
Nata

Client:

LumCAT: 1681-S

Luminaire: 92.70.123.00

Report No: nata0100

Test No: GC2018050301

LampCAT: CREE CXA1310

Lamp flux(lm): 632.9

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 18.1000

Current(A): 0.3500

Power (W): 6.3350

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

Photometric Results

Lumens(lm): 562.94, Efficiency(%): 88.95% , Luminous Efficacy(lm/W): 88.86

Central intensity(cd): 838.275, Maximum intensity(cd): 838.275

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=53.4

[C90/270]Total=53.4

Field angle(10%Imax): [C0/180]Total=74.6

[C90/270]Total=74.6

Maximum s/h(1/2): C0_180=0.78 C90_270=0.78

Maximum s/h(1/4): C0_180=0.83 C90_270=0.83

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.66%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.046%

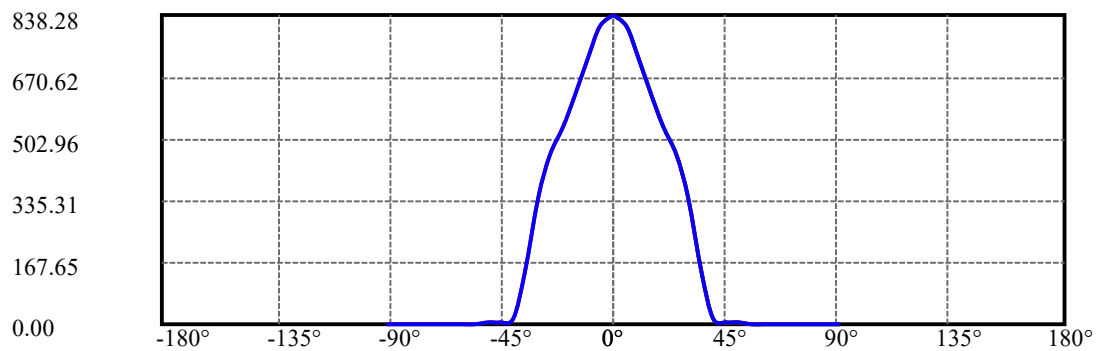
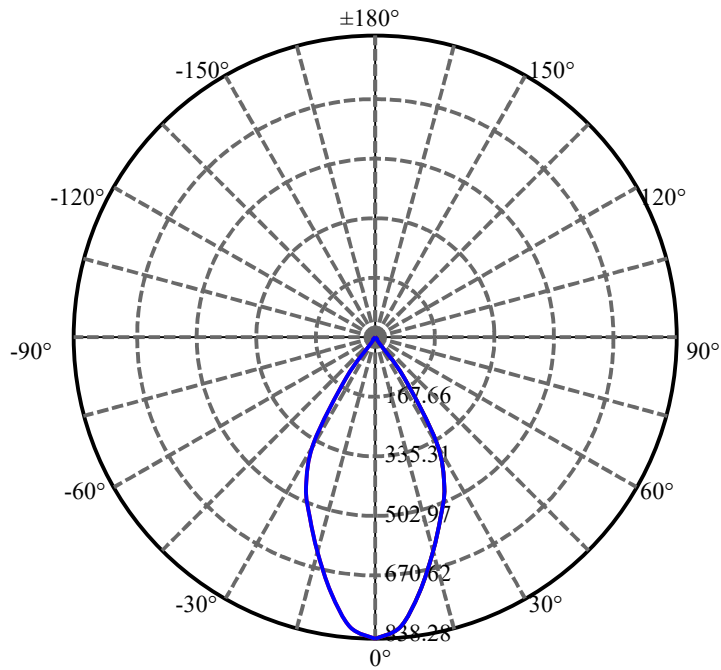
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	838.275	5.013	5.013	.792%	.891%
5.0	807.485	38.576	43.589	6.096%	7.743%
10.0	722.540	68.774	112.363	10.867%	19.960%
15.0	617.499	87.604	199.966	13.843%	35.522%
20.0	536.442	100.569	300.535	15.891%	53.387%
25.0	459.542	106.454	406.99	16.821%	72.297%
30.0	341.315	93.544	500.533	14.781%	88.914%
35.0	139.155	43.750	544.284	6.913%	96.686%
40.0	18.141	6.392	550.675	1.010%	97.822%
45.0	5.691	2.206	552.881	.349%	98.214%
50.0	2.959	1.243	554.124	.196%	98.434%
55.0	2.429	1.091	555.215	.172%	98.628%
60.0	2.347	1.114	556.329	.176%	98.826%
65.0	2.299	1.142	557.471	.180%	99.029%
70.0	2.292	1.180	558.651	.187%	99.238%
75.0	2.271	1.202	559.853	.190%	99.452%
80.0	2.278	1.230	561.083	.194%	99.670%
85.0	2.285	1.248	562.331	.197%	99.892%
90.0	2.216	0.607	562.938	.096%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	500.53	79.09%	88.91%
0-40	550.68	87.02%	97.82%
0-60	556.33	87.91%	98.83%
0-90	562.33	88.86%	99.89%
0-120	562.33	88.86%	99.89%
0-180	562.94	88.95%	100.00%
60-90	7.12	1.12%	1.26%
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%
0-27.32	450.35	71.16%	80.00%

ZONAL LUMEN SUMMARY

0-10	112.36
10-20	188.17
20-30	200.00
30-40	50.14
40-50	3.45
50-60	2.20
60-70	2.32
70-80	2.43
80-90	1.25
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:

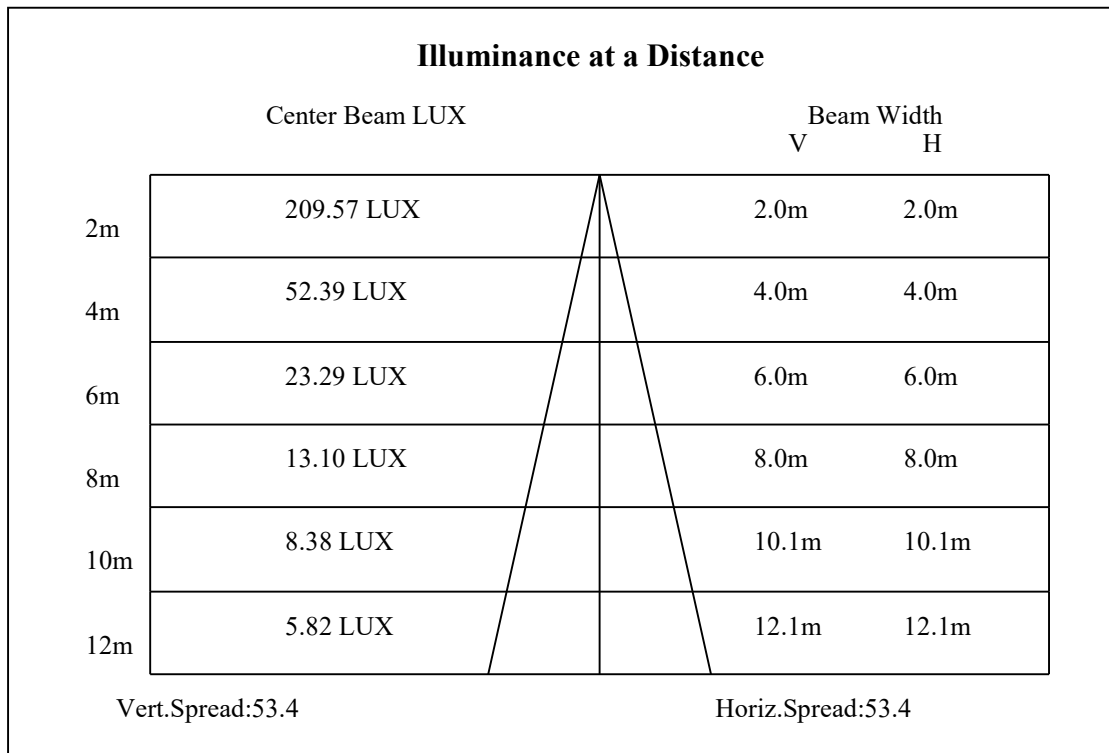
C90/C270:

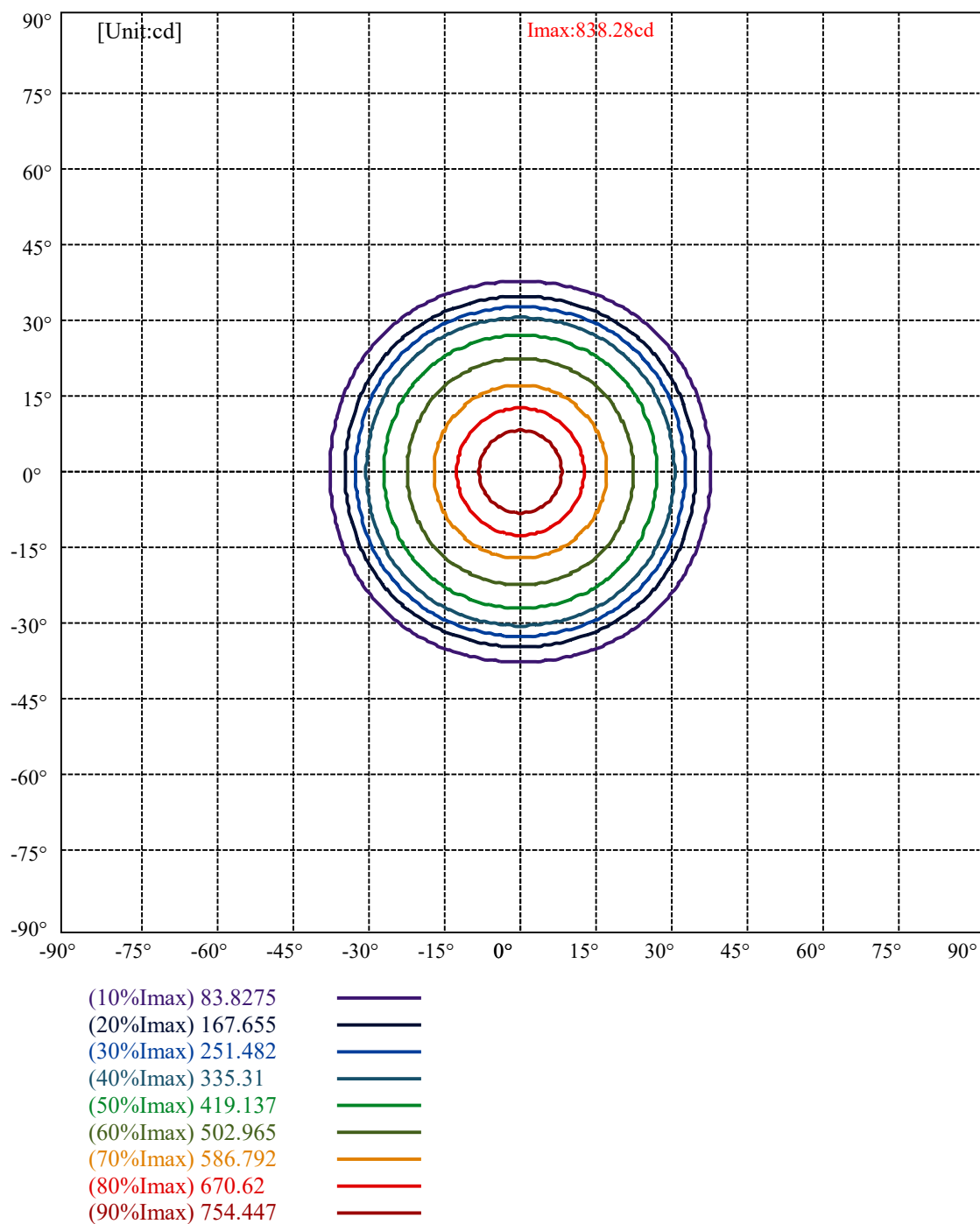
Field angle(10%Imax):C0/180Left:37.3 Right:37.3

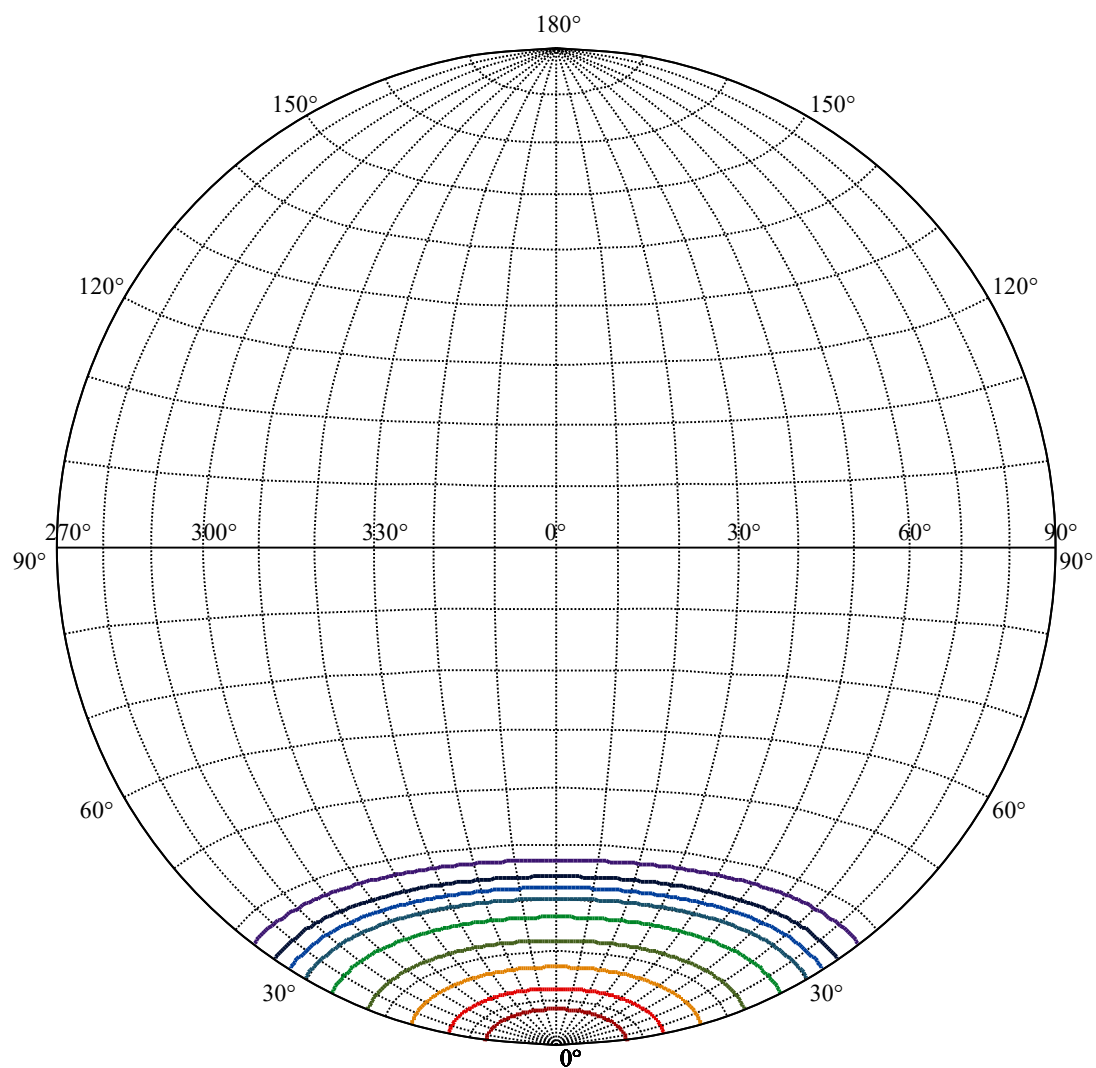
:C90/270Left:37.3 Right:37.3

Beam Angle(50%Imax):C0/180Left:26.7 Right:26.7

:C90/270Left:26.7 Right:26.7







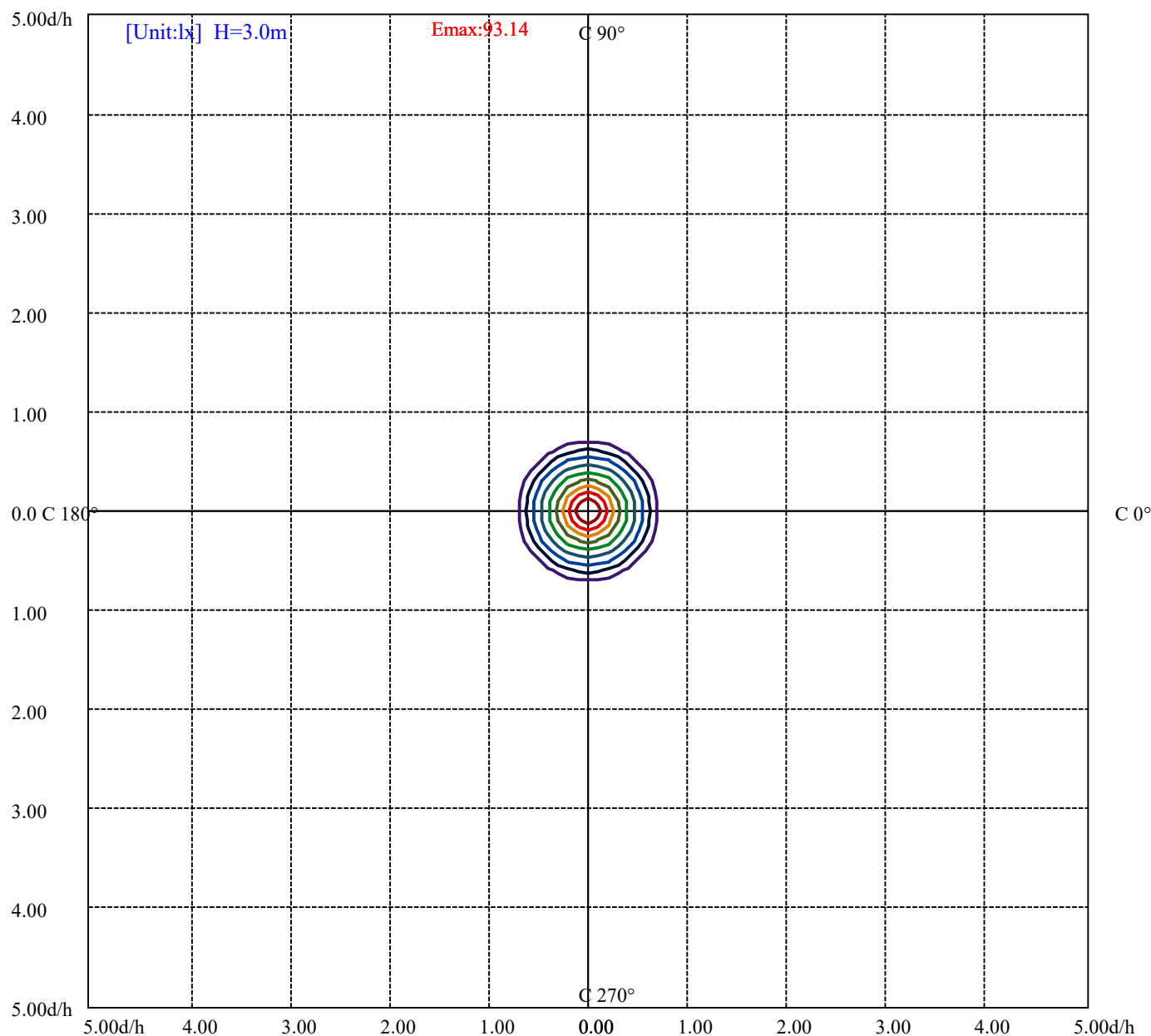
House

[Unit:cd]

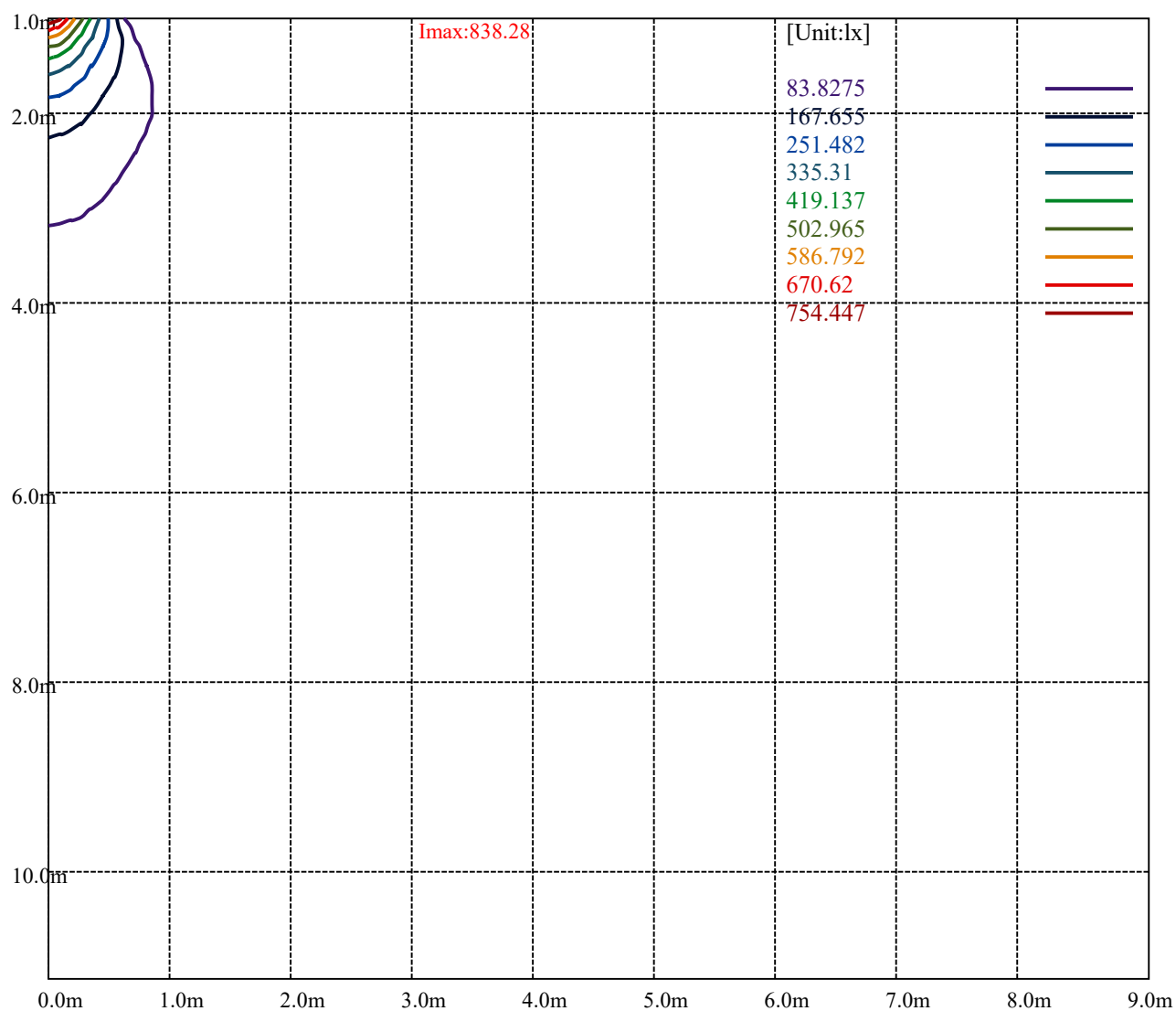
Road

Imax:838.28
(10%Imax) 83.8275
(20%Imax) 167.655
(30%Imax) 251.482
(40%Imax) 335.31
(50%Imax) 419.137
(60%Imax) 502.965
(70%Imax) 586.792
(80%Imax) 670.62
(90%Imax) 754.447





(10%Emax) 9.314156	—
(20%Emax) 18.62833	—
(30%Emax) 27.94244	—
(40%Emax) 37.25667	—
(50%Emax) 46.57078	—
(60%Emax) 55.88489	—
(70%Emax) 65.19911	—
(80%Emax) 74.51322	—
(90%Emax) 83.82745	—



Luminance Table

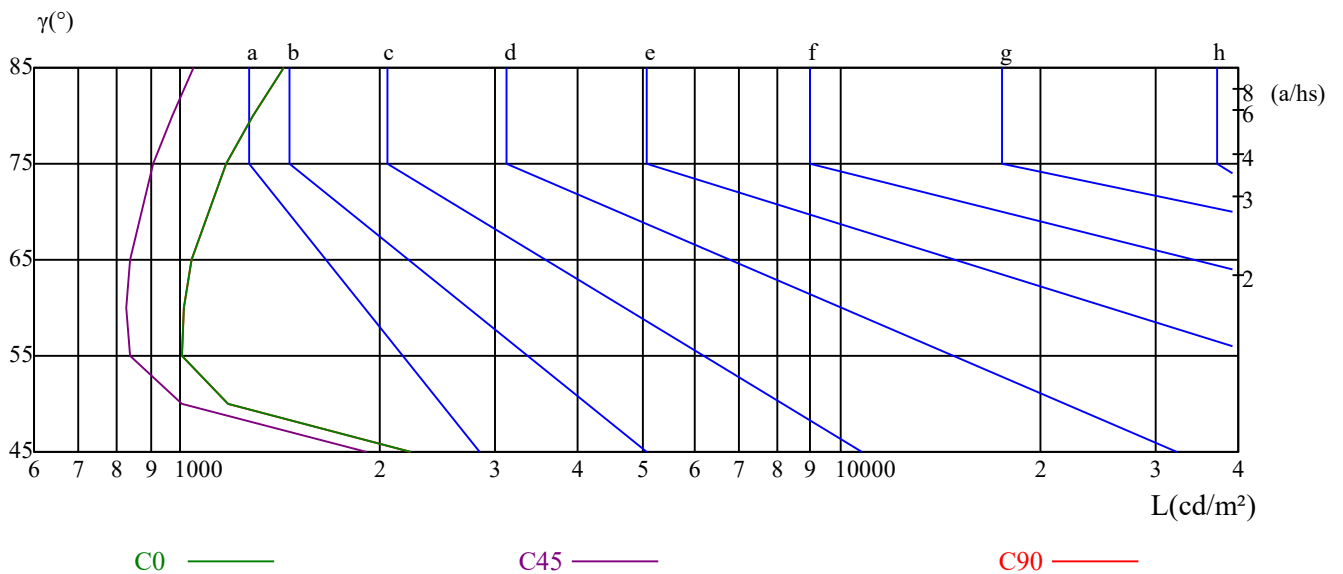
γ	45	50	55	60	65	70	75	80	85
C0	2224	1184	1003	1009	1039	1102	1174	1285	1431
C45	1915	1004	838	829	839	872	909	970	1049
C90	2224	1184	1003	1009	1039	1102	1174	1285	1431

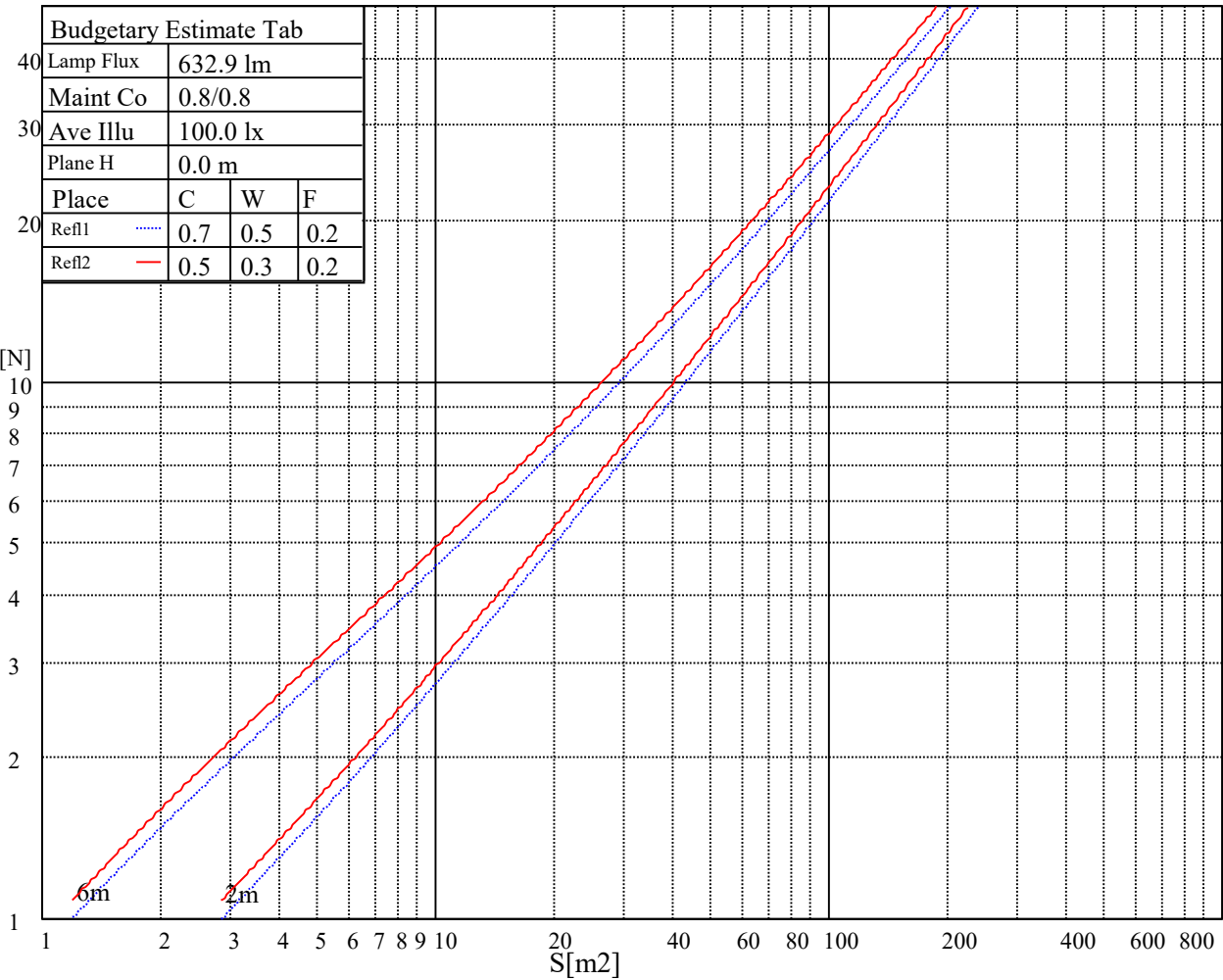
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2462	2462	2462	3972	3972	3972	11868	11868	11868

Glare Table

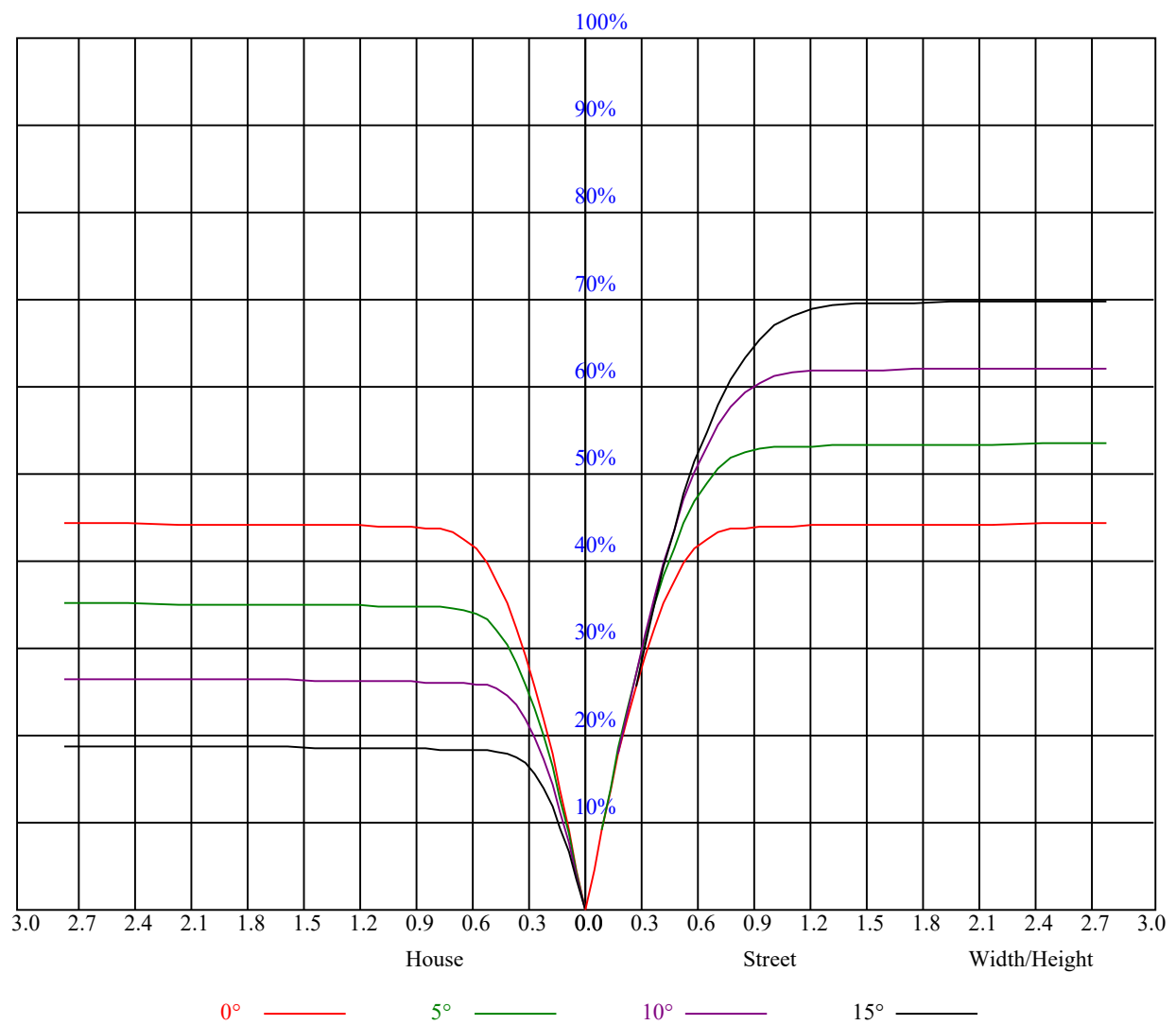
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

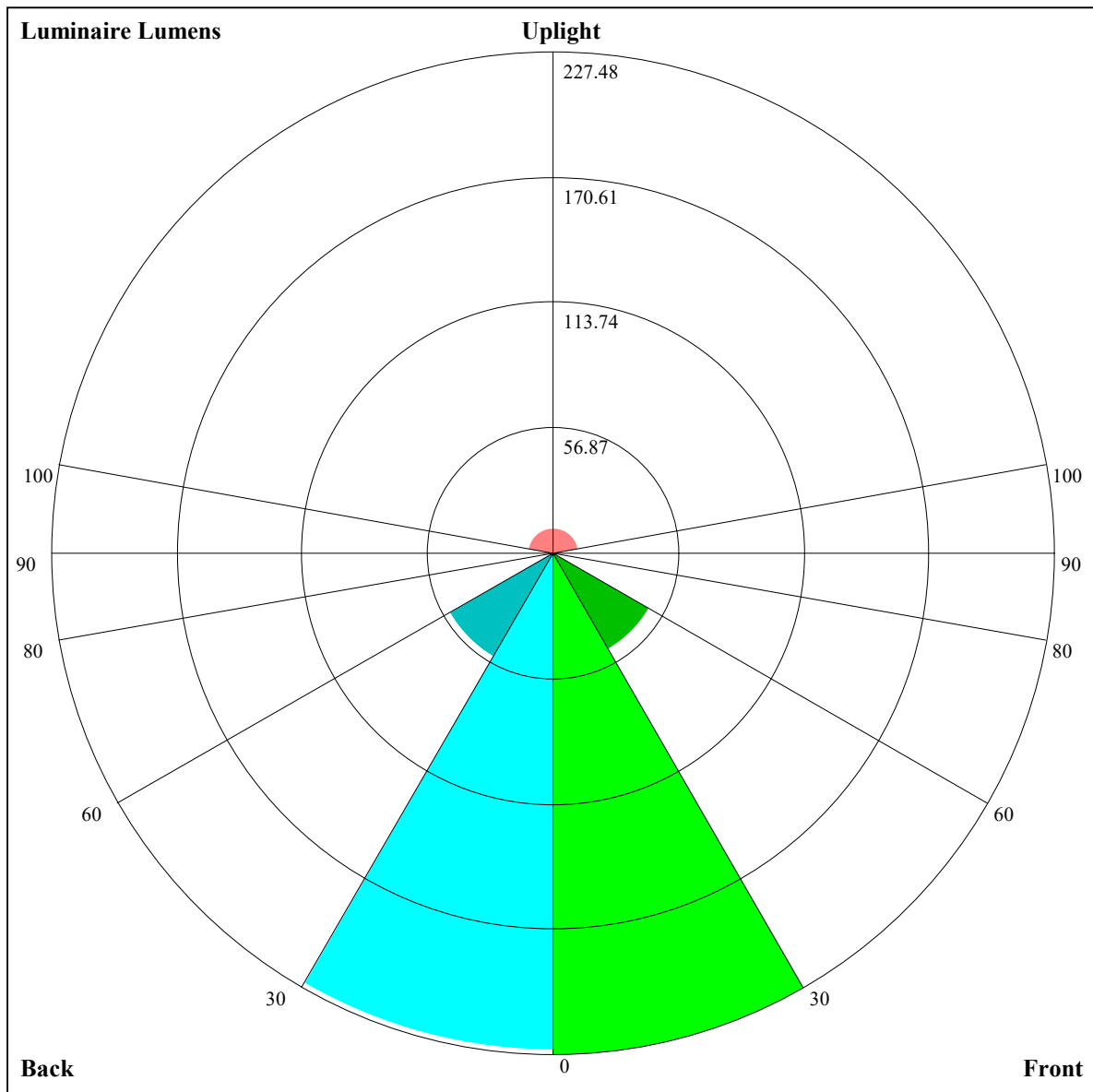
Luminance Limiting Curve





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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.83
2	0.93	0.90	0.87	0.92	0.88	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.79
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.75
4	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.71
5	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
6	0.75	0.70	0.67	0.75	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.64
7	0.72	0.67	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.61
8	0.68	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
9	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.56
10	0.63	0.58	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54





Luminaire Lumens:

FL=227.48,FM=50.38,FH=2.35,FVH=1.24

BL=225.07,BM=54.28,BH=2.36,BVH=1.24

UL=2.42,UH=11.51

BUG Rating:B1-U2-G0

Nata 1681-S

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	838.73	811.92	736.93	637.33	558.88	479.87	350.87	134.39	15.14		
45.0	841.70	789.56	699.99	594.77	515.11	431.15	292.57	74.11	10.85		
90.0	832.07	765.67	658.69	554.20	484.66	408.02	252.49	42.61	9.74		
135.0	840.60	795.95	687.60	578.09	503.55	437.37	325.38	123.82	15.69		
180.0	838.73	799.53	701.91	599.73	516.76	448.60	346.86	140.01	16.35		
225.0	841.70	828.49	758.29	643.11	553.37	481.30	384.35	193.14	21.75		
270.0	832.07	845.83	789.78	683.75	590.98	508.67	415.40	242.91	38.32		
315.0	840.60	822.93	747.12	649.00	568.24	481.36	362.60	162.25	17.29		
360.0	838.73	811.92	736.93	637.33	558.88	479.87	350.87	134.39	15.14		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	5.45	2.97	2.42	2.31	2.26	2.31	2.26	2.26	2.26		
45.0	4.57	2.70	2.37	2.37	2.31	2.31	2.26	2.26	2.31		
90.0	3.96	2.59	2.37	2.37	2.31	2.31	2.31	2.31	2.37		
135.0	5.29	2.81	2.48	2.37	2.31	2.31	2.31	2.31	2.31		
180.0	5.62	2.81	2.42	2.37	2.31	2.31	2.26	2.26	2.26		
225.0	6.88	3.08	2.42	2.31	2.26	2.26	2.26	2.26	2.26		
270.0	8.15	3.63	2.53	2.37	2.31	2.26	2.26	2.31	2.26		
315.0	5.62	3.08	2.42	2.31	2.31	2.26	2.26	2.26	2.26		
360.0	5.45	2.97	2.42	2.31	2.26	2.31	2.26	2.26	2.26		
C/γ(°)	90.0										
0.0	2.26										
45.0	2.20										
90.0	2.20										
135.0	2.20										
180.0	2.20										
225.0	2.20										
270.0	2.26										
315.0	2.20										
360.0	2.26										