

R=20

R	20				
L	10	15	20	25	30
l	9,938	14,790	19,506	24,041	28,356
d	4,990	7,465	9,917	12,339	14,723
y _l	0,830	1,856	3,274	5,065	7,204
ΔR	0,208	0,466	0,826	1,284	1,838
e	3,249	4,716	5,994	7,020	7,733
τ _l	14°19'26,2"	21°29'09,3"	28°38'52,4"	35°48'35,5"	42°58'18,6"
ω _l	4°46'19,6"	7°09'12,3"	9°31'44,3"	11°53'48,4"	14°15'17,3"
φ _l	9°33'06,6"	14°19'57,0"	19°07'08,1"	25°54'47,1"	28°43'01,3"
x=5	0,104	0,069	0,052	0,042	0,035
10	0,846	0,559	0,418	0,334	0,278
15	2,893	1,940	1,433	1,138	0,945
20		4882,000	3,554	2,773	2,282
25			7,692	5,802	4,655
30				11,898	8,930

R=25,30

R	25	30			
L	50	10	15	20	25
l	45,226	9,972	14,907	19,779	24,569
d	24,189	4,995	7,484	9,963	12,428
y _l	15,513	0,554	1,244	2,205	3,429
ΔR	4,021	0,139	0,312	0,553	0,863
e	9,961	3,296	4,874	6,367	7,749
τ _l	57°17'44,8"	9°32'57,5"	14°19'26,2"	19°05'54,9"	23°52'23,7"
ω _l	18°55'58,6"	3°10'56,4"	4°46'19,6"	6°21'36,7"	7°56'45,6"
φ _l	38°21'46,2"	6°22'01,1"	9°33'06,6"	12°44'18,2"	15°55'38,1"
x=5	0,017	0,069	0,046	0,035	0,028
10	0,133	0,559	0,371	0,278	0,222
15	0,451	1,856	1,269	0,945	0,754
20	1,073		3,048	2,282	1,808
25	2,144			4,594	3,624
30	3,714				6,548
35	6,077				
40	9,570				
45	15,167				

R=20, 25

R	20				
L	35	40	10	15	20
l	32,414	36,181	9,960	14,866	19,682
d	17,063	19,351	4,993	7,478	9,947
y _l	9,663	12,411	0,665	1,490	2,636
ΔR	2,483	3,217	0,166	0,374	0,663
e	8,070	7,969	3,279	4,818	6,236
τ _l	50°08'01,7"	57°17'44,8"	11°27'33,0"	17°11'19,4"	22°55'05,9"
ω _l	16°36'03,3"	18°55'58,6"	3°49'06,3"	5°43'30,7"	7°37'44,6"
φ _l	33°31'58,4"	38°21'46,2"	7°38'26,7"	11°27'48,7"	15°17'21,3"
x=5	0,030	0,026	0,083	0,056	0,042
10	0,238	0,209	0,673	0,446	0,334
15	0,808	0,706	2,256	1,532	1,138
20	1,942	1,691		3,736	2,773
25	3,910	3,379			5,703
30	7,219	6,117			
35	13,636	10,759			

R=30

R	30				
L	30	35	40	45	50
l	29,259	33,828	38,258	42,534	46,638
d	14,876	17,303	19,707	22,085	24,432
y _l	4,911	6,642	8,611	10,806	13,215
ΔR	1239,000	1,681	2,187	2,757	3,387
e	8,990	10,064	10,943	11,599	12005,000
τ _l	28°38'52,4"	33°25'21,1"	38°11'49,9"	42°58'18,6"	47°44'47,3"
ω _l	9°31'44,3"	11°06'30,6"	12°41'02,3"	14°15'17,3"	15°49'13,2"
φ _l	19°07'08,1"	22°18'50,5"	25°30'47,6"	28°43'01,3"	31°55'34,1"
x=5	0,023	0,020	0,017	0,015	0,014
10	0,185	0,159	0,139	0,123	0,111
15	0,627	0,537	0,470	0,417	0,375
20	1,499	1,281	1,118	0,993	0,893
25	2,979	2,533	2,205	1,953	1,754
30	5,330	4,485	3,880	3,423	3,065
35	8,990	7,457	6,368	5,573	4,963
40		12,064	10,092	8,688	7,658
45			16,054	13,395	11,546
50				21,768	17,694

R=25

R	25				
L	25	30	35	40	45
l	24,382	28,938	33,323	37,515	41,489
d	12,397	14,822	17,218	19,580	21,906
y _l	4,093	5,847	7,885	10,189	12,739
ΔR	1,032	1,481	2,006	2,607	3,279
e	7,492	8,547	9,362	9,896	10,109
τ _l	28°38'52,4"	34°22'38,9"	40°06'25,4"	45°50'11,5"	51°33'58,3"
ω _l	9°31'44,3"	11°25'26,1"	13°18'46,4"	15°11'41,3"	17°04'06,6"
φ _l	19°07'08,1"	22°57'12,8"	26°47'39,0"	30°38'30,5"	34°29'51,7"
x=5	0,033	0,028	0,024	0,021	0,019
10	0,267	0,222	0,191	0,167	0,148
15	0,907	0,754	0,645	0,564	0,501
20	2,186	1,808	1,543	1,346	1,194
25	4,441	3,624	3,069	2,665	2,357
30	8,280	6,616	5,509	4,734	4,160
35		11,721	9,433	7,920	6,865
40			16,711	13,184	11,025
45					18,705

R=30,35

R	30	35			
L	60	10	15	20	25
l	54,271	9,980	14,931	19,837	24,683
d	29,027	4,994	7,489	9,973	12,447
y _l	18,016	0,476	1,068	1,894	2,949
ΔR	4,825	0,119	0,267	0,479	0,741
e	11,953	3,306	4,907	6,447	7,904
τ _l	57°17'44,8"	8°11'06,4"	12°16'39,6"	16°22'12,8"	20°27'46,0"
ω _l	18°55'58,6"	2°43'40,4"	4°05'27,5"	5°27'10,7"	6°48'48,7"
φ _l	38°21'46,2"	5°27'26,0"	8°11'12,1"	10°55'02,1"	13°38'57,3"
x=5	0,012	0,060	0,040	0,030	0,024
10	0,093	0,478	0,318	0,238	0,191
15	0,313	1,579	1,082	0,808	0,645
20	0,743		2,579	1,942	1,543
25	1,457			3,865	3,070
30	2,537				5,461
35	4,082				
40	6,225				
45	9,176				
50	13,334				
55	19,812				

R=35

R	35				
L	30	35	40	45	50
l	29,454	34,135	38,713	43,176	47,509
d	14,909	17,355	19,784	22,194	24,581
y ₁	4,230	5,730	7,443	9,362	11,478
ΔR	1,064	1,445	1,883	2,375	2,923
e	9,258	10,489	11,576	12,499	13,239
τ ₁	24°33'19,2"	28°38'52,4"	32°44'25,6"	36°49'58,8"	40°55'32,0"
ω ₁	8°10'20,4"	9°31'44,3"	10°52'59,1"	12°14'03,4"	13°34'55,9"
φ ₁	16°22'58,8"	19°07'08,1"	21°51'26,5"	24°35'55,4"	27°20'36,1"
x=5	0,020	0,017	0,015	0,013	0,012
10	0,159	0,136	0,119	0,106	0,095
15	0,537	0,460	0,402	0,358	0,322
20	1,281	1,095	0,957	0,850	0,764
25	2,533	2,159	1,882	1,669	1,499
30	4,485	3,795	3,295	2,913	2,612
35	7,405	6,218	5,353	4,707	4,206
40		9,758	8,312	7,237	6,423
45			12,611	10,825	9,492
50				16,119	13,863
55					20,612

R=40

R	40				
L	30	35	40	45	50
l	29,581	34,336	39,012	43,597	48,082
d	14,930	17,389	19,834	22,265	24,678
y ₁	3,713	5,035	6,549	8,249	10,130
ΔR	0,933	1,267	1,652	2,086	2,568
e	9,432	10,764	11,987	13,084	14,040
τ ₁	21°29'09,3"	25°04'00,9"	25°38'52,4"	32°13'44,0"	35°48'35,5"
ω ₁	7°09'12,3"	8°20'31,3"	9°31'44,31"	10°42'50,3"	11°53'48,4"
φ ₁	14°19'57,0"	16°43'29,6"	19°07'08,1"	21°30'53,7"	23°54'47,1"
x=5	0,017	0,015	0,013	0,012	0,010
10	0,139	0,119	0,104	0,093	0,083
15	0,470	0,402	0,352	0,313	0,281
20	1,118	0,957	0,836	0,743	0,668
25	2,205	1,882	1,642	1,457	1,309
30	3,880	3,295	2,866	2,537	2,277
35	6,332	5,352	4,628	4,082	3,653
40		8,271	7,107	6,225	5,547
45			10,561	9,175	8,110
50				13,263	11,604
55					16,480

R=35,40

R	35	40			
L	60	10	15	20	25
l	55,739	9,984	14,947	19,875	24,757
d	29,280	4,997	7,491	9,979	12,459
y ₁	16,264	0,416	0,935	1,659	2,649
ΔR	4,175	0,104	0,234	0,416	0,004
e	14,083	3,312	4,929	6,498	8,004
τ ₁	49°06'38,4"	7°09'43,1"	10°44'34,7"	11°19'26,2"	17°54'17,8"
ω ₁	16°15'59,6"	2°23'13,2"	3°34'47,7"	4°46'19,6"	5°57'47,2"
φ ₁	32°50'38,8"	4°46'29,9"	7°09'47,0"	9°33'06,6"	11°56'30,6"
x=5	0,010	0,052	0,035	0,026	0,021
10	0,079	0,418	0,278	0,209	0,167
15	0,268	1,375	0,945	0,706	0,564
20	0,636		2,240	1,692	1,346
25	1,246			3,344	2,666
30	2,166				4,700
35	3,472				
40	5,262				
45	7,617				
50	10,919				
55	15,437				
60	22,404				

R=40,45

R	40		45		
L	60	70	10	15	20
l	56,712	64,827	9,988	14,958	19,901
d	29,446	34,125	4,998	7,493	9,984
y ₁	14,408	19,327	0,370	0,832	1,476
ΔR	3,676	4,967	0,093	0,208	0,370
e	15,466	16,140	3,317	4,944	6,533
τ ₁	42°58'18,6"	50°08'01,7"	6°21'58,3"	9°32'57,5"	12°43'56,6"
ω ₁	14°15'17,3"	16°36'03,3"	2°07'18,6"	3°10'56,6"	4°14'32,5"
φ ₁	28°43'01,3"	33°31'58,4"	4°14'39,7"	6°22'01,1"	8°29'24,1"
x=5	0,009	0,008	0,046	0,031	0,023
10	0,069	0,060	0,372	0,247	0,185
15	0,234	0,201	1,219	0,839	0,627
20	0,556	0,477		1,981	1,499
25	1,089	0,933			2,949
30	1,890	1,617			
35	3,023	2,581			
40	4,564	3,884			
45	6,613	5,598			
50	9,312	7,820			
55	12,901	10,689			
60	17,860	14,437			
65	25,348	19,536			
70		27,276			

R=45

R	45				
L	25	30	35	40	45
l	24,808	29,668	34,474	39,217	43,888
d	12,468	14,945	17,412	19,869	22,314
y ₁	2,302	3,307	4,488	5,843	7,367
ΔR	0,577	0,830	1,128	1,471	1,858
e	8,073	9,551	10,953	12,269	13,485
τ ₁	15°54'55,8"	19°05'54,9"	22°16'54,1"	25°27'53,3"	28°38'52,4"
ω ₁	5°18'06,1"	6°21'36,7"	7°25'03,7"	8°28'26,4"	9°31'44,3"
φ ₁	10°36'49,7"	11°44'18,2"	14°51'50,4"	16°59'26,9"	19°07'08,1"
x=5	0,019	0,015	0,013	0,012	0,010
10	0,148	0,123	0,106	0,093	0,082
15	0,501	0,417	0,358	0,313	0,278
20	1,194	0,993	0,850	0,743	0,660
25	2,357	1,953	1,669	1,457	1,293
30	4,133	3,423	2,913	2,537	2,248
35		5,546	4,707	4,082	3,606
40			7,208	6,225	5,472
45				9,142	7,995
50					11,383

R=50

R	50				
L	20	25	30	35	40
l	19,920	24,844	29,731	34,574	39,365
d	9,987	12,474	14,955	17,429	19,894
y ₁	1,330	2,074	2,981	4,048	4,048
ΔR	0,333	0,520	0,748	1,016	1,016
e	6,559	8,123	9,636	11,089	11,089
τ ₁	11°27'33,0"	14°19'26,2"	17°11'19,4"	20°03'12,7"	22°55'05,9"
ω ₁	3°49'06,3"	4°46'19,6"	5°43'30,7"	6°40'39,1"	7°37'44,6"
φ ₁	7°38'26,7"	9°33'06,6"	11°27'48,7"	13°22'33,6"	15°17'21,3"
x=5	0,021	0,017	0,014	0,012	0,010
10	0,167	0,133	0,111	0,095	0,088
15	0,564	0,451	0,375	0,322	0,281
20	1,346	1,073	0,893	0,764	0,668
25	2,640	2,114	1,754	1,499	1,309
30		3,692	3,065	2,612	2,277
35			4,942	4,205	3,653
40				6,400	5,547
45					8,086

R=45,50

R	45			50	
L	50	60	70	10	15
l	48,479	57,388	65,882	9,990	14,966
d	24,745	29,561	34,306	4,998	7,494
y ₁	9,057	12,916	17,379	0,333	0,749
ΔR	2,289	3,281	4,440	0,083	0,187
e	14,590	16,415	17,646	3,320	4,955
τ ₁	31°49'51,5"	38°11'49,9"	44°33'48,2"	5°43'46,5"	8°35'39,7"
ω ₁	10°34'56,6"	12°41'02,3"	14°46'38,1"	1°54'34,9"	2°51'51,3"
φ ₁	21°14'54,9"	25°30'47,6"	29°47'10,1"	3°49'11,6"	5°43'48,4"
x=5	0,009	0,008	0,007	0,042	0,028
10	0,074	0,062	0,053	0,334	0,222
15	0,250	0,208	0,179	1,094	0,754
20	0,594	0,494	0,424		1,776
25	1,163	0,967	0,829		
30	2,019	1,677	1,435		
35	3,232	2,679	2,289		
40	4,888	4,034	3,438		
45	7,100	5,820	4,942		
50	10,044	8,143	6,874		
55	13,978	11,159	9,333		
60		15,138	12,468		
65		20,549	16,533		
70			22,037		
75			30,231		

R=50

R	50				
L	45	50	60	70	80
l	44,097	48,764	57,876	66,647	75,029
d	22,349	24,793	29,644	34,436	39,162
y ₁	6,653	8,186	11,695	15,771	20,378
ΔR	1,675	2,065	2,962	4,013	5,213
e	13,773	14,984	17,094	18,723	19,791
τ ₁	25°46'59,2"	28°38'52,4"	34°22'38,9"	40°06'25,5"	45°50'11,8"
ω ₁	8°34'46,4"	9°31'44,3"	11°25'26,1"	13°18'46,4"	15°11'41,3"
φ ₁	17°12'12,8"	19°07'08,1"	22°57'12,8"	26°47'39,0"	30°38'30,5"
x=5	0,009	0,008	0,007	0,006	0,005
10	0,074	0,067	0,056	0,048	0,042
15	0,250	0,225	0,188	0,161	0,141
20	0,594	0,534	0,445	0,381	0,334
25	1,163	1,045	0,870	0,745	0,652
30	2,019	1,814	1,508	1,291	1,128
35	3,232	2,899	2,405	2,056	1,796
40	4,888	4,372	3,616	3,085	2,692
45	7,100	6,325	5,203	4,426	3,854
50	10,017	8,884	7,248	6,138	5,331
55		12,221	9,866	8,298	7,177
60			13,231	11,012	9,467
65			17,607	14,441	12,303
70				18,868	15,839
75				24,780	20,347
80					26,364
85					35,241

R=55

R	55				
L	10	15	20	25	30
l	9,992	14,972	19,934	24,871	29,778
d	4,999	7,495	9,989	12,479	14,963
y _l	0,303	0,681	1,209	1,887	2,713
ΔR	0,076	0,170	0,303	0,473	0,680
e	3,322	4,962	6,577	8,159	9,699
τ _l	5°12'31,4"	7°48'47,0"	10°25'02,7"	13°01'18,4"	15°37'34,0"
ω _l	1°44'10,0"	2°36'14,2"	3°28'17,4"	4°20'19,3"	5°12'19,5"
φ _l	3°28'21,4"	5°12'32,8"	6°56'45,3"	8°40'59,1"	10°25'14,5"
x=5	0,038	0,025	0,019	0,015	0,013
10	0,304	0,202	0,152	0,121	0,101
15	0,993	0,684	0,513	0,410	0,341
20		1,610	1,222	0,974	0,811
25			2,391	1,917	1,591
30				3,338	2,775
35					4,460

R=55

R	55				
L	35	40	45	50	60
l	34,647	39,474	44,253	48,977	58,239
d	17,441	19,912	22,375	24,829	29,705
y _l	3,685	4,803	6,063	7,465	10,679
ΔR	0,925	1,206	1,525	1,880	2,698
e	11,189	12,621	13,985	15,275	17,598
τ _l	18°13'49,7"	20°50'05,4"	23°26'21,1"	26°02'36,7"	31°15'08,1"
ω _l	6°04'17,8"	6°56'13,7"	7°48'07,0"	8°39'57,3"	10°23'27,6"
φ _l	12°09'31,9"	13°53'51,7"	15°38'14,1"	17°22'39,4"	20°51'40,5"
x=5	0,011	0,009	0,008	0,008	0,006
10	0,087	0,076	0,067	0,061	0,051
15	0,292	0,256	0,227	0,205	0,171
20	0,694	0,607	0,540	0,485	0,404
25	1,361	1,189	1,056	0,950	0,791
30	2,368	2,065	1,832	1,647	1,369
35	3,803	3,308	2,929	2,629	2,183
40	5,764	5,006	4,419	3,957	3,277
45		7,261	6,394	5,707	4,706
50			8,966	7,978	6,537
55				10,894	8,857
60					11,794
65					15,517

R=55,60

R	55		60		
L	70	80	10	15	20
l	67,218	75,871	9,993	14,977	19,945
d	34,533	39,305	4,999	7,496	9,991
y _l	14,424	18,673	0,278	0,624	1,109
ΔR	3,659	4,758	0,069	0,156	0,278
e	19,521	20,981	3,324	4,968	6,592
τ _l	36°27'39,4"	41°40'10,8"	4°46'28,7"	7°09'43,1"	9°32'57,5"
ω _l	12°06'41,6"	13°49'36,8"	1°35'29,2"	2°23'13,2"	3°10'56,4"
φ _l	24°20'57,8"	27°50'34,0"	3°10'59,5"	4°46'29,9"	6°22'01,1"
x=5	0,005	0,005	0,035	0,023	0,017
10	0,043	0,038	0,278	0,185	0,139
15	0,146	0,128	0,908	0,627	0,470
20	0,347	0,303		1,473	1,119
25	0,677	0,593			2,186
30	1,173	1,025			
35	1,867	1,631			
40	2,799	2,443			
45	4,010	3,495			
50	5,549	4,826			
55	7,479	6,484			
60	9,880	8,525			
65	12,868	11,028			
70	16,622	14,101			
75	21,411	17,914			
80		22,759			
85		29,148			

R=60

R	60				
L	25	30	35	40	45
l	24,892	29,813	34,703	39,558	44,371
d	12,482	14,969	17,451	19,926	22,395
y _l	1,731	2,489	3,382	4,409	5,569
ΔR	0,433	0,624	0,848	1,107	1,399
e	8,187	9,747	11,265	12,734	14,147
τ _l	11°56'11,8"	14°19'26,2"	16°42'40,6"	19°05'54,9"	21°29'09,3"
ω _l	3°58'38,7"	4°46'19,6"	5°33'59,0"	6°21'36,7"	7°09'12,3"
φ _l	7°57'33,1"	9°33'06,6"	11°08'41,6"	12°44'18,2"	14°19'57,0"
x=5	0,014	0,012	0,010	0,009	0,008
10	0,111	0,093	0,079	0,069	0,062
15	0,375	0,313	0,268	0,234	0,208
20	0,893	0,743	0,636	0,556	0,494
25	1,753	1,457	1,246	1,089	0,967
30	3,047	2,537	2,166	1,890	1,677
35		4,066	3,472	3,023	2,679
40			5,246	4,565	4,034
45				6,597	5,820
50					8,126

R=60

R	60				
L	50	60	70	80	90
l	49,139	58,517	67,655	76,517	85,068
d	24,856	29,752	34,607	39,415	44,169
y ₁	6,859	9,823	13,284	17,221	21,612
ΔR	1,725	2,478	3,362	4,375	5,513
e	15,497	17,981	20,129	21,887	23,199
τ ₁	23°52'23,7"	28°38'52,4"	33°25'21,1"	38°11'49,9"	42°58'18,6"
ω ₁	7°56'45,6"	9°31'44,3"	11°06'30,6"	12°41'02,3"	14°15'17,3"
φ ₁	15°55'38,1"	19°07'08,1"	22°18'50,5"	25°30'47,6"	28°43'01,3"
x=5	0,007	0,006	0,005	0,004	0,004
10	0,056	0,046	0,040	0,035	0,031
15	0,188	0,156	0,134	0,117	0,104
20	0,445	0,371	0,318	0,278	0,247
25	0,870	0,725	0,621	0,543	0,483
30	1,508	1,255	1,074	0,939	0,835
35	2,405	1,998	1,710	1,494	1,327
40	3,616	2,997	2,561	2,237	1,985
45	5,203	4,298	3,666	3,197	2,836
50	7,248	5,957	5,066	4,410	3,907
55	9,847	8,046	6,812	5,915	5,231
60		10,660	8,970	7,760	6,847
65		13,923	11,628	10,007	8,799
70			14,913	12,735	11,146
75			18,995	16,066	13,967
80				20,184	17,376
85				25,362	21,549
90					26,789
95					33,635

R=65

R	60				
L	10	15	20	25	30
l	9,994	14,980	19,953	24,908	29,841
d	4,999	7,497	9,992	12,485	14,973
y ₁	0,256	0,576	1,024	1,598	2,299
ΔR	0,064	0,144	0,256	0,400	0,576
e	3,325	4,973	6,603	8,209	9,785
τ ₁	4°24'26,5"	6°36'39,8"	8°48'53,1"	11°01'06,3"	13°13'19,6"
ω ₁	1°28'08,6"	2°12'12,4"	2°56'15,6"	3°40'18,0"	4°24'19,4"
φ ₁	2°56'17,9"	4°24'27,4"	5°52'37,5"	7°20'48,3"	8°49'00,2"
x=5	0,032	0,021	0,016	0,013	0,011
10	0,257	0,171	0,128	0,103	0,085
15	0,838	0,578	0,433	0,347	0,289
20		1,358	1,031	0,823	0,685
25			2,012	1,616	1,343
30				2,804	2,337
35					3,738

R=65

R	65				
L	35	40	45	50	60
l	34,747	39,623	44,464	49,265	58,734
d	17,458	19,937	22,410	24,877	29,788
y ₁	3,125	4,075	5,148	6,343	9,091
ΔR	0,783	1,022	1,293	1,594	2,290
e	11,325	12,823	14,273	15,670	18,279
τ ₁	15°25'32,8"	17°37'46,1"	19°49'59,4"	22°02'12,6"	26°26'39,1"
ω ₁	5°08'19,6"	5°52'18,4"	6°36'15,6"	7°20'11,0"	8°47'55,5"
φ ₁	10°17'13,2"	11°45'27,7"	13°13'43,8"	14°42'01,6"	17°38'43,6"
x=5	0,009	0,008	0,007	0,006	0,005
10	0,073	0,064	0,057	0,051	0,043
15	0,247	0,216	0,192	0,173	0,144
20	0,587	0,514	0,456	0,411	0,342
25	1,150	1,005	0,893	0,803	0,669
30	1,996	1,743	1,547	1,391	1,157
35	3,195	2,784	2,468	2,217	1,843
40	4,817	4,196	3,712	3,329	2,762
45		6,048	5,345	4,782	3,956
50			7,439	6,645	5,474
55				8,995	7,376
60					9,738
65					12,654

R=65,70

R	65			70	
L	70	80	90	10	15
l	67,997	77,023	85,000	9,995	14,988
d	34,664	39,500	44,291	4,999	7,497
y ₁	12,306	15,972	20,069	0,238	0,535
ΔR	3,109	4,048	5,104	0,060	0,134
e	20,602	22,592	24,202	3,326	4,977
τ ₁	30°51'05,6"	35°15'32,2"	39°39'58,7"	4°05'33,2"	6°08'19,8"
ω ₁	10°15'30,4"	11°42'53,5"	13°10'04,2"	1°21'50,9"	2°02'45,9"
φ ₁	20°35'35,2"	23°32'38,4"	26°29'54,5"	2°43'42,3"	4°05'33,9"
x=5	0,005	0,004	0,004	0,030	0,020
10	0,037	0,032	0,028	0,238	0,159
15	0,124	0,108	0,096	0,778	0,537
20	0,293	0,256	0,228		1,260
25	0,573	0,501	0,445		
30	0,991	0,867	0,770		
35	1,577	1,379	1,225		
40	2,361	2,063	1,831		
45	3,377	2,946	2,614		
50	4,661	4,061	3,599		
55	6,258	5,440	4,815		
60	8,221	7,125	6,294		
65	10,620	9,166	8,075		
70	13,553	11,627	10,204		
75	17,138	14,597	12,744		
80		18,208	15,779		
85		22,629	19,431		
90			23,891		
95			29,440		

R=70

R	70				
L	20	25	30	35	40
l	19,959	24,920	29,863	34,782	39,675
d	9,993	12,487	14,977	17,464	19,946
y ₁	0,951	1,485	2,136	2,904	3,787
ΔR	0,238	0,372	0,535	0,728	0,950
e	6,612	8,226	9,814	11,372	12,893
τ ₁	8°11'06,4"	10°13'53,0"	12°16'39,6"	14°19'26,2"	16°22'12,8"
ω ₁	2°43'40,4"	3°24'34,4"	4°05'27,5"	4°46'19,6"	5°27'10,7"
φ ₁	5°27'26,0"	6°49'18,6"	8°11'12,1"	9°33'06,6"	10°55'02,1"
x=5	0,015	0,012	0,010	0,009	0,008
10	0,119	0,095	0,079	0,068	0,060
15	0,402	0,322	0,268	0,230	0,201
20	0,957	0,764	0,636	0,545	0,477
25	1,866	1,499	1,246	1,067	0,933
30		2,598	2,166	1,851	1,617
35			3,460	2,960	2,581
40				4,455	3,884
45					5,587

R=70

R	70				
L	45	50	60	70	80
l	44,537	49,366	58,907	68,270	77,427
d	22,423	24,894	29,817	34,710	39,569
y ₁	4,786	5,898	8,460	11,460	14,886
ΔR	1,201	1,481	2,129	2,891	3,765
e	14,373	15,807	18,516	20,977	23,152
τ ₁	18°24'59,4"	20°27'46,0"	24°33'19,2"	28°38'52,4"	32°44'25,6"
ω ₁	6°08'00,4"	6°48'48,7"	8°10'20,4"	9°31'44,3"	10°52'59,1"
φ ₁	12°16'59,0"	13°38'57,3"	16°22'58,8"	19°07'08,1"	21°51'26,5"
x=5	0,007	0,006	0,005	0,004	0,004
10	0,053	0,048	0,040	0,034	0,030
15	0,179	0,161	0,134	0,115	0,100
20	0,424	0,381	0,318	0,272	0,238
25	0,829	0,745	0,621	0,532	0,465
30	1,435	1,291	1,074	0,920	0,805
35	2,289	2,056	1,710	1,464	1,280
40	3,438	3,085	2,561	2,190	1,914
45	4,942	4,426	3,666	3,130	2,733
50	6,862	6,139	5,066	4,317	3,764
55		8,286	6,812	5,789	5,037
60			8,971	7,591	6,589
65			11,613	9,782	8,461
70				12,437	10,706
75				15,648	13,394
80					16,622
85					20,511

R=70,75

R	70			75	
L	90	100	110	10	15
l	86,351	95,017	103,401	9,996	14,985
d	44,387	49,162	53,887	4,999	7,498
y ₁	18,724	22,956	27,564	0,222	0,500
ΔR	4,751	5,845	7,046	0,056	0,125
e	24,999	26,477	27,546	3,327	4,980
τ ₁	36°49'58,8"	40°55'32,0"	45°01'05,2"	3°49'11,0"	5°43'46,5"
ω ₁	12°14'03,4"	13°34'55,9"	14°55'25,2"	1°16'23,5"	1°54'34,9"
φ ₁	24°35'55,4"	27°20'36,1"	30°05'30,0"	2°32'47,5"	3°49'11,6"
x=5	0,003	0,008	0,003	0,028	0,019
10	0,026	0,024	0,022	0,223	0,148
15	0,089	0,080	0,073	0,725	0,501
20	0,212	0,131	0,173		1,174
25	0,414	0,372	0,338		
30	0,715	0,643	0,585		
35	1,137	1,023	0,929		
40	1,699	1,528	1,389		
45	2,425	2,180	1,980		
50	3,337	2,998	2,722		
55	4,461	4,005	3,634		
60	5,826	5,223	4,735		
65	7,464	6,682	6,051		
70	9,415	8,411	7,606		
75	11,730	10,450	9,431		
80	14,437	12,846	11,564		
85	7,737	15,662	14,051		
90	21,652	18,985	16,953		
95	26,395	22,941	20,355		
100		27,726	24,377		
105		33,630	29,218		
110			35,197		

R=,75

R	75				
L	20	25	30	35	40
l	19,964	24,931	29,880	34,810	39,716
d	9,994	12,488	14,980	17,468	19,953
y ₁	0,888	1,386	1,994	2,712	3,538
ΔR	0,222	0,347	0,499	0,679	0,887
e	6,619	8,240	9,838	11,410	12,950
τ ₁	7°38'22,0"	9°32'57,5"	11°27'33,0"	13°22'08,5"	15°16'44,0"
ω ₁	2°32'45,9"	3°10'56,4"	3°49'06,3"	4°27'15,4"	5°05'23,6"
φ ₁	5°05'36,1"	6°22'01,1"	7°38'26,7"	8°54'53,1"	10°11'20,4"
x=5	0,014	0,011	0,009	0,008	0,007
10	0,111	0,089	0,074	0,063	0,056
15	0,375	0,300	0,250	0,214	0,188
20	0,893	0,713	0,594	0,509	0,445
25	1,739	1,398	1,163	0,995	0,870
30		2,420	2,019	1,726	1,508
35			3,221	2,757	2,405
40				4,144	3,616
45					5,193

R=75

R	75				
L	45	50	60	70	80
l	44,597	49,447	59,047	68,491	77,754
d	22,433	24,908	29,841	34,747	39,624
y ₁	4,471	5,512	7,909	10,721	13,936
ΔR	1,121	1,383	1,989	2,701	3,520
e	14,454	15,918	18,707	21,281	23,604
τ ₁	17°11'19,4"	19°05'54,9"	22°55'05,9"	26°44'16,9"	30°33'27,9"
ω ₁	5°43'30,7"	6°21'36,7"	7°37'44,6"	8°53'46,2"	10°09'40,4"
φ ₁	11°27'48,7"	12°44'18,2"	15°17'21,3"	17°50'30,7"	20°23'47,5"
x=5	0,006	0,006	0,005	0,004	3,000
10	0,049	0,044	0,037	0,032	0,028
15	0,167	0,150	0,125	0,107	0,094
20	0,395	0,356	0,296	0,254	0,222
25	0,773	0,696	0,579	0,496	0,434
30	1,339	1,204	1,002	0,859	0,751
35	2,124	1,917	1,595	1,365	1,194
40	3,202	2,875	2,388	2,043	1,789
45	4,597	4,120	3,415	2,918	2,548
50	6,371	5,705	4,715	4,021	3,507
55		7,685	6,331	5,387	4,691
60			8,320	7,054	6,130
65			10,740	9,071	7,860
70				11,503	9,926
75				14,419	12,386
80					15,315
85					18,804

R=75,80

R	75			80	
L	90	100	110	10	15
l	86,814	95,646	104,230	9,996	14,987
d	44,465	49,268	54,029	4,999	7,498
y ₁	17,542	21,527	25,874	0,208	0,468
ΔR	4,443	5,468	6,595	0,052	0,117
e	25,642	27,358	28,718	3,328	4,982
τ ₁	34°22'38,9"	38°11'49,9"	42°01'00,9"	3°34'51,6"	5°22'17,3"
ω ₁	11°25'26,1"	12°41'02,3"	13°56'27,7"	1°11'37,0"	1°47'25,3"
φ ₁	22°57'12,8"	25°30'47,6"	28°04'33,2"	2°23'14,6"	3°34'52,0"
x=5	0,003	0,003	0,003	0,026	0,017
10	0,025	0,022	0,020	0,209	0,139
15	0,083	0,075	0,068	0,680	0,470
20	0,198	0,178	0,162		1,100
25	0,386	0,347	0,316		
30	0,667	0,600	0,546		
35	1,061	0,954	0,867		
40	1,585	1,426	1,296		
45	2,262	2,034	1,847		
50	3,111	2,796	2,539		
55	4,156	3,732	3,387		
60	5,423	4,865	4,412		
65	6,941	6,218	5,634		
70	8,743	7,819	7,076		
75	10,872	9,701	8,764		
80	13,381	11,902	10,730		
85	16,340	14,474	13,012		
90	19,848	17,484	15,660		
95	24,024	21,024	18,736		
100		25,230	22,331		
105		30,279	26,577		
110			31,672		

R=80

R	80				
L	20	25	30	35	40
l	19,969	24,939	29,895	34,833	39,751
d	9,995	12,490	14,982	17,472	19,958
y ₁	0,832	1,300	1,870	2,543	3,318
ΔR	0,208	0,325	0,468	0,637	0,831
e	6,624	8,251	9,858	11,441	12,996
τ ₁	7°09'43,1"	8°57'08,9"	10°44'34,7"	12°32'00,4"	14°19'26,2"
ω ₁	2°23'13,2"	2°59'00,7"	3°34'47,7"	4°10'34,1"	4°46'19,6"
φ ₁	4°46'29,9"	5°58'08,2"	7°09'47,0"	8°21'26,3"	9°33'06,6"
x=5	0,013	0,010	0,009	0,008	0,007
10	0,104	0,083	0,069	0,060	0,052
15	0,352	0,281	0,234	0,201	0,176
20	0,836	0,668	0,556	0,477	0,417
25	1,628	1,310	1,089	0,933	0,816
30		2,265	1,891	1,617	1,413
35			3,013	2,581	2,252
40				3,874	3,383
45					4,852

R=80

R	80				
L	45	50	60	70	80
l	44,645	49,514	59,162	68,672	78,023
d	22,441	24,919	29,860	34,778	39,669
y ₁	4,195	5,172	7,425	10,070	13,097
ΔR	1,052	1,298	1,866	2,535	3,304
e	14,520	16,008	18,863	21,529	23,974
τ ₁	16°06'52,0"	17°54'17,8"	21°29'09,3"	25°04'00,9"	28°38'52,4"
ω ₁	5°22'04,5"	5°57'47,2"	7°09'12,3"	8°20'31,3"	9°31'44,3"
φ ₁	10°44'47,5"	11°56'30,6"	14°19'57,0"	16°43'29,6"	19°07'08,1"
x=5	0,006	0,005	0,004	0,004	0,003
10	0,046	0,042	0,035	0,030	0,026
15	0,156	0,141	0,117	0,100	0,088
20	0,371	0,334	0,278	0,238	0,208
25	0,725	0,652	0,543	0,465	0,407
30	1,255	1,128	0,939	0,805	0,704
35	1,998	1,796	1,494	1,280	1,119
40	2,997	2,692	2,237	1,914	1,673
45	4,298	3,854	3,197	2,733	2,387
50	5,948	5,331	4,410	3,764	3,284
55		7,168	5,915	5,037	4,390
60			7,760	6,589	5,731
65			9,996	8,461	7,341
70				10,706	9,257
75				13,381	11,527
80					14,214
85					17,386

R=80,85

R	80				85
L	90	100	110	120	10
l	87,194	96,164	104,913	113,424	9,997
d	44,530	49,356	54,145	58,892	4,999
y ₁	16,497	20,259	24,370	28,816	0,196
ΔR	4,171	5,136	6,197	7,351	0,049
e	26,168	28,080	29,678	30,932	3,329
τ ₁	32°13'44,0"	35°48'35,5"	39°23'27,1"	42°58'18,6"	3°22'13,2"
ω ₁	10°42'50,3"	11°53'48,4"	13°04'37,7"	14°15'17,3"	1°07'24,3"
φ ₁	21°30'53,7"	23°54'47,1"	26°18'49,4"	28°43'01,3"	2°14'48,9"
x=5	0,003	0,003	0,002	0,002	0,025
10	0,023	0,021	0,019	0,017	0,197
15	0,078	0,070	0,064	0,059	0,640
20	0,185	0,167	0,152	0,139	
25	0,362	0,326	0,296	0,271	
30	0,626	0,563	0,512	0,469	
35	0,994	0,894	0,813	0,745	
40	1,486	1,336	1,214	1,113	
45	2,119	1,905	1,731	1,586	
50	2,914	2,619	2,378	2,179	
55	3,891	3,495	3,173	2,905	
60	5,074	4,553	4,131	3,781	
65	6,488	5,816	5,272	4,822	
70	8,164	7,307	6,616	6,047	
75	10,136	9,055	8,187	7,475	
80	12,450	11,093	10,012	9,129	
85	15,163	13,464	12,123	11,035	
90	18,350	16,220	14,561	13,225	
95	22,101	19,435	17,376	15,738	
100		23,207	20,638	18,623	
105		27,658	24,441	21,947	
110			28,924	25,802	
115				30,326	
120				35,720	

R=85

R	85				
L	15	20	25	30	35
l	14,988	19,972	24,946	29,907	34,852
d	7,498	9,995	12,491	14,984	17,475
y ₁	0,441	0,784	1,224	1,761	2,395
ΔR	0,110	0,196	0,306	0,441	0,600
e	4,984	6,629	8,260	9,874	11,467
τ ₁	5°03'19,8"	6°44'26,5"	8°25'33,1"	10°06'39,7"	11°47'46,3"
ω ₁	1°41'06,2"	2°14'47,9"	2°48'29,2"	3°22'10,0"	3°55'50,3"
φ ₁	3°22'13,6"	4°29'38,6"	5°37'03,9"	6°44'29,7"	7°51'56,0"
x=5	0,016	0,012	0,010	0,008	0,007
10	0,131	0,098	0,078	0,065	0,056
15	0,442	0,331	0,265	0,221	0,189
20	1,035	0,787	0,629	0,524	0,449
25		1,531	1,232	1,025	0,878
30			2,129	1,778	1,521
35				2,831	2,426
40					3,638

R=85

R	85				
L	40	45	50	60	70
l	39,779	44,686	49,569	59,257	68,822
d	19,963	22,448	24,928	29,876	34,803
y ₁	3,125	3,951	4,872	6,996	9,492
ΔR	0,783	0,990	1,222	1,757	2,387
e	13,035	14,575	16,084	18,993	21,734
τ ₁	13°28'52,9"	15°09'59,5"	16°51'06,1"	20°13'19,3"	23°35'32,6"
ω ₁	4°29'30,0"	5°03'09,1"	5°36'47,2"	6°44'00,8"	7°51'10,0"
φ ₁	8°59'22,9"	10°06'50,4"	11°14'18,9"	13°29'18,5"	15°44'22,6"
x=5	0,006	0,005	0,005	0,004	0,004
10	0,049	0,044	0,039	0,033	0,028
15	0,165	0,147	0,132	0,110	0,095
20	0,392	0,349	0,314	0,262	0,224
25	0,767	0,682	0,614	0,511	0,438
30	1,329	1,180	1,062	0,884	0,757
35	2,118	1,879	1,689	1,406	1,204
40	3,178	2,817	2,531	2,103	1,800
45	4,554	4,036	3,621	3,005	2,570
50		5,579	5,004	4,143	3,538
55			6,719	5,552	4,732
60				7,274	6,183
65				9,353	7,930
70					10,017
75					12,493

R=85

R	85				
L	80	90	100	110	120
l	78,246	87,510	96,595	105,483	114,157
d	39,707	44,583	49,429	54,241	59,017
y ₁	12,352	15,567	19,129	23,025	27,246
ΔR	3,113	3,931	4,842	5,843	6,935
e	24,281	26,605	28,678	30,474	31,964
τ ₁	26°57'45,8"	30°19'59,0"	33°42'12,2"	37°04'25,5"	40°26'38,7"
ω ₁	8°58'14,3"	10°05'12,7"	11°12'04,6"	12°18'49,2"	13°25'25,7"
φ ₁	17°59'31,5"	20°14'46,3"	22°30'07,6"	24°45'36,3"	27°01'13,0"
x=5	0,003	0,003	0,002	0,002	0,002
10	0,025	0,022	0,020	0,018	0,016
15	0,083	0,074	0,066	0,060	0,550
20	0,196	0,174	0,157	0,143	0,131
25	0,383	0,341	0,306	0,279	0,255
30	0,662	0,589	0,530	0,482	0,441
35	1,053	0,935	0,842	0,765	0,701
40	1,574	1,398	1,257	1,143	1,047
45	2,245	1,993	1,793	1,629	1,492
50	3,088	2,740	2,463	2,237	2,050
55	4,125	3,658	3,286	2,984	2,732
60	5,382	4,767	4,280	3,884	3,555
65	6,887	6,092	5,463	4,954	4,532
70	8,675	7,658	6,859	6,214	5,681
75	10,785	9,497	8,492	7,683	7,018
80	13,270	11,647	10,391	9,387	8,564
85	16,185	14,154	12,592	11,353	10,343
90		17,082	15,139	13,614	12,380
95		20,498	18,090	16,213	14,709
100			21,522	19,205	17,371
105			25,523	22,663	20,417
110				26,688	23,919
115				31,402	27,974
120					32,722

R=90

R	90				
L	10	15	20	25	30
l	9,997	14,990	19,975	24,952	29,917
d	4,999	7,498	9,996	12,492	14,986
y _l	0,185	0,416	0,740	1,150	1,663
ΔR	0,046	0,104	0,185	0,289	0,416
e	3,329	4,986	6,633	80268,000	9,888
τ _l	3°10'59,2"	4°46'28,7"	6°21'58,3"	7°57'27,9"	9°32'57,5"
ω _l	1°03'39,6"	1°35'29,2"	2°07'18,6"	2°39'07,7"	3°10'56,4"
φ _l	2°07'19,6"	3°10'59,5"	7°14'39,7"	5°18'20,2"	6°22'01,1"
x=5	0,023	0,015	0,012	0,009	0,008
10	0,185	0,132	0,093	0,074	0,062
15	0,604	0,417	0,313	0,250	0,208
20		0,977	0,743	0,594	0,494
25			1,445	1,163	0,967
30				2,008	1,677
35					2,670

R=90

R	90				
L	35	40	45	50	60
l	34,868	39,803	44,720	49,616	59,337
d	17,478	19,967	22,453	24,936	29,889
y _l	2,262	2,953	3,733	4,604	6,614
ΔR	0,566	0,739	0,935	1,154	1,660
e	11,488	13,067	14,621	16,147	19,101
τ _l	11°08'27,0"	12°43'56,6"	14°19'26,2"	15°54'55,8"	19°05'54,9"
ω _l	3°42'44,7"	4°14'32,5"	4°46'19,6"	5°18'06,1"	6°21'36,7"
φ _l	7°25'42,3"	8°29'24,1"	9°33'06,6"	10°36'49,7"	12°44'18,2"
x=5	0,007	0,006	0,005	0,005	0,004
10	0,053	0,046	0,041	0,037	0,031
15	0,179	0,156	0,139	0,125	0,104
20	0,424	0,371	0,329	0,296	0,247
25	0,829	0,725	0,644	0,579	0,483
30	1,435	1,255	1,114	1,002	0,835
35	2,289	1,998	1,774	1,595	1,327
40	3,430	2,997	2,658	2,388	1,985
45		4,291	3,805	3,415	2,836
50			5,255	4,715	3,907
55				6,324	5,231
60					6,847
65					8,791

R=90							R=95			
R	90						95			
L	70	80	90	100	110	120	10	15	20	25
l	68,949	78,434	87,776	96,957	105,962	114,775	9,997	14,991	19,978	24,957
d	34,824	39,738	44,628	49,490	54,322	59,122	5,000	7,498	9,996	12,493
y ₁	8,977	11,686	14,734	18,114	21,817	25,832	0,175	0,395	0,701	1,095
ΔR	2,256	2,942	3,717	4,579	5,528	6,562	0,044	0,099	0,175	0,274
e	21,907	24,538	26,971	29,180	31,141	32,830	3,330	4,987	6,637	8,275
τ ₁	22°16'54,1"	25°27'53,3"	28°38'52,4"	31°49'51,5"	35°00'50,7"	38°11'49,9"	3°00'56,0"	4°31'24,1"	6°01'52,1"	7°32'20,1"
ω ₁	7°25'03,7"	8°28'26,4"	9°31'44,3"	10°34'56,6"	11°38'02,8"	12°41'02,3"	1°00'18,6"	1°30'27,7"	2°00'36,7"	2°30'45,4"
φ ₁	14°51'50,4"	16°59'26,9"	19°07'08,1"	21°14'54,9"	23°22'47,9"	25°30'47,6"	2°00'37,4"	3°00'56,4"	4°01'15,4"	5°01'34,7"
x=5	0,003	0,003	0,003	0,002	0,002	0,002	0,022	0,015	0,011	0,009
10	0,026	0,023	0,021	0,019	0,017	0,015	0,176	0,117	0,088	0,070
15	0,089	0,078	0,069	0,063	0,057	0,052	0,572	0,395	0,296	0,237
20	0,212	0,185	0,165	0,148	0,135	0,123		0,925	0,704	0,562
25	0,414	0,362	0,322	0,289	0,263	0,241			1,368	1,101
30	0,715	0,626	0,556	0,500	0,455	0,417				1,901
35	1,137	0,994	0,883	0,795	0,722	0,662				
40	1,699	1,486	1,320	1,187	1,079	0,989				
45	2,425	2,119	1,882	1,692	1,538	1,409				
50	3,337	2,914	2,586	2,325	2,112	1,935				
55	4,461	3,891	3,451	3,101	2,816	2,579				
60	5,826	5,074	4,496	4,037	3,664	3,355				
65	7,464	6,488	5,742	5,152	4,673	4,276				
70	9,415	8,164	7,213	6,464	5,858	5,357				
75	11,721	10,136	8,936	7,996	7,239	6,615				
80		12,450	10,945	9,775	8,837	8,067				
85		15,152	13,279	11,831	10,677	9,735				
90			15,990	14,201	12,788	11,641				
95			19,133	16,933	15,205	13,813				
100				20,089	17,974	16,286				
105				23,737	21,152	19,103				
110					24,817	22,319				
115					29,058	30,276				
120						35,242				

R=95					
R	95				
L	30	35	40	45	50
l	29,925	34,881	39,823	44,748	49,655
d	14,988	17,480	19,970	22,458	24,942
y ₁	1,576	2,144	2,798	3,538	4,364
ΔR	0,394	0,537	0,701	0,886	1,094
e	9,899	11,506	13,094	14,660	16,200
τ ₁	9°02'48,1"	10°33'16,1"	12°03'44,7"	13°34'12,2"	15°04'40,2"
ω ₁	3°00'53,8"	3°31'01,7"	4°01'09,3"	4°31'16,3"	5°01'22,8"
φ ₁	6°01'54,3"	7°02'14,4"	8°02'35,4"	9°02'55,9"	10°03'17,4"
x=5	0,007	0,006	0,005	0,005	0,004
10	0,058	0,051	0,044	0,039	0,035
15	0,197	0,173	0,148	0,132	0,118
20	0,468	0,410	0,351	0,312	0,281
25	0,916	0,801	0,686	0,610	0,549
30	1,588	1,387	1,188	1,055	0,949
35	2,526	2,166	1,892	1,679	1,510
40		3,244	2,836	2,515	2,260
45			4,057	3,600	3,281
50				4,966	4,458
55					5,974

R=95

R	95				
L	60	70	80	90	100
l	59,404	69,056	78,593	88,001	97,265
d	29,901	34,842	39,765	44,666	49,542
y _l	6,271	8,514	11,087	13,984	17,200
ΔR	1,573	2,139	2,789	3,524	4,343
e	19,193	22,053	24,756	27,281	29,605
τ _l	18°05'36,3"	21°06'32,3"	24°07'28,3"	27°08'24,4"	30°09'20,4"
ω _l	6°01'33,7"	7°01'41,6"	8°01'45,8"	9°01'45,9"	10°01'41,5"
φ _l	12°04'02,6"	14°04'50,7"	16°05'42,5"	18°06'38,5"	20°07'39,0"
x=5	0,004	0,003	0,003	0,002	0,002
10	0,029	0,025	0,022	0,019	0,018
15	0,099	0,085	0,074	0,066	0,059
20	0,234	0,201	0,175	0,156	0,140
25	0,457	0,392	0,343	0,305	0,274
30	0,791	0,677	0,593	0,527	0,474
35	1,257	1,077	0,942	0,837	0,753
40	1,880	1,609	1,407	1,250	1,125
45	2,684	2,296	2,007	1,782	1,603
50	3,696	3,159	2,758	2,449	2,202
55	4,946	4,220	3,682	3,267	2,936
60	6,468	5,508	4,799	4,254	3,821
65	8,295	7,050	6,133	5,430	4,874
70		8,884	7,711	6,817	6,112
75		11,044	9,564	8,439	7,557
80			11,730	10,326	9,230
85			14,250	12,511	11,160
90				15,039	13,378
95				17,955	15,924
100					18,851
105					22,210

R=95,100

R	95				100
L	110	120	130	140	10
l	106,370	115,301	124,045	132,588	9,998
d	54,391	59,211	63,999	68,752	5,000
y _l	20,725	24,552	28,672	33,075	0,167
ΔR	5,244	6,227	7,290	8,432	0,042
e	31,706	33,563	35,153	36,454	3,330
τ _l	33°10'16,5"	36°11'12,5"	39°12'08,6"	42°13'04,6"	2°51'53,2"
ω _l	11°01'31,6"	12°01'16,1"	13°00'54,3"	14°00'25,6"	0°57'17,7"
φ _l	22°08'44,9"	24°09'56,4"	26°11'14,3"	28°12'39,0"	1°54'35,5"
x=5	0,002	0,002	0,002	0,002	0,021
10	0,016	0,015	0,013	0,013	0,167
15	0,054	0,049	0,046	0,042	0,543
20	0,128	0,117	0,108	0,100	
25	0,249	0,228	0,211	0,196	
30	0,431	0,395	0,364	0,338	
35	0,684	0,627	0,579	0,538	
40	1,022	0,937	0,865	0,803	
45	1,456	1,335	1,232	1,143	
50	2,000	1,833	1,691	1,570	
55	2,666	2,442	2,253	2,091	
60	3,469	3,176	2,929	2,718	
65	4,422	4,047	3,731	3,462	
70	5,541	5,069	4,671	4,332	
75	6,844	6,256	5,763	5,342	
80	8,350	7,626	7,019	6,504	
85	10,080	9,196	8,457	7,831	
90	12,061	10,987	10,094	9,339	
95	14,321	13,024	11,950	11,045	
100	16,901	15,336	14,049	12,969	
105	19,846	17,959	16,419	15,134	
110	23,220	20,938	19,094	17,566	
115	27,090	24,333	22,118	20,301	
120		28,222	25,548	23,380	
125		32,693	29,462	26,859	
130			33,960	30,811	
135				35,342	
140				40,593	

R=100

R	100				
L	15	20	25	30	35
l	14,992	19,980	24,961	29,933	34,893
d	7,499	9,997	12,494	14,989	17,482
y _l	0,375	0,666	1,041	1,498	2,037
ΔR	0,094	0,167	0,260	0,375	0,510
e	4,989	6,640	8,281	9,909	11,522
τ _l	4°17'49,9"	5°43'46,5"	7°09'43,1"	8°35'39,7"	10°01'36,3"
ω _l	1°25'56,4"	1°54'34,9"	2°23'13,2"	2°51'51,3"	3°20'29,3"
φ _l	2°51'53,5"	3°49'11,6"	4°46'29,9"	5°43'48,4"	6°41'07,3"
x=5	0,014	0,010	0,008	0,007	0,006
10	0,111	0,083	0,067	0,056	0,048
15	0,375	0,281	0,225	0,188	0,161
20	0,878	0,668	0,534	0,445	0,381
25		1,298	1,045	0,870	0,745
30			1,804	1,508	1,291
35				2,397	2,056
40					3,078

R=100

R	100				
L	40	45	50	60	70
l	39,840	44,773	49,688	59,462	69,147
d	19,973	22,462	24,948	29,910	34,858
y _l	2,659	3,363	4,148	5,962	8,095
ΔR	0,666	0,842	1,039	1,495	2,033
e	13,118	14,693	16,245	19,272	22,178
τ _l	11°27'33,0"	12°53'29,6"	14°19'26,2"	17°11'19,4"	20°03'12,7"
ω _l	3°49'06,3"	4°17'43,2"	4°46'19,6"	5°43'30,7"	6°40'39,1"
φ _l	7°38'26,7"	8°35'46,4"	9°33'06,6"	11°27'48,7"	13°22'33,6"
x=5	0,005	0,005	0,004	0,003	0,003
10	0,042	0,037	0,033	0,028	0,024
15	0,141	0,125	0,113	0,094	0,080
20	0,334	0,296	0,267	0,222	0,191
25	0,652	0,579	0,521	0,434	0,372
30	1,128	1,002	0,902	0,751	0,643
35	1,796	1,595	1,434	1,194	1,023
40	2,692	2,388	2,144	1,785	1,528
45	3,848	3,415	3,067	2,548	2,180
50		4,709	4,228	3,507	2,998
55			5,662	4,691	4,005
60				6,130	5,223
65				7,854	6,682
70					8,411
75					10,443

R=100

R=100,110

R	100				
L	80	90	100	110	120
l	79,729	88,195	97,529	106,719	115,751
d	39,788	44,698	49,586	54,450	59,287
y ₁	10,545	13,306	16,371	19,735	23,390
ΔR	2,651	3,351	4,130	4,988	5,923
e	24,942	27,546	29,968	32,189	34,189
τ ₁	22°55'05,9"	25°46'59,2"	28°38'52,4"	31°30'45,6"	34°22'38,9"
ω ₁	7°37'44,6"	8°34'46,4"	9°31'44,3"	10°28'38,5"	11°25'26,1"
φ ₁	15°17'21,3"	17°12'12,8"	19°07'08,1"	21°02'07,1"	22°57'12,8"
x=5	0,003	0,002	0,002	0,002	0,002
10	0,021	0,019	0,017	0,015	0,014
15	0,070	0,063	0,056	0,051	0,047
20	0,167	0,148	0,133	0,121	0,111
25	0,326	0,289	0,260	0,237	0,217
30	0,563	0,500	0,450	0,409	0,375
35	0,894	0,795	0,715	0,650	0,596
40	1,336	1,187	1,068	0,971	0,890
45	1,905	1,692	1,522	1,383	1,268
50	2,619	2,325	2,091	1,900	1,740
55	3,495	3,101	2,788	2,532	2,319
60	4,553	4,037	3,627	3,293	3,016
65	5,816	5,152	4,625	4,197	3,842
70	7,307	6,464	5,798	5,257	4,810
75	9,055	7,996	7,164	6,491	5,935
80	11,093	9,775	8,744	7,915	7,231
85	13,456	11,831	10,563	9,548	8,715
90		14,201	12,649	11,414	10,405
95		16,923	15,036	13,539	12,324
100			17,767	15,956	14,496
105			20,887	18,705	16,953
110				21,836	19,731
115				25,403	22,881
120					26,463
125					30,546

R	100		110		
L	130	140	10	20	30
l	124,614	133,294	9,998	19,983	29,944
d	64,095	68,872	5,000	9,997	14,991
y ₁	27,328	31,541	0,151	0,606	1,362
ΔR	6,936	8,025	0,038	0,151	0,341
e	35,948	37,447	3,330	6,644	9,925
τ ₁	37°14'32,1"	40°06'25,4"	2°36'15,7"	5°12'31,4"	7°48'47,0"
ω ₁	12°22'09,2"	13°18'46,4"	0°52'05,2"	1°44'10,0"	2°36'14,2"
φ ₁	24°52'22,9"	26°47'39,0"	1°44'10,5"	8°28'21,4"	5°12'32,8"
x=5	0,002	0,001	0,019	0,009	0,006
10	0,013	0,012	0,152	0,076	0,051
15	0,043	0,040	0,493	0,256	0,171
20	0,103	0,095		0,607	0,404
25	0,200	0,186		1,179	0,791
30	0,346	0,322			1,370
35	0,550	0,511			2,176
40	0,821	0,762			
45	1,170	1,086			
50	1,606	1,491			
55	2,140	1,986			
60	2,781	2,581			
65	3,542	3,287			
70	4,434	4,112			
75	5,468	5,070			
80	6,658	6,170			
85	8,018	7,426			
90	9,565	8,852			
95	11,315	10,463			
100	13,291	12,277			
105	15,516	14,313			
110	18,020	16,597			
115	20,839	19,155			
120	24,020	22,023			
125	27,623	25,246			
130	31,726	28,882			
135		33,011			
140		27,734			

R	110				
L	40	50	60	70	80
l	39,868	49,742	59,555	69,295	78,949
d	19,978	24,957	29,926	34,882	39,824
y ₁	2,419	3,774	5,426	7,371	9,606
ΔR	0,605	0,945	1,360	1,849	2,413
e	13,155	16,318	19,398	22,378	25,241
τ ₁	10°25'02,7"	13°01'18,4"	15°37'34,0"	18°13'49,7"	20°50'05,4"
ω ₁	3°28'17,4"	4°20'19,3"	5°12'19,5"	6°04'17,8"	6°56'13,7"
φ ₁	6°56'45,3"	8°40'59,1"	10°25'14,5"	12°09'31,9"	13°53'51,7"
x=5	0,005	0,004	0,003	0,003	0,002
10	0,038	0,030	0,025	0,022	0,019
15	0,128	0,102	0,085	0,073	0,064
20	0,303	0,242	0,202	0,173	0,152
25	0,593	0,474	0,395	0,338	0,296
30	1,025	0,819	0,683	0,585	0,512
35	1,631	1,303	1,085	0,929	0,813
40	2,443	1,949	1,622	1,389	1,214
45	3,489	2,783	2,314	1,980	1,731
50		3,834	3,183	2,722	2,378
55		5,127	4,253	3,634	3,173
60			5,551	4,735	4,131
65			7,102	6,051	5,272
70				7,606	6,616
75				9,426	8,187
80					10,012
85					12,118

R	110				
L	90	100	110	120	130
l	88,505	97,954	107,282	116,479	125,534
d	44,750	49,658	54,545	59,410	64,251
y ₁	12,127	14,929	18,009	21,359	24,974
ΔR	3,050	3,760	4,543	5,397	6,322
e	27,971	30,551	32,964	35,195	37,227
τ ₁	23°26'21,1"	26°02'36,7"	28°38'52,4"	31°15'08,1"	33°51'23,8"
ω ₁	7°48'07,0"	8°39'57,3"	9°31'44,3"	10°23'27,6"	11°15'06,8"
φ ₁	15°38'14,1"	17°22'39,4"	19°07'08,1"	20°51'40,5"	22°36'17,0"
x=5	0,002	0,002	0,002	0,002	0,001
10	0,017	0,015	0,014	0,013	0,012
15	0,057	0,051	0,046	0,043	0,039
20	0,135	0,121	0,110	0,101	0,093
25	0,263	0,237	0,215	0,197	0,182
30	0,455	0,409	0,372	0,341	0,315
35	0,722	0,650	0,591	0,542	0,500
40	1,079	0,971	0,882	0,809	0,746
45	1,538	1,383	1,257	1,152	1,063
50	2,112	1,900	1,726	1,582	1,459
55	0,816	2,532	2,300	2,107	1,944
60	3,664	3,293	2,990	2,739	2,527
65	4,673	4,197	3,809	3,488	3,217
70	5,858	5,257	4,770	4,366	4,025
75	7,239	6,491	5,885	5,383	4,961
80	8,837	7,915	7,169	6,554	6,038
85	10,677	9,548	8,640	7,892	7,266
90	12,788	11,414	10,315	9,413	8,659
95	15,198	13,539	12,215	11,134	10,233
100		15,956	14,365	13,074	12,003
105		18,696	16,796	15,259	13,990
110			19,544	17,715	16,214
115			22,645	20,477	18,704
120				23,588	21,492
125				27,091	24,619
130					28,135
135					32,093

R	110		120		
L	140	150	10	20	30
l	134,436	143,175	9,998	19,986	29,953
d	69,066	73,853	5,000	9,998	14,992
y ₁	28,849	32,976	0,139	0,555	1,249
ΔR	7,318	8,383	0,035	0,139	0,312
e	39,043	40,627	3,331	6,648	9,937
τ ₁	36°27'39,4"	39°03'55,1"	2°23'14,4"	4°46'28,7"	7°09'43,1"
ω ₁	12°06'41,6"	12°58'11,8"	0°47'44,7"	1°35'29,2"	2°23'13,2"
φ ₁	24°20'57,8"	26°05'43,3"	1°35'29,7"	3°10'59,5"	4°46'29,9"
x=5	0,001	0,001	0,017	0,009	0,006
10	0,011	0,010	0,139	0,069	0,046
15	0,037	0,034	0,452	0,234	0,156
20	0,087	0,081		0,556	0,371
25	0,169	0,158		1,080	0,725
30	0,292	0,273			1,255
35	0,464	0,433			1,992
40	0,693	0,647			
45	0,987	0,921			
50	1,355	1,264			
55	1,805	1,684			
60	2,345	2,188			
65	2,985	2,784			
70	3,734	3,482			
75	4,601	4,290			
80	5,597	5,217			
85	6,732	6,273			
90	8,019	7,468			
95	9,470	8,814			
100	11,099	10,324			
105	12,922	12,010			
110	14,958	13,889			
115	17,229	15,979			
120	19,760	18,300			
125	22,582	20,878			
130	25,735	23,784			
135	29,268	26,931			
140	33,244	30,492			
145		34,489			
150		39,000			

R=120

R	120				
L	40	50	60	70	80
l	39,889	49,783	59,626	69,407	79,116
d	19,981	24,964	29,938	34,901	39,852
y ₁	2,218	3,461	4,978	6,764	8,819
ΔR	0,555	0,867	1,247	1,696	2,213
e	13,183	16,374	19,494	22,531	25,469
τ ₁	9°32'57,5"	11°56'11,8"	14°19'26,2"	16°42'40,6"	19°05'54,9"
ω ₁	3°10'56,4"	3°58'38,7"	4°46'19,6"	5°33'59,0"	6°21'36,7"
φ ₁	6°22'01,1"	7°57'33,1"	9°33'06,6"	11°08'41,6"	12°44'18,2"
x=5	0,004	0,003	0,003	0,002	0,002
10	0,035	0,028	0,023	0,020	0,017
15	0,117	0,094	0,078	0,067	0,059
20	0,278	0,222	0,185	0,159	0,139
25	0,543	0,434	0,362	0,310	0,271
30	0,939	0,751	0,626	0,536	0,469
35	1,494	1,194	0,994	0,852	0,745
40	2,237	1,785	1,486	1,272	1,113
45	3,192	2,548	2,119	1,814	1,586
50		3,507	2,691	2,493	2,179
55		4,687	3,891	3,326	2,905
60			5,074	4,332	3,781
65			6,484	5,530	4,822
70				6,944	6,047
75				8,594	7,475
80					9,129
85					11,030

R=120

R	120				
L	90	100	110	120	130
l	88,743	98,278	107,712	117,035	126,237
d	44,790	49,712	54,617	59,503	64,369
y ₁	11,138	13,718	16,555	19,646	22,985
ΔR	2,798	3,451	4,170	4,956	5,807
e	28,295	30,995	33,555	35,961	38,200
τ ₁	21°29'09,3"	23°52'23,7"	26°15'38,0"	28°38'52,4"	31°02'06,8"
ω ₁	7°09'12,3"	7°56'45,6"	8°44'16,4"	9°31'44,3"	10°19'09,1"
φ ₁	14°19'57,0"	15°55'38,1"	17°31'21,6"	19°07'08,1"	20°42'57,7"
x=5	0,002	0,002	0,002	0,001	0,001
10	0,015	0,014	0,013	0,012	0,011
15	0,052	0,047	0,043	0,039	0,036
20	0,123	0,111	0,101	0,093	0,085
25	0,241	0,217	0,197	0,181	0,167
30	0,417	0,375	0,341	0,313	0,289
35	0,662	0,596	0,542	0,496	0,458
40	0,989	0,890	0,809	0,741	0,684
45	1,409	1,268	1,152	1,056	0,974
50	1,935	1,740	1,582	1,449	1,337
55	2,579	2,319	2,107	1,931	1,781
60	3,355	3,016	2,739	2,509	2,315
65	4,276	3,842	3,488	3,194	2,946
70	5,357	4,810	4,366	3,997	3,685
75	6,615	5,935	5,383	4,926	4,541
80	8,067	7,231	6,554	5,995	5,524
85	9,735	8,715	7,892	7,214	6,644
90	11,641	10,405	9,413	8,597	7,913
95	13,808	12,324	11,134	10,158	9,343
100		14,496	13,074	11,915	10,949
105		16,946	15,259	13,885	12,746
110			17,715	16,091	14,751
115			20,469	18,559	16,987
120				21,321	19,476
125				24,406	22,250
130					25,345
135					28,795

R=120,130

R	120		130		
L	140	150	10	20	30
l	135,311	144,246	9,999	19,988	29,960
d	69,213	74,034	5,000	9,998	14,993
y ₁	26,568	30,389	0,128	0,513	1,153
ΔR	6,723	7,704	0,032	0,128	0,288
e	40,258	42,120	3,331	6,651	9,946
τ ₁	33°25'21,1"	35°48'35,5"	2°12'13,3"	4°24'26,5"	6°36'39,8"
ω ₁	11°06'30,6"	11°53'48,4"	0°44'04,4"	1°28'08,6"	2°12'12,4"
φ ₁	22°18'50,5"	23°54'47,1"	1°28'08,9"	2°56'17,9"	4°24'27,4"
x=5	0,001	0,001	0,016	0,008	0,005
10	0,010	0,009	0,128	0,064	0,043
15	0,033	0,031	0,417	0,216	0,144
20	0,079	0,074		0,514	0,342
25	0,155	0,145		0,997	0,669
30	0,268	0,250			1,157
35	0,425	0,397			1,837
40	0,635	0,593			
45	0,905	0,844			
50	1,242	1,159			
55	1,654	1,543			
60	2,149	2,005			
65	2,734	2,551			
70	3,420	3,190			
75	4,212	3,928			
80	5,122	4,776			
85	6,158	5,740			
90	7,331	6,830			
95	8,651	8,057			
100	10,131	9,429			
105	11,784	10,960			
110	13,625	12,662			
115	15,670	14,550			
120	17,941	16,640			
125	20,460	18,950			
130	23,256	21,505			
135	26,363	24,331			
140	29,826	27,461			
145	33,684	30,938			
150		34,811			

R	130				
L	40	50	60	70	80
l	39,905	49,815	59,681	69,494	79,246
d	19,984	24,969	29,947	34,916	39,874
y ₁	2,048	3,197	4,598	6,250	8,150
ΔR	0,512	0,800	1,152	1,566	2,044
e	13,206	16,417	19,569	22,649	25,646
τ ₁	8°48'53,1"	11°01'06,3"	13°13'19,6"	15°25'32,8"	17°37'46,1"
ω ₁	2°56'15,6"	3°40'18,0"	4°24'19,4"	5°08'19,6"	5°52'18,4"
φ ₁	5°52'37,5"	7°20'48,3"	8°49'00,2"	10°17'13,2"	11°45'27,7"
x=5	0,004	0,003	0,003	0,002	0,002
10	0,032	0,026	0,021	0,018	0,016
15	0,108	0,087	0,072	0,062	0,540
20	0,256	0,205	0,171	0,147	0,128
25	0,501	0,401	0,334	0,286	0,250
30	0,867	0,693	0,577	0,495	0,433
35	1,379	1,102	0,917	0,786	0,688
40	2,063	1,647	1,371	1,174	1,027
45	2,942	2,350	1,955	1,674	1,464
50		3,233	2,687	2,299	2,010
55		4,316	3,586	3,067	2,679
60			4,673	3,992	3,486
65			5,967	5,094	4,443
70				6,390	5,569
75				7,901	6,878
80					8,392
85					10,128

R	130				
L	90	100	110	120	130
l	88,928	98,531	108,047	117,469	126,787
d	44,821	49,754	54,673	59,577	64,462
y ₁	10,296	12,686	15,316	18,183	21,283
ΔR	2,585	3,188	3,854	4,580	5,369
e	28,547	31,340	34,014	36,558	38,957
τ ₁	19°49'59,4"	22°02'12,6"	24°14'25,9"	26°26'39,1"	28°38'52,4"
ω ₁	6°36'15,6"	7°20'11,0"	8°04'04,4"	8°47'55,5"	9°31'44,3"
φ ₁	13°13'43,8"	14°42'01,6"	16°10'21,5"	17°38'43,6"	19°07'08,1"
x=5	0,002	0,002	0,001	0,001	0,001
10	0,014	0,013	0,012	0,011	0,010
15	0,048	0,043	0,039	0,036	0,033
20	0,114	0,103	0,093	0,085	0,079
25	0,223	0,200	0,182	0,167	0,154
30	0,385	0,346	0,315	0,289	0,266
35	0,611	0,550	0,500	0,458	0,423
40	0,913	0,821	0,746	0,684	0,631
45	1,300	1,170	1,063	0,974	0,899
50	1,785	1,606	1,459	1,337	1,234
55	2,379	2,140	1,944	1,781	1,644
60	3,094	2,781	2,527	2,315	2,136
65	3,942	3,542	3,217	2,946	2,718
70	4,936	4,434	4,025	3,685	3,399
75	6,091	5,468	4,961	4,541	4,187
80	7,423	6,658	6,038	5,524	5,091
85	8,949	8,018	7,266	6,644	6,121
90	10,688	9,565	8,659	7,913	7,287
95	12,660	11,315	10,233	9,343	8,599
100		13,291	12,003	10,949	10,069
105		15,511	13,990	12,746	11,711
110			16,215	14,751	13,539
115			18,699	16,987	15,570
120				19,476	17,824
125				22,242	20,324
130					23,098
135					26,170

R	130		140		
L	140	150	10	20	30
l	135,995	145,084	9,999	19,990	29,966
d	69,329	74,176	5,000	9,998	14,994
y ₁	24,613	28,168	0,119	0,476	1,071
ΔR	6,217	7,126	0,030	0,119	0,268
e	41,204	43,283	3,332	6,653	9,954
τ ₁	30°51'05,6"	33°03'18,9"	2°02'46,6"	4°05'33,2"	6°08'19,8"
ω ₁	10°15'30,4"	10°59'13,6"	0°40'55,5"	1°21'50,9"	2°02'45,9"
φ ₁	20°35'35,2"	22°04'05,3"	1°21'51,1"	2°43'42,3"	4°05'33,9"
x=5	0,001	0,001	0,015	0,008	0,005
10	0,009	0,009	0,119	0,060	0,040
15	0,031	0,029	0,387	0,201	0,134
20	0,073	0,068		0,477	0,318
25	0,143	0,134		0,925	0,621
30	0,247	0,231			1,074
35	0,393	0,367			1,705
40	0,586	0,547			
45	0,835	0,779			
50	1,146	1,069			
55	1,526	1,424			
60	1,982	1,850			
65	2,523	2,354			
70	3,154	2,942			
75	3,885	3,623			
80	4,722	4,403			
85	5,676	5,291			
90	6,753	6,294			
95	7,965	7,420			
100	9,322	8,680			
105	10,835	10,083			
110	12,516	11,640			
115	14,379	13,363			
120	16,442	15,265			
125	18,721	17,363			
130	21,240	19,674			
135	24,024	22,218			
140	27,105	25,021			
145	30,511	28,113			
150		31,529			
155		35,306			

R=140

R	140				
L	40	50	60	70	80
l	39,918	49,841	59,725	69,564	79,349
d	19,986	24,973	29,954	34,927	39,891
y ₁	1,902	2,969	4,272	5,807	7,575
ΔR	0,476	0,743	1,070	1,455	1,899
e	13,233	16,452	19,628	22,743	25,786
τ ₁	8°11'06,4"	10°13'53,0"	12°16'39,6"	14°19'26,2"	16°22'12,8"
ω ₁	2°43'40,4"	3°24'34,4"	4°05'27,5"	4°46'19,6"	5°27'10,7"
φ ₁	5°27'26,0"	6°49'18,6"	8°11'12,1"	9°33'06,6"	10°55'02,1"
x=5	0,004	0,003	0,002	0,002	0,002
10	0,030	0,024	0,020	0,017	0,015
15	0,100	0,080	0,067	0,057	0,050
20	0,238	0,191	0,159	0,136	0,119
25	0,465	0,372	0,310	0,266	0,233
30	0,805	0,643	0,536	0,459	0,402
35	1,280	1,023	0,852	0,730	0,638
40	1,914	1,528	1,272	1,090	0,953
45	2,729	2,180	1,814	1,554	1,359
50		2,998	2,493	2,134	1,865
55		4,001	3,326	2,845	2,486
60			4,332	3,702	3,234
65			5,527	4,721	4,121
70				5,920	5,161
75				7,313	6,371
80					7,768
85					9,366

R=140

R	130				
L	90	100	110	120	130
l	89,075	98,732	108,314	117,815	127,226
d	44,845	49,788	54,718	59,635	64,536
y ₁	9,572	11,797	14,247	16,919	19,811
ΔR	2,402	2,963	3,581	4,258	4,991
e	28,747	31,614	34,379	37,031	39,560
τ ₁	18°24'59,4"	20°27'46,0"	22°30'32,6"	24°33'19,2"	26°36'05,8"
ω ₁	6°08'00,4"	6°48'48,7"	7°29'35,4"	8°10'20,4"	8°51'03,4"
φ ₁	12°16'59,0"	13°38'57,3"	15°00'57,2"	16°22'58,8"	17°45'02,4"
x=5	0,002	0,001	0,001	0,001	0,001
10	0,013	0,012	0,011	0,010	0,009
15	0,045	0,040	0,037	0,033	0,031
20	0,106	0,095	0,087	0,079	0,073
25	0,207	0,186	0,169	0,155	0,143
30	0,357	0,322	0,292	0,268	0,247
35	0,567	0,511	0,464	0,425	0,393
40	0,847	0,762	0,693	0,635	0,586
45	1,207	1,086	0,987	0,905	0,835
50	1,657	1,491	1,355	1,242	1,146
55	2,208	1,986	1,805	1,654	1,526
60	2,871	2,581	2,345	2,149	1,982
65	3,656	3,287	2,985	2,734	2,523
70	4,577	4,112	3,734	3,420	3,154
75	5,646	5,070	4,601	4,212	3,885
80	6,876	6,170	5,597	5,122	4,722
85	8,283	7,426	6,732	6,158	5,676
90	9,884	8,852	8,019	7,331	6,753
95	11,694	10,463	9,470	8,651	7,965
100		12,277	11,099	10,131	9,322
105		14,310	12,922	11,784	10,835
110			14,958	13,625	12,516
115			17,224	15,670	14,379
120				17,940	16,442
125				20,454	18,721
130					21,240
135					24,017

R=140,150

R	140		150		
L	140	150	10	20	30
l	136,540	145,752	9,999	19,991	29,970
d	69,421	74,288	5,000	9,999	14,995
y ₁	22,920	26,242	0,111	0,444	0,999
ΔR	5,782	6,628	0,028	0,111	0,250
e	41,955	44,206	3,332	6,655	9,960
τ ₁	28°38'52,4"	30°41'39,0"	1°54'35,5"	3°49'11,0"	5°43'46,5"
ω ₁	9°31'44,3"	10°12'22,9"	0°38'11,8"	1°16'23,5"	1°54'39,5"
φ ₁	19°07'08,1"	20°29'16,1"	1°16'23,7"	2°32'47,5"	3°49'11,6"
x=5	0,001	0,001	0,014	0,007	0,005
10	0,009	0,008	0,111	0,056	0,037
15	0,029	0,027	0,361	0,188	0,125
20	0,068	0,063		0,445	0,296
25	0,133	0,124		0,863	0,579
30	0,230	0,214			1,002
35	0,365	0,340			1,590
40	0,544	0,508			
45	0,775	0,724			
50	1,064	0,993			
55	1,417	1,322			
60	1,840	1,717			
65	2,341	2,185			
70	2,927	2,731			
75	3,604	3,362			
80	4,381	4,085			
85	5,263	4,907			
90	6,261	5,836			
95	7,381	6,878			
100	8,634	8,042			
105	10,029	9,338			
110	11,578	10,773			
115	13,291	12,359			
120	15,182	14,107			
125	17,267	16,030			
130	19,563	18,143			
135	22,091	20,461			
140	24,874	23,005			
145	27,935	25,798			
150		28,867			
155		32,236			

R	150				
L	40	50	60	70	80
l	39,929	49,861	59,760	69,620	79,433
d	19,988	24,977	29,960	34,937	39,905
y ₁	1,776	2,772	3,989	5,423	7,075
ΔR	0,444	0,694	0,999	1,358	1,773
e	13,237	16,479	19,676	22,819	25,900
τ ₁	7°38'22,0"	9°32'57,5"	11°27'33,0"	13°22'08,5"	15°16'44,0"
ω ₁	2°32'45,9"	3°10'56,4"	3°49'06,3"	4°27'15,4"	5°05'23,6"
φ ₁	5°05'36,1"	6°22'01,1"	7°38'26,7"	8°54'53,1"	10°11'20,4"
x=5	0,003	0,003	0,002	0,002	0,002
10	0,028	0,022	0,019	0,016	0,014
15	0,094	0,075	0,063	0,054	0,047
20	0,222	0,178	0,148	0,127	0,111
25	0,434	0,347	0,289	0,248	0,217
30	0,751	0,600	0,500	0,429	0,375
35	1,194	0,954	0,795	0,681	0,596
40	1,785	1,426	1,187	1,017	0,890
45	2,544	2,034	1,692	1,450	1,268
50		2,796	2,325	1,991	1,740
55		3,729	3,101	2,654	2,319
60			4,037	3,452	3,016
65			5,149	4,400	3,842
70				5,514	4,810
75				6,808	5,935
80					7,231
85					8,712

R	150				
L	90	100	110	120	130
l	89,193	98,895	108,530	118,094	127,580
d	44,865	49,815	54,754	59,681	64,595
y ₁	8,942	11,023	13,316	15,818	18,527
ΔR	2,243	2,767	3,345	3,977	4,663
e	28,908	31,836	34,674	37,413	40,045
τ ₁	17°11'19,4"	19°05'54,9"	21°00'30,4"	22°55'05,9"	24°49'41,4"
ω ₁	5°43'30,7"	6°21'36,7"	6°59'41,4"	7°37'44,6"	8°15'46,2"
φ ₁	11°27'48,7"	12°44'18,2"	14°00'49,0"	15°17'21,3"	16°33'55,2"
x=5	0,002	0,001	0,001	0,001	0,001
10	0,012	0,011	0,010	0,009	0,009
15	0,042	0,038	0,034	0,031	0,029
20	0,099	0,089	0,081	0,074	0,068
25	0,333	0,174	0,158	0,145	0,134
30	0,193	0,300	0,273	0,250	0,231
35	0,529	0,476	0,433	0,397	0,367
40	0,791	0,712	0,647	0,593	0,547
45	1,126	1,014	0,921	0,844	0,779
50	1,546	1,391	1,264	1,159	1,069
55	2,060	1,853	1,684	1,543	1,424
60	2,678	2,408	2,188	2,005	1,850
65	3,410	3,065	2,784	2,551	2,354
70	4,267	3,835	3,482	3,190	2,942
75	5,261	4,726	4,290	3,928	3,623
80	6,405	5,749	5,217	4,776	4,403
85	7,711	6,917	6,273	5,740	5,291
90	9,194	8,240	7,468	6,830	6,294
95	10,869	9,733	8,814	8,057	7,420
100		11,411	10,324	9,429	8,680
105		13,287	12,010	10,960	10,083
110			13,889	12,662	11,640
115			15,975	14,550	13,363
120				16,640	15,265
125				18,946	17,363
130					19,674
135					22,213

R	150		160		
L	140	150	10	20	30
l	136,982	146,293	9,999	19,992	29,974
d	69,495	74,379	5,000	9,999	14,996
y ₁	21,441	24,557	0,104	0,417	0,937
ΔR	5,402	6,194	0,026	0,104	0,234
e	42,561	44,951	3,332	6,656	9,964
τ ₁	26°44'16,9"	28°38'52,4"	1°57'25,8"	3°34'51,6"	5°22'17,3"
ω ₁	8°53'46,2"	9°31'44,3"	0°35'48,6"	1°11'37,0"	1°47'25,3"
φ ₁	17°50'30,7"	19°07'08,1"	1°11'37,2"	2°23'14,6"	3°34'52,0"
x=5	0,001	0,001	0,013	0,007	0,004
10	0,008	0,007	0,104	0,052	0,035
15	0,027	0,025	0,339	0,176	0,117
20	0,063	0,059		0,417	0,278
25	0,124	0,116		0,809	0,543
30	0,214	0,200			0,939
35	0,340	0,318			1,490
40	0,508	0,474			
45	0,724	0,675			
50	0,993	0,927			
55	1,322	1,234			
60	1,717	1,602			
65	2,185	2,038			
70	2,731	2,548			
75	3,362	3,136			
80	4,085	3,810			
85	4,907	4,576			
90	5,836	5,441			
95	6,878	6,411			
100	8,042	7,493			
105	9,338	8,696			
110	10,773	10,029			
115	12,359	11,499			
120	14,107	13,117			
125	16,030	14,893			
130	18,143	16,841			
135	20,461	18,974			
140	23,005	21,307			
145	25,791	23,850			
150		26,651			
155		29,702			

R	160				
L	40	50	60	70	80
l	39,938	49,878	59,789	69,666	79,501
d	19,990	24,980	29,965	34,944	39,917
y ₁	1,665	2,600	3,741	5,087	6,637
ΔR	0,416	0,651	0,936	1,274	1,663
e	13,249	16,502	19,715	22,882	25,992
τ ₁	7°09'43,1"	8°57'08,9"	10°44'34,7"	12°32'00,4"	14°19'26,2"
ω ₁	2°23'13,2"	2°59'00,7"	3°34'47,7"	4°10'34,1"	4°46'19,6"
φ ₁	4°46'29,9"	5°58'08,2"	7°09'47,0"	8°21'26,3"	9°33'06,6"
x=5	0,003	0,003	0,002	0,002	0,002
10	0,026	0,021	0,017	0,015	0,013
15	0,088	0,070	0,059	0,050	0,044
20	0,208	0,167	0,139	0,119	0,104
25	0,407	0,326	0,271	0,233	0,203
30	0,704	0,563	0,469	0,402	0,352
35	1,119	0,894	0,745	0,638	0,559
40	1,673	1,336	1,113	0,953	0,834
45	2,383	1,905	1,586	1,359	1,188
50		2,619	2,179	1,865	1,631
55		3,492	2,905	2,486	2,173
60			3,781	3,234	2,825
65			4,819	4,121	3,598
70				5,161	4,504
75				6,369	5,555
80					6,765
85					

R	160				
L	90	100	110	120	130
l	89,291	99,028	108,707	118,323	127,871
d	44,882	49,838	54,784	59,720	64,644
y ₁	8,390	10,344	12,498	14,850	17,398
ΔR	2,103	2,595	3,138	3,731	4,375
e	29,040	32,017	34,915	37,726	40,443
τ ₁	16°06'52,0"	17°54'17,8"	19°41'43,5"	21°29'09,3"	23°16'35,1"
ω ₁	5°22'04,5"	5°57'47,2"	6°33'30,8"	7°09'12,3"	7°44'52,5"
φ ₁	10°44'47,5"	11°56'30,6"	13°08'12,7"	14°19'57,0"	15°31'42,6"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,012	0,010	0,009	0,009	0,008
15	0,039	0,035	0,032	0,029	0,027
20	0,093	0,083	0,076	0,069	0,064
25	0,181	0,163	0,148	0,136	0,125
30	0,313	0,281	0,256	0,234	0,216
35	0,496	0,447	0,406	0,372	0,344
40	0,741	0,667	0,606	0,556	0,513
45	1,056	0,950	0,864	0,792	0,731
50	1,449	1,304	1,185	1,086	1,002
55	1,931	1,737	1,578	1,446	1,335
60	2,509	2,257	2,050	1,879	1,734
65	3,194	2,872	2,609	2,391	2,206
70	3,997	3,592	3,263	2,989	2,757
75	4,926	4,426	4,019	3,680	3,395
80	5,995	5,383	4,886	4,473	4,125
85	7,214	6,474	5,873	5,375	4,955
90	8,597	7,709	6,989	6,394	5,893
95	10,155	9,100	8,245	7,539	6,946
100		10,662	9,652	8,820	8,122
105		12,405	11,222	10,247	9,430
110			12,967	11,830	10,881
115			14,901	13,584	12,484
120				15,521	14,251
125				17,654	16,195
130					18,332
135					20,674

R	160		170		
L	140	150	10	20	30
l	137,344	146,737	9,999	19,993	29,977
d	69,556	74,454	5,000	9,999	14,996
y ₁	20,139	23,072	0,098	0,392	0,882
ΔR	5,069	5,814	0,024	0,099	0,221
e	43,057	45,562	3,332	6,657	9,968
τ ₁	25°04'00,9"	26°51'26,6"	1°41'06,6"	3°22'13,2"	5°03'19,8"
ω ₁	8°20'31,5"	8°56'08,6"	0°33'42,2"	1°07'24,3"	1°41'06,2"
φ ₁	16°43'29,6"	17°55'18,0"	1°07'24,4"	2°14'48,9"	3°22'13,6"
x=5	0,001	0,001	0,012	0,006	0,004
10	0,007	0,007	0,098	0,049	0,033
15	0,025	0,023	0,319	0,165	0,110
20	0,060	0,056		0,393	0,262
25	0,116	0,109		0,762	0,511
30	0,201	0,188			0,884
35	0,319	0,298			1,402
40	0,476	0,445			
45	0,678	0,633			
50	0,931	0,869			
55	1,239	1,156			
60	1,610	1,502			
65	2,048	1,911			
70	2,559	2,388			
75	3,150	2,939			
80	3,827	3,570			
85	4,597	4,287			
90	5,465	5,096			
95	6,440	6,003			
100	7,527	7,015			
105	8,736	8,139			
110	10,075	9,382			
115	11,552	10,752			
120	13,178	12,259			
125	14,964	13,911			
130	16,922	15,720			
135	19,066	17,695			
140	21,411	19,852			
145	23,973	22,206			
150		24,772			
155		27,566			

R=170

R	170				
L	40	50	60	70	80
l	39,945	49,892	59,813	69,704	79,558
d	19,991	24,982	29,969	34,951	39,926
y ₁	1,567	2,447	3,522	4,789	6,250
ΔR	0,392	0,612	0,881	1,199	1,566
e	13,259	16,521	19,748	29,933	26,069
τ ₁	6°44'26,5"	8°25'33,1"	10°06'39,7"	11°47'46,3"	13°28'52,9"
ω ₁	2°14'47,9"	2°48'29,2"	3°22'10,0"	3°55'50,3"	4°29'30,0"
φ ₁	4°29'39,6"	5°37'03,9"	6°44'29,7"	7°51'56,0"	8°59'22,9"
x=5	0,003	0,002	0,002	0,002	0,002
10	0,025	0,020	0,016	0,014	0,012
15	0,083	0,066	0,055	0,047	0,041
20	0,196	0,157	0,131	0,112	0,098
25	0,383	0,306	0,255	0,219	0,192
30	0,662	0,530	0,441	0,378	0,331
35	1,053	0,842	0,701	0,601	0,526
40	1,574	1,257	1,047	0,897	0,785
45	2,242	1,793	1,492	1,278	1,118
50		2,463	2,050	1,755	1,535
55		3,284	2,732	2,339	2,045
60			3,555	3,041	2,658
65			4,530	3,874	3,384
70				4,851	4,235
75				5,984	5,222
80					6,356
85					7,650

R=170

R	170				
L	90	100	110	120	130
l	89,317	99,138	108,854	118,514	128,112
d	44,895	49,856	54,809	59,752	64,685
y ₁	7,902	9,744	11,774	13,993	16,396
ΔR	1,980	2,443	2,955	3,514	4,121
e	29,150	32,167	35,115	37,985	40,773
τ ₁	15°09'59,5"	16°51'06,1"	18°32'12,7"	20°13'19,3"	21°54'26,0"
ω ₁	5°03'09,1"	5°36'47,2"	6°10'24,5"	6°44'00,8"	7°17'36,0"
φ ₁	10°06'50,4"	11°14'18,9"	12°21'48,2"	13°29'18,5"	14°36'50,0"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,011	0,010	0,009	0,008	0,008
15	0,037	0,033	0,030	0,028	0,025
20	0,087	0,078	0,071	0,065	0,060
25	0,170	0,153	0,139	0,128	0,118
30	0,294	0,265	0,241	0,221	0,204
35	0,467	0,420	0,382	0,350	0,323
40	0,698	0,628	0,571	0,523	0,483
45	0,994	0,894	0,813	0,745	0,688
50	1,364	1,227	1,115	1,022	0,943
55	1,816	1,634	1,485	1,361	1,256
60	2,360	2,123	1,929	1,768	1,631
65	3,005	2,702	2,455	2,249	2,075
70	3,759	3,379	3,069	2,812	2,594
75	4,632	4,162	3,780	3,462	3,193
80	5,634	5,061	4,594	4,207	3,880
85	6,778	6,084	5,521	5,054	4,660
90	8,073	7,243	6,569	6,011	5,541
95	9,532	8,546	7,746	7,085	6,529
100		10,007	9,064	8,286	7,632
105		11,636	10,532	9,622	8,859
110			12,163	11,103	10,217
115			13,967	12,741	11,716
120				14,548	13,367
125				16,534	15,180
130					17,169
135					19,344

R=170,180

R	170		180		
L	140	150	10	20	30
l	137,645	147,107	9,999	19,994	29,979
d	69,606	74,516	5,000	9,999	14,997
y ₁	18,984	21,754	0,093	0,370	0,833
ΔR	4,775	5,477	0,023	0,093	0,208
e	43,469	46,068	3,332	6,658	9,972
τ ₁	23°35'32,6"	25°16'39,2"	1°35'29,6"	3°10'59,2"	4°46'28,7"
ω ₁	7°51'10,0"	8°24'42,8"	0°31'49,9"	1°03'39,6"	1°35'29,2"
φ ₁	15°44'22,6"	16°51'56,4"	1°03'39,7"	2°07'19,6"	3°10'59,5"
x=5	0,001	0,001	0,012	0,006	0,004
10	0,007	0,007	0,093	0,046	0,031
15	0,024	0,022	0,301	0,156	0,104
20	0,056	0,052		0,371	0,247
25	0,109	0,102		0,719	0,483
30	0,189	0,176			0,835
35	0,300	0,280			1,323
40	0,448	0,418			
45	0,638	0,596			
50	0,876	0,817			
55	1,166	1,088			
60	1,515	1,413			
65	1,927	1,798			
70	2,408	2,247			
75	2,964	2,765			
80	3,600	3,359			
85	4,324	4,032			
90	5,139	4,793			
95	6,054	5,645			
100	7,075	6,595			
105	8,209	7,649			
110	9,463	8,815			
115	10,846	10,099			
120	12,367	11,509			
125	14,034	13,054			
130	15,860	14,742			
135	17,855	16,584			
140	20,034	18,592			
145	22,408	20,777			
150		23,154			
155		25,736			

R=180

R	180				
L	40	50	60	70	80
l	39,951	49,904	59,834	69,736	79,606
d	19,992	24,984	29,972	34,956	39,934
y ₁	1,480	2,312	3,327	4,525	5,905
ΔR	0,370	0,578	0,833	1,133	1,479
e	13,267	16,537	19,775	22,976	26,134
τ ₁	6°21'58,3"	7°57'27,9"	9°32'57,5"	11°08'27,0"	12°43'56,6"
ω ₁	2°07'18,6"	2°39'07,7"	3°10'56,4"	3°42'44,7"	4°12'32,5"
φ ₁	4°14'39,7"	5°18'20,2"	6°22'01,1"	7°25'42,3"	8°29'24,1"
x=5	0,003	0,002	0,002	0,002	0,002
10	0,023	0,019	0,015	0,013	0,012
15	0,078	0,063	0,052	0,045	0,039
20	0,185	0,148	0,123	0,106	0,093
25	0,362	0,289	0,241	0,207	0,181
30	0,626	0,500	0,417	0,357	0,313
35	0,994	0,795	0,662	0,567	0,496
40	1,486	1,187	0,989	0,847	0,741
45	2,116	1,692	1,409	1,207	1,056
50		2,325	1,935	1,657	1,449
55		3,099	2,579	2,208	1,931
60			3,355	2,871	2,509
65			4,274	3,656	3,194
70				4,577	3,997
75				5,643	4,926
80					5,995
85					7,212

R=180

R	180				
L	90	100	110	120	130
l	89,439	99,231	108,977	118,674	128,315
d	44,906	49,872	54,829	59,778	64,718
y ₁	7,467	9,208	11,129	13,993	15,503
ΔR	1,871	2,308	2,792	3,320	3,894
e	29,242	32,293	35,282	38,203	41,049
τ ₁	14°19'26,2"	15°54'55,8"	17°30'25,4"	19°05'54,9"	20°41'24,5"
ω ₁	4°46'19,6"	5°49'51,8"	5°49'51,8"	6°21'36,7"	6°53'20,7"
φ ₁	9°33'06,6"	10°36'49,7"	11°40'33,6"	12°44'18,2"	13°48'03,8"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,010	0,009	0,008	0,008	0,007
15	0,035	0,031	0,028	0,026	0,024
20	0,082	0,074	0,067	0,062	0,057
25	0,161	0,145	0,132	0,121	0,111
30	0,278	0,250	0,227	0,208	0,192
35	0,441	0,397	0,361	0,331	0,305
40	0,659	0,593	0,539	0,494	0,456
45	0,938	0,844	0,768	0,703	0,649
50	1,288	1,159	1,053	0,965	0,891
55	1,715	1,543	1,402	1,285	1,186
60	2,229	2,005	1,822	1,669	1,541
65	2,836	2,551	2,318	2,124	1,960
70	3,574	3,190	2,897	2,654	2,449
75	4,371	3,928	3,568	3,268	3,015
80	5,315	4,776	4,336	3,971	3,662
85	6,392	5,740	5,209	4,769	4,398
90	7,611	6,830	6,196	5,671	5,228
95	8,982	8,057	7,305	6,683	6,160
100		9,429	8,544	7,813	7,199
105		10,958	9,924	9,070	8,353
110			11,455	10,462	9,630
115			13,147	12,000	11,039
120				13,693	12,588
125				15,552	14,288
130					16,149
135					18,182

R=180,190

R	180		190		
L	140	150	10	20	30
l	137,879	147,417	9,999	19,994	29,981
d	69,649	74,568	5,000	9,999	14,997
y ₁	17,953	20,576	0,088	0,351	0,789
ΔR	4,513	5,176	0,022	0,088	0,197
e	43,814	46,492	3,332	6,659	9,975
τ ₁	22°16'54,1"	23°52'23,7"	1°30'28,0"	3°00'56,0"	4°31'24,1"
ω ₁	7°25'03,7"	7°56'45,6"	0°30'09,3"	1°00'18,6"	1°30'27,7"
φ ₁	14°51'50,4"	15°55'38,1"	1°00'18,7"	2°00'37,4"	3°00'56,4"
x=5	0,001	0,001	0,011	0,005	0,004
10	0,007	0,006	0,088	0,044	0,029
15	0,022	0,021	0,285	0,148	0,099
20	0,053	0,049		0,351	0,234
25	0,103	0,096		0,681	0,457
30	0,179	0,167			0,791
35	0,284	0,265			1,253
40	0,423	0,395			
45	0,603	0,563			
50	0,827	0,772			
55	1,101	1,028			
60	1,430	1,335			
65	1,819	1,698			
70	2,273	2,121			
75	2,798	2,611			
80	3,399	3,171			
85	4,081	3,807			
90	4,850	4,523			
95	5,713	5,327			
100	6,675	6,222			
105	7,742	7,215			
110	8,922	8,313			
115	10,223	9,521			
120	11,651	10,847			
125	13,216	12,298			
130	14,927	13,882			
135	16,795	15,608			
140	18,830	17,487			
145	21,043	19,528			
150		21,744			
155		24,146			

R	190				
L	40	50	60	70	80
l	39,956	49,914	59,851	69,763	79,646
d	19,993	24,986	29,975	34,960	39,941
y ₁	1,402	2,190	3,152	4,288	5,596
ΔR	0,351	0,548	0,789	1,073	1,401
e	13,274	16,550	19,798	23,013	26,188
τ ₁	6°01'52,1"	7°32'20,1"	9°02'48,1"	10°33'16,1"	12°03'44,2"
ω ₁	2°00'36,7"	2°30'45,4"	3°00'53,8"	3°31'01,7"	4°01'09,3"
φ ₁	4°01'15,4"	5°01'34,7"	6°01'54,3"	7°02'14,4"	8°02'34,9"
x=5	0,003	0,002	0,002	0,002	0,001
10	0,022	0,018	0,015	0,013	0,011
15	0,074	0,059	0,049	0,042	0,037
20	0,175	0,140	0,117	0,100	0,088
25	0,343	0,274	0,228	0,196	0,171
30	0,593	0,474	0,395	0,338	0,296
35	0,942	0,753	0,627	0,538	0,470
40	1,407	1,125	0,937	0,803	0,702
45	2,004	1,603	1,335	1,143	1,000
50		2,202	1,833	1,570	1,373
55		2,934	2,442	2,091	1,828
60			3,176	2,718	2,376
65			4,045	3,462	3,025
70				4,332	3,784
75				5,340	4,663
80					5,672
85					6,822

R	190				
L	90	100	110	120	130
l	89,496	99,310	109,082	118,809	128,487
d	44,916	49,885	54,847	59,801	64,747
y ₁	7,077	8,729	10,551	12,542	14,701
ΔR	1,773	2,188	2,646	3,147	3,691
e	29,319	32,400	35,424	38,387	41,283
τ ₁	13°34'12,2"	15°04'40,2"	16°35'08,2"	18°05'36,3"	19°36'04,3"
ω ₁	4°31'16,3"	5°01'22,8"	5°31'28,6"	6°01'33,7"	6°31'38,1"
φ ₁	9°02'55,9"	10°03'17,4"	11°03'39,6"	12°04'02,6"	13°04'26,2"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,010	0,009	0,008	0,007	0,007
15	0,033	0,030	0,027	0,025	0,023
20	0,078	0,070	0,064	0,058	0,054
25	0,152	0,137	0,125	0,114	0,105
30	0,263	0,237	0,215	0,197	0,182
35	0,418	0,376	0,342	0,313	0,289
40	0,624	0,562	0,511	0,468	0,432
45	0,889	0,800	0,727	0,666	0,615
50	1,220	1,098	0,998	0,914	0,844
55	1,625	1,462	1,328	1,217	1,124
60	2,111	1,899	1,725	2,581	1,459
65	2,686	2,416	2,195	2,011	1,856
70	3,359	3,020	2,744	2,514	2,320
75	4,138	3,719	3,378	3,095	2,855
80	5,031	4,521	4,105	3,760	3,468
85	6,048	5,432	4,931	4,515	4,164
90	7,199	6,463	5,864	5,368	4,950
95	8,493	7,621	6,912	6,325	5,830
100		8,916	8,082	7,392	6,812
105		10,357	9,384	8,579	7,903
110			10,827	9,892	9,108
115			12,419	11,341	10,437
120				12,935	11,897
125				14,684	13,497
130					15,247
135					17,156

R	190		200		
L	140	150	10	20	30
l	138,112	147,680	9,999	19,995	29,983
d	69,684	74,612	5,000	9,999	14,997
y ₁	17,027	19,518	0,083	0,333	0,750
ΔR	4,277	4,907	0,021	0,083	0,187
e	44,106	46,851	0,333	6,660	9,977
τ ₁	21°06'32,3"	22°37'00,3"	1°25'56,6"	2°51'53,2"	4°17'49,9"
ω ₁	7°01'41,6"	7°31'44,2"	0°28'38,9"	0°57'17,5"	1°25'56,4"
φ ₁	14°04'50,7"	15°05'16,1"	0°57'17,7"	1°54'35,5"	2°51'53,5"
x=5	0,001	0,001	0,010	0,005	0,003
10	0,006	0,006	0,086	0,042	0,028
15	0,021	0,020	0,271	0,141	0,094
20	0,050	0,047		0,334	0,222
25	0,098	0,091		0,647	0,434
30	0,169	0,158			0,751
35	0,269	0,251			1,190
40	0,401	0,374			
45	0,571	0,533			
50	0,784	0,731			
55	1,043	0,974			
60	1,355	1,264			
65	1,723	1,608			
70	2,153	2,009			
75	2,650	2,473			
80	3,219	3,003			
85	3,864	3,605			
90	4,592	4,283			
95	5,408	5,043			
100	6,317	5,890			
105	7,326	6,829			
110	8,441	7,866			
115	9,668	9,007			
120	11,016	10,258			
125	12,490	11,626			
130	14,101	13,119			
135	15,857	14,743			
140	17,768	16,509			
145	19,843	18,426			
150		20,503			
155		22,751			

R	200				
L	40	50	60	70	80
l	39,960	49,922	59,865	69,786	79,681
d	19,993	24,987	29,978	34,964	39,947
y ₁	1,332	2,081	2,995	4,074	5,318
ΔR	0,333	0,521	0,749	1,020	1,331
e	13,279	16,561	19,818	23,044	26,235
τ ₁	5°43'46,5"	7°09'43,1"	8°35'39,7"	10°01'36,3"	11°27'33,0"
ω ₁	1°54'34,9"	2°23'13,2"	2°51'51,3"	3°20'29,0"	3°49'06,3"
φ ₁	3°49'11,6"	4°46'29,9"	5°43'48,4"	6°41'07,3"	7°38'26,7"
x=5	0,003	0,002	0,002	0,001	0,001
10	0,021	0,017	0,014	0,012	0,010
15	0,070	0,056	0,047	0,040	0,035
20	0,167	0,133	0,111	0,095	0,083
25	0,326	0,260	0,217	0,186	0,163
30	0,563	0,450	0,375	0,322	0,281
35	0,894	0,715	0,596	0,511	0,447
40	1,336	1,068	0,890	0,762	0,667
45	1,603	1,522	1,268	1,086	0,950
50		2,091	1,740	1,491	1,304
55		2,785	2,319	1,986	1,737
60			3,016	2,581	2,257
65			3,840	3,287	2,872
70				4,112	3,592
75				5,068	4,426
80					5,383
85					6,472

R	200				
L	90	100	110	120	130
l	89,545	99,377	109,171	118,924	128,634
d	44,924	49,896	54,862	59,820	64,772
y ₁	6,726	8,296	10,029	11,923	13,977
ΔR	1,684	2,079	2,514	2,990	3,508
e	29,386	32,491	35,545	38,544	41,483
τ ₁	12°53'29,6"	14°19'26,2"	15°45'22,8"	17°11'19,4"	18°37'16,1"
ω ₁	4°17'43,2"	4°46'19,6"	5°14'55,5"	5°43'30,7"	6°12'05,3"
φ ₁	8°35'46,4"	9°33'06,6"	10°30'27,3"	11°27'48,7"	12°25'10,8"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,009	0,008	0,008	0,007	0,006
15	0,031	0,028	0,026	0,023	0,022
20	0,074	0,067	0,061	0,056	0,051
25	0,145	0,130	0,118	0,109	0,100
30	0,250	0,225	0,205	0,188	0,173
35	0,397	0,3570	0,325	0,298	0,275
40	0,593	0,534	0,485	0,445	0,410
45	0,844	0,760	0,691	0,633	0,584
50	1,159	1,043	0,948	0,869	0,802
55	1,543	1,388	1,262	1,156	1,067
60	2,005	1,803	1,639	1,502	1,386
65	2,551	2,294	2,085	1,911	1,763
70	3,190	2,868	2,606	2,388	2,203
75	3,928	3,532	3,208	2,939	2,712
80	4,776	4,292	3,898	3,570	3,294
85	5,740	5,157	4,682	4,287	3,945
90	6,830	6,133	5,566	5,096	4,699
95	8,055	7,230	6,559	6,003	5,534
100		8,456	7,668	7,015	6,466
105		9,820	8,900	8,139	7,499
110			10,265	9,382	8,641
115			11,770	10,752	9,898
120				12,259	11,279
125				13,910	12,791
130					14,443
135					16,243

R	200		225		
L	140	150	10	20	30
l	138,295	147,904	10,000	19,996	29,987
d	69,715	74,650	5,000	9,999	14,998
y ₁	16,191	18,563	0,074	0,296	0,666
ΔR	4,065	4,664	0,019	0,074	0,167
e	44,355	47,158	3,333	6,661	9,982
τ ₁	20°03'12,7"	21°29'09,3"	1°16'23,7"	2°32' 3"	3°49'11,0"
ω ₁	6°40'39,1"	7°09'12,3"	0°25'27,9"	0°50'55,8"	1°16'23,5"
φ ₁	13°22'33,6"	14°19'57,0"	0°50'55,8"	1°41'51,5"	2°32'47,5"
x=5	0,001	0,001	0,009	0,005	0,003
10	0,006	0,006	0,074	0,037	0,025
15	0,020	0,019	0,241	0,125	0,083
20	0,048	0,044		0,296	0,198
25	0,093	0,087		0,575	0,386
30	0,161	0,150			0,667
35	0,255	0,238			1,057
40	0,381	0,356			
45	0,543	0,506			
50	0,744	0,695			
55	0,991	0,925			
60	1,287	1,201			
65	1,637	1,527			
70	2,045	1,908			
75	2,517	2,348			
80	3,057	2,852			
85	3,670	3,423			
90	4,360	4,067			
95	5,134	4,788			
100	5,997	5,591			
105	6,953	6,482			
110	8,009	7,465			
115	9,172	8,546			
120	10,447	9,730			
125	11,841	11,025			
130	13,363	12,436			
135	15,021	13,972			
140	16,822	15,638			
145	18,776	17,445			
150		19,401			
155		21,514			

R	225				
L	40	50	60	70	80
l	39,968	49,938	59,893	69,831	79,748
d	19,995	24,990	29,982	34,972	39,958
y ₁	1,185	1,850	2,663	3,623	4,730
ΔR	0,296	0,463	0,666	0,907	1,184
e	13,291	16,583	19,856	23,105	26,326
τ ₁	5°05'34,7"	6°21'58,3"	7°38'22,0"	8°54'45,6"	10°11'09,3"
ω ₁	1°41'51,2"	2°07'18,6"	2°32'45,9"	2°58'13,0"	3°23'39,8"
φ ₁	3°23'43,5"	4°14'39,7"	5°05'36,1"	5°56'32,6"	6°47'29,5"
x=5	0,002	0,002	0,002	0,001	0,001
10	0,019	0,015	0,012	0,011	0,009
15	0,063	0,050	0,042	0,036	0,031
20	0,148	0,119	0,099	0,085	0,074
25	0,289	0,232	0,193	0,165	0,145
30	0,500	0,400	0,333	0,286	0,250
35	0,795	0,636	0,529	0,454	0,397
40	1,187	0,949	0,791	0,678	0,593
45	1,690	1,353	1,126	0,965	0,844
50		1,857	1,546	1,325	1,159
55		2,473	2,060	1,764	1,543
60			2,678	2,293	2,005
65			3,408	2,918	2,551
70				3,650	3,190
75				4,496	3,928
80					4,776
85					5,738

R	225				
L	90	100	110	120	130
l	89,641	99,507	109,345	119,149	128,919
d	44,940	49,918	54,891	59,858	64,820
y ₁	5,983	7,381	8,925	10,613	12,444
ΔR	1,498	1,849	2,236	2,660	3,120
e	29,514	32,667	35,780	38,849	41,871
τ ₁	11°27'33,0"	12°43'56,6"	14°00'20,3"	15°16'44,0"	16°33'07,6"
ω ₁	3°49'06,3"	4°14'32,5"	4°39'58,2"	5°05'23,6"	5°30'48,5"
φ ₁	7°38'26,7"	8°29'24,1"	9°20'22,1"	10°11'20,4"	11°02'19,1"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,008	0,007	0,007	0,006	0,006
15	0,028	0,025	0,023	0,021	0,019
20	0,066	0,059	0,054	0,049	0,046
25	0,129	0,116	0,105	0,096	0,089
30	0,222	0,200	0,182	0,167	0,154
35	0,353	0,3180	0,289	0,265	0,244
40	0,527	0,474	0,431	0,395	0,365
45	0,750	0,675	0,614	0,563	0,519
50	1,030	0,927	0,842	0,772	0,713
55	1,371	1,234	1,121	1,028	0,949
60	1,781	1,602	1,456	1,335	1,232
65	2,266	2,038	1,852	1,698	1,567
70	2,833	2,548	2,315	2,121	1,958
75	3,488	3,136	2,849	2,611	2,409
80	4,238	3,810	3,461	3,171	2,925
85	5,092	4,576	4,156	3,807	3,512
90	6,056	5,441	4,940	4,523	4,172
95	7,137	6,411	5,818	5,327	4,912
100		7,493	6,798	6,222	5,737
105		8,695	7,886	7,215	6,651
110			9,089	8,313	7,660
115			10,414	9,521	8,770
120				10,847	9,987
125				12,296	11,317
130					12,768
135					14,345

R	225				
L	140	150	160	170	180
l	138,651	148,342	157,989	167,590	177,141
d	69,775	74,723	79,664	84,597	89,522
y ₁	14,418	16,535	18,792	21,190	23,727
ΔR	3,617	4,150	4,719	5,325	2,966
e	44,840	47,754	50,607	53,397	56,120
τ ₁	17°49'31,5"	19°05'54,9"	20°22'18,6"	21°38'42,3"	22°55'05,9"
ω ₁	5°56'12,9"	6°21'36,7"	6°47'00,0"	7°12'22,6"	7°37'44,6"
φ ₁	11°53'18,4"	12°44'18,2"	13°35'18,6"	14°26'19,7"	15°17'21,3"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,005	0,005	0,005	0,004	0,004
15	0,018	0,017	0,016	0,015	0,014
20	0,042	0,040	0,037	0,035	0,033
25	0,083	0,077	0,072	0,068	0,064
30	0,143	0,133	0,125	0,118	0,111
35	0,227	0,2120	0,199	0,187	0,176
40	0,339	0,316	0,296	0,279	0,263
45	0,482	0,450	0,422	0,397	0,375
50	0,662	0,617	0,579	0,545	0,515
55	0,881	0,822	0,771	0,725	0,685
60	1,144	1,067	1,001	0,942	0,889
65	1,455	1,357	1,272	1,197	1,131
70	1,817	1,696	1,590	1,496	1,413
75	2,236	2,087	1,956	1,841	1,738
80	2,715	2,534	2,375	2,235	2,110
85	3,259	3,041	2,850	2,681	2,532
90	3,872	3,612	3,385	3,185	3,007
95	4,558	4,251	3,984	3,748	3,538
100	5,322	4,963	4,650	4,374	4,130
105	6,169	5,752	5,388	5,068	4,784
110	7,103	6,622	6,202	5,833	5,506
115	8,130	7,578	7,096	6,673	6,297
120	9,255	8,624	8,075	7,592	7,163
125	10,484	9,767	9,142	8,593	8,107
130	11,823	11,010	10,303	9,683	9,133
135	13,278	12,360	11,563	10,864	10,245
140	14,857	13,824	12,928	12,142	11,448
145	16,565	15,407	14,402	13,523	12,746
150		17,116	15,993	15,010	14,144
155		18,958	17,706	16,612	15,648

R	225			
L	160	170	180	
l	157,989	167,590	177,141	
d	79,664	84,597	89,522	
y ₁	18,792	21,190	23,727	
ΔR	4,719	5,325	5,966	
e	50,607	53,397	56,120	
τ ₁	20°22'18,6"	21°38'42,3"	22°55'05,9"	
ω ₁	6°47'00,0"	7°12'22,6"	7°37'44,6"	
φ ₁	13°35'18,6"	14°26'19,7"	15°17'21,3"	
x=155	17,706	16,612	15,648	
160	19,550	18,333	17,262	
165	21,530	20,181	18,994	
170		22,163	20,849	
175		24,285	22,835	
180			24,959	
185			27,228	

R=225

R	225			
L	190	200		
l	186,641	196,085		
d	94,438	99,345		
y ₁	26,402	29,214		
ΔR	6,643	7,355		
e	58,771	61,346		
τ ₁	24°11'29,6"	25°27'53,3"		
ω ₁	8°03'05,9"	8°28'26,4"		
φ ₁	16°08'23,7"	16°59'26,9"		
x=5	-	-		
10	0,004	0,004		
15	0,013	0,013		
20	0,031	0,030		
25	0,061	0,058		
30	0,105	0,100		
35	0,167	0,159		
40	0,250	0,237		
45	0,355	0,338		
50	0,487	0,463		
55	0,649	0,616		
60	0,842	0,800		
65	1,071	1,018		
70	1,338	1,271		
75	1,646	1,564		
80	1,999	1,898		
85	2,398	2,278		
90	2,848	2,705		
95	3,351	3,183		
100	3,911	3,714		
105	4,530	4,302		
110	5,213	4,950		
115	5,962	5,661		
120	6,781	6,438		
125	7,674	7,284		
130	8,643	8,204		
135	9,694	9,200		
140	10,830	10,276		
145	12,055	11,436		
150	13,374	12,685		
155	14,791	14,025		
160	16,312	15,463		
165	17,942	17,003		
170	19,686	18,650		
175	21,552	20,409		
180	23,545	22,287		
185	25,673	24,290		
190	27,945	26,425		
195	30,366	28,701		
200		31,125		
205		33,705		

R=250

R	250				
L	10	20	30	40	50
l	10,000	19,997	29,989	39,974	49,950
d	5,000	9,999	14,998	19,996	24,992
y ₁	0,067	0,267	0,600	1,066	1,665
ΔR	0,017	0,067	0,150	0,267	0,417
e	3,333	6,662	9,986	13,299	16,599
τ ₁	1°08'45,3"	2°17'30,6"	3°26'15,9"	4°35'01,2"	5°43'46,5"
ω ₁	0°22'55,1"	0°45'50,2"	1°08'45,2"	1°31'40,1"	1°54'34,9"
φ ₁	0°45'50,2"	1°31'40,4"	2°17'30,7"	3°03'21,1"	3°49'11,6"
x=5	0,008	0,004	0,003	0,002	0,002
10	0,067	0,033	0,022	0,017	0,013
15	0,217	0,113	0,075	0,056	0,045
20		0,267	0,178	0,133	0,107
25		0,517	0,347	0,260	0,208
30			0,600	0,450	0,360
35			0,951	0,715	0,572
40				1,068	0,854
45				1,520	1,217
50					1,670
55					2,224

R=250

R	250				
L	60	70	80	90	100
l	59,914	69,863	79,795	89,709	99,601
d	29,986	34,977	39,966	44,951	49,933
y ₁	2,398	3,262	4,259	5,388	6,648
ΔR	0,600	0,816	1,066	1,348	1,664
e	19,883	23,148	26,390	29,607	32,794
τ ₁	6°52'31,8"	8°01'17,1"	9°10'02,4"	10°18'47,7"	11°27'33,0"
ω ₁	2°17'29,6"	2°40'24,1"	3°03'18,4"	3°26'12,5"	3°49'06,3"
φ ₁	4°35'02,2"	5°20'53,0"	6°06'44,0"	6°52'35,2"	7°38'26,7"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,011	0,010	0,008	0,007	0,007
15	0,038	0,032	0,028	0,025	0,028
20	0,089	0,076	0,067	0,059	0,053
25	0,174	0,149	0,130	0,116	0,104
30	0,300	0,257	0,225	0,200	0,180
35	0,476	0,4080	0,357	0,318	0,286
40	0,712	0,610	0,534	0,474	0,427
45	1,014	0,869	0,760	0,675	0,608
50	1,391	1,192	1,043	0,927	0,834
55	1,753	1,587	1,388	1,234	1,110
60	2,408	2,062	1,803	1,602	1,442
65	3,064	2,624	2,294	2,038	1,834
70		3,281	2,868	2,548	2,292
75		4,041	3,532	3,136	2,821
80			4,292	3,810	3,426
85			5,155	4,576	4,114
90				5,441	4,890
95				6,409	5,759
100					6,729
105					7,804

R	250				
L	110	120	130	140	150
l	109,469	119,311	129,124	138,906	148,656
d	54,911	59,885	64,854	69,817	74,776
y ₁	8,039	9,561	11,212	12,994	14,904
ΔR	2,013	2,395	2,810	3,258	3,738
e	35,949	39,068	42,148	45,187	48,180
τ ₁	12°36'18,3"	13°45'03,6"	14°53'48,9"	16°02'34,2"	17°11'19,4"
ω ₁	4°11'59,9"	4°34'53,1"	4°57'46,0"	5°20'38,6"	5°43'30,7"
φ ₁	8°24'18,4"	9°10'10,5"	9°56'02,9"	10°41'55,6"	11°27'48,7"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,006	0,006	0,005	0,005	0,004
15	0,020	0,019	0,017	0,016	0,015
20	0,048	0,044	0,041	0,038	0,036
25	0,095	0,087	0,080	0,074	0,069
30	0,164	0,150	0,138	0,129	0,120
35	0,260	0,2380	0,220	0,204	0,191
40	0,388	0,356	0,328	0,305	0,284
45	0,552	0,506	0,467	0,434	0,405
50	0,758	0,695	0,641	0,595	0,556
55	1,009	0,925	0,854	0,793	0,740
60	1,310	1,201	1,108	1,029	0,961
65	1,667	1,527	1,410	1,309	1,221
70	2,083	1,908	1,761	1,635	1,526
75	2,563	2,348	2,167	2,012	1,877
80	3,113	2,852	2,631	2,443	2,279
85	3,737	3,423	3,158	2,932	2,735
90	4,440	4,067	3,752	3,482	3,249
95	5,229	4,788	4,416	4,098	3,823
100	6,107	5,591	5,156	4,784	4,463
105	7,082	6,482	5,976	5,544	5,171
110	8,158	7,465	6,881	6,382	5,951
115	9,342	8,546	7,875	7,302	6,808
120		9,730	8,964	8,310	7,746
125		11,024	10,152	9,409	8,769
130			11,447	10,606	9,881
135			12,853	11,904	11,087
140				13,311	12,393
145				14,830	13,803
150					15,324
155					16,959

R	250				
L	160	170	180	190	200
l	158,369	168,045	177,681	187,275	196,824
d	79,728	84,674	89,613	94,545	99,469
y ₁	16,942	19,108	21,401	23,820	26,363
ΔR	4,251	4,797	5,375	5,986	6,629
e	51,125	54,018	56,856	59,636	62,355
τ ₁	18°20'04,7"	19°28'50,0"	20°37'35,3"	21°46'20,6"	22°55'05,9"
ω ₁	6°06'22,5"	6°29'13,7"	6°52'04,5"	7°14'54,8"	7°37'44,6"
φ ₁	12°13'42,2"	12°59'36,3"	13°45'30,8"	14°31'25,8"	15°17'21,3"
x=5	0,001	-	-	-	-
10	0,004	0,004	0,004	0,004	0,003
15	0,014	0,013	0,013	0,012	0,011
20	0,033	0,031	0,030	0,028	0,027
25	0,065	0,061	0,058	0,055	0,052
30	0,113	0,106	0,100	0,095	0,090
35	0,179	0,1680	0,159	0,150	0,143
40	0,267	0,251	0,237	0,225	0,213
45	0,380	0,357	0,338	0,320	0,304
50	0,521	0,490	0,463	0,439	0,417
55	0,693	0,653	0,616	0,584	0,555
60	0,900	0,847	0,800	0,758	0,720
65	1,145	1,078	1,018	0,964	0,916
70	1,430	1,346	1,271	1,204	1,144
75	1,760	1,656	1,564	1,481	1,407
80	2,136	2,010	1,898	1,798	1,708
85	2,564	2,412	2,278	2,158	2,050
90	3,045	2,865	2,705	2,562	2,434
95	3,583	3,371	3,183	3,015	2,863
100	4,182	3,934	3,714	3,518	3,341
105	4,845	4,557	4,302	4,074	3,870
110	5,575	5,244	4,950	4,688	4,452
115	6,377	5,998	5,661	5,360	5,090
120	7,254	6,822	6,438	6,095	5,788
125	8,210	7,720	7,284	6,896	6,547
130	9,250	8,695	8,204	7,765	7,372
135	10,377	9,752	9,200	8,707	8,265
140	11,595	10,895	10,276	9,724	9,229
145	12,911	12,128	11,436	10,820	10,267
150	14,328	13,455	12,685	11,999	11,384
155	15,852	14,882	14,025	13,264	12,582

R=250

R	250				
L	160	170	180	190	200
l	158,369	168,045	177,681	187,275	196,824
d	79,728	84,674	89,613	94,545	99,469
y ₁	16,942	19,108	21,401	23,820	26,363
ΔR	4,251	4,797	5,375	5,986	6,629
e	51,125	54,018	56,856	59,636	62,355
τ ₁	18°20'04,7"	19°28'50,0"	20°37'35,3"	21°46'20,6"	22°55'05,9"
ω ₁	6°06'22,5"	6°29'13,7"	6°52'04,5"	7°14'54,8"	7°37'44,6"
φ ₁	12°13'42,2"	12°59'36,3"	13°45'30,8"	14°31'25,8"	15°17'21,3"
x=155	15,852	14,882	14,025	13,264	12,582
160	17,489	16,412	15,463	14,620	13,865
165	19,243	18,053	17,003	16,071	15,238
170		19,809	18,650	17,662	16,704
175		21,685	20,409	19,277	18,267
180			22,287	21,043	19,934
185			24,288	22,924	21,708
190				24,927	23,595
195				27,056	25,601
200					27,732
205					29,994

R=275

R	275				
L	10	20	30	40	50
l	10,000	19,997	29,991	39,979	49,959
d	5,000	10,000	14,999	19,996	24,993
y ₁	0,061	0,242	0,545	0,969	1,514
ΔR	0,015	0,061	0,136	0,242	0,379
e	3,333	6,663	9,988	13,305	16,611
τ ₁	1°02'30,3"	2°05'00,5"	3°07'30,8"	4°10'01,1"	5°12'31,4"
ω ₁	0°20'50,1"	0°41'40,2"	1°02'30,2"	1°23'20,1"	1°44'10,0"
φ ₁	0°41'40,2"	1°23'20,3"	2°05'00,6"	3°46'41,0"	3°28'21,4"
x=5	0,008	0,004	0,003	0,002	0,002
10	0,061	0,030	0,020	0,015	0,012
15	0,197	0,102	0,068	0,051	0,041
20		0,242	0,162	0,121	0,097
25		0,470	0,316	0,237	0,189
30			0,546	0,409	0,327
35			0,865	0,650	0,520
40				0,971	0,776
45				1,381	1,106
50					1,518
55					2,021

R=275

R	275				
L	60	70	80	90	100
l	59,929	69,887	79,831	89,759	99,670
d	29,988	34,981	39,972	44,960	49,945
y ₁	2,180	2,966	3,873	4,900	6,046
ΔR	0,545	0,742	0,969	1,226	1,513
e	19,904	23,180	26,438	29,675	32,887
τ ₁	6°15'01,6"	7°17'31,9"	8°20'02,2"	9°22'32,4"	10°25'02,7"
ω ₁	2°04'59,8"	2°25'49,4"	2°46'38,9"	3°07'28,3"	3°28'17,4"
φ ₁	4°10'01,8"	4°51'42,5"	5°33'23,3"	6°15'04,1"	6°56'45,3"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,010	0,009	0,008	0,007	0,006
15	0,034	0,029	0,026	0,023	0,020
20	0,081	0,069	0,061	0,054	0,048
25	0,158	0,135	0,118	0,105	0,095
30	0,273	0,234	0,205	0,182	0,164
35	0,433	0,3710	0,325	0,289	0,260
40	0,647	0,554	0,485	0,431	0,388
45	0,921	0,789	0,691	0,614	0,552
50	1,264	1,083	0,948	0,842	0,758
55	1,684	1,443	1,262	1,121	1,009
60	2,188	1,874	1,639	1,456	1,310
65	2,783	2,384	2,085	1,852	1,667
70		2,981	2,606	2,315	2,083
75		3,669	3,208	2,849	2,563
80			3,898	3,461	3,113
85			4,680	4,156	3,737
90				4,940	4,440
95				5,817	5,229
100					6,107
105					7,081

R	275				
L	110	120	130	140	150
l	109,561	119,430	129,276	139,096	148,888
d	54,927	59,905	64,879	69,849	74,814
y ₁	7,312	8,698	10,202	11,824	13,564
ΔR	1,831	2,178	2,556	2,963	3,400
e	36,073	39,230	42,354	45,444	48,496
τ ₁	11°27'33,0"	12°30'03,2"	13°32'33,5"	14°35'03,8"	15°37'34,0"
ω ₁	3°49'06,3"	4°09'55,0"	4°30'43,5"	4°51'31,6"	5°12'19,5"
φ ₁	7°38'26,7"	8°20'08,2"	9°01'50,0"	9°43'32,2"	10°25'14,5"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,006	0,005	0,005	0,004	0,004
15	0,019	0,017	0,016	0,015	0,014
20	0,044	0,040	0,037	0,035	0,032
25	0,086	0,079	0,073	0,068	0,063
30	0,149	0,136	0,126	0,117	0,109
35	0,236	0,2170	0,200	0,186	0,173
40	0,353	0,323	0,298	0,277	0,250
45	0,502	0,460	0,425	0,395	0,368
50	0,689	0,632	0,583	0,541	0,505
55	0,917	0,841	0,776	0,720	0,672
60	1,191	1,092	1,008	0,936	0,873
65	1,515	1,388	1,281	1,190	1,110
70	1,893	1,735	1,601	1,486	1,387
75	2,329	2,134	1,970	1,829	1,706
80	2,828	2,591	2,391	2,220	2,072
85	3,395	3,110	2,870	2,664	2,486
90	4,033	3,695	3,409	3,164	2,952
95	4,748	4,349	4,012	3,723	3,474
100	5,545	5,077	4,683	4,346	4,054
105	6,427	5,884	5,427	5,035	4,697
110	7,402	6,775	6,246	5,795	5,405
115	8,472	7,753	7,147	6,629	6,182
120		8,825	8,132	7,541	7,031
125		9,993	9,207	8,536	7,957
130			10,377	9,618	8,964
135			11,646	10,791	10,055
140				12,061	11,234
145				13,431	12,507
150					13,878
155					15,350

R	275				
L	160	170	180	190	200
l	158,651	168,383	178,082	187,745	197,372
d	79,775	84,730	89,680	94,623	99,561
y ₁	15,422	17,396	19,487	21,693	24,014
ΔR	3,867	4,364	4,889	5,446	6,032
e	51,508	54,477	57,401	60,277	63,103
τ ₁	16°40'04,3"	17°42'34,6"	18°45'04,9"	19°47'35,1"	20°50'05,4"
ω ₁	5°33'07,1"	5°53'54,3"	6°14'41,2"	6°35'27,6"	6°56'13,7"
φ ₁	11°06'57,2"	11°48'40,3"	12°30'23,7"	13°12'07,5"	13°53'51,7"
x=5	-	-	-	-	-
10	0,004	0,004	0,003	0,003	0,003
15	0,013	0,012	0,011	0,011	0,010
20	0,030	0,029	0,027	0,026	0,024
25	0,059	0,056	0,053	0,050	0,047
30	0,102	0,096	0,091	0,086	0,082
35	0,162	0,1530	0,144	0,137	0,130
40	0,242	0,228	0,216	0,204	0,194
45	0,345	0,325	0,307	0,291	0,276
50	0,474	0,446	0,421	0,399	0,379
55	0,630	0,593	0,560	0,531	0,504
60	0,818	0,770	0,727	0,689	0,655
65	1,041	0,980	0,925	0,876	0,832
70	1,300	1,224	1,156	1,095	1,040
75	1,600	1,505	1,422	1,347	1,279
80	1,942	1,827	1,726	1,635	1,553
85	2,330	2,192	2,070	1,961	1,863
90	2,767	2,603	2,458	2,329	2,212
95	3,255	3,063	2,892	2,740	2,602
100	3,799	3,574	3,375	3,197	3,036
105	4,401	4,140	3,909	3,702	3,516
110	5,064	4,763	4,497	4,259	4,045
115	5,791	5,447	5,142	4,869	4,624
120	6,586	6,194	5,847	5,536	5,257
125	7,452	7,008	6,614	6,262	5,946
130	8,393	7,892	7,447	7,050	6,694
135	9,413	8,849	8,349	7,904	7,503
140	10,515	9,883	9,324	8,824	8,377
145	11,703	10,998	10,373	9,816	9,317
150	12,982	12,196	11,502	10,882	10,327
155	14,356	13,483	12,712	12,026	11,411
160	15,829	14,863	14,010	13,250	12,570
165	17,406	16,340	15,397	14,559	13,809
170		17,918	16,879	15,957	15,132
175		19,602	18,461	17,447	16,540
180			20,145	19,033	18,040
185			21,938	20,721	19,634
190				22,516	21,327
195				24,420	23,124
200					25,030
205					27,049

R=300

R	300				
L	10	20	30	40	50
l	10,000	19,998	29,993	39,982	49,965
d	5,000	10,000	14,999	19,997	24,994
y ₁	0,056	0,222	0,500	0,889	1,388
ΔR	0,014	0,056	0,125	0,222	0,347
e	3,333	6,664	9,990	13,309	16,620
τ ₁	0°57'17,8"	1°54'35,5"	2°51'53,2"	3°49'11,0"	4°46'28,7"
ω ₁	0°19'05,9"	0°38'11,8"	0°57'17,7"	1°16'23,5"	1°35'29,2"
φ ₁	0°38'11,9"	1°16'23,7"	1°54'35,5"	2°32'47,5"	3°10'59,5"
x=5	0,007	0,003	0,002	0,002	0,001
10	0,056	0,028	0,019	0,014	0,011
15	0,181	0,094	0,063	0,047	0,038
20		0,222	0,148	0,111	0,089
25		0,431	0,289	0,217	0,174
30			0,500	0,375	0,300
35			0,792	0,596	0,476
40				0,890	0,712
45				1,266	1,014
50					1,391
55					1,851

R=300

R	300				
L	60	70	80	90	100
l	59,940	69,905	79,858	89,798	99,723
d	29,990	34,984	39,976	44,966	49,954
y ₁	1,999	2,720	3,551	4,493	5,545
ΔR	0,500	0,680	0,888	1,124	1,387
e	19,919	23,205	26,475	29,727	32,959
τ ₁	5°43'46,5"	6°41'04,2"	7°38'22,0"	8°35'39,7"	9°32'57,5"
ω ₁	1°54'34,9"	2°13'40,5"	2°32'45,9"	2°51'51,3"	3°10'56,4"
φ ₁	3°49'11,6"	4°27'23,7"	5°05'36,1"	5°43'48,4"	6°22'01,1"
x=5	0,001	0,001	0,001	0,001	0,001
10	0,009	0,008	0,007	0,006	0,006
15	0,031	0,027	0,023	0,021	0,019
20	0,074	0,063	0,056	0,049	0,044
25	0,145	0,124	0,109	0,096	0,087
30	0,250	0,214	0,188	0,167	0,150
35	0,397	0,3400	0,298	0,265	0,238
40	0,593	0,508	0,445	0,395	0,356
45	0,844	0,724	0,633	0,563	0,506
50	1,159	0,993	0,869	0,772	0,695
55	1,543	1,322	1,156	1,028	0,925
60	2,005	1,717	1,502	1,335	1,201
65	2,250	2,185	1,911	1,698	1,527
70		2,731	2,388	2,121	1,908
75		3,361	2,939	2,611	2,348
80			3,570	3,171	2,852
85			4,286	3,807	3,423
90				4,523	4,067
95				5,326	4,788
100					5,591
105					6,481

R=300

R	300				
L	110	120	130	140	150
l	109,631	119,521	129,391	139,240	149,065
d	54,938	59,920	64,898	69,873	74,844
y ₁	6,706	7,977	9,357	10,847	12,444
ΔR	1,679	1,997	2,343	2,717	3,118
e	36,168	39,353	42,510	45,639	48,736
τ ₁	10°30'15,2"	11°27'33,0"	12°24'50,7"	13°22'08,5"	14°19'26,2"
ω ₁	3°30'01,5"	4°49'06,3"	4°08'11,0"	4°27'15,4"	4°46'19,6"
φ ₁	7°00'13,7"	7°38'26,7"	8°16'39,7"	8°54'53,1"	9°33'06,6"
x=5	0,001	0,001	0,001	-	-
10	0,005	0,005	0,004	0,004	0,004
15	0,017	0,016	0,014	0,013	0,013
20	0,040	0,037	0,034	0,032	0,030
25	0,079	0,072	0,067	0,062	0,058
30	0,136	0,125	0,115	0,107	0,100
35	0,217	0,1990	0,183	0,170	0,159
40	0,323	0,296	0,274	0,254	0,237
45	0,460	0,422	0,389	0,362	0,338
50	0,632	0,579	0,534	0,496	0,463
55	0,841	0,771	0,711	0,660	0,616
60	1,092	1,001	0,924	0,858	0,800
65	1,388	1,272	1,174	1,090	1,018
70	1,735	1,590	1,467	1,362	1,271
75	2,134	1,956	1,805	1,676	1,564
80	2,591	2,375	2,191	2,034	1,898
85	3,110	2,850	2,630	2,441	2,278
90	3,695	3,385	3,123	2,899	2,705
95	4,349	3,984	3,675	3,411	3,183
100	5,077	4,650	4,290	3,981	3,714
105	5,884	5,388	4,970	4,612	4,302
110	6,775	6,202	5,720	5,307	4,950
115	7,752	7,096	6,543	6,070	5,661
120		8,075	7,443	6,904	6,438
125		9,141	8,425	7,813	7,284
130			9,492	8,801	8,204
135			10,649	9,871	9,200
140				11,028	10,276
145				12,276	11,436
150					12,685
155					14,025

R=300

R	300				
L	160	170	180	190	200
l	158,866	168,640	178,387	188,104	197,789
d	79,811	84,773	89,731	94,683	99,631
y _l	14,150	15,964	17,885	19,912	22,046
ΔR	3,546	4,002	4,486	4,996	5,534
e	51,799	54,827	57,816	60,765	63,672
τ _l	15°16'44,0"	16°14'01,7"	17°11'19,4"	18°08'37,2"	19°05'54,9"
ω _l	5°05'23,6"	5°24'27,3"	5°43'30,7"	6°02'33,9"	6°21'36,7"
φ _l	10°11'20,4"	10°49'34,4"	11°27'48,7"	12°06'03,3"	12°44'18,2"
x=5	-	-	-	-	-
10	0,003	0,003	0,003	0,003	0,003
15	0,012	0,011	0,010	0,010	0,009
20	0,028	0,026	0,025	0,023	0,022
25	0,054	0,051	0,048	0,046	0,043
30	0,094	0,088	0,083	0,079	0,075
35	0,149	0,1400	0,132	0,125	0,119
40	0,222	0,209	0,197	0,187	0,178
45	0,316	0,298	0,281	0,266	0,253
50	0,434	0,409	0,386	0,366	0,347
55	0,578	0,544	0,514	0,487	0,462
60	0,750	0,706	0,667	0,632	0,600
65	0,954	0,898	0,848	0,803	0,763
70	1,192	1,122	1,059	1,003	0,953
75	1,466	1,380	1,303	1,234	1,172
80	1,780	1,675	1,582	1,498	1,423
85	2,135	2,009	1,897	1,797	1,707
90	2,535	2,386	2,253	2,134	2,027
95	2,983	2,807	2,650	2,511	2,385
100	3,481	3,275	3,092	2,929	2,782
105	4,032	3,793	3,581	3,392	3,222
110	4,638	4,364	4,120	3,902	3,706
115	5,304	4,989	4,710	4,461	4,236
120	6,031	5,673	5,355	5,071	4,816
125	6,823	6,417	6,057	5,736	5,447
130	7,683	7,225	6,819	6,457	6,131
135	8,615	8,100	7,644	7,237	6,871
140	9,621	9,044	8,534	8,078	7,669
145	10,705	10,062	9,492	8,985	8,529
150	11,870	11,155	10,522	9,958	9,452
155	13,121	12,328	11,627	11,002	10,441
160	14,462	13,585	12,809	12,118	11,499
165	15,896	14,928	14,073	13,311	12,629
170		16,363	15,421	14,584	13,834
175		17,892	16,859	15,939	15,117
180			18,389	17,381	16,481
185			20,014	18,914	17,929
190				20,541	19,467
195				22,266	21,096
200					22,822
205					24,647

R=325

R	325				
L	10	20	30	40	50
l	10,000	19,998	29,994	39,985	49,970
d	5,000	10,000	14,999	19,997	24,995
y _l	0,051	0,205	0,461	0,820	1,282
ΔR	0,013	0,051	0,115	0,205	0,320
e	3,333	6,664	9,991	13,313	16,627
τ _l	0°52'53,3"	1°45'46,6"	2°38'39,9"	3°31'33,2"	4°24'26,5"
ω _l	0°17'37,8"	0°35'15,5"	0°52'53,3"	1°10'30,9"	1°28'08,6"
φ _l	0°35'15,5"	1°10'31,1"	1°45'46,6"	2°21'02,3"	2°56'17,9"
x=10	0,051	0,026	0,017	0,013	0,010
20	0,359	0,205	0,137	0,103	0,082
30		0,667	0,462	0,346	0,277
40			1,078	0,821	0,657
50				1,593	1,284
60					2,211

R=325

R	325				
L	60	70	80	90	100
l	59,949	69,919	79,879	89,828	99,764
d	29,991	34,986	39,980	44,971	49,961
y _l	1,845	2,511	3,279	4,148	5,120
ΔR	0,461	0,628	0,820	1,038	1,281
e	19,931	23,224	26,503	29,767	33,014
τ _l	5°17'19,8"	6°10'13,1"	7°03'06,4"	7°55'59,7"	8°48'53,1"
ω _l	1°45'46,2"	2°03'23,7"	2°21'01,1"	2°38'38,4"	2°56'15,6"
φ _l	3°31'33,6"	4°06'49,4"	4°42'05,3"	5°17'21,3"	5°52'37,5"
x=10	0,009	0,007	0,006	0,006	0,005
20	0,068	0,059	0,051	0,046	0,041
30	0,231	0,198	0,173	0,154	0,138
40	0,547	0,469	0,410	0,365	0,328
50	1,069	0,916	0,802	0,713	0,641
60	1,850	1,585	1,386	1,232	1,108
70	2,933	2,520	2,203	1,958	1,761
80		3,760	3,293	2,925	2,631
90			4,692	4,172	3,752
100				5,730	5,156
110					6,875

R=325

R	325				
L	110	120	130	140	150
l	109,685	119,592	129,481	139,352	149,203
d	54,948	59,932	64,913	69,892	74,867
y _l	6,192	7,367	8,642	10,018	11,495
ΔR	1,550	1,844	2,164	2,509	2,879
e	36,242	39,448	42,632	45,791	48,923
τ _l	9°41'46,4"	10°34'39,7"	11°27'33,0"	12°20'26,3"	13°13'19,6"
ω _l	3°13'52,6"	3°31'29,6"	3°49'06,3"	4°06'42,9"	4°24'19,4"
φ _l	6°27'53,8"	7°03'10,1"	7°38'26,7"	8°13'43,4"	8°49'00,2"
x=10	0,005	0,004	0,004	0,004	0,003
20	0,037	0,034	0,032	0,029	0,027
30	0,126	0,115	0,107	0,099	0,092
40	0,298	0,274	0,252	0,234	0,219
50	0,583	0,534	0,493	0,458	0,427
60	1,008	0,924	0,852	0,791	0,739
70	1,601	1,467	1,354	1,257	1,173
80	2,391	2,191	2,022	1,878	1,752
90	3,409	3,123	2,882	2,675	2,496
100	4,683	4,290	3,957	3,673	3,427
110	6,246	5,720	5,275	4,895	4,567
120	8,127	7,443	6,863	6,366	5,937
130		9,487	8,748	8,112	7,564
140			10,956	10,160	9,470
150				12,536	11,683
160					14,227

R=325

R	325				
L	160	170	180	190	200
l	159,033	168,841	178,625	188,383	198,115
d	79,839	84,807	89,770	94,730	99,685
y _l	13,071	14,748	16,525	18,400	20,375
ΔR	3,275	3,696	4,143	4,614	5,111
e	52,026	55,099	58,139	61,145	64,114
τ _l	14°06'12,9"	14°59'06,2"	15°51'59,5"	16°44'52,8"	17°37'46,1"
ω _l	4°41'55,6"	4°59'31,6"	5°17'07,4"	5°34'43,0"	5°52'18,4"
φ _l	9°24'17,3"	9°59'34,6"	10°34'52,1"	11°10'09,8"	11°45'27,7"
x=10	0,003	0,003	0,003	0,003	0,003
20	0,026	0,024	0,023	0,022	0,021
30	0,087	0,081	0,077	0,073	0,069
40	0,205	0,193	0,182	0,173	0,164
50	0,401	0,377	0,356	0,337	0,321
60	0,692	0,652	0,616	0,583	0,554
70	1,100	1,035	0,978	0,926	0,880
80	1,642	1,546	1,460	1,383	1,314
90	2,340	2,202	2,079	1,970	1,871
100	3,212	3,022	2,854	2,703	2,568
110	4,279	4,026	3,801	3,600	3,420
120	5,563	5,233	4,940	4,679	4,443
130	7,085	6,663	6,289	5,955	5,655
140	8,868	8,338	7,869	7,449	7,073
150	10,936	10,280	9,698	9,180	8,714
160	13,316	12,512	11,800	11,166	10,598
170	16,031	15,061	14,199	13,431	12,744
180		17,950	16,919	15,998	15,173
190			19,984	18,891	17,910
200				22,135	20,980
210					24,406

R=350

R	350				
L	10	20	30	40	50
l	10,000	19,996	29,994	39,987	49,975
d	5,000	10,000	14,999	19,998	24,996
y _l	0,048	0,190	0,429	0,762	1,190
ΔR	0,012	0,048	0,107	0,190	0,298
e	3,333	6,664	9,992	13,316	16,632
τ _l	0°49'06,6"	1°38'13,3"	2°27'19,9"	3°16'26,6"	4°05'33,2"
ω _l	0°16'22,2"	0°32'44,4"	0°49'06,6"	1°05'28,8"	1°21'50,9"
φ _l	0°32'44,4"	1°05'28,9"	1°38'13,3"	2°10'57,8"	2°43'42,3"
x=10	0,048	0,024	0,016	0,012	0,010
20	0,333	0,190	0,127	0,095	0,076
30		0,620	0,429	0,322	0,257
40			1,001	0,762	0,610
50				1,479	1,192
60					2,052

R=350

R	350				
L	60	70	80	90	100
l	59,956	69,930	79,896	89,851	99,796
d	29,993	34,988	39,983	44,975	49,966
y _l	1,713	2,332	3,045	3,853	4,755
ΔR	0,428	0,583	0,762	0,964	1,190
e	19,941	23,239	26,526	29,799	33,058
τ _l	4°54'39,8"	5°43'46,5"	6°32'53,1"	7°21'59,8"	8°11'06,4"
ω _l	1°38'12,9"	1°54'34,9"	2°10'56,8"	2°27'18,7"	2°43'40,4"
φ _l	3°16'26,9"	3°49'11,6"	4°21'56,3"	4°54'41,1"	5°27'26,0"
x=10	0,008	0,007	0,006	0,005	0,005
20	0,063	0,054	0,048	0,042	0,038
30	0,214	0,184	0,161	0,143	0,129
40	0,508	0,435	0,381	0,339	0,305
50	0,993	0,851	0,744	0,662	0,595
60	1,717	1,471	1,287	1,144	1,029
70	2,722	2,339	2,045	1,817	1,635
80		3,490	3,057	2,715	2,443
90			4,354	3,872	3,482
100				5,316	4,784
110					6,377

R=350

R	350				
L	110	120	130	140	150
l	109,729	119,648	129,552	139,441	149,313
d	54,955	59,941	64,925	69,907	74,885
y _l	5,752	6,843	8,028	9,307	10,679
ΔR	1,439	1,712	2,009	2,330	2,674
e	36,300	39,524	42,729	45,911	49,071
τ _l	9°00'13,0"	9°49'19,7"	10°38'26,3"	11°27'33,0"	12°16'39,6"
ω _l	3°00'02,1"	3°16'23,6"	3°32'45,0"	3°49'06,3"	4°05'27,5"
φ _l	6°00'10,9"	6°32'56,1"	7°05'41,3"	7°38'26,7"	8°11'12,1"
x=10	0,004	0,004	0,004	0,003	0,003
20	0,035	0,032	0,029	0,027	0,025
30	0,117	0,107	0,099	0,092	0,086
40	0,277	0,254	0,234	0,218	0,203
50	0,541	0,496	0,458	0,425	0,397
60	0,936	0,858	0,791	0,735	0,686
70	1,486	1,362	1,257	1,167	1,089
80	2,220	2,034	1,878	1,743	1,627
90	3,164	2,899	2,675	2,483	2,317
100	4,346	3,981	3,673	3,410	3,181
110	5,795	5,307	4,895	4,543	4,238
120	7,536	6,904	6,366	5,907	5,510
130		8,796	8,112	7,524	7,016
140			10,156	9,420	8,782
150				11,617	10,830
160					13,181

R=350

R	350				
L	160	170	180	190	200
l	159,166	169,000	178,813	188,605	198,374
d	79,861	84,833	89,802	94,767	99,729
y _l	12,145	13,704	15,356	17,100	18,937
ΔR	3,042	3,433	3,848	4,286	4,748
e	52,206	55,315	58,395	61,446	64,466
τ _l	13°05'46,2"	13°54'52,9"	14°43'59,5"	15°33'06,2"	16°22'12,8"
ω _l	4°21'48,4"	4°38'09,3"	4°54'29,9"	5°10'50,4"	5°27'10,7"
φ _l	8°43'57,8"	9°16'43,6"	9°49'29,6"	10°22'15,8"	10°55'02,1"
x=10	0,003	0,003	0,003	0,003	0,002
20	0,024	0,022	0,021	0,020	0,019
30	0,080	0,076	0,071	0,068	0,064
40	0,190	0,179	0,169	0,160	0,152
50	0,372	0,350	0,331	0,313	0,298
60	0,643	0,605	0,572	0,541	0,514
70	1,021	0,961	0,908	0,860	0,817
80	1,525	1,435	1,355	1,284	1,220
90	2,172	2,044	1,930	1,829	1,737
100	2,982	2,806	2,649	2,510	2,384
110	3,972	3,737	3,529	3,342	3,174
120	5,162	4,857	4,585	4,343	4,124
130	6,573	6,183	5,836	5,527	5,249
140	8,225	7,735	7,300	6,912	6,563
150	10,139	9,532	8,995	8,515	8,084
160	12,340	11,598	10,940	10,354	9,828
170	14,848	13,953	13,158	12,450	11,814
180		16,620	15,670	14,821	14,061
190			18,497	17,492	16,588
200				20,481	19,419
210					22,573

R=375

R	375				
L	10	20	30	40	50
l	10,000	19,999	29,995	39,989	49,978
d	5,000	10,000	14,999	19,998	24,996
y _l	0,044	0,178	0,400	0,711	1,111
ΔR	0,011	0,044	0,100	0,178	0,278
e	3,333	6,665	9,993	13,318	16,637
τ _l	0°05'46,2"	1°31'40,4"	2°17'30,6"	3°03'20,8"	3°49'11,0"
ω _l	0°15'16,7"	0°30'33,5"	0°45'50,2"	1°01'06,9"	1°16'23,5"
φ _l	0°30'33,5"	1°01'06,9"	1°31'40,4"	2°02'13,9"	2°32'47,5"
x=10	0,044	0,022	0,015	0,001	0,009
20	0,311	0,178	0,119	0,089	0,071
30		0,578	0,400	0,300	0,240
40			0,934	0,711	0,569
50				1,380	1,112
60					1,915

R=375

R	375				
L	60	70	80	90	100
l	59,962	69,939	79,909	89,870	99,822
d	29,994	34,900	39,985	44,978	49,970
y _l	1,599	2,176	2,842	3,596	4,439
ΔR	0,400	0,544	0,711	0,900	1,110
e	19,948	23,251	26,544	29,825	33,093
τ _l	4°35'01,2"	5°20'51,4"	6°06'41,6"	6°52'31,8"	7°38'22,0"
ω _l	1°31'40,1"	1°46'56,7"	2°02'13,2"	2°17'29,6"	2°32'45,9"
φ _l	3°03'21,1"	3°33'54,7"	4°04'28,4"	4°35'02,2"	5°05'36,1"
x=10	0,007	0,006	0,006	0,005	0,004
20	0,059	0,051	0,044	0,040	0,036
30	0,200	0,171	0,150	0,133	0,120
40	0,474	0,406	0,356	0,316	0,284
50	0,927	0,794	0,695	0,617	0,556
60	1,602	1,373	1,201	1,067	0,961
70	2,540	2,182	1,908	1,696	1,526
80		3,255	2,852	2,534	2,279
90			4,061	3,612	3,249
100				4,958	4,463
110					5,946

R=375

R	375				
L	110	120	130	140	150
l	109,764	119,693	129,610	139,513	149,401
d	54,961	59,949	64,935	69,919	74,900
y _l	5,370	6,388	7,495	8,689	9,971
ΔR	1,343	1,599	1,876	2,175	2,496
e	36,347	39,586	42,807	46,009	49,191
τ _l	8°24'12,2"	9°10'02,4"	9°55'52,6"	10°41'42,8"	11°27'33,0"
ω _l	2°48'02,2"	3°03'18,4"	3°18'34,5"	3°33'50,5"	3°49'06,3"
φ _l	5°36'10,0"	6°06'44,0"	6°37'18,1"	7°07'52,3"	7°38'26,7"
x=10	0,004	0,004	0,003	0,003	0,003
20	0,032	0,030	0,027	0,025	0,024
30	0,109	0,100	0,092	0,086	0,080
40	0,259	0,237	0,219	0,203	0,190
50	0,505	0,463	0,427	0,397	0,370
60	0,873	0,800	0,739	0,686	0,640
70	1,387	1,271	1,173	1,089	1,017
80	2,072	1,898	1,752	1,627	1,518
90	2,952	2,705	2,496	2,317	2,163
100	4,054	3,714	3,427	3,181	2,968
110	5,405	4,950	4,567	4,238	3,954
120	7,027	6,438	5,937	5,510	5,139
130		8,200	7,564	7,016	6,544
140			9,466	8,782	8,188
150				10,826	10,093
160					12,280

R=375

R	375				
L	160	170	180	190	200
l	159,273	169,129	178,966	188,784	198,582
d	79,879	84,855	89,828	94,797	99,763
y _l	11,341	12,797	14,341	15,971	17,688
ΔR	2,840	3,205	3,593	4,002	4,433
e	52,351	55,489	58,602	61,689	64,749
τ _l	12°13'23,2"	12°59'13,4"	13°45'03,6"	14°30'53,8"	15°16'44,0"
ω _l	4°04'22,1"	4°19'37,7"	4°34'53,1"	4°50'08,4"	5°05'23,6"
φ _l	8°09'01,1"	8°39'35,7"	9°10'10,5"	9°40'45,4"	10°11'20,4"
x=10	0,003	0,003	0,002	0,002	0,002
20	0,022	0,021	0,020	0,019	0,018
30	0,075	0,071	0,067	0,063	0,060
40	0,178	0,167	0,158	0,150	0,142
50	0,347	0,327	0,309	0,292	0,278
60	0,600	0,565	0,533	0,505	0,480
70	0,953	0,897	0,847	0,803	0,762
80	1,423	1,339	1,265	1,198	1,138
90	2,027	1,908	1,801	1,707	1,621
100	2,782	2,618	2,472	2,342	2,224
110	3,706	3,487	3,292	3,119	2,962
120	4,816	4,531	4,278	4,052	3,848
130	6,131	5,767	5,444	5,156	4,896
140	7,669	5,213	6,808	6,447	6,122
150	9,452	8,887	8,387	7,940	7,539
160	11,499	10,809	10,198	9,653	9,164
170	13,830	12,999	12,261	11,603	11,012
180		15,476	14,595	13,808	13,102
190			17,219	16,288	15,450
200				19,061	18,078
210					20,002

R=400

R	400				
L	10	20	30	40	50
l	10,000	19,999	29,996	39,990	49,980
d	5,000	10,000	14,999	19,998	24,997
y _l	0,042	0,375	0,375	0,667	1,041
ΔR	0,010	0,094	0,094	0,167	0,260
e	3,333	6,665	9,994	13,320	16,640
τ _l	0°42'58,3"	1°25'56,6"	2°08'54,9"	2°51'53,2"	3°34'51,6"
ω _l	0°14'19,4"	0°28'38,9"	0°42'58,3"	0°57'17,7"	1°11'37,0"
φ _l	0°28'38,9"	0°57'17,7"	1°25'56,6"	1°54'35,5"	2°23'14,6"
x=10	0,042	0,021	0,014	0,010	0,008
20	0,292	0,167	0,111	0,083	0,067
30		0,542	0,375	0,281	0,225
40			0,876	0,667	0,534
50				1,293	1,043
60					1,795

R=400

R	400				
L	60	70	80	90	100
l	59,966	69,946	79,920	89,886	99,844
d	29,994	34,991	39,987	44,981	49,974
y _l	1,499	2,041	2,665	3,372	4,162
ΔR	0,375	0,510	0,666	0,843	1,041
e	19,955	23,261	26,559	29,846	33,123
τ _l	4°17'49,9"	5°00'48,2"	5°43'46,5"	6°26'44,8"	7°09'43,1"
ω _l	1°25'56,4"	1°40'15,7"	1°54'34,9"	2°08'54,1"	2°23'13,2"
φ _l	2°51'53,5"	3°20'32,5"	3°49'11,6"	4°17'50,7"	4°46'29,9"
x=10	0,007	0,006	0,005	0,005	0,004
20	0,056	0,048	0,042	0,037	0,033
30	0,188	0,161	0,141	0,125	0,113
40	0,445	0,381	0,333	0,296	0,267
50	0,869	0,744	0,651	0,579	0,521
60	1,502	1,287	1,126	1,001	0,900
70	2,381	2,045	1,789	1,590	1,430
80		3,051	2,673	2,375	2,136
90			3,805	3,385	3,045
100				4,645	4,182
110					5,571

R=400

R	400				
L	110	120	130	140	150
l	109,792	119,730	129,657	139,572	149,474
d	54,965	59,955	64,943	69,929	74,912
y _l	5,035	5,990	7,028	8,149	9,351
ΔR	1,260	1,499	1,759	2,039	2,341
e	36,386	39,636	42,870	46,088	49,289
τ _l	7°52'41,4"	8°35'39,7"	9°18'38,0"	10°01'36,3"	10°44'34,7"
ω _l	2°37'32,3"	2°51'51,3"	3°06'10,2"	3°20'29,0"	3°34'47,7"
φ _l	5°15'09,1"	5°43'48,4"	6°12'27,8"	6°41'07,3"	7°09'47,0"
x=10	0,004	0,003	0,003	0,003	0,003
20	0,030	0,028	0,026	0,024	0,022
30	0,102	0,094	0,087	0,080	0,075
40	0,242	0,222	0,205	0,190	0,178
50	0,474	0,434	0,401	0,372	0,347
60	0,818	0,750	0,692	0,643	0,600
70	1,300	1,192	1,100	1,021	0,953
80	1,942	1,780	1,642	1,525	1,423
90	2,767	2,535	2,340	2,172	2,027
100	3,799	3,481	3,212	2,982	2,782
110	5,064	4,638	4,279	3,972	3,706
120	6,582	6,031	5,563	5,162	4,816
130		7,679	7,085	6,573	6,131
140			8,864	8,225	7,669
150				10,136	9,452
160					11,495

R=400

R	400				
L	160	170	180	190	200
l	159,361	169,234	179,091	188,931	198,754
d	79,893	84,872	89,848	94,822	99,792
y _l	10,636	12,003	13,451	14,981	16,592
ΔR	2,663	3,006	3,369	3,753	4,157
e	52,470	55,631	58,771	61,888	64,981
τ _l	11°27'33,0"	12°10'31,3"	12°53'29,6"	13°36'27,9"	14°19'26,2"
ω _l	3°49'06,3"	4°03'24,8"	4°17'43,2"	4°32'01,5"	4°46'19,6"
φ _l	7°38'26,7"	8°07'06,5"	8°35'46,4"	9°04'26,4"	9°33'06,6"
x=10	0,003	0,002	0,002	0,002	0,002
20	0,021	0,020	0,019	0,018	0,017
30	0,070	0,066	0,063	0,059	0,056
40	0,167	0,157	0,148	0,140	0,133
50	0,326	0,306	0,289	0,274	0,260
60	0,563	0,529	0,500	0,474	0,450
70	0,894	0,841	0,794	0,752	0,715
80	1,334	1,256	1,186	1,123	1,067
90	1,900	1,788	1,689	1,600	1,520
100	2,608	2,454	2,317	2,195	2,085
110	3,473	3,268	3,086	2,923	2,777
120	4,513	4,246	4,009	3,797	3,607
130	5,744	5,404	5,102	4,832	4,589
140	7,185	6,758	6,379	6,041	5,736
150	8,852	8,325	7,857	7,439	7,063
160	10,766	10,122	9,551	9,042	8,584
170	12,944	12,169	11,480	10,865	10,313
180		14,482	13,661	12,926	12,266
190			16,110	15,241	14,460
200				17,829	16,913
210					19,639

R=425

R	425				
L	10	20	30	40	50
l	10,000	19,999	29,996	39,991	49,983
d	5,000	10,000	14,999	19,999	24,997
y _l	0,039	0,157	0,353	0,627	0,980
ΔR	0,010	0,039	0,088	0,157	0,247
e	3,333	6,665	9,995	13,321	16,643
τ _l	0°40'26,6"	1°20'53,3"	2°01'19,9"	2°41'46,6"	3°22'13,2"
ω _l	0°13'28,9"	0°26'57,8"	0°40'26,6"	0°53'55,5"	1°07'24,3"
φ _l	0°26'57,7"	0°53'55,5"	1°20'53,3"	1°47'51,1"	2°14'48,9"
x=10	0,039	0,020	0,013	0,010	0,008
20	0,275	0,157	0,105	0,078	0,063
30		0,510	0,353	0,265	0,212
40			0,824	0,628	0,502
50				1,217	0,983
60					1,691

R=425

R	425				
L	60	70	80	90	100
l	59,970	69,953	79,929	89,899	99,862
d	29,995	34,992	39,988	44,983	49,977
y _l	1,411	1,921	2,508	3,174	3,918
ΔR	0,353	0,480	0,627	0,794	0,980
e	19,960	23,269	26,571	29,864	33,147
τ _l	4°02'39,9"	4°43'06,5"	5°23'33,2"	6°03'59,8"	6°44'26,5"
ω _l	1°20'53,1"	1°34'21,8"	1°47'50,6"	2°01'19,3"	2°14'47,9"
φ _l	2°41'46,8"	3°08'44,7"	3°35'42,6"	4°02'40,5"	4°29'38,6"
x=10	0,007	0,006	0,005	0,004	0,004
20	0,052	0,045	0,039	0,035	0,031
30	0,176	0,151	0,132	0,118	0,106
40	0,418	0,359	0,314	0,279	0,251
50	0,817	0,701	0,613	0,545	0,490
60	1,413	1,211	1,060	0,942	0,847
70	2,240	1,925	1,683	1,496	1,346
80		2,870	2,515	2,235	2,010
90			3,580	3,185	2,865
100				4,370	3,934
110					5,240

R=425

R	425				
L	110	120	130	140	150
l	109,816	119,761	129,696	139,621	149,534
d	54,969	59,960	64,949	69,937	74,922
y _l	4,739	5,639	6,616	7,671	8,804
ΔR	1,186	1,411	1,655	1,920	2,203
e	36,418	39,677	42,923	46,154	49,982
τ _l	7°24'53,1"	8°05'19,7"	8°45'46,4"	9°26'13,0"	10°06'39,7"
ω _l	2°28'16,4"	2°41'44,9"	2°55'13,4"	3°08'41,7"	3°22'10,0"
φ _l	4°56'36,7"	5°23'34,8"	5°50'33,0"	6°17'31,3"	6°44'29,7"
x=10	0,004	0,003	0,003	0,003	0,003
20	0,029	0,026	0,024	0,022	0,021
30	0,096	0,088	0,081	0,076	0,071
40	0,228	0,209	0,193	0,179	0,167
50	0,446	0,409	0,377	0,350	0,327
60	0,770	0,706	0,652	0,605	0,565
70	1,224	1,122	1,035	0,961	0,897
80	1,827	1,675	1,546	1,435	1,339
90	2,603	2,386	2,202	2,044	1,908
100	3,574	3,275	3,022	2,806	2,618
110	4,764	4,364	4,026	3,737	3,487
120	6,190	5,673	5,233	4,857	4,531
130		7,222	6,663	6,183	5,767
140			8,335	7,735	7,213
150				9,529	8,887
160					10,806

R=425

R	425				
L	160	170	180	190	200
l	159,434	169,321	179,194	189,053	198,896
d	79,906	84,887	89,866	94,842	99,816
y _l	10,014	11,301	12,665	14,106	15,624
ΔR	2,507	2,829	3,172	3,533	3,914
e	52,569	55,750	58,911	62,053	65,174
τ _l	10°47'06,3"	11°27'33,0"	12°07'59,6"	12°48'26,3"	13°28'52,9"
ω _l	3°35'38,2"	3°49'06,3"	4°02'34,3"	4°16'02,2"	4°29'30,0"
φ _l	7°11'28,1"	7°38'26,7"	8°05'25,3"	8°32'24,1"	8°59'22,9"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,020	0,018	0,017	0,017	0,016
30	0,066	0,062	0,059	0,056	0,053
40	0,157	0,148	0,139	0,132	0,125
50	0,306	0,288	0,272	0,258	0,245
60	0,529	0,498	0,471	0,446	0,424
70	0,841	0,791	0,747	0,708	0,673
80	1,256	1,182	1,116	1,057	1,004
90	1,788	1,683	1,589	1,506	1,430
100	2,454	2,309	2,181	2,066	1,962
110	3,268	3,075	2,904	2,751	2,613
120	4,246	3,995	3,772	3,573	3,394
130	5,404	5,084	4,800	4,546	4,318
140	6,758	6,357	6,001	5,683	5,397
150	8,325	7,829	7,390	6,997	6,644
160	10,122	9,518	8,982	8,503	8,073
170	12,166	11,439	10,793	10,216	9,698
180		13,609	12,840	12,150	11,532
190			15,137	14,323	13,591
200				16,748	15,891
210					18,445

R=450

R	450				
L	10	20	30	40	50
l	10,000	19,999	29,997	39,992	49,985
d	5,000	10,000	14,999	19,999	24,997
y _l	0,037	0,148	0,333	0,593	0,926
ΔR	0,009	0,037	0,083	0,148	0,231
e	3,333	6,665	9,996	13,323	16,646
τ _l	0°38'11,8"	1°16'23,7"	1°54'35,5"	2°32'47,3"	3°10'59,2"
ω _l	0°12'43,9"	0°25'27,9"	0°38'11,8"	0°50'55,8"	1°03'39,6"
φ _l	0°25'27,9"	0°50'55,8"	1°16'23,7"	1°41'51,5"	2°07'19,6"
x=10	0,037	0,019	0,012	0,009	0,007
20	0,259	0,148	0,099	0,074	0,059
30		0,482	0,333	0,250	0,200
40			0,778	0,593	0,474
50				1,149	0,927
60					1,595

R=450

R	450				
L	60	70	80	90	100
l	59,973	69,958	79,937	89,910	99,877
d	29,996	34,993	39,989	44,985	49,979
y _l	1,333	1,814	2,369	2,998	3,700
ΔR	0,333	0,454	0,592	0,750	0,925
e	19,964	23,276	26,581	29,879	33,167
τ _l	3°49'11,0"	4°27'22,8"	5°05'34,7"	5°43'46,5"	6°21'58,3"
ω _l	1°16'23,5"	1°29'07,3"	1°41'51,2"	1°54'34,9"	2°07'18,6"
φ _l	2°32'47,5"	2°58'15,5"	3°23'43,5"	3°49'11,6"	4°14'39,7"
x=10	0,006	0,005	0,005	0,004	0,004
20	0,049	0,042	0,037	0,033	0,030
30	0,167	0,143	0,125	0,111	0,100
40	0,395	0,339	0,296	0,263	0,237
50	0,772	0,662	0,579	0,515	0,463
60	1,335	1,144	1,001	0,889	0,800
70	2,115	1,817	1,590	1,413	1,271
80		2,710	2,375	2,110	1,898
90			3,380	3,007	2,705
100				4,125	3,714
110					4,946

R=450

R	450				
L	110	120	130	140	150
l	109,836	119,787	129,729	139,662	149,584
d	54,973	59,964	64,925	69,944	74,931
y _l	4,447	5,327	6,250	7,247	8,317
ΔR	1,120	1,333	1,564	1,813	2,081
e	36,445	39,712	42,967	46,210	49,438
τ _l	7°00'10,1"	7°38'22,0"	8°16'33,8"	8°54'45,6"	9°32'57,5"
ω _l	2°20'02,3"	2°32'45,9"	2°45'29,5"	2°58'13,0"	3°10'56,4"
φ _l	4°40'07,8"	5°05'36,1"	5°31'04,3"	5°56'32,6"	6°22'01,1"
x=10	0,003	0,003	0,003	0,003	0,002
20	0,027	0,025	0,023	0,021	0,020
30	0,091	0,083	0,077	0,071	0,067
40	0,216	0,197	0,182	0,169	0,158
50	0,421	0,386	0,356	0,331	0,309
60	0,727	0,667	0,616	0,572	0,533
70	1,156	1,059	0,978	0,908	0,847
80	1,726	1,582	1,460	1,355	1,265
90	2,458	2,253	2,079	1,930	1,801
100	3,375	3,092	2,854	2,649	2,472
110	4,497	4,120	3,801	3,529	3,292
120	5,843	5,355	4,940	4,585	4,278
130		6,816	6,289	5,836	5,444
140			7,865	7,300	6,808
150				8,991	8,387
160					10,195

R=450

R	450				
L	160	170	180	190	200
l	159,495	169,394	179,281	189,155	199,015
d	79,916	84,899	89,880	94,859	99,836
y _l	9,460	10,676	11,966	13,328	14,763
ΔR	2,368	2,672	2,996	3,337	3,697
e	52,651	55,849	59,029	62,191	65,335
τ _l	10°11'09,3"	10°49'21,1"	11°27'33,0"	12°05'44,8"	12°43'56,6"
ω _l	3°23'39,8"	3°36'23,1"	3°49'06,3"	4°01'49,5"	4°14'32,5"
φ _l	6°47'29,5"	7°12'58,0"	7°38'26,7"	8°03'55,3"	8°29'24,1"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,019	0,017	0,016	0,016	0,015
30	0,063	0,059	0,056	0,053	0,050
40	0,148	0,139	0,132	0,125	0,119
50	0,289	0,272	0,257	0,244	0,231
60	0,500	0,471	0,444	0,421	0,400
70	0,794	0,747	0,706	0,669	0,635
80	1,186	1,116	1,054	0,998	0,948
90	1,689	1,589	1,501	1,422	1,351
100	2,317	2,181	2,059	1,951	1,853
110	3,086	2,904	2,742	2,598	2,467
120	4,009	3,772	3,562	3,374	3,205
130	5,102	4,800	4,532	4,292	4,077
140	6,379	6,001	5,665	5,365	5,095
150	7,857	7,390	6,975	6,605	6,273
160	9,551	8,982	8,477	8,026	7,621
170	11,477	10,793	10,184	9,640	9,152
180		12,836	12,112	11,463	10,881
190			14,275	13,510	12,821
200				15,793	14,986
210					17,390

R=475

R	475				
L	10	20	30	40	50
l	10,000	19,999	29,997	39,993	49,986
d	5,000	10,000	14,999	19,999	24,998
y _l	0,035	0,140	0,316	0,561	0,877
ΔR	0,009	0,035	0,079	0,140	0,219
e	3,333	6,666	9,996	13,324	16,648
τ _l	0°36'11,2"	1°12'22,4"	1°48'33,6"	2°24'44,8"	3°00'56,0"
ω _l	0°12'03,7"	0°24'07,5"	0°36'11,2"	0°48'14,9"	1°00'18,6"
φ _l	0°24'07,5"	0°48'14,9"	1°12'22,4"	1°36'29,9"	2°00'37,4"
x=10	0,035	0,018	0,012	0,009	0,007
20	0,246	0,140	0,094	0,070	0,056
30		0,456	0,316	0,237	0,189
40			0,737	0,562	0,449
50				1,089	0,878
60					1,511

R=475

R	475				
L	60	70	80	90	100
l	59,976	69,962	79,943	89,919	99,889
d	29,996	34,994	39,991	44,987	49,982
y _l	1,263	1,719	2,244	2,840	3,506
ΔR	0,316	0,430	0,561	0,710	0,877
e	19,968	23,282	26,590	29,891	33,184
τ _l	3°37'07,3"	4°13'18,5"	4°49'29,7"	5°25'40,9"	6°01'52,1"
ω _l	1°12'22,3"	1°24'25,9"	1°36'29,5"	1°48'33,1"	2°00'36,7"
φ _l	2°24'45,0"	2°48'52,6"	3°13'00,2"	3°37'07,8"	4°01'15,4"
x=10	0,006	0,005	0,004	0,004	0,004
20	0,047	0,040	0,035	0,031	0,028
30	0,158	0,135	0,118	0,105	0,095
40	0,374	0,321	0,281	0,250	0,225
50	0,731	0,627	0,548	0,487	0,439
60	1,264	1,083	0,948	0,842	0,758
70	2,003	1,721	1,506	1,338	1,204
80		2,567	2,249	1,999	1,798
90			3,201	2,848	2,562
100				3,907	3,518
110					4,684

R=475

R	475				
L	110	120	130	140	150
l	109,853	119,809	129,696	139,696	149,626
d	54,975	59,968	64,959	69,949	74,938
y _i	4,242	5,047	5,922	6,867	7,881
ΔR	1,061	1,262	1,482	1,718	1,972
e	36,468	39,742	43,005	46,257	49,496
τ _i	6°38'03,3"	7°14'14,5"	7°50'25,7"	8°26'36,9"	9°02'48,1"
ω _i	2°12'40,2"	2°24'43,7"	2°36'47,1"	2°48'50,4"	3°00'53,8"
φ _i	4°25'23,1"	4°49'30,8"	5°13'38,6"	5°37'46,5"	6°01'54,3"
x=10	0,003	0,003	0,003	0,003	0,002
20	0,026	0,023	0,022	0,020	0,019
30	0,086	0,079	0,073	0,068	0,063
40	0,204	0,187	0,173	0,160	0,150
50	0,399	0,366	0,337	0,313	0,292
60	0,689	0,632	0,583	0,541	0,505
70	1,095	1,003	0,926	0,860	0,803
80	1,635	1,498	1,383	1,284	1,198
90	2,329	2,134	1,970	1,829	1,707
100	3,197	2,929	2,703	2,510	2,342
110	4,259	3,902	3,600	3,342	3,119
120	5,533	5,071	4,679	4,343	4,052
130		6,453	5,956	5,527	5,156
140			7,446	6,912	6,447
150				8,512	7,940
160					9,650

R=475

R	475				
L	160	170	180	190	200
l	159,547	169,456	179,355	189,241	199,115
d	79,924	84,909	89,892	94,873	99,852
y _i	8,964	10,117	11,339	12,631	13,991
ΔR	2,243	2,532	2,839	3,162	3,503
e	52,721	55,932	59,128	62,308	65,471
τ _i	9°38'59,3"	10°15'10,5"	10°51'21,8"	11°27'33,0"	12°03'44,2"
ω _i	3°12'57,0"	3°25'00,2"	3°37'03,3"	3°49'06,3"	4°01'09,3"
φ _i	6°26'02,3"	6°50'10,3"	7°14'18,5"	7°38'26,7"	8°02'34,9"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,018	0,017	0,016	0,015	0,014
30	0,059	0,056	0,053	0,050	0,047
40	0,140	0,132	0,125	0,118	0,112
50	0,274	0,258	0,244	0,231	0,219
60	0,474	0,446	0,421	0,399	0,379
70	0,752	0,708	0,669	0,634	0,602
80	1,123	1,057	0,998	0,946	0,898
90	1,600	1,506	1,422	1,347	1,279
100	2,195	2,066	1,951	1,848	1,755
110	2,923	2,751	2,598	2,461	2,337
120	3,797	3,573	3,374	3,916	3,036
130	4,832	4,546	4,292	4,065	3,861
140	6,041	5,683	5,365	5,081	4,826
150	7,439	6,997	6,605	6,255	5,940
160	9,042	8,503	8,026	7,599	7,216
170	10,862	10,216	9,640	9,127	8,665
180		12,148	11,464	10,851	10,301
190			13,507	12,785	12,135
200				14,942	14,181
210					16,451

R=500

R	500				
L	10	20	30	40	50
l	10,000	19,999	29,997	39,994	49,998
d	5,000	10,000	15,000	19,999	24,998
y _i	0,033	0,133	0,300	0,533	0,833
ΔR	0,008	33,000	0,075	0,133	0,208
e	3,333	6,666	9,996	13,325	16,650
τ _i	0°34'22,7"	1°08'45,3"	1°43'07,9"	2°17'30,6"	2°51'53,2"
ω _i	0°11'27,6"	0°22'55,1"	0°34'22,6"	0°45'50,2"	0°57'17,7"
φ _i	0°22'55,1"	0°45'50,2"	1°08'45,3"	1°31'40,4"	1°54'35,5"
x=10	0,033	0,017	0,011	0,008	0,007
20	0,233	0,133	0,089	0,067	0,053
30		0,433	0,300	0,225	0,180
40			0,700	0,534	0,427
50				1,034	0,834
60					1,435

R=500

R	500				
L	60	70	80	90	100
l	59,978	69,966	79,949	89,927	99,900
d	29,996	34,994	39,991	44,988	49,983
y _i	1,200	1,633	2,132	2,698	3,331
ΔR	0,300	0,408	0,533	0,675	0,833
e	19,971	23,287	26,598	29,902	33,198
τ _i	3°26'15,9"	4°00'38,5"	4°35'01,2"	5°09'23,8"	5°43'46,5"
ω _i	1°08'45,2"	1°20'12,7"	1°31'40,1"	1°43'07,5"	1°54'34,9"
φ _i	2°17'30,7"	2°40'25,8"	3°03'21,1"	3°26'16,3"	3°49'11,6"
x=10	0,006	0,005	0,004	0,004	0,003
20	0,044	0,038	0,033	0,030	0,027
30	0,150	0,129	0,113	0,100	0,090
40	0,356	0,305	0,267	0,237	0,213
50	0,695	0,595	0,521	0,463	0,417
60	1,201	1,029	0,900	0,800	0,720
70	1,903	1,635	1,430	1,271	1,144
80		2,438	2,134	1,898	1,708
90			3,040	2,705	2,434
100				3,710	3,341
110					4,448

R=500

R	500				
L	110	120	130	140	150
l	109,867	119,827	129,780	139,726	149,663
d	54,978	59,971	64,963	69,954	74,944
y ₁	4,030	4,795	5,627	6,524	7,488
ΔR	1,008	1,199	1,407	1,632	1,874
e	36,487	39,767	43,037	46,297	49,545
τ ₁	6°18'09,1"	6°52'31,8"	7°26'54,4"	8°01'17,1"	8°35'39,7"
ω ₁	2°06'02,3"	2°17'29,6"	2°28'56,9"	2°40'24,1"	2°51'51,3"
φ ₁	4°12'06,8"	4°35'02,2"	4°57'57,5"	5°20'53,0"	5°43'48,4"
x=10	0,003	0,003	0,003	0,002	0,002
20	0,024	0,022	0,021	0,019	0,018
30	0,082	0,075	0,069	0,064	0,060
40	0,194	0,178	0,164	0,152	0,142
50	0,379	0,347	0,321	0,298	0,278
60	0,655	0,600	0,554	0,514	0,480
70	1,040	0,953	0,880	0,817	0,762
80	1,553	1,423	1,314	1,220	1,138
90	2,212	2,027	1,871	1,737	1,621
100	3,036	2,782	2,568	2,384	2,224
110	4,045	3,706	3,420	3,174	2,962
120	5,254	4,816	4,443	4,124	3,848
130		6,128	5,655	5,249	4,896
140			7,070	6,563	6,122
150				8,081	7,539
160					9,161

R=500

R	500				
L	160	170	180	190	200
l	159,591	169,509	179,418	189,315	199,201
d	79,932	84,918	89,903	94,886	99,867
y ₁	8,518	9,613	10,775	12,002	13,295
ΔR	2,131	2,406	2,697	3,005	3,329
e	52,781	56,004	59,213	62,408	65,588
τ ₁	9°10'02,4"	9°44'25,0"	10°18'47,7"	10°53'10,3"	11°27'33,0"
ω ₁	3°03'18,4"	3°14'45,5"	3°26'12,5"	3°37'39,4"	3°49'06,3"
φ ₁	6°06'44,0"	6°29'39,5"	6°52'35,2"	7°15'30,9"	7°38'26,7"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,017	0,016	0,015	0,014	0,013
30	0,056	0,053	0,050	0,048	0,045
40	0,133	0,125	0,119	0,112	0,107
50	0,260	0,245	0,231	0,219	0,208
60	0,450	0,424	0,400	0,379	0,360
70	0,715	0,673	0,635	0,602	0,572
80	1,067	1,004	0,948	0,898	0,854
90	1,520	1,430	1,351	1,279	1,215
100	2,085	1,962	1,853	1,755	1,668
110	2,777	2,613	2,467	2,337	2,220
120	3,607	3,394	3,205	3,036	2,883
130	4,589	4,318	4,077	3,861	3,668
140	5,736	5,397	5,095	4,826	4,583
150	7,063	6,644	6,273	5,940	5,641
160	8,584	8,073	7,621	7,216	6,852
170	10,311	9,698	9,152	8,665	8,228
180		11,530	10,881	10,301	9,779
190			12,819	12,135	11,518
200				14,178	13,458
210					15,609

R=550

R	550				
L	10	20	30	40	50
l	10,000	19,999	29,998	39,995	49,990
d	5,000	10,000	15,000	19,999	24,998
y ₁	0,030	0,121	0,273	0,485	0,757
ΔR	0,008	0,030	0,068	0,121	0,189
e	3,333	6,666	9,997	13,326	16,653
τ ₁	0°31'15,1"	1°02'30,3"	1°33'45,4"	2°05'00,5"	2°36'15,7"
ω ₁	0°10'25,1"	0°20'50,1"	0°31'15,1"	0°41'40,2"	0°52'05,2"
φ ₁	0°20'50,0"	0°41'40,2"	1°02'30,3"	1°23'20,3"	1°44'10,5"
x=10	0,030	0,015	0,010	0,008	0,006
20	0,212	0,121	0,081	0,061	0,048
30		0,394	0,273	0,205	0,164
40			0,637	0,485	0,388
50				0,940	0,758
60					1,304

R=550

R	550				
L	60	70	80	90	100
l	59,982	69,972	79,958	89,940	99,917
d	29,997	34,995	39,993	44,990	49,986
y ₁	1,091	1,484	1,939	2,453	3,029
ΔR	0,273	0,371	0,485	0,613	0,757
e	19,976	23,295	26,610	29,919	33,222
τ ₁	3°07'30,8"	3°38'45,9"	4°10'01,1"	4°41'16,2"	5°12'31,4"
ω ₁	1°02'30,2"	1°12'55,2"	1°23'20,1"	1°33'45,1"	1°44'10,0"
φ ₁	2°05'00,6"	2°25'50,7"	2°46'41,0"	3°07'31,1"	3°28'21,4"
x=10	0,005	0,004	0,004	0,003	0,003
20	0,040	0,035	0,030	0,027	0,024
30	0,136	0,117	0,102	0,091	0,082
40	0,323	0,277	0,242	0,216	0,194
50	0,632	0,541	0,474	0,421	0,379
60	1,092	0,936	0,818	0,727	0,655
70	1,729	1,486	1,300	1,156	1,040
80		2,216	1,942	1,726	1,553
90			2,763	2,458	2,212
100				3,371	3,036
110					4,041

R=550

R	550				
L	110	120	130	140	150
l	109,890	119,857	129,819	139,773	149,721
d	54,982	59,976	64,970	69,962	74,954
y _i	3,664	4,360	5,116	5,933	6,809
ΔR	0,916	1,090	1,280	1,484	1,704
e	36,518	39,807	43,088	46,361	49,624
τ _i	5°43'46,5"	6°15'01,6"	6°46'16,8"	7°17'31,9"	7°48'47,0"
ω _i	1°54'34,9"	2°04'59,8"	2°15'24,6"	2°25'49,4"	2°36'14,2"
φ _i	3°49'11,6"	4°10'01,8"	4°30'52,2"	4°51'42,5"	5°12'32,8"
x=10	0,003	0,003	0,002	0,002	0,002
20	0,022	0,020	0,019	0,017	0,016
30	0,074	0,068	0,063	0,058	0,055
40	0,176	0,162	0,149	0,139	0,129
50	0,344	0,316	0,291	0,271	0,253
60	0,595	0,546	0,504	0,468	0,436
70	0,945	0,866	0,800	0,743	0,693
80	1,411	1,294	1,194	1,109	1,035
90	2,010	1,842	1,701	1,579	1,474
100	2,759	2,529	2,334	2,167	2,022
110	3,675	3,368	3,108	2,885	2,692
120	4,773	4,376	4,037	3,748	3,497
130		5,566	5,138	4,769	4,449
140			6,421	5,962	5,561
150				7,339	6,847
160					8,319

R=550

R	550				
L	160	170	180	190	200
l	159,662	169,594	179,519	189,434	199,340
d	79,944	84,932	89,920	94,906	99,890
y _i	7,746	8,743	9,799	10,916	12,093
ΔR	1,938	2,188	2,452	2,732	3,027
e	52,877	56,119	59,350	62,569	65,775
τ _i	8°20'02,2"	8°51'17,3"	9°22'332,4"	9°53'47,6"	10°25'02,7"
ω _i	2°46'38,9"	2°57'03,6"	3°07'28,3"	3°17'52,8"	3°28'17,4"
φ _i	5°33'23,3"	5°54'13,7"	6°15'04,1"	6°35'54,8"	6°56'45,3"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,015	0,014	0,013	0,013	0,012
30	0,051	0,048	0,045	0,043	0,041
40	0,121	0,114	0,108	0,102	0,097
50	0,237	0,223	0,210	0,199	0,189
60	0,409	0,385	0,364	0,345	0,327
70	0,650	0,612	0,578	0,547	0,520
80	0,970	0,913	0,862	0,817	0,776
90	1,381	1,300	1,228	1,163	1,105
100	1,895	1,784	1,684	1,596	1,516
110	2,524	2,375	2,243	2,124	2,018
120	3,278	3,084	2,913	2,759	2,621
130	4,170	3,924	3,705	3,509	3,333
140	5,212	4,904	4,630	4,385	4,165
150	6,416	6,036	5,699	5,397	5,126
160	7,795	7,333	6,922	6,555	6,225
170	9,361	8,806	8,312	7,870	7,474
180		10,466	9,879	9,353	8,881
190			11,634	11,015	10,457
200				12,866	12,214
210					14,161

R=550

R	550				
L	210	220	230	240	250
l	209,236	219,122	228,997	238,860	248,712
d	104,873	109,854	114,833	119,810	124,785
y _i	13,329	14,625	15,980	17,395	18,870
ΔR	3,337	3,661	4,001	4,356	4,726
e	68,968	56,147	75,311	78,459	81,592
τ _i	10°56'17,8"	11°27'33,0"	11°58'48,1"	12°30'03,2"	13°01'18,4"
ω _i	3°38'41,9"	3°49'06,3"	3°59'30,7"	4°09'55,0"	4°20'19,3"
φ _i	7°17'35,9"	7°38'26,7"	7°59'17,4"	8°20'08,2"	8°40'59,1"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,012	0,011	0,011	0,010	0,010
30	0,039	0,037	0,036	0,034	0,033
40	0,092	0,088	0,084	0,081	0,078
50	0,180	0,172	0,165	0,158	0,152
60	0,312	0,298	0,285	0,273	0,262
70	0,495	0,472	0,452	0,433	0,416
80	0,739	0,705	0,675	0,647	0,621
90	1,052	1,004	0,961	0,921	0,884
100	1,444	1,378	1,318	1,263	1,212
110	1,922	1,834	1,755	1,681	1,614
120	2,496	2,382	2,278	2,183	2,096
130	3,174	3,030	2,898	2,777	2,665
140	3,966	3,785	3,620	3,469	3,330
150	4,881	4,658	4,455	4,268	4,097
160	5,927	5,656	5,409	5,183	4,975
170	7,115	6,789	6,492	6,220	5,970
180	8,454	8,066	7,713	7,389	7,092
190	9,954	9,496	9,079	8,698	8,347
200	11,624	11,089	10,601	10,155	9,744
210	13,477	12,855	12,288	11,769	11,292
220	15,521	14,804	14,149	13,550	13,000
230		16,945	16,194	15,506	14,875
240			18,433	17,649	16,928
250				19,987	19,169
260					21,606

R=600

R	600				
L	10	20	30	40	50
l	10,000	19,999	29,998	39,996	49,991
d	5,000	10,000	15,000	19,999	24,999
y _i	0,028	0,111	0,250	0,444	0,694
ΔR	0,007	0,028	0,063	0,111	0,174
e	3,333	6,666	9,998	13,327	16,655
τ _i	0°28'38,9"	0°57'17,8"	1°25'56,6"	1°54'35,5"	2°23'14,4"
ω _i	0°09'33,0"	0°19'05,9"	0°28'38,9"	0°38'11,8"	0°47'44,7"
φ _i	0°19'05,9"	0°38'11,9"	0°57'17,7"	1°16'23,7"	1°35'29,7"
x=10	0,028	0,014	0,009	0,007	0,006
20	0,194	0,111	0,074	0,056	0,044
30		0,361	0,250	0,188	0,150
40			0,584	0,445	0,356
50				0,862	0,695
60					1,195

R=600

R	600				
L	60	70	80	90	100
l	59,985	69,976	79,964	89,949	99,931
d	29,998	34,996	39,994	44,992	49,988
y _l	1,000	1,361	1,777	2,249	2,776
ΔR	0,250	0,340	0,444	0,562	0,694
e	19,980	23,301	26,619	29,932	33,240
τ _l	2°51'53,2"	3°20'32,1"	3°49'11,0"	4°17'49,9"	4°46'28,7"
ω _l	0°57'17,7"	1°06'50,6"	1°16'23,5"	1°25'56,4"	1°35'29,2"
φ _l	1°54'35,5"	2°13'41,5"	2°32'47,5"	2°51'53,5"	3°10'59,5"
x=10	0,005	0,004	0,003	0,003	0,003
20	0,037	0,032	0,028	0,025	0,022
30	0,125	0,107	0,094	0,083	0,075
40	0,296	0,254	0,222	0,197	0,178
50	0,579	0,496	0,434	0,386	0,347
60	1,001	0,858	0,750	0,667	0,600
70	1,585	1,362	1,192	1,059	0,953
80		2,030	1,780	1,582	1,423
90			2,532	2,253	2,027
100				3,089	2,782
110					3,703

R=600

R	600				
L	110	120	130	140	150
l	109,908	119,880	129,848	139,810	149,766
d	54,985	59,980	64,975	69,968	74,961
y _l	3,359	3,997	4,691	5,439	6,243
ΔR	0,840	1,000	1,173	1,360	1,562
e	36,542	39,838	43,128	46,410	49,684
τ _l	5°15'07,6"	5°43'46,5"	6°12'25,4"	6°41'04,2"	7°09'43,1"
ω _l	1°45'02,1"	1°54'34,9"	2°04'07,7"	2°13'40,5"	2°23'13,2"
φ _l	3°30'05,5"	3°49'11,6"	4°08'17,7"	4°27'23,7"	4°46'29,9"
x=10	0,003	0,002	0,002	0,002	0,002
20	0,020	0,019	0,017	0,016	0,015
30	0,068	0,063	0,058	0,054	0,050
40	0,162	0,148	0,137	0,127	0,119
50	0,316	0,289	0,267	0,248	0,231
60	0,546	0,500	0,462	0,429	0,400
70	0,866	0,794	0,733	0,681	0,635
80	1,294	1,186	1,094	1,016	0,948
90	1,842	1,689	1,559	1,447	1,351
100	2,529	2,317	2,139	1,986	1,853
110	3,368	3,086	2,848	2,644	2,467
120	4,373	4,009	3,700	3,434	3,205
130		5,099	4,707	4,369	4,077
140			5,882	5,461	5,095
150				6,722	6,273
160					7,619

R=600

R	600				
L	160	170	180	190	200
l	159,716	169,659	179,595	189,524	199,445
d	79,953	84,943	89,933	94,921	99,907
y _l	7,102	8,016	8,986	10,010	11,089
ΔR	1,777	2,006	2,248	2,505	2,775
e	52,950	56,206	59,454	62,691	65,917
τ _l	7°38'22,0"	8°07'00,9"	8°35'39,7"	9°04'18,6"	9°32'57,5"
ω _l	2°32'45,9"	2°42'18,6"	2°51'51,3"	3°01'23,9"	3°10'56,4"
φ _l	5°05'36,1"	5°24'42,3"	5°43'48,4"	6°02'54,7"	6°22'01,1"
x=10	0,002	0,002	0,002	0,001	0,001
20	0,014	0,013	0,012	0,012	0,011
30	0,047	0,044	0,042	0,039	0,038
40	0,111	0,105	0,099	0,094	0,089
50	0,217	0,204	0,193	0,183	0,174
60	0,375	0,353	0,333	0,316	0,300
70	0,596	0,561	0,529	0,502	0,476
80	0,889	0,837	0,790	0,749	0,711
90	1,266	1,192	1,125	1,066	1,013
100	1,737	1,635	1,544	1,463	1,389
110	2,313	2,177	2,055	1,947	1,850
120	3,004	2,827	2,669	2,529	2,402
130	3,821	3,596	3,395	3,216	3,055
140	4,775	4,493	4,243	4,018	3,817
150	5,878	5,530	5,221	4,945	4,697
160	7,140	6,717	6,341	6,006	5,704
170	8,572	8,065	7,613	7,209	6,846
180		9,583	9,047	8,566	8,134
190			10,652	10,086	9,576
200				11,778	11,183
210					12,962

R=600

R	600				
L	210	220	230	240	250
l	209,358	219,262	229,157	239,042	248,917
d	104,893	109,877	114,859	119,840	124,819
y _l	12,223	13,412	14,656	15,954	17,307
ΔR	3,059	3,357	3,669	3,994	4,333
e	69,133	72,336	75,527	78,705	81,870
τ _l	10°01'36,3"	10°30'15,2"	10°58'54,1"	11°27'33,0"	11°56'11,8"
ω _l	3°20'29,0"	3°30'01,5"	3°39'33,9"	3°49'06,3"	3°58'38,7"
φ _l	6°41'07,3"	7°00'13,7"	7°19'20,2"	7°38'26,7"	7°57'33,1"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,011	0,010	0,010	0,009	0,009
30	0,036	0,034	0,033	0,031	0,030
40	0,085	0,081	0,077	0,074	0,071
50	0,165	0,158	0,151	0,145	0,139
60	0,286	0,273	0,261	0,250	0,240
70	0,454	0,433	0,414	0,397	0,381
80	0,677	0,647	0,618	0,593	0,569
90	0,965	0,921	0,881	0,844	0,810
100	1,323	1,263	1,208	1,158	1,111
110	1,762	1,681	1,608	1,541	1,479
120	2,287	2,183	2,088	2,001	1,921
130	2,909	2,777	2,656	2,545	2,443
140	3,635	3,469	3,318	3,179	3,052
150	4,472	4,268	4,082	3,912	3,755
160	5,431	5,183	4,957	4,749	4,559
170	6,518	6,220	5,949	5,700	5,471
180	7,744	7,389	7,066	6,770	6,497
190	9,116	8,698	8,316	7,967	7,647
200	10,644	10,155	9,709	9,300	8,925
210	12,337	11,769	11,251	10,777	10,341
220	14,204	13,550	12,952	12,405	11,902
230		15,505	14,820	14,193	13,617
240			16,864	16,149	15,492
250				18,282	17,537
260					19,760

R=650

R	650				
L	10	20	30	40	50
l	10,000	20,000	29,998	39,996	49,993
d	5,000	10,000	15,000	19,999	24,999
y _l	0,026	0,103	0,231	0,410	0,641
ΔR	0,006	0,026	0,058	0,103	0,160
e	3,333	6,666	9,998	13,328	16,657
τ _l	0°26'26,7"	0°52'53,3"	1°19'20,0"	1°15'46,6"	2°12'13,3"
ω _l	0°08'48,9"	0°17'37,8"	0°26'26,6"	0°35'15,5"	0°44'04,4"
φ _l	0°17'37,8"	0°35'15,5"	0°52'53,4"	1°10'31,1"	1°28'08,9"
x=10	0,026	0,013	0,009	0,006	0,005
20	0,180	0,103	0,068	0,051	0,041
30		0,333	0,231	0,173	0,138
40			0,539	0,410	0,328
50				0,795	0,641
60					1,103

R=650

R	650				
L	60	70	80	90	100
l	59,987	69,980	79,970	89,957	99,941
d	29,998	34,997	39,995	44,993	49,990
y _l	0,923	1,256	1,641	2,076	2,563
ΔR	0,231	0,314	0,410	0,519	0,641
e	19,983	23,306	26,626	29,942	33,254
τ _l	2°38'39,9"	3°05'06,6"	3°31'33,2"	3°57'59,9"	4°24'26,5"
ω _l	0°52'53,3"	1°01'42,1"	1°10'30,9"	1°19'19,8"	1°28'08,6"
φ _l	1°45'46,6"	2°03'24,5"	2°21'02,3"	2°38'40,1"	2°56'17,9"
x=10	0,004	0,004	0,003	0,003	0,003
20	0,034	0,029	0,026	0,023	0,021
30	0,115	0,099	0,087	0,077	0,069
40	0,274	0,234	0,205	0,182	0,164
50	0,534	0,458	0,401	0,356	0,321
60	0,924	0,791	0,692	0,616	0,554
70	1,463	1,257	1,100	0,978	0,880
80		1,874	1,643	1,460	1,314
90			2,337	2,079	1,871
100				2,851	2,568
110					3,417

R=650

R	650				
L	110	120	130	140	150
l	109,921	119,898	129,870	139,838	149,800
d	54,987	59,983	64,978	69,973	74,967
y _l	3,101	3,690	4,330	5,021	5,764
ΔR	0,775	0,923	1,083	1,256	1,442
e	36,560	39,862	43,158	46,448	49,731
τ _l	4°50'53,2"	5°17'19,8"	5°43'46,5"	6°10'13,1"	6°36'39,8"
ω _l	1°36'57,4"	1°54'46,2"	1°54'34,9"	2°03'23,7"	2°12'12,4"
φ _l	3°13'55,8"	3°31'33,6"	3°49'11,6"	4°06'49,4"	4°24'27,4"
x=10	0,002	0,002	0,002	0,002	0,002
20	0,019	0,017	0,016	0,015	0,014
30	0,063	0,058	0,053	0,049	0,046
40	0,149	0,137	0,126	0,117	0,109
50	0,291	0,267	0,247	0,229	0,214
60	0,504	0,462	0,426	0,396	0,369
70	0,800	0,733	0,677	0,628	0,586
80	1,194	1,094	1,010	0,938	0,875
90	1,701	1,559	1,439	1,336	1,247
100	2,334	2,139	1,974	1,833	1,710
110	3,108	2,848	2,628	2,440	2,277
120	4,035	3,699	3,414	4,169	2,958
130		4,705	4,343	4,032	3,762
140			5,427	5,039	4,701
150				6,201	5,787
160					7,028

R=650

R	650				
L	160	170	180	190	200
l	159,758	169,710	179,655	189,595	199,527
d	79,960	84,952	89,943	94,932	99,921
y _l	6,557	7,401	8,296	9,242	10,239
ΔR	1,640	1,851	2,076	2,312	2,562
e	53,006	56,275	59,534	62,786	66,028
τ _l	7°03'06,4"	7°29'33,1"	7°55'59,7"	8°22'26,4"	8°48'53,1"
ω _l	2°21'01,1"	2°29'49,7"	2°38'38,4"	2°47'27,0"	2°56'15,6"
φ _l	4°42'05,3"	4°59'43,4"	5°17'21,3"	5°34'59,4"	5°52'37,5"
x=10	0,002	0,002	0,001	0,001	0,001
20	0,013	0,012	0,011	0,011	0,010
30	0,043	0,041	0,038	0,036	0,035
40	0,103	0,097	0,091	0,086	0,082
50	0,200	0,189	0,178	0,169	0,160
60	0,346	0,326	0,308	0,292	0,277
70	0,550	0,517	0,489	0,463	0,440
80	0,821	0,772	0,729	0,691	0,657
90	1,169	1,100	1,039	0,984	0,935
100	1,603	1,509	1,425	1,350	1,282
110	2,135	2,009	1,897	1,797	1,707
120	2,772	2,609	2,464	2,334	2,217
130	3,526	3,318	3,133	2,968	2,819
140	4,406	4,146	3,915	3,708	3,523
150	5,423	5,103	4,818	4,563	4,334
160	6,587	6,197	5,851	5,541	5,263
170	7,907	7,439	7,023	6,651	6,317
180		8,838	8,344	7,902	7,504
190			9,823	9,302	8,833
200				10,860	10,313
210					11,951

R=650

R	650				
L	210	220	230	240	250
l	209,453	219,371	229,281	239,183	249,077
d	104,909	109,895	114,880	119,864	124,846
y _l	11,287	12,385	13,534	14,733	15,983
ΔR	2,824	3,099	3,387	3,688	4,001
e	69,261	72,483	75,696	78,897	82,086
τ _l	9°15'19,7"	9°41'46,4"	10°08'13,0"	10°34'39,7"	11°01'06,3"
ω _l	3°05'04,1"	3°13'52,6"	3°22'41,1"	3°31'29,6"	3°40'18,0"
φ _l	6°10'15,6"	6°27'53,8"	6°45'31,9"	7°03'10,1"	7°20'48,3"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,010	0,009	0,009	0,009	0,008
30	0,033	0,031	0,030	0,029	0,028
40	0,078	0,075	0,071	0,068	0,066
50	0,153	0,146	0,139	0,134	0,128
60	0,264	0,252	0,241	0,231	0,222
70	0,419	0,400	0,382	0,366	0,352
80	0,625	0,597	0,571	0,547	0,525
90	0,890	0,850	0,813	0,779	0,748
100	1,221	1,166	1,115	1,069	1,026
110	1,626	1,552	1,484	1,422	1,366
120	2,111	2,015	1,927	1,847	1,773
130	2,685	2,563	2,451	2,349	2,255
140	3,354	3,202	3,062	2,934	2,817
150	4,127	3,939	3,767	3,610	3,465
160	5,011	4,783	4,574	4,383	4,207
170	6,014	5,740	5,489	5,259	5,048
180	7,144	6,817	6,519	6,246	5,995
190	8,409	8,024	7,672	7,351	7,055
200	9,816	9,366	8,955	8,579	8,234
210	11,376	10,853	10,376	9,940	9,539
220	13,095	12,493	11,943	11,439	10,977
230		14,292	13,663	13,086	12,556
240			15,543	14,886	14,282
250				16,848	16,164
260					18,208

R=700

R	700				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,997	49,994
d	5,000	10,000	15,000	19,999	24,999
y _l	0,024	0,095	0,214	0,381	0,595
ΔR	0,006	0,024	0,054	0,095	0,149
e	3,333	6,666	9,998	13,329	16,658
τ _l	0°24'33,3"	0°49'06,6"	1°13'40,0"	1°38'13,3"	2°02'46,6"
ω _l	0°08'11,1"	0°16'22,2"	0°24'33,3"	0°32'44,4"	0°40'55,5"
φ _l	0°16'22,2"	0°32'44,4"	0°49'06,7"	1°05'28,9"	1°21'51,1"
x=10	0,024	0,012	0,008	0,006	0,005
20	0,167	0,095	0,063	0,048	0,038
30		0,310	0,214	0,161	0,129
40			0,500	0,381	0,305
50				0,738	0,595
60					1,024

R=700

R	700				
L	60	70	80	90	100
l	59,989	69,983	79,974	89,963	99,949
d	29,998	34,997	39,996	44,994	49,992
y _l	0,857	1,166	1,523	1,928	2,380
ΔR	0,214	0,292	0,381	0,482	0,595
e	19,985	23,310	26,631	29,950	33,264
τ _l	2°27'19,9"	2°51'53,2"	3°16'26,6"	3°40'59,9"	4°05'33,2"
ω _l	0°49'06,6"	0°57'17,7"	1°05'28,8"	1°13'39,8"	1°21'50,9"
φ _l	1°38'13,3"	1°54'35,5"	2°10'57,8"	2°27'20,1"	2°43'42,3"
x=10	0,004	0,003	0,003	0,003	0,002
20	0,032	0,027	0,024	0,021	0,019
30	0,107	0,092	0,080	0,071	0,064
40	0,254	0,218	0,190	0,169	0,152
50	0,496	0,425	0,372	0,331	0,298
60	0,857	0,735	0,643	0,572	0,514
70	1,358	1,167	1,021	0,908	0,817
80		1,740	1,525	1,355	1,220
90			2,169	1,930	1,737
100				2,647	2,384
110					3,172

R=700

R	700				
L	110	120	130	140	150
l	109,932	119,912	129,888	139,860	149,828
d	54,989	59,985	64,981	69,977	74,971
y _l	2,880	3,427	4,021	4,663	5,353
ΔR	0,720	0,857	1,006	1,166	1,339
e	36,575	39,881	43,182	46,478	49,768
τ _l	4°30'06,5"	4°54'39,8"	5°19'13,2"	5°43'46,5"	6°08'19,8"
ω _l	1°30'01,9"	1°38'12,9"	1°46'23,9"	1°54'34,9"	2°02'45,9"
φ _l	3°00'04,6"	3°16'26,9"	3°32'49,3"	3°49'11,6"	4°05'33,9"
x=10	0,002	0,002	0,002	0,0020	0,002
20	0,017	0,016	0,015	0,014	0,013
30	0,058	0,054	0,049	0,046	0,043
40	0,139	0,127	0,117	0,109	0,102
50	0,271	0,248	0,229	0,213	0,198
60	0,468	0,429	0,396	0,367	0,343
70	0,743	0,681	0,628	0,583	0,545
80	1,109	1,016	0,938	0,871	0,813
90	1,579	1,447	1,336	1,240	1,158
100	2,167	1,986	1,833	1,702	1,588
110	2,885	2,644	2,440	2,266	2,114
120	3,746	3,434	3,169	2,942	2,746
130		4,367	4,032	3,743	3,492
140			5,037	4,677	4,364
150				5,755	5,371
160					6,522

R=700

R	700				
L	160	170	180	190	200
l	159,791	169,750	179,703	189,650	199,592
d	79,965	84,958	89,950	94,942	99,932
y _l	6,090	6,874	7,705	8,584	9,510
ΔR	1,523	1,719	1,927	2,147	2,379
e	53,051	56,329	59,599	62,861	66,116
τ _l	6°32'53,1"	6°57'26,4"	7°21'59,8"	7°46'33,1"	8°11'06,4"
ω _l	2°10'56,8"	2°19'07,8"	2°27'18,7"	2°35'29,6"	2°43'40,4"
φ _l	4°21'56,3"	4°38'18,6"	4°54'41,1"	5°11'03,5"	5°27'26,0"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,012	0,011	0,011	0,010	0,010
30	0,040	0,038	0,036	0,034	0,032
40	0,095	0,090	0,085	0,080	0,076
50	0,186	0,175	0,165	0,157	0,149
60	0,321	0,303	0,286	0,271	0,257
70	0,510	0,480	0,454	0,430	0,408
80	0,762	0,717	0,677	0,642	0,610
90	1,085	1,021	0,965	0,914	0,868
100	1,489	1,401	1,323	1,254	1,191
110	1,982	1,865	1,762	1,669	1,585
120	2,574	2,422	2,287	2,166	2,058
130	3,274	3,081	2,909	2,756	2,618
140	4,091	3,849	3,635	3,443	3,270
150	5,034	4,737	4,472	4,236	4,024
160	6,114	5,752	5,431	5,144	4,886
170	7,337	6,904	6,518	6,173	5,863
180		8,201	7,744	7,333	6,964
190			9,114	8,632	8,197
200				10,076	9,569
210					11,087

R=700

R	700				
L	210	220	230	240	250
l	209,528	219,457	229,380	239,296	249,204
d	104,921	109,910	114,897	119,883	124,867
y _l	10,483	11,504	12,571	13,686	14,847
ΔR	2,623	2,878	3,146	3,425	3,716
e	69,363	72,601	75,829	79,049	82,258
τ _l	8°35'39,7"	9°00'13,0"	9°24'46,4"	9°49'19,7"	10°13'53,0"
ω _l	2°51'51,3"	3°00'02,1"	3°08'12,9"	3°16'23,6"	3°24'34,4"
φ _l	5°43'48,4"	6°00'10,9"	6°16'33,5"	6°32'56,1"	6°49'18,6"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,009	0,009	0,008	0,008	0,008
30	0,031	0,029	0,028	0,027	0,026
40	0,073	0,069	0,066	0,063	0,061
50	0,142	0,135	0,129	0,124	0,119
60	0,245	0,234	0,224	0,214	0,206
70	0,389	0,371	0,355	0,340	0,327
80	0,581	0,554	0,530	0,508	0,488
90	0,827	0,789	0,755	0,723	0,694
100	1,134	1,083	1,035	0,992	0,953
110	1,510	1,441	1,378	1,321	1,268
120	1,960	1,871	1,790	1,715	1,646
130	2,493	2,379	2,276	2,181	2,093
140	3,114	2,972	2,843	2,724	2,615
150	3,832	3,657	3,498	3,352	3,217
160	4,652	4,440	4,246	4,069	3,906
170	5,583	5,328	5,095	4,882	4,686
180	6,631	6,328	6,051	5,798	5,565
190	7,804	7,447	7,121	6,823	6,548
200	9,109	8,692	8,311	7,962	7,642
210	10,555	10,070	9,628	9,224	8,852
220	12,147	11,590	11,080	10,614	10,186
230		13,256	12,674	12,140	11,649
240			14,416	13,808	13,248
250				15,624	14,991
260					16,884

R=750

R	750				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,997	49,994
d	5,000	10,000	15,000	20,000	24,999
y _l	0,022	0,089	0,200	0,356	0,556
ΔR	0,005	0,022	0,050	0,089	0,139
e	3,333	6,666	9,998	13,330	16,659
τ _l	0°22'55,1"	0°45'50,2"	1°08'45,3"	1°31'40,4"	1°54'35,5"
ω _l	0°07'38,4"	0°15'16,7"	0°22'55,1"	0°30'33,5"	0°38'11,8"
φ _l	0°15'16,7"	0°30'33,5"	0°45'50,2"	1°01'06,9"	1°16'23,7"
x=10	0,022	0,011	0,007	0,006	0,004
20	0,155	0,089	0,059	0,044	0,036
30		0,289	0,200	0,150	0,120
40			0,467	0,356	0,284
50				0,689	0,556
60					0,956

R=750

R	750				
L	60	70	80	90	100
l	59,990	69,985	79,977	89,968	99,956
d	29,998	34,997	39,996	44,995	49,993
y _l	0,800	1,089	1,422	1,800	2,222
ΔR	0,200	0,272	0,355	0,450	0,556
e	19,987	23,313	26,636	29,956	33,273
τ _l	2°17'30,6"	2°40'25,7"	3°03'20,8"	3°26'15,9"	3°49'11,0"
ω _l	0°45'50,2"	0°53'28,5"	1°01'06,9"	1°08'45,2"	1°16'23,5"
φ _l	1°31'40,4"	1°46'57,2"	2°02'13,9"	2°17'30,7"	2°32'47,5"
x=10	0,004	0,003	0,003	0,002	0,002
20	0,030	0,025	0,022	0,020	0,018
30	0,100	0,086	0,075	0,067	0,060
40	0,237	0,203	0,178	0,158	0,142
50	0,463	0,397	0,347	0,309	0,278
60	0,800	0,686	0,600	0,533	0,480
70	1,268	1,089	0,953	0,847	0,762
80		1,623	1,423	1,265	1,138
90			2,024	1,801	1,621
100				2,470	2,224
110					2,960

R=750

R	750				
L	110	120	130	140	150
l	109,941	119,923	129,902	139,878	149,850
d	54,990	59,987	64,984	69,980	74,975
y _l	2,688	3,199	3,754	4,353	4,996
ΔR	0,672	0,800	0,939	1,088	1,250
e	36,587	39,896	43,202	46,502	49,798
τ _l	4°12'06,1"	4°35'01,2"	4°57'56,3"	5°20'51,4"	5°43'46,5"
ω _l	1°24'01,8"	1°31'40,1"	1°39'18,4"	1°46'56,7"	1°54'34,9"
φ _l	2°48'04,3"	3°03'21,1"	3°18'37,9"	3°33'54,7"	3°49'11,6"
x=10	0,002	0,002	0,002	0,0020	0,001
20	0,016	0,015	0,014	0,013	0,012
30	0,055	0,050	0,046	0,043	0,040
40	0,129	0,119	0,109	0,102	0,095
50	0,253	0,231	0,214	0,198	0,185
60	0,436	0,400	0,369	0,343	0,320
70	0,693	0,635	0,586	0,545	0,508
80	1,035	0,948	0,875	0,813	0,759
90	1,474	1,351	1,247	1,158	1,080
100	2,022	1,853	1,710	1,588	1,482
110	2,692	2,467	2,277	2,114	1,973
120	3,495	3,205	2,958	2,746	2,562
130		4,075	3,762	3,492	3,259
140			4,700	4,364	4,072
150				5,369	5,012
160					6,085

R=750

R	750				
L	160	170	180	190	200
l	159,818	169,782	179,741	189,695	199,645
d	79,970	84,964	89,957	94,949	99,941
y _i	5,684	6,416	7,193	8,013	8,878
ΔR	1,422	1,605	1,799	2,004	2,221
e	53,088	56,372	59,650	62,922	66,187
τ _i	6°06'41,6"	6°29'36,7"	6°52'31,8"	7°15'26,9"	7°38'22,0"
ω _i	2°02'13,2"	2°09'51,4"	2°17'29,6"	2°25'07,8"	2°32'45,9"
φ _i	4°04'28,4"	4°19'45,3"	4°35'02,2"	4°50'19,1"	5°05'36,1"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,011	0,010	0,010	0,009	0,009
30	0,038	0,035	0,033	0,032	0,030
40	0,089	0,084	0,079	0,075	0,071
50	0,174	0,163	0,154	0,146	0,139
60	0,300	0,282	0,267	0,253	0,240
70	0,476	0,448	0,423	0,401	0,381
80	0,711	0,669	0,632	0,599	0,569
90	1,013	0,953	0,900	0,853	0,810
100	1,389	1,308	1,235	1,170	1,111
110	1,850	1,741	1,644	1,557	1,479
120	2,402	2,260	2,135	2,022	1,921
130	3,055	2,875	2,715	2,572	2,443
140	3,817	3,592	3,392	3,213	3,052
150	4,697	4,420	4,173	3,953	3,755
160	5,704	5,367	5,067	4,800	4,559
170	6,845	6,441	6,081	5,760	5,471
180		7,651	7,224	6,841	6,497
190			8,502	8,052	7,647
200				9,398	8,925
210					10,340

R=750

R	750				
L	210	220	230	240	250
l	209,589	219,527	229,460	239,386	249,306
d	104,931	109,921	114,910	119,898	124,884
y _i	9,786	10,739	11,736	12,777	13,861
ΔR	2,448	2,687	2,936	3,197	3,469
e	69,445	72,695	75,937	79,171	82,397
τ _i	8°01'17,1"	8°24'12,2"	8°47'07,3"	9°10'02,4"	9°32'57,5"
ω _i	2°40'24,1"	2°48'02,2"	2°55'40,3"	3°03'18,4"	3°10'56,4"
φ _i	5°20'53,0"	5°36'10,0"	5°51'27,0"	6°06'44,0"	6°22'01,1"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,008	0,008	0,008	0,007	0,007
30	0,029	0,027	0,026	0,025	0,024
40	0,068	0,065	0,062	0,059	0,057
50	0,132	0,126	0,121	0,116	0,111
60	0,229	0,218	0,209	0,200	0,192
70	0,363	0,346	0,331	0,318	0,305
80	0,542	0,517	0,495	0,474	0,455
90	0,772	0,736	0,704	0,675	0,648
100	1,058	1,010	0,966	0,926	0,889
110	1,409	1,345	1,286	1,233	1,183
120	1,829	1,746	1,670	1,601	1,537
130	2,326	2,221	2,124	2,035	1,954
140	2,906	2,774	2,653	2,542	2,441
150	3,576	3,413	3,264	3,128	3,002
160	4,341	4,143	3,962	3,797	3,645
170	5,209	4,971	4,755	4,556	4,373
180	6,186	5,904	5,646	5,410	5,193
190	7,280	6,947	6,644	6,366	6,110
200	8,497	8,108	7,753	7,428	7,130
210	9,844	9,393	8,982	8,605	8,258
220	11,328	10,809	10,335	9,900	9,501
230		12,362	11,820	11,322	10,865
240			13,442	12,876	12,355
250				14,568	13,978
260					15,740

R=800

R	800				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,998	49,995
d	5,000	10,000	15,000	20,000	24,999
y _i	0,021	0,083	0,188	0,333	0,521
ΔR	0,005	0,021	0,047	0,083	0,130
e	3,333	6,666	9,999	13,330	16,660
τ _i	0°21'29,2"	0°42'58,3"	1°04'27,5"	1°25'56,6"	1°47'25,8"
ω _i	0°07'09,7"	0°14'19,4"	0°21'29,2"	0°28'38,9"	0°35'48,6"
φ _i	0°14'19,5"	0°28'38,9"	0°42'58,3"	0°57'17,7"	1°11'37,2"
x=10	0,021	0,010	0,007	0,005	0,004
20	0,146	0,083	0,056	0,042	0,033
30		0,271	0,188	0,141	0,113
40			0,438	0,333	0,267
50				0,646	0,521
60					0,896

R=800

R	800				
L	60	70	80	90	100
l	59,992	69,987	79,980	89,972	99,961
d	29,999	34,998	39,997	44,995	49,993
y _l	0,750	1,021	1,333	1,687	2,083
ΔR	0,188	0,255	0,333	0,422	0,521
e	19,989	23,315	26,640	29,962	33,281
τ _l	2°08'54,9"	2°30'24,1"	2°51'53,2"	3°13'22,4"	3°34'51,6"
ω _l	0°42'58,3"	0°50'08,0"	0°57'17,7"	1°04'27,4"	1°11'37,0"
φ _l	1°25'56,6"	1°40'16,1"	1°54'35,5"	2°08'55,0"	2°23'14,6"
x=10	0,003	0,003	0,003	0,002	0,002
20	0,028	0,024	0,021	0,019	0,017
30	0,094	0,080	0,070	0,063	0,056
40	0,222	0,190	0,167	0,148	0,133
50	0,434	0,372	0,326	0,289	0,260
60	0,750	0,643	0,563	0,500	0,450
70	1,188	1,021	0,894	0,794	0,715
80		1,522	1,334	1,186	1,067
90			1,897	1,689	1,520
100				2,315	2,085
110					2,774

R=800

R	800				
L	110	120	130	140	150
l	109,948	119,933	129,914	139,893	149,868
d	54,991	59,989	64,986	69,982	74,978
y _l	2,520	2,999	3,519	4,081	4,685
ΔR	0,630	0,750	0,880	1,020	1,171
e	36,596	39,909	43,218	46,522	49,822
τ _l	3°56'20,7"	4°17'49,9"	4°39'19,0"	5°00'48,2"	5°22'17,3"
ω _l	1°18'46,7"	1°25'56,4"	1°33'06,0"	1°40'15,7"	1°47'25,3"
φ _l	2°37'34,0"	2°51'53,5"	3°06'13,0"	3°20'32,5"	3°34'52,0"
x=10	0,002	0,002	0,002	0,0010	0,001
20	0,015	0,014	0,013	0,012	0,011
30	0,051	0,047	0,043	0,040	0,038
40	0,121	0,111	0,103	0,095	0,089
50	0,237	0,217	0,200	0,186	0,174
60	0,409	0,375	0,346	0,321	0,300
70	0,650	0,596	0,550	0,510	0,476
80	0,970	0,889	0,821	0,762	0,711
90	1,381	1,266	1,169	1,085	1,013
100	1,895	1,737	1,603	1,489	1,389
110	2,523	2,313	2,135	1,982	1,850
120	3,276	3,004	2,772	2,574	2,402
130		3,819	3,526	3,274	3,055
140			4,405	4,090	3,817
150				5,032	4,697
160					5,702

R=800

R	800				
L	160	170	180	190	200
l	159,840	169,808	179,772	189,732	199,688
d	79,973	84,968	89,962	94,955	99,948
y _l	5,330	6,016	6,744	7,513	8,324
ΔR	1,333	1,505	1,687	1,879	2,082
e	53,117	56,408	59,693	62,972	66,245
τ _l	5°43'46,5"	6°05'15,6"	6°26'44,8"	6°48'14,0"	7°09'43,1"
ω _l	1°54'34,9"	2°01'44,5"	2°08'54,1"	2°16'03,7"	2°23'13,2"
φ _l	3°49'11,6"	4°03'31,1"	4°17'50,7"	4°32'10,3"	4°46'29,9"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,010	0,010	0,009	0,009	0,008
30	0,035	0,033	0,031	0,030	0,028
40	0,083	0,078	0,074	0,070	0,067
50	0,163	0,153	0,145	0,137	0,130
60	0,281	0,265	0,250	0,237	0,225
70	0,447	0,420	0,397	0,376	0,357
80	0,667	0,628	0,593	0,561	0,533
90	0,949	0,894	0,844	0,799	0,759
100	1,303	1,226	1,158	1,097	1,042
110	1,734	1,632	1,541	1,460	1,387
120	2,252	2,119	2,001	1,896	1,801
130	2,864	2,695	2,545	2,411	2,290
140	3,578	3,367	3,179	3,012	2,861
150	4,402	4,143	3,912	3,705	3,520
160	5,346	5,030	4,749	4,499	4,273
170	6,415	6,037	5,700	5,398	5,127
180		7,169	6,770	6,411	6,089
190			7,966	7,545	7,166
200				8,806	8,363
210					9,688

R=800

R	800				
L	210	220	230	240	250
l	209,639	219,584	229,525	239,461	249,390
d	104,940	109,931	114,921	119,910	124,898
y _l	9,176	10,070	11,005	11,981	12,998
ΔR	2,295	2,519	2,753	2,998	3,253
e	69,512	72,772	76,026	79,272	82,510
τ _l	7°31'12,3"	7°52'41,4"	8°14'10,6"	8°35'39,7"	8°57'08,9"
ω _l	2°30'22,8"	2°37'32,3"	2°44'41,8"	2°51'51,3"	2°59'00,7"
φ _l	5°00'49,5"	5°15'09,1"	5°29'28,8"	5°43'48,4"	5°58'08,2"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,008	0,008	0,007	0,007	0,007
30	0,027	0,026	0,024	0,023	0,023
40	0,063	0,061	0,058	0,056	0,053
50	0,124	0,118	0,113	0,109	0,104
60	0,214	0,205	0,196	0,188	0,180
70	0,340	0,325	0,311	0,298	0,286
80	0,508	0,485	0,464	0,444	0,427
90	0,723	0,690	0,660	0,633	0,608
100	0,992	0,947	0,906	0,868	0,833
110	1,321	1,261	1,206	1,156	1,109
120	1,715	1,637	1,566	1,500	1,440
130	2,181	2,082	1,991	1,908	1,832
140	2,724	2,600	2,487	2,383	2,288
150	3,352	3,199	3,060	2,932	2,815
160	4,069	3,883	3,714	3,559	3,417
170	4,882	4,660	4,456	4,270	4,099
180	5,798	5,533	5,292	5,071	4,867
190	6,823	6,511	6,227	5,966	5,727
200	7,962	7,598	7,266	6,962	6,682
210	9,224	8,802	8,416	8,063	7,739
220	10,613	10,127	9,683	9,277	8,903
230		11,581	11,073	10,608	10,180
240			12,592	12,063	11,575
250				13,646	13,095
260					14,743

R=850

R	850				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,998	49,996
d	5,000	10,000	15,000	20,000	24,999
y _l	0,020	0,078	0,176	0,314	0,490
ΔR	0,005	0,020	0,044	0,078	0,122
e	3,333	6,666	9,999	13,330	16,661
τ _l	0°20'13,3"	0°40'26,6"	1°00'40,0"	1°20'53,3"	1°41'06,6"
ω _l	0°06'44,5"	0°13'28,9"	0°20'13,3"	0°26'57,8"	0°33'42,2"
φ _l	0°13'28,8"	0°26'57,7"	0°40'26,7"	0°53'55,5"	1°07'24,4"
x=10	0,020	0,010	0,007	0,005	0,004
20	0,137	0,078	0,052	0,039	0,031
30		0,255	0,176	0,132	0,106
40			0,412	0,314	0,251
50				0,608	0,490
60					0,843

R=850

R	850				
L	60	70	80	90	100
l	59,993	69,988	79,982	89,975	99,965
d	29,999	34,998	39,997	44,996	49,994
y _l	0,706	0,961	1,255	1,588	1,960
ΔR	0,176	0,240	0,314	0,397	0,490
e	19,990	23,317	26,643	29,966	33,287
τ _l	2°01'19,9"	2°21'33,3"	2°41'46,6"	3°01'59,9"	3°22'13,2"
ω _l	0°40'26,6"	0°47'11,1"	0°53'55,5"	1°00'39,9"	1°07'24,3"
φ _l	1°20'53,3"	1°34'22,2"	1°47'51,1"	2°01'20,0"	2°14'48,9"
x=10	0,003	0,003	0,002	0,002	0,002
20	0,026	0,022	0,020	0,017	0,016
30	0,088	0,076	0,066	0,059	0,053
40	0,209	0,179	0,157	0,139	0,125
50	0,409	0,350	0,306	0,272	0,245
60	0,706	0,605	0,529	0,471	0,424
70	1,118	0,961	0,841	0,747	0,673
80		1,432	1,255	1,116	1,004
90			1,786	1,589	1,430
100				2,178	1,962
110					2,611

R=850

R	850				
L	110	120	130	140	150
l	109,954	119,940	129,924	139,905	149,883
d	54,992	59,990	64,987	69,984	74,981
y _l	2,372	2,823	3,312	3,841	4,409
ΔR	0,593	0,706	0,828	0,961	1,103
e	36,605	39,919	43,231	46,539	49,842
τ _l	3°42'26,6"	4°02'39,9"	4°22'53,2"	4°43'06,5"	5°03'19,8"
ω _l	1°14'08,7"	1°20'53,1"	1°27'37,5"	1°34'21,8"	1°41'06,2"
φ _l	2°28'17,9"	2°41'46,8"	2°55'15,7"	3°08'44,7"	3°22'13,6"
x=10	0,002	0,002	0,002	0,0010	0,001
20	0,014	0,013	0,012	0,011	0,010
30	0,048	0,044	0,041	0,038	0,035
40	0,114	0,105	0,097	0,090	0,084
50	0,223	0,204	0,189	0,175	0,163
60	0,385	0,353	0,326	0,303	0,282
70	0,612	0,561	0,517	0,480	0,448
80	0,913	0,837	0,772	0,717	0,669
90	1,300	1,192	1,100	1,021	0,953
100	1,784	1,635	1,509	1,401	1,308
110	2,375	2,177	2,009	1,865	1,741
120	3,083	2,827	2,609	2,422	2,260
130		3,594	3,318	3,081	2,875
140			4,145	3,849	3,592
150				4,735	4,420
160					5,365

R=850

R	850				
L	160	170	180	190	200
l	159,858	169,830	179,798	189,763	199,723
d	79,976	84,972	89,966	94,960	99,954
y ₁	5,016	5,663	6,348	7,072	7,835
ΔR	1,255	1,416	1,587	1,769	1,960
e	53,142	56,437	59,728	63,013	66,293
τ ₁	5°23'33,2"	5°43'46,5"	6°03'59,8"	6°24'13,1"	6°44'26,5"
ω ₁	1°47'50,6"	1°54'34,9"	2°01'19,3"	2°08'03,6"	2°14'47,9"
φ ₁	3°35'42,6"	3°49'11,6"	4°02'40,5"	4°16'09,5"	4°29'38,6"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,010	0,009	0,009	0,008	0,008
30	0,033	0,031	0,029	0,028	0,026
40	0,078	0,074	0,070	0,066	0,063
50	0,153	0,144	0,136	0,129	0,123
60	0,265	0,249	0,235	0,223	0,212
70	0,420	0,396	0,374	0,354	0,336
80	0,628	0,591	0,558	0,528	0,502
90	0,894	0,841	0,794	0,752	0,715
100	1,226	1,154	1,090	1,032	0,981
110	1,632	1,536	1,450	1,374	1,305
120	2,119	1,994	1,883	1,784	1,695
130	2,695	2,536	2,395	2,269	2,155
140	3,367	3,168	2,992	2,834	2,692
150	4,143	3,898	3,681	3,487	3,312
160	5,030	4,733	4,469	4,233	4,021
170	6,035	5,680	5,363	5,079	4,825
180		6,745	6,369	6,032	5,730
190			7,494	7,099	6,742
200				8,284	7,868
210					9,114

R=850

R	850				
L	210	220	230	240	250
l	209,680	219,632	229,579	239,522	249,460
d	104,947	109,939	114,930	119,920	124,910
y ₁	8,638	9,479	10,359	11,278	12,236
ΔR	2,161	2,371	2,591	2,822	3,061
e	69,568	72,836	76,099	79,355	82,604
τ ₁	7°04'39,8"	7°24'53,1"	7°45'06,4"	8°05'19,7"	8°25'33,1"
ω ₁	2°21'32,2"	2°28'16,4"	2°35'00,7"	2°41'44,9"	2°48'29,2"
φ ₁	4°43'07,6"	4°56'36,7"	5°10'05,7"	5°23'34,8"	5°37'03,9"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,007	0,007	0,007	0,007	0,006
30	0,025	0,024	0,023	0,022	0,021
40	0,060	0,057	0,055	0,052	0,050
50	0,117	0,111	0,107	0,102	0,098
60	0,202	0,193	0,184	0,176	0,169
70	0,320	0,306	0,292	0,280	0,269
80	0,478	0,456	0,437	0,418	0,402
90	0,681	0,650	0,622	0,596	0,572
100	0,934	0,891	0,853	0,817	0,784
110	1,243	1,187	1,135	1,088	1,044
120	1,614	1,541	1,474	1,412	1,356
130	2,052	1,959	1,874	1,796	1,724
140	2,564	2,447	2,341	2,243	2,153
150	3,154	3,011	2,879	2,759	2,649
160	3,829	3,655	3,495	3,349	3,215
170	4,594	4,385	4,194	4,019	3,857
180	5,456	5,207	4,980	4,772	4,580
190	6,419	6,126	5,859	5,614	5,389
200	7,491	7,149	6,837	6,550	6,287
210	8,677	8,280	7,918	7,586	7,282
220	9,983	9,527	9,110	8,728	8,376
230		10,893	10,416	9,979	9,577
240			11,843	11,346	10,888
250				12,834	12,316
260					13,865

R=900

R	900				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,998	49,996
d	5,000	10,000	15,000	20,000	24,999
y ₁	0,019	0,074	0,167	0,296	0,463
ΔR	0,005	0,019	0,042	0,074	0,116
e	3,333	6,666	9,999	13,331	16,662
τ ₁	0°19'05,9"	0°38'11,8"	0°57'17,8"	1°16'23,7"	1°35'29,6"
ω ₁	0°06'22,0"	0°12'43,9"	0°19'05,9"	0°25'27,9"	0°31'49,9"
φ ₁	0°12'43,9"	0°25'27,9"	0°38'11,9"	0°50'55,8"	1°03'39,7"
x=10	0,019	0,009	0,006	0,005	0,004
20	0,130	0,074	0,049	0,037	0,030
30		0,241	0,167	0,125	0,100
40			0,389	0,296	0,237
50				0,574	0,463
60					0,797

R=900

R	900				
L	60	70	80	90	100
l	59,993	69,989	79,984	89,978	99,969
d	29,999	34,998	39,997	44,996	49,995
y _l	0,667	0,907	1,185	1,500	1,851
ΔR	0,167	0,227	0,296	0,375	0,463
e	19,991	23,319	26,645	29,970	33,292
τ _l	1°54'35,5"	2°13'41,4"	2°32'47,3"	2°51'53,2"	3°10'59,2"
ω _l	0°38'11,8"	0°44'33,8"	0°50'55,8"	0°57'17,7"	1°03'39,6"
φ _l	1°16'23,7"	1°29'07,6"	1°41'51,5"	1°54'35,5"	2°07'19,6"
x=10	0,003	0,003	0,002	0,002	0,002
20	0,025	0,021	0,019	0,016	0,015
30	0,083	0,071	0,063	0,056	0,050
40	0,197	0,169	0,148	0,132	0,119
50	0,386	0,331	0,289	0,257	0,231
60	0,667	0,572	0,500	0,444	0,400
70	1,056	0,908	0,794	0,706	0,635
80		1,353	1,186	1,054	0,948
90			1,686	1,501	1,351
100				2,057	1,853
110					2,465

R=900

R	900				
L	110	120	130	140	150
l	109,959	119,947	129,932	139,915	149,896
d	54,993	59,991	64,989	69,986	74,983
y _l	2,240	2,666	3,128	3,628	4,165
ΔR	0,560	0,667	0,782	0,907	1,041
e	36,611	39,928	43,242	46,552	49,859
τ _l	3°30'05,1"	3°49'11,0"	4°08'16,9"	4°27'22,8"	4°46'28,7"
ω _l	1°10'01,6"	1°16'23,5"	1°22'45,4"	1°29'07,3"	1°35'29,2"
φ _l	2°20'03,5"	2°32'47,5"	2°45'31,5"	2°58'15,5"	3°10'59,5"
x=10	0,002	0,002	0,001	0,0010	0,001
20	0,013	0,012	0,011	0,011	0,010
30	0,045	0,042	0,038	0,036	0,033
40	0,108	0,099	0,091	0,085	0,079
50	0,210	0,193	0,178	0,165	0,154
60	0,364	0,333	0,308	0,286	0,267
70	0,578	0,529	0,489	0,454	0,423
80	0,862	0,790	0,729	0,677	0,632
90	1,228	1,125	1,039	0,965	0,900
100	1,684	1,544	1,425	1,323	1,235
110	2,243	2,055	1,897	1,762	1,644
120	2,911	2,669	2,464	2,287	2,135
130		3,394	3,133	2,909	2,715
140			3,914	3,635	3,392
150				4,471	4,173
160					5,066

R=900

R	900				
L	160	170	180	190	200
l	159,874	169,848	179,820	189,788	199,753
d	79,979	84,975	89,970	94,965	99,959
y _l	4,738	5,348	5,996	6,680	7,401
ΔR	1,185	1,338	1,499	1,671	1,851
e	53,163	56,462	59,757	63,048	66,334
τ _l	5°05'34,7"	5°24'40,6"	5°43'46,5"	6°02'52,4"	6°21'58,3"
ω _l	1°41'51,2"	1°48'13,0"	1°54'34,9"	2°00'56,8"	2°07'18,6"
φ _l	3°23'43,5"	3°36'27,6"	3°49'11,6"	4°01'55,6"	4°14'39,7"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,009	0,009	0,008	0,008	0,007
30	0,031	0,029	0,028	0,026	0,025
40	0,074	0,070	0,066	0,062	0,059
50	0,145	0,136	0,129	0,122	0,116
60	0,250	0,235	0,222	0,211	0,200
70	0,397	0,374	0,353	0,334	0,318
80	0,593	0,558	0,527	0,499	0,474
90	0,844	0,794	0,750	0,711	0,675
100	1,158	1,090	1,029	0,975	0,926
110	1,541	1,450	1,370	1,298	1,233
120	2,001	1,883	1,779	1,685	1,601
130	2,545	2,395	2,262	2,143	2,035
140	3,179	2,992	2,825	2,676	2,542
150	3,912	3,681	3,476	3,293	3,128
160	4,749	4,469	4,220	3,997	3,797
170	5,698	5,363	5,064	4,796	4,556
180		6,368	6,014	5,696	5,410
190			7,076	6,702	6,366
200				7,821	7,428
210					8,604

R=900

R	900				
L	210	220	230	240	250
l	209,714	219,672	229,625	239,574	249,518
d	104,952	109,945	114,937	119,929	124,920
y _l	8,159	8,953	9,785	10,653	11,558
ΔR	2,041	2,240	2,448	2,665	2,891
e	69,614	72,890	76,160	79,424	82,683
τ _l	6°41'04,2"	7°00'10,1"	7°19'16,1"	7°38'22,0"	7°57'27,9"
ω _l	2°13'40,5"	2°20'02,3"	2°26'24,1"	2°32'45,9"	2°39'07,7"
φ _l	4°27'23,7"	4°40'07,8"	4°52'52,0"	5°05'36,1"	5°18'20,2"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,007	0,007	0,006	0,006	0,006
30	0,024	0,023	0,022	0,021	0,020
40	0,056	0,054	0,052	0,049	0,047
50	0,110	0,105	0,101	0,096	0,093
60	0,190	0,182	0,174	0,167	0,160
70	0,302	0,289	0,276	0,265	0,254
80	0,452	0,431	0,412	0,395	0,379
90	0,643	0,614	0,587	0,563	0,540
100	0,882	0,842	0,805	0,772	0,741
110	1,174	1,121	1,072	1,027	0,986
120	1,524	1,455	1,392	1,334	1,280
130	1,938	1,850	1,770	1,696	1,628
140	2,421	2,311	2,210	2,118	2,033
150	2,979	2,843	2,719	2,606	2,501
160	3,616	3,451	3,301	3,163	3,036
170	4,338	4,141	3,960	3,795	3,643
180	5,152	4,917	4,702	4,506	4,325
190	6,061	5,785	5,532	5,301	5,088
200	7,073	6,750	6,455	6,185	5,937
210	8,192	7,818	7,476	7,163	6,875
220	9,424	8,994	8,600	8,240	7,908
230		10,283	9,833	9,421	9,041
240			11,179	10,710	10,279
250				12,114	11,625
260					13,086

R=950

R	950				
L	10	20	30	40	50
l	10,000	20,000	29,999	39,998	49,997
d	5,000	10,000	15,000	20,000	24,999
y _l	0,018	0,070	158,000	0,281	0,439
ΔR	0,004	0,018	0,040	0,070	0,110
e	3,333	6,666	9,999	13,331	16,662
τ _l	0°18'05,6"	0°36'11,2"	0°54'16,8"	1°12'22,4"	1°30'28,0"
ω _l	0°06'01,9"	0°12'03,7"	0°18'05,6"	0°24'07,5"	0°30'09,3"
φ _l	0°12'03,7"	0°24'07,5"	0°36'11,2"	0°48'14,9"	1°00'18,7"
x=10	0,018	0,009	0,006	0,004	0,004
20	0,123	0,070	0,047	0,035	0,028
30		0,228	0,158	0,118	0,095
40			0,369	0,281	0,225
50				0,544	0,439
60					0,755

R=850

R	850				
L	60	70	80	90	100
l	59,994	69,991	79,986	89,975	99,972
d	29,999	34,998	39,998	44,996	49,995
y _l	0,632	0,860	1,123	1,588	1,754
ΔR	0,158	0,215	0,281	0,397	0,439
e	19,992	23,321	26,647	29,966	33,296
τ _l	1°48'33,6"	2°06'39,2"	2°24'44,8"	3°01'59,9"	3°00'56,0"
ω _l	0°36'11,2"	0°42'13,0"	0°48'14,9"	1°00'39,9"	1°00'18,6"
φ _l	1°12'22,4"	1°24'26,2"	1°36'29,9"	2°01'20,0"	2°00'37,4"
x=10	0,003	0,003	0,002	0,002	0,002
20	0,023	0,020	0,018	0,017	0,014
30	0,079	0,068	0,059	0,059	0,047
40	0,187	0,160	0,140	0,139	0,112
50	0,366	0,313	0,274	0,272	0,219
60	0,632	0,541	0,474	0,471	0,379
70	1,000	0,860	0,752	0,747	0,602
80		1,281	1,123	1,116	0,898
90			1,597	1,589	1,279
100				2,178	1,755
110					2,335

R=950

R	950				
L	110	120	130	140	150
l	109,963	119,952	129,939	139,924	149,907
d	54,994	59,992	64,990	69,987	74,984
y _l	2,122	2,526	2,964	3,437	3,946
ΔR	0,531	0,632	0,741	0,859	0,987
e	36,617	39,935	43,251	46,564	49,874
τ _l	3°19'01,7"	3°37'07,3"	3°55'12,9"	4°13'18,5"	4°31'24,1"
ω _l	1°06'20,4"	1°12'22,3"	1°18'24,1"	1°24'25,9"	1°30'27,7"
φ _l	2°12'41,3"	2°24'45,0"	2°36'48,8"	2°48'52,6"	3°00'56,4"
x=10	0,002	0,001	0,001	0,0010	0,001
20	0,013	0,012	0,011	0,010	0,009
30	0,043	0,039	0,036	0,034	0,032
40	0,102	0,094	0,086	0,080	0,075
50	0,199	0,183	0,169	0,157	0,146
60	0,345	0,316	0,292	0,271	0,253
70	0,547	0,502	0,463	0,430	0,401
80	0,817	0,749	0,691	0,642	0,599
90	1,163	1,066	0,984	0,914	0,853
100	1,596	1,463	1,350	1,254	1,170
110	2,125	1,947	1,797	1,669	1,557
120	2,757	2,529	2,334	2,166	2,022
130		3,215	2,968	2,756	2,572
140			3,707	3,443	3,213
150				4,235	3,953
160					4,798

R=950

R	950				
L	160	170	180	190	200
l	159,887	169,864	179,839	189,810	199,779
d	79,981	84,977	89,973	94,968	99,963
y _l	4,489	5,067	5,681	6,329	7,012
ΔR	1,122	1,267	1,420	1,583	1,754
e	53,180	56,483	59,782	63,077	66,368
τ _l	4°49'29,7"	5°07'35,3"	5°25'40,9"	5°43'46,5"	6°01'52,1"
ω _l	1°36'29,5"	1°42'31,3"	1°48'33,1"	1°54'34,9"	2°00'36,7"
φ _l	3°13'00,2"	3°25'04,0"	3°37'07,8"	3°49'11,6"	4°01'15,4"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,009	0,008	0,008	0,007	0,007
30	0,030	0,028	0,026	0,025	0,024
40	0,070	0,066	0,062	0,059	0,056
50	0,137	0,129	0,122	0,115	0,110
60	0,237	0,223	0,211	0,199	0,189
70	0,376	0,354	0,334	0,317	0,301
80	0,561	0,528	0,499	0,473	0,449
90	0,799	0,752	0,711	0,673	0,640
100	1,097	1,032	0,975	0,924	0,877
110	1,460	1,374	1,298	1,229	1,168
120	1,896	1,784	1,685	1,596	1,516
130	2,411	2,269	2,143	2,030	1,928
140	3,012	2,834	2,676	2,535	2,408
150	3,705	3,487	3,293	3,119	2,963
160	4,499	4,233	3,997	3,786	3,597
170	5,397	5,080	4,796	4,543	4,315
180		6,032	5,696	5,395	5,124
190			6,701	6,348	6,029
200				7,407	7,035
210					8,148

R=950

R	950				
L	210	220	230	240	250
l	209,744	219,705	229,663	239,617	249,568
d	104,957	109,951	114,944	119,936	124,928
y _l	7,730	8,483	9,271	10,094	10,951
ΔR	1,933	2,122	2,319	2,525	2,740
e	69,654	72,935	76,212	79,483	82,749
τ _l	6°19'57,7"	6°38'03,3"	6°56'08,9"	7°14'14,5"	7°32'20,1"
ω _l	2°06'38,4"	2°12'40,2"	2°18'41,9"	2°24'43,7"	2°30'45,4"
φ _l	4°13'19,3"	4°25'23,1"	4°37'27,0"	4°49'30,8"	5°01'34,7"
x=10	0,001	0,001	0,001	0,001	0,001
20	0,007	0,006	0,006	0,006	0,006
30	0,023	0,022	0,021	0,020	0,019
40	0,053	0,051	0,049	0,047	0,045
50	0,104	0,100	0,095	0,091	0,088
60	0,180	0,172	0,165	0,158	0,152
70	0,287	0,274	0,262	0,251	0,241
80	0,428	0,408	0,391	0,374	0,359
90	0,609	0,581	0,556	0,533	0,512
100	0,836	0,798	0,763	0,731	0,702
110	1,112	1,062	1,015	0,973	0,934
120	1,444	1,378	1,318	1,263	1,213
130	1,836	1,753	1,676	1,606	1,542
140	2,294	2,189	2,094	2,007	1,926
150	2,822	2,693	2,576	2,468	2,370
160	3,425	3,269	3,127	2,996	2,876
170	4,109	3,922	3,751	3,595	3,451
180	4,880	4,657	4,454	4,268	4,097
190	5,741	5,479	5,240	5,021	4,820
200	6,699	6,393	6,114	5,858	5,623
210	7,759	7,404	7,081	6,784	6,512
220	8,925	8,517	8,145	7,804	7,490
230		9,737	9,312	8,922	8,563
240			10,586	10,142	9,734
250				11,470	11,009
260					12,391



А К А Д Е М И Ј А
ТЕХНИЧКО-ВАСПИТАЧКИХ
СТРУКОВНИХ СТУДИЈА

П Р И Р У Ч Н И К

ЗА ОБЕЛЕŽAVANJE PRELAZNICA
ОБЛИКА КЛОТОИДЕ
ПРАВОУГЛИМ КООРДИНАТАМА