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Nata

LumCAT: 1-0806-S
Luminaire: 92.70.208.00
Report No: NATA0100
Test No: GC2019103002
LampCAT: OSRAM5050
Lamp flux(lm): 878.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.0000
Current(A): 0.2970
Power (W): 10.1000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 631.74
Efficiency(%): 71.95%
Lumens(lm)/Power(W): 62.55
Central intensity(cd): 681.638
Maximum intensity(cd): 707.231
Angle of maximum intensity: $C=292.5$ $\gamma=5.0$
Beam Angle(50%Imax): [C0/180]Total=73.5
[C90/270]Total=46.3
Field angle(10%Imax): [C0/180]Total=88.5
[C90/270]Total=66.9
Maximum s/h(1/2): C0_180=1.10 C90_270=0.71
Maximum s/h(1/4): C0_180=1.06 C90_270=0.67
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 71.95%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.014%

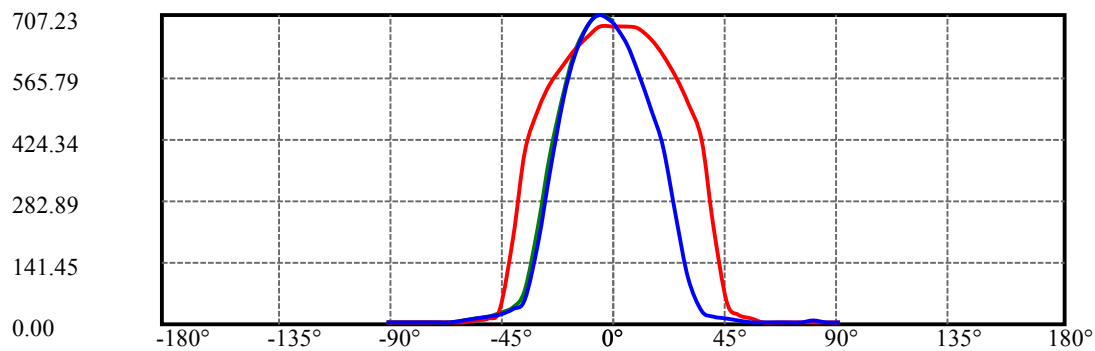
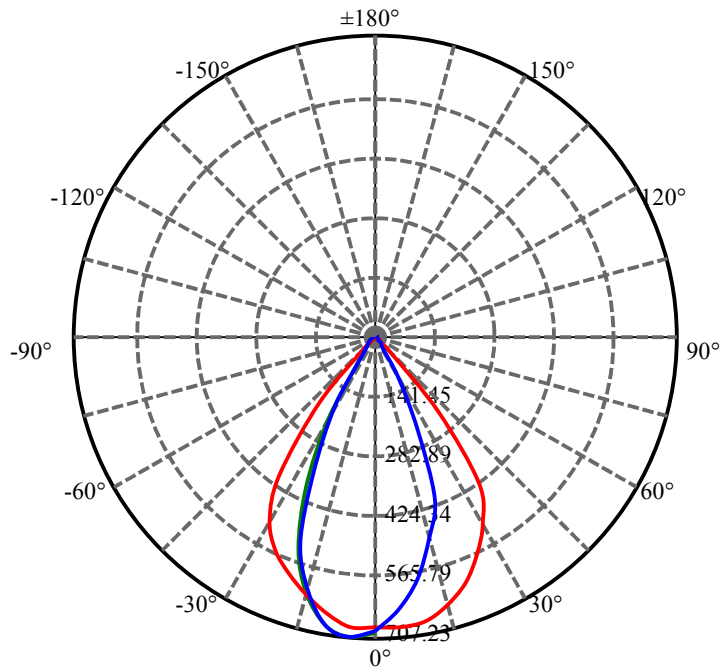
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	690.209	0.000	0	.000%	.000%
5.0	680.203	16.383	16.383	1.866%	2.593%
10.0	649.761	47.577	63.96	5.419%	10.124%
15.0	598.760	74.061	138.021	8.435%	21.848%
20.0	535.254	93.459	231.48	10.644%	36.642%
25.0	440.543	102.343	333.823	11.656%	52.842%
30.0	333.211	97.919	431.742	11.153%	68.342%
35.0	218.341	81.220	512.962	9.251%	81.198%
40.0	122.541	56.874	569.836	6.478%	90.201%
45.0	38.064	29.737	599.573	3.387%	94.908%
50.0	14.600	10.642	610.215	1.212%	96.592%
55.0	9.548	5.251	615.465	.598%	97.424%
60.0	6.585	3.729	619.195	.425%	98.014%
65.0	4.887	2.789	621.983	.318%	98.455%
70.0	4.085	2.272	624.255	.259%	98.815%
75.0	3.635	2.018	626.273	.230%	99.134%
80.0	3.677	1.957	628.23	.223%	99.444%
85.0	3.224	1.875	630.105	.214%	99.741%
90.0	2.756	1.637	631.742	.186%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	431.74	49.17%	68.34%
0-40	569.84	64.90%	90.20%
0-60	619.19	70.52%	98.01%
0-90	630.10	71.77%	99.74%
0-120	630.10	71.77%	99.74%
0-180	631.74	71.95%	100.00%
60-90	14.64	1.67%	2.32%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-34.53	505.39	57.56%	80.00%

ZONAL LUMEN SUMMARY

0-10	63.96
10-20	167.52
20-30	200.26
30-40	138.09
40-50	40.38
50-60	8.98
60-70	5.06
70-80	3.97
80-90	1.88
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



C292.5(Max): —————

C0/C180: —————

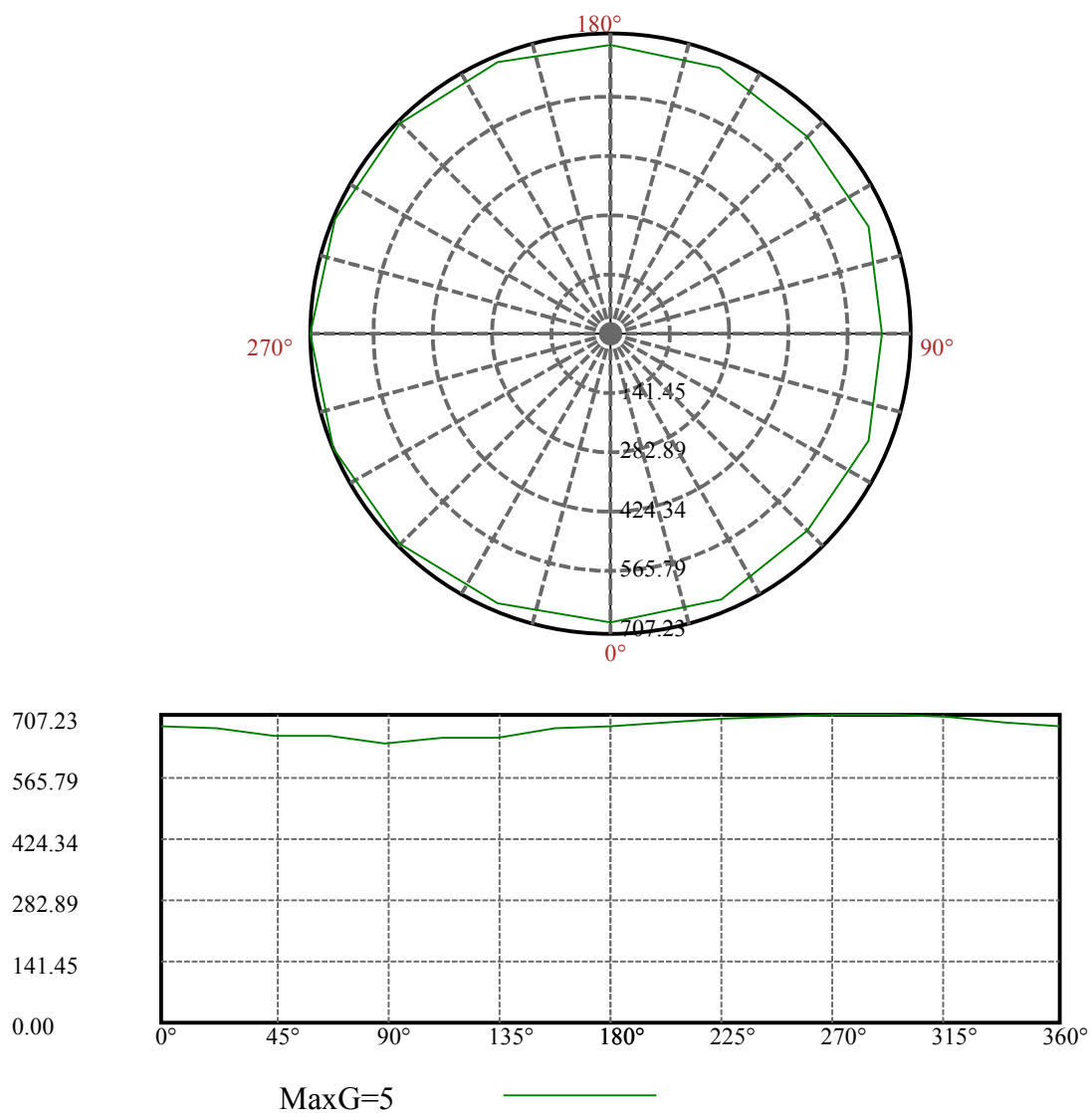
C90/C270: —————

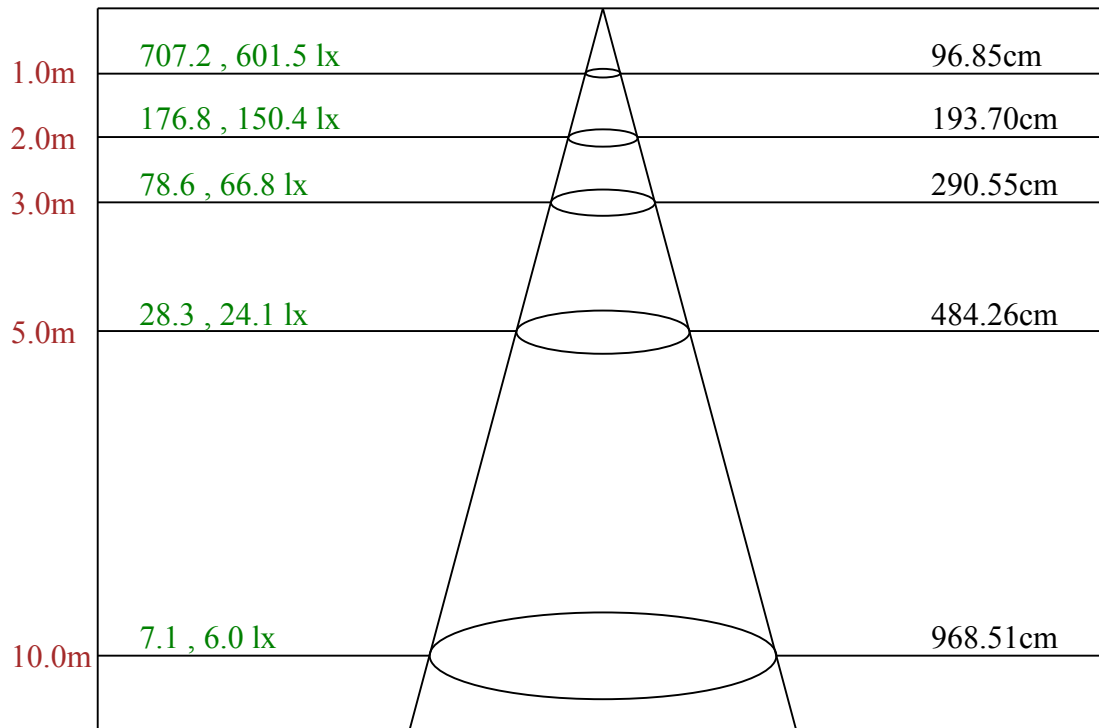
Field angle(10%Imax):C0/180Left:44.0 Right:44.5

:C90/270Left:29.5 Right:37.4

Beam Angle(50%Imax):C0/180Left:36.4 Right:37.1

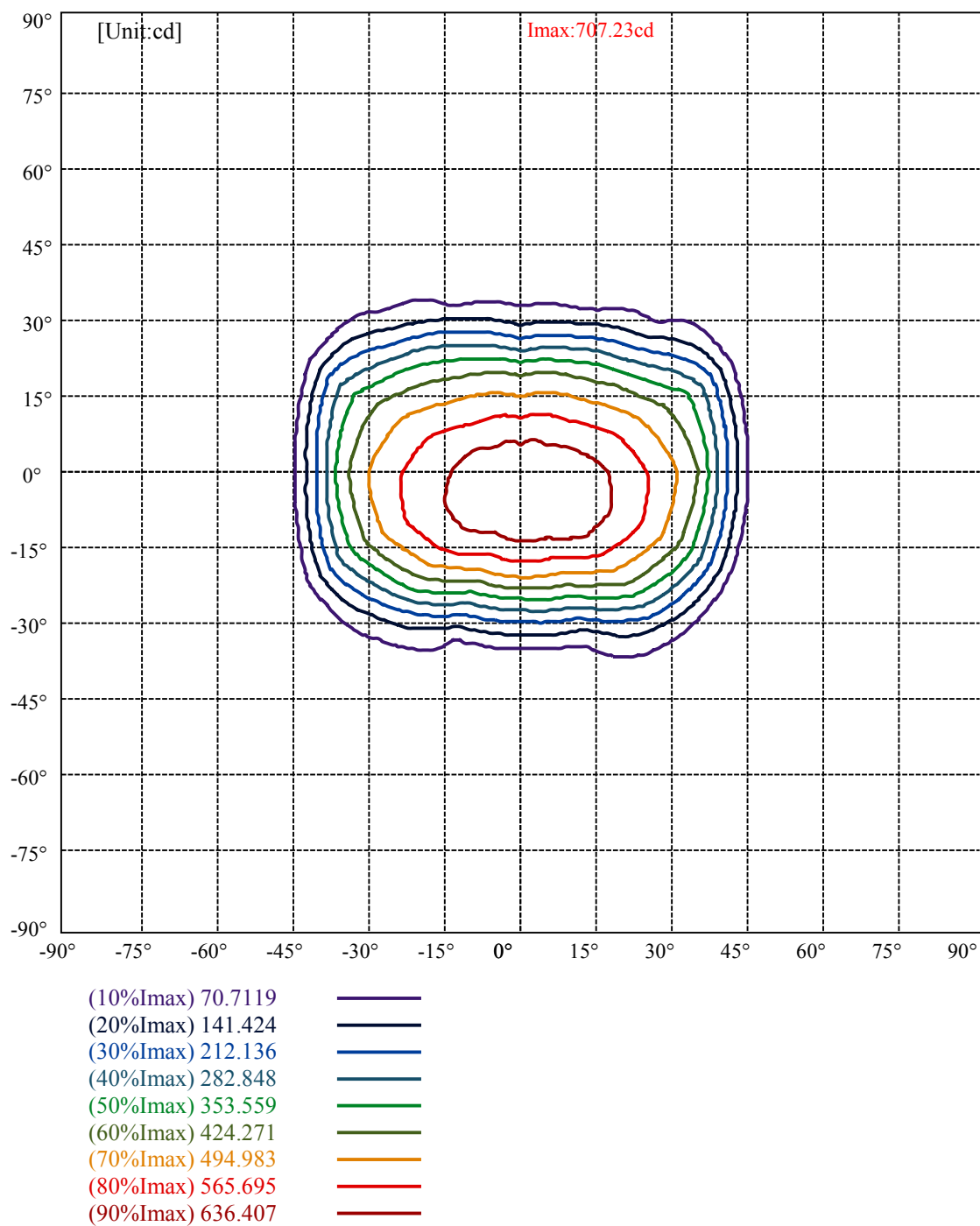
:C90/270Left:19.8 Right:26.5

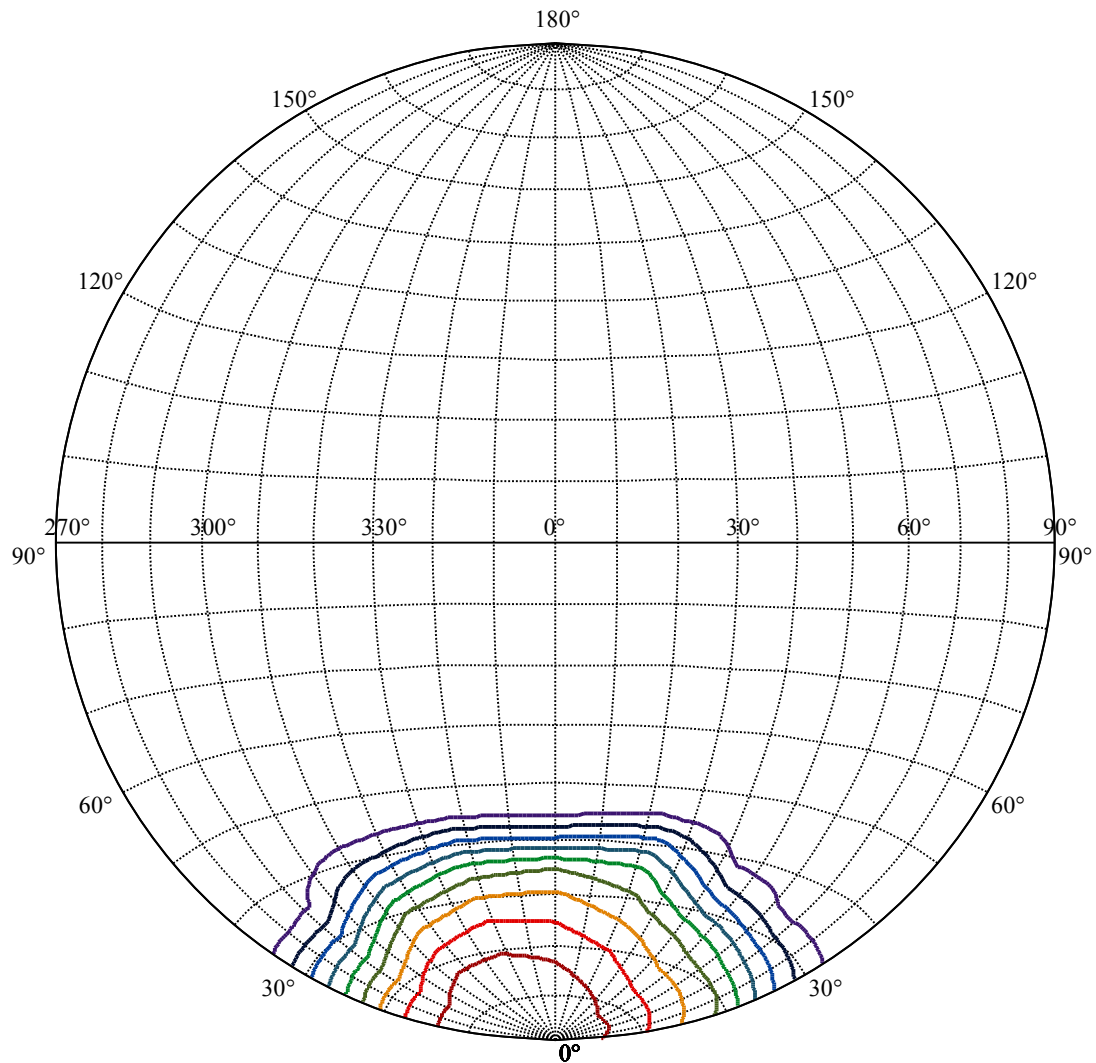




Max , Ave

Beam angle of C292.5 plane 51.66



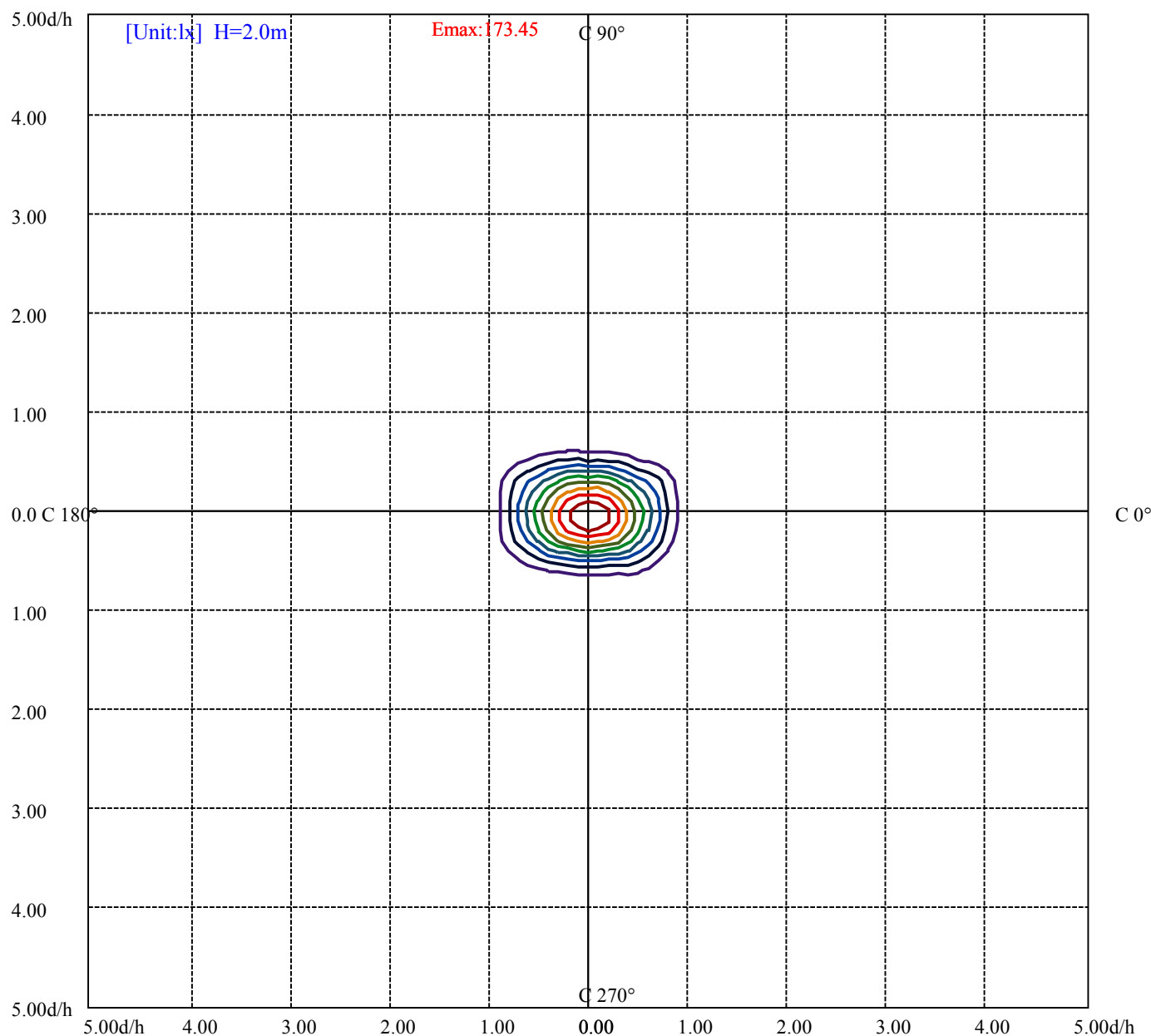


House

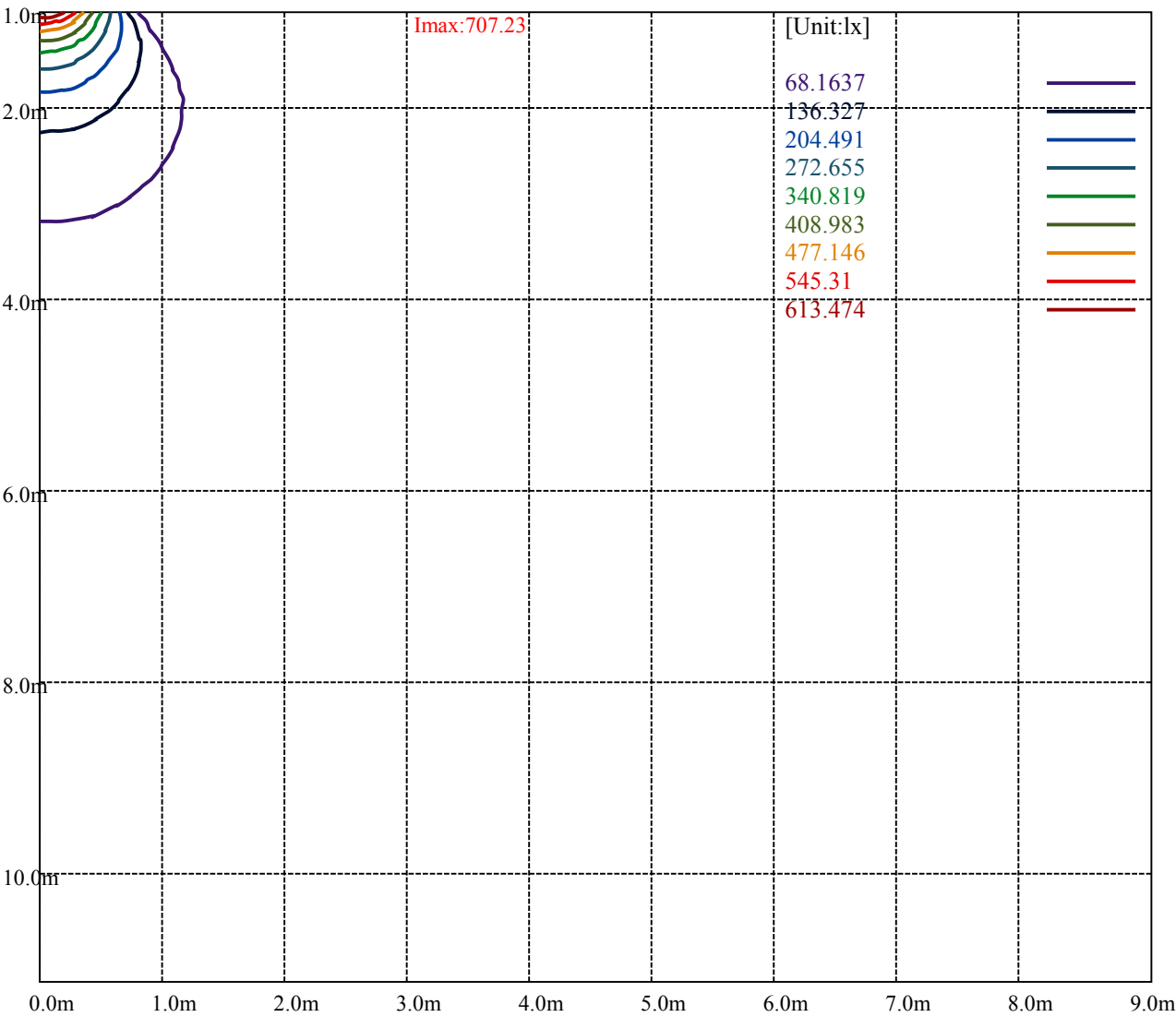
[Unit:cd]

Road

Imax:707.23	
(10%Imax) 70.7229	
(20%Imax) 141.446	
(30%Imax) 212.169	
(40%Imax) 282.892	
(50%Imax) 353.614	
(60%Imax) 424.337	
(70%Imax) 495.06	
(80%Imax) 565.783	
(90%Imax) 636.506	



(10%Emax)	17.34513	—
(20%Emax)	34.69025	—
(30%Emax)	52.0355	—
(40%Emax)	69.3805	—
(50%Emax)	86.72575	—
(60%Emax)	104.0707	—
(70%Emax)	121.416	—
(80%Emax)	138.761	—
(90%Emax)	156.1062	—



Luminance Table

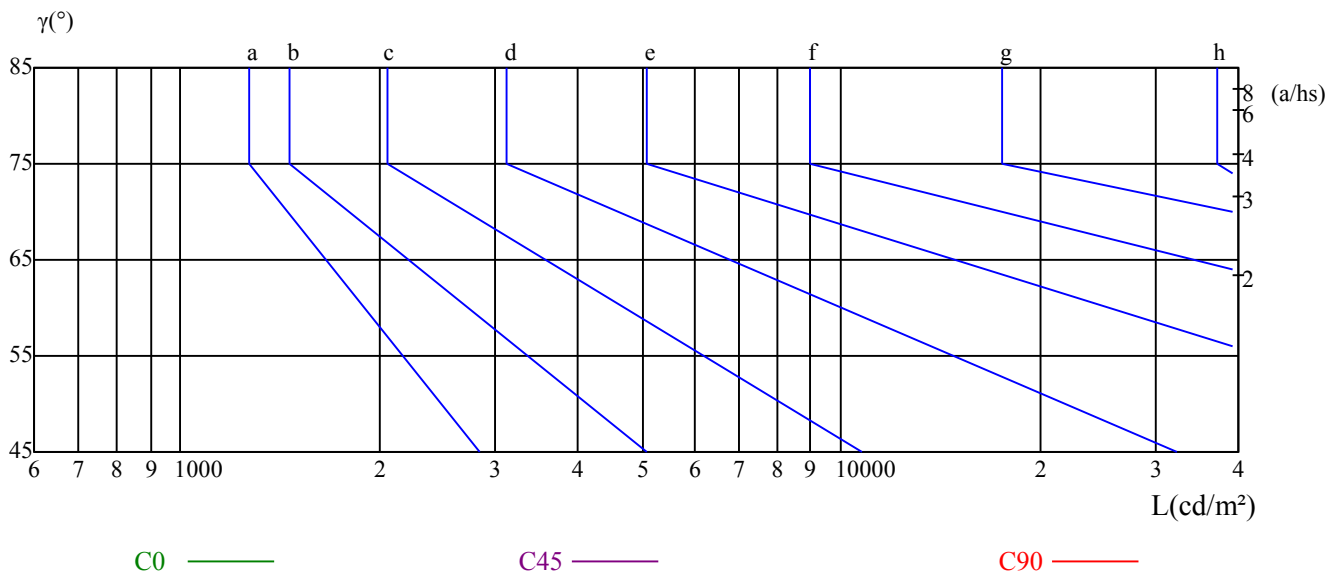
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

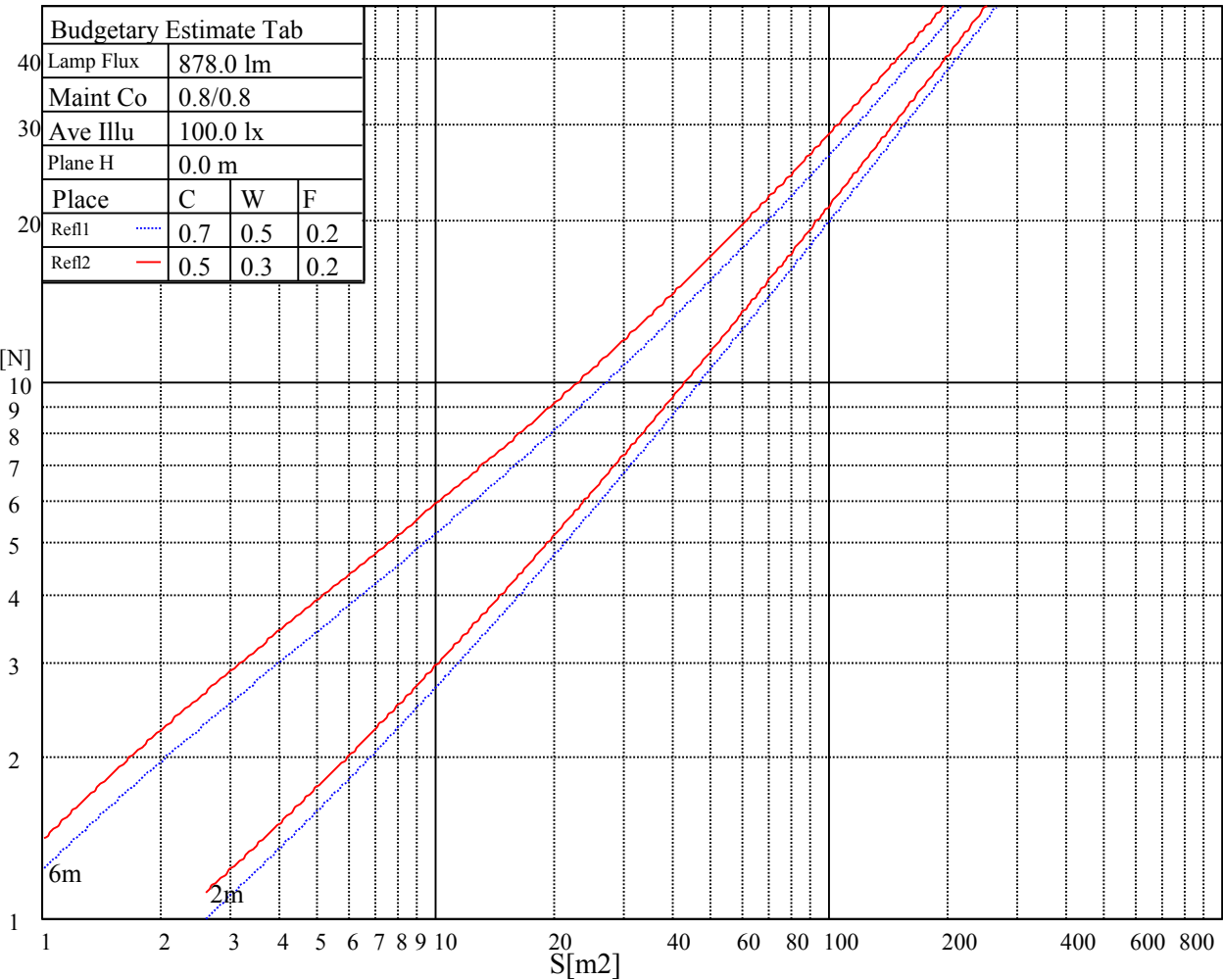
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

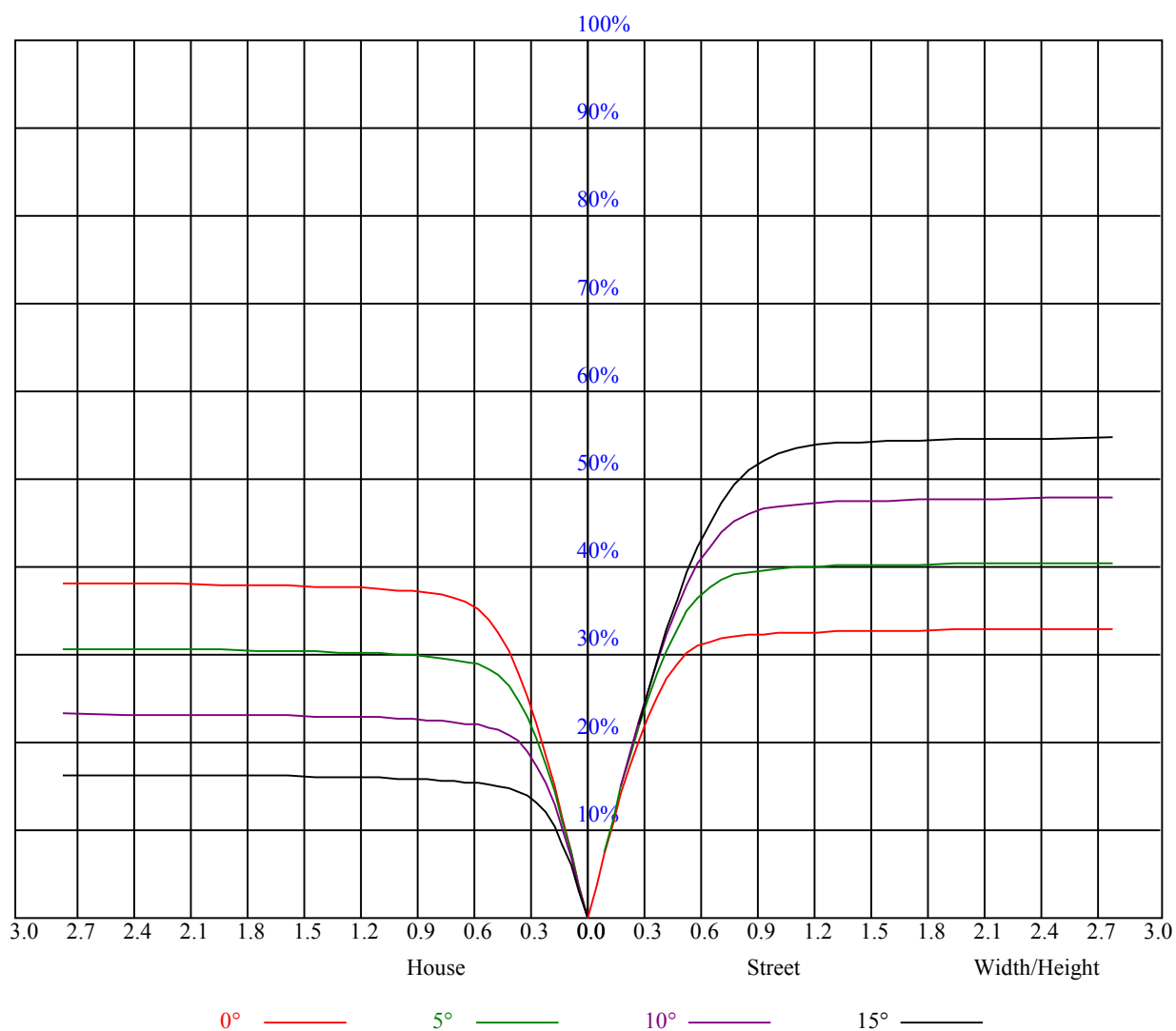
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	0.86	0.86	0.86	0.84	0.84	0.84	0.80	0.80	0.80	0.77	0.77	0.77	0.73	0.73	0.73	0.72
1	0.79	0.77	0.76	0.78	0.76	0.74	0.75	0.73	0.72	0.72	0.71	0.70	0.70	0.69	0.68	0.67
2	0.74	0.70	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.68	0.66	0.64	0.66	0.64	0.63	0.62
3	0.68	0.65	0.62	0.67	0.64	0.61	0.65	0.63	0.60	0.64	0.61	0.59	0.62	0.60	0.58	0.57
4	0.64	0.60	0.56	0.63	0.59	0.56	0.61	0.58	0.55	0.60	0.57	0.55	0.59	0.56	0.54	0.53
5	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.56	0.53	0.51	0.55	0.53	0.50	0.49
6	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.53	0.50	0.47	0.52	0.49	0.47	0.46
7	0.52	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.44	0.50	0.47	0.44	0.49	0.46	0.44	0.43
8	0.49	0.45	0.42	0.49	0.45	0.42	0.48	0.44	0.42	0.47	0.44	0.41	0.47	0.44	0.41	0.40
9	0.46	0.42	0.39	0.46	0.42	0.39	0.45	0.42	0.39	0.45	0.41	0.39	0.44	0.41	0.39	0.38
10	0.44	0.40	0.37	0.44	0.39	0.37	0.43	0.39	0.37	0.42	0.39	0.37	0.42	0.39	0.36	0.35



Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	681.64	681.02	678.21	650.98	614.36	563.74	504.56	420.41	228.32		
22.5	693.45	677.19	648.11	606.77	561.21	500.01	435.26	367.76	254.03		
45.0	689.68	658.63	611.04	551.87	479.19	405.56	275.96	143.72	42.13		
67.5	693.96	658.01	600.69	521.94	441.34	308.08	163.80	44.33	25.14		
90.0	689.51	641.64	577.18	488.81	402.19	238.16	107.27	32.34	18.79		
112.5	694.01	656.27	593.10	519.30	441.45	323.10	187.82	58.39	26.04		
135.0	688.84	654.69	604.41	542.76	480.83	413.61	320.96	182.59	77.96		
157.5	690.58	675.45	639.79	595.97	552.77	500.51	437.68	361.18	254.64		
180.0	681.64	681.58	660.43	627.08	591.24	549.68	492.08	396.11	202.84		
202.5	693.45	690.19	667.46	642.83	613.35	558.00	485.55	377.10	253.07		
225.0	689.68	699.75	683.27	644.79	588.88	497.87	380.03	227.76	96.81		
247.5	693.96	703.86	676.07	608.40	514.52	358.71	205.37	66.60	35.89		
270.0	689.51	707.12	686.87	617.06	514.58	345.88	187.99	57.43	33.98		
292.5	694.01	707.23	685.01	622.41	527.34	388.35	227.53	80.21	40.11		
315.0	688.84	701.27	695.14	669.66	609.64	521.89	420.53	279.73	134.16		
337.5	690.58	689.34	689.40	669.54	631.18	575.55	498.99	397.80	236.76		
360.0	681.64	681.02	678.21	650.98	614.36	563.74	504.56	420.41	228.32		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	50.79	19.86	11.59	6.19	4.05	3.32	2.93	2.76	2.59		
22.5	78.13	16.03	9.06	6.02	4.39	3.60	3.21	2.87	2.76		
45.0	19.52	11.76	7.37	5.29	4.28	3.66	3.32	3.49	2.93		
67.5	14.68	9.51	6.58	5.06	4.16	3.60	3.32	3.38	3.15		
90.0	12.43	8.49	6.13	4.89	4.11	3.71	3.71	8.33	3.15		
112.5	15.81	10.18	6.86	5.12	4.16	3.60	3.32	3.43	3.38		
135.0	22.22	12.26	7.65	5.40	4.16	3.54	3.15	3.09	2.93		
157.5	80.27	16.31	9.34	6.13	4.39	3.60	3.15	2.93	2.76		
180.0	34.99	14.57	8.89	5.74	4.05	3.26	2.93	2.76	2.76		
202.5	82.41	15.24	10.18	7.43	5.12	4.11	3.49	3.09	2.98		
225.0	34.03	18.06	12.26	9.28	7.48	6.58	5.74	4.61	4.56		
247.5	22.95	15.47	11.19	7.31	5.12	4.22	3.77	3.66	3.66		
270.0	22.33	15.64	11.59	7.76	5.34	4.33	3.88	3.88	4.11		
292.5	24.47	15.86	11.19	7.54	5.12	4.16	3.71	3.54	3.66		
315.0	32.18	16.14	11.70	8.83	7.09	5.79	4.95	3.94	3.43		
337.5	61.82	18.23	11.19	7.37	5.18	4.28	3.60	3.09	2.81		
360.0	50.79	19.86	11.59	6.19	4.05	3.32	2.93	2.76	2.59		
C/ γ (°)	90.0										
0.0	2.53										
22.5	2.53										
45.0	2.70										
67.5	2.81										
90.0	2.87										
112.5	2.87										
135.0	2.70										
157.5	2.53										
180.0	2.53										
202.5	2.59										
225.0	2.87										
247.5	3.09										
270.0	3.15										
292.5	3.04										
315.0	2.76										
337.5	2.53										
360.0	2.53										