

London

Longitude W000 10
Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	1	1	06 43	08 06	12 04	13 46	14 16	16 02	17 25
2015	1	2	06 43	08 06	12 05	13 47	14 17	16 03	17 26
2015	1	3	06 43	08 06	12 05	13 48	14 18	16 04	17 27
2015	1	4	06 43	08 06	12 05	13 49	14 20	16 05	17 28
2015	1	5	06 43	08 06	12 06	13 50	14 21	16 07	17 29
2015	1	6	06 43	08 05	12 06	13 51	14 22	16 08	17 30
2015	1	7	06 43	08 05	12 07	13 52	14 23	16 09	17 31
2015	1	8	06 43	08 04	12 07	13 53	14 24	16 10	17 32
2015	1	9	06 42	08 04	12 08	13 54	14 26	16 12	17 33
2015	1	10	06 42	08 03	12 08	13 55	14 27	16 13	17 35
2015	1	11	06 42	08 03	12 08	13 57	14 28	16 15	17 36
2015	1	12	06 41	08 02	12 09	13 58	14 30	16 16	17 37
2015	1	13	06 41	08 01	12 09	13 59	14 31	16 17	17 38
2015	1	14	06 40	08 01	12 10	14 00	14 33	16 19	17 40
2015	1	15	06 39	08 00	12 10	14 02	14 34	16 21	17 41
2015	1	16	06 39	07 59	12 10	14 03	14 36	16 22	17 42
2015	1	17	06 38	07 58	12 11	14 04	14 37	16 24	17 44
2015	1	18	06 37	07 57	12 11	14 06	14 39	16 25	17 45
2015	1	19	06 37	07 56	12 11	14 07	14 40	16 27	17 46
2015	1	20	06 36	07 55	12 12	14 08	14 42	16 29	17 48
2015	1	21	06 35	07 54	12 12	14 10	14 43	16 30	17 49
2015	1	22	06 34	07 53	12 12	14 11	14 45	16 32	17 51
2015	1	23	06 33	07 52	12 12	14 13	14 47	16 34	17 52
2015	1	24	06 32	07 51	12 13	14 14	14 48	16 35	17 54
2015	1	25	06 31	07 49	12 13	14 15	14 50	16 37	17 55
2015	1	26	06 30	07 48	12 13	14 17	14 51	16 39	17 57
2015	1	27	06 29	07 47	12 13	14 18	14 53	16 41	17 58
2015	1	28	06 28	07 45	12 14	14 20	14 55	16 42	18 00
2015	1	29	06 27	07 44	12 14	14 21	14 56	16 44	18 01
2015	1	30	06 26	07 42	12 14	14 22	14 58	16 46	18 03
2015	1	31	06 24	07 41	12 14	14 24	15 00	16 48	18 04
2015	2	1	06 23	07 39	12 14	14 25	15 02	16 50	18 06
2015	2	2	06 22	07 38	12 14	14 27	15 03	16 51	18 08
2015	2	3	06 20	07 36	12 14	14 28	15 05	16 53	18 09
2015	2	4	06 19	07 35	12 15	14 30	15 07	16 55	18 11
2015	2	5	06 18	07 33	12 15	14 31	15 08	16 57	18 12
2015	2	6	06 16	07 31	12 15	14 33	15 10	16 59	18 14
2015	2	7	06 15	07 30	12 15	14 34	15 12	17 00	18 16
2015	2	8	06 13	07 28	12 15	14 35	15 14	17 02	18 17
2015	2	9	06 12	07 26	12 15	14 37	15 15	17 04	18 19
2015	2	10	06 10	07 24	12 15	14 38	15 17	17 06	18 21
2015	2	11	06 08	07 23	12 15	14 40	15 19	17 08	18 22
2015	2	12	06 07	07 21	12 15	14 41	15 20	17 10	18 24
2015	2	13	06 05	07 19	12 15	14 43	15 22	17 11	18 25
2015	2	14	06 03	07 17	12 15	14 44	15 24	17 13	18 27
2015	2	15	06 02	07 15	12 15	14 45	15 25	17 15	18 29
2015	2	16	06 00	07 13	12 15	14 47	15 27	17 17	18 30
2015	2	17	05 58	07 11	12 15	14 48	15 29	17 19	18 32
2015	2	18	05 56	07 09	12 15	14 50	15 30	17 21	18 34
2015	2	19	05 54	07 07	12 14	14 51	15 32	17 22	18 36
2015	2	20	05 53	07 05	12 14	14 52	15 34	17 24	18 37
2015	2	21	05 51	07 03	12 14	14 54	15 35	17 26	18 39
2015	2	22	05 49	07 01	12 14	14 55	15 37	17 28	18 41
2015	2	23	05 47	06 59	12 14	14 56	15 39	17 30	18 42

NOTE: These times are in GMT, except between 0100 on Mar.29 and 0100 on Oct.25, when they are in BST (1 hour in advance of GMT).

Twilight = Start and End of Nautical Twilight
 Shadow 1 = Times when the length of the shadow cast by a vertical stick is equal to its length plus length of its shadow at transit
 Shadow 2 = Times when the length of the shadow cast by a vertical stick is equal to twice its length plus length of its shadow at transit
 Transit = Time of Meridian passage of Sun

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London Longitude W000 10
Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	2	24	05 45	06 57	12 14	14 58	15 40	17 31	18 44
2015	2	25	05 43	06 55	12 14	14 59	15 42	17 33	18 46
2015	2	26	05 41	06 53	12 14	15 00	15 43	17 35	18 47
2015	2	27	05 39	06 51	12 13	15 02	15 45	17 37	18 49
2015	2	28	05 37	06 49	12 13	15 03	15 47	17 39	18 51
2015	3	1	05 35	06 47	12 13	15 04	15 48	17 40	18 53
2015	3	2	05 33	06 45	12 13	15 05	15 50	17 42	18 54
2015	3	3	05 30	06 42	12 13	15 07	15 51	17 44	18 56
2015	3	4	05 28	06 40	12 12	15 08	15 53	17 46	18 58
2015	3	5	05 26	06 38	12 12	15 09	15 54	17 47	18 59
2015	3	6	05 24	06 36	12 12	15 10	15 56	17 49	19 01
2015	3	7	05 22	06 34	12 12	15 11	15 57	17 51	19 03
2015	3	8	05 20	06 31	12 11	15 13	15 59	17 53	19 05
2015	3	9	05 17	06 29	12 11	15 14	16 00	17 54	19 06
2015	3	10	05 15	06 27	12 11	15 15	16 02	17 56	19 08
2015	3	11	05 13	06 25	12 11	15 16	16 03	17 58	19 10
2015	3	12	05 11	06 22	12 10	15 17	16 05	17 59	19 12
2015	3	13	05 08	06 20	12 10	15 18	16 06	18 01	19 13
2015	3	14	05 06	06 18	12 10	15 19	16 07	18 03	19 15
2015	3	15	05 04	06 16	12 10	15 20	16 09	18 05	19 17
2015	3	16	05 01	06 13	12 09	15 22	16 10	18 06	19 19
2015	3	17	04 59	06 11	12 09	15 23	16 12	18 08	19 20
2015	3	18	04 57	06 09	12 09	15 24	16 13	18 10	19 22
2015	3	19	04 54	06 07	12 09	15 25	16 14	18 11	19 24
2015	3	20	04 52	06 04	12 08	15 26	16 16	18 13	19 26
2015	3	21	04 49	06 02	12 08	15 27	16 17	18 15	19 28
2015	3	22	04 47	06 00	12 08	15 28	16 18	18 17	19 30
2015	3	23	04 45	05 57	12 07	15 29	16 20	18 18	19 31
2015	3	24	04 42	05 55	12 07	15 30	16 21	18 20	19 33
2015	3	25	04 40	05 53	12 07	15 31	16 22	18 22	19 35
2015	3	26	04 37	05 51	12 06	15 32	16 24	18 23	19 37
2015	3	27	04 35	05 48	12 06	15 33	16 25	18 25	19 39
2015	3	28	04 32	05 46	12 06	15 34	16 26	18 27	19 41
2015	3	29	05 30	06 44	13 06	16 35	17 27	19 28	20 43
2015	3	30	05 27	06 42	13 05	16 36	17 29	19 30	20 44
2015	3	31	05 25	06 39	13 05	16 36	17 30	19 32	20 46
2015	4	1	05 22	06 37	13 05	16 37	17 31	19 33	20 48
2015	4	2	05 20	06 35	13 04	16 38	17 32	19 35	20 50
2015	4	3	05 17	06 32	13 04	16 39	17 34	19 37	20 52
2015	4	4	05 15	06 30	13 04	16 40	17 35	19 38	20 54
2015	4	5	05 12	06 28	13 03	16 41	17 36	19 40	20 56
2015	4	6	05 10	06 26	13 03	16 42	17 37	19 42	20 58
2015	4	7	05 07	06 23	13 03	16 43	17 38	19 43	21 00
2015	4	8	05 05	06 21	13 03	16 43	17 40	19 45	21 02
2015	4	9	05 02	06 19	13 02	16 44	17 41	19 47	21 04
2015	4	10	05 00	06 17	13 02	16 45	17 42	19 48	21 06
2015	4	11	04 57	06 15	13 02	16 46	17 43	19 50	21 08
2015	4	12	04 55	06 12	13 02	16 47	17 44	19 52	21 10
2015	4	13	04 52	06 10	13 01	16 47	17 45	19 53	21 12
2015	4	14	04 49	06 08	13 01	16 48	17 46	19 55	21 14
2015	4	15	04 47	06 06	13 01	16 49	17 48	19 57	21 16
2015	4	16	04 44	06 04	13 01	16 50	17 49	19 58	21 18
2015	4	17	04 42	06 02	13 00	16 51	17 50	20 00	21 21
2015	4	18	04 39	05 59	13 00	16 51	17 51	20 02	21 23

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Longitude W000 10

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Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	4	19	04 37	05 57	13 00	16 52	17 52	20 03	21 25
2015	4	20	04 34	05 55	13 00	16 53	17 53	20 05	21 27
2015	4	21	04 31	05 53	12 59	16 54	17 54	20 07	21 29
2015	4	22	04 29	05 51	12 59	16 54	17 55	20 08	21 31
2015	4	23	04 26	05 49	12 59	16 55	17 56	20 10	21 33
2015	4	24	04 24	05 47	12 59	16 56	17 57	20 12	21 36
2015	4	25	04 21	05 45	12 59	16 56	17 58	20 13	21 38
2015	4	26	04 19	05 43	12 59	16 57	17 59	20 15	21 40
2015	4	27	04 16	05 41	12 58	16 58	18 01	20 17	21 42
2015	4	28	04 14	05 39	12 58	16 58	18 02	20 18	21 45
2015	4	29	04 11	05 37	12 58	16 59	18 03	20 20	21 47
2015	4	30	04 09	05 35	12 58	17 00	18 04	20 22	21 49
2015	5	1	04 06	05 33	12 58	17 01	18 05	20 23	21 51
2015	5	2	04 04	05 31	12 58	17 01	18 06	20 25	21 54
2015	5	3	04 01	05 30	12 58	17 02	18 07	20 27	21 56
2015	5	4	03 59	05 28	12 57	17 02	18 08	20 28	21 58
2015	5	5	03 56	05 26	12 57	17 03	18 09	20 30	22 01
2015	5	6	03 54	05 24	12 57	17 04	18 10	20 31	22 03
2015	5	7	03 51	05 22	12 57	17 04	18 11	20 33	22 05
2015	5	8	03 49	05 21	12 57	17 05	18 11	20 35	22 07
2015	5	9	03 46	05 19	12 57	17 06	18 12	20 36	22 10
2015	5	10	03 44	05 17	12 57	17 06	18 13	20 38	22 12
2015	5	11	03 41	05 16	12 57	17 07	18 14	20 39	22 14
2015	5	12	03 39	05 14	12 57	17 08	18 15	20 41	22 17
2015	5	13	03 37	05 13	12 57	17 08	18 16	20 42	22 19
2015	5	14	03 34	05 11	12 57	17 09	18 17	20 44	22 21
2015	5	15	03 32	05 09	12 57	17 09	18 18	20 45	22 24
2015	5	16	03 30	05 08	12 57	17 10	18 19	20 47	22 26
2015	5	17	03 27	05 07	12 57	17 10	18 20	20 48	22 28
2015	5	18	03 25	05 05	12 57	17 11	18 21	20 50	22 31
2015	5	19	03 23	05 04	12 57	17 12	18 21	20 51	22 33
2015	5	20	03 21	05 02	12 57	17 12	18 22	20 53	22 35
2015	5	21	03 19	05 01	12 57	17 13	18 23	20 54	22 38
2015	5	22	03 17	05 00	12 57	17 13	18 24	20 56	22 40
2015	5	23	03 14	04 59	12 57	17 14	18 25	20 57	22 42
2015	5	24	03 12	04 57	12 57	17 14	18 25	20 58	22 44
2015	5	25	03 10	04 56	12 58	17 15	18 26	21 00	22 46
2015	5	26	03 08	04 55	12 58	17 15	18 27	21 01	22 49
2015	5	27	03 06	04 54	12 58	17 16	18 28	21 02	22 51
2015	5	28	03 05	04 53	12 58	17 16	18 28	21 03	22 53
2015	5	29	03 03	04 52	12 58	17 17	18 29	21 05	22 55
2015	5	30	03 01	04 51	12 58	17 17	18 30	21 06	22 57
2015	5	31	02 59	04 50	12 58	17 18	18 31	21 07	22 59
2015	6	1	02 58	04 50	12 58	17 18	18 31	21 08	23 01
2015	6	2	02 56	04 49	12 59	17 19	18 32	21 09	23 03
2015	6	3	02 54	04 48	12 59	17 19	18 32	21 10	23 05
2015	6	4	02 53	04 47	12 59	17 20	18 33	21 11	23 06
2015	6	5	02 52	04 47	12 59	17 20	18 34	21 12	23 08
2015	6	6	02 50	04 46	12 59	17 21	18 34	21 13	23 10
2015	6	7	02 49	04 46	12 59	17 21	18 35	21 14	23 11
2015	6	8	02 48	04 45	13 00	17 21	18 35	21 15	23 13
2015	6	9	02 47	04 45	13 00	17 22	18 36	21 16	23 14
2015	6	10	02 46	04 44	13 00	17 22	18 36	21 16	23 15
2015	6	11	02 45	04 44	13 00	17 22	18 37	21 17	23 17

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Longitude W000 10
Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	6	12	02 44	04 44	13 00	17 23	18 37	21 18	23 18
2015	6	13	02 43	04 43	13 01	17 23	18 38	21 18	23 19
2015	6	14	02 42	04 43	13 01	17 23	18 38	21 19	23 20
2015	6	15	02 42	04 43	13 01	17 24	18 38	21 19	23 21
2015	6	16	02 41	04 43	13 01	17 24	18 39	21 20	23 22
2015	6	17	02 41	04 43	13 02	17 24	18 39	21 20	23 22
2015	6	18	02 41	04 43	13 02	17 25	18 39	21 21	23 23
2015	6	19	02 41	04 43	13 02	17 25	18 40	21 21	23 23
2015	6	20	02 41	04 43	13 02	17 25	18 40	21 21	23 24
2015	6	21	02 41	04 43	13 02	17 25	18 40	21 22	23 24
2015	6	22	02 41	04 43	13 03	17 26	18 40	21 22	23 24
2015	6	23	02 41	04 44	13 03	17 26	18 41	21 22	23 24
2015	6	24	02 42	04 44	13 03	17 26	18 41	21 22	23 24
2015	6	25	02 42	04 44	13 03	17 26	18 41	21 22	23 24
2015	6	26	02 43	04 45	13 03	17 26	18 41	21 22	23 24
2015	6	27	02 44	04 45	13 04	17 26	18 41	21 22	23 23
2015	6	28	02 45	04 46	13 04	17 26	18 41	21 22	23 23
2015	6	29	02 45	04 46	13 04	17 27	18 41	21 22	23 22
2015	6	30	02 46	04 47	13 04	17 27	18 41	21 21	23 21
2015	7	1	02 48	04 48	13 04	17 27	18 41	21 21	23 20
2015	7	2	02 49	04 48	13 05	17 27	18 41	21 21	23 20
2015	7	3	02 50	04 49	13 05	17 27	18 41	21 20	23 19
2015	7	4	02 51	04 50	13 05	17 27	18 41	21 20	23 17
2015	7	5	02 53	04 51	13 05	17 27	18 40	21 19	23 16
2015	7	6	02 54	04 51	13 05	17 27	18 40	21 19	23 15
2015	7	7	02 56	04 52	13 06	17 26	18 40	21 18	23 14
2015	7	8	02 58	04 53	13 06	17 26	18 40	21 18	23 12
2015	7	9	02 59	04 54	13 06	17 26	18 39	21 17	23 11
2015	7	10	03 01	04 55	13 06	17 26	18 39	21 16	23 09
2015	7	11	03 03	04 56	13 06	17 26	18 39	21 15	23 08
2015	7	12	03 05	04 57	13 06	17 26	18 38	21 15	23 06
2015	7	13	03 07	04 58	13 06	17 25	18 38	21 14	23 04
2015	7	14	03 09	04 59	13 07	17 25	18 38	21 13	23 03
2015	7	15	03 11	05 01	13 07	17 25	18 37	21 12	23 01
2015	7	16	03 13	05 02	13 07	17 25	18 37	21 11	22 59
2015	7	17	03 15	05 03	13 07	17 24	18 36	21 10	22 57
2015	7	18	03 17	05 04	13 07	17 24	18 35	21 09	22 55
2015	7	19	03 19	05 06	13 07	17 24	18 35	21 08	22 53
2015	7	20	03 21	05 07	13 07	17 23	18 34	21 06	22 51
2015	7	21	03 24	05 08	13 07	17 23	18 34	21 05	22 49
2015	7	22	03 26	05 09	13 07	17 22	18 33	21 04	22 47
2015	7	23	03 28	05 11	13 07	17 22	18 32	21 03	22 45
2015	7	24	03 30	05 12	13 07	17 22	18 31	21 01	22 42
2015	7	25	03 32	05 14	13 07	17 21	18 31	21 00	22 40
2015	7	26	03 35	05 15	13 07	17 21	18 30	20 58	22 38
2015	7	27	03 37	05 16	13 07	17 20	18 29	20 57	22 36
2015	7	28	03 39	05 18	13 07	17 19	18 28	20 56	22 33
2015	7	29	03 41	05 19	13 07	17 19	18 27	20 54	22 31
2015	7	30	03 44	05 21	13 07	17 18	18 26	20 52	22 29
2015	7	31	03 46	05 22	13 07	17 18	18 25	20 51	22 26
2015	8	1	03 48	05 24	13 07	17 17	18 24	20 49	22 24
2015	8	2	03 50	05 25	13 07	17 16	18 23	20 48	22 22
2015	8	3	03 53	05 27	13 07	17 15	18 22	20 46	22 19
2015	8	4	03 55	05 28	13 07	17 15	18 21	20 44	22 17

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Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	8	5	03 57	05 30	13 07	17 14	18 20	20 42	22 14
2015	8	6	04 00	05 31	13 07	17 13	18 19	20 41	22 12
2015	8	7	04 02	05 33	13 06	17 12	18 18	20 39	22 09
2015	8	8	04 04	05 34	13 06	17 11	18 17	20 37	22 07
2015	8	9	04 06	05 36	13 06	17 10	18 15	20 35	22 04
2015	8	10	04 09	05 38	13 06	17 10	18 14	20 33	22 02
2015	8	11	04 11	05 39	13 06	17 09	18 13	20 32	21 59
2015	8	12	04 13	05 41	13 06	17 08	18 12	20 30	21 57
2015	8	13	04 15	05 42	13 06	17 07	18 10	20 28	21 54
2015	8	14	04 17	05 44	13 05	17 06	18 09	20 26	21 52
2015	8	15	04 20	05 45	13 05	17 05	18 08	20 24	21 49
2015	8	16	04 22	05 47	13 05	17 04	18 06	20 22	21 47
2015	8	17	04 24	05 49	13 05	17 03	18 05	20 20	21 44
2015	8	18	04 26	05 50	13 05	17 02	18 03	20 18	21 42
2015	8	19	04 28	05 52	13 04	17 00	18 02	20 16	21 39
2015	8	20	04 30	05 53	13 04	16 59	18 00	20 14	21 36
2015	8	21	04 32	05 55	13 04	16 58	17 59	20 12	21 34
2015	8	22	04 34	05 57	13 04	16 57	17 57	20 10	21 31
2015	8	23	04 36	05 58	13 03	16 56	17 56	20 07	21 29
2015	8	24	04 39	06 00	13 03	16 55	17 54	20 05	21 26
2015	8	25	04 41	06 01	13 03	16 53	17 53	20 03	21 23
2015	8	26	04 43	06 03	13 03	16 52	17 51	20 01	21 21
2015	8	27	04 45	06 05	13 02	16 51	17 50	19 59	21 18
2015	8	28	04 47	06 06	13 02	16 49	17 48	19 57	21 16
2015	8	29	04 49	06 08	13 02	16 48	17 46	19 54	21 13
2015	8	30	04 51	06 09	13 01	16 47	17 45	19 52	21 11
2015	8	31	04 53	06 11	13 01	16 45	17 43	19 50	21 08
2015	9	1	04 55	06 13	13 01	16 44	17 41	19 48	21 05
2015	9	2	04 57	06 14	13 00	16 43	17 39	19 46	21 03
2015	9	3	04 58	06 16	13 00	16 41	17 38	19 43	21 00
2015	9	4	05 00	06 17	13 00	16 40	17 36	19 41	20 58
2015	9	5	05 02	06 19	12 59	16 38	17 34	19 39	20 55
2015	9	6	05 04	06 21	12 59	16 37	17 32	19 37	20 53
2015	9	7	05 06	06 22	12 59	16 36	17 31	19 34	20 50
2015	9	8	05 08	06 24	12 58	16 34	17 29	19 32	20 47
2015	9	9	05 10	06 25	12 58	16 33	17 27	19 30	20 45
2015	9	10	05 12	06 27	12 58	16 31	17 25	19 28	20 42
2015	9	11	05 14	06 28	12 57	16 30	17 23	19 25	20 40
2015	9	12	05 15	06 30	12 57	16 28	17 21	19 23	20 37
2015	9	13	05 17	06 32	12 57	16 26	17 20	19 21	20 35
2015	9	14	05 19	06 33	12 56	16 25	17 18	19 18	20 32
2015	9	15	05 21	06 35	12 56	16 23	17 16	19 16	20 30
2015	9	16	05 23	06 36	12 56	16 22	17 14	19 14	20 27
2015	9	17	05 24	06 38	12 55	16 20	17 12	19 11	20 25
2015	9	18	05 26	06 40	12 55	16 19	17 10	19 09	20 22
2015	9	19	05 28	06 41	12 55	16 17	17 08	19 07	20 20
2015	9	20	05 30	06 43	12 54	16 15	17 06	19 05	20 17
2015	9	21	05 31	06 44	12 54	16 14	17 04	19 02	20 15
2015	9	22	05 33	06 46	12 53	16 12	17 02	19 00	20 13
2015	9	23	05 35	06 48	12 53	16 10	17 00	18 58	20 10
2015	9	24	05 37	06 49	12 53	16 09	16 58	18 55	20 08
2015	9	25	05 38	06 51	12 52	16 07	16 56	18 53	20 05
2015	9	26	05 40	06 52	12 52	16 05	16 54	18 51	20 03
2015	9	27	05 42	06 54	12 52	16 04	16 52	18 48	20 01

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London Longitude W000 10
Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	9	28	05 43	06 56	12 51	16 02	16 50	18 46	19 58
2015	9	29	05 45	06 57	12 51	16 00	16 48	18 44	19 56
2015	9	30	05 47	06 59	12 51	15 59	16 46	18 42	19 54
2015	10	1	05 48	07 01	12 50	15 57	16 44	18 39	19 51
2015	10	2	05 50	07 02	12 50	15 55	16 42	18 37	19 49
2015	10	3	05 52	07 04	12 50	15 54	16 40	18 35	19 47
2015	10	4	05 53	07 06	12 49	15 52	16 38	18 32	19 44
2015	10	5	05 55	07 07	12 49	15 50	16 36	18 30	19 42
2015	10	6	05 57	07 09	12 49	15 49	16 34	18 28	19 40
2015	10	7	05 58	07 10	12 49	15 47	16 32	18 26	19 38
2015	10	8	06 00	07 12	12 48	15 45	16 30	18 24	19 35
2015	10	9	06 02	07 14	12 48	15 43	16 29	18 21	19 33
2015	10	10	06 03	07 15	12 48	15 42	16 27	18 19	19 31
2015	10	11	06 05	07 17	12 47	15 40	16 25	18 17	19 29
2015	10	12	06 07	07 19	12 47	15 38	16 23	18 15	19 27
2015	10	13	06 08	07 21	12 47	15 37	16 21	18 13	19 25
2015	10	14	06 10	07 22	12 47	15 35	16 19	18 10	19 23
2015	10	15	06 12	07 24	12 47	15 33	16 17	18 08	19 20
2015	10	16	06 13	07 26	12 46	15 32	16 15	18 06	19 18
2015	10	17	06 15	07 27	12 46	15 30	16 13	18 04	19 16
2015	10	18	06 16	07 29	12 46	15 28	16 11	18 02	19 14
2015	10	19	06 18	07 31	12 46	15 27	16 09	18 00	19 12
2015	10	20	06 20	07 32	12 46	15 25	16 07	17 58	19 10
2015	10	21	06 21	07 34	12 45	15 24	16 05	17 56	19 08
2015	10	22	06 23	07 36	12 45	15 22	16 03	17 54	19 07
2015	10	23	06 25	07 38	12 45	15 20	16 01	17 52	19 05
2015	10	24	06 26	07 39	12 45	15 19	16 00	17 50	19 03
2015	10	25	05 28	06 41	11 45	14 17	14 58	16 48	18 01
2015	10	26	05 29	06 43	11 45	14 16	14 56	16 46	17 59
2015	10	27	05 31	06 45	11 45	14 14	14 54	16 44	17 57
2015	10	28	05 33	06 46	11 44	14 13	14 52	16 42	17 56
2015	10	29	05 34	06 48	11 44	14 11	14 51	16 40	17 54
2015	10	30	05 36	06 50	11 44	14 10	14 49	16 38	17 52
2015	10	31	05 37	06 52	11 44	14 08	14 47	16 36	17 50
2015	11	1	05 39	06 53	11 44	14 07	14 45	16 34	17 49
2015	11	2	05 40	06 55	11 44	14 06	14 44	16 33	17 47
2015	11	3	05 42	06 57	11 44	14 04	14 42	16 31	17 46
2015	11	4	05 44	06 59	11 44	14 03	14 40	16 29	17 44
2015	11	5	05 45	07 01	11 44	14 01	14 39	16 27	17 43
2015	11	6	05 47	07 02	11 44	14 00	14 37	16 26	17 41
2015	11	7	05 48	07 04	11 44	13 59	14 36	16 24	17 40
2015	11	8	05 50	07 06	11 44	13 58	14 34	16 22	17 38
2015	11	9	05 51	07 08	11 44	13 56	14 33	16 21	17 37
2015	11	10	05 53	07 09	11 45	13 55	14 31	16 19	17 36
2015	11	11	05 54	07 11	11 45	13 54	14 30	16 18	17 34
2015	11	12	05 56	07 13	11 45	13 53	14 28	16 16	17 33
2015	11	13	05 57	07 15	11 45	13 52	14 27	16 15	17 32
2015	11	14	05 59	07 16	11 45	13 50	14 26	16 13	17 31
2015	11	15	06 00	07 18	11 45	13 49	14 24	16 12	17 29
2015	11	16	06 02	07 20	11 45	13 48	14 23	16 11	17 28
2015	11	17	06 03	07 21	11 46	13 47	14 22	16 09	17 27
2015	11	18	06 05	07 23	11 46	13 46	14 21	16 08	17 26
2015	11	19	06 06	07 25	11 46	13 46	14 20	16 07	17 25
2015	11	20	06 08	07 26	11 46	13 45	14 18	16 05	17 24

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London Longitude W000 10
Latitude N51 30

Civil Date			Twilight	Sunrise	Transit	Shadow 1	Shadow 2	Sunset	Twilight
Year	mth	d	h m	h m	h m	h m	h m	h m	h m
2015	11	21	06 09	07 28	11 46	13 44	14 17	16 04	17 23
2015	11	22	06 10	07 30	11 47	13 43	14 16	16 03	17 22
2015	11	23	06 12	07 31	11 47	13 42	14 15	16 02	17 22
2015	11	24	06 13	07 33	11 47	13 42	14 15	16 01	17 21
2015	11	25	06 15	07 34	11 48	13 41	14 14	16 00	17 20
2015	11	26	06 16	07 36	11 48	13 40	14 13	15 59	17 19
2015	11	27	06 17	07 38	11 48	13 40	14 12	15 58	17 19
2015	11	28	06 18	07 39	11 49	13 39	14 11	15 58	17 18
2015	11	29	06 20	07 41	11 49	13 39	14 11	15 57	17 18
2015	11	30	06 21	07 42	11 49	13 38	14 10	15 56	17 17
2015	12	1	06 22	07 43	11 50	13 38	14 09	15 55	17 17
2015	12	2	06 23	07 45	11 50	13 37	14 09	15 55	17 16
2015	12	3	06 25	07 46	11 50	13 37	14 08	15 54	17 16
2015	12	4	06 26	07 47	11 51	13 36	14 08	15 54	17 15
2015	12	5	06 27	07 49	11 51	13 36	14 07	15 53	17 15
2015	12	6	06 28	07 50	11 52	13 36	14 07	15 53	17 15
2015	12	7	06 29	07 51	11 52	13 36	14 07	15 52	17 15
2015	12	8	06 30	07 52	11 52	13 36	14 06	15 52	17 15
2015	12	9	06 31	07 54	11 53	13 36	14 06	15 52	17 15
2015	12	10	06 32	07 55	11 53	13 36	14 06	15 52	17 14
2015	12	11	06 33	07 56	11 54	13 36	14 06	15 52	17 14
2015	12	12	06 34	07 57	11 54	13 36	14 06	15 52	17 15
2015	12	13	06 35	07 58	11 55	13 36	14 06	15 52	17 15
2015	12	14	06 35	07 59	11 55	13 36	14 06	15 52	17 15
2015	12	15	06 36	07 59	11 56	13 36	14 06	15 52	17 15
2015	12	16	06 37	08 00	11 56	13 36	14 06	15 52	17 15
2015	12	17	06 38	08 01	11 57	13 37	14 07	15 52	17 15
2015	12	18	06 38	08 02	11 57	13 37	14 07	15 52	17 16
2015	12	19	06 39	08 02	11 58	13 37	14 07	15 53	17 16
2015	12	20	06 40	08 03	11 58	13 38	14 08	15 53	17 17
2015	12	21	06 40	08 04	11 59	13 38	14 08	15 53	17 17
2015	12	22	06 41	08 04	11 59	13 39	14 09	15 54	17 18
2015	12	23	06 41	08 05	12 00	13 39	14 09	15 55	17 18
2015	12	24	06 42	08 05	12 00	13 40	14 10	15 55	17 19
2015	12	25	06 42	08 05	12 01	13 41	14 10	15 56	17 19
2015	12	26	06 42	08 06	12 01	13 41	14 11	15 57	17 20
2015	12	27	06 43	08 06	12 02	13 42	14 12	15 57	17 21
2015	12	28	06 43	08 06	12 02	13 43	14 13	15 58	17 21
2015	12	29	06 43	08 06	12 03	13 43	14 13	15 59	17 22
2015	12	30	06 43	08 06	12 03	13 44	14 14	16 00	17 23
2015	12	31	06 43	08 06	12 04	13 45	14 15	16 01	17 24

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