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Nata

Client:

LumCAT: 2-1651-A

Luminaire: 92.70.129.00+92.70.148.00

Report No: NT2018031205

Voltage(V): 36.3700

Test No: nata-0100

Current(A): 0.5000

LampCAT: CREE CXA1816

Power (W): 18.1850

Lamp flux(lm): 1744.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 70

Width(mm): 70

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1491.21, Efficiency(%): 85.51% , Luminous Efficacy(lm/W): 82.00

Central intensity(cd): 4666.167, Maximum intensity(cd): 4666.167

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=29.0

[C90/270]Total=29.0

Field angle(10%Imax): [C0/180]Total=53.2

[C90/270]Total=53.2

Maximum s/h(1/2): C0_180=0.49 C90_270=0.49

Maximum s/h(1/4): C0_180=0.47 C90_270=0.47

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 87.02%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.486%

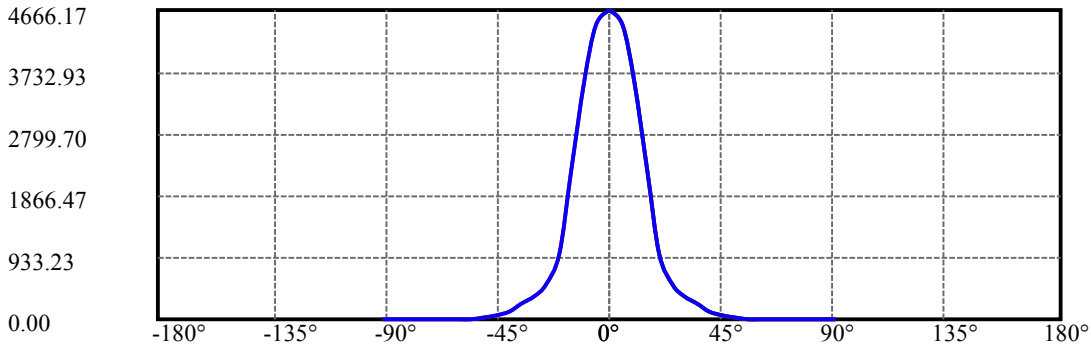
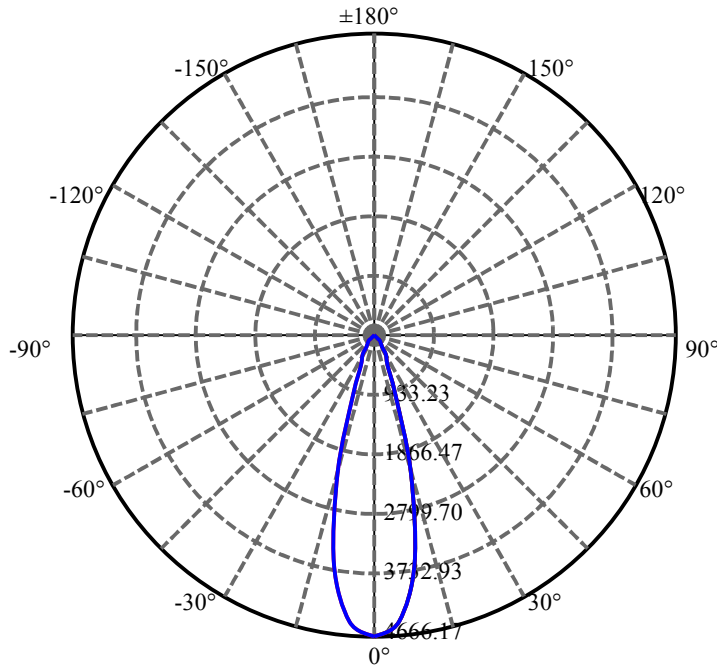
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4666.168	27.905	27.905	1.600%	1.871%
5.0	4430.733	211.671	239.575	12.137%	16.066%
10.0	3600.138	342.672	582.248	19.649%	39.045%
15.0	2193.998	311.259	893.506	17.847%	59.918%
20.0	988.613	185.339	1078.846	10.627%	72.347%
25.0	520.434	120.560	1199.406	6.913%	80.432%
30.0	354.639	97.195	1296.601	5.573%	86.949%
35.0	226.922	71.344	1367.945	4.091%	91.734%
40.0	128.825	45.390	1413.335	2.603%	94.777%
45.0	67.011	25.973	1439.308	1.489%	96.519%
50.0	33.626	14.119	1453.427	.810%	97.466%
55.0	14.473	6.498	1459.926	.373%	97.902%
60.0	9.360	4.443	1464.369	.255%	98.200%
65.0	9.071	4.506	1468.875	.258%	98.502%
70.0	8.967	4.619	1473.493	.265%	98.812%
75.0	10.000	5.294	1478.788	.304%	99.167%
80.0	11.163	6.026	1484.814	.346%	99.571%
85.0	8.706	4.754	1489.567	.273%	99.890%
90.0	6.008	1.647	1491.214	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1296.60	74.35%	86.95%
0-40	1413.33	81.04%	94.78%
0-60	1464.37	83.97%	98.20%
0-90	1489.57	85.41%	99.89%
0-120	1489.57	85.41%	99.89%
0-180	1491.21	85.51%	100.00%
60-90	29.64	1.70%	1.99%
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%
0-24.73	1192.97	68.40%	80.00%

ZONAL LUMEN SUMMARY

0-10	582.25
10-20	496.60
20-30	217.76
30-40	116.73
40-50	40.09
50-60	10.94
60-70	9.12
70-80	11.32
80-90	4.75
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: ———

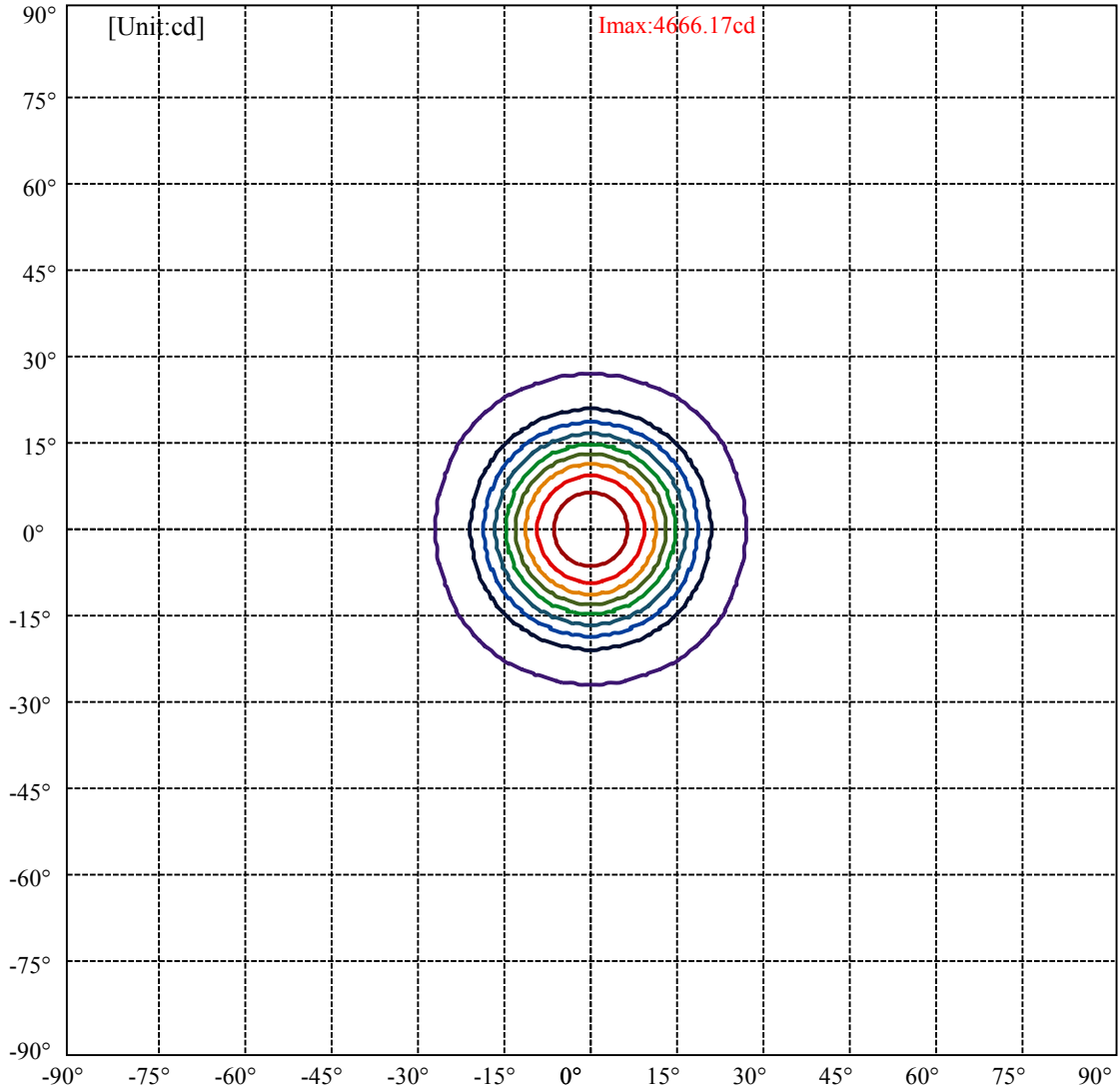
C90/C270: ———

Field angle(10%Imax):C0/180Left:26.6 Right:26.6

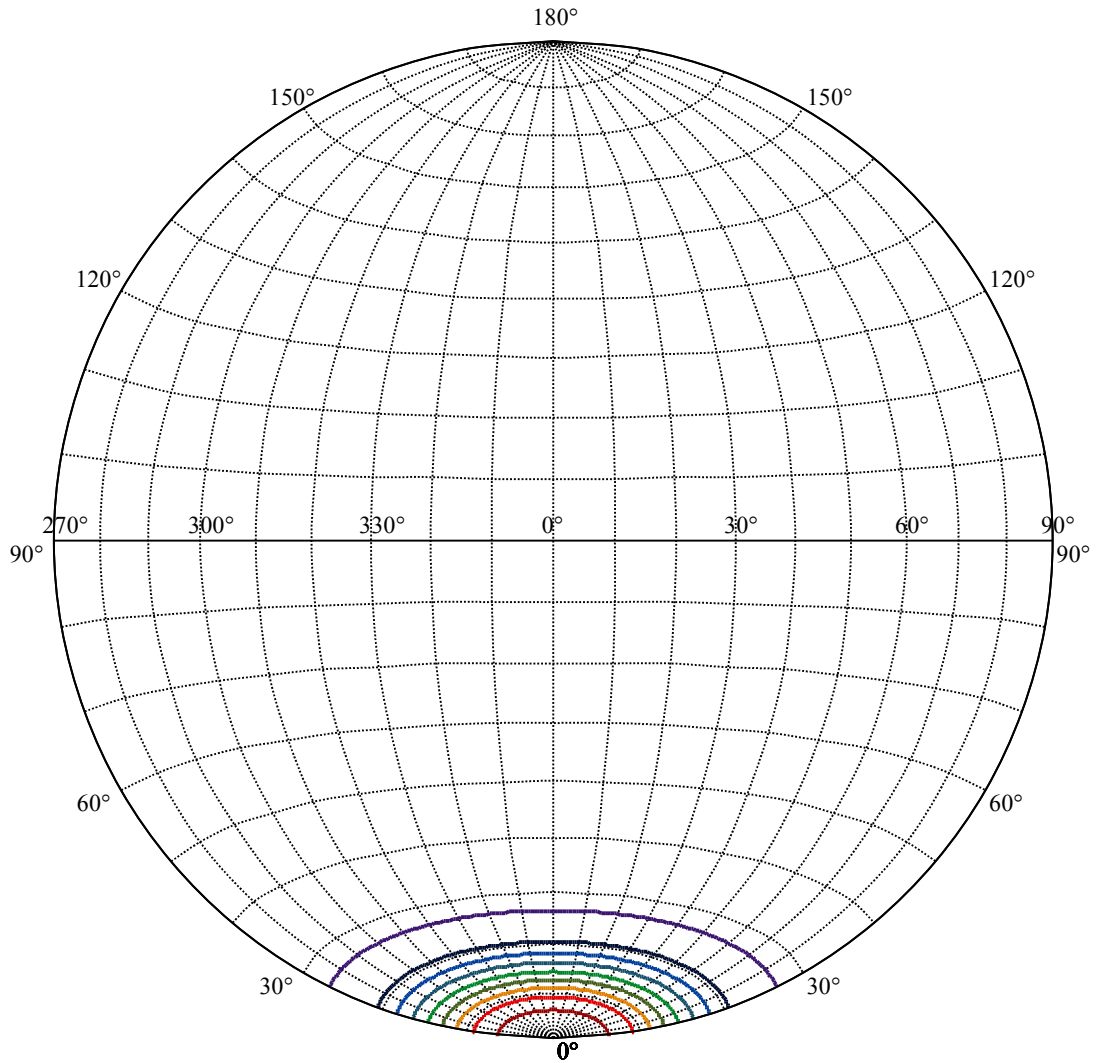
:C90/270Left:26.6 Right:26.6

Beam Angle(50%Imax):C0/180Left:14.5 Right:14.5

:C90/270Left:14.5 Right:14.5



(10%Imax) 466.617	—
(20%Imax) 933.234	—
(30%Imax) 1399.85	—
(40%Imax) 1866.47	—
(50%Imax) 2333.08	—
(60%Imax) 2799.7	—
(70%Imax) 3266.32	—
(80%Imax) 3732.93	—
(90%Imax) 4199.55	—



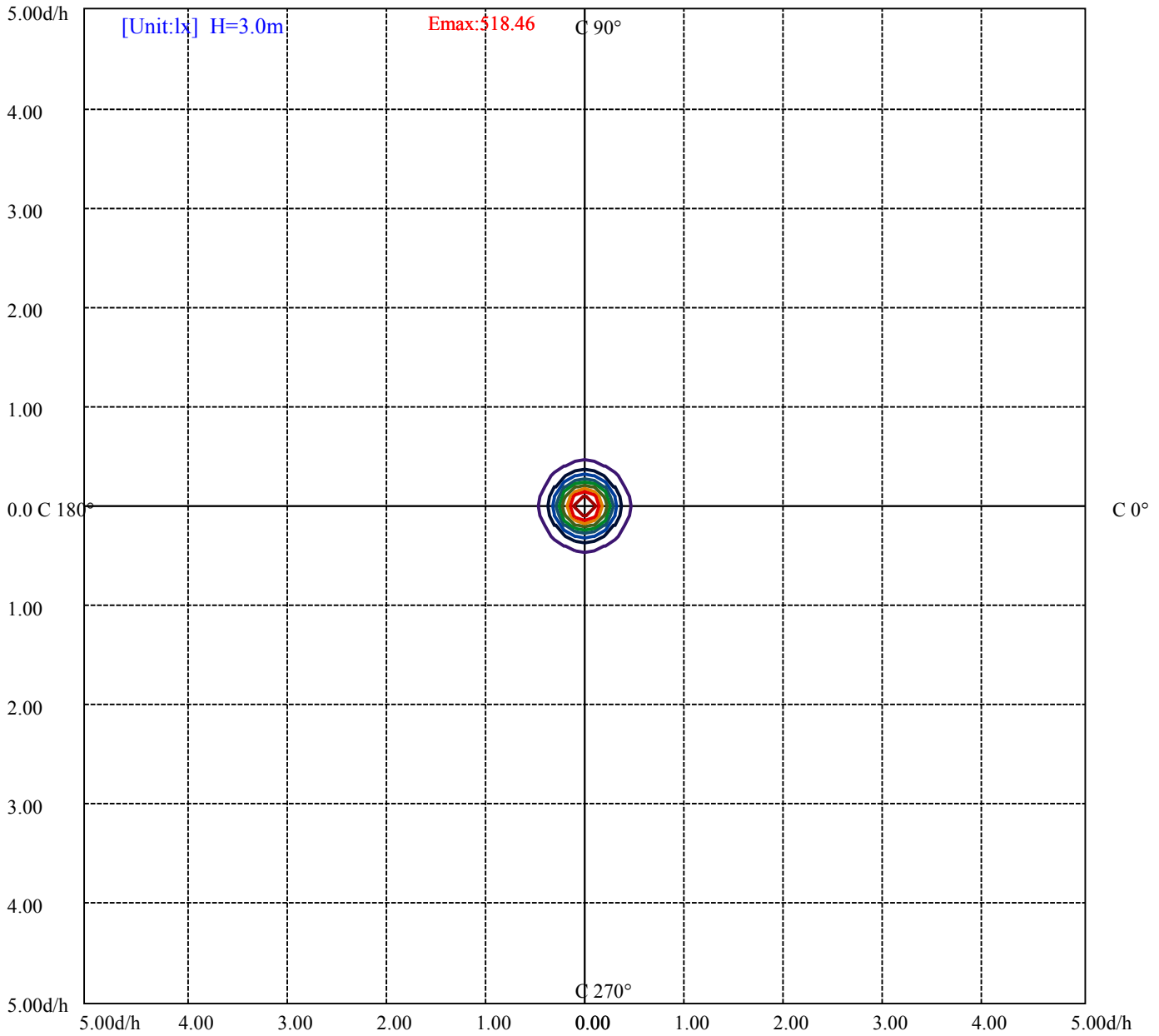
House

[Unit:cd]

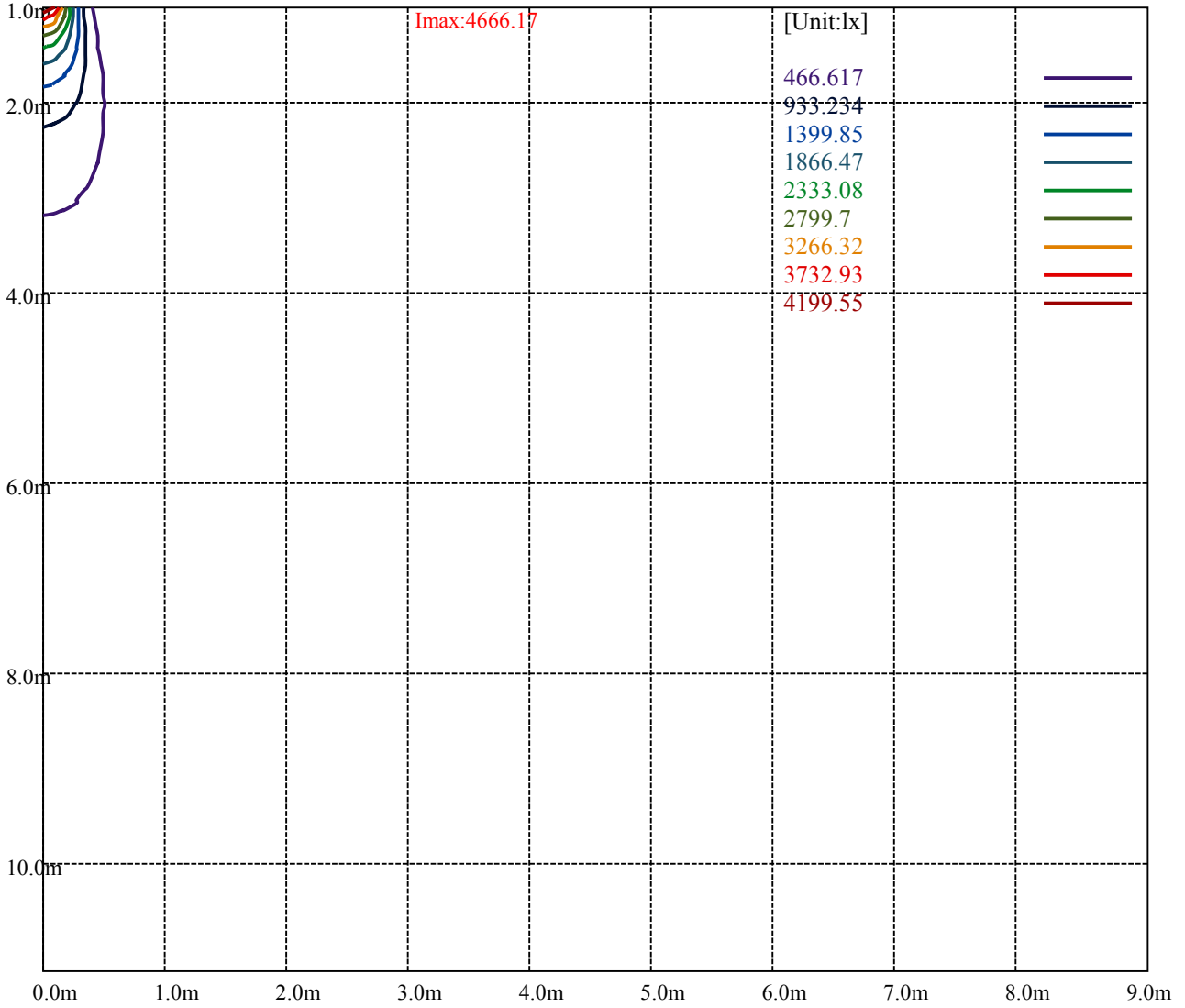
Road

Imax:4666.17

(10%Imax) 466.617	—
(20%Imax) 933.234	—
(30%Imax) 1399.85	—
(40%Imax) 1866.47	—
(50%Imax) 2333.08	—
(60%Imax) 2799.7	—
(70%Imax) 3266.32	—
(80%Imax) 3732.93	—
(90%Imax) 4199.55	—



- (10%Emax) 51.84622
- (20%Emax) 103.6924
- (30%Emax) 155.5389
- (40%Emax) 207.3844
- (50%Emax) 259.2311
- (60%Emax) 311.0778
- (70%Emax) 362.9233
- (80%Emax) 414.77
- (90%Emax) 466.6156



Luminance Table

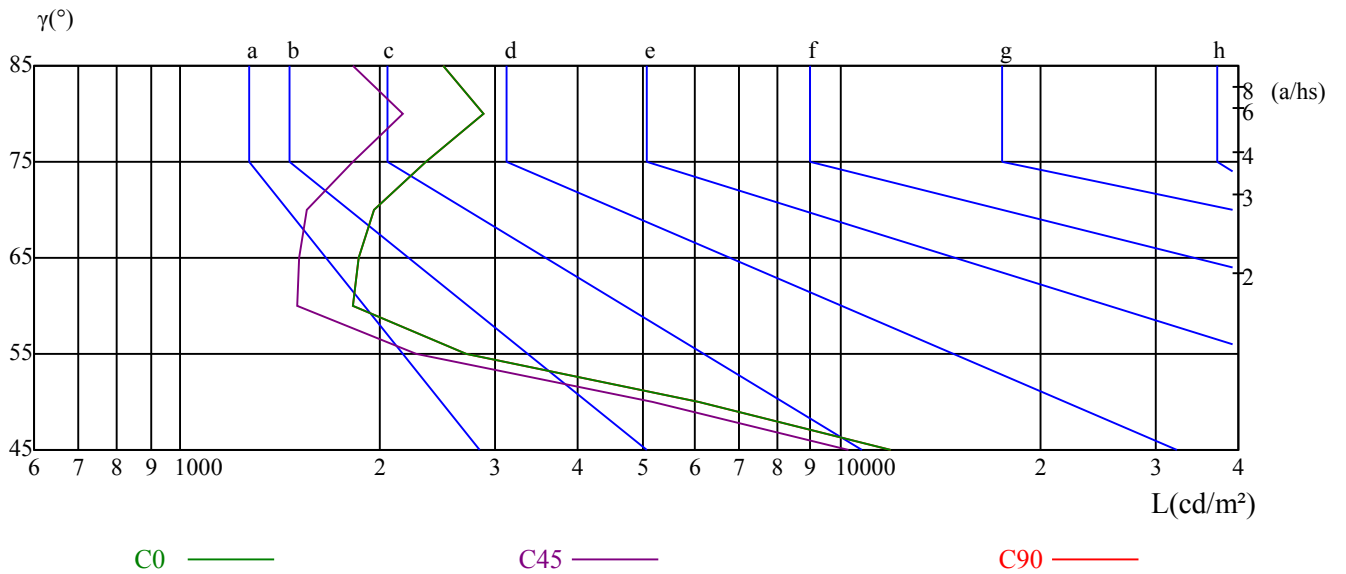
γ	45	50	55	60	65	70	75	80	85
C0	11876	6104	2714	1829	1866	1962	2357	2874	2491
C45	10239	5184	2269	1504	1507	1554	1826	2172	1827
C90	11876	6104	2714	1829	1866	1962	2357	2874	2491

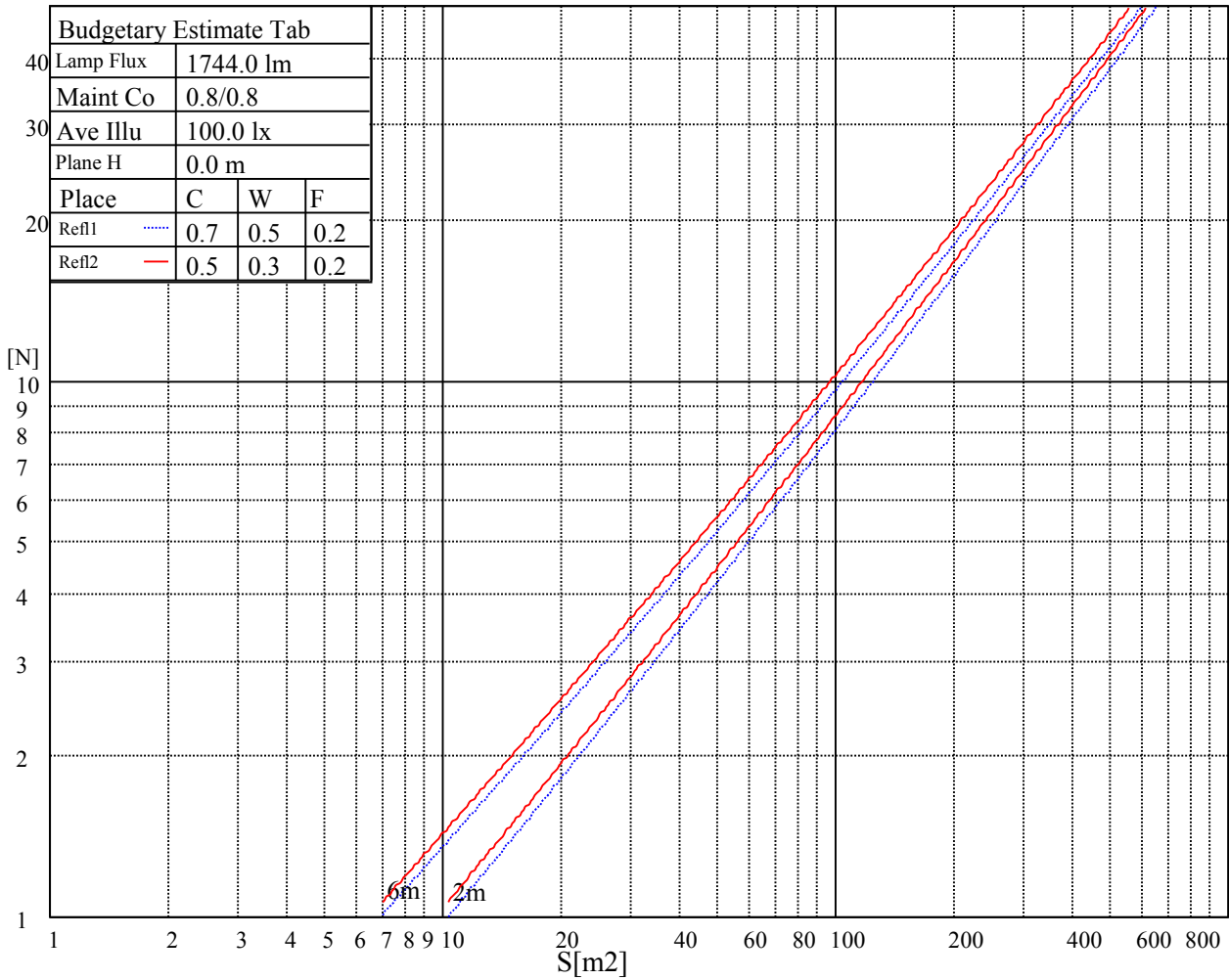
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4380	4380	4380	7885	7885	7885	20385	20385	20385

Glare Table

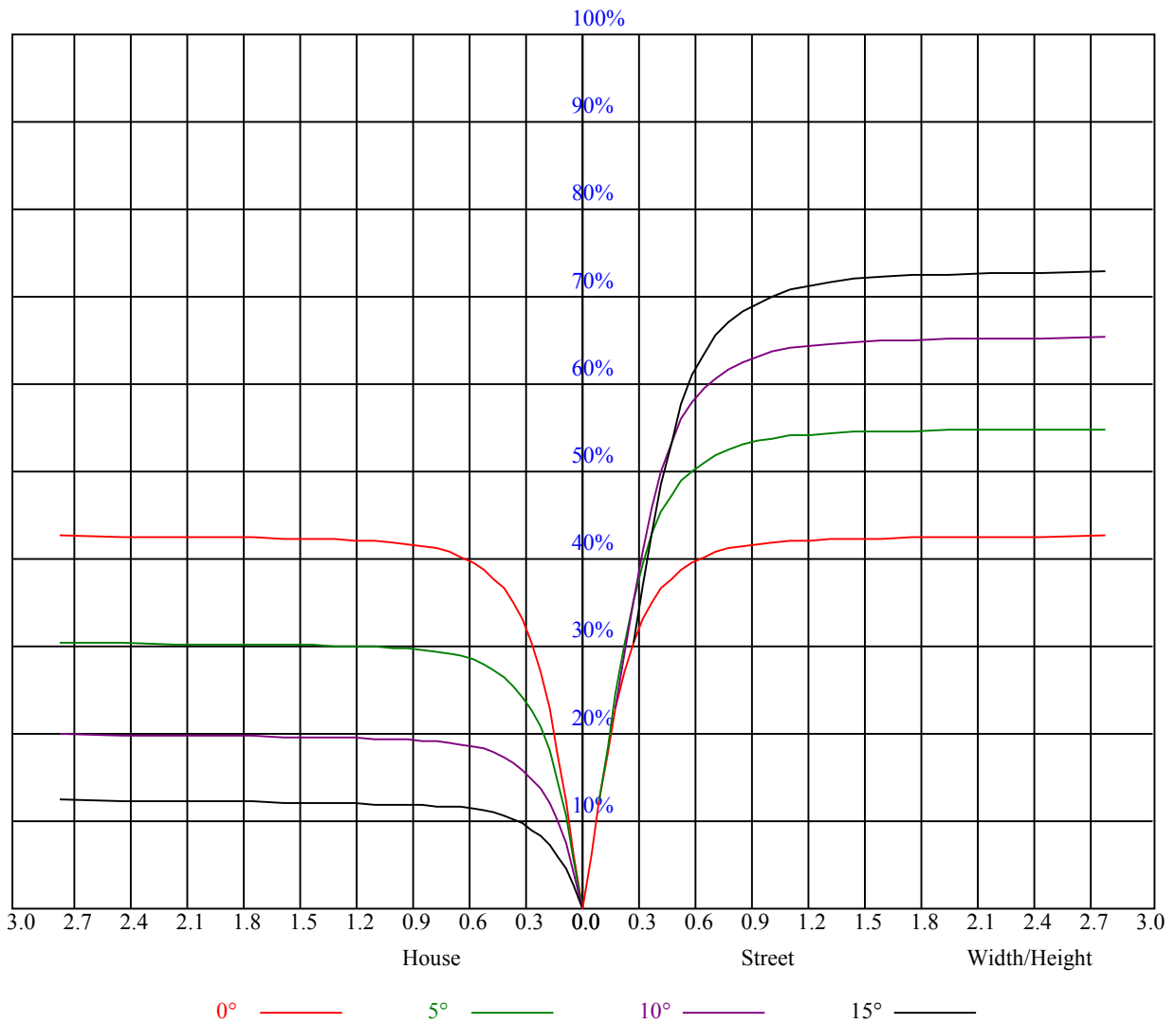
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

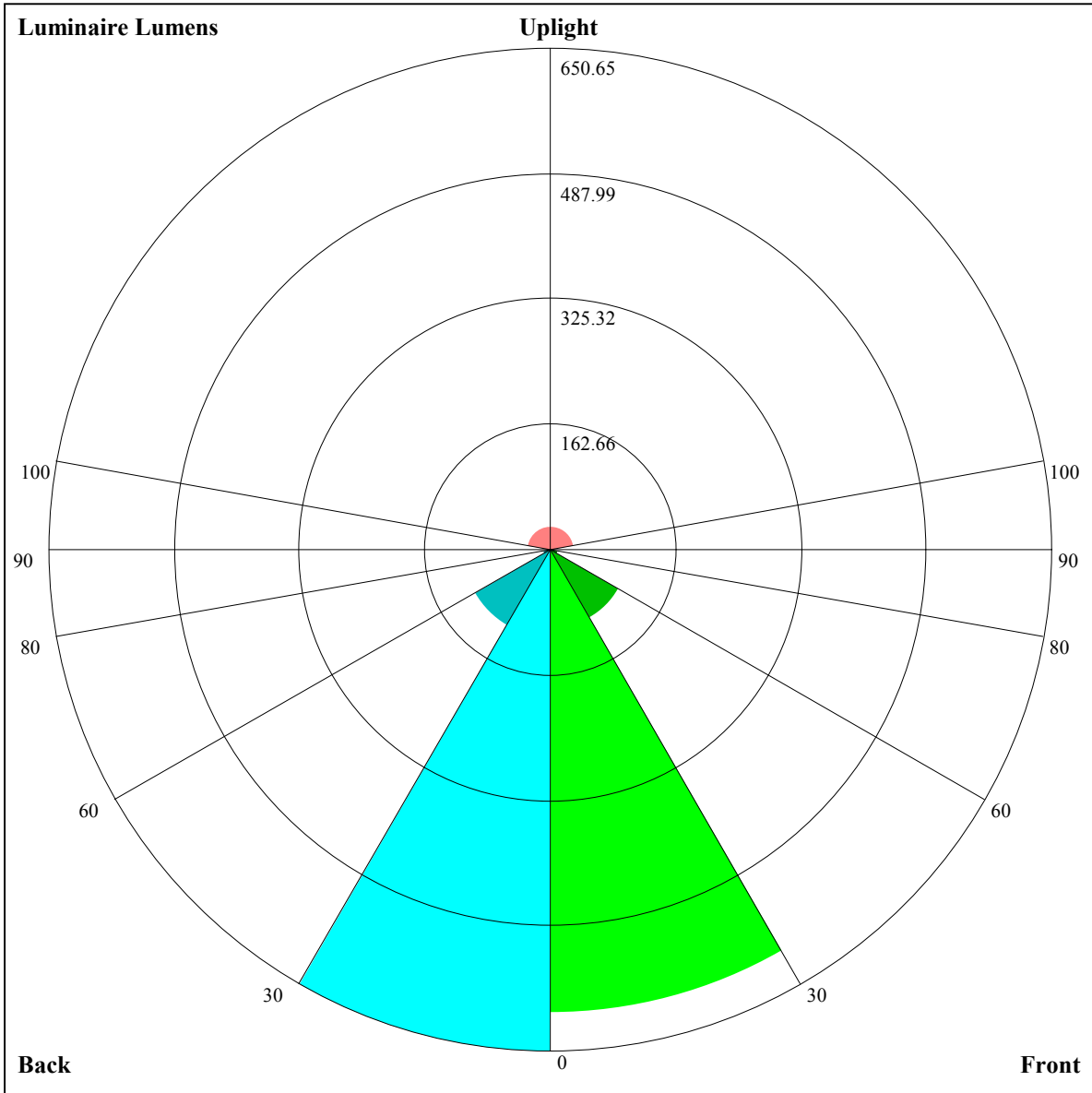
Luminance Limiting Curve





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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.95	0.93	0.91	0.94	0.91	0.90	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.80
2	0.90	0.87	0.84	0.89	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.78	0.77
3	0.86	0.82	0.79	0.85	0.81	0.79	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
4	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.68
6	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
7	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
9	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
10	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59





Luminaire Lumens:
FL=602.27,FM=102.62,FH=10.17,FVH=4.81
BL=650.65,BM=114.1,BH=9.45,BVH=4.66
UL=6.56,UH=31.19

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	4677.59	4387.44	3552.79	2100.95	917.79	509.27	345.20	210.15	122.23
45.0	4671.54	4266.87	3227.41	1716.66	769.69	453.66	305.01	191.21	104.77
90.0	4648.41	4245.95	3113.99	1390.72	723.22	446.01	299.89	178.22	100.48
135.0	4667.13	4465.07	3715.76	2313.47	1026.80	515.88	366.13	250.78	130.37
180.0	4677.59	4498.11	3673.91	2350.36	1056.53	518.80	363.04	230.74	132.14
225.0	4671.54	4595.01	3969.02	2740.16	1056.75	590.65	405.05	260.47	153.83
270.0	4648.41	4580.69	3997.65	2833.20	1433.67	620.49	404.66	278.59	161.54
315.0	4667.13	4406.71	3550.59	2106.46	924.45	508.72	348.12	215.22	125.25
360.0	4677.59	4387.44	3552.79	2100.95	917.79	509.27	345.20	210.15	122.23
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	62.76	30.56	13.65	9.36	9.25	9.14	8.59	8.81	9.08
45.0	52.25	24.39	10.79	9.30	9.19	9.19	18.44	16.52	8.92
90.0	49.33	22.30	10.46	9.03	8.92	8.86	8.92	8.53	8.26
135.0	69.26	34.69	13.98	9.08	8.86	8.75	8.75	11.95	8.70
180.0	71.46	36.56	14.87	9.19	8.92	8.75	8.64	9.91	8.86
225.0	81.04	43.00	19.21	9.69	9.03	8.86	8.70	8.59	8.31
270.0	86.05	45.92	20.43	9.91	9.19	9.03	8.92	16.13	8.81
315.0	63.92	31.60	12.39	9.30	9.19	9.14	9.03	8.86	8.70
360.0	62.76	30.56	13.65	9.36	9.25	9.14	8.59	8.81	9.08
C/ γ (°)	90.0								
0.0	5.95								
45.0	6.00								
90.0	6.00								
135.0	6.00								
180.0	6.00								
225.0	6.00								
270.0	6.06								
315.0	6.06								
360.0	5.95								