

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Thu 1 Jan	4:53 am	5:19 am	7:04 pm	7:30 pm	rises 9:27 am	sets 10:14 pm	
Fri 2 Jan	4:54 am	5:20 am	7:04 pm	7:30 pm	rises 10:20 am	sets 10:44 pm	
Sat 3 Jan	4:55 am	5:20 am	7:04 pm	7:30 pm	rises 11:15 am	sets 11:16 pm	
Sun 4 Jan	4:55 am	5:21 am	7:04 pm	7:30 pm	rises 12:12 pm	sets 11:50 pm	1 st qtr
Mon 5 Jan	4:56 am	5:22 am	7:05 pm	7:31 pm	rises 1:13 pm	---	
Tue 6 Jan	4:57 am	5:23 am	7:05 pm	7:31 pm	sets 0:28 am	rises 2:17 pm	
Wed 7 Jan	4:57 am	5:23 am	7:05 pm	7:31 pm	sets 1:12 am	rises 3:25 pm	
Thu 8 Jan	4:58 am	5:24 am	7:05 pm	7:31 pm	sets 2:04 am	rises 4:35 pm	
Fri 9 Jan	4:59 am	5:25 am	7:05 pm	7:31 pm	sets 3:06 am	rises 5:42 pm	
Sat 10 Jan	5:00 am	5:26 am	7:05 pm	7:31 pm	sets 4:14 am	rises 6:43 pm	
Sun 11 Jan	5:01 am	5:26 am	7:05 pm	7:31 pm	sets 5:27 am	rises 7:36 pm	full
Mon 12 Jan	5:01 am	5:27 am	7:05 pm	7:31 pm	sets 6:39 am	rises 8:21 pm	
Tue 13 Jan	5:02 am	5:28 am	7:05 pm	7:31 pm	sets 7:47 am	rises 9:01 pm	
Wed 14 Jan	5:03 am	5:29 am	7:05 pm	7:31 pm	sets 8:51 am	rises 9:36 pm	
Thu 15 Jan	5:04 am	5:29 am	7:05 pm	7:30 pm	sets 9:52 am	rises 10:09 pm	
Fri 16 Jan	5:05 am	5:30 am	7:05 pm	7:30 pm	sets 10:50 am	rises 10:42 pm	
Sat 17 Jan	5:06 am	5:31 am	7:05 pm	7:30 pm	sets 11:47 am	rises 11:15 pm	
Sun 18 Jan	5:06 am	5:32 am	7:05 pm	7:30 pm	sets 12:43 pm	rises 11:51 pm	last qtr
Mon 19 Jan	5:07 am	5:33 am	7:04 pm	7:30 pm	sets 1:39 pm	---	
Tue 20 Jan	5:08 am	5:33 am	7:04 pm	7:29 pm	rises 0:29 am	sets 2:35 pm	
Wed 21 Jan	5:09 am	5:34 am	7:04 pm	7:29 pm	rises 1:11 am	sets 3:30 pm	
Thu 22 Jan	5:10 am	5:35 am	7:04 pm	7:29 pm	rises 1:58 am	sets 4:22 pm	
Fri 23 Jan	5:11 am	5:36 am	7:03 pm	7:29 pm	rises 2:48 am	sets 5:11 pm	
Sat 24 Jan	5:11 am	5:37 am	7:03 pm	7:28 pm	rises 3:42 am	sets 5:56 pm	
Sun 25 Jan	5:12 am	5:37 am	7:03 pm	7:28 pm	rises 4:37 am	sets 6:36 pm	
Mon 26 Jan	5:13 am	5:38 am	7:02 pm	7:27 pm	rises 5:33 am	sets 7:12 pm	new eclipse
Tue 27 Jan	5:14 am	5:39 am	7:02 pm	7:27 pm	rises 6:28 am	sets 7:46 pm	
Wed 28 Jan	5:15 am	5:40 am	7:02 pm	7:26 pm	rises 7:22 am	sets 8:17 pm	
Thu 29 Jan	5:16 am	5:40 am	7:01 pm	7:26 pm	rises 8:16 am	sets 8:48 pm	
Fri 30 Jan	5:16 am	5:41 am	7:01 pm	7:26 pm	rises 9:11 am	sets 9:18 pm	
Sat 31 Jan	5:17 am	5:42 am	7:00 pm	7:25 pm	rises 10:07 am	sets 9:51 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Sun 1 Feb	5:18 am	5:43 am	7:00 pm	7:24 pm	rises 11:05 am	sets 10:26 pm	
Mon 2 Feb	5:19 am	5:44 am	6:59 pm	7:24 pm	rises 12:06 pm	sets 11:07 pm	
Tue 3 Feb	5:20 am	5:44 am	6:59 pm	7:23 pm	rises 1:11 pm	sets 11:54 pm	1 st qtr
Wed 4 Feb	5:21 am	5:45 am	6:58 pm	7:23 pm	rises 2:17 pm	---	
Thu 5 Feb	5:21 am	5:46 am	6:58 pm	7:22 pm	sets 0:49 am	rises 3:23 pm	
Fri 6 Feb	5:22 am	5:47 am	6:57 pm	7:21 pm	sets 1:53 am	rises 4:25 pm	
Sat 7 Feb	5:23 am	5:47 am	6:56 pm	7:21 pm	sets 3:01 am	rises 5:21 pm	
Sun 8 Feb	5:24 am	5:48 am	6:56 pm	7:20 pm	sets 4:12 am	rises 6:09 pm	
Mon 9 Feb	5:24 am	5:49 am	6:55 pm	7:19 pm	sets 5:22 am	rises 6:52 pm	full
Tue 10 Feb	5:25 am	5:49 am	6:54 pm	7:19 pm	sets 6:29 am	rises 7:30 pm	
Wed 11 Feb	5:26 am	5:50 am	6:54 pm	7:18 pm	sets 7:32 am	rises 8:05 pm	
Thu 12 Feb	5:27 am	5:51 am	6:53 pm	7:17 pm	sets 8:33 am	rises 8:38 pm	
Fri 13 Feb	5:27 am	5:51 am	6:52 pm	7:16 pm	sets 9:32 am	rises 9:12 pm	
Sat 14 Feb	5:28 am	5:52 am	6:52 pm	7:15 pm	sets 10:31 am	rises 9:48 pm	
Sun 15 Feb	5:29 am	5:53 am	6:51 pm	7:15 pm	sets 11:29 am	rises 10:26 pm	
Mon 16 Feb	5:30 am	5:54 am	6:50 pm	7:14 pm	sets 12:26 pm	rises 11:07 pm	last qtr
Tue 17 Feb	5:30 am	5:54 am	6:49 pm	7:13 pm	sets 1:22 pm	rises 11:52 pm	
Wed 18 Feb	5:31 am	5:55 am	6:48 pm	7:12 pm	sets 2:15 pm	---	
Thu 19 Feb	5:32 am	5:55 am	6:48 pm	7:11 pm	rises 0:42 am	sets 3:06 pm	
Fri 20 Feb	5:32 am	5:56 am	6:47 pm	7:10 pm	rises 1:34 am	sets 3:52 pm	
Sat 21 Feb	5:33 am	5:57 am	6:46 pm	7:09 pm	rises 2:29 am	sets 4:34 pm	
Sun 22 Feb	5:34 am	5:57 am	6:45 pm	7:09 pm	rises 3:24 am	sets 5:12 pm	
Mon 23 Feb	5:34 am	5:58 am	6:44 pm	7:08 pm	rises 4:20 am	sets 5:46 pm	
Tue 24 Feb	5:35 am	5:59 am	6:43 pm	7:07 pm	rises 5:15 am	sets 6:19 pm	
Wed 25 Feb	5:36 am	5:59 am	6:42 pm	7:06 pm	rises 6:10 am	sets 6:50 pm	new
Thu 26 Feb	5:36 am	6:00 am	6:41 pm	7:05 pm	rises 7:05 am	sets 7:21 pm	
Fri 27 Feb	5:37 am	6:00 am	6:40 pm	7:04 pm	rises 8:01 am	sets 7:53 pm	
Sat 28 Feb	5:38 am	6:01 am	6:39 pm	7:03 pm	rises 9:00 am	sets 8:28 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Sun 1 Mar	5:38 am	6:02 am	6:38 pm	7:02 pm	rises 10:00 am	sets 9:07 pm	
Mon 2 Mar	5:39 am	6:02 am	6:37 pm	7:01 pm	rises 11:04 am	sets 9:52 pm	
Tue 3 Mar	5:39 am	6:03 am	6:36 pm	7:00 pm	rises 12:09 pm	sets 10:44 pm	
Wed 4 Mar	5:40 am	6:03 am	6:36 pm	6:59 pm	rises 1:14 pm	sets 11:42 pm	1 st qtr
Thu 5 Mar	5:41 am	6:04 am	6:35 pm	6:58 pm	rises 2:15 pm	---	
Fri 6 Mar	5:41 am	6:04 am	6:34 pm	6:57 pm	sets 0:47 am	rises 3:11 pm	
Sat 7 Mar	5:42 am	6:05 am	6:32 pm	6:56 pm	sets 1:55 am	rises 4:01 pm	
Sun 8 Mar	5:42 am	6:05 am	6:31 pm	6:55 pm	sets 3:03 am	rises 4:45 pm	
Mon 9 Mar	5:43 am	6:06 am	6:30 pm	6:54 pm	sets 4:09 am	rises 5:23 pm	
Tue 10 Mar	5:43 am	6:06 am	6:29 pm	6:53 pm	sets 5:13 am	rises 5:59 pm	
Wed 11 Mar	5:44 am	6:07 am	6:28 pm	6:51 pm	sets 6:15 am	rises 6:34 pm	full
Thu 12 Mar	5:44 am	6:07 am	6:27 pm	6:50 pm	sets 7:15 am	rises 7:08 pm	
Fri 13 Mar	5:45 am	6:08 am	6:26 pm	6:49 pm	sets 8:14 am	rises 7:43 pm	
Sat 14 Mar	5:45 am	6:08 am	6:25 pm	6:48 pm	sets 9:14 am	rises 8:20 pm	
Sun 15 Mar	5:46 am	6:09 am	6:24 pm	6:47 pm	sets 10:12 am	rises 9:01 pm	
Mon 16 Mar	5:46 am	6:09 am	6:23 pm	6:46 pm	sets 11:10 am	rises 9:45 pm	
Tue 17 Mar	5:47 am	6:10 am	6:22 pm	6:45 pm	sets 12:05 pm	rises 10:34 pm	
Wed 18 Mar	5:47 am	6:10 am	6:21 pm	6:44 pm	sets 12:58 pm	rises 11:25 pm	last qtr
Thu 19 Mar	5:48 am	6:11 am	6:20 pm	6:43 pm	sets 1:46 pm	---	
Fri 20 Mar	5:48 am	6:11 am	6:19 pm	6:42 pm	rises 0:19 am	sets 2:29 pm	
Sat 21 Mar	5:49 am	6:12 am	6:18 pm	6:41 pm	rises 1:14 am	sets 3:08 pm	
Sun 22 Mar	5:49 am	6:12 am	6:17 pm	6:40 pm	rises 2:09 am	sets 3:44 pm	
Mon 23 Mar	5:50 am	6:13 am	6:16 pm	6:39 pm	rises 3:05 am	sets 4:17 pm	
Tue 24 Mar	5:50 am	6:13 am	6:15 pm	6:38 pm	rises 4:00 am	sets 4:49 pm	
Wed 25 Mar	5:51 am	6:14 am	6:13 pm	6:36 pm	rises 4:55 am	sets 5:21 pm	
Thu 26 Mar	5:51 am	6:14 am	6:12 pm	6:35 pm	rises 5:51 am	sets 5:53 pm	new
Fri 27 Mar	5:52 am	6:15 am	6:11 pm	6:34 pm	rises 6:50 am	sets 6:28 pm	
Sat 28 Mar	5:52 am	6:15 am	6:10 pm	6:33 pm	rises 7:51 am	sets 7:06 pm	
Sun 29 Mar	5:53 am	6:16 am	6:09 pm	6:32 pm	rises 8:55 am	sets 7:50 pm	
Mon 30 Mar	5:53 am	6:16 am	6:08 pm	6:31 pm	rises 10:01 am	sets 8:40 pm	
Tue 31 Mar	5:54 am	6:17 am	6:07 pm	6:30 pm	rises 11:07 am	sets 9:38 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Wed 1 Apr	5:54 am	6:17 am	6:06 pm	6:29 pm	rises 12:10 pm	sets 10:41 pm	
Thu 2 Apr	5:54 am	6:18 am	6:05 pm	6:28 pm	rises 1:07 pm	sets 11:47 pm	1 st qtr
Fri 3 Apr	5:55 am	6:18 am	6:04 pm	6:27 pm	rises 1:58 pm	---	
Sat 4 Apr	5:55 am	6:18 am	6:03 pm	6:26 pm	sets 0:53 am	rises 2:42 pm	
Sun 5 Apr	5:56 am	6:19 am	6:02 pm	6:25 pm	sets 1:58 am	rises 3:21 pm	
Mon 6 Apr	5:56 am	6:19 am	6:01 pm	6:24 pm	sets 3:01 am	rises 3:57 pm	
Tue 7 Apr	5:57 am	6:20 am	6:00 pm	6:23 pm	sets 4:02 am	rises 4:31 pm	
Wed 8 Apr	5:57 am	6:20 am	5:59 pm	6:22 pm	sets 5:01 am	rises 5:05 pm	
Thu 9 Apr	5:58 am	6:21 am	5:58 pm	6:21 pm	sets 6:00 am	rises 5:39 pm	full
Fri 10 Apr	5:58 am	6:21 am	5:57 pm	6:20 pm	sets 6:59 am	rises 6:16 pm	
Sat 11 Apr	5:59 am	6:22 am	5:56 pm	6:19 pm	sets 7:58 am	rises 6:55 pm	
Sun 12 Apr	5:59 am	6:22 am	5:55 pm	6:18 pm	sets 8:57 am	rises 7:38 pm	
Mon 13 Apr	5:59 am	6:23 am	5:54 pm	6:17 pm	sets 9:54 am	rises 8:26 pm	
Tue 14 Apr	6:00 am	6:23 am	5:53 pm	6:16 pm	sets 10:48 am	rises 9:16 pm	
Wed 15 Apr	6:00 am	6:24 am	5:52 pm	6:15 pm	sets 11:38 am	rises 10:10 pm	
Thu 16 Apr	6:01 am	6:24 am	5:51 pm	6:14 pm	sets 12:23 pm	rises 11:04 pm	
Fri 17 Apr	6:01 am	6:25 am	5:50 pm	6:13 pm	sets 1:04 pm	rises 11:59 pm	last qtr
Sat 18 Apr	6:02 am	6:25 am	5:49 pm	6:12 pm	sets 1:41 pm	---	
Sun 19 Apr	6:02 am	6:26 am	5:48 pm	6:11 pm	rises 0:53 am	sets 2:15 pm	
Mon 20 Apr	6:03 am	6:26 am	5:47 pm	6:11 pm	rises 1:48 am	sets 2:47 pm	
Tue 21 Apr	6:03 am	6:27 am	5:46 pm	6:10 pm	rises 2:42 am	sets 3:18 pm	
Wed 22 Apr	6:04 am	6:27 am	5:45 pm	6:09 pm	rises 3:38 am	sets 3:50 pm	
Thu 23 Apr	6:04 am	6:28 am	5:44 pm	6:08 pm	rises 4:35 am	sets 4:24 pm	
Fri 24 Apr	6:04 am	6:28 am	5:44 pm	6:07 pm	rises 5:36 am	sets 5:01 pm	
Sat 25 Apr	6:05 am	6:29 am	5:43 pm	6:06 pm	rises 6:39 am	sets 5:44 pm	new
Sun 26 Apr	6:05 am	6:29 am	5:42 pm	6:06 pm	rises 7:46 am	sets 6:33 pm	
Mon 27 Apr	6:06 am	6:30 am	5:41 pm	6:05 pm	rises 8:54 am	sets 7:29 pm	
Tue 28 Apr	6:06 am	6:30 am	5:40 pm	6:04 pm	rises 10:00 am	sets 8:32 pm	
Wed 29 Apr	6:07 am	6:31 am	5:40 pm	6:03 pm	rises 11:01 am	sets 9:39 pm	
Thu 30 Apr	6:07 am	6:31 am	5:39 pm	6:03 pm	rises 11:55 am	sets 10:46 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Fri 1 May	6:08 am	6:32 am	5:38 pm	6:02 pm	rises 12:41 pm	sets 11:52 pm	1 st qtr
Sat 2 May	6:08 am	6:32 am	5:37 pm	6:01 pm	rises 1:22 pm	---	
Sun 3 May	6:09 am	6:33 am	5:37 pm	6:00 pm	sets 0:55 am	rises 1:58 pm	
Mon 4 May	6:09 am	6:33 am	5:36 pm	6:00 pm	sets 1:55 am	rises 2:32 pm	
Tue 5 May	6:10 am	6:34 am	5:35 pm	5:59 pm	sets 2:54 am	rises 3:05 pm	
Wed 6 May	6:10 am	6:34 am	5:34 pm	5:59 pm	sets 3:52 am	rises 3:38 pm	
Thu 7 May	6:11 am	6:35 am	5:34 pm	5:58 pm	sets 4:49 am	rises 4:14 pm	
Fri 8 May	6:11 am	6:35 am	5:33 pm	5:57 pm	sets 5:47 am	rises 4:52 pm	
Sat 9 May	6:12 am	6:36 am	5:33 pm	5:57 pm	sets 6:46 am	rises 5:33 pm	full
Sun 10 May	6:12 am	6:36 am	5:32 pm	5:56 pm	sets 7:43 am	rises 6:19 pm	
Mon 11 May	6:13 am	6:37 am	5:31 pm	5:56 pm	sets 8:39 am	rises 7:09 pm	
Tue 12 May	6:13 am	6:37 am	5:31 pm	5:55 pm	sets 9:30 am	rises 8:01 pm	
Wed 13 May	6:14 am	6:38 am	5:30 pm	5:55 pm	sets 10:18 am	rises 8:55 pm	
Thu 14 May	6:14 am	6:38 am	5:30 pm	5:54 pm	sets 11:00 am	rises 9:50 pm	
Fri 15 May	6:15 am	6:39 am	5:29 pm	5:54 pm	sets 11:38 am	rises 10:44 pm	
Sat 16 May	6:15 am	6:40 am	5:29 pm	5:53 pm	sets 12:13 pm	rises 11:38 pm	
Sun 17 May	6:16 am	6:40 am	5:28 pm	5:53 pm	sets 12:45 pm	---	last qtr
Mon 18 May	6:16 am	6:41 am	5:28 pm	5:52 pm	rises 0:31 am	sets 1:16 pm	
Tue 19 May	6:16 am	6:41 am	5:27 pm	5:52 pm	rises 1:25 am	sets 1:47 pm	
Wed 20 May	6:17 am	6:42 am	5:27 pm	5:52 pm	rises 2:20 am	sets 2:19 pm	
Thu 21 May	6:17 am	6:42 am	5:27 pm	5:51 pm	rises 3:18 am	sets 2:54 pm	
Fri 22 May	6:18 am	6:43 am	5:26 pm	5:51 pm	rises 4:20 am	sets 3:34 pm	
Sat 23 May	6:18 am	6:43 am	5:26 pm	5:51 pm	rises 5:26 am	sets 4:20 pm	
Sun 24 May	6:19 am	6:44 am	5:26 pm	5:50 pm	rises 6:34 am	sets 5:14 pm	new
Mon 25 May	6:19 am	6:44 am	5:25 pm	5:50 pm	rises 7:43 am	sets 6:16 pm	
Tue 26 May	6:20 am	6:45 am	5:25 pm	5:50 pm	rises 8:48 am	sets 7:24 pm	
Wed 27 May	6:20 am	6:45 am	5:25 pm	5:50 pm	rises 9:47 am	sets 8:34 pm	
Thu 28 May	6:21 am	6:46 am	5:24 pm	5:49 pm	rises 10:37 am	sets 9:42 pm	
Fri 29 May	6:21 am	6:46 am	5:24 pm	5:49 pm	rises 11:21 am	sets 10:48 pm	
Sat 30 May	6:22 am	6:47 am	5:24 pm	5:49 pm	rises 11:59 am	sets 11:50 pm	
Sun 31 May	6:22 am	6:47 am	5:24 pm	5:49 pm	rises 12:34 pm	---	1 st qtr

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Mon 1 Jun	6:23 am	6:48 am	5:24 pm	5:49 pm	sets 0:49 am	rises 1:07 pm	
Tue 2 Jun	6:23 am	6:48 am	5:24 pm	5:49 pm	sets 1:47 am	rises 1:40 pm	
Wed 3 Jun	6:23 am	6:49 am	5:23 pm	5:49 pm	sets 2:44 am	rises 2:14 pm	
Thu 4 Jun	6:24 am	6:49 am	5:23 pm	5:48 pm	sets 3:41 am	rises 2:51 pm	
Fri 5 Jun	6:24 am	6:49 am	5:23 pm	5:48 pm	sets 4:39 am	rises 3:31 pm	
Sat 6 Jun	6:25 am	6:50 am	5:23 pm	5:48 pm	sets 5:36 am	rises 4:15 pm	
Sun 7 Jun	6:25 am	6:50 am	5:23 pm	5:48 pm	sets 6:32 am	rises 5:03 pm	full
Mon 8 Jun	6:25 am	6:51 am	5:23 pm	5:48 pm	sets 7:25 am	rises 5:55 pm	
Tue 9 Jun	6:26 am	6:51 am	5:23 pm	5:48 pm	sets 8:13 am	rises 6:48 pm	
Wed 10 Jun	6:26 am	6:51 am	5:23 pm	5:48 pm	sets 8:57 am	rises 7:43 pm	
Thu 11 Jun	6:27 am	6:52 am	5:23 pm	5:48 pm	sets 9:37 am	rises 8:37 pm	
Fri 12 Jun	6:27 am	6:52 am	5:23 pm	5:49 pm	sets 10:12 am	rises 9:31 pm	
Sat 13 Jun	6:27 am	6:52 am	5:23 pm	5:49 pm	sets 10:45 am	rises 10:23 pm	
Sun 14 Jun	6:27 am	6:53 am	5:23 pm	5:49 pm	sets 11:15 am	rises 11:16 pm	
Mon 15 Jun	6:28 am	6:53 am	5:24 pm	5:49 pm	sets 11:46 am	---	
Tue 16 Jun	6:28 am	6:53 am	5:24 pm	5:49 pm	rises 0:09 am	sets 12:16 pm	last qtr
Wed 17 Jun	6:28 am	6:54 am	5:24 pm	5:49 pm	rises 1:04 am	sets 12:49 pm	
Thu 18 Jun	6:29 am	6:54 am	5:24 pm	5:49 pm	rises 2:03 am	sets 1:26 pm	
Fri 19 Jun	6:29 am	6:54 am	5:24 pm	5:50 pm	rises 3:05 am	sets 2:08 pm	
Sat 20 Jun	6:29 am	6:54 am	5:24 pm	5:50 pm	rises 4:11 am	sets 2:57 pm	
Sun 21 Jun	6:29 am	6:55 am	5:25 pm	5:50 pm	rises 5:20 am	sets 3:55 pm	
Mon 22 Jun	6:30 am	6:55 am	5:25 pm	5:50 pm	rises 6:28 am	sets 5:01 pm	new
Tue 23 Jun	6:30 am	6:55 am	5:25 pm	5:50 pm	rises 7:31 am	sets 6:12 pm	
Wed 24 Jun	6:30 am	6:55 am	5:25 pm	5:51 pm	rises 8:26 am	sets 7:24 pm	
Thu 25 Jun	6:30 am	6:55 am	5:26 pm	5:51 pm	rises 9:14 am	sets 8:33 pm	
Fri 26 Jun	6:30 am	6:56 am	5:26 pm	5:51 pm	rises 9:56 am	sets 9:39 pm	
Sat 27 Jun	6:30 am	6:56 am	5:26 pm	5:52 pm	rises 10:33 am	sets 10:41 pm	
Sun 28 Jun	6:31 am	6:56 am	5:27 pm	5:52 pm	rises 11:08 am	sets 11:40 pm	
Mon 29 Jun	6:31 am	6:56 am	5:27 pm	5:52 pm	rises 11:41 am	---	1 st qtr
Tue 30 Jun	6:31 am	6:56 am	5:27 pm	5:52 pm	sets 0:39 am	rises 12:16 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Wed 1 Jul	6:31 am	6:56 am	5:28 pm	5:53 pm	sets 1:36 am	rises 12:52 pm	
Thu 2 Jul	6:31 am	6:56 am	5:28 pm	5:53 pm	sets 2:34 am	rises 1:30 pm	
Fri 3 Jul	6:31 am	6:56 am	5:28 pm	5:54 pm	sets 3:31 am	rises 2:13 pm	
Sat 4 Jul	6:31 am	6:56 am	5:29 pm	5:54 pm	sets 4:27 am	rises 2:59 pm	
Sun 5 Jul	6:31 am	6:56 am	5:29 pm	5:54 pm	sets 5:20 am	rises 3:50 pm	
Mon 6 Jul	6:31 am	6:56 am	5:29 pm	5:55 pm	sets 6:10 am	rises 4:43 pm	
Tue 7 Jul	6:31 am	6:56 am	5:30 pm	5:55 pm	sets 6:56 am	rises 5:37 pm	full
Wed 8 Jul	6:31 am	6:56 am	5:30 pm	5:55 pm	sets 7:36 am	rises 6:32 pm	
Thu 9 Jul	6:31 am	6:56 am	5:31 pm	5:56 pm	sets 8:13 am	rises 7:26 pm	
Fri 10 Jul	6:30 am	6:55 am	5:31 pm	5:56 pm	sets 8:46 am	rises 8:18 pm	
Sat 11 Jul	6:30 am	6:55 am	5:32 pm	5:57 pm	sets 9:18 am	rises 9:11 pm	
Sun 12 Jul	6:30 am	6:55 am	5:32 pm	5:57 pm	sets 9:48 am	rises 10:03 pm	
Mon 13 Jul	6:30 am	6:55 am	5:32 pm	5:57 pm	sets 10:17 am	rises 10:57 pm	
Tue 14 Jul	6:30 am	6:55 am	5:33 pm	5:58 pm	sets 10:49 am	rises 11:52 pm	
Wed 15 Jul	6:30 am	6:54 am	5:33 pm	5:58 pm	sets 11:23 am	---	last qtr
Thu 16 Jul	6:29 am	6:54 am	5:34 pm	5:59 pm	rises 0:51 am	sets 12:01 pm	
Fri 17 Jul	6:29 am	6:54 am	5:34 pm	5:59 pm	rises 1:53 am	sets 12:45 pm	
Sat 18 Jul	6:29 am	6:54 am	5:35 pm	6:00 pm	rises 2:59 am	sets 1:38 pm	
Sun 19 Jul	6:28 am	6:53 am	5:35 pm	6:00 pm	rises 4:06 am	sets 2:38 pm	
Mon 20 Jul	6:28 am	6:53 am	5:36 pm	6:01 pm	rises 5:11 am	sets 3:47 pm	
Tue 21 Jul	6:28 am	6:53 am	5:36 pm	6:01 pm	rises 6:10 am	sets 4:58 pm	
Wed 22 Jul	6:27 am	6:52 am	5:37 pm	6:01 pm	rises 7:02 am	sets 6:10 pm	new
Thu 23 Jul	6:27 am	6:52 am	5:37 pm	6:02 pm	rises 7:48 am	sets 7:19 pm	
Fri 24 Jul	6:27 am	6:51 am	5:38 pm	6:02 pm	rises 8:28 am	sets 8:25 pm	
Sat 25 Jul	6:26 am	6:51 am	5:38 pm	6:03 pm	rises 9:05 am	sets 9:28 pm	
Sun 26 Jul	6:26 am	6:50 am	5:39 pm	6:03 pm	rises 9:40 am	sets 10:28 pm	
Mon 27 Jul	6:25 am	6:50 am	5:39 pm	6:04 pm	rises 10:15 am	sets 11:28 pm	
Tue 28 Jul	6:25 am	6:49 am	5:40 pm	6:04 pm	rises 10:51 am	---	
Wed 29 Jul	6:24 am	6:49 am	5:40 pm	6:05 pm	sets 0:27 am	rises 11:29 am	1 st qtr
Thu 30 Jul	6:24 am	6:48 am	5:41 pm	6:05 pm	sets 1:25 am	rises 12:11 pm	
Fri 31 Jul	6:23 am	6:48 am	5:41 pm	6:05 pm	sets 2:22 am	rises 12:57 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Sat 1 Aug	6:23 am	6:47 am	5:42 pm	6:06 pm	sets 3:16 am	rises 1:46 pm	
Sun 2 Aug	6:22 am	6:46 am	5:42 pm	6:06 pm	sets 4:07 am	rises 2:38 pm	
Mon 3 Aug	6:22 am	6:46 am	5:43 pm	6:07 pm	sets 4:54 am	rises 3:32 pm	
Tue 4 Aug	6:21 am	6:45 am	5:43 pm	6:07 pm	sets 5:36 am	rises 4:27 pm	
Wed 5 Aug	6:20 am	6:44 am	5:44 pm	6:08 pm	sets 6:14 am	rises 5:21 pm	
Thu 6 Aug	6:20 am	6:44 am	5:44 pm	6:08 pm	sets 6:49 am	rises 6:14 pm	full
Fri 7 Aug	6:19 am	6:43 am	5:45 pm	6:09 pm	sets 7:20 am	rises 7:07 pm	
Sat 8 Aug	6:18 am	6:42 am	5:45 pm	6:09 pm	sets 7:51 am	rises 7:59 pm	
Sun 9 Aug	6:18 am	6:42 am	5:45 pm	6:09 pm	sets 8:21 am	rises 8:52 pm	
Mon 10 Aug	6:17 am	6:41 am	5:46 pm	6:10 pm	sets 8:51 am	rises 9:47 pm	
Tue 11 Aug	6:16 am	6:40 am	5:46 pm	6:10 pm	sets 9:24 am	rises 10:43 pm	
Wed 12 Aug	6:15 am	6:39 am	5:47 pm	6:11 pm	sets 10:00 am	rises 11:43 pm	
Thu 13 Aug	6:15 am	6:38 am	5:47 pm	6:11 pm	sets 10:41 am	---	last qtr
Fri 14 Aug	6:14 am	6:38 am	5:48 pm	6:12 pm	rises 0:46 am	sets 11:28 am	
Sat 15 Aug	6:13 am	6:37 am	5:48 pm	6:12 pm	rises 1:50 am	sets 12:24 pm	
Sun 16 Aug	6:12 am	6:36 am	5:49 pm	6:12 pm	rises 2:54 am	sets 1:26 pm	
Mon 17 Aug	6:11 am	6:35 am	5:49 pm	6:13 pm	rises 3:54 am	sets 2:35 pm	
Tue 18 Aug	6:10 am	6:34 am	5:50 pm	6:13 pm	rises 4:48 am	sets 3:45 pm	
Wed 19 Aug	6:10 am	6:33 am	5:50 pm	6:14 pm	rises 5:37 am	sets 4:55 pm	
Thu 20 Aug	6:09 am	6:32 am	5:50 pm	6:14 pm	rises 6:19 am	sets 6:03 pm	new
Fri 21 Aug	6:08 am	6:31 am	5:51 pm	6:14 pm	rises 6:58 am	sets 7:08 pm	
Sat 22 Aug	6:07 am	6:30 am	5:51 pm	6:15 pm	rises 7:35 am	sets 8:11 pm	
Sun 23 Aug	6:06 am	6:30 am	5:52 pm	6:15 pm	rises 8:11 am	sets 9:13 pm	
Mon 24 Aug	6:05 am	6:29 am	5:52 pm	6:16 pm	rises 8:47 am	sets 10:14 pm	
Tue 25 Aug	6:04 am	6:28 am	5:53 pm	6:16 pm	rises 9:26 am	sets 11:14 pm	
Wed 26 Aug	6:03 am	6:27 am	5:53 pm	6:16 pm	rises 10:07 am	---	
Thu 27 Aug	6:02 am	6:26 am	5:53 pm	6:17 pm	sets 0:13 am	rises 10:52 am	1 st qtr
Fri 28 Aug	6:01 am	6:25 am	5:54 pm	6:17 pm	sets 1:09 am	rises 11:41 am	
Sat 29 Aug	6:00 am	6:24 am	5:54 pm	6:18 pm	sets 2:02 am	rises 12:32 pm	
Sun 30 Aug	5:59 am	6:23 am	5:55 pm	6:18 pm	sets 2:50 am	rises 1:26 pm	
Mon 31 Aug	5:58 am	6:22 am	5:55 pm	6:18 pm	sets 3:34 am	rises 2:20 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Tue 1 Sep	5:57 am	6:21 am	5:56 pm	6:19 pm	sets 4:14 am	rises 3:14 pm	
Wed 2 Sep	5:56 am	6:19 am	5:56 pm	6:19 pm	sets 4:49 am	rises 4:08 pm	
Thu 3 Sep	5:55 am	6:18 am	5:56 pm	6:20 pm	sets 5:22 am	rises 5:01 pm	
Fri 4 Sep	5:54 am	6:17 am	5:57 pm	6:20 pm	sets 5:53 am	rises 5:54 pm	full
Sat 5 Sep	5:53 am	6:16 am	5:57 pm	6:20 pm	sets 6:24 am	rises 6:48 pm	
Sun 6 Sep	5:52 am	6:15 am	5:58 pm	6:21 pm	sets 6:54 am	rises 7:42 pm	
Mon 7 Sep	5:51 am	6:14 am	5:58 pm	6:21 pm	sets 7:27 am	rises 8:38 pm	
Tue 8 Sep	5:50 am	6:13 am	5:58 pm	6:21 pm	sets 8:02 am	rises 9:37 pm	
Wed 9 Sep	5:49 am	6:12 am	5:59 pm	6:22 pm	sets 8:41 am	rises 10:39 pm	
Thu 10 Sep	5:48 am	6:11 am	5:59 pm	6:22 pm	sets 9:26 am	rises 11:42 pm	
Fri 11 Sep	5:47 am	6:10 am	6:00 pm	6:23 pm	sets 10:17 am	---	
Sat 12 Sep	5:46 am	6:09 am	6:00 pm	6:23 pm	rises 0:44 am	sets 11:16 am	last qtr
Sun 13 Sep	5:45 am	6:08 am	6:00 pm	6:23 pm	rises 1:44 am	sets 12:20 pm	
Mon 14 Sep	5:43 am	6:06 am	6:01 pm	6:24 pm	rises 2:39 am	sets 1:28 pm	
Tue 15 Sep	5:42 am	6:05 am	6:01 pm	6:24 pm	rises 3:28 am	sets 2:36 pm	
Wed 16 Sep	5:41 am	6:04 am	6:02 pm	6:25 pm	rises 4:12 am	sets 3:43 pm	
Thu 17 Sep	5:40 am	6:03 am	6:02 pm	6:25 pm	rises 4:51 am	sets 4:48 pm	
Fri 18 Sep	5:39 am	6:02 am	6:02 pm	6:25 pm	rises 5:29 am	sets 5:52 pm	new
Sat 19 Sep	5:38 am	6:01 am	6:03 pm	6:26 pm	rises 6:05 am	sets 6:54 pm	
Sun 20 Sep	5:37 am	6:00 am	6:03 pm	6:26 pm	rises 6:42 am	sets 7:57 pm	
Mon 21 Sep	5:36 am	5:59 am	6:04 pm	6:27 pm	rises 7:20 am	sets 8:58 pm	
Tue 22 Sep	5:34 am	5:58 am	6:04 pm	6:27 pm	rises 8:01 am	sets 9:59 pm	
Wed 23 Sep	5:33 am	5:56 am	6:04 pm	6:27 pm	rises 8:45 am	sets 10:58 pm	
Thu 24 Sep	5:32 am	5:55 am	6:05 pm	6:28 pm	rises 9:33 am	sets 11:53 pm	
Fri 25 Sep	5:31 am	5:54 am	6:05 pm	6:28 pm	rises 10:24 am	---	
Sat 26 Sep	5:30 am	5:53 am	6:06 pm	6:29 pm	sets 0:44 am	rises 11:18 am	1 st qtr
Sun 27 Sep	5:29 am	5:52 am	6:06 pm	6:29 pm	sets 1:30 am	rises 12:12 pm	
Mon 28 Sep	5:28 am	5:51 am	6:07 pm	6:30 pm	sets 2:11 am	rises 1:06 pm	
Tue 29 Sep	5:27 am	5:50 am	6:07 pm	6:30 pm	sets 2:48 am	rises 2:00 pm	
Wed 30 Sep	5:26 am	5:49 am	6:07 pm	6:31 pm	sets 3:22 am	rises 2:53 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Thu 1 Oct	5:24 am	5:48 am	6:08 pm	6:31 pm	sets 3:53 am	rises 3:46 pm	
Fri 2 Oct	5:23 am	5:46 am	6:08 pm	6:31 pm	sets 4:24 am	rises 4:40 pm	
Sat 3 Oct	5:22 am	5:45 am	6:09 pm	6:32 pm	sets 4:55 am	rises 5:34 pm	
Sun 4 Oct	5:21 am	5:44 am	6:09 pm	6:32 pm	sets 5:27 am	rises 6:31 pm	full
Mon 5 Oct	5:20 am	5:43 am	6:10 pm	6:33 pm	sets 6:02 am	rises 7:30 pm	
Tue 6 Oct	5:19 am	5:42 am	6:10 pm	6:33 pm	sets 6:40 am	rises 8:31 pm	
Wed 7 Oct	5:18 am	5:41 am	6:11 pm	6:34 pm	sets 7:24 am	rises 9:35 pm	
Thu 8 Oct	5:17 am	5:40 am	6:11 pm	6:34 pm	sets 8:15 am	rises 10:38 pm	
Fri 9 Oct	5:16 am	5:39 am	6:12 pm	6:35 pm	sets 9:11 am	rises 11:38 pm	
Sat 10 Oct	5:15 am	5:38 am	6:12 pm	6:35 pm	sets 10:14 am	---	
Sun 11 Oct	5:14 am	5:37 am	6:13 pm	6:36 pm	rises 0:34 am	sets 11:19 am	last qtr
Mon 12 Oct	5:13 am	5:36 am	6:13 pm	6:37 pm	rises 1:24 am	sets 12:25 pm	
Tue 13 Oct	5:12 am	5:35 am	6:14 pm	6:37 pm	rises 2:08 am	sets 1:30 pm	
Wed 14 Oct	5:11 am	5:34 am	6:14 pm	6:38 pm	rises 2:48 am	sets 2:34 pm	
Thu 15 Oct	5:10 am	5:33 am	6:15 pm	6:38 pm	rises 3:25 am	sets 3:36 pm	
Fri 16 Oct	5:09 am	5:32 am	6:15 pm	6:39 pm	rises 4:01 am	sets 4:38 pm	
Sat 17 Oct	5:08 am	5:31 am	6:16 pm	6:39 pm	rises 4:36 am	sets 5:40 pm	
Sun 18 Oct	5:07 am	5:30 am	6:16 pm	6:40 pm	rises 5:14 am	sets 6:41 pm	new
Mon 19 Oct	5:06 am	5:29 am	6:17 pm	6:41 pm	rises 5:54 am	sets 7:43 pm	
Tue 20 Oct	5:05 am	5:28 am	6:17 pm	6:41 pm	rises 6:37 am	sets 8:43 pm	
Wed 21 Oct	5:04 am	5:27 am	6:18 pm	6:42 pm	rises 7:24 am	sets 9:41 pm	
Thu 22 Oct	5:03 am	5:27 am	6:19 pm	6:42 pm	rises 8:15 am	sets 10:34 pm	
Fri 23 Oct	5:02 am	5:26 am	6:19 pm	6:43 pm	rises 9:08 am	sets 11:23 pm	
Sat 24 Oct	5:01 am	5:25 am	6:20 pm	6:44 pm	rises 10:02 am	---	
Sun 25 Oct	5:00 am	5:24 am	6:20 pm	6:44 pm	sets 0:06 am	rises 10:57 am	
Mon 26 Oct	4:59 am	5:23 am	6:21 pm	6:45 pm	sets 0:45 am	rises 11:51 am	1 st qtr
Tue 27 Oct	4:58 am	5:22 am	6:22 pm	6:46 pm	sets 1:19 am	rises 12:44 pm	
Wed 28 Oct	4:58 am	5:22 am	6:22 pm	6:46 pm	sets 1:52 am	rises 1:36 pm	
Thu 29 Oct	4:57 am	5:21 am	6:23 pm	6:47 pm	sets 2:23 am	rises 2:29 pm	
Fri 30 Oct	4:56 am	5:20 am	6:23 pm	6:48 pm	sets 2:53 am	rises 3:23 pm	
Sat 31 Oct	4:55 am	5:19 am	6:24 pm	6:48 pm	sets 3:25 am	rises 4:18 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Sun 1 Nov	4:54 am	5:19 am	6:25 pm	6:49 pm	sets 3:59 am	rises 5:17 pm	
Mon 2 Nov	4:54 am	5:18 am	6:25 pm	6:50 pm	sets 4:36 am	rises 6:18 pm	full
Tue 3 Nov	4:53 am	5:17 am	6:26 pm	6:50 pm	sets 5:19 am	rises 7:23 pm	
Wed 4 Nov	4:52 am	5:16 am	6:27 pm	6:51 pm	sets 6:08 am	rises 8:28 pm	
Thu 5 Nov	4:51 am	5:16 am	6:27 pm	6:52 pm	sets 7:04 am	rises 9:31 pm	
Fri 6 Nov	4:51 am	5:15 am	6:28 pm	6:53 pm	sets 8:06 am	rises 10:29 pm	
Sat 7 Nov	4:50 am	5:15 am	6:29 pm	6:53 pm	sets 9:12 am	rises 11:21 pm	
Sun 8 Nov	4:50 am	5:14 am	6:30 pm	6:54 pm	sets 10:19 am	---	
Mon 9 Nov	4:49 am	5:13 am	6:30 pm	6:55 pm	rises 0:07 am	sets 11:24 am	last qtr
Tue 10 Nov	4:48 am	5:13 am	6:31 pm	6:56 pm	rises 0:48 am	sets 12:27 pm	
Wed 11 Nov	4:48 am	5:12 am	6:32 pm	6:56 pm	rises 1:25 am	sets 1:29 pm	
Thu 12 Nov	4:47 am	5:12 am	6:32 pm	6:57 pm	rises 2:00 am	sets 2:29 pm	
Fri 13 Nov	4:47 am	5:11 am	6:33 pm	6:58 pm	rises 2:35 am	sets 3:28 pm	
Sat 14 Nov	4:46 am	5:11 am	6:34 pm	6:59 pm	rises 3:11 am	sets 4:29 pm	
Sun 15 Nov	4:46 am	5:11 am	6:35 pm	7:00 pm	rises 3:49 am	sets 5:29 pm	
Mon 16 Nov	4:45 am	5:10 am	6:35 pm	7:00 pm	rises 4:30 am	sets 6:29 pm	new
Tue 17 Nov	4:45 am	5:10 am	6:36 pm	7:01 pm	rises 5:16 am	sets 7:28 pm	
Wed 18 Nov	4:44 am	5:10 am	6:37 pm	7:02 pm	rises 6:05 am	sets 8:24 pm	
Thu 19 Nov	4:44 am	5:09 am	6:38 pm	7:03 pm	rises 6:57 am	sets 9:15 pm	
Fri 20 Nov	4:44 am	5:09 am	6:38 pm	7:04 pm	rises 7:52 am	sets 10:00 pm	
Sat 21 Nov	4:43 am	5:09 am	6:39 pm	7:04 pm	rises 8:47 am	sets 10:41 pm	
Sun 22 Nov	4:43 am	5:08 am	6:40 pm	7:05 pm	rises 9:41 am	sets 11:17 pm	
Mon 23 Nov	4:43 am	5:08 am	6:41 pm	7:06 pm	rises 10:34 am	sets 11:50 pm	
Tue 24 Nov	4:43 am	5:08 am	6:41 pm	7:07 pm	rises 11:26 am	---	1 st qtr
Wed 25 Nov	4:42 am	5:08 am	6:42 pm	7:08 pm	sets 0:21 am	rises 12:18 pm	
Thu 26 Nov	4:42 am	5:08 am	6:43 pm	7:08 pm	sets 0:51 am	rises 1:10 pm	
Fri 27 Nov	4:42 am	5:08 am	6:44 pm	7:09 pm	sets 1:22 am	rises 2:04 pm	
Sat 28 Nov	4:42 am	5:07 am	6:44 pm	7:10 pm	sets 1:54 am	rises 3:00 pm	
Sun 29 Nov	4:42 am	5:07 am	6:45 pm	7:11 pm	sets 2:29 am	rises 4:00 pm	
Mon 30 Nov	4:42 am	5:07 am	6:46 pm	7:12 pm	sets 3:09 am	rises 5:04 pm	

JHB 2009	TWILIGHT STARTS	SUN RISES	SUN SETS	TWILIGHT ENDS	MOON		
Tue 1 Dec	4:42 am	5:07 am	6:47 pm	7:12 pm	sets 3:55 am	rises 6:09 pm	
Wed 2 Dec	4:42 am	5:07 am	6:47 pm	7:13 pm	sets 4:49 am	rises 7:15 pm	full
Thu 3 Dec	4:42 am	5:07 am	6:48 pm	7:14 pm	sets 5:51 am	rises 8:18 pm	
Fri 4 Dec	4:42 am	5:08 am	6:49 pm	7:15 pm	sets 6:58 am	rises 9:14 pm	
Sat 5 Dec	4:42 am	5:08 am	6:50 pm	7:15 pm	sets 8:07 am	rises 10:04 pm	
Sun 6 Dec	4:42 am	5:08 am	6:50 pm	7:16 pm	sets 9:15 am	rises 10:47 pm	
Mon 7 Dec	4:42 am	5:08 am	6:51 pm	7:17 pm	sets 10:20 am	rises 11:26 pm	
Tue 8 Dec	4:42 am	5:08 am	6:52 pm	7:18 pm	sets 11:23 am	---	
Wed 9 Dec	4:42 am	5:08 am	6:52 pm	7:18 pm	rises 0:02 am	sets 12:24 pm	last qtr
Thu 10 Dec	4:43 am	5:08 am	6:53 pm	7:19 pm	rises 0:37 am	sets 1:23 pm	
Fri 11 Dec	4:43 am	5:09 am	6:54 pm	7:20 pm	rises 1:12 am	sets 2:22 pm	
Sat 12 Dec	4:43 am	5:09 am	6:54 pm	7:20 pm	rises 1:48 am	sets 3:21 pm	
Sun 13 Dec	4:43 am	5:09 am	6:55 pm	7:21 pm	rises 2:28 am	sets 4:21 pm	
Mon 14 Dec	4:44 am	5:10 am	6:56 pm	7:22 pm	rises 3:11 am	sets 5:19 pm	
Tue 15 Dec	4:44 am	5:10 am	6:56 pm	7:22 pm	rises 3:58 am	sets 6:15 pm	
Wed 16 Dec	4:44 am	5:10 am	6:57 pm	7:23 pm	rises 4:49 am	sets 7:08 pm	new
Thu 17 Dec	4:45 am	5:11 am	6:57 pm	7:23 pm	rises 5:43 am	sets 7:55 pm	
Fri 18 Dec	4:45 am	5:11 am	6:58 pm	7:24 pm	rises 6:38 am	sets 8:38 pm	
Sat 19 Dec	4:45 am	5:12 am	6:58 pm	7:25 pm	rises 7:33 am	sets 9:15 pm	
Sun 20 Dec	4:46 am	5:12 am	6:59 pm	7:25 pm	rises 8:26 am	sets 9:49 pm	
Mon 21 Dec	4:46 am	5:12 am	6:59 pm	7:26 pm	rises 9:19 am	sets 10:21 pm	
Tue 22 Dec	4:47 am	5:13 am	7:00 pm	7:26 pm	rises 10:10 am	sets 10:51 pm	
Wed 23 Dec	4:47 am	5:14 am	7:00 pm	7:27 pm	rises 11:01 am	sets 11:20 pm	
Thu 24 Dec	4:48 am	5:14 am	7:01 pm	7:27 pm	rises 11:53 am	sets 11:51 pm	1 st qtr
Fri 25 Dec	4:48 am	5:15 am	7:01 pm	7:27 pm	rises 12:47 pm	---	
Sat 26 Dec	4:49 am	5:15 am	7:02 pm	7:28 pm	sets 0:24 am	rises 1:43 pm	
Sun 27 Dec	4:50 am	5:16 am	7:02 pm	7:28 pm	sets 1:00 am	rises 2:43 pm	
Mon 28 Dec	4:50 am	5:16 am	7:02 pm	7:29 pm	sets 1:42 am	rises 3:47 pm	
Tue 29 Dec	4:51 am	5:17 am	7:03 pm	7:29 pm	sets 2:32 am	rises 4:52 pm	
Wed 30 Dec	4:52 am	5:18 am	7:03 pm	7:29 pm	sets 3:29 am	rises 5:57 pm	
Thu 31 Dec	4:52 am	5:18 am	7:03 pm	7:29 pm	sets 4:34 am	rises 6:58 pm	full 8% eclipse