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Nata

Client:

LumCAT: 3-2019-A

Luminaire: 92.70.045.00+92.70.089.00

Report No: NT2018031910

Test No: nata-0100

LampCAT: LUMILEDS 1205

Lamp flux(lm): 1941.0

Number of Lamps: 1

Length(mm): 82

Phm Type: C

Voltage(V): 36.6000

Current(A): 0.5000

Power (W): 18.3000

PF: 0.0000

Ballast type: DC

Width(mm): 82

Height(mm): 0

Photometric Results

Lumens(lm): 1637.82, Efficiency(%): 84.38% , Luminous Efficacy(lm/W): 89.50

Central intensity(cd): 13404.860, Maximum intensity(cd): 13404.860

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.8

[C90/270]Total=15.8

Field angle(10%Imax): [C0/180]Total=30.4

[C90/270]Total=30.4

Maximum s/h(1/2): C0_180=0.27 C90_270=0.27

Maximum s/h(1/4): C0_180=0.28 C90_270=0.28

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.43%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.354%

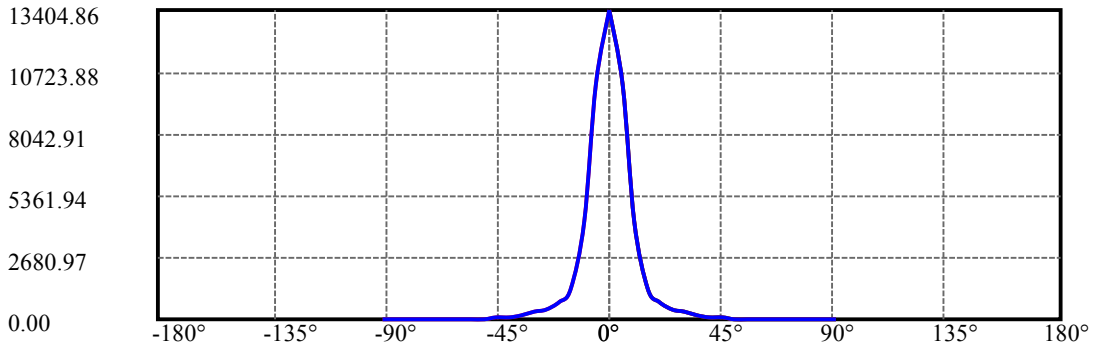
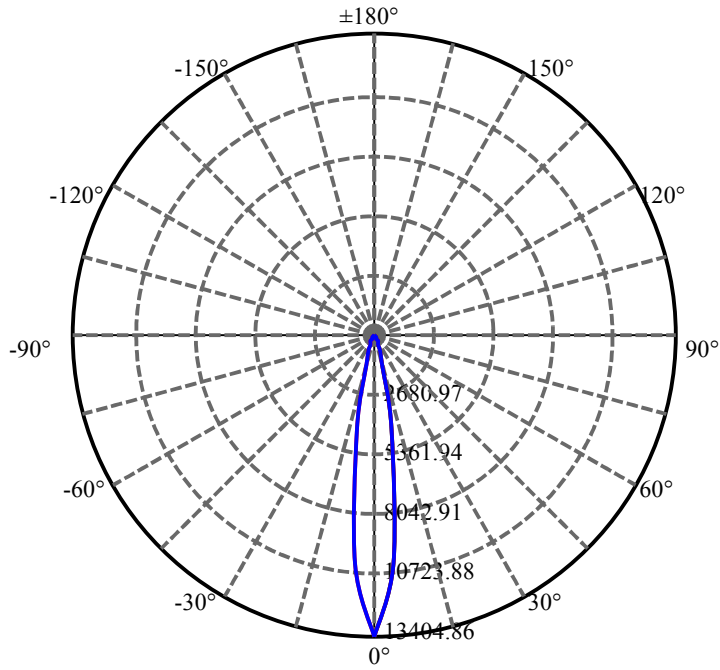
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	13404.857	80.164	80.164	4.130%	4.895%
5.0	10172.220	485.961	566.124	25.037%	34.566%
10.0	4235.007	403.101	969.225	20.768%	59.178%
15.0	1361.614	193.170	1162.395	9.952%	70.972%
20.0	712.457	133.567	1295.963	6.881%	79.127%
25.0	457.436	105.966	1401.929	5.459%	85.597%
30.0	298.825	81.899	1483.828	4.219%	90.598%
35.0	180.034	56.603	1540.43	2.916%	94.054%
40.0	109.101	38.440	1578.871	1.980%	96.401%
45.0	56.963	22.078	1600.949	1.137%	97.749%
50.0	26.565	11.154	1612.103	.575%	98.430%
55.0	9.594	4.308	1616.411	.222%	98.693%
60.0	6.552	3.110	1619.521	.160%	98.883%
65.0	6.387	3.173	1622.694	.163%	99.076%
70.0	6.311	3.251	1625.944	.167%	99.275%
75.0	6.276	3.323	1629.267	.171%	99.478%
80.0	6.290	3.396	1632.663	.175%	99.685%
85.0	6.318	3.450	1636.113	.178%	99.896%
90.0	6.228	1.707	1637.82	.088%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1483.83	76.45%	90.60%
0-40	1578.87	81.34%	96.40%
0-60	1619.52	83.44%	98.88%
0-90	1636.11	84.29%	99.90%
0-120	1636.11	84.29%	99.90%
0-180	1637.82	84.38%	100.00%
60-90	19.70	1.02%	1.20%
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%
0-20.67	1310.26	67.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	969.23
10-20	326.74
20-30	187.87
30-40	95.04
40-50	33.23
50-60	7.42
60-70	6.42
70-80	6.72
80-90	3.45
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



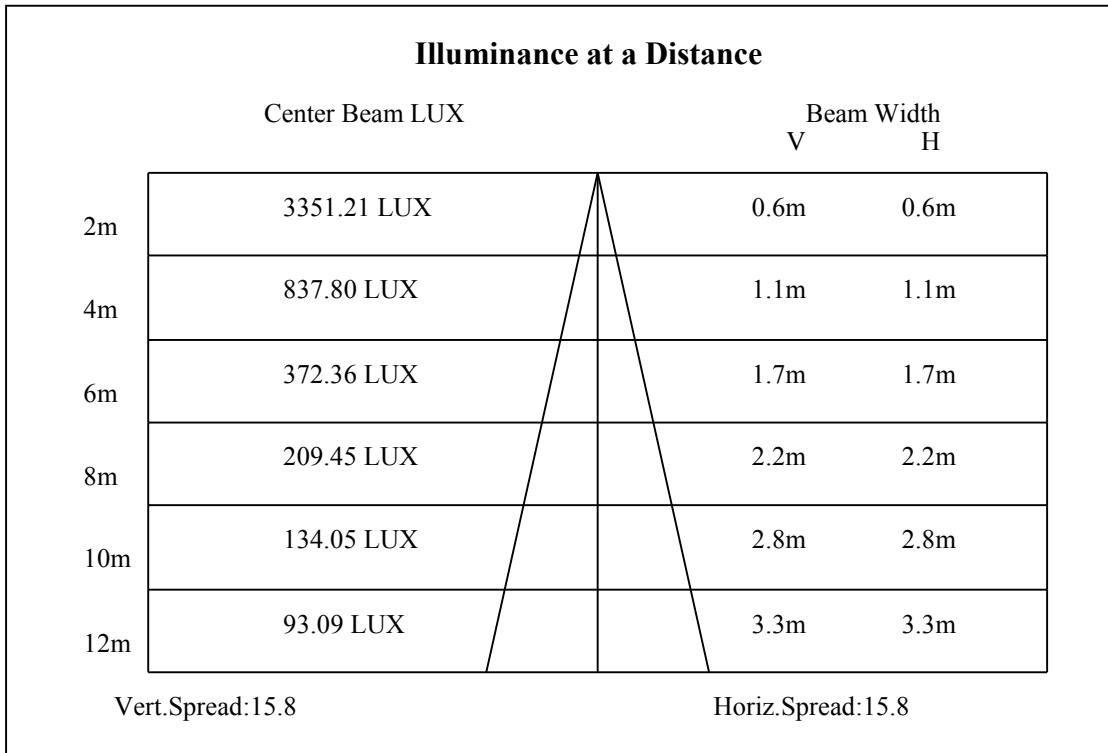
C0(Max): —————

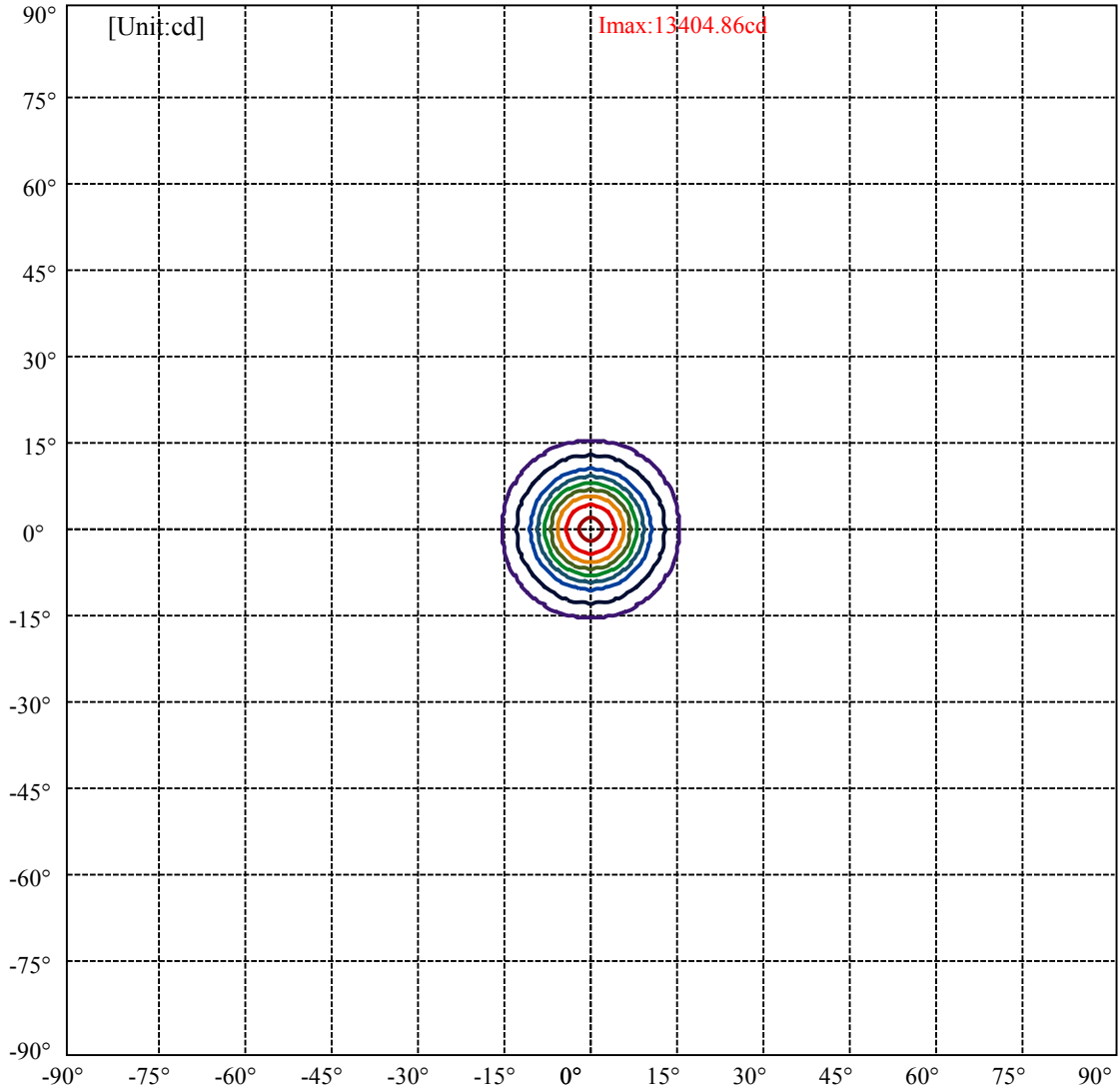
C0/C180: —————

C90/C270: —————

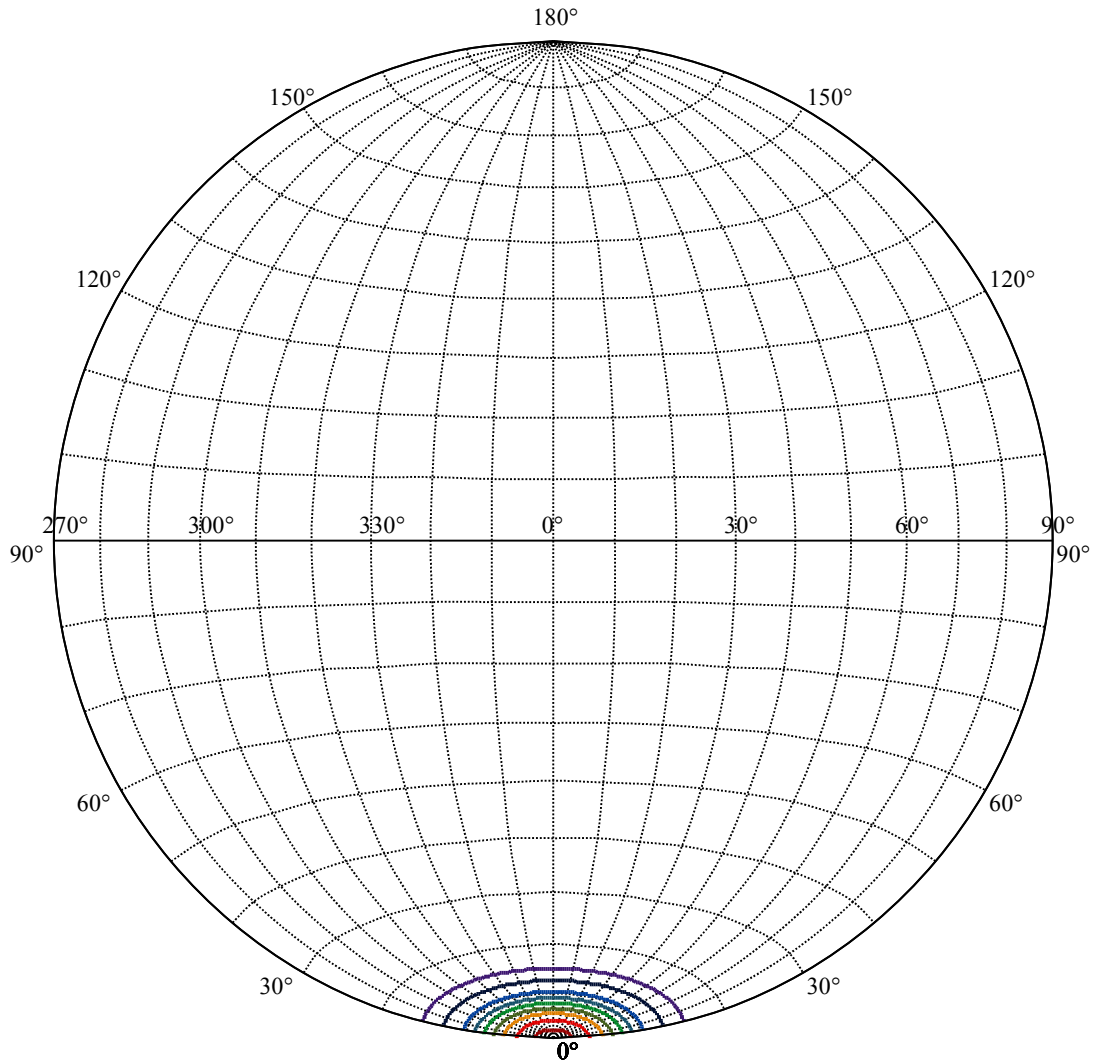
Field angle(10%Imax):C0/180Left:15.2 Right:15.2
:C90/270Left:15.2 Right:15.2

Beam Angle(50%Imax):C0/180Left:7.9 Right:7.9
:C90/270Left:7.9 Right:7.9





(10%Imax) 1340.49	—
(20%Imax) 2680.97	—
(30%Imax) 4021.46	—
(40%Imax) 5361.94	—
(50%Imax) 6702.43	—
(60%Imax) 8042.91	—
(70%Imax) 9383.4	—
(80%Imax) 10723.9	—
(90%Imax) 12064.4	—



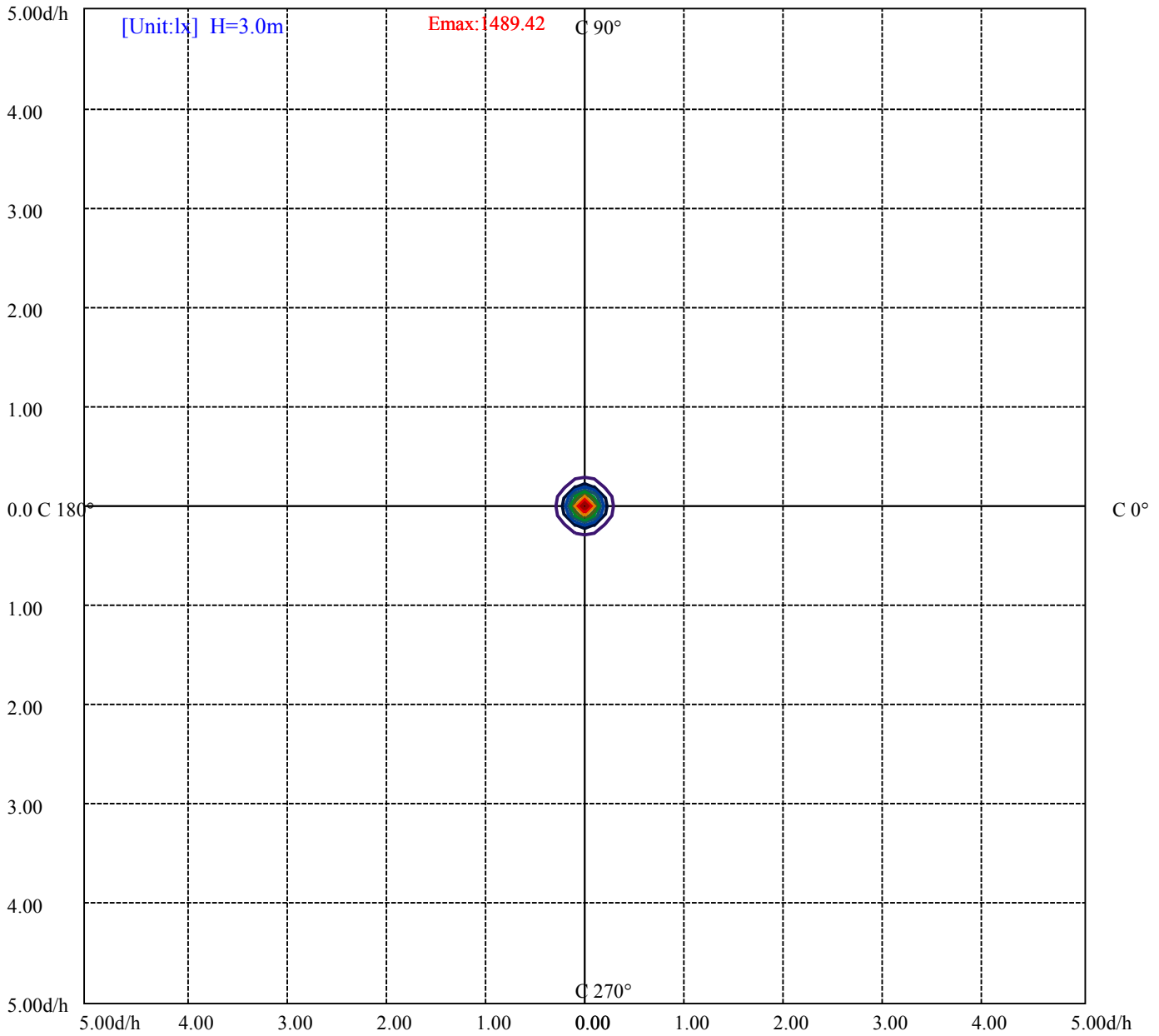
House

[Unit:cd]

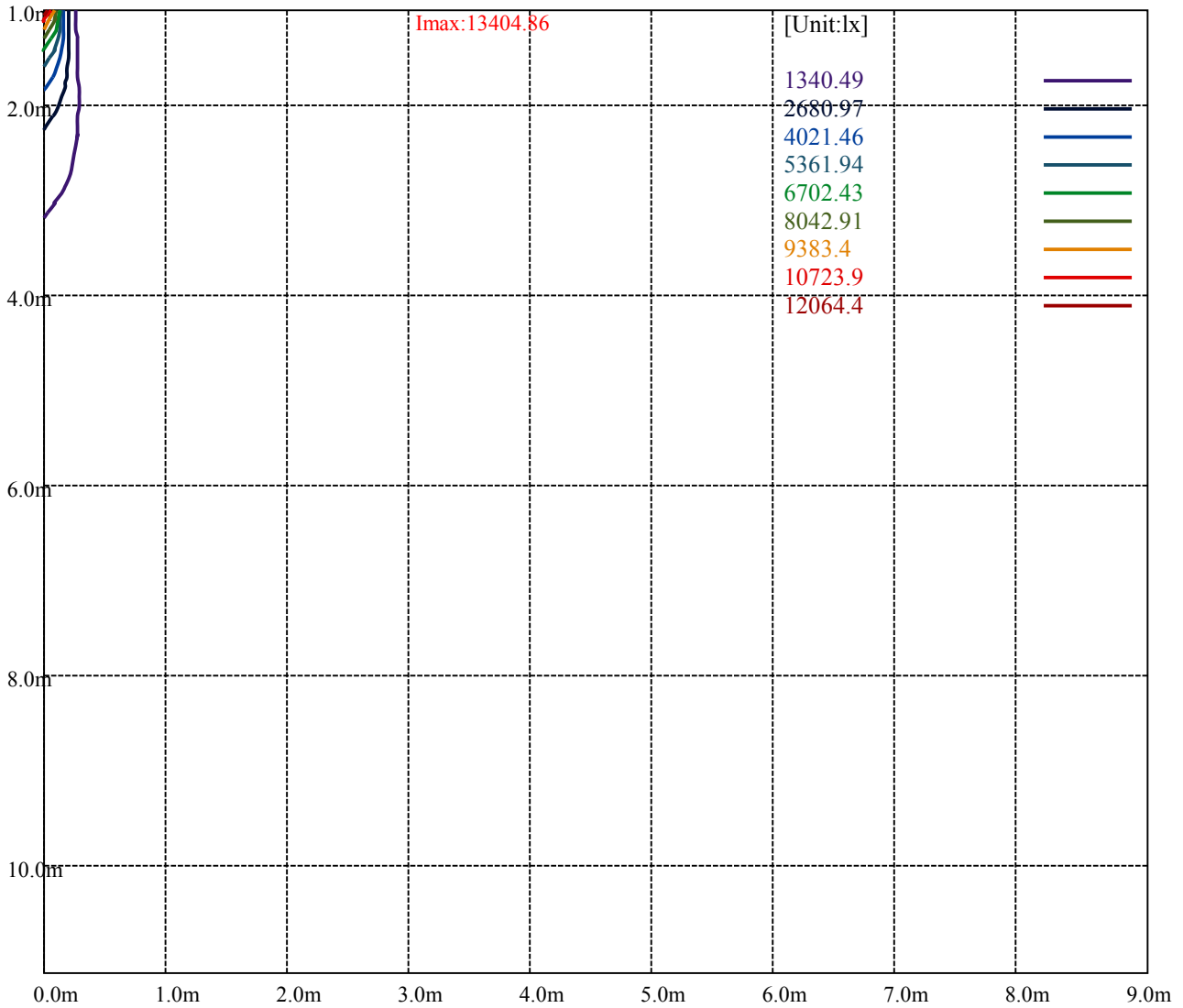
Road

Imax:13404.86

(10%Imax) 1340.49	—
(20%Imax) 2680.97	—
(30%Imax) 4021.46	—
(40%Imax) 5361.94	—
(50%Imax) 6702.43	—
(60%Imax) 8042.91	—
(70%Imax) 9383.4	—
(80%Imax) 10723.9	—
(90%Imax) 12064.4	—



(10%Emax) 148.9422	—
(20%Emax) 297.8833	—
(30%Emax) 446.8256	—
(40%Emax) 595.7667	—
(50%Emax) 744.7089	—
(60%Emax) 893.6511	—
(70%Emax) 1042.592	—
(80%Emax) 1191.533	—
(90%Emax) 1340.478	—



Luminance Table

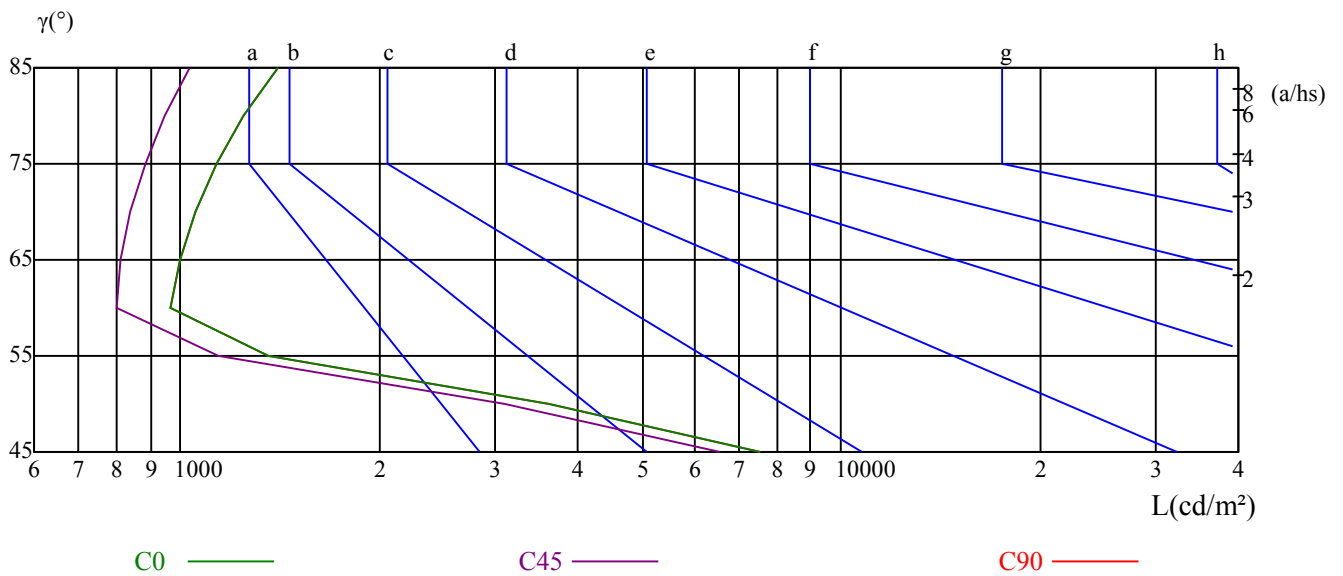
γ	45	50	55	60	65	70	75	80	85
C0	7557	3621	1355	968	997	1052	1132	1247	1402
C45	6555	3094	1140	801	810	838	882	946	1030
C90	7557	3621	1355	968	997	1052	1132	1247	1402

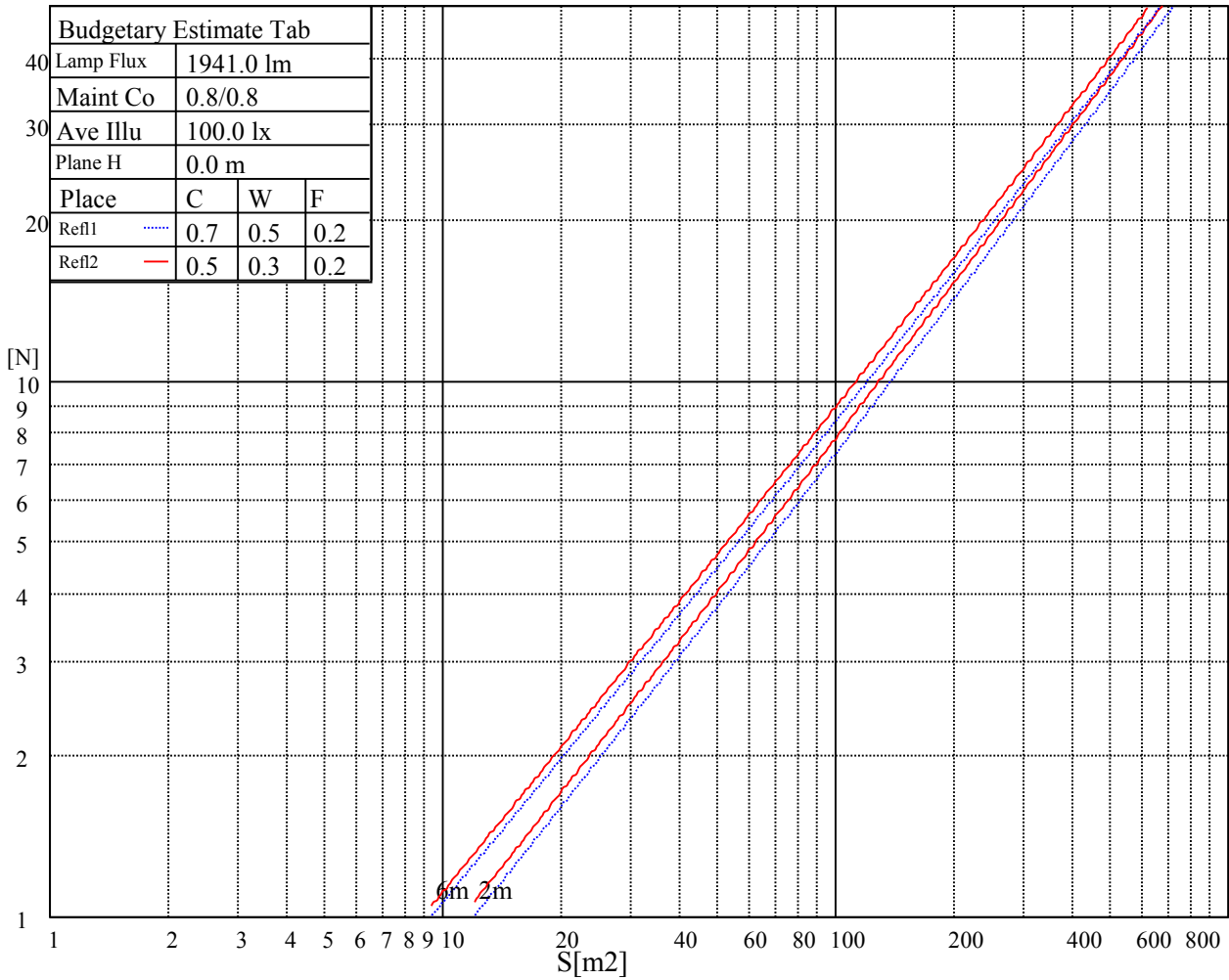
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2247	2247	2247	3607	3607	3607	10780	10780	10780

Glare Table

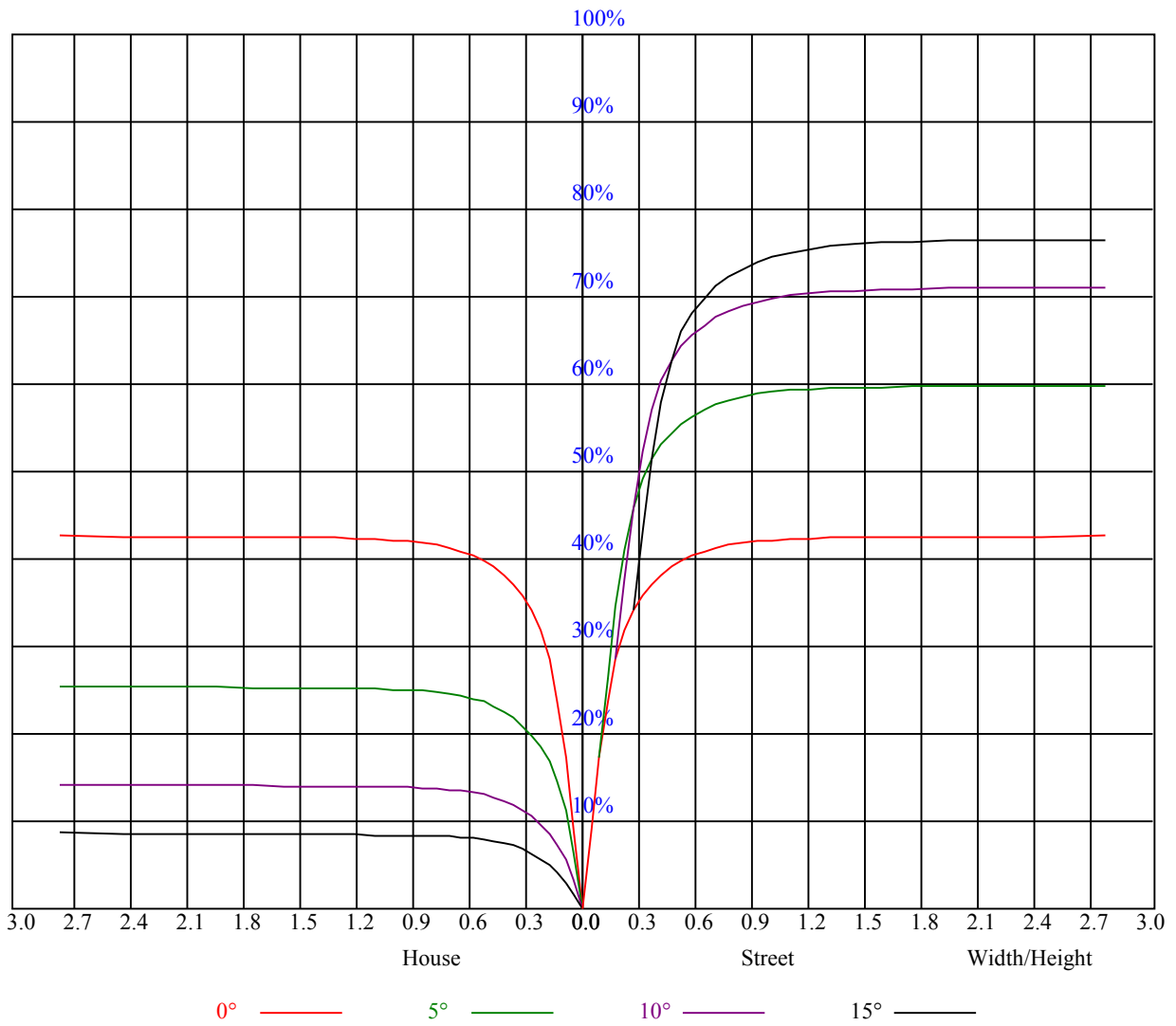
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

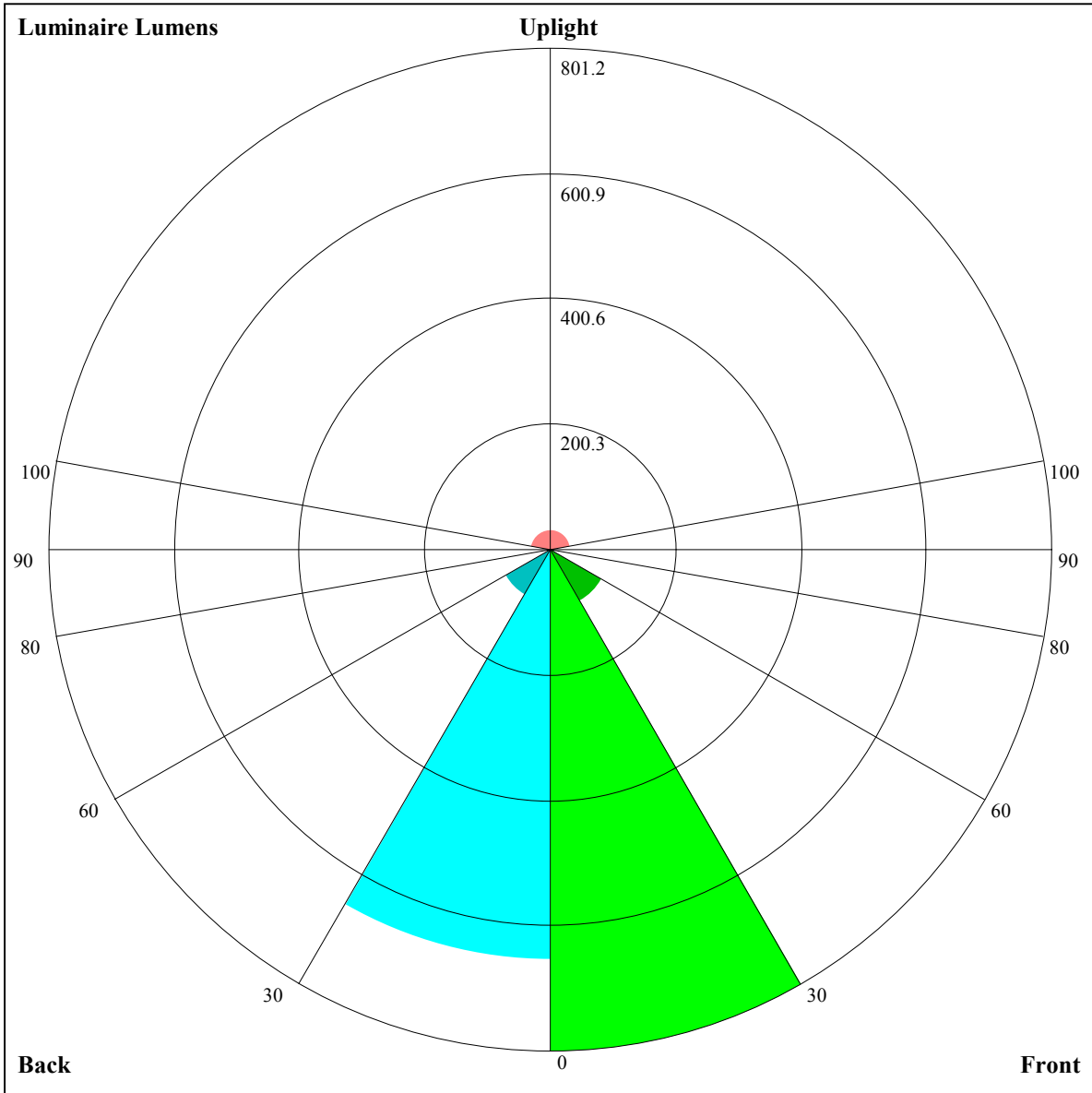
Luminance Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.94	0.91	0.89	0.92	0.90	0.87	0.89	0.86	0.84	0.85	0.84	0.82	0.82	0.81	0.79	0.78
2	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.80	0.83	0.81	0.79	0.80	0.79	0.77	0.75
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.73
4	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.71
5	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.71	0.70
6	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
7	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	0.70	0.68	0.67
8	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
9	0.72	0.68	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.70	0.67	0.65	0.64
10	0.71	0.67	0.65	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63





Luminaire Lumens:

FL=801.2,FM=94.09,FH=6.52,FVH=3.43

BL=655.32,BM=83.71,BH=6.49,BVH=3.43

UL=6.8,UH=32.34

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	12365.67	12354.66	6480.14	2818.89	836.86	538.45	355.66	215.88	126.02
45.0	13802.64	11611.39	5450.58	1500.84	770.79	490.55	313.82	189.06	115.40
90.0	13797.13	10292.24	4009.21	1094.36	697.95	450.20	292.79	174.75	111.16
135.0	13653.99	9574.31	4046.65	1167.20	690.96	450.36	290.70	171.39	109.62
180.0	12365.67	7795.99	2386.14	891.47	608.76	393.27	253.53	152.56	86.38
225.0	13802.64	9054.02	3084.26	1050.92	662.33	421.18	268.51	168.80	100.15
270.0	13797.13	10273.52	4283.39	1304.29	730.60	476.24	319.33	192.15	116.83
315.0	13653.99	10421.63	4139.69	1064.96	701.42	439.24	296.26	175.68	107.25
360.0	12365.67	12354.66	6480.14	2818.89	836.86	538.45	355.66	215.88	126.02
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	70.25	35.90	14.04	6.66	6.44	6.33	6.28	6.28	6.33
45.0	63.42	31.82	11.84	6.66	6.50	6.39	6.33	6.33	6.33
90.0	55.88	25.00	8.86	6.55	6.39	6.33	6.28	6.33	6.28
135.0	55.22	25.16	9.03	6.50	6.33	6.28	6.28	6.28	6.28
180.0	40.25	17.89	6.72	6.44	6.33	6.28	6.28	6.28	6.39
225.0	50.71	22.24	7.27	6.50	6.39	6.33	6.28	6.28	6.33
270.0	61.55	27.53	9.52	6.61	6.39	6.28	6.28	6.28	6.33
315.0	58.41	26.98	9.47	6.50	6.33	6.28	6.22	6.28	6.28
360.0	70.25	35.90	14.04	6.66	6.44	6.33	6.28	6.28	6.33
C/ γ (°)	90.0								
0.0	6.33								
45.0	6.28								
90.0	6.22								
135.0	6.17								
180.0	6.22								
225.0	6.28								
270.0	6.17								
315.0	6.17								
360.0	6.33								