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## Nata

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### Client:

LumCAT: 4-2413-L

Luminaire: 92.70.135.00

Report No: NT2018010909

Test No: GC2018010909

LampCAT: LUMILEDS 1208

Lamp flux(lm): 2981.0

Number of Lamps: 1

Length(mm): 102

Phm Type: C

Voltage(V): 35.0000

Current(A): 0.6400

Power (W): 22.4000

PF: 0.0000

Ballast type: DC

Width(mm): 102

Height(mm): 0

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## Photometric Results

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Lumens(lm): 2870.25, Efficiency(%): 96.28% , Luminous Efficacy(lm/W): 128.14

Central intensity(cd): 5908.928, Maximum intensity(cd): 5908.928

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

Beam Angle(50%Imax): [C0/180]Total=39.0

[C90/270]Total=39.0

Field angle(10%Imax): [C0/180]Total=69.0

[C90/270]Total=69.0

Maximum s/h(1/2): C0\_180=0.64 C90\_270=0.64

Maximum s/h(1/4): C0\_180=0.63 C90\_270=0.63

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 97.38%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.425%

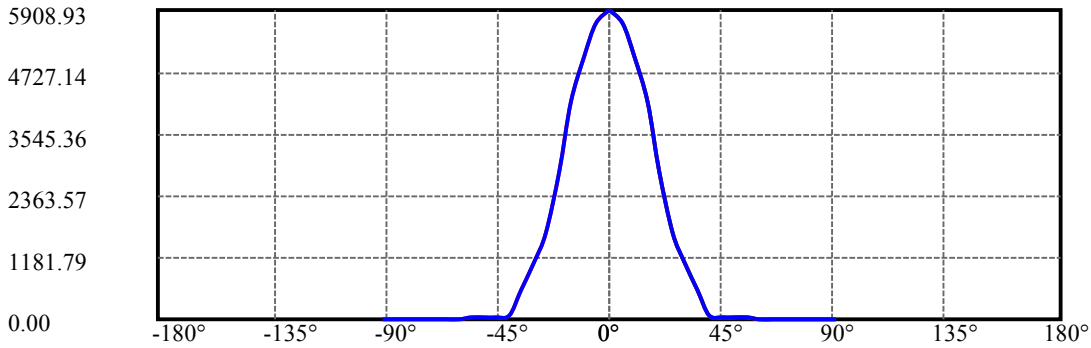
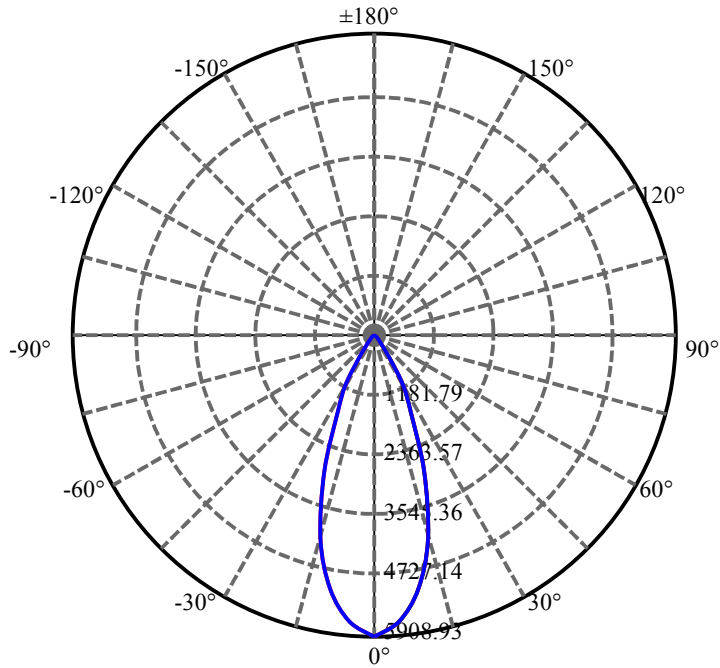
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5908.928	35.337	35.337	1.185%	1.231%
5.0	5646.171	269.736	305.073	9.049%	10.629%
10.0	5030.228	478.792	783.865	16.061%	27.310%
15.0	4133.566	586.422	1370.288	19.672%	47.741%
20.0	2829.761	530.507	1900.795	17.796%	66.224%
25.0	1666.075	385.951	2286.746	12.947%	79.671%
30.0	1112.504	304.903	2591.648	10.228%	90.293%
35.0	534.749	168.124	2759.773	5.640%	96.151%
40.0	89.983	31.704	2791.477	1.064%	97.256%
45.0	26.234	10.168	2801.645	.341%	97.610%
50.0	21.376	8.976	2810.621	.301%	97.922%
55.0	19.531	8.770	2819.39	.294%	98.228%
60.0	18.341	8.706	2828.097	.292%	98.531%
65.0	16.820	8.356	2836.452	.280%	98.822%
70.0	15.333	7.898	2844.35	.265%	99.098%
75.0	14.136	7.484	2851.834	.251%	99.358%
80.0	13.709	7.400	2859.235	.248%	99.616%
85.0	13.482	7.362	2866.597	.247%	99.873%
90.0	13.331	3.653	2870.25	.123%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2591.65	86.94%	90.29%
0-40	2791.48	93.64%	97.26%
0-60	2828.10	94.87%	98.53%
0-90	2866.60	96.16%	99.87%
0-120	2866.60	96.16%	99.87%
0-180	2870.25	96.28%	100.00%
60-90	47.21	1.58%	1.64%
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%
0-25.16	2296.20	77.03%	80.00%

ZONAL LUMEN SUMMARY

0-10	783.87
10-20	1116.93
20-30	690.85
30-40	199.83
40-50	19.14
50-60	17.48
60-70	16.25
70-80	14.88
80-90	7.36
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: —————

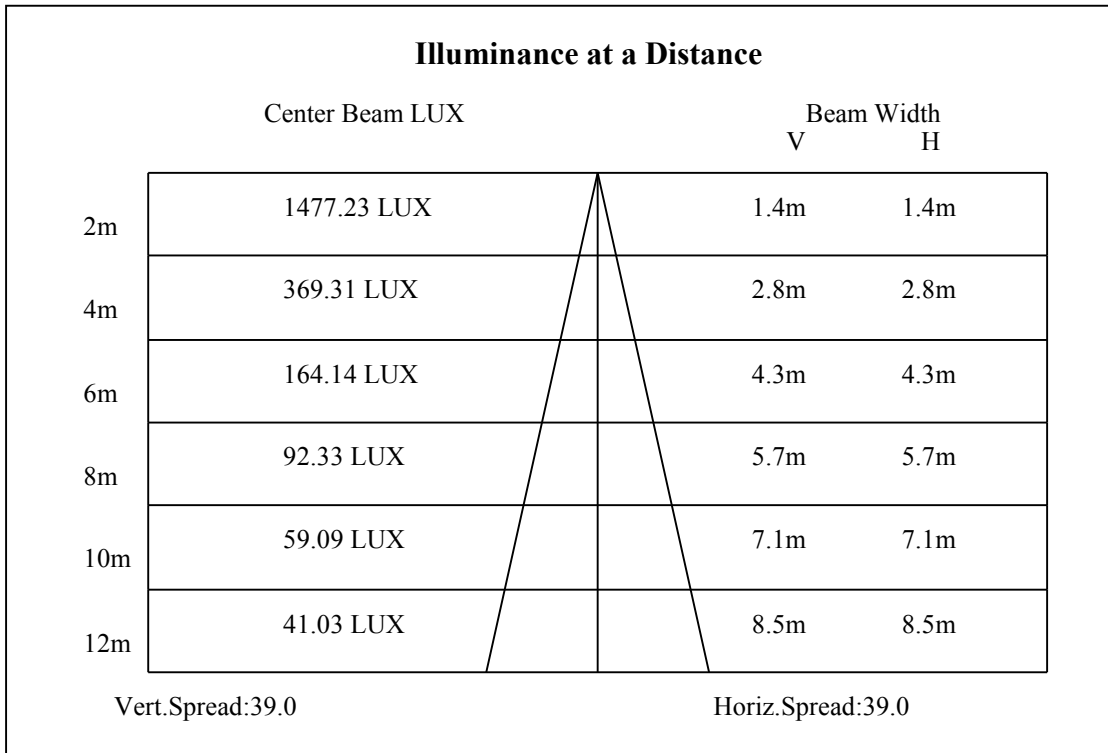
C90/C270: —————

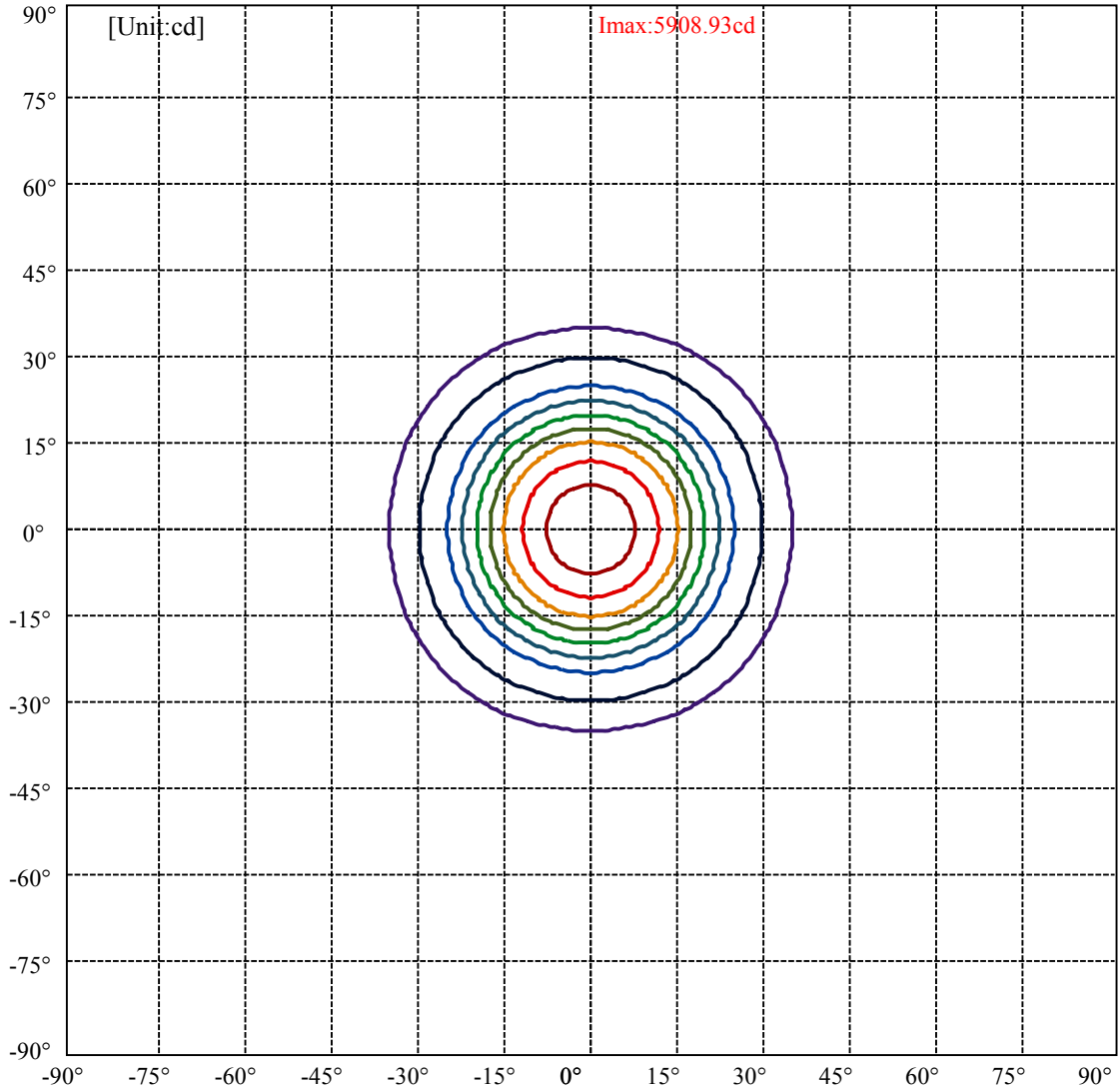
Field angle(10%Imax):C0/180Left:34.5 Right:34.5

:C90/270Left:34.5 Right:34.5

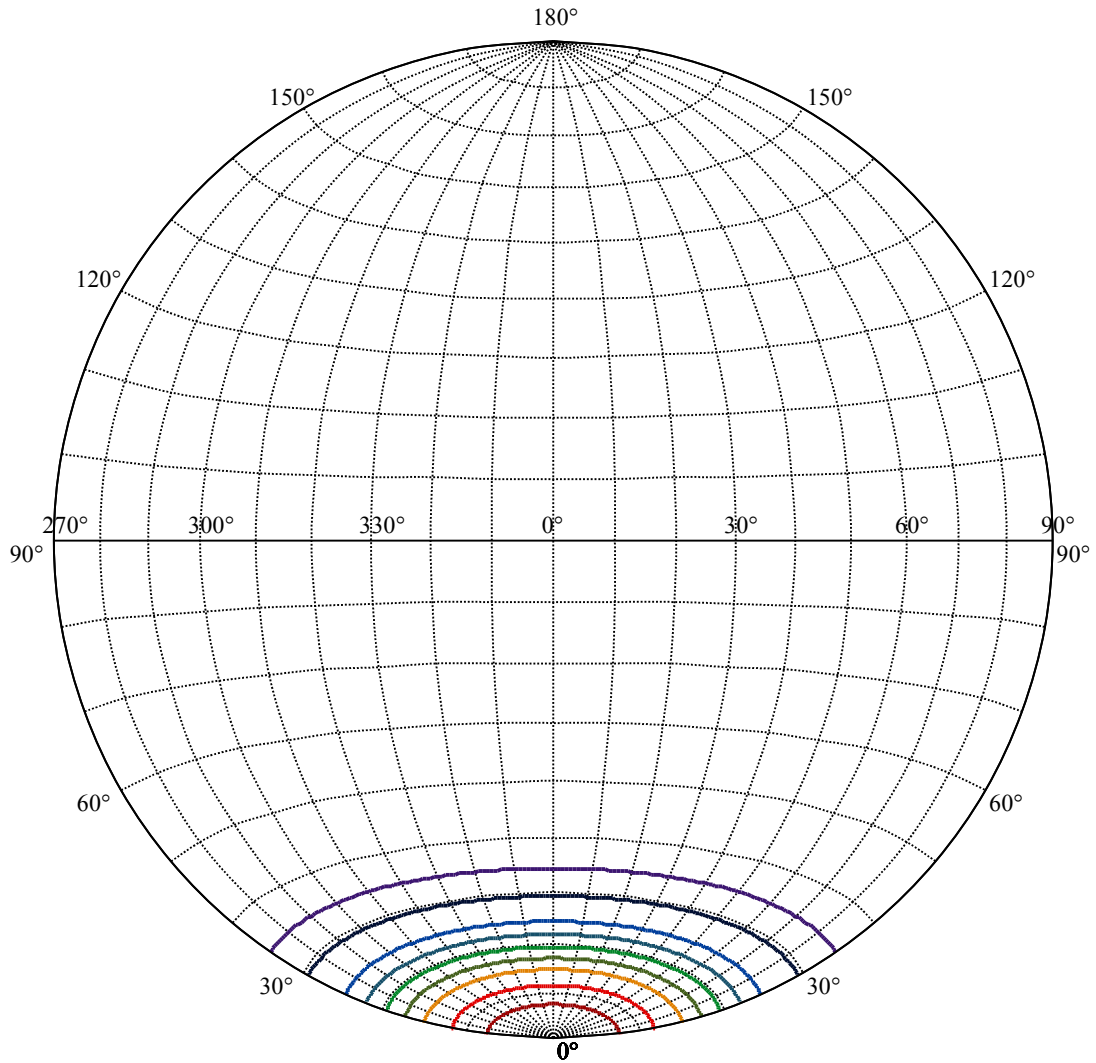
Beam Angle(50%Imax):C0/180Left:19.5 Right:19.5

:C90/270Left:19.5 Right:19.5





(10%Imax) 590.893	—
(20%Imax) 1181.79	—
(30%Imax) 1772.68	—
(40%Imax) 2363.57	—
(50%Imax) 2954.46	—
(60%Imax) 3545.36	—
(70%Imax) 4136.25	—
(80%Imax) 4727.14	—
(90%Imax) 5318.04	—



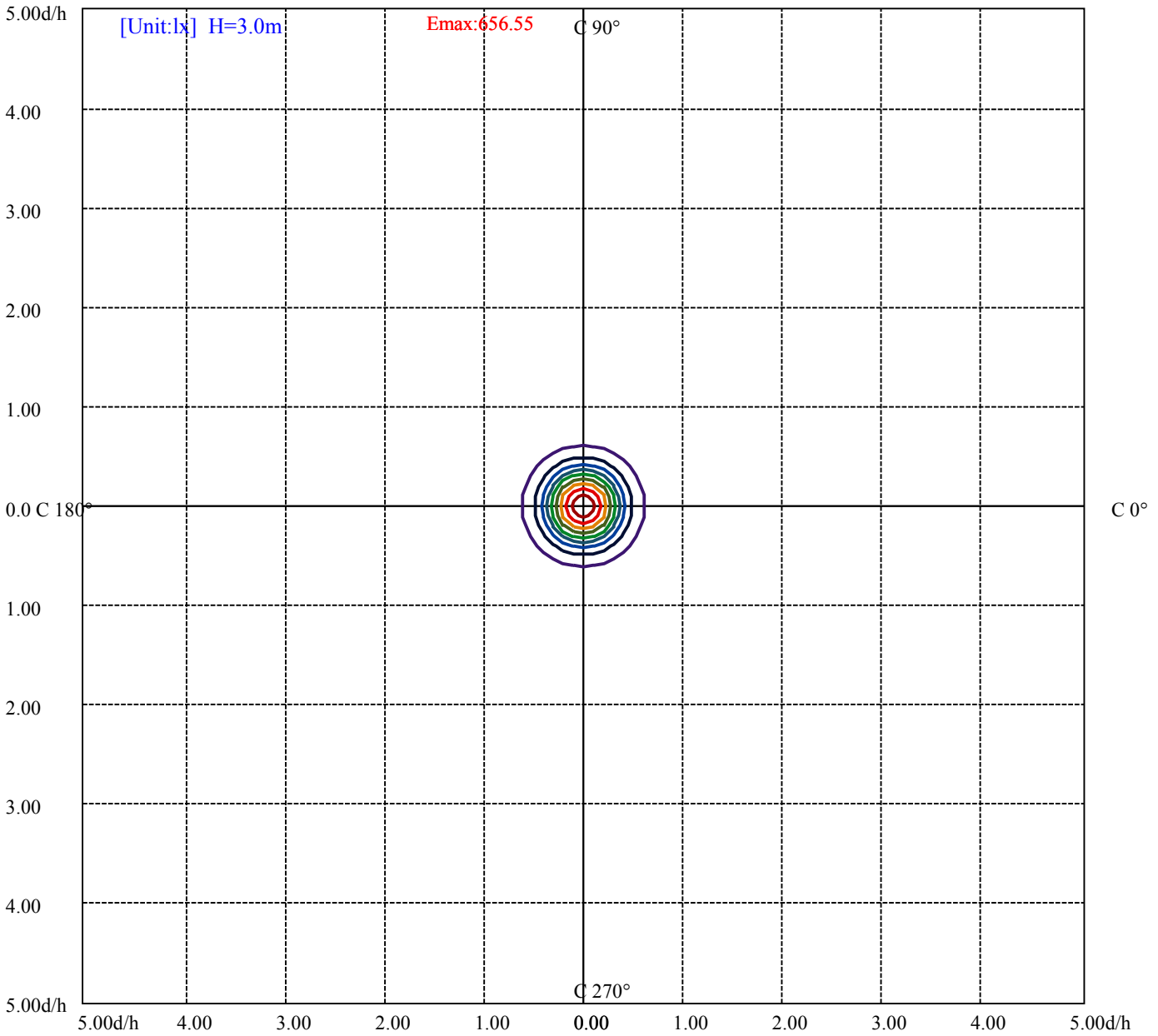
House

[Unit:cd]

Road

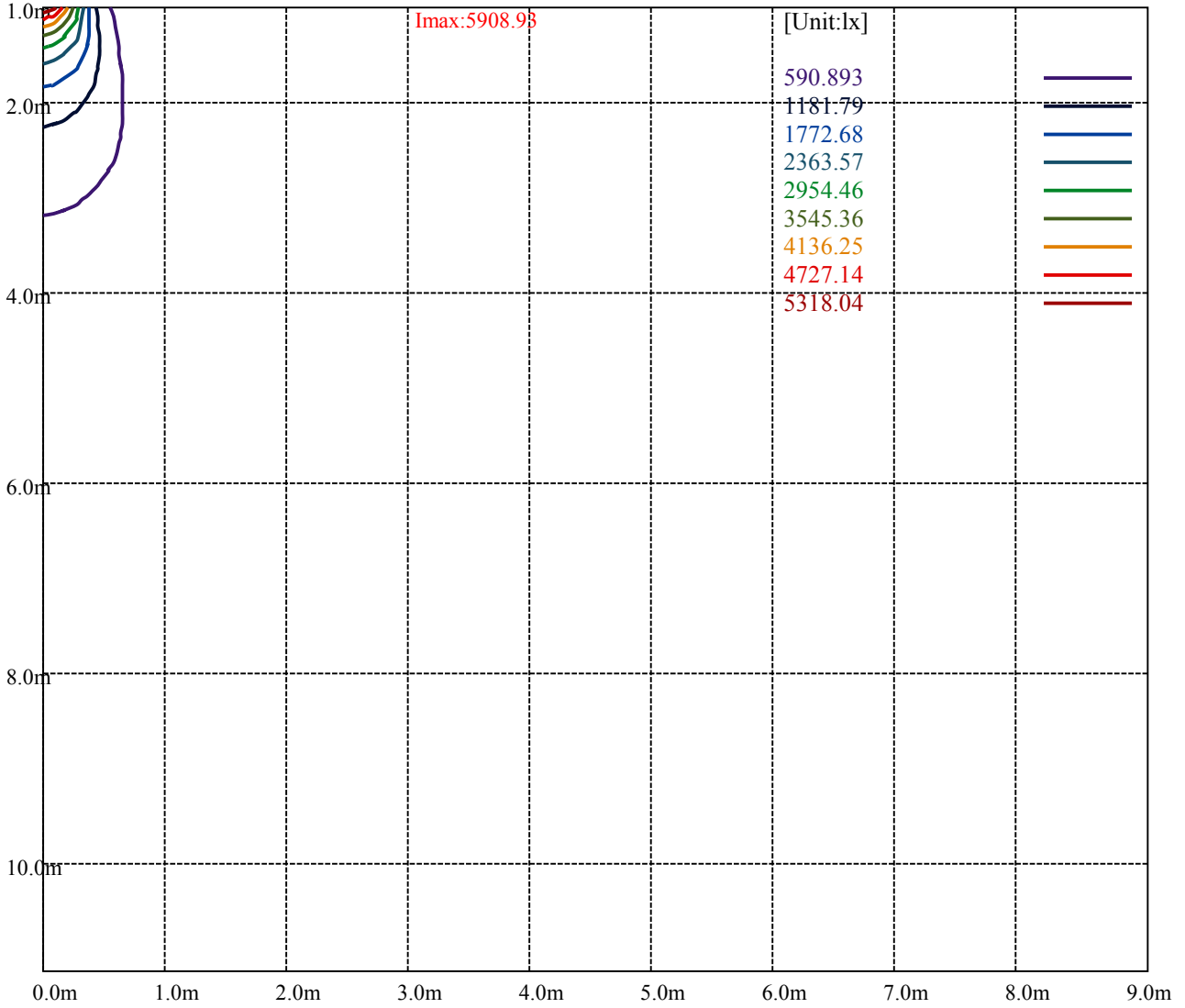
Imax:5908.93

(10%Imax)	590.893	—
(20%Imax)	1181.79	—
(30%Imax)	1772.68	—
(40%Imax)	2363.57	—
(50%Imax)	2954.46	—
(60%Imax)	3545.36	—
(70%Imax)	4136.25	—
(80%Imax)	4727.14	—
(90%Imax)	5318.04	—



(10%Emax) 65.65467	—
(20%Emax) 131.3089	—
(30%Emax) 196.9644	—
(40%Emax) 262.6189	—
(50%Emax) 328.2733	—
(60%Emax) 393.9278	—
(70%Emax) 459.5822	—
(80%Emax) 525.2378	—
(90%Emax) 590.8922	—





Luminance Table

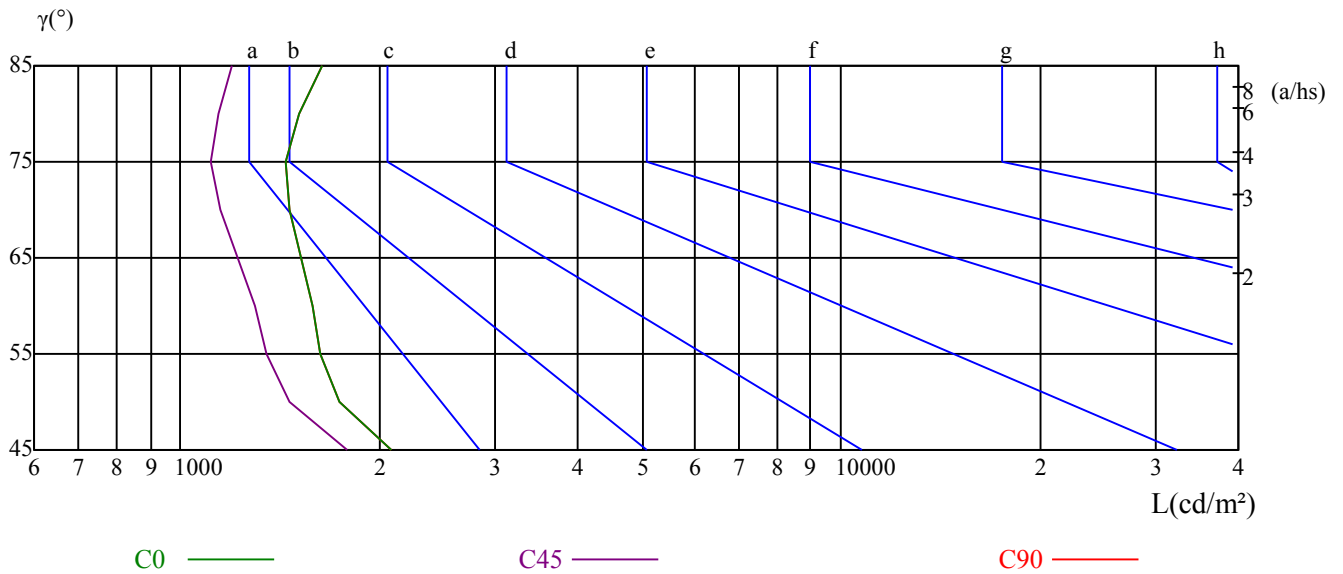
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2090	1736	1630	1586	1522	1466	1444	1517	1640
C45	1785	1460	1349	1292	1218	1151	1111	1139	1198
C90	2090	1736	1630	1586	1522	1466	1444	1517	1640

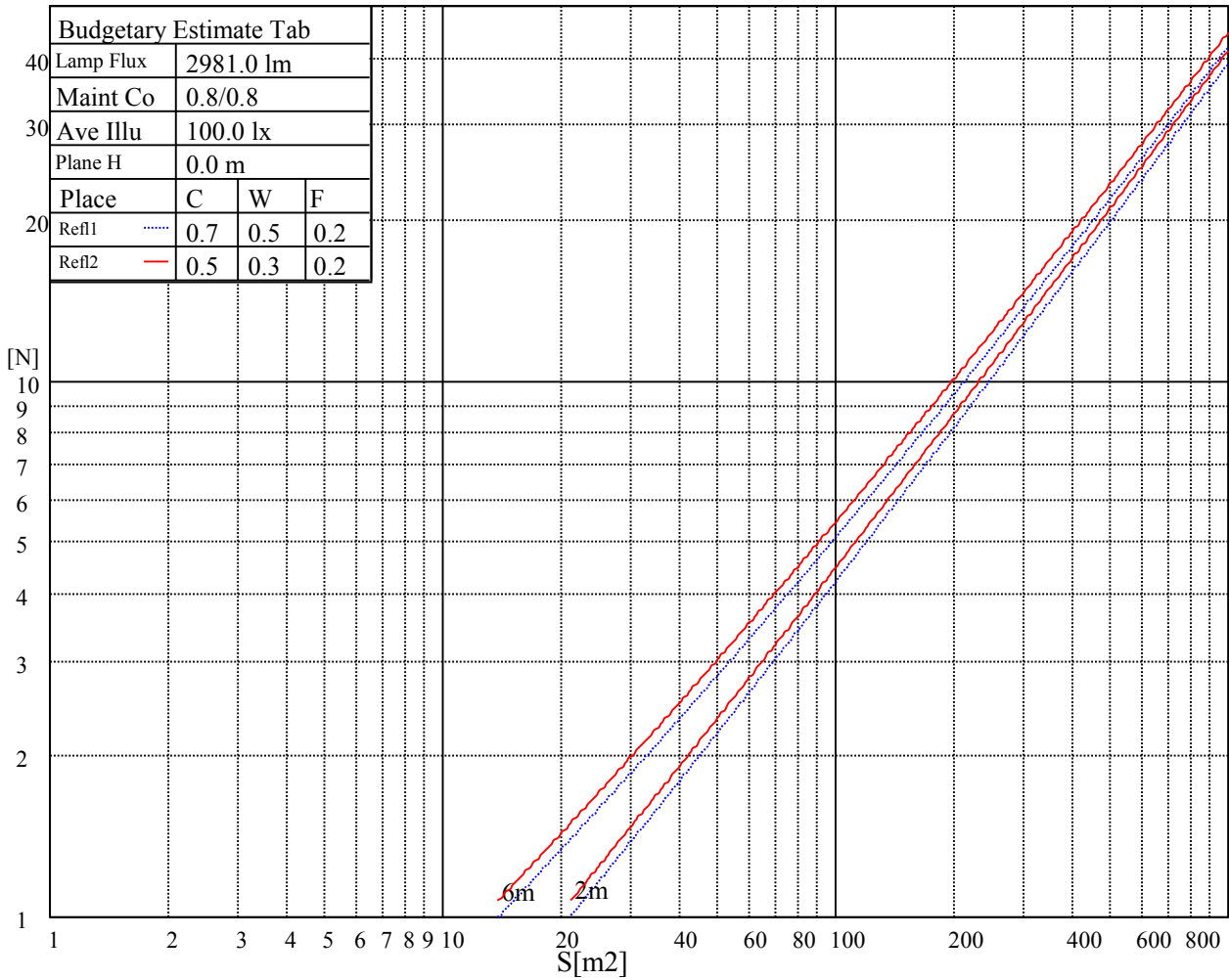
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3825	3825	3825	5250	5250	5250	14868	14868	14868

Glare Table

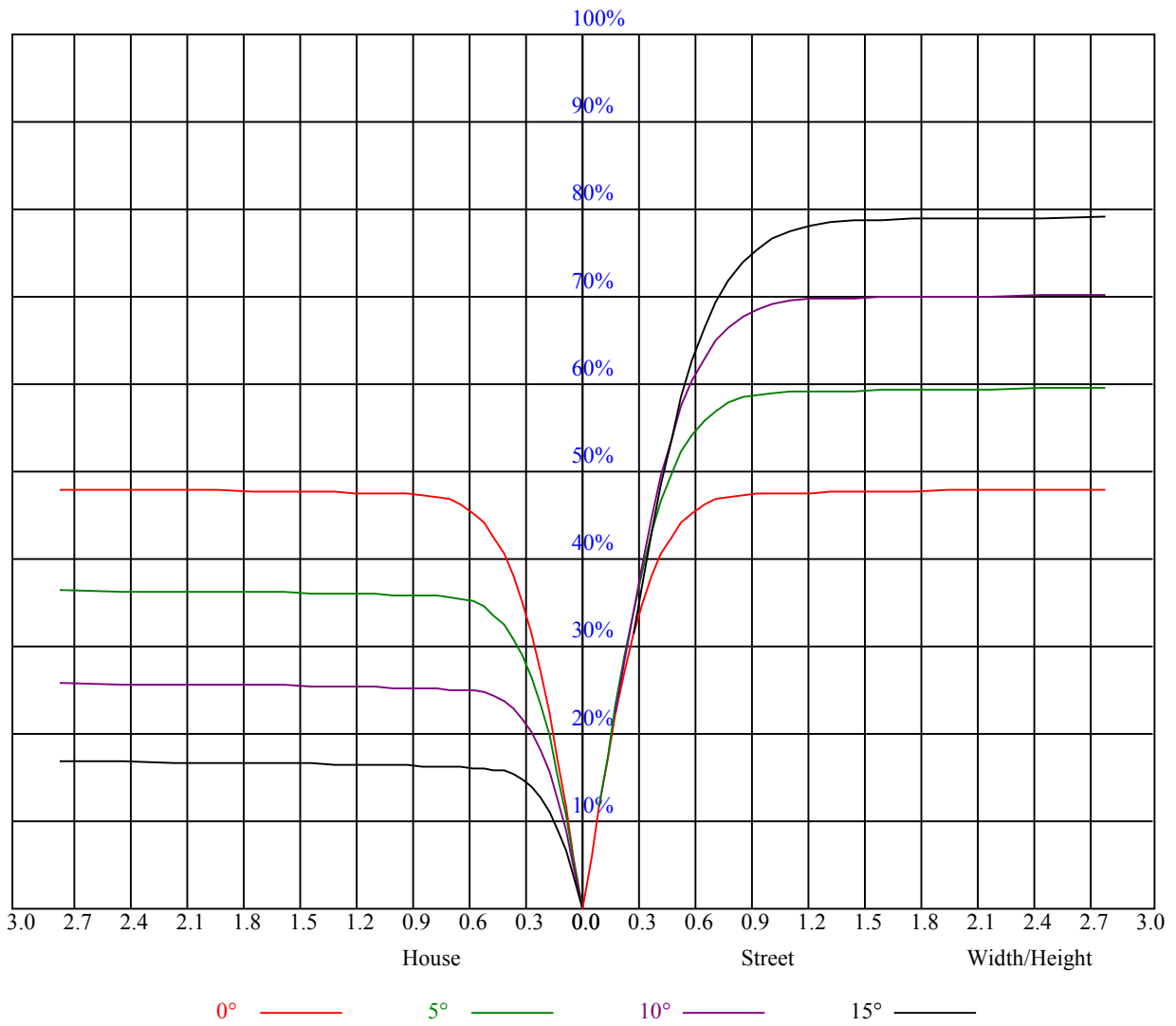
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

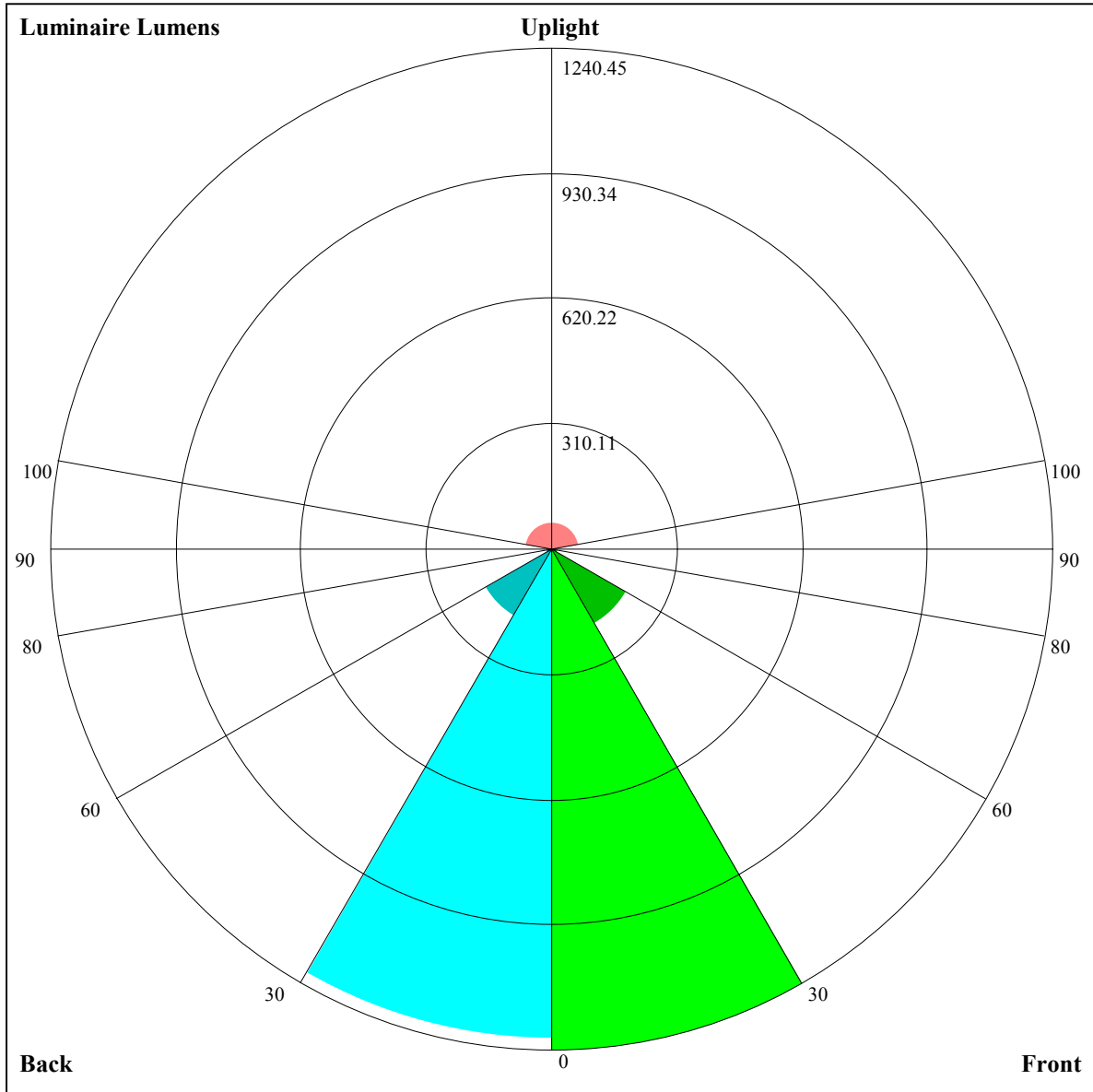
Luminance Limiting Curve





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	1.16	1.16	1.16	1.13	1.13	1.13	1.08	1.08	1.08	1.04	1.04	1.04	0.99	0.99	0.99	0.97
1	1.07	1.05	1.03	1.05	1.03	1.01	1.01	1.00	0.98	0.98	0.96	0.95	0.94	0.93	0.92	0.90
2	1.02	0.98	0.95	1.00	0.97	0.94	0.97	0.94	0.92	0.94	0.92	0.90	0.91	0.89	0.88	0.86
3	0.96	0.92	0.89	0.95	0.91	0.88	0.93	0.89	0.87	0.90	0.88	0.85	0.88	0.86	0.84	0.83
4	0.92	0.87	0.84	0.91	0.86	0.83	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.83	0.80	0.79
5	0.88	0.83	0.79	0.87	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.76
6	0.84	0.79	0.76	0.83	0.79	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.73
7	0.81	0.76	0.72	0.80	0.76	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.70
8	0.78	0.73	0.70	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.68
9	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.65
10	0.72	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.63





Luminaire Lumens:

FL=1240.45,FM=210.85,FH=15.95,FVH=7.37

BL=1213.42,BM=189.15,BH=15.9,BVH=7.36

UL=14.54,UH=69.21

BUG Rating:B3-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	5921.32	5671.91	5075.65	4274.03	3153.08	1842.19	1163.34	676.09	135.27
45.0	5915.81	5548.03	4809.18	3933.23	2793.56	1761.80	1226.66	503.22	65.24
90.0	5874.52	5408.19	4693.01	3747.14	2405.41	1438.07	1029.50	266.36	35.68
135.0	5924.07	5531.52	4925.35	4019.67	2496.26	1403.39	997.07	406.87	35.29
180.0	5921.32	5592.08	4887.36	3856.70	2477.54	1395.68	1016.51	363.04	31.00
225.0	5915.81	5800.74	5322.85	4385.79	3065.54	1881.28	1098.21	624.23	63.09
270.0	5874.52	5908.65	5433.52	4575.19	3487.82	2157.11	1323.56	823.09	311.62
315.0	5924.07	5708.25	5094.92	4276.78	2758.88	1449.08	1045.19	615.09	42.67
360.0	5921.32	5671.91	5075.65	4274.03	3153.08	1842.19	1163.34	676.09	135.27

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	25.00	20.65	18.94	18.06	16.96	15.58	14.26	13.82	13.54
45.0	33.91	25.27	21.97	19.82	17.45	15.47	14.09	13.60	13.38
90.0	24.22	21.20	19.77	18.22	16.63	14.87	13.98	13.60	13.43
135.0	21.86	20.26	19.71	18.39	16.79	15.14	14.04	13.65	13.49
180.0	22.08	19.05	17.67	17.12	16.19	14.81	13.98	13.65	13.43
225.0	30.17	23.01	20.98	19.71	17.56	15.58	14.09	13.65	13.43
270.0	29.23	21.80	19.38	18.39	17.07	15.91	14.42	13.87	13.54
315.0	23.40	19.77	17.84	17.01	15.91	15.31	14.20	13.82	13.60
360.0	25.00	20.65	18.94	18.06	16.96	15.58	14.26	13.82	13.54

C/γ(°)	90.0
0.0	13.32
45.0	13.21
90.0	13.38
135.0	13.38
180.0	13.38
225.0	13.21
270.0	13.38
315.0	13.38
360.0	13.32