

MAS Eclipsing Binary Ephemeris for November 2024

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	QX	QX	RY	CX	CZ	EK	EK	XZ	KO	KP	OO	OO
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQR	AQR	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	8.8	10.7	10.3	10.8	10.8	9.3	8.3	9.7	9.2	9.2
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	10.1	12.0	11.2	11.3	11.3	11.2	9.3	10.5	10.1	10.1
DUR	3	11	8	4	3	3	3	4	3	4	4	3	3	5	3	3	3	3	7	5	4	3	3
TOT		2																					
							(S)	(S)			(S)		(S)					(S)					(S)
0- 1			2.5	8.5	6.5	2.5	6.5	8.5	1.0	12.0	4.0	5.0	0.0		3.0			4.0					1.0
1- 2	4.0			1.0		2.5	6.5	8.0	10.0	2.5	4.0	1.0	6.0		5.5		2.0						1.0
2- 3	10.5			10.5		2.0	6.0	8.0	8.5	8.0	4.5	6.5	1.5					0.5					1.5
3- 4	1.5		2.0	3.0		2.0	6.0	7.5	6.5		4.5	2.5	7.5			5.0		5.5		0.0			2.0
4- 5	7.5	1.0			8.5	2.0	6.0	7.0	5.0	3.5	5.0	8.0	3.0		0.5	1.5	3.5						2.0
5- 6				5.5		2.0	6.0	7.0	3.0	9.0	5.0	4.0	9.0		3.0			2.0					2.5
6- 7	5.0		1.5			2.0	6.0	6.5	1.0		5.5	9.5	4.5		5.5						1.0		2.5
7- 8				7.5	1.5	1.5	5.5	6.0		5.0	5.5	5.5	0.5				5.5						3.0
8- 9	2.5	4.0		0.0	10.0	1.5	5.5	6.0	9.0	10.0	6.0	1.0	6.0					3.5	3.0				3.5
9-10	8.5		0.5	9.5		1.5	5.5	5.5	7.0	1.0	6.0	6.5	2.0		0.5	5.5	1.5						3.5
10-11				2.0		1.5	5.5	5.0	5.0	6.0	6.5	2.5	7.5		3.0	2.5	7.0						4.0
11-12	5.5				3.5	1.5	5.5	5.0	3.5	11.5	6.5	8.0	3.5		6.0			5.0					
12-13		7.0	0.0	4.5	12.0	1.0	5.0	4.5	1.5	2.0	7.0	4.0	9.0				3.0						
13-14	3.0					1.0	5.0	4.0		7.5	7.0	9.5	4.5					1.0					
14-15	9.0			6.5		1.0	5.0	4.0	9.0		7.5	5.5	0.5		0.5			6.5					
15-16	0.5				5.0	1.0	5.0	3.5	7.5	3.5	7.5	1.0	6.0		3.0		4.5						
16-17	6.5			8.5		1.0	5.0	3.0	5.5	8.5	8.0	7.0	2.0		6.0	3.5		2.5			3.5		
17-18				1.0		0.5	4.5	3.0	4.0		8.0	2.5	7.5			0.0	0.5						0.0
18-19	4.0			10.5		0.5	4.5	2.5	2.0	4.5	8.5	8.5	3.5				6.0						0.5
19-20	10.0			3.5	6.5	0.5	4.5	2.0	0.5	10.0	8.5	4.0	9.0		0.5			4.0					1.0
20-21	1.0					0.5	4.5	2.0	9.5	0.5	9.0	10.0	5.0		3.5		2.0						1.0
21-22	7.5			5.5		0.5	4.0	1.5	8.0	5.5	9.0	5.5	0.5		6.0			0.0					1.5
22-23			9.5			0.0	4.0	1.0	6.0	11.0	9.5	1.5	6.5	4.0		4.5		5.5					2.0
23-24	4.5			7.5	8.5	0.0	4.0	1.0	4.5	1.5	9.5	7.0	2.0			1.0	3.5		2.0	1.0			2.0
24-25				0.0		8.0	4.0	0.5	2.5	7.0	10.0	3.0	8.0	3.5	0.5			1.5					2.5
25-26	2.0		9.0	9.5		8.0	4.0	0.0	0.5	12.0	10.0	8.5	3.5		3.5								3.0
26-27	8.0			2.0	1.5	7.5	3.5		10.0	3.0	10.5	4.5	9.5	2.5	6.0		5.0						3.0
27-28					10.0	7.5	3.5		8.5	8.0	10.5	0.0	5.0					3.5					3.5
28-29	5.5		8.5	4.5		7.5	3.5		6.5		11.0	6.0	1.0	1.5		5.5	1.5						4.0
29-30						7.5	3.5		4.5	4.0	11.0	1.5	6.5		1.0	2.0	6.5						4.0

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	V342	V343	V346	RX	SS	SS	RY	SX	TT	WW	WW	AP	AP	AR	AR	CL	EM	EP	HP	HP	IM	V459	V459
	AQL	AQL	AQL	ARI	ARI	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR
MAX	9.0	10.6	9.0	9.4	10.1	10.1	11.7	8.2	8.7	5.7	5.7	10.9	10.9	6.0	6.0	11.7	11.0	10.8	10.8	10.8	7.9	7.7	7.7
MIN	12.5	12.3	10.4	9.9	11.1	11.1	14.0	9.0	9.7	6.4	6.4	11.4	11.4	6.7	6.7	13.2	11.9	11.3	11.5	11.5	8.5	8.1	8.1
DUR	7	4	4	4	3	3	6	4	5	5	5	4	4	5	5	4	4	3	3	3	4	4	4
TOT	3																						
						(S)					(S)		(S)			(S)			(S)			(S)	
0- 1				9.5	7.0	2.0	11.5				11.0	8.0			4.5	12.0		3.5	2.0		1.5	11.0	
1- 2	3.5			10.0	2.5	7.5			1.5			11.0	4.5				4.5	8.0	12.0		7.5	12.5	
2- 3				11.0	7.5	3.0		1.5	9.5				7.5	6.0				12.0		5.0			
3- 4					3.0	8.0	5.0	6.5				4.0	11.0					2.5					2.5
4- 5					8.5	3.5		11.5		6.0		7.5			7.5	5.5		7.0	8.5				4.0
5- 6		3.0			4.0	8.5			1.5	12.5	11.0	4.0			11.0		11.0			1.5	1.5		5.5
6- 7					9.0	4.0			9.5			7.5	9.5							11.5	7.5		7.0
7- 8			1.0		4.5	9.5					4.0	10.5						5.5	4.5				8.5
8- 9			3.5		0.0	5.0		2.5			7.0				11.0		11.5	10.0					10.0
9-10					5.5	0.5		7.5	1.5	7.0		10.5	3.5			5.0				8.0			11.5
10-11					1.0	5.5		12.5	9.5				7.0	12.5		10.5	7.5	4.5	1.0		1.0		
11-12					6.0	1.0	9.0					3.5	10.5					9.0	11.0		7.0		
12-13					1.5	6.5						7.0					3.0			4.0	13.0	3.5	
13-14					6.5	2.0			1.5			10.0	3.5					3.5					5.0
14-15					2.0	7.0	2.5	4.0	9.5	8.5			6.5			4.5		8.0	7.5				6.5
15-16					7.5	2.5		9.0				3.0	10.0		10.0		12.5				1.0	8.0	
16-17					3.0	8.0						6.5						2.5		10.5	7.0	9.5	
17-18					8.0	3.5			1.5		10.0							7.0	3.5		12.5	11.0	
18-19	2.5	1.0	2.5		3.5	8.5			9.5		3.5		6.5				11.0						12.5
19-20					9.0	4.0				9.5			9.5			3.5	10.0			7.0			
20-21					4.5	9.0		5.0				6.0				9.5		6.0			0.5		2.5
21-22					9.5	4.5		10.0	1.5			9.5					5.5	10.0	10.0		6.5		4.0
22-23				0.5	5.0	0.0	6.5		9.5			13.0	6.0							3.0	12.5		5.5
23-24				1.0	0.5	5.5					4.5		9.5				1.5	4.5					7.0
24-25				2.0	6.0	1.0				11.0		6.0	12.5		3.0		9.0	6.5					8.5
25-26				2.5	1.5	6.0		1.0	1.5			9.0			9.0						0.5		10.0
26-27				3.5	6.5	1.5		6.0	9.5			12.5	5.5					3.5		9.5	6.0		11.5
27-28				4.0	2.0	7.0		11.0					9.0	1.5				8.0	2.5		12.0		
28-29			1.5	4.5	7.0	2.5					5.5	5.5	12.5				12.5	12.5	13.0				
29-30		2.5	4.0	5.5	2.5	7.5			1.5	12.0		9.0			3.0	2.5		2.5		6.0		3.5	

	SS	SS	TY	TY	TZ	TZ	ZZ	AD	AD	44	44	Y	SV	AL	AN	CD	CD	R	RT	SX	TU	TZ	TZ
	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA
MAX	10.3	10.3	11.8	11.8	10.6	10.6	6.8	9.8	9.8	4.7	4.7	10.6	8.6	10.5	9.7	11.6	11.6	6.2	11.4	10.3	9.7	9.8	9.8
MIN	11.0	11.0	12.3	12.3	11.1	11.1	7.6	10.4	10.2	4.9	4.8	12.4	9.4	11.3	10.5	11.8	11.8	6.8	12.9	11.4	10.7	10.5	10.5
DUR	18	18	3	3	3	3	5	4	4	3	3	6	3	5	8	5	5	4	5	4	4	4	4
TOT	6	6																					
		(3)		(S)		(S)	(S)		(S)		(S)						(S)						(S)
0- 1				0.0									5.0				7.5		12.0				
1- 2						1.0	12.5			1.0			9.5			11.0	1.5						13.0
2- 3												7.5				5.0				11.0			
3- 4			0.5								1.0		4.0	6.0			8.5					9.5	
4- 5						0.5							8.5			12.0	3.0	7.0	9.0		8.0		
5- 6					1.0					1.5			13.0			6.5		10.5			11.0		8.5
6- 7				0.5			12.5						3.0			1.0	10.0						
7- 8											1.5		7.5	5.5			4.5			8.0			
8- 9					0.5								12.0			8.0			6.5				
9-10		0.5								1.5			2.5			2.5	11.5						
10-11											0.0		7.0				6.0						
11-12							12.5				2.0		11.5	5.0		9.5	0.0						
12-13						1.0				0.5		5.5	1.5	13.0		3.5	13.0	6.0					
13-14			0.0										6.0				7.0	9.0	10.5		8.5		
14-15										0.5		10.5			10.5	10.5	1.5	12.5			11.5		
15-16					0.0						13.0	0.5	4.5			5.0				11.0			
16-17	12.5		0.5		1.0		12.0			1.0			5.0	12.5			8.5						
17-18									11.5				9.5			12.0	3.0		7.5				
18-19							12.5			1.0						6.5							
19-20			0.5	0.5									4.5	4.5		0.5	10.0						
20-21										1.0			9.0	12.0			4.0			8.0			
21-22							12.0									7.5		8.0			6.0		
22-23											1.5	3.5	3.5			2.0	11.0	11.5	12.0		9.0	12.5	
23-24						0.5							8.0	4.0			5.5			12.0			
24-25										1.5			12.5	12.0		9.0							11.5
25-26											0.0	11.0	2.5			3.5	12.5						
26-27				0.0		0.0	12.0				2.0		7.0				7.0		9.0		8.0		
27-28					1.0					0.5			11.5	3.5		10.5	1.5						
28-29													2.0	11.5		5.0				11.0			7.0
29-30			0.5								0.5		6.5				8.5	7.0					

	UU	XZ	YY	AC	AK	AM	AM	RW	TY	RZ	TV	TW	ZZ	AB	CW	CW	DZ	IR	IS	IT	MM	OR	OX
	CMA	CMI	CMI	CMI	CMI	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	10.0	9.7	8.5	11.0	10.1	10.0	10.0	9.8	10.5	6.4	7.3	8.3	10.7	10.2	11.8	11.8	11.6	10.8	11.6	11.0	11.3	11.4	10.1
MIN	12.5	10.2	9.1	11.5	11.5	10.7	10.4	10.8	11.6	7.8	8.4	8.9	11.1	12.2	12.5	12.5	12.3	12.1	12.6	11.8	11.9	12.4	10.9
DUR	5	3	4	3	4	5	6	5	4	4	4	5	4	4	3	3	4	4	5	5	5	4	5
TOT																							
							(S)									(S)							
0- 1						6.5							12.5		2.0	6.0	4.0				5.5		
1- 2					5.5	7.0			3.0		5.0	3.0		1.5	1.0	5.0		3.5			9.0		9.5
2- 3		8.5		11.5	9.0	7.5				0.0				10.5	7.5	4.0			10.5	0.5		3.0	
3- 4		12.5		8.0	12.0	8.0				5.0	0.5		0.0		6.5	3.0	7.0	4.5				9.0	
4- 5				5.0		8.5				9.5			6.0		5.5	1.5	2.0		6.5				
5- 6		6.0				9.0						10.0	11.5	4.0	4.5	0.5		5.5					
6- 7		10.0			8.0	9.5								13.0	3.5	7.5	10.5		2.5		0.5		9.0
7- 8			6.5		11.0	9.5									2.5	6.0	5.5	7.0			4.0	2.5	
8- 9	8.5		8.5	13.0		10.0					11.0	6.5			1.5	5.0	0.0				8.0	8.5	
9-10		7.5	11.0	10.0		10.5				4.5			5.0	6.5	0.5	4.0		8.0			12.0		
10-11	12.5	11.0		6.5	7.0	11.0				9.0	6.5		11.0		7.0	3.0	8.5	0.0					
11-12				10.0	11.5		2.5	2.5				3.0			6.0	2.0	3.5	9.0					8.5
12-13					12.0						2.0			0.0	5.0	1.0		1.0				2.0	
13-14		8.5			12.5									9.0	4.0	7.5		10.0	11.5			8.0	
14-15		12.5			6.0	13.0							4.5		3.0	6.5	7.0	2.0				3.0	
15-16			11.5	9.5						3.5		10.0	10.5		1.5	5.5	1.5	11.0	7.5			7.0	
16-17		6.0		8.5	12.5					8.5					2.5	0.5	4.5		3.0		10.5		8.0
17-18		10.0		5.0							12.5			11.5	7.5	3.5	10.0		4.0			1.5	
18-19					5.0							6.5			6.5	2.5	5.0	4.0				7.5	
19-20			7.0		8.5						8.0		4.0		5.0	1.5			0.0				
20-21		7.5	9.5		11.5									10.0	5.0	4.0	0.5		5.0				
21-22	8.5	11.0	11.5					1.5	3.0	3.5	3.0				3.0	7.0	8.5				2.0		7.5
22-23				10.0						8.0					2.0	6.0	3.0	6.0			5.5	1.0	
23-24	12.5			7.0	7.5					12.5					1.0	5.0					9.5	7.0	
24-25		8.5			10.5		5.5						3.5	7.5	0.0	4.0		7.0	12.5				
25-26		12.5					6.0					10.0	9.0		6.5	3.0	6.5		10.0				
26-27							6.5								5.5	1.5	1.5	8.0	9.0				7.0
27-28		6.0			6.5		6.5			2.5				1.0	4.5	0.5		0.5					1.0
28-29		10.0		11.5	9.5		7.0	1.5		7.5	9.5	6.5		10.0	3.5	7.5	10.0	9.0	5.0		0.5	6.5	
29-30				8.5	13.0		7.5			12.0			2.5		2.5	6.5	5.0	1.5		7.5	4.5	12.5	

	OX	PV	PV	V364	V364	V375	V380	U	SU	WW	WZ	WZ	XX	ZZ	CW	CW	DK	DL	DV	EG	EK	GK	TT		
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CET		
MAX	10.1	10.0	10.0	11.2	11.2	10.1	10.4	6.7	8.8	11.1	11.7	11.7	8.5	9.3	7.6	7.6	12.2	12.4	11.6	9.6	8.2	6.9	10.8		
MIN	10.9	10.6	10.6	11.7	11.7	10.9	11.1	9.8	9.8	11.9	11.3	11.1	9.6	10.0	8.0	8.0	14.2	13.2	12.4	10.6	9.5	7.4	11.3		
DUR	5	3	3	4	4	5	5	4	4	4	3	3	4	5	5	5	4	5	4	3	6	4	3		
TOT								2																	
	(S)		(S)		(S)						(S)				(S)										
0- 1	2.0		12.0		2.0		1.5		4.0		6.5	1.5								10.0		10.5	1.0		
1- 2		8.5				9.5	10.0		1.5		2.5	7.5	7.5	2.0		3.0				12.0		9.0	0.5		
2- 3			6.0	9.5							8.5	3.5			12.0			2.0	1.5			7.5			
3- 4		2.5			4.0						4.5	9.5		5.5					5.5	3.5		6.0			
4- 5						8.5	3.0	1.0			0.5	5.5						5.5	9.5	5.5		4.5			
5- 6	1.5			11.5			12.0				7.0	2.0		9.0	5.5					7.5		3.0			
6- 7					6.0			12.5		4.0	3.0	8.0								10.0		1.5	9.0		
7- 8				0.5		7.0			9.0		9.0	4.0		12.0						12.0			8.0		
8- 9		8.5					5.0		7.0		5.0	10.0	7.5							1.0	3.0		7.5		
9-10			6.0		8.0			0.5	4.5		1.0	6.0			7.5		2.5	1.0	3.0				7.0		
10-11	1.0	2.5		2.5		5.5			2.0		7.0	2.0							5.0	5.5			6.0		
11-12								12.5			3.0	8.0								9.0	7.5		5.5		
12-13	13.0				10.0		6.5				9.0	4.0				1.0		9.0	13.0	9.5			5.0		
13-14				4.5		4.5					5.0	0.0			10.0					12.0			4.0		
14-15								0.0			1.0	6.0					0.0			1.0		11.5	3.5		
15-16	0.5	8.5								8.5	7.0	2.0	8.0							3.0		10.0	3.0		
16-17			6.0	7.0		3.0	8.5	12.0	9.5		3.5	8.5		2.0	3.5				0.5	5.0		8.5	2.0		
17-18	12.5	2.5			1.5				7.0		9.5	4.5				12.0		6.5	4.5	7.5		7.0	1.5		
18-19			0.0						4.5		5.5	0.5		5.0						8.0	9.5		5.5	1.0	
19-20				9.0		2.0	1.5		2.5		1.5	6.5								12.0	11.5		4.0	0.0	
20-21	0.0				3.5		10.0				7.5	2.5	0.0	8.5		5.5	11.5			0.5		2.5			
21-22								12.0			3.5	8.5								11.0		3.0	10.0	1.0	
22-23	12.0	8.5		11.0		0.5					9.5	4.5	8.0	12.0				10.5	3.5		5.0				
23-24			6.0		5.5	12.0	3.5				5.5	0.5								10.5		7.0			
24-25		2.5					12.0				1.5	6.5			8.0			10.0			3.5	9.0		8.5	
25-26			0.0						10.0		7.5	2.5							9.5	10.0	7.5	11.5		7.5	
26-27					7.5	10.5		11.5	7.5		3.5	8.5							9.5		11.5	0.5		7.0	
27-28	11.5			2.0			5.0		5.0		10.0	4.5	0.5		1.5			9.0	1.0		2.5			6.5	
28-29									2.5		6.0	1.0				10.0				8.5		4.5	12.5	5.5	
29-30		8.5			9.5	9.5			0.5	4.0	2.0	7.0	8.5							8.5		7.0		11.0	5.0

	TW	TW	TX	SS	SS	U	RW	TW	RV	RV	V	Y	SW	WW	ZZ	AE	CG	DK	KR	KV	V346	V387	V388
	CET	CET	CET	COM	COM	CRB	CRB	CRB	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	10.4	10.4	10.9	10.9	10.9	7.6	10.1	10.5	9.0	9.0	9.5	7.0	9.3	9.9	10.7	11.8	11.0	10.3	9.2	11.5	11.8	11.5	9.7
MIN	11.2	11.2	11.5	11.5	11.5	8.8	10.6	11.3	10.0	10.0	10.2	7.6	11.8	13.2	12.0	12.8	11.8	10.8	10.0	12.6	13.6	12.3	10.3
DUR	3	3	4	4	4	5	4	4	4	4	4	6	5	5	4	4	3	4	4	5	5	3	3
TOT			1										2										
		(S)			(S)					(S)													
0- 1	6.5	2.5										5.5			5.5	2.5	6.5					1.0	
1- 2	5.5	1.5	8.5						11.5		11.5					2.0							2.5
2- 3	4.0		2.5												3.0	1.0	4.0						
3- 4	3.0	6.5										5.0				0.5		6.5				6.0	
4- 5	2.0	5.5	7.5		9.5			0.5							0.0		1.5	5.0	3.0				
5- 6		4.5	1.5				1.0								6.0			4.0		5.5	4.0	4.0	
6- 7	7.0	3.0					11.5					5.0						2.5					
7- 8	6.0	2.0	6.5												3.5		5.0	1.0				2.0	3.0
8- 9	4.5	1.0	0.5								12.0									1.5			
9-10	3.5	7.0										5.0					2.5		4.5			0.0	
10-11	2.0	6.0	6.0												7.0				0.5			7.0	
11-12	1.0	5.0								13.0								6.5					
12-13	7.5	3.5										5.0			4.0		6.0	5.0				5.0	
13-14	6.5	2.5	5.0				0.5											4.0					3.5
14-15	5.0	1.5						0.5		12.5				5.5	1.5		3.5	2.5				3.0	
15-16	4.0										12.5	5.0						1.0	2.5				
16-17	2.5	6.5	4.0														1.0				3.5	1.5	
17-18	1.5	5.5		9.5		0.5					12.5				5.0								
18-19		4.0	9.5									4.5											
19-20	7.0	3.0	3.0												2.0		5.0	6.5				6.0	3.5
20-21	5.5	2.0				11.5					12.0	10.5	1.0					5.5	4.0				0.5
21-22	4.5		8.5				0.5										2.5	4.0	0.5			4.0	
22-23	3.0	7.0	2.5								13.0				5.5			2.5					
23-24	2.0	6.0									12.0							1.0				2.5	
24-25	1.0	4.5	7.5					1.0				4.5		4.5	3.0		6.0						
25-26	7.5	3.5	1.5																	2.5		0.5	4.0
26-27	6.0	2.5									11.5				0.0	6.5	3.5		2.0				0.5
27-28	5.0	1.0	7.0								11.0	4.5			6.0	6.0		6.5			2.5		
28-29	3.5	7.5	0.5													5.0	1.0	5.5				5.5	
29-30	2.5	6.5					0.0						4.5		3.5	4.5		4.0					

all times in U.T.

	V401	V456	V466	V466	V477	V477	V548	V704	1034	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	BH	S	TZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	DRA	EQU	ERI
MAX	10.8	10.8	10.8	10.8	8.3	8.3	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	9.8
MIN	11.6	11.9	11.6	11.6	9.2	8.7	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	12.6
DUR	4	3	4	4	4	4	5	4	4	7	5	4	4	3	4	3	5	5	5	4	5	5	4
TOT										2							1						1
				(S)		(S)													(S)				
0- 1				0.5				7.5				3.0		4.0	3.5	5.0							
1- 2	2.5					0.0									12.0								
2- 3			2.5					0.5									11.5		10.0				
3- 4		4.0					6.5	4.0			2.0		0.5			12.5							
4- 5	0.5	1.5		4.5				7.0						2.0	5.5	1.5		1.0			12.5		
5- 6	4.5						1.5									4.0	7.0			1.0			3.5
6- 7								0.5				2.0	4.5			6.5							
7- 8								3.5										7.5				2.5	
8- 9	2.0					1.0		7.0							7.0	11.5	2.5				3.5		
9-10			1.5													0.5							
10-11								0.0		4.5			4.0			3.0							8.5
11-12	0.0	4.5		3.5				3.5						3.0	0.0	5.5				1.0			
12-13	4.0	2.0			1.0		7.0	7.0				0.5			9.0				5.0				
13-14												5.5											
14-15							2.0	0.0	5.5				3.0			13.0							
15-16	2.0					2.0		3.5	5.0	0.0				1.0	2.0	2.0			11.0				
16-17			0.5					7.0	4.5						10.5	4.5	12.5						
17-18								4.0								7.0		2.5		0.5	5.5		
18-19				2.5				3.5					2.0	4.5									4.0
19-20	4.0	5.0			2.0			3.5	3.0						3.5	12.0	8.0				1.5		
20-21		2.5	5.0					6.5	2.0						12.5	1.0		8.5					
21-22							7.5		1.5							3.5							
22-23	2.0					3.0		1.0				1.5	2.5		6.0	3.0							
23-24							3.0	3.0	0.5		4.5				5.5					0.5			9.0
24-25								6.5															
25-26				1.5								3.0							6.0				
26-27	4.0				3.0						1.5		0.5	0.0		2.5							
27-28		5.5	4.0					3.0							7.0	5.0							
28-29		3.0						6.5										12.5			3.5		
29-30	1.5	0.5				4.0							4.5	3.5						0.5			

	YY	YY	RW	SX	TX	WW	AF	AL	RX	SZ	TT	TU	UX	HS	HS	LT	V728	68	WY	WY	AV	DF	DF
	ERI	ERI	GEM	GEM	GEM	GEM	GEM	GEM	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA
MAX	8.4	8.4	9.6	10.8	10.0	9.8	10.2	9.3	7.1	10.2	9.7	10.6	8.9	8.5	8.5	10.7	10.9	4.7	10.3	10.3	10.2	11.0	11.0
MIN	9.1	9.1	11.6	11.7	11.9	10.5	11.3	10.0	7.7	12.0	10.4	13.4	9.8	9.0	9.0	11.1	11.5	5.4	11.1	11.1	10.6	11.5	11.5
DUR	3	3	5	5	6	4	4	4	5	4	4	5	5	4	4	4	3	5	3	3	4	4	4
TOT			1									1											
		(S)													(S)					(S)			(S)
0- 1		5.0		5.0		6.5			1.0														11.5
1- 2		4.0				12.0		9.5															
2- 3	7.0	3.0								1.0									6.5				
3- 4	6.0						5.0								3.5	1.0				8.5			
4- 5	5.5			7.5			10.5	4.0											10.0		7.0		
5- 6	4.5					5.0											3.5			12.0			
6- 7	3.5	7.5				11.0				3.0		2.5					2.0				8.5	8.0	
7- 8	3.0	6.5									1.0						0.5		7.0				7.5
8- 9		6.0		10.0			4.5	8.0							1.0					8.5	9.5		7.5
9-10		5.0			11.0		10.0												10.5				7.0
10-11		4.0				4.0														12.0	11.0		7.0
11-12	7.0	3.0		3.5		9.5				1.0													7.0
12-13	6.0	2.5		12.0	6.5			12.5						2.5					7.0		12.0		6.5
13-14	5.5		10.0				3.5													9.0			6.5
14-15	4.5						9.5										2.5		10.5				6.0
15-16	3.5	7.5		6.0		3.0		7.0		3.0							1.0			12.5			
16-17	3.0	6.5	6.5			8.5			1.5				2.5										
17-18		6.0												0.5					7.5				
18-19		5.0																		9.0			
19-20		4.0	3.5	8.0			9.0	11.5												11.0		8.0	
20-21	7.0	3.5								1.0								0.5		12.5			
21-22	6.5	2.5				7.5									3.5					6.0	9.5		
22-23	5.5							6.0									2.5	2.0	7.5				
23-24	4.5			10.5	11.0												1.0			9.5	10.5		
24-25	3.5	7.5					8.0			3.0									11.0				
25-26	3.0	6.5																		13.0	11.5		
26-27		6.0		4.0	6.5	6.0		10.5							1.5					6.0		8.0	
27-28		5.0				12.0														8.0	13.0	7.5	
28-29		4.0									0.5									9.5		7.5	
29-30	7.0	3.5					7.5	5.0		1.0									11.5			7.0	

	DI	DK	V470	V470	SW	SW	VX	AW	CM	CO	CO	DG	GX	MZ	MZ	Y	UU	UV	VZ	WZ	XY	XZ	AM
	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LEO	LEO	LEO	LEO
MAX	11.0	10.5	13.0	13.0	9.2	9.2	10.9	10.6	8.5	10.5	10.5	10.8	10.1	11.2	11.2	9.5	11.4	9.5	10.6	11.3	9.5	10.6	9.2
MIN	12.0	11.0	13.5	13.5	10.0	10.0	12.3	11.3	9.5	11.0	11.0	12.0	10.4	12.1	12.1	12.7	12.7	10.2	11.7	12.0	9.9	11.2	9.8
DUR	4	4	3	3	3	3	4	5	4	5	5	4	6	4	4	5	4	3	4	5	2	3	3
TOT																							
				(S)		(S)					(S)				(S)								
0- 1			8.0		3.5	7.0			5.0											9.5		9.5	
1- 2				7.5	2.5	6.5					5.5	7.5						10.0	7.5			9.0	8.0
2- 3	10.5		7.5		1.5	5.5				0.5					4.5	12.0	8.5		9.5			8.5	
3- 4				7.0	0.5	4.5		0.5											12.0		7.0	8.0	
4- 5			6.5		7.5	3.5	0.5	4.0			7.5							10.0				7.0	
5- 6	12.5			6.5	6.5	2.5	2.5	7.5	0.5	2.5					8.5								8.5
6- 7		9.5	6.0		5.5	2.0	4.0																
7- 8	9.0	10.5		6.0	4.5	1.0	6.0				9.5						9.5	10.0		10.5			
8- 9		11.5			4.0	7.5	8.0		6.0	4.5													
9-10					3.0	6.5										6.0							
10-11	10.5				2.0	6.0						3.5		3.0				10.0		6.0			
11-12					1.0	5.0		0.5		6.5													
12-13				9.5	0.0	4.0		4.0			0.5	8.5					10.5						
13-14	12.5		9.0		7.0	3.0		7.5	1.5					7.0				10.0	7.0				
14-15				8.5	6.0	2.0				8.5						7.5			9.5	11.5			
15-16	8.5		8.5		5.0	1.5					2.5								11.5				
16-17				8.0	4.0	0.5			6.5									10.0					8.0
17-18		8.5	8.0		3.5	7.0				10.5			5.5				11.5			7.0		11.5	
18-19	10.5	9.5		7.5	2.5	6.5					4.5											10.5	
19-20		10.5	7.5		1.5	5.5	1.5	0.5								9.0		10.0				10.0	
20-21		12.0		7.0	0.5	4.5	3.5	4.0														9.5	8.5
21-22	12.0		7.0		7.5	3.5	5.5	7.5	2.0		6.5	4.0			3.5					12.5		9.0	
22-23				6.5	6.5	2.5	7.0			1.5							12.5	10.0				8.5	
23-24	8.5		6.0		5.5	1.5						9.0										8.0	
24-25				6.0	4.5	1.0			7.0		8.5				7.5	10.0				8.0		7.0	
25-26					3.5	7.5				3.5								10.0	7.0				
26-27	10.0				3.0	6.5													9.0				
27-28					2.0	6.0		0.5			10.5								11.5				
28-29					1.0	5.0		4.0		5.5								10.0			7.0		
29-30	12.0	8.5		9.5	0.0	4.0		7.5	2.5					2.0		11.5							

	Z	RR	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	EP	U	V501	V508	V839	EF	EF	EQ	ER	ER	ET	
	LEP	LEP	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	
MAX	11.0	10.2	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	10.5	5.8	10.9	10.1	8.8	12.6	12.6	10.3	9.5	9.5	11.2	
MIN	12.5	10.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	11.1	6.5	11.8	10.7	9.4	14.1	12.8	13.3	10.2	10.2	12.4	
DUR	4	4	4	5	5	4	5	5	5	5	4	5	5	5	4	3	3	6	6	4	3	3	5	
TOT									1				1											
								(S)											(S)			(S)		
0- 1										10.0	6.5						0.5						7.5	
1- 2			4.5				5.5															9.0	4.0	
2- 3								8.5		10.5	11.5						2.0	9.0				5.0		
3- 4				4.0												0.0			4.5	7.5			6.5	
4- 5						0.5				11.5			7.0	1.0		1.0						8.0		
5- 6		12.5	11.5	1.0							9.5		10.5			2.0						4.5	9.5	
6- 7		10.5				4.5				12.0		6.5								10.5			6.0	
7- 8		8.0							11.5									6.0				7.0		
8- 9		6.0	8.5				9.5			12.5	8.0	12.0			2.0							3.5	8.5	
9-10		4.0						12.5	9.5						1.5		0.5					10.0	5.0	
10-11											12.5				0.5			11.5		7.0	6.5		12.5	
11-12			5.5						7.0		6.5						1.5		7.0				7.5	11.5
12-13													8.0									9.0	4.0	10.0
13-14								5.0		11.0		11.5				0.0						5.5		9.0
14-15																1.0			12.5				7.0	7.5
15-16			13.0													1.5		8.0				8.5		6.5
16-17		12.0								9.5						2.5			3.5			4.5	9.5	5.5
17-18		10.0				2.0						9.5								7.0			6.0	4.0
18-19		8.0	9.5														0.5					7.5		3.0
19-20		6.0								7.5			5.0						9.5			3.5	9.0	
20-21		4.0		4.5				7.0					8.5				1.5	5.0					5.0	
21-22			6.5							12.5		12.5											6.5	
22-23				1.5						6.0											12.5			8.0
23-24																0.0		10.5				9.5	4.5	
24-25										11.0						1.0			6.0	6.5		5.5		
25-26																1.5								7.0
26-27	12.0				4.0		7.5					7.0				2.5						8.5	3.5	
27-28	12.0	11.5						11.0			9.0		6.0				0.5		11.5			5.0	10.0	
28-29	12.0	9.5	10.5		2.5				11.0			12.5	9.5					7.0						6.0
29-30	11.5	7.5															1.5			12.0	7.5			

	FH	FL	FR	FT	FZ	FZ	GU	GU	U	U	TY	UX	AQ	BB	BB	BG	BX	DI	GP	KW	KW	Z	RT
	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER
MAX	10.5	10.5	11.0	9.1	10.7	10.7	12.6	12.6	9.7	9.7	10.5	10.7	10.3	10.6	10.6	10.5	10.9	9.6	10.2	12.1	12.1	9.9	10.6
MIN	11.5	13.2	11.9	9.7	11.3	11.3	13.5	13.5	10.5	10.5	12.6	12.0	13.0	11.2	11.2	11.8	11.5	10.8	11.0	12.4	12.4	12.4	12.0
DUR	5	3	4	4	3	3	4	4	3	3	6	5	12	3	3	4	3	2	4	3	3	6	4
TOT													4			1						2	
						(S)		(S)		(S)			(3)		(S)					(S)			
0- 1					9.0	4.5	9.0	3.0	1.0	5.5	3.0			5.0	0.5		1.0				3.5	2.5	
1- 2		7.5	10.5	3.5	4.5	9.0	7.5		4.0	8.5		5.0		7.0	2.5	1.0	4.0	2.5					
2- 3			7.5		9.0	4.5	6.0		7.0	2.5				0.5	4.5		0.0			4.0			
3- 4			5.0		4.5	9.0	4.5	10.0	1.0	5.5	5.0			2.5	7.0	0.0	3.0	5.5				12.0	
4- 5		10.0		7.0	9.0	4.5	3.0	9.0	4.0	8.5				4.5	0.0		6.0				5.0	8.5	
5- 6					4.5	9.0		7.5	7.0	2.5				6.5	2.0		2.0				1.0	5.0	
6- 7	6.0				9.0	4.5		6.0	1.0	5.5	7.5				4.0		5.0	2.0	8.0	6.0		1.0	
7- 8		12.5		11.0	4.5	9.0	10.5	4.5	4.0	8.5				2.0	6.0		1.0		7.5	2.0			
8- 9	10.0		12.0		9.0	4.5	9.0	3.0	7.0	2.5				4.0			4.0	5.5	7.0				
9-10			9.0		4.5	9.0	7.5		1.0	5.5				6.0	1.5		0.5		6.5		3.0	11.0	
10-11			6.5		9.0	4.5	6.0		4.0	8.5					3.5		3.5		6.0			1.0	7.0
11-12			3.5		4.5	9.0	4.5	10.5	7.0	2.5				1.5	5.5		6.0	1.5	5.0	4.0			3.5
12-13		4.0			9.0	4.5	3.0	9.0	1.0	5.5		0.5		3.5			2.5		4.5				
13-14					4.5	9.0		7.5	4.0	8.5				5.5	1.0		5.5	5.0	4.0		5.0	2.0	
14-15					9.0	4.5		6.0	7.0	2.5					3.0		1.5		3.5		0.5		
15-16		6.5			4.5	9.0	10.5	4.5	1.0	5.5		3.0		0.5	5.0		4.5	8.0	3.0	5.5			9.5
16-17			11.0		9.0	4.5	9.0	3.0	4.0	8.5				3.0	7.0		0.5	1.5	2.5	1.5		3.5	6.0
17-18			8.0		4.5	9.0	7.5		7.0	2.5				5.0	0.5		3.5		1.5		6.5	2.0	
18-19		9.0	5.0		9.0	4.5	6.0		1.0	5.5		5.0		7.0	2.5		6.5	4.5	1.0		2.5		
19-20	4.0				4.5	9.0	4.5	10.5	4.0	8.5				0.0	4.5		2.5		0.5			5.0	
20-21					9.0	4.5	3.5	9.0	7.0	2.5				2.0	6.5		5.5	8.0		3.5			12.0
21-22	7.5	11.5			4.5	9.0		7.5	1.0	5.5		7.0		4.0			1.5	1.0					8.0
22-23					9.0	4.5		6.0	4.0	8.5			2.0	6.5	2.0		4.5				4.5	6.0	4.5
23-24	11.0		12.5	5.0	4.5	9.0	10.5	4.5	7.0	2.5					4.0		1.0	4.0					1.0
24-25			9.5		9.0	4.5	9.0	3.5	0.5	5.0				1.5	6.0		4.0			5.5			
25-26			7.0		4.5	9.0	7.5		3.5	8.0				3.5			6.5	7.5		1.0		7.5	
26-27		3.0	4.0	8.5	9.0	4.5	6.0		6.5	2.0				5.5	1.5		3.0	0.5			6.5	10.5	
27-28					4.5	9.0	4.5	10.5	0.5	5.0					3.5		6.0				2.0		7.0
28-29					9.0	4.5	3.5	9.0	3.5	8.0				1.0	5.5		2.0	3.5				9.0	3.5
29-30		5.5		12.0	4.5	9.0		7.5	6.5	2.0		0.5		3.0			5.0			3.0			

	RW	RZ	TY	WY	AC	AM	AQ	CT	EQ	EQ	HU	V	X	RS	RV	W	W	TX	TY	TY	UX	UX	VV
	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA
MAX	8.0	10.5	11.5	11.5	10.5	10.4	12.0	10.2	10.3	10.3	6.0	10.9	8.9	10.3	11.4	9.1	9.1	6.8	11.7	11.7	12.7	12.7	10.1
MIN	12.5	11.2	12.0	11.7	12.3	12.3	12.9	11.5	11.0	11.0	6.8	11.9	12.0	11.0	12.5	9.9	9.9	8.9	12.4	12.4	13.8	13.8	11.0
DUR	4	3	2	4	6	5	5	5	3	3	6	4	4	4	4	3	3	6	3	3	1	1	3
TOT	1																						
										(S)							(S)			(S)			
0- 1		4.5		11.5			8.5	12.5	4.0	8.0			9.5		10.5	7.0				8.0	8.0		9.5
1- 2				4.0	4.5			4.5	4.5	0.5	10.5	2.5	9.0	0.5	5.0	7.0						8.0	
2- 3		6.5						12.5	5.0	1.0		6.5	8.0			7.0		10.0	7.0				11.0
3- 4	11.0	2.5		6.0	5.5			4.5	5.5	1.5	11.5	10.5	7.5		11.0	7.0			0.0				3.5
4- 5		8.5	2.0					12.5	6.0	2.0		0.5	7.0		5.0	7.0					6.0		12.5
5- 6		4.5	4.0	7.5	6.5		5.0	4.5	7.0	2.5	13.0	5.0	6.0			7.0		11.5		7.5			5.0
6- 7	5.5		6.0				10.5	12.5	7.5	3.5		9.0	5.5		11.5	7.0							
7- 8		6.0	7.5	9.5	7.5			4.5	8.0	4.0			5.0		5.5	7.0				6.0	0.5		6.5
8- 9		2.0	9.5	2.0		3.5		12.5	0.5	4.5		3.0	4.0			7.0	3.0	13.0	7.5			0.5	
9-10		8.0	11.5	11.5	8.5			4.5	1.0	5.0		7.0	3.5		12.0	7.0	3.0				9.5		8.0
10-11		4.0		4.0		4.5	2.0	12.5	1.5	5.5			3.0		6.0	7.0	3.0				6.5		9.0
11-12		10.0			9.5		7.0	4.5	2.0	6.0		1.0	2.0			7.5	3.0				8.0	8.5	9.5
12-13		6.0		6.0		5.5	12.0	12.5	2.5	7.0		5.5	1.5		12.0	7.5	3.5						8.0
13-14		2.0			10.5			4.5	3.0	7.5		9.5	0.5		6.0	7.5	3.5		7.0				11.0
14-15	13.0	8.0		8.0		6.5		12.5	4.0	8.0			0.0	9.5	0.5	7.5	3.5		8.5				3.5
15-16		3.5			12.0			4.5	4.5	0.5		3.5				7.5	3.5				5.5		12.5
16-17		9.5		9.5		8.0	4.0	12.5	5.0	1.0		7.5		7.0	6.5	7.5	3.5				7.0		5.0
17-18	7.5	5.5		2.5			9.0	4.5	5.5	1.5					0.5	7.5	3.5				0.0		
18-19		1.5	2.0	11.5		9.0		12.5	6.0	2.0		1.5		5.0		7.5	3.5			6.0	1.0		6.5
19-20		7.5	4.0	4.0				4.5	6.5	2.5		6.0			7.0	7.5	3.5		7.5			0.5	
20-21	2.0	3.5	6.0			10.0		12.5	7.5	3.0		10.0		2.5	1.0	7.5	3.5				0.0		8.0
21-22		9.5	8.0	6.0				4.5	8.0	4.0						7.5	3.5				6.5		9.0
22-23		5.5	9.5			11.0	5.5	12.5		4.5		4.0		0.5	7.5	7.5	3.5				8.0	9.0	9.5
23-24		1.5	11.5	8.0			11.0	4.5	1.0	5.0		8.0			1.5	7.5	3.5						8.5
24-25		7.0				12.0		12.5	1.5	5.5						7.5	3.5			6.5	8.0		11.0
25-26		3.0		10.0				4.5	2.0	6.0		2.5			7.5	7.5	3.5		8.0				3.5
26-27		9.0		2.5				12.5	2.5	6.5	2.5	6.5			1.5	7.5	3.5						12.5
27-28		5.0		11.5			2.5	4.5	3.0	7.0		10.5				7.5	3.5				7.0		5.0
28-29	9.0			4.5			7.5	12.5	3.5	8.0	4.0	0.5			8.0	7.5	3.5				8.5		
29-30		7.0					13.0	4.5	4.5			4.5			2.0	7.5	3.5		5.5				6.5

	XZ	ZZ	AF	W	RU	AG	AH	AH	AX	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD	V495	V495
	UMA	UMA	UMA	UMI	UMI	VIR	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	10.1	9.8	10.8	8.6	10.7	8.8	9.7	9.7	10.0	9.9	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	11.7	11.2	11.6	9.7	11.4	9.4	10.2	10.2	10.8	11.3	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	3	4	8	7	4	4	4	4	4	4	6	5	5	4	5	4	3	3	3	4	4	4
TOT																						
								(S)														(S)
0- 1		3.5			11.5						3.0				1.0							4.5
1- 2				0.0	12.5	10.5		9.5					5.0						3.0			
2- 3		10.5			1.0		9.5		12.5			4.0										
3- 4			10.5		2.5								5.5		3.5							
4- 5	5.5			10.0	3.5															1.0	4.5	
5- 6	11.0				4.5						0.5									2.5		2.0
6- 7				2.5	6.0							5.0		4.5			3.5	1.5	6.0	2.0		
7- 8		1.0			7.0							0.0					2.5	5.0				
8- 9					8.5	12.0											1.0			3.5		
9-10		8.0		12.0	9.5				13.0								0.0		2.0		2.5	
10-11	8.5				10.5	10.5						5.5							5.5	4.5		
11-12				5.0	12.0							1.0		0.0								
12-13					0.5			9.5														
13-14					1.5															1.5		
14-15					3.0				11.0						0.0			1.5	5.0		0.0	
15-16	6.0				4.0							1.5					4.5	4.5				
16-17	11.0	6.0		7.5	5.5												3.5					
17-18					6.5	12.0									2.5		2.5		1.5	0.5		
18-19		13.0		0.5	7.5					13.0							1.0		4.5			4.0
19-20			5.0		9.0	10.5						2.5								2.0		
20-21					10.0												5.0					
21-22	8.5			10.0	11.5				11.5											1.0	3.0	
22-23					12.5													1.0	4.0		4.5	
23-24		3.5		3.0	1.0			9.5				3.5		1.5				4.5		4.5		1.5
24-25			11.0		2.5																	
25-26		10.5			3.5													4.5		0.5	5.5	
26-27	6.0			12.5	4.5	12.0										3.5	3.5		4.0			
27-28	11.0				6.0					12.5	3.0	4.0						2.0			2.0	
28-29				5.5	7.0	10.5			12.0							2.5	1.0					
29-30					8.0														0.0			