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Nata

Client:

LumCAT: 3-2021-A

Luminaire: 92.70.045.00+92.70.089.00

Report No: NT2018031906

Voltage(V): 36.0000

Test No: nata-0100

Current(A): 0.8000

LampCAT: CREE CXA2520

Power (W): 28.8000

Lamp flux(lm): 2355.0

PF: 1.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 86

Width(mm): 86

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1895.37, Efficiency(%): 80.48% , Luminous Efficacy(lm/W): 65.81

Central intensity(cd): 2849.444, Maximum intensity(cd): 2849.444

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=46.2

[C90/270]Total=46.2

Field angle(10%Imax): [C0/180]Total=78.8

[C90/270]Total=78.8

Maximum s/h(1/2): C0_180=0.75 C90_270=0.75

Maximum s/h(1/4): C0_180=0.73 C90_270=0.73

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.13%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.984%

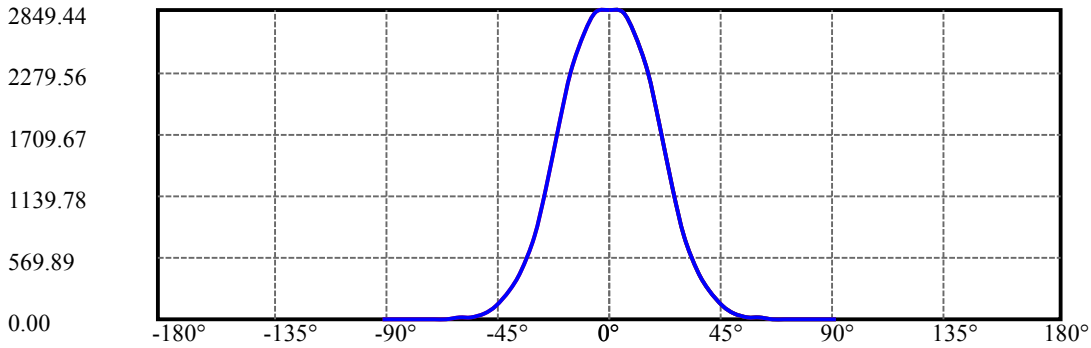
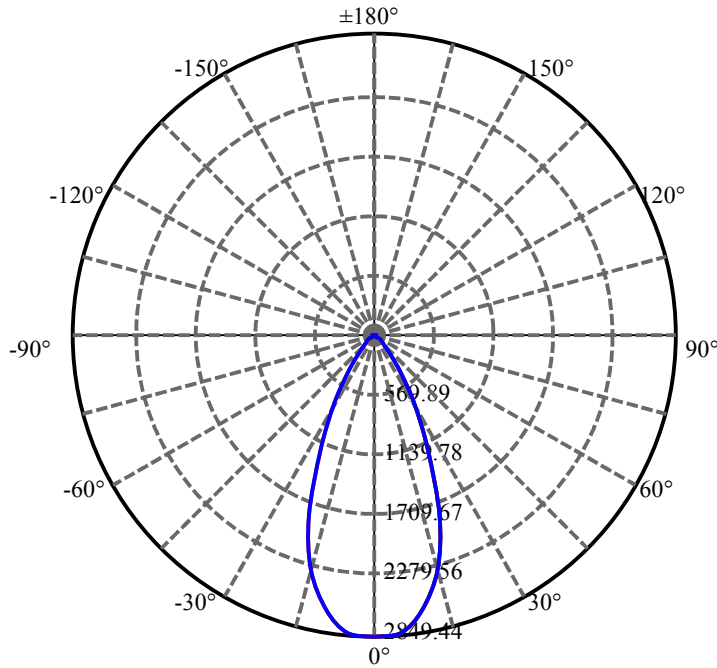
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2849.444	17.040	17.04	.724%	.899%
5.0	2824.393	134.931	151.971	5.730%	8.018%
10.0	2640.574	251.338	403.309	10.673%	21.279%
15.0	2284.909	324.156	727.465	13.765%	38.381%
20.0	1807.639	338.885	1066.351	14.390%	56.261%
25.0	1194.834	276.787	1343.137	11.753%	70.864%
30.0	762.104	208.869	1552.006	8.869%	81.884%
35.0	435.937	137.058	1689.064	5.820%	89.115%
40.0	264.236	93.100	1782.164	3.953%	94.027%
45.0	122.239	47.379	1829.543	2.012%	96.527%
50.0	60.658	25.470	1855.013	1.082%	97.871%
55.0	24.789	11.131	1866.144	.473%	98.458%
60.0	12.505	5.936	1872.08	.252%	98.771%
65.0	8.623	4.284	1876.364	.182%	98.997%
70.0	7.832	4.034	1880.398	.171%	99.210%
75.0	7.907	4.187	1884.584	.178%	99.431%
80.0	8.135	4.391	1888.975	.186%	99.663%
85.0	7.949	4.340	1893.316	.184%	99.892%
90.0	7.495	2.054	1895.37	.087%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1552.01	65.90%	81.88%
0-40	1782.16	75.68%	94.03%
0-60	1872.08	79.49%	98.77%
0-90	1893.32	80.40%	99.89%
0-120	1893.32	80.40%	99.89%
0-180	1895.37	80.48%	100.00%
60-90	27.17	1.15%	1.43%
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%
0-29.15	1516.30	64.39%	80.00%

ZONAL LUMEN SUMMARY

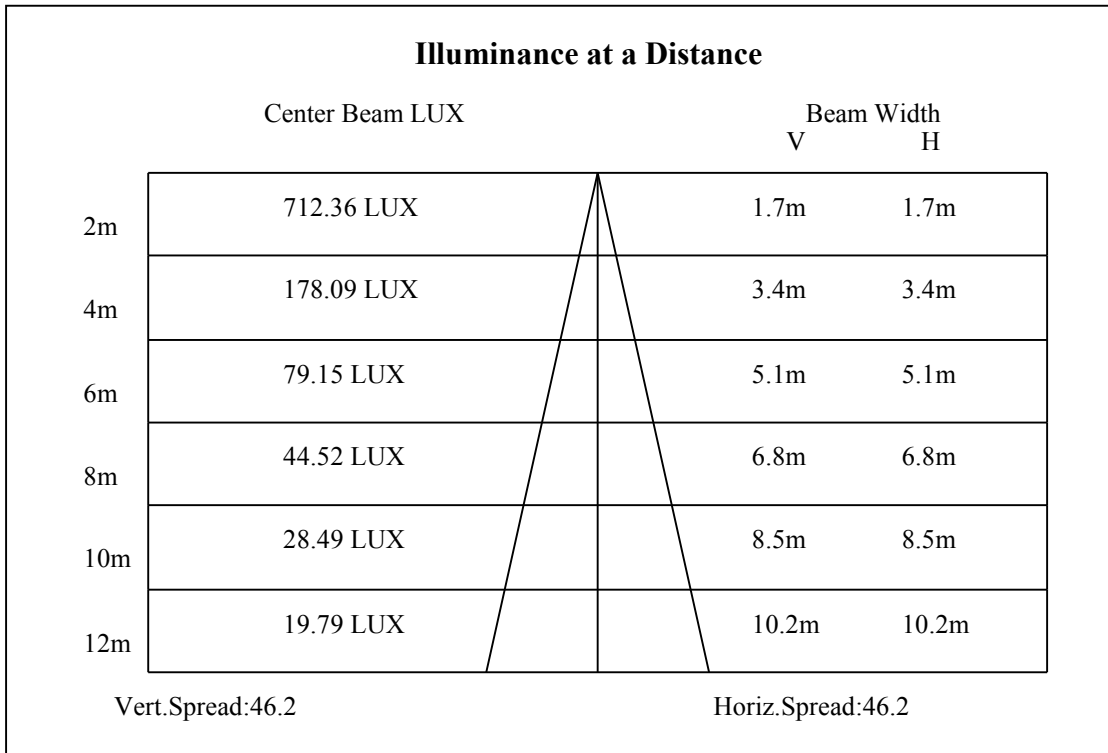
0-10	403.31
10-20	663.04
20-30	485.66
30-40	230.16
40-50	72.85
50-60	17.07
60-70	8.32
70-80	8.58
80-90	4.34
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

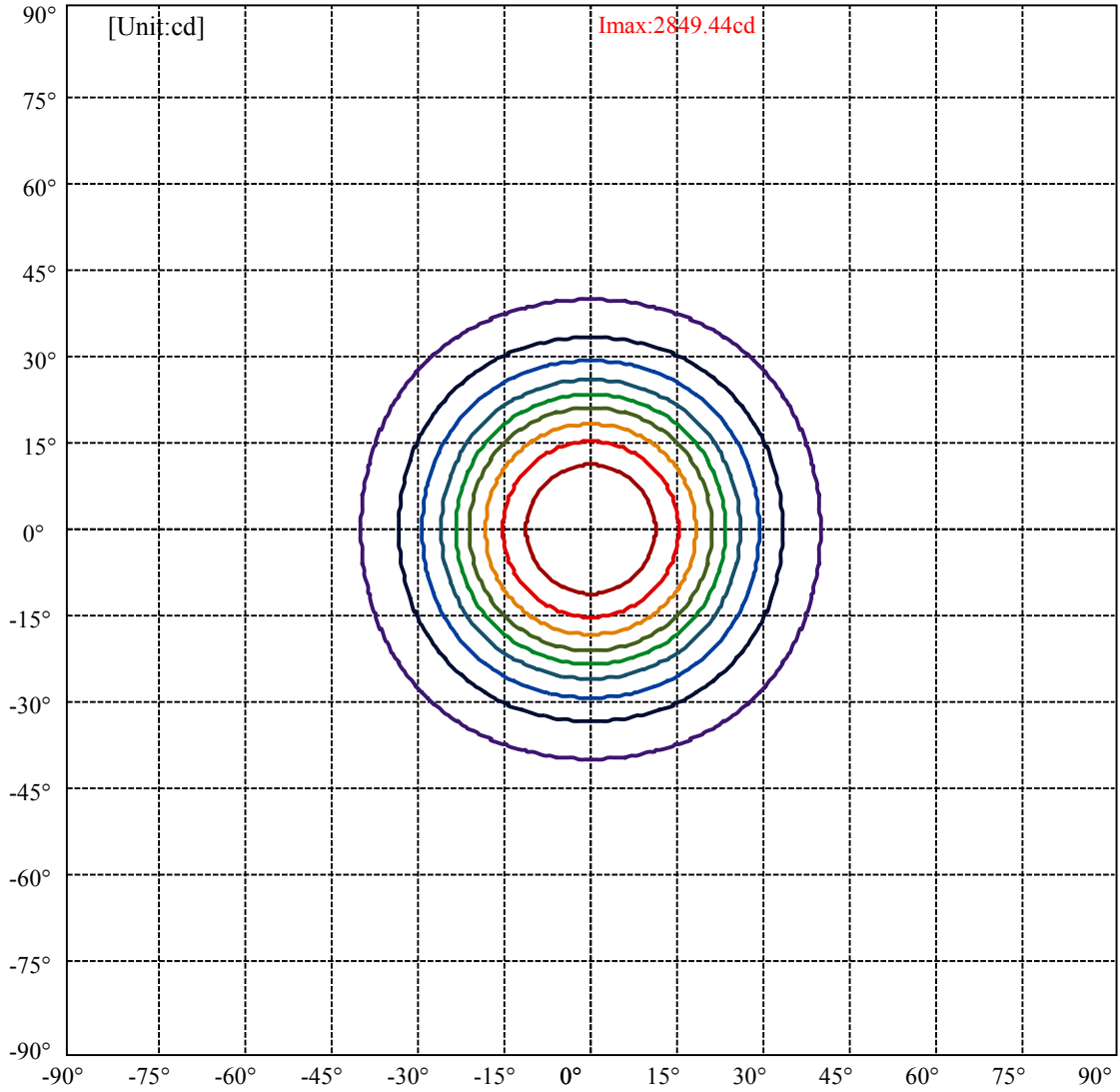


C0(Max): —————
C0/C180: —————
C90/C270: —————

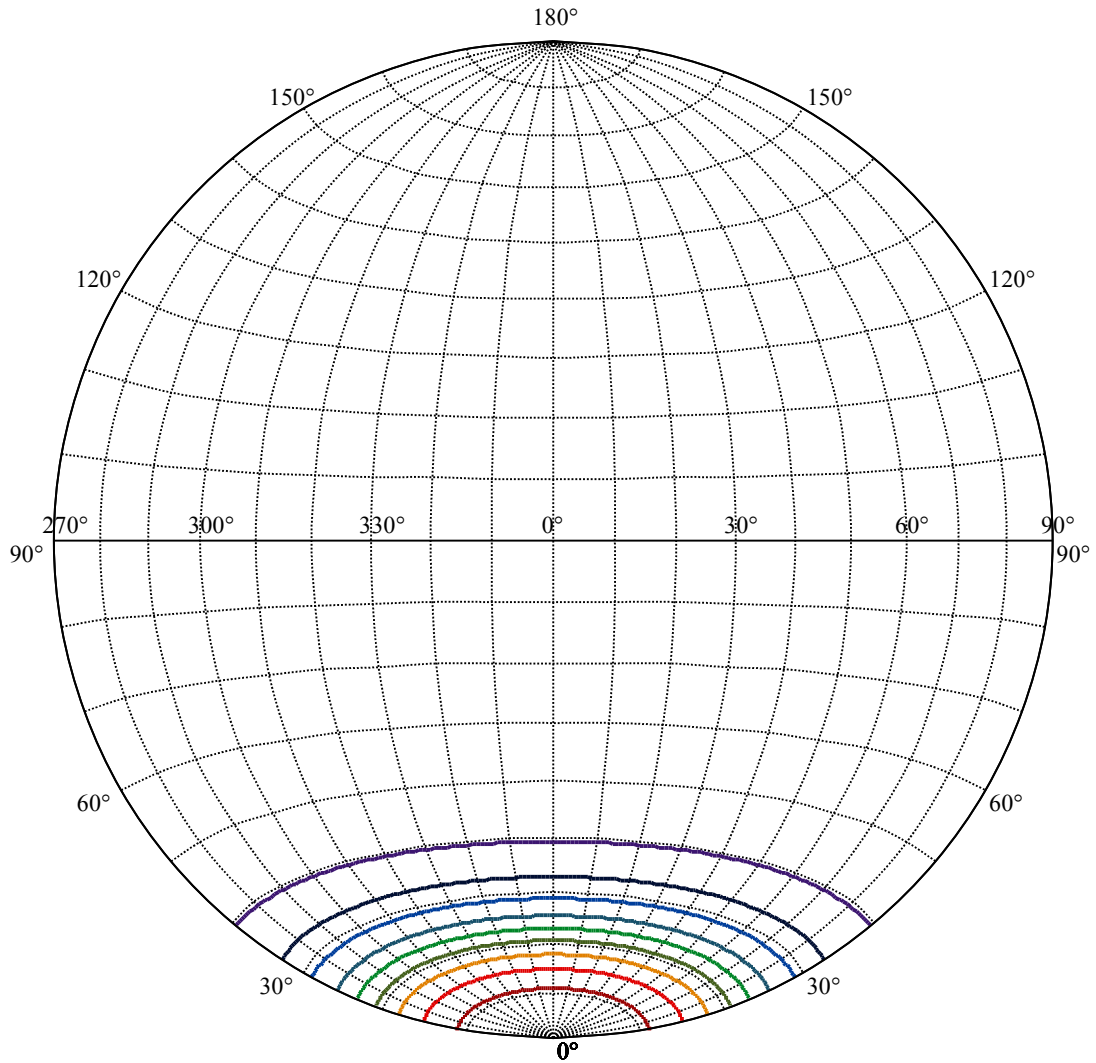
Field angle(10%Imax):C0/180Left:39.4 Right:39.4
:C90/270Left:39.4 Right:39.4

Beam Angle(50%Imax):C0/180Left:23.1 Right:23.1
:C90/270Left:23.1 Right:23.1





(10%Imax) 284.944	—
(20%Imax) 569.889	—
(30%Imax) 854.833	—
(40%Imax) 1139.78	—
(50%Imax) 1424.72	—
(60%Imax) 1709.67	—
(70%Imax) 1994.61	—
(80%Imax) 2279.56	—
(90%Imax) 2564.5	—



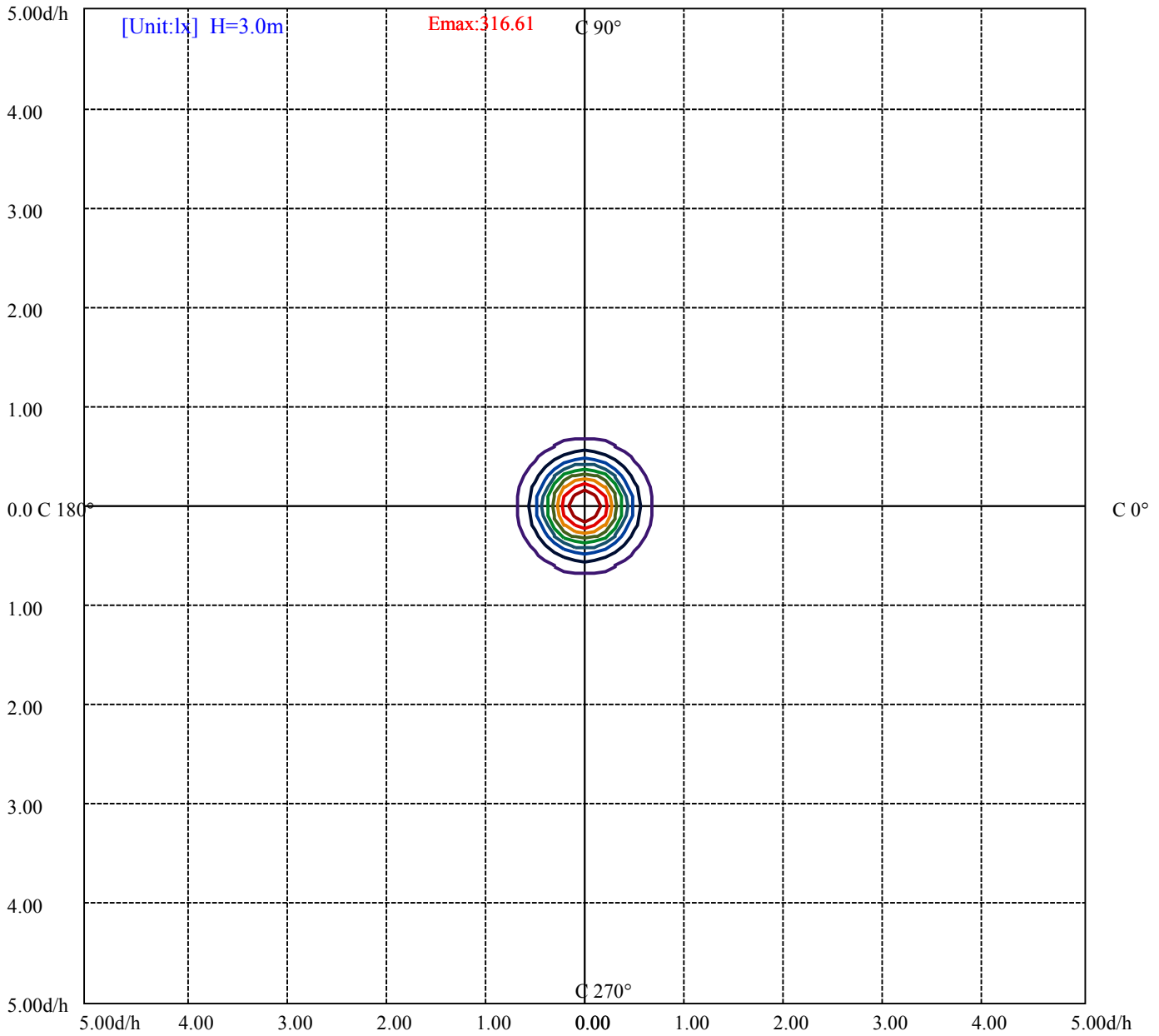
House

[Unit:cd]

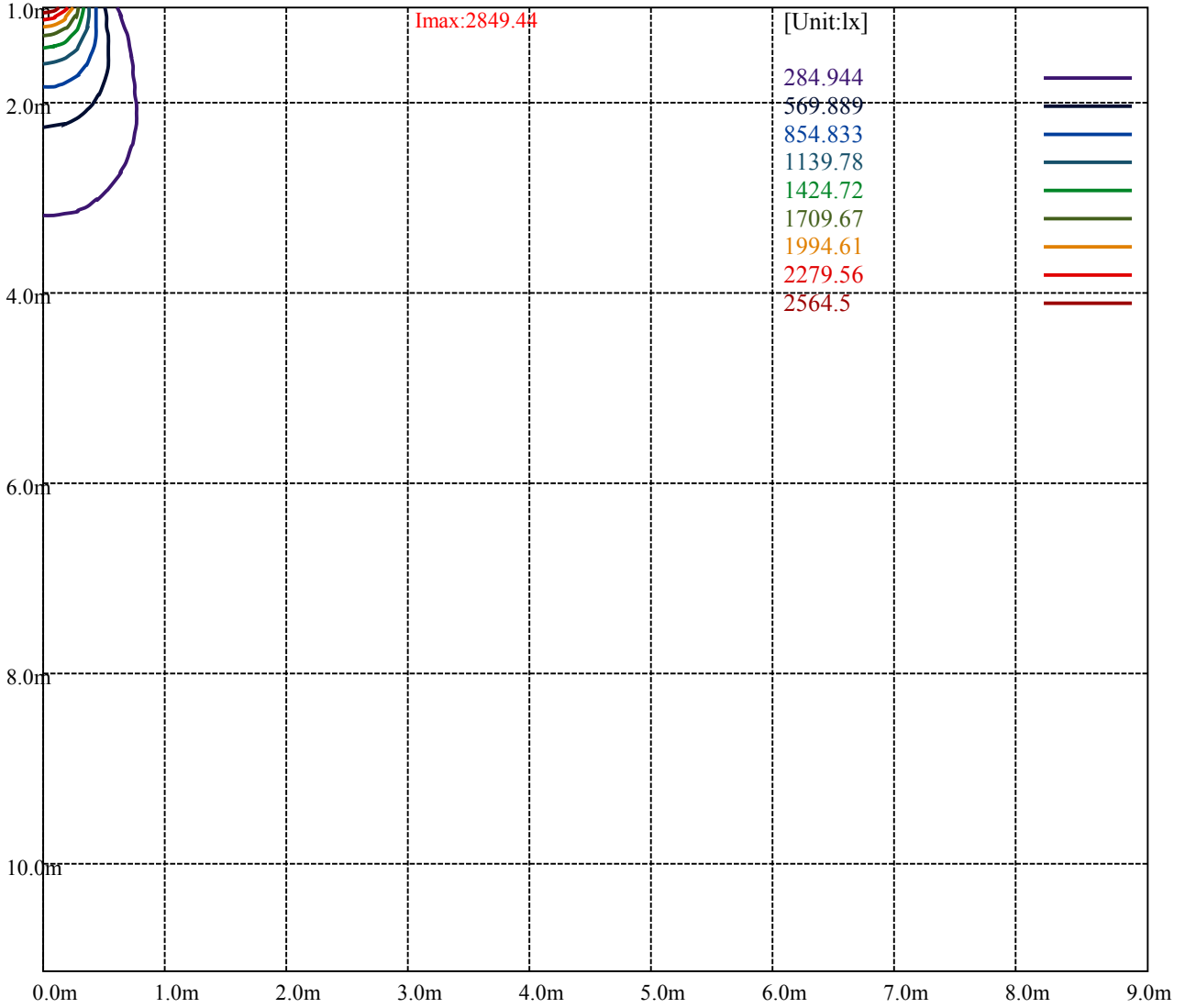
Road

Imax:2849.44

(10%Imax) 284.944	—
(20%Imax) 569.889	—
(30%Imax) 854.833	—
(40%Imax) 1139.78	—
(50%Imax) 1424.72	—
(60%Imax) 1709.67	—
(70%Imax) 1994.61	—
(80%Imax) 2279.56	—
(90%Imax) 2564.5	—



- (10%Emax) 31.66044
- (20%Emax) 63.321
- (30%Emax) 94.98145
- (40%Emax) 126.6422
- (50%Emax) 158.3022
- (60%Emax) 189.9633
- (70%Emax) 221.6233
- (80%Emax) 253.2833
- (90%Emax) 284.9445



Luminance Table

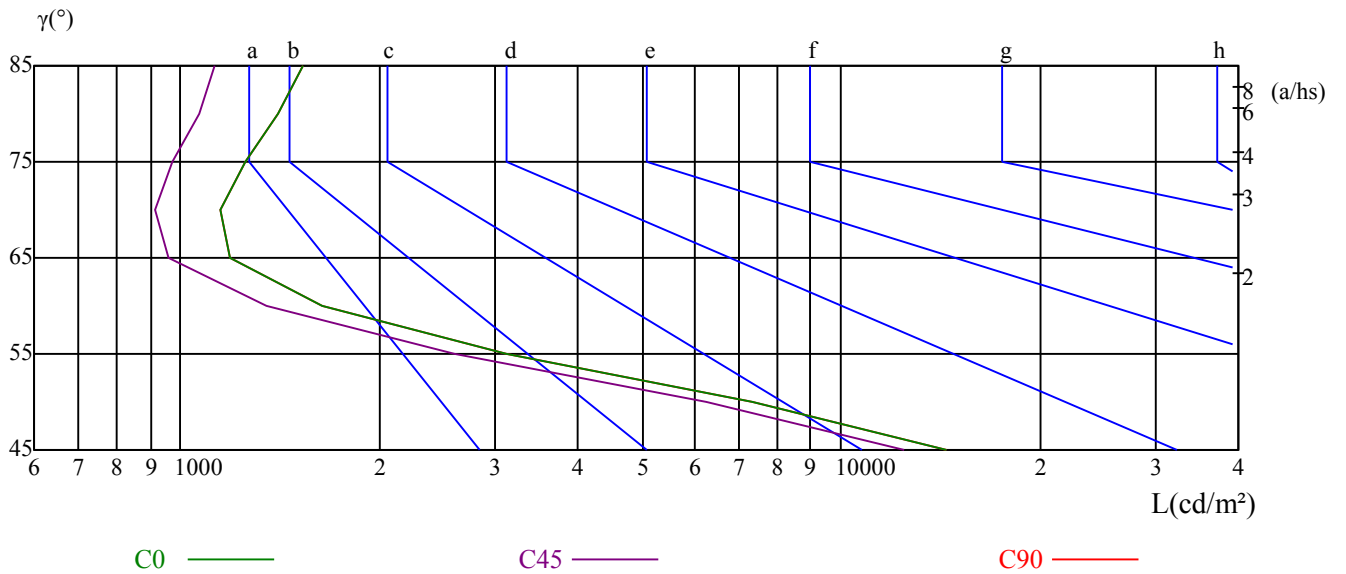
γ	45	50	55	60	65	70	75	80	85
C0	14461	7356	3108	1636	1188	1150	1252	1409	1533
C45	12489	6259	2603	1347	962	912	971	1066	1125
C90	14461	7356	3108	1636	1188	1150	1252	1409	1533

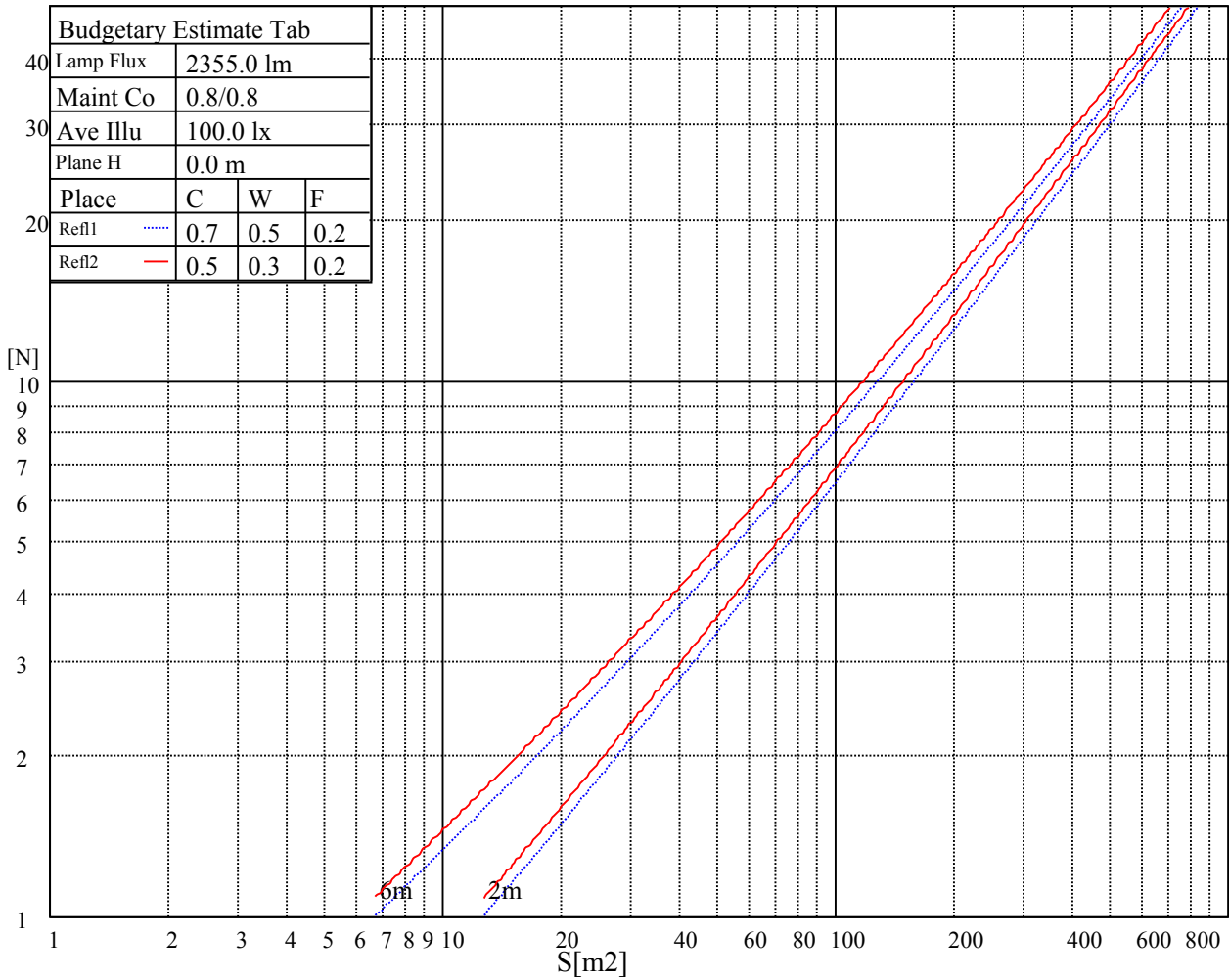
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2759	2759	2759	4131	4131	4131	12331	12331	12331

Glare Table

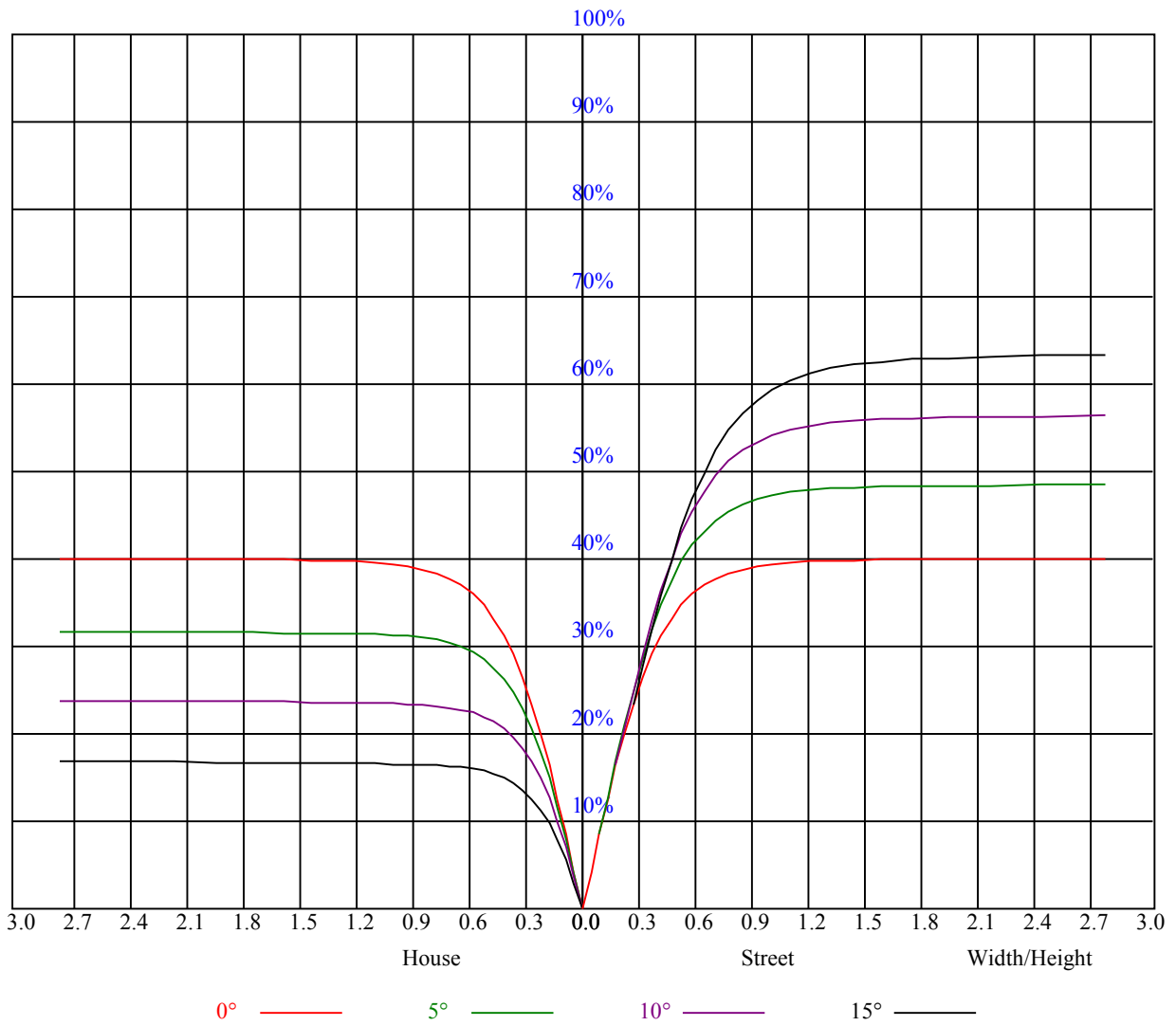
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

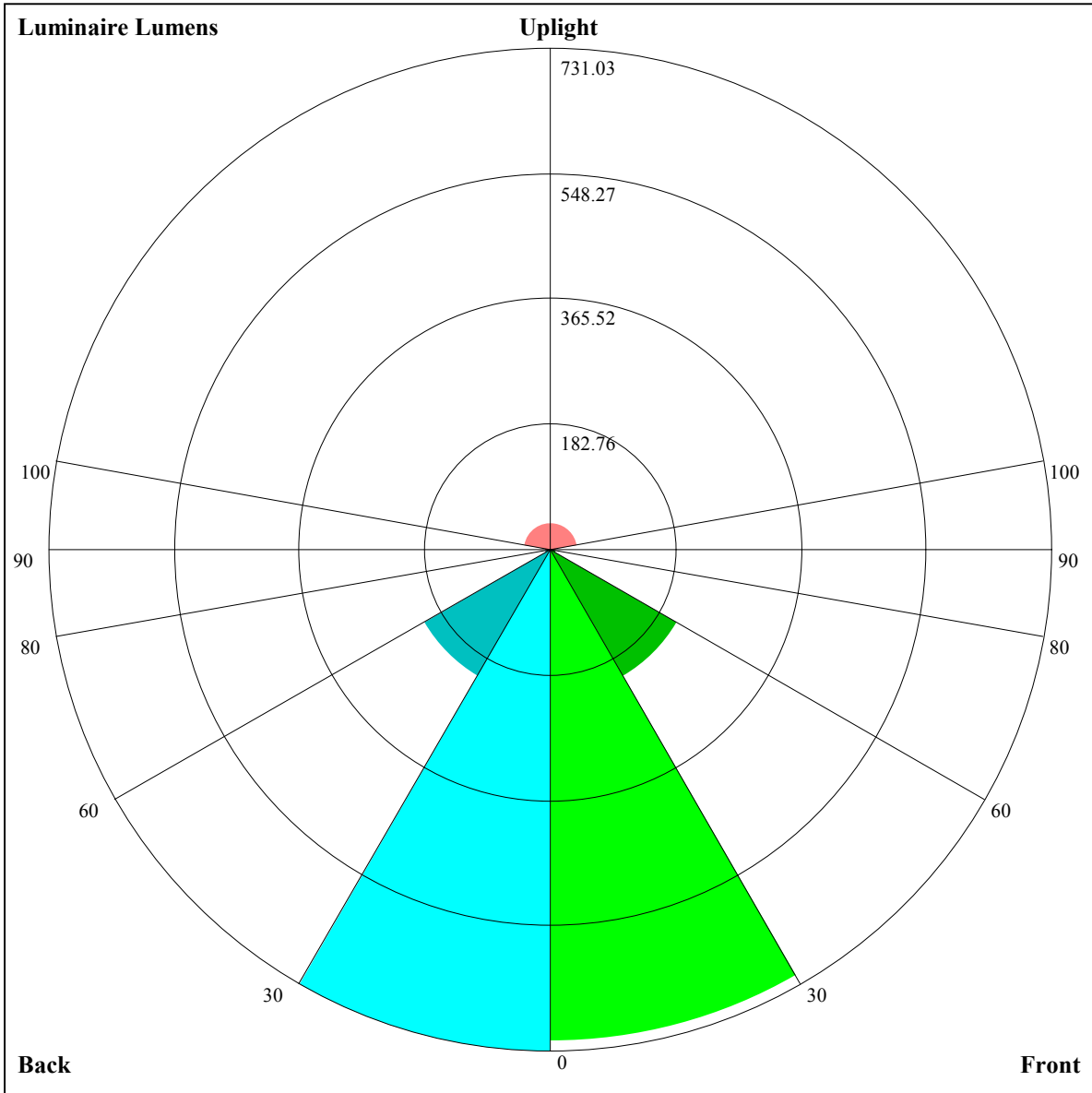
Luminance Limiting Curve





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	0.97	0.97	0.97	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.89	0.87	0.85	0.88	0.86	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.79	0.78	0.77	0.75
2	0.84	0.81	0.78	0.83	0.80	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.75	0.74	0.72	0.71
3	0.79	0.75	0.72	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	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	0.66	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.60
6	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.57
7	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.55
8	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.59	0.56	0.53	0.52
9	0.59	0.54	0.52	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.51	0.50
10	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.52	0.49	0.55	0.51	0.49	0.54	0.51	0.49	0.48





Luminaire Lumens:
FL=717.38,FM=212.17,FH=8.8,FVH=4.27
BL=731.03,BM=214.39,BH=8.9,BVH=4.3
UL=8.18,UH=38.91

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	2850.27	2814.48	2638.30	2281.54	1841.64	1272.90	792.26	468.53	280.24
45.0	2848.62	2813.93	2588.20	2220.42	1700.14	1116.54	698.12	399.71	284.64
90.0	2849.72	2812.28	2581.04	2189.59	1659.95	1077.78	657.76	376.81	204.26
135.0	2849.17	2855.78	2696.11	2344.85	1871.92	1265.75	771.34	436.05	284.09
180.0	2850.27	2845.87	2641.61	2254.01	1768.41	1095.79	713.75	412.98	231.73
225.0	2848.62	2834.30	2700.52	2361.37	1897.24	1244.27	827.72	455.81	282.82
270.0	2849.72	2819.44	2685.10	2374.03	1945.14	1401.19	888.61	509.82	300.06
315.0	2849.17	2799.07	2593.71	2253.46	1776.67	1084.45	747.28	427.79	246.05
360.0	2850.27	2814.48	2638.30	2281.54	1841.64	1272.90	792.26	468.53	280.24

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	129.93	65.19	26.87	12.94	8.81	7.82	7.82	7.93	8.15
45.0	108.13	52.30	19.27	11.23	8.31	7.87	7.82	7.87	7.87
90.0	100.31	47.84	17.62	10.85	8.04	7.82	7.76	7.82	7.71
135.0	121.12	60.29	25.00	12.33	8.53	7.82	7.76	7.82	7.93
180.0	110.88	56.54	21.80	11.78	8.20	7.76	7.76	7.82	7.98
225.0	138.52	69.04	31.38	13.82	8.97	7.82	8.59	10.02	7.87
270.0	151.24	73.89	31.99	15.03	9.41	7.87	7.82	7.82	7.93
315.0	117.77	60.18	24.39	12.06	8.70	7.87	7.93	7.98	8.15
360.0	129.93	65.19	26.87	12.94	8.81	7.82	7.82	7.93	8.15

C/γ(°)	90.0
0.0	7.43
45.0	7.54
90.0	7.54
135.0	7.49
180.0	7.43
225.0	7.49
270.0	7.54
315.0	7.49
360.0	7.43