

MAS Eclipsing Binary Ephemeris for July 2017

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	QX	QX	CX	CZ	XZ	KO	KP	OO	OO	V342	V343	V346
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	AQL	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	10.7	10.3	9.3	8.3	9.7	9.2	9.2	9.0	10.6	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	12.0	11.2	11.2	9.3	10.5	10.1	10.1	12.5	12.3	10.4
DUR	3	11	8	4	3	3	3	4	3	4	4	3	3	3	3	7	5	4	3	3	7	4	4
TOT		2																				3	
						(S)	(S)			(S)		(S)							(S)				
0- 1		3.5	6.5			2.0	6.0	9.5	7.0	7.5	6.0	6.0	11.0	6.5					3.0	9.0			
1- 2	7.5			8.5		2.0	6.0	9.0	5.0		6.5		6.5	9.0		7.5			3.0	9.0		5.5	
2- 3					8.0	2.0	6.0	8.5	3.5		6.5	7.5					6.0		3.5	9.5	5.5		
3- 4	4.5		6.0	10.5		2.0	6.0	8.5		8.5	7.0		8.0			10.5			3.5	10.0		2.0	
4- 5	11.0	6.0				2.0	6.0	8.0	11.0		7.5	9.0		4.0	9.0				4.0	10.0			3.0
5- 6	2.0					9.5	5.5	7.5	9.0	4.5	7.5	4.5	9.5	6.5	5.5		2.5		4.5	10.5			5.5
6- 7	8.0		5.5	5.5	9.5	9.5	5.5	7.5	7.5	9.5	8.0	10.5	5.5	9.0					4.5	11.0			8.0
7- 8						9.5	5.5	7.0	5.5		8.0	6.0	11.0					5.5	5.0	11.0			10.5
8- 9	5.5	9.0		7.5		9.5	5.5	6.5	4.0	5.5	8.5		7.0						5.5				
9-10			4.5			9.0	5.0	6.5	2.0	11.0	8.5	7.5		4.0					5.5				
10-11	2.5			9.5		9.0	5.0	6.0			9.0		8.5	6.5	10.0				6.0			11.0	
11-12	9.0					9.0	5.0	5.5	9.5	7.0	9.0	9.0		9.0	6.5				6.5				
12-13			4.0			9.0	5.0	5.5	8.0		9.5	5.0	10.0						6.5		10.0	7.5	
13-14	6.0			4.0	4.5	9.0	5.0	5.0	6.0		9.5	10.5	5.5						7.0				
14-15						8.5	4.5	4.5	4.5	8.0	10.0	6.5		4.0		3.5			7.5			3.5	2.0
15-16	3.5			6.5		8.5	4.5	4.5	2.5		10.0		7.0	6.5					7.5				4.5
16-17	9.5					8.5	4.5	4.0			10.5	8.0		9.5	10.5	6.5			8.0	2.0			7.0
17-18				8.5	6.0	8.5	4.5	3.5	10.0	9.5	10.5		8.5		7.5			8.0	8.5	2.0			9.5
18-19	7.0					8.5	4.5	3.5	8.5		11.0	9.0	4.5			10.0			8.5	2.5			
19-20			10.5			8.0	4.0	3.0	6.5	5.0	11.0	5.0	10.0	4.0			10.0		9.0	3.0	4.5		
20-21	4.0					8.0	4.0	2.5	4.5	10.5		10.5	5.5	6.5					9.5	3.0			
21-22	10.5			8.0		8.0	4.0	2.5	3.0				6.5	9.5					9.5	3.5			
22-23			5.5			8.0	4.0	2.0		6.5			7.0				7.0		10.0	4.0			
23-24	7.5					8.0	4.0		10.5			8.0			8.5				10.5	4.0		9.0	
24-25			7.5			7.5	3.5		8.5				8.5	4.0					10.5	4.5			
25-26	5.0			9.5		7.5	3.5		7.0	7.5		9.5	4.5	7.0			3.5		11.0	5.0		5.5	3.5
26-27			9.5			7.5	3.5		5.0			5.0	10.0	9.5						5.0			6.0
27-28	2.5					7.5	3.5		3.5			11.0	6.0					10.0		5.5			8.5
28-29	8.5					7.5	3.5			9.0		6.5								6.0			11.0
29-30			4.0			7.0	3.0		11.0				7.5	4.0	9.5	3.0				6.0	8.5		
30-31	6.0					7.0	3.0		9.0	5.0		8.0		7.0	6.0					6.5			

	TU	TY	TY	TZ	TZ	UW	VW	VW	AD	AD	BW	BW	Y	SV	AL	CD	CD	RW	TY	RZ	TV	TW	ZZ	
	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAP	CAP	CAS	CAS	CAS	CAS	
MAX	11.7	11.8	11.8	10.6	10.6	10.4	10.5	10.5	9.8	9.8	7.1	7.1	10.6	8.6	10.5	11.6	11.6	9.8	10.5	6.4	7.3	8.3	10.7	
MIN	12.7	12.3	12.3	11.1	11.1	11.4	11.0	11.0	10.4	10.2	7.5	7.5	12.4	9.4	11.3	11.8	11.8	10.8	11.6	7.8	8.4	8.9	11.1	
DUR	3	3	3	3	3	3	3	3	4	4	5	5	6	3	5	5	5	5	4	4	4	5	4	
TOT	(S)		(S)		(S)			(S)		(S)		(S)					(S)							
0- 1	3.5	7.0	3.0	5.0	8.5		7.0	3.0						2.5			8.0				9.0	3.5		
1- 2	2.5	6.0	2.0	2.5	6.0		7.5	3.5			9.0		9.0	7.0	8.0		2.5	2.0		2.0				
2- 3	2.0	4.5	8.5	7.0	3.5			4.0											4.5	6.5	4.5			
3- 4		3.5	7.5	4.5	8.0			4.5						2.0			9.5						5.5	
4- 5	8.5	2.5	6.0	9.0	5.5			5.5						6.5			3.5				10.0			
5- 6	8.0	8.5	5.0	6.0	2.5		2.0	6.0						11.0	7.5	7.0								
6- 7	7.0	7.5	4.0	3.5	7.0			2.5	6.5								10.5		11.0					
7- 8	6.5	6.5	2.5	8.0	4.5		3.0	7.5						5.5			5.0					6.5		
8- 9	6.0	5.0	9.0	5.5	2.0	1.5	4.0							10.0			8.5			6.0			4.5	
9-10	5.5	4.0	8.0	3.0	6.5	2.0	4.5					9.5			7.0	3.0			7.0	11.0	10.5		10.5	
10-11	4.5	3.0	6.5	7.5	4.0	2.0	5.0		2.5					4.5			6.5					3.5		
11-12	4.0	2.0	5.5	5.0	8.5	2.0	6.0		3.0		9.0		7.0	9.0		10.0		6.5			6.0			
12-13	3.5	8.0	4.5	2.5	6.0	2.0	6.5	2.5		4.0						4.5			3.5					
13-14	2.5	7.0	3.0	7.0	3.0	2.5	7.0	3.0	5.0					4.0	6.5		8.0						4.0	
14-15	2.0	6.0	2.0	4.0	8.0	2.5	7.5	3.5		5.5				8.5			2.0			5.5	10.0	10.0		
15-16		4.5	8.5	8.5	5.0	2.5		4.5	6.5							5.5				10.0				
16-17	8.5	3.5	7.5	6.0	2.5	2.5		5.0		7.5				3.0			9.0		10.0					
17-18	8.0	2.5	6.0	3.5	7.0	3.0		5.5	8.0					7.5	6.5		3.5					6.5		
18-19	7.0	9.0	5.0	8.0	4.5	3.0	2.0	6.0								7.0							3.5	
19-20	6.5	7.5	4.0	5.5	2.0	3.0	2.5	7.0				9.5		2.0			10.5		6.5					9.5
20-21	6.0	6.5	2.5	3.0	6.5	3.0	3.5	7.5						6.5			5.0			5.0	7.5	3.0		
21-22	5.5	5.5	9.0	7.5	4.0	3.0	4.0			9.0		5.0			6.0	8.5		10.5		9.5				
22-23	4.5	4.0	8.0	5.0	8.5	3.5	4.5									2.5			2.5		3.0			
23-24	4.0	3.0	7.0	2.0	5.5	3.5	5.5							6.0			6.0						3.0	
24-25	3.5	2.0	5.5	6.5	3.0	3.5	6.0	2.0					10.5			9.5						10.0	8.5	
25-26	2.5	8.5	4.5	4.0	7.5	3.5	6.5	2.5							5.5	4.0								
26-27	2.0	7.0	3.5	8.5	5.0	4.0	7.5	3.0						5.0			7.5		9.0	4.5				
27-28		6.0	2.0	6.0	2.5	4.0		4.0						9.5		11.0	2.0			9.0		6.5		
28-29	8.5	5.0	8.5	3.5	7.0	4.0		4.5								5.5		5.5					2.5	
29-30	8.0	3.5	7.5	8.0	4.5	4.0		5.0			9.5		4.0	5.0		9.0			5.5		9.0		8.0	
30-31	7.0	2.5	6.5	5.5	2.0	4.0		5.5						8.5			3.5					3.0		

	AB	CW	CW	DZ	IR	IS	IT	MM	OR	OX	OX	PV	V364	V364	V375	V380	U	SU	WW	WZ	WZ	XX	ZZ
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP
MAX	10.2	11.8	11.8	11.6	10.8	11.6	11.0	11.3	11.4	10.1	10.1	10.0	11.2	11.2	10.1	10.4	6.7	8.8	11.1	11.7	11.7	8.5	9.3
MIN	12.2	12.5	12.5	12.3	12.1	12.6	11.8	11.9	12.4	10.9	10.9	10.6	11.7	11.7	10.9	11.1	9.8	9.8	11.9	11.3	11.1	9.6	10.0
DUR	4	3	3	4	4	5	5	5	4	5	5	3	4	4	5	5	4	4	4	3	3	4	5
TOT																	2						
			(S)							(S)			(S)								(S)		
0- 1		2.5	6.0						2.5	7.5								7.5		8.5	3.5	8.5	
1- 2		9.0	5.0	8.5	7.0	4.5	3.0		8.5			9.0		7.5	5.0		11.0	5.0		4.5	9.5		
2- 3		8.0	4.0	3.5									2.0			4.0		2.5		10.5	5.5		
3- 4	8.0	7.0	3.0		8.0							3.0								6.5			
4- 5		6.0	2.0					3.5						9.5	4.0					2.5	7.5		
5- 6		5.0	8.5	6.5	9.0			7.0	2.0	7.0			4.0							9.0	4.0		
6- 7	2.0	4.0	7.5					11.0	8.0							6.0	10.5			5.0	10.0		
7- 8	10.5	3.0	6.5		10.0										2.5					11.0	6.0	9.0	
8- 9		9.5	5.5	10.0	2.5							9.0	6.0					10.0		7.0	2.0		3.0
9-10		8.5	4.5	5.0	11.0													7.5		3.0	8.0		
10-11	4.0	7.5	3.5		3.5	9.5			2.0	6.5		3.0				7.5		5.5		9.0	4.0		6.5
11-12		6.0	2.5					2.0	7.5				8.5				10.5	3.0		5.0	10.0		
12-13		5.0	9.0	8.5	4.5	5.5		6.0						3.0						11.0	6.0		9.5
13-14		4.0	8.0	3.0				9.5												7.0	2.0		
14-15	6.5	3.0	7.0		5.5	2.0							10.5			9.5				3.0	8.0	9.0	
15-16		2.0	6.0							6.0		9.0		5.0						9.0	4.0		
16-17		8.5	5.0	6.5	6.5				7.5									10.0		5.0	10.5		
17-18		7.5	4.0									3.0			10.0	2.5		10.5			6.5		
18-19	9.0	6.5	3.0		7.5									7.0		11.0		8.0		7.5	2.5		
19-20		5.5	9.5	10.0				4.5										5.5		3.5	8.5		
20-21		4.5	8.5	4.5	8.5			8.5		5.5					9.0			3.0		9.5	4.5		
21-22	2.5	3.5	7.5			10.5			7.0						9.0		4.0	9.5		5.5	10.5	9.5	
22-23		2.5	6.0		9.5							9.0	3.5						6.5		6.5		
23-24		9.0	5.0	8.0		7.0									7.5					7.5	2.5		2.5
24-25		8.0	4.0	3.0	10.5							3.0		11.0						3.5	8.5		
25-26	5.0	7.0	3.0		2.5	3.0				5.0			5.5			6.0				9.5	4.5		6.0
26-27		6.0	2.0					3.5	6.5		11.0				6.0		9.5	10.5		5.5	10.5	1.5	
27-28		5.0	8.5	6.0	3.5			7.5										8.5			6.5		9.5
28-29		4.0	7.5				10.0	11.0					7.5					6.0		8.0	3.0	10.0	
29-30	7.5	3.0	6.5		4.5							9.0		2.0	5.0	7.5		3.5		4.0	9.0		
30-31		1.5	5.5	9.5						4.5										10.0	5.0		

	DK	DL	DV	EG	EK	GK	SS	TT	TW	TW	TX	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	TW	W
	CEP	CEP	CEP	CEP	CEP	CEP	CET	CET	CET	CET	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRB	CRV
MAX	12.2	12.4	11.6	9.6	8.2	6.9	9.4	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
MIN	14.2	13.2	12.4	10.6	9.5	7.4	13.0	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
DUR	4	5	4	3	6	4	5	3	3	3	4	3	3	3	3	4	4	2	2	5	4	4	4
TOT							2				1												
									(S)			(S)		(S)		(S)		(S)					
0- 1	2.0	10.5	5.5	8.5		4.0			8.5			3.5	6.0	6.5	2.5		6.0	5.0	2.5		5.5		
1- 2			9.5	10.5		2.5	9.5			11.0		2.0	5.0		2.5		2.0	2.0	5.0			2.5	
2- 3								11.0		9.5		6.5	3.5		3.0	3.0		4.5	2.0		9.5	6.5	3.5
3- 4								10.0		8.5		5.5	2.5		3.5		3.5	2.0	4.5		3.0		
4- 5				4.0		8.5	9.5	11.0				4.0	7.0		4.0	4.5		4.5		6.5			2.0
5- 6		8.0		6.0				9.0	10.0		10.5	3.0	5.5		4.0		5.0		4.0		7.5	5.5	
6- 7				8.0				8.0	8.5				4.5		4.5	6.0		4.0				9.5	
7- 8			5.0	10.0		8.0	7.5					6.0	3.5		5.0		6.5		4.0				
8- 9			9.0							10.0	9.5	5.0	2.0		5.5		2.5	3.5	6.5		5.0	4.0	
9-10					7.5					9.0		3.5	6.5		5.5	3.5		6.0	3.5			8.5	3.0
10-11		5.5		3.5		11.0						2.5	5.5	2.0	6.0		4.0	3.5	6.0		9.5		
11-12				5.5		9.5			10.5		8.5		4.0	2.5	6.5	5.0		6.0	3.0	4.0	3.0	2.5	
12-13				8.0		8.0			9.0			6.0	3.0	2.5			5.5	3.0	5.5			7.0	
13-14				10.0		6.5			8.0			4.5		3.0		6.5		5.5	3.0		7.0		
14-15			4.5			5.0				10.5	8.0	3.5	6.0	3.5		2.0		2.5	5.5				4.0
15-16		2.5	8.0			3.5				9.5		2.0	5.0	4.0			3.0	5.0	2.5			5.5	
16-17				3.5		2.0				8.5		6.5	3.5	4.0		3.5		2.5	5.0		5.0	10.0	3.0
17-18				5.5					11.0		7.0	5.5	2.5	4.5			4.5	5.0	2.0				
18-19		9.0		7.5	4.0				9.5			4.0		5.0		5.0		2.0	4.5	2.0	9.0	4.5	
19-20				10.0				11.0	8.5			3.0	6.0	5.5			6.0	4.5	2.0		2.5	8.5	
20-21								10.5		11.0		2.0	4.5	5.5			2.0		4.5				
21-22			3.5						9.5	10.0		6.0	3.5	6.0	2.0	2.5		4.0			7.0	3.0	4.0
22-23			7.5	3.0					9.0	8.5		5.0	2.0	6.5	2.5		3.5		4.0			7.0	
23-24		6.5		5.5					8.5			4.0	6.5		3.0	4.0		4.0					2.5
24-25				7.5				7.5	10.0			2.5	5.5		3.0		5.0	6.5	3.5		4.5		
25-26				9.5		10.5			9.0		10.5		4.0		3.5	5.5		3.5	6.0			6.0	
26-27						9.0			8.0			6.0	3.0		4.0		6.5	6.0	3.5		9.0	10.0	
27-28						7.5				10.5		4.5	2.0		4.5		2.0	3.0	6.0		2.5		
28-29		4.0	3.0	3.0		6.0			9.0	9.5		3.5	6.5		4.5	3.0		5.5	3.0			4.5	3.5
29-30			7.0	5.0		4.5			8.0			2.0	5.0		5.0		4.0	3.0	5.5		6.5	9.0	
30-31			10.5	7.0		3.0			10.5			6.5	4.0		5.5	4.5		5.5	2.5				2.0

	W	RV	RV	V	Y	Y	SW	WW	ZZ	AE	BR	CG	DK	KR	KV	MY	MY	V346	V387	V388	V401	V456	V466
	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	10.6	9.0	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
MIN	11.2	10.0	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
DUR	4	4	4	4	6	6	5	5	4	4	4	3	4	4	5	4	4	5	3	3	4	3	4
TOT							2																
	(S)		(S)			(S)											(S)						
0- 1						5.5		4.0	11.0	7.5		10.5	7.0						10.0	2.5			
1- 2	4.0	2.5		2.5	11.0				2.0	6.5	4.0		6.0				7.5					3.0	
2- 3									8.0	6.0		8.0	4.5	10.5	9.0			5.0	8.5			7.0	
3- 4	3.0					5.5				5.0			3.0	7.0		7.5						8.5	8.0
4- 5		2.5			11.0				5.5	4.5		5.5		3.0					6.5	9.5			6.0
5- 6										3.5	4.0				5.0		7.5			6.0	5.0	3.5	
6- 7						5.5			2.5	3.0		3.0	10.0						4.5	3.0	9.0		3.0
7- 8		2.0			11.0				9.0	2.0		9.0	8.5			7.5							
8- 9	4.0			3.0									7.5	8.5					2.5		3.0		
9-10						5.5			6.0		4.0	6.5	6.0	5.0			7.5		9.5		7.0		
10-11	2.5	2.0			10.5			3.0					4.5					10.5		10.0	11.0		7.0
11-12			4.5				2.5		3.5			4.0	3.0			7.5			7.5	6.5		9.0	
12-13						5.5			9.5			10.5								3.0	5.0	6.5	
13-14				10.5				10.5			4.0			10.5		7.5	4.5	5.5			9.0	4.0	2.0
14-15			4.0						6.5			7.5	10.0	6.5									
15-16	3.5					5.0							8.5	3.0		8.0			4.0		3.0		
16-17				10.5					4.0			5.0	7.5						10.5	10.0	7.0		
17-18	2.0		4.0						10.0		4.0		6.0				8.0		2.0	7.0	11.0		6.0
18-19						5.0						2.5	4.5						8.5	3.5			
19-20				10.5					7.5			9.0	3.0	8.5	10.0	8.0					5.0	9.5	
20-21			3.5				6.0							4.5							9.0	7.0	
21-22						5.0			4.5		3.5	6.5					8.0	10.0				4.5	10.5
22-23	3.0			10.5					11.0				10.0		6.0				5.0	10.5	2.5	1.5	
23-24			3.5					9.5	2.0			4.0	9.0			8.0				7.0	6.5		
24-25						5.0			8.0			10.0	7.5	10.0				3.5	3.0	4.0	10.5		5.0
25-26				10.5							3.5		6.0	6.0	2.0		8.0		10.0				
26-27			3.0						5.5			7.5	4.5	2.5								4.5	
27-28	4.0			2.0		5.0				10.5			3.0			8.0			8.0		8.5	10.0	
28-29				10.0					2.5	10.0			5.0	1.5						11.0		7.5	9.5
29-30	3.0		2.5				9.5		9.0	9.0	3.5						8.0		6.0	7.5	2.5	5.0	
30-31						5.0				8.5		2.5	10.0	8.0						4.0	6.5	2.0	

	WW	AF	AL	RX	SZ	TT	TU	UX	CC	CT	DI	DI	HS	HS	LT	V728	AV	DF	DF	SW	SW	VX	AR
	GEM	GEM	GEM	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	LAC	LAC	LAC	LAC
MAX	9.8	10.2	9.3	7.1	10.2	9.7	10.6	8.9	9.5	9.9	8.4	8.4	8.5	8.5	10.7	10.9	10.2	11.0	11.0	9.2	9.2	10.9	7.3
MIN	10.5	11.3	10.0	7.7	12.0	10.4	13.4	9.8	12.8	11.2	9.1	9.1	9.0	9.0	11.1	11.5	10.6	11.5	11.5	10.0	10.0	12.3	8.2
DUR	4	4	4	5	4	4	5	5	4	4	6	6	4	4	4	3	4	4	4	3	3	4	6
TOT							1																2
											(S)		(S)						(S)		(S)		
0- 1					7.5					7.0			4.0			3.5				5.5	9.0		
1- 2					3.5											3.5	2.0			4.5	8.5		
2- 3										2.0						5.5				3.5	7.5	2.0	
3- 4		11.0		7.0									11.0		7.5	11.0				2.5	6.5	4.0	
4- 5					10.0		7.0	3.0	8.5					7.0	9.5	9.5		2.0		1.5	5.5	5.5	
5- 6				2.0	5.5								2.0							8.5	4.5	7.5	
6- 7									2.5											8.5	4.0	9.0	
7- 8						8.5		5.5												6.5	3.0	11.0	
8- 9						6.5							8.5				2.0			6.0	2.0		
9-10					7.5	4.5				5.5				5.0						5.0	8.5		
10-11				10.0	3.0	2.5		7.5												4.0	8.0		
11-12							2.5		7.0											3.0	7.0		
12-13				4.5																2.0	6.0		
13-14					10.0		8.5	10.0					6.5		2.0	8.5				9.0	5.0		
14-15					5.5									3.0	4.0	7.0				8.0	4.0		
15-16												4.0			6.0	5.5				7.0	3.5		
16-17										9.0					8.0	4.0				6.0	2.5		
17-18						9.5								9.5	10.0	3.0				5.5	9.0	3.0	
18-19					7.5	7.5			5.5	3.5			4.5							4.5	8.5	5.0	
19-20				7.5	3.0	5.0														3.5	7.5	6.5	
20-21						3.0	4.0									10.0				2.5	6.5	8.5	
21-22	10.5			2.0				4.0					11.0			8.5	2.0			9.5	5.5	10.0	
22-23					9.5		10.5							7.5		7.0				8.5	4.5		
23-24					5.5								2.5			6.0				7.5	3.5		
24-25								6.0								4.5		2.0		6.5	3.0		
25-26									4.0	7.0						3.0				6.0	2.0		11.0
26-27				10.0									9.0		2.0					5.0	8.5		
27-28					7.5	10.0		8.5		2.0				5.5	4.0					4.0	8.0		10.5
28-29				4.5	3.0	8.0					3.5				6.0	10.0				3.0	7.0		
29-30			11.0			6.0	5.5								8.0	9.0				2.0	6.0		10.0
30-31						4.0		11.0	9.0						10.0	7.5				9.0	5.0		

	V501	V508	V839	1010	EF	ER	ER	ET	FL	FR	FT	FZ	FZ	GU	GU	U	U	TY	UX	AQ	AQ	AQ	BB
	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG
MAX	10.9	10.1	8.8	6.2	12.6	9.5	9.5	11.2	10.5	11.0	9.1	10.7	10.7	12.6	12.6	9.7	9.7	10.5	10.7	10.3	10.3	10.3	10.6
MIN	11.8	10.7	9.4	7.0	12.8	10.2	10.2	12.4	13.2	11.9	9.7	11.3	11.3	13.5	13.5	10.5	10.5	12.6	12.0	13.0	13.0	13.0	11.2
DUR	4	3	3	4	6	3	3	5	3	4	4	3	3	4	4	3	3	6	5	12	12	12	3
TOT					(S)	(S)						(S)	(S)			(S)	(S)		(2)	(3)			
0- 1	2.5	4.5	5.5	5.5								11.0				9.0	4.5						10.0
1- 2		5.0	11.0									11.0					7.5	7.0					3.0
2- 3		6.0	6.5	5.0								11.0		10.5		6.0	10.5	8.5					5.5
3- 4		6.5	2.5									11.0				9.0	4.5						7.5
4- 5		7.5	8.0	4.5								11.0					7.5	9.0					9.5
5- 6		8.5	3.5		11.0					10.5		11.0				6.0	10.5	10.5		8.0	10.0		2.5
6- 7		9.0	9.0	4.0							10.5	11.0		10.5		9.0	4.5						4.5
7- 8		2.0	4.5					10.5				11.0					7.5						6.5
8- 9		2.5	10.0	4.0								11.0				6.0	10.5						8.5
9-10		3.5	5.5									11.0				9.0	4.5						11.0
10-11		4.0	11.0	3.5								11.0		10.5			7.5						4.0
11-12		5.0	6.5									11.0				6.0	10.5						6.0
12-13		6.0	2.5	3.0								11.0				9.0	4.5	2.5					8.0
13-14		6.5	7.5									11.0					7.5						10.0
14-15		7.5	3.5	2.5								11.0		10.5		6.0	10.5						3.5
15-16		8.5	9.0									11.0				9.0	4.5	4.5					5.5
16-17		9.0	4.5	2.5	11.0							11.0					7.5		10.5				7.5
17-18		1.5	10.0					10.5				11.0				6.0	10.5						9.5
18-19		2.5	5.5	2.0								11.0		11.0		9.0	4.5	7.0					3.0
19-20	11.0	3.5	11.0									11.0					7.5						5.0
20-21	10.5	4.0	6.5						10.5			11.0				6.0	10.5						7.0
21-22	9.5	5.0	2.0									11.0				9.0	4.5	9.0					9.0
22-23	9.0	6.0	7.5		10.5							11.0		11.0			7.5					3.5	2.5
23-24	8.0	6.5	3.5			10.5						11.0				6.0	10.5						4.5
24-25	7.0	7.5	9.0									11.0				9.0	4.5	11.0					6.5
25-26	6.5	8.5	4.5	8.5								11.0					7.5						8.5
26-27	5.5	9.0	10.0									11.0		11.0		6.0	10.5						10.5
27-28	5.0	10.0	5.5	8.0								11.0				9.0	4.5						4.0
28-29	4.0	2.5	11.0									11.0					7.5						6.0
29-30	3.5	3.5	6.5	8.0								11.0				6.0	10.5						8.0
30-31	2.5	4.0	2.0									11.0		11.0		9.0	4.5	4.5					10.0

	BB	BG	BX	DI	GP	KW	KW	RT	ST	XZ	IQ	IQ	IT	IU	KW V432	BETA	AE	AE	Y	RV	U	V505	
	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PER	PER	PER	PHE	PHE	PSC	PSC	SGE	SGR	
MAX	10.6	10.5	10.9	9.6	10.2	12.1	12.1	10.6	9.7	10.6	7.7	7.7	9.9	10.5	10.5	11.0	2.2	7.5	7.5	9.0	11.3	6.4	6.4
MIN	11.2	11.8	11.5	10.8	11.0	12.4	12.4	12.0	13.2	12.7	8.3	7.9	10.5	11.6	11.5	11.7	3.5	8.2	8.2	12.0	12.0	9.1	7.6
DUR	3	4	3	2	4	3	3	4	5	4	5	5	4	5	4	3	8	2	2	7	3	6	5
TOT		1							1													2	
	(S)							(S)				(S)								(S)			
0- 1	5.5	8.0	2.0	9.0		7.0		5.5							9.0	5.5			11.0			2.0	
1- 2	7.5		5.0		11.0	2.5									7.5	9.0		8.5		4.5		6.5	
2- 3	9.5	7.0	8.0		10.0		8.0						7.5		6.0		11.0			7.0	9.0	11.0	
3- 4	3.0		4.0	5.5	9.5		3.5							9.5	4.5	7.0			8.5		9.5		
4- 5	5.0	6.0	7.0		9.0	9.0						7.0		6.0	2.5	11.0			10.5				
5- 6	7.0		3.5	8.5	8.5	4.5		8.0		8.0	6.0		9.0					8.5					
6- 7	9.0	4.5	6.0		8.0		10.0											9.0	10.5	6.0			
7- 8	2.5		2.5		7.5		5.5													8.0		6.5	4.5
8- 9	4.5	3.5	5.5	5.0	6.5	11.0							10.5					10.5		9.5		8.5	
9-10	6.5		8.5		6.0	6.5								9.5		10.5					3.0		
10-11	8.5		4.5	8.5	5.5	2.0		10.0						6.0				10.0					
11-12	10.5		7.5		5.0		7.5	6.5					6.5										
12-13	4.0		3.5		4.5		3.0			5.5	5.5							10.0			6.5		
13-14	6.0		6.5	4.5	4.0	8.5				9.0					10.0	6.5					9.0	2.5	
14-15	8.0		2.5		3.0	4.0									8.5	10.0		10.0				6.5	
15-16	10.0		5.5	8.0	2.5		9.5							9.5	7.0							11.0	
16-17	3.5		2.0				5.0	9.0						6.0	5.0	8.0			9.5				
17-18	5.5		4.5	11.0		10.5		5.0			11.0				3.5						6.0		
18-19	7.5		7.5	4.0		6.0							6.0		2.0	6.0	8.5	9.5			8.5		
19-20	9.5		4.0			2.0					5.0					9.5						6.5	
20-21	2.5		7.0	7.5			7.0		11.0	7.0									9.5			4.5	
21-22	4.5		3.0				3.0			10.5				9.5		7.5	5.0			7.5		9.0	
22-23	7.0		6.0	10.5		8.0		7.5					6.0	6.0				9.0			5.5		
23-24	9.0		2.0	4.0		3.5									5.5						8.5		
24-25	11.0		5.0				9.0			10.5					9.0				9.0		11.0		
25-26	4.0		8.0	7.0			4.5					5.5	7.5						11.0				
26-27	6.0		4.0			10.0									11.0	7.0		9.0				2.5	
27-28	8.0		7.0	10.5		5.5		10.0						9.5	9.5	11.0		11.0			5.5	7.0	
28-29	10.5		3.0				11.0	6.0	9.5	8.5			9.0	6.0	7.5	5.0			8.5		8.0		
29-30	3.5		6.0				6.5								6.0	9.0			10.5		10.5	10.0	
30-31	5.5		2.5	6.5			2.5					11.0			4.5				8.5				

	1968	RS	AO	CC	CC	Y	RW	RZ	TY	WY	AC	AM	AQ	EQ	EQ	HU	V	X	RS	RV	W	W	TX	
	SGR	SER	SER	SER	SER	SEX	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	TRI	UMA	UMA	UMA	
MAX	12.3	10.8	10.6	11.1	11.1	9.8	8.0	10.5	11.5	11.5	10.5	10.4	12.0	10.3	10.3	6.0	10.9	8.9	10.3	11.4	9.1	9.1	6.8	
MIN	13.3	11.5	12.1	11.7	11.7	10.2	12.5	11.2	12.0	11.7	12.3	12.3	12.9	11.0	11.0	6.8	11.9	12.0	11.0	12.5	9.9	9.9	8.9	
DUR	4	4	4	4	4	3	4	3	2	4	6	5	5	3	3	6	4	4	4	4	3	3	6	
TOT							1																	
					(S)									(S)									(S)	
0- 1			3.0	2.5	9.0				9.0		10.0			10.5		6.5			10.0	5.5	9.5			
1- 2				3.5		2.0			11.0					11.0		10.5					5.5	9.5		
2- 3	4.5	5.5		4.0				9.0			11.0			7.5							5.5	9.5		
3- 4	7.5	10.0		5.0										8.0		5.0			10.5	5.5	9.5			
4- 5				6.0				11.0						8.5		9.0					5.5	9.5		
5- 6		5.5		6.5									9.0	9.0							5.5	9.5		
6- 7	3.0	10.0	7.0	7.5					10.0					10.0						11.0	5.5	9.5		
7- 8	6.0		4.0	8.0	2.0			9.0						10.5			7.0			5.0	5.5	1.5		
8- 9	9.0	5.0		9.0	2.5									11.0							6.0	2.0	3.0	
9-10		10.0			3.5			11.0							7.5						6.0	2.0		
10-11				4.0						10.0				8.0		5.5		10.5	5.5	6.0	2.0			
11-12	4.5	5.0		5.0									11.0	8.5		9.5				6.0	2.0	4.5		
12-13	8.0	9.5		6.0				8.5		11.0				9.0				8.5		6.0	2.0			
13-14			8.0	6.5										10.0						5.5	6.0	2.0		
14-15		4.5	5.0		7.5	2.5	9.0	10.5	9.0					10.5	9.5	7.5		6.5		6.0	2.0	6.0		
15-16	3.5	9.5	2.0	2.0	8.0				11.0	10.0				11.0							6.0	2.0		
16-17	6.5			2.5	9.0											11.0				6.0	6.0	2.0		
17-18	9.5	4.5		3.5										8.0		6.0	11.0				6.0	2.0		
18-19		9.0		4.0										8.5		10.0	10.0				6.0	2.0		
19-20	2.0			5.0				10.5						9.0			9.5		6.5	6.0	2.0			
20-21	5.0	4.0	8.5	5.5										9.5			9.0				6.0	2.0		
21-22	8.0	9.0	5.5	6.5										10.5		8.0	8.0				6.0	2.0		
22-23			3.0	7.5		2.0							9.5	11.0			7.5		6.5	6.0	2.0			
23-24		4.0		8.0	2.0												7.0				6.0	2.0		
24-25	3.5	8.5		9.0	2.5			10.0		10.5				8.0		6.5	6.0				6.0	2.0		
25-26	6.5			3.5		10.5								8.5		10.5	5.5		7.0	6.0	2.0			
26-27	9.5	3.5		4.0										9.0							6.0	2.0		
27-28		8.5	9.5	5.0	3.0									9.5		4.5					6.0	2.0		
28-29	2.5		6.5	5.5					9.5					10.0		8.5			7.5	6.0	2.0			
29-30	5.5	3.5	3.5	6.5				9.5	11.0					11.0							6.0	2.0		
30-31	8.5	8.0		7.0																	6.0	2.0		

	TY	TY	UX	UX	VV	XZ	ZZ	AF	W	RU	VV	AG	AH	AH	AK	AW	AW	AX	AZ	AZ	BH	MS	MS
	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR
MAX	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	9.9	9.4	9.4
MIN	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	11.3	9.7	9.7
DUR	3	3	1	1	3	3	4	8	7	4	4	4	4	4	4	3	3	4	3	3	4	3	3
TOT																							
		(S)											(S)			(S)			(S)			(S)	
0- 1	10.0	6.0	2.5	7.0	8.0					4.5			2.0		2.5		2.5	6.0	4.0			4.0	
1- 2	3.0	7.5	7.0	2.0						6.0	4.0				2.5		4.0		5.5		5.5	2.5	
2- 3	4.5	9.0	11.0	6.5	9.5					7.0			2.5				5.5		6.5	2.5		4.5	
3- 4	6.5	2.0	6.0	10.5	2.0				10.0	8.5				3.0		2.5				3.5		3.0	
4- 5	8.0	3.5	10.5	5.5	11.0					9.5		4.0	3.5			4.0				4.5		5.5	
5- 6	9.5	5.0	5.0	10.0	3.5				3.0	10.5	4.5			4.0		5.5		4.0		6.0		4.0	
6- 7	2.5	6.5	9.5	5.0		4.0	2.5				2.0	2.5	4.5				3.0		3.0		3.5	2.5	
7- 8	4.0	8.0	4.5	9.0	5.0			6.5						5.0			4.5		4.0			4.5	
8- 9	5.5	9.5	8.5	4.0			9.5							5.5			6.0		5.0			3.0	
9-10	7.0	2.5	3.5	8.5	6.5					3.0	5.0					3.0			6.5	2.0		5.5	
10-11	8.5	4.0	8.0	3.0					5.5	4.0	2.0					4.5		2.0		3.5	5.5	4.0	
11-12	10.0	5.5	3.0	7.5	8.0					5.5			2.0			6.0	2.0			4.5		2.5	
12-13	3.0	7.0	7.0	2.5						6.5				2.5			3.5	5.0		5.5		4.5	
13-14	4.5	9.0	2.0	6.5	9.5					7.5	5.0	4.0	3.0		5.5		5.0		2.5	7.0		3.0	
14-15	6.0	2.0	6.5	11.0	1.5					9.0	2.5			3.5		2.0	6.5		4.0			5.0	
15-16	7.5	3.5	10.5	6.0	10.5		7.5		8.0	10.0		2.5	3.5			3.5			5.0		3.0	3.5	
16-17	9.0	5.0	5.5	10.5	3.0										4.0		5.0		6.0	2.0		2.0	
17-18	2.0	6.5	10.0	5.0		4.0					5.5		4.5				2.0	3.0		3.0		4.5	
18-19	3.5	8.0	4.5	9.5	4.5						3.0			5.0			3.5		4.5			3.0	
19-20	5.0	9.5	9.0	4.5						2.5			5.5		4.5		5.0	5.5		5.5	5.0	5.0	
20-21	6.5	2.5	4.0	8.5	6.0				10.5	3.5						2.5			2.5	6.5		3.5	
21-22	8.0	4.0	8.5	3.5						4.5	6.0					4.0			3.5			6.0	
22-23	10.0	5.5	3.0	8.0	7.5		5.0		3.5	6.0	3.5	4.0	2.0			5.5			5.0			4.5	
23-24	3.0	7.0	7.5	3.0						7.0				2.5			2.5		6.0	2.0		3.0	
24-25	4.5	8.5	2.5	7.0	9.0					8.5		2.5	3.0			4.0	3.5		3.0	2.5		5.0	
25-26	6.0	10.0	6.5	2.0						9.5	6.0			3.5	4.0		5.5		4.0			3.5	
26-27	7.5	3.0	11.0	6.5	10.5					10.5	3.5		4.0			3.0		6.0		5.5		6.0	
27-28	9.0	4.5	6.0	10.5	3.0				6.0					4.0		4.5			2.5	6.5		4.5	
28-29	2.0	6.0	10.0	5.5		4.0		7.5					4.5			6.0			3.5		4.5	3.0	
29-30	3.5	7.5	5.0	10.0	4.5		2.5							5.0			3.0		4.5			5.0	
30-31	5.0	9.0	9.5	4.5						3.0	4.0		5.5				4.5		6.0			3.5	

	NY	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD	V495	V495
	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	13.3	7.4	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5	9.6	9.6
MIN	14.2	9.2	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6	10.0	10.0
DUR	1	6	5	5	4	5	4	3	3	3	4	4	4
TOT													

(S)

0- 1	3.0			8.0				6.0			8.5		
1- 2	3.5				5.5	5.0	9.0	5.0		4.0			
2- 3	3.5		8.5	8.5				3.5		7.5	9.5		
3- 4	4.0		4.0				7.5	2.5	2.5	10.5	2.0		
4- 5	4.0	6.0		9.0		7.5			5.5		10.5	5.0	7.0
5- 6	2.0						6.5		9.0	3.5	3.0		
6- 7	2.0		9.5	9.5				10.5		7.0			
7- 8	2.5		4.5			10.0	5.0	9.5		10.5	4.5		
8- 9	2.5			10.5	11.0			8.0					
9-10	3.0	4.0					4.0	7.0		3.5	5.5	3.0	5.0
10-11	3.0		10.0	11.0				6.0		6.5			
11-12	3.5		5.5				2.5	4.5	2.0	10.0	7.0		
12-13	3.5					2.0		3.5	5.5			9.5	
13-14	4.0				7.0			2.5	9.0	3.0	8.0		
14-15	4.0		11.0							6.0			2.5
15-16	2.0		6.5			4.5				9.5	9.5		
16-17	2.0							10.5					
17-18	2.5							9.0		2.5	10.5	7.0	9.0
18-19	2.5				2.5	7.0		8.0		6.0	3.0		
19-20	3.0		7.0					7.0	2.0	9.0			
20-21	3.0		2.5					6.0	5.0		4.0		
21-22	3.5	10.5				9.5		4.5	8.5	2.0			
22-23	3.5							3.5		5.5	5.5	5.0	6.5
23-24	4.0		8.0					2.5		8.5			
24-25	4.0		3.0								6.5		
25-26	2.0				8.5								
26-27	2.0	8.0						10.5		5.0	8.0		
27-28	2.5		8.5					9.0		8.5		2.5	4.5
28-29	2.5		4.0					8.0	5.0		9.0		
29-30	3.0					3.5		7.0	8.5				
30-31	3.0				4.0			5.5		4.5	10.5	9.0	11.0