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Client:

LumCAT: 19019-A

Luminaire:

Report No: GC2019031803

Voltage(V): 217.7000

Test No:

Current(A): 0.4890

LampCAT: OSRAM LED 3030 100W

Power (W): 106.0000

Lamp flux(lm): 11882.0

PF: 0.9950

Number of Lamps: 1

Ballast type:

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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Photometric Results

Lumens(lm): 10188.30, Efficiency(%): 85.75% , Luminous Efficacy(lm/W): 96.12

Central intensity(cd): 20157.530, Maximum intensity(cd): 20157.530

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

Beam Angle(50%Imax): [C0/180]Total=33.0

[C90/270]Total=33.0

Field angle(10%Imax): [C0/180]Total=76.4

[C90/270]Total=76.4

Maximum s/h(1/2): C0\_180=0.53 C90\_270=0.53

Maximum s/h(1/4): C0\_180=0.62 C90\_270=0.62

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.75%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.134%

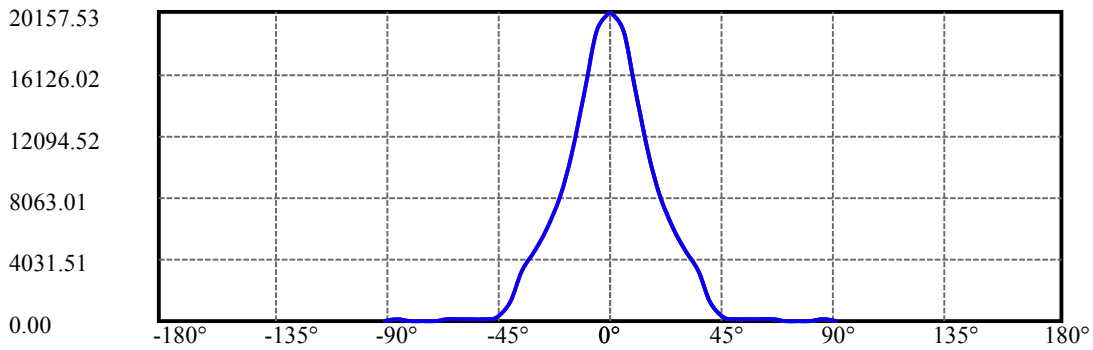
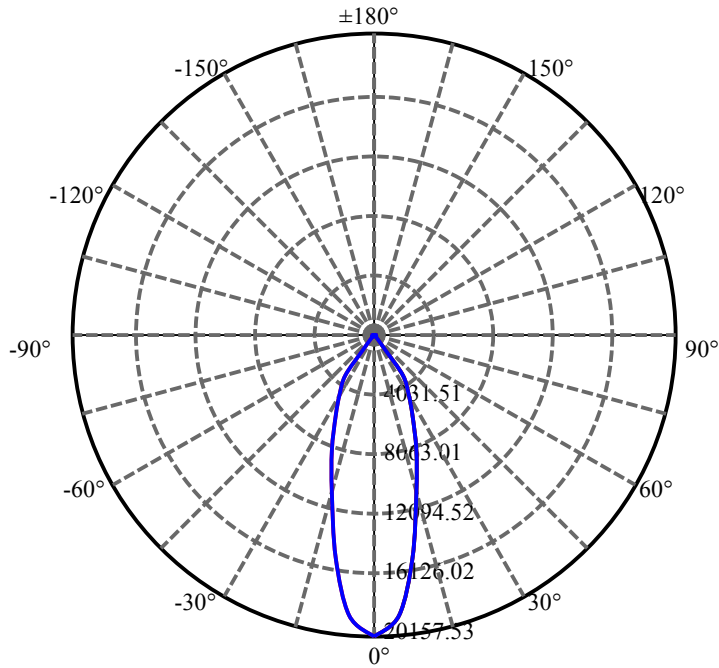
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	20157.523	0.000	0	.000%	.000%
5.0	18852.688	466.356	466.356	3.925%	4.577%
10.0	15137.757	1215.945	1682.301	10.234%	16.512%
15.0	10944.799	1547.200	3229.501	13.021%	31.698%
20.0	8147.315	1573.458	4802.959	13.242%	47.142%
25.0	5978.919	1481.581	6284.541	12.469%	61.684%
30.0	4657.014	1345.986	7630.527	11.328%	74.895%
35.0	3275.291	1168.088	8798.614	9.831%	86.360%
40.0	1296.902	762.836	9561.45	6.420%	93.847%
45.0	242.936	285.113	9846.564	2.400%	96.646%
50.0	111.565	71.632	9918.196	.603%	97.349%
55.0	86.645	43.097	9961.293	.363%	97.772%
60.0	73.142	36.934	9998.228	.311%	98.134%
65.0	63.914	33.319	10031.546	.280%	98.461%
70.0	57.149	30.654	10062.2	.258%	98.762%
75.0	50.776	28.210	10090.41	.237%	99.039%
80.0	59.839	29.598	10120.007	.249%	99.330%
85.0	75.358	36.737	10156.744	.309%	99.690%
90.0	39.875	31.552	10188.295	.266%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	7630.53	64.22%	74.90%
0-40	9561.45	80.47%	93.85%
0-60	9998.23	84.15%	98.13%
0-90	10156.74	85.48%	99.69%
0-120	10156.74	85.48%	99.69%
0-180	10188.30	85.75%	100.00%
60-90	195.45	1.64%	1.92%
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%
0-32.23	8150.64	68.60%	80.00%

## ZONAL LUMEN SUMMARY

0-10	1682.30
10-20	3120.66
20-30	2827.57
30-40	1930.92
40-50	356.75
50-60	80.03
60-70	63.97
70-80	57.81
80-90	36.74
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: —————

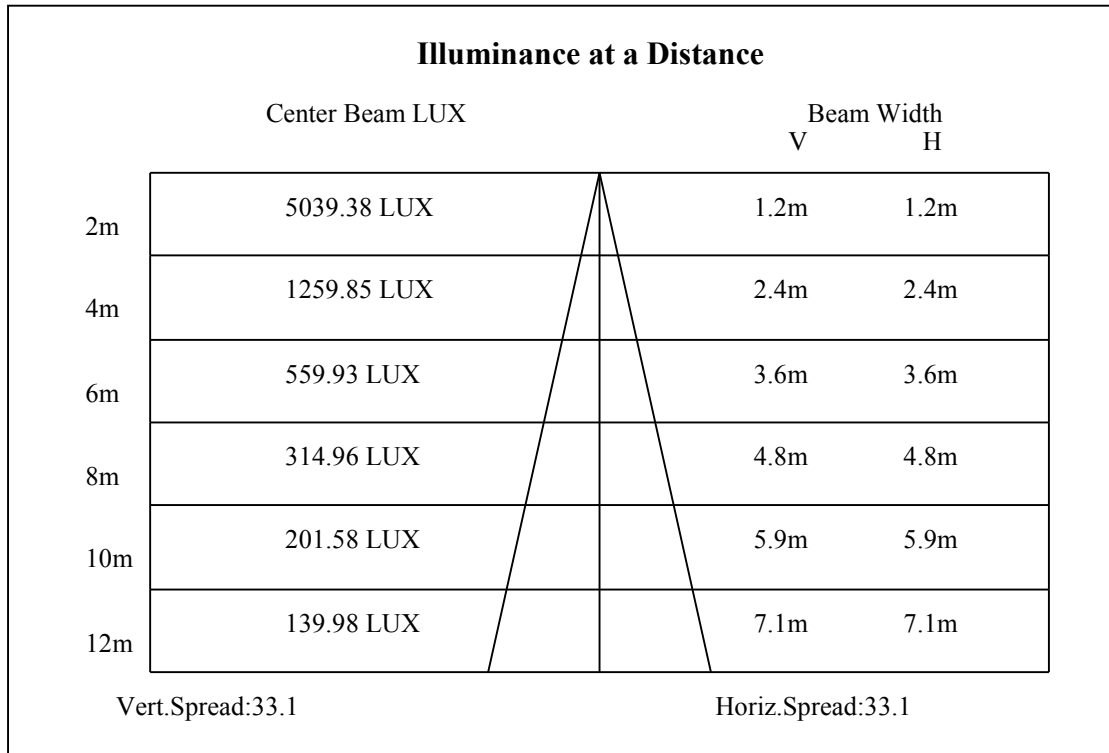
C90/C270: —————

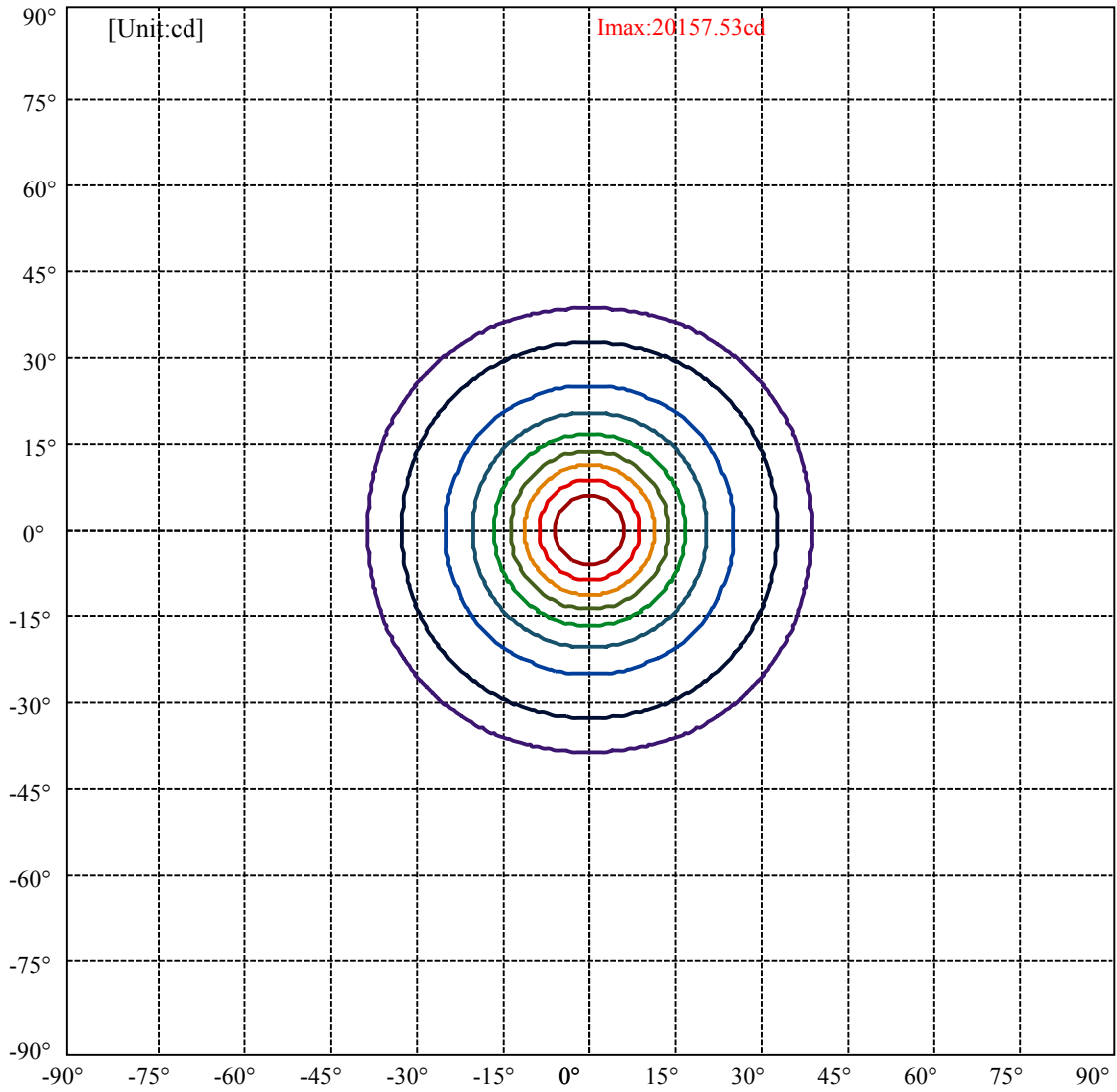
Field angle(10%Imax):C0/180Left:38.2 Right:38.2

:C90/270Left:38.2 Right:38.2

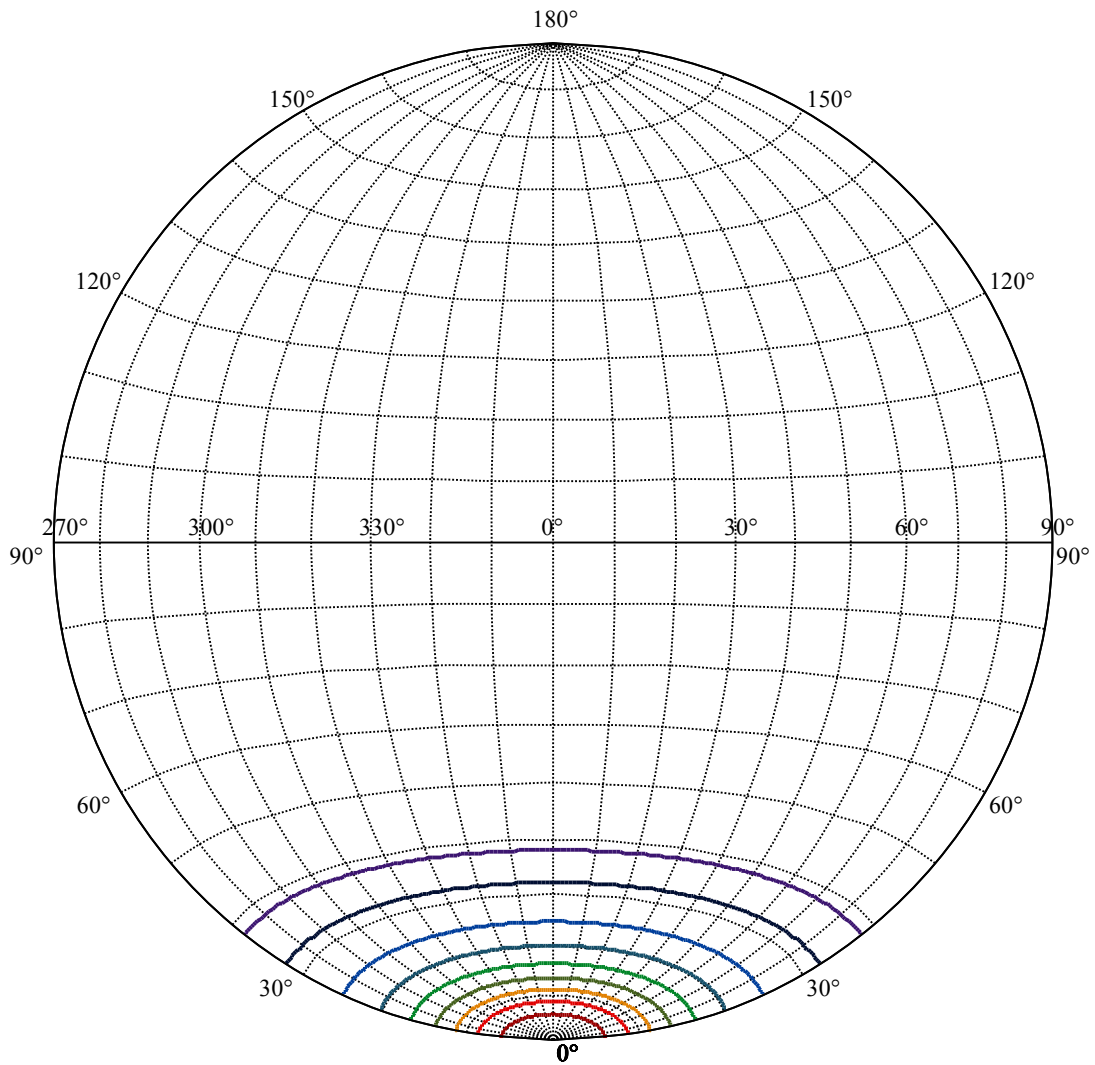
Beam Angle(50%Imax):C0/180Left:16.5 Right:16.5

:C90/270Left:16.5 Right:16.5





(10%Imax) 2015.75	—
(20%Imax) 4031.51	—
(30%Imax) 6047.26	—
(40%Imax) 8063.01	—
(50%Imax) 10078.8	—
(60%Imax) 12094.5	—
(70%Imax) 14110.3	—
(80%Imax) 16126	—
(90%Imax) 18141.8	—



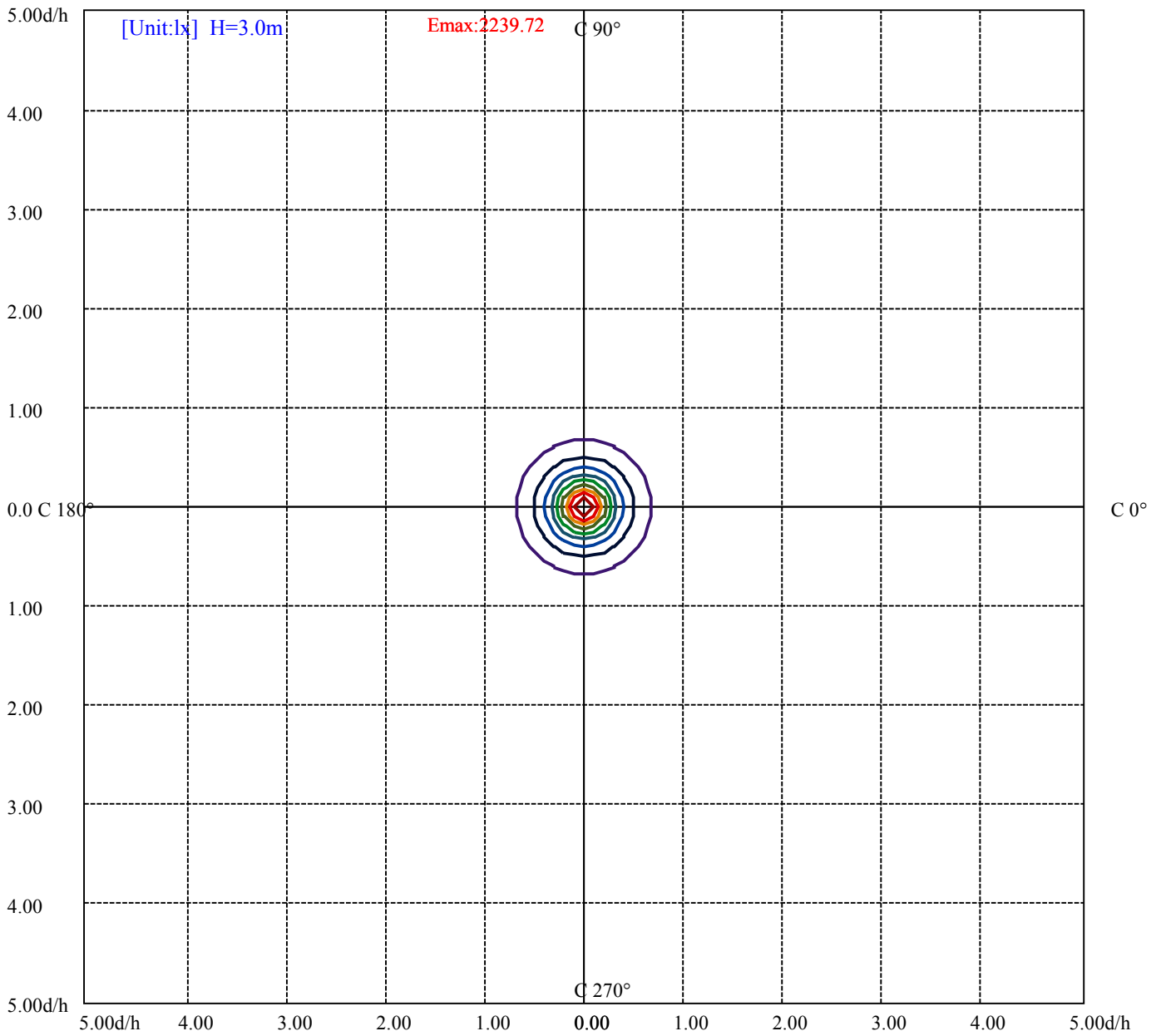
House

[Unit:cd]

Road

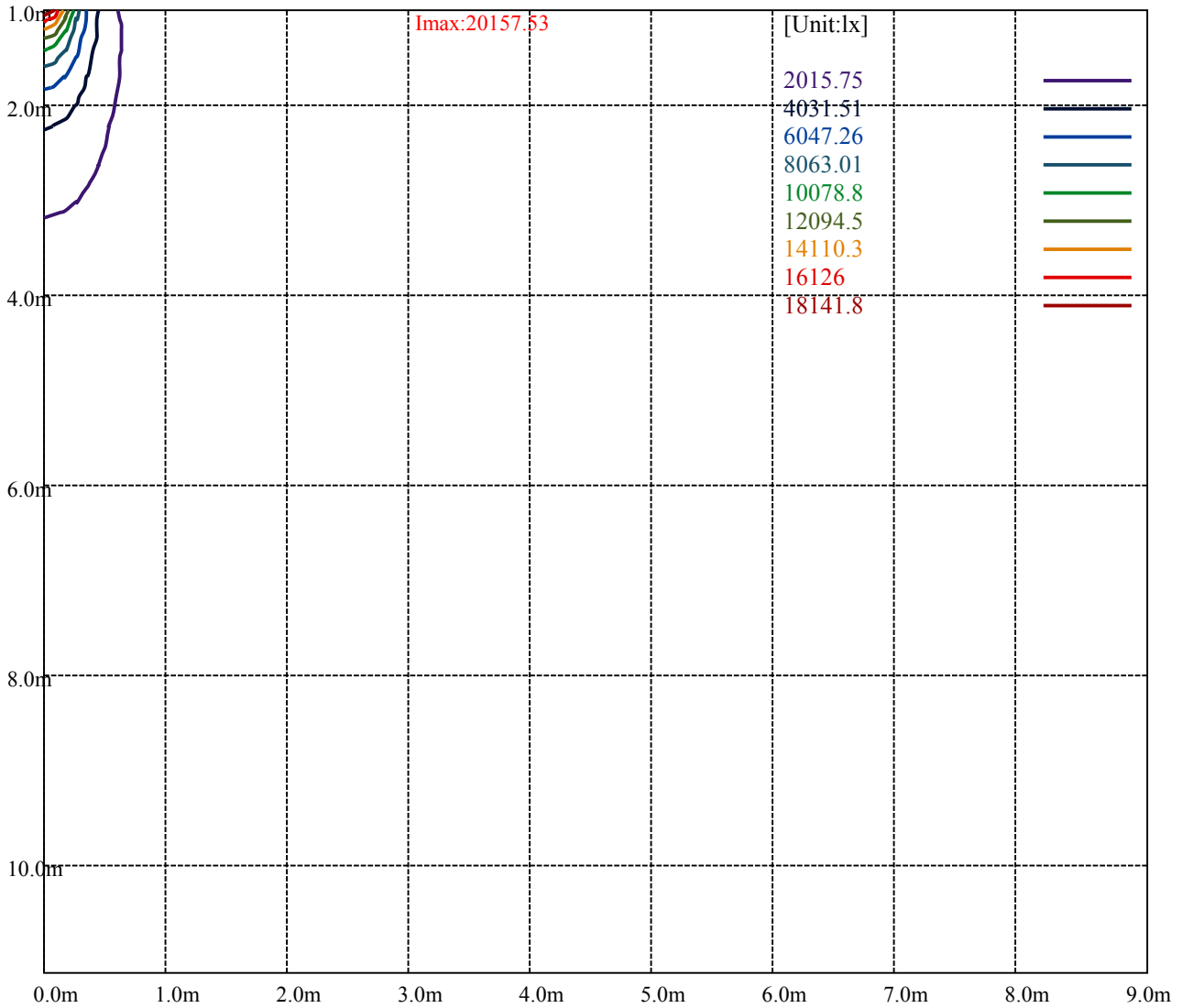
Imax:20157.53

(10%Imax) 2015.75	—
(20%Imax) 4031.51	—
(30%Imax) 6047.26	—
(40%Imax) 8063.01	—
(50%Imax) 10078.8	—
(60%Imax) 12094.5	—
(70%Imax) 14110.3	—
(80%Imax) 16126	—
(90%Imax) 18141.8	—



(10%Emax) 223.9722	—
(20%Emax) 447.9445	—
(30%Emax) 671.9167	—
(40%Emax) 895.8878	—
(50%Emax) 1119.856	—
(60%Emax) 1343.833	—
(70%Emax) 1567.8	—
(80%Emax) 1791.778	—
(90%Emax) 2015.744	—





Luminance Table

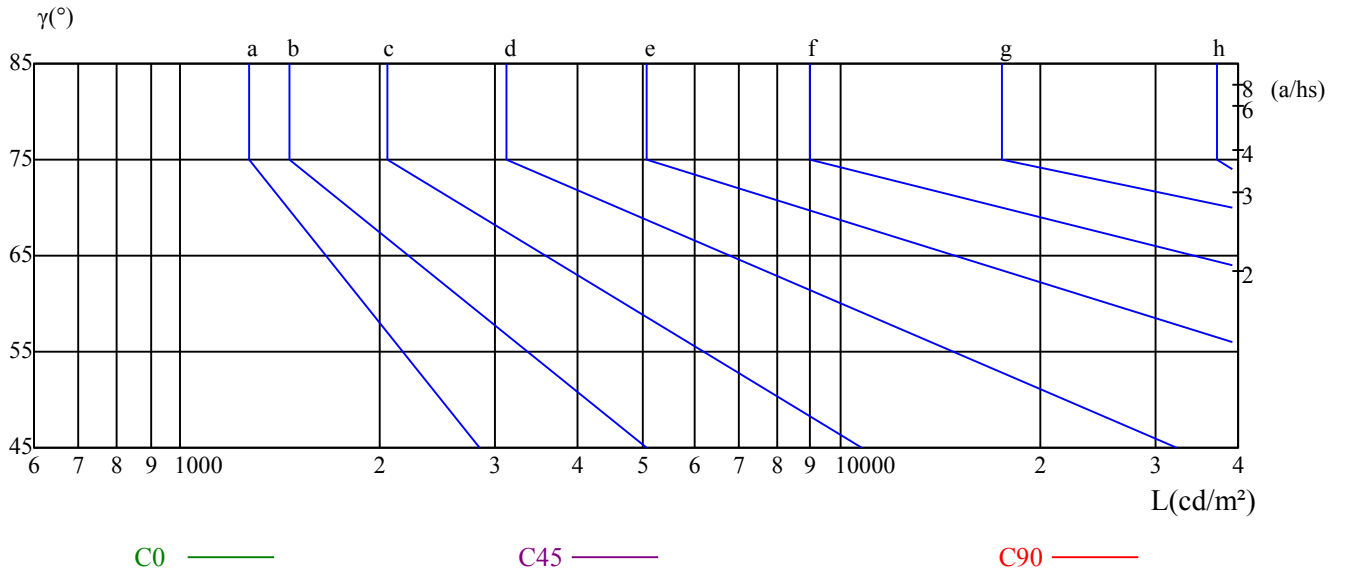
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

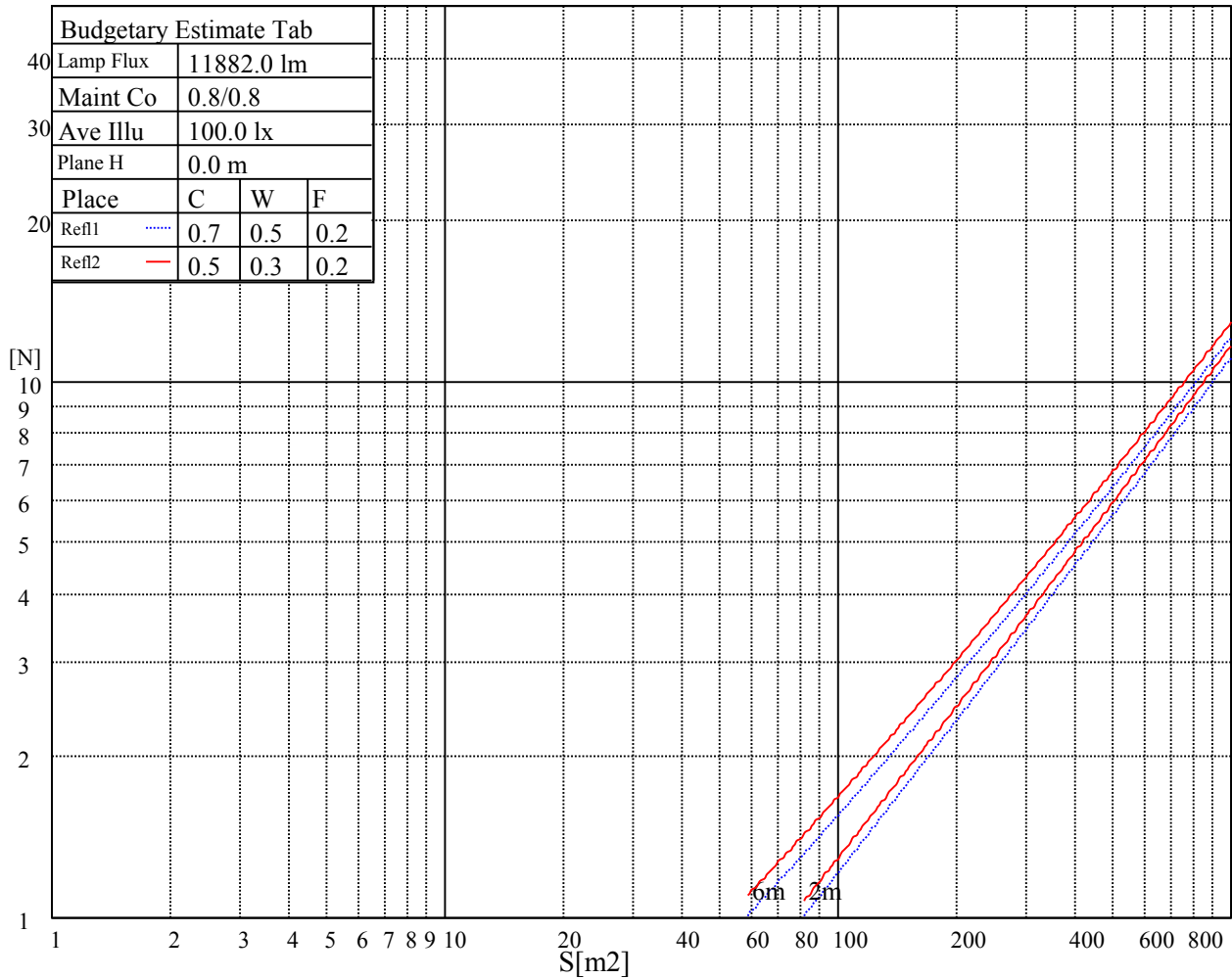
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

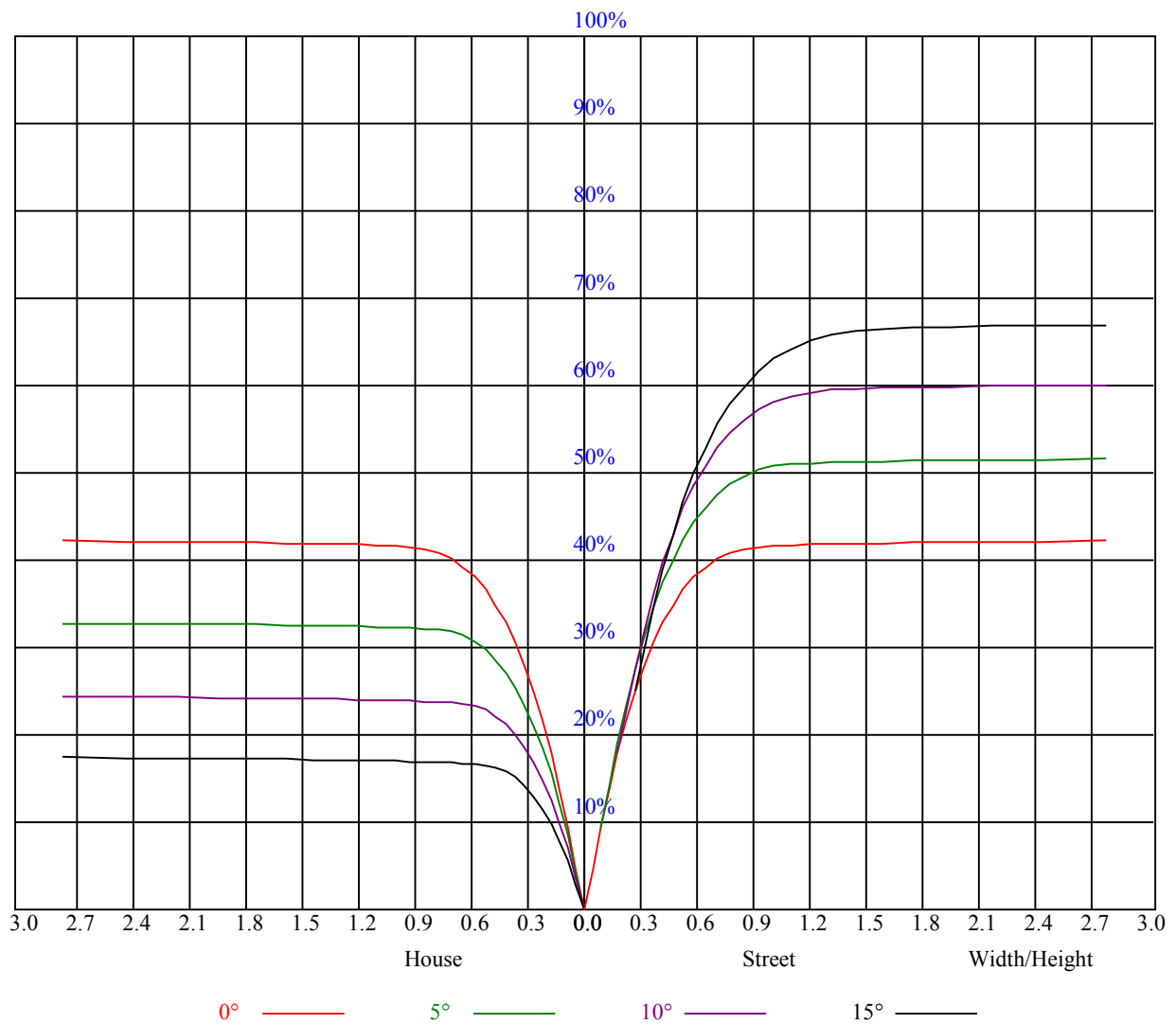
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

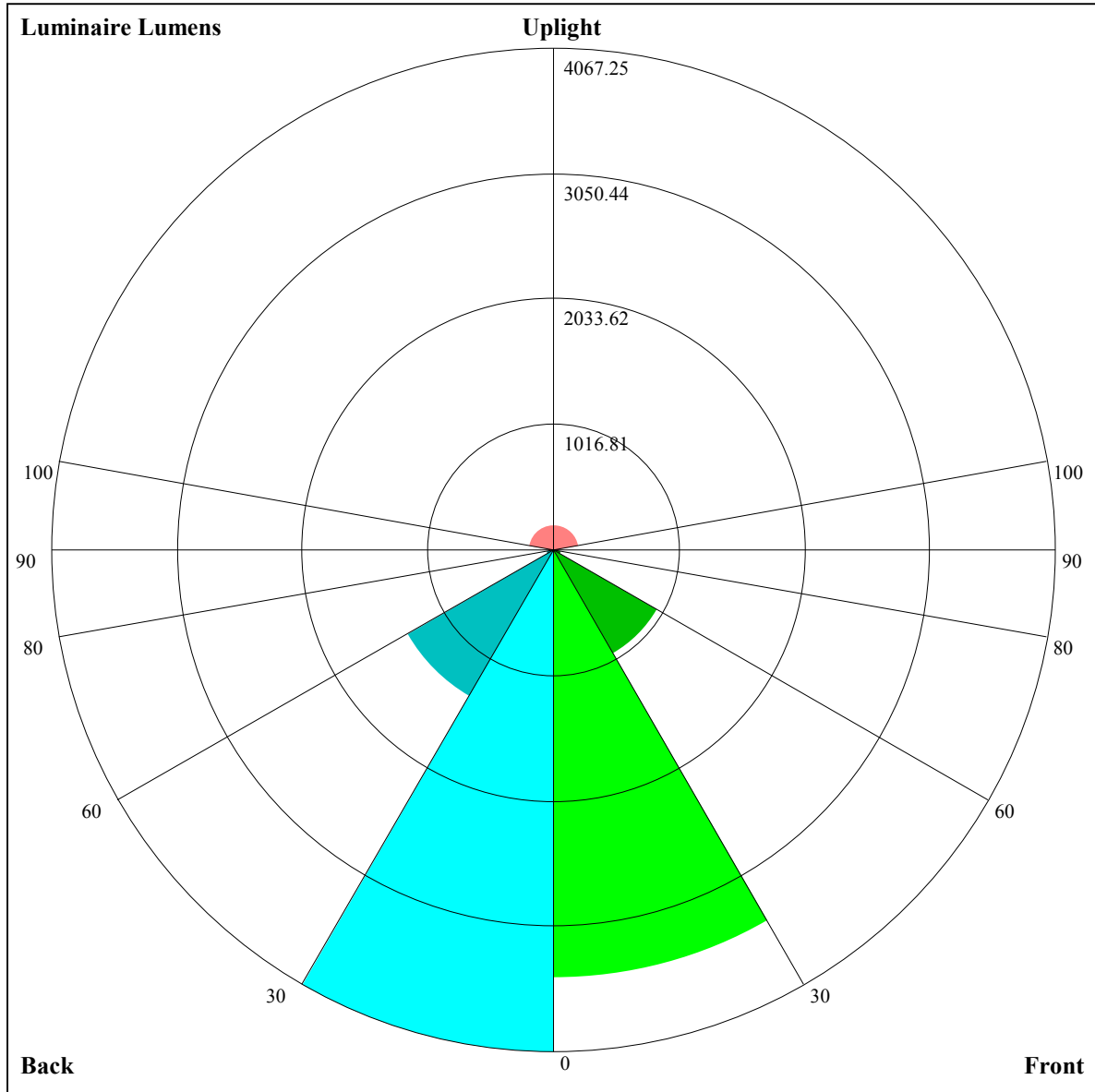
Luminance Limiting Curve





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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.95	0.93	0.91	0.93	0.91	0.89	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.80
2	0.89	0.85	0.82	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.75
3	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.70
4	0.78	0.74	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.67	0.66
5	0.74	0.69	0.65	0.73	0.69	0.65	0.71	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.62
6	0.70	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.65	0.62	0.60	0.59
7	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.53
9	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50
10	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.49	0.55	0.51	0.49	0.48





Luminaire Lumens:

FL=3477.29,FM=970.27,FH=59.87,FVH=40.91

BL=4067.25,BM=1365.92,BH=60.91,BVH=23.84

UL=43.51,UH=207.03

BUG Rating:B4-U3-G1

## Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	20035.02	16929.84	12095.89	9117.34	6810.48	5224.85	4189.79	2868.44	308.32
45.0	20464.46	18702.66	14540.40	10312.06	7889.58	5902.05	4663.28	3402.49	1232.71
90.0	20288.28	19567.04	15971.86	10924.29	8483.64	6163.56	4773.94	3788.43	1046.18
135.0	19842.33	20602.10	19242.21	14567.92	10306.56	7443.63	5560.70	4189.79	3006.08
180.0	20035.02	20425.92	18410.86	13119.94	9777.47	7017.49	5212.19	4037.29	2615.73
225.0	20464.46	19677.16	15834.22	10860.98	7810.85	5459.94	4442.50	3648.04	1042.38
270.0	20288.28	18537.49	14033.88	10047.79	7751.94	5665.30	4426.53	3237.32	956.88
315.0	19842.33	16379.28	10972.74	8608.07	6348.00	4954.53	3987.18	1030.55	166.93
360.0	20035.02	16929.84	12095.89	9117.34	6810.48	5224.85	4189.79	2868.44	308.32
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	122.23	92.71	75.59	66.18	59.30	55.11	52.19	124.65	182.40
45.0	144.74	102.29	81.76	68.82	60.73	54.45	49.39	45.20	84.02
90.0	150.08	103.12	80.16	68.10	60.12	53.68	47.95	43.82	45.64
135.0	766.94	123.38	89.69	74.00	63.42	56.43	50.32	45.31	41.02
180.0	309.25	137.26	100.20	80.88	68.77	60.95	52.30	45.53	40.58
225.0	189.45	136.26	104.83	86.77	73.61	64.42	56.27	47.18	41.18
270.0	150.36	111.60	89.25	76.36	68.05	60.84	51.37	45.04	55.50
315.0	110.44	85.89	71.68	64.03	57.31	51.31	46.41	81.98	112.54
360.0	122.23	92.71	75.59	66.18	59.30	55.11	52.19	124.65	182.40
C/ $\gamma$ (°)	90.0								
0.0	39.59								
45.0	40.25								
90.0	40.03								
135.0	39.64								
180.0	39.37								
225.0	40.47								
270.0	40.08								
315.0	39.59								
360.0	39.59								