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Client:

LumCAT: 19021-A

Luminaire:

Report No: GC2019031803

Voltage(V): 219.1000

Test No:

Current(A): 0.4970

LampCAT: OSRAM LED 3030 100W

Power (W): 108.4000

Lamp flux(lm): 10328.0

PF: 0.9960

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): 9424.04, Efficiency(%): 91.25% , Luminous Efficacy(lm/W): 86.94

Central intensity(cd): 45089.810, Maximum intensity(cd): 45089.810

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

Beam Angle(50%Imax): [C0/180]Total=18.8

[C90/270]Total=18.8

Field angle(10%Imax): [C0/180]Total=43.0

[C90/270]Total=43.0

Maximum s/h(1/2): C0\_180=0.32 C90\_270=0.32

Maximum s/h(1/4): C0\_180=0.34 C90\_270=0.34

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.25%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.733%

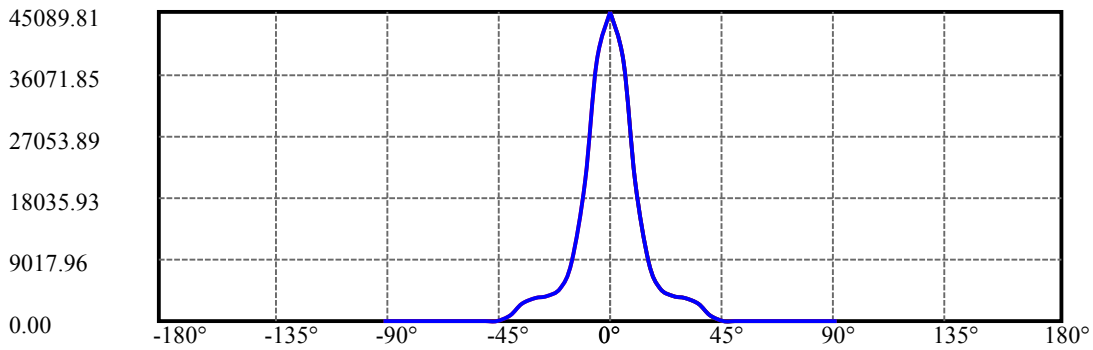
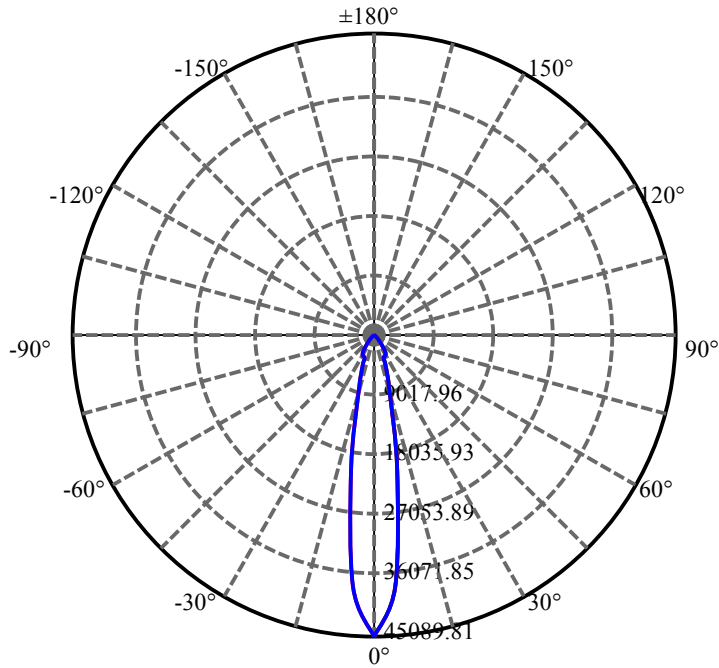
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	45089.816	0.000	0	.000%	.000%
5.0	37746.668	990.287	990.287	9.588%	10.508%
10.0	20438.174	2081.455	3071.741	20.154%	32.595%
15.0	8640.276	1724.914	4796.655	16.701%	50.898%
20.0	4876.827	1113.999	5910.655	10.786%	62.719%
25.0	3672.881	896.707	6807.361	8.682%	72.234%
30.0	3255.278	876.764	7684.126	8.489%	81.538%
35.0	2424.271	836.354	8520.479	8.098%	90.412%
40.0	785.242	535.483	9055.962	5.185%	96.094%
45.0	112.611	166.245	9222.207	1.610%	97.858%
50.0	64.554	35.799	9258.006	.347%	98.238%
55.0	49.743	24.852	9282.858	.241%	98.502%
60.0	44.348	21.749	9304.607	.211%	98.733%
65.0	40.673	20.669	9325.275	.200%	98.952%
70.0	38.519	20.052	9345.327	.194%	99.165%
75.0	37.184	19.787	9365.115	.192%	99.375%
80.0	36.379	19.683	9384.798	.191%	99.584%
85.0	35.821	19.618	9404.416	.190%	99.792%
90.0	35.842	19.622	9424.038	.190%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	7684.13	74.40%	81.54%
0-40	9055.96	87.68%	96.09%
0-60	9304.61	90.09%	98.73%
0-90	9404.42	91.06%	99.79%
0-120	9404.42	91.06%	99.79%
0-180	9424.04	91.25%	100.00%
60-90	121.56	1.18%	1.29%
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%
0-29.17	7539.23	73.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	3071.74
10-20	2838.91
20-30	1773.47
30-40	1371.84
40-50	202.04
50-60	46.60
60-70	40.72
70-80	39.47
80-90	19.62
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



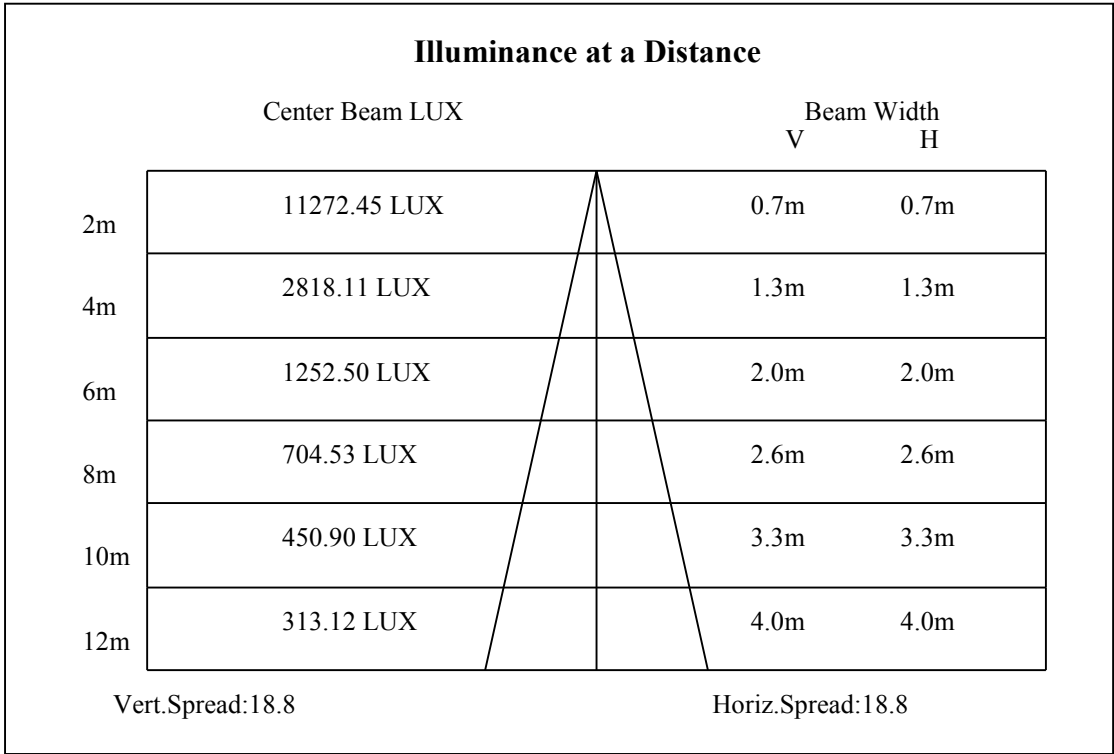
C0(Max): —————

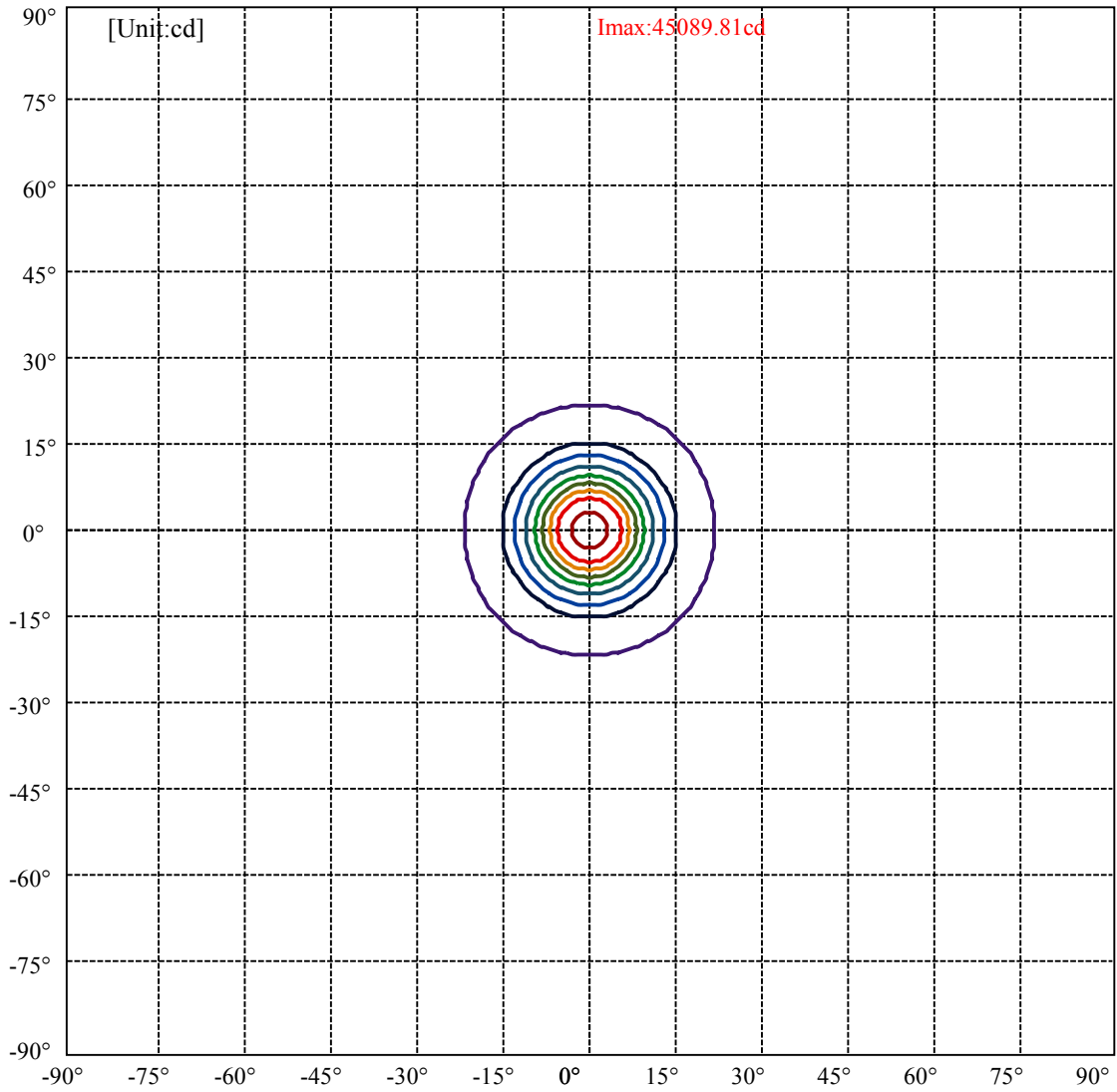
C0/C180: —————

C90/C270: —————

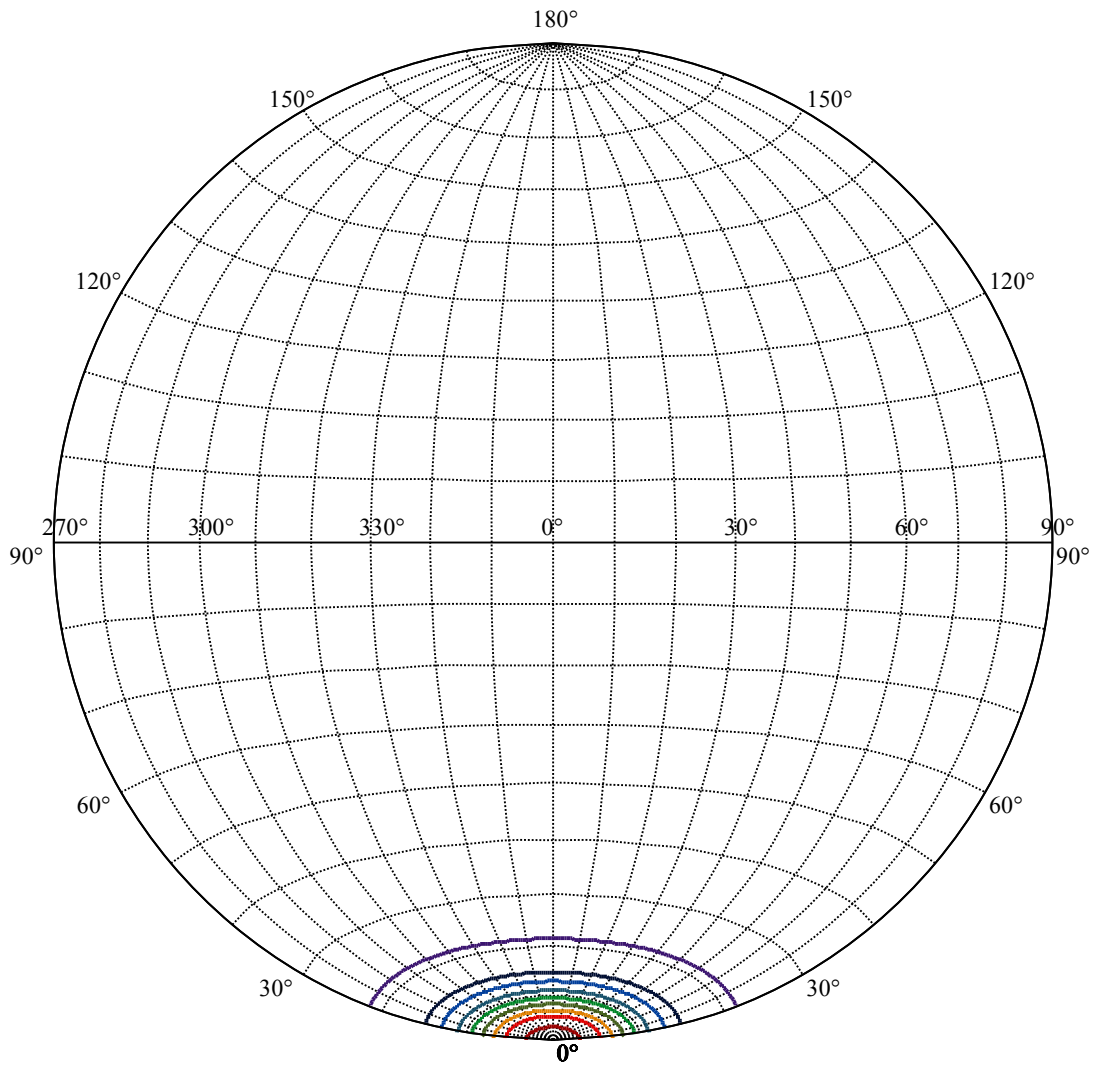
Field angle(10%Imax):C0/180Left:21.5 Right:21.5  
:C90/270Left:21.5 Right:21.5

Beam Angle(50%Imax):C0/180Left:9.4 Right:9.4  
:C90/270Left:9.4 Right:9.4





(10%Imax) 4508.98	—
(20%Imax) 9017.96	—
(30%Imax) 13526.9	—
(40%Imax) 18035.9	—
(50%Imax) 22544.9	—
(60%Imax) 27053.9	—
(70%Imax) 31562.9	—
(80%Imax) 36071.9	—
(90%Imax) 40580.8	—



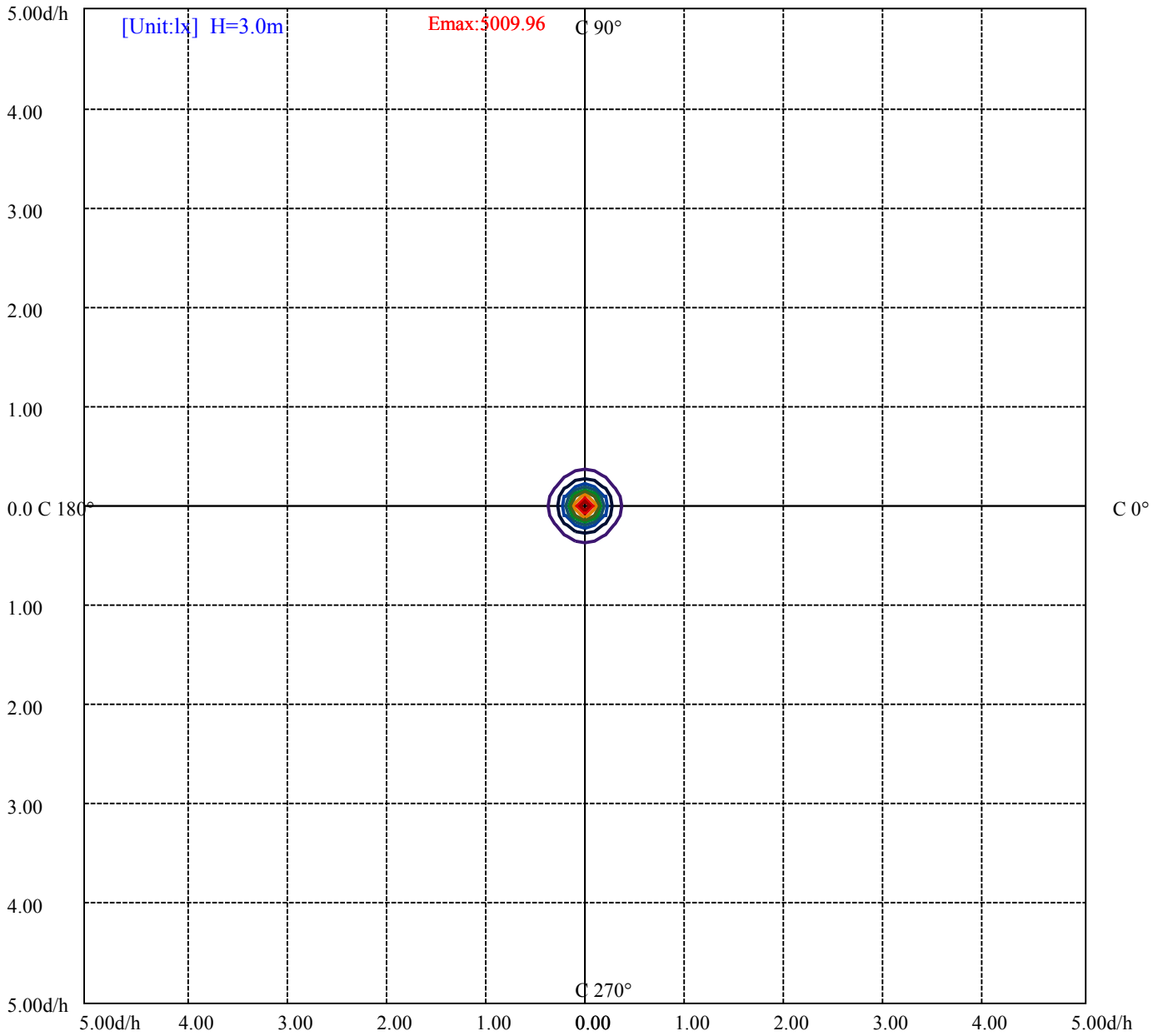
House

[Unit:cd]

Road

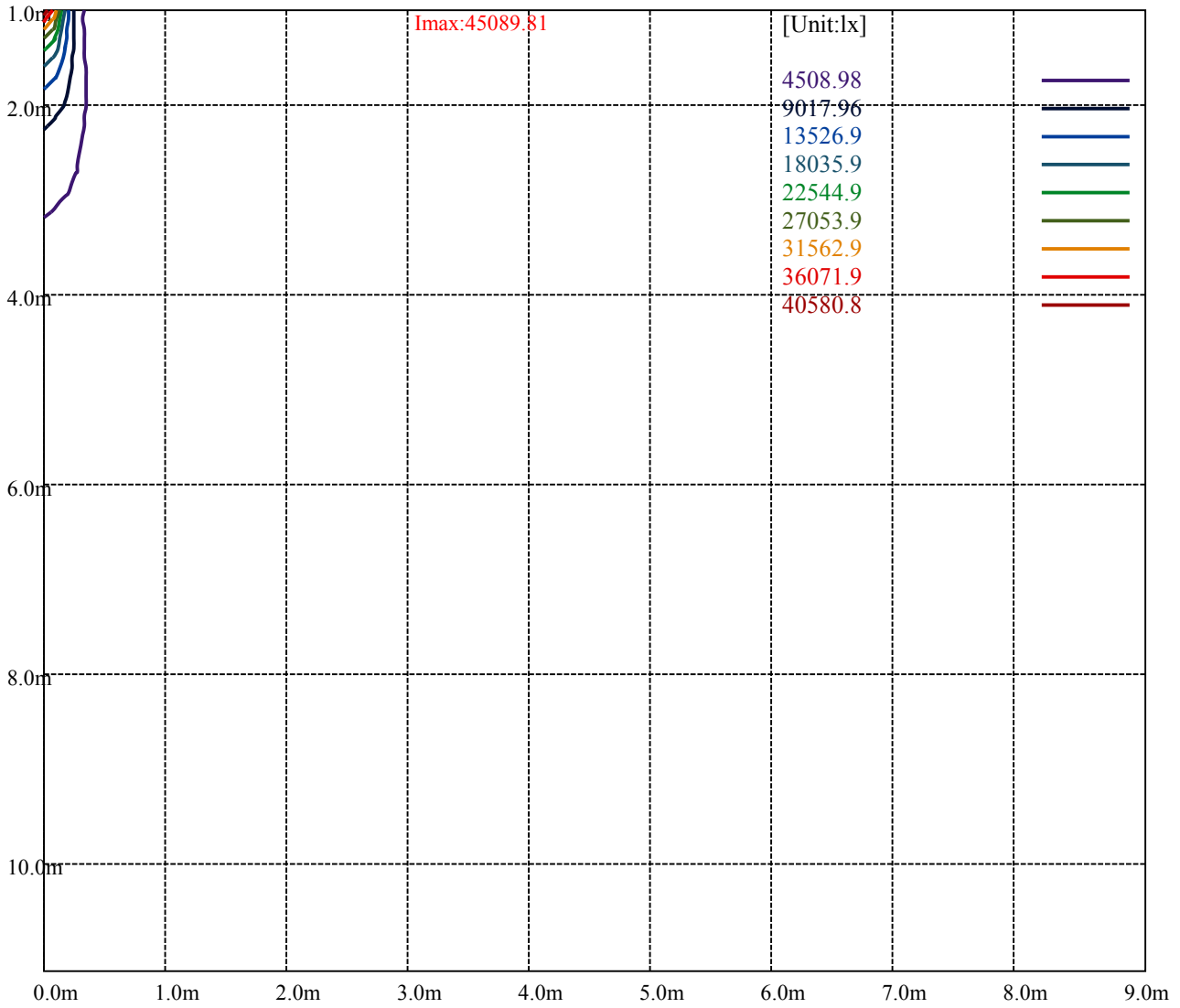
**Imax:45089.81**

(10%Imax) 4508.98	—
(20%Imax) 9017.96	—
(30%Imax) 13526.9	—
(40%Imax) 18035.9	—
(50%Imax) 22544.9	—
(60%Imax) 27053.9	—
(70%Imax) 31562.9	—
(80%Imax) 36071.9	—
(90%Imax) 40580.8	—



- (10%Emax) 500.9955
- (20%Emax) 1001.991
- (30%Emax) 1502.989
- (40%Emax) 2003.978
- (50%Emax) 2504.978
- (60%Emax) 3005.978
- (70%Emax) 3506.967
- (80%Emax) 4007.967
- (90%Emax) 4508.956





Luminance Table

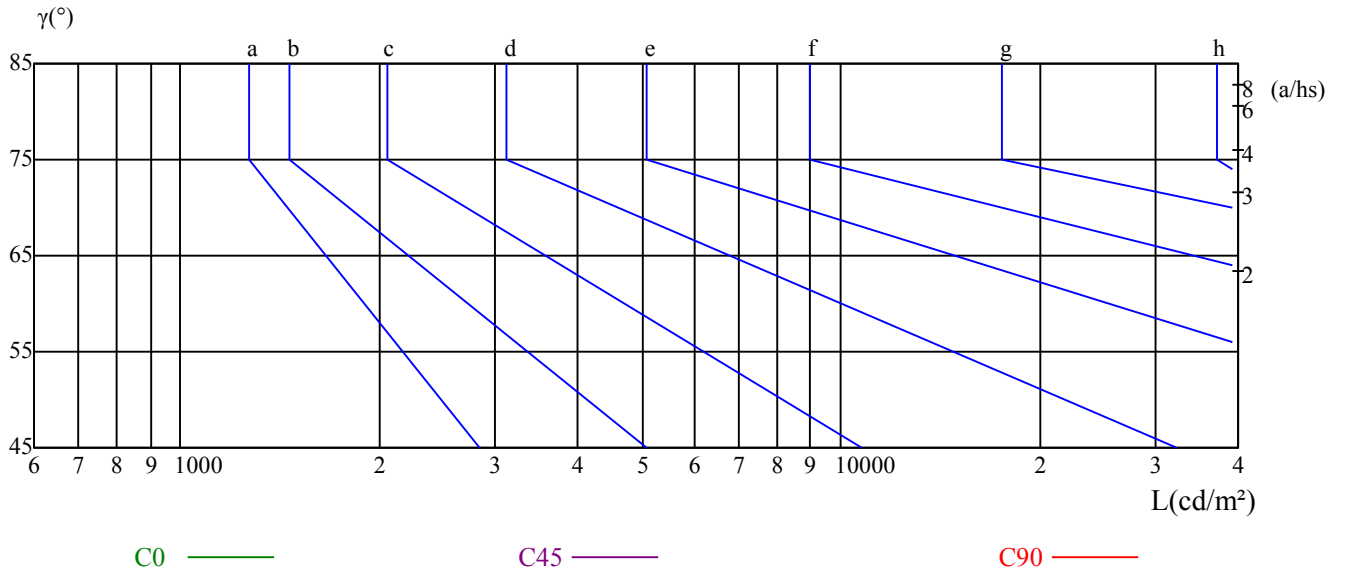
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

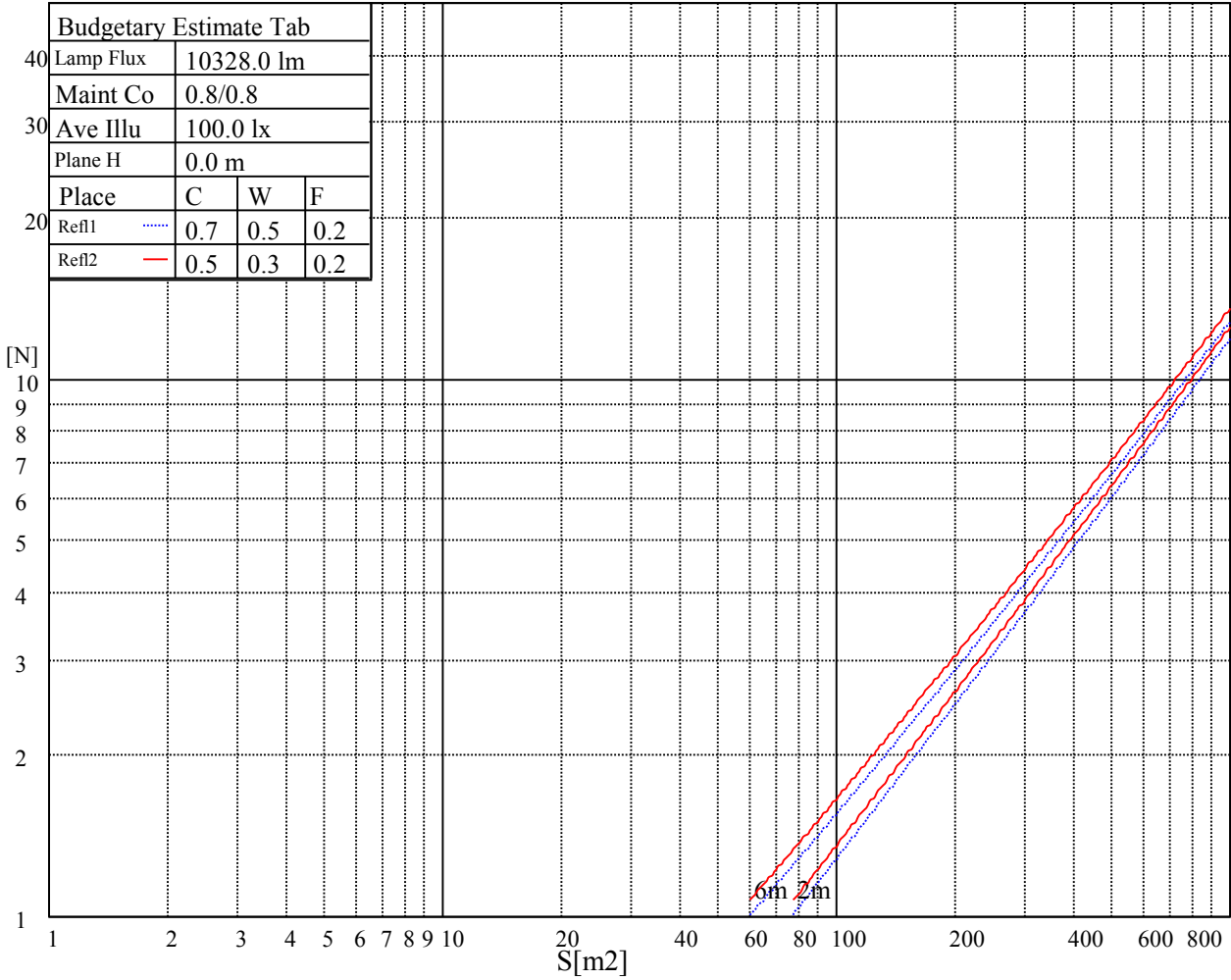
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

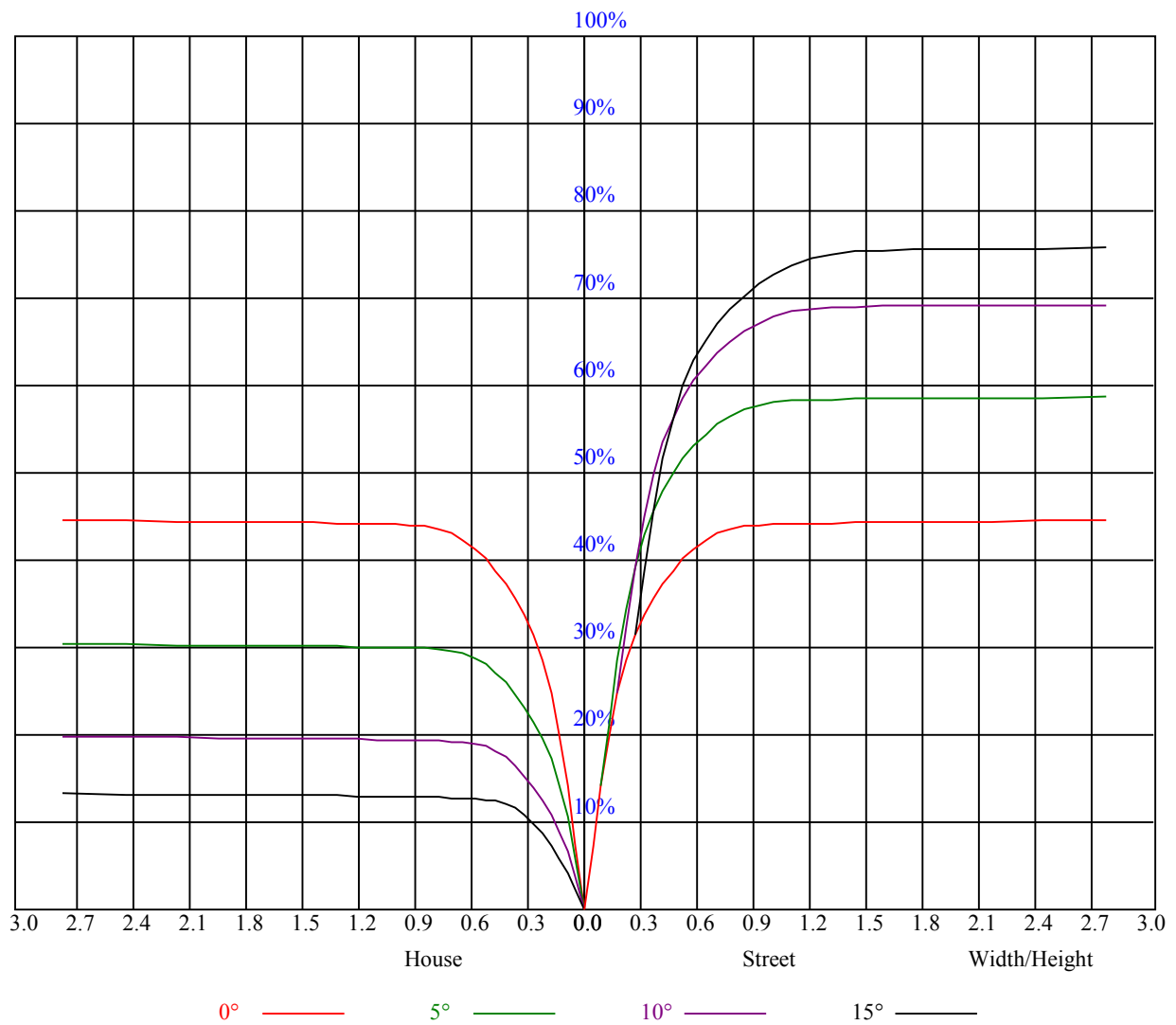
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

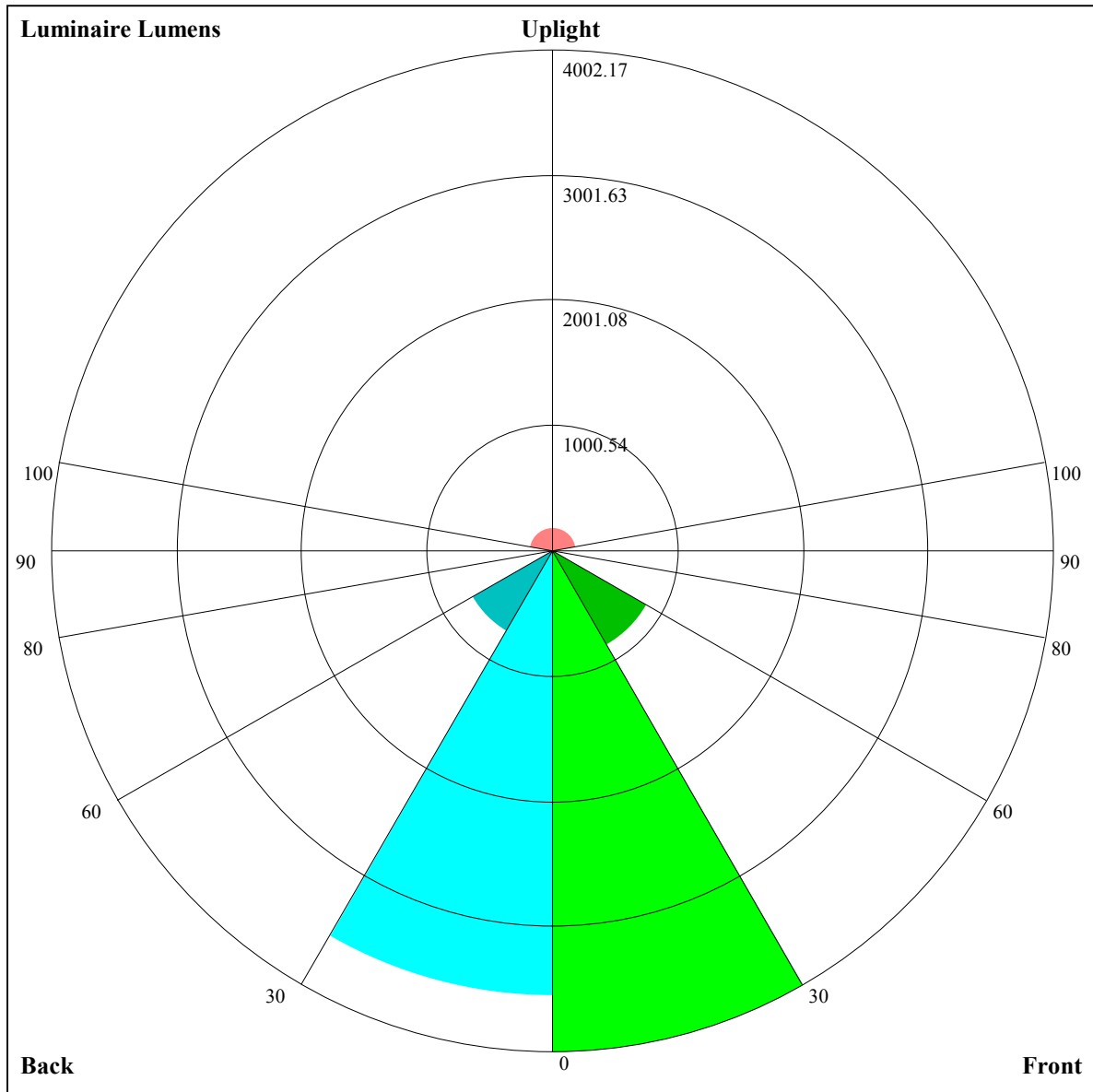
Luminance Limiting Curve





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	1.09	1.09	1.09	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.83
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.79	0.77	0.75
5	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.70	0.69
7	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.65	0.64
9	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60





Luminaire Lumens:

FL=4002.17,FM=863.75,FH=40.45,FVH=19.63

BL=3559.29,BM=741.35,BH=39.7,BVH=19.61

UL=39.11,UH=186.09

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	44942.54	41837.36	25100.21	9987.23	5252.38	3831.93	3297.88	2862.93	1329.61
45.0	45234.34	36155.54	17651.08	7294.97	4415.52	3501.59	3187.77	2796.87	470.18
90.0	44634.22	28403.60	10528.99	5760.00	3956.35	3385.42	3105.18	1042.22	99.27
135.0	45548.16	32477.77	14975.34	6623.28	4239.34	3490.58	3176.75	1833.93	290.15
180.0	44942.54	33496.31	10782.25	6910.13	4316.97	3491.68	3195.47	2004.05	278.42
225.0	45234.34	39475.44	21802.33	8684.60	4868.09	3689.88	3291.27	2696.11	943.89
270.0	44634.22	45526.14	33738.56	13334.66	6232.38	4101.70	3430.01	3121.70	1809.15
315.0	45548.16	44601.19	28926.63	10527.33	5733.57	3890.29	3357.89	3036.36	1061.27
360.0	44942.54	41837.36	25100.21	9987.23	5252.38	3831.93	3297.88	2862.93	1329.61
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	101.30	76.53	54.12	47.13	42.61	39.86	37.99	36.94	36.17
45.0	85.89	55.33	46.91	42.39	39.31	37.55	36.45	35.73	35.35
90.0	77.02	51.70	44.87	41.35	38.81	37.49	36.67	36.12	35.51
135.0	82.31	54.73	47.35	42.94	40.03	38.32	37.22	36.56	35.95
180.0	82.03	54.01	46.19	42.45	39.48	37.82	36.83	36.23	35.90
225.0	87.76	58.80	48.95	43.71	40.03	37.82	36.56	35.79	35.40
270.0	278.59	82.97	54.56	47.02	42.23	39.48	37.71	36.72	36.01
315.0	105.98	82.36	55.00	47.79	42.89	39.81	38.04	36.94	36.28
360.0	101.30	76.53	54.12	47.13	42.61	39.86	37.99	36.94	36.17
C/ $\gamma$ (°)	90.0								
0.0	35.90								
45.0	35.18								
90.0	36.01								
135.0	37.27								
180.0	35.90								
225.0	35.13								
270.0	35.57								
315.0	35.79								
360.0	35.90								