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Nata

Client:

LumCAT: 2-2008-M

Luminaire: 92.70.129.00

Report No: GC2019091909

Test No: NATA07

LampCAT: CREE CXA1830

Lamp flux(lm): 1602.0

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V): 220.4000

Current(A): 0.0700

Power (W): 14.2400

PF: 0.9180

Ballast type: AC

Width(mm): 70

Height(mm): 0

Photometric Results

Lumens(lm): 1438.35, Efficiency(%): 89.78% , Luminous Efficacy(lm/W): 101.01

Central intensity(cd): 2726.823, Maximum intensity(cd): 2726.823

Angle of maximum intensity: C=0.0 γ =0.0

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

[C90/270]Total=39.0

Field angle(10%Imax): [C0/180]Total=74.4

[C90/270]Total=74.4

Maximum s/h(1/2): C0_180=0.65 C90_270=0.65

Maximum s/h(1/4): C0_180=0.64 C90_270=0.64

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.78%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.615%

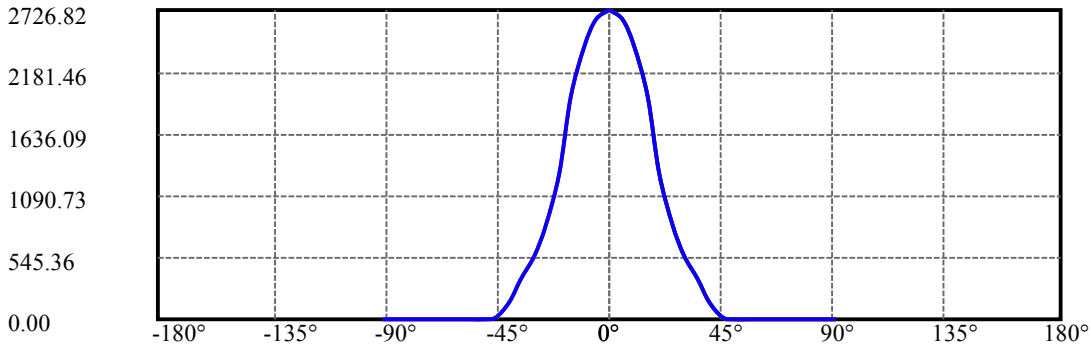
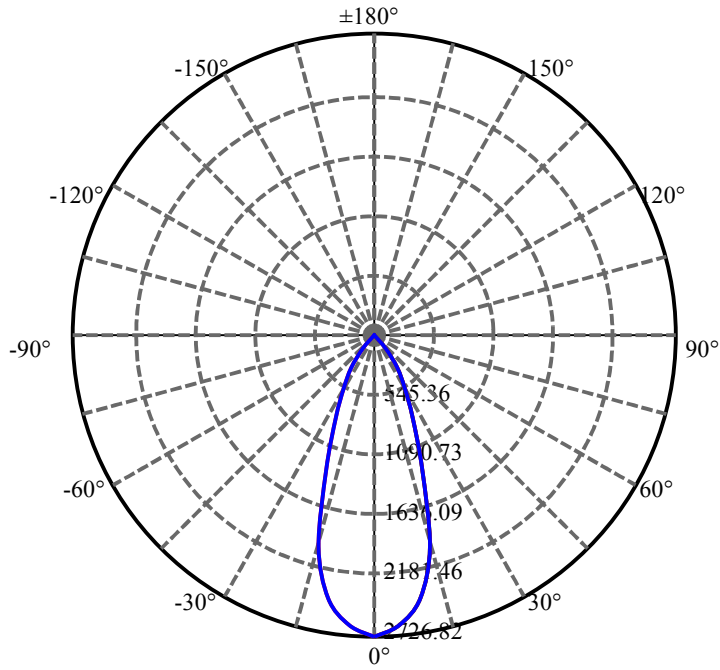
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2726.823	0.000	0	.000%	.000%
5.0	2638.193	64.137	64.137	4.004%	4.459%
10.0	2412.904	180.694	244.831	11.279%	17.022%
15.0	1969.520	259.962	504.793	16.227%	35.095%
20.0	1294.102	268.968	773.762	16.790%	53.795%
25.0	833.508	223.147	996.909	13.929%	69.309%
30.0	560.993	176.475	1173.384	11.016%	81.578%
35.0	364.121	136.230	1309.614	8.504%	91.049%
40.0	155.689	86.726	1396.34	5.414%	97.079%
45.0	10.319	30.738	1427.078	1.919%	99.216%
50.0	4.054	2.904	1429.982	.181%	99.418%
55.0	3.074	1.550	1431.532	.097%	99.526%
60.0	2.500	1.288	1432.821	.080%	99.615%
65.0	2.077	1.113	1433.933	.069%	99.693%
70.0	1.769	0.974	1434.907	.061%	99.760%
75.0	1.624	0.887	1435.794	.055%	99.822%
80.0	1.520	0.841	1436.635	.053%	99.881%
85.0	1.491	0.818	1437.453	.051%	99.937%
90.0	1.798	0.901	1438.354	.056%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1173.38	73.24%	81.58%
0-40	1396.34	87.16%	97.08%
0-60	1432.82	89.44%	99.62%
0-90	1437.45	89.73%	99.94%
0-120	1437.45	89.73%	99.94%
0-180	1438.35	89.78%	100.00%
60-90	5.92	0.37%	0.41%
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%
0-29.36	1150.68	71.83%	80.00%

ZONAL LUMEN SUMMARY

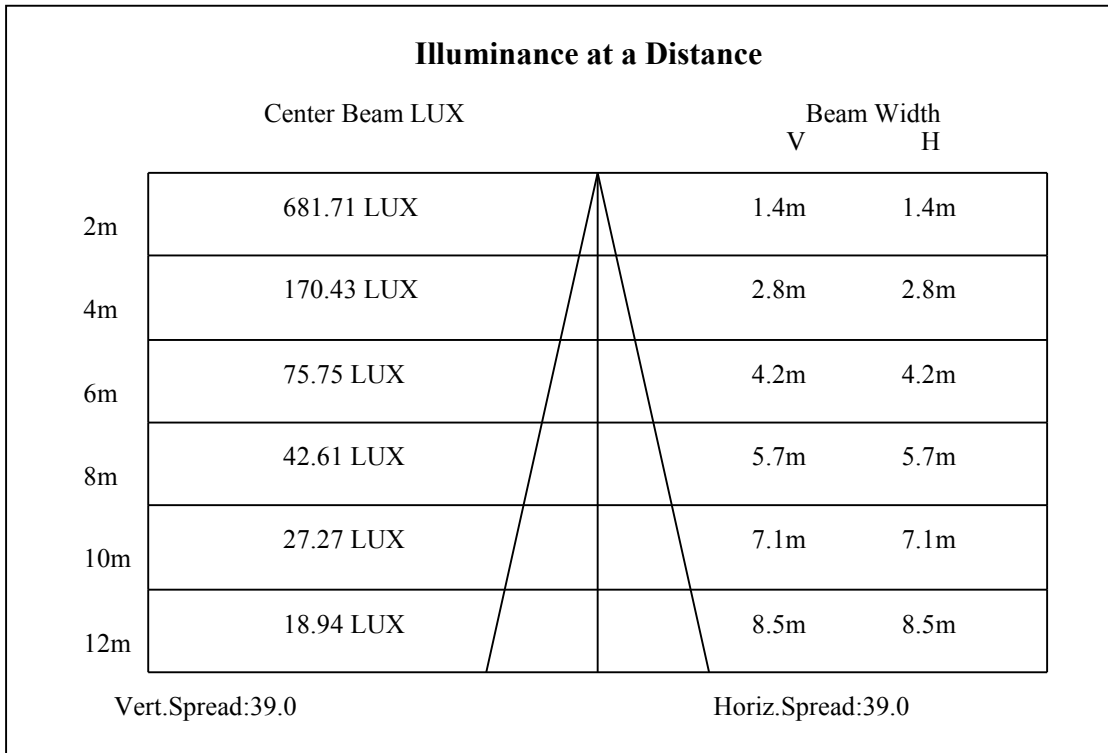
0-10	244.83
10-20	528.93
20-30	399.62
30-40	222.96
40-50	33.64
50-60	2.84
60-70	2.09
70-80	1.73
80-90	0.82
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

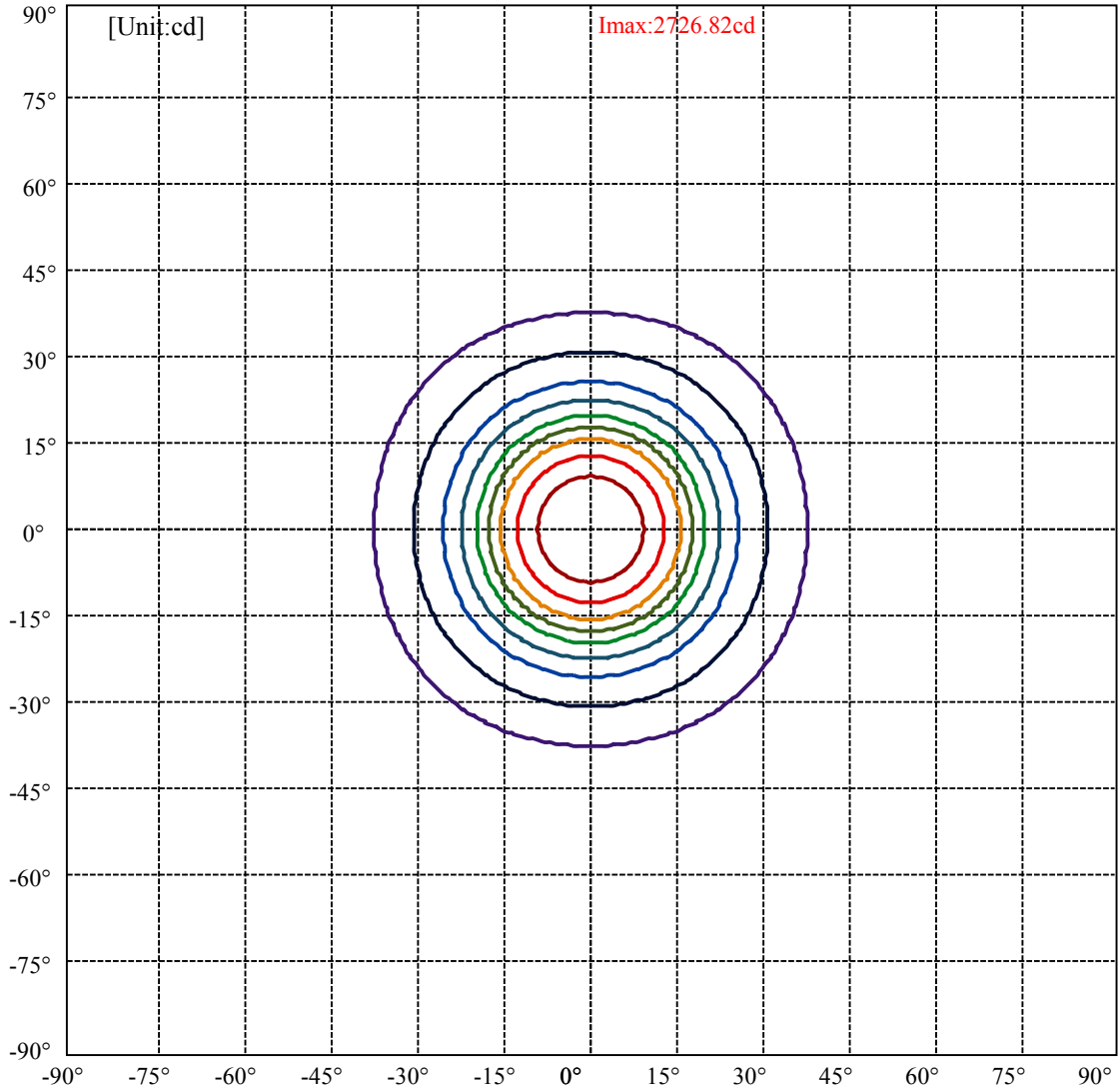


C0(Max): ———
C0/C180: ———
C90/C270: ———

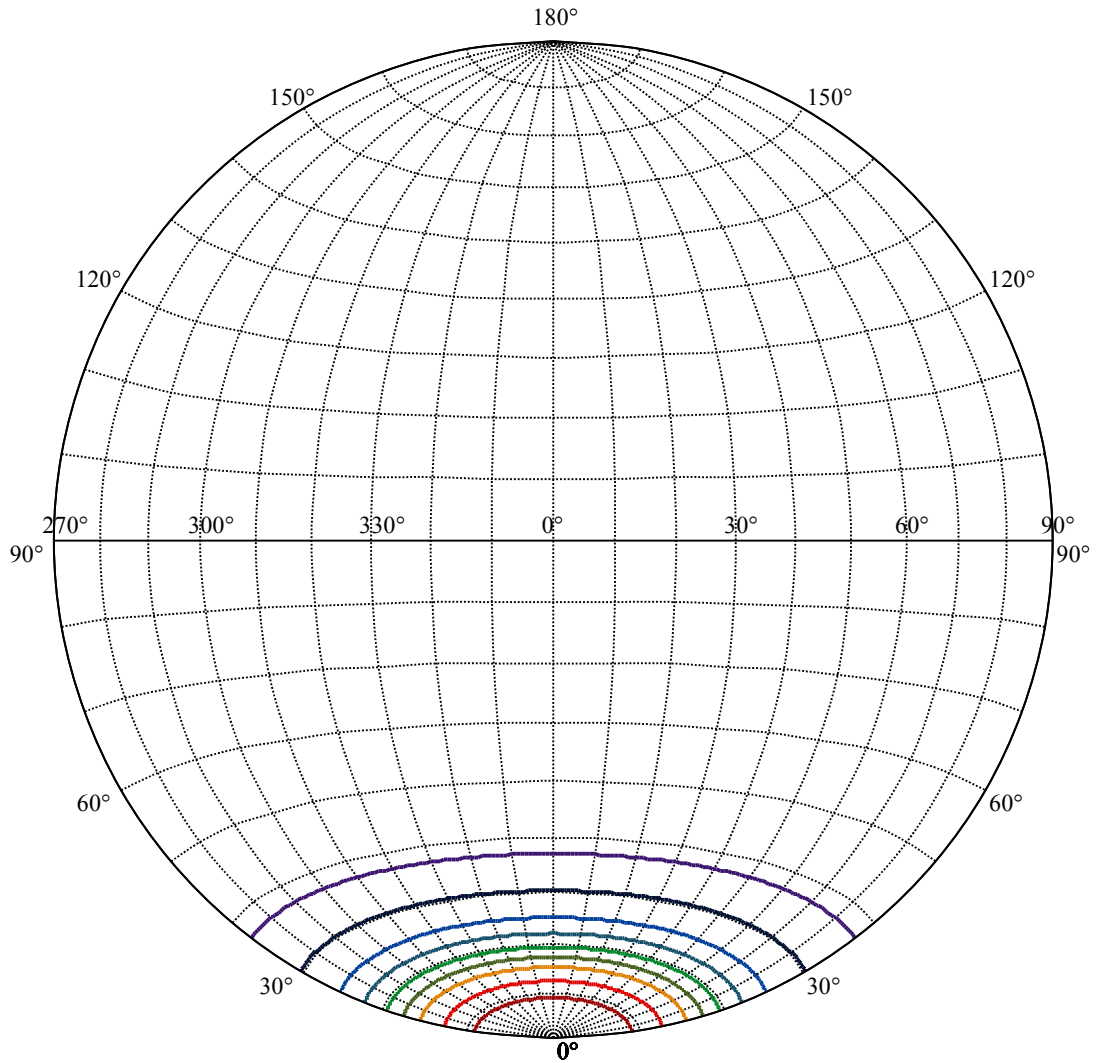
Field angle(10%Imax):C0/180Left:37.2 Right:37.2
:C90/270Left:37.2 Right:37.2

Beam Angle(50%Imax):C0/180Left:19.5 Right:19.5
:C90/270Left:19.5 Right:19.5





(10%Imax) 272.682	—
(20%Imax) 545.365	—
(30%Imax) 818.047	—
(40%Imax) 1090.73	—
(50%Imax) 1363.41	—
(60%Imax) 1636.09	—
(70%Imax) 1908.78	—
(80%Imax) 2181.46	—
(90%Imax) 2454.14	—



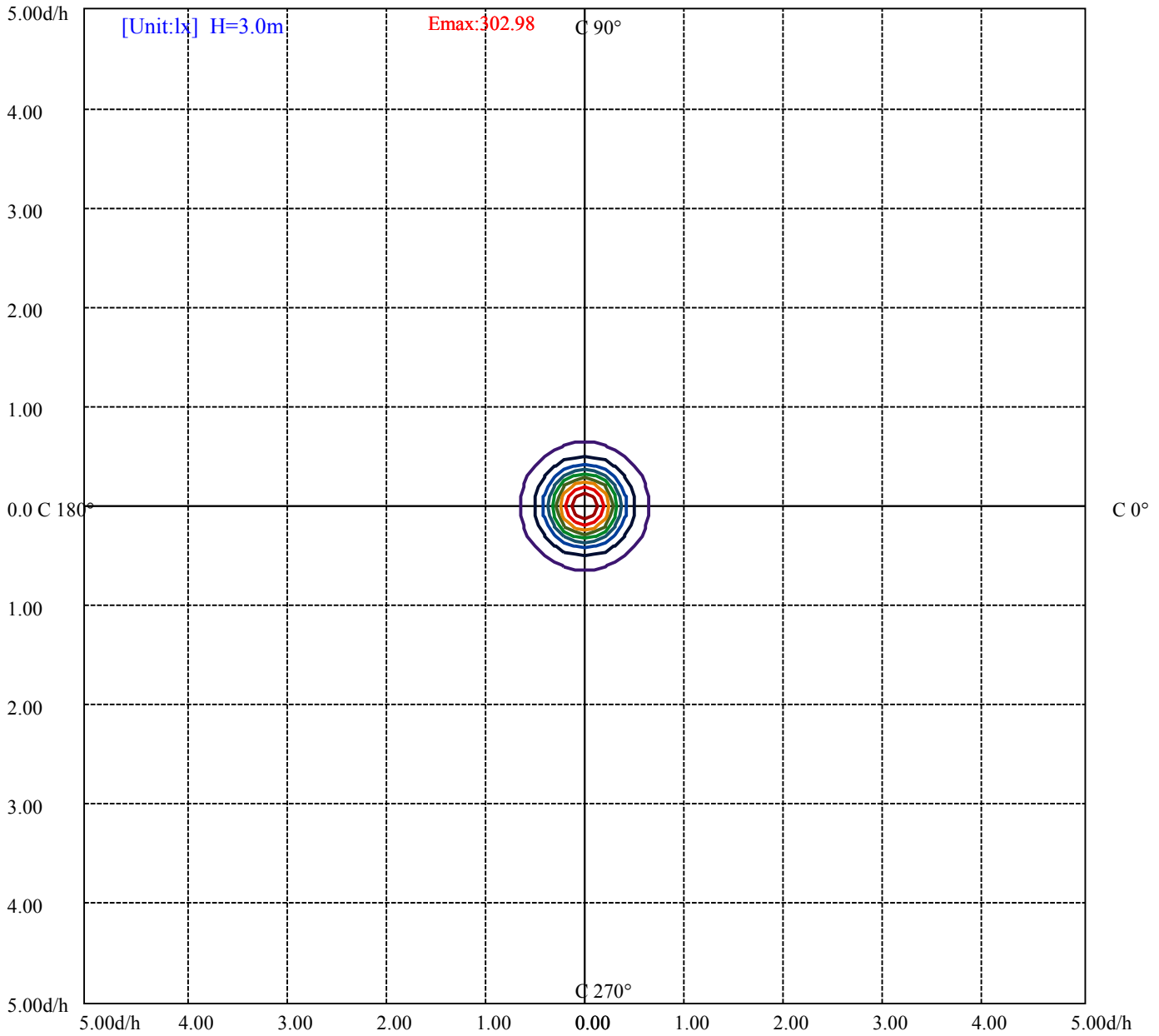
House

[Unit:cd]

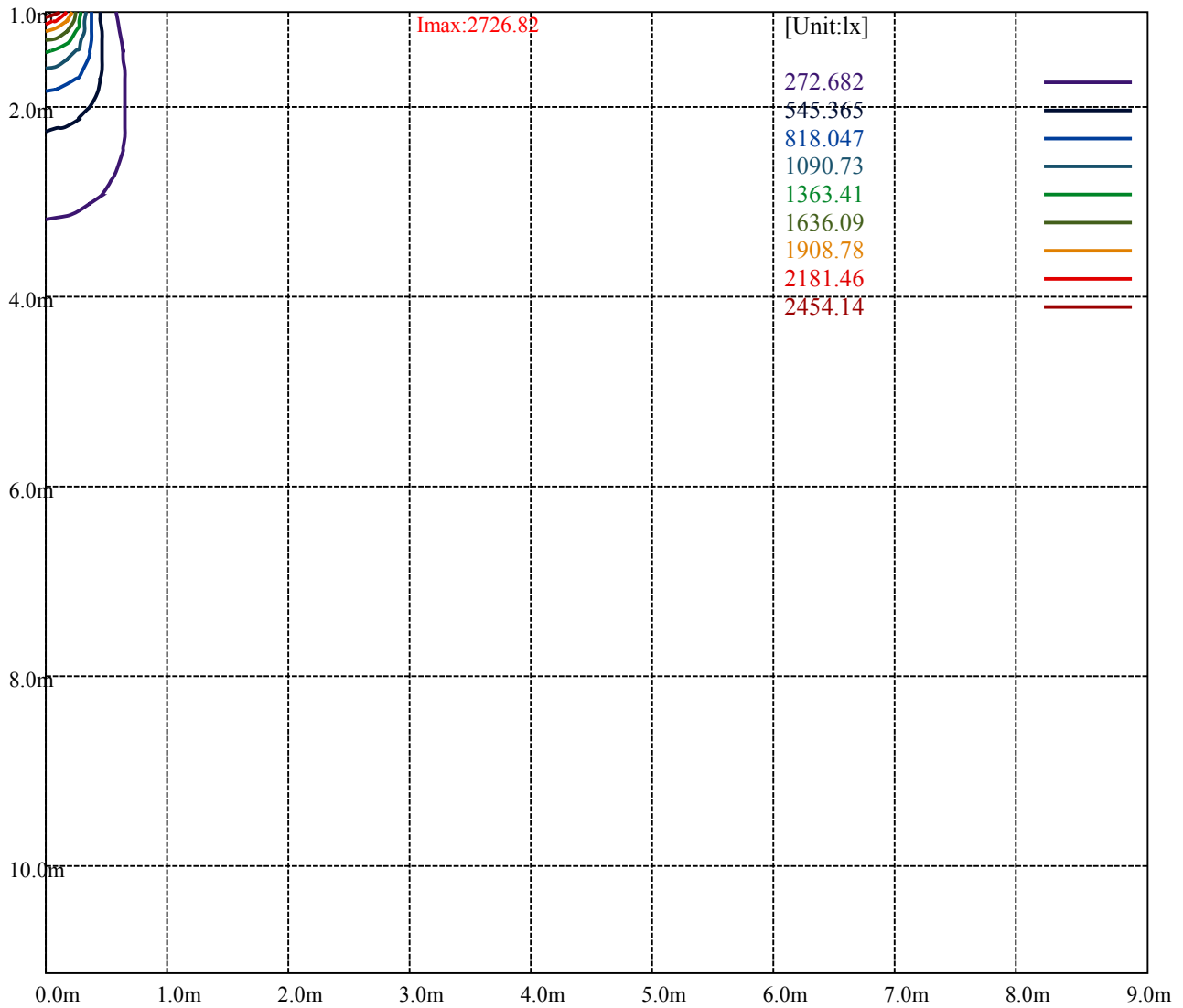
Road

Imax:2726.82

(10%Imax) 272.682	—
(20%Imax) 545.365	—
(30%Imax) 818.047	—
(40%Imax) 1090.73	—
(50%Imax) 1363.41	—
(60%Imax) 1636.09	—
(70%Imax) 1908.78	—
(80%Imax) 2181.46	—
(90%Imax) 2454.14	—



(10%Emax) 30.298	—
(20%Emax) 60.596	—
(30%Emax) 90.894	—
(40%Emax) 121.1922	—
(50%Emax) 151.49	—
(60%Emax) 181.7878	—
(70%Emax) 212.0856	—
(80%Emax) 242.3844	—
(90%Emax) 272.6822	—



Luminance Table

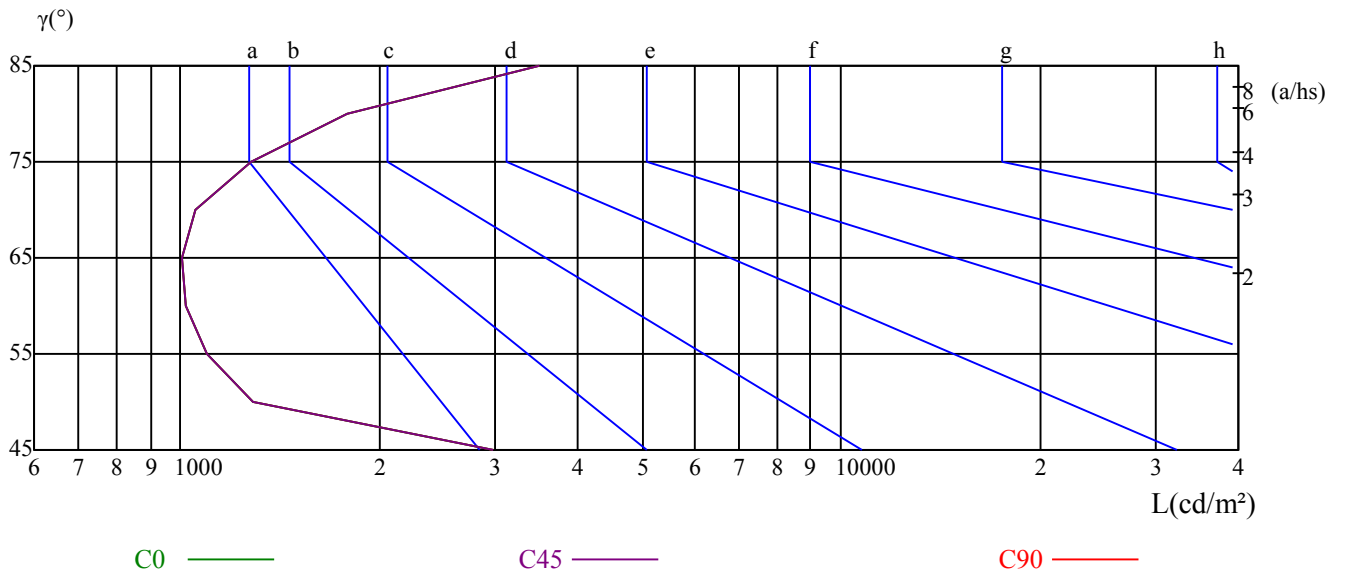
γ	45	50	55	60	65	70	75	80	85
C0	2978	1287	1094	1020	1003	1056	1281	1786	3491
C45	2978	1287	1094	1020	1003	1056	1281	1786	3491
C90	2978	1287	1094	1020	1003	1056	1281	1786	3491

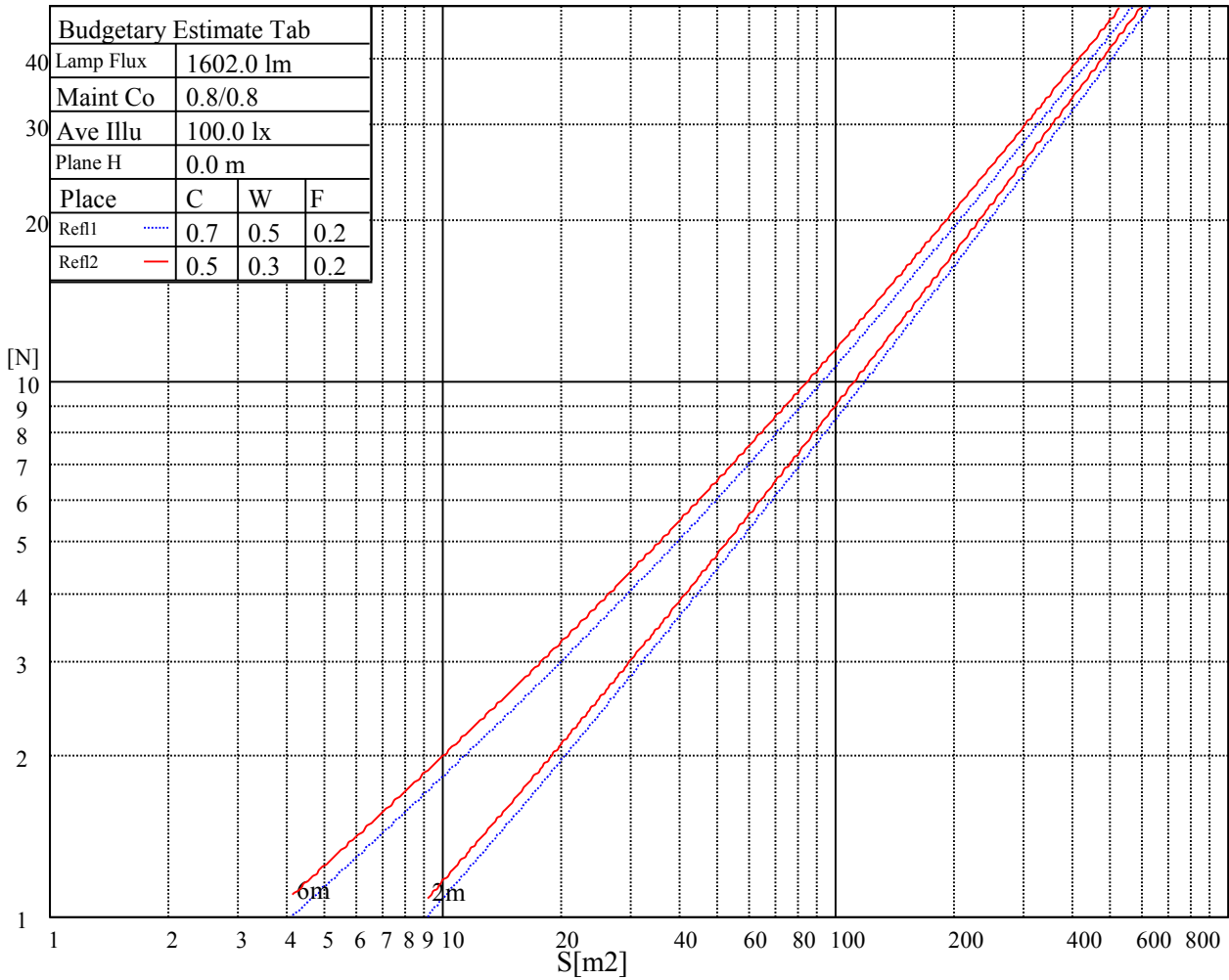
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1003	1003	1003	1281	1281	1281	3491	3491	3491

Glare Table

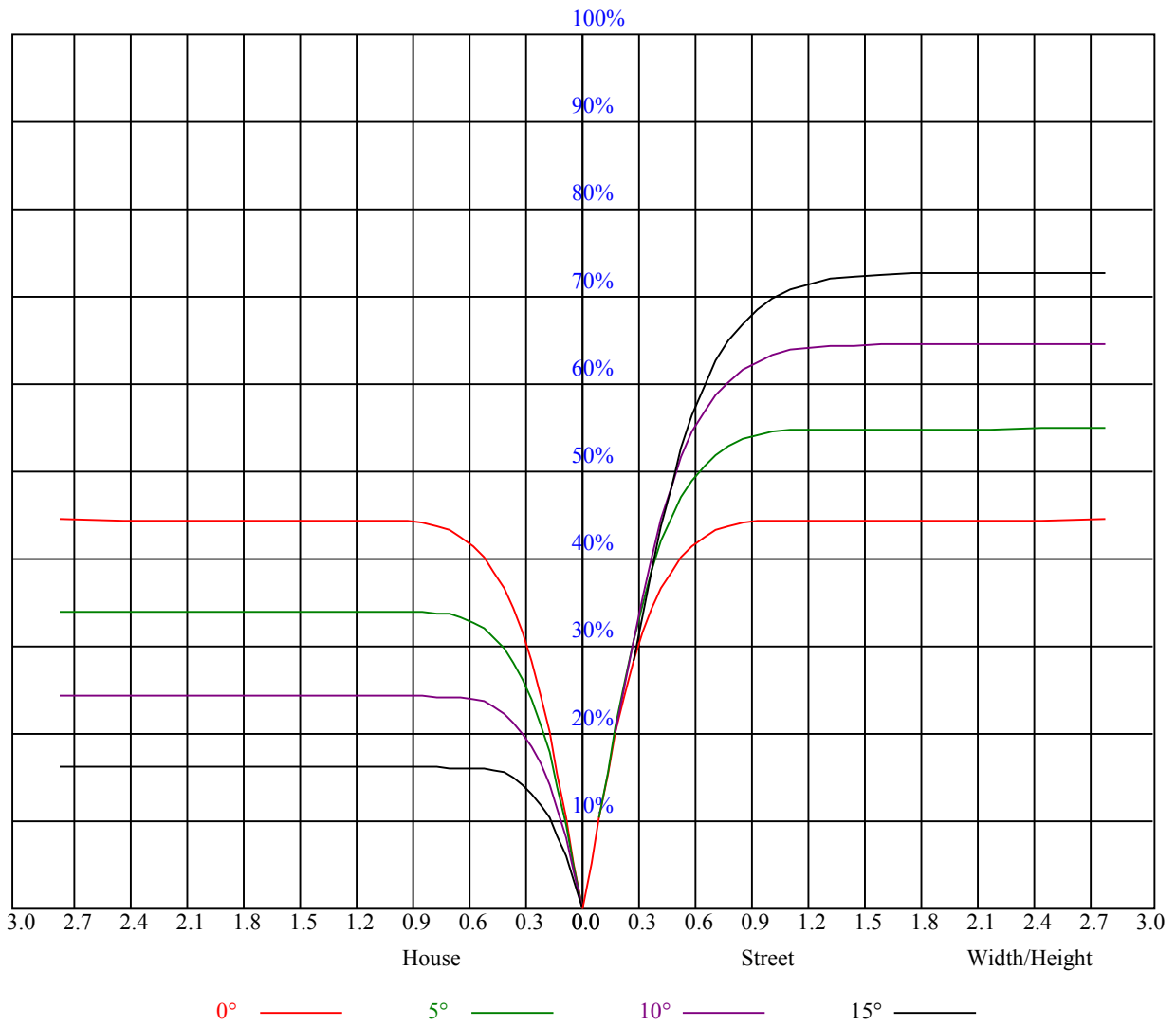
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

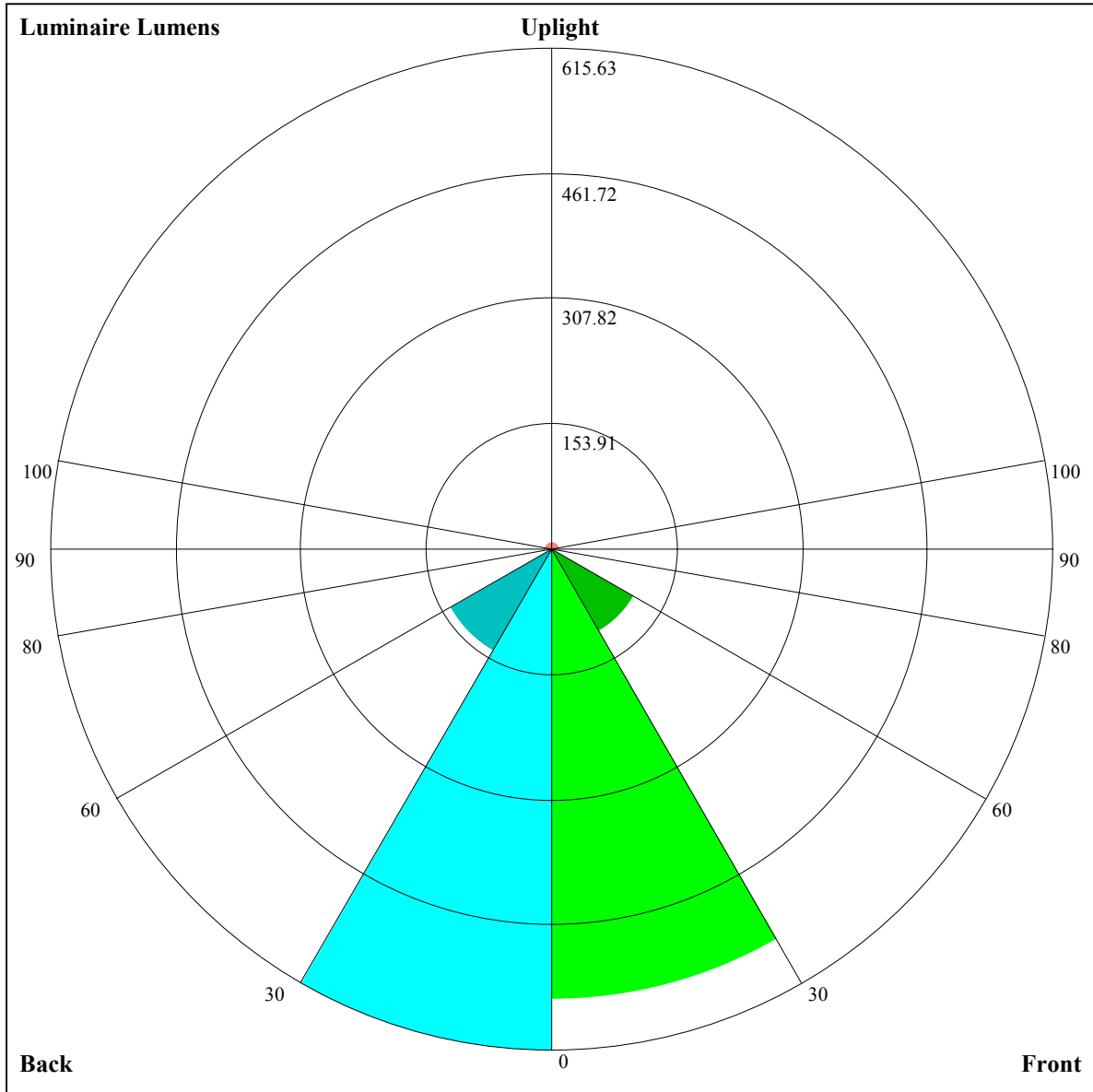
Luminance Limiting Curve





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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.96	0.98	0.96	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.85
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.80
3	0.89	0.85	0.81	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.80	0.78	0.81	0.79	0.77	0.76
4	0.84	0.79	0.76	0.83	0.79	0.76	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
5	0.79	0.75	0.71	0.79	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.67	0.75	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.64
7	0.72	0.67	0.63	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
8	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
9	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.55	0.62	0.57	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.53





Luminaire Lumens:

FL=553.98,FM=116.61,FH=1.85,FVH=0.92

BL=615.63,BM=143.76,BH=1.97,BVH=0.85

UL=1.96,UH=9.34

BUG Rating:B2-U1-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	2707.22	2509.54	2229.26	1575.90	864.49	635.35	500.04	233.83	19.26
45.0	2738.77	2653.85	2443.18	2059.43	1478.46	947.14	597.72	440.88	240.88
90.0	2740.63	2632.04	2385.64	1973.12	1435.30	887.23	551.09	392.20	118.10
135.0	2720.67	2726.71	2562.44	2277.52	1751.77	1097.49	665.47	505.38	288.68
180.0	2707.22	2736.45	2599.56	2311.86	1663.14	1022.31	637.16	477.07	254.34
225.0	2738.77	2630.65	2390.28	1925.32	841.01	678.74	516.05	272.06	44.32
270.0	2740.63	2667.77	2491.44	2004.21	1417.20	766.63	542.50	377.31	259.44
315.0	2720.67	2548.52	2201.42	1628.80	901.43	633.17	477.91	214.24	20.51
360.0	2707.22	2509.54	2229.26	1575.90	864.49	635.35	500.04	233.83	19.26

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	4.55	3.43	2.60	2.23	1.81	1.58	1.44	1.35	1.35
45.0	9.98	4.04	3.06	2.55	2.23	1.81	1.76	1.81	1.90
90.0	7.42	3.90	2.97	2.41	2.04	1.86	1.76	1.67	1.86
135.0	20.70	5.52	3.90	2.97	2.37	2.00	1.67	1.48	1.30
180.0	23.85	4.41	3.39	2.74	2.23	1.86	1.62	1.53	1.39
225.0	5.15	3.57	2.78	2.32	2.09	1.76	1.67	1.58	1.44
270.0	6.31	3.85	3.02	2.41	2.00	1.72	1.62	1.48	1.44
315.0	4.59	3.71	2.88	2.37	1.86	1.58	1.44	1.25	1.25
360.0	4.55	3.43	2.60	2.23	1.81	1.58	1.44	1.35	1.35

C/γ(°)	90.0
0.0	1.86
45.0	2.64
90.0	3.02
135.0	1.30
180.0	1.30
225.0	1.35
270.0	1.58
315.0	1.35
360.0	1.86