
AFX

Client:

LumCAT: ELZV2402LAJD4SN

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.137

Lamp flux(lm): 1384.3

Power (W): 16.220

Number of Lamps: 1

PF: 0.987

Length(mm): 590

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1384.33, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 85.35

Central intensity(cd): 350.275, Maximum intensity(cd): 401.078

Angle of maximum intensity: C=90.0 γ =25.0

Beam Angle(50%Imax): [C0/180]Total=107.8

[C90/270]Total=119.8

Field angle(10%Imax): [C0/180]Total=158.4

[C90/270]Total=232.8

Maximum s/h(1/2): C0_180=1.23 C90_270=1.68

Maximum s/h(1/4): C0_180=1.35 C90_270=1.79

Up flux rate of lamp(%): 14.46%

Down flux rate of lamp(%): 85.54%

Up flux rate of LUM(%): 14.46%

Down flux rate of LUM(%): 85.54%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 57.910%

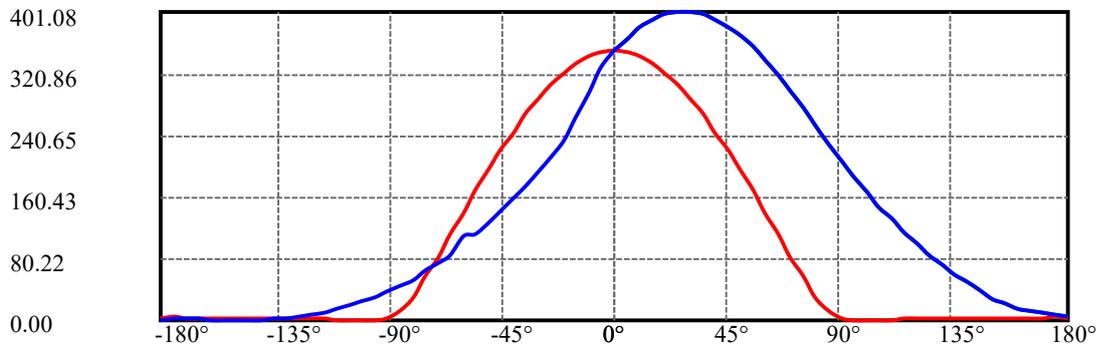
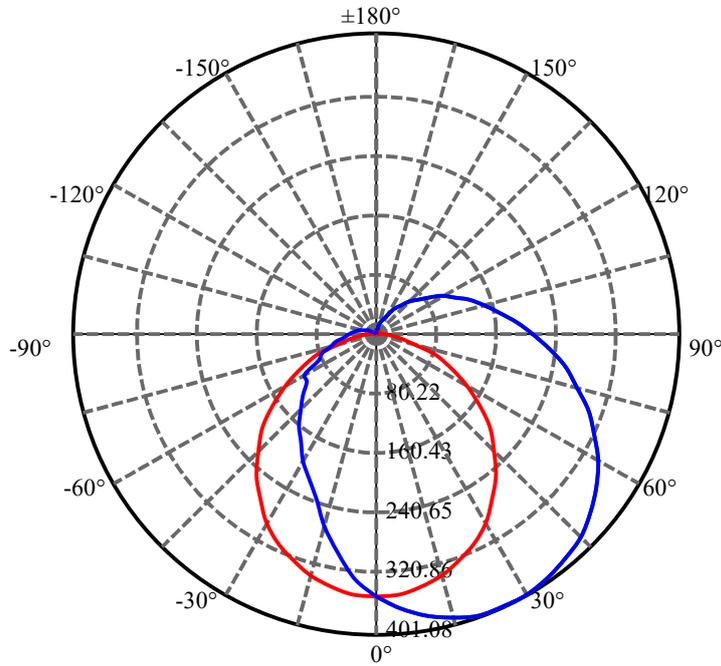
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	350.275	0.000	0	0.00%	0.00%
5.0	347.207	8.338	8.338	0.60%	0.60%
10.0	340.851	24.614	32.952	1.78%	2.38%
15.0	330.716	39.837	72.789	2.88%	5.26%
20.0	318.805	53.530	126.319	3.87%	9.12%
25.0	304.369	65.359	191.678	4.72%	13.85%
30.0	289.986	75.216	266.894	5.43%	19.28%
35.0	274.153	83.073	349.968	6.00%	25.28%
40.0	257.387	88.683	438.651	6.41%	31.69%
45.0	238.482	91.814	530.465	6.63%	38.32%
50.0	219.320	92.506	622.971	6.68%	45.00%
55.0	199.489	91.063	714.034	6.58%	51.58%
60.0	179.619	87.630	801.664	6.33%	57.91%
65.0	159.304	82.393	884.057	5.95%	63.86%
70.0	139.440	75.644	959.701	5.46%	69.33%
75.0	120.652	67.984	1027.684	4.91%	74.24%
80.0	103.699	60.030	1087.715	4.34%	78.57%
85.0	87.667	51.999	1139.713	3.76%	82.33%
90.0	74.425	44.382	1184.096	3.21%	85.54%
95.0	63.448	37.751	1221.846	2.73%	88.26%
100.0	54.571	32.069	1253.915	2.32%	90.58%
105.0	46.437	27.027	1280.942	1.95%	92.53%
110.0	39.879	22.562	1303.504	1.63%	94.16%
115.0	33.769	18.648	1322.152	1.35%	95.51%
120.0	28.596	15.161	1337.313	1.10%	96.60%
125.0	24.098	12.180	1349.493	0.88%	97.48%
130.0	19.974	9.583	1359.076	0.69%	98.18%
135.0	16.526	7.375	1366.451	0.53%	98.71%
140.0	13.489	5.557	1372.009	0.40%	99.11%
145.0	10.976	4.082	1376.09	0.29%	99.40%
150.0	8.688	2.896	1378.986	0.21%	99.61%
155.0	7.226	2.014	1381	0.15%	99.76%
160.0	6.103	1.398	1382.398	0.10%	99.86%
165.0	5.278	0.938	1383.336	0.07%	99.93%
170.0	4.715	0.593	1383.929	0.04%	99.97%
175.0	4.413	0.327	1384.255	0.02%	99.99%
180.0	2.244	0.080	1384.335	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	266.89	19.28%	19.28%
0-40	438.65	31.69%	31.69%
0-60	801.66	57.91%	57.91%
0-90	1184.10	85.54%	85.54%
0-120	1337.31	96.60%	96.60%
0-180	1384.33	100.00%	100.00%
60-90	382.43	27.63%	27.63%
90-120	153.22	11.07%	11.07%
90-130	174.98	12.64%	12.64%
90-150	194.89	14.08%	14.08%
90-180	200.16	14.46%	14.46%
0-81.90	1107.47	80.00%	80.00%

ZONAL LUMEN SUMMARY

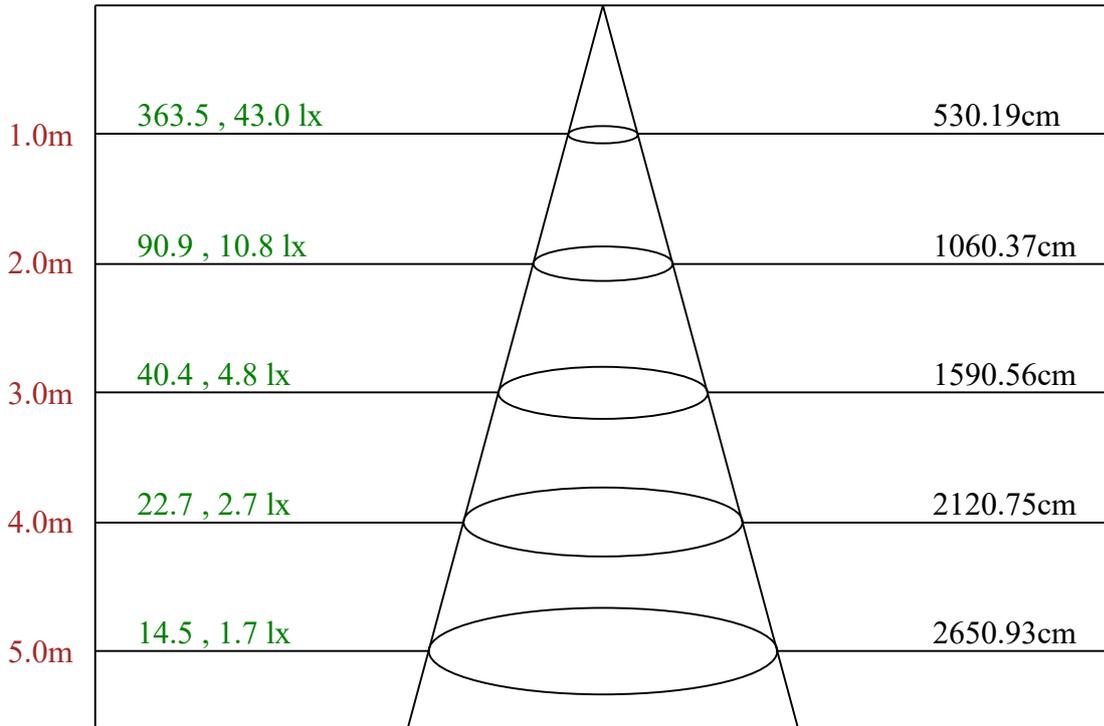
0-10	32.95
10-20	93.37
20-30	140.58
30-40	171.76
40-50	184.32
50-60	178.69
60-70	158.04
70-80	128.01
80-90	96.38
90-100	69.82
100-110	49.59
110-120	33.81
120-130	21.76
130-140	12.93
140-150	6.98
150-160	3.41
160-170	1.53
170-180	0.33



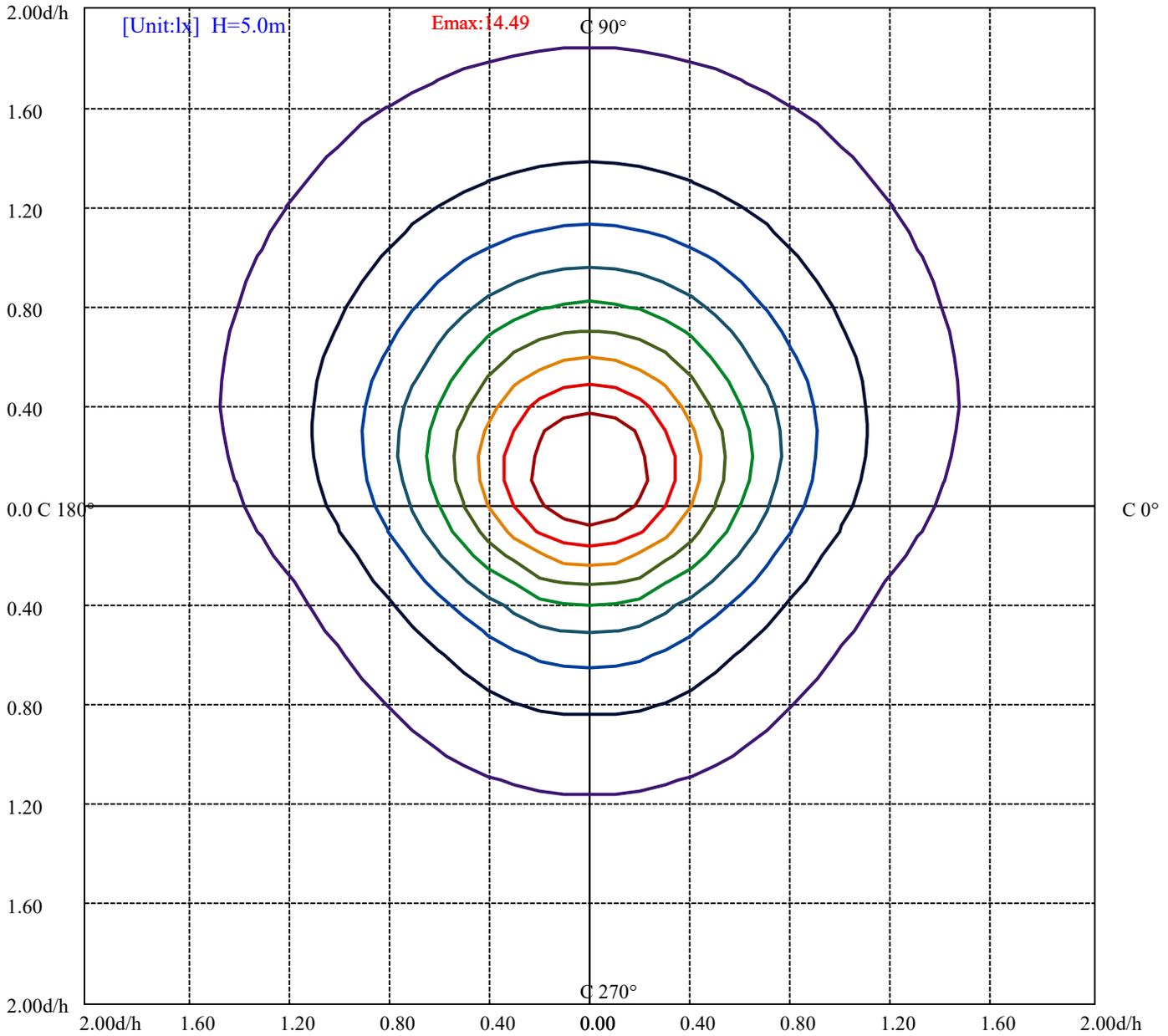
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.2 Right:79.2
 :C90/270Left:117.8 Right:115.0

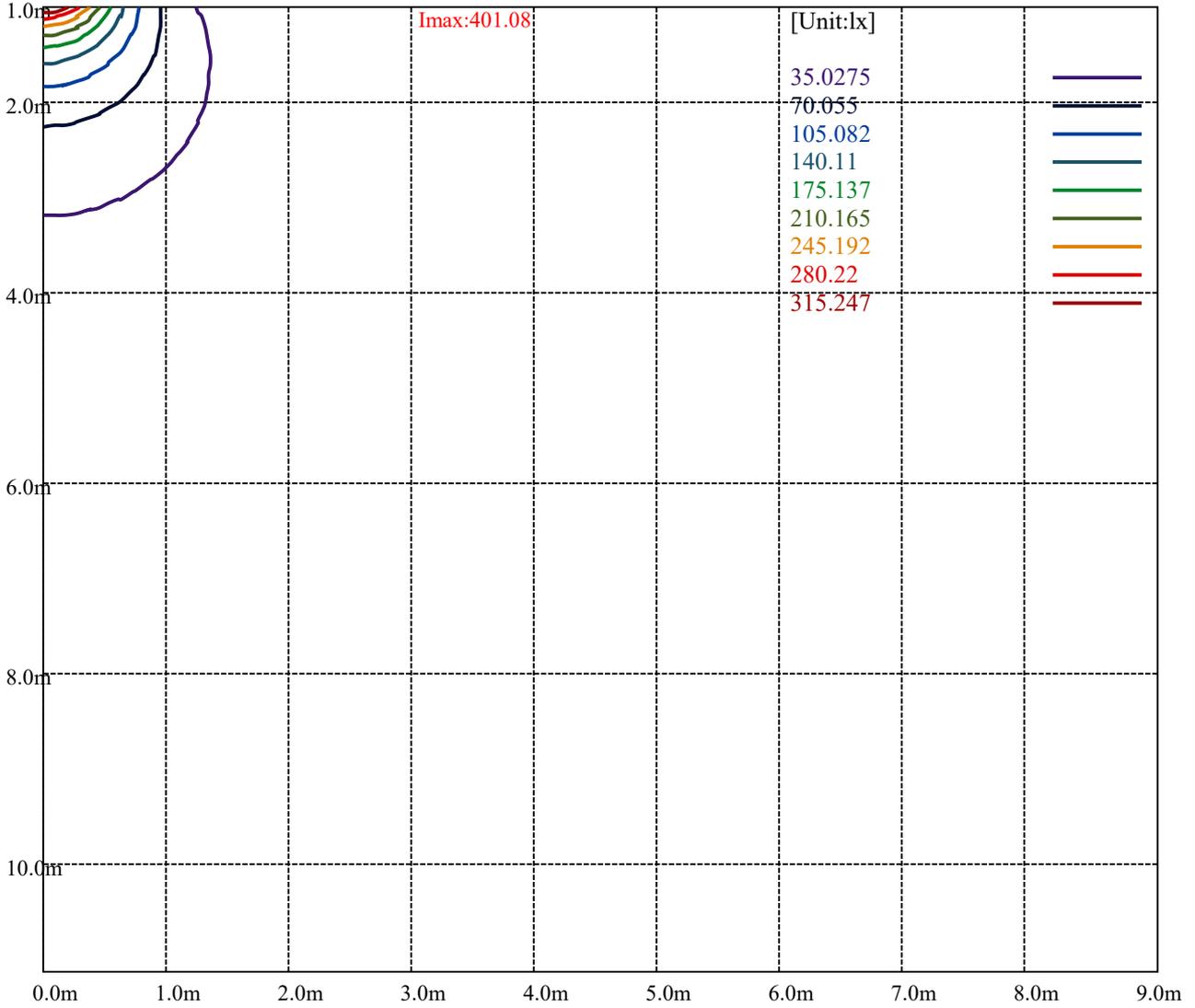
Beam Angle(50%Imax):C0/180Left:53.9 Right:53.9
 :C90/270Left:58.1 Right:61.7



Max , Ave Beam angle of C90 plane 138.66



(10%Emax) 1.44854	—
(20%Emax) 2.89708	—
(30%Emax) 4.3456	—
(40%Emax) 5.79416	—
(50%Emax) 7.24268	—
(60%Emax) 8.69124	—
(70%Emax) 10.13976	—
(80%Emax) 11.58832	—
(90%Emax) 13.03684	—



Luminance Table

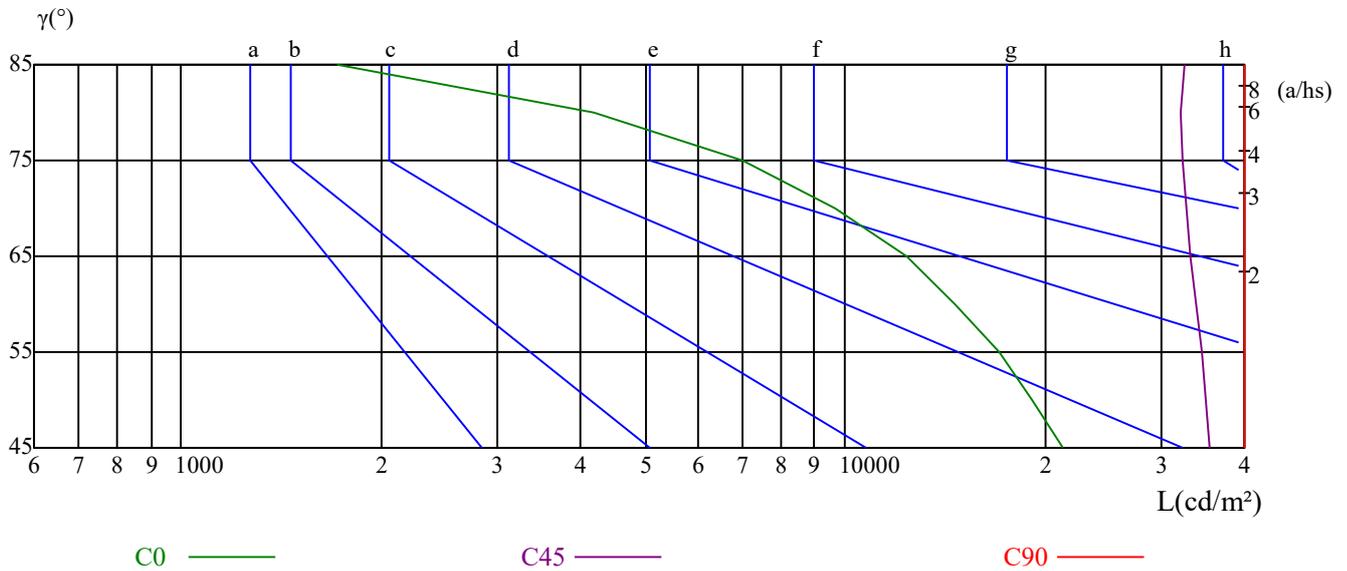
γ	45	50	55	60	65	70	75	80	85
C0	21295	19177	17054	14686	12414	9679	7032	4182	1716
C45	35564	34976	34409	33731	33181	32629	32387	32054	32531
C90	60082	63887	68402	74357	82319	94535	113083	150796	249742

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30161	54094	43058	24529	74126	55368	14796	177950	124403

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	1.16	1.16	1.16	1.11	1.11	1.11	1.03	1.03	1.03	0.96	0.96	0.96	0.89	0.89	0.89	0.86
1	0.97	0.92	0.87	0.93	0.88	0.84	0.86	0.82	0.79	0.80	0.77	0.74	0.74	0.71	0.69	0.66
2	0.83	0.75	0.69	0.80	0.73	0.67	0.74	0.68	0.63	0.68	0.64	0.60	0.63	0.60	0.56	0.53
3	0.72	0.63	0.56	0.70	0.61	0.55	0.64	0.58	0.52	0.60	0.54	0.49	0.55	0.51	0.47	0.44
4	0.64	0.54	0.47	0.61	0.53	0.46	0.57	0.50	0.44	0.53	0.47	0.42	0.49	0.44	0.39	0.37
5	0.57	0.47	0.40	0.55	0.46	0.39	0.51	0.43	0.37	0.47	0.41	0.36	0.44	0.38	0.34	0.31
6	0.51	0.41	0.35	0.49	0.40	0.34	0.46	0.38	0.33	0.43	0.36	0.31	0.40	0.34	0.30	0.27
7	0.46	0.37	0.30	0.44	0.36	0.30	0.41	0.34	0.29	0.39	0.32	0.27	0.36	0.31	0.26	0.24
8	0.42	0.33	0.27	0.40	0.32	0.26	0.38	0.31	0.25	0.35	0.29	0.24	0.33	0.28	0.23	0.21
9	0.38	0.30	0.24	0.37	0.29	0.24	0.35	0.28	0.23	0.33	0.26	0.22	0.31	0.25	0.21	0.19
10	0.35	0.27	0.22	0.34	0.26	0.21	0.32	0.25	0.21	0.30	0.24	0.20	0.28	0.23	0.19	0.17

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	350.27	351.15	346.76	339.74	328.33	314.28	297.60	280.04	256.34
15.0	350.27	354.70	354.70	352.04	344.97	336.12	323.74	308.70	290.13
30.0	350.27	357.39	362.72	364.50	362.72	356.50	347.61	335.16	320.94
45.0	350.27	361.00	369.04	375.29	377.08	374.40	369.04	360.10	347.59
60.0	350.27	364.72	376.46	385.48	391.80	391.80	388.19	383.68	372.84
75.0	350.27	364.68	378.19	389.89	396.20	398.90	398.00	394.40	388.09
90.0	350.27	365.43	380.58	391.27	398.40	401.08	401.08	397.51	391.27
105.0	350.27	364.72	379.16	390.00	397.22	399.93	398.12	394.51	387.29
120.0	350.27	363.01	374.84	383.94	389.40	390.31	387.58	381.21	372.11
135.0	350.27	352.96	361.92	368.19	369.98	368.19	362.82	353.86	342.21
150.0	350.27	358.46	363.01	363.92	359.37	358.46	349.37	338.45	323.89
165.0	350.27	353.91	354.82	351.18	344.82	335.72	323.89	310.24	292.05
180.0	350.27	346.76	340.62	329.21	315.16	300.24	280.92	258.10	234.39
195.0	350.27	343.20	331.70	317.55	298.09	277.74	254.75	224.67	197.25
210.0	350.27	337.83	322.72	301.38	275.60	248.04	220.48	192.03	166.25
225.0	350.27	335.08	312.75	285.94	257.34	224.28	201.05	180.50	159.95
240.0	350.27	333.12	305.14	275.34	242.85	218.47	197.71	178.75	160.69
255.0	350.27	328.66	299.85	265.63	236.82	214.31	195.40	177.39	159.38
270.0	350.27	328.88	296.80	263.82	233.52	212.13	193.41	175.58	158.65
285.0	350.27	329.51	300.62	266.32	235.62	215.76	195.90	177.85	172.43
300.0	350.27	330.26	305.69	274.76	267.48	216.53	196.52	177.41	159.22
315.0	350.27	326.98	306.38	281.29	251.73	222.17	199.77	177.38	157.67
330.0	350.27	338.45	323.89	303.87	277.49	252.02	222.90	193.79	168.31
345.0	350.27	342.09	332.08	316.61	299.33	277.49	253.84	228.36	198.34
360.0	350.27	351.15	346.76	339.74	328.33	314.28	297.60	280.04	256.34
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	234.39	208.94	182.60	155.39	128.17	96.57	70.23	43.02	19.31
15.0	269.78	247.67	223.79	199.02	171.60	142.41	114.10	88.45	62.80
30.0	302.27	282.71	261.37	237.37	212.48	186.69	163.58	139.58	117.35
45.0	332.40	315.43	297.55	275.22	254.66	231.43	209.09	185.86	165.31
60.0	362.01	348.47	330.41	311.46	290.69	270.83	246.46	225.69	203.12
75.0	377.29	365.58	350.27	332.27	312.46	290.85	268.33	246.72	225.11
90.0	382.36	370.77	355.62	338.69	319.08	299.47	275.41	254.02	229.95
105.0	377.36	364.72	349.37	330.41	312.36	290.69	268.12	246.46	225.69
120.0	361.19	345.73	329.35	311.15	291.14	269.30	247.47	224.72	201.98
135.0	327.88	311.75	292.94	273.23	250.84	228.44	206.94	182.75	162.15
150.0	303.87	282.95	261.11	236.55	211.98	188.33	163.76	139.20	116.46
165.0	269.30	247.47	223.81	200.16	171.95	142.84	113.73	86.43	61.87
180.0	209.81	182.60	155.39	124.66	97.44	69.35	42.14	18.44	3.51
195.0	167.18	137.10	108.80	83.15	61.03	38.92	23.88	13.27	7.08
210.0	143.13	121.80	99.57	80.01	61.34	47.12	34.67	25.78	17.78
225.0	140.29	120.63	101.87	84.89	69.70	58.08	46.47	36.64	28.59
240.0	141.73	125.49	108.33	92.99	79.44	66.81	55.97	46.04	37.92
255.0	143.17	126.96	111.66	97.25	85.54	72.04	62.13	60.33	43.22
270.0	141.71	127.45	112.30	108.74	85.56	74.87	64.17	53.48	44.56
285.0	143.54	126.39	111.94	98.40	84.86	73.12	61.39	51.46	42.43
300.0	141.02	123.73	107.36	91.89	79.15	66.42	55.50	45.49	36.39
315.0	137.06	119.15	100.33	83.31	68.98	55.54	44.79	35.83	27.77
330.0	144.66	120.09	100.08	79.15	60.96	46.40	34.57	25.47	17.29
345.0	170.13	140.11	111.91	85.52	61.87	40.03	22.75	13.65	6.37
360.0	234.39	208.94	182.60	155.39	128.17	96.57	70.23	43.02	19.31

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	3.51	0.88	0.88	0.88	0.88	0.88	0.88	1.76	1.76
15.0	43.34	30.07	21.23	15.92	13.27	9.73	7.96	7.08	7.08
30.0	96.90	80.90	64.90	54.23	44.45	36.45	31.12	25.78	19.56
45.0	144.76	125.99	108.12	92.93	79.53	67.02	57.19	48.25	40.21
60.0	181.46	161.60	143.54	124.58	109.24	93.89	80.35	68.61	56.87
75.0	203.50	180.99	162.98	144.07	127.86	110.76	96.35	81.94	69.33
90.0	207.67	186.28	165.78	147.95	131.02	114.98	99.82	85.56	72.19
105.0	201.32	180.55	161.60	143.54	126.39	110.14	95.69	81.25	68.61
120.0	181.05	159.22	141.93	124.64	109.18	93.71	80.06	68.24	58.23
135.0	142.44	121.83	106.61	90.48	77.94	66.29	56.44	47.48	39.42
150.0	96.44	79.15	65.51	52.77	43.67	36.39	30.02	25.47	20.02
165.0	42.76	29.11	20.02	15.47	12.74	9.10	8.19	7.28	6.37
180.0	0.88	0.88	0.88	0.88	0.88	1.76	1.76	1.76	1.76
195.0	3.54	1.77	1.77	0.88	0.88	0.88	0.88	0.88	0.88
210.0	12.45	8.00	5.33	3.56	2.67	1.78	0.89	0.89	0.89
225.0	21.45	16.08	11.62	8.94	6.25	4.47	2.68	1.79	0.89
240.0	29.79	23.47	21.67	13.54	9.93	7.22	4.51	3.61	1.81
255.0	35.12	28.81	22.51	17.11	13.51	9.90	7.20	4.50	2.70
270.0	36.54	30.30	24.06	18.72	14.26	10.70	7.13	4.46	3.57
285.0	35.21	28.89	22.57	17.15	12.64	9.93	7.22	4.51	2.71
300.0	30.02	22.75	18.20	13.65	10.01	7.28	5.46	3.64	1.82
315.0	20.60	16.13	11.65	8.06	6.27	4.48	2.69	1.79	0.90
330.0	11.83	7.28	5.46	3.64	2.73	1.82	0.91	0.91	0.91
345.0	3.64	1.82	0.91	0.91	0.91	0.91	0.91	0.91	0.91
360.0	3.51	0.88	0.88	0.88	0.88	0.88	0.88	1.76	1.76
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.76	1.76	2.63	2.63	3.51	2.63	3.51	3.51	3.51
15.0	6.19	6.19	6.19	6.19	6.19	5.31	4.42	3.54	4.42
30.0	16.00	13.34	11.56	10.67	8.89	8.00	6.22	4.45	4.45
45.0	33.06	25.02	19.66	16.08	13.40	10.72	8.94	6.25	4.47
60.0	47.85	38.82	29.79	22.57	18.06	13.54	10.83	8.12	4.51
75.0	57.63	46.82	37.82	27.01	20.71	15.31	11.71	9.00	6.30
90.0	60.61	49.91	40.11	28.52	21.39	16.04	11.59	8.91	6.24
105.0	56.87	46.94	37.92	27.08	20.76	15.35	11.74	9.03	6.32
120.0	47.31	39.12	29.11	21.84	17.29	13.65	10.92	8.19	6.37
135.0	32.25	24.19	19.71	16.13	12.54	10.75	8.96	7.17	6.27
150.0	16.38	13.65	11.83	10.01	9.10	8.19	7.28	6.37	5.46
165.0	6.37	5.46	5.46	5.46	5.46	5.46	5.46	5.46	4.55
180.0	1.76	2.63	1.76	2.63	2.63	2.63	2.63	3.51	4.39
195.0	0.88	0.88	0.88	1.77	1.77	1.77	2.65	3.54	4.42
210.0	0.89	0.89	0.89	0.89	1.78	1.78	2.67	2.67	3.56
225.0	0.89	0.89	0.89	0.89	0.89	1.79	1.79	2.68	3.57
240.0	0.90	0.90	0.90	0.90	0.90	1.81	1.81	2.71	3.61
255.0	1.80	0.90	0.90	0.90	0.90	1.80	1.80	2.70	3.60
270.0	1.78	0.89	0.89	0.89	0.89	0.89	1.78	2.67	2.67
285.0	1.81	0.90	0.90	0.90	0.90	1.81	1.81	2.71	2.71
300.0	0.91	0.91	0.91	0.91	0.91	1.82	1.82	1.82	3.64
315.0	0.90	0.90	0.90	0.90	0.90	1.79	1.79	2.69	3.58
330.0	0.91	0.91	0.91	0.91	1.82	1.82	1.82	2.73	3.64
345.0	0.91	0.91	0.91	1.82	1.82	1.82	2.73	2.73	3.64
360.0	1.76	1.76	2.63	2.63	3.51	2.63	3.51	3.51	3.51

Intensity data(cd)

C/ γ (°)	180.0
0.0	4.39
15.0	4.42
30.0	4.45
45.0	4.47
60.0	3.61
75.0	3.60
90.0	4.46
105.0	5.42
120.0	5.46
135.0	4.48
150.0	4.55
165.0	4.55
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	4.39