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Nata

LumCAT: 3-2439-A
Luminaire: 92.70.153.00
Report No: NATA0100
Test No: GC2019111404
LampCAT: PHILIPS SLM92757 TWL112024
Lamp flux(lm): 1022.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C
Voltage(V): 34.4100
Current(A): 0.3220
Power (W): 11.0800
PF: 1.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 857.48
Efficiency(%): 83.90%
Lumens(lm)/Power(W): 77.39
Central intensity(cd): 1867.078
Maximum intensity(cd): 1867.078
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=35.1
[C90/270]Total=35.1
Field angle(10%Imax): [C0/180]Total=70.0
[C90/270]Total=70.0
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.584%

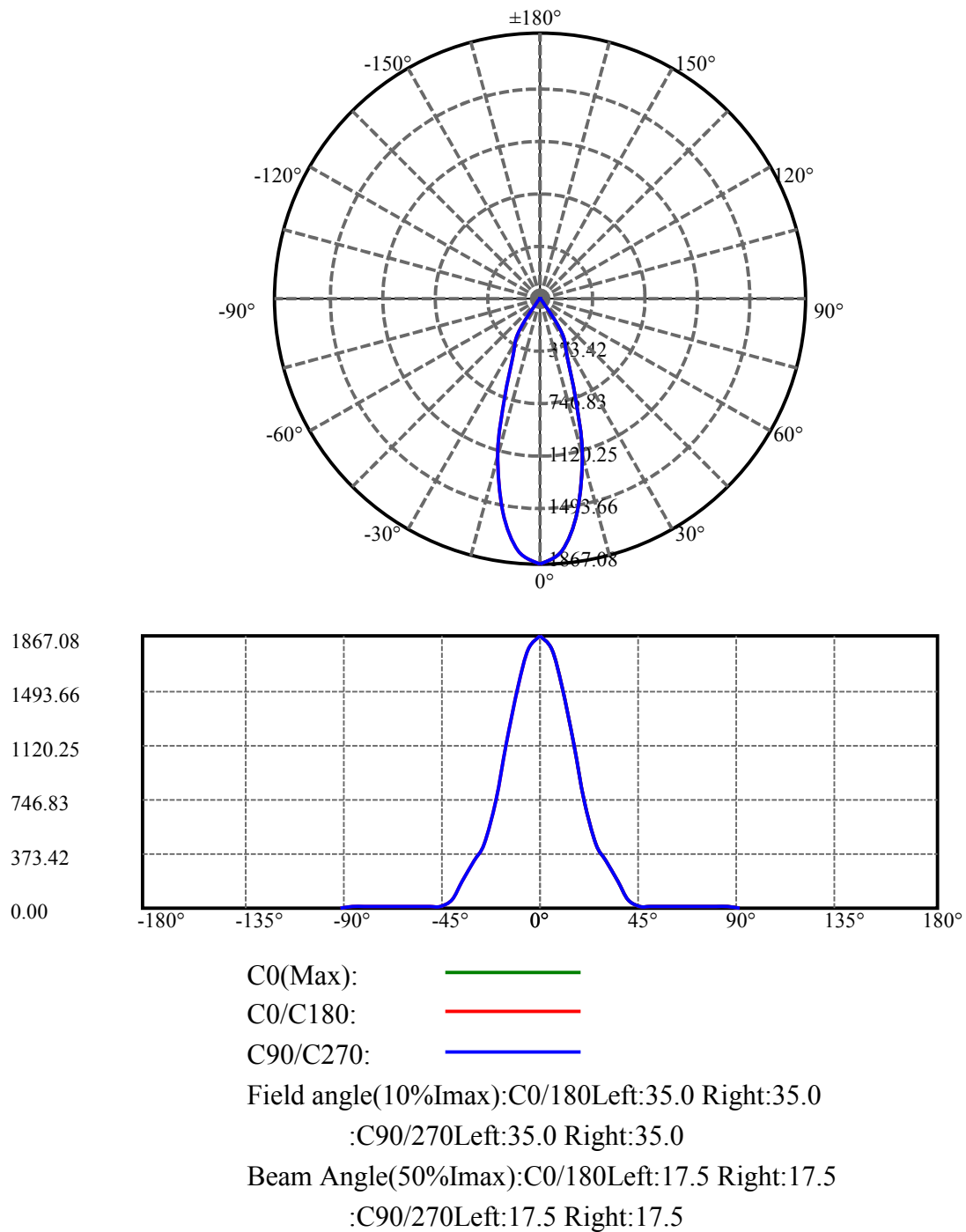
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1867.078	0.000	0	.000%	.000%
5.0	1778.766	43.585	43.585	4.265%	5.083%
10.0	1521.914	118.076	161.661	11.553%	18.853%
15.0	1126.090	157.078	318.739	15.370%	37.172%
20.0	746.093	154.294	473.033	15.097%	55.166%
25.0	444.698	124.892	597.925	12.220%	69.731%
30.0	321.173	96.922	694.846	9.484%	81.034%
35.0	187.320	74.879	769.726	7.327%	89.766%
40.0	61.355	41.489	811.215	4.060%	94.605%
45.0	16.545	14.424	825.639	1.411%	96.287%
50.0	7.298	4.818	830.457	.471%	96.849%
55.0	6.715	3.047	833.503	.298%	97.204%
60.0	7.376	3.257	836.76	.319%	97.584%
65.0	7.327	3.574	840.335	.350%	98.001%
70.0	7.137	3.662	843.997	.358%	98.428%
75.0	6.905	3.670	847.667	.359%	98.856%
80.0	6.623	3.620	851.287	.354%	99.278%
85.0	6.159	3.473	854.76	.340%	99.683%
90.0	3.769	2.718	857.479	.266%	100.000%

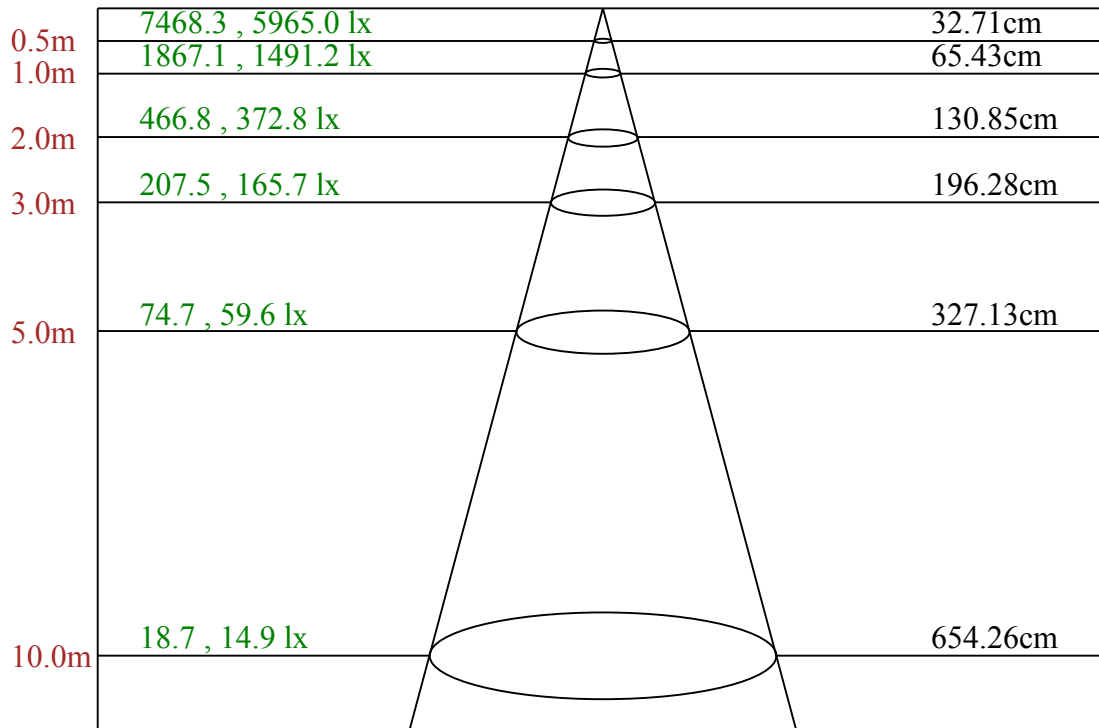
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	694.85	67.99%	81.03%
0-40	811.22	79.38%	94.60%
0-60	836.76	81.87%	97.58%
0-90	854.76	83.64%	99.68%
0-120	854.76	83.64%	99.68%
0-180	857.48	83.90%	100.00%
60-90	21.26	2.08%	2.48%
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%
0-29.54	685.98	67.12%	80.00%

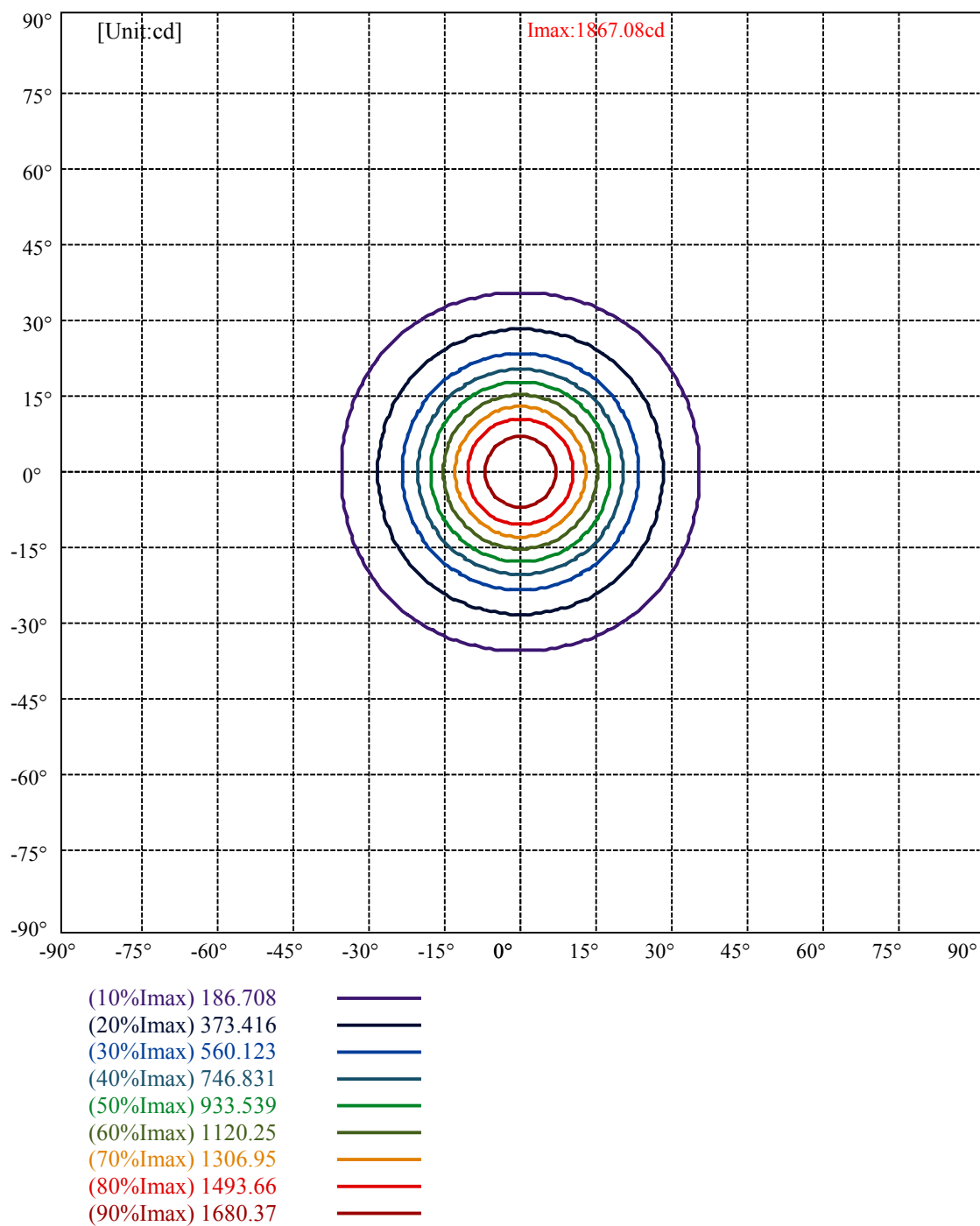
ZONAL LUMEN SUMMARY

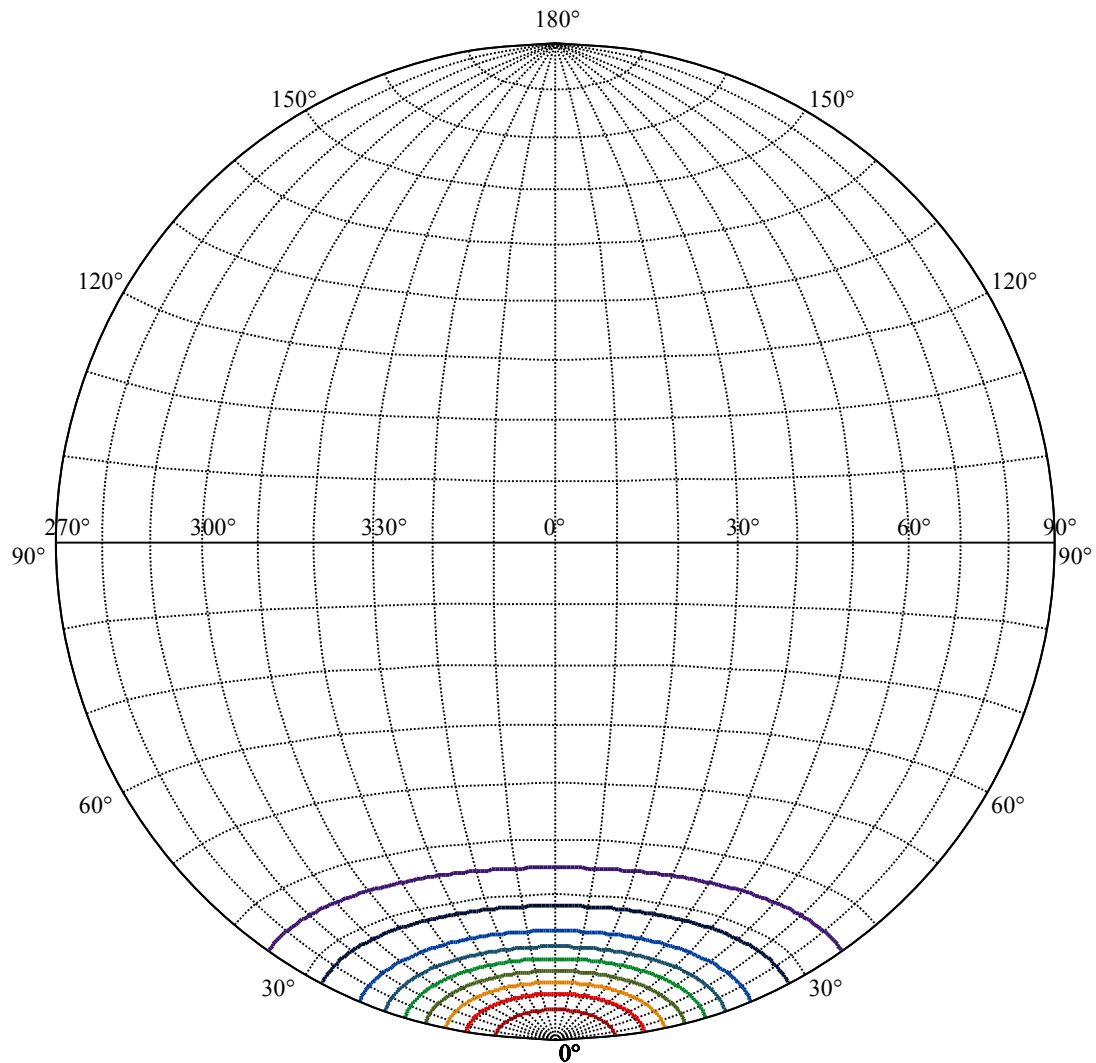
0-10	161.66
10-20	311.37
20-30	221.81
30-40	116.37
40-50	19.24
50-60	6.30
60-70	7.24
70-80	7.29
80-90	3.47
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 36.23





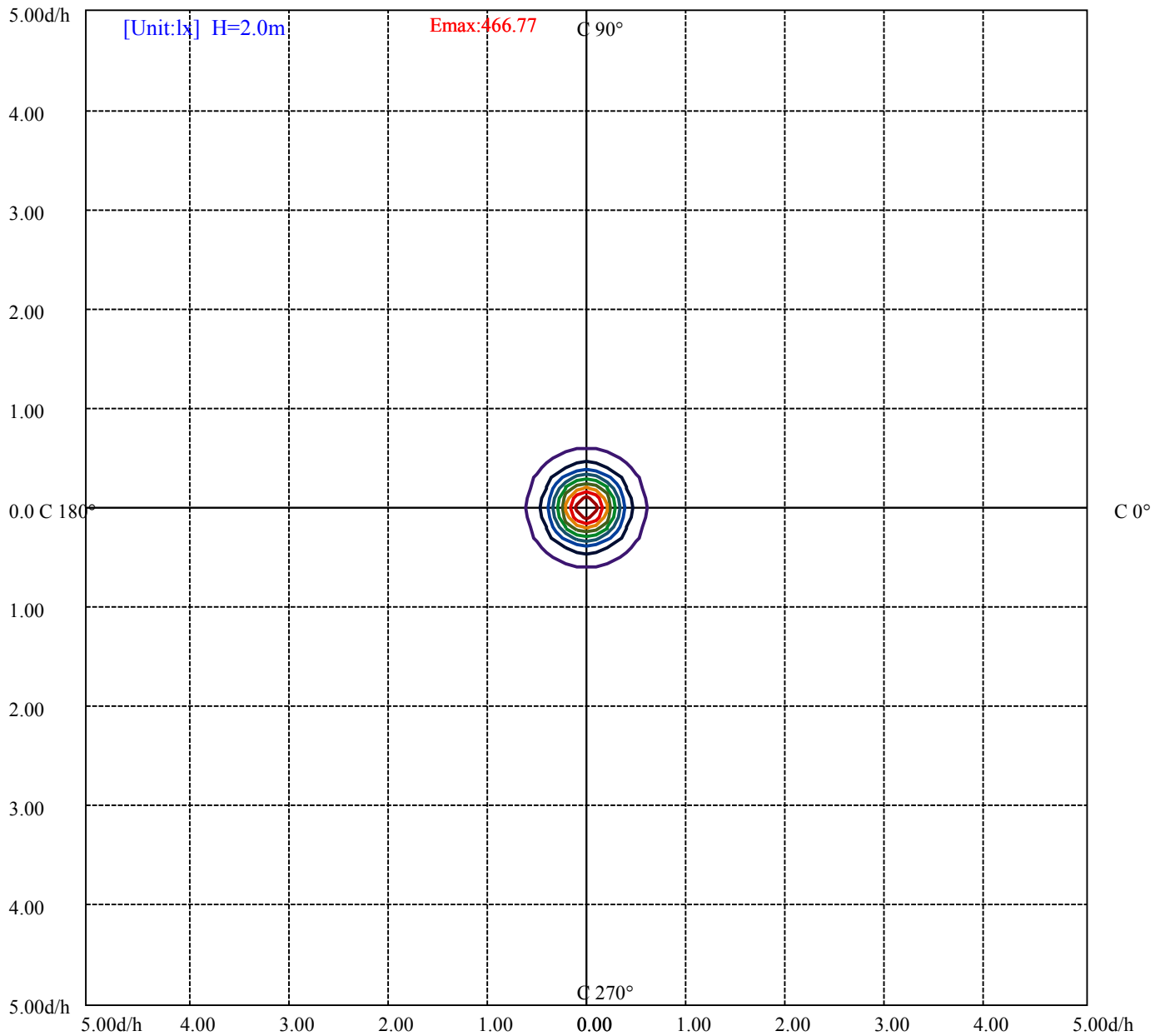
House

[Unit:cd]

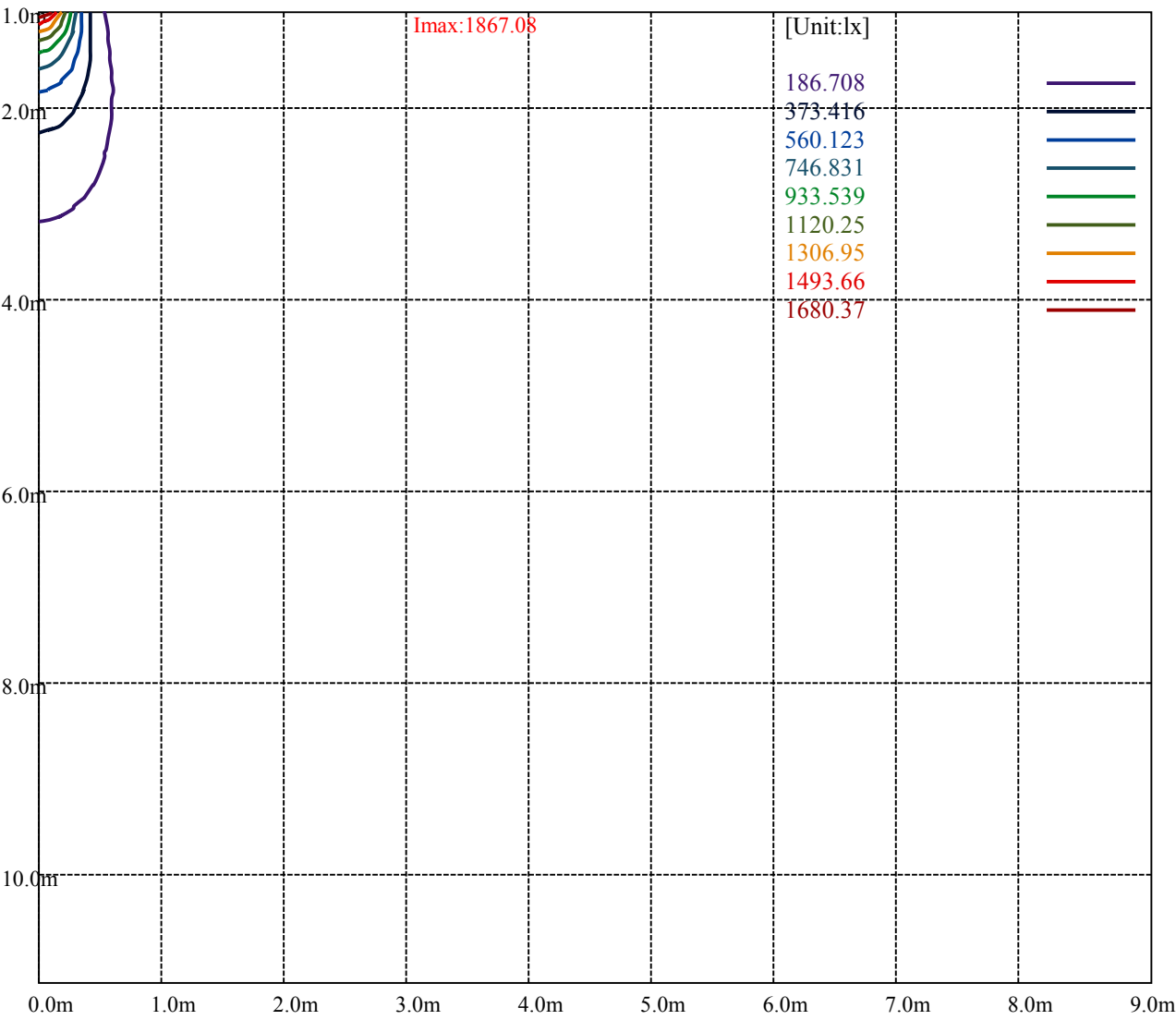
Road

Imax:1867.08

(10%Imax)	186.708	
(20%Imax)	373.416	
(30%Imax)	560.123	
(40%Imax)	746.831	
(50%Imax)	933.539	
(60%Imax)	1120.25	
(70%Imax)	1306.95	
(80%Imax)	1493.66	
(90%Imax)	1680.37	



(10%Emax)	46.677	—
(20%Emax)	93.35375	—
(30%Emax)	140.0307	—
(40%Emax)	186.7075	—
(50%Emax)	233.3845	—
(60%Emax)	280.0625	—
(70%Emax)	326.7375	—
(80%Emax)	373.415	—
(90%Emax)	420.0925	—



Luminance Table

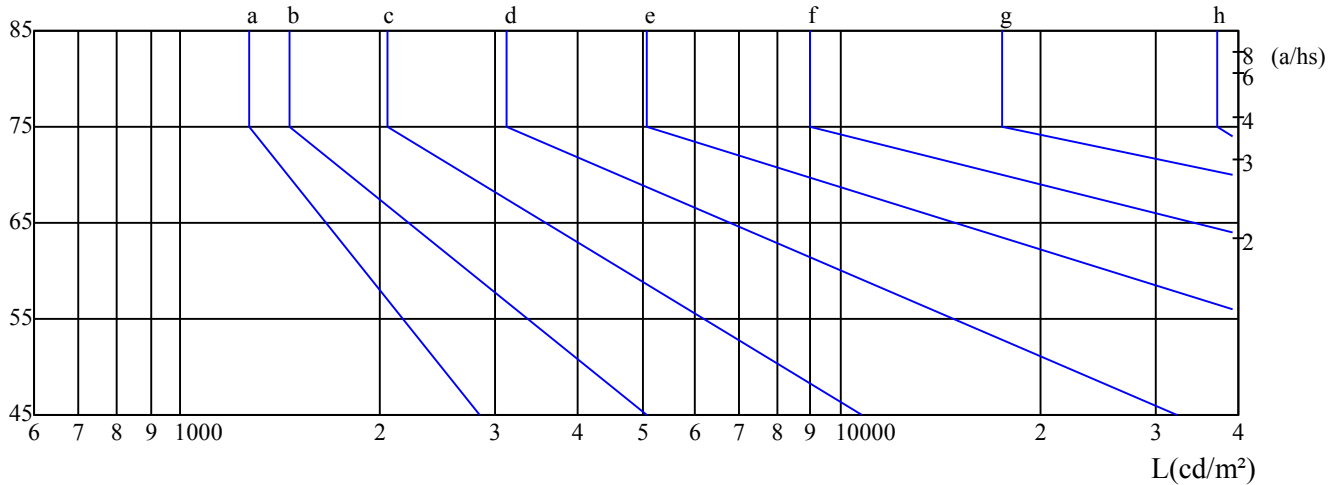
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

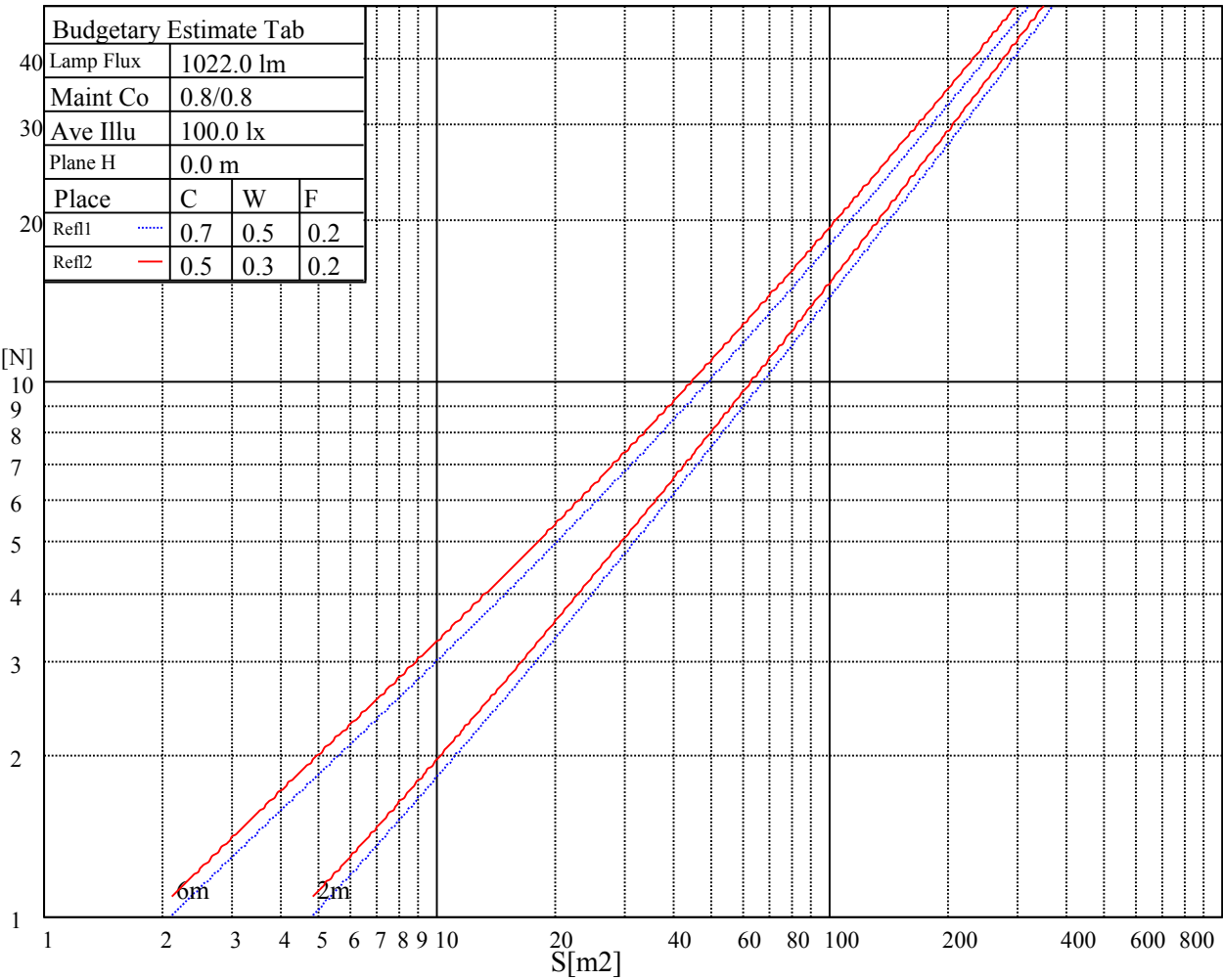
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

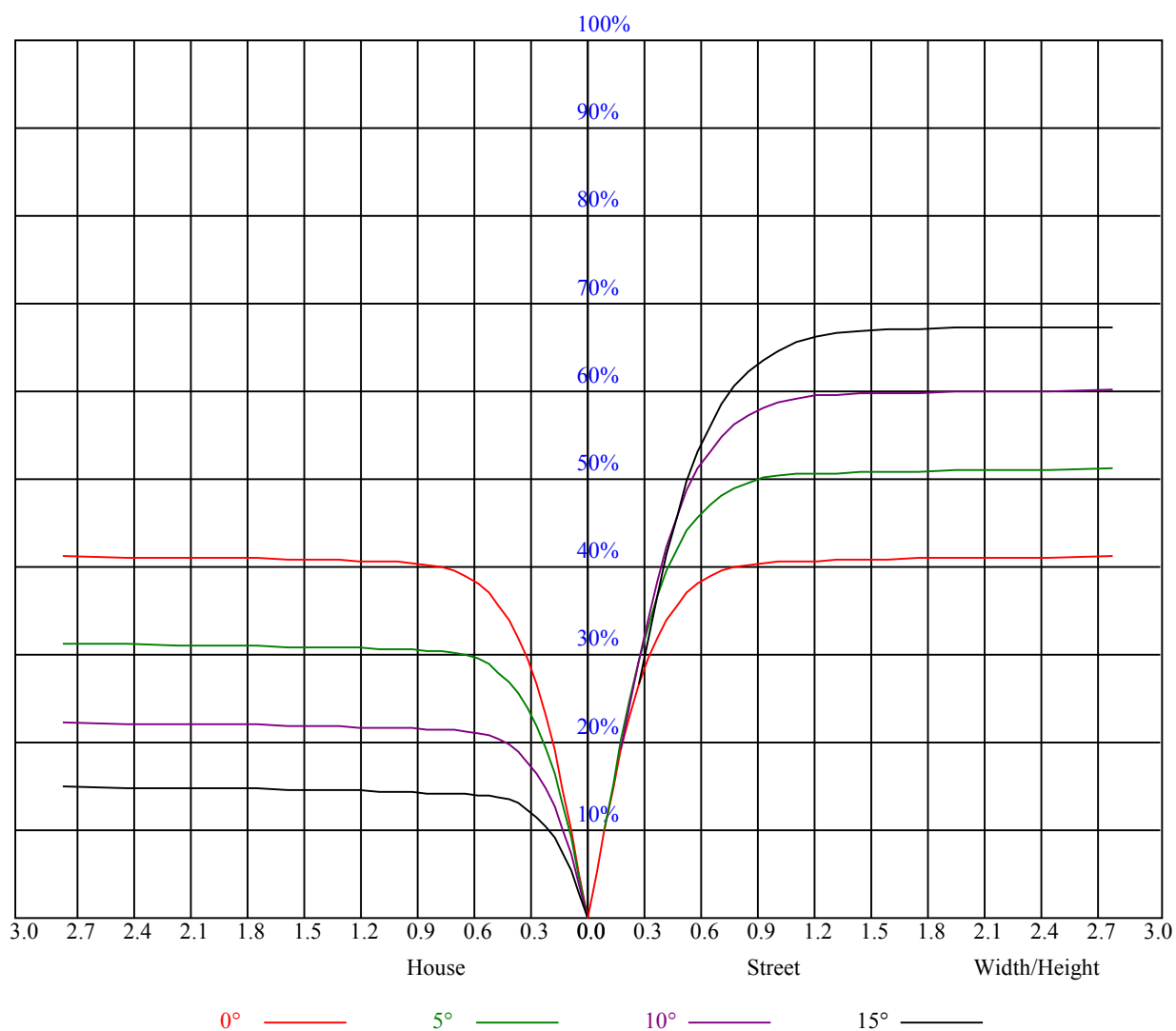
C0 ———

C45 ———

C90 ———



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	1.00	1.00	1.00	0.98	0.98	0.98	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.93	0.91	0.89	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79
2	0.87	0.84	0.81	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.77	0.78	0.77	0.75	0.74
3	0.82	0.78	0.75	0.81	0.78	0.75	0.79	0.76	0.74	0.77	0.74	0.72	0.75	0.73	0.71	0.70
4	0.78	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.71	0.68	0.72	0.69	0.67	0.66
5	0.74	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
7	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.57
8	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.55	0.54
9	0.61	0.56	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.58	0.55	0.53	0.52
10	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.50



Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1867.50	1770.75	1517.63	1132.31	741.94	447.19	317.81	182.87	59.74		
45.0	1871.44	1778.06	1502.44	1127.81	735.19	433.13	313.31	181.07	55.46		
90.0	1864.69	1757.25	1459.13	1055.87	668.31	409.84	298.41	149.68	49.50		
135.0	1864.69	1805.63	1569.38	1187.44	789.19	473.63	331.88	201.66	73.35		
180.0	1867.50	1780.31	1521.00	1106.27	749.81	431.44	321.24	192.09	61.88		
225.0	1871.44	1794.38	1548.56	1107.23	776.14	458.49	331.20	206.44	67.16		
270.0	1864.69	1803.38	1574.44	1210.50	813.38	481.50	347.06	218.19	74.70		
315.0	1864.69	1740.38	1482.75	1081.29	694.80	422.38	308.48	166.56	49.05		
360.0	1867.50	1770.75	1517.63	1132.31	741.94	447.19	317.81	182.87	59.74		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	15.98	7.26	6.75	6.58	6.47	6.41	6.24	6.02	5.46		
45.0	15.02	7.43	6.81	6.64	6.47	6.30	6.13	5.85	5.29		
90.0	13.73	7.09	7.20	13.73	14.29	13.73	13.16	12.66	11.98		
135.0	19.13	7.65	6.69	6.53	6.36	6.19	6.02	5.79	5.34		
180.0	17.16	7.09	6.53	6.30	6.24	6.13	5.96	5.74	5.29		
225.0	17.04	7.20	6.47	6.30	6.19	6.02	5.85	5.63	5.29		
270.0	20.08	7.59	6.58	6.41	6.24	6.08	5.85	5.57	5.23		
315.0	14.23	7.09	6.69	6.53	6.36	6.24	6.02	5.74	5.40		
360.0	15.98	7.26	6.75	6.58	6.47	6.41	6.24	6.02	5.46		
C/γ(°)	90.0										
0.0	3.77										
45.0	3.77										
90.0	3.77										
135.0	3.77										
180.0	3.77										
225.0	3.77										
270.0	3.77										
315.0	3.77										
360.0	3.77										