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Nata

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Client:

LumCAT: 3-1700-N

Luminaire: 92.70.065.00+92.70.089.00

Report No: nata0100

Voltage(V): 35.1000

Test No: GC2018052101

Current(A): 0.4000

LampCAT: LUMINUS CHM-9 XH20

Power (W): 14.0400

Lamp flux(lm): 1576.5

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 77

Width(mm): 77

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 1240.42, Efficiency(%): 78.68% , Luminous Efficacy(lm/W): 88.35

Central intensity(cd): 2801.270, Maximum intensity(cd): 2801.270

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

Beam Angle(50%Imax): [C0/180]Total=36.2

[C90/270]Total=36.2

Field angle(10%Imax): [C0/180]Total=62.0

[C90/270]Total=62.0

Maximum s/h(1/2): C0\_180=0.61 C90\_270=0.61

Maximum s/h(1/4): C0\_180=0.57 C90\_270=0.57

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.67%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.014%

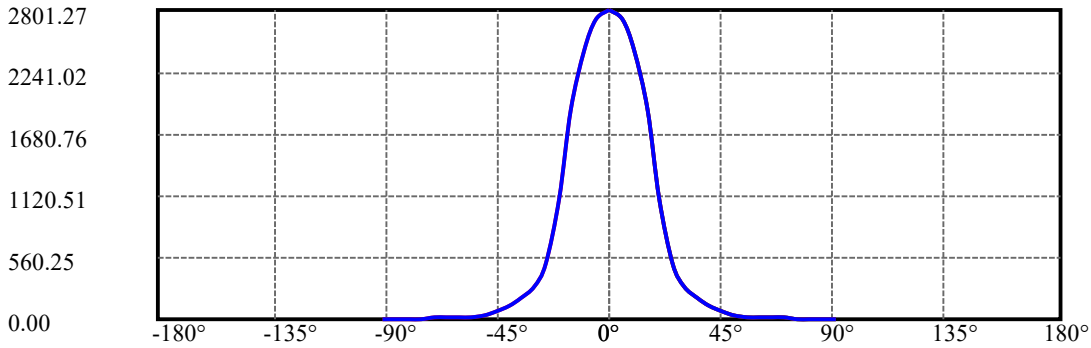
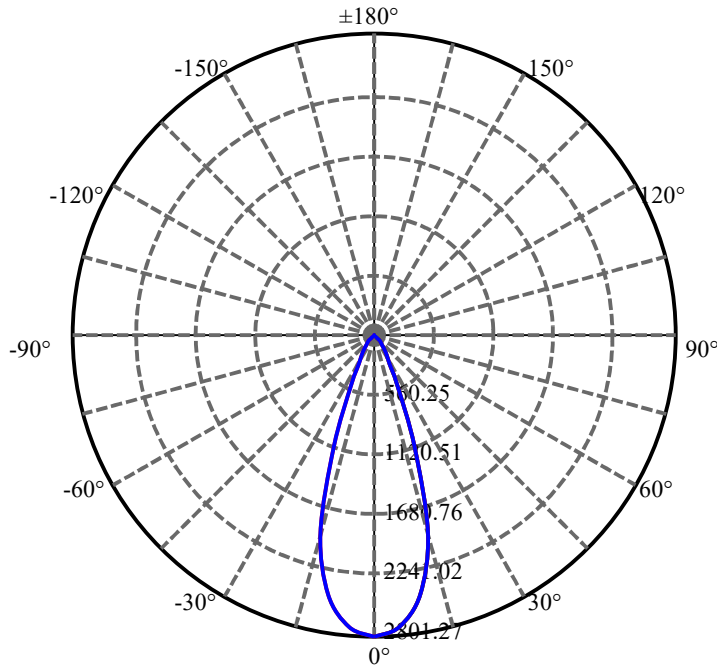
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2801.270	16.752	16.752	1.063%	1.351%
5.0	2715.657	129.736	146.488	8.229%	11.810%
10.0	2441.958	232.433	378.921	14.744%	30.548%
15.0	1897.312	269.169	648.09	17.074%	52.248%
20.0	1094.273	205.148	853.238	13.013%	68.786%
25.0	508.528	117.802	971.04	7.472%	78.283%
30.0	300.539	82.368	1053.408	5.225%	84.924%
35.0	193.537	60.848	1114.256	3.860%	89.829%
40.0	116.609	41.086	1155.342	2.606%	93.141%
45.0	70.603	27.365	1182.707	1.736%	95.348%
50.0	42.669	17.916	1200.623	1.136%	96.792%
55.0	24.301	10.911	1211.534	.692%	97.672%
60.0	14.645	6.952	1218.486	.441%	98.232%
65.0	10.674	5.303	1223.789	.336%	98.660%
70.0	8.954	4.612	1228.401	.293%	99.031%
75.0	7.625	4.037	1232.438	.256%	99.357%
80.0	6.579	3.552	1235.99	.225%	99.643%
85.0	5.623	3.070	1239.06	.195%	99.891%
90.0	4.948	1.356	1240.416	.086%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1053.41	66.82%	84.92%
0-40	1155.34	73.29%	93.14%
0-60	1218.49	77.29%	98.23%
0-90	1239.06	78.60%	99.89%
0-120	1239.06	78.60%	99.89%
0-180	1240.42	78.68%	100.00%
60-90	27.53	1.75%	2.22%
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%
0-26.29	992.33	62.95%	80.00%

ZONAL LUMEN SUMMARY

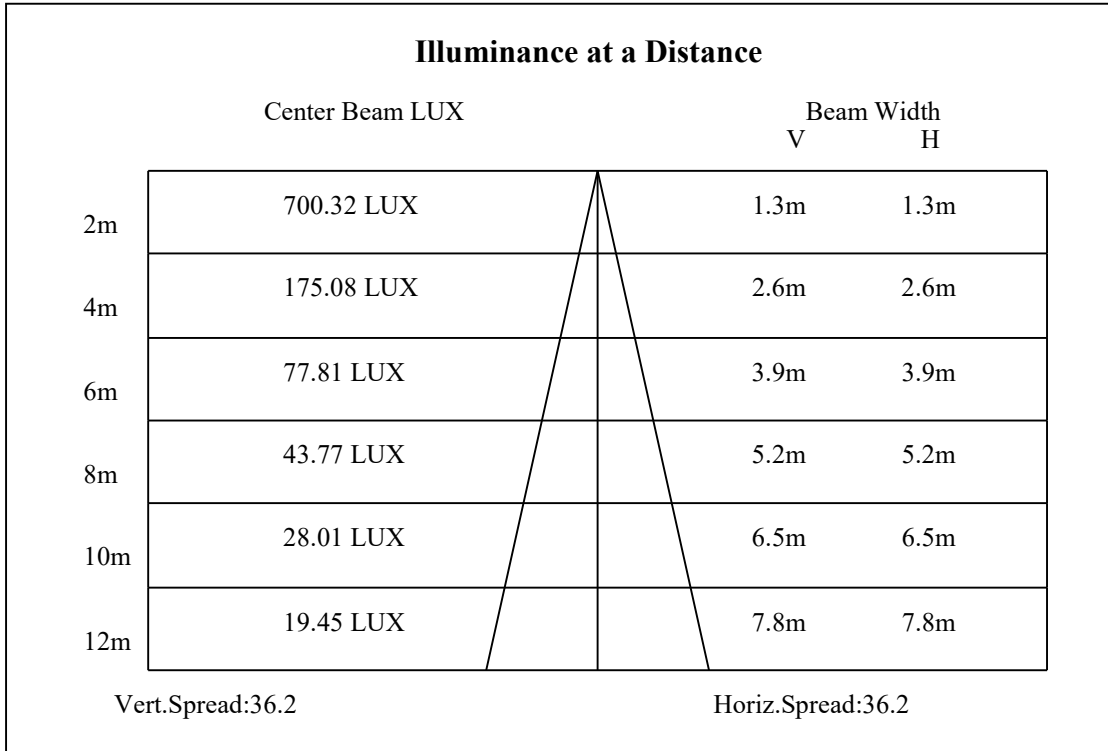
0-10	378.92
10-20	474.32
20-30	200.17
30-40	101.93
40-50	45.28
50-60	17.86
60-70	9.91
70-80	7.59
80-90	3.07
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

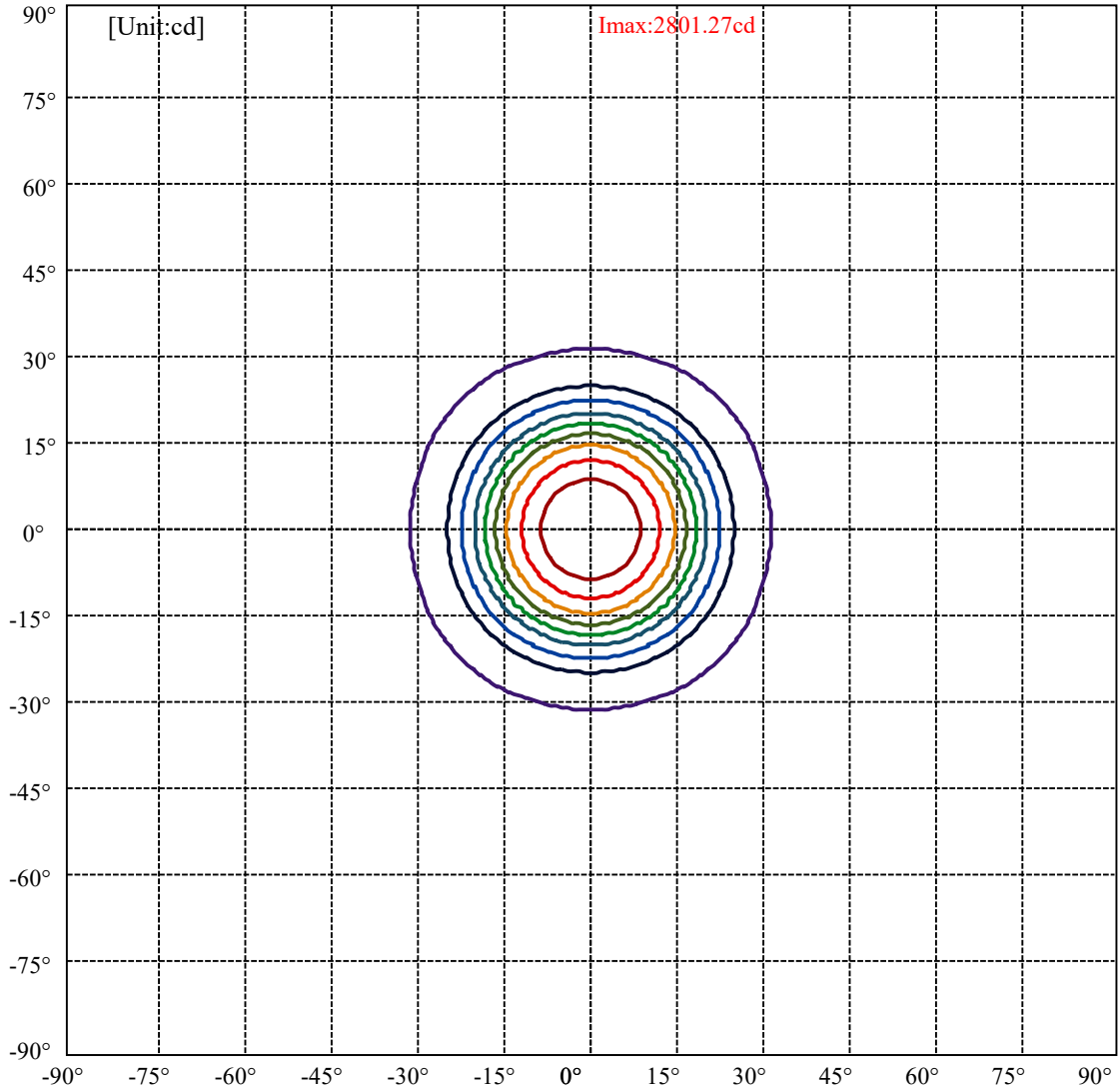


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

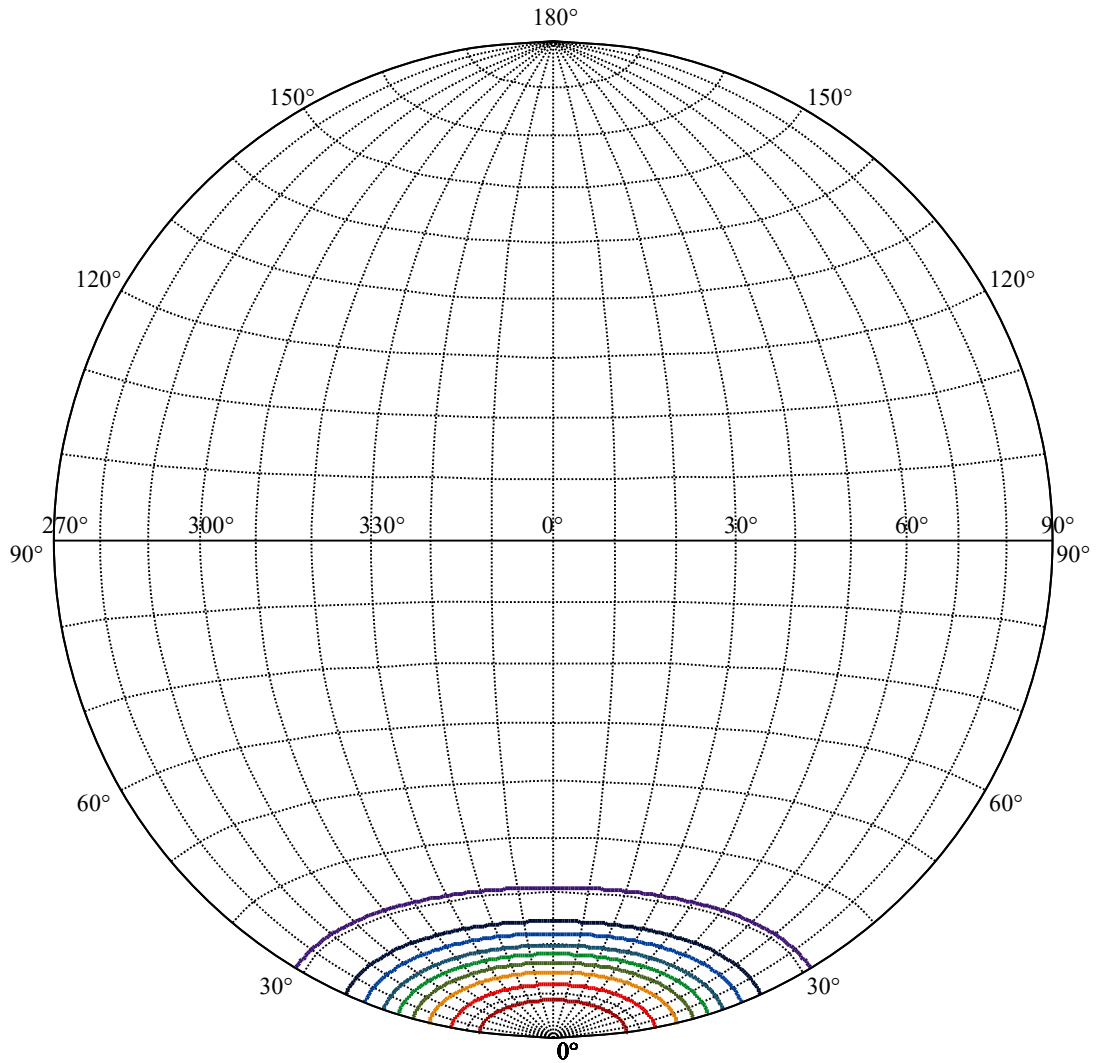
Field angle(10%Imax):C0/180Left:31.0 Right:31.0  
:C90/270Left:31.0 Right:31.0

Beam Angle(50%Imax):C0/180Left:18.1 Right:18.1  
:C90/270Left:18.1 Right:18.1





(10%Imax) 280.127	—
(20%Imax) 560.254	—
(30%Imax) 840.381	—
(40%Imax) 1120.51	—
(50%Imax) 1400.64	—
(60%Imax) 1680.76	—
(70%Imax) 1960.89	—
(80%Imax) 2241.02	—
(90%Imax) 2521.14	—



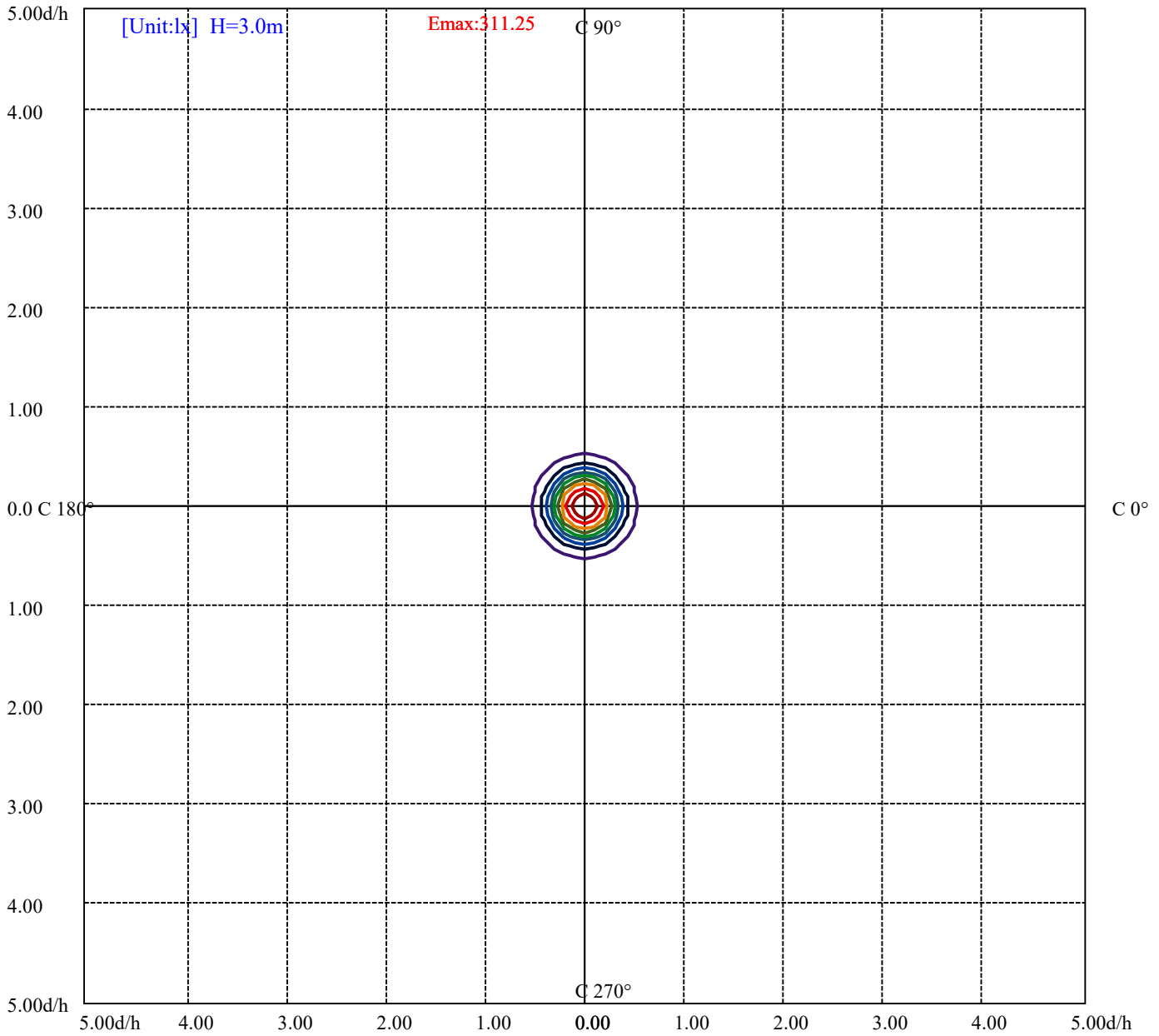
House

[Unit:cd]

Road

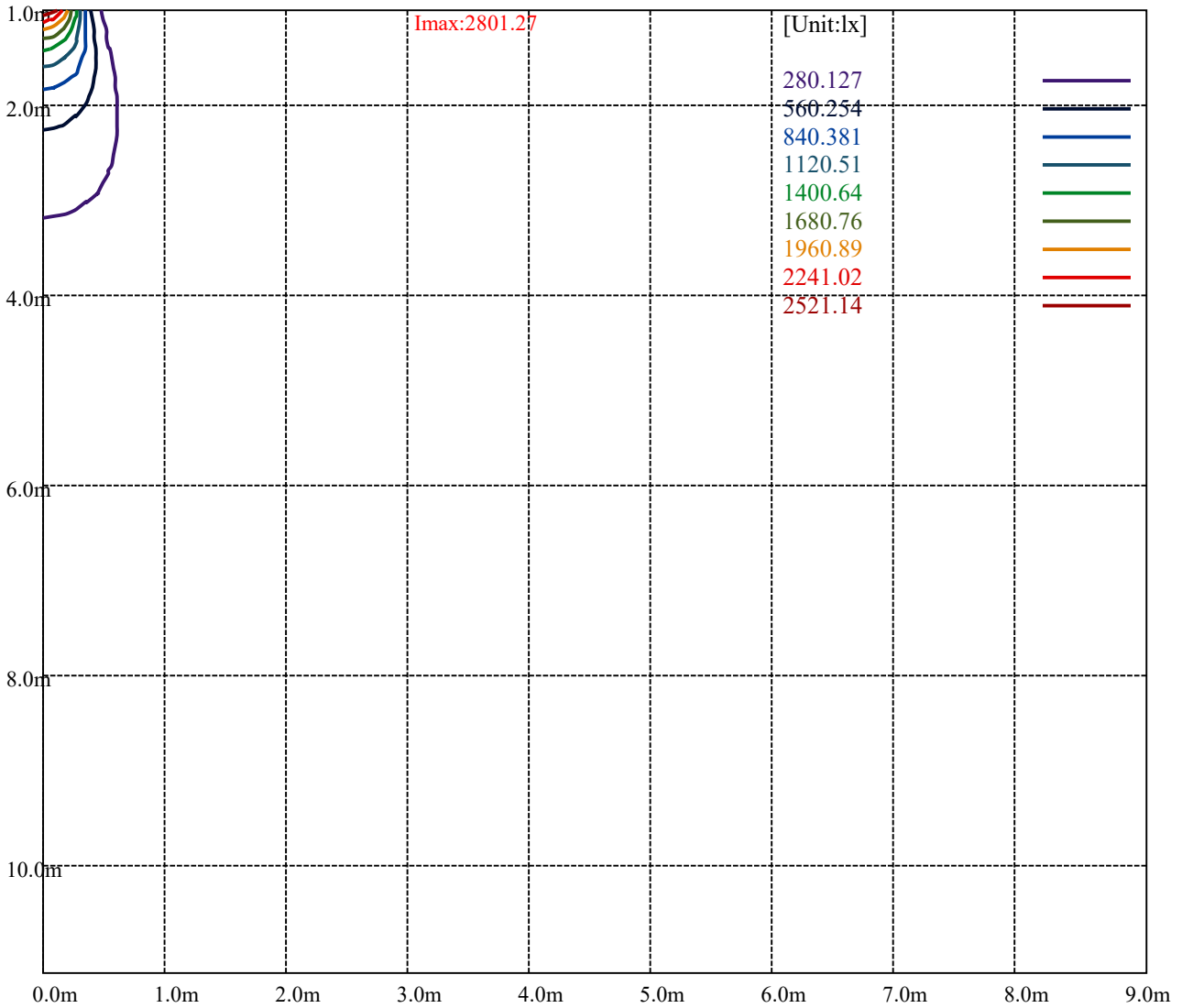
**Imax:2801.27**

(10%Imax) 280.127	—
(20%Imax) 560.254	—
(30%Imax) 840.381	—
(40%Imax) 1120.51	—
(50%Imax) 1400.64	—
(60%Imax) 1680.76	—
(70%Imax) 1960.89	—
(80%Imax) 2241.02	—
(90%Imax) 2521.14	—



- (10%Emax) 31.12522
- (20%Emax) 62.25033
- (30%Emax) 93.37556
- (40%Emax) 124.5011
- (50%Emax) 155.6255
- (60%Emax) 186.7511
- (70%Emax) 217.8767
- (80%Emax) 249.0011
- (90%Emax) 280.1266





Luminance Table

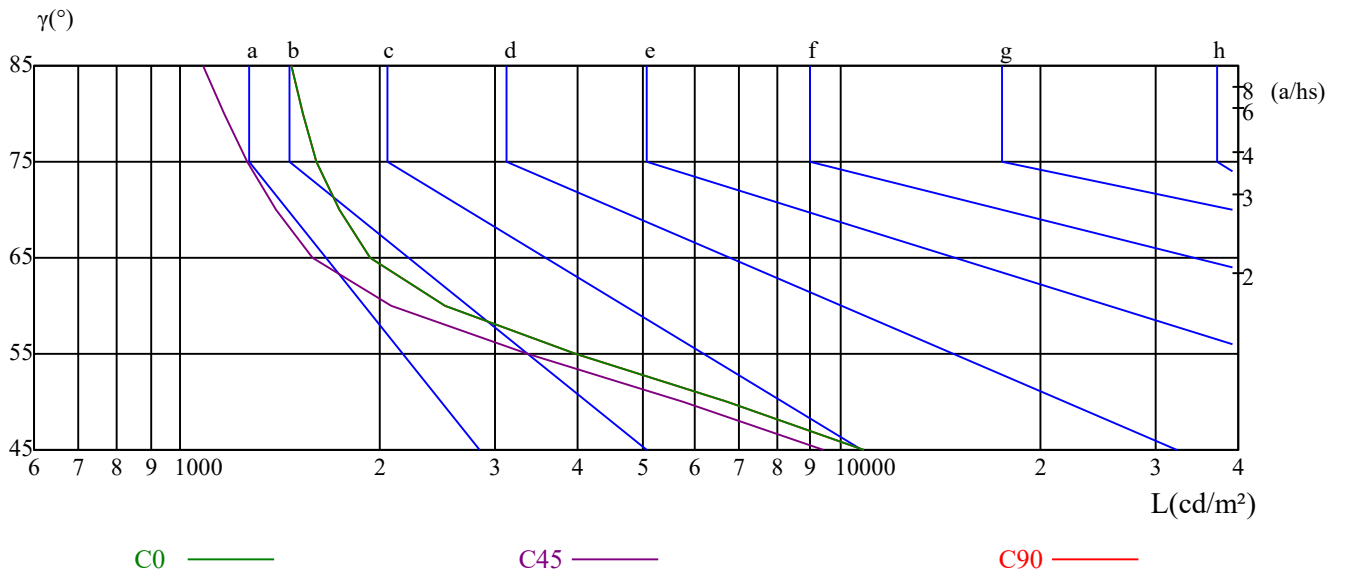
$\gamma$	45	50	55	60	65	70	75	80	85
C0	10806	6722	3975	2511	1938	1742	1611	1534	1474
C45	9409	5768	3358	2086	1581	1393	1259	1166	1085
C90	10806	6722	3975	2511	1938	1742	1611	1534	1474

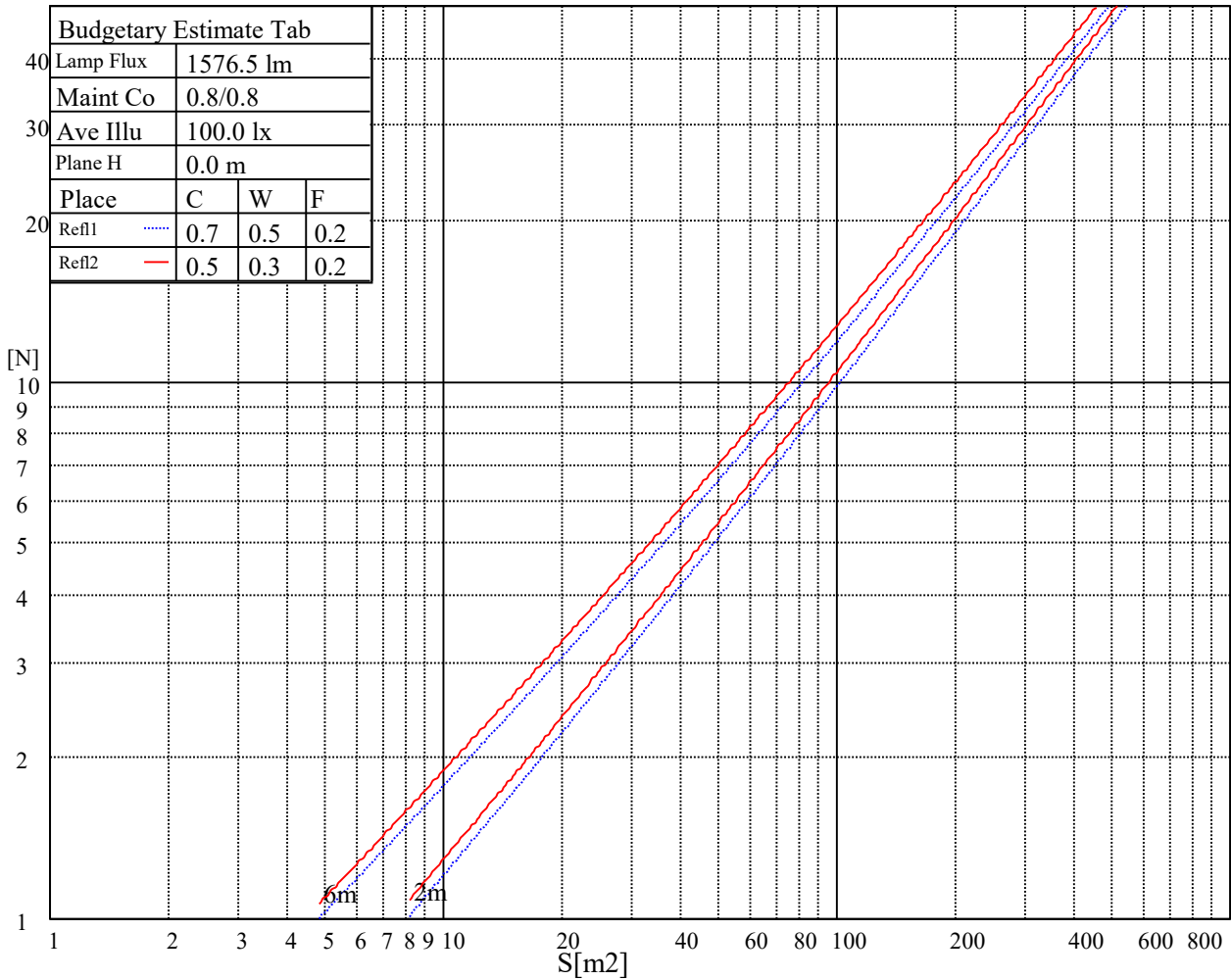
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4260	4260	4260	4969	4969	4969	10881	10881	10881

Glare Table

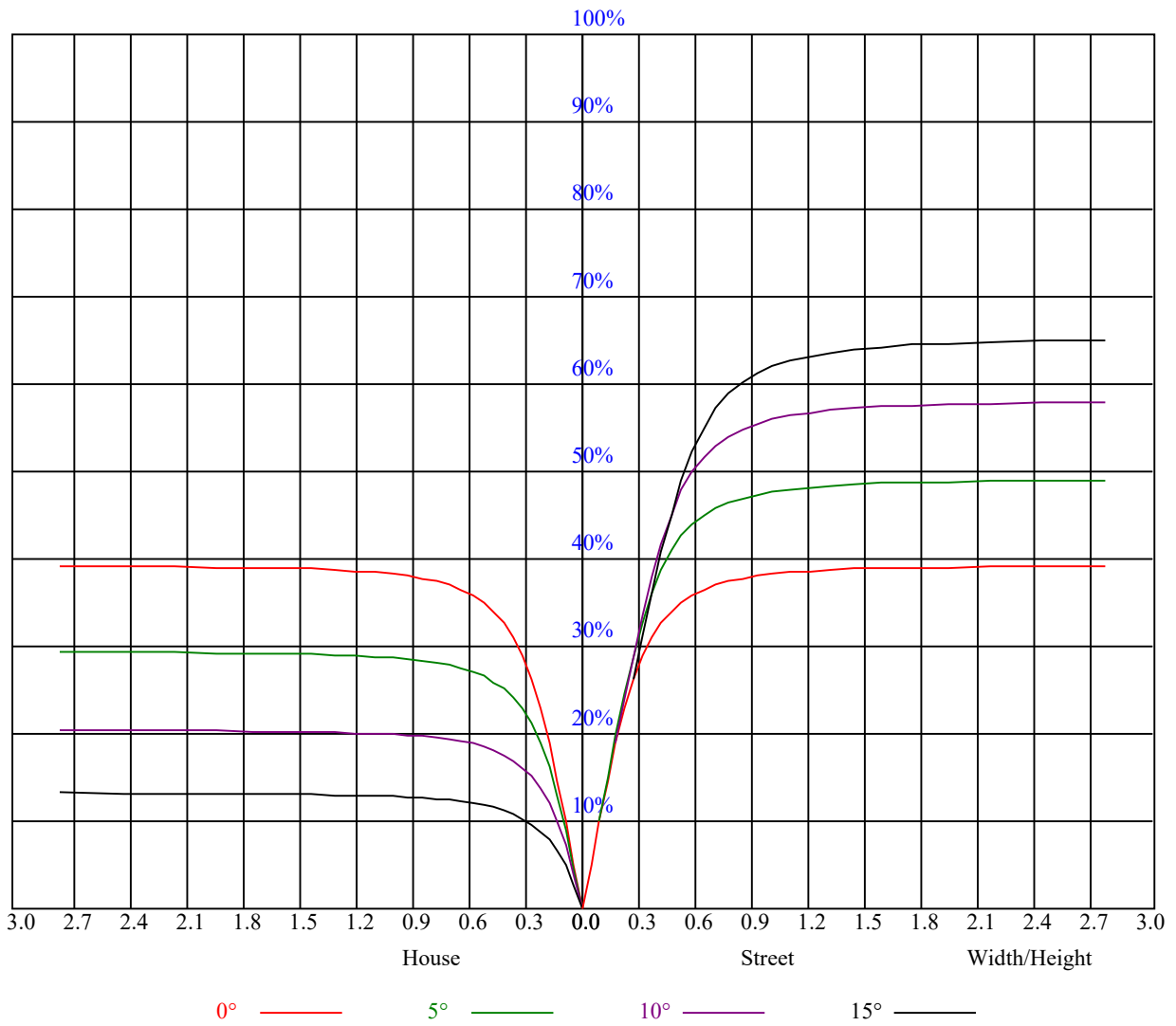
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

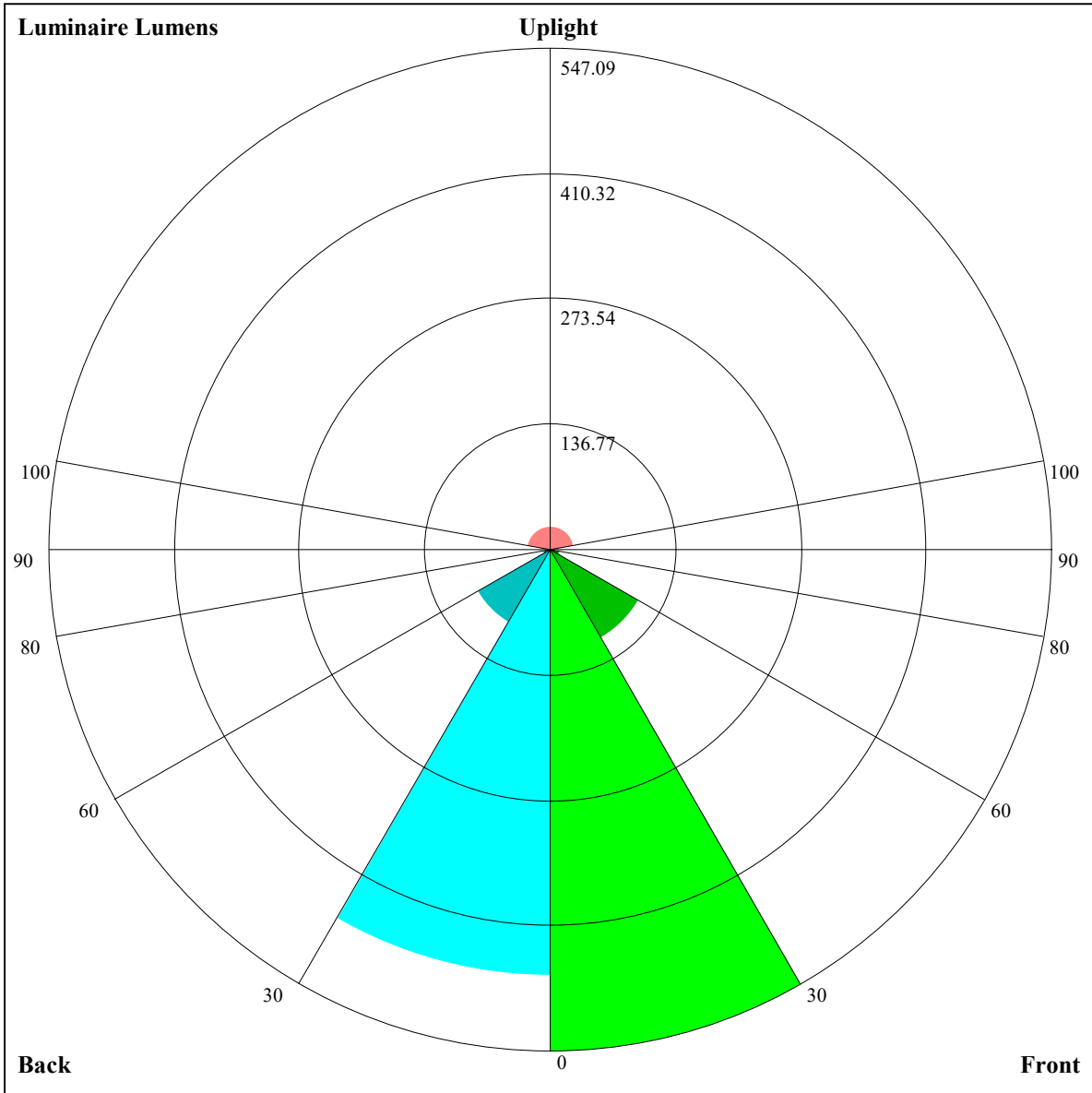
Luminance Limiting Curve





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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.80
1	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.81	0.80	0.80	0.79	0.77	0.77	0.76	0.75	0.74
2	0.83	0.80	0.77	0.81	0.79	0.76	0.79	0.77	0.75	0.76	0.75	0.73	0.74	0.73	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.67
4	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
6	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.65	0.63	0.60	0.65	0.62	0.60	0.59
7	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.57
8	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55
9	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.53
10	0.59	0.55	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.57	0.54	0.52	0.57	0.54	0.52	0.51





Luminaire Lumens:

FL=547.09,FM=111.92,FH=9.99,FVH=3.18

BL=465.02,BM=91.78,BH=9.25,BVH=3.03

UL=5.4,UH=25.69

BUG Rating:B1-U2-G0

Nata 3-1700-N

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	2796.87	2790.26	2609.12	2242.45	1583.97	697.56	368.33	247.81	141.55
45.0	2805.12	2772.64	2587.10	2223.73	1570.21	692.06	374.38	281.34	144.25
90.0	2798.52	2703.27	2478.64	2006.26	1066.72	528.21	314.43	191.76	124.26
135.0	2804.57	2699.97	2457.17	1930.83	1031.21	486.70	298.41	181.91	116.88
180.0	2796.87	2634.45	2250.71	1349.98	704.61	368.00	232.34	147.33	92.33
225.0	2805.12	2666.93	2281.54	1552.59	729.77	374.22	239.28	149.75	92.60
270.0	2798.52	2718.69	2421.38	1906.60	972.30	445.41	280.24	169.46	107.75
315.0	2804.57	2739.06	2450.01	1966.06	1095.40	476.07	296.92	178.93	113.25
360.0	2796.87	2790.26	2609.12	2242.45	1583.97	697.56	368.33	247.81	141.55

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	86.55	54.73	31.11	18.00	11.73	9.69	8.20	7.10	6.00
45.0	86.22	53.74	29.95	17.29	11.67	9.52	8.09	7.05	6.06
90.0	75.37	44.76	25.00	14.81	10.79	9.08	7.76	6.72	5.89
135.0	69.37	41.18	23.67	13.82	10.52	8.81	7.60	6.55	5.56
180.0	54.78	33.20	18.44	12.22	9.86	8.42	7.16	6.11	5.23
225.0	55.39	31.71	18.94	12.22	9.74	8.42	7.16	6.11	5.23
270.0	67.17	40.36	23.18	14.37	10.52	8.81	7.49	6.44	5.40
315.0	69.98	41.68	24.11	14.42	10.57	8.86	7.54	6.55	5.62
360.0	86.55	54.73	31.11	18.00	11.73	9.69	8.20	7.10	6.00

C/γ(°)	90.0
0.0	5.07
45.0	5.01
90.0	4.90
135.0	4.90
180.0	4.96
225.0	4.96
270.0	4.90
315.0	4.90
360.0	5.07