
AFX

Client:

LumCAT: ELZV2402LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.139

Lamp flux(lm): 1293.3

Power (W): 16.390

Number of Lamps: 1

PF: 0.986

Length(mm): 600

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1293.29, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 78.91

Central intensity(cd): 382.947, Maximum intensity(cd): 387.485

Angle of maximum intensity: C=90.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=108.8

[C90/270]Total=123.3

Field angle(10%Imax): [C0/180]Total=159.0

[C90/270]Total=233.2

Maximum s/h(1/2): C0_180=1.23 C90_270=1.35

Maximum s/h(1/4): C0_180=1.35 C90_270=1.49

Up flux rate of lamp(%): 9.83%

Down flux rate of lamp(%): 90.17%

Up flux rate of LUM(%): 9.83%

Down flux rate of LUM(%): 90.17%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 63.895%

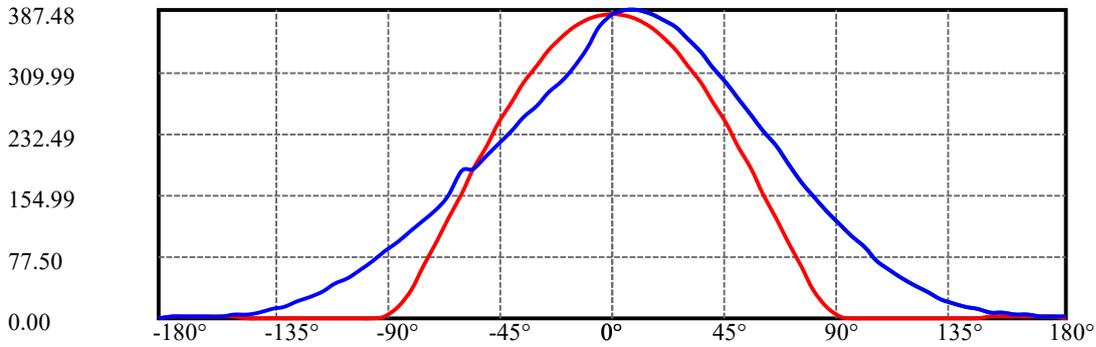
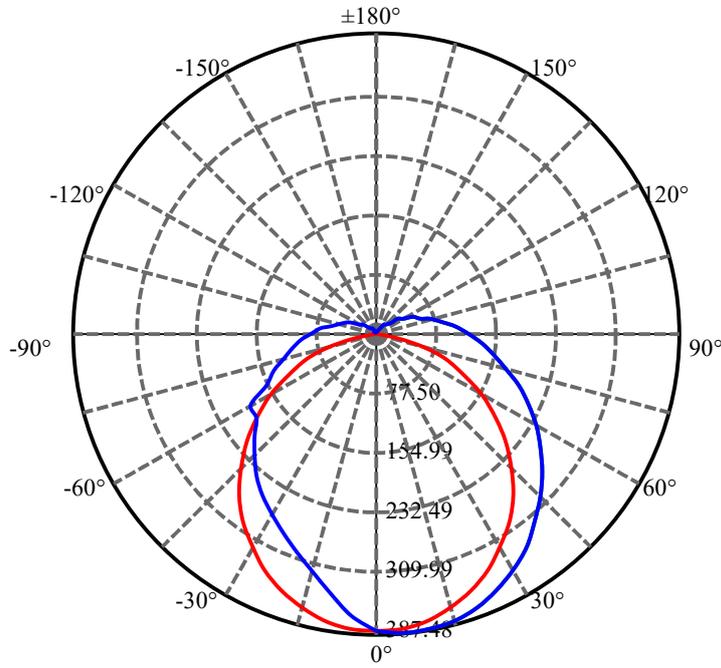
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	382.947	0.000	0	0.00%	0.00%
5.0	377.861	9.095	9.095	0.70%	0.70%
10.0	367.614	26.668	35.763	2.06%	2.77%
15.0	354.193	42.817	78.58	3.31%	6.08%
20.0	339.239	57.149	135.729	4.42%	10.49%
25.0	322.685	69.424	205.152	5.37%	15.86%
30.0	305.003	79.434	284.587	6.14%	22.00%
35.0	285.791	86.999	371.585	6.73%	28.73%
40.0	265.160	91.922	463.507	7.11%	35.84%
45.0	242.511	93.999	557.507	7.27%	43.11%
50.0	219.265	93.309	650.816	7.21%	50.32%
55.0	195.869	90.264	741.08	6.98%	57.30%
60.0	173.003	85.264	826.343	6.59%	63.89%
65.0	149.302	78.353	904.696	6.06%	69.95%
70.0	127.063	69.977	974.673	5.41%	75.36%
75.0	106.171	60.964	1035.637	4.71%	80.08%
80.0	88.008	51.957	1087.594	4.02%	84.09%
85.0	71.150	43.247	1130.841	3.34%	87.44%
90.0	57.728	35.288	1166.129	2.73%	90.17%
95.0	47.257	28.746	1194.875	2.22%	92.39%
100.0	38.690	23.354	1218.228	1.81%	94.20%
105.0	31.209	18.703	1236.931	1.45%	95.64%
110.0	25.112	14.721	1251.653	1.14%	96.78%
115.0	19.874	11.391	1263.043	0.88%	97.66%
120.0	15.719	8.653	1271.696	0.67%	98.33%
125.0	12.128	6.437	1278.133	0.50%	98.83%
130.0	9.282	4.655	1282.788	0.36%	99.19%
135.0	6.962	3.282	1286.07	0.25%	99.44%
140.0	5.427	2.294	1288.364	0.18%	99.62%
145.0	4.192	1.605	1289.969	0.12%	99.74%
150.0	3.442	1.124	1291.093	0.09%	99.83%
155.0	2.955	0.810	1291.903	0.06%	99.89%
160.0	2.431	0.565	1292.468	0.04%	99.94%
165.0	2.318	0.391	1292.859	0.03%	99.97%
170.0	2.056	0.259	1293.119	0.02%	99.99%
175.0	1.869	0.140	1293.259	0.01%	100.00%
180.0	0.897	0.033	1293.292	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	284.59	22.00%	22.00%
0-40	463.51	35.84%	35.84%
0-60	826.34	63.89%	63.89%
0-90	1166.13	90.17%	90.17%
0-120	1271.70	98.33%	98.33%
0-180	1293.29	100.00%	100.00%
60-90	339.79	26.27%	26.27%
90-120	105.57	8.16%	8.16%
90-130	116.66	9.02%	9.02%
90-150	124.96	9.66%	9.66%
90-180	127.13	9.83%	9.83%
0-74.92	1034.63	80.00%	80.00%

ZONAL LUMEN SUMMARY

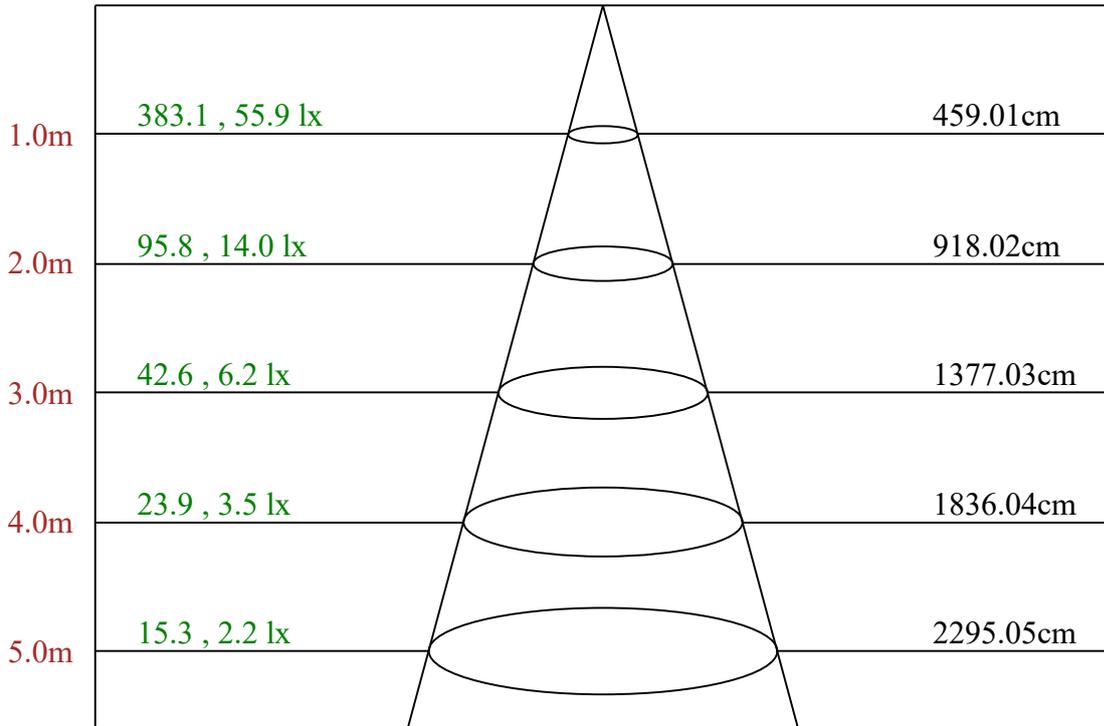
0-10	35.76
10-20	99.97
20-30	148.86
30-40	178.92
40-50	187.31
50-60	175.53
60-70	148.33
70-80	112.92
80-90	78.53
90-100	52.10
100-110	33.42
110-120	20.04
120-130	11.09
130-140	5.58
140-150	2.73
150-160	1.37
160-170	0.65
170-180	0.14



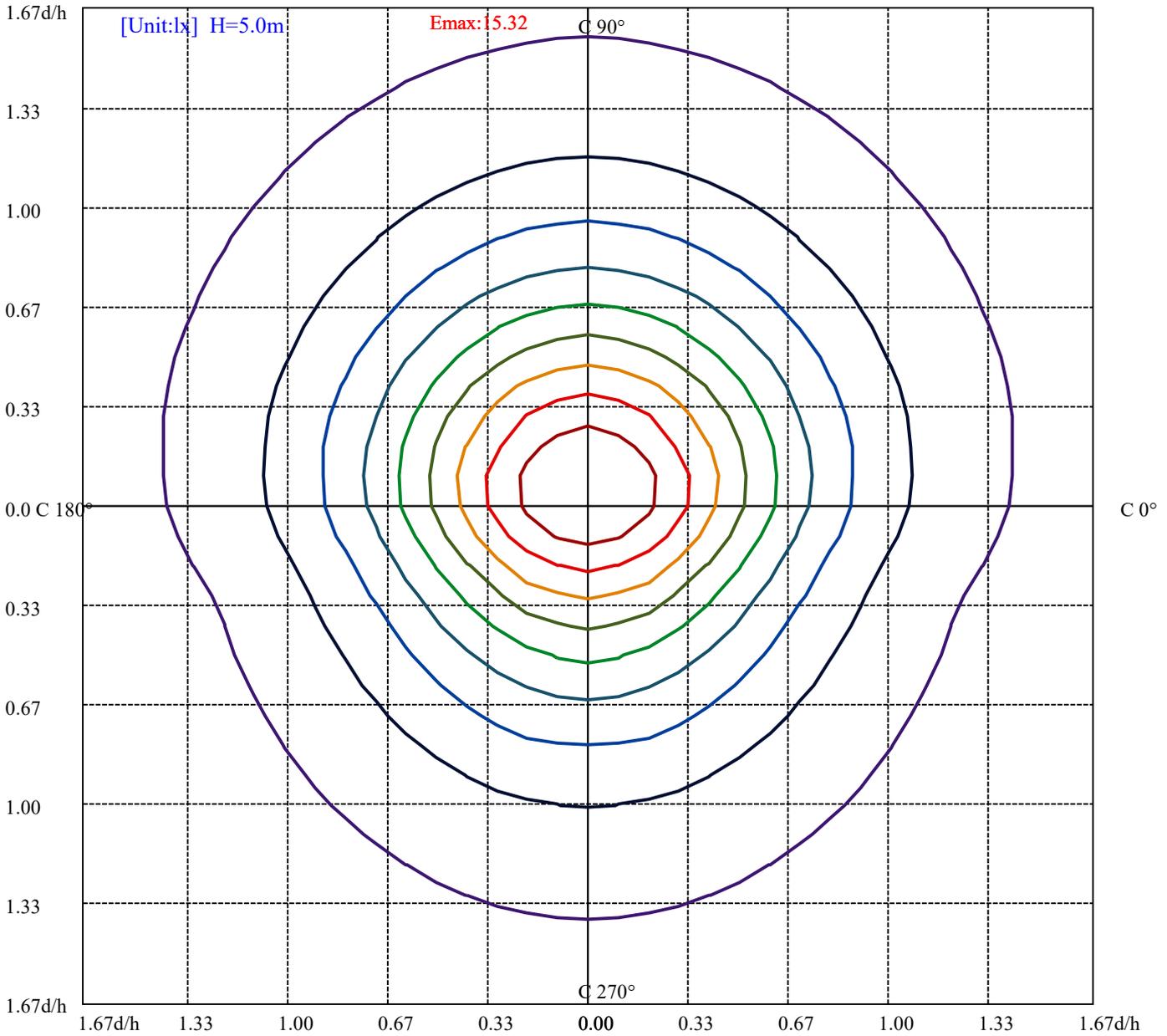
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.5 Right:79.5
 :C90/270Left:117.4 Right:115.8

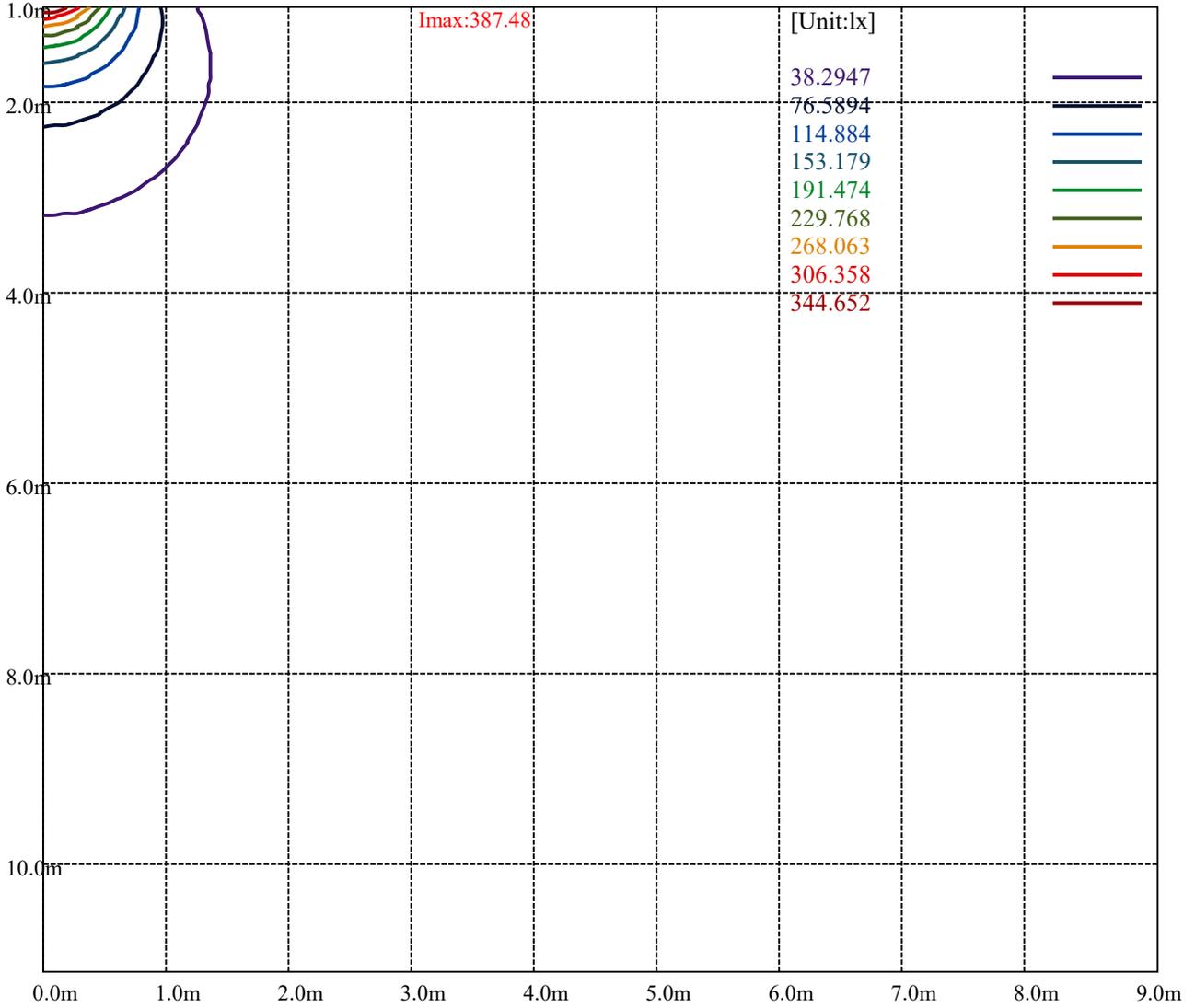
Beam Angle(50%Imax):C0/180Left:54.4 Right:54.4
 :C90/270Left:58.2 Right:65.1



Max , Ave Beam angle of C90 plane 132.91



- (10%Emax) 1.531788
- (20%Emax) 3.06358
- (30%Emax) 4.59536
- (40%Emax) 6.12716
- (50%Emax) 7.65896
- (60%Emax) 9.190721
- (70%Emax) 10.72252
- (80%Emax) 12.25432
- (90%Emax) 13.78612



Luminance Table

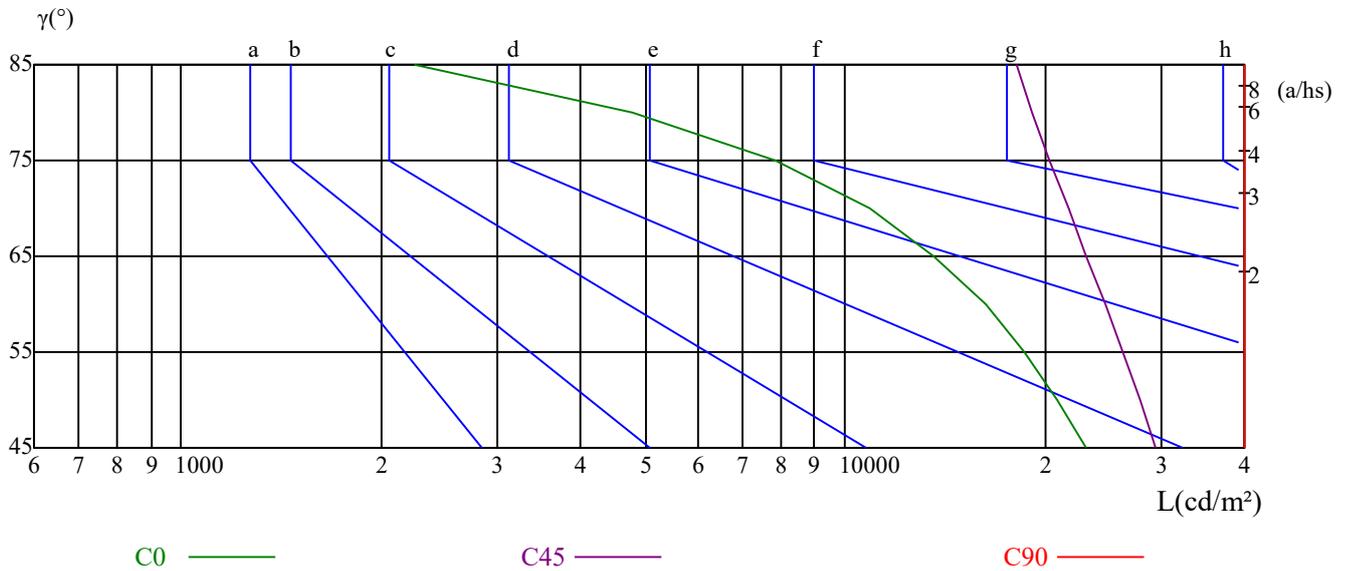
γ	45	50	55	60	65	70	75	80	85
C0	23102	20852	18647	16249	13620	10907	7855	4779	2244
C45	29337	27872	26253	24623	23046	21728	20346	19131	18097
C90	45864	46757	48420	51156	54823	60326	69317	89655	144792

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
33091	48790	39048	27400	63305	47148	19346	147502	98092

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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	0.99	0.99	0.99	0.93	0.93	0.93	0.90
1	0.99	0.94	0.89	0.95	0.91	0.87	0.89	0.86	0.82	0.84	0.81	0.78	0.79	0.76	0.74	0.71
2	0.85	0.78	0.71	0.82	0.75	0.70	0.77	0.71	0.66	0.72	0.68	0.63	0.68	0.64	0.61	0.58
3	0.74	0.66	0.59	0.72	0.64	0.57	0.67	0.61	0.55	0.63	0.58	0.53	0.60	0.55	0.51	0.48
4	0.66	0.56	0.49	0.64	0.55	0.48	0.60	0.52	0.47	0.56	0.50	0.45	0.53	0.48	0.43	0.41
5	0.58	0.49	0.42	0.57	0.48	0.41	0.53	0.46	0.40	0.50	0.44	0.39	0.47	0.42	0.37	0.35
6	0.52	0.43	0.37	0.51	0.42	0.36	0.48	0.41	0.35	0.46	0.39	0.34	0.43	0.37	0.33	0.30
7	0.47	0.39	0.32	0.46	0.38	0.32	0.44	0.36	0.31	0.41	0.35	0.30	0.39	0.33	0.29	0.27
8	0.43	0.35	0.29	0.42	0.34	0.28	0.40	0.33	0.28	0.38	0.31	0.27	0.36	0.30	0.26	0.24
9	0.40	0.31	0.26	0.39	0.31	0.25	0.37	0.30	0.25	0.35	0.29	0.24	0.33	0.28	0.23	0.22
10	0.37	0.29	0.23	0.36	0.28	0.23	0.34	0.27	0.22	0.32	0.26	0.22	0.31	0.25	0.21	0.19

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	382.95	383.84	381.16	374.91	365.09	349.92	332.96	313.32	290.11
15.0	382.95	384.73	382.95	376.70	366.88	353.49	336.53	318.68	295.47
30.0	382.95	385.63	384.73	379.38	369.56	357.95	342.78	324.03	301.72
45.0	382.95	387.41	386.52	382.05	373.13	360.63	346.35	327.60	307.07
60.0	382.95	386.51	385.62	382.06	374.04	362.46	348.21	331.29	310.81
75.0	382.95	385.64	384.74	380.26	372.19	361.42	347.97	332.72	313.89
90.0	382.95	387.48	386.58	383.85	374.78	364.80	350.28	333.94	314.89
105.0	382.95	385.64	383.85	379.35	371.26	359.57	345.19	328.11	310.13
120.0	382.95	385.64	383.85	378.45	368.56	356.88	341.60	323.62	302.94
135.0	382.95	382.95	381.15	374.88	365.01	351.56	336.31	315.68	295.95
150.0	382.95	382.95	379.33	372.99	351.26	347.64	331.34	311.43	288.79
165.0	382.95	382.95	378.44	371.23	357.72	344.20	325.28	304.56	278.43
180.0	382.95	377.59	369.56	356.17	340.99	322.25	300.82	278.51	252.62
195.0	382.95	376.70	365.99	348.13	328.50	306.18	279.40	252.62	224.06
210.0	382.95	373.13	357.06	334.74	310.64	283.86	258.87	233.87	212.45
225.0	382.95	368.66	348.13	324.92	299.93	275.83	257.98	237.45	216.02
240.0	382.95	366.03	341.98	315.26	293.00	274.30	258.27	241.35	222.64
255.0	382.95	365.01	338.11	313.89	293.26	278.02	262.77	247.53	232.28
270.0	382.95	364.80	339.39	315.80	298.55	283.13	266.79	253.18	236.85
285.0	382.95	363.17	338.90	313.73	294.85	279.57	265.19	250.80	247.21
300.0	382.95	366.77	343.39	319.12	313.73	280.47	263.39	246.31	230.13
315.0	382.95	370.39	350.66	327.34	303.13	279.81	260.98	243.04	222.41
330.0	382.95	375.70	360.31	339.49	317.76	293.32	267.97	243.53	220.90
345.0	382.95	379.34	370.33	355.92	337.89	317.17	292.84	265.81	236.08
360.0	382.95	383.84	381.16	374.91	365.09	349.92	332.96	313.32	290.11
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	265.12	237.45	210.67	181.21	149.97	117.83	87.48	54.45	27.67
15.0	270.47	243.69	215.13	186.56	157.11	124.08	95.51	67.84	43.74
30.0	276.72	249.94	223.16	196.38	168.71	141.04	115.15	92.84	70.52
45.0	282.97	258.87	234.77	209.77	183.89	160.68	137.47	116.04	96.41
60.0	289.44	266.28	244.91	221.75	199.49	177.22	155.85	135.37	117.56
75.0	295.06	274.43	252.91	231.38	209.86	189.23	168.60	148.87	130.04
90.0	296.74	275.87	255.90	236.85	215.98	194.20	171.51	153.36	135.21
105.0	290.36	269.68	248.11	226.53	205.86	184.28	165.40	145.63	126.75
120.0	281.37	259.79	236.42	214.85	191.47	170.80	149.22	130.35	110.57
135.0	270.84	249.32	223.31	197.30	173.09	150.67	128.25	107.62	88.79
150.0	265.26	238.10	210.03	181.97	155.71	129.46	104.11	81.48	62.47
165.0	255.90	227.97	200.03	170.30	139.66	109.03	82.00	54.96	33.34
180.0	224.95	195.49	165.14	133.90	101.76	72.30	40.17	16.96	2.68
195.0	195.49	163.36	135.68	107.12	79.45	54.45	34.81	22.32	13.39
210.0	189.24	164.25	140.15	116.04	95.51	76.77	62.49	48.20	37.49
225.0	195.49	175.85	153.54	133.90	116.04	100.87	85.69	72.30	60.70
240.0	203.94	185.24	167.43	150.51	133.59	118.45	102.42	89.95	77.48
255.0	215.24	197.30	181.16	164.12	147.98	131.83	117.48	113.90	89.68
270.0	219.60	204.18	187.84	184.21	155.18	137.93	123.41	109.80	96.19
285.0	217.54	199.56	182.48	165.40	149.22	133.94	117.76	104.28	90.79
300.0	211.25	193.27	173.49	155.52	137.54	121.36	106.97	91.69	80.01
315.0	203.58	182.95	160.53	140.80	121.07	104.93	87.89	75.33	61.88
330.0	197.36	173.82	151.19	127.65	104.11	84.19	66.99	52.51	39.83
345.0	206.34	175.71	146.87	118.04	91.01	63.97	41.45	26.13	14.42
360.0	265.12	237.45	210.67	181.21	149.97	117.83	87.48	54.45	27.67

Intensity data(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	6.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	25.89	14.28	8.03	4.46	3.57	2.68	1.79	1.79	1.79
30.0	54.45	40.17	29.46	21.42	16.07	11.60	8.93	6.25	5.36
45.0	80.34	66.06	51.77	41.95	32.14	24.99	18.75	15.18	11.60
60.0	100.63	85.50	71.25	57.89	47.20	37.40	30.28	23.15	17.81
75.0	113.00	97.75	83.41	69.95	57.40	46.64	37.67	29.60	23.32
90.0	118.88	102.54	88.02	72.60	60.80	50.82	39.93	32.67	24.50
105.0	110.57	95.29	81.80	68.32	56.63	45.85	36.86	28.77	23.37
120.0	95.29	80.01	67.42	55.73	45.85	35.96	28.77	22.47	17.08
135.0	72.64	59.19	47.53	37.67	29.60	23.32	17.94	13.45	10.76
150.0	46.17	34.40	25.35	19.01	13.58	9.96	8.15	6.34	4.53
165.0	18.92	9.91	6.31	3.60	2.70	1.80	1.80	1.80	1.80
180.0	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
195.0	7.14	4.46	2.68	2.68	1.79	1.79	0.89	0.89	0.89
210.0	25.89	19.64	14.28	9.82	7.14	5.36	4.46	2.68	1.79
225.0	49.10	40.17	30.35	24.99	18.75	13.39	13.39	8.03	6.25
240.0	66.79	56.11	52.54	37.40	31.17	24.05	17.81	14.25	10.69
255.0	78.02	66.37	54.71	46.64	38.56	31.39	25.11	18.83	13.45
270.0	84.39	72.60	60.80	51.73	42.65	34.48	26.32	20.87	15.43
285.0	79.11	67.42	57.53	47.64	39.55	31.46	24.27	17.98	13.48
300.0	67.42	57.53	46.74	38.65	30.56	22.47	17.08	13.48	9.89
315.0	49.33	39.46	31.39	25.11	17.04	13.45	10.76	8.07	5.38
330.0	27.16	19.92	13.58	9.05	7.24	5.43	4.53	2.72	1.81
345.0	7.21	4.51	2.70	1.80	1.80	1.80	0.90	0.90	0.90
360.0	6.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.89	0.89	1.79	1.79	1.79	1.79	1.79	1.79
15.0	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
30.0	4.46	3.57	3.57	3.57	3.57	2.68	2.68	1.79	1.79
45.0	8.93	6.25	5.36	4.46	4.46	3.57	2.68	2.68	1.79
60.0	13.36	10.69	8.02	6.23	5.34	4.45	3.56	2.67	1.78
75.0	17.94	13.45	9.87	8.07	6.28	4.48	3.59	2.69	1.79
90.0	19.06	14.52	10.89	8.17	6.35	5.44	3.63	2.72	1.81
105.0	17.08	13.48	9.89	8.09	6.29	4.49	3.60	2.70	2.70
120.0	13.48	9.89	8.09	6.29	5.39	4.49	3.60	2.70	2.70
135.0	8.07	6.28	5.38	4.48	4.48	3.59	2.69	2.69	1.79
150.0	3.62	3.62	3.62	3.62	2.72	2.72	2.72	1.81	1.81
165.0	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
180.0	0.00	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
195.0	0.89	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
210.0	1.79	1.79	0.89	0.89	0.89	0.89	1.79	1.79	1.79
225.0	3.57	2.68	1.79	1.79	1.79	1.79	1.79	1.79	1.79
240.0	7.12	5.34	3.56	2.67	2.67	1.78	1.78	1.78	1.78
255.0	9.87	7.17	5.38	3.59	2.69	1.79	1.79	1.79	1.79
270.0	10.89	8.17	5.44	3.63	2.72	1.81	1.81	1.81	1.81
285.0	9.89	7.19	5.39	3.60	2.70	1.80	1.80	1.80	1.80
300.0	7.19	5.39	3.60	2.70	1.80	1.80	1.80	1.80	1.80
315.0	3.59	2.69	1.79	1.79	1.79	1.79	1.79	1.79	1.79
330.0	1.81	0.91	0.91	0.91	0.91	0.91	1.81	1.81	1.81
345.0	0.90	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
360.0	0.00	0.89	0.89	1.79	1.79	1.79	1.79	1.79	1.79

Intensity data(cd)

C/ γ (°)	180.0
0.0	1.79
15.0	1.79
30.0	1.79
45.0	1.79
60.0	1.78
75.0	1.79
90.0	1.81
105.0	1.80
120.0	1.80
135.0	1.79
150.0	1.81
165.0	1.80
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	1.79