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Nata

Client:

LumCAT: LM01D03060AE

Luminaire:

Report No: GC2019091909

Voltage(V): 220.6000

Test No: NATA07

Current(A): 0.0180

LampCAT: CREE CXA1304

Power (W): 2.9800

Lamp flux(lm): 231.0

PF: 0.7290

Number of Lamps: 1

Ballast type: AC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 203.59, Efficiency(%): 88.13% , Luminous Efficacy(lm/W): 68.32

Central intensity(cd): 177.818, Maximum intensity(cd): 177.818

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=60.0

[C90/270]Total=60.0

Field angle(10%Imax): [C0/180]Total=99.6

[C90/270]Total=99.6

Maximum s/h(1/2): C0_180=0.93 C90_270=0.93

Maximum s/h(1/4): C0_180=0.91 C90_270=0.91

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.13%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 91.212%

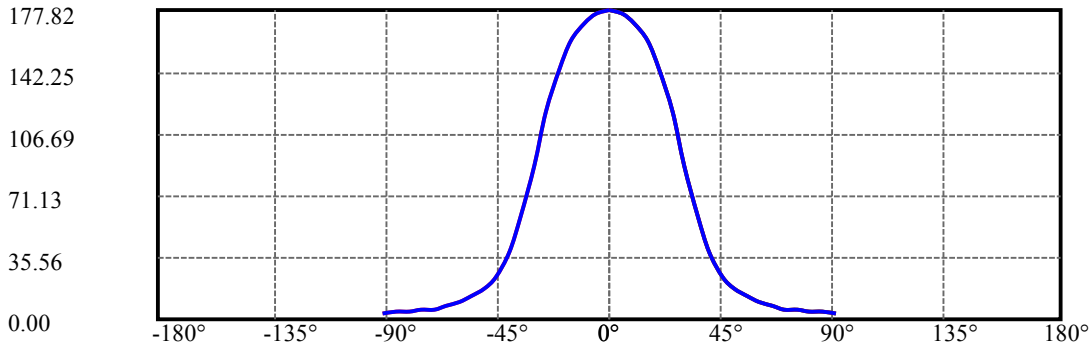
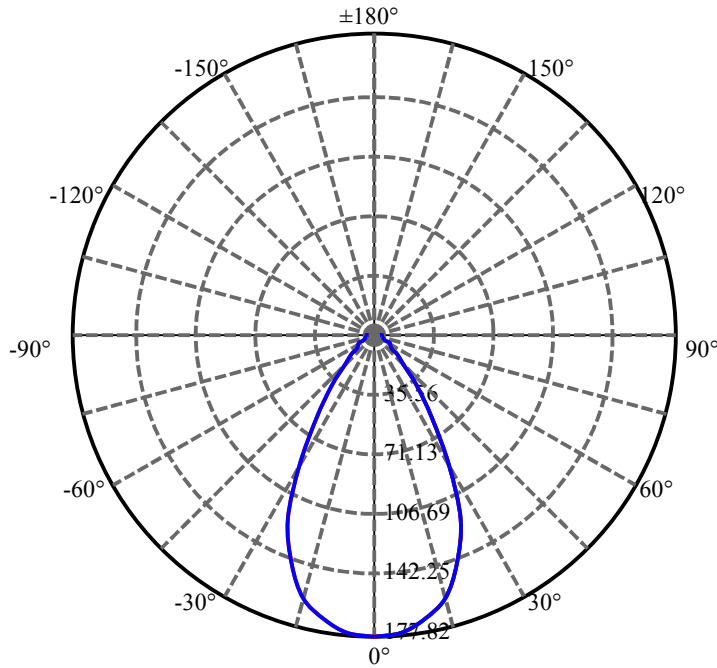
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	177.818	0.000	0	.000%	.000%
5.0	175.770	4.227	4.227	1.830%	2.076%
10.0	169.772	12.361	16.588	5.351%	8.148%
15.0	160.515	19.592	36.181	8.482%	17.772%
20.0	143.966	25.094	61.274	10.863%	30.097%
25.0	119.692	27.653	88.927	11.971%	43.680%
30.0	88.694	26.371	115.298	11.416%	56.633%
35.0	60.052	21.904	137.202	9.482%	67.392%
40.0	38.294	16.408	153.611	7.103%	75.452%
45.0	24.623	11.650	165.26	5.043%	81.174%
50.0	17.436	8.499	173.759	3.679%	85.349%
55.0	13.057	6.630	180.389	2.870%	88.605%
60.0	9.907	5.308	185.697	2.298%	91.212%
65.0	7.535	4.240	189.937	1.836%	93.295%
70.0	5.899	3.402	193.339	1.473%	94.966%
75.0	5.133	2.884	196.222	1.248%	96.382%
80.0	4.954	2.699	198.921	1.168%	97.708%
85.0	4.258	2.503	201.424	1.083%	98.937%
90.0	3.643	2.163	203.587	.936%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	115.30	49.91%	56.63%
0-40	153.61	66.50%	75.45%
0-60	185.70	80.39%	91.21%
0-90	201.42	87.20%	98.94%
0-120	201.42	87.20%	98.94%
0-180	203.59	88.13%	100.00%
60-90	21.04	9.11%	10.33%
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%
0-43.97	162.87	70.51%	80.00%

ZONAL LUMEN SUMMARY

0-10	16.59
10-20	44.69
20-30	54.02
30-40	38.31
40-50	20.15
50-60	11.94
60-70	7.64
70-80	5.58
80-90	2.50
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: —————

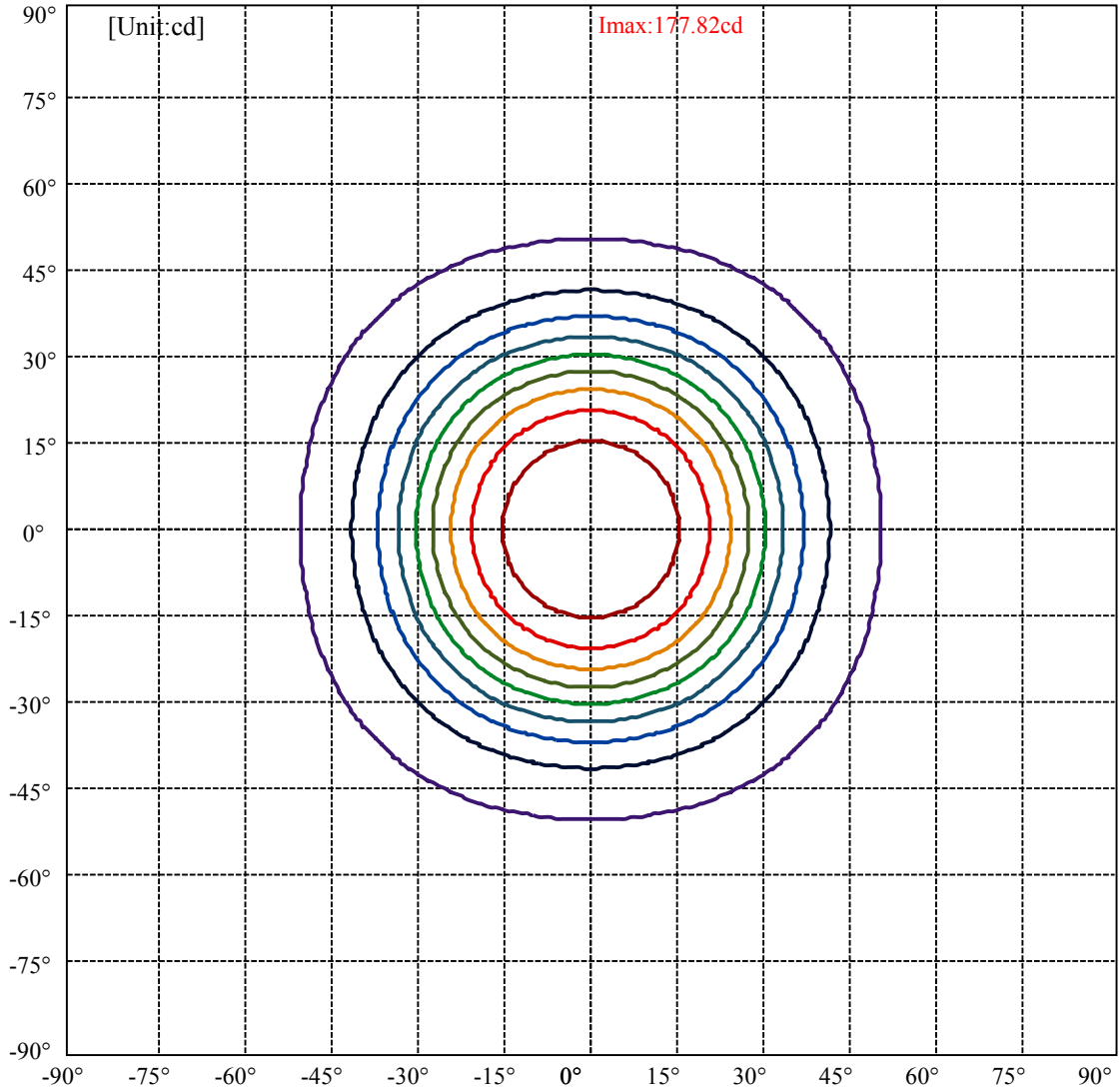
C90/C270: —————

Field angle(10%Imax):C0/180Left:49.8 Right:49.8

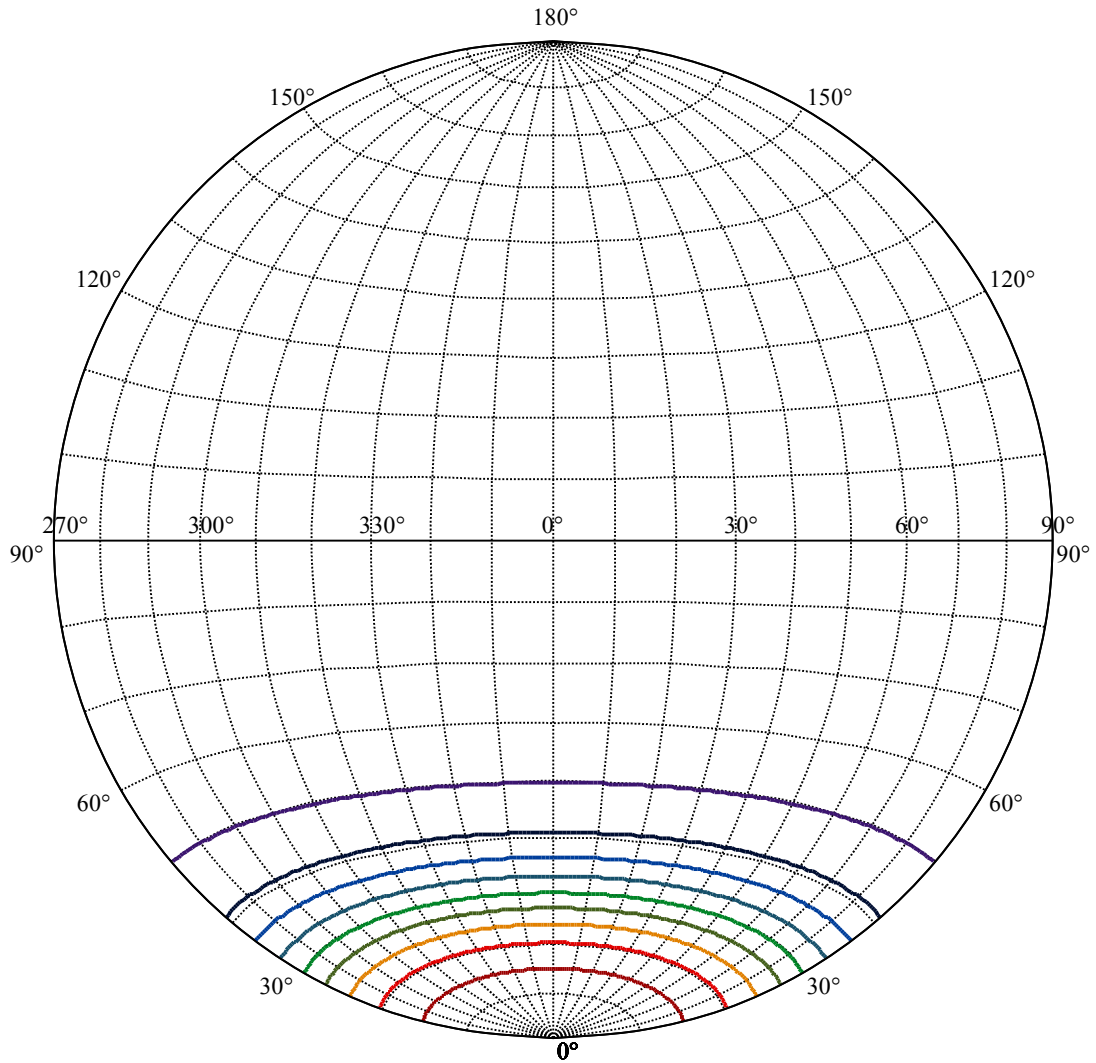
:C90/270Left:49.8 Right:49.8

Beam Angle(50%Imax):C0/180Left:30.0 Right:30.0

:C90/270Left:30.0 Right:30.0



(10%Imax) 17.7818	—
(20%Imax) 35.5635	—
(30%Imax) 53.3453	—
(40%Imax) 71.127	—
(50%Imax) 88.9088	—
(60%Imax) 106.691	—
(70%Imax) 124.472	—
(80%Imax) 142.254	—
(90%Imax) 160.036	—



House

[Unit:cd]

Road

Imax:177.82

(10%Imax) 17.7818

(20%Imax) 35.5635

(30%Imax) 53.3453

(40%Imax) 71.127

(50%Imax) 88.9088

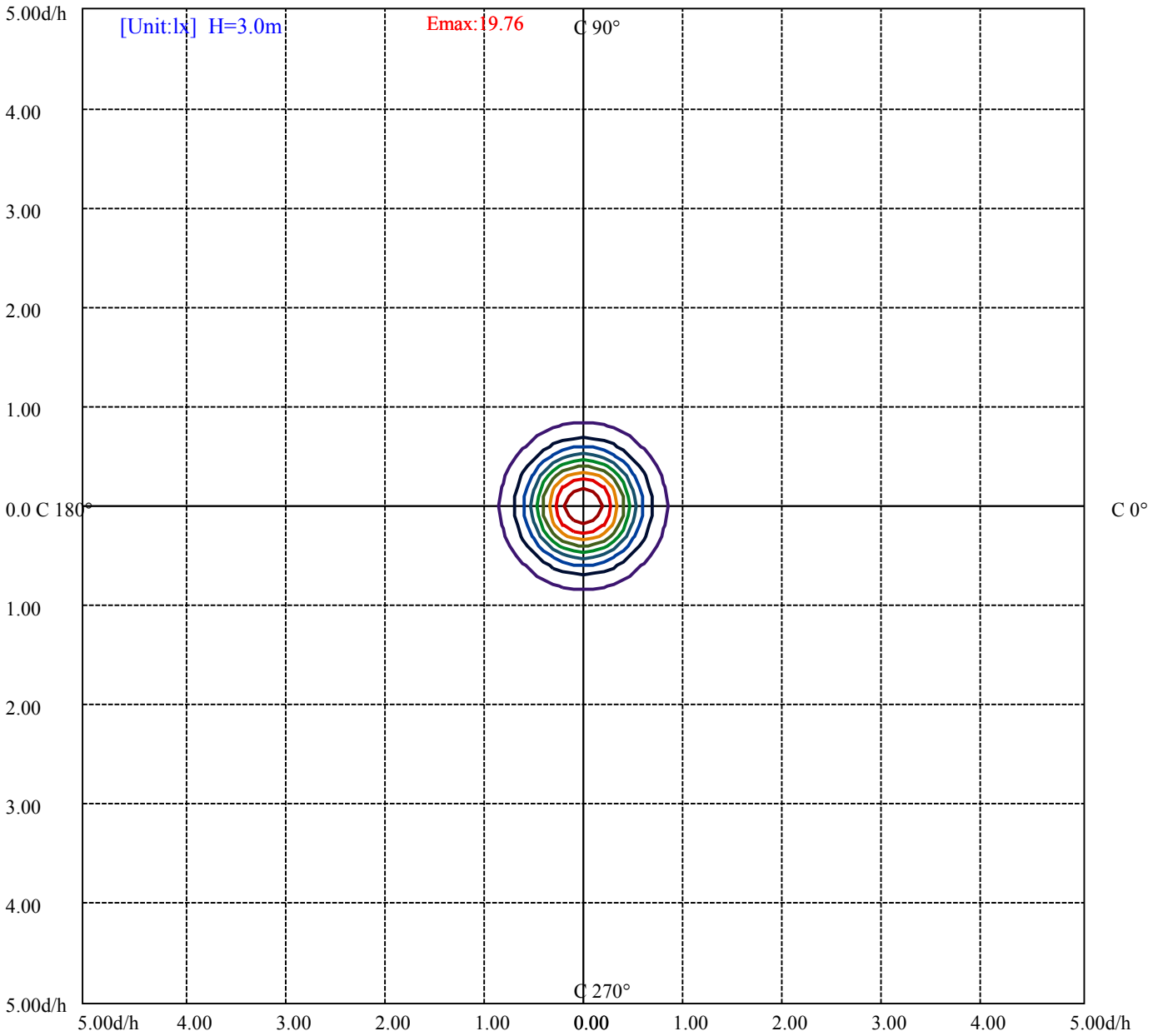
(60%Imax) 106.691

(70%Imax) 124.472

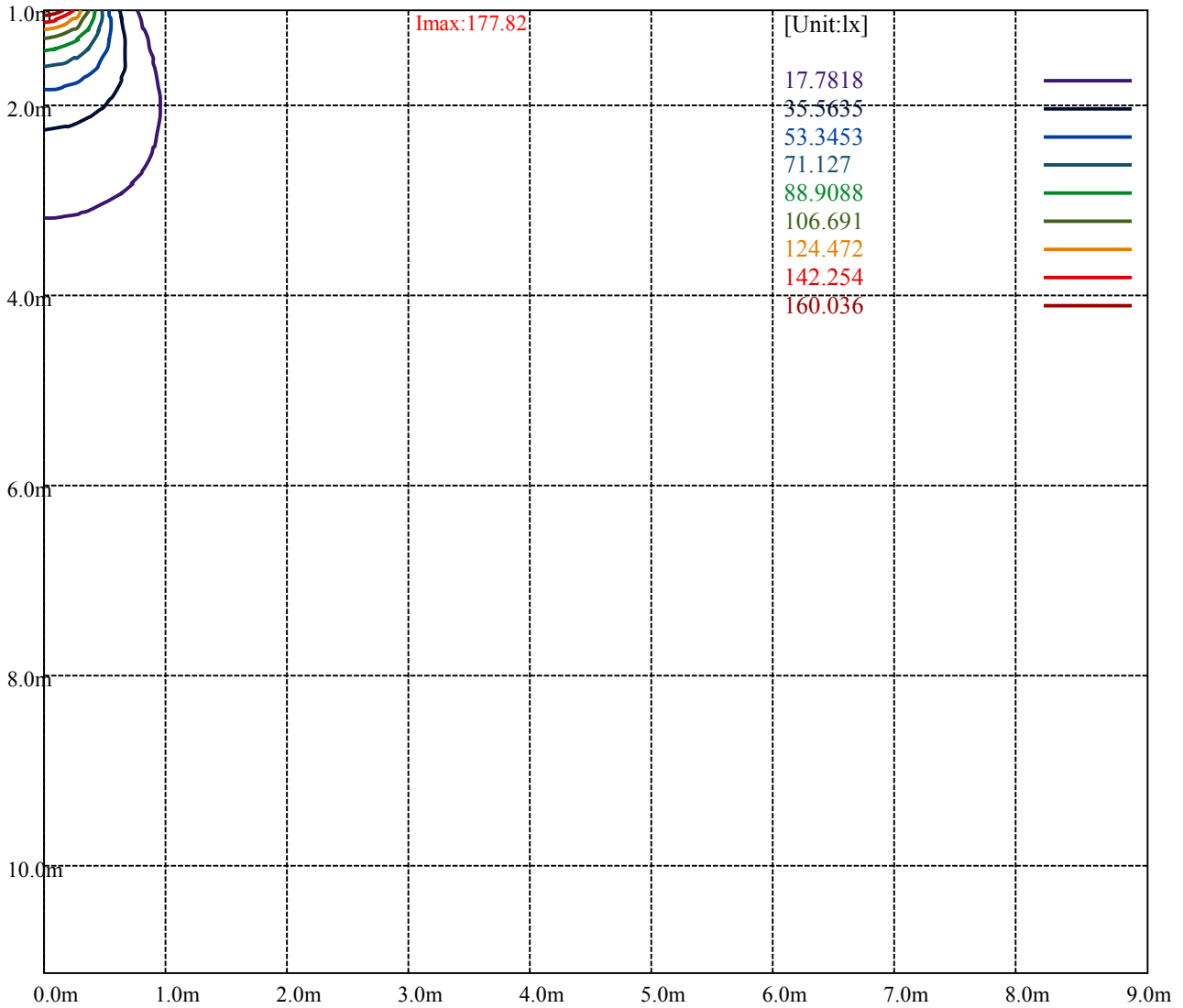
(80%Imax) 142.254

(90%Imax) 160.036





- (10%Emax) 1.975755
- (20%Emax) 3.9515
- (30%Emax) 5.927256
- (40%Emax) 7.903
- (50%Emax) 9.878756
- (60%Emax) 11.85456
- (70%Emax) 13.83022
- (80%Emax) 15.806
- (90%Emax) 17.78178



Luminance Table

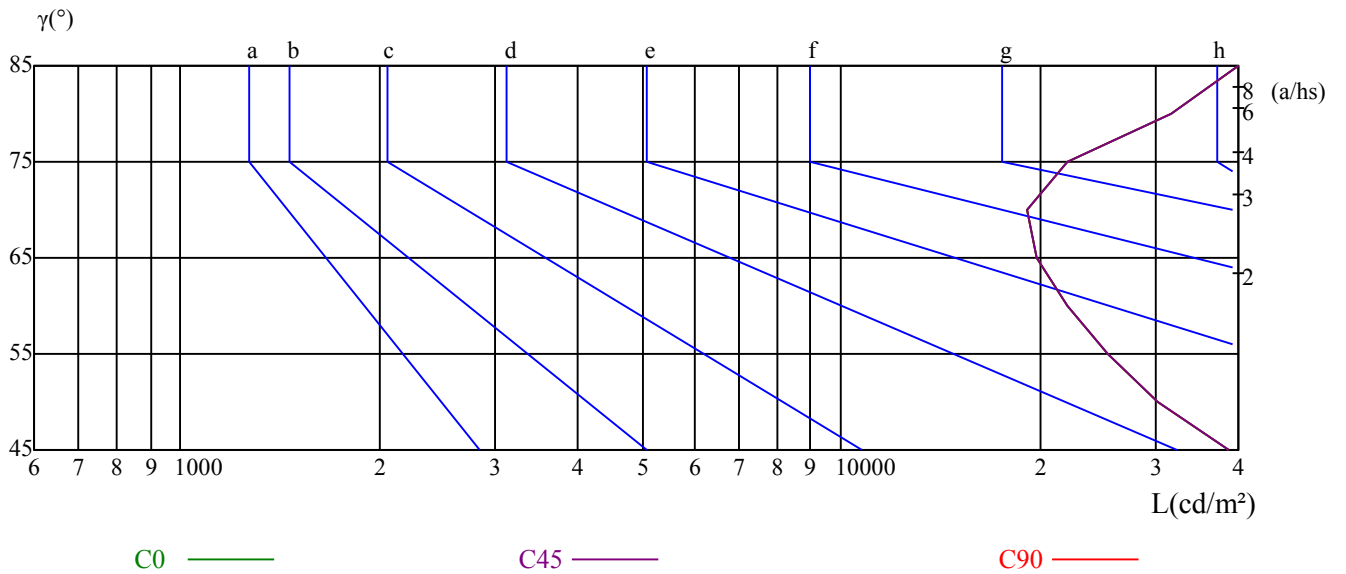
γ	45	50	55	60	65	70	75	80	85
C0	38691	30140	25293	22016	19810	19164	22038	31696	54277
C45	38691	30140	25293	22016	19810	19164	22038	31696	54277
C90	38691	30140	25293	22016	19810	19164	22038	31696	54277

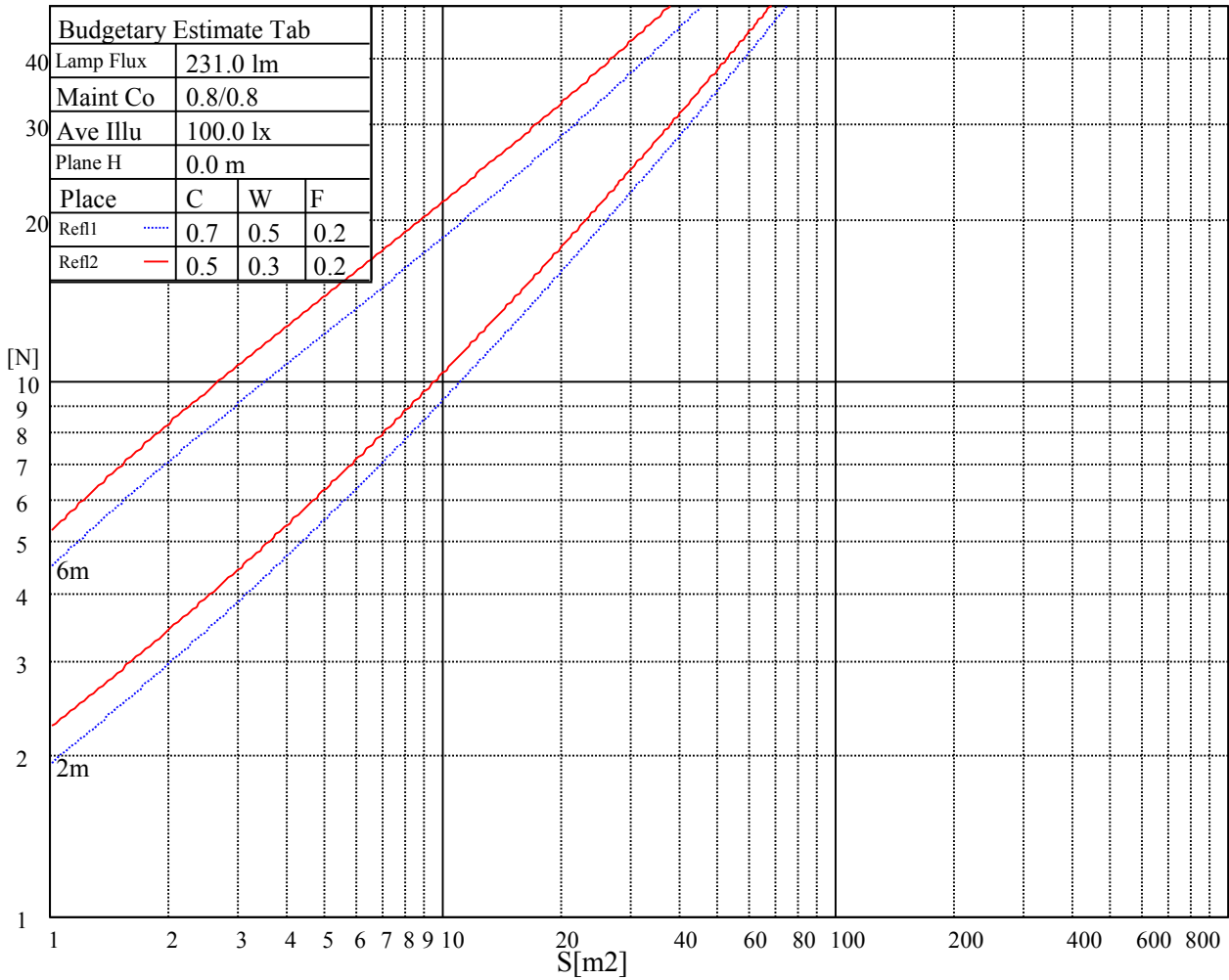
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
19810	19810	19810	22038	22038	22038	54277	54277	54277

Glare Table

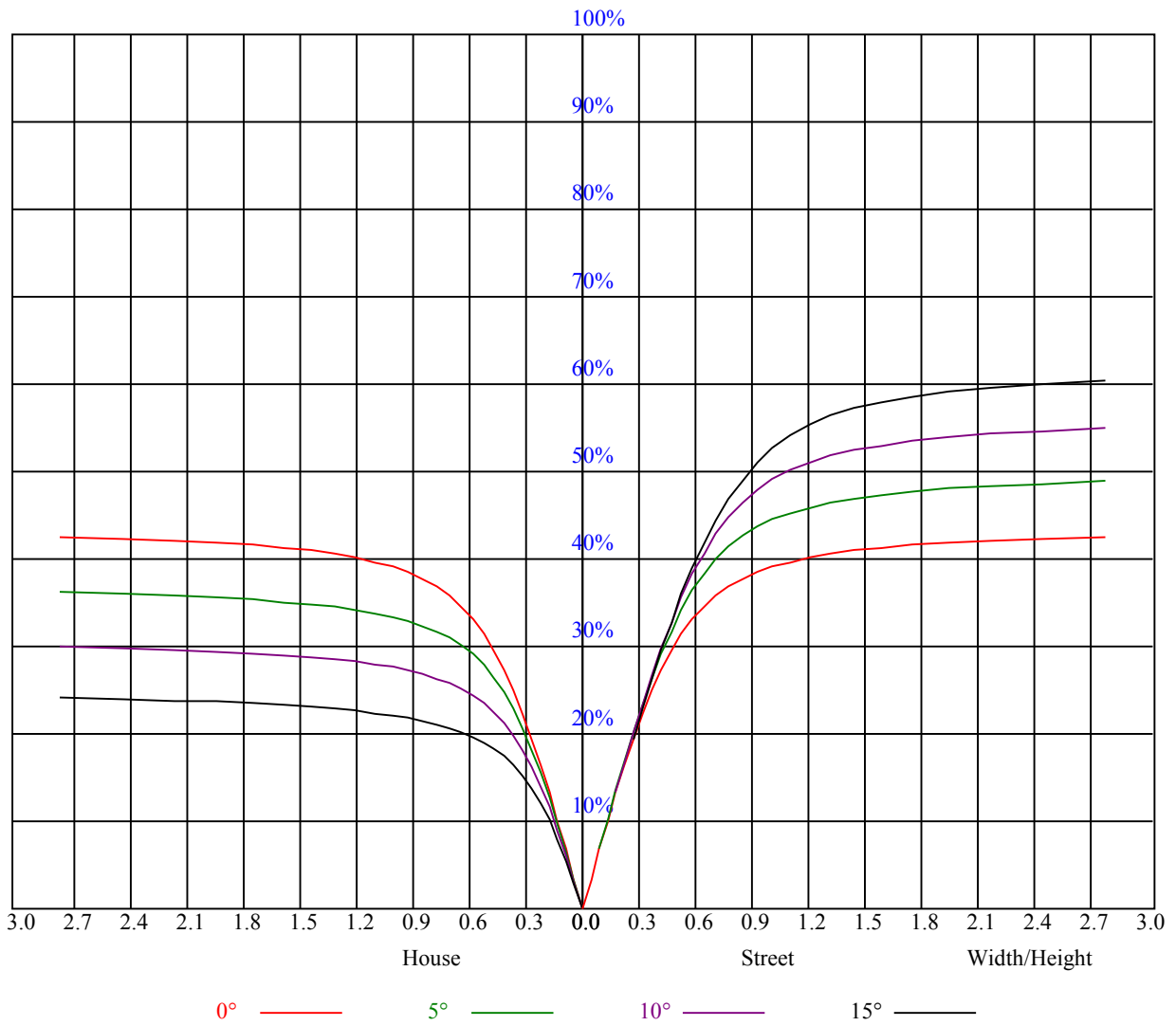
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

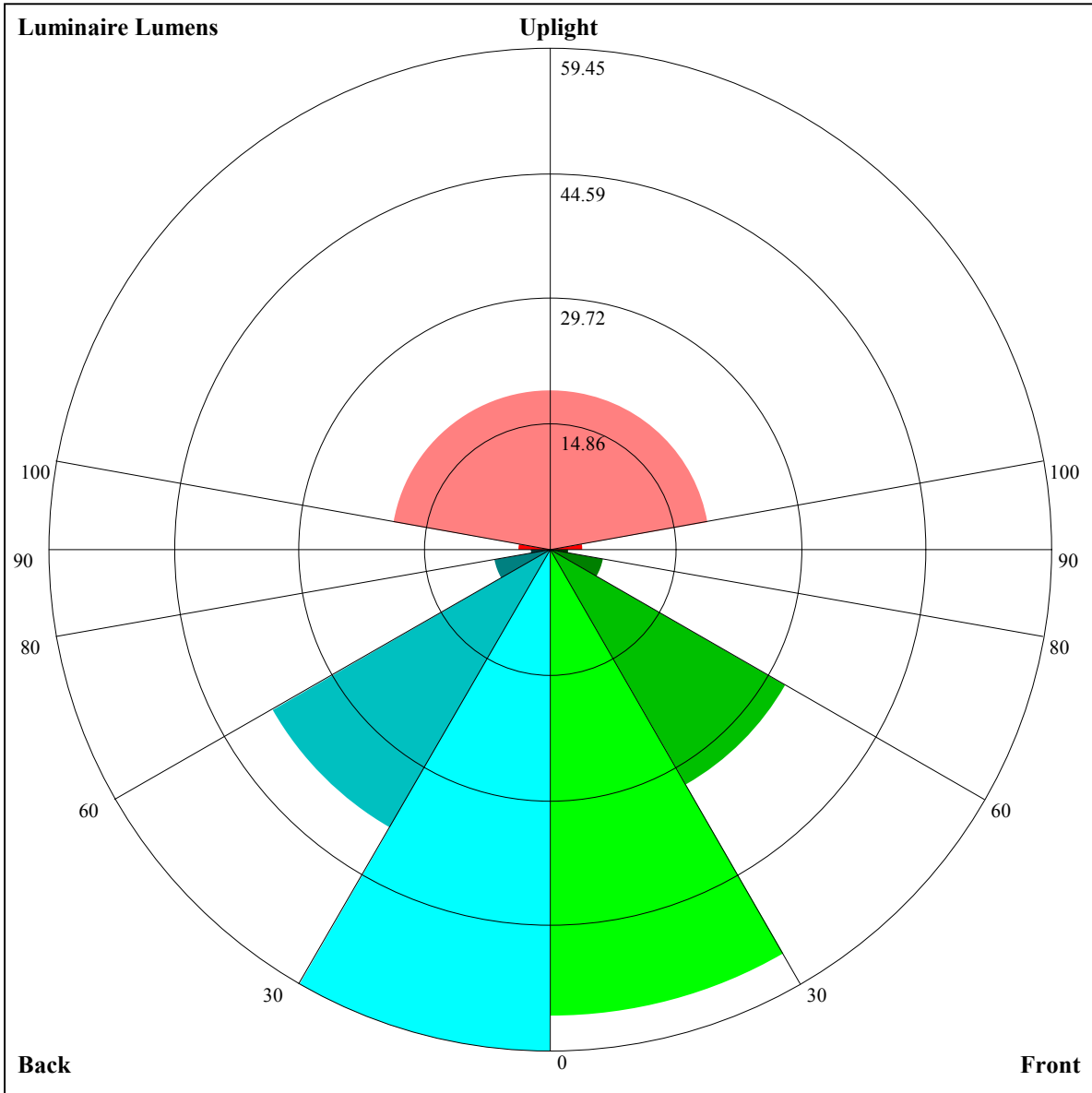
Luminance Limiting Curve





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	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.95	0.92	0.89	0.93	0.90	0.88	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.81	0.80	0.78
2	0.86	0.82	0.78	0.85	0.81	0.77	0.82	0.78	0.75	0.79	0.76	0.74	0.77	0.74	0.72	0.70
3	0.79	0.74	0.69	0.78	0.73	0.69	0.75	0.71	0.68	0.73	0.70	0.66	0.71	0.68	0.65	0.64
4	0.73	0.67	0.62	0.72	0.66	0.62	0.70	0.65	0.61	0.68	0.64	0.60	0.66	0.63	0.60	0.58
5	0.67	0.61	0.57	0.66	0.61	0.56	0.65	0.60	0.56	0.63	0.59	0.55	0.62	0.58	0.55	0.53
6	0.63	0.56	0.52	0.62	0.56	0.52	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.49
7	0.58	0.52	0.48	0.58	0.52	0.48	0.56	0.51	0.47	0.55	0.51	0.47	0.54	0.50	0.47	0.45
8	0.54	0.48	0.44	0.54	0.48	0.44	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.42
9	0.51	0.45	0.41	0.51	0.45	0.41	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.39
10	0.48	0.42	0.38	0.48	0.42	0.38	0.47	0.42	0.38	0.46	0.41	0.38	0.45	0.41	0.38	0.37





Luminaire Lumens:
FL=55.3,FM=32.34,FH=6.5,FVH=2.18
BL=59.45,BM=38.11,BH=6.8,BVH=2.49
UL=3.97,UH=18.91
BUG Rating:B0-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	177.77	172.20	165.38	152.90	130.44	99.02	67.89	45.20	27.15
45.0	178.65	174.20	167.38	153.73	131.97	105.94	70.67	46.45	28.82
90.0	176.70	171.92	163.80	149.70	122.55	93.36	59.67	36.19	23.99
135.0	178.14	175.22	169.19	162.13	146.03	120.46	90.67	58.28	33.92
180.0	177.77	177.91	171.83	165.89	158.05	138.37	110.81	78.24	52.06
225.0	178.65	178.93	173.97	168.21	155.17	135.45	107.01	73.27	46.73
270.0	176.70	179.44	177.26	171.09	161.25	143.48	113.97	83.53	55.27
315.0	178.14	176.33	169.37	160.46	146.26	121.44	88.86	59.26	38.42
360.0	177.77	172.20	165.38	152.90	130.44	99.02	67.89	45.20	27.15
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.72	14.80	10.95	8.31	6.40	5.43	6.08	7.84	3.76
45.0	19.16	14.57	11.37	8.31	6.82	5.61	4.64	3.90	3.62
90.0	16.71	13.41	10.53	8.21	6.36	5.20	4.69	4.32	3.99
135.0	21.76	16.01	12.34	9.74	7.75	5.89	5.01	4.45	3.94
180.0	29.70	20.46	14.99	11.09	8.26	6.08	5.24	5.61	7.98
225.0	28.82	19.86	13.97	10.81	7.84	6.22	4.83	4.27	3.76
270.0	36.52	22.41	16.98	12.95	9.51	7.05	5.75	4.97	4.45
315.0	24.59	17.96	13.32	9.84	7.33	5.71	4.83	4.27	2.55
360.0	19.72	14.80	10.95	8.31	6.40	5.43	6.08	7.84	3.76
C/γ(°)	90.0								
0.0	3.11								
45.0	3.48								
90.0	3.99								
135.0	4.04								
180.0	3.67								
225.0	3.62								
270.0	4.08								
315.0	3.16								
360.0	3.11								