
AFX

Client:

LumCAT: ELZV2402LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.138

Lamp flux(lm): 1255.2

Power (W): 16.300

Number of Lamps: 1

PF: 0.987

Length(mm): 600

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1255.22, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 77.01

Central intensity(cd): 371.583, Maximum intensity(cd): 376.114

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=233.1

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 : 63.896%

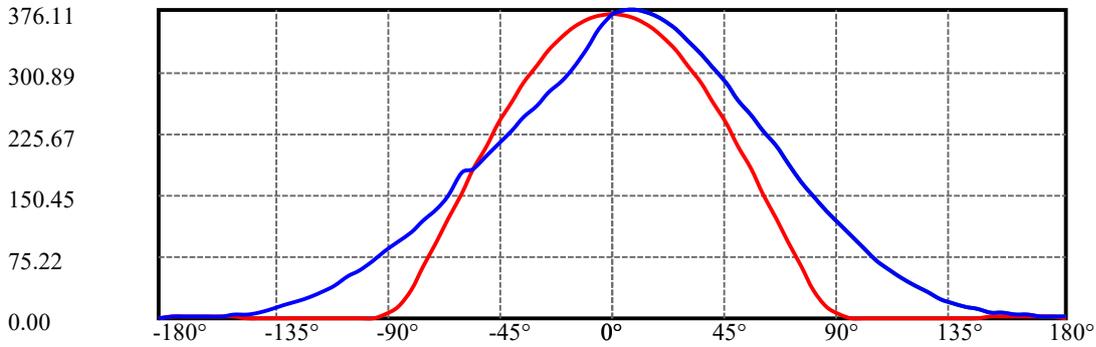
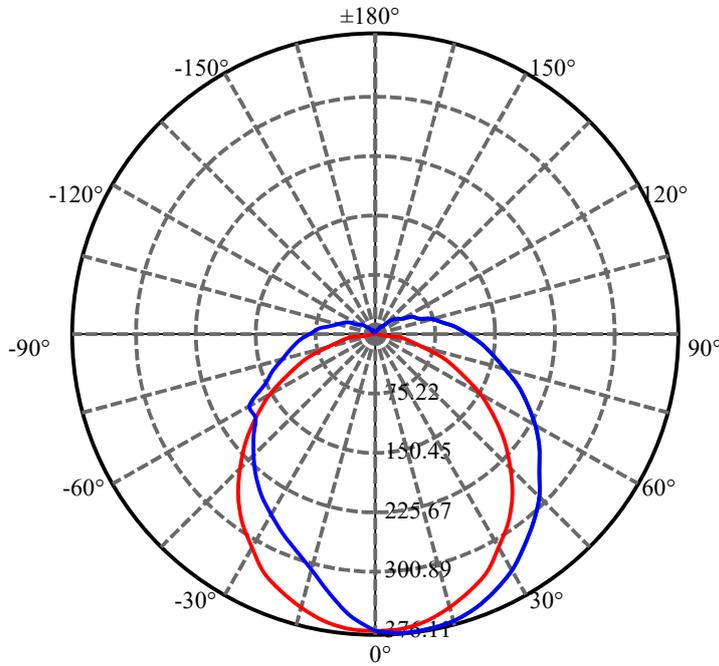
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	371.583	0.000	0	0.00%	0.00%
5.0	366.609	8.825	8.825	0.70%	0.70%
10.0	356.775	25.878	34.703	2.06%	2.76%
15.0	343.690	41.551	76.254	3.31%	6.07%
20.0	329.184	55.454	131.708	4.42%	10.49%
25.0	313.191	67.373	199.081	5.37%	15.86%
30.0	296.034	77.098	276.179	6.14%	22.00%
35.0	277.381	84.439	360.619	6.73%	28.73%
40.0	257.423	89.228	449.847	7.11%	35.84%
45.0	235.296	91.231	541.077	7.27%	43.11%
50.0	212.870	90.558	631.636	7.21%	50.32%
55.0	190.146	87.629	719.265	6.98%	57.30%
60.0	167.951	82.773	802.038	6.59%	63.90%
65.0	144.922	76.060	878.098	6.06%	69.96%
70.0	123.280	67.911	946.008	5.41%	75.37%
75.0	102.947	59.132	1005.141	4.71%	80.08%
80.0	85.343	50.381	1055.522	4.01%	84.09%
85.0	69.121	41.972	1097.493	3.34%	87.43%
90.0	56.073	34.279	1131.772	2.73%	90.17%
95.0	45.865	27.911	1159.684	2.22%	92.39%
100.0	37.598	22.679	1182.363	1.81%	94.20%
105.0	30.344	18.179	1200.542	1.45%	95.64%
110.0	24.322	14.289	1214.831	1.14%	96.78%
115.0	19.309	11.048	1225.878	0.88%	97.66%
120.0	15.230	8.397	1234.275	0.67%	98.33%
125.0	11.714	6.228	1240.503	0.50%	98.83%
130.0	9.020	4.508	1245.011	0.36%	99.19%
135.0	6.774	3.191	1248.203	0.25%	99.44%
140.0	5.201	2.217	1250.42	0.18%	99.62%
145.0	4.116	1.555	1251.975	0.12%	99.74%
150.0	3.329	1.096	1253.071	0.09%	99.83%
155.0	2.843	0.781	1253.852	0.06%	99.89%
160.0	2.393	0.549	1254.401	0.04%	99.94%
165.0	2.318	0.388	1254.79	0.03%	99.97%
170.0	2.019	0.257	1255.047	0.02%	99.99%
175.0	1.794	0.136	1255.183	0.01%	100.00%
180.0	0.897	0.032	1255.215	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	276.18	22.00%	22.00%
0-40	449.85	35.84%	35.84%
0-60	802.04	63.90%	63.90%
0-90	1131.77	90.17%	90.17%
0-120	1234.28	98.33%	98.33%
0-180	1255.22	100.00%	100.00%
60-90	329.73	26.27%	26.27%
90-120	102.50	8.17%	8.17%
90-130	113.24	9.02%	9.02%
90-150	121.30	9.66%	9.66%
90-180	123.41	9.83%	9.83%
0-74.92	1004.17	80.00%	80.00%

ZONAL LUMEN SUMMARY

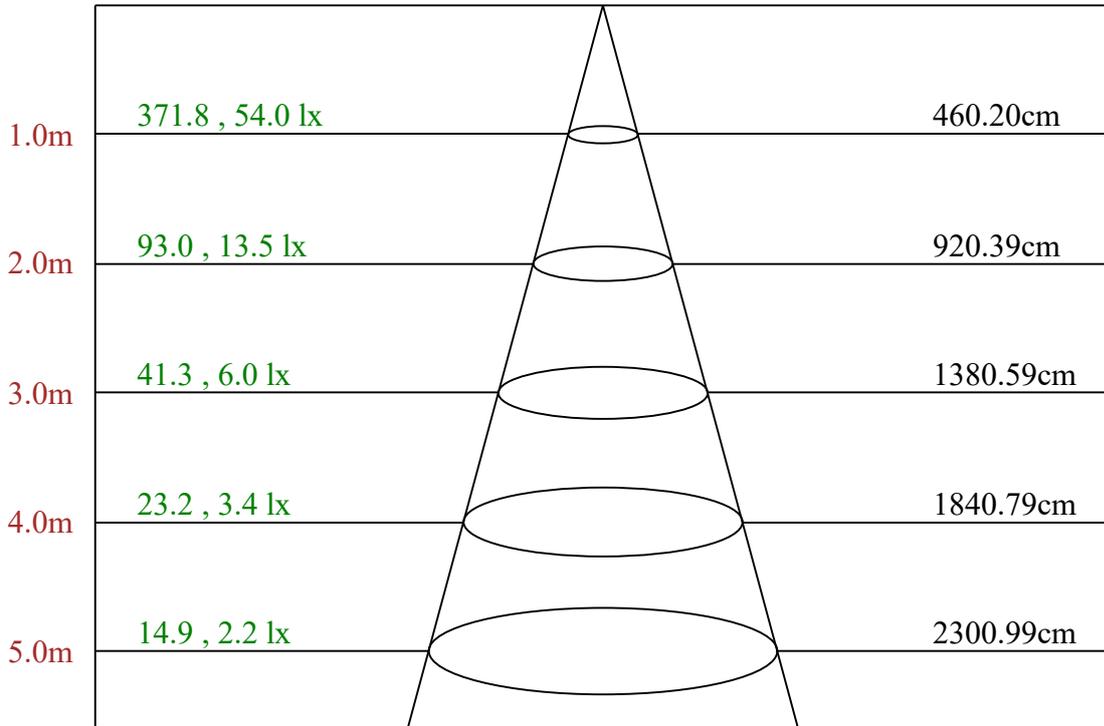
0-10	34.70
10-20	97.01
20-30	144.47
30-40	173.67
40-50	181.79
50-60	170.40
60-70	143.97
70-80	109.51
80-90	76.25
90-100	50.59
100-110	32.47
110-120	19.44
120-130	10.74
130-140	5.41
140-150	2.65
150-160	1.33
160-170	0.65
170-180	0.14



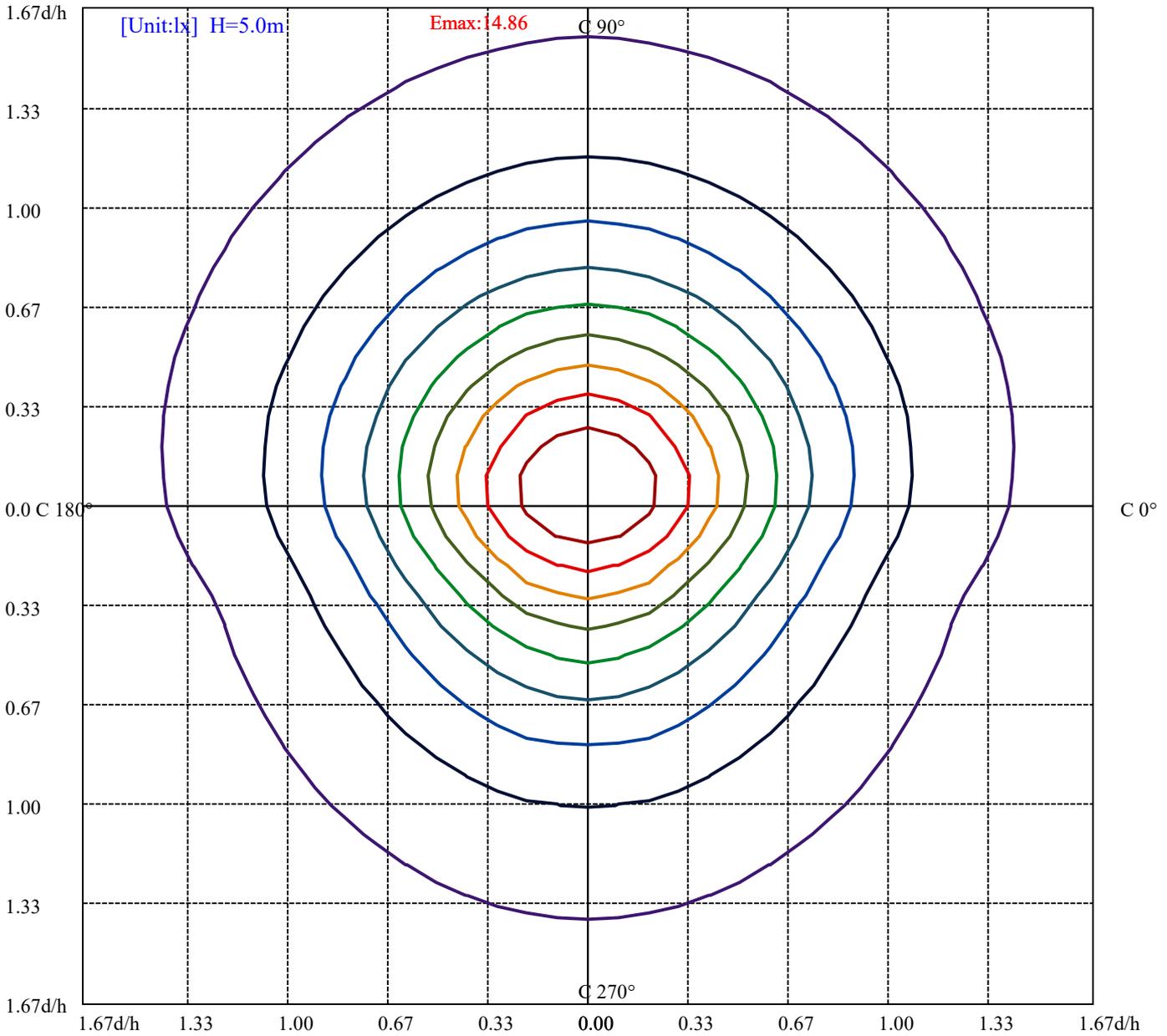
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.5 Right:79.5
 :C90/270Left:117.2 Right:115.9

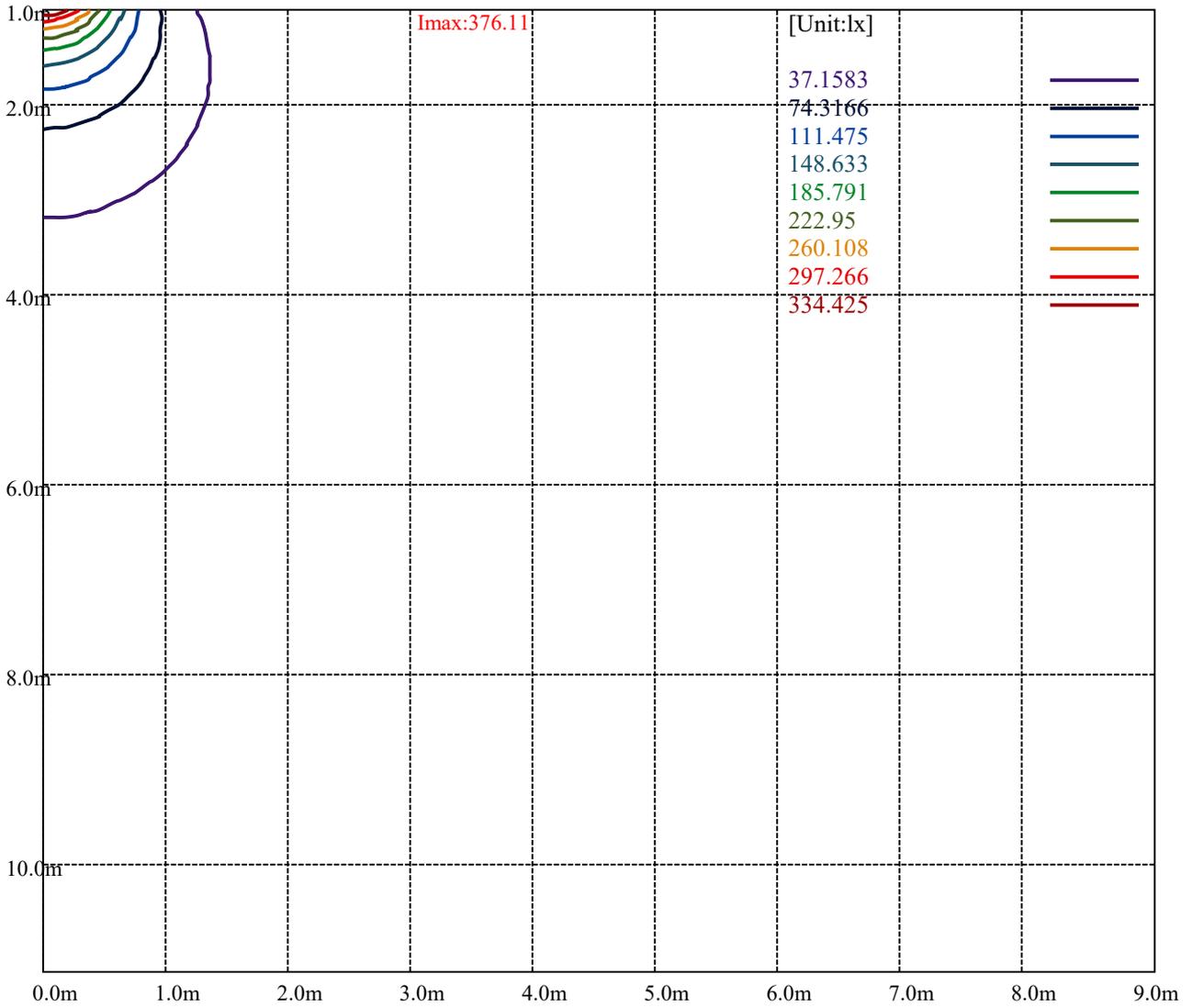
Beam Angle(50%Imax):C0/180Left:54.4 Right:54.4
 :C90/270Left:58.2 Right:65.1



Max , Ave Beam angle of C90 plane 133.02



(10%Emax) 1.486332	—
(20%Emax) 2.972664	—
(30%Emax) 4.459	—
(40%Emax) 5.94532	—
(50%Emax) 7.43164	—
(60%Emax) 8.918	—
(70%Emax) 10.40432	—
(80%Emax) 11.89064	—
(90%Emax) 13.377	—



Luminance Table

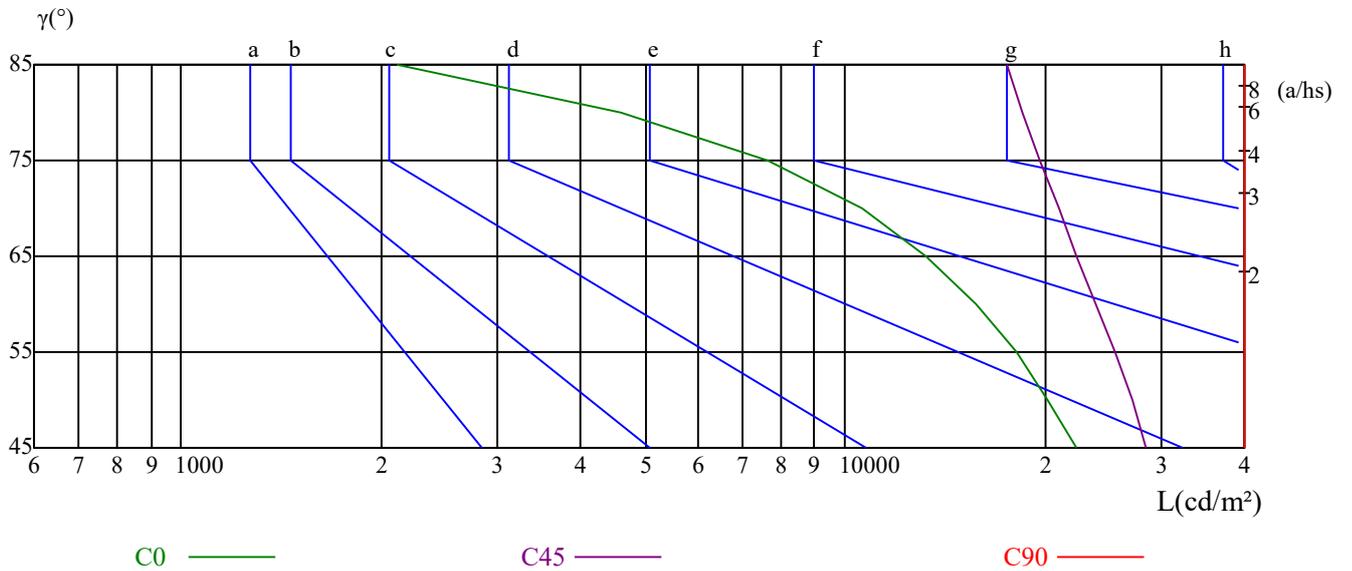
γ	45	50	55	60	65	70	75	80	85
C0	22401	20263	18127	15753	13242	10606	7641	4603	2114
C45	28470	27074	25472	23909	22343	21094	19721	18511	17565
C90	44404	45315	46986	49525	53142	58559	67398	86892	140725

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
32173	47179	37854	26651	61474	45686	18220	143270	95196

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	371.58	372.48	370.69	363.54	354.61	340.32	323.35	304.59	281.37
15.0	371.58	373.37	371.58	366.22	356.40	343.89	326.92	309.06	287.62
30.0	371.58	373.37	372.47	368.02	358.22	347.52	332.38	313.66	292.28
45.0	371.58	376.05	375.16	370.69	362.65	350.15	335.85	317.99	298.34
60.0	371.58	375.15	374.26	370.69	362.67	351.98	337.72	321.68	302.08
75.0	371.58	374.28	374.28	369.79	361.71	350.94	338.37	323.12	305.16
90.0	371.58	376.11	375.21	371.58	363.43	353.46	339.86	323.55	305.42
105.0	371.58	374.28	373.38	367.98	359.89	349.09	335.59	318.50	301.41
120.0	371.58	373.38	372.48	366.20	357.22	345.55	331.19	313.24	293.50
135.0	371.58	371.58	368.90	363.52	353.68	341.14	325.92	306.22	286.52
150.0	371.58	371.58	368.86	362.52	341.68	337.14	321.74	302.70	280.95
165.0	371.58	371.58	367.98	359.86	348.13	334.60	315.67	295.82	270.57
180.0	371.58	367.12	358.18	345.68	330.49	313.52	292.09	270.65	244.74
195.0	371.58	366.22	355.50	338.53	318.88	296.55	271.54	245.64	217.95
210.0	371.58	361.78	345.74	324.36	300.30	275.35	250.40	226.34	205.84
225.0	371.58	357.29	338.53	315.31	291.19	267.97	250.10	231.35	209.91
240.0	371.58	355.54	331.48	306.53	285.15	266.43	250.40	234.36	216.53
255.0	371.58	354.53	328.50	305.16	284.52	270.16	255.80	240.54	225.28
270.0	371.58	353.46	328.99	305.42	289.11	274.61	259.20	245.61	229.29
285.0	371.58	352.69	329.30	305.00	286.11	271.71	258.22	243.82	240.22
300.0	371.58	355.43	332.09	308.75	304.27	271.06	255.80	238.75	222.59
315.0	371.58	358.15	339.35	316.96	293.68	271.30	252.50	235.49	215.79
330.0	371.58	364.33	349.83	329.89	308.14	284.58	260.11	236.54	214.79
345.0	371.58	368.88	359.86	346.33	328.29	307.55	284.10	257.94	229.98
360.0	371.58	372.48	370.69	363.54	354.61	340.32	323.35	304.59	281.37
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	257.25	230.45	204.55	175.97	145.60	114.33	84.86	52.70	26.80
15.0	262.61	236.71	209.02	181.33	152.74	120.59	92.90	66.10	42.87
30.0	268.22	242.38	216.53	190.69	163.07	136.34	111.39	90.00	68.61
45.0	275.11	251.89	227.77	203.66	178.65	156.31	133.98	112.55	93.79
60.0	281.58	259.31	237.92	214.75	193.37	171.98	150.59	131.88	114.06
75.0	286.32	266.57	245.93	224.39	203.74	184.00	163.35	144.50	126.55
90.0	287.30	267.36	248.33	229.29	209.36	188.51	166.76	148.63	131.41
105.0	281.61	261.82	241.12	220.43	200.64	179.04	160.15	141.26	123.26
120.0	272.85	251.31	228.87	208.23	185.79	165.15	144.50	126.55	107.71
135.0	262.35	241.75	216.68	191.61	167.44	145.95	123.56	103.86	85.96
150.0	257.39	231.11	203.92	176.73	151.35	125.98	100.60	78.85	60.72
165.0	248.92	220.97	194.81	165.95	135.29	105.52	79.37	54.11	32.47
180.0	217.95	190.26	160.78	129.52	99.15	70.57	39.30	16.08	1.79
195.0	189.36	158.10	132.20	103.61	77.71	52.70	33.94	21.44	13.40
210.0	183.56	159.50	135.45	113.17	92.67	73.96	60.59	47.23	35.64
225.0	189.36	170.61	149.17	129.52	112.55	98.26	83.07	69.67	58.95
240.0	197.82	180.00	162.18	146.14	129.21	114.95	99.80	87.33	75.74
255.0	209.13	192.07	175.92	158.87	143.61	127.45	113.99	110.40	87.06
270.0	212.98	198.48	182.17	178.54	149.54	134.13	119.63	106.04	93.35
285.0	211.43	194.34	177.24	161.05	145.75	129.56	114.26	100.77	88.17
300.0	204.64	187.59	167.84	150.79	133.73	117.58	103.22	88.86	77.19
315.0	196.98	177.29	155.80	136.99	117.29	101.18	85.06	72.53	59.99
330.0	192.14	168.57	146.82	124.16	101.51	82.47	65.25	51.66	38.97
345.0	200.22	170.46	142.50	115.44	88.39	62.23	40.59	25.25	14.43
360.0	257.25	230.45	204.55	175.97	145.60	114.33	84.86	52.70	26.80

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	25.01	13.40	8.04	4.47	2.68	2.68	1.79	1.79	1.79
30.0	52.57	39.21	28.51	20.49	15.15	11.58	8.02	6.24	4.46
45.0	77.71	63.42	50.91	41.09	31.26	24.12	18.76	14.29	10.72
60.0	98.02	82.87	68.61	56.14	46.34	36.53	29.41	22.28	17.82
75.0	110.40	95.14	81.68	68.21	55.65	44.88	36.80	28.72	22.44
90.0	115.10	99.69	85.19	70.69	58.91	48.94	38.97	31.72	24.47
105.0	107.07	92.67	79.18	66.58	54.88	44.09	35.99	27.89	22.49
120.0	92.45	78.09	65.52	53.85	43.98	35.00	27.82	21.54	17.05
135.0	70.74	57.30	45.66	36.71	28.65	22.38	17.01	13.43	9.85
150.0	45.31	33.53	24.47	18.13	13.59	9.97	7.25	5.44	4.53
165.0	18.04	9.92	6.31	3.61	2.71	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	7.15	4.47	2.68	1.79	1.79	1.79	0.89	0.89	0.89
210.0	24.95	18.71	13.37	9.80	7.13	5.35	4.46	2.67	1.78
225.0	47.34	39.30	29.48	24.12	17.86	13.40	12.51	8.04	5.36
240.0	65.05	54.36	51.68	36.53	30.30	24.06	17.82	13.37	9.80
255.0	76.29	64.62	52.96	45.77	37.70	30.52	24.23	18.85	13.46
270.0	81.57	69.79	58.91	50.75	40.78	33.53	26.28	19.94	15.41
285.0	76.48	65.68	56.68	45.89	37.79	30.59	23.39	17.99	13.50
300.0	65.52	55.65	44.88	37.70	29.62	21.54	17.05	12.57	9.87
315.0	48.35	38.50	30.44	24.18	17.01	12.54	9.85	7.16	5.37
330.0	26.28	19.03	13.59	9.06	7.25	5.44	3.63	2.72	1.81
345.0	7.22	4.51	2.71	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	3.56	3.56	3.56	3.56	2.67	2.67	2.67	1.78	1.78
45.0	8.04	6.25	5.36	4.47	4.47	3.57	2.68	2.68	1.79
60.0	13.37	9.80	8.02	6.24	5.35	4.46	3.56	2.67	1.78
75.0	17.05	12.57	9.87	7.18	6.28	4.49	3.59	2.69	1.80
90.0	18.13	13.59	10.88	8.16	6.34	4.53	3.63	2.72	1.81
105.0	17.09	12.60	9.90	7.20	6.30	4.50	3.60	2.70	1.80
120.0	12.57	9.87	8.08	6.28	5.39	4.49	3.59	2.69	1.80
135.0	8.06	6.27	5.37	4.48	3.58	3.58	2.69	1.79	1.79
150.0	3.63	3.63	3.63	2.72	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	1.78	1.78	0.89	0.89	0.89	0.89	1.78	1.78	1.78
225.0	3.57	2.68	1.79	1.79	1.79	1.79	1.79	1.79	1.79
240.0	7.13	5.35	3.56	2.67	1.78	1.78	1.78	1.78	1.78
255.0	9.87	7.18	4.49	3.59	2.69	1.80	1.80	1.80	1.80
270.0	10.88	7.25	5.44	3.63	2.72	1.81	1.81	1.81	1.81
285.0	9.90	7.20	4.50	3.60	2.70	1.80	1.80	1.80	1.80
300.0	7.18	4.49	3.59	2.69	1.80	1.80	1.80	1.80	1.80
315.0	3.58	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	1.78
45.0	1.79
60.0	1.78
75.0	1.80
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