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Nata

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Client:

LumCAT: 1658-S

Luminaire: 92.70.125.00

Report No: nata-0100

Test No: GC2018060212

LampCAT: NICHIA NFCWS024B-V3

Lamp flux(lm): 1055.6

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 36.5000

Current(A): 0.3000

Power (W): 10.9500

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

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Photometric Results

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Lumens(lm): 928.90, Efficiency(%): 88.00% , Luminous Efficacy(lm/W): 84.83

Central intensity(cd): 2511.123, Maximum intensity(cd): 2511.123

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

Beam Angle(50%Imax): [C0/180]Total=30.8

[C90/270]Total=30.8

Field angle(10%Imax): [C0/180]Total=63.8

[C90/270]Total=63.8

Maximum s/h(1/2): C0\_180=0.51 C90\_270=0.51

Maximum s/h(1/4): C0\_180=0.55 C90\_270=0.55

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.33%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.233%

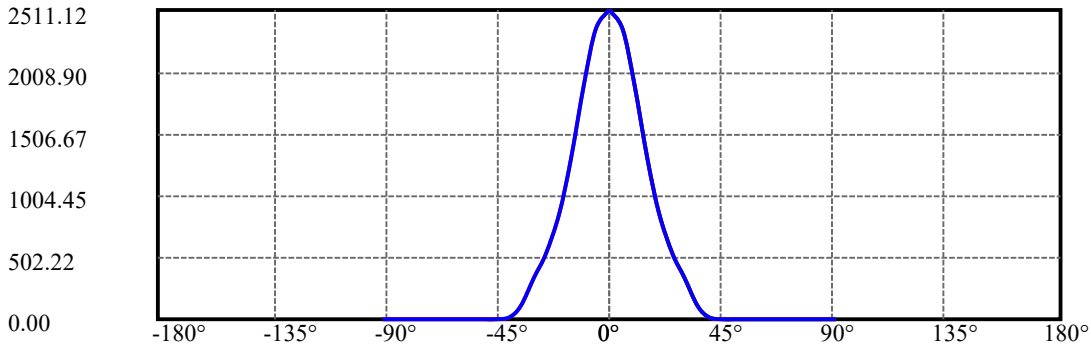
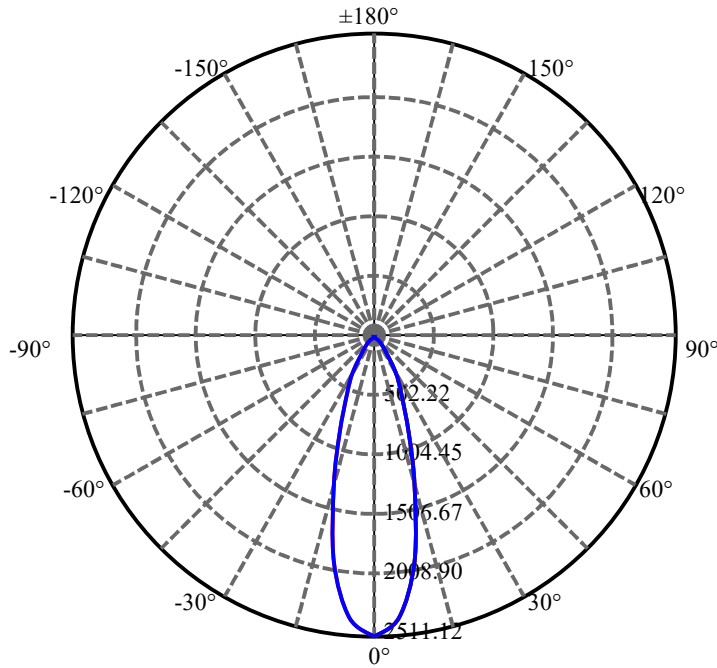
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2511.122	15.017	15.017	1.423%	1.617%
5.0	2356.345	112.570	127.587	10.664%	13.735%
10.0	1917.546	182.518	310.105	17.290%	33.384%
15.0	1293.433	183.497	493.603	17.383%	53.138%
20.0	864.551	162.081	655.683	15.354%	70.587%
25.0	526.029	121.856	777.54	11.544%	83.705%
30.0	344.020	94.285	871.825	8.932%	93.856%
35.0	104.504	32.856	904.681	3.112%	97.393%
40.0	11.920	4.200	908.88	.398%	97.845%
45.0	5.265	2.041	910.921	.193%	98.064%
50.0	4.728	1.985	912.906	.188%	98.278%
55.0	4.446	1.996	914.902	.189%	98.493%
60.0	4.294	2.039	916.941	.193%	98.713%
65.0	4.198	2.086	919.026	.198%	98.937%
70.0	4.150	2.138	921.164	.202%	99.167%
75.0	4.115	2.179	923.343	.206%	99.402%
80.0	4.102	2.214	925.557	.210%	99.640%
85.0	4.095	2.236	927.793	.212%	99.881%
90.0	4.040	1.107	928.9	.105%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	871.82	82.59%	93.86%
0-40	908.88	86.10%	97.84%
0-60	916.94	86.86%	98.71%
0-90	927.79	87.89%	99.88%
0-120	927.79	87.89%	99.88%
0-180	928.90	88.00%	100.00%
60-90	12.89	1.22%	1.39%
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%
0-23.59	743.12	70.40%	80.00%

ZONAL LUMEN SUMMARY

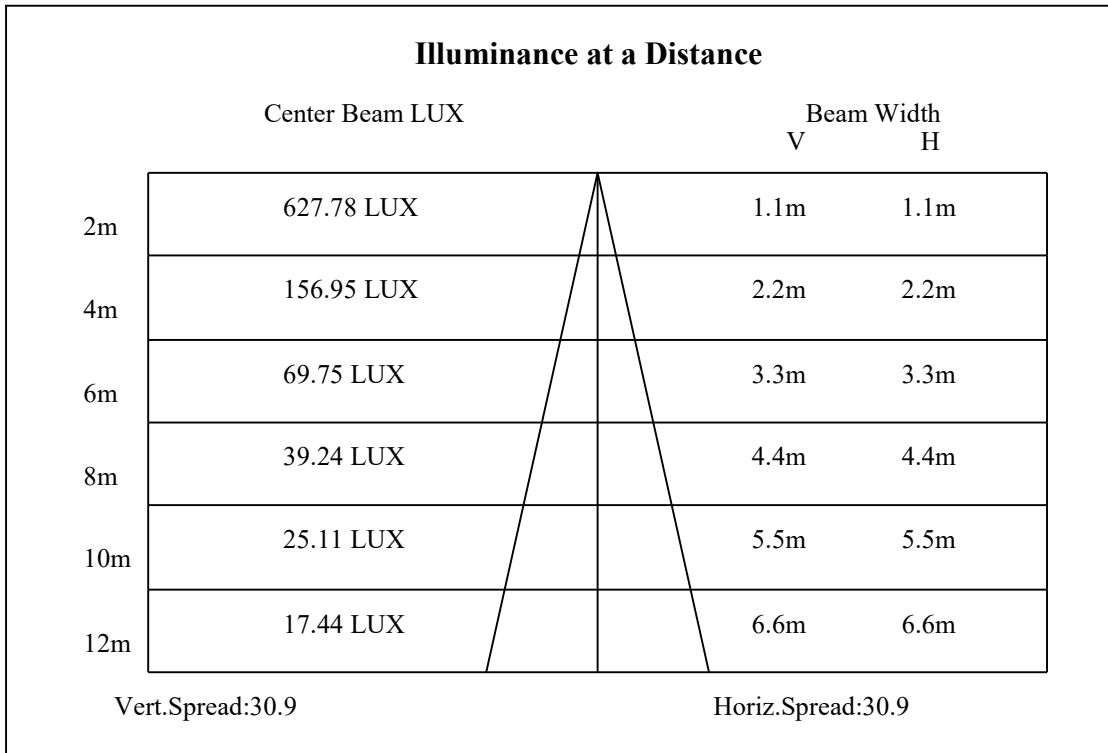
0-10	310.11
10-20	345.58
20-30	216.14
30-40	37.06
40-50	4.03
50-60	4.03
60-70	4.22
70-80	4.39
80-90	2.24
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

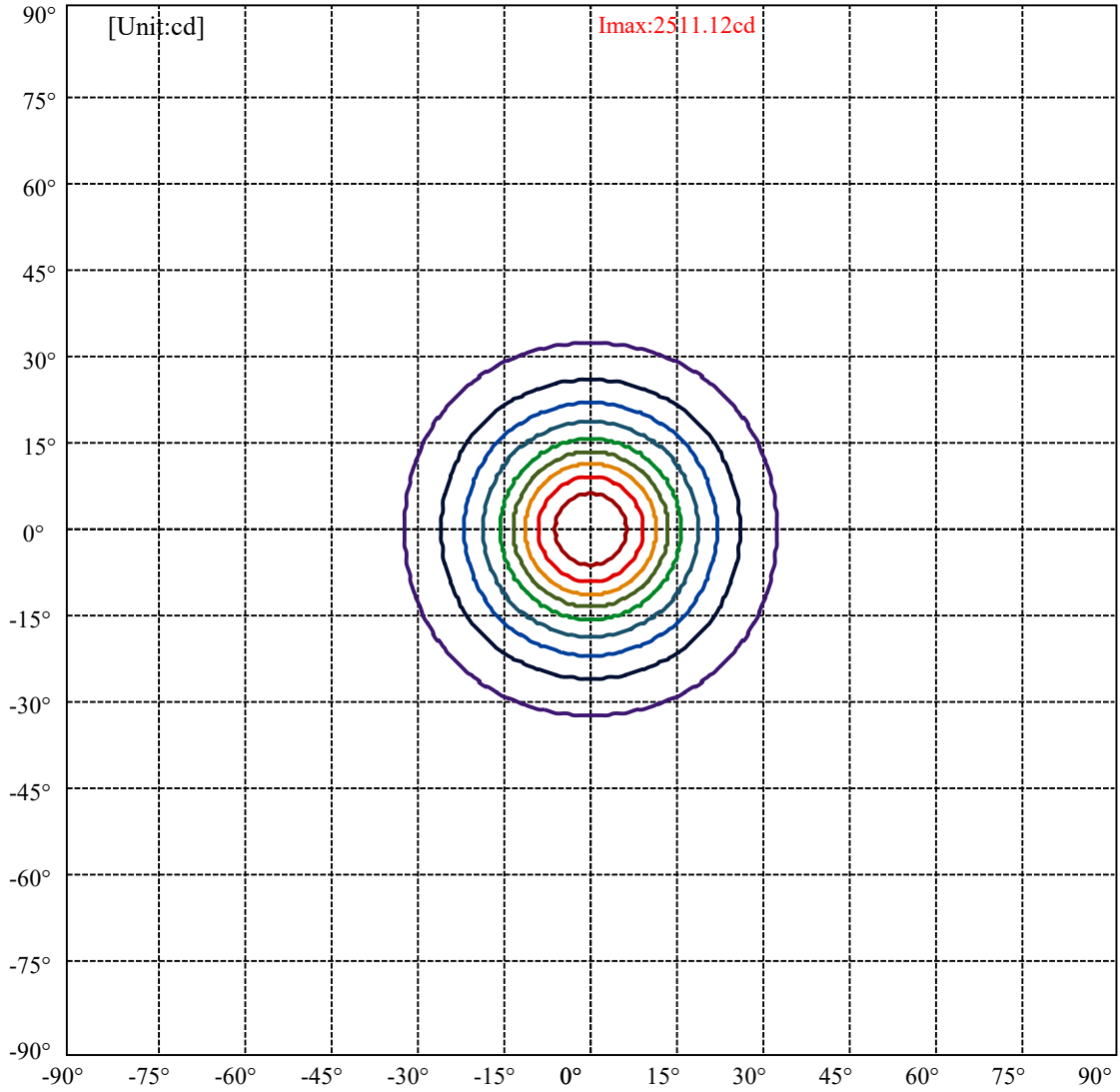


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

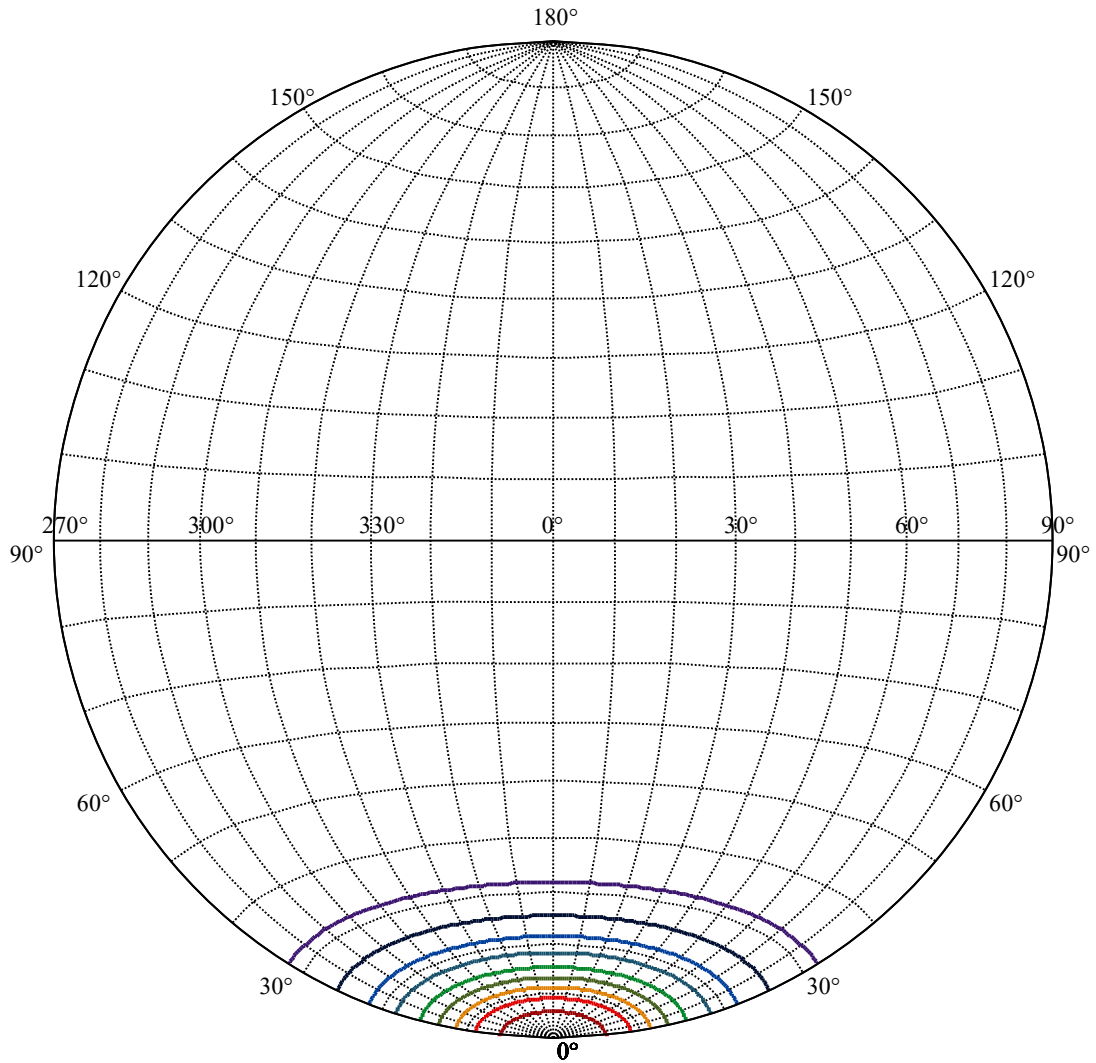
Field angle(10%Imax):C0/180Left:31.9 Right:31.9  
:C90/270Left:31.9 Right:31.9

Beam Angle(50%Imax):C0/180Left:15.4 Right:15.4  
:C90/270Left:15.4 Right:15.4





(10%Imax) 251.112	—
(20%Imax) 502.225	—
(30%Imax) 753.337	—
(40%Imax) 1004.45	—
(50%Imax) 1255.56	—
(60%Imax) 1506.67	—
(70%Imax) 1757.79	—
(80%Imax) 2008.9	—
(90%Imax) 2260.01	—



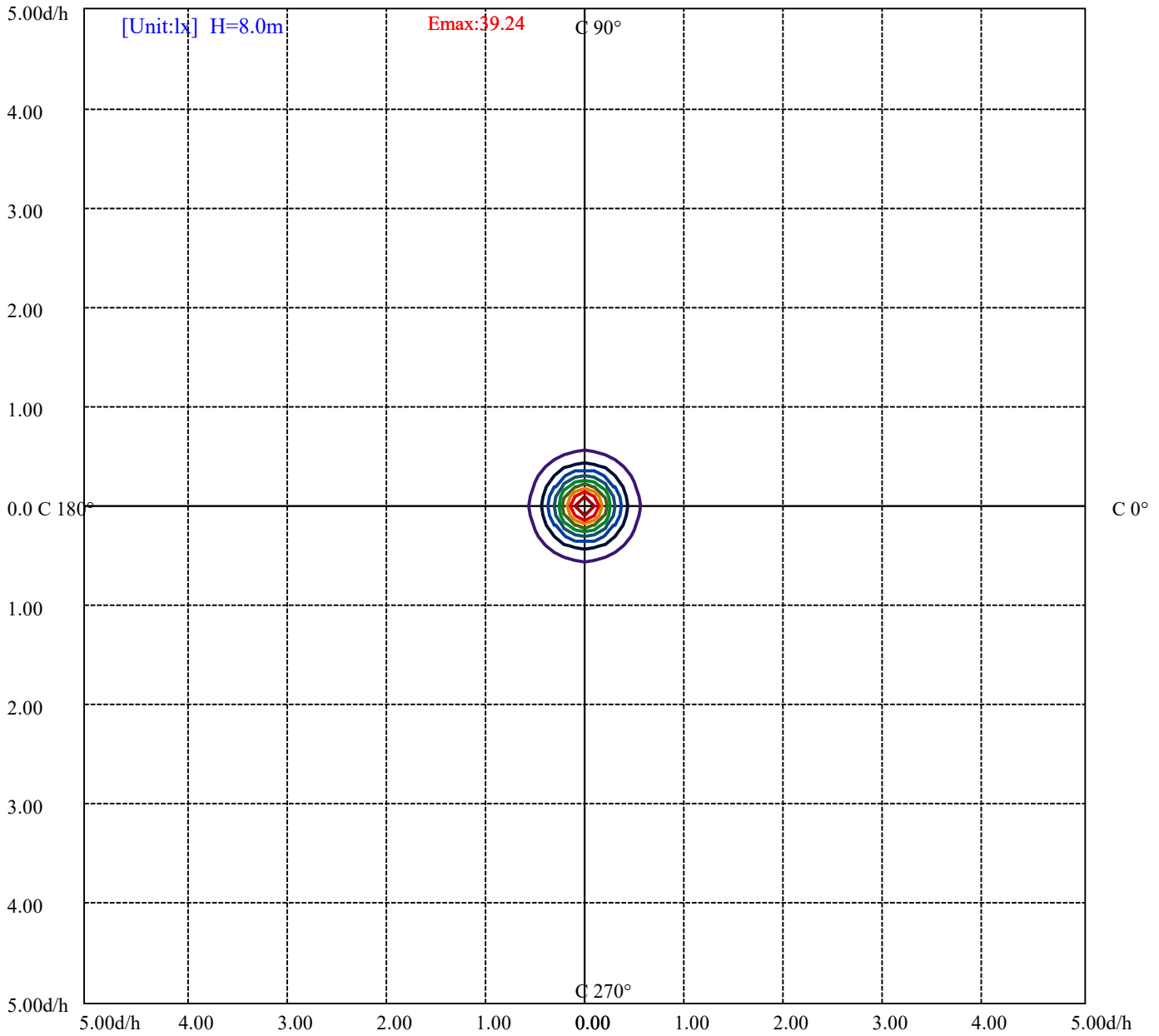
House

[Unit:cd]

Road

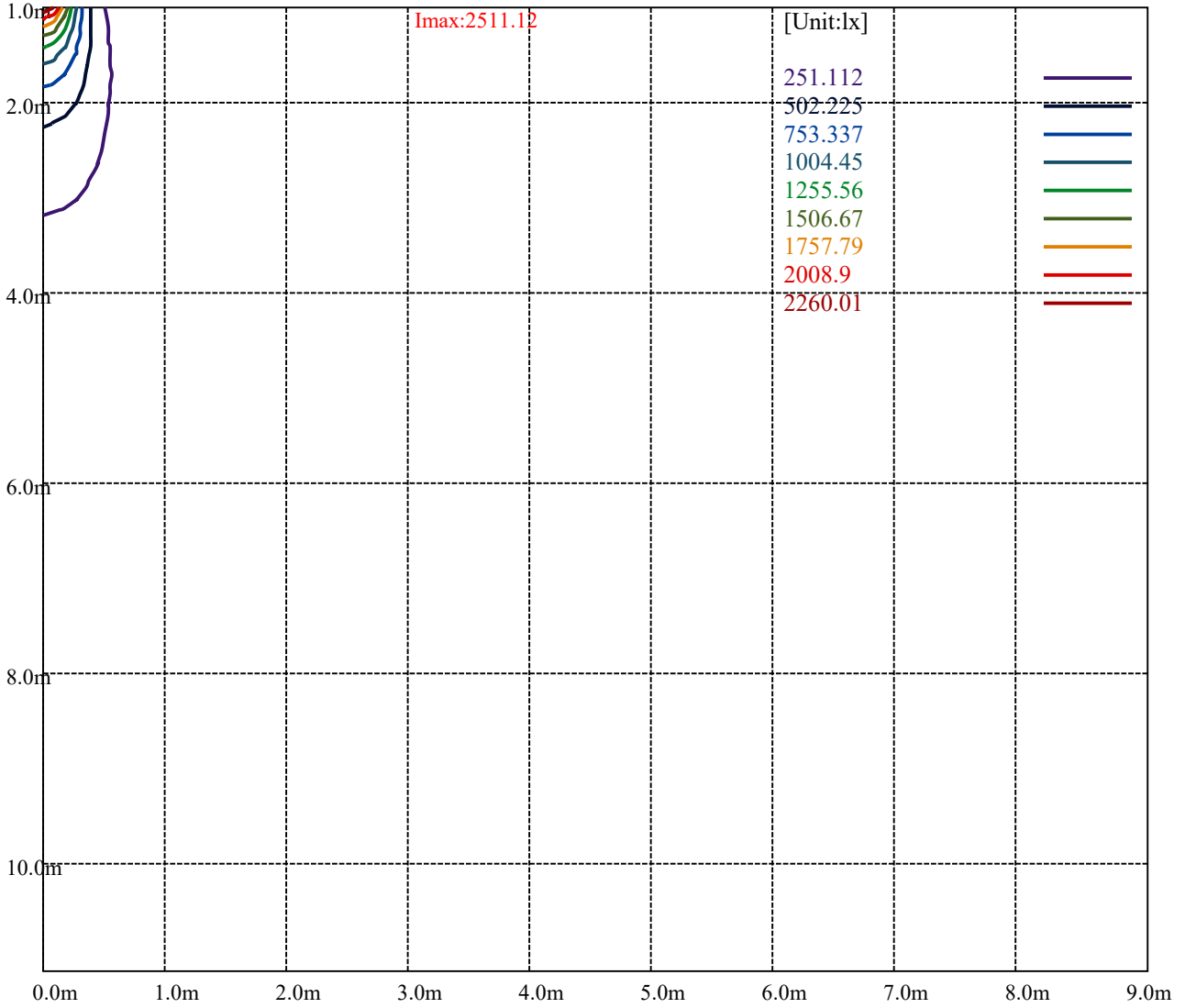
**Imax:2511.12**

(10%Imax) 251.112	—
(20%Imax) 502.225	—
(30%Imax) 753.337	—
(40%Imax) 1004.45	—
(50%Imax) 1255.56	—
(60%Imax) 1506.67	—
(70%Imax) 1757.79	—
(80%Imax) 2008.9	—
(90%Imax) 2260.01	—



- (10%Emax) 3.923625
- (20%Emax) 7.84725
- (30%Emax) 11.77086
- (40%Emax) 15.69453
- (50%Emax) 19.61813
- (60%Emax) 23.54172
- (70%Emax) 27.46531
- (80%Emax) 31.38891
- (90%Emax) 35.31266





Luminance Table

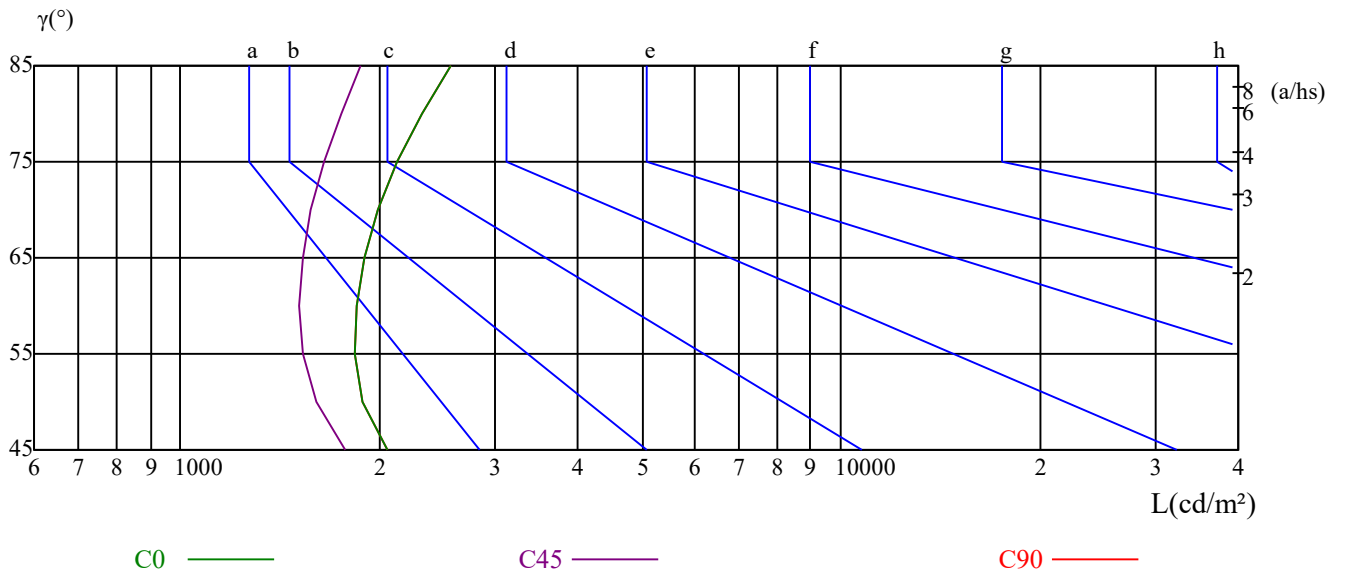
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2057	1891	1836	1847	1898	1995	2128	2315	2564
C45	1771	1604	1533	1517	1532	1578	1648	1747	1879
C90	2057	1891	1836	1847	1898	1995	2128	2315	2564

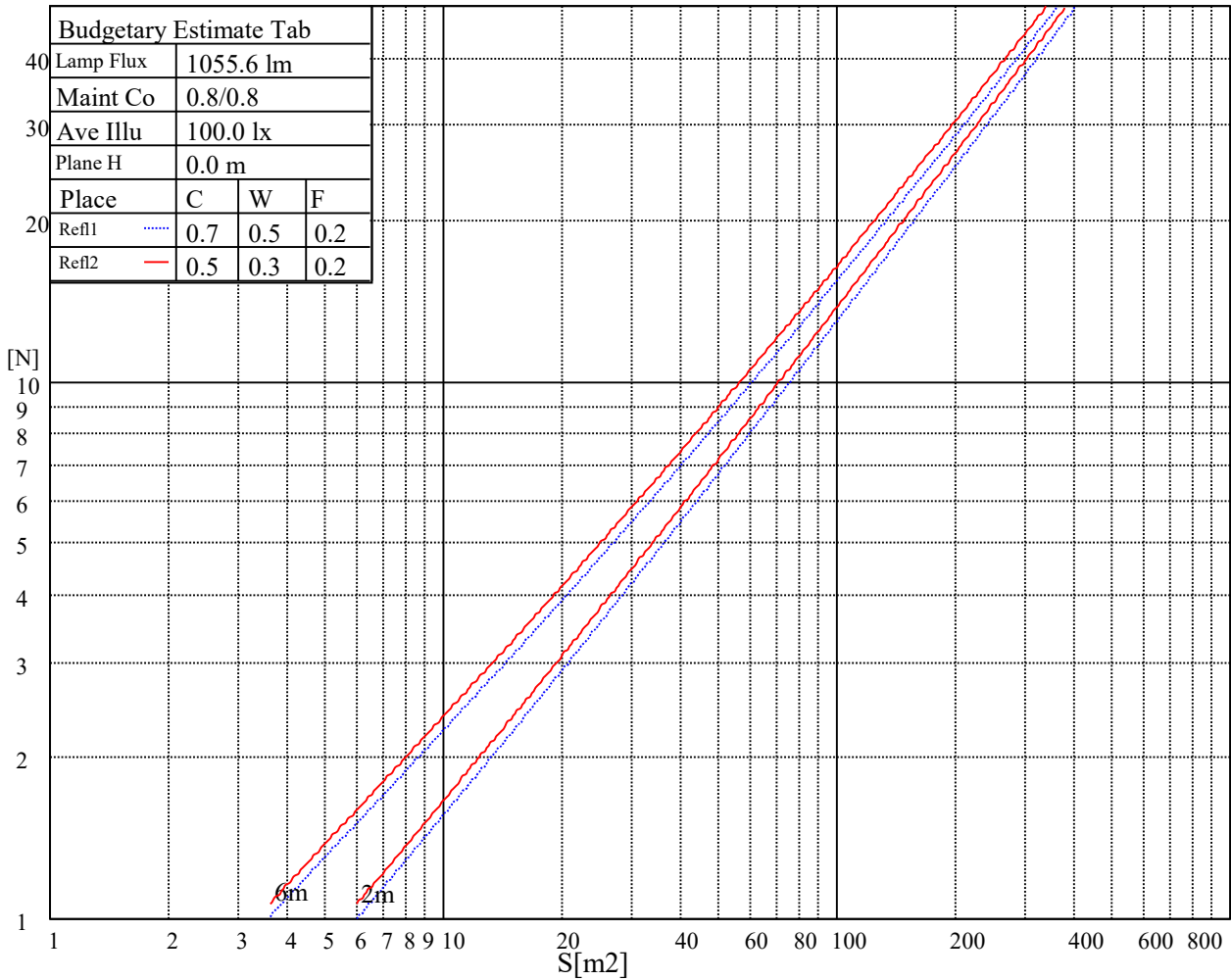
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4497	4497	4497	7198	7198	7198	21269	21269	21269

Glare Table

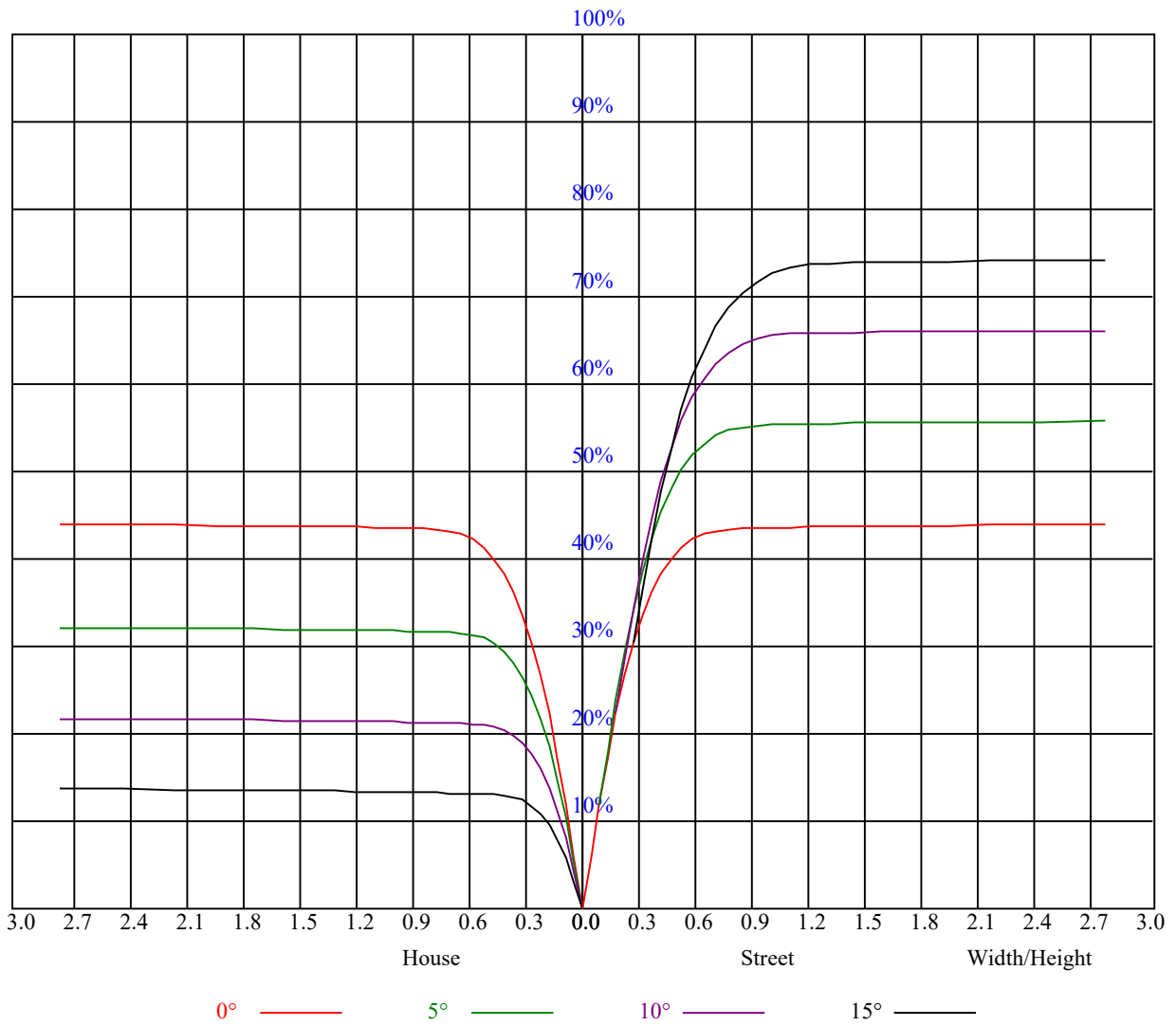
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

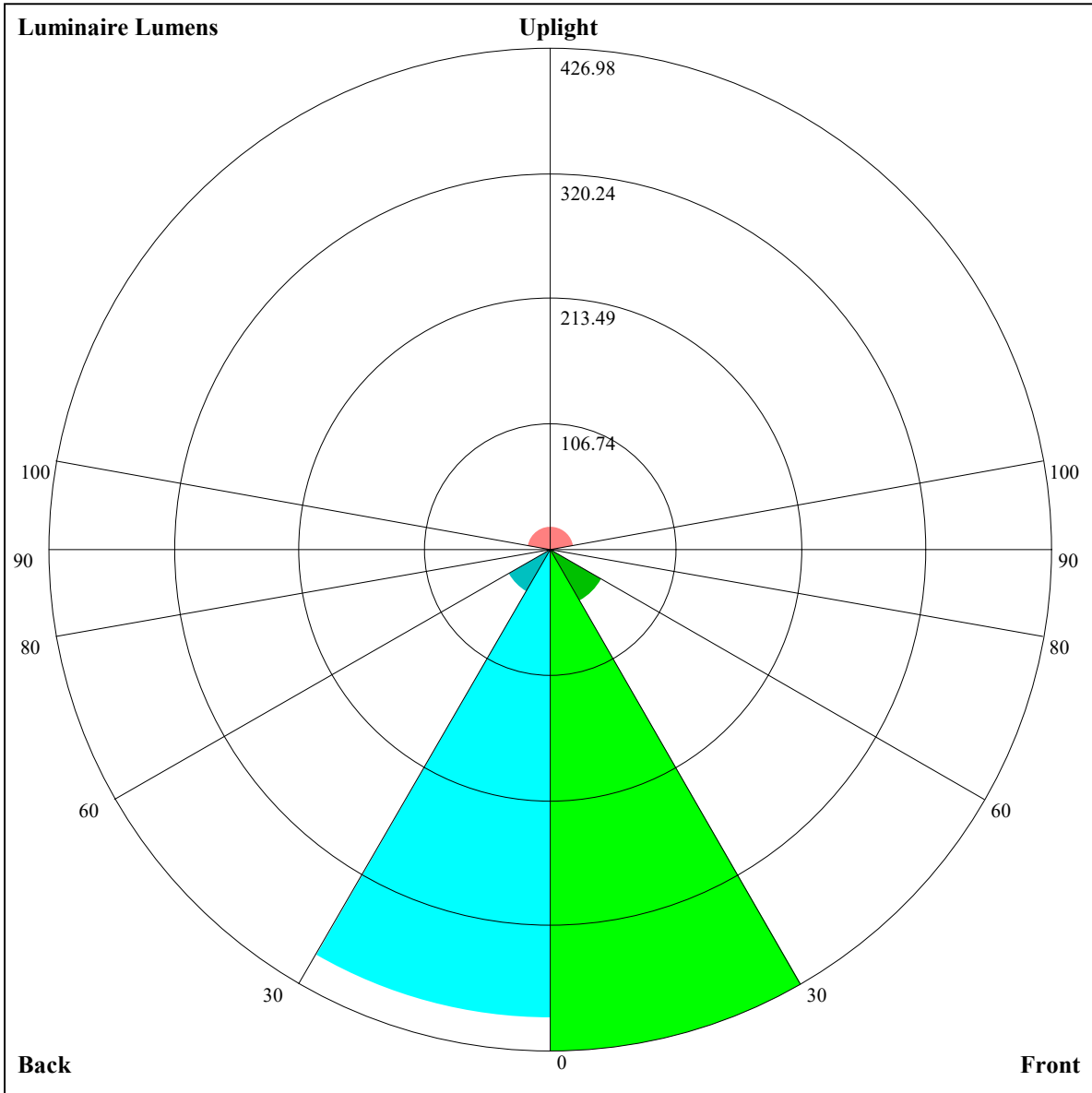
Luminance Limiting Curve





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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.98	0.96	0.94	0.97	0.94	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.86	0.85	0.84	0.83
2	0.93	0.90	0.87	0.92	0.89	0.86	0.89	0.87	0.84	0.86	0.84	0.83	0.84	0.82	0.81	0.79
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.83	0.80	0.83	0.81	0.79	0.81	0.79	0.78	0.76
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.69
7	0.76	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
8	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
9	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60





Luminaire Lumens:

FL=426.98,FM=51,FH=4.27,FVH=2.23

BL=399.49,BM=41.7,BH=4.28,BVH=2.23

UL=4.41,UH=20.97

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	2511.67	2445.05	2072.32	1467.25	1004.78	583.05	388.70	149.92	13.82
45.0	2495.16	2442.30	2091.59	1511.85	1006.98	601.22	403.01	223.36	15.80
90.0	2518.28	2333.84	1941.29	1376.96	866.86	547.54	364.25	110.39	13.32
135.0	2519.38	2378.44	1975.97	1434.22	908.43	574.24	378.24	119.03	13.60
180.0	2511.67	2286.49	1764.01	1075.80	762.20	467.10	304.96	57.15	9.91
225.0	2495.16	2265.57	1732.07	1087.53	728.62	453.44	267.90	41.62	8.86
270.0	2518.28	2356.96	1872.47	1310.89	830.80	496.61	331.44	72.12	10.68
315.0	2519.38	2342.10	1890.64	1082.96	807.73	485.05	313.66	62.43	9.36
360.0	2511.67	2445.05	2072.32	1467.25	1004.78	583.05	388.70	149.92	13.82
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	5.45	4.73	4.46	4.29	4.18	4.13	4.07	4.07	4.07
45.0	5.56	4.84	4.51	4.35	4.24	4.18	4.13	4.07	4.07
90.0	5.29	4.73	4.46	4.29	4.24	4.13	4.18	4.18	4.24
135.0	5.45	4.84	4.51	4.29	4.18	4.13	4.13	4.07	4.07
180.0	5.12	4.73	4.46	4.29	4.18	4.13	4.07	4.07	4.07
225.0	5.07	4.68	4.40	4.29	4.24	4.18	4.13	4.07	4.07
270.0	5.12	4.62	4.40	4.29	4.18	4.18	4.13	4.18	4.13
315.0	5.07	4.62	4.35	4.24	4.13	4.13	4.07	4.07	4.02
360.0	5.45	4.73	4.46	4.29	4.18	4.13	4.07	4.07	4.07
C/γ(°)	90.0								
0.0	4.07								
45.0	4.07								
90.0	4.02								
135.0	4.02								
180.0	4.02								
225.0	4.07								
270.0	4.02								
315.0	4.02								
360.0	4.07								