
AFX

Client:

LumCAT: ELZV2402LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.141

Lamp flux(lm): 1199.2

Power (W): 16.680

Number of Lamps: 1

PF: 0.987

Length(mm): 600

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1199.23, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 71.90

Central intensity(cd): 354.985, Maximum intensity(cd): 358.607

Angle of maximum intensity: C=90.0 γ =5.0

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

[C90/270]Total=123.4

Field angle(10%Imax): [C0/180]Total=158.8

[C90/270]Total=233.0

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(%): 9.84%

Down flux rate of lamp(%): 90.16%

Up flux rate of LUM(%): 9.84%

Down flux rate of LUM(%): 90.16%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 63.898%

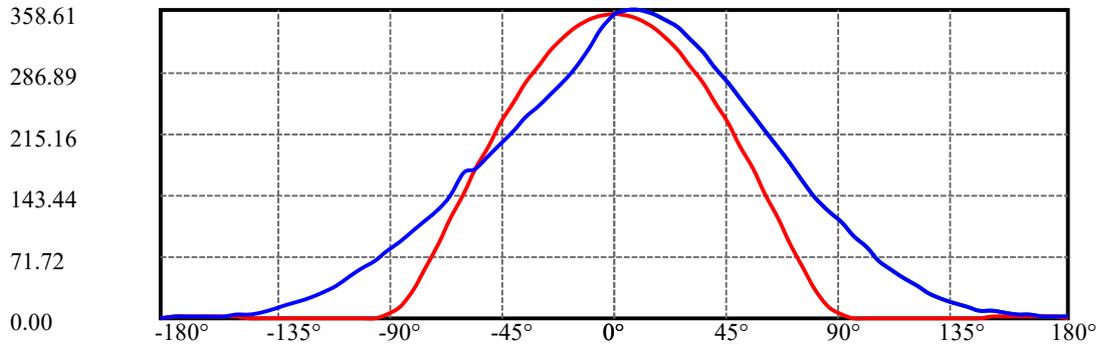
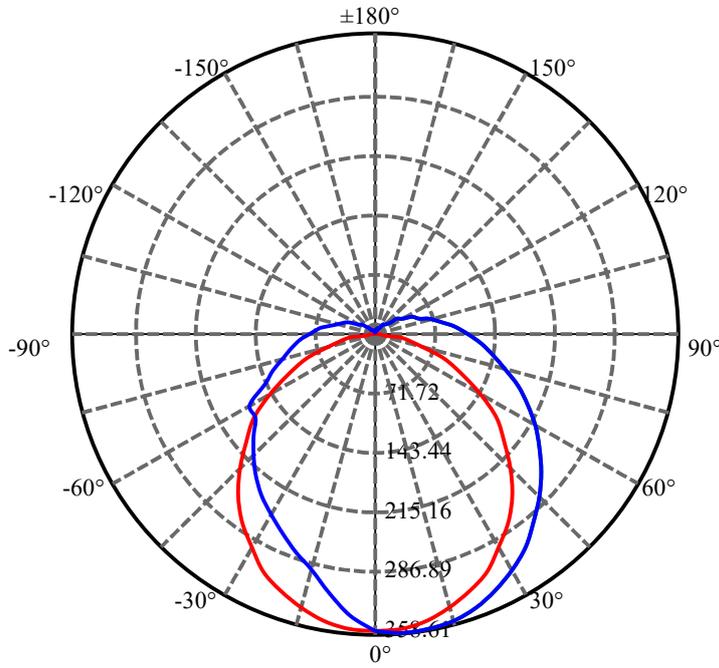
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	354.985	0.000	0	0.00%	0.00%
5.0	350.234	8.431	8.431	0.70%	0.70%
10.0	340.849	24.722	33.153	2.06%	2.76%
15.0	328.400	39.699	72.852	3.31%	6.07%
20.0	314.566	52.989	125.842	4.42%	10.49%
25.0	299.282	64.381	190.223	5.37%	15.86%
30.0	282.796	73.662	263.885	6.14%	22.00%
35.0	265.041	80.673	344.558	6.73%	28.73%
40.0	245.867	85.241	429.799	7.11%	35.84%
45.0	224.824	87.152	516.952	7.27%	43.11%
50.0	203.445	86.538	603.49	7.22%	50.32%
55.0	181.655	83.734	687.223	6.98%	57.31%
60.0	160.395	79.064	766.287	6.59%	63.90%
65.0	138.525	72.668	838.956	6.06%	69.96%
70.0	117.707	64.880	903.835	5.41%	75.37%
75.0	98.347	56.473	960.308	4.71%	80.08%
80.0	81.417	48.100	1008.408	4.01%	84.09%
85.0	65.981	40.052	1048.46	3.34%	87.43%
90.0	53.568	32.733	1081.193	2.73%	90.16%
95.0	43.733	26.642	1107.835	2.22%	92.38%
100.0	35.952	21.652	1129.488	1.81%	94.18%
105.0	28.996	17.378	1146.866	1.45%	95.63%
110.0	23.273	13.662	1160.528	1.14%	96.77%
115.0	18.410	10.554	1171.083	0.88%	97.65%
120.0	14.593	8.023	1179.106	0.67%	98.32%
125.0	11.301	5.985	1185.091	0.50%	98.82%
130.0	8.644	4.337	1189.428	0.36%	99.18%
135.0	6.474	3.055	1192.483	0.25%	99.44%
140.0	4.976	2.120	1194.603	0.18%	99.61%
145.0	3.928	1.486	1196.088	0.12%	99.74%
150.0	3.254	1.058	1197.146	0.09%	99.83%
155.0	2.656	0.748	1197.894	0.06%	99.89%
160.0	2.356	0.526	1198.419	0.04%	99.93%
165.0	2.318	0.385	1198.805	0.03%	99.96%
170.0	1.982	0.255	1199.06	0.02%	99.99%
175.0	1.794	0.135	1199.195	0.01%	100.00%
180.0	0.897	0.032	1199.227	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	263.89	22.00%	22.00%
0-40	429.80	35.84%	35.84%
0-60	766.29	63.90%	63.90%
0-90	1081.19	90.16%	90.16%
0-120	1179.11	98.32%	98.32%
0-180	1199.23	100.00%	100.00%
60-90	314.91	26.26%	26.26%
90-120	97.91	8.16%	8.16%
90-130	108.23	9.03%	9.03%
90-150	115.95	9.67%	9.67%
90-180	118.00	9.84%	9.84%
0-74.92	959.38	80.00%	80.00%

ZONAL LUMEN SUMMARY

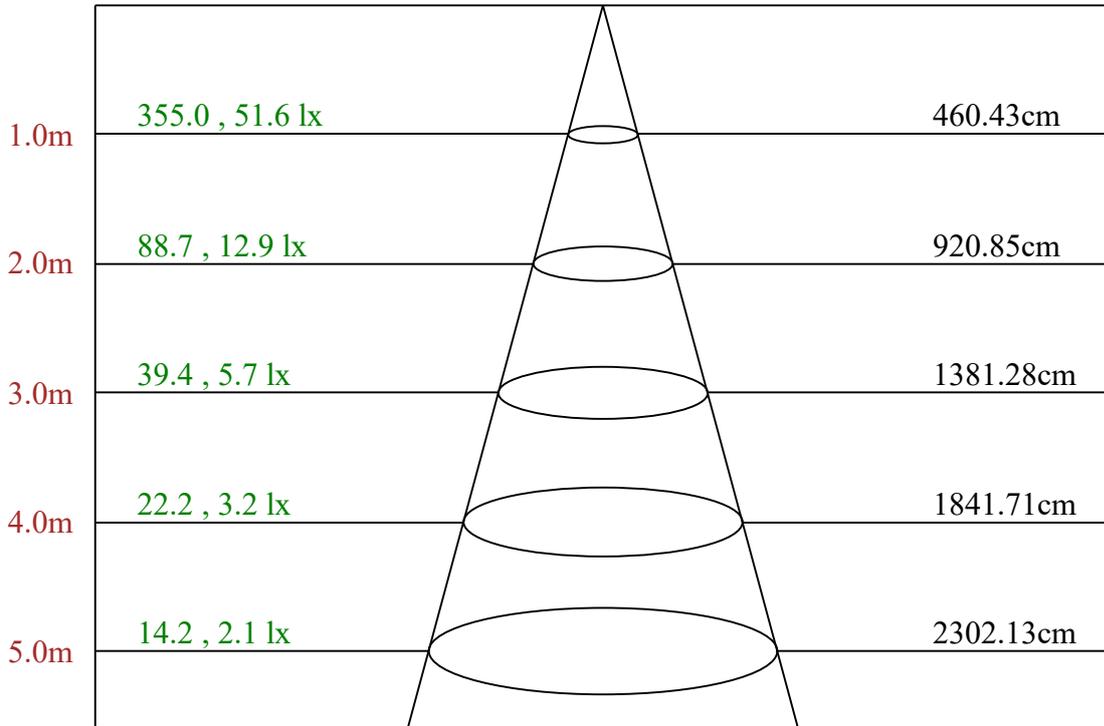
0-10	33.15
10-20	92.69
20-30	138.04
30-40	165.91
40-50	173.69
50-60	162.80
60-70	137.55
70-80	104.57
80-90	72.79
90-100	48.29
100-110	31.04
110-120	18.58
120-130	10.32
130-140	5.17
140-150	2.54
150-160	1.27
160-170	0.64
170-180	0.14



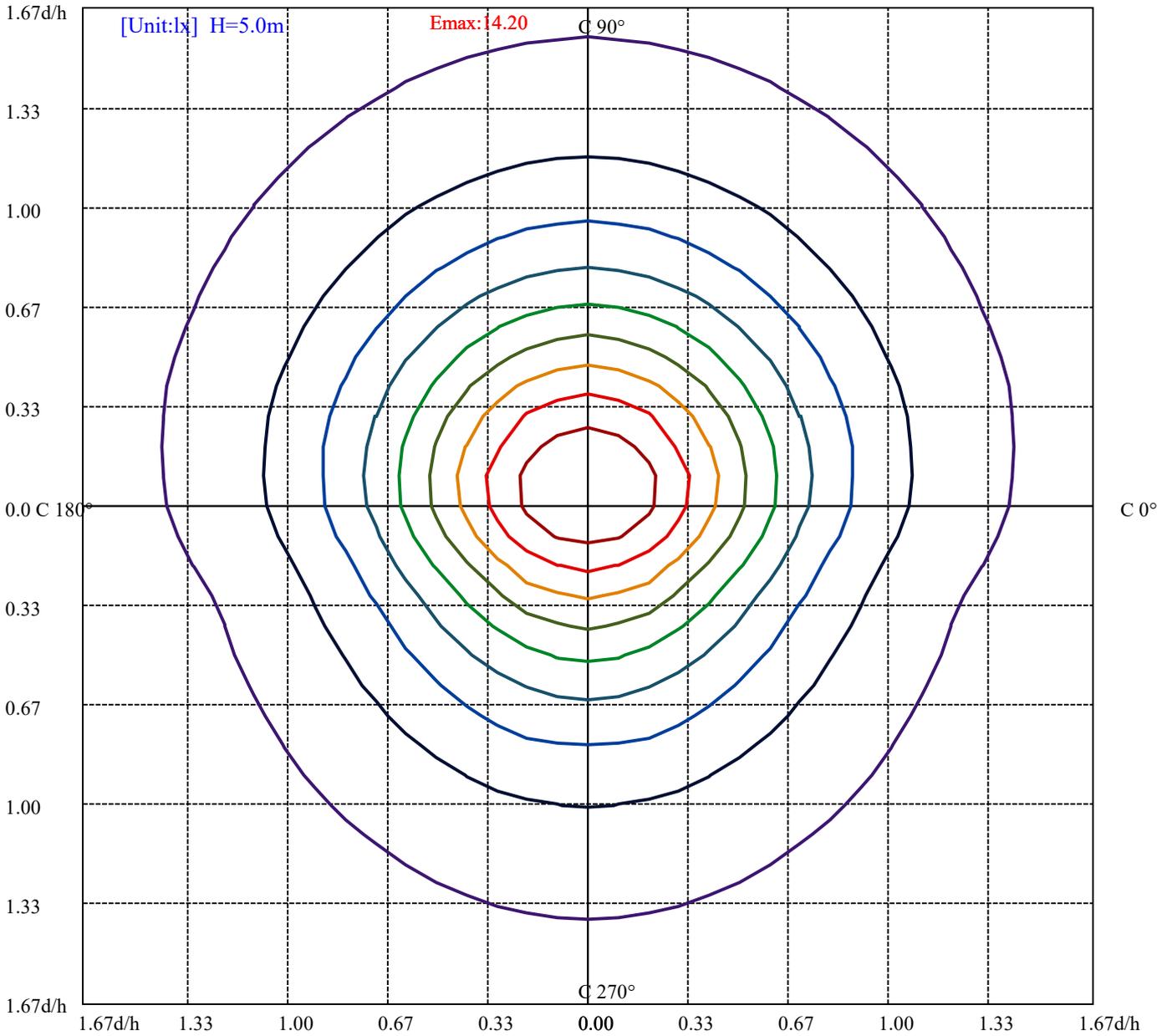
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.4 Right:79.4
 :C90/270Left:117.1 Right:115.9

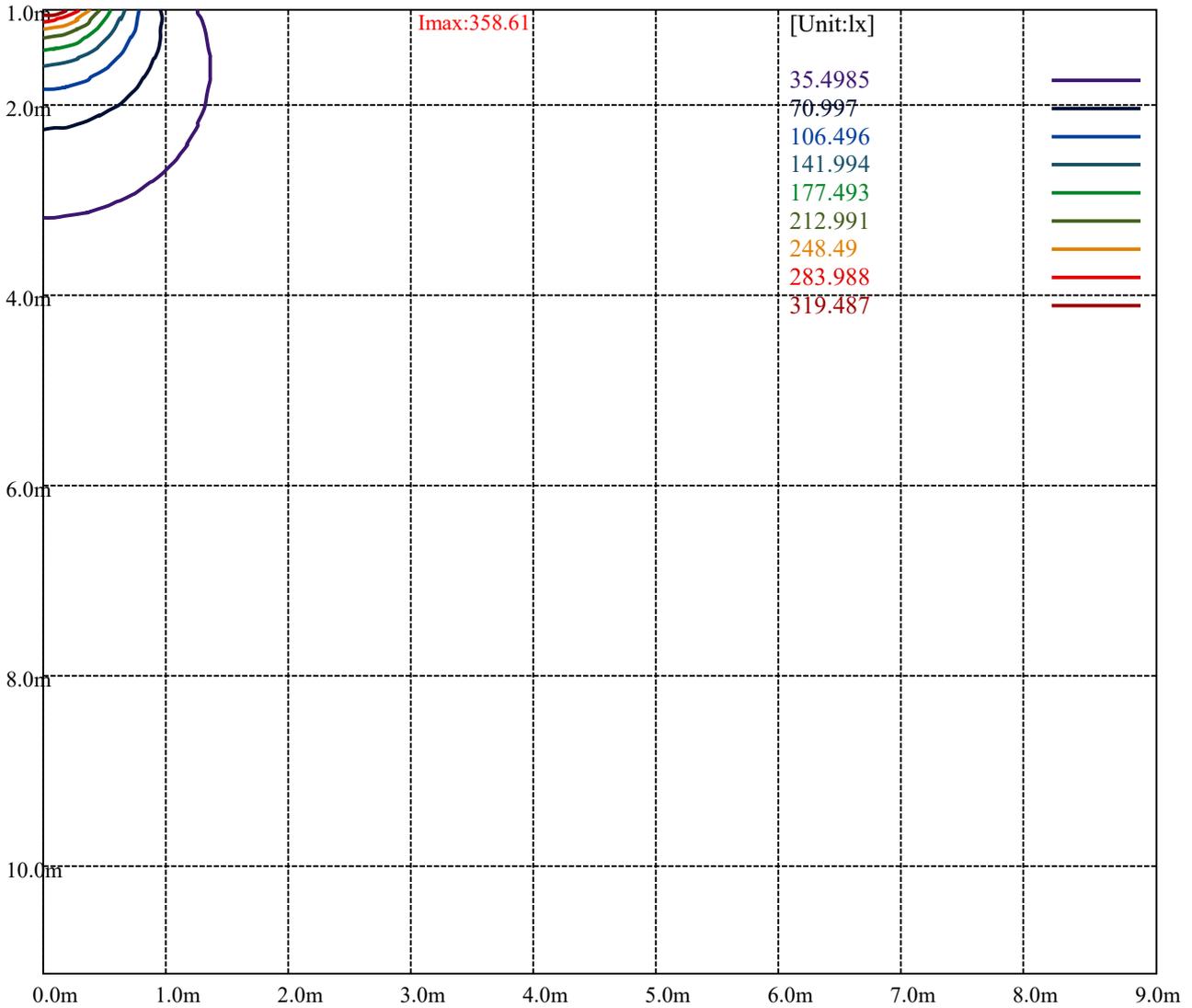
Beam Angle(50%Imax):C0/180Left:54.4 Right:54.4
 :C90/270Left:58.2 Right:65.2



Max , Ave Beam angle of C90 plane 133.04



(10%Emax) 1.41994	—
(20%Emax) 2.83988	—
(30%Emax) 4.25984	—
(40%Emax) 5.67976	—
(50%Emax) 7.09972	—
(60%Emax) 8.51964	—
(70%Emax) 9.9396	—
(80%Emax) 11.35952	—
(90%Emax) 12.77948	—



Luminance Table

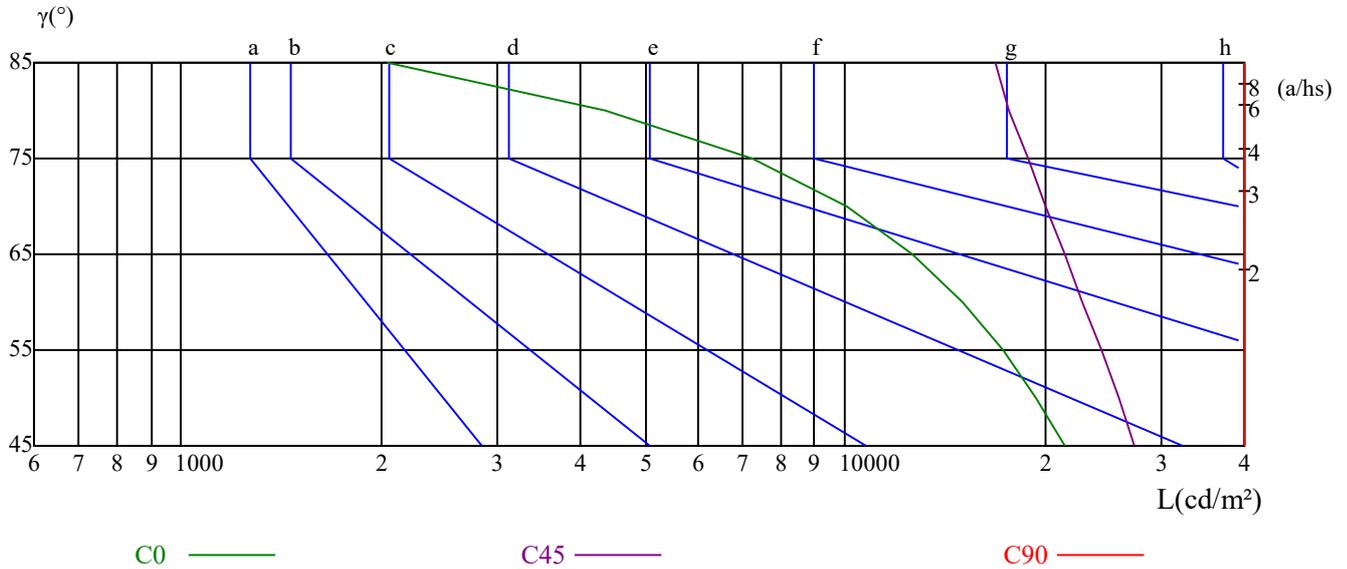
γ	45	50	55	60	65	70	75	80	85
C0	21401	19374	17304	15040	12643	10079	7245	4357	2045
C45	27221	25877	24371	22852	21385	20118	18851	17689	16885
C90	42409	43283	44721	47333	50571	55981	64050	82587	133824

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30719	44998	36307	25272	58509	43719	17625	136228	91307

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	354.99	355.88	353.20	346.96	338.04	324.66	308.61	290.77	268.47
15.0	354.99	357.67	354.99	349.62	340.68	328.16	312.96	295.97	274.51
30.0	354.99	357.66	356.77	351.42	342.50	331.80	317.52	300.58	279.17
45.0	354.99	359.46	358.56	354.99	346.94	335.31	321.01	304.02	285.24
60.0	354.99	358.55	358.55	354.99	346.96	336.25	322.88	307.71	288.98
75.0	354.99	356.78	356.78	352.30	345.12	335.26	322.71	308.37	291.34
90.0	354.99	358.61	357.70	354.99	346.83	337.78	324.20	309.71	291.59
105.0	354.99	357.68	355.88	351.39	344.20	333.42	319.94	303.76	287.58
120.0	354.99	357.68	355.88	350.49	342.40	330.72	316.34	299.27	280.39
135.0	354.99	354.99	353.19	347.81	337.95	326.30	311.96	293.13	274.31
150.0	354.99	354.99	352.27	345.93	326.01	322.38	306.99	288.88	268.05
165.0	354.99	354.99	351.38	344.17	332.46	318.95	300.93	282.01	258.58
180.0	354.99	349.63	341.61	330.01	315.74	298.79	278.28	257.77	233.68
195.0	354.99	349.62	339.78	323.69	305.81	284.35	260.20	235.17	208.34
210.0	354.99	346.07	330.90	310.39	287.20	263.12	239.93	216.74	196.22
225.0	354.99	342.47	323.69	301.33	278.98	256.63	239.64	220.86	201.19
240.0	354.99	339.82	317.52	293.44	272.04	254.20	239.93	223.87	206.93
255.0	354.99	337.95	312.85	290.44	271.62	258.17	243.83	229.49	215.14
270.0	354.99	336.87	314.23	291.59	276.20	261.71	247.22	234.54	219.15
285.0	354.99	336.11	314.54	291.18	273.20	259.72	246.24	232.76	229.17
300.0	354.99	339.71	318.14	295.67	290.28	259.72	244.45	228.27	212.99
315.0	354.99	343.33	324.51	302.99	280.58	259.96	242.04	225.00	206.18
330.0	354.99	347.74	334.16	315.14	294.31	271.67	248.13	226.39	204.66
345.0	354.99	351.38	343.27	330.66	313.54	293.72	271.19	245.97	218.94
360.0	354.99	355.88	353.20	346.96	338.04	324.66	308.61	290.77	268.47
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	245.28	220.30	195.33	167.68	139.14	108.81	80.27	49.95	25.87
15.0	251.26	226.22	200.29	173.47	145.75	115.35	88.52	62.59	40.24
30.0	255.98	231.90	206.93	181.95	156.09	130.22	106.14	85.62	65.11
45.0	262.89	240.53	218.18	194.93	170.79	149.33	127.87	107.30	90.31
60.0	268.47	247.95	227.44	205.14	185.52	164.11	144.49	125.76	108.81
75.0	273.41	254.59	234.86	214.25	194.52	175.70	155.98	138.05	120.12
90.0	274.39	255.37	236.35	219.15	199.23	180.21	158.48	141.27	124.97
105.0	268.71	249.84	230.07	210.29	191.42	170.75	153.68	134.80	117.73
120.0	260.62	240.85	219.28	198.61	177.94	158.17	138.40	121.32	102.45
135.0	251.00	231.28	207.07	182.87	160.46	138.95	118.33	99.50	82.47
150.0	245.41	220.96	194.70	169.34	143.99	119.54	95.99	75.16	57.96
165.0	237.86	210.83	185.60	158.57	129.74	100.91	75.68	51.36	31.53
180.0	208.71	181.95	153.41	123.98	94.54	66.89	37.46	15.16	1.78
195.0	181.52	151.11	126.08	99.25	74.22	50.07	33.08	20.57	12.52
210.0	175.71	152.52	129.33	107.92	88.30	71.35	57.97	44.60	34.78
225.0	181.52	163.63	143.07	124.29	108.19	93.89	79.58	67.06	56.33
240.0	189.98	172.14	155.19	139.14	123.98	109.71	95.44	83.84	72.25
255.0	199.01	182.87	167.63	151.50	137.15	121.91	108.47	104.88	83.37
270.0	203.75	189.27	173.87	170.25	143.08	127.69	114.10	101.42	88.75
285.0	201.31	185.13	168.95	153.68	138.40	124.02	108.74	96.16	84.48
300.0	195.92	179.74	160.87	143.79	127.61	113.24	98.86	85.38	73.69
315.0	188.25	169.42	148.81	130.88	112.95	96.81	81.57	69.02	57.37
330.0	183.83	161.19	140.36	118.63	96.90	77.88	62.48	48.90	37.13
345.0	191.01	163.08	136.05	109.92	84.69	59.46	38.74	24.33	13.51
360.0	245.28	220.30	195.33	167.68	139.14	108.81	80.27	49.95	25.87

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	6.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	24.14	13.41	7.15	4.47	2.68	2.68	1.79	1.79	1.79
30.0	49.95	37.46	27.65	19.62	14.27	10.70	8.03	6.24	4.46
45.0	74.22	60.80	48.29	39.34	30.40	23.25	17.88	13.41	10.73
60.0	93.65	79.38	66.00	54.41	44.60	34.78	27.65	21.41	16.95
75.0	104.88	90.54	77.99	65.44	52.89	43.03	34.96	27.79	21.51
90.0	110.48	95.09	81.50	67.01	56.15	47.09	37.13	29.88	22.64
105.0	102.45	88.07	75.49	62.91	52.12	42.24	34.15	26.96	21.57
120.0	88.07	74.59	62.01	51.23	42.24	33.25	26.96	20.67	16.18
135.0	68.13	54.68	43.92	34.96	27.79	21.51	16.14	12.55	9.86
150.0	42.56	32.60	23.54	17.21	12.68	9.06	7.24	5.43	4.53
165.0	17.12	9.01	5.41	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	6.26	3.58	2.68	1.79	1.79	1.79	0.89	0.89	0.89
210.0	24.08	17.84	13.38	8.92	7.14	5.35	4.46	2.68	1.78
225.0	45.60	37.56	28.61	23.25	16.99	12.52	12.52	8.05	5.37
240.0	62.43	51.73	49.06	34.78	28.54	22.30	16.95	13.38	9.81
255.0	72.61	61.85	51.10	43.92	35.86	28.69	23.31	17.93	12.55
270.0	77.88	67.01	57.05	48.00	38.94	31.70	24.45	19.02	14.49
285.0	73.69	62.01	53.92	44.04	36.85	29.66	22.47	17.08	12.58
300.0	62.01	53.02	43.14	35.95	28.76	20.67	16.18	12.58	8.99
315.0	45.72	36.75	28.69	23.31	16.14	12.55	9.86	7.17	5.38
330.0	25.36	18.11	12.68	9.06	6.34	4.53	3.62	2.72	1.81
345.0	7.21	3.60	2.70	1.80	1.80	1.80	0.90	0.90	0.90
360.0	6.24	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	1.78	1.78	1.78	1.78	1.78	1.78
15.0	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
30.0	3.57	3.57	3.57	2.68	2.68	2.68	2.68	1.78	1.78
45.0	8.05	6.26	5.37	4.47	3.58	3.58	2.68	1.79	1.79
60.0	12.49	9.81	8.03	6.24	4.46	4.46	3.57	2.68	1.78
75.0	16.14	12.55	8.96	7.17	5.38	4.48	3.59	2.69	1.79
90.0	17.21	13.58	9.96	8.15	6.34	4.53	3.62	2.72	1.81
105.0	16.18	12.58	8.99	7.19	5.39	4.49	3.59	2.70	1.80
120.0	12.58	8.99	7.19	5.39	4.49	3.59	3.59	2.70	1.80
135.0	7.17	6.27	5.38	4.48	3.59	3.59	2.69	1.79	1.79
150.0	3.62	2.72	2.72	2.72	2.72	2.72	2.72	1.81	1.81
165.0	0.90	0.90	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	1.78	1.78	1.78
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	3.58	2.68	1.79	1.79	1.79	1.79	1.79	1.79	1.79
240.0	7.14	4.46	3.57	2.68	1.78	1.78	1.78	1.78	1.78
255.0	9.86	6.27	4.48	3.59	2.69	1.79	1.79	1.79	1.79
270.0	10.87	7.24	5.43	3.62	2.72	1.81	1.81	1.81	1.81
285.0	8.99	6.29	4.49	3.59	2.70	1.80	1.80	1.80	1.80
300.0	6.29	4.49	3.59	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	1.78	1.78	1.78	1.78	1.78	1.78

Intensity data(cd)

C/ γ (°)	180.0
0.0	1.78
15.0	1.79
30.0	1.78
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	1.78