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Nata

Client:

LumCAT: CR01W030100DN

Luminaire: 91.69.0012.000

Report No: GC20200311B001

Test No: GC20200311C001

LampCAT: CREE 3030

Lamp flux(lm): 1643.9

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 24.4200

Current(A): 0.5000

Power (W): 12.2000

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1388.81, Efficiency(%): 84.48% , Luminous Efficacy(lm/W): 113.84

Central intensity(cd): 447.716, Maximum intensity(cd): 476.187

Angle of maximum intensity: C=0.0 $\gamma=25.0$

Beam Angle(50%Imax): [C0/180]Total=114.6

[C90/270]Total=106.0

Field angle(10%Imax): [C0/180]Total=169.0

[C90/270]Total=156.0

Maximum s/h(1/2): C0_180=1.46 C90_270=1.25

Maximum s/h(1/4): C0_180=1.46 C90_270=1.35

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 84.48%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 78.372%

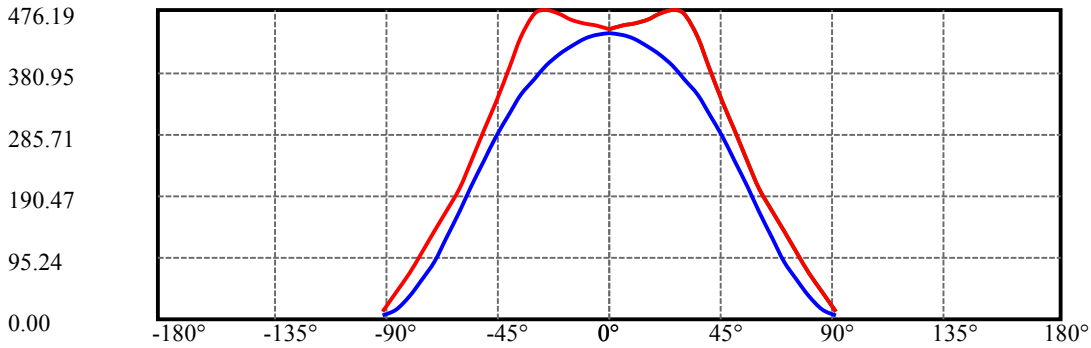
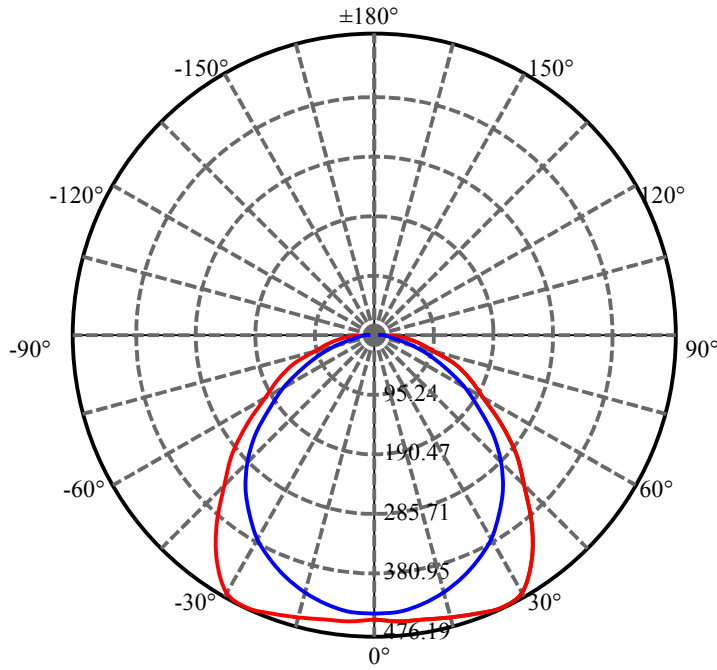
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	445.151	0.000	0	.000%	.000%
5.0	445.503	10.648	10.648	.648%	.767%
10.0	443.571	31.805	42.452	1.935%	3.057%
15.0	439.384	52.376	94.829	3.186%	6.828%
20.0	436.083	72.151	166.979	4.389%	12.023%
25.0	431.112	90.953	257.932	5.533%	18.572%
30.0	422.180	107.985	365.917	6.569%	26.348%
35.0	400.677	121.171	487.089	7.371%	35.072%
40.0	369.875	128.561	615.649	7.820%	44.329%
45.0	329.340	129.465	745.115	7.875%	53.651%
50.0	288.612	124.866	869.981	7.596%	62.642%
55.0	243.054	115.602	985.583	7.032%	70.966%
60.0	201.942	102.860	1088.442	6.257%	78.372%
65.0	162.625	88.627	1177.069	5.391%	84.754%
70.0	127.768	73.530	1250.599	4.473%	90.048%
75.0	92.967	57.697	1308.296	3.510%	94.203%
80.0	63.314	41.817	1350.112	2.544%	97.213%
85.0	35.270	26.788	1376.9	1.629%	99.142%
90.0	8.234	11.912	1388.812	.725%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	365.92	22.26%	26.35%
0-40	615.65	37.45%	44.33%
0-60	1088.44	66.21%	78.37%
0-90	1376.90	83.76%	99.14%
0-120	1376.90	83.76%	99.14%
0-180	1388.81	84.48%	100.00%
60-90	391.32	23.80%	28.18%
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%
0-61.28	1111.05	67.58%	80.00%

ZONAL LUMEN SUMMARY

0-10	42.45
10-20	124.53
20-30	198.94
30-40	249.73
40-50	254.33
50-60	218.46
60-70	162.16
70-80	99.51
80-90	26.79
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: ———

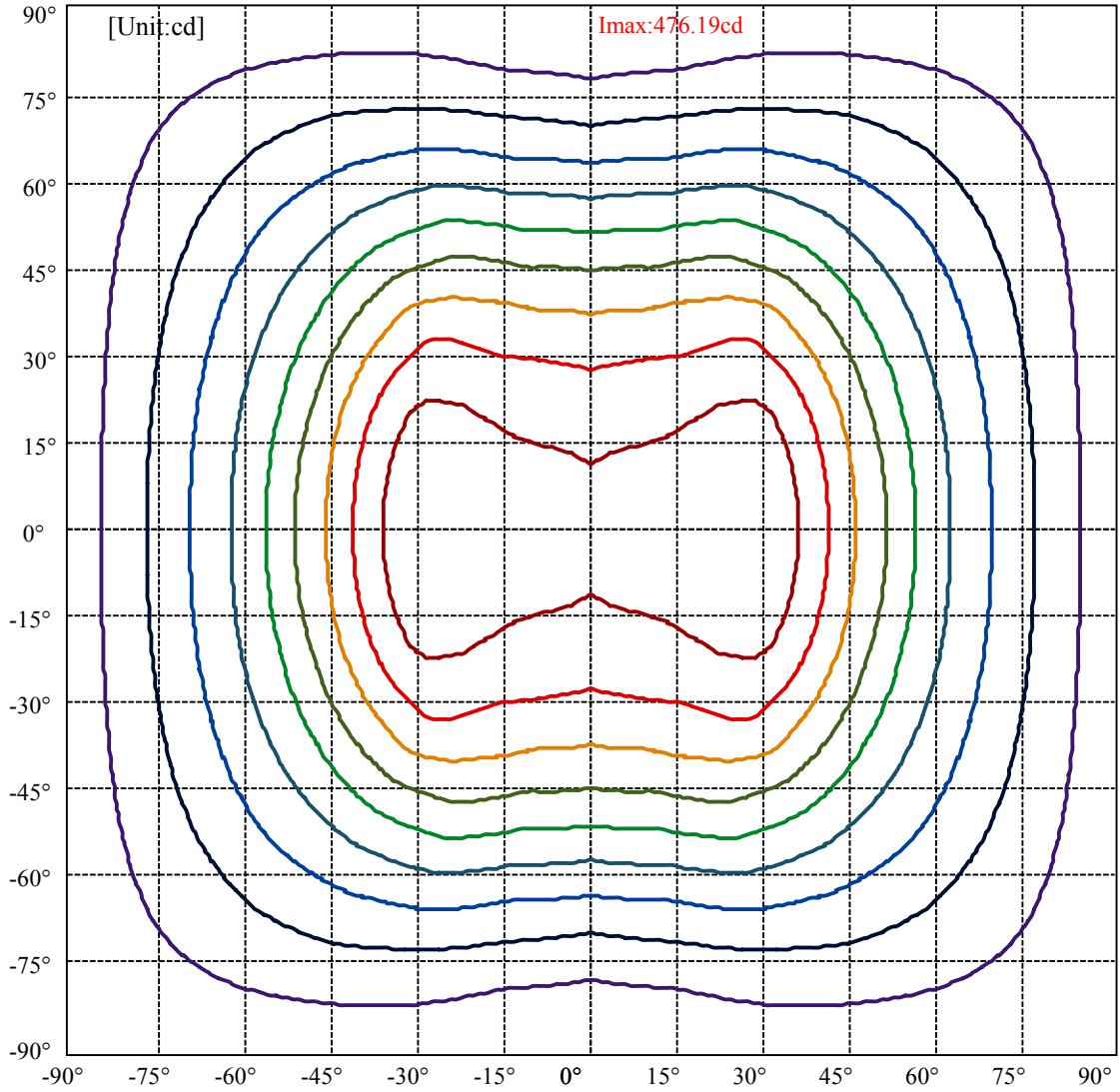
C90/C270: ———










Field angle(10%Imax):C0/180Left:84.5 Right:84.5

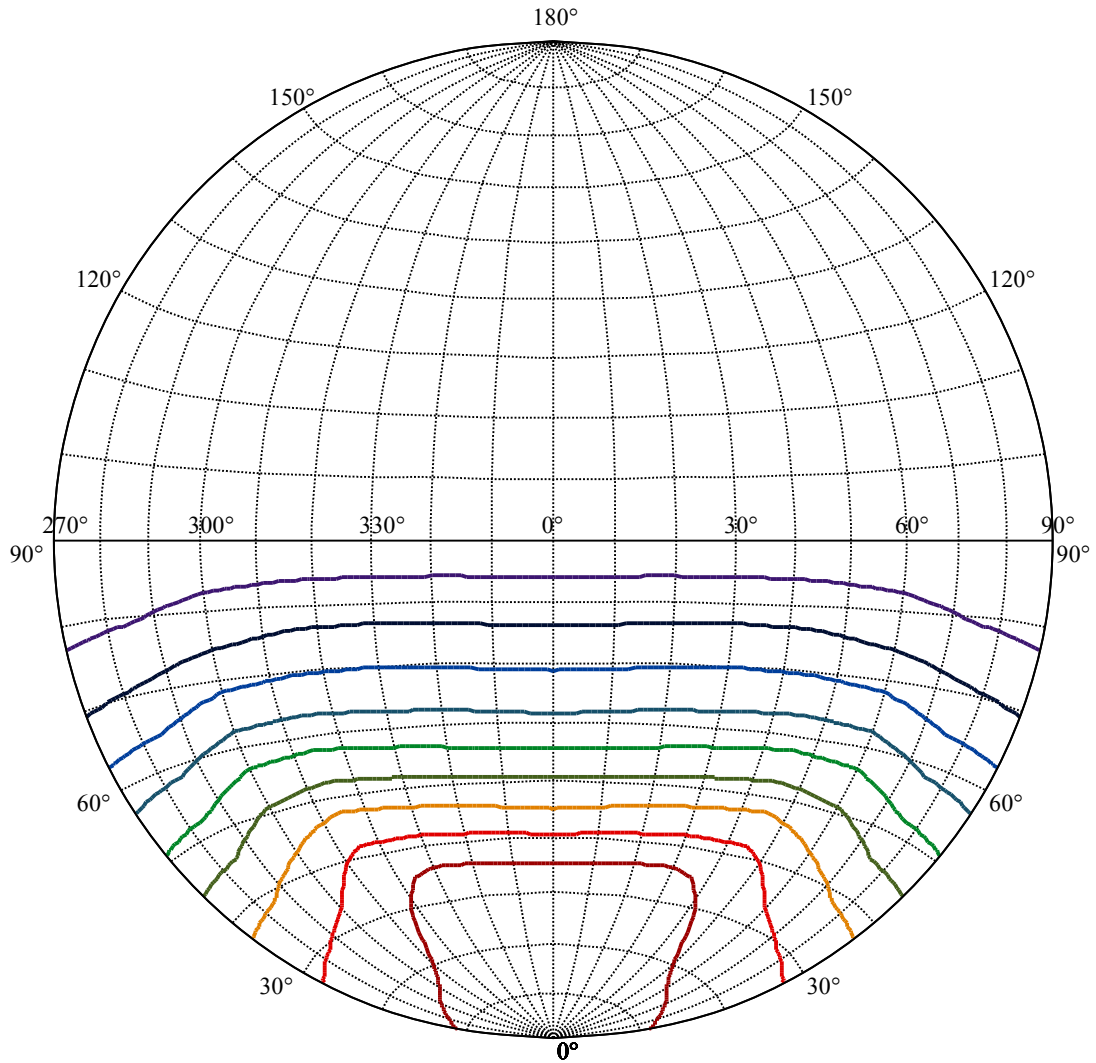
:C90/270Left:78.0 Right:78.0

Beam Angle(50%Imax):C0/180Left:57.3 Right:57.3

:C90/270Left:53.0 Right:53.0



(10%I _{max}) 47.6187	
(20%I _{max}) 95.2374	
(30%I _{max}) 142.856	
(40%I _{max}) 190.475	
(50%I _{max}) 238.094	
(60%I _{max}) 285.712	
(70%I _{max}) 333.331	
(80%I _{max}) 380.95	
(90%I _{max}) 428.568	



House

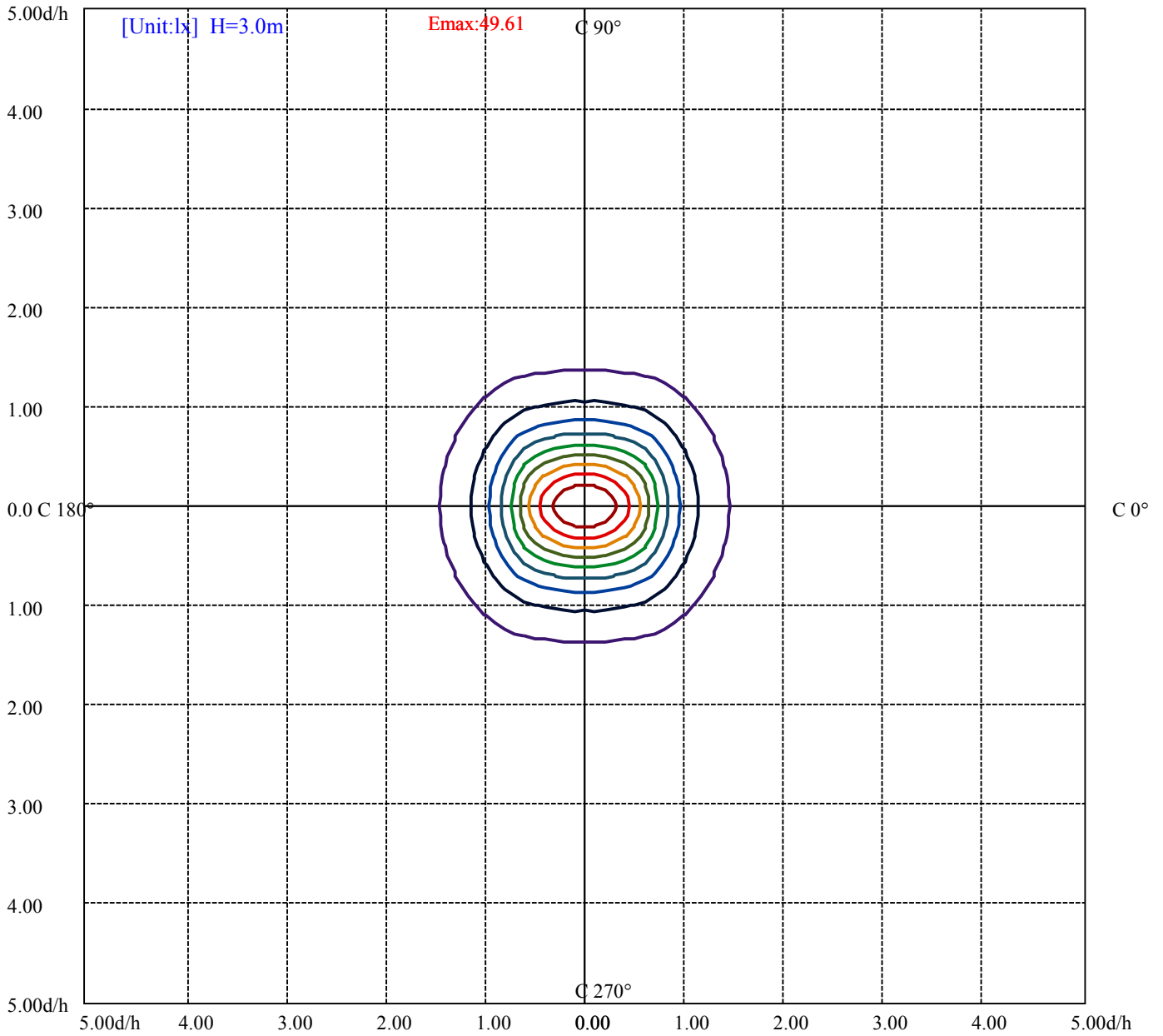
[Unit:cd]

Road

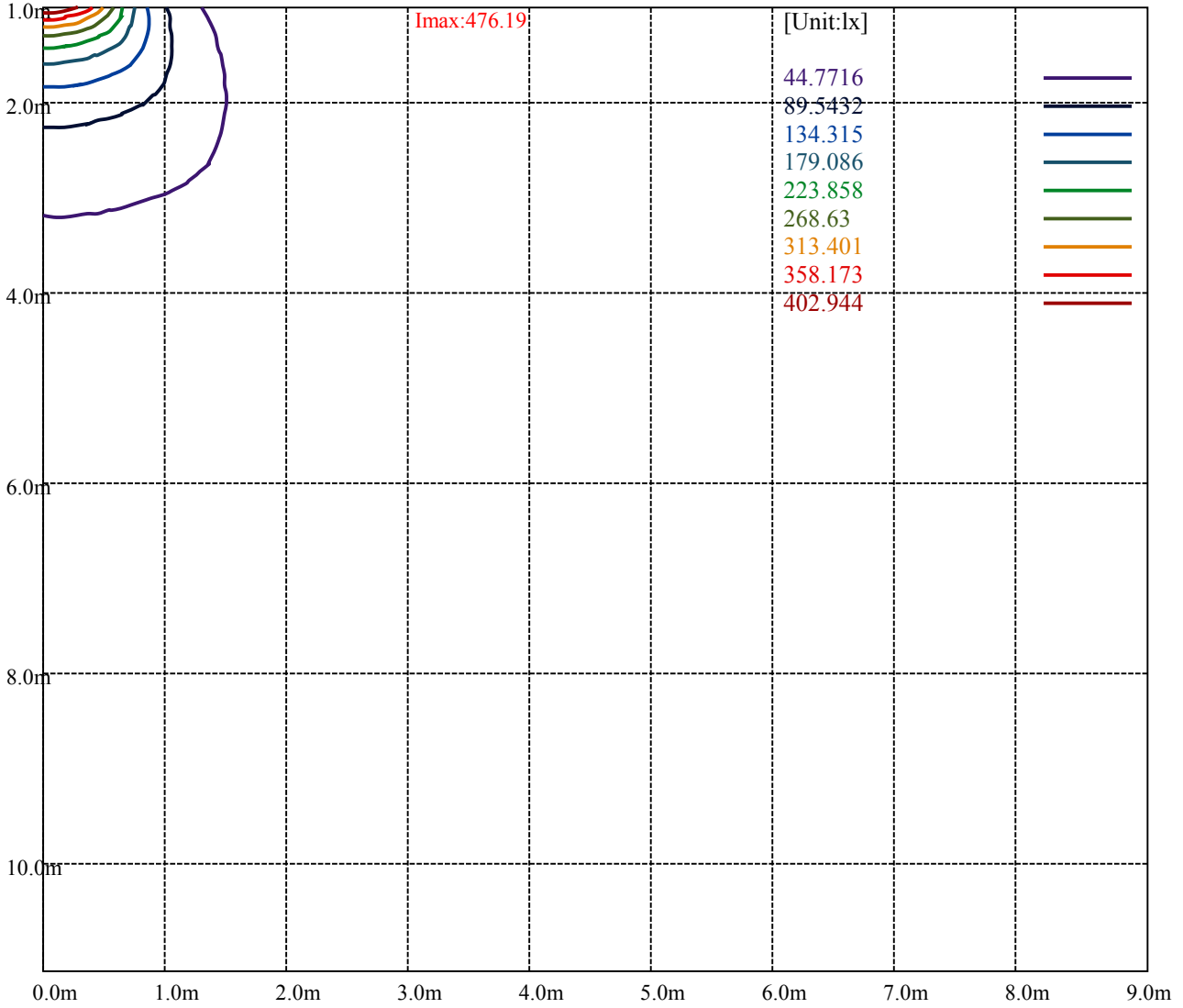
Imax:476.19

- (10%Imax) 47.6187
- (20%Imax) 95.2374
- (30%Imax) 142.856
- (40%Imax) 190.475
- (50%Imax) 238.094
- (60%Imax) 285.712
- (70%Imax) 333.331
- (80%Imax) 380.95
- (90%Imax) 428.568





- (10%Emax) 4.961478
- (20%Emax) 9.922967
- (30%Emax) 14.88445
- (40%Emax) 19.84589
- (50%Emax) 24.80744
- (60%Emax) 29.76889
- (70%Emax) 34.73033
- (80%Emax) 39.69189
- (90%Emax) 44.65334



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

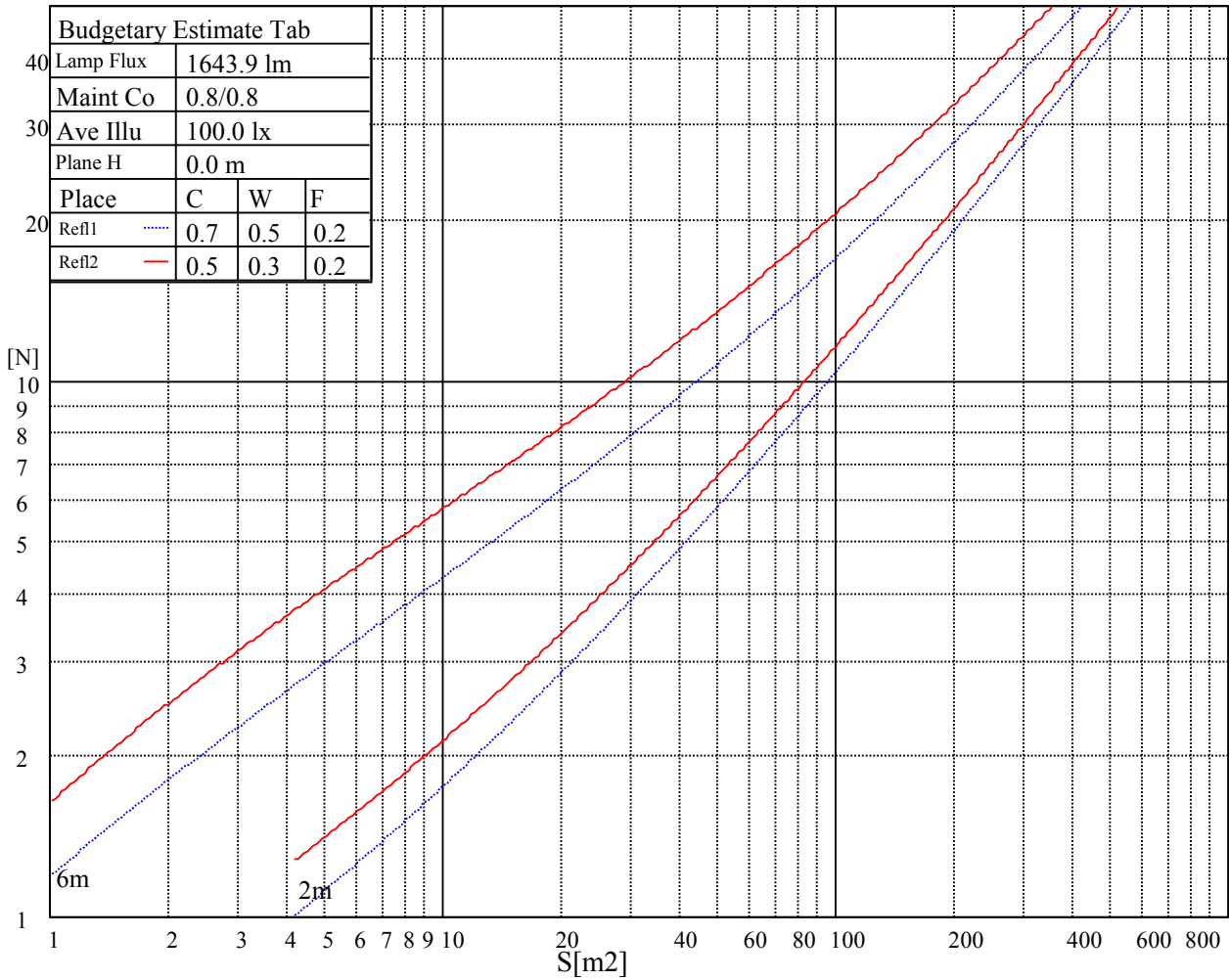
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

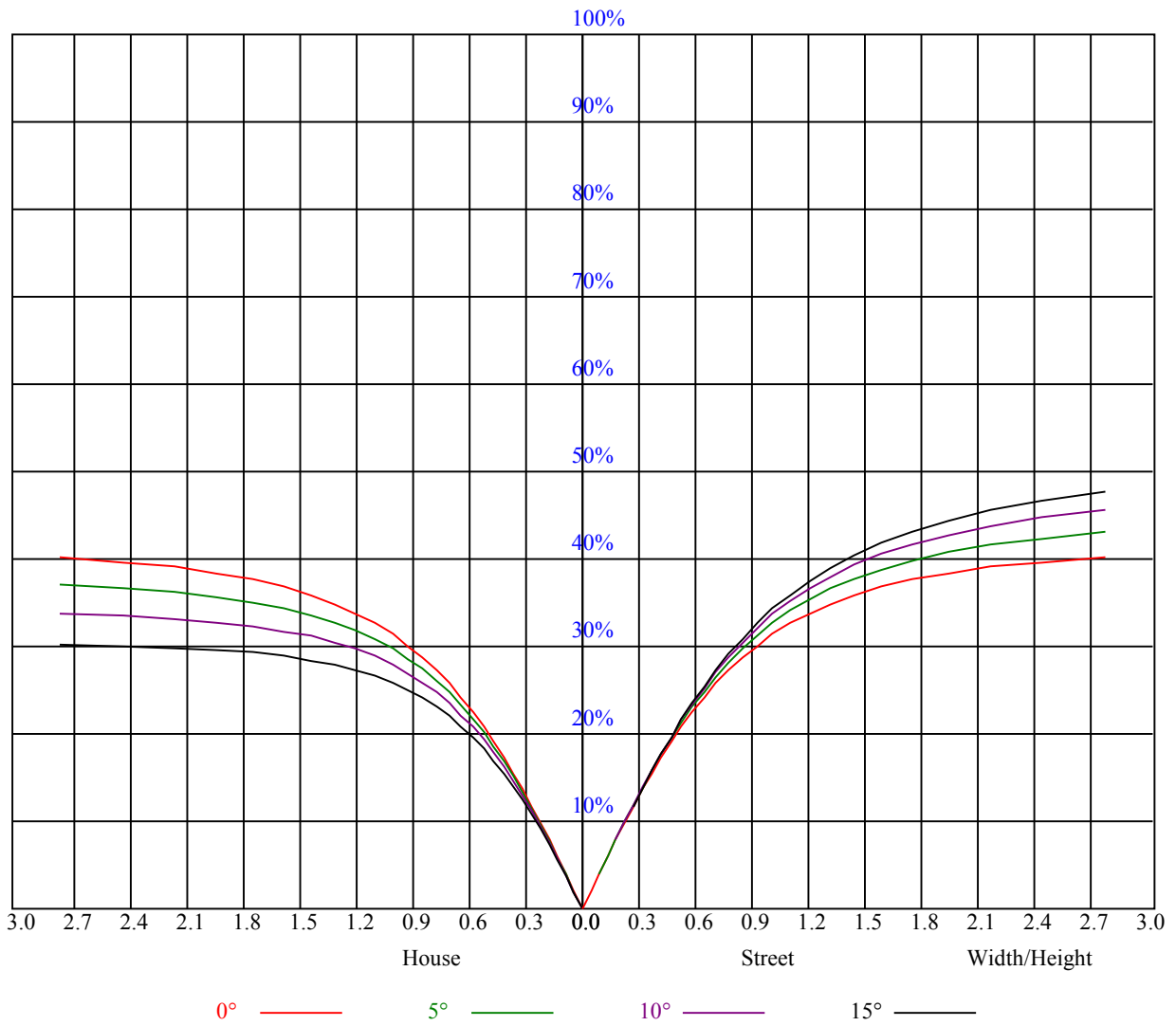
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

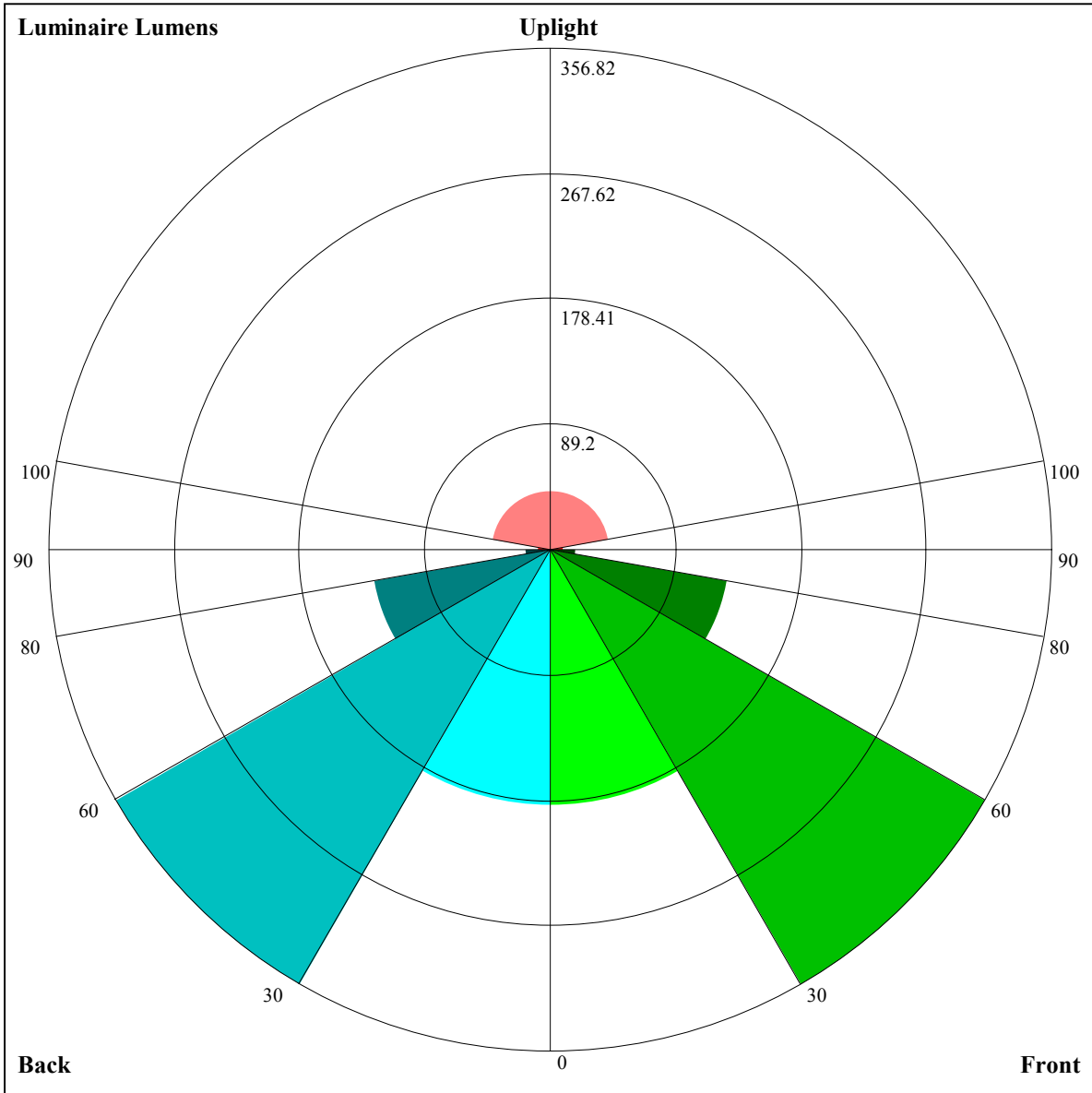
Luminance Limiting Curve





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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.87	0.84	0.80	0.85	0.82	0.79	0.82	0.79	0.76	0.78	0.76	0.74	0.75	0.74	0.72	0.70
2	0.76	0.70	0.65	0.74	0.69	0.64	0.71	0.67	0.63	0.69	0.65	0.61	0.66	0.63	0.60	0.58
3	0.67	0.60	0.54	0.65	0.59	0.54	0.63	0.57	0.53	0.60	0.56	0.52	0.58	0.54	0.51	0.49
4	0.59	0.51	0.46	0.58	0.51	0.45	0.56	0.50	0.45	0.54	0.48	0.44	0.52	0.47	0.44	0.42
5	0.53	0.45	0.39	0.52	0.44	0.39	0.50	0.44	0.39	0.48	0.43	0.38	0.47	0.42	0.38	0.36
6	0.47	0.40	0.34	0.47	0.39	0.34	0.45	0.39	0.34	0.44	0.38	0.33	0.42	0.37	0.33	0.31
7	0.43	0.35	0.30	0.42	0.35	0.30	0.41	0.34	0.30	0.40	0.34	0.30	0.39	0.33	0.29	0.28
8	0.39	0.32	0.27	0.39	0.32	0.27	0.37	0.31	0.27	0.36	0.31	0.26	0.35	0.30	0.26	0.25
9	0.36	0.29	0.24	0.35	0.29	0.24	0.34	0.28	0.24	0.33	0.28	0.24	0.33	0.27	0.24	0.22
10	0.33	0.26	0.22	0.33	0.26	0.22	0.32	0.26	0.22	0.31	0.25	0.22	0.30	0.25	0.21	0.20





Luminaire Lumens:

FL=181.92,FM=356.82,FH=127.94,FVH=18.6

BL=181.92,BM=356.82,BH=127.94,BVH=18.6

UL=8.98,UH=42.75

BUG Rating:B1-U2-G1

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	447.72	452.72	455.93	460.43	469.21	476.19	469.66	433.31	388.41
15.0	446.93	451.15	452.50	454.24	460.32	466.28	465.10	436.41	393.08
30.0	447.77	449.46	449.01	446.03	448.73	450.25	450.47	438.32	401.24
45.0	446.53	445.30	443.33	438.60	433.26	429.43	423.35	412.21	393.70
60.0	442.71	441.36	438.49	431.06	420.99	408.78	395.11	375.24	353.98
75.0	444.51	440.46	434.66	425.94	414.97	398.54	378.96	352.91	325.11
90.0	441.13	437.87	430.95	420.43	407.26	390.60	370.52	344.63	315.88
105.0	443.05	440.46	434.66	425.94	414.97	398.54	378.96	352.91	325.11
120.0	441.86	441.36	438.49	431.06	420.99	408.78	395.11	375.24	353.98
135.0	443.78	445.30	443.33	438.60	433.26	429.43	423.35	412.21	393.70
150.0	446.65	449.46	449.01	446.03	448.73	450.25	450.47	438.32	401.24
165.0	449.18	451.15	452.50	454.24	460.32	466.28	465.10	436.41	393.08
180.0	447.72	452.72	455.93	460.43	469.21	476.19	469.66	433.31	388.41
195.0	446.93	451.15	452.50	454.24	460.32	466.28	465.10	436.41	393.08
210.0	447.77	449.46	449.01	446.03	448.73	450.25	450.47	438.32	401.24
225.0	446.53	445.30	443.33	438.60	433.26	429.43	423.35	412.21	393.70
240.0	442.71	441.36	438.49	431.06	420.99	408.78	395.11	375.24	353.98
255.0	444.51	440.46	434.66	425.94	414.97	398.54	378.96	352.91	325.11
270.0	441.13	437.87	430.95	420.43	407.26	390.60	370.52	344.63	315.88
285.0	443.05	440.46	434.66	425.94	414.97	398.54	378.96	352.91	325.11
300.0	441.86	441.36	438.49	431.06	420.99	408.78	395.11	375.24	353.98
315.0	443.78	445.30	443.33	438.60	433.26	429.43	423.35	412.21	393.70
330.0	446.65	449.46	449.01	446.03	448.73	450.25	450.47	438.32	401.24
345.0	449.18	451.15	452.50	454.24	460.32	466.28	465.10	436.41	393.08
360.0	447.72	452.72	455.93	460.43	469.21	476.19	469.66	433.31	388.41
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	335.46	292.42	243.86	200.87	166.49	134.59	101.67	72.02	41.47
15.0	341.99	295.85	246.00	206.61	171.05	137.91	104.32	73.60	42.71
30.0	350.82	304.35	255.06	211.51	174.77	142.86	108.20	74.67	43.33
45.0	358.20	312.68	262.71	219.95	176.45	140.05	104.38	72.92	40.34
60.0	324.60	293.04	253.71	212.18	169.08	129.41	90.76	61.95	34.15
75.0	291.69	256.97	217.08	177.86	138.53	104.04	69.83	43.49	22.56
90.0	282.01	245.15	203.69	166.21	125.25	90.08	58.97	34.49	15.59
105.0	291.69	256.97	217.08	177.86	138.53	104.04	69.83	43.49	22.56
120.0	324.60	293.04	253.71	212.18	169.08	129.41	90.76	61.95	34.15
135.0	358.20	312.68	262.71	219.95	176.45	140.05	104.38	72.92	40.34
150.0	350.82	304.35	255.06	211.51	174.77	142.86	108.20	74.67	43.33
165.0	341.99	295.85	246.00	206.61	171.05	137.91	104.32	73.60	42.71
180.0	335.46	292.42	243.86	200.87	166.49	134.59	101.67	72.02	41.47
195.0	341.99	295.85	246.00	206.61	171.05	137.91	104.32	73.60	42.71
210.0	350.82	304.35	255.06	211.51	174.77	142.86	108.20	74.67	43.33
225.0	358.20	312.68	262.71	219.95	176.45	140.05	104.38	72.92	40.34
240.0	324.60	293.04	253.71	212.18	169.08	129.41	90.76	61.95	34.15
255.0	291.69	256.97	217.08	177.86	138.53	104.04	69.83	43.49	22.56
270.0	282.01	245.15	203.69	166.21	125.25	90.08	58.97	34.49	15.59
285.0	291.69	256.97	217.08	177.86	138.53	104.04	69.83	43.49	22.56
300.0	324.60	293.04	253.71	212.18	169.08	129.41	90.76	61.95	34.15
315.0	358.20	312.68	262.71	219.95	176.45	140.05	104.38	72.92	40.34
330.0	350.82	304.35	255.06	211.51	174.77	142.86	108.20	74.67	43.33
345.0	341.99	295.85	246.00	206.61	171.05	137.91	104.32	73.60	42.71
360.0	335.46	292.42	243.86	200.87	166.49	134.59	101.67	72.02	41.47

Intensity data(cd)

C/γ(°)	90.0
0.0	13.28
15.0	9.90
30.0	8.38
45.0	8.05
60.0	6.64
75.0	6.64
90.0	6.30
105.0	6.64
120.0	6.64
135.0	8.05
150.0	8.38
165.0	9.90
180.0	13.28
195.0	9.90
210.0	8.38
225.0	8.05
240.0	6.64
255.0	6.64
270.0	6.30
285.0	6.64
300.0	6.64
315.0	8.05
330.0	8.38
345.0	9.90
360.0	13.28