

MAS Eclipsing Binary Ephemeris for June 2015

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	QX	QX	V376	V376	CX	CZ	XZ	KO	KP	OO	OO	V342
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.3	8.6	10.8	11.3	11.3	7.7	7.7	10.7	10.3	9.3	8.3	9.7	9.2	9.2	9.0
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.7	9.5	11.4	11.6	11.6	8.0	8.0	12.0	11.2	11.2	9.3	10.5	10.1	10.1	12.5
DUR	3	11	8	4	3	3	3	4	3	4	4	3	3	4	4	3	3	7	5	4	3	3	7
TOT		2																					3
							(S)				(S)		(S)		(S)							(S)	
0- 1			6.5			9.5	5.5		6.5		8.0	9.0			6.5				10.5	10.0	4.0	7.0	
1- 2	7.5			7.0		9.5	5.5		5.0		8.5		10.0	10.5	2.0	5.5		9.0		10.5	4.5		
2- 3						9.5	5.5		3.0	8.0	8.5	10.5		5.5		8.0				10.5	4.5		
3- 4	4.5		6.0	9.0	6.0	9.5	5.5				9.0	6.5				11.0						5.0	
4- 5	11.0					9.0	5.0		10.5		9.0		7.0		6.5		10.0		5.5			5.5	
5- 6	2.0					9.0	5.0		9.0	9.5	9.5	8.0		10.0								5.5	
6- 7	8.0					9.0	5.0	11.0	7.0		9.5		8.5	5.5		5.5						6.0	
7- 8				7.5		9.0	5.0	10.5	5.5		10.0	9.5				8.5		4.0	2.5	4.0		6.5	
8- 9	5.5		6.0			9.0	5.0	10.0	3.5	10.5	10.0		10.0		6.5							6.5	
9-10						8.5	4.5	10.0	2.0		10.5	10.5		10.0				7.5				7.0	
10-11	2.5		8.0			8.5	4.5	9.5		6.5	10.5	6.5		5.5								7.5	
11-12	9.0			9.5		8.5	4.5	9.0	9.5		11.0		7.0			5.5	8.0	10.5				7.5	
12-13			10.0			8.5	4.5	9.0	7.5			8.0			6.0	8.5						8.0	
13-14	6.0					8.5	4.5	8.5	6.0	7.5			8.5	10.0								8.0	
14-15						8.0	4.0	8.0	4.0			9.5		5.0							2.5	8.5	
15-16	3.5					8.0	4.0	8.0	2.0			10.0		11.0							3.0	9.0	
16-17	9.5					8.0	4.0	7.5		9.0		11.0			6.0	6.0					3.0	9.0	
17-18			7.0			8.0	4.0	7.0	10.0			6.5		10.0		8.5	8.5			6.5	3.5	9.5	6.0
18-19	7.0					7.5	4.0	7.0	8.0				7.5	5.0								4.0	10.0
19-20			9.0			7.5		6.5	6.0	10.0		8.0			10.5							4.0	10.0
20-21	4.0					7.5		6.0	4.5				9.0		6.0							4.5	10.5
21-22	10.5					7.5		6.0	2.5			9.5		9.5		6.0			10.0			5.0	11.0
22-23				6.0		7.5		5.5					10.5			8.5						5.0	
23-24	7.5					7.0		5.0	10.0						10.5		9.5					5.5	
24-25			6.0			7.0		5.0	8.5	7.0		7.0			6.0			7.0	7.0			5.5	
25-26	5.0					7.0		4.5	6.5				7.5	9.5								6.0	
26-27			8.0	7.5		7.0	11.0	4.0	5.0			8.5				6.0		10.0				6.5	
27-28	2.0	7.0				7.0	11.0	4.0	3.0	8.5			9.0		10.5	8.5			3.5	9.0		6.5	10.0
28-29	8.5		10.0			6.5	10.5	3.5				10.0			5.5							7.0	
29-30						6.5	10.5	3.0	10.5				10.5	9.5			10.5					7.5	

	V343	V346	RX	SS	SS	SX	WW	WW	AP	AP	CL	EM	EP	HP	HP	SS	SS	SS	TU	TU	TY	TY	TZ
	AQL	AQL	ARI	ARI	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO
MAX	10.6	9.0	9.4	10.1	10.1	8.2	5.7	5.7	10.9	10.9	11.7	11.0	10.8	10.8	10.8	10.3	10.3	10.3	11.7	11.7	11.8	11.8	10.6
MIN	12.3	10.4	9.9	11.1	11.1	9.0	6.4	6.4	11.4	11.4	13.2	11.9	11.3	11.5	11.5	11.0	11.0	11.0	12.7	12.7	12.3	12.3	11.1
DUR	4	4	4	3	3	4	5	5	4	4	4	4	3	3	3	18	18	18	3	3	3	3	3
TOT																6	6	6					
				(S)			(S)		(S)				(S)	(2)		(3)			(S)		(S)		
0- 1	9.5		9.5		11.0														5.0	9.0	3.5	7.0	4.0
1- 2			10.5				3.0							10.0					4.5	8.5	2.0	6.0	8.5
2- 3	6.0								4.0										3.5	7.5	8.5	5.0	6.0
3- 4																			3.0	7.0	7.5	3.5	3.5
4- 5	2.0									4.0						4.5	7.5	10.5	2.5	6.5	6.5	2.5	8.0
5- 6					8.0														2.0	5.5	5.0	9.0	5.5
6- 7		3.5		8.0		10.0			4.0										9.0	5.0	4.0	8.0	2.5
7- 8		6.0			8.5														8.5	4.5	3.0	6.5	7.0
8- 9		8.5		9.0						3.5									7.5	3.5	9.5	5.5	4.5
9-10					9.0														7.0	3.0	8.0	4.5	2.0
10-11				9.5					3.5										6.5	2.5	7.0	3.0	6.5
11-12					10.0						10.0								5.5	2.0	6.0	2.0	4.0
12-13			10.5							3.5		2.5	2.0						5.0	9.0	4.5	8.5	8.5
13-14	7.5				10.5														4.5	8.5	3.5	7.5	6.0
14-15									3.0										3.5	7.5	2.5	6.0	3.0
15-16	4.0																		3.0	7.0	9.0	5.0	8.0
16-17		2.5				2.5				3.0									2.5	6.5	7.5	4.0	5.0
17-18		5.0																	2.0	5.5	6.5	2.5	2.5
18-19		7.5			7.5				3.0										9.0	5.0	5.5	9.0	7.0
19-20		10.5		8.0											10.0				8.0	4.5	4.0	8.0	4.5
20-21					8.5					2.5									7.5	3.5	3.0	6.5	2.0
21-22				8.5															7.0	3.0	2.0	5.5	6.5
22-23					9.0				2.5										6.5	2.5	8.0	4.5	4.0
23-24				9.5															5.5	1.5	7.0	3.5	8.5
24-25	9.0				9.5				2.0	10.5									5.0	9.0	6.0	2.0	5.5
25-26				10.0			2.5					2.5							4.5	8.0	4.5	8.5	3.0
26-27	5.5				10.5				2.0										3.5	7.5	3.5	7.5	7.5
27-28		4.0		11.0												3.5	6.5		3.0	7.0	2.5	6.0	5.0
28-29		6.5							2.0					11.0					2.5	6.5	9.0	5.0	2.5
29-30		9.0				10.0					10.0								9.5	5.5	7.5	4.0	7.0

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	TZ	VW	VW	ZZ	AD	AD	BW	BW	Y	SV	AL	CD	CD	XZ	YY	AC	AK	AM	RW	TY	RZ	TV	TW
	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMI	CMI	CMI	CMI	CMI	CAP	CAP	CAS	CAS	CAS
MAX	10.6	10.5	10.5	6.8	9.8	9.8	7.1	7.1	10.6	8.6	10.5	11.6	11.6	9.7	8.5	11.0	10.1	10.0	9.8	10.5	6.4	7.3	8.3
MIN	11.1	11.0	11.0	7.6	10.4	10.2	7.5	7.5	12.4	9.4	11.3	11.8	11.8	10.2	9.1	11.5	11.5	10.7	10.8	11.6	7.8	8.4	8.9
DUR	3	3	3	5	4	4	5	5	10	3	5	5	5	3	4	3	4	5	5	4	4	4	5
TOT	(S)		(S)	(S)		(S)		(S)					(S)					(S)					
0- 1	7.5	8.0	3.5							5.0			5.0							5.0		2.0	
1- 2	5.0	8.5	4.5							9.5	4.5	8.5											6.5
2- 3	2.5	9.0	5.0									3.0		2.5				5.0					
3- 4	7.0	9.5	5.5	4.5						4.0			6.5								2.0		
4- 5	4.5	2.0	6.5							8.5		10.0		2.0		2.0					7.0		3.0
5- 6	9.0	3.0	7.0						9.0		4.0	4.5											
6- 7	6.0	3.5	7.5							3.0			8.0			2.5							
7- 8	3.5	4.0	8.0					4.5		7.5			2.0					2.0		7.5		8.0	
8- 9	8.0	4.5	9.0	4.5								6.0						2.5					10.0
9-10	5.5	5.5	9.5				3.5			2.5	4.0		9.5										3.5
10-11	3.0	6.0	2.0							7.0			3.5				2.0				6.5		
11-12	7.5	6.5	2.5									7.0											6.5
12-13	5.0	7.5	3.0										10.5					9.5					
13-14	2.5	8.0	4.0	4.0						6.0	3.5		5.0										
14-15	7.0	8.5	4.5							10.5		8.5							10.5				3.0
15-16	4.0	9.5	5.0						7.0			3.0											
16-17	8.5		6.0							5.0			6.5								6.0	9.5	
17-18	6.0	2.5	6.5				4.5			9.5	3.0	10.0				2.0				7.0	10.5		
18-19	3.5	3.0	7.0	4.0								4.0										5.0	10.0
19-20	8.0	3.5	7.5		2.0		3.5			4.5			7.5	3.0				4.5					
20-21	5.5	4.5	8.5			3.0				9.0			2.0										
21-22	3.0	5.0	9.0		3.5						2.5	5.5											6.5
22-23	7.5	5.5	9.5			4.5				3.5	10.5		9.0								5.0		
23-24	5.0	6.0	2.0	4.0	5.5					8.0			3.5			2.0					10.0		
24-25	2.0	7.0	3.0			6.0						7.0							9.5				3.0
25-26	6.5	7.5	3.5		7.0				5.0	2.5	2.5		10.5		2.0								
26-27	4.0	8.0	4.0			8.0				7.0	10.5		5.0										
27-28	8.5	9.0	4.5		8.5		4.5					8.5								6.0		6.5	
28-29	6.0	9.5	5.5	3.5		9.5				2.0		2.5									4.5		10.0
29-30	3.5	2.0	6.0		10.5		3.5			6.5	2.0		6.0					8.5			9.5	2.0	

	ZZ	AB	CW	CW	DZ	GT	IR	IS	IT	MM	OR	OX	PV	V364	V364	V375	V380	SU	WW	WZ	WZ	XX	ZZ
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP
MAX	10.7	10.2	11.8	11.8	11.6	11.9	10.8	11.6	11.0	11.3	11.4	10.1	10.0	11.2	11.2	10.1	10.4	8.8	11.1	11.4	11.4	8.5	9.3
MIN	11.1	12.2	12.5	12.5	12.3	12.8	12.1	12.6	11.8	11.9	12.4	10.9	10.6	11.7	11.7	10.9	11.1	9.8	11.9	12.0	12.0	9.6	10.0
DUR	4	4	3	3	4	5	4	5	5	5	4	5	3	4	4	5	5	4	4	3	3	4	5
TOT																							
				(S)										(S)							(S)		
0- 1		6.0	7.5	3.5	5.5											10.5	9.5				9.0	4.0	5.0
1- 2			6.5	2.5			6.5				5.5							10.0	3.0	5.0	10.0		
2- 3			5.0	9.0		9.5			7.0					8.5				8.0			6.0		8.5
3- 4	4.0		4.0	8.0	9.0		7.5					8.0				9.0	2.5	5.5		7.0	2.0		
4- 5	10.0	8.5	3.0	7.0	4.0								10.0					3.0		3.0	8.0		
5- 6			2.0	6.0		9.5	8.5	7.5		4.0				10.5							9.0	4.0	
6- 7			8.5	5.0					4.5	8.0	5.0		4.0		5.0	8.0					5.5	10.5	9.5
7- 8		2.0	7.5	4.0	7.5		9.5	3.5			11.0						4.0					6.5	
8- 9	3.5	11.0	6.5	3.0	2.0	9.0	2.0					7.5									7.5	2.5	
9-10	9.5		5.5	1.5			10.5								7.0	6.5					3.5	8.5	
10-11			4.5	8.5	10.5		3.0		2.0									10.5	8.0		9.5	4.5	
11-12		4.5	3.5	7.5	5.5	9.0					4.5		10.0				6.0	8.0			5.5	10.5	
12-13			2.5	6.5			4.0			3.0	10.5				9.0	5.5		5.5				6.5	
13-14	3.0		9.0	5.0						7.0		7.0	4.0	3.5				3.5			7.5	2.5	9.5
14-15	8.5		8.0	4.0	9.0	8.5	5.0			10.5											3.5	8.5	
15-16		7.0	7.0	3.0	3.5											4.0	7.5				9.5	4.5	5.0
16-17			6.0	2.0			6.0	8.5			4.0			6.0							5.5	10.5	
17-18			5.0	8.5		8.5					10.0										1.5	6.5	8.5
18-19	2.0		4.0	7.5	7.0		7.0	5.0				6.5	10.0			3.0					8.0	3.0	2.0
19-20	8.0	9.0	3.0	6.5	2.0					2.0				8.0			9.5	11.0			4.0	9.0	
20-21			2.0	5.5		8.0	8.0			5.5			4.0					8.5		10.0	5.0	10.0	
21-22			8.5	4.5	10.5					9.5	4.0							6.0			6.0	11.0	
22-23		3.0	7.5	3.5	5.0		9.0				9.5			10.0				3.5			2.0	7.0	
23-24			6.5	2.5		8.0						6.0			4.5						8.0	3.0	
24-25	7.5		5.0	9.0			10.0												3.0		4.0	9.0	
25-26			4.0	8.0	8.5		2.5						10.5								10.0	5.0	2.0
26-27		5.0	3.0	7.0	3.5	7.5						3.5			6.5		4.0				6.0		
27-28			2.0	6.0			3.5	10.0		4.5	9.5		4.5								2.0	7.0	10.0
28-29			8.5	5.0						8.0		5.5				10.5					8.0	3.0	
29-30	7.0		7.5	4.0	6.5	7.5	4.5	6.0							8.5			9.0			4.5	9.5	

	DL	DV	EG	EK	GK	TT	TW	TW	TX	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	TW	W	W	RV
	CEP	CEP	CEP	CEP	CEP	CET	CET	CET	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRB	CRV	CRV	CRV
MAX	12.4	11.6	9.6	8.2	6.9	10.8	10.4	10.4	10.9	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.5	10.6	10.6	9.0
MIN	13.2	12.4	10.6	9.5	7.4	11.3	11.2	11.2	11.5	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.3	11.2	11.2	10.0
DUR	5	4	3	6	4	3	3	3	4	3	3	3	3	4	4	2	2	5	4	4	4	4	4
TOT									1														
								(S)		(S)		(S)		(S)		(S)						(S)	
0- 1		3.5			2.5			10.0	9.5	4.5	2.0	7.5	3.0	5.0		7.0	4.0			2.5	4.5		
1- 2		7.5								3.5	6.5	7.5	3.5		6.0	4.0	6.5		9.5	6.5		3.5	
2- 3			3.5			11.0				2.5	5.0	8.0	4.0	6.5		6.5	4.0	8.0	3.0	11.0	3.0		4.0
3- 4	6.5		5.5			10.0	10.5		9.0	7.0	4.0	8.5	4.5	2.5	7.5	3.5	6.5					2.0	
4- 5			7.5	7.5		9.5				5.5	2.5		4.5	8.0	3.0	6.0	3.5		7.0	5.0		6.0	
5- 6			10.0							4.5	7.0		5.0	4.0		3.5	6.0			9.5	5.5		3.5
6- 7								10.5		3.0	6.0		5.5		5.0	6.0	3.0					4.5	
7- 8		2.5								2.0	5.0	2.0	6.0	5.5		3.0	5.5		5.0	4.0	4.0		
8- 9	3.5	6.5	3.0							6.5	3.5	2.0	6.0		6.5	5.5	3.0			8.0		3.0	3.5
9-10		10.5	5.5				11.0			5.0	2.5	2.5	6.5	7.0	2.0	2.5	5.5	5.5	9.0		2.5		
10-11			7.5		10.0					4.0	7.0	3.0	7.0	3.0	8.0	5.0	2.5		2.5	2.5		2.0	
11-12	10.0		9.5		8.5					3.0	5.5	3.5	7.5	8.5	3.5	2.5	5.0			7.0		5.5	3.0
12-13					6.5					7.0	4.5	3.5	7.5	4.5		5.0	2.0		7.0		5.0		
13-14				4.0	5.0			10.0		6.0	3.0	4.0	8.0		5.0	2.0	4.5					4.5	
14-15		2.0	3.0		3.5					5.0	2.0	4.5	8.5	6.0		4.5	2.0			5.5	3.5		3.0
15-16		6.0	5.0		2.0					3.5	6.5	4.5		2.0	6.5	7.0	4.5		4.5	9.5		3.0	
16-17	7.5	10.0	7.5					10.0		2.5	5.0	5.0		7.5	2.5	4.0	7.0	3.5			2.0		
17-18			9.5						10.5	7.0	4.0	5.5		3.5	8.5	6.5	4.0		9.0	4.0	6.0		2.5
18-19										5.5	3.0	6.0	2.0		4.0	4.0	6.5		2.5	8.5		5.5	
19-20								10.5		4.5	7.5	6.0	2.0	5.0		6.5	3.5				4.5		
20-21			3.0			10.5			10.0	3.0	6.0	6.5	2.5		5.5	3.5	6.0		6.5	3.0		4.0	2.5
21-22	5.0		5.0			9.5				2.0	5.0	7.0	3.0	6.5		6.0	3.5			7.0	3.0		
22-23		5.5	7.0				10.5			6.5	3.5	7.5	3.5	2.0	7.0	3.0	6.0					2.5	
23-24		9.0	9.0						9.0	5.5	2.5	7.5	3.5	8.0	3.0	5.5	3.0		4.5		2.0		2.0
24-25					11.0					4.0	7.0	8.0	4.0	4.0	8.5	3.0	5.5			5.5	5.5		
25-26					9.5					3.0	5.5	8.5	4.5		4.5	5.5	2.5		9.0	10.0		5.0	
26-27	2.0		2.5	11.0	8.0					7.5	4.5		5.0	5.5		2.5	5.0		2.0		4.5	4.5	2.0
27-28			4.5		6.0					6.0	3.5		5.0		6.0	5.0	2.5			4.5		3.5	
28-29			7.0		4.5					5.0	2.0		5.5	7.0	2.0	2.0	5.0		6.5	8.5	3.0		
29-30	8.5	4.5	9.0		3.0		10.0			3.5	6.5	2.0	6.0	2.5	7.5	4.5	2.0					2.0	

	RV	V	Y	Y	SW	WW	ZZ	AE	BR	CG	DK	KR	KV	MY	MY	V346	V387	V388	V401	V456	V466	V466	V477
	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	9.0	9.5	7.0	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	9.2	11.5	8.3	8.3	11.8	11.5	9.7	10.8	10.8	10.8	10.8	8.3
MIN	10.0	10.2	7.6	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	10.0	12.6	9.0	9.0	13.6	12.3	10.3	11.6	11.9	11.6	11.6	9.2
DUR	4	4	6	6	5	5	4	4	4	3	4	4	5	4	4	5	3	3	4	3	4	4	4
TOT					2																		
	(S)			(S)										(S)								(S)	
0- 1				4.0			5.0			6.5	4.5	6.5				9.5					9.0		
1- 2		2.0	10.0			9.0			6.5		3.0	2.5			7.5				2.5				
2- 3							2.0	10.5		4.0						7.5			6.0	9.0			
3- 4		5.0		4.0			8.5	9.5		10.5				8.0		7.5		11.0	10.0	6.5	3.5		
4- 5			9.5					9.0			10.0						6.0	7.5		4.0			
5- 6							5.5	8.0	6.5	8.0	8.5	8.0	8.5		8.0			4.0	4.0			6.0	8.0
6- 7	6.0			4.0				7.5			7.0	4.5					4.0		8.0				
7- 8			9.5				3.0	6.5		5.0	6.0			8.0			10.5				8.0		
8- 9		2.5			9.0		9.0	6.0			4.5		4.5				2.0		2.0				
9-10	6.0			3.5				5.5	6.5	2.5	3.0				8.0		9.0		6.0			10.0	
10-11		5.5	9.5				6.0	4.5		9.0		10.0						7.5	10.0	9.5	2.5		
11-12						8.0		4.0				6.0		8.0			7.0	4.5		7.0			
12-13	5.5			3.5			3.5	3.0		6.5	10.0	2.5							4.0	4.5		5.0	9.0
13-14			9.5				9.5	2.5	6.5		8.5				8.0		5.0		8.0	2.0			
14-15										4.0	7.5					6.5						7.0	
15-16	5.5	3.0		3.5			7.0			10.0	6.0			8.0			3.0		2.0				
16-17			9.5								4.5	8.0					10.0	8.0	6.0			9.0	
17-18							4.0		6.5	7.5	3.0	4.0			8.0			4.5	10.0				
18-19	5.0			3.5			10.5										8.0				10.0		
19-20			9.5							5.0				8.5					4.0	7.5		4.0	10.0
20-21							7.5				10.0						6.0		8.0	5.0			
21-22	5.0			3.5		7.0			6.5	2.5	8.5	9.5			8.5					2.5	6.0		
22-23		3.5	9.0		2.5		5.0			9.0	7.5	6.0	9.5				4.5	8.5	1.5				
23-24											6.0	2.0		8.5				5.0	5.5			8.0	
24-25	4.5			3.5			2.0			6.0	4.5						2.5		9.5				2.5
25-26			9.0				8.5		6.0		3.0		5.5		8.5	6.0	9.0				10.0		
26-27										3.5									3.5	10.5		3.0	11.0
27-28	4.5			3.0			5.5			10.0		7.5		8.5			7.5		7.5	8.0			
28-29			9.0								10.0	4.0						8.5		5.5	5.0		
29-30		4.0					3.0		6.0	7.5	8.5				8.5		5.5	5.5		3.0			

	V548	V704	1034	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	BH	S	RW	SX	WW	AF	AL	Z	RX
	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	DRA	EQU	GEM	GEM	GEM	GEM	GEM	HER	HER
MAX	8.9	13.8	9.6	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	8.0	8.0	9.6	10.8	9.8	10.2	9.3	7.3	7.1
MIN	9.7	14.6	10.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	8.6	10.0	11.6	11.7	10.5	11.3	10.0	8.2	7.7
DUR	5	4	4	7	5	4	4	3	4	3	5	5	5	4	5	5	5	5	4	4	4	8	5
TOT				2													1						

(S)

0- 1							10.0			10.5												9.5	
1- 2		2.0					5.0	7.0	9.5			3.0											7.0
2- 3		5.5				7.0				2.0	9.5												
3- 4		9.0								4.5													
4- 5							9.0	10.5	3.0	7.0		9.0		5.5								9.0	
5- 6	7.5	2.0		6.5			4.0	5.0		9.5	5.0			10.0					2.5				
6- 7		5.5																					
7- 8	3.0	9.0			9.5										7.0								
8- 9						6.0	8.0	8.5	4.5	3.5												9.0	9.5
9-10		2.0				10.5	3.0			6.0			6.5		3.0								
10-11		5.5			6.5					8.5				5.5		2.0							4.5
11-12		8.5								11.0				10.0									
12-13							7.5	6.5	6.5													9.0	
13-14		2.0			3.5					2.5								2.0					
14-15	8.0	5.0				5.0				5.0		4.0									2.0		
15-16		8.5	10.5			9.5		9.5		7.5					10.0								
16-17	3.5		10.0				6.5	4.5	8.0	10.0	10.5			5.0	9.0							8.5	
17-18			9.5									10.0		10.0						2.5			7.0
18-19		5.0	9.0												5.0								
19-20		8.5	8.5				10.5	7.5		4.0	5.5												2.0
20-21			7.5			4.0	5.5		10.0	6.5												8.5	
21-22			7.0			8.5				9.0													
22-23		5.0	6.5					10.5					7.5	5.0		7.0				2.0			
23-24	8.5	8.5	6.0				10.0	5.5	3.0					10.0									
24-25			5.5				5.0			3.0												8.5	10.0
25-26	4.0		5.0							5.5													
26-27		5.0	4.5					8.5		8.0													4.5
27-28		8.0	4.0			7.5	9.0		4.5	10.0		5.0			7.0								
28-29			3.5				4.0								5.0							8.0	
29-30			2.5	7.0						2.0					9.5	2.5	4.0						

	SZ	TT	TU	UX	CC	CT	DI	DI	HS	HS	LT V728	WY	AV	DF	DF	DI	DK	SW	SW	VX	AW	CM	
	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	
MAX	10.2	9.7	10.6	8.9	9.5	9.9	8.4	8.4	8.5	8.5	10.7	10.9	10.3	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	10.6	8.5
MIN	12.0	10.4	13.4	9.8	12.8	11.2	9.1	9.1	9.0	9.0	11.1	11.5	11.1	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	11.3	9.5
DUR	4	4	5	5	4	4	6	6	4	4	4	3	3	4	4	4	4	3	3	4	5	4	
TOT			1																				
							(S)		(S)			(S)				(S)				(S)			
0- 1		9.5				7.0					2.0						3.0	3.5	7.0	4.5			
1- 2	7.5	7.5	8.0						9.5		4.0	10.0						10.0	6.5	6.5			
2- 3	3.0	5.0			9.0	2.0				6.0	6.0	8.5						9.0	5.5	8.5		9.0	
3- 4		3.0									8.0	7.0						8.5	4.5	10.0			
4- 5					2.5						10.0	6.0						7.5	3.5				
5- 6	9.5											4.5						6.5	10.5			3.5	
6- 7	5.0			4.0					7.5		3.0							5.5	9.5			7.0	
7- 8					10.5					4.0			2.5		4.0			4.5	8.5		10.5	4.5	
8- 9			3.0				10.5								4.0			4.0	7.5				
9-10				6.5	7.5	5.5					10.0		3.5		3.5			10.5	6.5				
10-11	7.5	10.0	9.5							10.5		9.0			3.5			9.5	6.0			9.5	
11-12	3.0	8.0							5.5			7.5	2.0		3.0		2.0	8.5	5.0				
12-13		6.0		8.5						2.0		6.0			3.0	3.0	3.0	8.0	4.0				
13-14		4.0									2.0	4.5			3.0			7.0	11.0			3.5	
14-15	9.5										4.0	3.5			2.5			6.0	10.0	4.0	7.0		
15-16	5.0									8.5	6.0	2.0			2.5			5.0	9.0	5.5	10.5	5.0	
16-17					5.5	9.0			3.5		8.0		2.5		2.0			4.0	8.0	7.5			
17-18			4.5								10.0	10.5			2.0			3.5	7.0	9.5			
18-19						4.0						9.0			2.0			10.0	6.0			10.0	
19-20	7.5								10.0		7.5							9.0	5.5				
20-21	3.0			2.5						6.5	6.5		2.0			3.0		8.5	4.5				
21-22		9.0			10.5						5.0	2.5						7.5	3.5		3.5		
22-23		6.5									3.5		3.5					6.5	10.5		7.0		
23-24	9.5	4.5		5.0	4.0						2.0						2.0	5.5	9.5		10.5	5.5	
24-25	5.0	2.5							8.0				4.5				3.0	4.5	8.5				
25-26						7.5				4.0		11.0						3.5	7.5				
26-27			6.0	7.0							2.5	9.5	3.0					10.5	6.5			10.5	
27-28						2.0	2.5				4.5	8.0			4.0			9.5	6.0				
28-29	7.5				9.0					11.0	6.5	6.5			4.0	3.0		8.5	5.0	3.0			
29-30	3.0			9.5					6.0		8.5	5.5			3.5			8.0	4.0	5.0	3.5		

	CO	CO	DG	GX	Y	UU	UV	VZ	WZ	XY	XZ	AM	SS	DELT	RY	UZ	EW	FL	U	SX	V501	V508	V839	
	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LEO	LEO	LEO	LEO	LIB	LIB	LYN	LYR	LYR	LYR	OPH	OPH	OPH	OPH	OPH	
MAX	10.5	10.5	10.8	10.1	9.5	11.4	9.5	10.6	11.3	9.5	10.6	9.2	10.4	4.8	11.9	9.8	11.2	8.7	5.8	10.5	10.9	10.1	8.8	
MIN	11.0	11.0	12.0	10.4	12.7	12.7	10.2	11.7	12.0	9.9	11.2	9.8	11.3	5.9	13.3	11.0	13.6	9.5	6.5	11.2	11.8	10.7	9.4	
DUR	5	5	4	6	5	4	3	4	5	2	3	3	6	7	4	5	5	4	5	5	4	3	3	
TOT	(S)																							
0- 1			4.0							2.5		4.5				4.5	7.5					5.5	2.0	
1- 2									5.0	5.5					2.0			8.5				6.0	7.0	
2- 3	8.0		9.0		5.5		2.5			2.0						2.0	6.0					7.0	3.0	
3- 4		2.5				4.5				5.5		2.5							3.5			8.0	8.5	
4- 5										2.0		5.0					5.0					8.5	4.0	
5- 6	10.0						2.5			5.0												9.5	9.5	
6- 7		4.5											9.0	7.0			3.5					2.0	5.0	
7- 8				7.5						5.0	5.5	3.0										3.0	10.5	
8- 9						5.0	2.5				5.0	5.5			6.5		2.5		4.0			3.5	6.0	
9-10		6.5						2.0		4.5	4.5		6.0									4.5		
10-11								4.0			4.0											5.5	7.0	
11-12			4.5				2.5			4.5	3.0	4.0			3.5							6.0	3.0	
12-13		8.5									2.5	6.0	3.0					6.0				7.0	8.0	
13-14	3.5		9.5							4.0	2.0			6.5		10.0			5.0			8.0	4.0	
14-15							2.5					2.0						10.0				8.5	9.5	
15-16		10.5								3.5		4.5				7.5					11.0	9.5	5.0	
16-17	5.5																				10.0	2.0	10.5	
17-18							2.5			3.5						5.0						9.5	3.0	6.0
18-19									2.5			2.5							5.5			8.5	3.5	
19-20	7.5				2.5					3.0		5.0	7.5			2.5				2.0	8.0	4.5	7.0	
20-21							3.0							6.5								7.0	5.5	2.5
21-22										3.0					4.5					3.5	6.5	6.0	8.0	
22-23	9.5		5.5					4.0				3.0	4.5								5.5	7.0	4.0	
23-24		3.5					3.0			2.5		5.5						3.5	6.5	5.0	4.5	8.0	9.5	
24-25			10.5		4.0																4.0	8.5	5.0	
25-26									3.5	2.5								7.5		6.5	3.0	9.5	10.5	
26-27		5.5		9.0			3.0			5.5		3.5									2.5	2.0	6.0	
27-28										2.0	5.5	6.0		6.0						8.0			3.0	
28-29										5.5	5.0								7.0			3.5	7.0	
29-30		7.5			5.0		3.0			2.0	4.5	2.0	9.0							9.5		4.5	2.5	

	1010	FT	U	U	TY	UX	AQ	AQ	AQ	BB	BB	BG	BX	DI	GP	RT	ST	XZ	IT	IU	KW	V432	BETA
	OPH	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PER	PER
MAX	6.2	9.1	9.7	9.7	10.5	10.7	10.3	10.3	10.3	10.6	10.6	10.5	10.9	9.6	10.2	10.6	9.7	10.6	9.9	10.5	10.5	11.0	2.2
MIN	7.0	9.7	10.5	10.5	12.6	12.0	13.0	13.0	13.0	11.2	11.2	11.8	11.5	10.8	11.0	12.0	13.2	12.7	10.5	11.6	11.5	11.7	3.5
DUR	4	4	3	3	6	5	12	12	12	3	3	4	3	2	4	4	5	4	4	5	4	3	8
TOT							5	5	5			1					1						
				(S)			(2)		(3)		(S)												
0- 1				9.5							7.0		7.5	10.5								9.0	
1- 2	6.0		8.0							4.5	9.0		4.0										
2- 3			11.0	6.5		8.0				6.5	11.0		7.0		10.5						10.0	7.0	7.5
3- 4	6.0			9.5						8.5			3.0	7.0	10.0					8.5	8.0	10.5	
4- 5			8.0							10.5	6.0		6.0		9.5	9.5					6.5		
5- 6	5.5		11.0	6.5		10.5					8.0		9.0	10.0	9.0			2.5			5.0	8.5	
6- 7				9.5			4.0	6.5	9.0	6.0	10.5		5.0		8.5						3.0		
7- 8	5.0		8.0							8.0			8.0		8.0			9.5					
8- 9			11.0	6.5						10.0	5.5		4.0	6.5	7.0							10.0	
9-10	4.5			9.0							7.5		7.0		6.5					8.5			
10-11			7.5							5.5	9.5		3.5	10.0	6.0	8.5						8.0	
11-12	4.5		10.5	6.0						7.5			6.0		5.5								
12-13				9.0						9.5	5.0		9.0		5.0								
13-14	4.0		7.5								7.0		5.5	6.0	4.0		10.5		7.5			9.5	
14-15			10.5	6.0						5.0	9.0		8.0					7.5					
15-16	3.5			9.0						7.0			4.5	9.5		10.5				8.5	10.5	7.5	
16-17			7.5			6.0				9.0	4.5		7.5			7.0			9.5		9.0		
17-18	3.0		10.5	6.0			6.5	8.5		11.0	6.5	11.0	3.5								7.5		
18-19				9.0							8.5		6.5	5.5							5.5	9.5	
19-20	3.0		7.5			8.0				6.0	10.5	10.0	9.5								4.0		
20-21	10.5		10.5	6.0						8.5			5.5	9.0				2.0			2.5	7.5	
21-22	2.5			9.0	6.0					10.5	6.0	8.5	8.5			9.5	9.0			8.5		11.0	
22-23	10.0		7.5			10.0					8.0		4.5				9.0						9.5
23-24	2.0		10.5	6.0						5.5	10.0	7.5	7.5									9.0	
24-25	10.0			9.0	8.5					7.5			4.0										
25-26			7.5							9.5	5.5	6.5	6.5	8.5									
26-27	9.5		10.5	6.0							7.5		9.5									10.5	
27-28		2.0		9.0	10.5					5.0	9.5	5.0	6.0			8.0				8.5			
28-29	9.0		7.5				8.5			7.0			8.5									8.5	
29-30			10.5	6.0						9.0	5.0		5.0				8.0				10.0		

	Y	RV	AV	U	V505	1968	RS	AO	CC	CC	Y	RW	RZ	TY	WY	AQ	EQ	EQ	HU	V	X	RS	RV	
	PSC	PSC	PUP	SGE	SGR	SGR	SER	SER	SER	SER	SEX	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	TRI
MAX	9.0	11.3	10.2	6.4	6.4	12.3	10.8	10.6	11.1	11.1	9.8	8.0	10.5	11.5	11.5	12.0	10.3	10.3	6.0	10.9	8.9	10.3	11.4	
MIN	12.0	12.0	10.8	9.1	7.6	13.3	11.5	12.1	11.7	11.7	10.2	12.5	11.2	12.0	11.7	12.9	11.0	11.0	6.8	11.9	12.0	11.0	12.5	
DUR	7	3	3	6	5	4	4	4	4	4	3	4	3	2	4	5	3	3	6	4	4	4	4	
TOT				2								1												

0- 1		11.0									5.0	2.5					9.5							
1- 2						2.5	5.0	9.0			6.0		10.5				10.0							
2- 3			2.5			5.5	9.5	6.0			6.5						11.0							
3- 4						8.5		3.5			7.5										10.5			
4- 5		8.0					4.5		2.0	8.5														
5- 6		10.5			5.5		9.5		3.0	9.0	3.5													
6- 7				2.5	10.0	4.5			3.5	10.0			10.5		1.5	11.0					8.5			
7- 8						7.5	4.5		4.5	10.5								9.5						
8- 9						10.5	9.0	10.0	5.0		2.0	10.0						10.0						
9-10		7.5						7.0	6.0									10.5			7.0			
10-11	8.0	10.0				3.0	4.0	4.0	6.5		4.5			11.0					10.5	11.0				
11-12					3.5	6.0	9.0		7.5															
12-13					8.0	9.0			8.0	2.0														6.5
13-14							4.0		9.0	3.0	3.0										9.0			
14-15		7.0					8.5		10.0	3.5							9.5							
15-16		10.0				4.5		11.0	10.5	4.5				2.0		10.0								7.0
16-17				6.0		7.5	3.5	8.0		5.0						10.5					7.5			
17-18						10.5	8.5	5.0		6.0												10.5		
18-19					6.0			2.0		6.5	4.0													7.5
19-20		7.0			10.5	3.0	3.5			7.5														8.0
20-21		9.5				6.0	8.0		2.0	8.0											9.5			
21-22						9.5			3.0	9.0	2.5						9.5							8.0
22-23							3.5		3.5	9.5							10.0							
23-24							8.0	8.5	4.5	10.5	5.0						10.5				8.0			
24-25		6.5			4.0	5.0		6.0	5.0					2.0										8.0
25-26	9.5	9.0			8.5	8.0	3.0	3.0	6.0															
26-27				9.5		11.0	8.0			6.5	3.5													
27-28									7.5											10.0				8.5
28-29						3.5	3.0		8.0	2.0												10.5		
29-30						6.5	7.5		9.0	2.5	2.0						10.0					9.5		

	W	W	TX	TY	TY	UX	UX	VV	XZ	ZZ	AF	W	RU	VV	AG	AH	AH	AK	AW	AW	AX	AZ	AZ
	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR
MAX	9.1	9.1	6.8	11.7	11.7	12.7	12.7	10.1	10.1	9.8	10.8	8.6	10.7	11.7	8.8	9.7	9.7	10.0	10.8	10.8	10.0	11.0	11.0
MIN	9.9	9.9	8.9	12.4	12.4	13.8	13.8	11.0	11.7	11.2	11.6	9.7	11.4	13.5	9.4	10.2	10.2	11.5	11.9	11.9	10.8	11.8	11.8
DUR	3	3	6	3	3	1	1	3	3	4	8	7	4	4	4	4	4	4	3	3	4	3	3
TOT																							
		(S)			(S)												(S)			(S)			(S)
0- 1	5.5	9.5	5.5	5.0	9.0	9.0	4.5	10.0						4.0		5.0			4.5			7.0	3.0
1- 2	5.5	9.5		6.5	2.0	4.0	8.5	2.5		11.0			2.5		1.5		5.5		6.0		3.0	8.5	4.0
2- 3	5.5	9.5		8.0	3.5	8.5	3.5					7.5	3.5			6.0			7.5	3.0			5.5
3- 4	5.5	9.5	7.0	9.5	5.0	3.0	8.0	4.0	5.5				5.0	7.0			6.5	4.0		4.5	5.5	2.5	6.5
4- 5	5.5	9.5		2.5	6.5	7.5	3.0						6.0	4.5	7.0	7.0	2.0		2.0	6.0		3.5	7.5
5- 6	5.5	9.5		4.0	8.0	2.5	7.0	5.5					7.5	2.0		2.5	7.5		3.5	7.5	8.0	4.5	
6- 7	5.5	9.5	8.5	5.5	9.5	6.5	2.0						8.5		5.0		3.0		5.0				6.0
7- 8	5.5	9.5		7.0	2.5		6.5	7.0				10.0	9.5	7.5		3.5			6.5	2.0		7.0	3.0
8- 9	5.5	9.5		8.5	4.0	6.0	10.5		3.0	8.5			11.0	5.0	3.5		4.0		8.0	3.5	3.5	8.0	4.0
9-10	5.5	9.5		10.0	5.5	10.0	5.5	8.5	8.5			3.0		2.5		4.5		3.5		5.0			5.0
10-11	5.5	9.5		3.0	7.5	5.0	10.0										5.0	8.0	2.5	6.5	6.0	2.0	6.5
11-12	5.5	1.5		4.5	9.0	9.5	4.5	10.0			4.0		2.0	8.0		5.5			3.5	8.0		3.5	7.5
12-13	6.0	2.0		6.0	2.0	4.5	9.0	2.5					3.0	5.0			5.5		5.0			4.5	8.5
13-14	6.0	2.0		7.5	3.5	8.5	4.0						4.5	2.5	7.0	6.0			6.5	2.5		5.5	
14-15	6.0	2.0		9.0	5.0	3.5	8.0	4.0	5.5			5.5	5.5			1.5	6.5		8.0	4.0		7.0	2.5
15-16	6.0	2.0		2.0	6.5	8.0	3.0						6.5	8.0	5.0	7.0	2.0	2.5		5.5	4.0	8.0	4.0
16-17	6.0	2.0		3.5	8.0	2.5	7.5	5.5			10.0		8.0	5.5		2.5	7.5	7.0	2.5	7.0			5.0
17-18	6.0	2.0		5.0	9.5	7.0	2.5						9.0	3.0	3.5		3.0		4.0	8.5	6.5	2.0	6.0
18-19	6.0	2.0		6.5	2.5	2.0	6.5	7.0					10.5				3.5		5.5			3.0	7.5
19-20	6.0	2.0		8.5	4.0	6.0			3.0			8.0					4.0		7.0	3.0		4.5	8.5
20-21	6.0	2.0		10.0	5.5	10.5	6.0	8.5	8.5					6.0		4.5				4.5	2.0	5.5	
21-22	6.0	2.0		3.0	7.0	5.5	10.0							3.5			5.0	1.5		6.0		6.5	2.5
22-23	6.0	2.0		4.5	8.5	10.0	5.0	9.5		3.5			2.5		6.5	5.5		6.5	3.0	7.5	4.5	8.0	3.5
23-24	6.0	2.0		6.0	10.0	4.5	9.5	2.0					3.5				6.0		4.5				5.0
24-25	6.0	2.0		7.5	3.0	9.0	4.0			10.5		10.5	5.0	6.5	5.0	6.5			6.0	2.0	7.5	2.0	6.0
25-26	6.0	2.0		9.0	4.5	4.0	8.5	3.5	5.5				6.0	3.5		2.0	6.5		7.5	3.5		3.0	7.0
26-27	6.0	2.0		2.0	6.0	8.0	3.5					3.0	7.0		3.5	7.0	2.5			5.0		4.0	8.5
27-28	6.0	2.0		3.5	7.5	3.0	8.0	5.0					8.5			2.5	7.5		2.0	6.5	2.5	5.5	
28-29	6.0	2.0		5.0	9.0	7.5	2.5						9.5	6.5			3.0	5.5	3.5	8.0		6.5	2.5
29-30	6.0	2.0		6.5	2.5	2.0	7.0	6.5					11.0	4.0		3.5			5.0		5.5	8.0	3.5

	BH	MS	MS	NY	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD	ER
	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	9.9	9.4	9.4	13.3	7.4	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5	7.3
MIN	11.3	9.7	9.7	14.2	9.2	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6	7.5
DUR	4	3	3	1	6	5	5	4	5	4	3	3	3	4	4
TOT															
			(S)												
0- 1	2.5	5.0		2.0					3.5		4.0		7.0	8.0	
1- 2		3.5	7.5	2.0		6.5					3.0		10.0		10.5
2- 3		2.0	6.0	2.5				8.0			2.0			9.5	3.0
3- 4			4.5	2.5					6.0				3.0		
4- 5	4.5	6.5	3.0	3.0	5.5								6.5	10.5	5.5
5- 6		5.0		3.0		7.0				9.5	10.0	5.0	10.0	3.0	
6- 7		3.5	7.5	3.5		2.5			8.5		8.5	8.0			7.5
7- 8		2.0	6.0	3.5				3.5		8.5	7.5		3.0	4.0	
8- 9	6.5		4.5	3.5			2.0				6.5		6.0		10.0
9-10	2.0	6.5	3.0	4.0	3.0	8.0				7.0	5.0		9.5	5.5	3.0
10-11		5.0		2.0		3.0	3.0				4.0				
11-12		3.5	7.5	2.0						6.0	3.0		2.5	6.5	5.0
12-13	8.5	2.0	6.0	2.5			3.5				1.5		5.5		
13-14	4.0		4.5	2.5		8.5				4.5		4.5	9.0	8.0	7.5
14-15		6.5	3.0	3.0		4.0	4.0	9.5	2.5		11.0	8.0			
15-16		5.0		3.0						3.0	9.5			9.0	9.5
16-17		3.5	7.5	3.5			4.5				8.5		5.5		2.5
17-18	6.0	2.0	6.0	3.5		9.5			5.0	2.0	7.5		8.5	10.5	
18-19			4.5	4.0		5.0	5.0				6.0			2.5	4.5
19-20		6.5	3.0	4.0				5.0			5.0				
20-21		5.0		2.0			6.0		7.5		4.0		5.0	4.0	7.0
21-22	8.0	3.5	7.5	2.0	9.5	10.0					3.0	4.0	8.0		
22-23	3.5	2.0	6.0	2.5		5.5	6.5					7.5		5.0	9.0
23-24			4.5	2.5					10.0						
24-25		6.5	3.0	3.0			7.0				10.5		4.5	6.5	
25-26		5.0		3.0							9.5		8.0		4.0
26-27	5.5	3.5	7.5	3.5	7.5	6.5	7.5	11.0			8.5			7.5	
27-28		2.0	6.0	3.5							7.5				6.5
28-29			4.5	4.0			8.0		2.0		6.0		4.0	9.0	
29-30		6.5	3.0	4.0							5.0	4.0	7.5		8.5