		IV					3.30	2.72	113.1	290 10	-11 10	0.01
4074			10 19.9	-55 53	-0.13	B3		IV		3.4	7.3		4.50	3.87	64.5	282 59	+ 0 54	0.08
4133	RHO	LEO	10 31.4	9 26	-0.13	B1	B	I					3.80	3.45	192.4	234 53	+52 46	0.06
4140			10 31.1	-61 32	-0.10	B5	E	V					3.30	2.73	142.3	287 11	- 3 9	0.05
4196			10 41.3	-64 19	-0.14	B3		V					4.80	4.12	51.2	289 34	- 5 0	0.07
4199	THETA	CAR	10 42.0	-64 14	-0.23	O9.5		V					2.70	1.45	1426.8	289 36	- 4 54	0.11
4222			10 45.9	-64 14	-0.15	B3		IV					4.80	4.07	53.6	289 58	- 4 41	0.06
4234	DELTA	CHA	10 45.5	-80 24	-0.20	B3		V					4.40	3.42	97.6	297 44	-18 58	0.01
4295	BETA	UMA	11 0.2	56 31	-0.01	A1		V					2.30	2.47	54.1	149 11	+54 48	
4390	PI	CEN	11 19.8	-54 21	-0.16	B5	N	V		0.5	0.6		3.80	2.96	114.8	289 57	+ 6 5	
4403			11 23.1	-42 31	-0.19	B0		III					6.10	4.95	53.2	286 19	+17 23	0.12
4467	LAMBDA	CEN	11 34.5	-62 52	-0.05	B9		II		8.7	16.6		3.10	2.77	74.8	294 28	- 1 24	
4537			11 48.4	-63 38	-0.15	B3	NE	V					4.30	3.57	85.0	296 10	- 1 44	0.06
4554	GAMMA	UMA	11 52.4	53 50	-0.00	A0		V					2.40	2.40	70.0	140 51	+61 23	
4590			11 59.5	-19 30		B1.5		V					5.20	3.55	174.7	286 54	+41 38	
4618			12 6.7	-50 30	-0.16	B6		III		1.7	368.0	3	4.40	3.66	53.9	295 56	+11 38	
4621	DELTA	CEN	12 7.0	-50 34	-0.11	B2	QPE	V	Q	2.0			2.50	1.83	591.2	295 59	+11 34	0.13
4638	RHO	CEN	12 10.2	-52 13	-0.15	B4		V					3.90	3.15	106.1	296 47	+10 2	0.03
4656	DELTA	CRU	12 13.7	-58 36	-0.24	B2		IV					2.80	1.48	816.1	298 14	+ 3 47	
4662	GAMMA	CRV	12 14.4	-17 23	-0.11	B8		III					2.50	1.96	200.0	290 59	+44 31	
4674	BETA	CHA	12 16.7	-79 9	-0.13	B6		V					4.20	3.46	64.8	301 20	-16 32	
4679	ZETA	CRU	12 17.0	-63 51	-0.18	B3		IV		10.0	33.8		4.00	3.12	128.7	299 19	- 1 22	0.03
4730	ALPHA	CRU	12 25.1	-62 57		B1		IV		0.5	5.6		1.50	-0.15	5275.0	300 8	- 0 22	
4731	ALPHA	CRU	12 25.1	-62 57		B3	N			0.5	5.6		2.00	0.94	950.9	300 8	- 0 22	
4743	SIGMA	CEN	12 26.6	-50 5	-0.20	B2		V					3.90	2.78	246.5	299 6	+12 28	0.04
4757	DELTA	CRV	12 28.5	-16 22	-0.04	B9.5	N	V	Q	4.5	24.4		2.90	2.57	89.9	295 28	+46 3	
4773	GAMMA	MUS	12 30.9	-71 59	-0.16	B5		V					3.80	2.96	114.8	301 28	- 9 19	
4787	KAPPA	DRA	12 32.3	69 55	-0.13	B7	P						3.80	3.16	75.5	125 13	+47 16	
4798	ALPHA	MUS	12 35.6	-68 59	-0.21	B3		IV		10.1	29.7		2.70	1.67	489.3	301 39	- 6 18	
4819	GAMMA	CEN	12 40.0	-48 49	-0.02	A0		III		0.1	1.8		2.10	2.10	92.5	301 15	+13 53	
4844	BETA	MUS	12 44.6	-67 58	-0.18	B2.5		V		0.3	1.6		3.00	1.98	514.9	302 27	- 5 14	0.06
4848			12 44.8	-56 20	-0.17	B3		IV		3.6	52.6		4.60	3.77	70.7	302 14	+ 6 23	0.04
4853	BETA	CRU	12 46.2	-59 33	-0.24	B0.5		IV		10.0	44.3		1.20	-0.20	6112.1	302 28	+ 3 11	0.07
4897	LAMBDA	CRU	12 53.0	-59 0	-0.16	B5	QN	V					4.60	3.76	54.9	303 21	+ 3 44	
4898	MU	CRU	12 53.0	-57 2	-0.19	B3		IV		1.2	37.9		4.00	3.07	134.8	303 22	+ 5 42	0.02

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
4905	EPSILON	UMA	12 52.8	56 5	-0.03	A0	PV						1.70	1.70	133.7	122 12	+61 10	
4915	ALPHA	CVN	12 54.8	38 27	-0.11	B9.5	PV			2.5	19.9		2.80	2.47	98.6	118 19	+78 46	
4942	XI	CEN	13 5.3	-49 45	-0.20	B2		V		5.1	26.0		4.20	3.08	187.0	305 29	+12 54	0.04
5035			13 20.9	-60 50	-0.14	B5		V		1.9	60.5		4.50	3.73	56.7	306 42	+ 1 40	0.01
5036			13 20.6	-52 2		B1							6.10	4.45	76.2	307 43	+10 24	
5056	ALPHA	VIR	13 23.8	-11 0	-0.24	B1		V					0.90	-0.57	7789.8	316 6	+50 52	0.04
5132	EPSILON	CEN	13 38.2	-53 19	-0.24	B1		V		10.9	37.6		2.30	0.83	2145.5	310 11	+ 8 44	0.04
5190	NU	CEN	13 47.9	-41 32	-0.23	B2		IV					3.40	2.13	448.5	314 25	+19 54	0.01
5191	ETA	UMA	13 46.5	49 27	-0.19	B3		V					1.80	0.87	1022.2	100 43	+65 19	0.02
5193	MU	CEN	13 48.0	-42 20	-0.21	B2	PNE	V	Q	9.9	47.9		3.40	2.23	409.0	314 14	+19 7	0.03
5210	3	CEN	13 50.3	-32 51		B5	P	III		1.6	9.4		4.70	3.86	50.1	317 17	+28 12	
5231	ZETA	CEN	13 53.9	-47 9	-0.23	B2		IV					2.50	1.23	1027.4	314 4	+14 12	0.01
5248	PHI	CEN	13 56.6	-41 58	-0.22	B2		IV					3.80	2.58	296.3	315 58	+19 5	0.02
5249	UPSILON	CEN	13 57.0	-44 40	-0.21	B2		V					3.80	2.63	283.0	315 17	+16 27	0.03
5267	BETA	CEN	14 1.9	-60 14	-0.23	B1		II		8.1	1.4		0.60	-0.82	9806.7	311 46	+ 1 16	0.05
5285	CHI	CEN	14 4.4	-41 3	-0.20	B3		V					4.30	3.32	107.0	317 43	+19 33	0.01
5354	IOTA	LUP	14 17.7	-45 56	-0.19	B3		IV					3.50	2.57	213.6	318 28	+14 9	0.02
5378			14 21.4	-39 22	-0.19	B3		V					4.40	3.47	93.2	321 34	+20 2	0.02
5395	TAU	LUP	14 24.4	-45 5	-0.16	B3		III					4.50	3.72	74.1	319 55	+14 31	0.05
5425	SIGMA	LUP	14 30.8	-50 20	-0.19	B2		V					4.40	3.33	148.5	318 56	+ 9 15	0.05
5440	ETA	CEN	14 33.8	-42 1	-0.21	B1.5	NE	V	Q	10.9	5.6		2.30	0.98	1868.6	322 46	+16 41	0.07
5453	RHO	LUP	14 36.1	-49 17	-0.15	B5		V					4.00	3.18	94.0	320 8	+ 9 52	
5469	ALPHA	LUP	14 40.1	-47 16	-0.21	B2		II		10.6	27.6		2.30	1.13	1126.5	321 36	+11 26	0.03
5471			14 40.3	-37 40	-0.17	B3		V					4.00	3.17	122.9	325 54	+20 6	0.04
5528	OMICRON	LUP	14 49.9	-43 28	-0.16	B6		III	Q	0.0	0.1		4.30	3.56	59.1	324 54	+14 7	
5571	BETA	LUP	14 56.8	-43 1	-0.22	B2		IV					2.60	1.38	894.8	326 15	+13 55	0.02
5576	KAPPA	CEN	14 57.4	-41 59	-0.22	B2		V		8.1	3.8		3.10	1.88	564.6	326 52	+14 46	0.02
5605	PI	LUP	15 3.3	-46 56		B5		IV		0.1	1.6		4.70	3.86	50.1	325 19	+ 9 56	
5626	LAMBDA	LUP	15 7.0	-45 10	-0.18	B3		V		0.4	0.8		4.00	3.12	128.7	326 48	+11 8	0.03
5651			15 11.0	-44 23	-0.17	B3		III					4.80	3.97	58.8	327 50	+11 27	0.04
5664	DELTA	CIR	15 14.8	-60 51	-0.06	D9		V		8.3	50.0		5.00	4.60	78.4	319 41	- 2 54	0.28
5685	BETA	LIB	15 15.5	-9 17	-0.11	B8		V					2.60	2.06	182.4	352 1	+39 15	
5695	DELTA	LUP	15 19.6	-40 33	-0.22	B2		IV					3.20	1.98	514.9	331 19	+13 50	0.02
5708	EPSILON	LUP	15 20.8	-44 36	-0.17	B3		IV		1.7	1.4	3	3.30	2.47	234.2	329 13	+10 20	0.04
5712	PHI	LUP	15 21.4	-36 46	-0.15	B5		V					4.50	3.68	59.3	333 50	+16 45	
5776	GAMMA	LUP	15 33.3	-41 4	-0.21	B2	N	V		0.3	0.1		2.70	1.53	779.4	333 11	+11 54	0.03
5778	THETA	CRB	15 31.8	31 27	-0.13	B7	NN						4.10	3.46	57.3	49 42	+54 43	
5781			15 34.0	-44 51	-0.18	B5		IV		2.7	3.1		4.50	3.66	60.2	331 1	+ 8 46	
5793	ALPHA	CRB	15 33.5	26 48	-0.02	A0		V					2.20	2.20	84.4	41 53	+53 47	
5812	TAU	LIB	15 37.0	-29 41	-0.17	B2.5		V					3.60	2.63	283.0	341 4	+20 27	0.07
5885	1	SCO	15 49.4	-25 40	-0.05	B2.5	N	V					4.60	4.23	64.8	346 6	+21 43	0.19
5904	2	SCO	15 52.0	-25 15	-0.08	B2.5	N	V		2.0	2.9		4.60	4.08	74.4	346 52	+21 37	0.16
5928	RHO	SCO	15 55.2	-29 8	-0.20	B2		V		10.5	38.4		3.80	2.68	270.2	344 38	+18 17	0.04
5941	48	LIB	15 56.7	-14 11	-0.09	B	P						4.80	3.74	72.1	356 23	+28 39	
5944	PI	SCO	15 57.2	-26 2	-0.19	B1		V		6.0	51.2		2.90	1.68	980.6	347 12	+20 14	0.09

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME	RA(1973)	DEC	B-V	SP		LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
5948	ETA LUP	15 58.3	-38 19	-0.23	B2		V	3.8	15.5	3.40	2.13	448.5	338 46	+11 1	0.01
5953	DELTA SCO	15 58.7	-22 32	-0.11	B0		V			2.30	1.55	1219.4	350 6	+22 30	0.20
5984	BETA SCO	16 3.9	-19 43	-0.07	B0.5		V	4.0	13.8 3	2.60	2.05	769.4	353 11	+23 37	0.24
5987	THETA LUP	16 4.8	-36 43	-0.19	B2	N	V			4.20	3.13	178.5	340 50	+11 20	0.05
5993	OMEGA SCO	16 5.2	-20 35	-0.04	B1		V			3.90	3.43	195.6	352 45	+22 47	0.24
6027	NU SCO	16 10.4	-19 23	0.04	B2		IV *V	2.5	1.1 4	4.00	4.08	74.4	354 36	+22 43	0.28
6028	13 SCO	16 10.7	-27 51	-0.16	B2.5	N	V			4.50	3.58	118.0	348 7	+16 51	0.08
6084	SIGMA SCO	16 19.6	-25 31	0.14	B1		III	7.0	20.7	2.80	3.23	235.2	351 19	+17 1	0.42
6092	TAU HER	16 18.9	46 22	-0.15	B5		IV	10.7	6.7	3.80	2.98	113.0	72 29	+45 2	
6115	EPSILON NOR	16 25.2	-47 30	-0.07	B3	Q	V	2.7	23.9	4.40	4.07	53.6	336 0	+ 0 59	0.14
6141	22 SCO	16 28.6	-25 3	-0.11	B2		V			4.70	4.03	77.9	353 6	+15 48	0.13
6143		16 29.6	-34 38	-0.17	B2		IV			4.20	3.23	162.8	345 56	+ 9 14	0.07
6164		16 34.5	-42 47		O9		I			5.50	4.72	70.3	340 32	+ 3 1	
6165	TAU SCO	16 34.2	-28 9	-0.25	B0		V			2.80	1.35	1466.2	351 31	+12 49	0.06
6175	ZETA OPH	16 35.7	-10 30	0.02	O9.5		V			2.50	2.50	542.3	6 17	+23 36	0.36
6247	MU SCO	16 50.0	-38 0	-0.21	B1.5		V	0.5	346.0	3.10	1.78	894.4	346 6	+ 3 55	0.07
6252	MU SCO	16 50.5	-37 58	-0.22	B2		IV	0.5	346.0	3.50	2.28	390.6	346 12	+ 3 52	0.02
6396	ZETA DRA	17 8.7	65 44	-0.13	B6		III			3.10	2.36	178.4	96 0	+35 2	
6431	68 HER	17 16.3	33 7	-0.15	B3		III	5.4	4.7	4.80	4.07	53.6	56 24	+33 8	0.06
6440		17 21.5	-62 50		B2		V			5.80	4.46	52.6	328 53	-14 45	
6453	THETA OPH	17 20.3	-24 58	-0.21	B2		IV			3.20	2.03	491.7	0 28	+ 6 34	0.03
6462	GAMMA ARA	17 23.1	-56 21	-0.13	B1		III	6.5	17.9	3.30	2.38	514.6	334 39	-11 28	0.15
6500	DELTA ARA	17 28.7	-60 39	-0.10	B8		V	7.1	47.4	3.50	2.96	79.6	331 16	-14 21	
6508	UPSILON SCO	17 28.9	-37 16	-0.22	B3	B	I			2.70	2.64	198.7	351 16	- 1 50	
6510	ALPHA ARA	17 29.8	-49 51	-0.18	B2.5	E	V	9.5	55.6	2.90	1.88	564.6	340 45	- 8 49	0.06
6527	LAMBDA SCO	17 31.8	-37 4	-0.21	B1		V			1.60	0.28	3560.5	351 44	- 2 12	0.07
6535		17 32.9	-32 33		O7			4.8	6.1	5.70	3.90	152.2	355 40	+ 0 4	
6580	KAPPA SCO	17 40.6	-39 1	-0.22	B2		IV			2.40	1.18	1075.8	351 2	- 4 43	0.02
6588	IOTA HER	17 38.7	46 1	-0.18	B3		V			3.80	2.92	154.7	72 20	+31 16	0.03
6712	66 OPH	17 58.9	4 21	-0.04	B2	E	V			4.60	4.28	61.9	30 59	+13 22	0.20
6716		18 0.3	-22 46		B0	B	I	6.5	8.2 3	5.70	4.97	52.2	7 9	- 0 2	
6743	THETA ARA	18 4.5	-50 5	-0.07	B0.5		II			3.60	3.05	306.3	343 20	-13 49	0.24
6787	102 HER	18 7.6	20 48	-0.15	B2		V	7.0	23.4	4.30	3.43	135.4	47 25	+18 26	0.09
6839		18 16.7	-42 18		B0					6.40	4.67	68.9	351 28	-12 17	
6879	EPSILON SGR	18 22.4	-34 23	-0.02	B9		IV	11.3	32.5	1.80	1.52	235.3	359 12	- 9 48	0.01
6897	ALPHA TEL	18 25.0	-45 58	-0.18	B3		III			3.50	2.62	204.0	348 40	-15 10	0.03
6946		18 29.9	-10 49		B2		V	3.3	12.4	5.80	4.46	52.6	21 3	- 0 31	
7001	ALPHA LYR	18 36.0	38 45	-0.00	A0		V	9.5	57.1 5	0.00	0.00	638.1	67 26	+19 15	
7029		18 42.5	-35 39	-0.17	B2		V	7.7	9.6	4.80	3.83	93.7	359 48	-14 4	0.07
7039	PHI SGR	18 44.0	-27 1	-0.10	B8		III			3.10	2.56	115.1	7 59	-10 46	
7074	LAMBDA PAV	18 49.7	-62 12	-0.15	B1	E	V	9.0	63.1	4.20	3.18	246.3	333 37	-23 52	0.13
7106	BETA LYR	18 49.1	33 20	-0.01	B7		V	+ 3.7	46.6 6	3.40	3.17	74.7	63 11	+14 47	0.08
7121	SIGMA SGR	18 53.6	-26 19	-0.21	B2		V			2.00	0.83	1485.0	9 33	-12 25	0.03
7178	GAMMA LYR	18 57.9	32 38	-0.04	B9		III	8.8	13.8	3.20	2.87	68.2	63 19	+12 49	
7236	LAMBDA AQL	19 4.8	-4 55	-0.10	B9	QN	V	Q		3.40	3.07	56.7	30 16	- 5 30	

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME		RA(1973)	DEC	B-V	SP		LUM		DMAG	SEP		V	UV	FLUX	LONG	LAT	E(B-V)
7298	ETA	LYR	19 12.8	39 5	-0.15	B2		IV		4.1	28.3		4.30	3.43	135.4	70 37	+12 45	0.09
7318	2	VUL	19 16.6	22 59		B0.5		IV		3.8	2.1		5.30	3.57	189.6	56 22	+ 4 52	
7337	BETA	SGR	19 20.7	-44 30	-0.10	B8	N	V		2.9	29.1		4.00	3.46	50.2	353 36	-23 55	
7426	8	CYG	19 30.8	34 23	-0.13	B3		IV					4.70	4.07	53.6	67 58	+ 7 26	0.08
7446	KAPPA	AQL	19 35.4	-7 5	-0.01	B0.5		III					4.90	4.65	70.2	31 46	-13 17	0.30
7528	DELTA	CYG	19 44.1	45 3	-0.03	B9.5		III		4.9	3.1		2.80	2.47	98.1	78 42	+10 15	
7565	12	VUL	19 49.9	22 31	-0.16	B3	E	V					4.90	4.12	51.2	59 43	- 2 4	0.05
7567			19 49.7	40 31		B1		IV	Q				5.60	3.95	120.8	75 13	+ 7 8	
7591			19 51.3	47 50		B2		III					5.60	4.26	63.3	81 48	+10 31	
7623	THETA	SGR	19 58.0	-35 21	-0.15	B3		IV					4.30	3.57	85.0	5 31	-28 28	0.06
7688	17	VUL	20 5.7	23 32	-0.18	B3		V					5.00	4.12	51.2	62 29	- 4 38	0.03
7719	THETA	AQL	20 9.9	-0 53	-0.06	B9.5		III					3.20	2.87	68.2	41 35	-18 5	
7739			20 14.1	25 30	-0.18	B3		V		4.1	1.2		4.70	3.82	67.5	65 11	- 5 10	0.03
7763	P	CYG	20 16.8	37 56	0.42	B	P						4.80	3.74	72.1	75 49	+ 1 19	
7789	25	VUL	20 20.9	24 21	-0.06	B1	E	IV					5.40	4.83	53.9	65 5	- 7 5	0.22
7790	ALPHA	PAV	20 23.5	-56 49	-0.20	B3		IV					1.90	0.92	976.2	340 55	-35 11	0.01
7844	OMEGA	CYG	20 29.2	48 51	-0.08	B2		V		4.5	56.5	3	4.90	4.38	56.5	86 4	+ 5 45	0.16
7852	EPSILON	DEL	20 31.9	11 12	-0.13	B6		III					4.00	3.26	77.9	55 25	-16 35	
7929	51	CYG	20 41.4	50 15		B2		V		6.0	26.2	4	5.30	3.96	83.4	88 22	+ 5 0	
7963	LAMBDA	CYG	20 46.4	36 23	-0.12	B5		V		1.3	1.0	3	4.50	3.83	51.7	78 5	- 4 20	0.03
8047	59	CYG	20 58.9	47 24	-0.04	B1	E	IV	Q	4.3	20.3	4	4.50	4.03	112.6	88 2	+ 0 58	0.24
8053	60	CYG	21 0.2	46 3	-0.23	B1	E	V		4.2	3.1		5.30	3.88	129.3	87 9	- 0 6	0.05
8105			21 10.0	36 11		B1	P	V		5.7	22.2		6.30	4.65	63.4	81 3	- 8 5	
8146	UPSILON	CYG	21 16.8	34 47	-0.12	B2	E	V		5.6	15.2	3	4.40	3.68	107.6	80 59	-10 3	0.12
8154	68	CYG	21 17.4	43 49	-0.01	O7		V					4.90	5.04	53.4	87 36	- 3 51	0.39
8238	BETA	CEP	21 28.3	70 25	-0.25	B2		III		4.7	13.9		3.10	1.76	633.0	107 32	+14 1	
8260	EPSILON	CAP	21 35.6	-19 35	-0.18	B3	P	V	Q	3.7	68.7		4.60	3.72	74.1	31 56	-44 59	0.03
8301	PI	CYG	21 41.1	51 3	-0.12	B3		IV					4.60	4.02	56.2	95 29	- 1 18	0.09
8335	PI	CYG	21 45.8	49 11	-0.13	B3		III					4.20	3.57	85.0	94 50	- 3 13	0.08
8353	GAMMA	GRU	21 52.3	-37 29	-0.12	B8		III					3.00	2.46	126.2	6 6	-51 28	
8356	16	PEG	21 51.8	25 47	-0.18	B3	E						5.00	4.12	51.2	80 5	-21 45	0.03
8425	ALPHA	GRU	22 6.5	-47 5	-0.14	B5		V		9.8	28.8		1.70	0.93	746.9	350 0	-52 28	0.01
8520	31	PEG	22 20.2	12 3	-0.16	B2	E	V					5.00	4.08	74.4	75 15	-36 26	0.08
8539	PI	AQR	22 23.9	1 13	-0.04	B1	PE	V					4.60	4.13	102.7	65 59	-44 44	0.24
8579	6	LAC	22 29.3	42 59	-0.09	B2		IV					4.40	3.83	93.7	97 22	-12 38	0.15
8597	ETA	AQR	22 34.0	-0 15	-0.09	B8		V					4.00	3.46	50.2	66 50	-47 36	
8622	10	LAC	22 38.0	38 54	-0.20	O9		V		3.5	62.1		4.80	3.70	179.6	96 39	-16 59	0.14
8634	ZETA	PEG	22 40.1	10 41	-0.09	B8		V		8.0	64.3		3.30	2.76	95.7	78 51	-40 39	
8640	12	LAC	22 40.3	40 4	-0.13	B2		III					5.20	4.43	53.9	97 39	-16 11	0.11
8728	ALPHA	PSA	22 56.2	-29 45	0.09	A3		V					1.10	1.75	58.1	20 30	-64 54	
8762	OMICRON	AND	23 0.7	42 10	-0.09	B6	P						3.60	3.02	96.8	102 12	-16 6	0.03
8773	BETA	PSC	23 2.5	3 40	-0.12	B5	PE						4.50	3.83	51.7	78 47	-49 36	0.03
8781	ALPHA	PEG	23 3.4	15 3	-0.04	B9.5		III					2.50	2.17	130.0	88 16	-40 23	
8797	1	CAS	23 5.5	59 16	-0.02	B0.5		IV					4.80	4.50	80.6	109 57	- 0 47	0.29
8858	PSI	AQR	23 16.5	-9 19	-0.11	B5		V					4.40	3.78	54.1	67 35	-61 33	0.04

ULTRAVIOLET FLUX OF THE BRIGHTEST STARS

HR	NAME	RA(1973)	DEC	B-V	SP	LUM	DMAG	SEP	V	UV	FLUX	LONG	LAT	E(B-V)
9071	SIGMA CAS	23 57.6	55 36	-0.08	B1	V	2.1	3.4	4.80	4.13	102.7	115 33	- 6 22	0.20