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## Nata

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Client:

LumCAT: PH24L28060AW

Luminaire:

Report No:

Voltage(V): 12.1000

Test No: GC2019082907

Current(A): 0.3490

LampCAT: SAMSUNG 5630

Power (W): 4.2230

Lamp flux(lm): 681.2

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 27

Width(mm): 280

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 579.75, Efficiency(%): 85.11% , Luminous Efficacy(lm/W): 137.28

Central intensity(cd): 365.147, Maximum intensity(cd): 365.147

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

Beam Angle(50%Imax): [C0/180]Total=62.6

[C90/270]Total=62.6

Field angle(10%Imax): [C0/180]Total=149.2

[C90/270]Total=149.2

Maximum s/h(1/2): C0\_180=0.90 C90\_270=0.90

Maximum s/h(1/4): C0\_180=0.96 C90\_270=0.96

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.11%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 81.335%

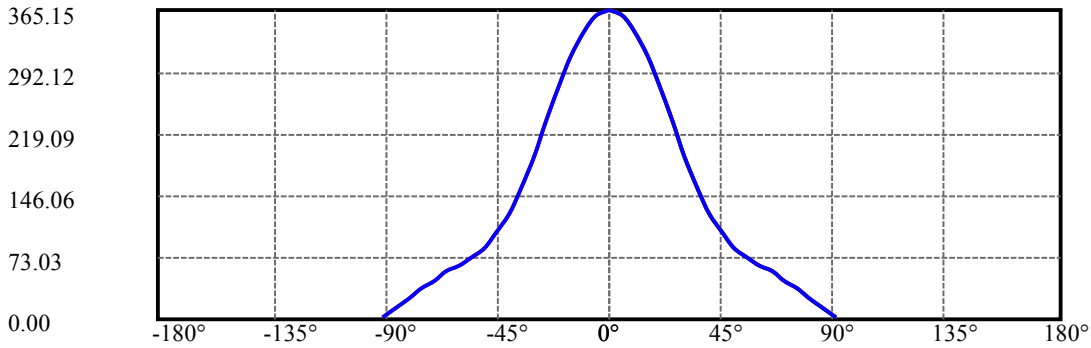
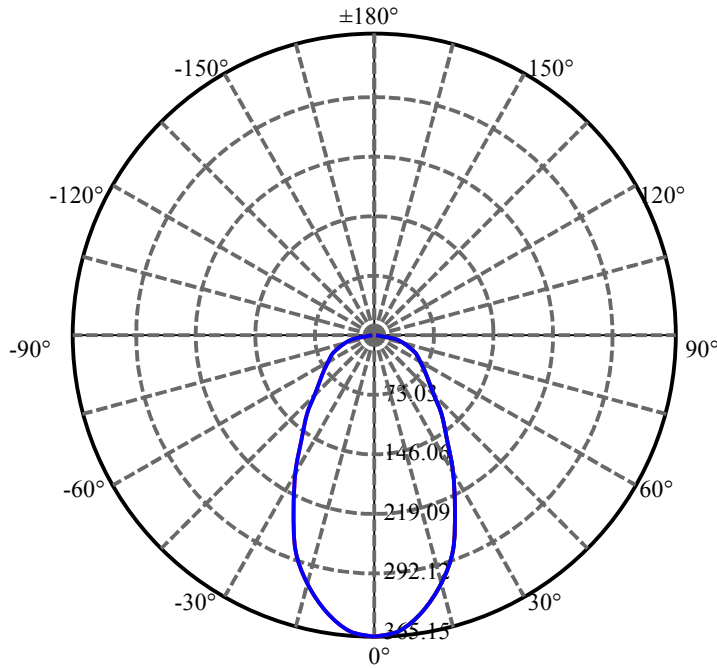
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	365.147	0.000	0	.000%	.000%
5.0	358.973	8.657	8.657	1.271%	1.493%
10.0	340.755	25.032	33.688	3.675%	5.811%
15.0	311.273	38.678	72.366	5.678%	12.482%
20.0	276.195	48.416	120.782	7.108%	20.833%
25.0	232.657	53.369	174.151	7.835%	30.039%
30.0	191.946	53.734	227.885	7.889%	39.308%
35.0	154.920	51.078	278.963	7.499%	48.118%
40.0	125.782	46.833	325.796	6.875%	56.196%
45.0	101.433	42.071	367.867	6.176%	63.453%
50.0	84.966	37.665	405.531	5.529%	69.950%
55.0	72.689	34.279	439.811	5.032%	75.862%
60.0	64.582	31.730	471.54	4.658%	81.335%
65.0	55.751	29.253	500.794	4.295%	86.381%
70.0	46.048	25.776	526.57	3.784%	90.827%
75.0	35.747	21.380	547.949	3.139%	94.515%
80.0	25.931	16.503	564.453	2.423%	97.362%
85.0	13.802	10.797	575.249	1.585%	99.224%
90.0	2.630	4.499	579.748	.661%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	227.88	33.46%	39.31%
0-40	325.80	47.83%	56.20%
0-60	471.54	69.23%	81.34%
0-90	575.25	84.45%	99.22%
0-120	575.25	84.45%	99.22%
0-180	579.75	85.11%	100.00%
60-90	135.44	19.88%	23.36%
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%
0-58.78	463.80	68.09%	80.00%

ZONAL LUMEN SUMMARY

0-10	33.69
10-20	87.09
20-30	107.10
30-40	97.91
40-50	79.74
50-60	66.01
60-70	55.03
70-80	37.88
80-90	10.80
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: —————

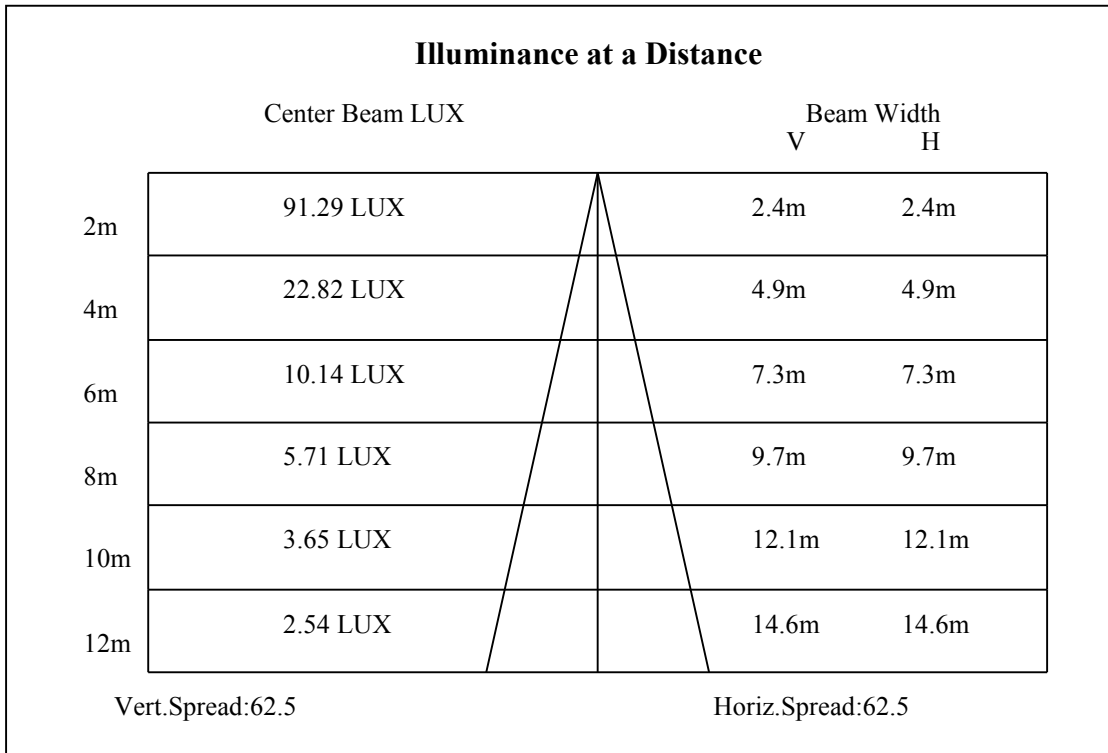
C90/C270: —————

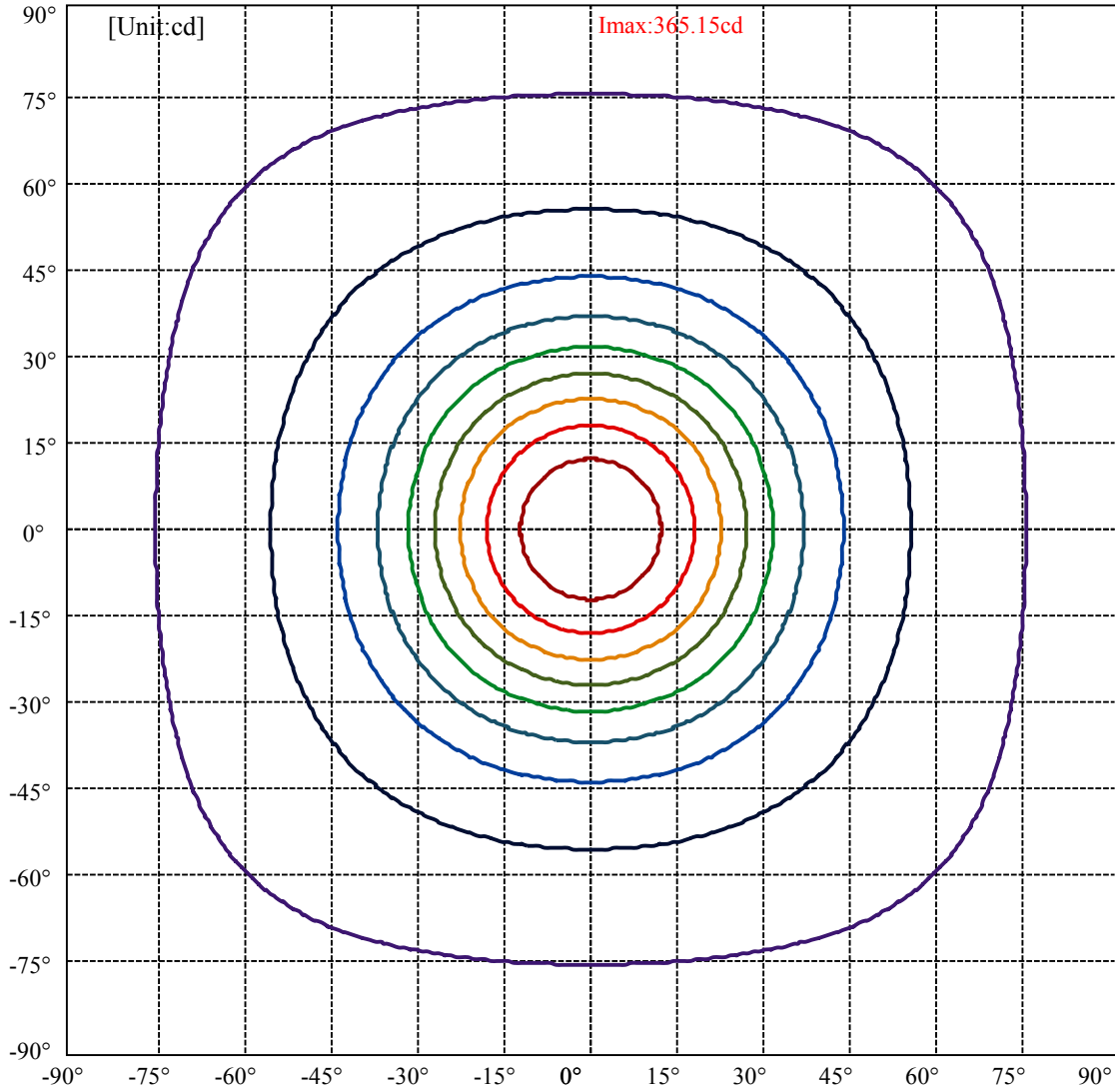
Field angle(10%Imax):C0/180Left:74.6 Right:74.6

:C90/270Left:74.6 Right:74.6

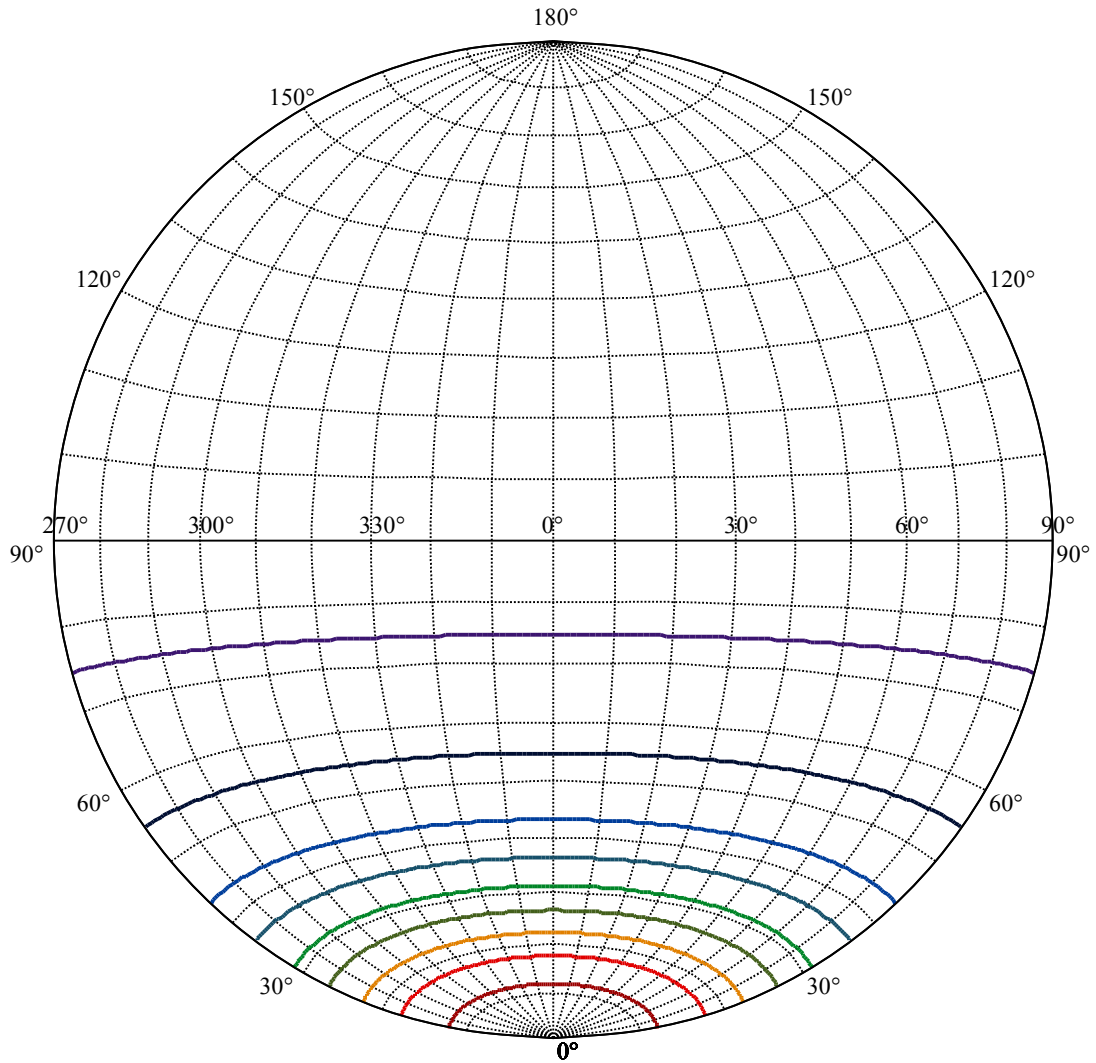
Beam Angle(50%Imax):C0/180Left:31.3 Right:31.3

:C90/270Left:31.3 Right:31.3





(10%Imax) 36.5147	—
(20%Imax) 73.0294	—
(30%Imax) 109.544	—
(40%Imax) 146.059	—
(50%Imax) 182.573	—
(60%Imax) 219.088	—
(70%Imax) 255.603	—
(80%Imax) 292.117	—
(90%Imax) 328.632	—



House

[Unit:cd]

Road

**Imax:365.15**

(10%Imax) 36.5147

(20%Imax) 73.0294

(30%Imax) 109.544

(40%Imax) 146.059

(50%Imax) 182.573

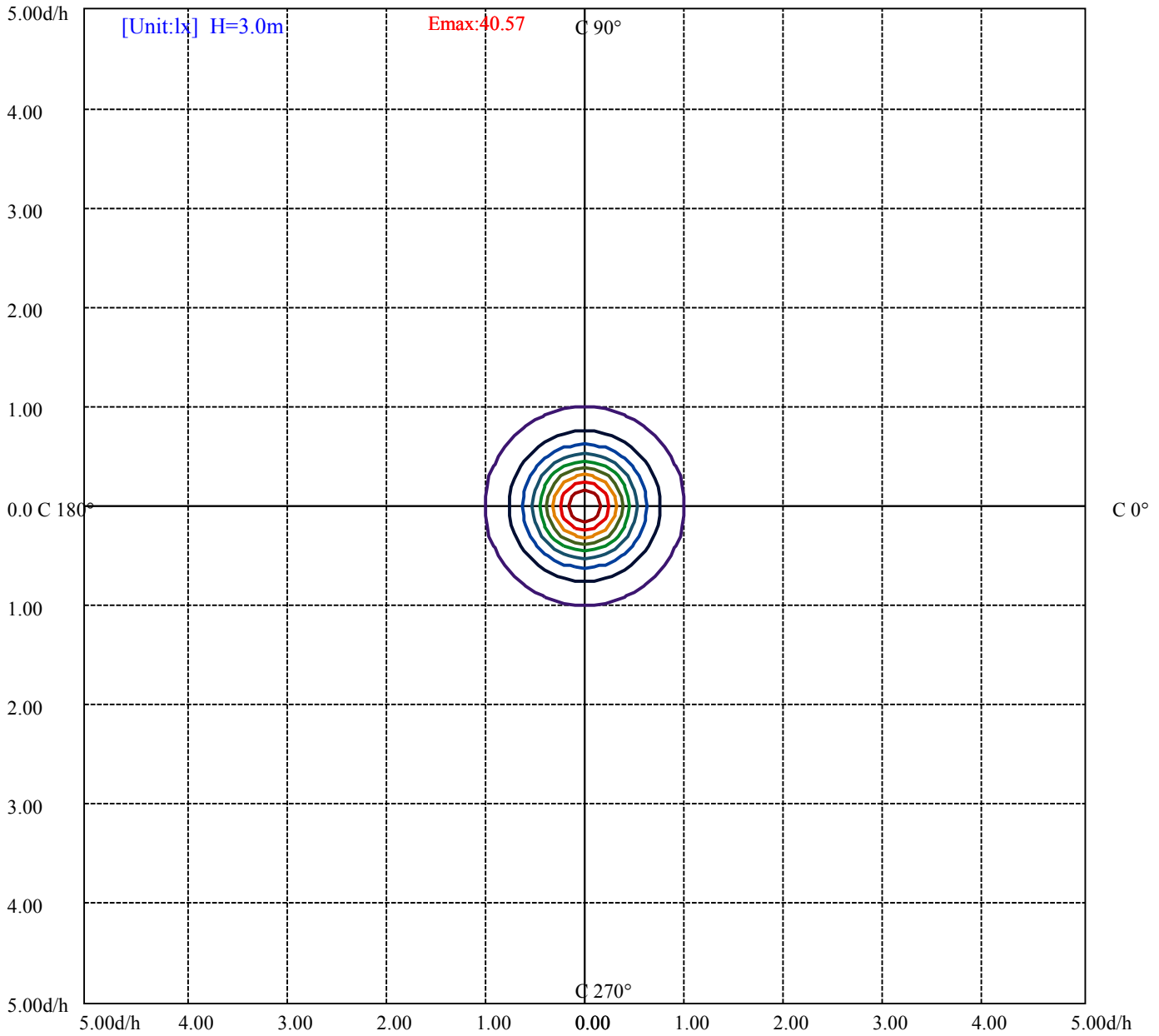
(60%Imax) 219.088

(70%Imax) 255.603

(80%Imax) 292.117

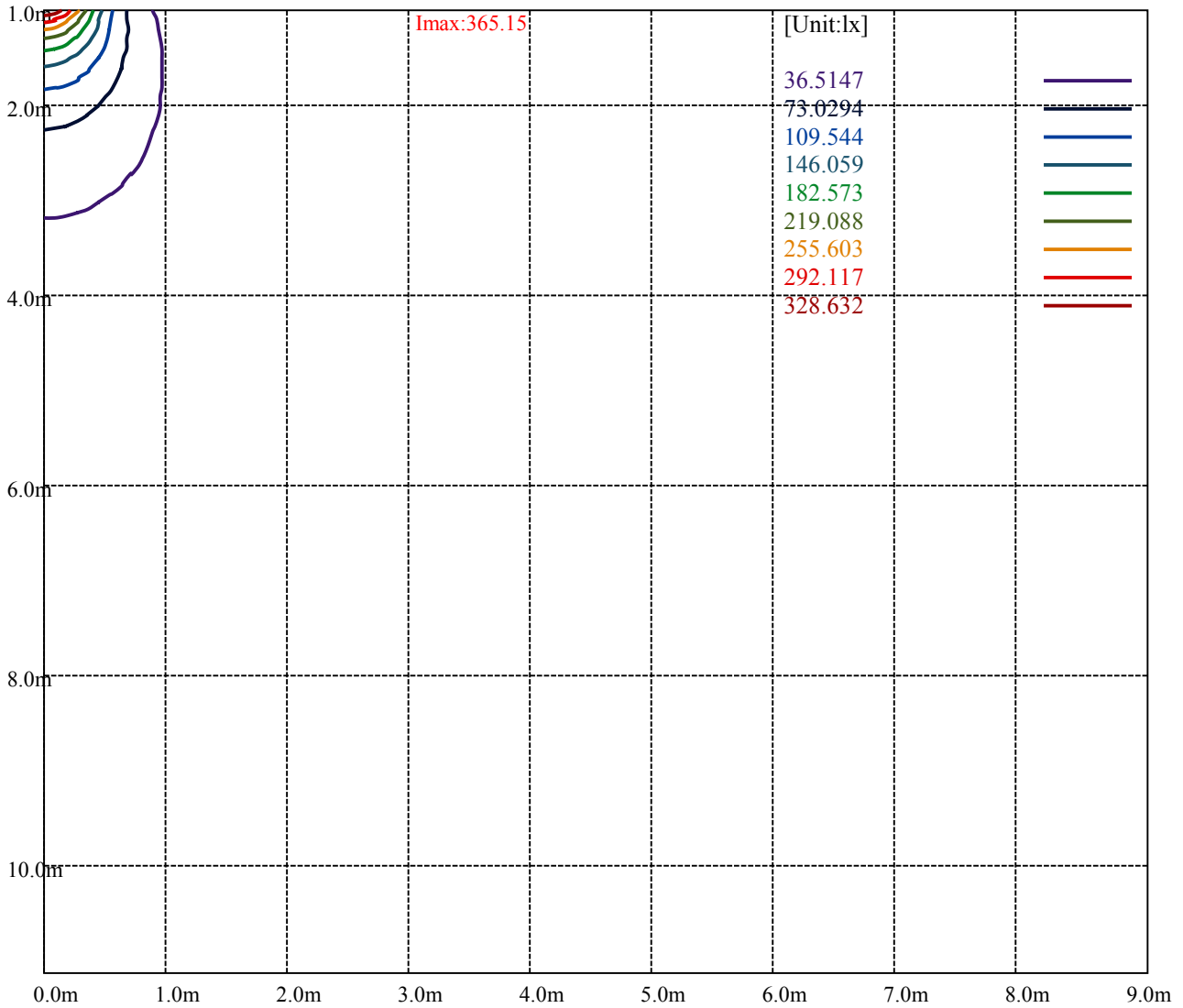
(90%Imax) 328.632





- (10%Emax) 4.057189
- (20%Emax) 8.114367
- (30%Emax) 12.17156
- (40%Emax) 16.22878
- (50%Emax) 20.28589
- (60%Emax) 24.34311
- (70%Emax) 28.40033
- (80%Emax) 32.45744
- (90%Emax) 36.51466





Luminance Table

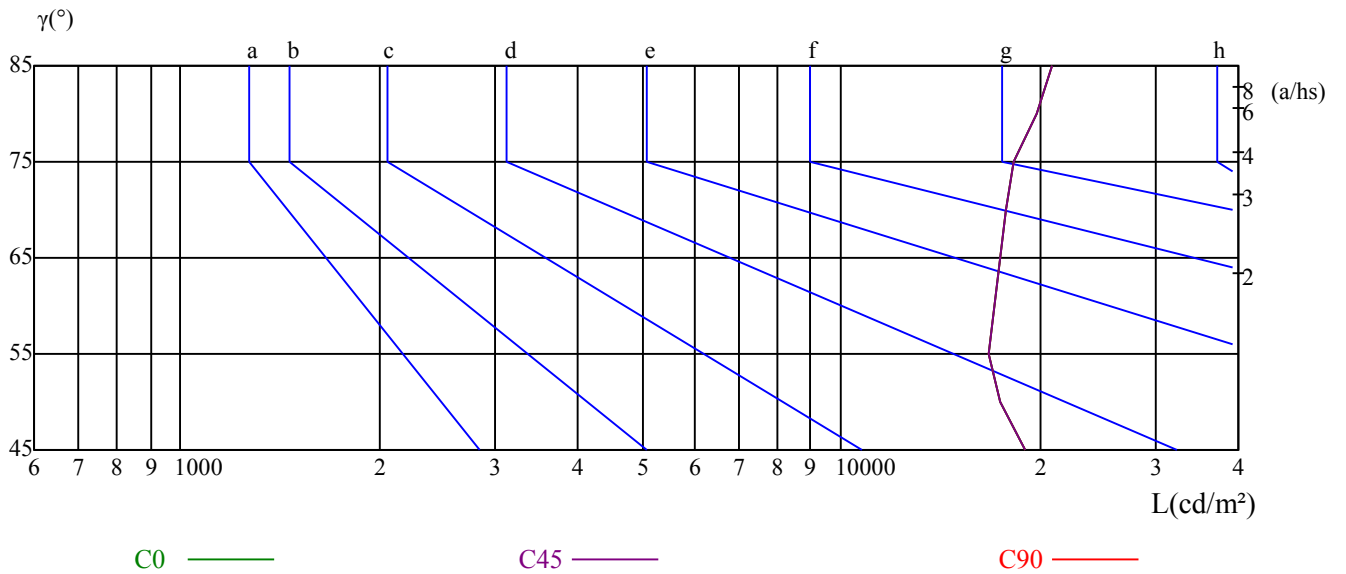
$\gamma$	45	50	55	60	65	70	75	80	85
C0	18975	17485	16763	17085	17449	17809	18269	19753	20948
C45	18975	17485	16763	17085	17449	17809	18269	19753	20948
C90	18975	17485	16763	17085	17449	17809	18269	19753	20948

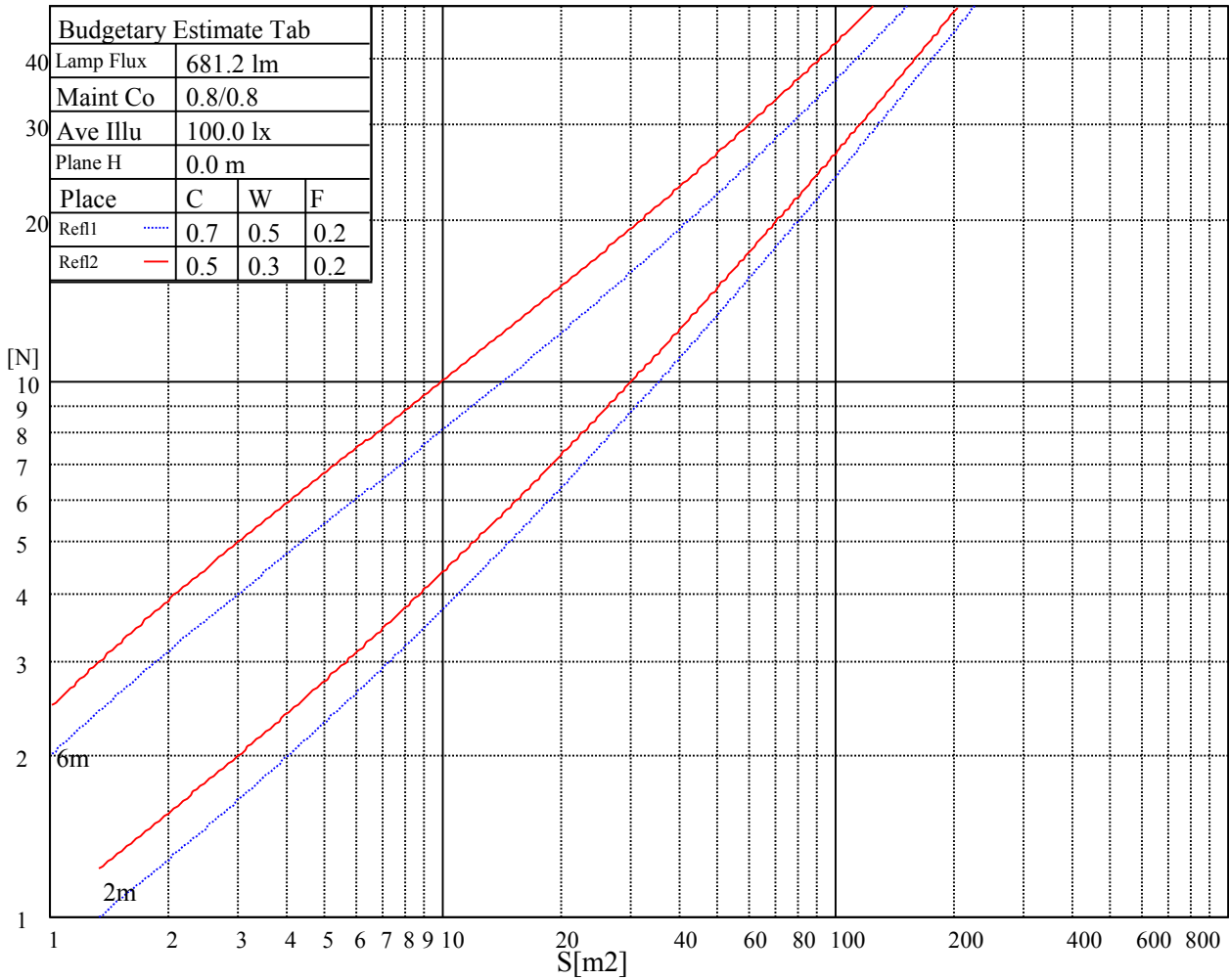
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17449	17449	17449	18269	18269	18269	20948	20948	20948

Glare Table

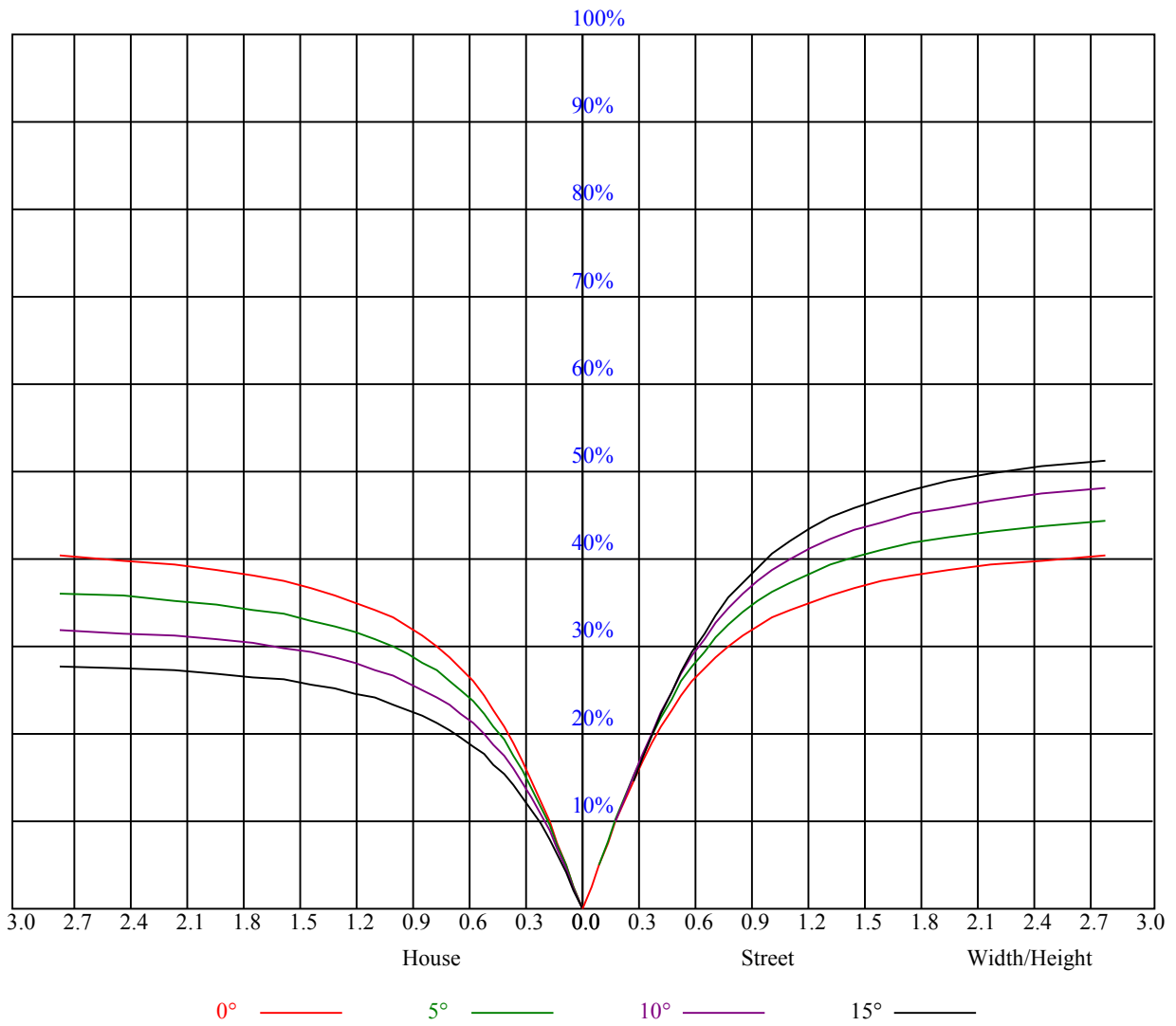
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

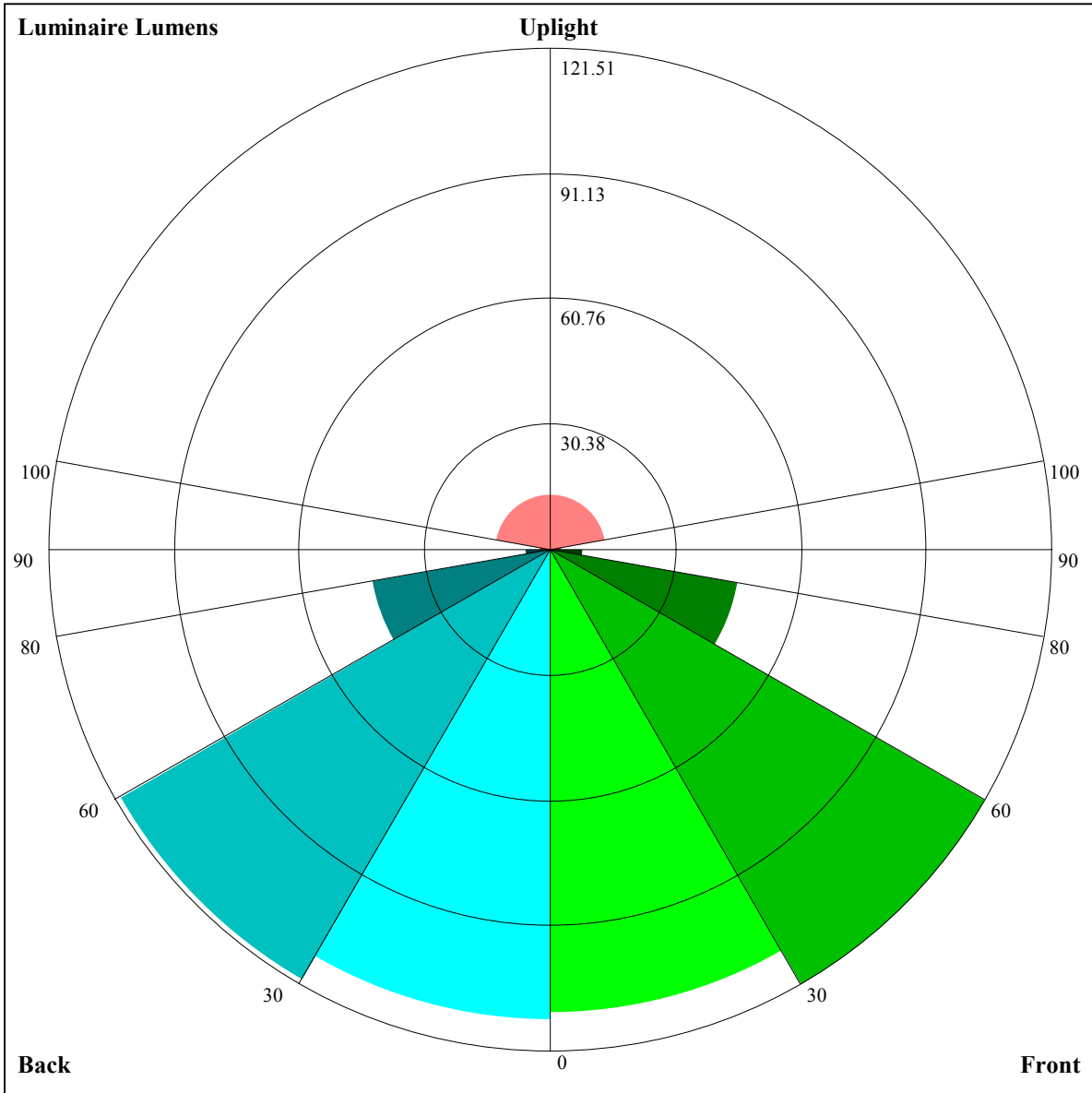
Luminance Limiting Curve





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	1.01	1.01	1.01	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.89	0.86	0.83	0.87	0.84	0.81	0.84	0.81	0.79	0.80	0.78	0.76	0.77	0.76	0.74	0.72
2	0.79	0.73	0.69	0.77	0.72	0.68	0.74	0.70	0.67	0.72	0.68	0.65	0.69	0.66	0.64	0.62
3	0.70	0.64	0.59	0.69	0.63	0.58	0.67	0.62	0.57	0.64	0.60	0.56	0.62	0.59	0.55	0.54
4	0.63	0.57	0.51	0.62	0.56	0.51	0.60	0.55	0.50	0.58	0.54	0.50	0.57	0.52	0.49	0.47
5	0.58	0.51	0.45	0.57	0.50	0.45	0.55	0.49	0.45	0.53	0.48	0.44	0.52	0.47	0.44	0.42
6	0.53	0.46	0.41	0.52	0.45	0.40	0.50	0.45	0.40	0.49	0.44	0.40	0.48	0.43	0.39	0.38
7	0.48	0.42	0.37	0.48	0.41	0.37	0.47	0.41	0.36	0.45	0.40	0.36	0.44	0.39	0.36	0.34
8	0.45	0.38	0.33	0.44	0.38	0.33	0.43	0.37	0.33	0.42	0.37	0.33	0.41	0.36	0.33	0.31
9	0.42	0.35	0.31	0.41	0.35	0.31	0.40	0.35	0.31	0.39	0.34	0.30	0.38	0.34	0.30	0.29
10	0.39	0.33	0.28	0.38	0.32	0.28	0.38	0.32	0.28	0.37	0.32	0.28	0.36	0.31	0.28	0.27





Luminaire Lumens:

FL=112.37,FM=121.51,FH=46,FVH=7.94

BL=114.07,BM=120.44,BH=43.88,BVH=6.4

UL=2.87,UH=13.65

BUG Rating:B1-U2-G0

Intensity data(cd)

<b>C/γ(°)</b>	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>
<b>0.0</b>	368.16	360.39	340.93	309.60	273.99	230.74	191.25	160.03	132.19
<b>45.0</b>	365.23	358.54	340.43	310.33	274.28	233.78	193.16	154.69	127.63
<b>90.0</b>	360.79	352.86	331.88	301.44	262.80	219.66	182.25	146.08	118.86
<b>135.0</b>	366.41	361.41	345.88	318.26	287.27	241.71	199.58	159.24	129.04
<b>180.0</b>	368.16	364.39	345.60	315.79	283.22	237.38	194.85	156.94	125.72
<b>225.0</b>	365.23	359.33	342.00	313.76	277.09	233.61	193.95	154.46	123.41
<b>270.0</b>	360.79	357.24	341.33	313.20	279.79	236.70	195.02	156.09	126.39
<b>315.0</b>	366.41	357.64	338.01	307.80	271.13	227.70	185.51	151.82	123.02
<b>360.0</b>	368.16	360.39	340.93	309.60	273.99	230.74	191.25	160.03	132.19
<b>C/γ(°)</b>	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>
<b>0.0</b>	111.32	96.08	84.66	79.93	75.60	58.84	45.51	34.48	21.21
<b>45.0</b>	100.86	83.14	69.81	60.08	51.86	45.28	38.03	29.14	19.52
<b>90.0</b>	96.53	83.64	70.71	59.06	48.60	38.36	27.56	18.11	8.66
<b>135.0</b>	102.26	83.48	69.86	60.13	53.04	46.97	36.68	27.23	16.26
<b>180.0</b>	100.97	86.18	78.19	81.00	64.80	50.06	38.53	28.80	8.55
<b>225.0</b>	99.06	80.66	67.33	57.15	50.40	43.48	33.81	23.68	10.18
<b>270.0</b>	101.25	83.53	71.10	59.29	48.09	38.53	28.74	19.07	8.89
<b>315.0</b>	99.23	83.03	69.86	60.02	53.61	46.86	37.13	26.94	17.16
<b>360.0</b>	111.32	96.08	84.66	79.93	75.60	58.84	45.51	34.48	21.21
<b>C/γ(°)</b>	<b>90.0</b>								
<b>0.0</b>	2.53								
<b>45.0</b>	2.48								
<b>90.0</b>	2.59								
<b>135.0</b>	2.76								
<b>180.0</b>	2.64								
<b>225.0</b>	2.70								
<b>270.0</b>	2.64								
<b>315.0</b>	2.70								
<b>360.0</b>	2.53								