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## Nata

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Client:

LumCAT: 1689-M

Luminaire: 92.70.124.00

Report No:

Voltage(V): 33.2100

Test No: GC2019082903

Current(A): 0.2970

LampCAT: XICATO XOB LES 9.8MM

Power (W): 9.8600

Lamp flux(lm): 902.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 46

Width(mm): 46

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 821.13, Efficiency(%): 91.03% , Luminous Efficacy(lm/W): 83.28

Central intensity(cd): 709.270, Maximum intensity(cd): 709.270

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=70.6

[C90/270]Total=70.6

Field angle(10%Imax): [C0/180]Total=95.6

[C90/270]Total=95.6

Maximum s/h(1/2): C0\_180=0.97 C90\_270=0.97

Maximum s/h(1/4): C0\_180=1.04 C90\_270=1.04

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.03%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.474%

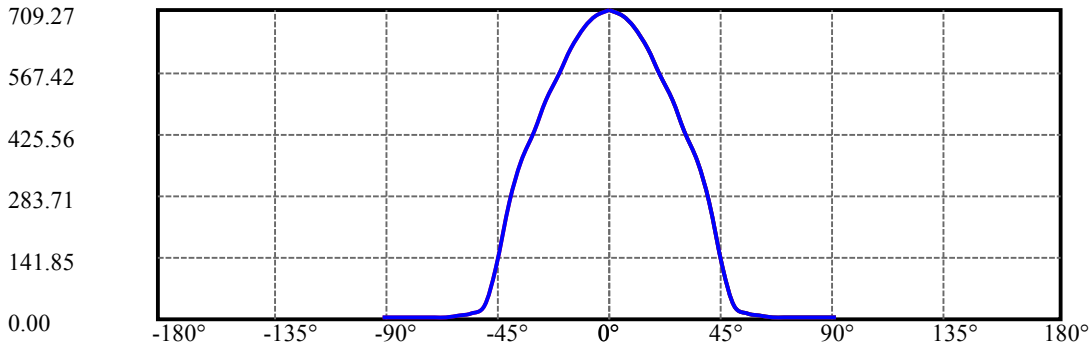
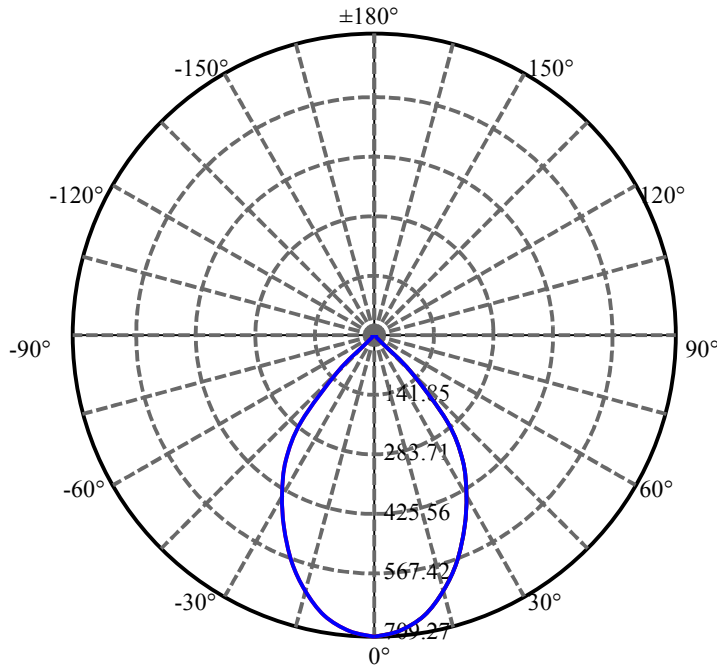
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	709.270	0.000	0	.000%	.000%
5.0	697.767	16.821	16.821	1.865%	2.048%
10.0	669.635	48.916	65.737	5.423%	8.006%
15.0	621.598	76.595	142.332	8.492%	17.334%
20.0	565.362	97.822	240.154	10.845%	29.247%
25.0	500.027	111.740	351.894	12.388%	42.855%
30.0	432.316	117.989	469.883	13.081%	57.224%
35.0	360.605	116.763	586.646	12.945%	71.444%
40.0	268.052	104.887	691.533	11.628%	84.217%
45.0	120.073	71.864	763.397	7.967%	92.969%
50.0	32.273	30.784	794.181	3.413%	96.718%
55.0	12.656	9.769	803.95	1.083%	97.908%
60.0	7.474	4.653	808.603	.516%	98.474%
65.0	5.098	3.056	811.659	.339%	98.847%
70.0	4.008	2.306	813.965	.256%	99.127%
75.0	3.466	1.954	815.919	.217%	99.365%
80.0	3.234	1.793	817.712	.199%	99.584%
85.0	3.115	1.725	819.437	.191%	99.794%
90.0	3.073	1.694	821.131	.188%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	469.88	52.09%	57.22%
0-40	691.53	76.67%	84.22%
0-60	808.60	89.65%	98.47%
0-90	819.44	90.85%	99.79%
0-120	819.44	90.85%	99.79%
0-180	821.13	91.03%	100.00%
60-90	15.49	1.72%	1.89%
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%
0-38.35	656.90	72.83%	80.00%

ZONAL LUMEN SUMMARY

0-10	65.74
10-20	174.42
20-30	229.73
30-40	221.65
40-50	102.65
50-60	14.42
60-70	5.36
70-80	3.75
80-90	1.73
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

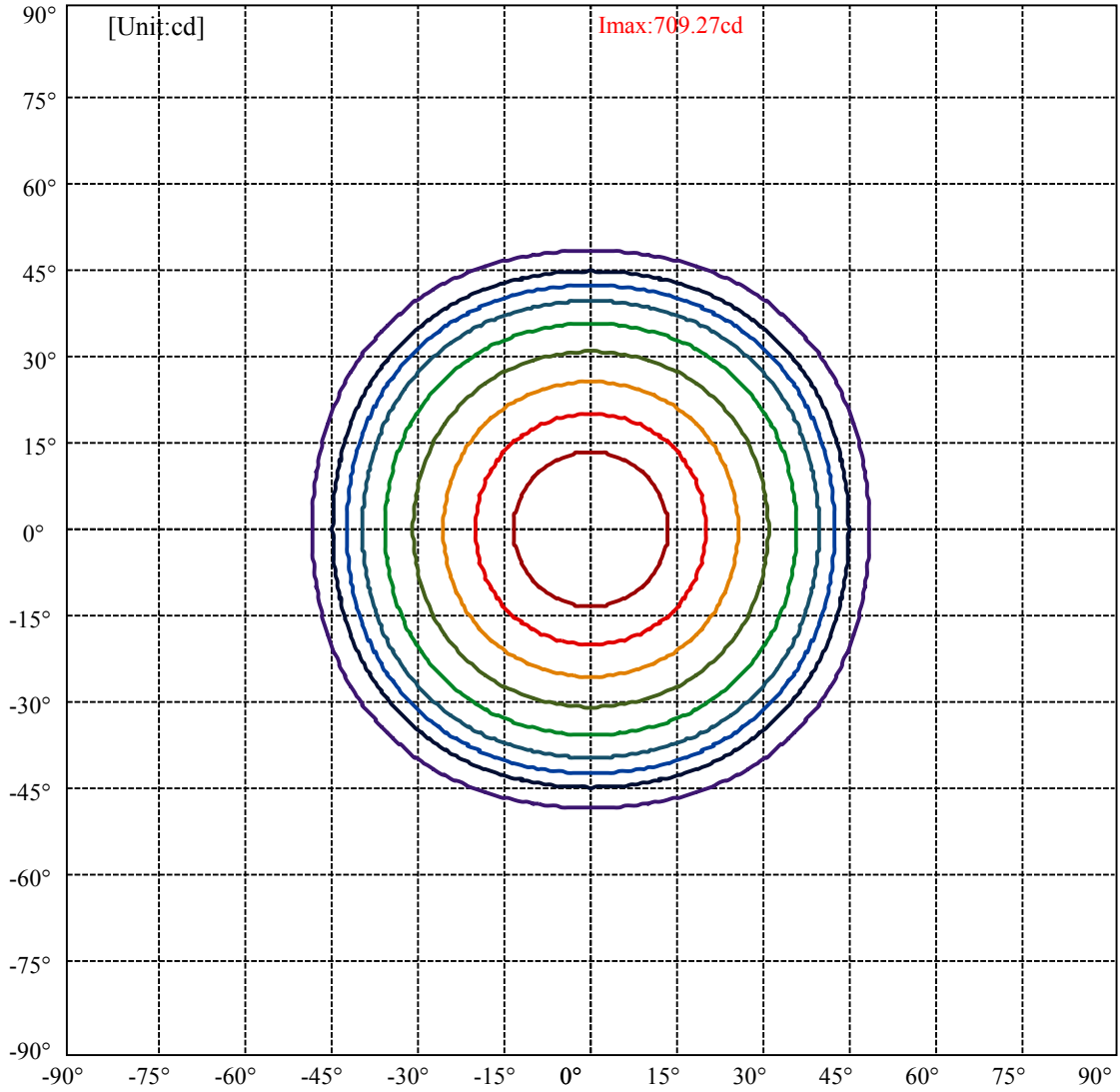


C0(Max): —  
C0/C180: —  
C90/C270: —

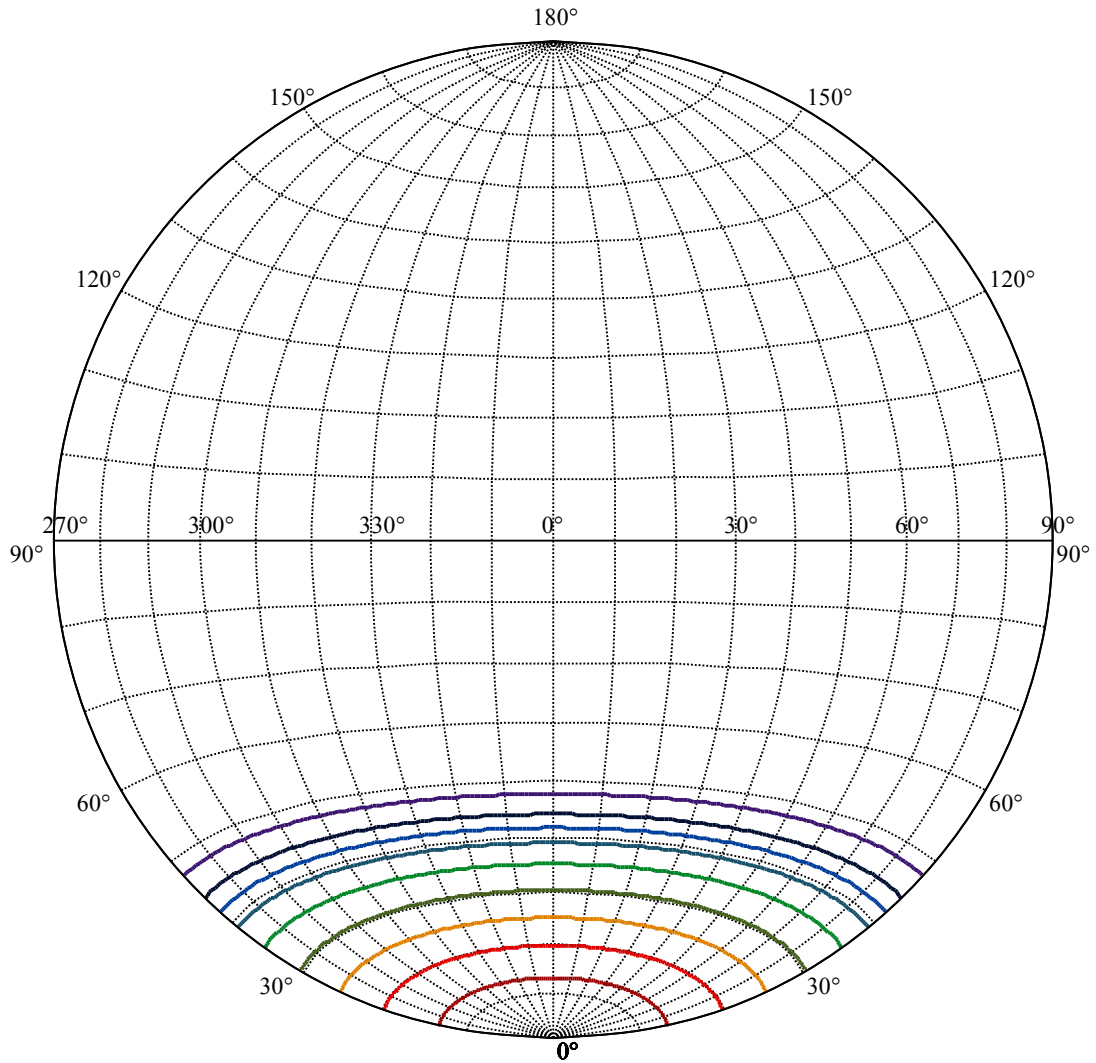
Field angle(10%Imax):C0/180Left:47.8 Right:47.8  
:C90/270Left:47.8 Right:47.8

Beam Angle(50%Imax):C0/180Left:35.3 Right:35.3  
:C90/270Left:35.3 Right:35.3





(10%Imax) 70.927	—
(20%Imax) 141.854	—
(30%Imax) 212.781	—
(40%Imax) 283.708	—
(50%Imax) 354.635	—
(60%Imax) 425.562	—
(70%Imax) 496.489	—
(80%Imax) 567.416	—
(90%Imax) 638.343	—



House

[Unit:cd]

Road

**I<sub>max</sub>:709.27**

(10%I<sub>max</sub>) 70.927

(20%I<sub>max</sub>) 141.854

(30%I<sub>max</sub>) 212.781

(40%I<sub>max</sub>) 283.708

(50%I<sub>max</sub>) 354.635

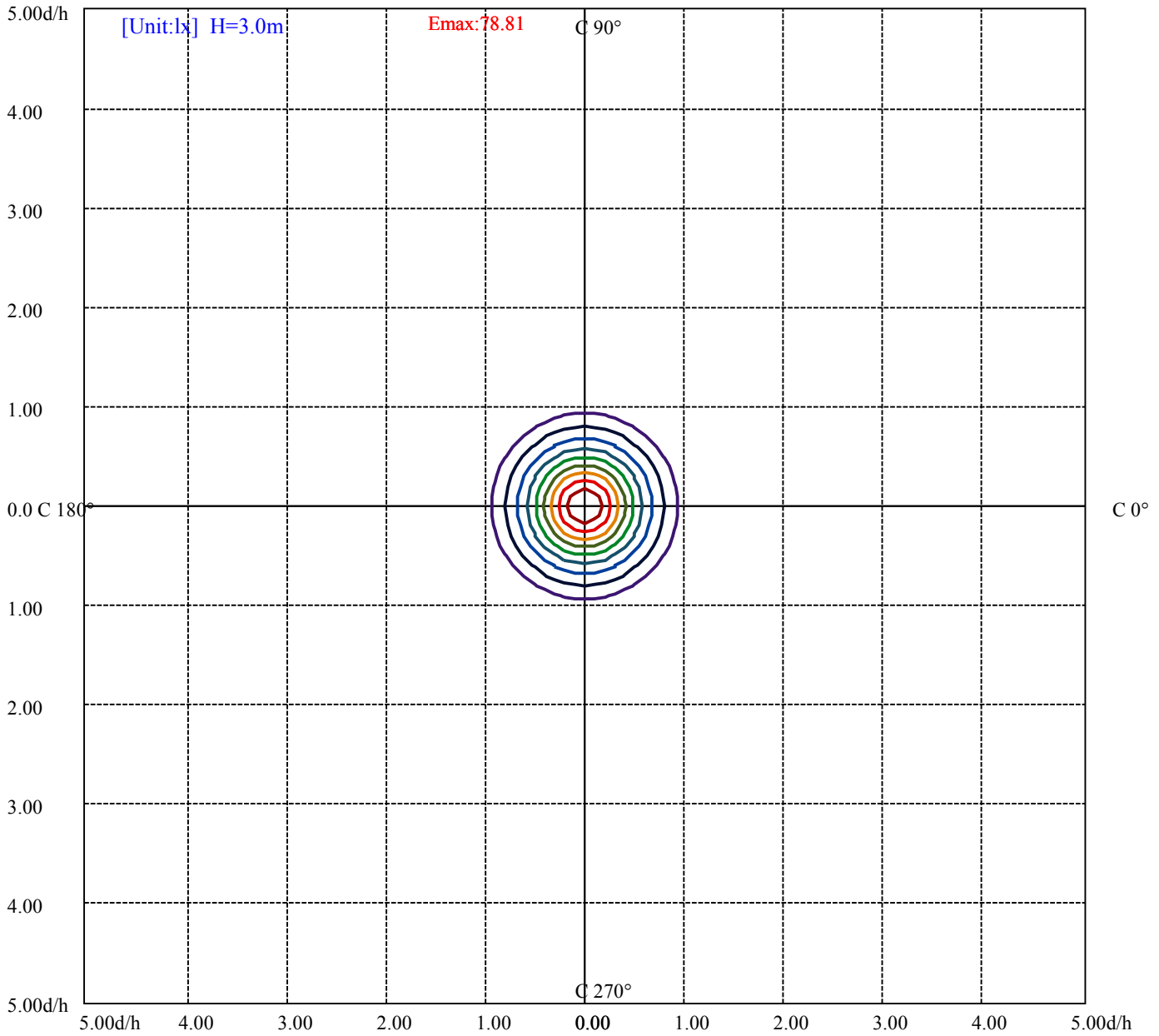
(60%I<sub>max</sub>) 425.562

(70%I<sub>max</sub>) 496.489

(80%I<sub>max</sub>) 567.416

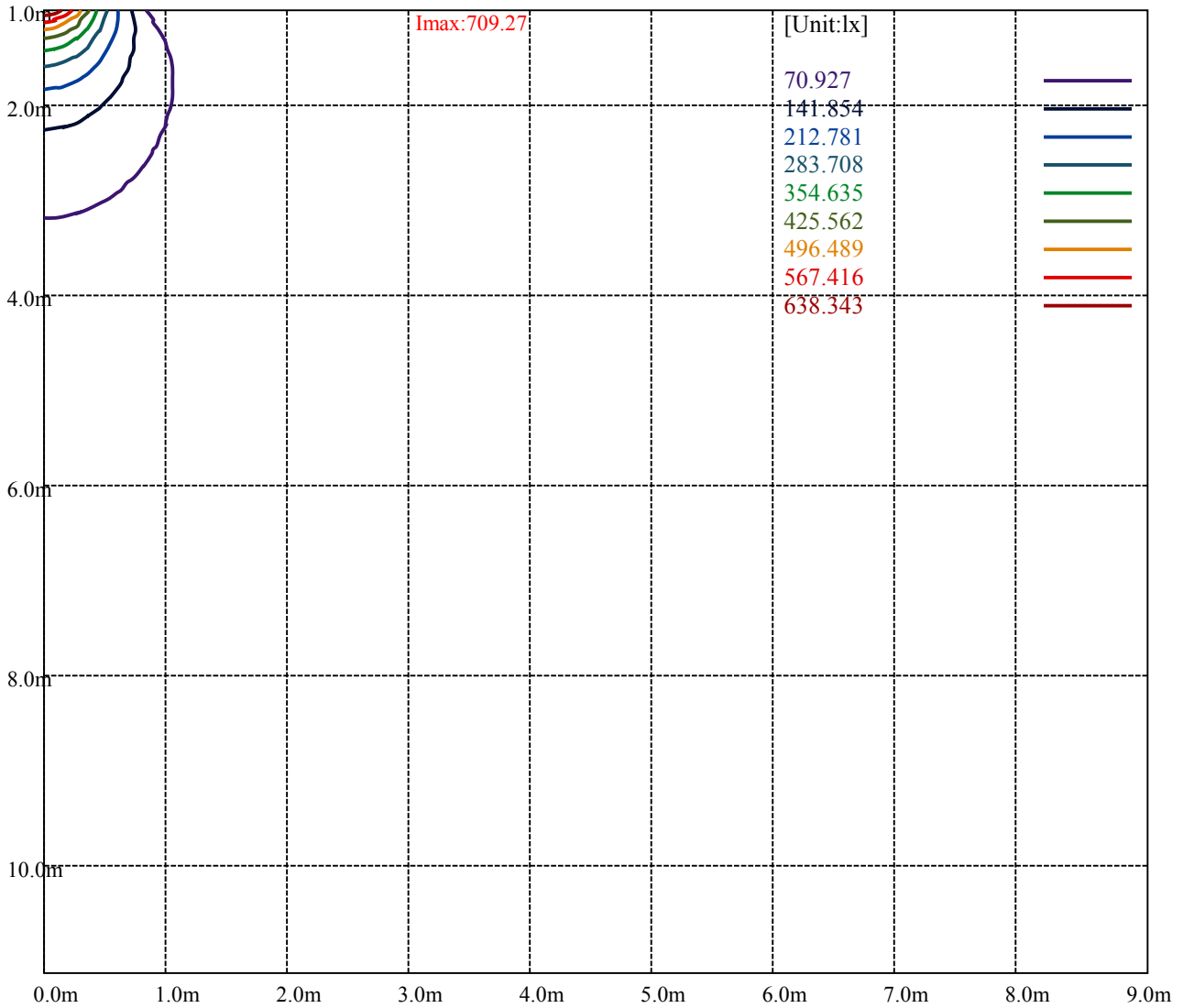
(90%I<sub>max</sub>) 638.343





(10%Emax) 7.880778	—
(20%Emax) 15.76156	—
(30%Emax) 23.64233	—
(40%Emax) 31.52311	—
(50%Emax) 39.40389	—
(60%Emax) 47.28467	—
(70%Emax) 55.16545	—
(80%Emax) 63.04622	—
(90%Emax) 70.927	—





Luminance Table

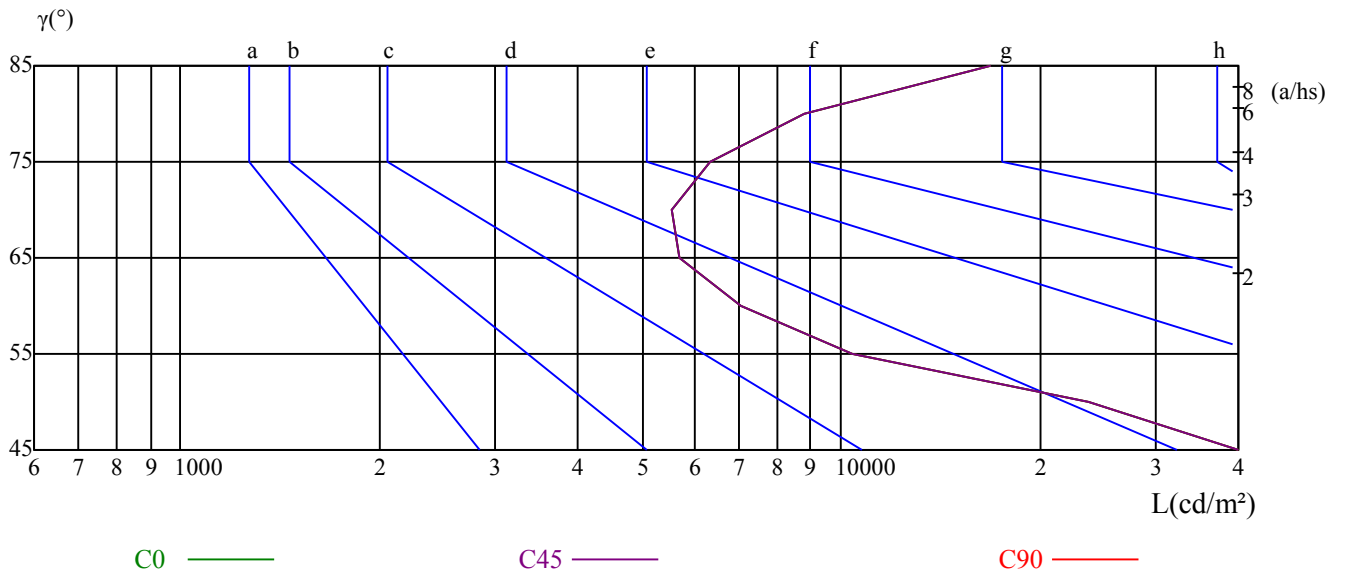
$\gamma$	45	50	55	60	65	70	75	80	85
C0	80250	23728	10428	7064	5700	5538	6329	8802	16890
C45	80250	23728	10428	7064	5700	5538	6329	8802	16890
C90	80250	23728	10428	7064	5700	5538	6329	8802	16890

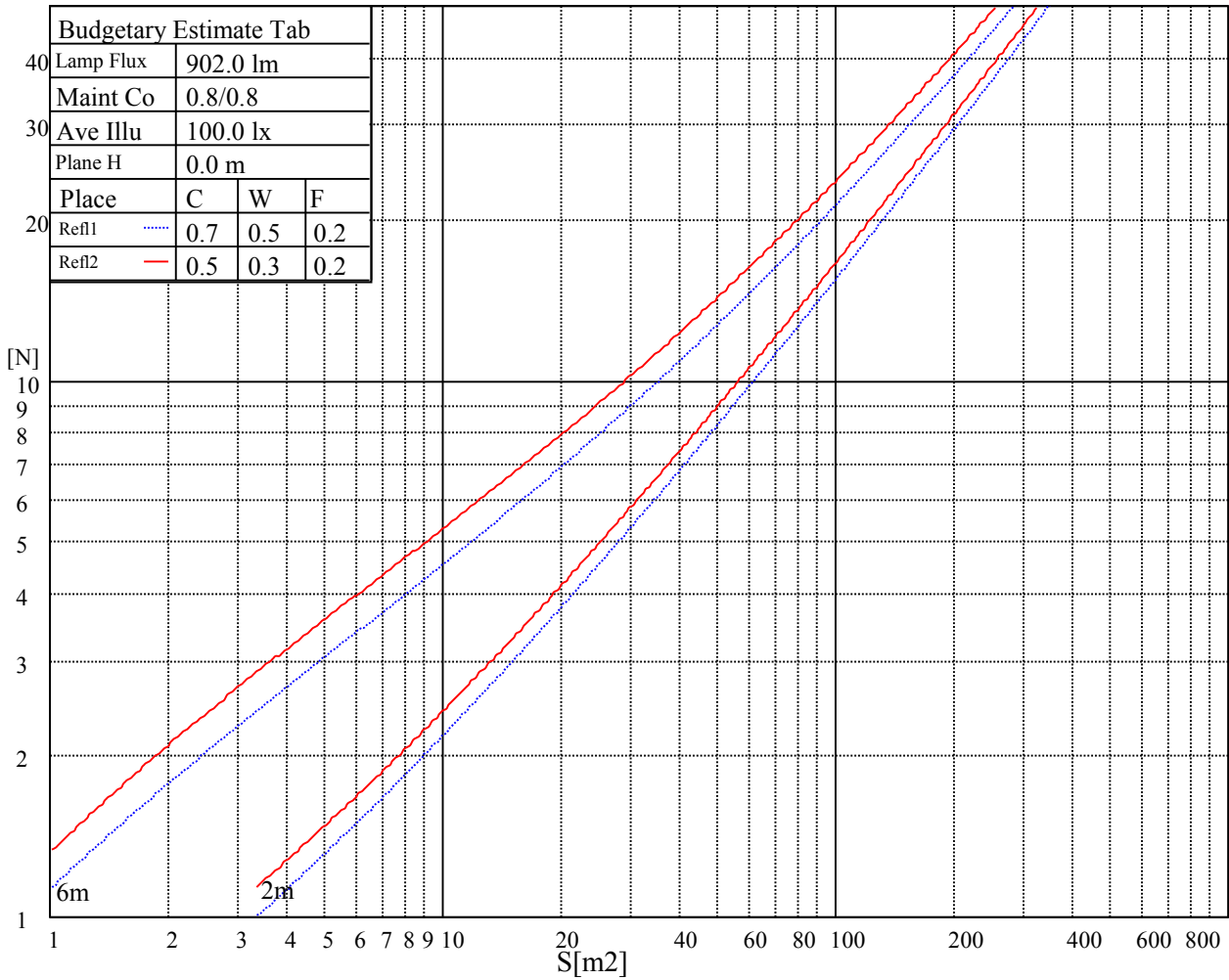
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5700	5700	5700	6329	6329	6329	16890	16890	16890

Glare Table

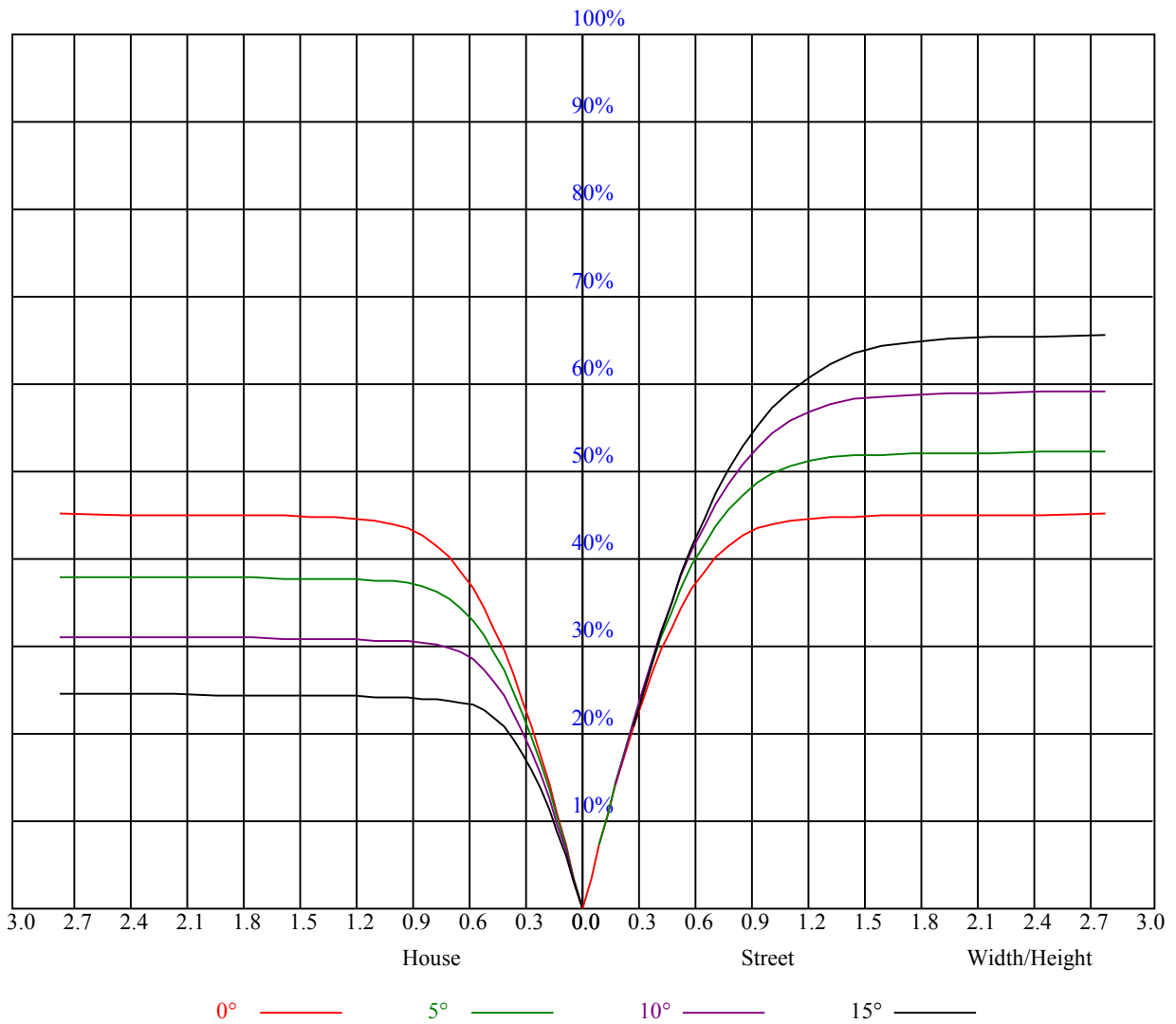
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

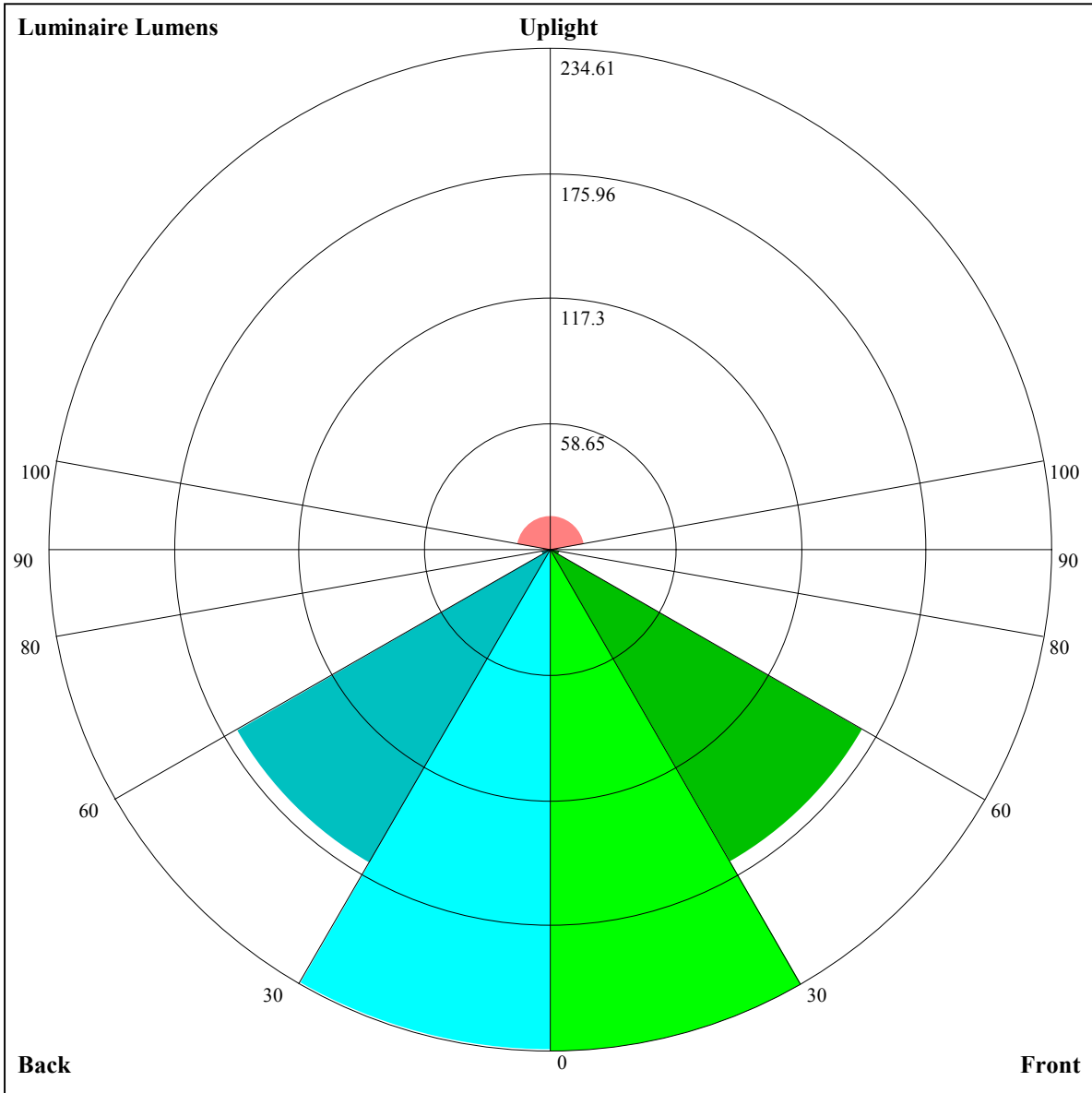
Luminance Limiting Curve





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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.85	0.84
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.78	0.77
3	0.85	0.80	0.76	0.84	0.79	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.70
4	0.79	0.73	0.69	0.77	0.72	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.64
5	0.73	0.67	0.63	0.72	0.66	0.62	0.70	0.65	0.62	0.69	0.64	0.61	0.67	0.64	0.61	0.59
6	0.68	0.62	0.57	0.67	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.54
7	0.63	0.57	0.53	0.62	0.57	0.53	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.50
8	0.59	0.53	0.49	0.58	0.52	0.49	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.47
9	0.55	0.49	0.45	0.54	0.49	0.45	0.54	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.43
10	0.52	0.46	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.50	0.45	0.42	0.49	0.45	0.41	0.40





Luminaire Lumens:

FL=234.61,FM=168.58,FH=4.5,FVH=1.72

BL=233.8,BM=169.86,BH=4.7,BVH=1.71

UL=3.35,UH=15.95

BUG Rating:B1-U2-G0

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	711.06	700.82	675.56	631.74	574.14	510.13	438.53	367.14	269.61
45.0	708.81	694.74	665.16	612.45	552.71	486.11	414.11	344.08	227.59
90.0	705.66	687.66	647.04	590.79	529.20	459.73	386.21	311.34	185.12
135.0	711.56	689.79	660.99	615.77	553.89	484.48	416.76	341.16	235.18
180.0	711.06	692.78	670.44	623.14	562.44	495.23	429.92	357.98	266.06
225.0	708.81	704.14	673.48	624.26	578.36	515.19	448.71	379.80	312.30
270.0	705.66	709.20	685.07	645.02	597.38	537.47	479.53	405.17	340.26
315.0	711.56	703.01	679.33	629.61	574.76	511.88	444.77	378.17	308.31
360.0	711.06	700.82	675.56	631.74	574.14	510.13	438.53	367.14	269.61

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	117.96	26.21	10.97	6.58	4.56	3.71	3.32	3.15	3.04
45.0	70.31	19.01	8.16	5.40	4.28	3.71	3.43	3.32	3.32
90.0	41.63	13.67	7.09	5.06	3.99	3.54	3.26	3.15	3.09
135.0	83.19	21.49	9.79	6.41	4.61	3.77	3.32	3.09	3.04
180.0	115.43	28.24	12.77	7.82	5.29	3.99	3.38	3.15	3.04
225.0	162.79	40.39	16.88	9.28	5.85	4.39	3.66	3.38	3.21
270.0	212.68	72.73	21.77	10.97	6.92	4.95	3.88	3.43	3.15
315.0	156.60	36.45	13.84	8.27	5.29	3.99	3.49	3.21	3.04
360.0	117.96	26.21	10.97	6.58	4.56	3.71	3.32	3.15	3.04

C/γ(°)	90.0
0.0	2.98
45.0	3.15
90.0	3.09
135.0	3.04
180.0	2.98
225.0	3.21
270.0	3.09
315.0	3.04
360.0	2.98