
AFX

Client:

LumCAT: ELZV2402LAJD4SN

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.137

Lamp flux(lm): 1430.2

Power (W): 16.200

Number of Lamps: 1

PF: 0.987

Length(mm): 590

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1430.21, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 88.28

Central intensity(cd): 361.938, Maximum intensity(cd): 413.517

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=158.2

[C90/270]Total=232.9

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(%): 14.47%

Down flux rate of lamp(%): 85.53%

Up flux rate of LUM(%): 14.47%

Down flux rate of LUM(%): 85.53%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 57.907%

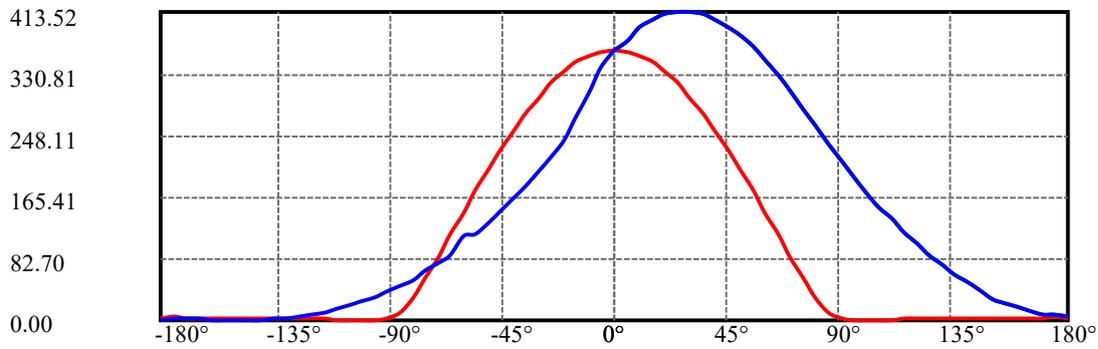
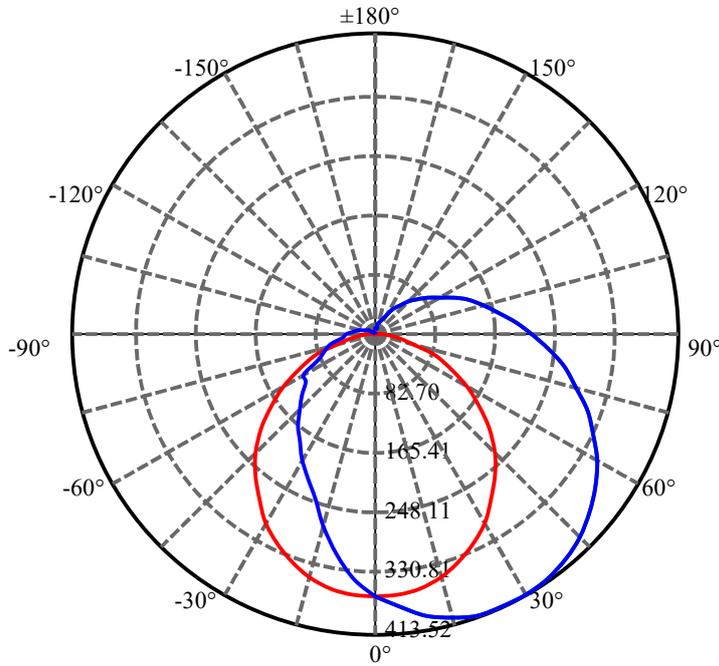
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	361.938	0.000	0	0.00%	0.00%
5.0	358.798	8.616	8.616	0.60%	0.60%
10.0	352.179	25.434	34.05	1.78%	2.38%
15.0	341.670	41.159	75.209	2.88%	5.26%
20.0	329.309	55.298	130.507	3.87%	9.13%
25.0	314.466	67.520	198.027	4.72%	13.85%
30.0	299.635	77.715	275.742	5.43%	19.28%
35.0	283.131	85.816	361.558	6.00%	25.28%
40.0	265.919	91.605	453.163	6.40%	31.69%
45.0	246.341	94.849	548.012	6.63%	38.32%
50.0	226.507	95.546	643.558	6.68%	45.00%
55.0	206.154	94.075	737.633	6.58%	51.58%
60.0	185.649	90.564	828.197	6.33%	57.91%
65.0	164.661	85.161	913.358	5.95%	63.86%
70.0	144.088	78.177	991.536	5.47%	69.33%
75.0	124.630	70.239	1061.774	4.91%	74.24%
80.0	106.929	61.959	1123.733	4.33%	78.57%
85.0	90.636	53.683	1177.416	3.75%	82.32%
90.0	76.830	45.854	1223.27	3.21%	85.53%
95.0	65.666	39.017	1262.286	2.73%	88.26%
100.0	56.339	33.152	1295.438	2.32%	90.58%
105.0	48.094	27.943	1323.381	1.95%	92.53%
110.0	41.197	23.339	1346.72	1.63%	94.16%
115.0	34.786	19.240	1365.96	1.35%	95.51%
120.0	29.538	15.637	1381.597	1.09%	96.60%
125.0	24.850	12.572	1394.169	0.88%	97.48%
130.0	20.691	9.902	1404.071	0.69%	98.17%
135.0	17.016	7.619	1411.69	0.53%	98.71%
140.0	14.053	5.753	1417.443	0.40%	99.11%
145.0	11.352	4.239	1421.682	0.30%	99.40%
150.0	8.952	2.990	1424.672	0.21%	99.61%
155.0	7.489	2.081	1426.752	0.15%	99.76%
160.0	6.290	1.445	1428.197	0.10%	99.86%
165.0	5.501	0.972	1429.169	0.07%	99.93%
170.0	4.902	0.617	1429.786	0.04%	99.97%
175.0	4.639	0.341	1430.127	0.02%	99.99%
180.0	2.281	0.083	1430.21	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	275.74	19.28%	19.28%
0-40	453.16	31.69%	31.69%
0-60	828.20	57.91%	57.91%
0-90	1223.27	85.53%	85.53%
0-120	1381.60	96.60%	96.60%
0-180	1430.21	100.00%	100.00%
60-90	395.07	27.62%	27.62%
90-120	158.33	11.07%	11.07%
90-130	180.80	12.64%	12.64%
90-150	201.40	14.08%	14.08%
90-180	206.86	14.46%	14.46%
0-81.90	1144.17	80.00%	80.00%

ZONAL LUMEN SUMMARY

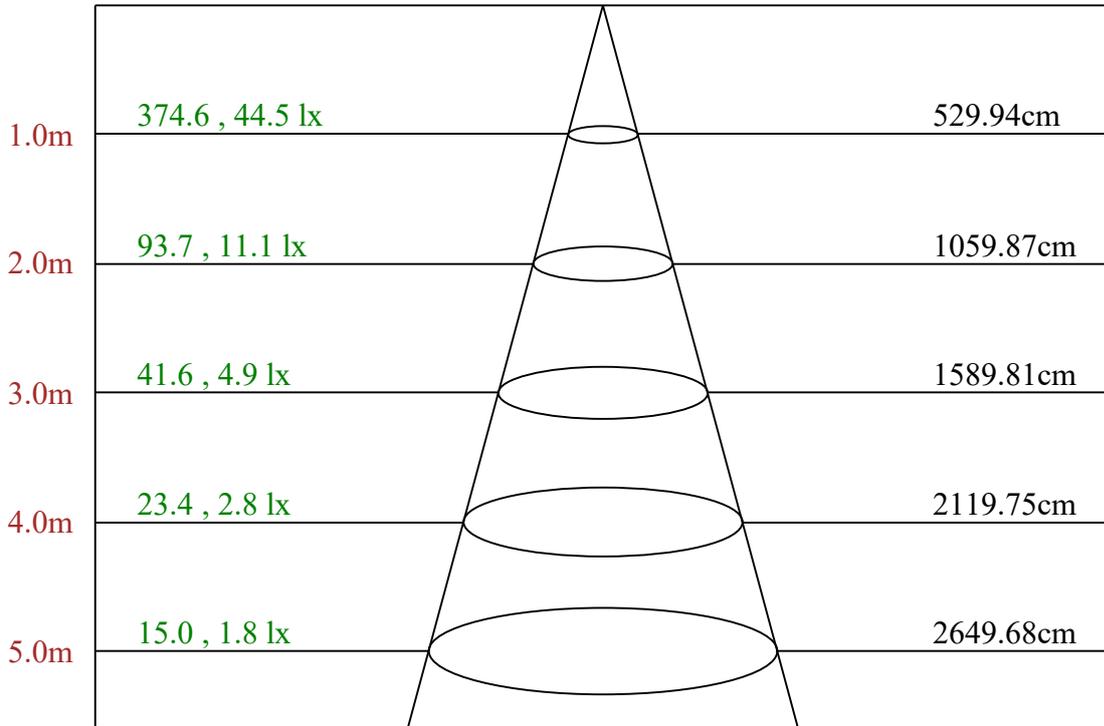
0-10	34.05
10-20	96.46
20-30	145.24
30-40	177.42
40-50	190.39
50-60	184.64
60-70	163.34
70-80	132.20
80-90	99.54
90-100	72.17
100-110	51.28
110-120	34.88
120-130	22.47
130-140	13.37
140-150	7.23
150-160	3.53
160-170	1.59
170-180	0.34



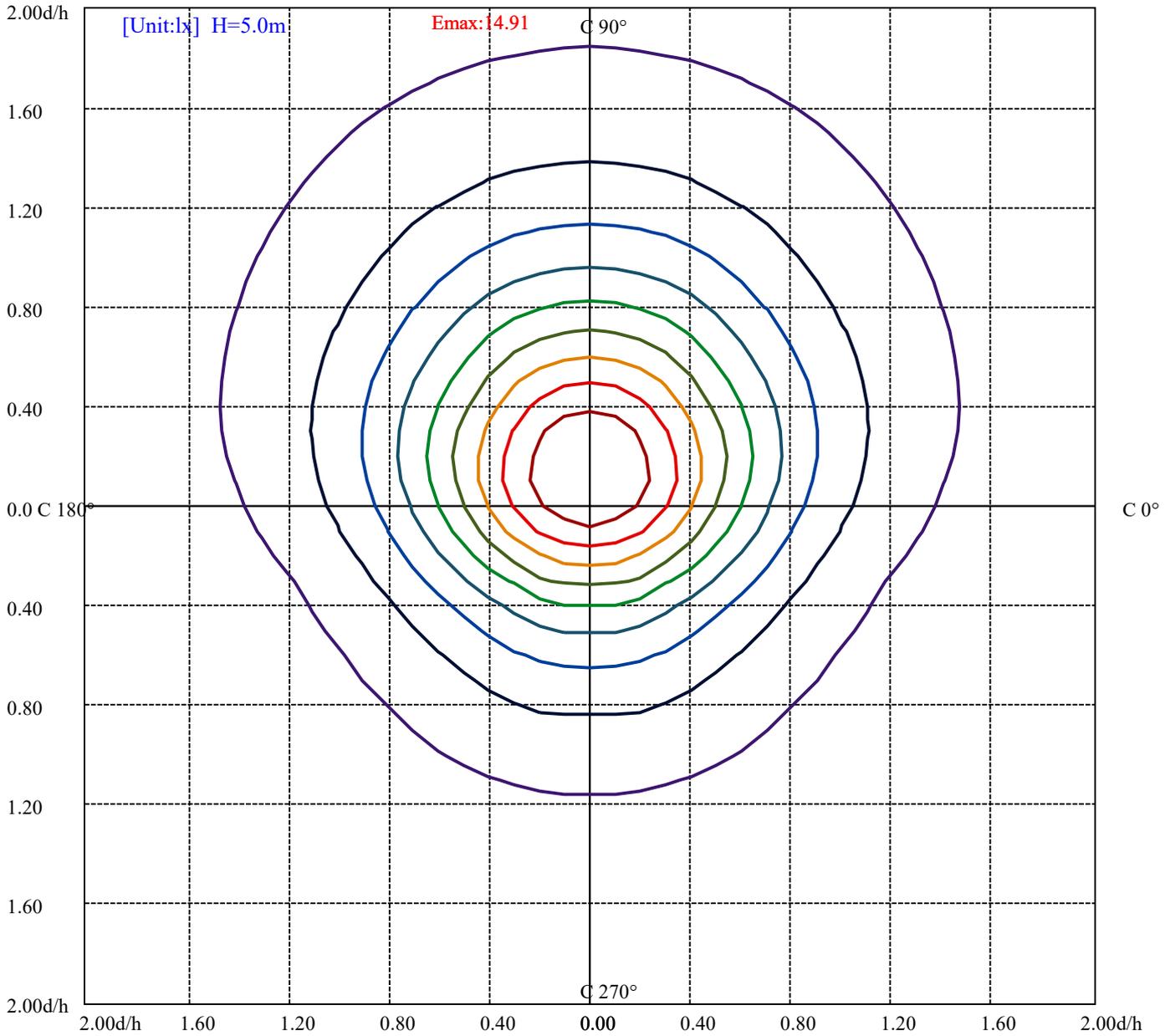
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

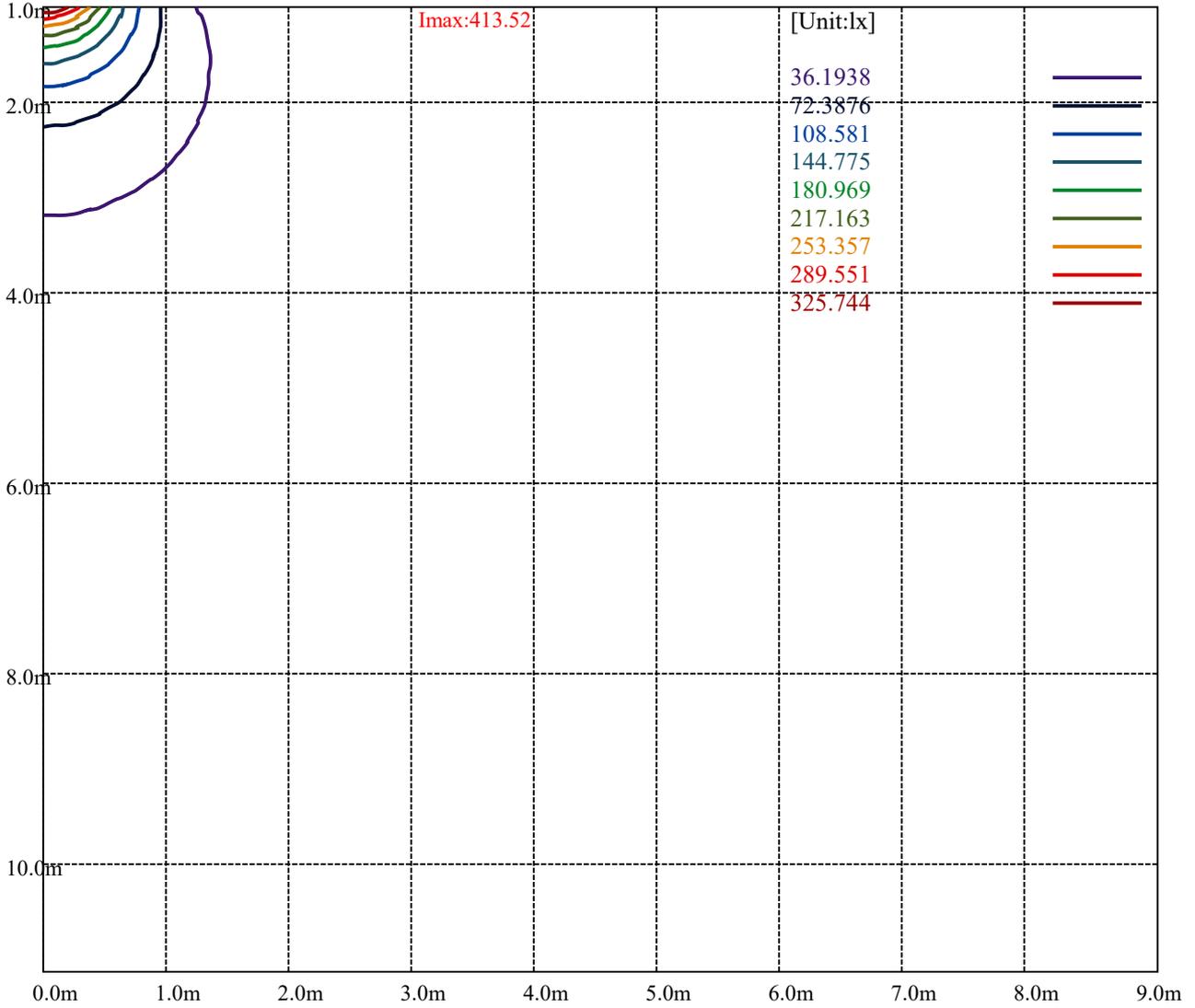
Field angle(10%Imax):C0/180Left:79.1 Right:79.1
 :C90/270Left:118.1 Right:114.8

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 138.65





Luminance Table

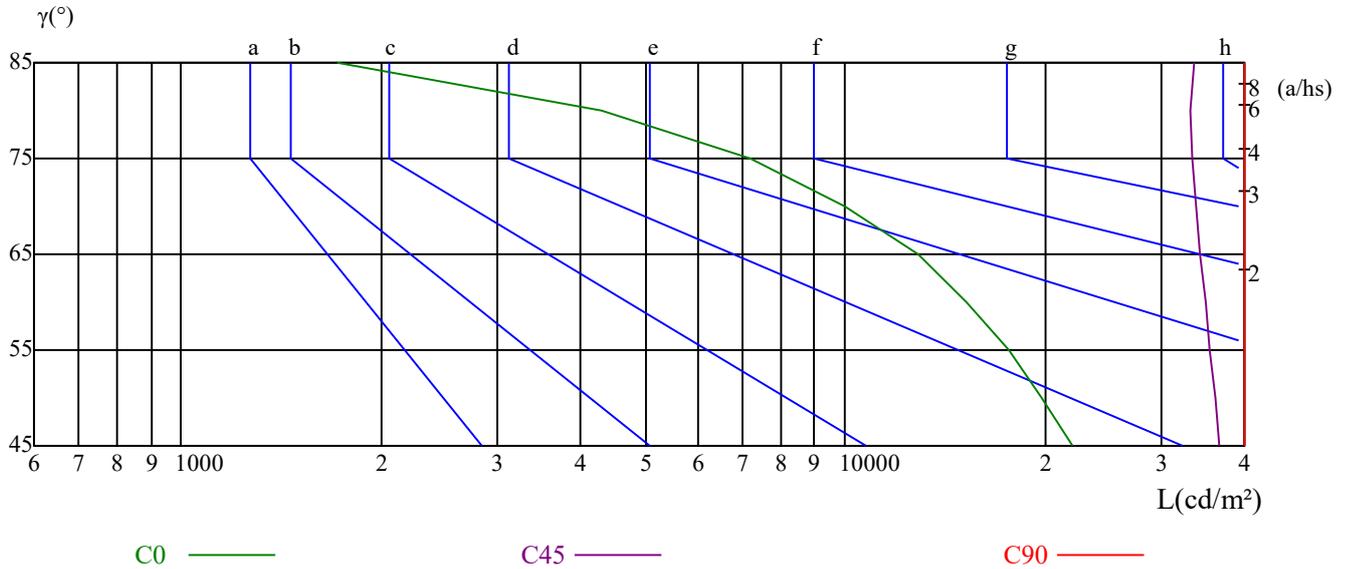
γ	45	50	55	60	65	70	75	80	85
C0	22026	19836	17642	15203	12857	9993	7202	4304	1718
C45	36772	36127	35559	34889	34300	33775	33435	33147	33600
C90	61904	65889	70472	76533	84888	97411	116481	155208	257873

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
31239	55756	44497	25121	76289	57228	14806	183891	128474

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	361.94	362.82	358.42	351.40	339.98	325.04	308.35	289.02	265.30
15.0	361.94	366.36	367.25	363.71	356.63	346.89	334.51	319.46	299.99
30.0	361.94	368.15	373.47	376.13	373.47	367.26	358.39	345.97	330.89
45.0	361.94	372.66	381.60	387.85	389.64	386.96	380.71	371.77	359.26
60.0	361.94	377.28	389.02	398.04	404.36	404.36	400.75	396.24	385.41
75.0	361.94	378.18	391.72	403.46	409.78	412.48	412.48	408.87	401.65
90.0	361.94	376.17	392.17	403.73	410.85	413.52	413.52	409.96	403.73
105.0	361.94	378.23	392.70	403.56	410.80	414.42	412.61	408.99	400.85
120.0	361.94	374.67	387.40	396.50	401.95	402.86	400.13	393.77	384.67
135.0	361.94	364.63	373.58	379.86	382.54	380.75	375.38	365.52	353.88
150.0	361.94	370.12	374.67	375.58	371.94	370.12	361.03	349.21	333.75
165.0	361.94	365.58	366.49	362.85	356.48	346.48	334.66	320.11	301.92
180.0	361.94	358.42	351.40	339.98	325.92	310.11	289.90	266.18	241.58
195.0	361.94	354.86	343.35	327.43	307.96	286.72	262.83	231.85	203.53
210.0	361.94	348.63	332.66	310.49	283.87	256.37	227.10	197.82	171.21
225.0	361.94	346.75	323.51	295.81	265.42	231.46	208.23	186.78	165.33
240.0	361.94	344.79	315.91	285.22	250.92	225.65	203.99	184.13	166.08
255.0	361.94	340.28	310.49	275.29	244.60	222.04	203.08	183.23	165.17
270.0	361.94	338.82	306.80	272.12	241.00	218.76	199.20	180.52	163.63
285.0	361.94	341.13	311.27	275.98	244.31	223.50	202.69	184.59	178.25
300.0	361.94	341.02	315.56	283.73	275.55	223.71	203.70	182.79	163.69
315.0	361.94	337.75	316.25	290.27	259.81	229.35	206.05	182.76	163.05
330.0	361.94	350.12	333.75	313.74	286.46	261.00	230.08	200.07	173.69
345.0	361.94	353.75	342.84	327.38	309.19	287.37	261.91	235.53	205.52
360.0	361.94	362.82	358.42	351.40	339.98	325.04	308.35	289.02	265.30
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	242.46	216.11	188.88	160.76	132.65	100.15	72.04	43.92	19.33
15.0	278.75	255.75	230.97	205.30	177.87	146.90	117.70	91.15	64.60
30.0	311.37	291.86	268.79	244.84	219.11	192.50	168.55	143.71	120.65
45.0	344.06	326.19	307.42	284.19	262.74	239.50	216.27	192.14	170.69
60.0	373.67	359.23	341.18	322.22	300.56	279.80	254.53	232.87	210.30
75.0	390.82	378.18	362.84	343.89	323.13	301.46	278.00	255.43	232.87
90.0	393.95	382.39	366.38	348.60	329.03	308.58	283.68	261.45	237.44
105.0	390.89	377.32	361.94	342.94	323.03	301.31	277.79	255.17	233.45
120.0	372.85	356.48	340.11	321.02	301.01	277.36	255.54	231.90	209.16
135.0	338.65	321.62	302.81	283.10	259.81	236.51	213.22	189.03	167.53
150.0	314.65	291.92	269.18	244.63	219.16	194.61	169.15	143.68	120.04
165.0	278.27	255.54	230.99	206.43	177.33	147.32	117.31	89.12	63.66
180.0	216.99	188.88	160.76	129.14	101.03	71.16	43.05	19.33	3.51
195.0	172.56	141.59	112.39	85.84	63.72	40.71	24.78	13.27	7.08
210.0	147.26	125.97	102.90	82.50	63.87	48.79	36.37	25.73	18.63
225.0	144.78	124.22	105.45	87.58	72.39	59.88	48.26	37.53	29.49
240.0	146.22	129.97	111.92	96.58	82.14	69.50	57.77	47.84	38.81
255.0	148.02	131.78	116.43	101.09	88.45	74.91	64.08	62.28	45.13
270.0	145.84	130.72	116.50	112.05	88.04	76.48	65.81	55.14	46.24
285.0	148.39	130.30	115.82	101.34	87.77	75.10	63.34	52.48	44.34
300.0	145.50	128.22	110.95	94.58	81.85	68.20	57.29	47.29	38.19
315.0	141.55	122.74	103.92	86.01	70.78	57.34	46.59	36.73	28.67
330.0	149.14	124.59	103.67	81.85	62.75	48.20	36.38	25.46	18.19
345.0	175.51	144.59	115.49	89.12	63.66	41.83	23.64	13.64	7.28
360.0	242.46	216.11	188.88	160.76	132.65	100.15	72.04	43.92	19.33

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	45.13	30.97	22.12	16.81	13.27	9.73	8.85	7.96	7.08
30.0	100.24	83.39	67.42	55.89	46.13	38.15	31.94	26.61	20.40
45.0	149.24	130.48	111.71	95.62	82.22	69.71	58.98	50.05	41.11
60.0	187.74	166.98	148.02	129.07	112.82	96.58	83.04	70.40	59.57
75.0	210.30	187.74	168.78	149.83	132.68	114.63	99.28	84.84	71.30
90.0	214.32	192.09	170.74	152.07	135.17	118.27	102.27	88.04	73.81
105.0	209.02	187.30	166.49	148.39	131.20	114.01	98.63	84.15	71.48
120.0	186.43	164.60	146.41	129.13	112.76	96.40	82.75	70.02	60.02
135.0	146.93	126.32	110.19	94.07	80.63	68.09	58.23	48.38	40.31
150.0	99.12	80.94	67.30	54.56	45.47	37.29	31.83	26.37	20.01
165.0	43.65	30.01	20.92	16.37	12.73	10.00	8.18	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	2.65	1.77	0.88	0.88	0.88	0.88	0.88	0.88
210.0	12.42	8.87	5.32	3.55	2.66	1.77	0.89	0.89	0.89
225.0	22.34	16.98	12.51	8.94	6.26	4.47	2.68	1.79	0.89
240.0	30.69	24.37	22.56	14.44	10.83	7.22	5.42	3.61	2.71
255.0	36.10	29.79	23.47	18.05	13.54	9.93	7.22	4.51	3.61
270.0	38.24	31.12	24.90	19.56	14.23	10.67	8.00	5.34	3.56
285.0	36.19	29.86	23.53	18.10	13.57	9.95	7.24	4.52	3.62
300.0	30.92	23.64	18.19	13.64	10.00	7.28	5.46	3.64	2.73
315.0	21.50	16.13	11.65	8.96	6.27	4.48	2.69	1.79	0.90
330.0	11.82	8.18	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	2.64	2.64	2.64	3.51	3.51	3.51	3.51	3.51
15.0	6.19	6.19	6.19	6.19	6.19	5.31	5.31	4.42	4.42
30.0	16.85	14.19	12.42	10.65	9.76	7.98	7.10	5.32	4.44
45.0	33.96	25.92	20.55	16.98	13.41	10.72	8.94	6.26	4.47
60.0	49.64	40.62	30.69	23.47	18.05	14.44	10.83	8.12	5.42
75.0	59.57	48.74	38.81	27.98	21.66	16.25	12.64	9.03	7.22
90.0	62.25	51.58	40.91	29.35	22.23	16.90	12.45	8.89	7.11
105.0	58.81	48.86	38.91	28.05	21.72	16.29	12.67	9.05	7.24
120.0	49.11	40.92	30.01	22.73	18.19	13.64	10.91	8.18	6.37
135.0	33.15	25.08	20.61	16.13	13.44	10.75	8.96	7.17	6.27
150.0	16.37	13.64	11.82	10.00	9.09	8.18	7.28	6.37	5.46
165.0	6.37	6.37	6.37	6.37	6.37	5.46	5.46	5.46	4.55
180.0	1.76	2.64	2.64	2.64	2.64	2.64	2.64	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	1.77	1.77	2.66	3.55	3.55
225.0	0.89	0.89	0.89	0.89	0.89	1.79	2.68	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	1.81	0.90	0.90	0.90	0.90	1.81	1.81	2.71	3.61
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	2.73	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	4.55
345.0	0.91	0.91	0.91	1.82	1.82	1.82	2.73	3.64	4.55
360.0	1.76	2.64	2.64	2.64	3.51	3.51	3.51	3.51	3.51

Intensity data(cd)

C/ γ (°)	180.0
0.0	4.39
15.0	4.42
30.0	4.44
45.0	4.47
60.0	3.61
75.0	3.61
90.0	4.45
105.0	5.43
120.0	5.46
135.0	5.38
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