

Polhöhe 2 Grad.

DIE STRAHLBRECHUNG UND
SONNENABLAGE

ZUGABE

einiger bey schärferen Beobachtungen
nützlicher Tafeln

für den

zwei und funzigsten Grad der Polhöhe

1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
26	0	0	0	0	0	0
27	0	0	0	0	0	0
28	0	0	0	0	0	0
29	0	0	0	0	0	0
30	0	0	0	0	0	0
31	0	0	0	0	0	0
32	0	0	0	0	0	0
33	0	0	0	0	0	0
34	0	0	0	0	0	0
35	0	0	0	0	0	0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	0	0	0	0	0	0
47	0	0	0	0	0	0
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0

Polhöhe 52 Grad.

DIE STRAHLENBRECHUNG UND
SONNENPARALLAXE.

Höhe	Strahlenbr.	Parallaxe	Höhe	Strahlenbr.	Parallaxe
0°	32' 24"	8"	31°	1' 38"	7"
1	24 21	8	32	I 34	7
2	18 41	8	33	I 30	7
3	14 46	8	34	I 27	7
4	12 3	8	35	I 24	7
5	10 5	8	36	I 21	7
6	8 39	8	37	I 18	7
7	7 32	8	38	I 15	7
8	6 40	8	39	I 13	7
9	5 58	8	40	I 10	7
10	5 24	8	41	I 8	6
11	4 55	8	42	I 6	6
12	4 31	8	43	I 3	6
13	4 10	8	44	I 1	6
14	3 52	8	45	o 59	6
15	3 36	8	46	o 57	6
16	3 23	8	47	o 55	6
17	3 10	8	48	o 53	6
18	2 59	8	49	o 51	6
19	2 49	8	50	o 49	5
20	2 40	8	51	o 48	5
21	2 32	8	52	o 46	5
22	2 25	8	53	o 45	5
23	2 18	8	54	o 43	5
24	2 12	8	55	o 41	5
25	2 6	8	56	o 40	5
26	2 0	8	57	o 38	5
27	1 55	8	58	o 37	5
28	I 50	8	59	o 35	4
29	I 46	8	60	o 34	4
30	I 42	8	61	o 33	4

Polhöhe 52 Grad.

VERBESSERUNG DER STRAHLEN-
BRECHUNG.

Bar.	Therm.	1	2'	3'	4'	5'	6'	7'	8'	9'	10'
28½	20	-2''	-3''	-5''	-6''	-7''	-9''	-10''	-12''	-13''	-15''
	15	0	0	1	1	1	1	2	2	2	2
	10	+1	+2	+3	+4	+5	+6	+8	+9	+10	+11
	5	+2	+5	+7	+10	+12	+15	+17	+20	+22	+25
	0	+4	+8	+12	+15	+19	+23	+27	+31	+35	+38
28	20	-3	-5	-8	-10	-13	-15	-18	-20	-23	-25
	15	-1	-3	-4	-5	-6	-8	-9	-10	-11	-13
	10	0	0	0	0	0	0	0	0	0	0
	5	+1	+3	+4	+5	+7	+8	+9	+11	+12	+13
	0	+3	+6	+8	+11	+14	+17	+19	+22	+25	+28
27½	20	-4	-7	-11	-14	-18	-21	-25	-29	-32	-36
	15	-2	-5	-7	-9	-12	-14	-16	-19	-21	-23
	10	-1	-2	-3	-4	-5	-6	-8	-9	-10	-11
	5	+0	+0	+1	+1	+1	+1	+2	+2	+2	+2
	0	+2	+3	+5	+6	+8	+10	+11	+13	+15	+16
27	20	-5	-9	-14	-18	-23	-27	-32	-36	-41	-46
	15	-3	-7	-10	-13	-17	-20	-24	-27	-30	-34
	10	-2	-4	-6	-9	-11	-13	-15	-17	-19	-22
	5	-1	-2	-3	-3	-4	-5	-6	-7	-8	-8
	0	+0	+1	+1	+2	+2	+3	+3	+4	+4	+5
26½	20	-6	-11	-17	-22	-28	-33	-39	-45	-50	-56
	15	-4	-9	-13	-18	-22	-27	-31	-36	-40	-44
	10	-3	-6	-10	-13	-16	-19	-23	-26	-29	-32
	5	-2	-4	-6	-8	-10	-11	-13	-15	-17	-19
	0	+1	+1	+2	+2	+3	+4	+4	+5	+5	+6
	5	+1	+2	+2	+3	+4	+5	+5	+6	+7	+8

Polhöhe 52 Grad.

HALBER DURCHMESSER
DER SONNE.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1	16 19	16 16	16 10	16 2	15 54	15 49	15 47	15 49	15 55	16 3	16 11	16 17
2	16 19	16 16	16 10	16 2	15 54	15 49	15 47	15 49	15 55	16 3	16 11	16 17
3	16 19	16 16	16 10	16 2	15 54	15 49	15 47	15 49	15 56	16 3	16 2	16 17
4	16 19	16 16	16 10	16 1	15 54	15 48	15 47	15 49	15 56	16 3	16 13	16 17
5	16 19	16 16	16 10	16 1	15 53	15 48	15 47	15 50	15 56	16 4	16 12	16 18
6	16 19	16 15	16 9	16 1	15 53	15 48	15 47	15 50	15 56	16 4	16 12	16 18
7	16 19	16 15	16 9	16 1	15 53	15 48	15 47	15 50	15 57	16 4	16 12	16 18
8	16 19	16 15	16 9	16 0	15 53	15 48	15 47	15 50	15 57	16 4	16 13	16 18
9	16 19	16 15	16 9	16 0	15 53	15 48	15 47	15 50	15 57	16 5	16 13	16 18
10	16 19	16 15	16 8	16 0	15 52	15 48	15 47	15 50	15 57	16 5	16 13	16 18
11	16 19	16 14	16 8	15 59	15 52	15 48	15 47	15 51	15 58	16 5	16 13	16 18
12	16 19	16 14	16 8	15 59	15 52	15 48	15 47	15 51	15 58	16 6	16 14	16 18
13	16 19	16 14	16 8	15 59	15 52	15 48	15 47	15 51	15 58	16 6	16 14	16 18
14	16 19	16 14	16 7	15 59	15 52	15 48	15 47	15 51	15 58	16 6	16 14	16 18
15	16 18	16 14	16 7	15 58	15 52	15 47	15 47	15 51	15 59	16 7	16 14	16 18
16	16 18	16 13	16 7	15 58	15 51	15 47	15 47	15 52	15 59	16 7	16 14	16 19
17	16 18	16 13	16 7	15 58	15 51	15 47	15 47	15 52	15 59	16 7	16 15	16 19
18	16 18	16 13	16 6	15 58	15 51	15 47	15 48	15 52	15 59	16 8	16 15	16 19
19	16 18	16 13	16 6	15 57	15 51	15 47	15 48	15 52	16 0	16 8	16 15	16 19
20	16 18	16 13	16 6	15 57	15 51	15 47	15 48	15 52	16 0	16 8	16 15	16 19
21	16 18	16 12	16 5	15 57	15 51	15 47	15 48	15 53	16 0	16 8	16 15	16 19
22	16 18	16 12	16 5	15 57	15 50	15 47	15 48	15 53	16 0	16 9	16 16	16 19
23	16 18	16 12	16 5	15 56	15 50	15 47	15 48	15 53	16 1	16 9	16 16	16 19
24	16 18	16 12	16 5	15 56	15 50	15 47	15 48	15 53	16 1	16 9	16 16	16 19
25	16 17	16 11	16 4	15 56	15 50	15 47	15 48	15 53	16 1	16 9	16 16	16 19
26	16 17	16 11	16 4	15 56	15 50	15 47	15 48	15 54	16 1	16 10	16 16	16 19
27	16 17	16 11	16 4	15 55	15 49	15 47	15 48	15 54	16 2	16 10	16 16	16 19
28	16 17	16 11	16 3	15 55	15 49	15 47	15 48	15 54	16 2	16 10	16 17	16 19
29	16 17	16 10	16 3	15 55	15 49	15 47	15 49	15 54	16 2	16 10	16 17	16 19
30	16 17		16 3	15 55	15 49	15 47	15 49	15 55	16 2	16 11	16 17	16 19
31	16 17		16 3		15 49		15 49	15 55		16 11		16 19

Polhöhe 52 Grad.

GENAUE BERECHNUNG DER SON-
NENHÖHE I. TAFEL.

Polhöhe	7 und 5	8 und 4	9 und 3	10 und 2	11 und 1
51° 0'	11° 50' 14"	22° 2' 33"	29° 47' 44"	35° 2' 30"	38° 1' 56"
— 1	11 49 49	22 1 51	29 46 51	35 1 32	38 0 57
— 2	11 49 24	22 1 8	29 45 58	35 0 35	37 59 57
— 3	11 49 0	22 0 25	29 45 6	34 59 37	37 58 58
— 4	11 48 35	21 59 43	29 44 13	34 58 39	37 57 58
— 5	11 48 11	21 59 0	29 43 20	34 57 42	37 56 58
— 6	11 47 46	21 58 18	29 42 27	34 56 44	37 55 59
— 7	11 47 21	21 57 35	29 41 34	34 55 46	37 54 59
— 8	11 46 57	21 56 52	29 40 41	34 54 49	37 54 0
— 9	11 46 32	21 56 10	29 39 48	34 53 51	37 53 0
— 10	11 46 8	21 55 27	29 38 56	34 52 54	37 52 1
— 11	11 45 43	21 54 45	29 38 3	34 51 56	37 51 1
— 12	11 45 18	21 54 2	29 37 10	34 50 58	37 50 2
— 13	11 44 54	21 53 20	29 36 17	34 50 1	37 49 2
— 14	11 44 30	21 52 37	29 35 24	34 49 3	37 48 3
— 15	11 44 5	21 51 55	29 34 32	34 48 6	37 47 3
— 16	11 43 41	21 51 12	29 33 39	34 47 8	37 46 3
— 17	11 43 16	21 50 30	29 32 46	34 46 10	37 45 4
— 18	11 42 52	21 49 47	29 31 54	34 45 13	37 44 4
— 19	11 42 27	21 49 5	29 31 1	34 44 15	37 43 5
— 20	11 42 3	21 48 23	29 30 8	34 43 18	37 42 5
— 21	11 41 38	21 47 40	29 29 15	34 42 20	37 41 6
— 22	11 41 14	21 46 58	29 28 23	34 41 23	37 40 6
— 23	11 40 50	21 46 15	29 27 30	34 40 25	37 39 7
— 24	11 40 25	21 45 33	29 26 37	34 39 27	37 38 7
— 25	11 40 1	21 44 51	29 25 45	34 38 30	37 37 8
— 26	11 39 37	21 44 8	29 24 52	34 37 32	37 36 8
— 27	11 39 12	21 43 26	29 23 59	34 36 35	37 35 9
— 28	11 38 48	21 42 44	29 23 7	34 35 37	37 34 9
— 29	11 38 23	21 42 1	29 22 14	34 34 40	37 33 10
— 30	11 37 59	21 41 19	29 21 21	34 33 42	37 32 10

Polhöhe 52 Grad.

GENAUE BERECHNUNG DER SONNEN-
HÖHE I. TAFEL.

Polhöhe	7 und 5	8 und 4	9 und 3	10 und 2	11 und 1
— 31'	11° 37' 35''	21° 40' 37''	29° 20' 29''	34° 32' 44''	37° 31' 11''
— 32	11 37 11	21 39 54	29 19 36	34 31 47	37 30 11
— 33	11 36 46	21 39 12	29 18 43	34 30 49	37 29 12
— 34	11 36 22	21 38 30	29 17 51	34 29 52	37 28 12
— 35	11 35 58	21 37 48	29 16 58	34 28 54	37 27 13
— 36	11 35 33	21 37 5	29 16 6	34 27 57	37 26 14
— 37	11 35 9	21 36 23	29 15 13	34 26 59	37 25 14
— 38	11 34 45	21 35 41	29 14 21	34 26 2	37 24 15
— 39	11 34 21	21 34 59	29 13 28	34 25 4	37 23 15
— 40	11 33 56	21 34 17	29 12 36	34 24 7	37 22 16
— 41	11 33 32	21 33 35	29 11 43	34 23 9	37 21 16
— 42	11 33 8	21 32 53	29 10 50	34 22 12	37 20 17
— 43	11 32 44	21 32 10	29 9 58	34 21 14	37 19 17
— 44	11 32 20	21 31 28	29 9 6	34 20 17	37 18 18
— 45	11 31 55	21 30 46	29 8 13	34 19 20	37 17 18
— 46	11 31 31	21 30 4	29 7 21	34 18 22	37 16 19
— 47	11 31 7	21 29 22	29 6 28	34 17 24	37 15 19
— 48	11 30 43	21 28 40	29 5 36	34 16 27	37 14 20
— 49	11 30 19	21 27 58	29 4 43	34 15 30	37 13 20
— 50	11 29 55	21 27 16	29 3 51	34 14 32	37 12 21
— 51	11 29 31	21 26 34	29 2 58	34 13 35	37 11 21
— 52	11 29 7	21 25 52	29 2 6	34 12 37	37 10 22
— 53	11 28 42	21 25 10	29 1 13	34 11 40	37 9 22
— 54	11 28 18	21 24 28	29 0 21	34 10 43	37 8 23
— 55	11 27 54	21 23 46	28 59 29	34 9 45	37 7 23
— 56	11 27 30	21 23 4	28 58 36	34 8 48	37 6 24
— 57	11 27 6	21 22 22	28 57 44	34 7 50	37 5 24
— 58	11 26 42	21 21 40	28 56 51	34 6 53	37 4 25
— 59	11 26 18	21 20 58	28 55 59	34 5 55	37 3 25
52° 0	11 25 54	21 20 16	28 55 7	34 4 58	37 2 26

Polhöhe 52 Grad.

GENAUE BERECHNUNG DER SON-
NENHÖHE II. TAFEL.

Polh.	7 und 5	8 und 4	9 und 3	10 und 2	11 und 1
51° 0'	9. 8998376	9. 9234674	9. 9520812	9. 9773597	9. 9941613
— 1	9. 8999289	9. 9235333	9. 9521197	9. 9773768	9. 9941655
— 2	9. 9000202	9. 9235992	9. 9521582	9. 9773939	9. 9941698
— 3	9. 9001115	9. 9236650	9. 9521967	9. 9774111	9. 9941740
— 4	9. 9002028	9. 9237309	9. 9522352	9. 9774282	9. 9941783
— 5	9. 9002941	9. 9237967	9. 9522737	9. 9774454	9. 9941825
— 6	9. 9003851	9. 9238624	9. 9523121	9. 9774625	9. 9941868
— 7	9. 9004761	9. 9239281	9. 9523506	9. 9774796	9. 9941910
— 8	9. 9005672	9. 9239938	9. 9523890	9. 9774967	9. 9941953
— 9	9. 9006583	9. 9240595	9. 9524275	9. 9775138	9. 9941996
— 10	9. 9007494	9. 9241252	9. 9524659	9. 9775309	9. 9942038
— 11	9. 9008402	9. 9241908	9. 9525043	9. 9775480	9. 9942080
— 12	9. 9009311	9. 9242564	9. 9525426	9. 9775651	9. 9942123
— 13	9. 9010219	9. 9243220	9. 9525810	9. 9775822	9. 9942165
— 14	9. 9011128	9. 9243875	9. 9526193	9. 9775994	9. 9942208
— 15	9. 9012036	9. 9244531	9. 9526577	9. 9776165	9. 9942250
— 16	9. 9012941	9. 9245185	9. 9526960	9. 9776336	9. 9942292
— 17	9. 9013846	9. 9245839	9. 9527343	9. 9776507	9. 9942335
— 18	9. 9014752	9. 9246493	9. 9527727	9. 9776677	9. 9942377
— 19	9. 9015657	9. 9247148	9. 9528110	9. 9776848	9. 9942420
— 20	9. 9016563	9. 9247802	9. 9528493	9. 9777019	9. 9942462
— 21	9. 9017466	9. 9248455	9. 9528876	9. 9777190	9. 9942504
— 22	9. 9018369	9. 9249108	9. 9529258	9. 9777360	9. 9942547
— 23	9. 9019272	9. 9249760	9. 9529641	9. 9777531	9. 9942589
— 24	9. 9020176	9. 9250413	9. 9530023	9. 9777701	9. 9942632
— 25	9. 9021079	9. 9251067	9. 9530406	9. 9777872	9. 9942674
— 26	9. 9021980	9. 9251718	9. 9530788	9. 9778042	9. 9942716
— 27	9. 9022882	9. 9252369	9. 9531170	9. 9778213	9. 9942759
— 28	9. 9023781	9. 9253021	9. 9531552	9. 9778383	9. 9942801
— 29	9. 9024681	9. 9253673	9. 9531934	9. 9778554	9. 9942844
— 30	9. 9025582	9. 9254324	9. 9532316	9. 9778724	9. 9942886

Polhöhe 52 Grad.

GENAUE BERECHNUNG DER SON-
NENHÖHE II. TAFEL.

Polhöhe	7 und 5	8 und 4	9 und 3	10 und 2	11 und 1
— 31	9. 9026480	9. 9254974	9. 9532697	9. 9778895	9. 9942928
— 32	9. 9027378	9. 9255024	9. 9533079	9. 9779065	9. 9942970
— 33	9. 9028276	9. 9256275	9. 9533460	9. 9779236	9. 9943013
— 34	9. 9029174	9. 9256925	9. 9533842	9. 9779406	9. 9943055
— 35	9. 9030073	9. 9257574	9. 9534223	9. 9779576	9. 9943097
— 36	9. 9030969	9. 9258222	9. 9534604	9. 9779746	9. 9943139
— 37	9. 9031865	9. 9258871	9. 9534985	9. 9779916	9. 9943182
— 38	9. 9032761	9. 9259519	9. 9535366	9. 9780086	9. 9943224
— 39	9. 9033656	9. 9260168	9. 9535746	9. 9780256	9. 9943267
— 40	9. 9024552	9. 9260816	9. 9536127	9. 9780426	9. 9943309
41	9. 9035445	9. 9261463	9. 9536507	9. 9780596	9. 9943351
— 42	9. 9036338	9. 9262110	9. 9536887	9. 9780766	9. 9943393
— 43	9. 9037231	9. 9262757	9. 9537267	9. 9780936	9. 9943436
— 44	9. 9038125	9. 9263405	9. 9537647	9. 9781106	9. 9943478
— 45	9. 9039018	9. 9264052	9. 9538027	9. 9781276	9. 9943520
— 46	9. 9039909	9. 9264698	9. 9538407	9. 9781446	9. 9943562
— 47	9. 9040800	9. 9265344	9. 9538786	9. 9781616	9. 9943604
— 48	9. 9041691	9. 9265990	9. 9539166	9. 9781785	9. 9943647
— 49	9. 9042582	9. 9266635	9. 9539545	9. 9781955	9. 9943689
— 50	9. 9043473	9. 9267281	9. 9539925	9. 9782124	9. 9943730
— 51	9. 9044361	9. 9267925	9. 9540304	9. 9782294	9. 9943773
— 52	9. 9045249	9. 9268569	9. 9540683	9. 9782463	9. 9943815
— 53	9. 9046137	9. 9269214	9. 9541062	9. 9782633	9. 9943857
— 54	9. 9047026	9. 9269859	9. 9541442	9. 9782803	9. 9943899
— 55	9. 9047914	9. 9270503	9. 9541821	9. 9782972	9. 9943941
— 56	9. 9048800	9. 9271146	9. 9542199	9. 9783141	9. 9943983
— 57	9. 9049686	9. 9271789	9. 9542578	9. 9783311	9. 9944025
— 58	9. 9050572	9. 9272431	9. 9542956	9. 9783480	9. 9944068
— 59	9. 9051458	9. 9273074	9. 9543335	9. 9783650	9. 9944110
52° 0	9. 9052344	9. 9273717	9. 9543713	9. 9783819	9. 9944152

Polhöhe 52 Grad.

MITTAGSVERBESSERUNG

zwischen 7 und 5 Uhr.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1			-25	-25	-18	-8	+4	+15	+23	+25		
2			-26	-25	-18	-8	+4	+15	+23	+25		
3			-26	-24	-18	-7	+5	+16	+23	+25		
4			-26	-24	-18	-7	+5	+16	+23	+25		
5			-26	-24	-17	-6	+5	+16	+24	+25		
6			-26	-24	-17	-6	+6	+17	+24	+25		
7			-26	-24	-17	-6	+6	+17	+24	+25		
8			-26	-24	-16	-5	+6	+17	+24	+24		
9			-26	-23	-16	-5	+7	+18	+24	+24		
10			-26	-23	-16	-4	+7	+18	+24	+24		
11			-26	-23	-15	-4	+8	+18	+24	+24		
12			-26	-23	-15	-4	+8	+18	+24	+24		
13			-26	-23	-15	-3	+9	+19	+25	+24		
14			-26	-22	-14	-3	+9	+19	+25	+24		
15			-26	-22	-14	-2	+9	+19	+25	+24		
16			-26	-22	-14	-2	+10	+19	+25	+24		
17			-26	-22	-13	-1	+10	+20	+25	+24		
18			-26	-22	-13	-1	+10	+20	+25	+24		
19		-24	-26	-21	-13	0	+11	+20	+25	+24		
20		-24	-26	-21	-12	0	+11	+20	+25	+24		
21		-24	-26	-21	-12	+0	+11	+21	+25	+24		
22		-25	-26	-21	-12	+0	+11	+21	+25	+24		
23		-25	-26	-20	-11	+1	+12	+21	+25	+24		
24		-25	-26	-20	-11	+1	+12	+21	+25			
25		-25	-26	-20	-11	+1	+13	+22	+25			
26		-25	-25	-20	-10	+2	+13	+22	+25			
27		-25	-25	-19	-10	+2	+13	+22	+25			
28		-25	-25	-19	-9	+3	+14	+22	+25			
29		-25	-25	-19	-9	+3	+14	+22	+25			
30		-25	-25	-19	-9	+3	+14	+22	+25			
31		-25	-25	-18	-8	+4	+15	+23				

Polhöhe 52 Grad.

MITTAGSVERBESSERUNG

zwischen 8 und 4 Uhr.

	Jan.	Feb.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1		18	23	22	16	6	3	13	20	23	21	
2		19	23	22	15	6	3	13	20	23	21	
3		19	23	21	15	6	4	13	20	23	20	
4		19	23	21	15	6	4	13	20	23	20	
5		19	23	21	15	5	4	14	20	23	20	
6		19	23	21	14	5	5	14	21	23	20	
7		20	23	21	14	5	5	14	21	23	19	
8		20	23	21	14	4	5	15	21	23	19	
9		20	23	20	13	4	6	15	21	23	19	
10		21	23	20	13	4		15	21	23	19	
11		21	23	20	13	3	6	15	21	23	18	
12		21	23	20	13	3	7	16	21	23	18	
13	11	21	23	20	12	3	7	16	22	23	18	
14	12	21	23	20	12	2	7	16	22	23	17	
15	12	22	23	19	12	2	8	16	22	23	17	
16	12	22	23	19	11	2	8	16	22	23	16	
17	13	22	23	19	11	1	8	17	22	23	16	
18	13	22	23	18	11	1	9	17	22	23	16	
19	14	22	23	18	10	0	9	17	22	22	15	
20	14	22	23	18	10	0	9	18	22	22	15	
21	14	22	23	18	10	0	9	18	22	22	15	
22	15	23	23	18	10	0	10	18	23	22	14	
23	15	23	23	17	9	1	10	18	23	22	14	
24	16	23	23	17	9	1	10	18	23	22	14	
25	16	23	23	17	9	1	11	19	23	22	13	
26	16	23	23	17	8	1	11	19	23	22	13	
27	17	23	23	17	8	2	11	19	23	22	13	
28	17	23	22	16	8	2	11	19	23	21	12	
29	18	23	22	16	7	2	12	19	23	21	12	
30	18		22	16	7	3	12	19	23	21	11	
31	18		22		7		12	20		21		

Polhöhe 52 Grad.

MITTAGSVERBESSERUNG

zwischen 9 und 3 Uhr

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Okt.	Nov.	Dec.
1	5	18	22	20	14	5	3	11	18	21	20	10
2	5	18	22	19	13	5	3	11	18	21	20	10
3	6	18	22	19	13	5	3	11	18	21	19	9
4	7	18	22	19	13	5	3	12	18	21	19	9
5	7	18	22	19	13	4	4	12	18	21	19	8
6	8	19	22	19	12	4	4	12	19	21	19	8
7	8	19	22	19	12	4	4	12	19	22	19	8
8	9	19	22	18	12	4	5	13	19	22	18	7
9	9	19	22	18	11	3	5	13	19	22	18	7
10	9	20	22	18	11	3	5	13	19	22	18	6
11	10	20	21	18	11	3	5	13	19	22	18	6
12	10	20	21	18	11	2	6	14	19	22	17	5
13	11	20	21	17	11	2	6	14	20	22	17	5
14	11	20	21	17	10	2	6	14	20	21	17	4
15	12	20	21	17	10	2	7	14	20	21	16	4
16	12	21	21	17	10	1	7	14	20	21	16	3
17	12	21	21	17	9	1	7	15	20	21	16	3
18	13	21	21	16	9	1	7	15	20	21	15	2
19	13	21	21	16	9	0	8	15	21	21	15	2
20	14	21	21	16	9	0	8	15	21	21	15	1
21	14	21	21	16	8	0	8	16	21	21	14	0
22	14	21	21	16	8	0	8	16	21	21	14	0
23	15	21	21	15	8	0	9	16	21	21	14	0
24	15	21	21	15	8	1	9	16	21	21	13	1
25	16	21	21	15	7	1	9	16	21	21	13	2
26	16	22	20	15	7	1	9	17	21	21	13	2
27	16	22	20	14	7	2	10	17	21	21	12	3
28	17	22	20	14	7	2	10	17	21	20	12	3
29	17	22	20	14	6	2	10	17	21	20	11	4
30	17	22	20	14	6	2	10	17	21	20	11	4
31	17	22	20	14	6	2	11	18	21	20	11	5

Polhöhe 52 Grad.

MITTAGSVERBESSERUNG

zwischen 10 und 2 Uhr.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5	17	21	19	12	5	2	10	16	20	19	10
2	5	17	21	19	12	5	3	10	16	20	19	10
3	6	18	21	19	12	4	3	10	17	20	19	9
4	6	18	21	18	12	4	3	10	17	21	19	9
5	7	18	21	18	11	4	3	11	17	21	18	8
6	7	18	21	18	11	4	4	11	17	21	18	8
7	8	18	21	18	11	3	4	11	17	21	18	7
8	8	19	21	18	10	3	4	11	18	21	18	7
9	9	19	21	17	10	3	4	12	18	21	18	6
10	9	19	21	17	10	3	4	12	18	21	17	6
11	10	19	21	17	10	2	5	12	18	21	17	5
12	10	19	21	17	10	2	5	12	18	21	17	5
13	11	19	21	17	9	2	5	13	18	21	16	4
14	11	20	20	17	9	2	6	13	19	21	16	4
15	12	20	20	16	9	1	6	13	19	21	16	4
16	12	20	20	16	8	1	6	13	19	21	16	3
17	12	20	20	16	8	1	6	13	19	21	15	3
18	13	20	20	16	8	1	6	14	19	21	15	2
19	13	20	20	16	8	0	7	14	19	20	15	2
20	13	20	20	15	8	0	7	14	19	20	14	1
21	14	20	20	15	7	0	7	14	19	20	14	1
22	14	20	20	15	7	0	7	15	20	20	14	0
23	15	20	20	15	7	0	7	15	20	20	13	1
24	15	21	20	14	7	1	8	15	20	20	13	1
25	15	21	20	14	7	1	8	15	20	20	13	2
26	16	21	20	14	6	1	8	15	20	20	12	2
27	16	21	20	14	6	1	8	15	20	20	12	3
28	16	21	19	13	6	2	9	16	20	20	12	3
29	16	21	19	13	5	2	9	16	20	19	11	4
30	17	19	13	5	5	2	9	16	20	19	11	4
31	17	19	13	5	5	2	9	16	19	19	11	5

Polhöhe 52 Grad.

MITTAGSVERBESSERUNG

zwischen 11 und 1 Uhr.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5	17	20	18	11	4	2	9	16	20	19	10
2	5	17	20	17	11	4	2	9	16	20	19	10
3	6	17	20	17	11	4	2	10	16	20	19	9
4	6	18	20	17	11	4	3	10	16	20	18	9
5	7	18	20	17	11	4	3	10	16	20	18	8
6	7	18	20	17	10	3	3	10	17	20	18	8
7	8	18	20	17	10	3	3	11	17	20	18	7
8	8	18	20	16	10	3	4	11	17	20	18	7
9	9	19	20	16	10	3	4	11	17	20	17	6
10	9	19	20	16	9	2	4	11	17	20	17	6
11	10	19	20	16	9	2	4	11	17	20	17	5
12	10	19	20	16	9	2	5	12	18	20	17	5
13	11	19	20	15	9	2	5	12	18	20	16	4
14	11	19	20	15	9	2	5	12	18	20	16	4
15	11	19	20	15	8	1	5	12	18	20	16	4
16	12	20	20	15	8	1	6	12	18	20	15	3
17	12	20	20	15	8	1	6	13	18	20	15	3
18	13	20	20	14	8	1	6	13	18	20	15	2
19	13	20	19	14	7	0	6	13	18	20	14	2
20	13	20	19	14	7	0	6	13	19	20	14	1
21	14	20	19	14	7	0	7	14	19	20	14	1
22	14	20	19	13	7	0	7	14	19	20	13	0
23	14	20	19	13	7	0	7	14	19	20	13	1
24	15	20	19	13	6	1	7	14	19	20	13	1
25	15	20	19	13	6	1	7	14	19	20	12	2
26	15	20	19	13	6	1	8	15	19	19	12	2
27	16	20	19	12	6	1	8	15	19	19	12	3
28	16	20	18	12	5	1	8	15	19	19	11	3
29	16	20	18	12	5	2	8	15	20	19	11	4
30	17	18	18	12	5	2	9	15	20	19	11	4
31	17	18	18	11	5	2	9	15	19	19	11	5

Polhöhe 52 Grad.

TAGLICHER UNTERSCHIED ZWISCHEN
UHR UND SONNE.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1	+ 28	+ 8	- 12	- 19	- 8	+ 9	+ 11	- 4	- 19	- 19	- 2	+ 22
2	+ 23	+ 7	- 13	- 19	- 8	+ 10	+ 11	- 4	- 19	- 19	- 1	+ 23
3	+ 27	+ 7	- 13	- 18	- 7	+ 10	+ 10	- 5	- 19	- 18	0	+ 24
4	+ 27	+ 6	- 14	- 18	- 6	+ 10	+ 10	- 6	- 19	- 18	+ 1	+ 24
5	+ 26	+ 5	- 14	- 18	- 6	+ 11	+ 10	- 6	- 20	- 18	+ 2	+ 25
6	+ 26	+ 5	- 14	- 18	- 5	+ 11	+ 10	- 7	- 20	- 17	+ 2	+ 25
7	+ 25	+ 4	- 15	- 18	- 4	+ 11	+ 9	- 7	- 20	- 17	+ 3	+ 26
8	+ 25	+ 3	- 15	- 17	- 4	+ 11	+ 9	- 8	- 20	- 17	+ 4	+ 26
9	+ 25	+ 2	- 15	- 17	- 3	+ 12	+ 9	- 9	- 20	- 16	+ 5	+ 27
10	+ 24	+ 1	- 16	- 17	- 2	+ 12	+ 8	- 9	- 20	- 16	+ 6	+ 27
11	+ 23	+ 0	- 16	- 17	- 2	+ 12	+ 8	- 10	- 20	- 15	+ 7	+ 27
12	+ 23	+ 0	- 16	- 16	- 1	+ 12	+ 8	- 10	- 21	- 15	+ 8	+ 28
13	+ 22	- 1	- 16	- 16	- 1	+ 13	+ 7	- 11	- 21	- 15	+ 9	+ 28
14	+ 22	- 2	- 17	- 15	0	+ 13	+ 7	- 11	- 2	- 14	+ 10	+ 28
15	+ 21	- 3	- 17	- 15	+ 1	+ 13	+ 6	- 12	- 21	- 13	+ 11	+ 29
16	+ 21	- 4	- 17	- 15	+ 1	+ 13	+ 6	- 12	- 21	- 13	+ 12	+ 29
17	+ 20	- 4	- 17	- 14	+ 2	+ 13	+ 5	- 13	- 21	- 12	+ 13	+ 29
18	+ 19	- 5	- 18	- 14	+ 2	+ 13	+ 5	- 13	- 21	- 12	+ 13	+ 30
19	+ 19	- 6	- 18	- 14	+ 3	+ 13	+ 4	- 14	- 21	- 11	+ 14	+ 30
20	+ 18	- 6	- 18	- 13	+ 3	+ 13	+ 3	- 14	- 21	- 10	+ 15	+ 30
21	+ 17	- 7	- 18	- 13	+ 4	+ 13	+ 3	- 15	- 21	- 10	+ 16	+ 30
22	+ 16	- 8	- 18	- 13	+ 4	+ 13	+ 2	- 15	- 20	- 9	+ 17	+ 30
23	+ 15	- 8	- 18	- 12	+ 5	+ 13	+ 2	- 16	- 20	- 8	+ 17	+ 30
24	+ 15	- 9	- 19	- 12	+ 5	+ 13	+ 1	- 16	- 20	- 8	+ 18	+ 30
25	+ 14	- 9	- 19	- 11	+ 6	+ 12	+ 1	- 17	- 20	- 7	+ 18	+ 30
26	+ 13	- 10	- 19	- 11	+ 6	+ 12	0	- 17	- 20	- 6	+ 19	+ 30
27	+ 12	- 11	- 19	- 10	+ 7	+ 12	- 1	- 18	- 19	- 5	+ 20	+ 30
28	+ 11	- 11	- 19	- 10	+ 7	+ 12	- 1	- 18	- 19	- 5	+ 21	+ 30
29	+ 10	- 12	- 19	- 9	+ 8	+ 11	- 2	- 18	- 19	- 4	+ 22	+ 30
30	+ 9	-	- 19	- 9	+ 8	+ 11	- 3	- 19	- 19	- 3	+ 22	+ 29
31	+ 8	-	- 19	-	+ 9	-	- 3	- 19	-	- 2	-	+ 29

Polhöhe 52 Grad.

HALBE DAUER DER CULMINATION
DER SONNE.

	Jan.	Febr.	März	April	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	D c.
1	1' 11"	1' 8"	1' 5"	1' 4"	1' 6"	1' 8"	1' 9"	1' 6"	1' 4"	1' 4"	1' 7"	1' 10"
2	1' 11	1' 8	1' 5	1' 4	1' 6	1' 8	1' 9	1' 6	1' 4	1' 4	1' 7	1' 10
3	1' 11	1' 8	1' 5	1' 4	1' 6	1' 8	1' 8	1' 6	1' 4	1' 4	1' 7	1' 10
4	1' 11	1' 8	1' 5	1' 4	1' 6	1' 8	1' 8	1' 6	1' 4	1' 4	1' 7	1' 10
5	1' 11	1' 8	1' 5	1' 4	1' 6	1' 8	1' 8	1' 6	1' 4	1' 5	1' 7	1' 10
6	1' 10	1' 7	1' 5	1' 4	1' 6	1' 9	1' 8	1' 6	1' 4	1' 5	1' 7	1' 11
7	1' 10	1' 7	1' 5	1' 5	1' 6	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
8	1' 10	1' 7	1' 5	1' 5	1' 6	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
9	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
10	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
11	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
12	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 6	1' 4	1' 5	1' 8	1' 11
13	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 8	1' 11
14	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 8	1' 11
15	1' 10	1' 7	1' 5	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 9	1' 11
16	1' 10	1' 6	1' 4	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 9	1' 11
17	1' 9	1' 6	1' 4	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 9	1' 11
18	1' 9	1' 6	1' 4	1' 5	1' 7	1' 9	1' 8	1' 5	1' 4	1' 5	1' 9	1' 11
19	1' 9	1' 6	1' 4	1' 5	1' 7	1' 9	1' 7	1' 5	1' 4	1' 6	1' 9	1' 11
20	1' 9	1' 6	1' 4	1' 5	1' 7	1' 9	1' 7	1' 5	1' 4	1' 6	1' 9	1' 11
21	1' 9	1' 6	1' 4	1' 5	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 9	1' 11
22	1' 9	1' 6	1' 4	1' 5	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 9	1' 11
23	1' 9	1' 6	1' 4	1' 5	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 9	1' 11
24	1' 9	1' 6	1' 4	1' 5	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 10	1' 11
25	1' 9	1' 6	1' 4	1' 6	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 10	1' 11
26	1' 9	1' 5	1' 4	1' 6	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 10	1' 11
27	1' 9	1' 5	1' 4	1' 6	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 10	1' 11
28	1' 9	1' 5	1' 4	1' 6	1' 8	1' 9	1' 7	1' 5	1' 4	1' 6	1' 10	1' 11
29	1' 8	1' 5	1' 4	1' 6	1' 8	1' 9	1' 7	1' 4	1' 4	1' 7	1' 10	1' 11
30	1' 8		1' 4	1' 6	1' 8	1' 9	1' 7	1' 4	1' 4	1' 7	1' 10	1' 11
31	1' 8			1' 6	1' 8	1' 9	1' 7	1' 4	1' 4	1' 7	1' 10	1' 11

Polhöhe 52 Grad.

HORZONTAL - SONNENUHREN.

Vorm.	Nachm.	51° 0'	51° 10'	51° 20'	51° 30'	51° 40'	51° 50'	52° 0'
11 45	0 15	2° 55'	2° 55'	2° 56'	2° 56'	2° 57'	2° 57'	2° 57'
11 30	0 30	5 50	5 51	5 52	5 53	5 54	5 54	5 55
11 15	0 45	8 47	8 49	8 50	8 51	8 52	8 53	8 55
11 0	1 0	11 46	11 47	11 49	11 51	11 51	11 54	11 55
10 45	1 15	14 47	14 49	14 51	14 53	14 55	14 57	14 59
10 30	1 30	17 51	17 53	17 55	17 58	18 0	18 2	18 5
10 15	1 45	20 58	21 1	21 4	21 6	21 9	21 12	21 14
10 0	2 0	24 10	24 13	24 16	24 19	24 22	24 25	24 27
9 45	2 15	27 26	27 30	27 33	27 36	27 40	27 43	27 46
9 30	2 30	30 48	30 52	30 56	30 59	31 3	31 6	31 10
9 15	2 45	34 17	34 20	34 24	34 28	34 31	34 35	34 39
9 0	3 0	37 51	37 55	37 59	38 3	38 7	38 11	38 14
8 45	3 15	41 33	41 37	41 41	41 45	41 49	41 53	41 57
8 30	3 30	45 22	45 26	45 30	45 34	45 38	45 42	45 46
8 15	3 45	49 19	49 23	49 27	49 31	49 35	49 38	49 42
8 0	4 0	53 24	53 28	53 31	53 35	53 39	53 43	53 46
7 45	4 15	57 36	57 40	57 43	57 47	57 51	57 54	57 58
7 30	4 30	61 57	62 0	62 3	62 7	62 10	62 13	62 16
7 15	4 45	66 24	66 27	66 30	66 33	66 36	66 39	66 42
7 0	5 0	70 59	71 1	71 4	71 6	71 8	71 11	71 13
6 45	5 15	75 39	75 41	75 43	75 44	75 46	75 48	75 50
6 30	5 30	80 23	80 24	80 26	80 27	80 29	80 30	80 31
6 15	5 45	85 11	85 12	85 12	85 13	85 13	85 14	85 14
6 0	6 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0
5 45	6 15	94 49	94 48	94 48	94 47	94 47	94 46	94 46
5 30	6 30	99 37	99 36	99 34	99 33	99 31	99 30	99 29
5 15	6 45	104 21	104 19	104 17	104 16	104 14	104 12	104 10
5 0	7 0	109 1	108 59	108 56	108 54	108 52	108 49	108 47
4 45	7 15	113 36	113 33	113 30	113 27	113 24	113 31	113 18
4 30	7 30	118 3	118 0	117 57	117 53	117 50	117 47	117 44
4 15	7 45	122 24	122 30	122 17	122 13	122 9	122 6	122 3
4 0	8 0	126 36	126 32	126 29	126 25	126 21	126 17	126 14