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Nata

Client:

LumCAT: CR01W04560DN

Luminaire: 91.69.0011.00

Report No: GC20200311B008

Test No: GC20200311C008

LampCAT: CREE 3030

Lamp flux(lm): 1644.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 24.3800

Current(A): 0.5000

Power (W): 12.1900

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1455.61, Efficiency(%): 88.54% , Luminous Efficacy(lm/W): 119.41

Central intensity(cd): 756.903, Maximum intensity(cd): 759.266

Angle of maximum intensity: C=15.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=63.2

[C90/270]Total=107.6

Field angle(10%Imax): [C0/180]Total=142.2

[C90/270]Total=152.0

Maximum s/h(1/2): C0_180=0.96 C90_270=1.26

Maximum s/h(1/4): C0_180=0.95 C90_270=1.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.54%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 85.736%

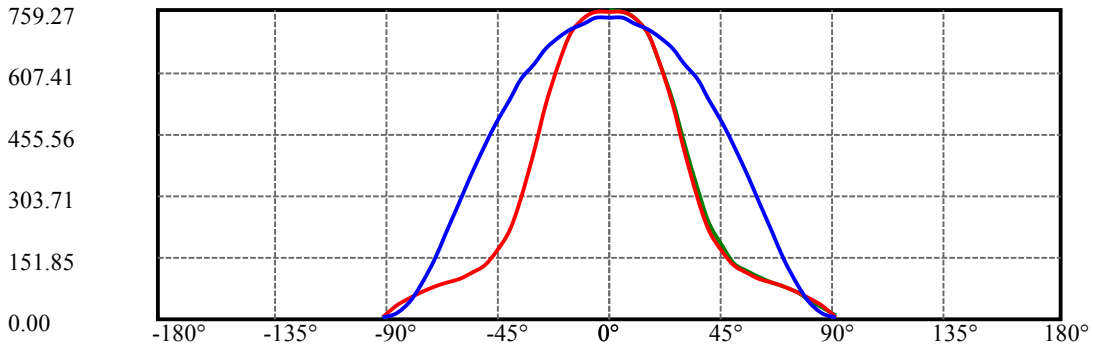
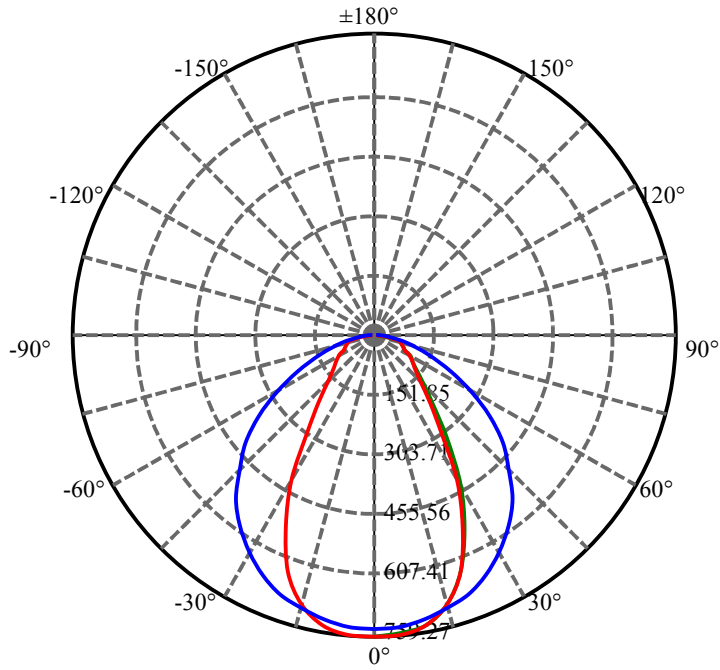
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	750.258	0.000	0	.000%	.000%
5.0	747.473	17.905	17.905	1.089%	1.230%
10.0	736.900	53.101	71.006	3.230%	4.878%
15.0	710.778	85.875	156.881	5.224%	10.778%
20.0	669.698	113.771	270.652	6.920%	18.594%
25.0	608.180	134.026	404.677	8.152%	27.801%
30.0	538.001	145.050	549.727	8.823%	37.766%
35.0	454.238	146.114	695.842	8.888%	47.804%
40.0	377.875	138.832	834.673	8.445%	57.342%
45.0	305.347	126.504	961.177	7.695%	66.033%
50.0	246.116	111.431	1072.608	6.778%	73.688%
55.0	193.169	95.515	1168.124	5.810%	80.250%
60.0	152.329	79.861	1247.984	4.858%	85.736%
65.0	114.925	64.970	1312.954	3.952%	90.200%
70.0	86.595	51.026	1363.981	3.104%	93.705%
75.0	61.443	38.695	1402.675	2.354%	96.364%
80.0	41.647	27.584	1430.259	1.678%	98.259%
85.0	22.300	17.376	1447.636	1.057%	99.452%
90.0	6.808	7.970	1455.606	.485%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	549.73	33.44%	37.77%
0-40	834.67	50.77%	57.34%
0-60	1247.98	75.91%	85.74%
0-90	1447.64	88.06%	99.45%
0-120	1447.64	88.06%	99.45%
0-180	1455.61	88.54%	100.00%
60-90	279.51	17.00%	19.20%
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%
0-54.81	1164.49	70.83%	80.00%

ZONAL LUMEN SUMMARY

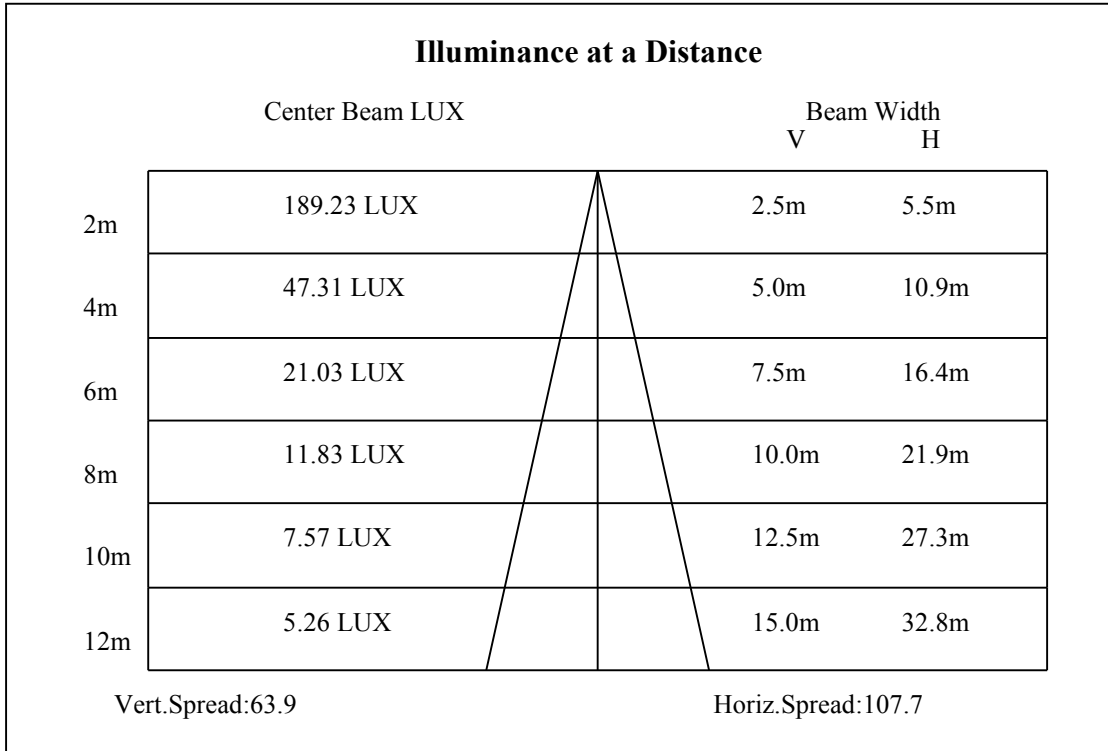
0-10	71.01
10-20	199.65
20-30	279.08
30-40	284.95
40-50	237.94
50-60	175.38
60-70	116.00
70-80	66.28
80-90	17.38
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

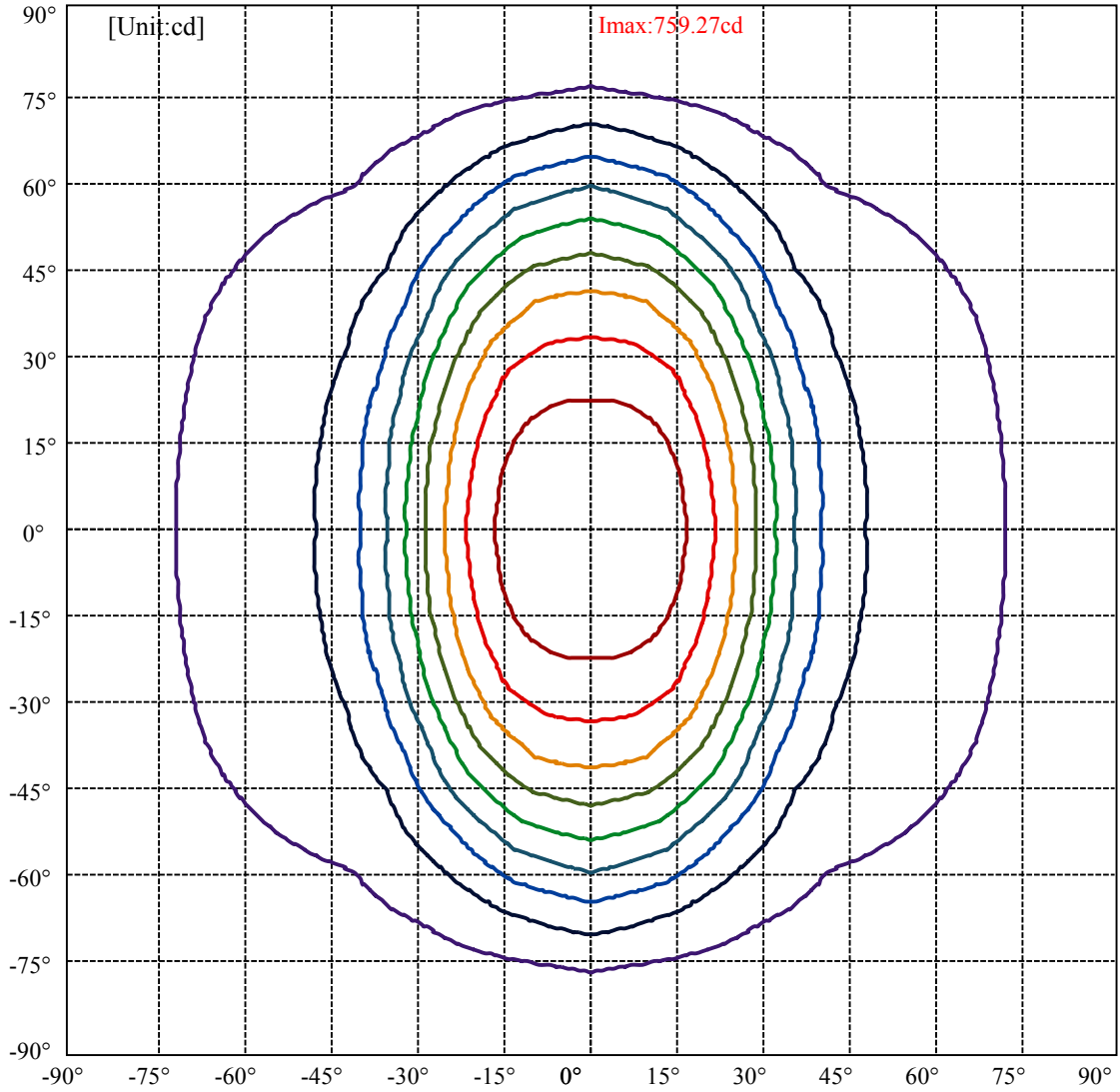


C15(Max): ———
C0/C180: ———
C90/C270: ———

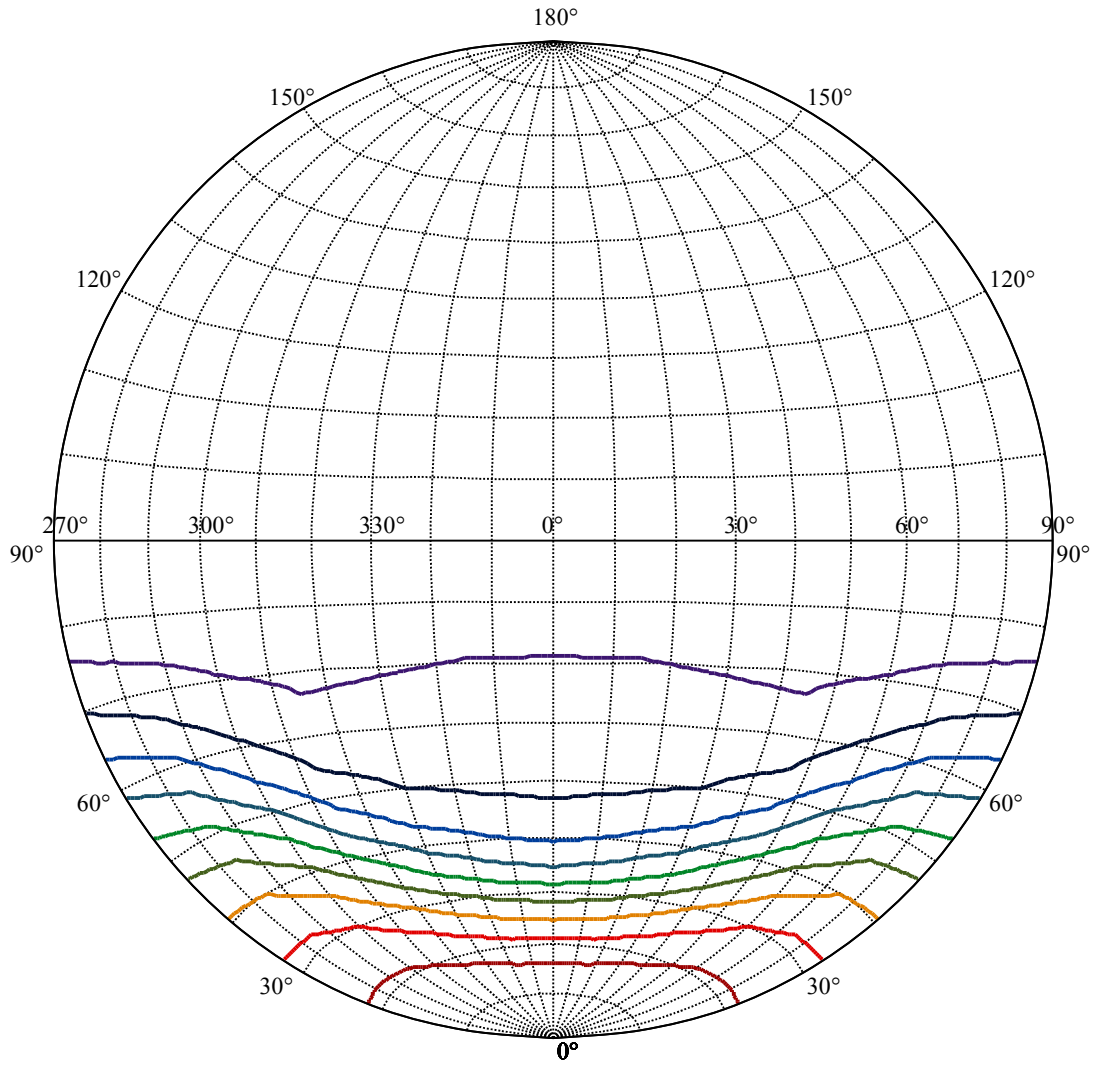
Field angle(10%Imax):C0/180Left:71.1 Right:71.1
:C90/270Left:76.0 Right:76.0

Beam Angle(50%Imax):C0/180Left:31.6 Right:31.6
:C90/270Left:53.8 Right:53.8





(10%Imax)	75.652	—
(20%Imax)	151.304	—
(30%Imax)	226.956	—
(40%Imax)	302.608	—
(50%Imax)	378.26	—
(60%Imax)	453.912	—
(70%Imax)	529.564	—
(80%Imax)	605.216	—
(90%Imax)	680.868	—



House

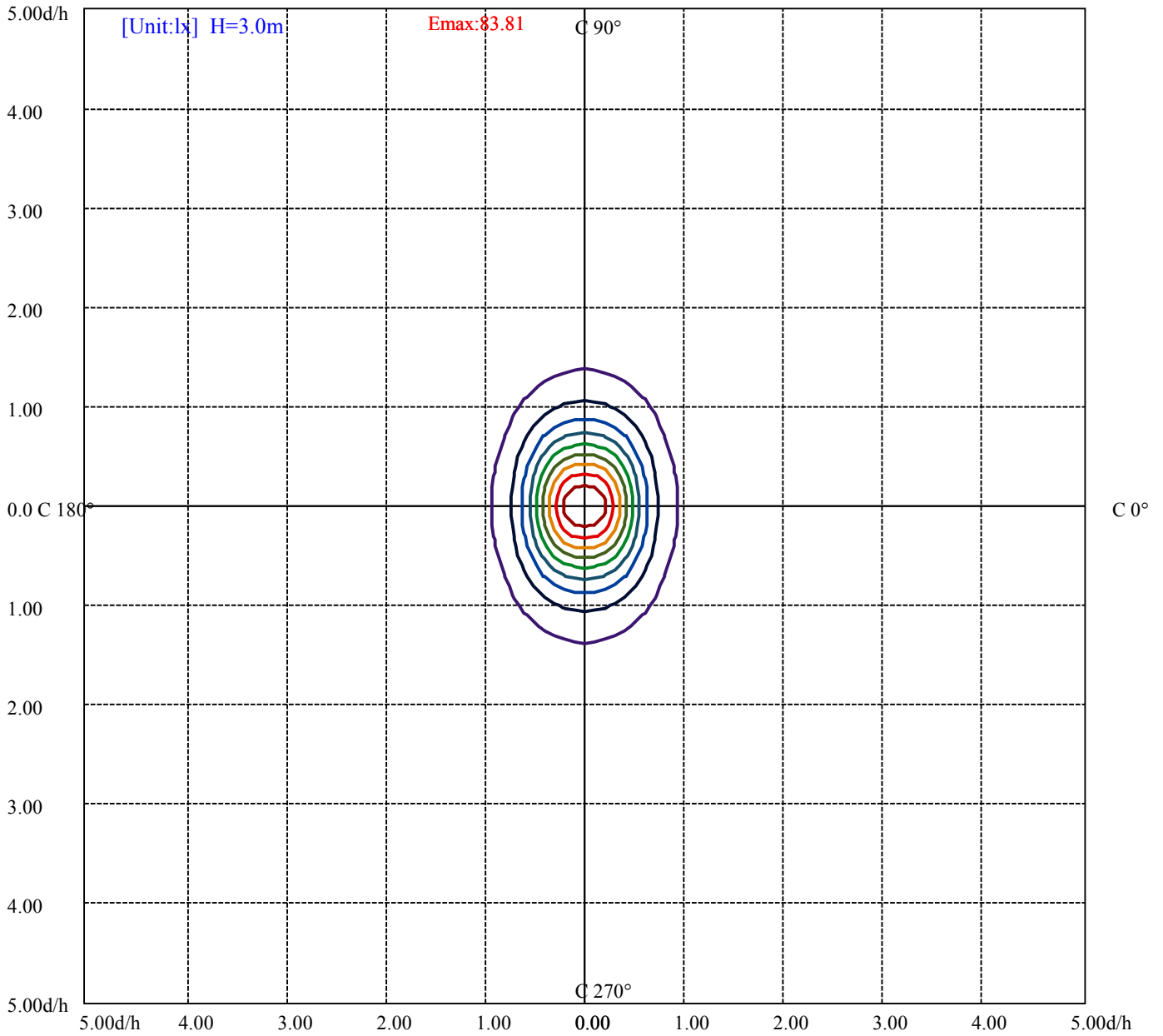
[Unit:cd]

Road

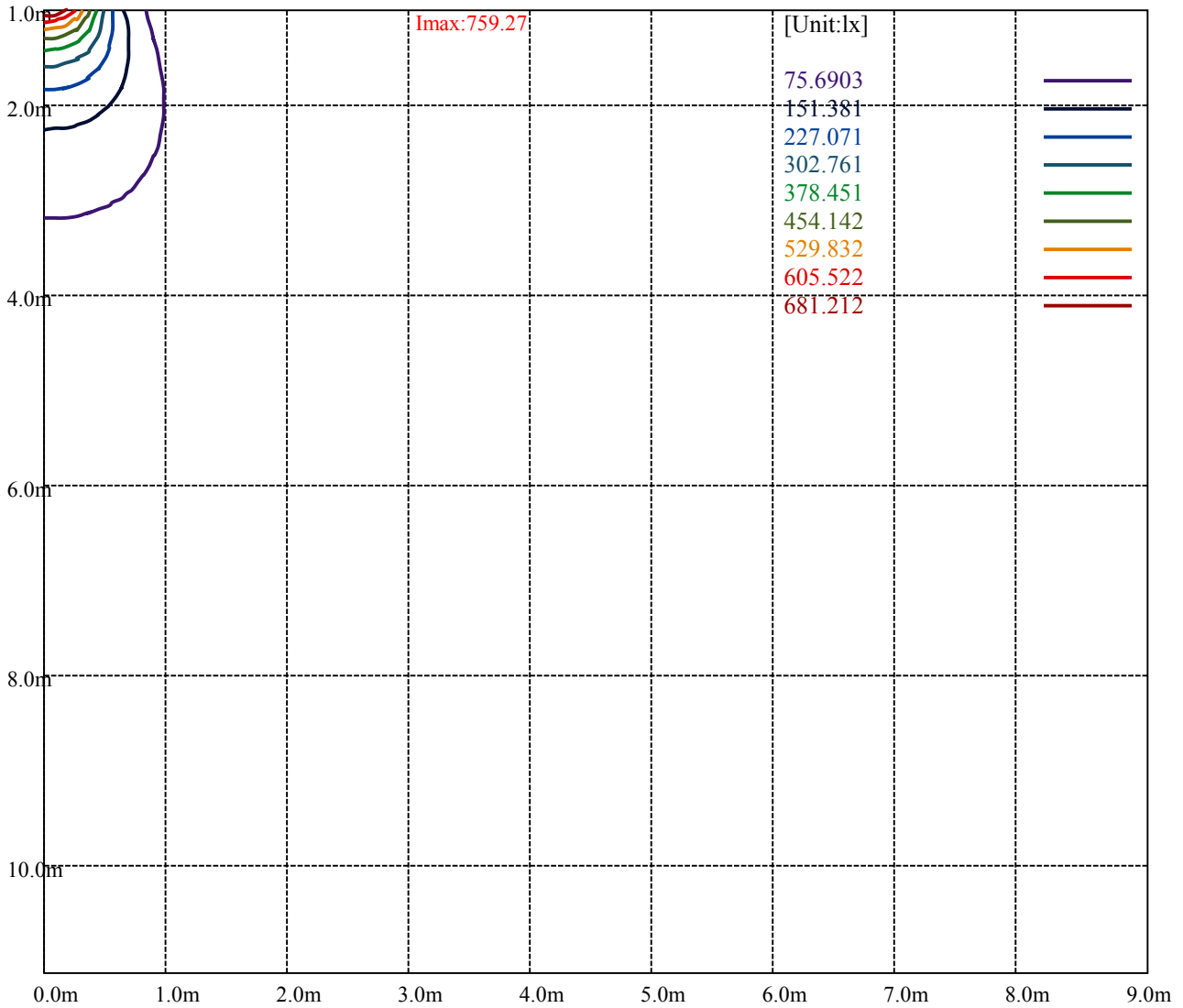
I_{max}:759.27

- (10%I_{max}) 75.9266
- (20%I_{max}) 151.853
- (30%I_{max}) 227.78
- (40%I_{max}) 303.706
- (50%I_{max}) 379.633
- (60%I_{max}) 455.56
- (70%I_{max}) 531.486
- (80%I_{max}) 607.413
- (90%I_{max}) 683.339





- (10%Emax) 8.381255
- (20%Emax) 16.76256
- (30%Emax) 25.14378
- (40%Emax) 33.525
- (50%Emax) 41.90622
- (60%Emax) 50.28756
- (70%Emax) 58.66878
- (80%Emax) 67.05
- (90%Emax) 75.43122



Luminance Table

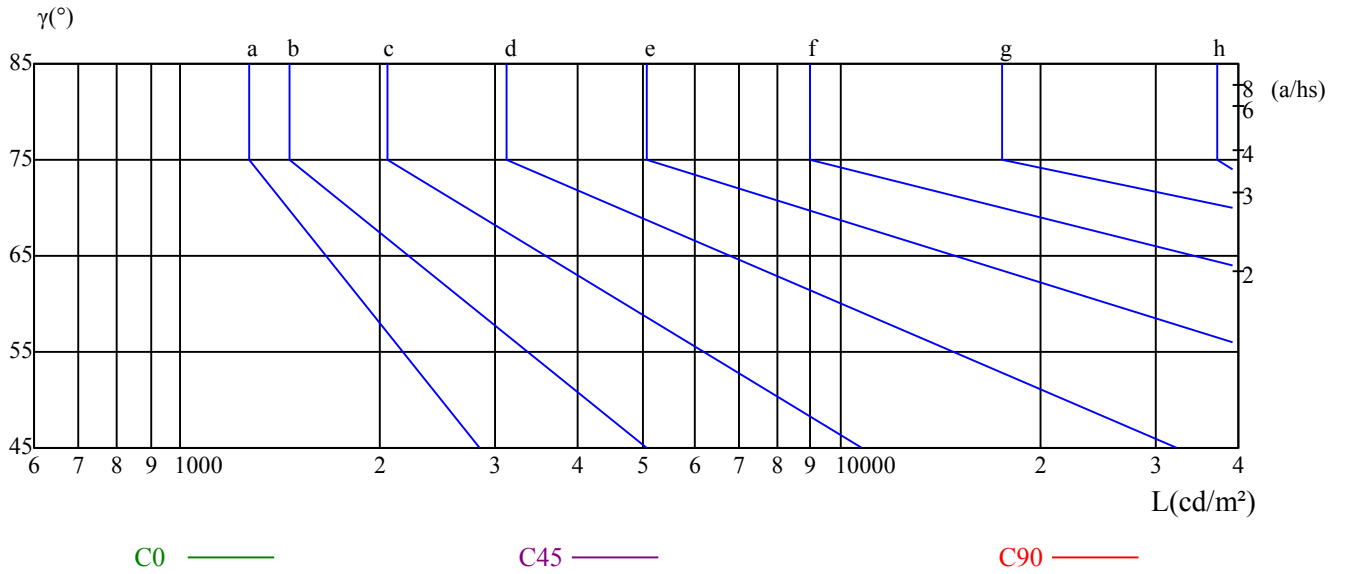
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

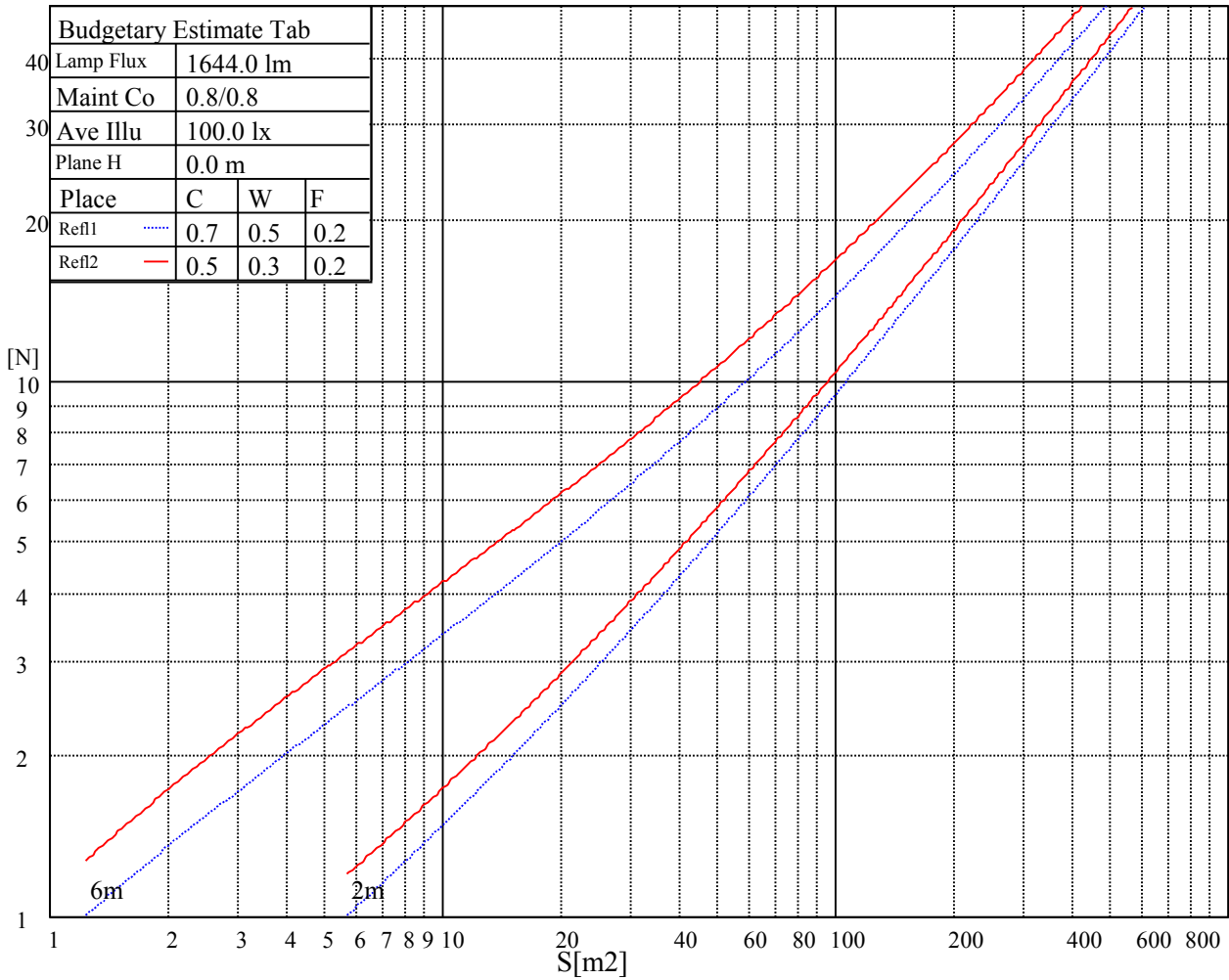
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

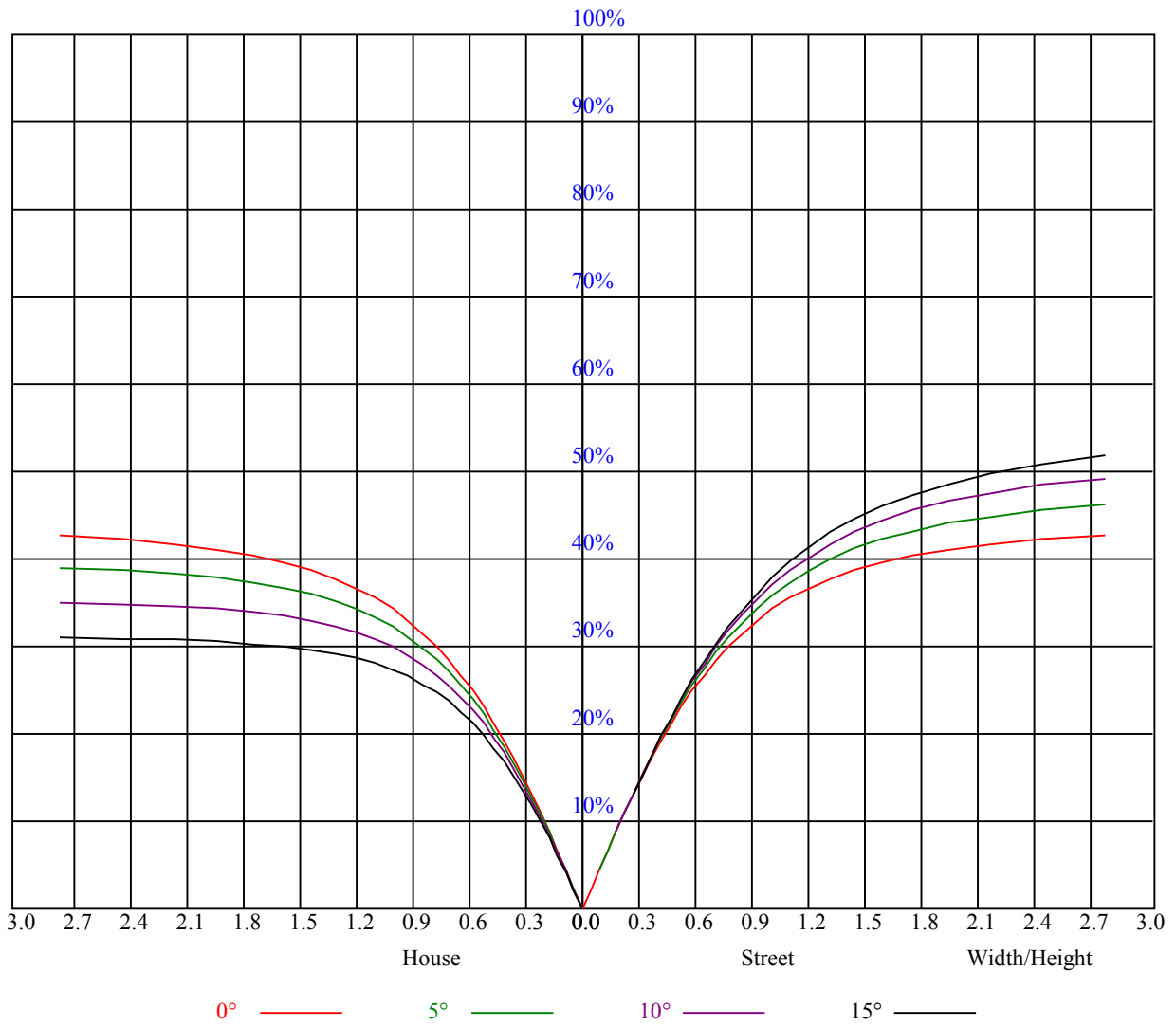
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

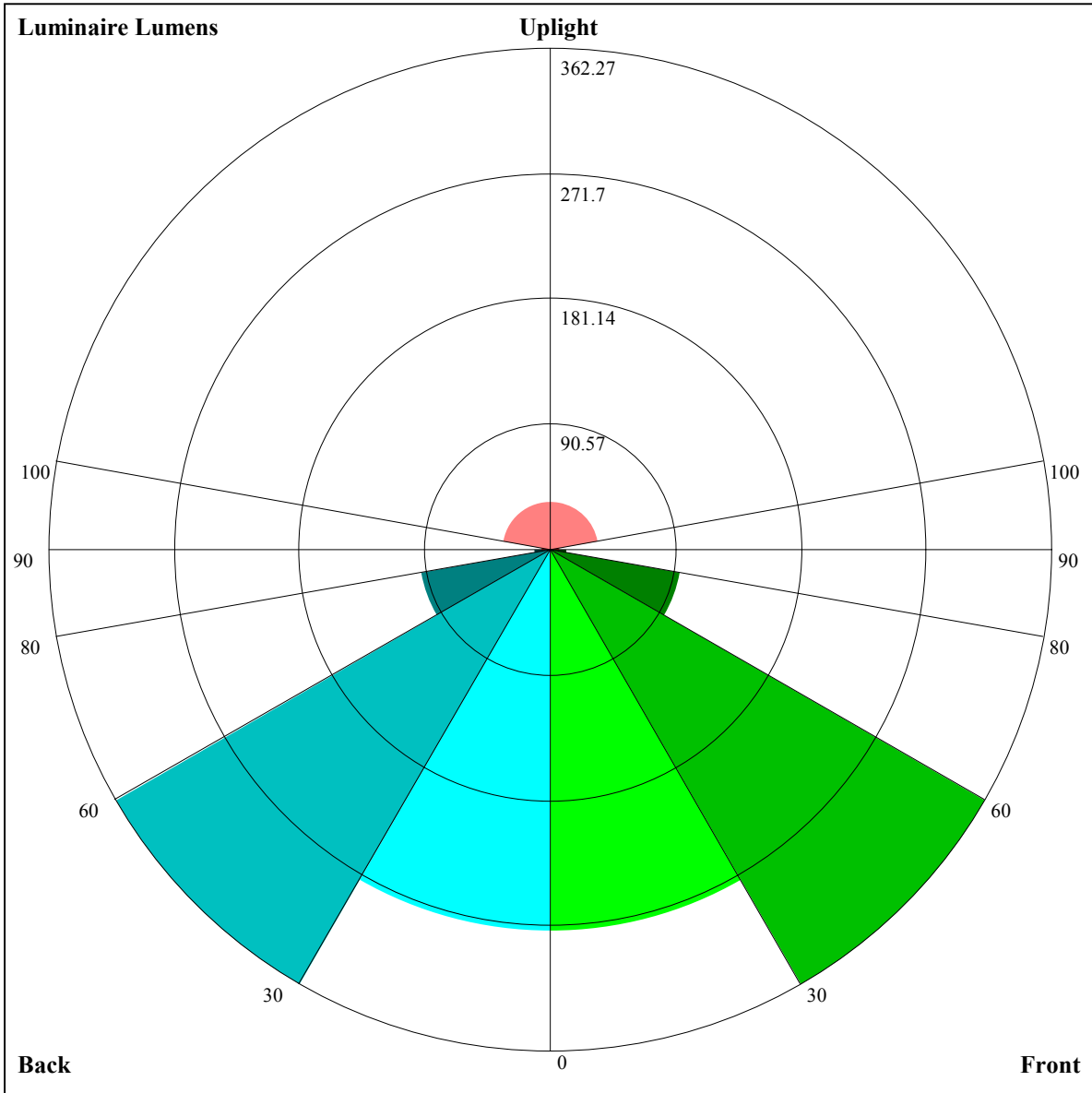
Luminance Limiting Curve





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	1.05	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	0.89
1	0.94	0.90	0.87	0.92	0.89	0.86	0.88	0.85	0.83	0.84	0.82	0.81	0.81	0.80	0.78	0.76
2	0.83	0.78	0.73	0.82	0.77	0.72	0.78	0.74	0.71	0.76	0.72	0.69	0.73	0.70	0.68	0.66
3	0.74	0.68	0.63	0.73	0.67	0.62	0.70	0.65	0.61	0.68	0.64	0.60	0.66	0.62	0.59	0.57
4	0.67	0.60	0.55	0.66	0.59	0.54	0.64	0.58	0.53	0.62	0.57	0.53	0.60	0.56	0.52	0.50
5	0.61	0.53	0.48	0.60	0.53	0.48	0.58	0.52	0.47	0.56	0.51	0.47	0.55	0.50	0.46	0.45
6	0.55	0.48	0.43	0.54	0.48	0.43	0.53	0.47	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.40
7	0.51	0.43	0.38	0.50	0.43	0.38	0.49	0.43	0.38	0.47	0.42	0.38	0.46	0.41	0.38	0.36
8	0.47	0.40	0.35	0.46	0.39	0.35	0.45	0.39	0.35	0.44	0.38	0.34	0.43	0.38	0.34	0.33
9	0.43	0.36	0.32	0.43	0.36	0.32	0.42	0.36	0.32	0.41	0.35	0.31	0.40	0.35	0.31	0.30
10	0.40	0.34	0.29	0.40	0.33	0.29	0.39	0.33	0.29	0.38	0.33	0.29	0.37	0.32	0.29	0.27





Luminaire Lumens:

FL=275.52,FM=362.27,FH=95.75,FVH=12.49

BL=275.52,BM=362.27,BH=95.75,BVH=12.49

UL=7.43,UH=35.35

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	756.90	754.99	741.43	702.38	631.48	527.39	416.43	299.28	217.87
15.0	759.27	752.96	739.68	701.20	634.02	539.09	435.51	321.57	235.70
30.0	756.11	754.31	741.04	710.03	658.27	575.84	483.28	373.78	281.33
45.0	754.31	748.07	737.88	712.85	676.50	620.12	548.83	461.11	369.39
60.0	747.17	743.34	736.59	717.29	692.20	653.99	607.91	543.48	471.46
75.0	747.39	739.52	731.19	715.43	694.73	664.17	629.57	582.19	530.93
90.0	742.10	738.28	728.60	713.35	693.49	664.34	629.40	587.31	538.98
105.0	739.74	739.52	731.19	715.43	694.73	664.17	629.57	582.19	530.93
120.0	748.91	743.34	736.59	717.29	692.20	653.99	607.91	543.48	471.46
135.0	744.97	748.07	737.88	712.85	676.50	620.12	548.83	461.11	369.39
150.0	753.64	754.31	741.04	710.03	658.27	575.84	483.28	373.78	281.33
165.0	752.57	752.96	739.68	701.20	634.02	539.09	435.51	321.57	235.70
180.0	756.90	754.99	741.43	702.38	631.48	527.39	416.43	299.28	217.87
195.0	759.27	752.96	739.68	701.20	634.02	539.09	435.51	321.57	235.70
210.0	756.11	754.31	741.04	710.03	658.27	575.84	483.28	373.78	281.33
225.0	754.31	748.07	737.88	712.85	676.50	620.12	548.83	461.11	369.39
240.0	747.17	743.34	736.59	717.29	692.20	653.99	607.91	543.48	471.46
255.0	747.39	739.52	731.19	715.43	694.73	664.17	629.57	582.19	530.93
270.0	742.10	738.28	728.60	713.35	693.49	664.34	629.40	587.31	538.98
285.0	739.74	739.52	731.19	715.43	694.73	664.17	629.57	582.19	530.93
300.0	748.91	743.34	736.59	717.29	692.20	653.99	607.91	543.48	471.46
315.0	744.97	748.07	737.88	712.85	676.50	620.12	548.83	461.11	369.39
330.0	753.64	754.31	741.04	710.03	658.27	575.84	483.28	373.78	281.33
345.0	752.57	752.96	739.68	701.20	634.02	539.09	435.51	321.57	235.70
360.0	756.90	754.99	741.43	702.38	631.48	527.39	416.43	299.28	217.87
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	165.82	131.05	115.35	100.77	87.89	78.72	65.38	50.98	31.96
15.0	177.52	137.80	116.64	103.59	87.78	77.99	65.21	48.95	28.25
30.0	201.66	152.65	116.59	99.54	86.14	72.02	58.41	45.35	25.38
45.0	274.75	202.17	144.61	107.41	81.14	64.65	50.64	37.25	21.83
60.0	390.66	311.10	226.08	165.20	113.15	80.07	53.73	35.39	18.51
75.0	464.48	395.78	319.93	244.48	171.39	112.53	66.45	37.36	16.32
90.0	480.18	423.35	354.99	286.74	212.01	145.90	83.05	40.17	15.08
105.0	464.48	395.78	319.93	244.48	171.39	112.53	66.45	37.36	16.32
120.0	390.66	311.10	226.08	165.20	113.15	80.07	53.73	35.39	18.51
135.0	274.75	202.17	144.61	107.41	81.14	64.65	50.64	37.25	21.83
150.0	201.66	152.65	116.59	99.54	86.14	72.02	58.41	45.35	25.38
165.0	177.52	137.80	116.64	103.59	87.78	77.99	65.21	48.95	28.25
180.0	165.82	131.05	115.35	100.77	87.89	78.72	65.38	50.98	31.96
195.0	177.52	137.80	116.64	103.59	87.78	77.99	65.21	48.95	28.25
210.0	201.66	152.65	116.59	99.54	86.14	72.02	58.41	45.35	25.38
225.0	274.75	202.17	144.61	107.41	81.14	64.65	50.64	37.25	21.83
240.0	390.66	311.10	226.08	165.20	113.15	80.07	53.73	35.39	18.51
255.0	464.48	395.78	319.93	244.48	171.39	112.53	66.45	37.36	16.32
270.0	480.18	423.35	354.99	286.74	212.01	145.90	83.05	40.17	15.08
285.0	464.48	395.78	319.93	244.48	171.39	112.53	66.45	37.36	16.32
300.0	390.66	311.10	226.08	165.20	113.15	80.07	53.73	35.39	18.51
315.0	274.75	202.17	144.61	107.41	81.14	64.65	50.64	37.25	21.83
330.0	201.66	152.65	116.59	99.54	86.14	72.02	58.41	45.35	25.38
345.0	177.52	137.80	116.64	103.59	87.78	77.99	65.21	48.95	28.25
360.0	165.82	131.05	115.35	100.77	87.89	78.72	65.38	50.98	31.96

Intensity data(cd)

C/γ(°)	90.0
0.0	6.25
15.0	7.54
30.0	7.37
45.0	7.48
60.0	6.47
75.0	6.02
90.0	5.68
105.0	6.02
120.0	6.47
135.0	7.48
150.0	7.37
165.0	7.54
180.0	6.25
195.0	7.54
210.0	7.37
225.0	7.48
240.0	6.47
255.0	6.02
270.0	5.68
285.0	6.02
300.0	6.47
315.0	7.48
330.0	7.37
345.0	7.54
360.0	6.25