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## Nata

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Client:

LumCAT: 3-2017-A

Luminaire: 92.70.045.00+92.70.089.00

Report No: NT2018031908

Voltage(V): 36.6000

Test No: nata-0100

Current(A): 0.5000

LampCAT: LUMILEDS 1205

Power (W): 18.3000

Lamp flux(lm): 1941.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 82

Width(mm): 82

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1622.99, Efficiency(%): 83.62% , Luminous Efficacy(lm/W): 88.69

Central intensity(cd): 6387.505, Maximum intensity(cd): 6387.505

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

Beam Angle(50%Imax): [C0/180]Total=25.2

[C90/270]Total=25.2

Field angle(10%Imax): [C0/180]Total=47.8

[C90/270]Total=47.8

Maximum s/h(1/2): C0\_180=0.43 C90\_270=0.43

Maximum s/h(1/4): C0\_180=0.43 C90\_270=0.43

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.50%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.670%

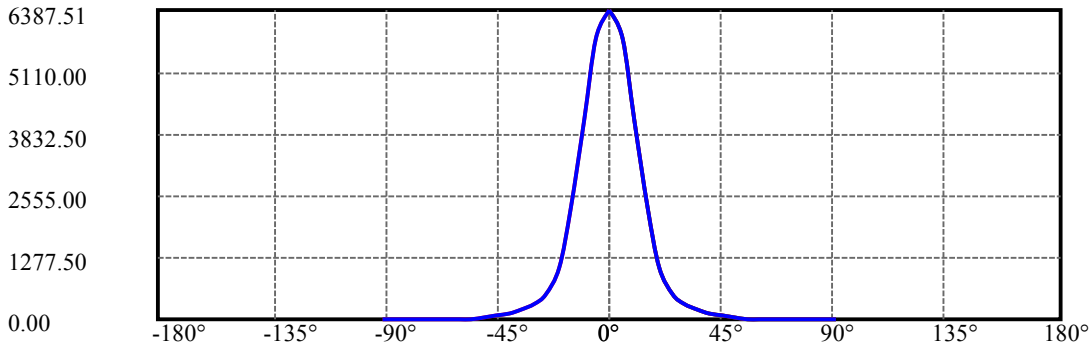
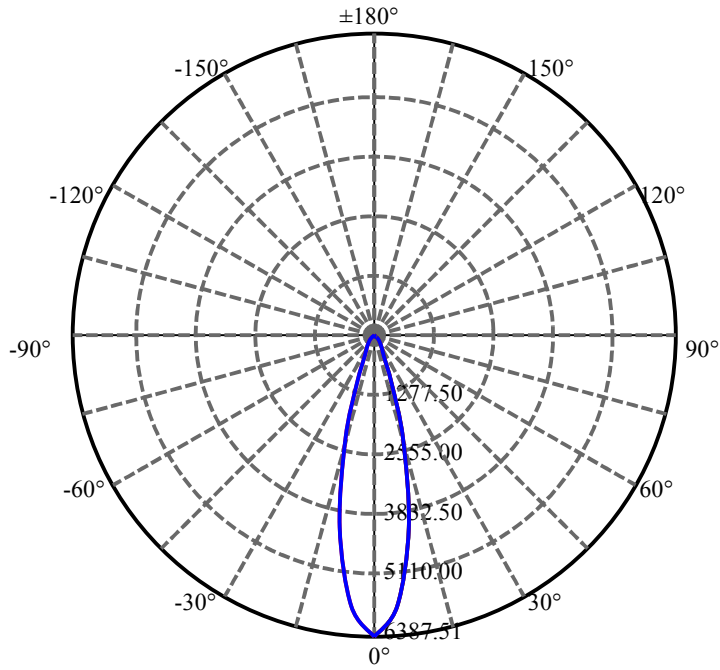
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6387.506	38.199	38.199	1.968%	2.354%
5.0	5775.898	275.934	314.132	14.216%	19.355%
10.0	4142.237	394.271	708.403	20.313%	43.648%
15.0	2284.772	324.137	1032.54	16.699%	63.619%
20.0	1085.953	203.588	1236.128	10.489%	76.163%
25.0	508.900	117.888	1354.016	6.074%	83.427%
30.0	329.471	90.298	1444.314	4.652%	88.991%
35.0	205.168	64.504	1508.818	3.323%	92.965%
40.0	122.927	43.312	1552.13	2.231%	95.634%
45.0	68.848	26.685	1578.815	1.375%	97.278%
50.0	36.172	15.189	1594.004	.783%	98.214%
55.0	15.547	6.981	1600.984	.360%	98.644%
60.0	7.150	3.394	1604.378	.175%	98.853%
65.0	6.559	3.258	1607.637	.168%	99.054%
70.0	6.442	3.318	1610.955	.171%	99.258%
75.0	6.380	3.378	1614.332	.174%	99.466%
80.0	6.352	3.429	1617.761	.177%	99.678%
85.0	6.400	3.495	1621.256	.180%	99.893%
90.0	6.338	1.737	1622.993	.089%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1444.31	74.41%	88.99%
0-40	1552.13	79.97%	95.63%
0-60	1604.38	82.66%	98.85%
0-90	1621.26	83.53%	99.89%
0-120	1621.26	83.53%	99.89%
0-180	1622.99	83.62%	100.00%
60-90	20.27	1.04%	1.25%
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%
0-22.64	1298.40	66.89%	80.00%

ZONAL LUMEN SUMMARY

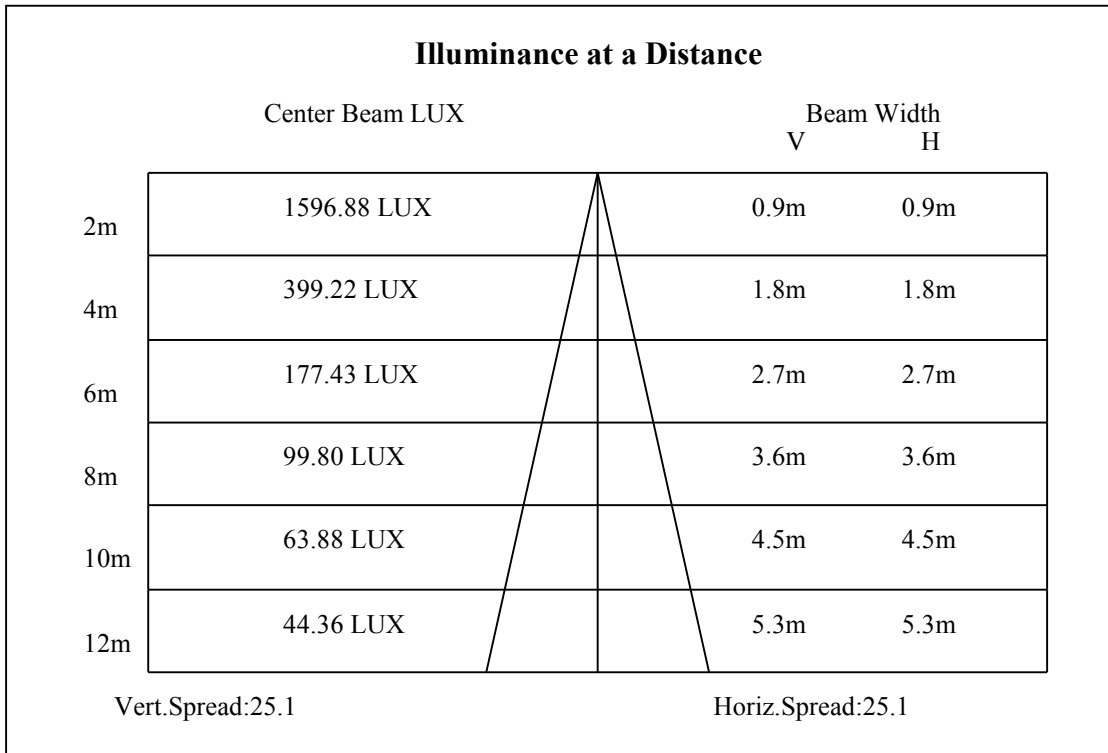
0-10	708.40
10-20	527.72
20-30	208.19
30-40	107.82
40-50	41.87
50-60	10.37
60-70	6.58
70-80	6.81
80-90	3.49
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

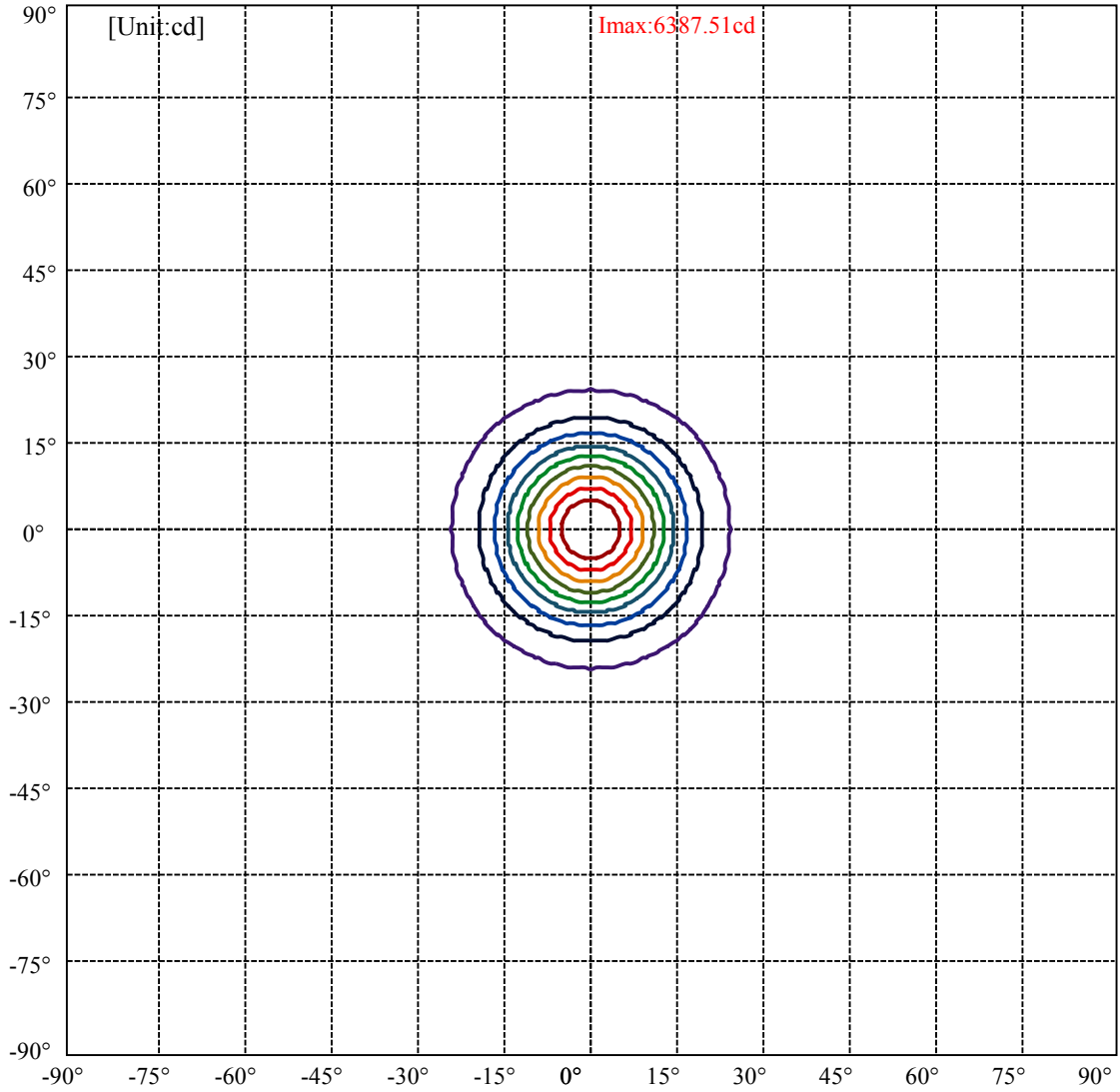


C0(Max): ———  
C0/C180: ———  
C90/C270: ———

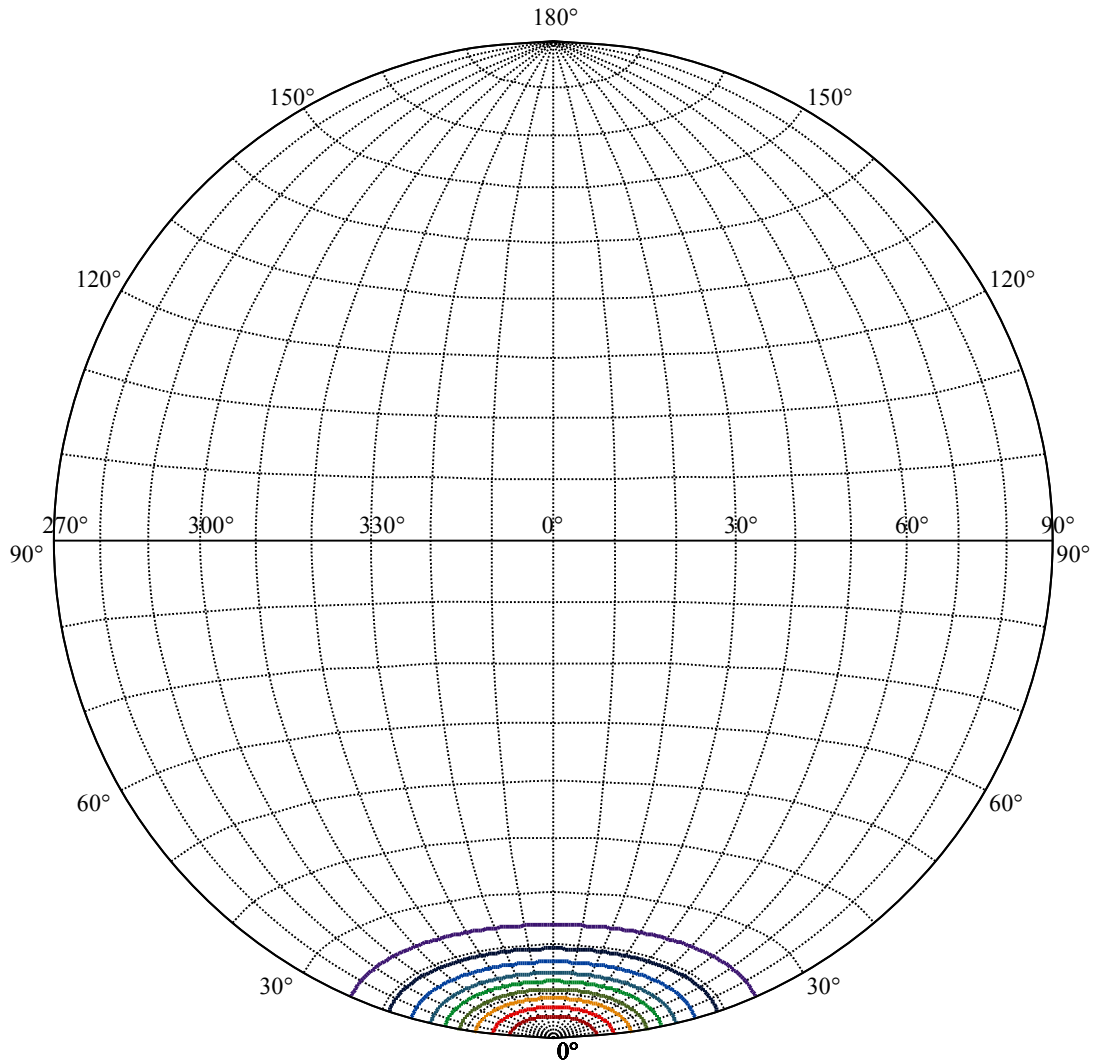
Field angle(10%Imax):C0/180Left:23.9 Right:23.9  
:C90/270Left:23.9 Right:23.9

Beam Angle(50%Imax):C0/180Left:12.6 Right:12.6  
:C90/270Left:12.6 Right:12.6





(10%Imax) 638.751	—
(20%Imax) 1277.5	—
(30%Imax) 1916.25	—
(40%Imax) 2555	—
(50%Imax) 3193.75	—
(60%Imax) 3832.5	—
(70%Imax) 4471.25	—
(80%Imax) 5110	—
(90%Imax) 5748.75	—



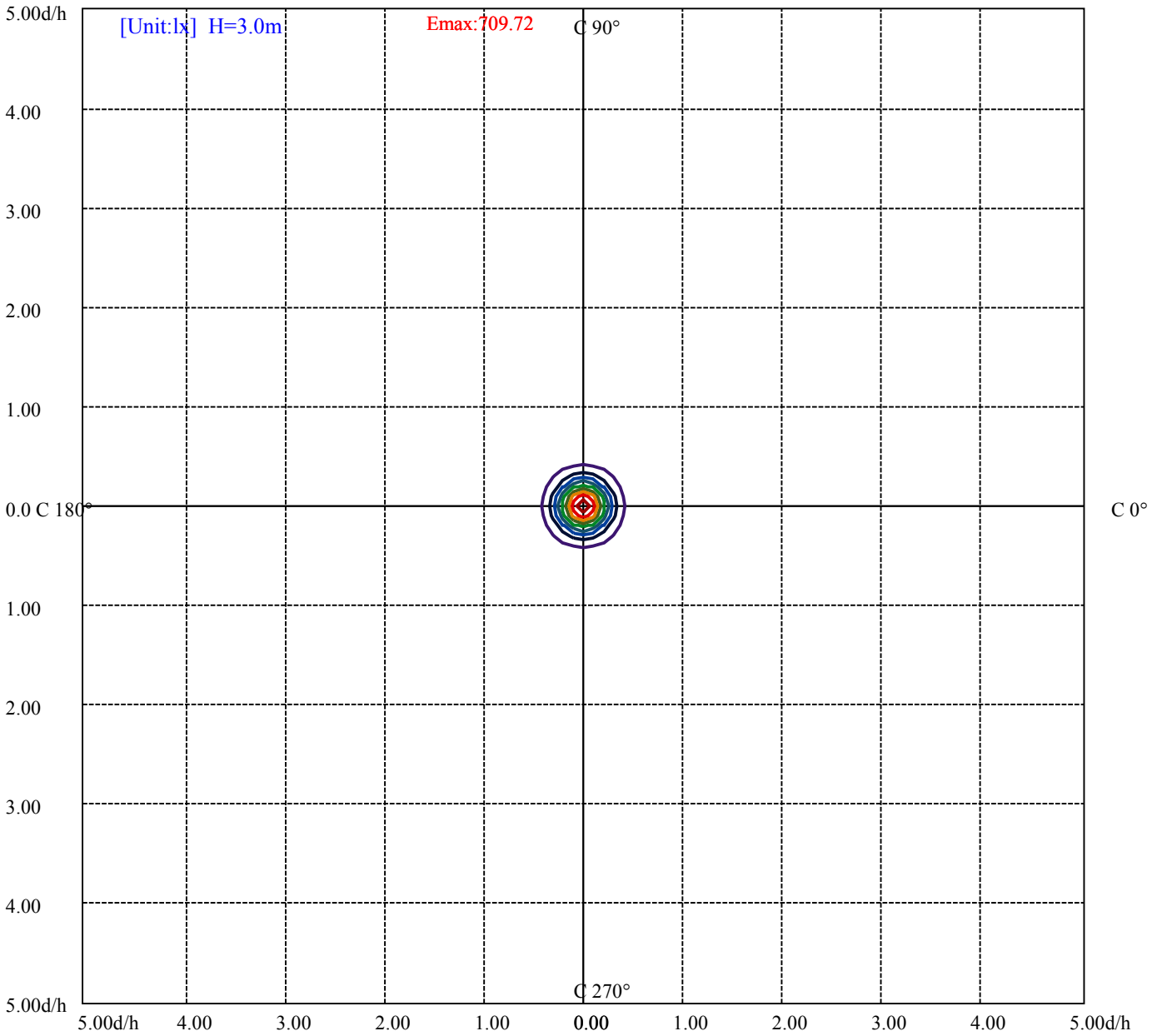
House

[Unit:cd]

Road

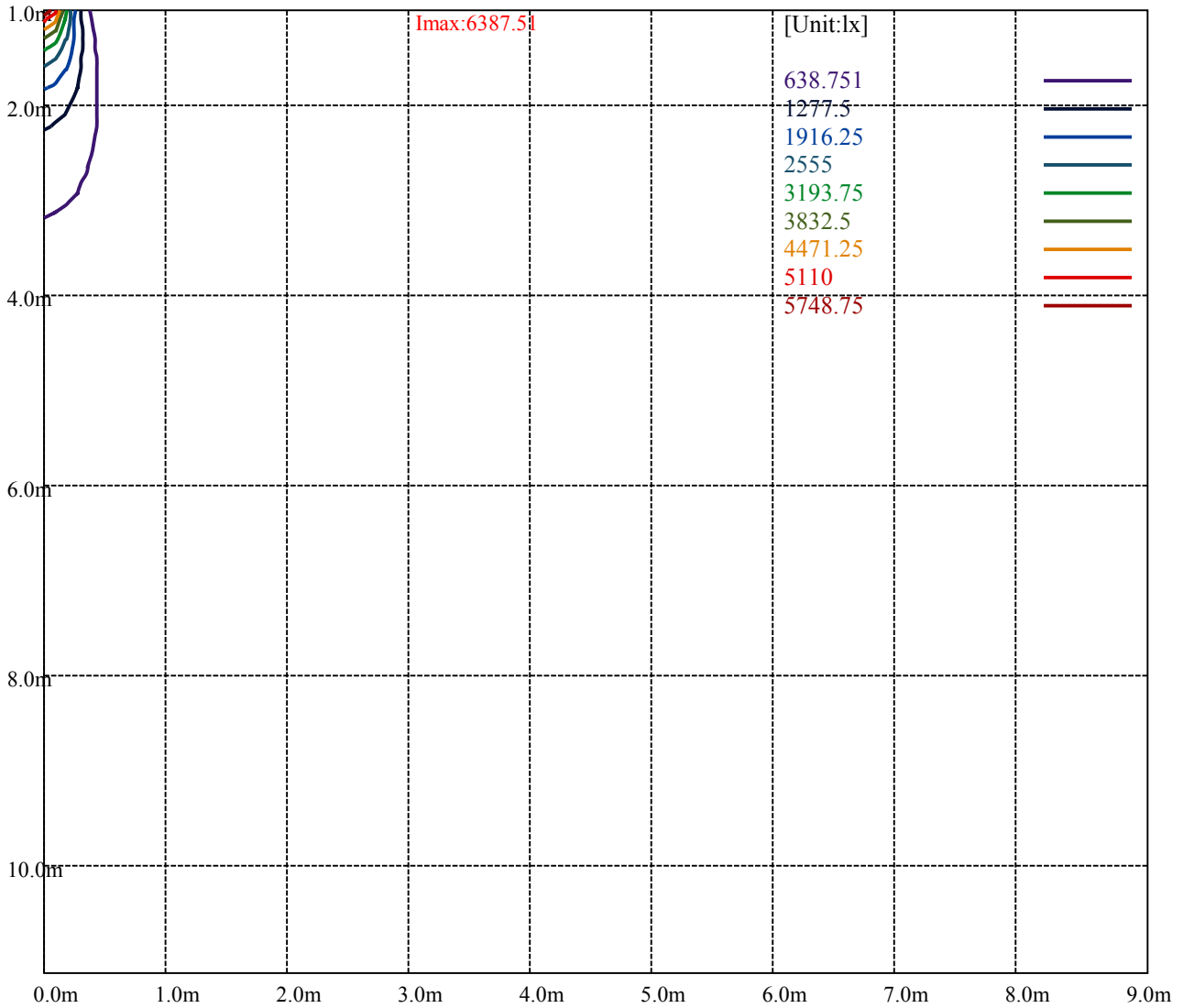
**Imax:6387.51**

(10%Imax) 638.751	—
(20%Imax) 1277.5	—
(30%Imax) 1916.25	—
(40%Imax) 2555	—
(50%Imax) 3193.75	—
(60%Imax) 3832.5	—
(70%Imax) 4471.25	—
(80%Imax) 5110	—
(90%Imax) 5748.75	—



(10%Emax) 70.97211	—
(20%Emax) 141.9444	—
(30%Emax) 212.9167	—
(40%Emax) 283.8878	—
(50%Emax) 354.86	—
(60%Emax) 425.8322	—
(70%Emax) 496.8045	—
(80%Emax) 567.7767	—
(90%Emax) 638.7489	—





Luminance Table

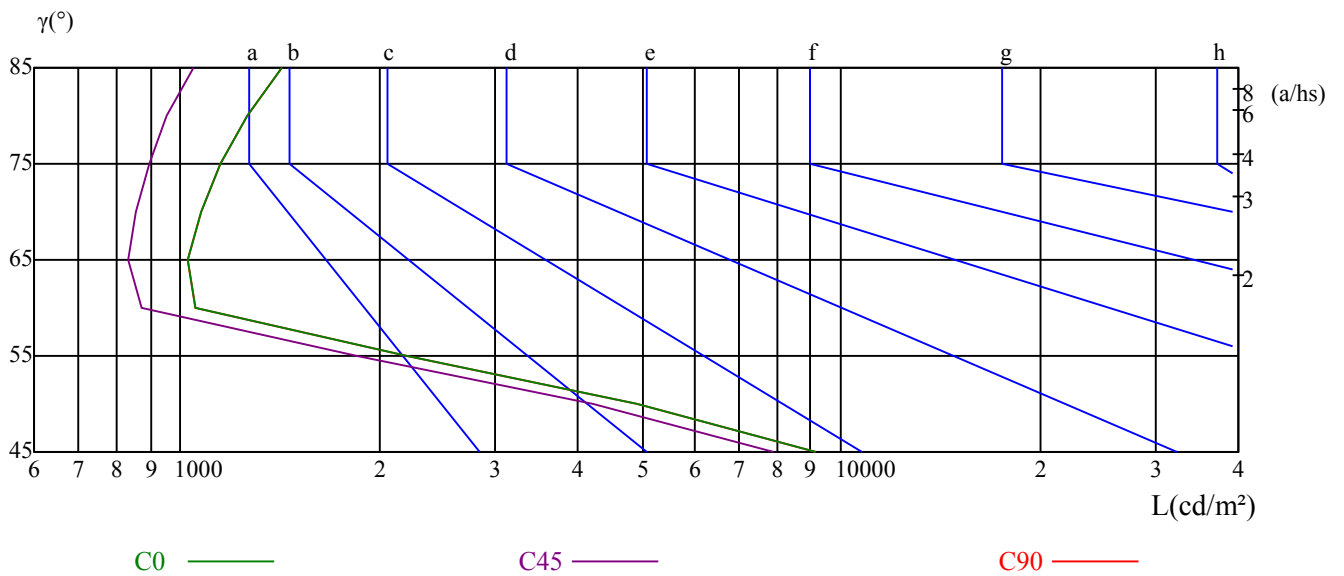
$\gamma$	45	50	55	60	65	70	75	80	85
C0	9134	4930	2196	1056	1023	1074	1151	1259	1420
C45	7922	4213	1847	874	832	855	896	955	1044
C90	9134	4930	2196	1056	1023	1074	1151	1259	1420

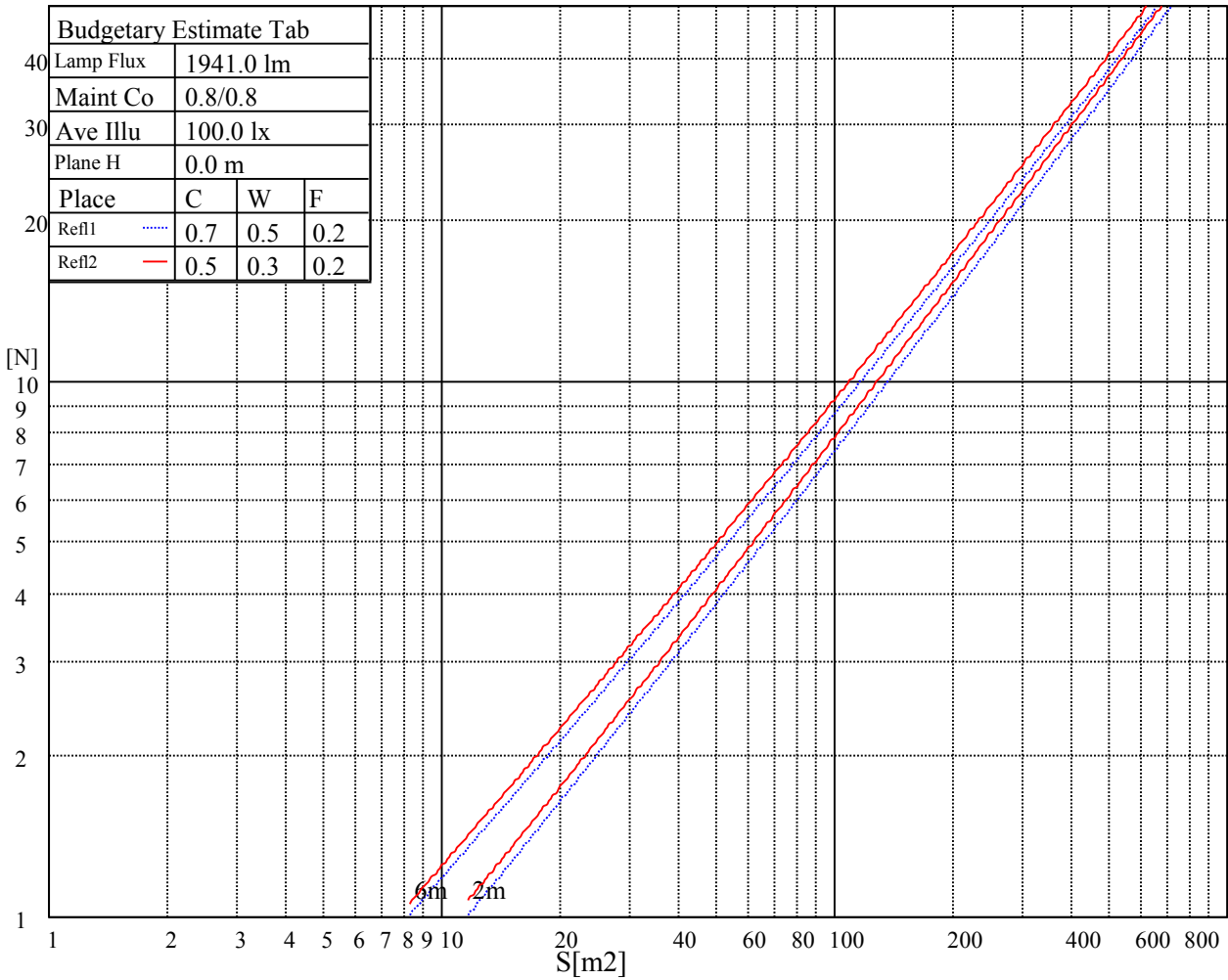
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2308	2308	2308	3666	3666	3666	10921	10921	10921

Glare Table

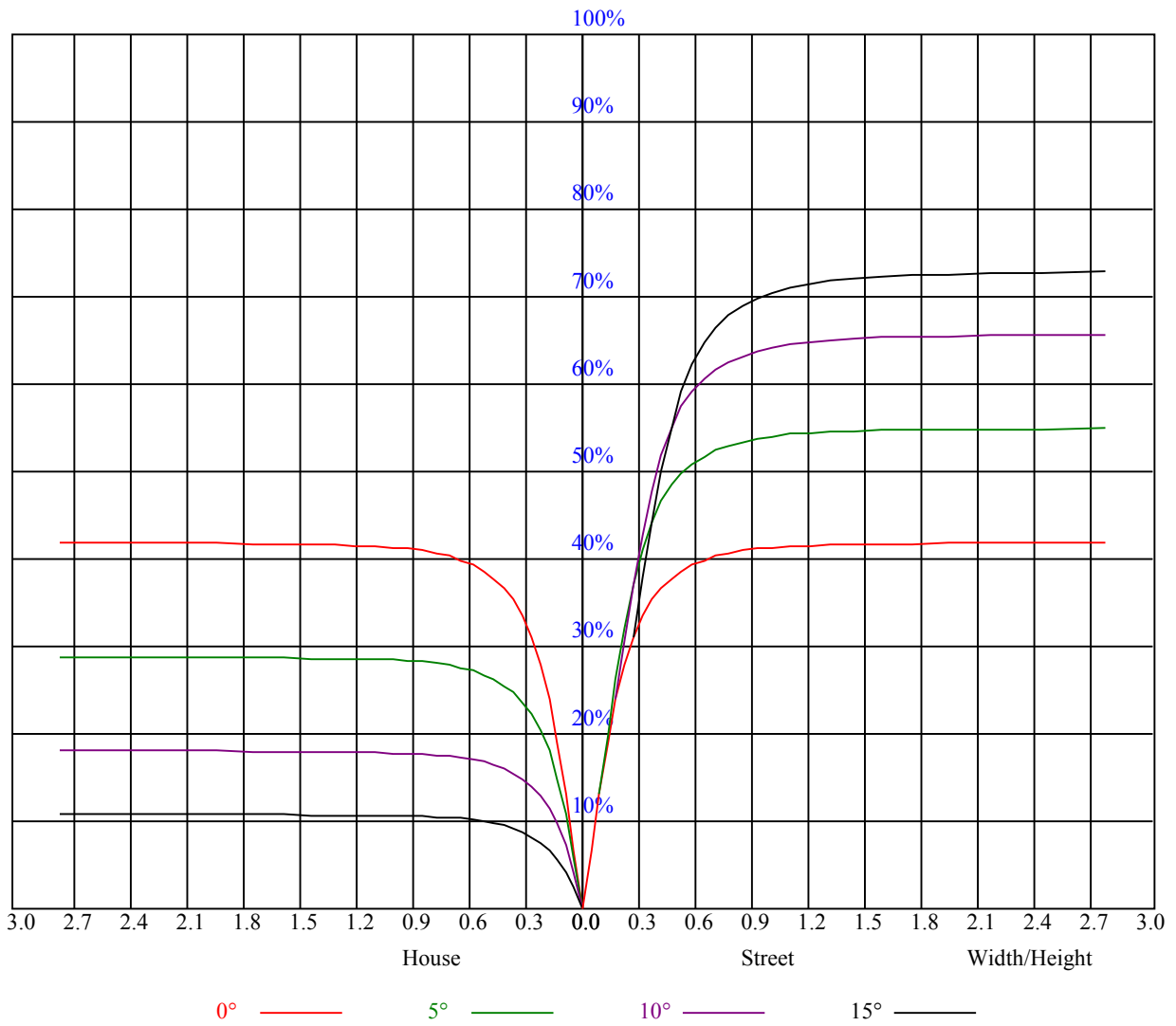
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

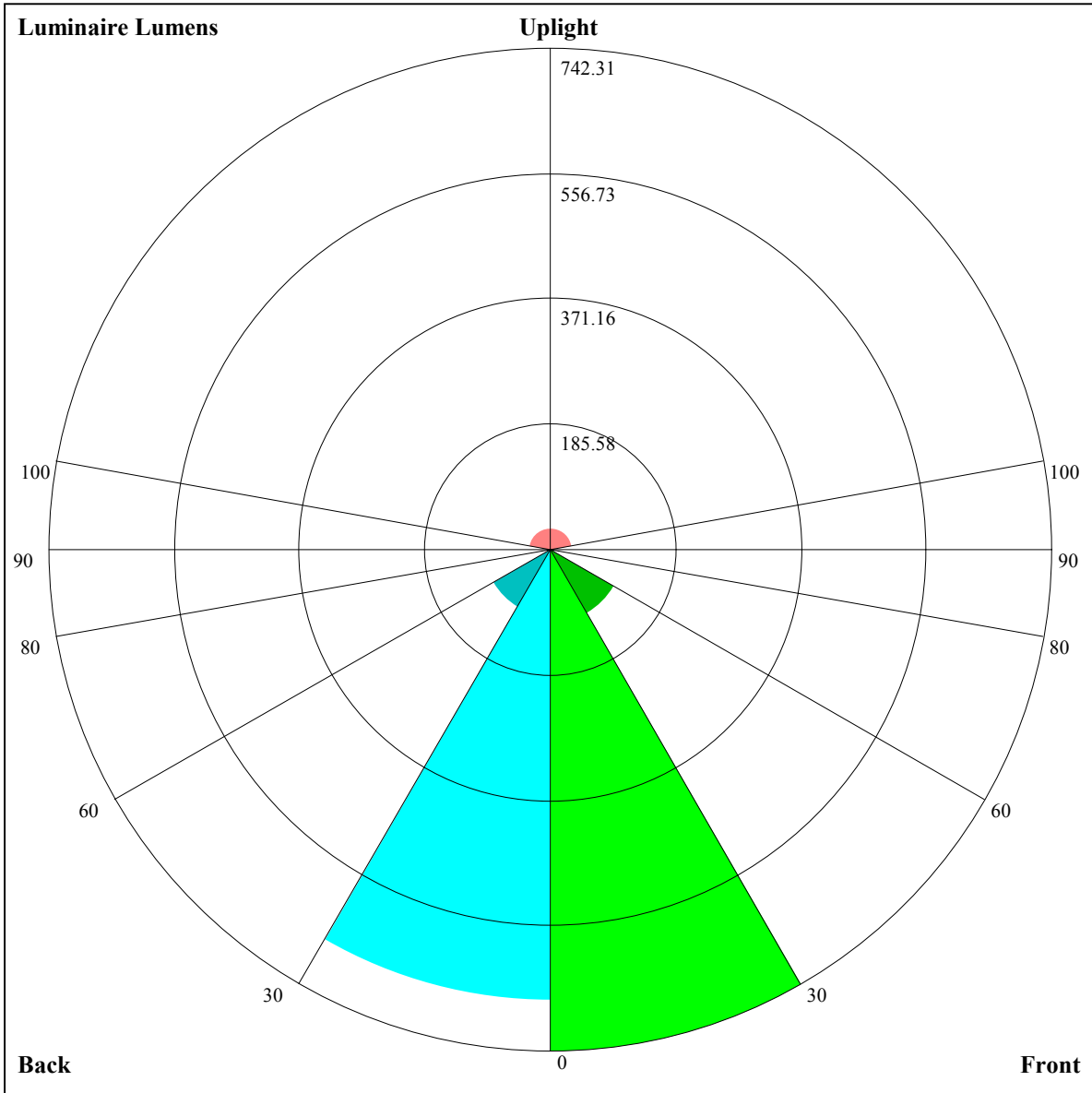
Luminance Limiting Curve





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	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.94	0.91	0.89	0.92	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.82	0.82	0.81	0.80	0.78
2	0.89	0.86	0.83	0.87	0.85	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.80	0.78	0.77	0.76
3	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
4	0.81	0.77	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.76	0.73	0.72	0.70
5	0.78	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	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	0.66	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	0.64	0.68	0.66	0.64	0.63
9	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.60





Luminaire Lumens:  
FL=742.31,FM=108.93,FH=6.73,FVH=3.48  
BL=667.45,BM=97.4,BH=6.64,BVH=3.47  
UL=6.92,UH=32.91

BUG Rating:B2-U2-G0

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	6344.15	6122.27	4754.67	2795.76	1444.13	634.25	373.83	280.24	141.05
45.0	6407.46	5976.92	4520.68	2572.79	1298.78	563.23	345.20	211.36	128.94
90.0	6402.51	5762.75	4042.79	2201.15	1065.78	499.20	328.14	195.29	123.05
135.0	6395.90	5691.18	4111.61	2204.46	995.42	483.95	320.43	189.61	121.07
180.0	6344.15	5348.18	3396.98	1830.07	778.11	417.88	281.78	165.94	100.75
225.0	6407.46	5676.31	3894.69	2013.41	941.46	458.78	305.18	189.28	117.22
270.0	6402.51	5862.41	4289.99	2462.12	1146.82	530.19	355.66	214.55	131.14
315.0	6395.90	5767.16	4126.48	2198.40	1017.11	483.73	325.55	195.06	120.19
360.0	6344.15	6122.27	4754.67	2795.76	1444.13	634.25	373.83	280.24	141.05
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	80.66	44.65	20.37	8.70	6.61	6.44	6.39	6.33	6.39
45.0	73.00	40.80	17.40	7.49	6.66	6.55	6.44	6.44	6.44
90.0	67.44	34.02	14.53	6.88	6.55	6.44	6.44	6.39	6.44
135.0	69.15	36.45	16.46	6.99	6.61	6.44	6.33	6.33	6.39
180.0	52.30	26.87	10.96	6.72	6.50	6.39	6.39	6.33	6.39
225.0	62.98	31.93	13.21	6.72	6.50	6.44	6.39	6.33	6.39
270.0	74.88	37.99	15.69	6.83	6.55	6.44	6.33	6.33	6.39
315.0	70.36	36.67	15.75	6.88	6.50	6.39	6.33	6.33	6.39
360.0	80.66	44.65	20.37	8.70	6.61	6.44	6.39	6.33	6.39
C/ $\gamma$ (°)	90.0								
0.0	6.50								
45.0	6.39								
90.0	6.33								
135.0	6.28								
180.0	6.28								
225.0	6.39								
270.0	6.28								
315.0	6.28								
360.0	6.50								