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## Nata

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Client:

LumCAT: 3-2021-A

Luminaire: 92.70.045.00+92.70.089.00

Report No: NT2018032106

Test No: nata-0100

LampCAT: NICHIA NEVWJ048Z-V1

Lamp flux(lm): 3055.0

Number of Lamps: 1

Length(mm): 86

Phm Type: C

Voltage(V): 43.8000

Current(A): 0.5000

Power (W): 21.9000

PF: 0.0000

Ballast type: DC

Width(mm): 86

Height(mm): 0

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## Photometric Results

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Lumens(lm): 2481.96, Efficiency(%): 81.24% , Luminous Efficacy(lm/W): 113.33

Central intensity(cd): 3770.813, Maximum intensity(cd): 3770.813

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

Beam Angle(50%Imax): [C0/180]Total=46.4

[C90/270]Total=46.4

Field angle(10%Imax): [C0/180]Total=77.0

[C90/270]Total=77.0

Maximum s/h(1/2): C0\_180=0.76 C90\_270=0.76

Maximum s/h(1/4): C0\_180=0.72 C90\_270=0.72

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.90%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.971%

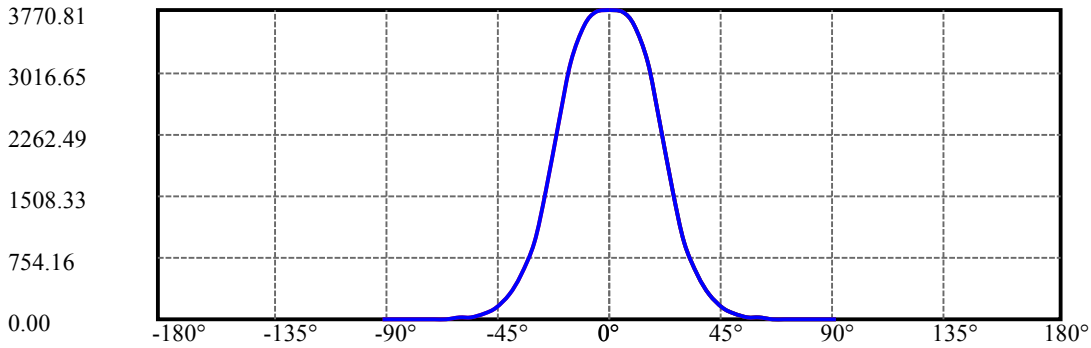
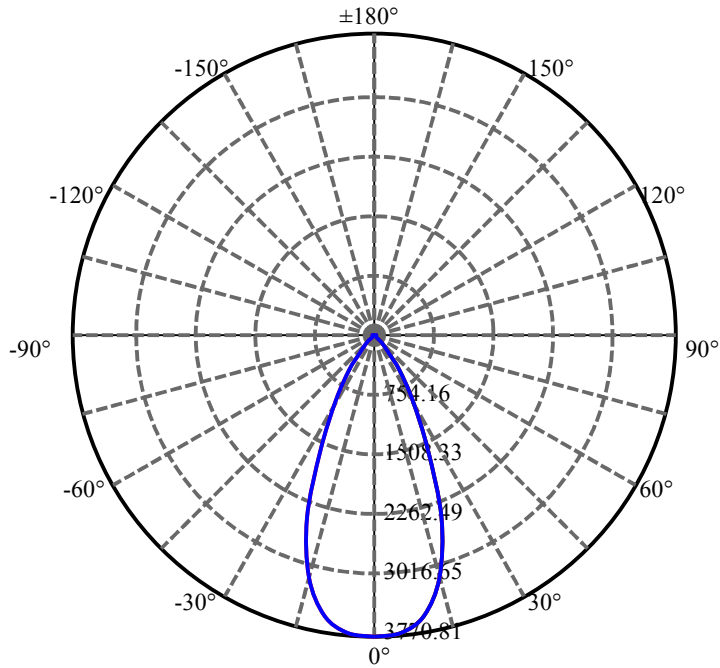
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3770.813	22.550	22.55	.738%	.909%
5.0	3740.188	178.681	201.231	5.849%	8.108%
10.0	3572.403	340.032	541.264	11.130%	21.808%
15.0	3131.402	444.247	985.511	14.542%	39.707%
20.0	2427.230	455.043	1440.553	14.895%	58.041%
25.0	1577.710	365.481	1806.034	11.963%	72.766%
30.0	945.855	259.229	2065.264	8.485%	83.211%
35.0	535.554	168.378	2233.641	5.512%	89.995%
40.0	309.073	108.897	2342.539	3.565%	94.383%
45.0	143.876	55.765	2398.304	1.825%	96.629%
50.0	73.314	30.785	2429.088	1.008%	97.870%
55.0	31.809	14.282	2443.371	.468%	98.445%
60.0	16.868	8.007	2451.378	.262%	98.768%
65.0	11.507	5.716	2457.094	.187%	98.998%
70.0	10.426	5.370	2462.465	.176%	99.214%
75.0	10.364	5.488	2467.952	.180%	99.436%
80.0	10.364	5.595	2473.547	.183%	99.661%
85.0	10.330	5.641	2479.188	.185%	99.888%
90.0	10.123	2.775	2481.962	.091%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2065.26	67.60%	83.21%
0-40	2342.54	76.68%	94.38%
0-60	2451.38	80.24%	98.77%
0-90	2479.19	81.15%	99.89%
0-120	2479.19	81.15%	99.89%
0-180	2481.96	81.24%	100.00%
60-90	35.82	1.17%	1.44%
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%
0-28.46	1985.57	64.99%	80.00%

ZONAL LUMEN SUMMARY

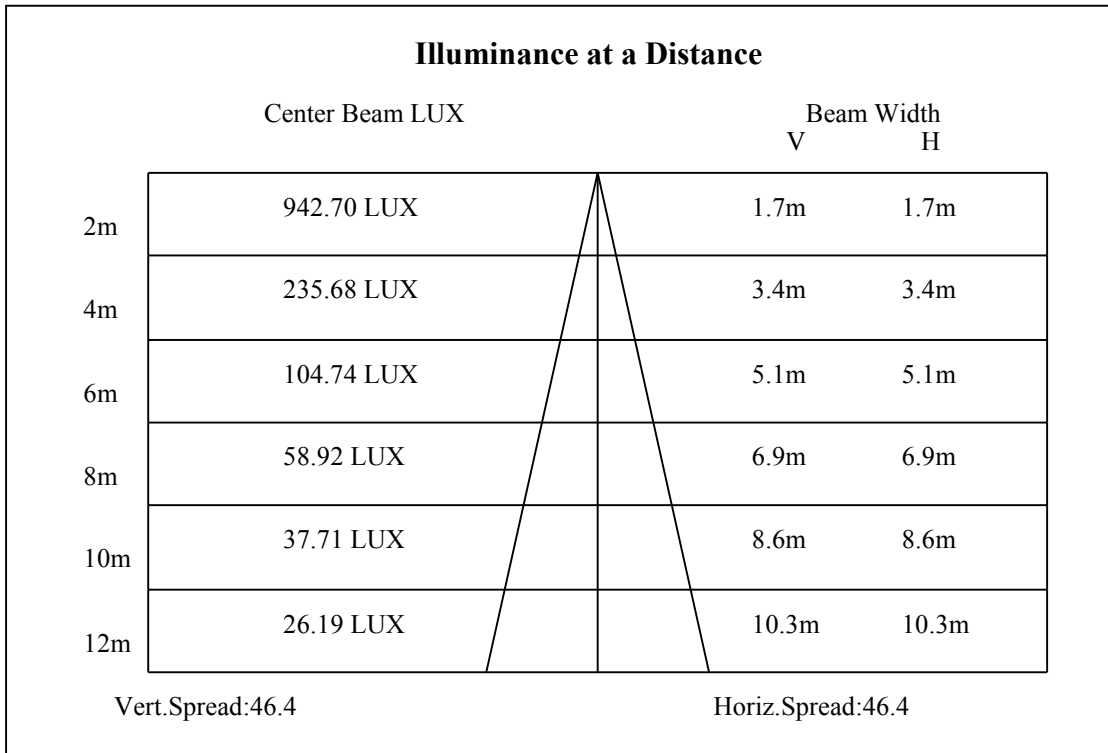
0-10	541.26
10-20	899.29
20-30	624.71
30-40	277.28
40-50	86.55
50-60	22.29
60-70	11.09
70-80	11.08
80-90	5.64
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

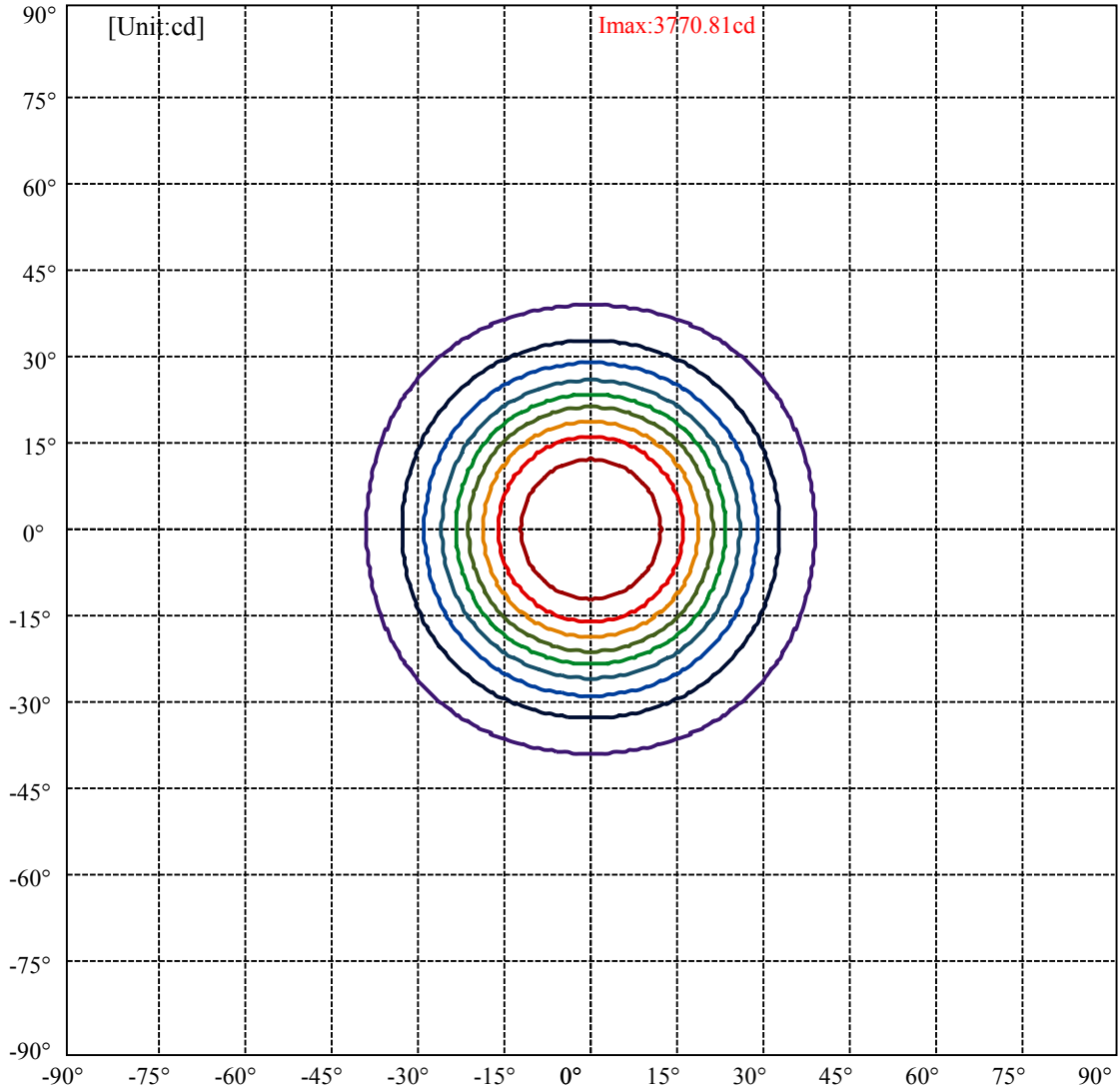


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

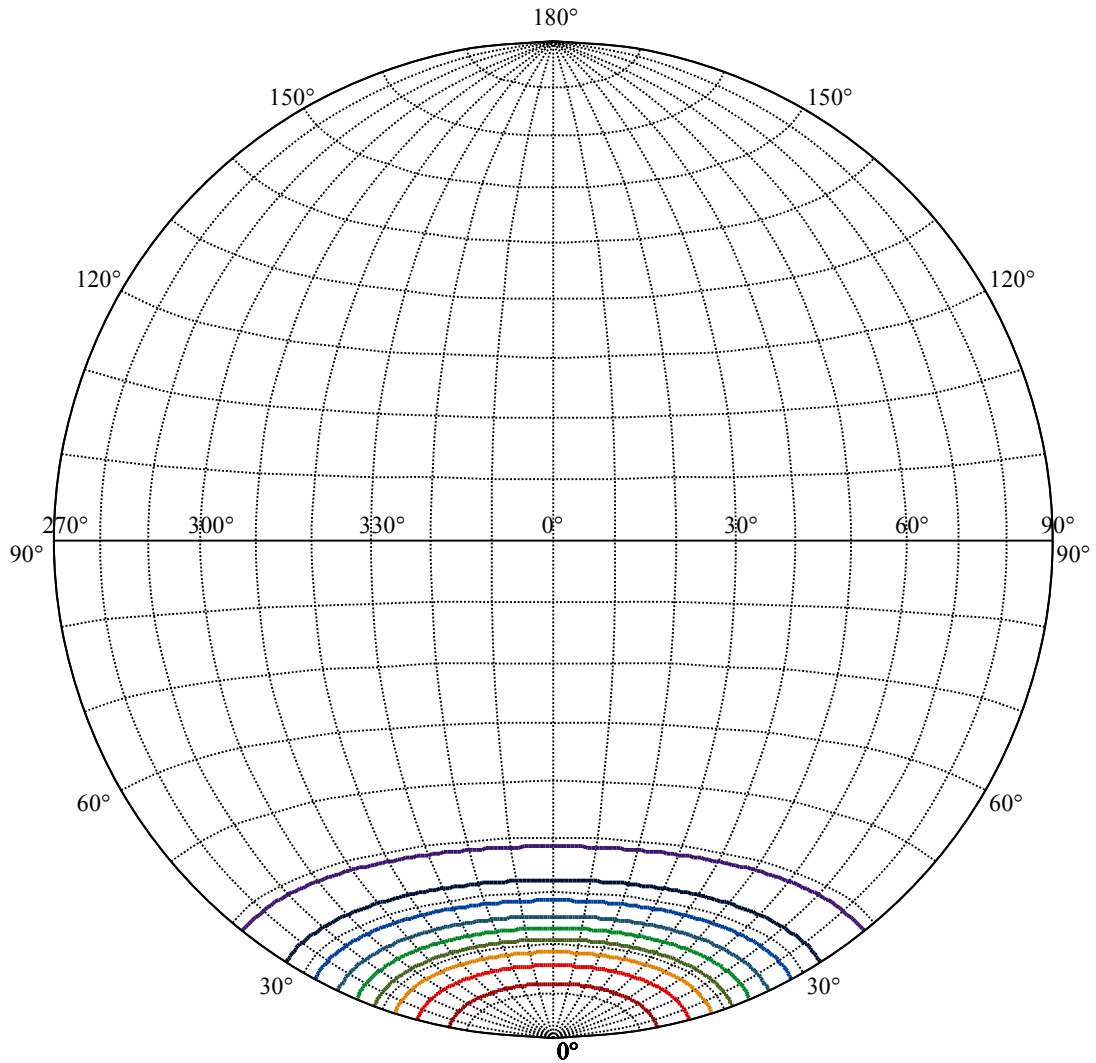
Field angle(10%Imax):C0/180Left:38.5 Right:38.5  
:C90/270Left:38.5 Right:38.5

Beam Angle(50%Imax):C0/180Left:23.2 Right:23.2  
:C90/270Left:23.2 Right:23.2





(10%Imax) 377.081	—
(20%Imax) 754.163	—
(30%Imax) 1131.24	—
(40%Imax) 1508.33	—
(50%Imax) 1885.41	—
(60%Imax) 2262.49	—
(70%Imax) 2639.57	—
(80%Imax) 3016.65	—
(90%Imax) 3393.73	—



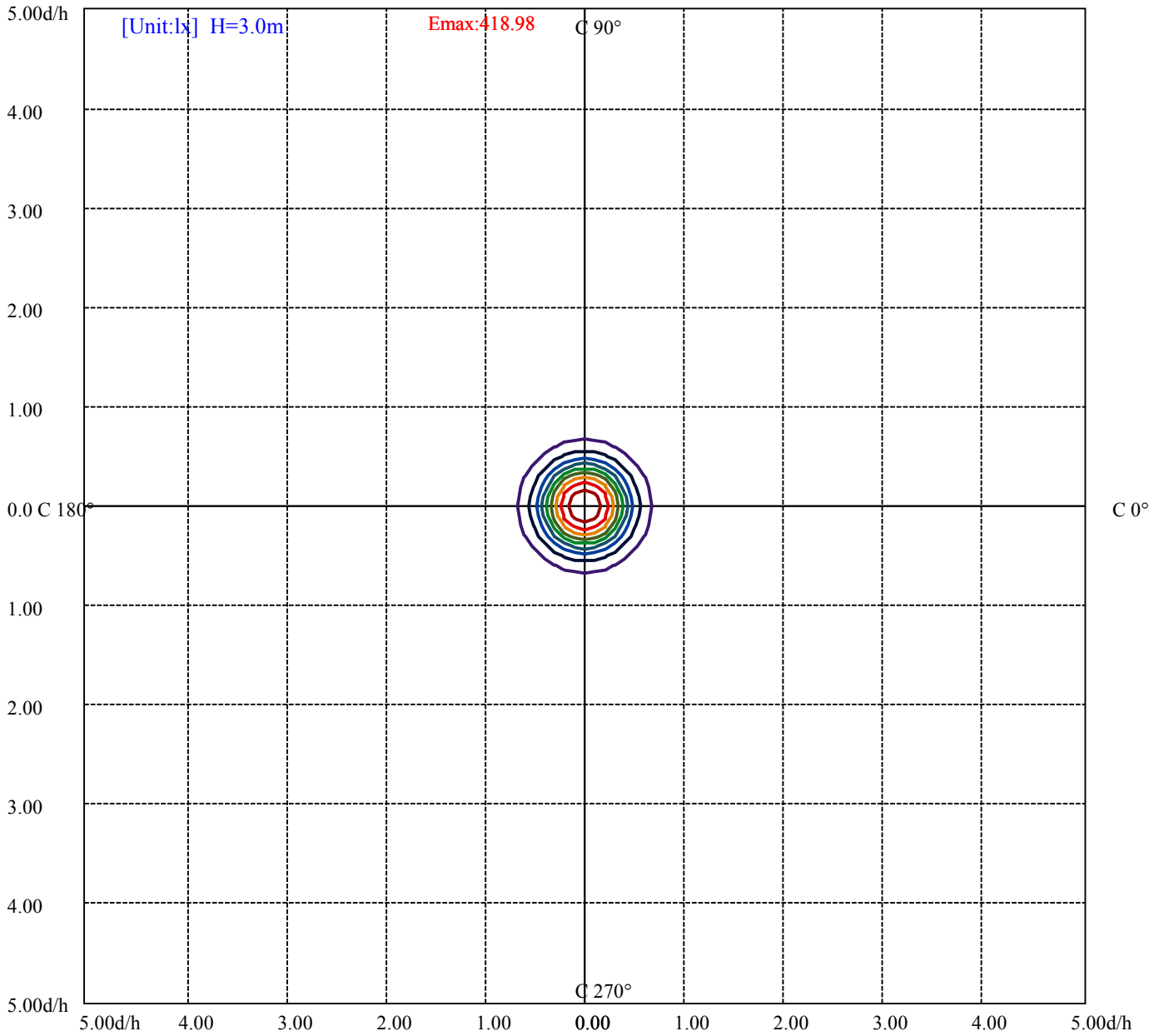
House

[Unit:cd]

Road

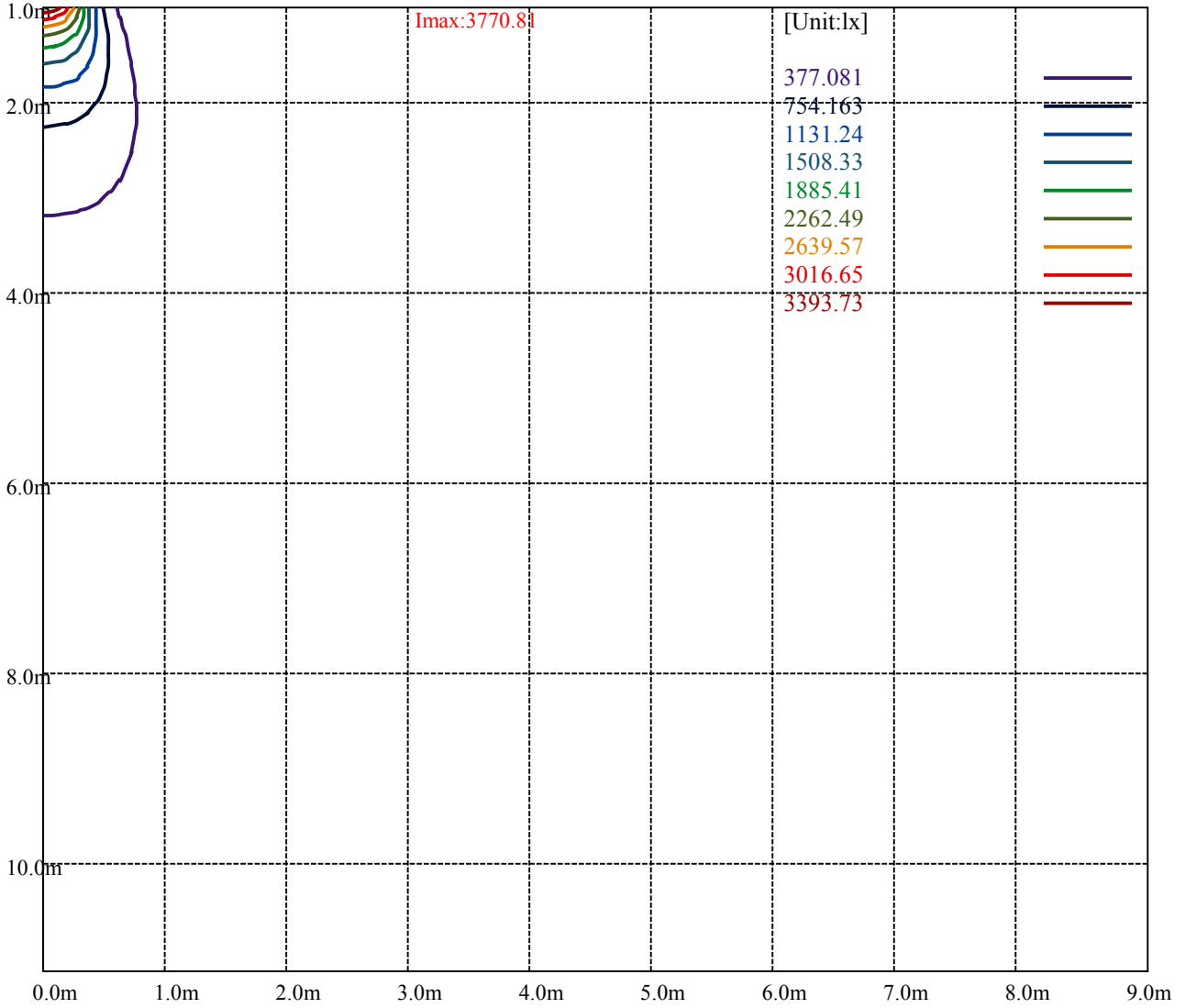
**Imax:3770.81**

(10%Imax) 377.081	—
(20%Imax) 754.163	—
(30%Imax) 1131.24	—
(40%Imax) 1508.33	—
(50%Imax) 1885.41	—
(60%Imax) 2262.49	—
(70%Imax) 2639.57	—
(80%Imax) 3016.65	—
(90%Imax) 3393.73	—



(10%Emax) 41.89789	—
(20%Emax) 83.79578	—
(30%Emax) 125.6933	—
(40%Emax) 167.5911	—
(50%Emax) 209.49	—
(60%Emax) 251.3878	—
(70%Emax) 293.2856	—
(80%Emax) 335.1833	—
(90%Emax) 377.0811	—





Luminance Table

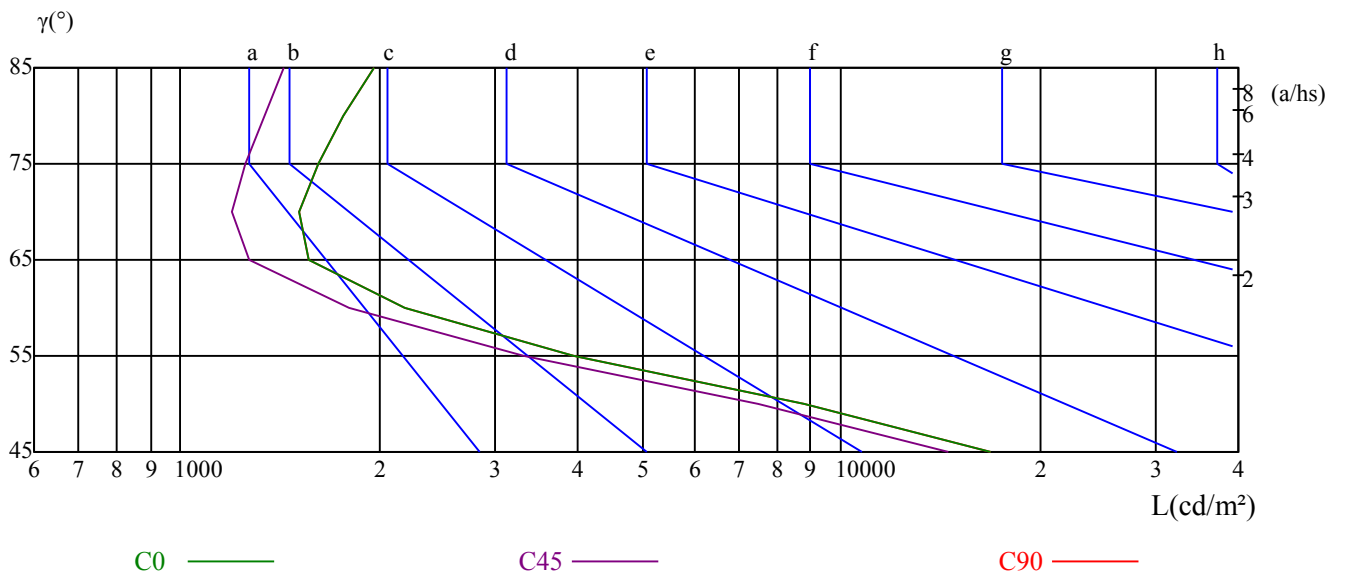
$\gamma$	45	50	55	60	65	70	75	80	85
C0	16900	8821	3953	2185	1569	1512	1619	1769	1960
C45	14572	7492	3306	1797	1268	1198	1255	1337	1437
C90	16900	8821	3953	2185	1569	1512	1619	1769	1960

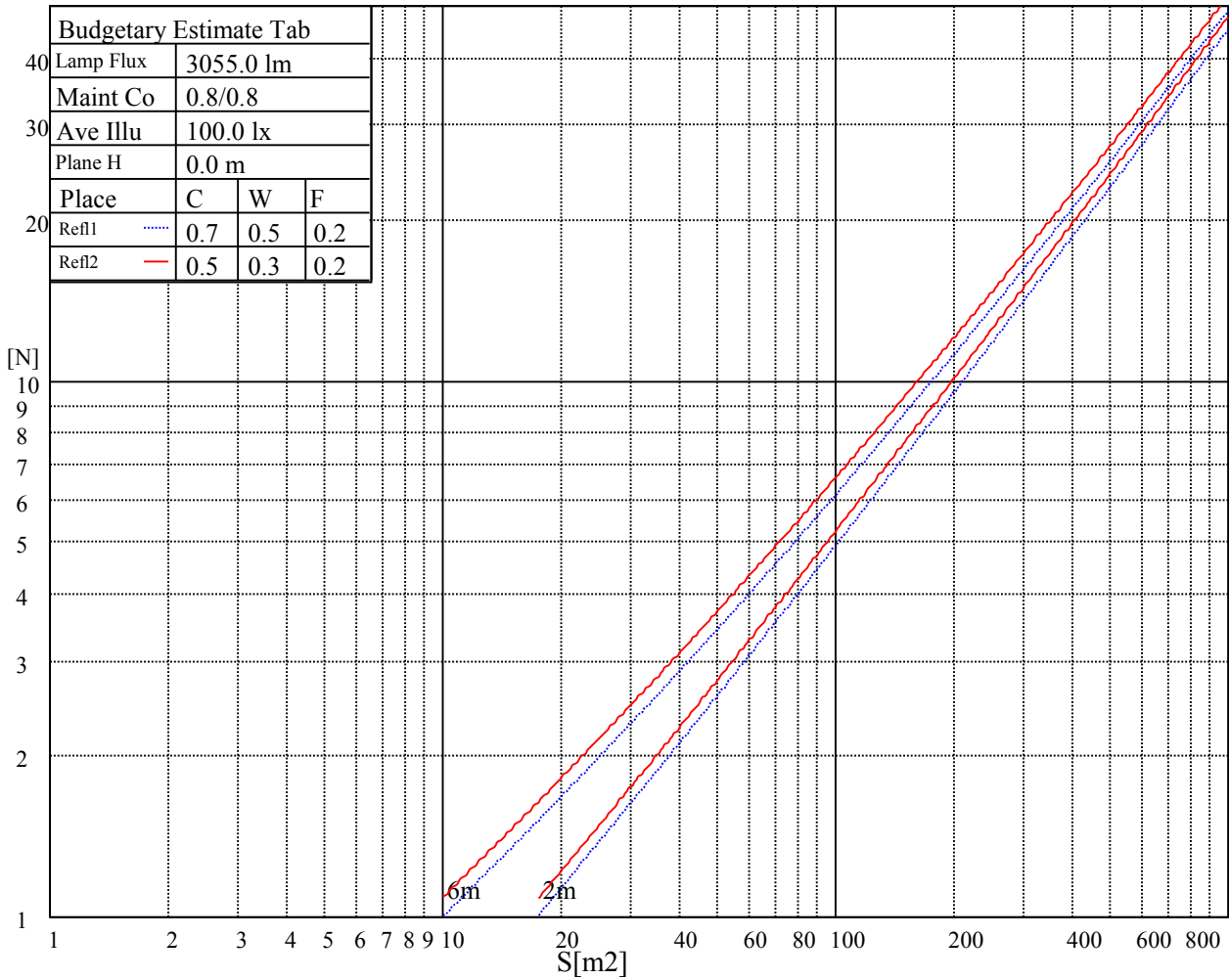
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3681	3681	3681	5414	5414	5414	16025	16025	16025

Glare Table

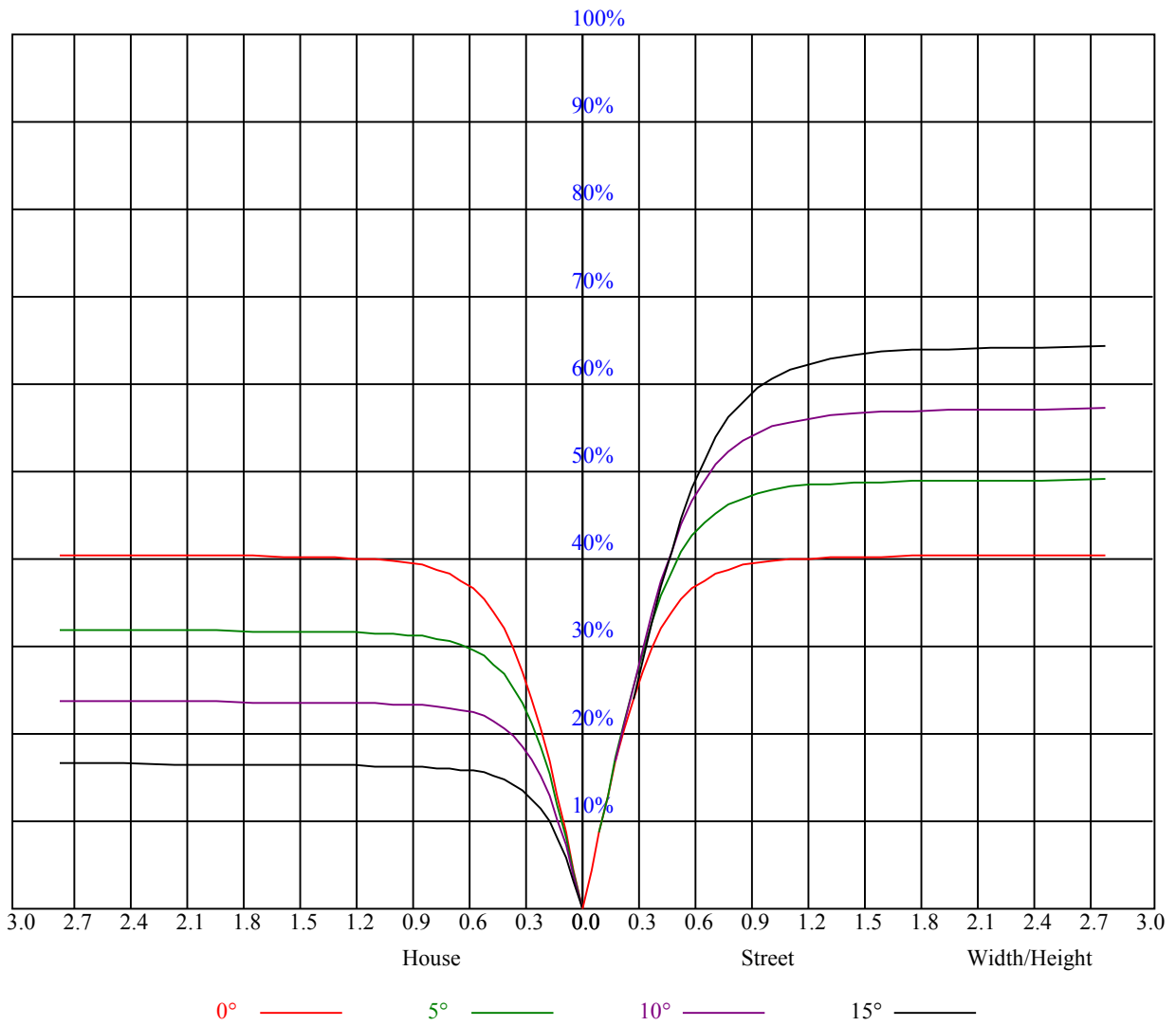
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

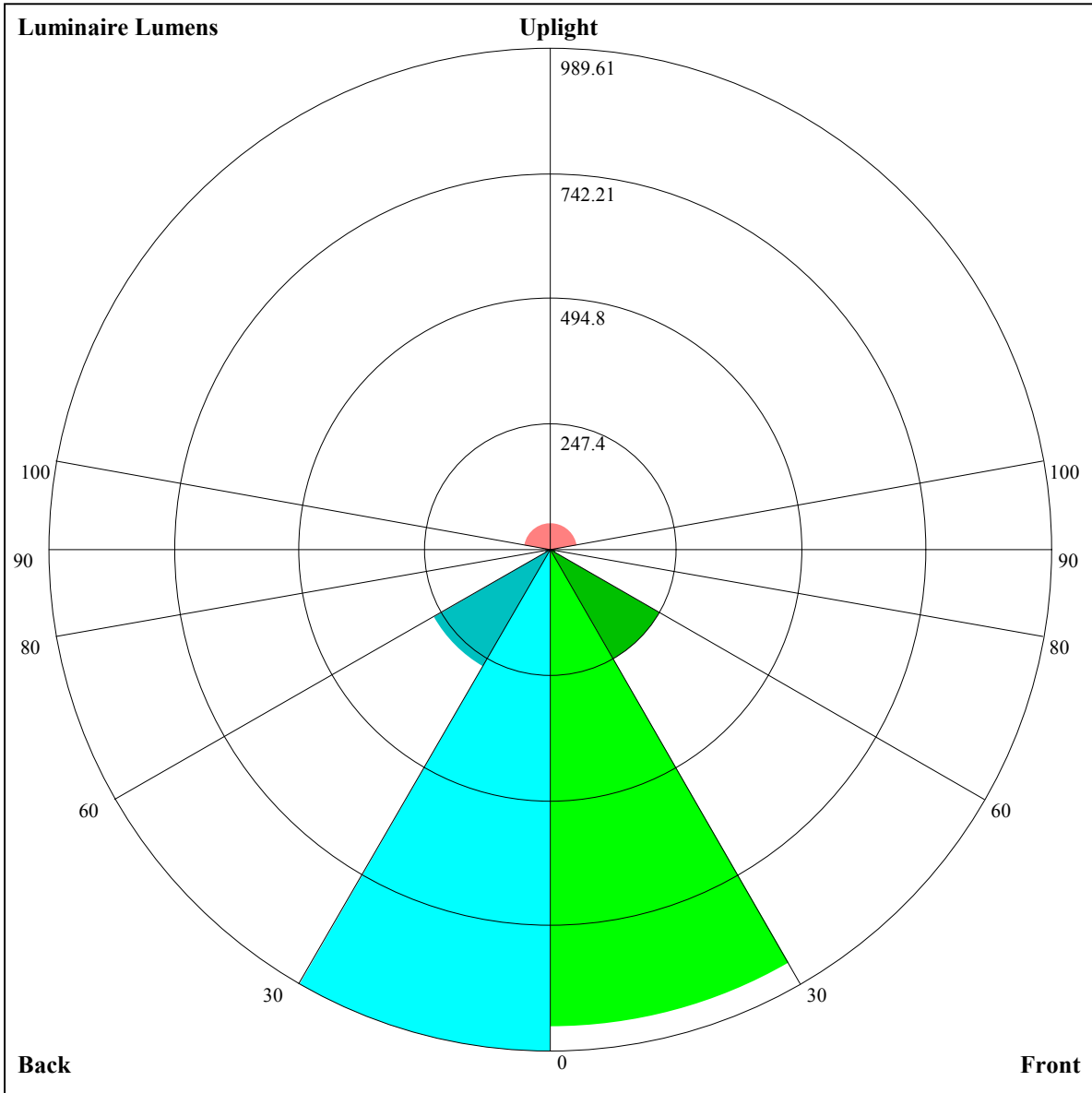
Luminance Limiting Curve





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	0.98	0.98	0.98	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.90	0.88	0.86	0.89	0.87	0.85	0.85	0.84	0.82	0.82	0.81	0.80	0.79	0.78	0.78	0.76
2	0.85	0.82	0.79	0.83	0.81	0.78	0.81	0.78	0.76	0.78	0.77	0.75	0.76	0.75	0.73	0.72
3	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.75	0.72	0.70	0.73	0.71	0.69	0.68
4	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.70	0.68	0.66	0.65
5	0.72	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.61
6	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.54	0.53
9	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.52	0.58	0.55	0.52	0.57	0.54	0.52	0.51
10	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.49





Luminaire Lumens:

FL=943.62,FM=250.35,FH=11.68,FVH=5.64

BL=989.61,BM=268.17,BH=11.79,BVH=5.58

UL=11.05,UH=52.56

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	3785.68	3719.06	3532.97	3094.17	2424.13	1580.67	937.06	547.26	308.87
45.0	3769.71	3649.69	3392.58	2904.78	2165.92	1362.65	818.69	464.13	280.24
90.0	3755.95	3655.19	3411.85	2886.06	2124.63	1256.39	785.49	443.20	248.19
135.0	3771.91	3745.49	3597.94	3174.55	2467.63	1650.04	987.71	546.16	320.43
180.0	3785.68	3803.30	3651.89	3182.26	2467.08	1593.88	921.53	528.98	295.87
225.0	3769.71	3809.90	3724.57	3345.78	2686.75	1835.03	1071.18	609.69	366.18
270.0	3755.95	3793.39	3730.07	3376.06	2724.19	1835.58	1130.31	629.85	366.68
315.0	3771.91	3745.49	3537.37	3087.56	2357.52	1507.44	914.87	515.16	286.13
360.0	3785.68	3719.06	3532.97	3094.17	2424.13	1580.67	937.06	547.26	308.87

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	142.93	73.89	31.88	17.01	11.62	10.41	10.35	10.41	10.52
45.0	115.07	59.90	25.00	14.70	10.90	10.41	10.41	10.41	10.30
90.0	117.71	59.68	24.61	14.81	10.74	10.35	10.30	10.35	10.24
135.0	147.06	75.43	33.91	17.40	11.56	10.41	10.30	10.24	10.30
180.0	137.37	72.78	30.45	16.35	11.18	10.24	10.19	10.13	10.19
225.0	172.05	86.33	40.03	19.10	12.11	10.41	10.30	10.35	10.24
270.0	179.81	89.74	40.03	19.88	12.44	10.63	10.57	10.41	10.30
315.0	139.02	68.77	28.57	15.69	11.51	10.57	10.52	10.63	10.57
360.0	142.93	73.89	31.88	17.01	11.62	10.41	10.35	10.41	10.52

C/γ(°)	90.0
0.0	10.08
45.0	10.13
90.0	10.13
135.0	10.13
180.0	10.08
225.0	10.13
270.0	10.19
315.0	10.13
360.0	10.08