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## Nata

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Client:

LumCAT: 1657-S

Luminaire: 92.70.127.00

Report No: NT2018040607

Test No:

LampCAT: CREE CXA1512

Lamp flux(lm): 1295.7

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 35.6000

Current(A): 0.3500

Power (W): 12.4600

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1186.08, Efficiency(%): 91.54% , Luminous Efficacy(lm/W): 95.19

Central intensity(cd): 5199.526, Maximum intensity(cd): 5199.526

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

Beam Angle(50%Imax): [C0/180]Total=22.2

[C90/270]Total=22.2

Field angle(10%Imax): [C0/180]Total=48.4

[C90/270]Total=48.4

Maximum s/h(1/2): C0\_180=0.38 C90\_270=0.38

Maximum s/h(1/4): C0\_180=0.37 C90\_270=0.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.85%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.271%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2018/4/6  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.42

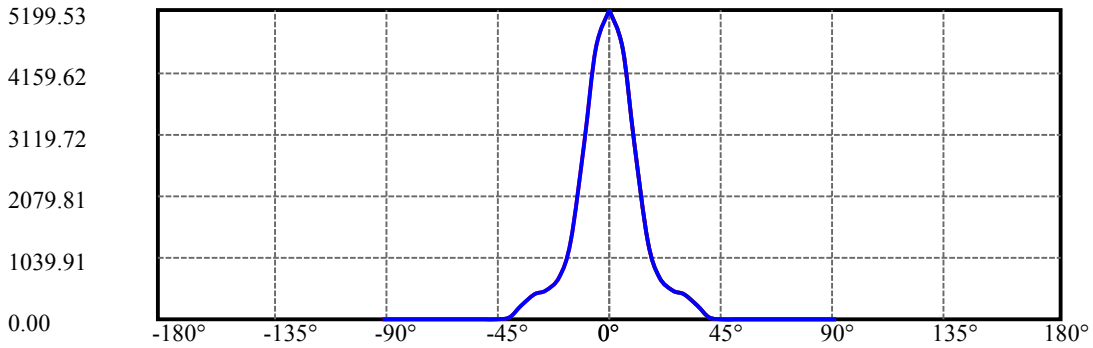
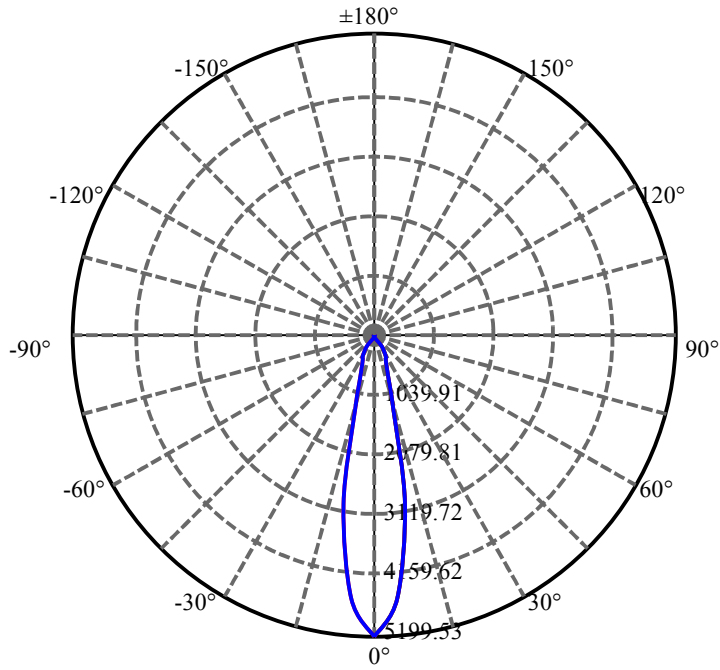
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5199.526	31.094	31.094	2.400%	2.622%
5.0	4543.048	217.036	248.131	16.751%	20.920%
10.0	2964.305	282.152	530.282	21.776%	44.709%
15.0	1320.080	187.278	717.56	14.454%	60.499%
20.0	716.284	134.285	851.845	10.364%	71.820%
25.0	480.367	111.278	963.123	8.588%	81.202%
30.0	415.882	113.980	1077.103	8.797%	90.812%
35.0	237.541	74.683	1151.786	5.764%	97.109%
40.0	24.115	8.496	1160.282	.656%	97.825%
45.0	7.040	2.729	1163.011	.211%	98.055%
50.0	6.091	2.557	1165.569	.197%	98.271%
55.0	5.657	2.540	1168.109	.196%	98.485%
60.0	5.464	2.594	1170.703	.200%	98.704%
65.0	5.347	2.656	1173.359	.205%	98.928%
70.0	5.292	2.726	1176.085	.210%	99.157%
75.0	5.223	2.766	1178.851	.213%	99.391%
80.0	5.168	2.790	1181.641	.215%	99.626%
85.0	5.609	3.063	1184.703	.236%	99.884%
90.0	5.017	1.375	1186.078	.106%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1077.10	83.13%	90.81%
0-40	1160.28	89.55%	97.83%
0-60	1170.70	90.35%	98.70%
0-90	1184.70	91.43%	99.88%
0-120	1184.70	91.43%	99.88%
0-180	1186.08	91.54%	100.00%
60-90	16.59	1.28%	1.40%
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%
0-24.36	948.86	73.23%	80.00%

ZONAL LUMEN SUMMARY

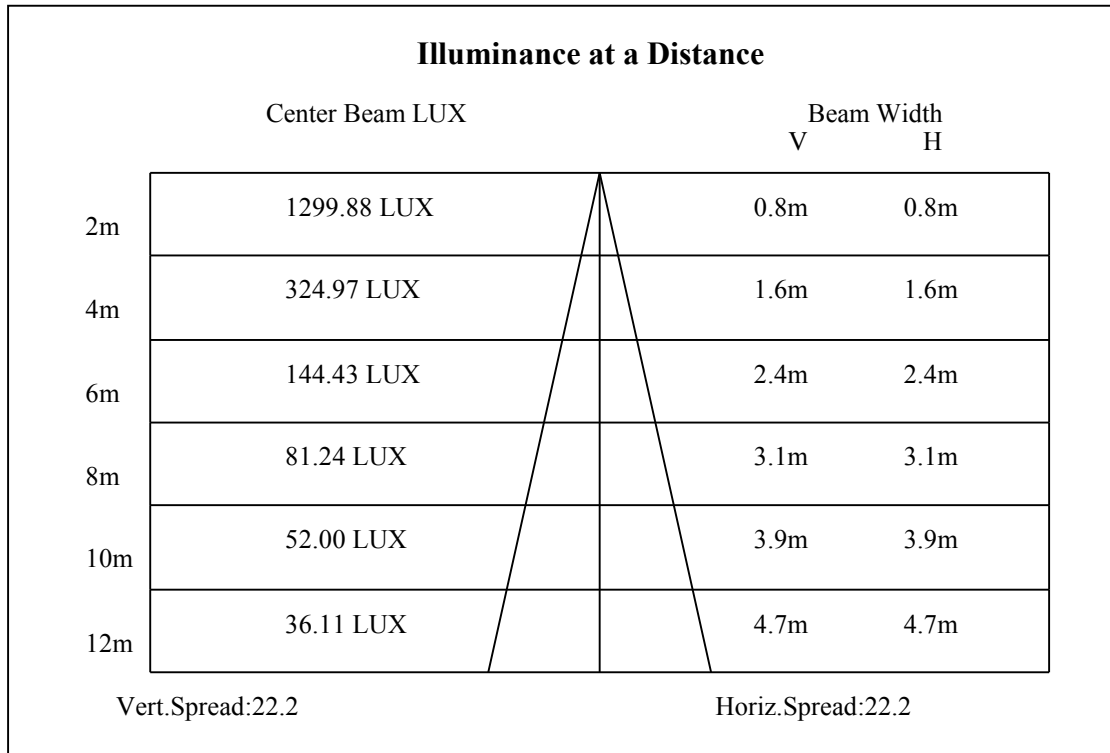
0-10	530.28
10-20	321.56
20-30	225.26
30-40	83.18
40-50	5.29
50-60	5.13
60-70	5.38
70-80	5.56
80-90	3.06
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

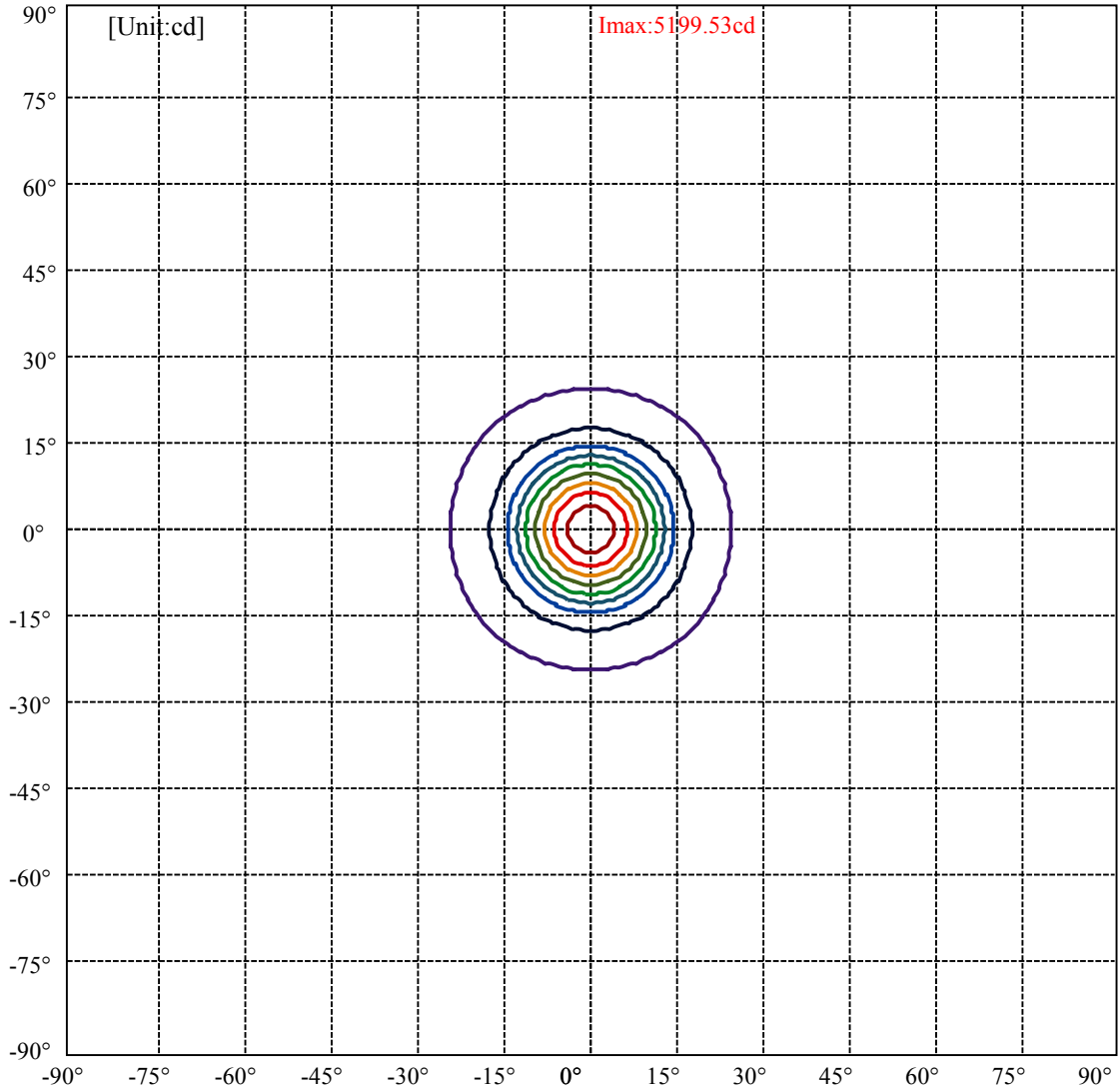


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

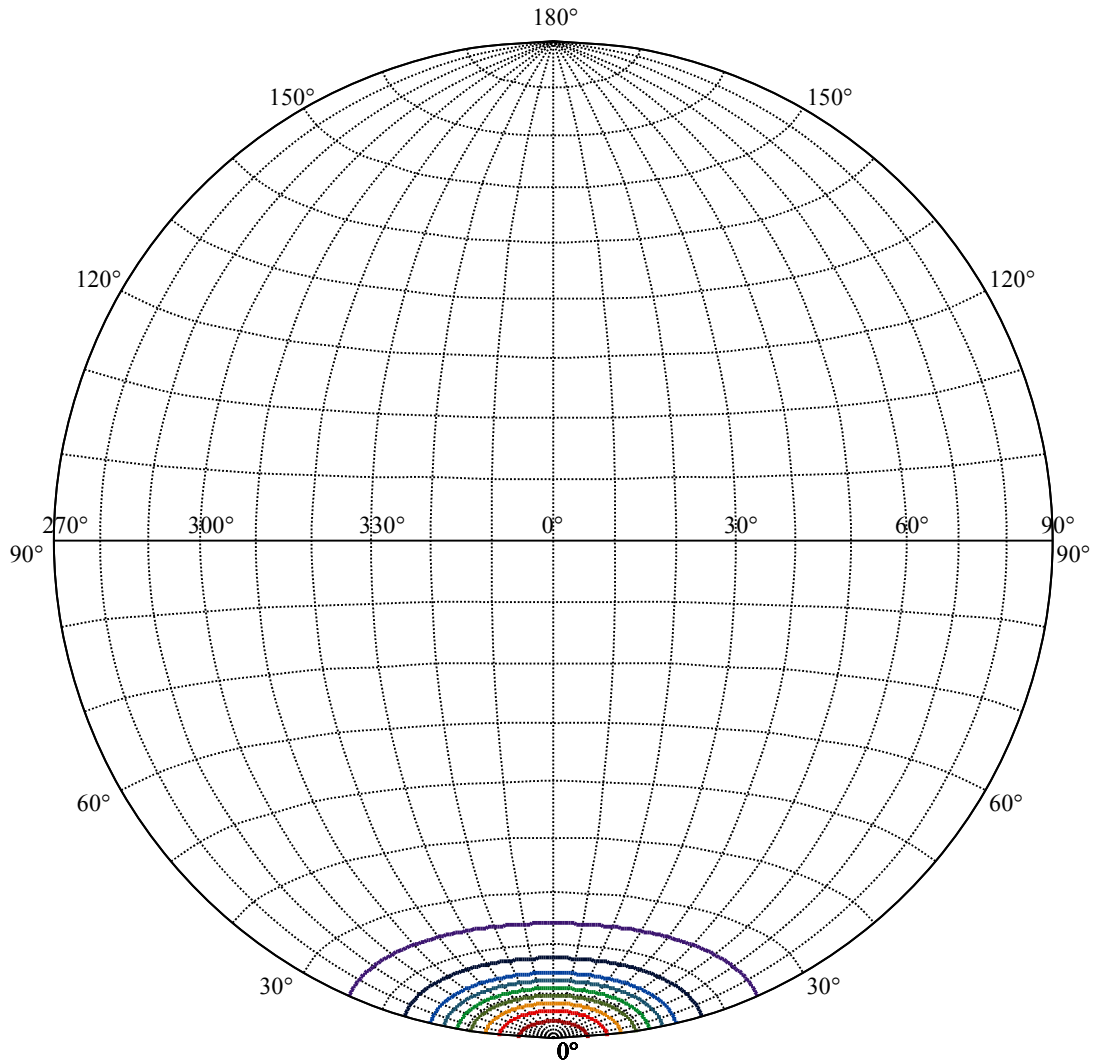
Field angle(10%Imax):C0/180Left:24.2 Right:24.2  
:C90/270Left:24.2 Right:24.2

Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1  
:C90/270Left:11.1 Right:11.1





(10%Imax) 519.953	—
(20%Imax) 1039.91	—
(30%Imax) 1559.86	—
(40%Imax) 2079.81	—
(50%Imax) 2599.76	—
(60%Imax) 3119.72	—
(70%Imax) 3639.67	—
(80%Imax) 4159.62	—
(90%Imax) 4679.57	—



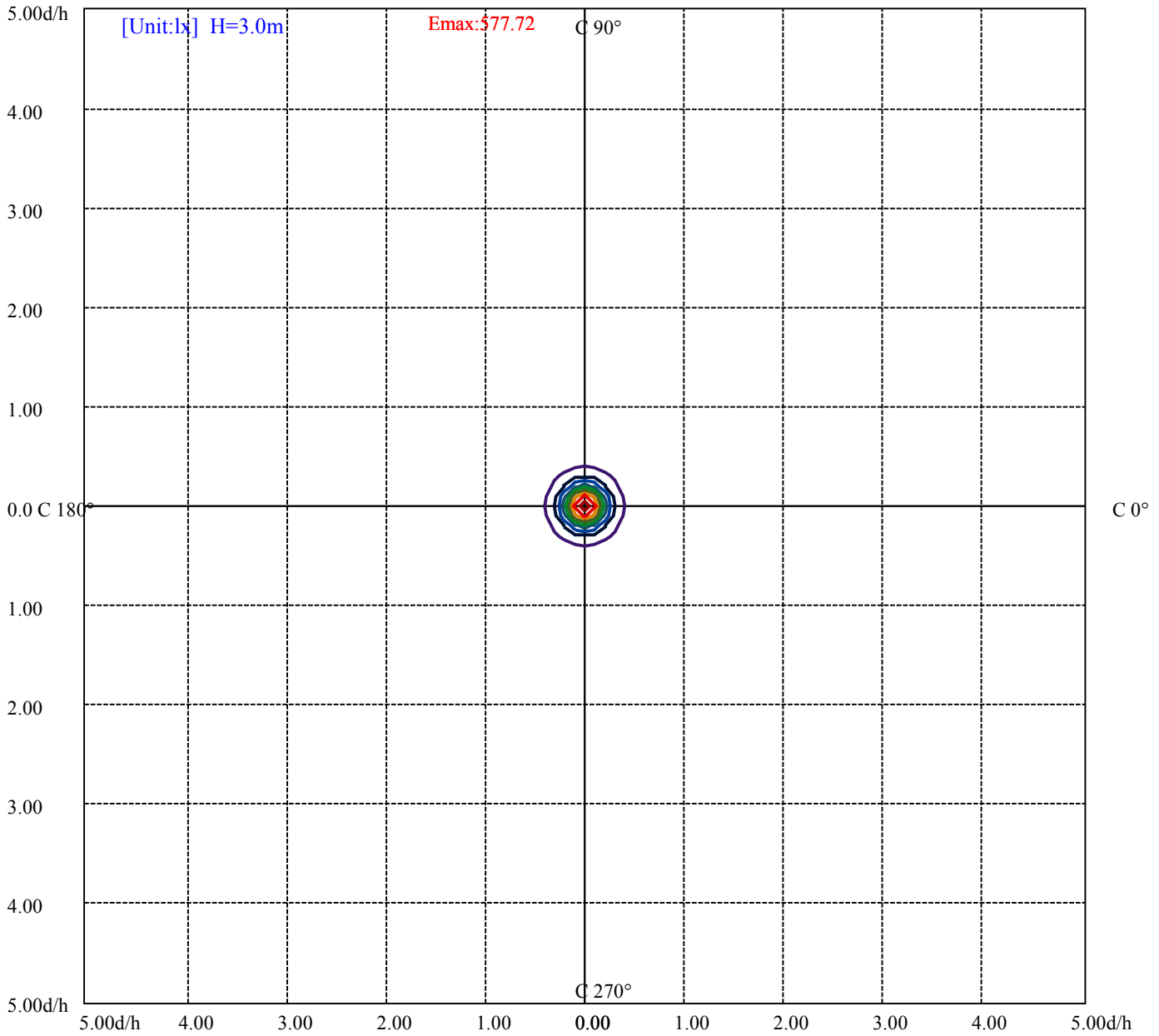
House

[Unit:cd]

Road

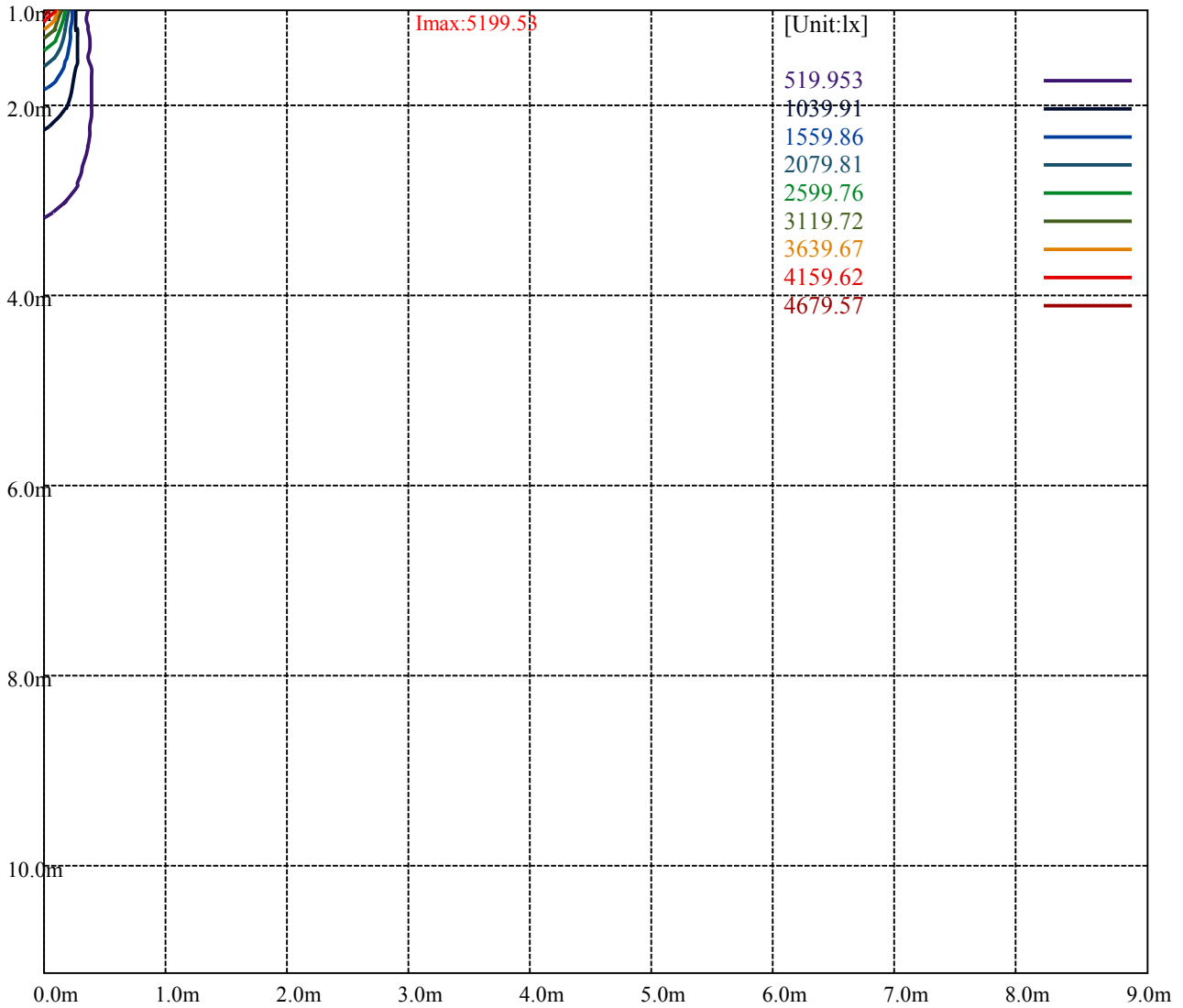
**Imax:5199.53**

(10%Imax) 519.953	—
(20%Imax) 1039.91	—
(30%Imax) 1559.86	—
(40%Imax) 2079.81	—
(50%Imax) 2599.76	—
(60%Imax) 3119.72	—
(70%Imax) 3639.67	—
(80%Imax) 4159.62	—
(90%Imax) 4679.57	—



(10%Emax) 57.77233	—
(20%Emax) 115.5444	—
(30%Emax) 173.3167	—
(40%Emax) 231.0889	—
(50%Emax) 288.8611	—
(60%Emax) 346.6333	—
(70%Emax) 404.4055	—
(80%Emax) 462.1778	—
(90%Emax) 519.9511	—





Luminance Table

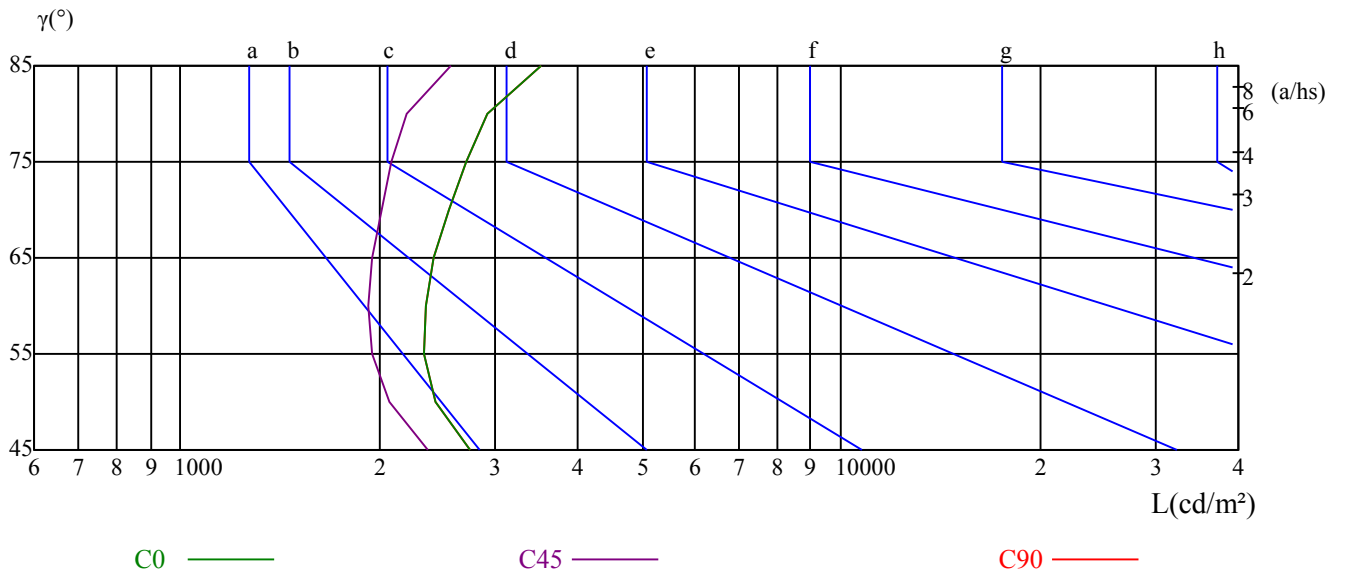
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2751	2436	2336	2350	2418	2544	2701	2916	3512
C45	2369	2066	1950	1930	1951	2013	2091	2202	2574
C90	2751	2436	2336	2350	2418	2544	2701	2916	3512

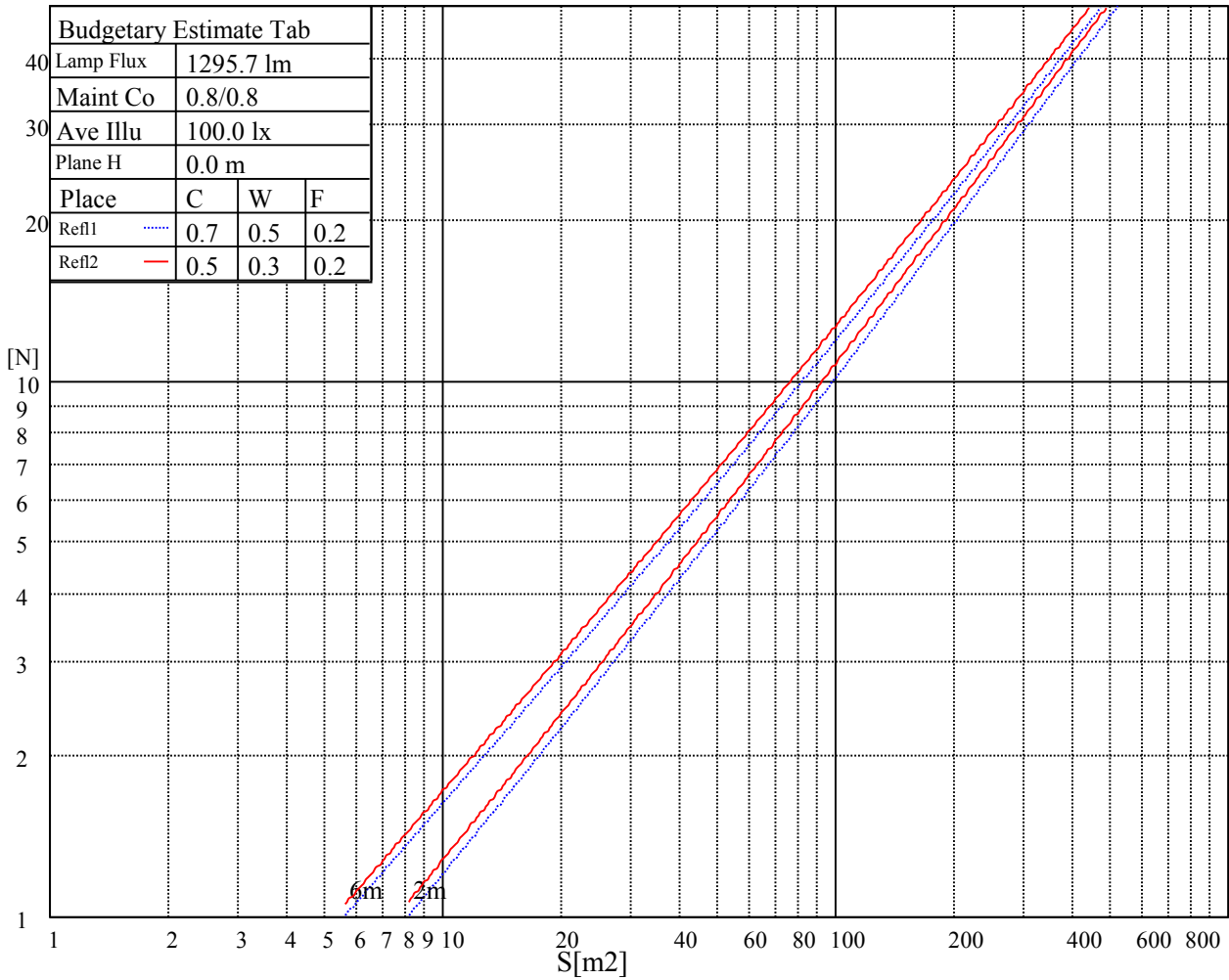
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5728	5728	5728	9136	9136	9136	29133	29133	29133

Glare Table

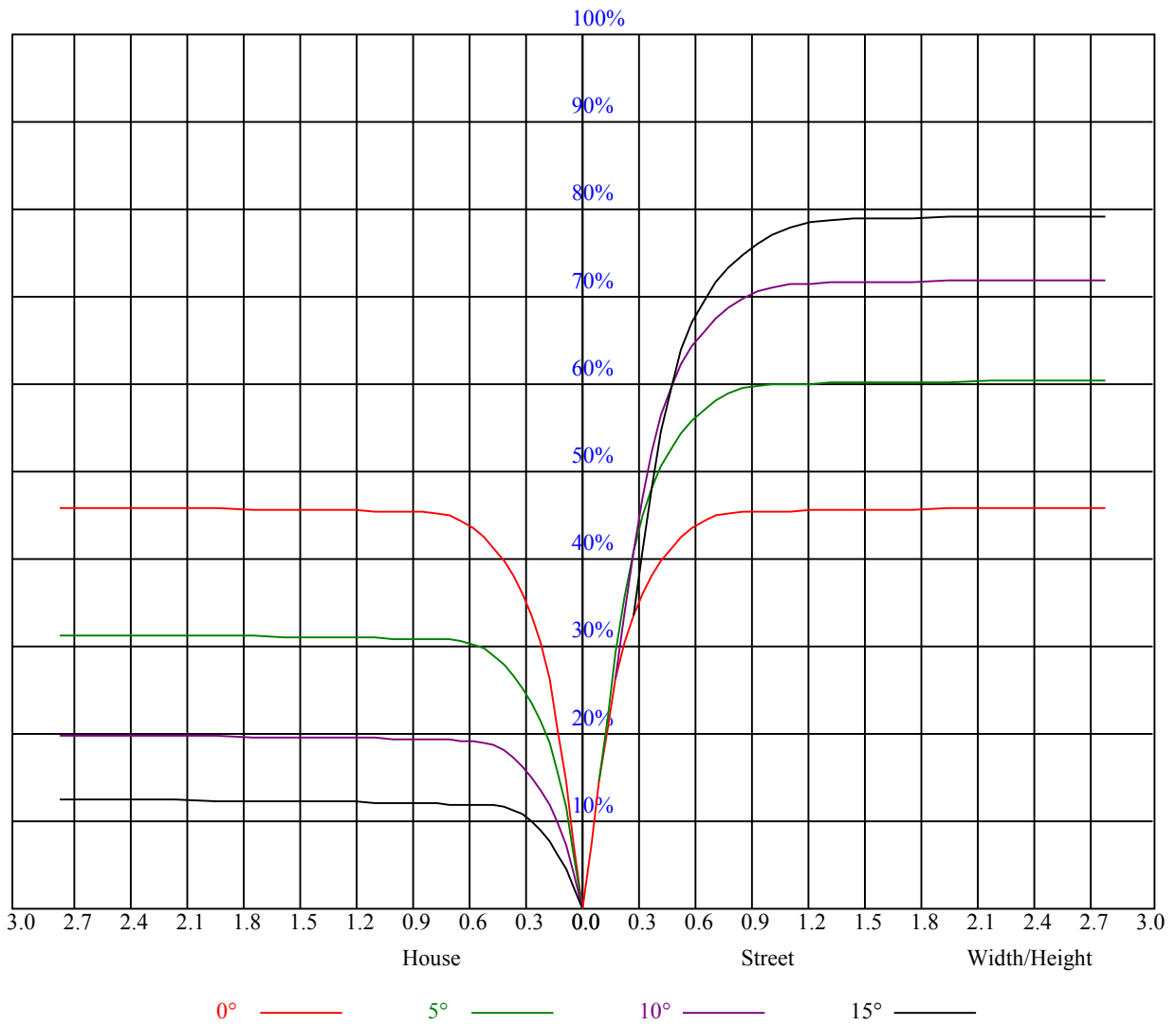
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

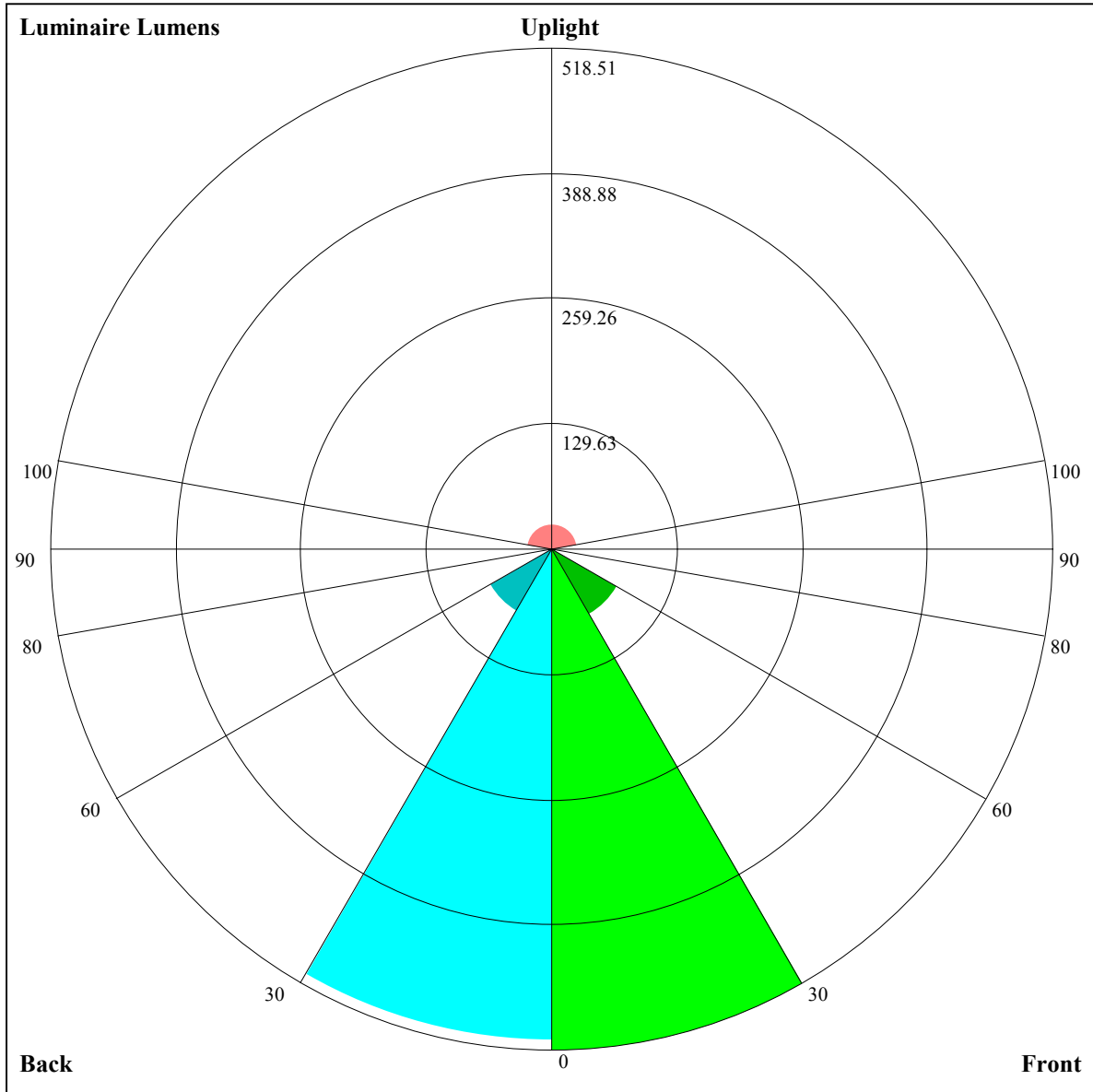
Luminance Limiting Curve





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	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.02	1.00	0.97	1.00	0.98	0.96	0.97	0.95	0.93	0.93	0.91	0.90	0.90	0.89	0.87	0.86
2	0.97	0.94	0.91	0.96	0.92	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.82
3	0.93	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.84	0.87	0.84	0.82	0.85	0.83	0.81	0.80
4	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.83	0.80	0.78	0.77
5	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.75
6	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.76	0.73	0.72
7	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.71	0.70
8	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.75	0.72	0.69	0.68
9	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65





Luminaire Lumens:

FL=518.51,FM=77.86,FH=5.42,FVH=2.89

BL=508.1,BM=73.83,BH=5.44,BVH=2.94

UL=5.47,UH=26.05

BUG Rating:B2-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	5178.05	4656.12	3030.85	1588.38	736.65	485.05	420.63	290.15	25.55
45.0	5208.34	4584.55	3078.75	1461.75	714.63	483.40	420.63	281.34	23.40
90.0	5203.38	4293.85	2505.07	1096.17	635.41	460.71	401.42	167.81	15.14
135.0	5208.34	4592.80	3090.32	1495.33	738.31	477.34	415.13	281.89	25.93
180.0	5178.05	4437.55	2866.24	1078.39	697.12	464.35	401.86	184.49	20.10
225.0	5208.34	4439.20	2947.72	1065.29	703.84	479.93	416.06	199.03	22.02
270.0	5203.38	4819.64	3330.36	1680.32	803.27	512.58	435.50	287.94	40.96
315.0	5208.34	4520.68	2865.14	1095.02	701.03	479.60	415.84	207.67	19.82
360.0	5178.05	4656.12	3030.85	1588.38	736.65	485.05	420.63	290.15	25.55

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	7.21	6.17	5.67	5.45	5.34	5.29	5.18	5.12	5.51
45.0	6.88	5.95	5.56	5.40	5.29	5.23	5.18	5.12	5.12
90.0	6.50	5.78	5.45	5.34	5.23	5.23	5.18	5.12	5.40
135.0	6.72	5.84	5.56	5.40	5.29	5.23	5.18	5.12	5.67
180.0	6.61	5.89	5.62	5.45	5.34	5.29	5.23	5.18	5.78
225.0	6.99	6.11	5.67	5.51	5.45	5.40	5.29	5.29	5.84
270.0	8.04	6.55	5.89	5.62	5.45	5.40	5.34	5.23	5.73
315.0	7.38	6.44	5.84	5.56	5.40	5.29	5.23	5.18	5.84
360.0	7.21	6.17	5.67	5.45	5.34	5.29	5.18	5.12	5.51

C/γ(°)	90.0
0.0	5.01
45.0	5.01
90.0	5.01
135.0	5.01
180.0	5.01
225.0	5.01
270.0	5.01
315.0	5.07
360.0	5.01