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Nata

Client:

LumCAT: 3-2021-A

Luminaire: 92.70.065.00+92.70.089.00

Report No: nt0100

Test No: NATA07

LampCAT: LUMINUS CXM-14-AC40

Lamp flux(lm): 1357.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.5000

Current(A): 0.0690

Power (W): 14.2600

PF: 0.9290

Ballast type: AC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1172.63, Efficiency(%): 86.41% , Luminous Efficacy(lm/W): 82.23

Central intensity(cd): 1903.395, Maximum intensity(cd): 1903.395

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=45.2

[C90/270]Total=45.2

Field angle(10%Imax): [C0/180]Total=74.2

[C90/270]Total=74.2

Maximum s/h(1/2): C0_180=0.73 C90_270=0.73

Maximum s/h(1/4): C0_180=0.71 C90_270=0.71

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.41%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.578%

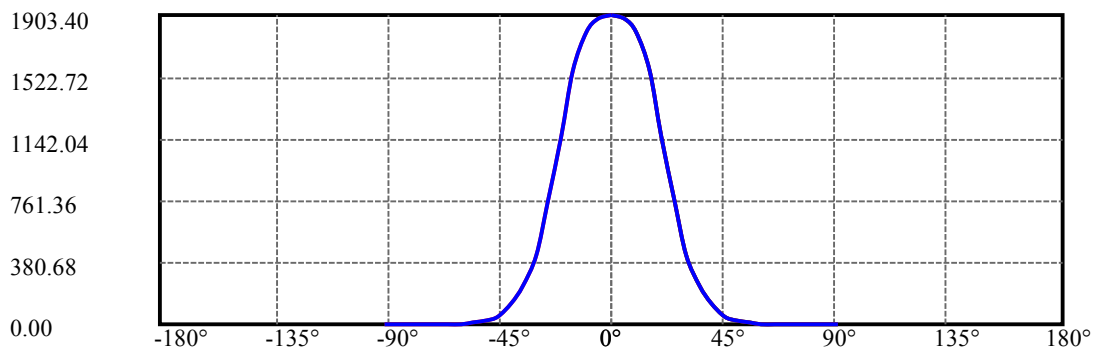
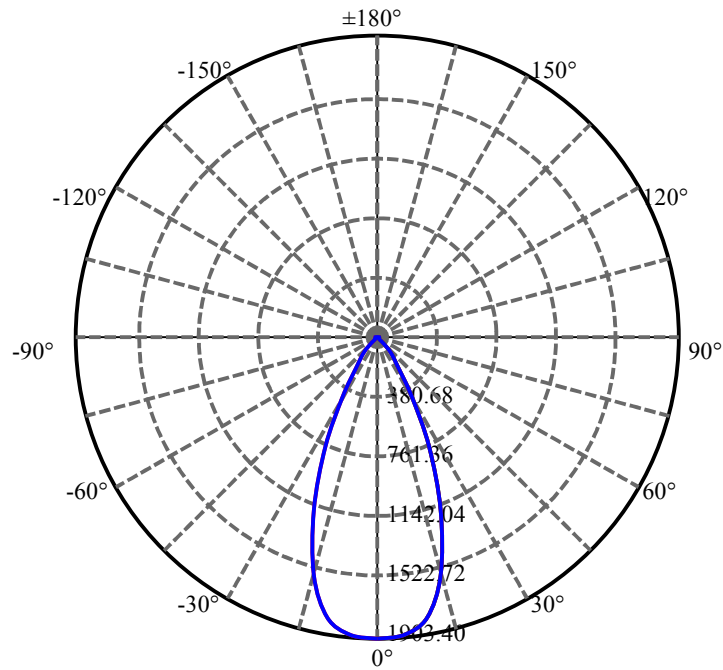
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1903.396	0.000	0	.000%	.000%
5.0	1881.644	45.249	45.249	3.334%	3.859%
10.0	1792.608	131.440	176.689	9.686%	15.068%
15.0	1561.403	198.958	375.646	14.662%	32.035%
20.0	1160.959	224.361	600.007	16.534%	51.168%
25.0	762.308	201.715	801.722	14.865%	68.370%
30.0	427.044	150.514	952.236	11.092%	81.205%
35.0	235.735	97.599	1049.835	7.192%	89.528%
40.0	126.815	60.489	1110.323	4.458%	94.687%
45.0	49.362	32.620	1142.944	2.404%	97.468%
50.0	22.975	14.617	1157.56	1.077%	98.715%
55.0	9.582	7.079	1164.64	.522%	99.319%
60.0	3.561	3.038	1167.678	.224%	99.578%
65.0	1.763	1.294	1168.972	.095%	99.688%
70.0	1.328	0.783	1169.755	.058%	99.755%
75.0	1.282	0.682	1170.437	.050%	99.813%
80.0	1.293	0.689	1171.126	.051%	99.872%
85.0	1.369	0.723	1171.85	.053%	99.933%
90.0	1.479	0.780	1172.63	.057%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	952.24	70.17%	81.21%
0-40	1110.32	81.82%	94.69%
0-60	1167.68	86.05%	99.58%
0-90	1171.85	86.36%	99.93%
0-120	1171.85	86.36%	99.93%
0-180	1172.63	86.41%	100.00%
60-90	7.21	0.53%	0.61%
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%
0-29.53	938.10	69.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	176.69
10-20	423.32
20-30	352.23
30-40	158.09
40-50	47.24
50-60	10.12
60-70	2.08
70-80	1.37
80-90	0.72
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: —————

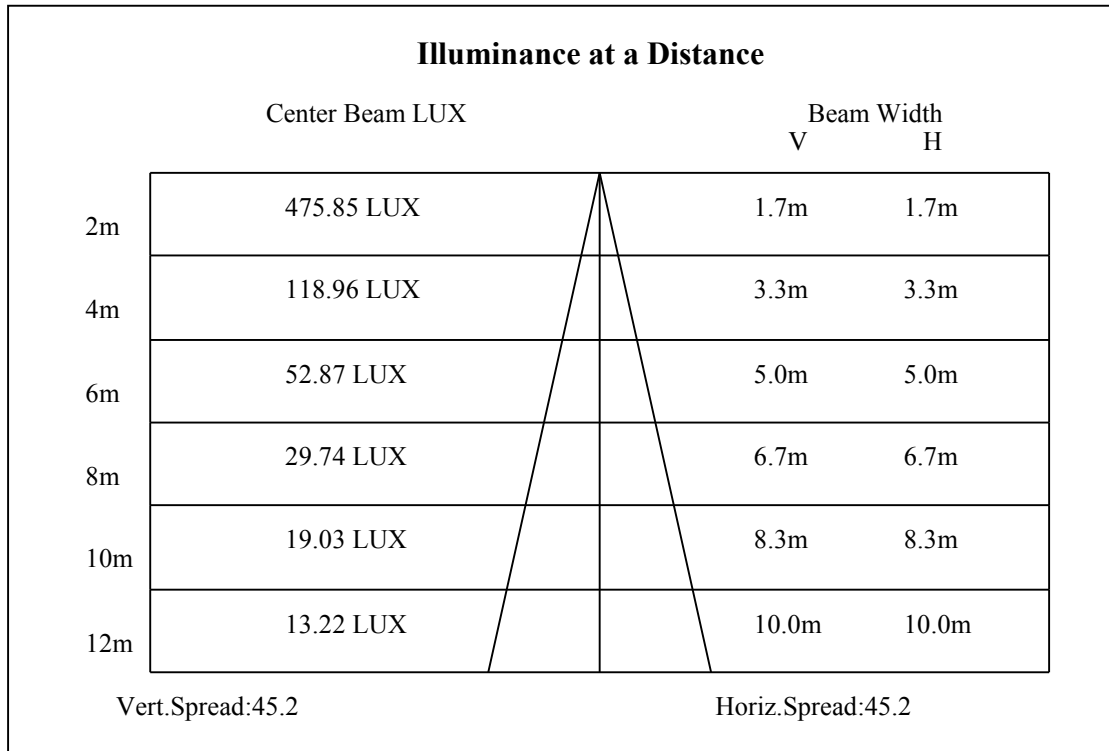
C90/C270: —————

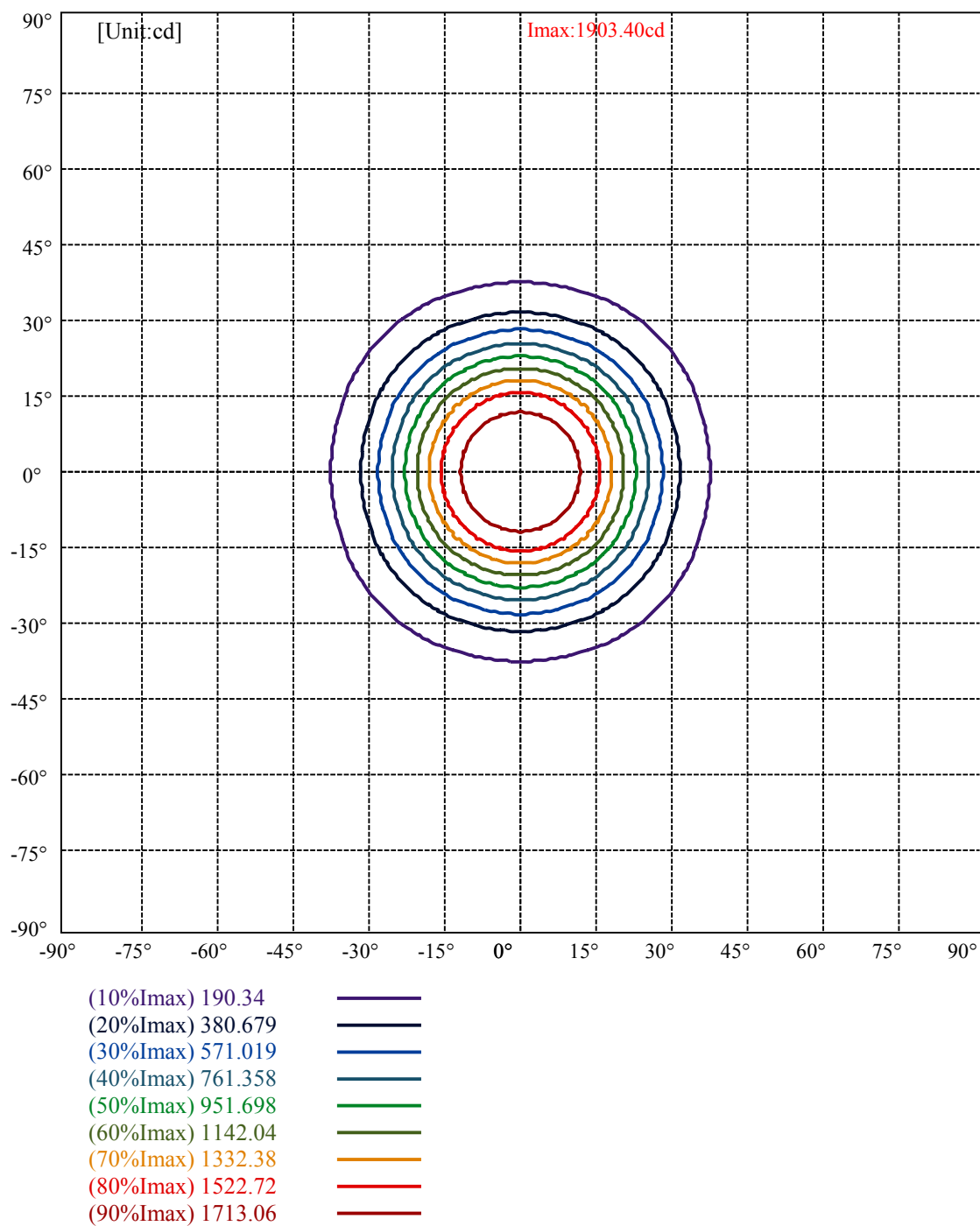
Field angle(10%Imax):C0/180Left:37.1 Right:37.1

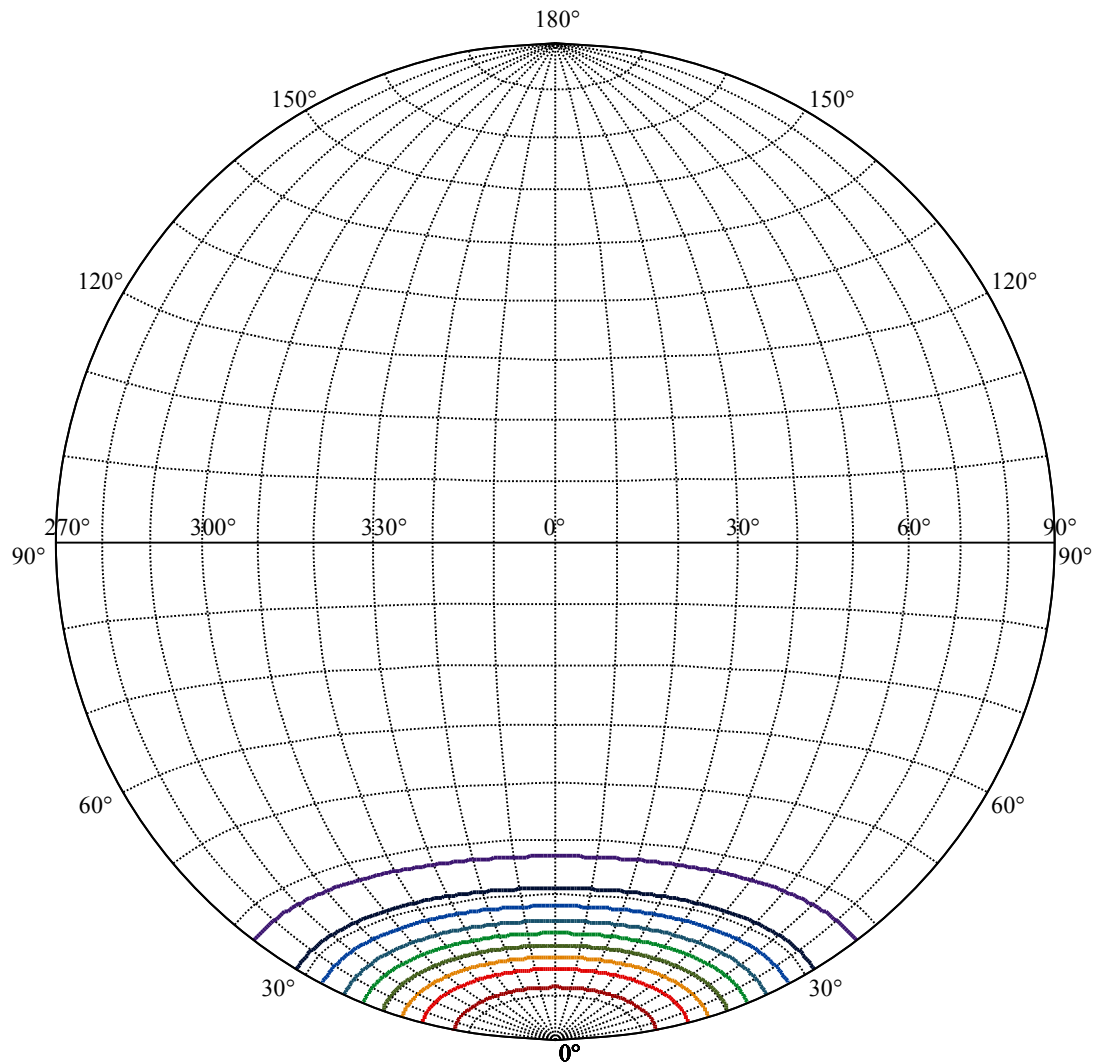
:C90/270Left:37.1 Right:37.1

Beam Angle(50%Imax):C0/180Left:22.6 Right:22.6

:C90/270Left:22.6 Right:22.6







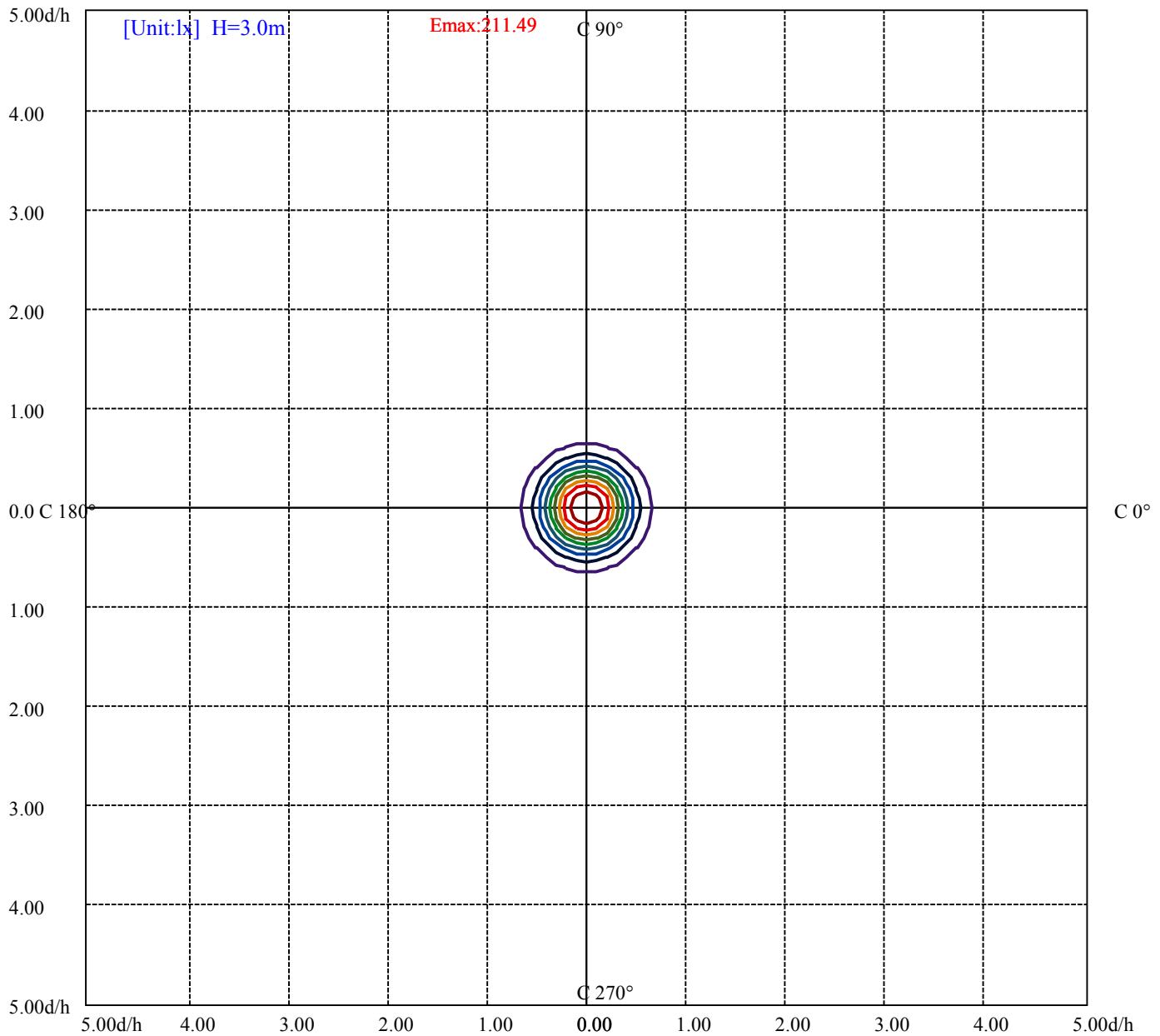
House

[Unit:cd]

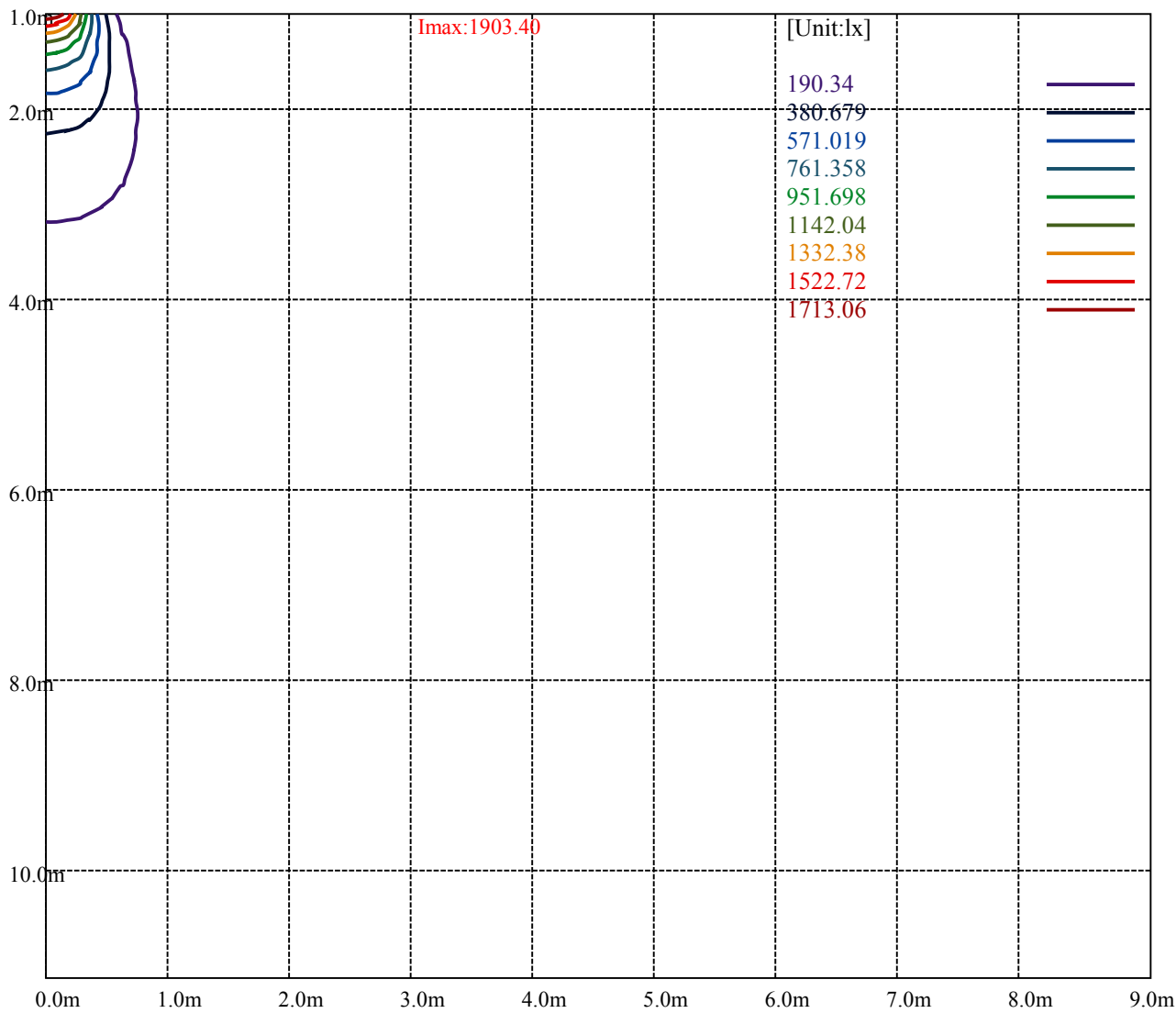
Road

Imax:1903.40

(10%Imax)	190.34	—
(20%Imax)	380.679	—
(30%Imax)	571.019	—
(40%Imax)	761.358	—
(50%Imax)	951.698	—
(60%Imax)	1142.04	—
(70%Imax)	1332.38	—
(80%Imax)	1522.72	—
(90%Imax)	1713.06	—



(10%Emax) 21.14878	—
(20%Emax) 42.29766	—
(30%Emax) 63.44645	—
(40%Emax) 84.59533	—
(50%Emax) 105.7441	—
(60%Emax) 126.8933	—
(70%Emax) 148.0422	—
(80%Emax) 169.1911	—
(90%Emax) 190.34	—



Luminance Table

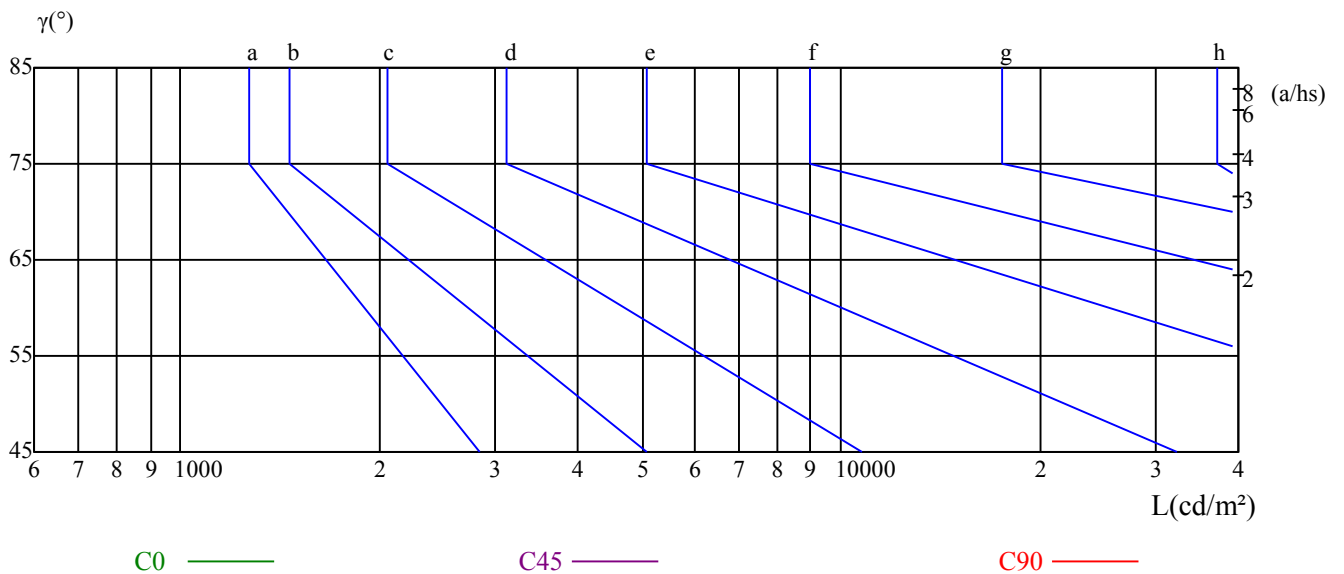
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

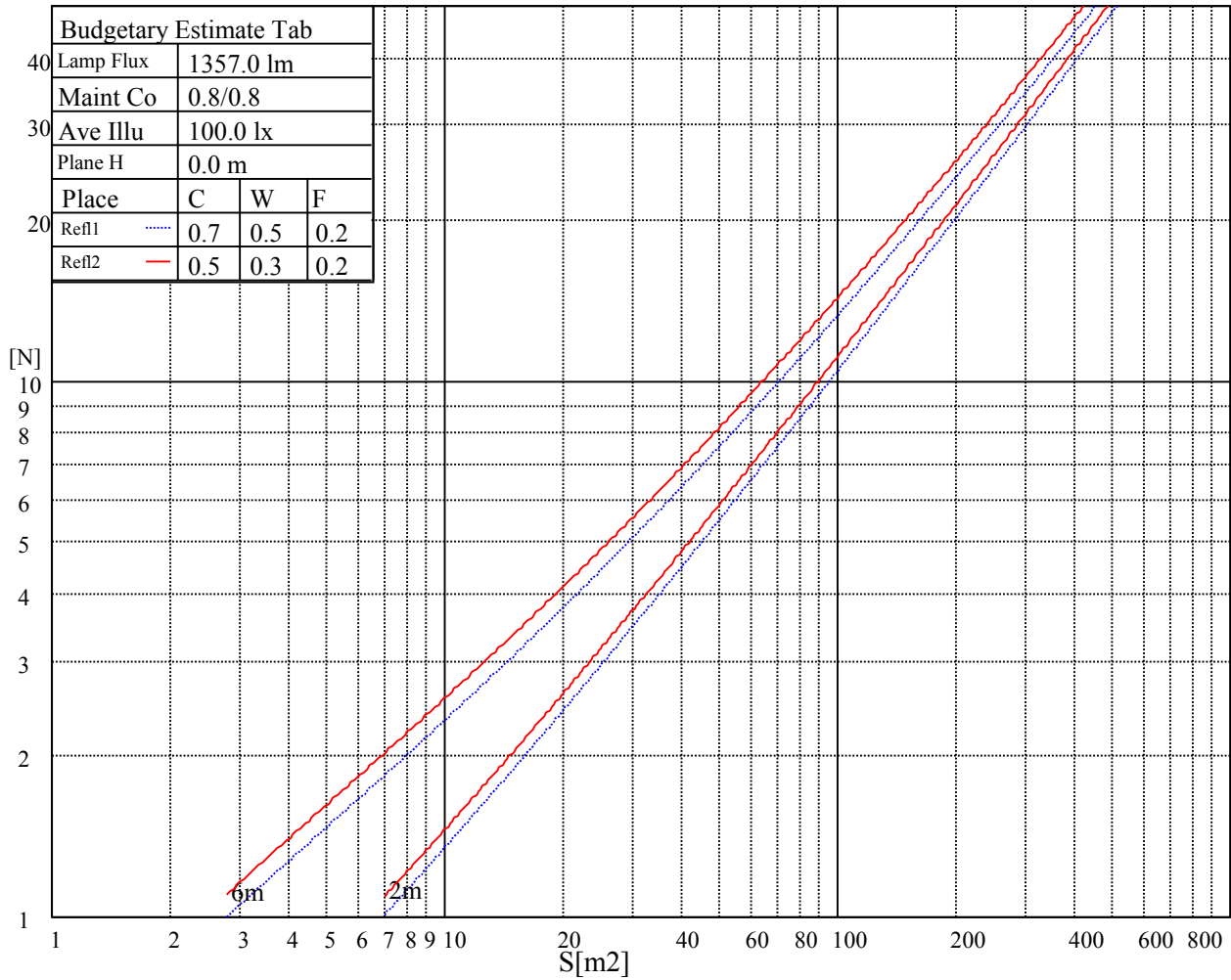
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

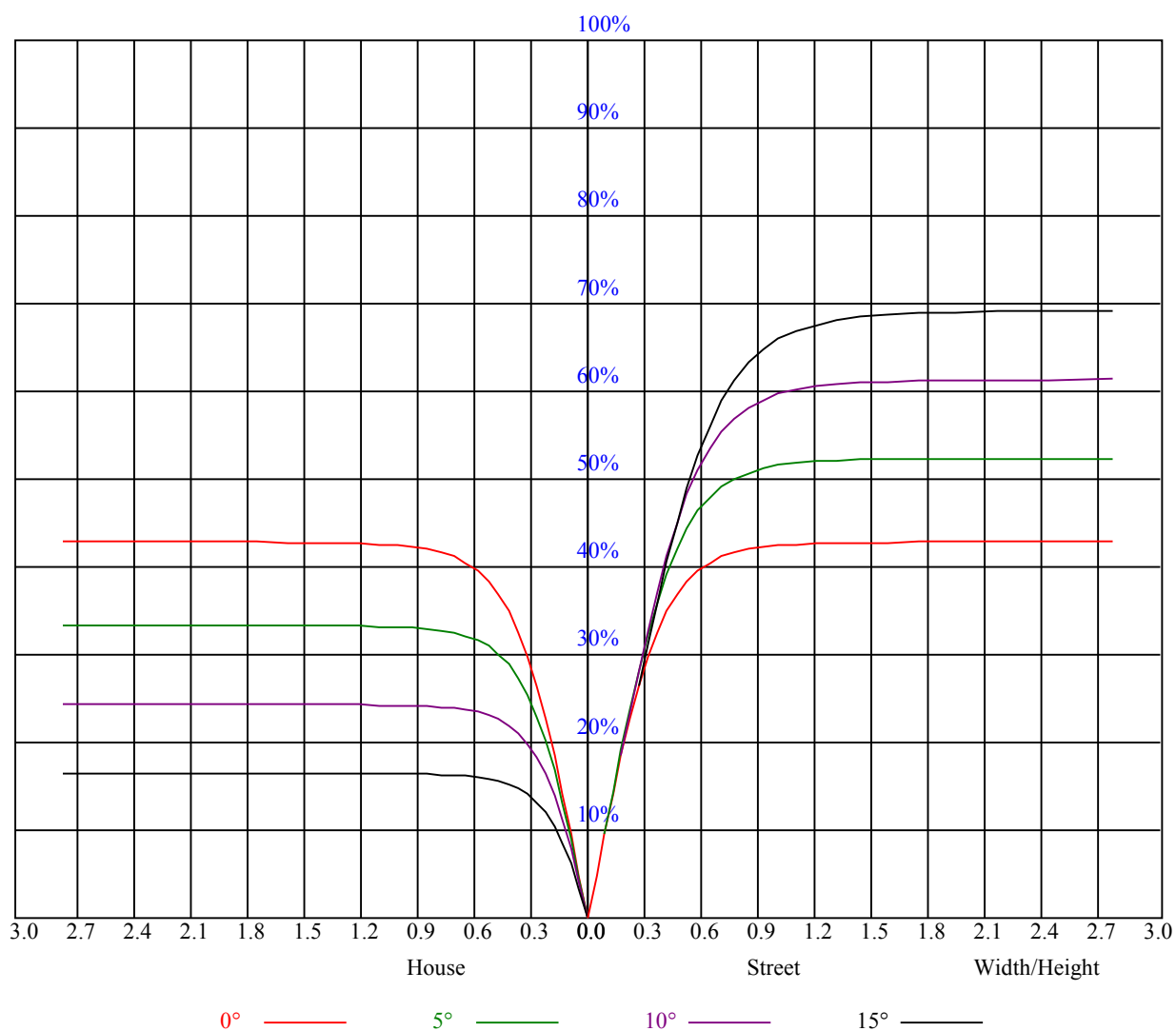
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

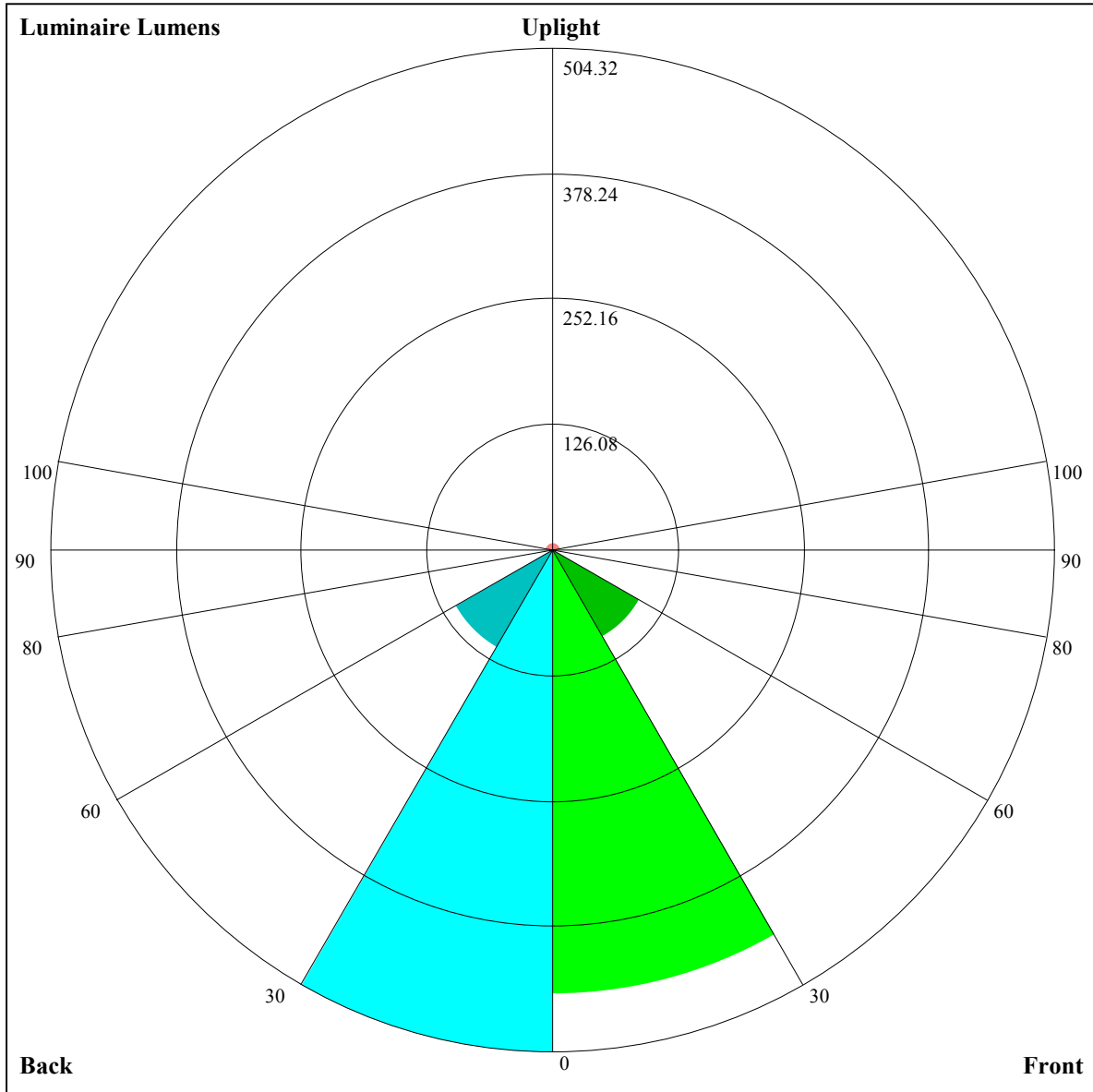
Luminance Limiting Curve





RHOC	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	1.03	1.03	1.03	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.96	0.94	0.92	0.94	0.93	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.90	0.87	0.84	0.89	0.86	0.83	0.86	0.84	0.82	0.83	0.81	0.80	0.81	0.80	0.78	0.77
3	0.85	0.81	0.78	0.84	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.72
4	0.80	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.74	0.71	0.69	0.68
5	0.76	0.71	0.68	0.75	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.64
6	0.72	0.67	0.63	0.71	0.66	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
8	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55
9	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52
10	0.59	0.54	0.51	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.50





Luminaire Lumens:

FL=447.02,FM=100.49,FH=1.68,FVH=0.71

BL=504.32,BM=113.1,BH=1.75,BVH=0.8

UL=1.61,UH=7.68

BUG Rating:B2-U1-G0

Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1880.31	1735.07	1542.03	1215.81	874.15	584.54	298.56	171.88	81.99		
45.0	1922.54	1891.91	1817.67	1677.99	1381.01	955.03	565.70	318.84	185.66		
90.0	1931.35	1983.33	1970.33	1741.56	1347.14	857.63	486.21	257.82	125.99		
135.0	1879.38	2001.42	2033.90	1893.77	1539.71	1078.92	572.66	320.69	247.38		
180.0	1880.31	1983.79	1989.82	1805.60	1366.62	879.39	530.44	256.19	129.42		
225.0	1922.54	1914.18	1820.45	1474.74	857.67	596.33	327.33	168.95	77.68		
270.0	1931.35	1850.15	1717.90	1497.48	1085.88	679.39	362.46	241.34	98.61		
315.0	1879.38	1693.30	1448.76	1184.26	835.49	467.24	272.99	150.16	67.80		
360.0	1880.31	1735.07	1542.03	1215.81	874.15	584.54	298.56	171.88	81.99		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	37.08	17.31	6.82	3.11	1.44	1.21	1.21	1.16	1.21		
45.0	71.32	35.96	16.94	5.24	2.27	1.39	1.25	1.25	1.25		
90.0	56.19	24.78	9.37	3.67	1.81	1.30	1.25	1.30	1.35		
135.0	65.80	32.44	14.71	4.78	2.13	1.39	1.30	1.30	1.48		
180.0	58.38	26.22	10.12	3.94	2.00	1.39	1.35	1.44	1.48		
225.0	31.46	14.01	5.24	2.18	1.44	1.35	1.35	1.39	1.48		
270.0	44.96	18.51	7.52	3.25	1.67	1.35	1.30	1.30	1.44		
315.0	29.70	14.57	5.94	2.32	1.35	1.25	1.25	1.21	1.25		
360.0	37.08	17.31	6.82	3.11	1.44	1.21	1.21	1.16	1.21		
C/ γ (°)	90.0										
0.0	1.21										
45.0	1.30										
90.0	1.53										
135.0	1.76										
180.0	1.72										
225.0	1.58										
270.0	1.48										
315.0	1.25										
360.0	1.21										