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NATA

Client:

LumCAT: 1-0788-M

Luminaire: 92.70.124.00

Report No: nt0100

Test No: GC2019122306

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1036.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.2000

Current(A): 0.2970

Power (W): 9.8600

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 948.34, Efficiency(%): 91.54% , Luminous Efficacy(lm/W): 96.18

Central intensity(cd): 1511.297, Maximum intensity(cd): 1511.297

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.8

[C90/270]Total=37.8

Field angle(10%Imax): [C0/180]Total=86.6

[C90/270]Total=86.6

Maximum s/h(1/2): C0_180=0.60 C90_270=0.60

Maximum s/h(1/4): C0_180=0.67 C90_270=0.67

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.54%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.533%

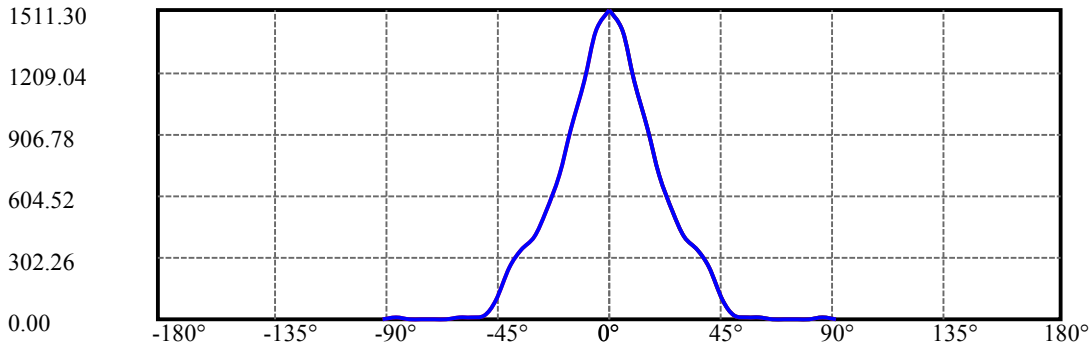
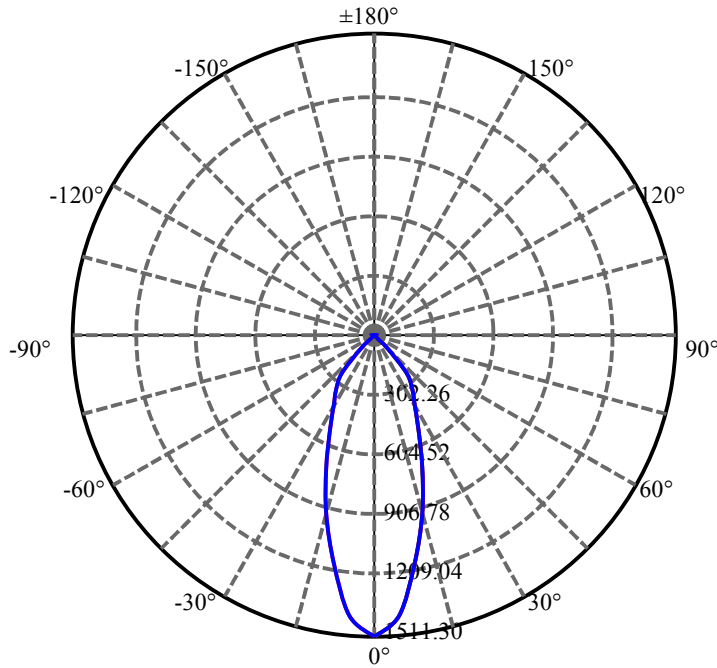
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1511.297	0.000	0	.000%	.000%
5.0	1407.164	34.889	34.889	3.368%	3.679%
10.0	1162.013	91.908	126.797	8.871%	13.370%
15.0	925.327	123.820	250.616	11.952%	26.427%
20.0	707.632	134.579	385.195	12.990%	40.618%
25.0	524.081	129.184	514.379	12.469%	54.240%
30.0	405.155	117.596	631.975	11.351%	66.640%
35.0	335.981	109.137	741.112	10.535%	78.149%
40.0	251.852	98.076	839.188	9.467%	88.491%
45.0	97.734	64.729	903.917	6.248%	95.316%
50.0	16.158	23.014	926.93	2.221%	97.743%
55.0	6.216	4.865	931.795	.470%	98.256%
60.0	5.175	2.633	934.428	.254%	98.533%
65.0	4.620	2.381	936.809	.230%	98.785%
70.0	4.289	2.256	939.065	.218%	99.022%
75.0	4.036	2.176	941.241	.210%	99.252%
80.0	4.282	2.226	943.466	.215%	99.487%
85.0	4.845	2.480	945.946	.239%	99.748%
90.0	3.881	2.389	948.335	.231%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	631.97	61.00%	66.64%
0-40	839.19	81.00%	88.49%
0-60	934.43	90.20%	98.53%
0-90	945.95	91.31%	99.75%
0-120	945.95	91.31%	99.75%
0-180	948.34	91.54%	100.00%
60-90	14.15	1.37%	1.49%
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%
0-35.90	758.67	73.23%	80.00%

ZONAL LUMEN SUMMARY

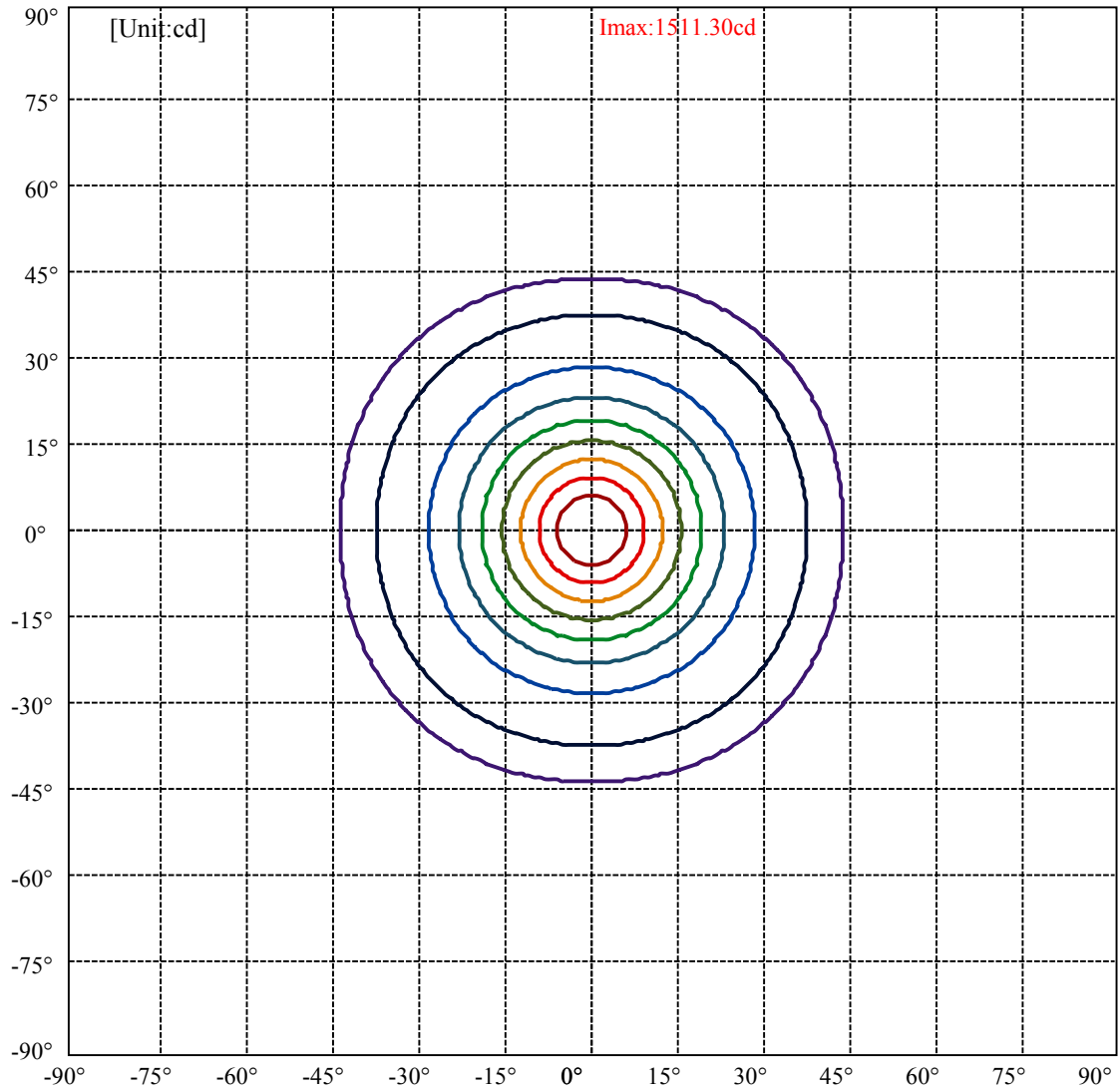
0-10	126.80
10-20	258.40
20-30	246.78
30-40	207.21
40-50	87.74
50-60	7.50
60-70	4.64
70-80	4.40
80-90	2.48
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



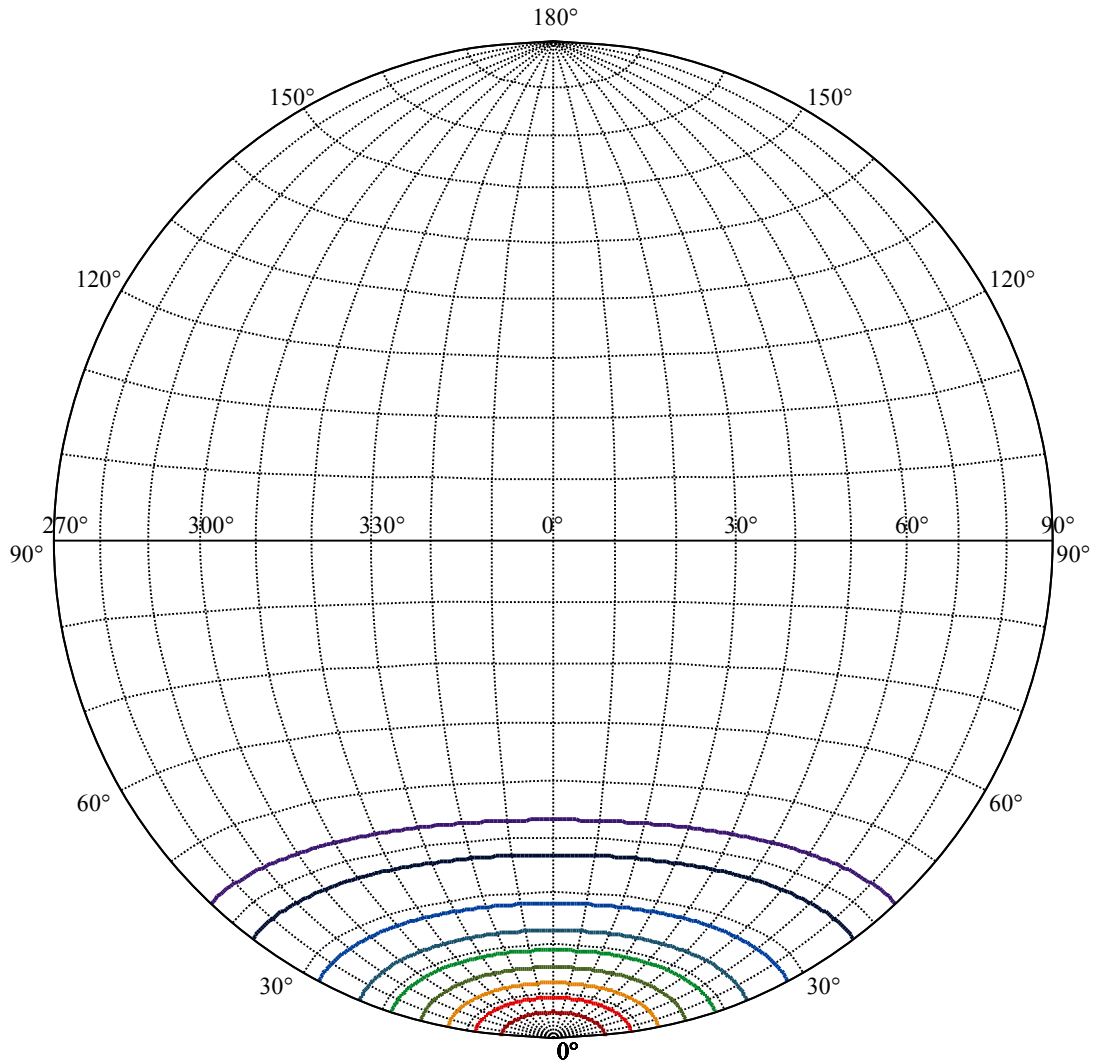
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:43.3 Right:43.3
:C90/270Left:43.3 Right:43.3

Beam Angle(50%Imax):C0/180Left:18.9 Right:18.9
:C90/270Left:18.9 Right:18.9



(10%Imax) 151.13	—
(20%Imax) 302.259	—
(30%Imax) 453.389	—
(40%Imax) 604.519	—
(50%Imax) 755.648	—
(60%Imax) 906.778	—
(70%Imax) 1057.91	—
(80%Imax) 1209.04	—
(90%Imax) 1360.17	—



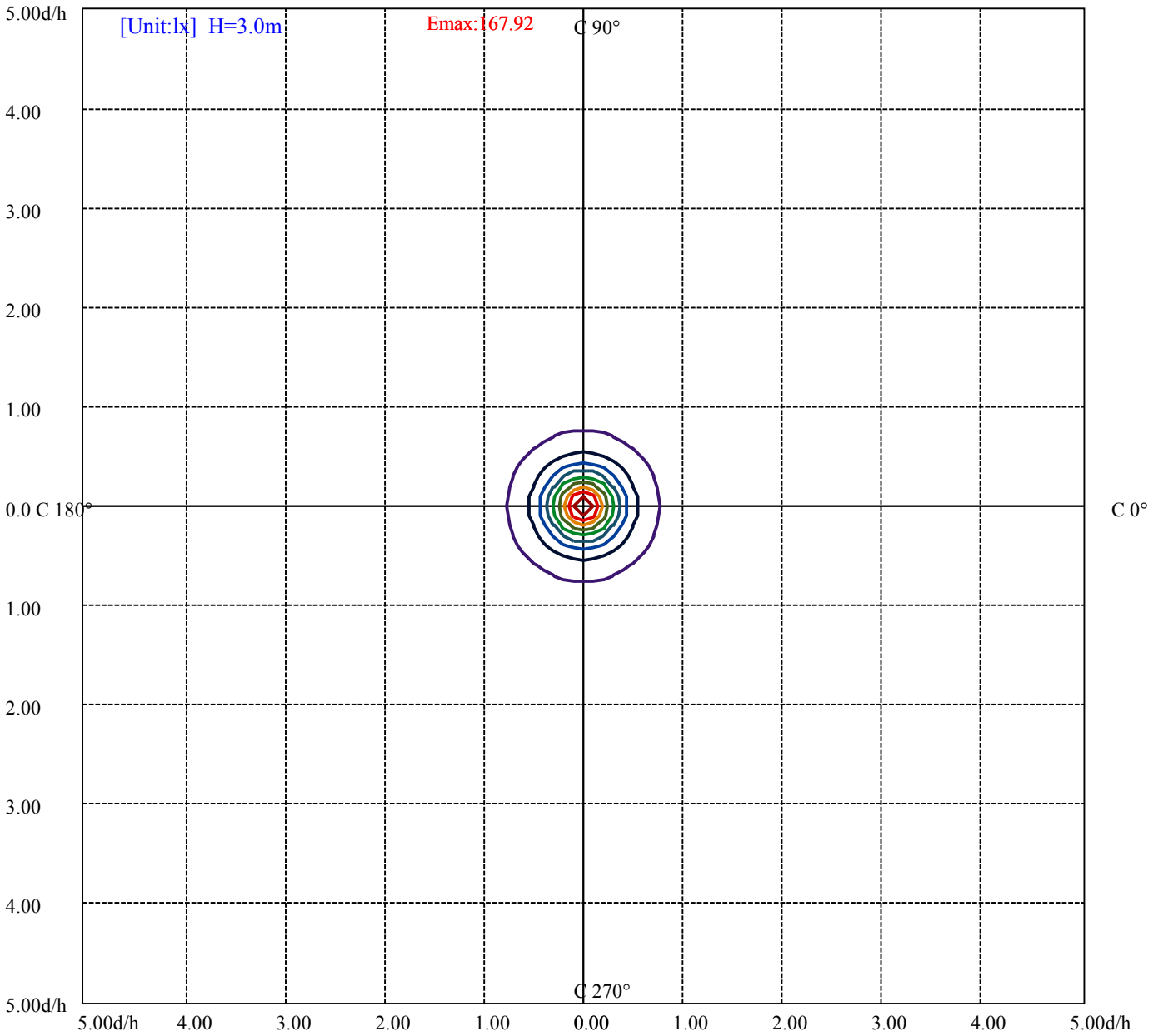
House

[Unit:cd]

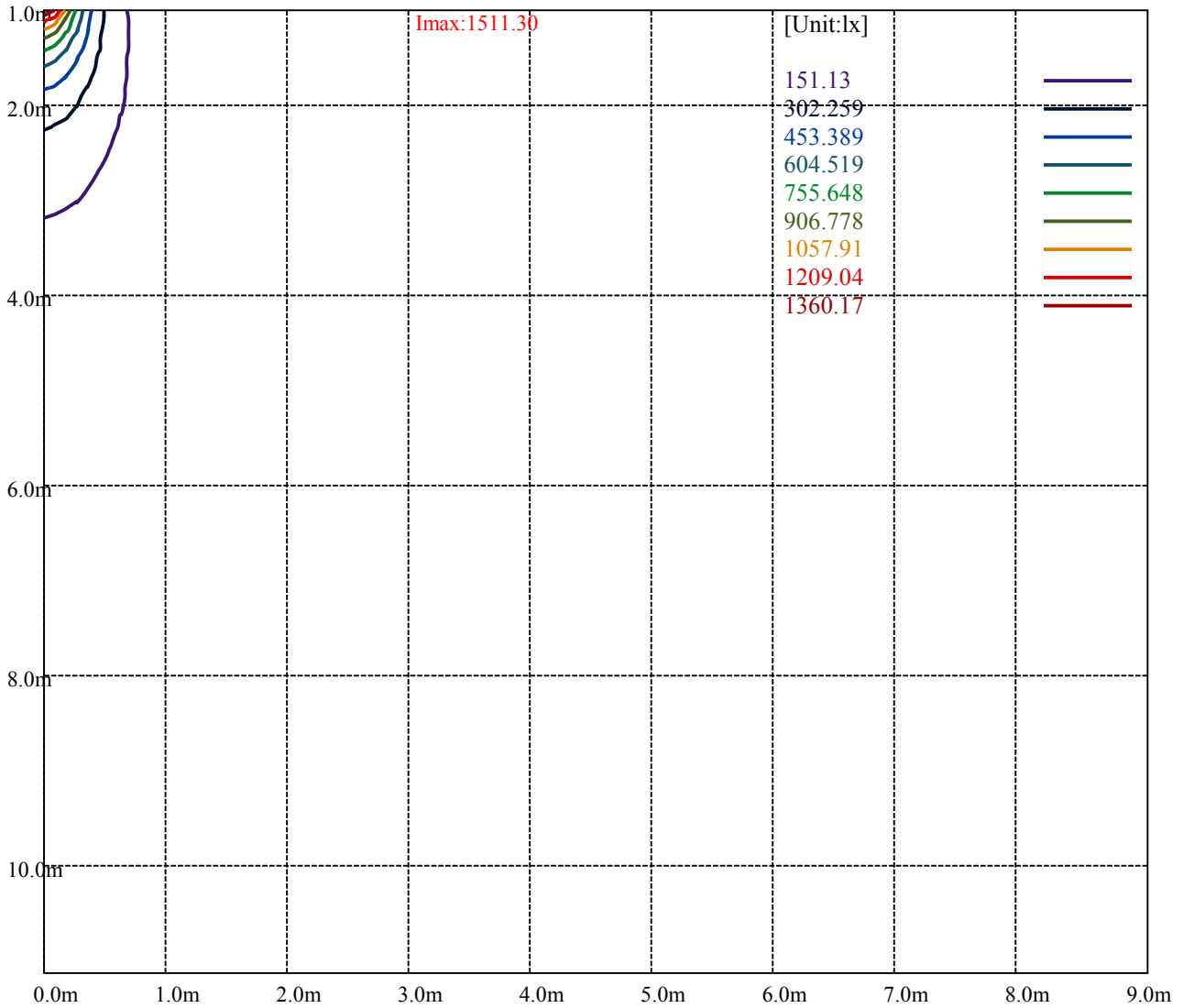
Road

Imax:1511.30

(10%Imax) 151.13	—
(20%Imax) 302.259	—
(30%Imax) 453.389	—
(40%Imax) 604.519	—
(50%Imax) 755.648	—
(60%Imax) 906.778	—
(70%Imax) 1057.91	—
(80%Imax) 1209.04	—
(90%Imax) 1360.17	—



- (10%Emax) 16.79211
- (20%Emax) 33.58434
- (30%Emax) 50.37645
- (40%Emax) 67.16856
- (50%Emax) 83.96078
- (60%Emax) 100.7529
- (70%Emax) 117.5456
- (80%Emax) 134.3367
- (90%Emax) 151.1289



Luminance Table

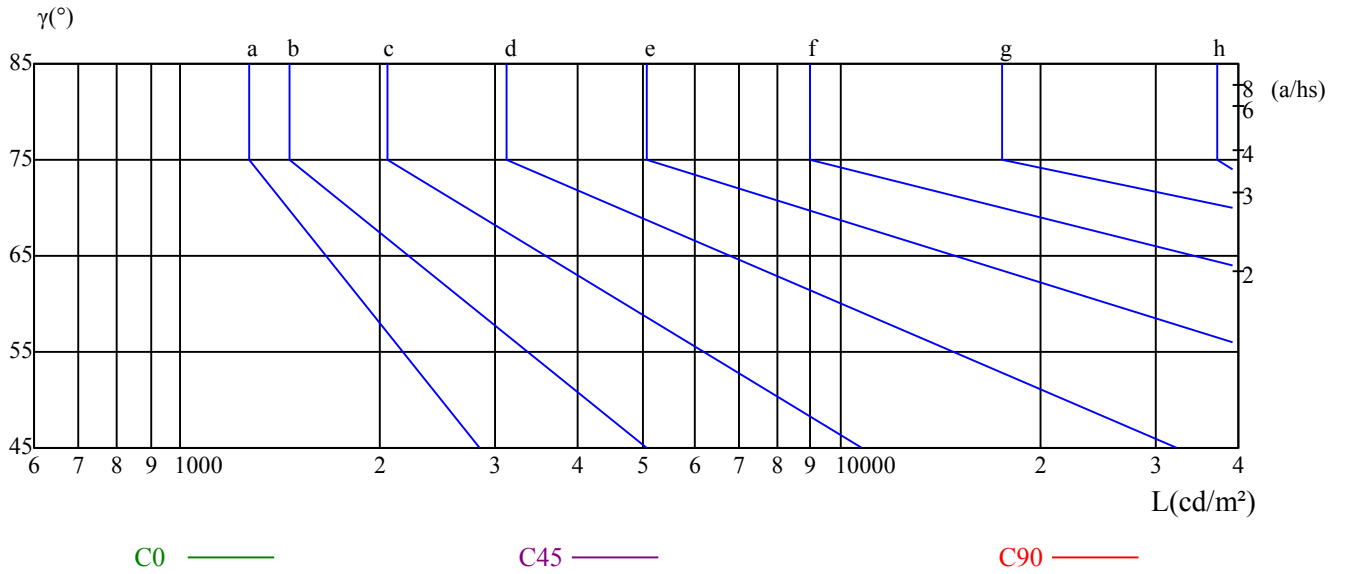
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

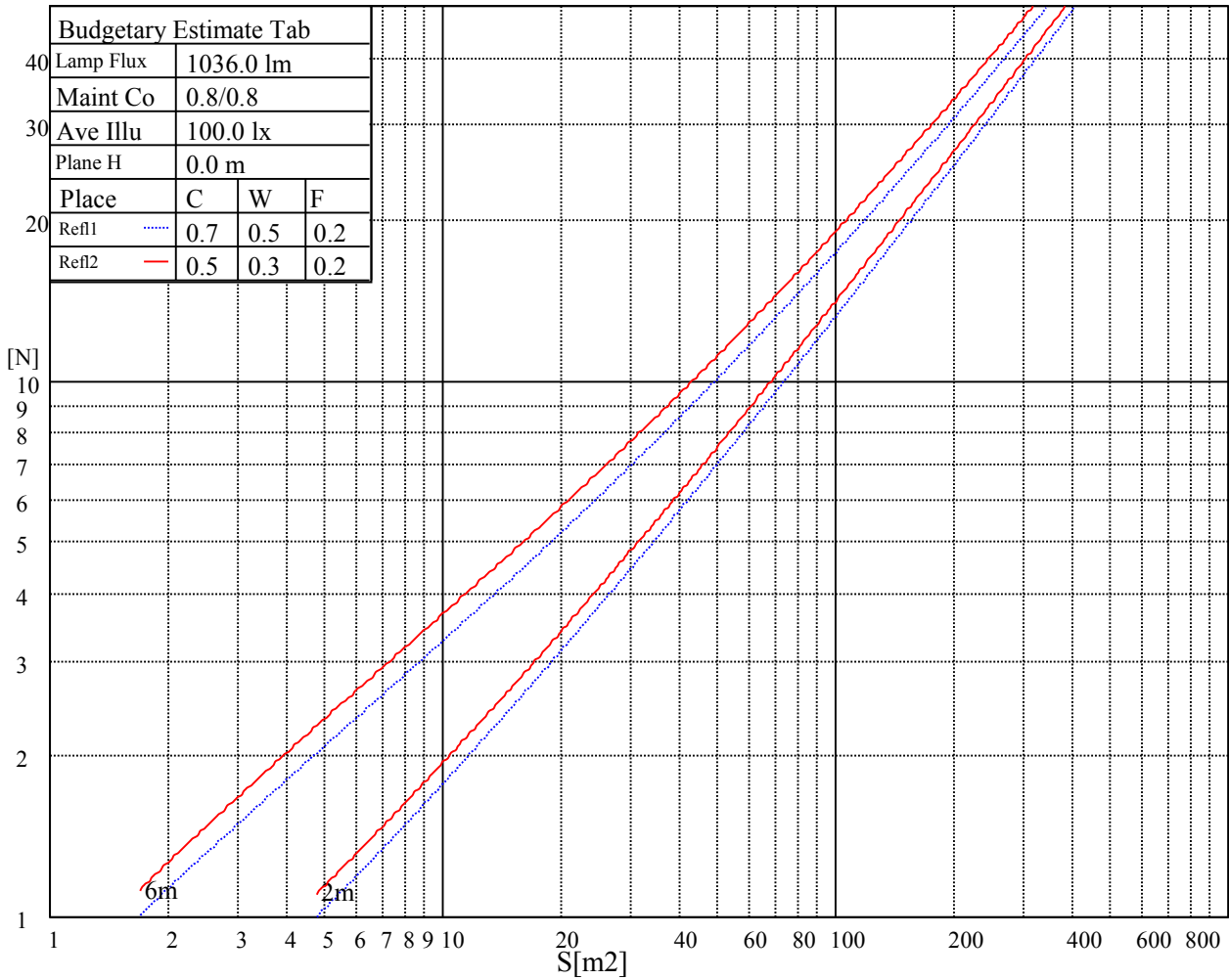
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

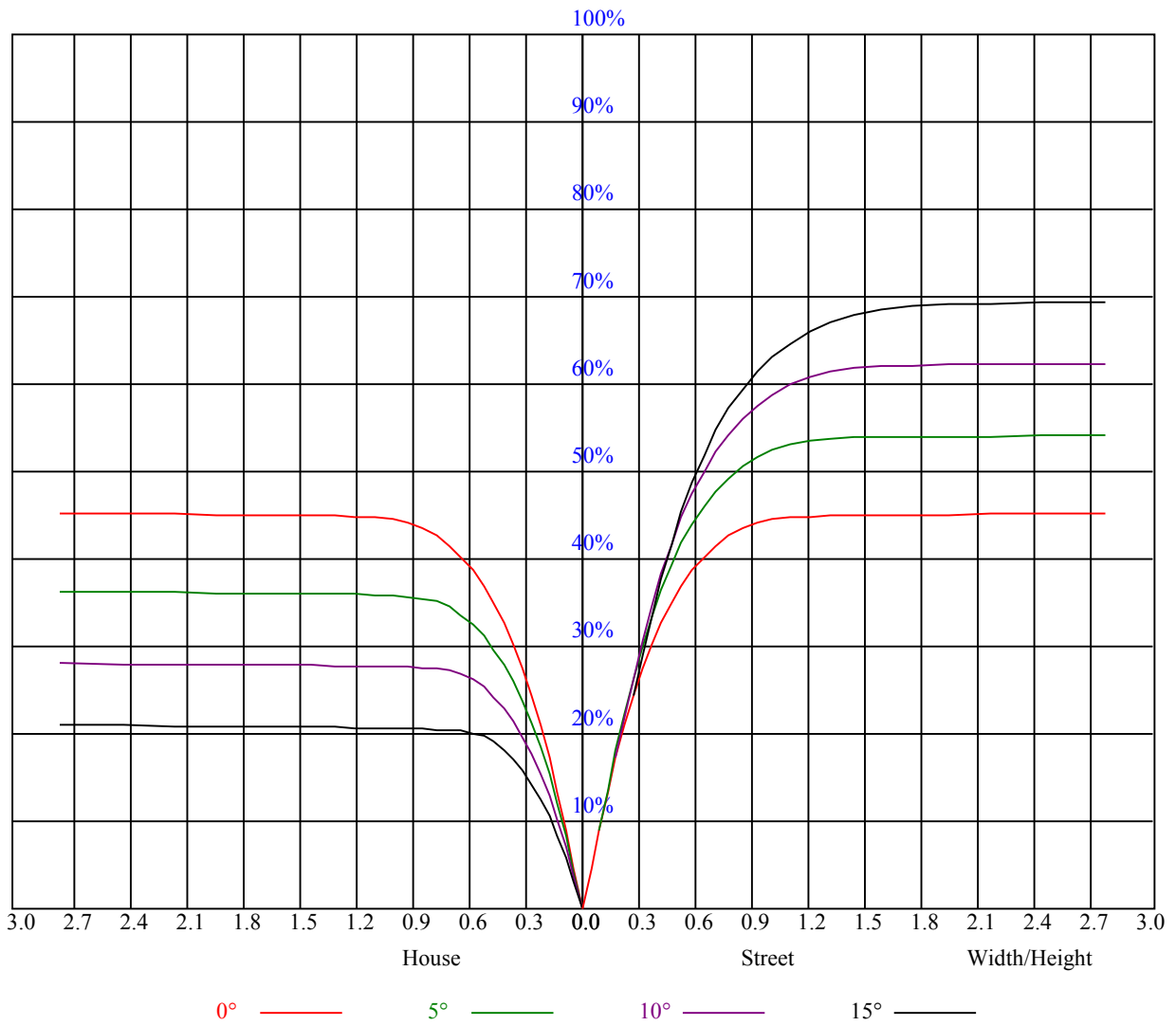
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

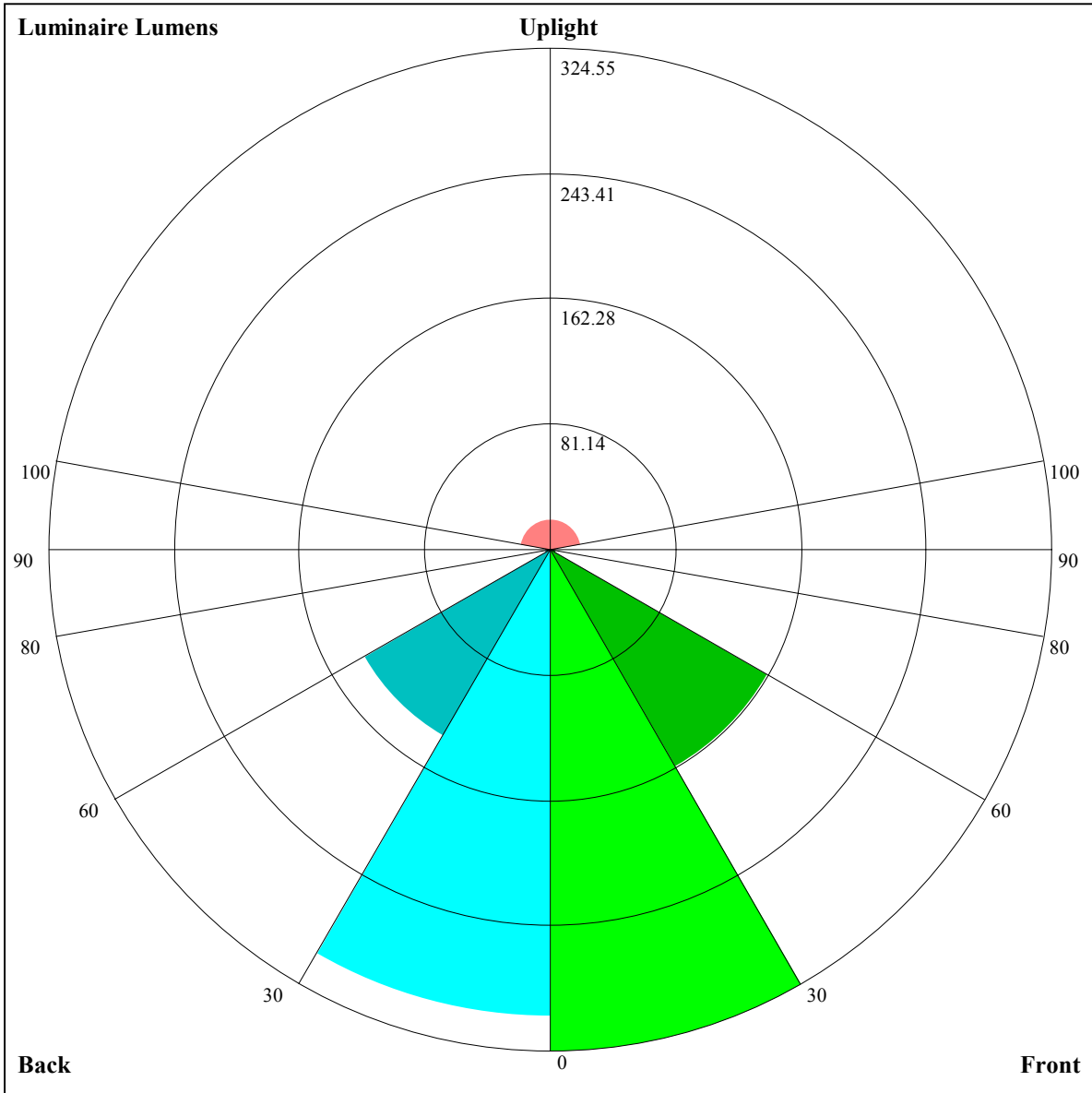
Luminance Limiting Curve





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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.92
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.94	0.90	0.87	0.92	0.89	0.86	0.89	0.86	0.84	0.87	0.84	0.82	0.84	0.82	0.80	0.79
3	0.87	0.83	0.79	0.86	0.82	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.79	0.77	0.75	0.73
4	0.82	0.77	0.73	0.81	0.76	0.72	0.79	0.75	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.68
5	0.76	0.71	0.67	0.76	0.71	0.67	0.74	0.70	0.66	0.72	0.69	0.66	0.71	0.68	0.65	0.64
6	0.72	0.66	0.62	0.71	0.66	0.62	0.70	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.59
7	0.68	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.60	0.57	0.64	0.60	0.57	0.56
8	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.52
9	0.60	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.49
10	0.57	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.47





Luminaire Lumens:

FL=324.55,FM=162.12,FH=4.51,FVH=2.12

BL=302.5,BM=139.73,BH=4.5,BVH=2.62

UL=4.23,UH=20.15

BUG Rating:B1-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	1511.44	1465.31	1265.63	1006.31	774.56	586.69	441.56	359.44	297.00
45.0	1504.13	1454.06	1254.94	1005.75	788.63	585.56	441.56	363.38	292.50
90.0	1510.31	1406.25	1108.80	903.32	697.84	515.70	397.52	329.46	245.03
135.0	1519.31	1411.31	1182.94	912.94	686.25	504.56	395.44	329.06	256.89
180.0	1511.44	1353.94	1078.76	845.89	632.98	462.88	371.59	308.98	187.54
225.0	1504.13	1351.13	1099.74	846.11	649.69	476.16	374.91	318.66	198.51
270.0	1510.31	1410.75	1194.19	949.50	721.69	529.88	410.63	339.75	285.19
315.0	1519.31	1404.56	1111.11	932.79	709.43	531.23	408.04	339.13	252.17
360.0	1511.44	1465.31	1265.63	1006.31	774.56	586.69	441.56	359.44	297.00
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	150.41	24.30	7.09	5.51	4.78	4.39	4.11	3.94	3.88
45.0	144.06	32.91	6.92	5.34	4.73	4.39	4.11	3.94	3.88
90.0	94.44	12.66	5.91	5.12	4.61	4.28	4.05	3.94	3.88
135.0	82.18	12.38	5.91	5.12	4.61	4.28	4.05	3.94	3.88
180.0	50.51	9.56	5.57	4.84	4.50	4.22	3.99	3.94	3.88
225.0	53.32	9.90	5.68	4.95	4.50	4.22	3.99	6.69	11.59
270.0	105.64	13.84	6.36	5.23	4.61	4.28	3.99	3.94	3.88
315.0	101.31	13.73	6.30	5.29	4.61	4.28	3.99	3.94	3.88
360.0	150.41	24.30	7.09	5.51	4.78	4.39	4.11	3.94	3.88
C/ γ (°)	90.0								
0.0	3.88								
45.0	3.88								
90.0	3.88								
135.0	3.88								
180.0	3.88								
225.0	3.88								
270.0	3.88								
315.0	3.88								
360.0	3.88								