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NATA

Client:

LumCAT: 1689-M

Luminaire: 92.70.127.00

Report No: nt0100

Test No: GC2020011018

LampCAT: LUMINUS CLM-9-AA40

Lamp flux(lm): 1442.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.5700

Current(A): 0.3490

Power (W): 12.0700

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1327.38, Efficiency(%): 92.05% , Luminous Efficacy(lm/W): 109.97

Central intensity(cd): 1135.997, Maximum intensity(cd): 1135.997

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=71.2

[C90/270]Total=71.2

Field angle(10%Imax): [C0/180]Total=95.2

[C90/270]Total=95.2

Maximum s/h(1/2): C0_180=1.01 C90_270=1.01

Maximum s/h(1/4): C0_180=1.04 C90_270=1.04

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.05%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.609%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/10
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

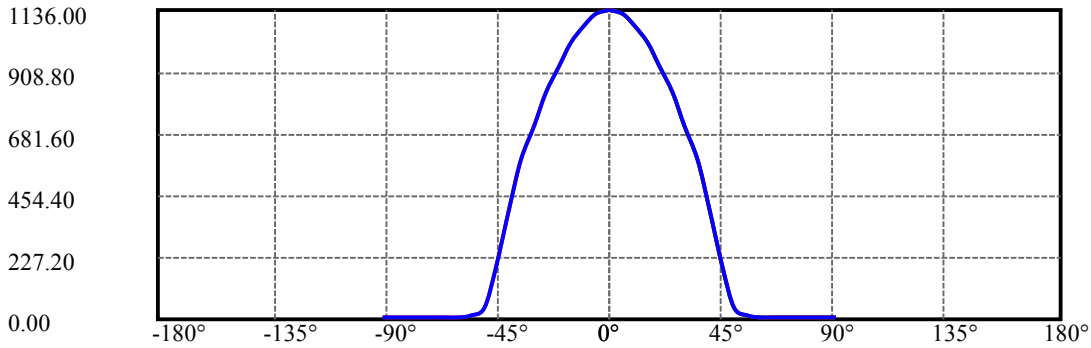
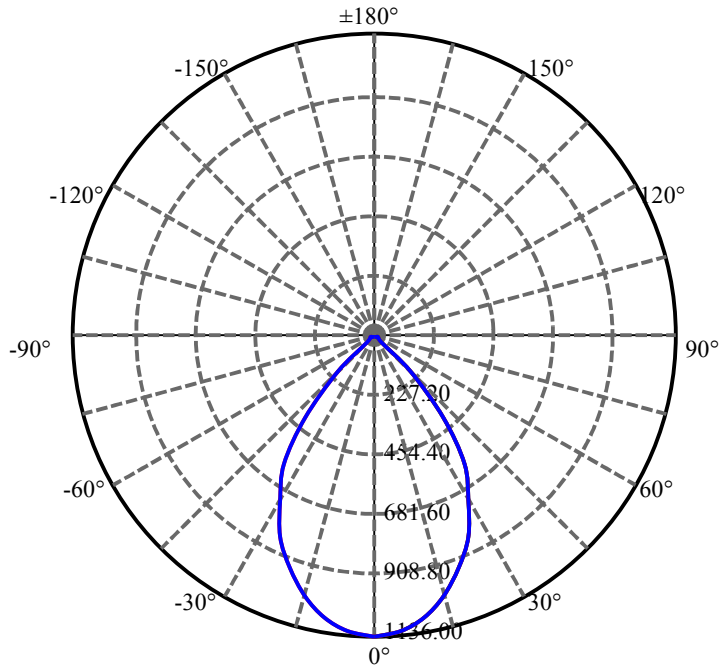
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1135.997	0.000	0	.000%	.000%
5.0	1121.681	26.990	26.99	1.872%	2.033%
10.0	1082.742	78.859	105.849	5.469%	7.974%
15.0	1017.942	124.611	230.46	8.642%	17.362%
20.0	934.868	160.939	391.399	11.161%	29.487%
25.0	834.616	185.586	576.985	12.870%	43.468%
30.0	715.613	196.183	773.168	13.605%	58.248%
35.0	587.735	191.927	965.095	13.310%	72.707%
40.0	409.859	166.441	1131.536	11.542%	85.246%
45.0	193.170	111.656	1243.192	7.743%	93.658%
50.0	40.739	47.265	1290.456	3.278%	97.219%
55.0	16.355	12.414	1302.871	.861%	98.154%
60.0	9.809	6.048	1308.918	.419%	98.609%
65.0	6.884	4.058	1312.976	.281%	98.915%
70.0	5.780	3.206	1316.182	.222%	99.157%
75.0	5.302	2.896	1319.079	.201%	99.375%
80.0	5.084	2.779	1321.858	.193%	99.584%
85.0	5.055	2.755	1324.613	.191%	99.792%
90.0	5.041	2.765	1327.377	.192%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	773.17	53.62%	58.25%
0-40	1131.54	78.47%	85.25%
0-60	1308.92	90.77%	98.61%
0-90	1324.61	91.86%	99.79%
0-120	1324.61	91.86%	99.79%
0-180	1327.38	92.05%	100.00%
60-90	21.74	1.51%	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%
0-37.91	1061.90	73.64%	80.00%

ZONAL LUMEN SUMMARY

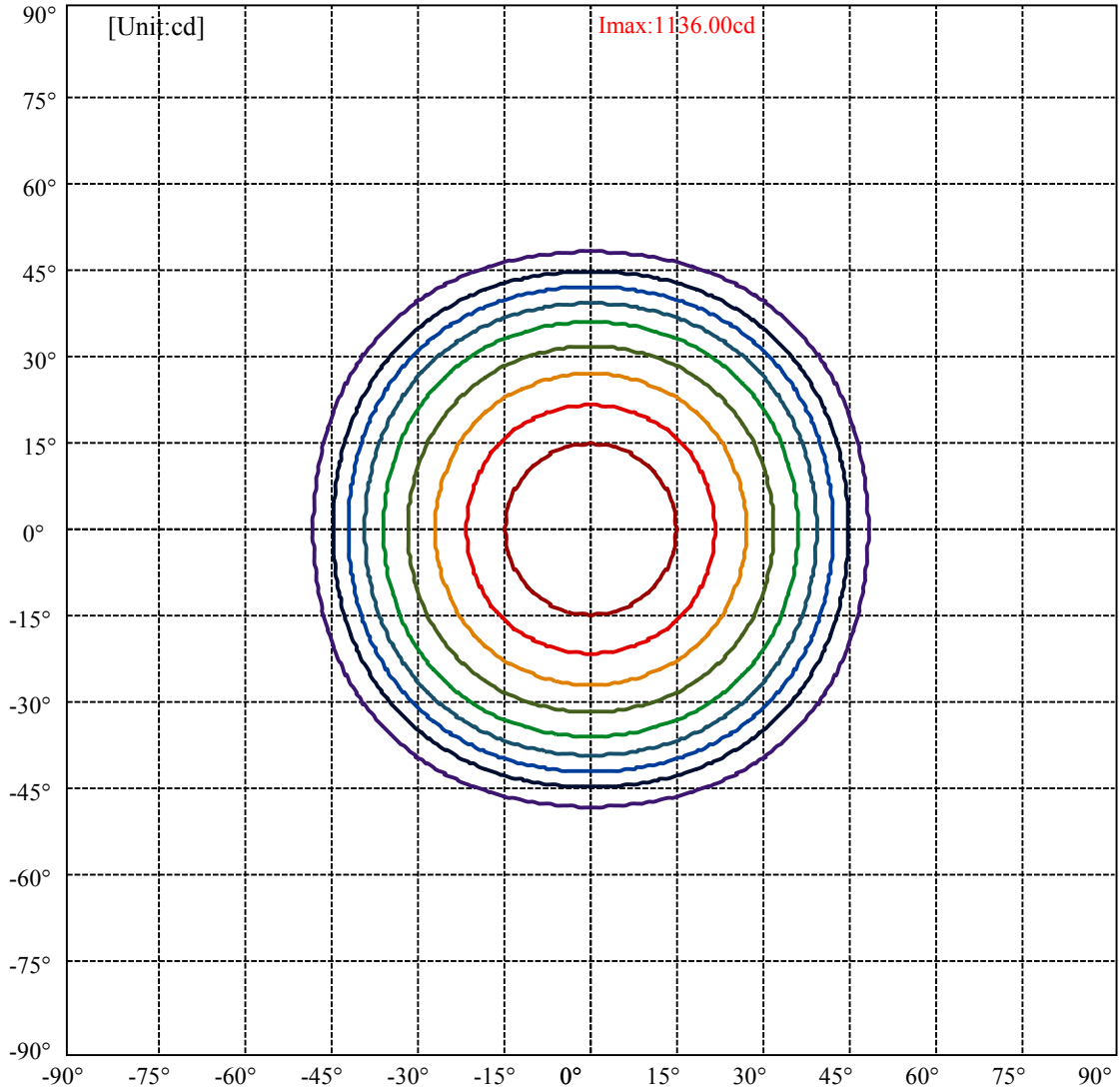
0-10	105.85
10-20	285.55
20-30	381.77
30-40	358.37
40-50	158.92
50-60	18.46
60-70	7.26
70-80	5.68
80-90	2.76
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



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

Field angle(10%Imax):C0/180Left:47.6 Right:47.6
:C90/270Left:47.6 Right:47.6

Beam Angle(50%Imax):C0/180Left:35.6 Right:35.6
:C90/270Left:35.6 Right:35.6

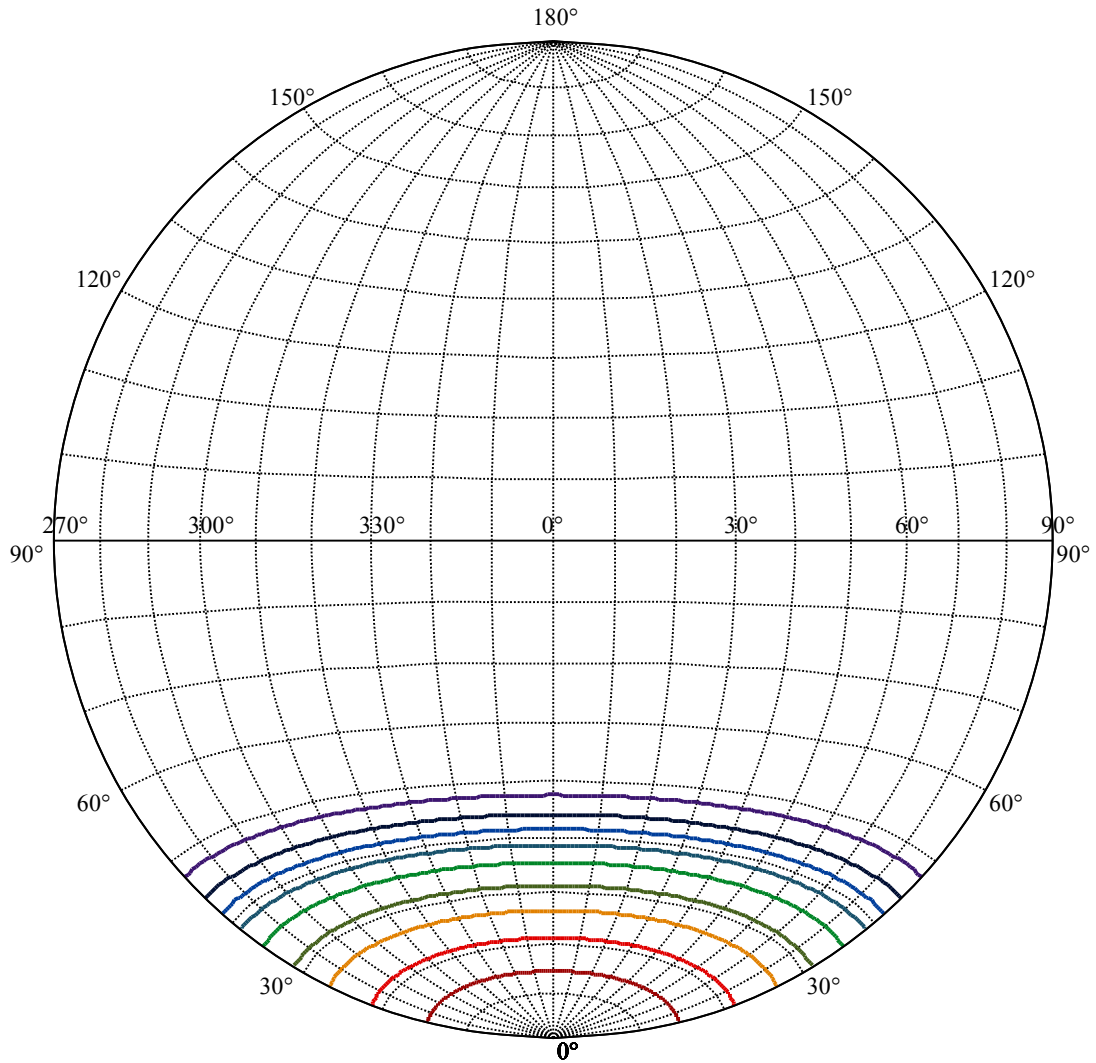


(10%Imax) 113.6	—
(20%Imax) 227.199	—
(30%Imax) 340.799	—
(40%Imax) 454.399	—
(50%Imax) 567.998	—
(60%Imax) 681.598	—
(70%Imax) 795.198	—
(80%Imax) 908.797	—
(90%Imax) 1022.4	—

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/10
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50












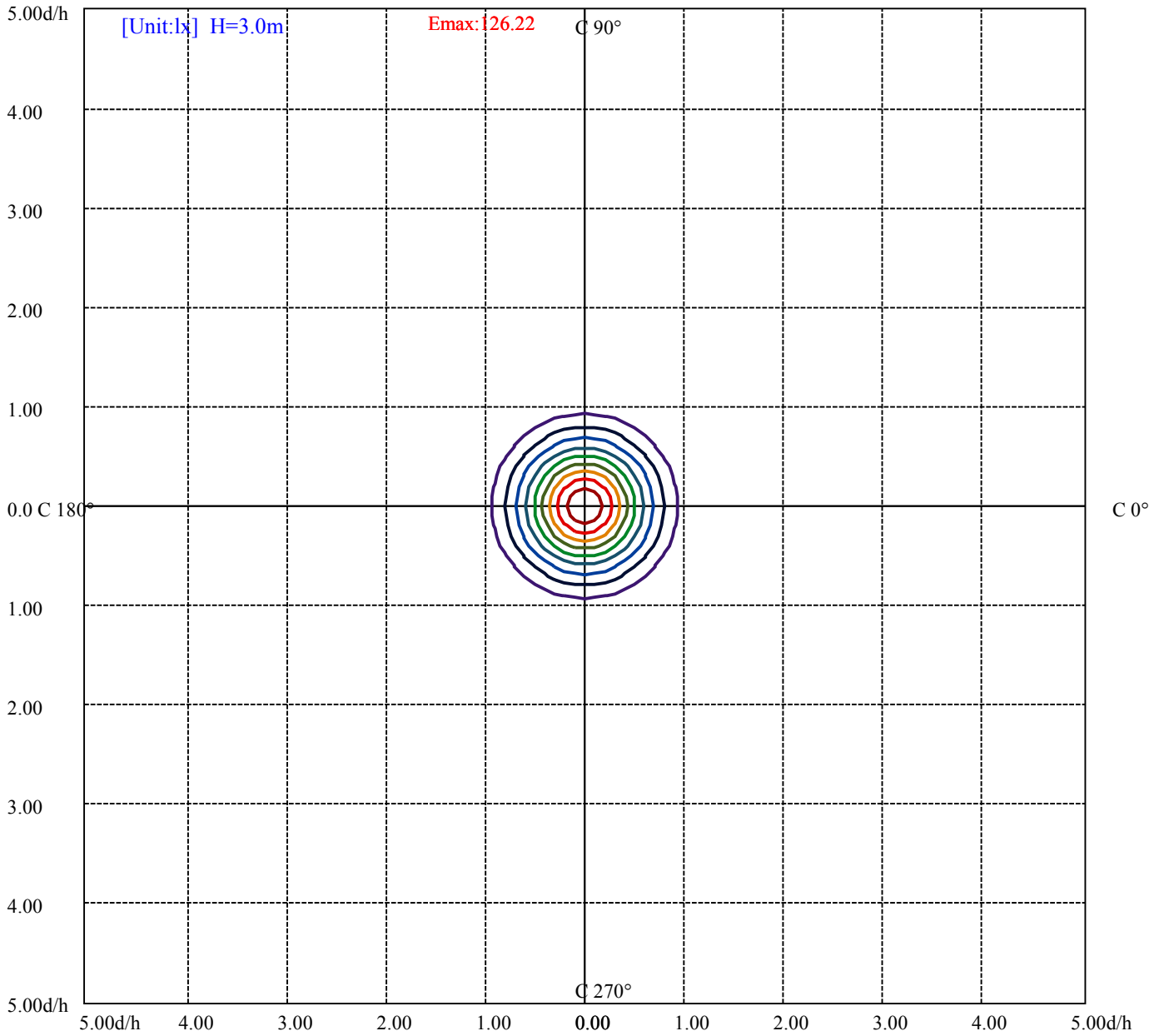
House

[Unit:cd]

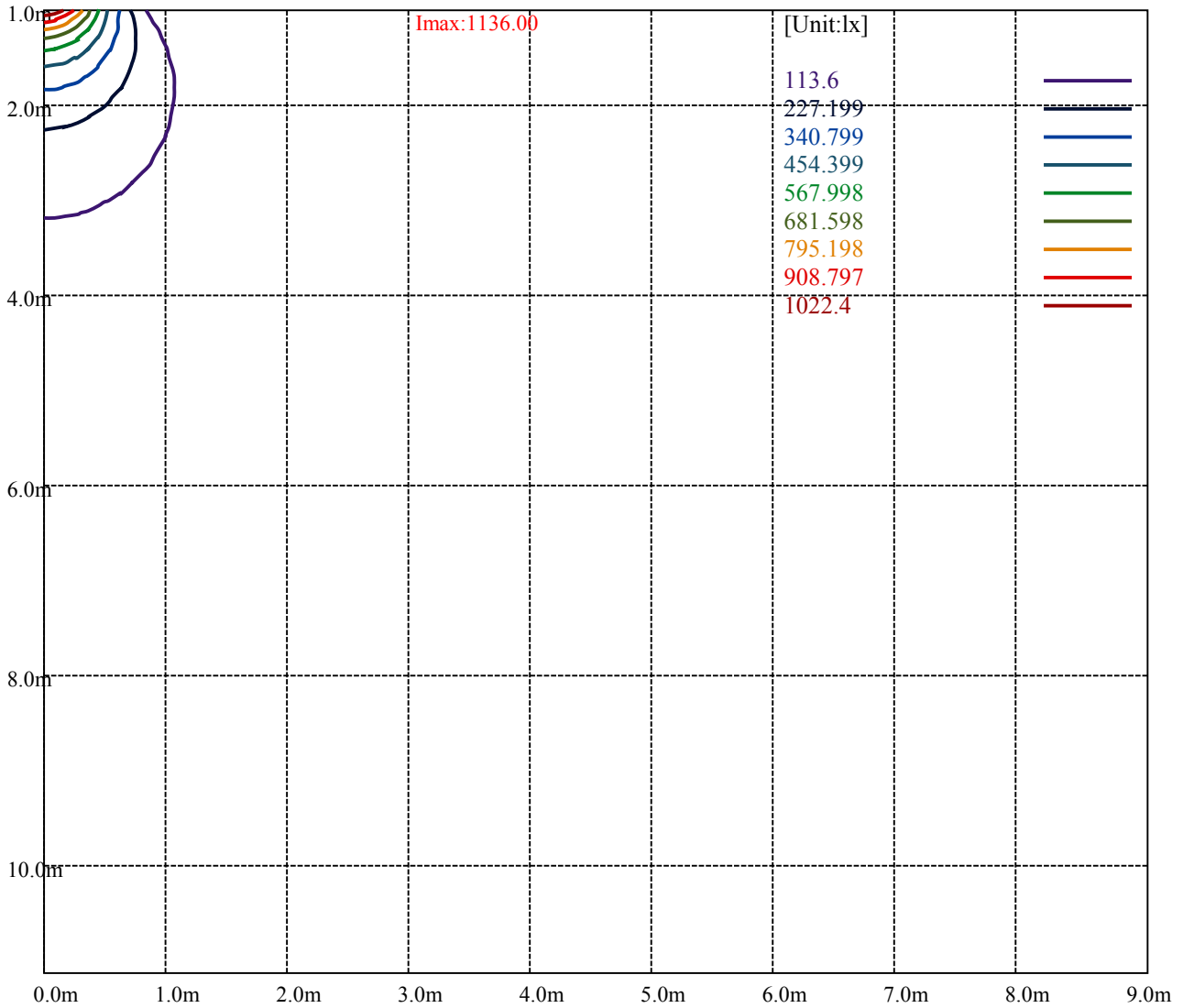
Road

I_{max}:1136.00

(10%I _{max})	113.6	
(20%I _{max})	227.199	
(30%I _{max})	340.799	
(40%I _{max})	454.399	
(50%I _{max})	567.998	
(60%I _{max})	681.598	
(70%I _{max})	795.198	
(80%I _{max})	908.797	
(90%I _{max})	1022.4	



(10%Emax) 12.62222	—
(20%Emax) 25.24433	—
(30%Emax) 37.86656	—
(40%Emax) 50.48878	—
(50%Emax) 63.11089	—
(60%Emax) 75.73312	—
(70%Emax) 88.35522	—
(80%Emax) 100.9774	—
(90%Emax) 113.6	—



Luminance Table

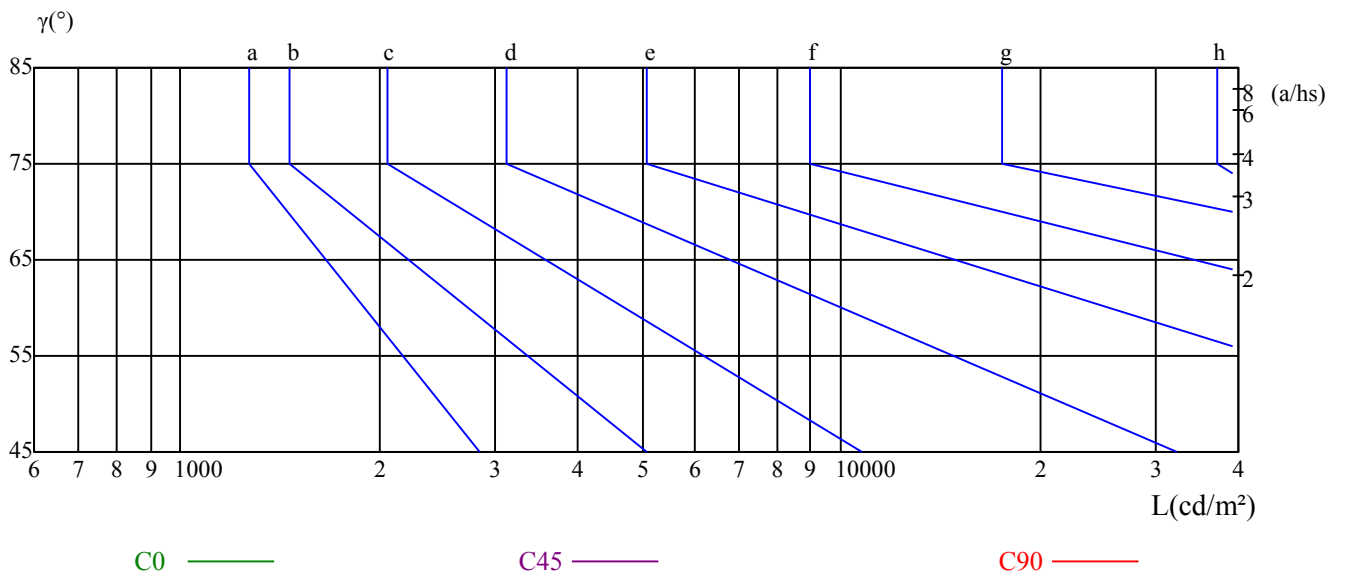
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

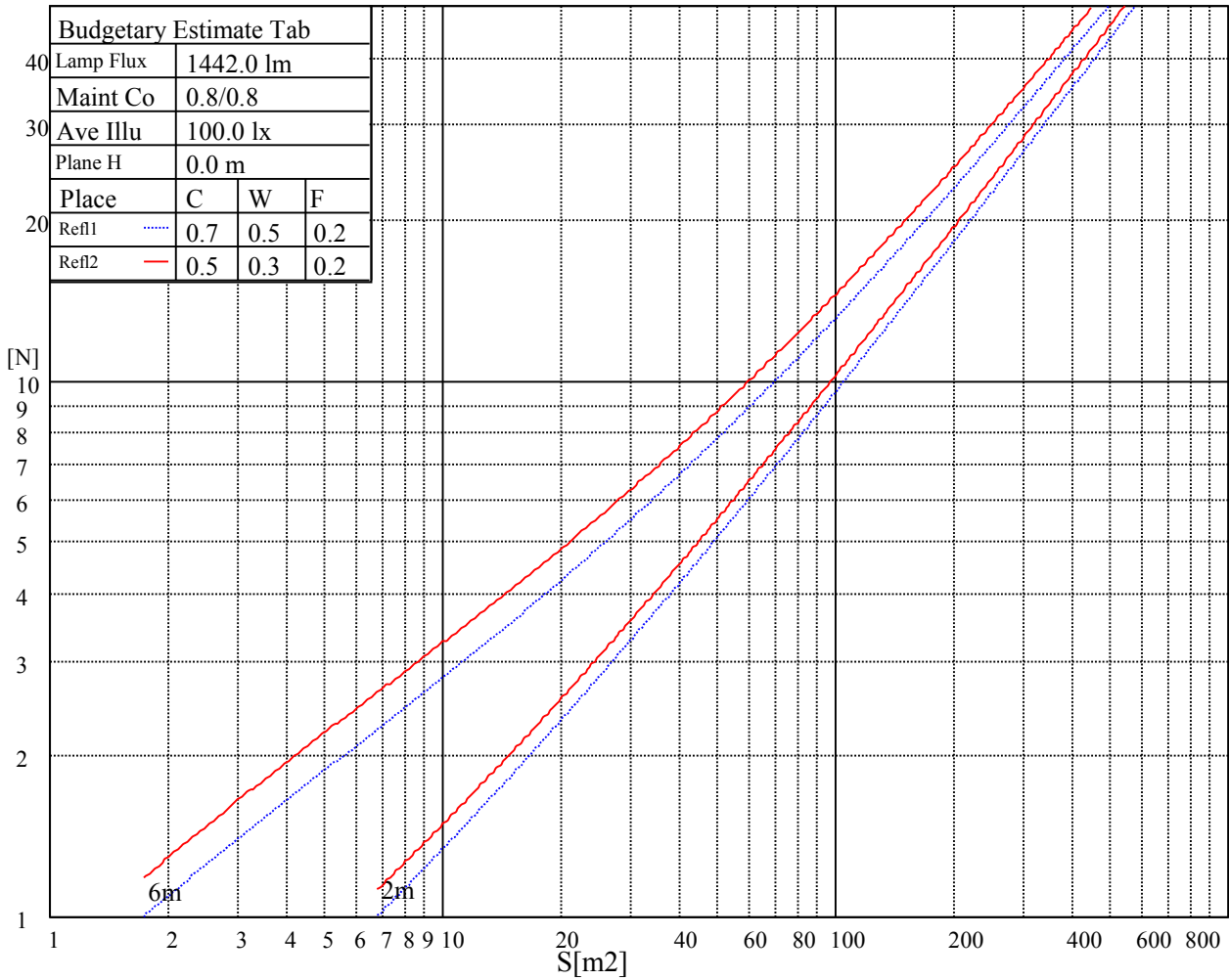
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

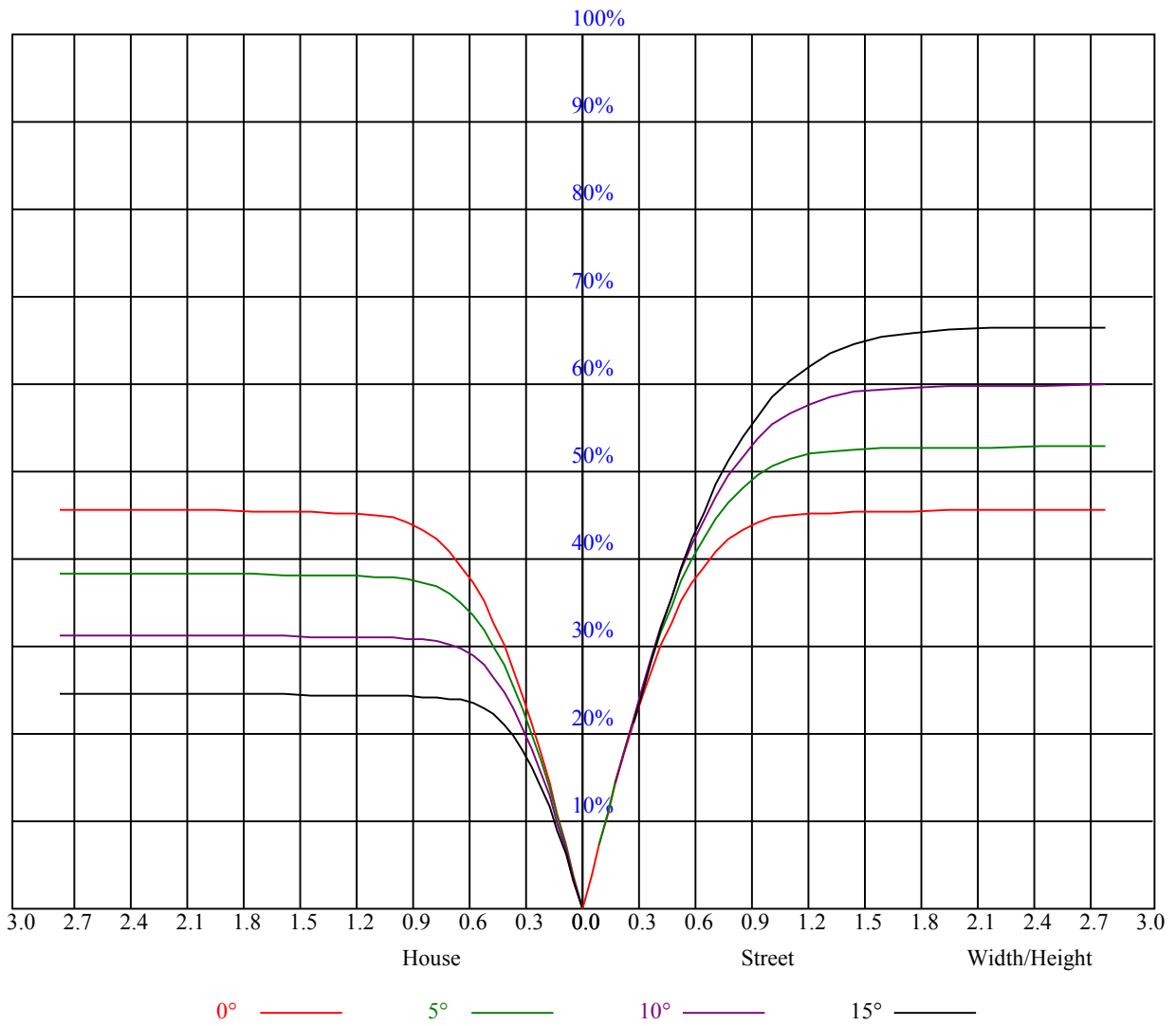
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

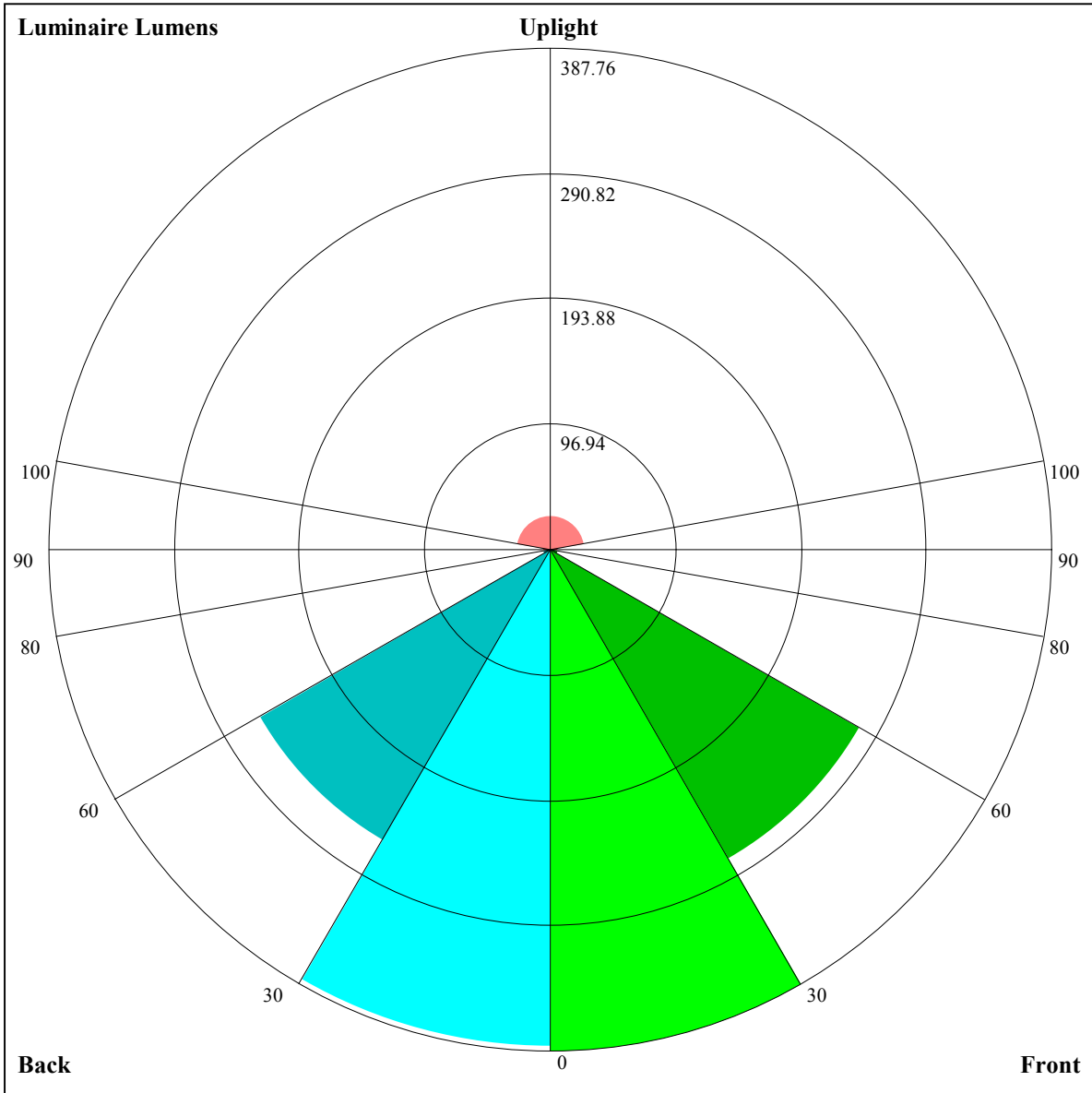
Luminance Limiting Curve





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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.99	0.96	0.99	0.97	0.95	0.95	0.93	0.92	0.92	0.90	0.89	0.89	0.88	0.87	0.85
2	0.93	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.78
3	0.86	0.81	0.77	0.85	0.80	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.71
4	0.80	0.74	0.70	0.79	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.65
5	0.74	0.68	0.64	0.73	0.67	0.63	0.71	0.66	0.63	0.70	0.65	0.62	0.68	0.65	0.62	0.60
6	0.69	0.63	0.58	0.68	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.55
7	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.51
8	0.60	0.54	0.50	0.59	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.47
9	0.56	0.50	0.46	0.55	0.50	0.46	0.55	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.45	0.44
10	0.52	0.47	0.43	0.52	0.46	0.43	0.51	0.46	0.43	0.50	0.46	0.42	0.50	0.45	0.42	0.41





Luminaire Lumens:

FL=387.76,FM=276.35,FH=6.42,FVH=2.76

BL=383.89,BM=259.1,BH=6.51,BVH=2.76

UL=5.5,UH=26.18

BUG Rating:B1-U2-G0

NATA 1689-M

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	1137.94	1125.56	1085.63	1029.94	955.13	861.75	749.25	618.75	456.75
45.0	1141.88	1125.56	1078.31	1008.56	927.56	827.44	712.13	591.19	416.81
90.0	1122.30	1108.35	1067.96	1000.91	914.34	810.62	688.61	558.00	367.09
135.0	1141.88	1131.19	1094.63	1019.25	923.63	830.25	706.50	580.50	399.94
180.0	1137.94	1116.56	1079.44	1015.71	927.96	811.63	687.26	553.11	362.87
225.0	1141.88	1119.15	1074.77	1001.81	930.09	828.11	704.64	580.50	399.71
270.0	1122.30	1127.25	1100.25	1045.69	959.06	858.94	747.00	620.44	467.44
315.0	1141.88	1119.83	1080.96	1021.67	941.18	848.19	729.51	599.40	408.26
360.0	1137.94	1125.56	1085.63	1029.94	955.13	861.75	749.25	618.75	456.75

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	294.19	46.52	17.89	10.13	6.81	5.68	5.23	5.12	5.06
45.0	179.49	41.91	16.82	9.56	6.75	5.74	5.29	5.12	5.06
90.0	127.46	31.67	13.67	8.38	6.24	5.51	5.23	5.06	5.06
135.0	164.59	37.18	14.96	9.45	6.69	5.68	5.23	5.06	5.06
180.0	127.69	34.93	15.30	9.51	6.92	5.79	5.29	5.01	5.01
225.0	169.54	39.88	17.10	10.63	7.54	6.19	5.51	5.12	5.06
270.0	291.38	53.49	18.68	11.25	7.48	6.02	5.34	5.12	5.06
315.0	191.03	40.33	16.43	9.56	6.64	5.63	5.29	5.06	5.06
360.0	294.19	46.52	17.89	10.13	6.81	5.68	5.23	5.12	5.06

C/γ(°)	90.0
0.0	5.01
45.0	5.06
90.0	5.06
135.0	5.01
180.0	5.01
225.0	5.06
270.0	5.06
315.0	5.06
360.0	5.01