
AFX

Client:

LumCAT: ELZV2402LAJD4LB

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.139

Lamp flux(lm): 1534.0

Power (W): 16.450

Number of Lamps: 1

PF: 0.986

Length(mm): 600

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1534.04, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 93.25

Central intensity(cd): 373.602, Maximum intensity(cd): 440.542

Angle of maximum intensity: C=90.0 γ =30.0

Beam Angle(50%Imax): [C0/180]Total=108.4

[C90/270]Total=121.5

Field angle(10%Imax): [C0/180]Total=159.8

[C90/270]Total=233.4

Maximum s/h(1/2): C0_180=1.23 C90_270=1.74

Maximum s/h(1/4): C0_180=1.35 C90_270=1.84

Up flux rate of lamp(%): 15.80%

Down flux rate of lamp(%): 84.20%

Up flux rate of LUM(%): 15.80%

Down flux rate of LUM(%): 84.20%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 56.431%

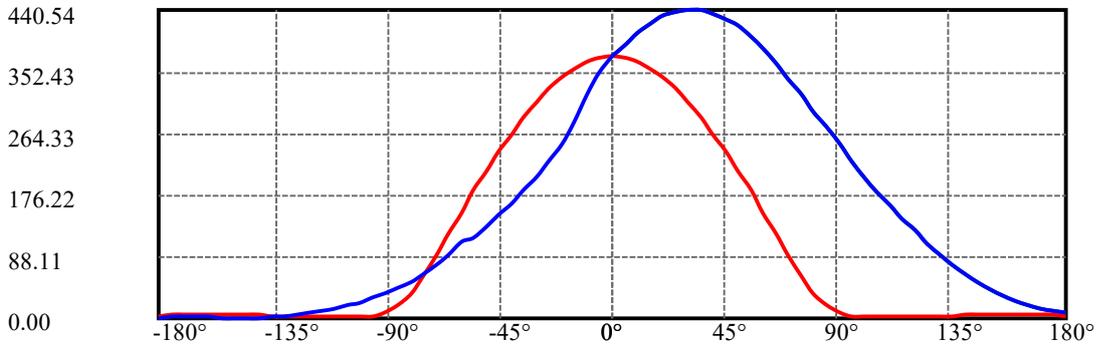
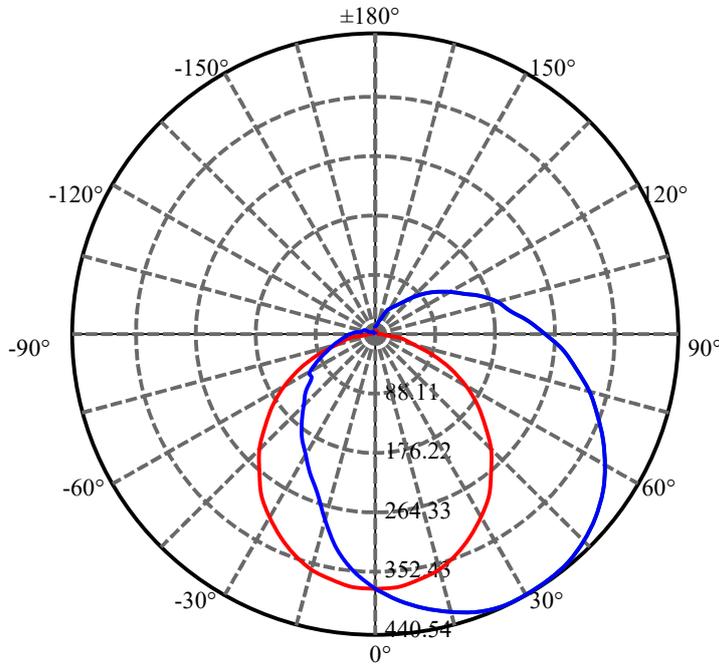
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	373.602	0.000	0	0.00%	0.00%
5.0	370.919	8.901	8.901	0.58%	0.58%
10.0	364.786	26.318	35.219	1.72%	2.30%
15.0	354.127	42.645	77.864	2.78%	5.08%
20.0	341.609	57.338	135.203	3.74%	8.81%
25.0	326.629	70.086	205.289	4.57%	13.38%
30.0	311.243	80.723	286.012	5.26%	18.64%
35.0	294.957	89.267	375.279	5.82%	24.46%
40.0	277.853	95.569	470.848	6.23%	30.69%
45.0	258.315	99.276	570.124	6.47%	37.16%
50.0	238.631	100.415	670.539	6.55%	43.71%
55.0	217.748	99.232	769.771	6.47%	50.18%
60.0	197.137	95.899	865.671	6.25%	56.43%
65.0	175.656	90.627	956.297	5.91%	62.34%
70.0	154.732	83.656	1039.954	5.45%	67.79%
75.0	134.557	75.616	1115.569	4.93%	72.72%
80.0	115.876	67.009	1182.578	4.37%	77.09%
85.0	99.500	58.523	1241.101	3.81%	80.90%
90.0	85.026	50.525	1291.625	3.29%	84.20%
95.0	72.977	43.263	1334.888	2.82%	87.02%
100.0	63.504	37.085	1371.973	2.42%	89.44%
105.0	55.003	31.709	1403.682	2.07%	91.50%
110.0	47.587	26.815	1430.498	1.75%	93.25%
115.0	41.031	22.439	1452.936	1.46%	94.71%
120.0	35.447	18.592	1471.528	1.21%	95.93%
125.0	30.164	15.166	1486.694	0.99%	96.91%
130.0	25.666	12.139	1498.833	0.79%	97.71%
135.0	21.617	9.554	1508.387	0.62%	98.33%
140.0	18.167	7.366	1515.754	0.48%	98.81%
145.0	15.505	5.618	1521.372	0.37%	99.17%
150.0	13.218	4.230	1525.601	0.28%	99.45%
155.0	11.266	3.098	1528.7	0.20%	99.65%
160.0	9.767	2.206	1530.906	0.14%	99.80%
165.0	8.680	1.520	1532.426	0.10%	99.89%
170.0	7.555	0.963	1533.389	0.06%	99.96%
175.0	7.029	0.522	1533.911	0.03%	99.99%
180.0	3.590	0.127	1534.038	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	286.01	18.64%	18.64%
0-40	470.85	30.69%	30.69%
0-60	865.67	56.43%	56.43%
0-90	1291.63	84.20%	84.20%
0-120	1471.53	95.93%	95.93%
0-180	1534.04	100.00%	100.00%
60-90	425.95	27.77%	27.77%
90-120	179.90	11.73%	11.73%
90-130	207.21	13.51%	13.51%
90-150	233.98	15.25%	15.25%
90-180	242.29	15.79%	15.79%
0-83.81	1227.23	80.00%	80.00%

ZONAL LUMEN SUMMARY

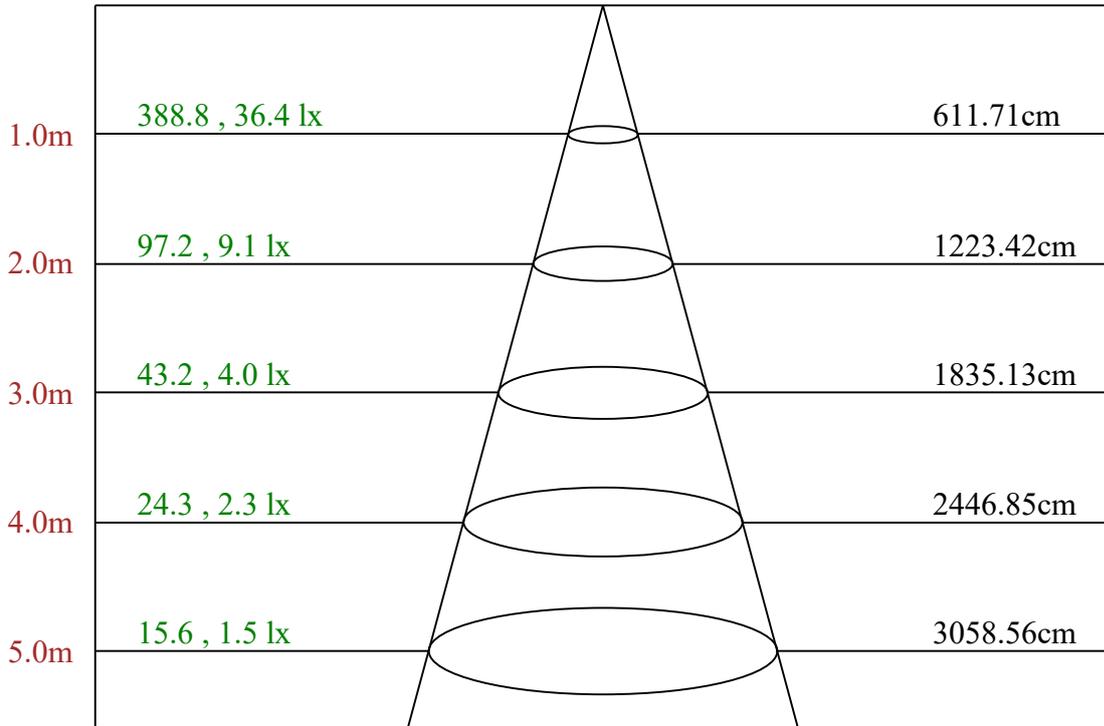
0-10	35.22
10-20	99.98
20-30	150.81
30-40	184.84
40-50	199.69
50-60	195.13
60-70	174.28
70-80	142.62
80-90	109.05
90-100	80.35
100-110	58.52
110-120	41.03
120-130	27.30
130-140	16.92
140-150	9.85
150-160	5.30
160-170	2.48
170-180	0.52



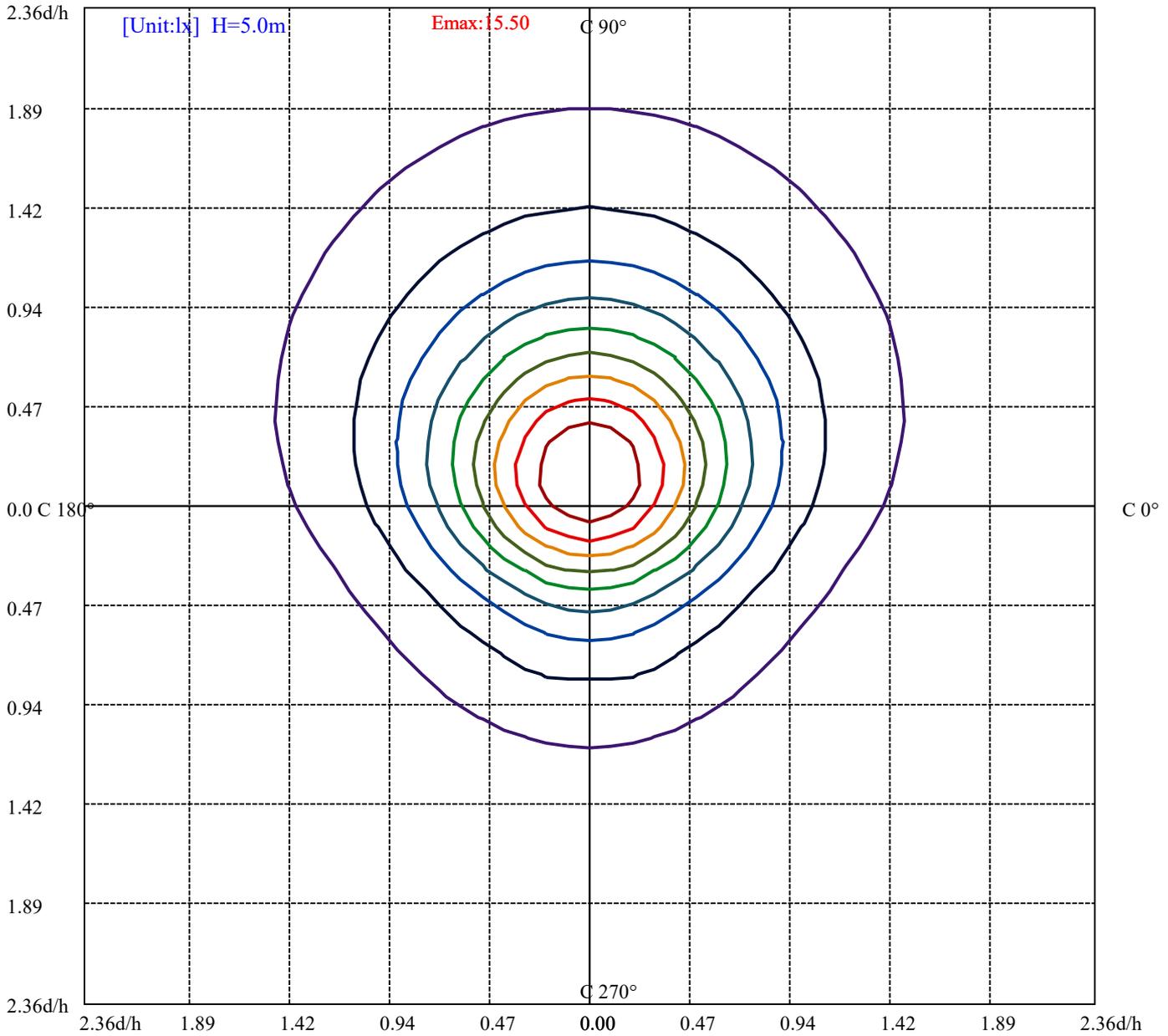
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.9 Right:79.9
 :C90/270Left:114.6 Right:118.8

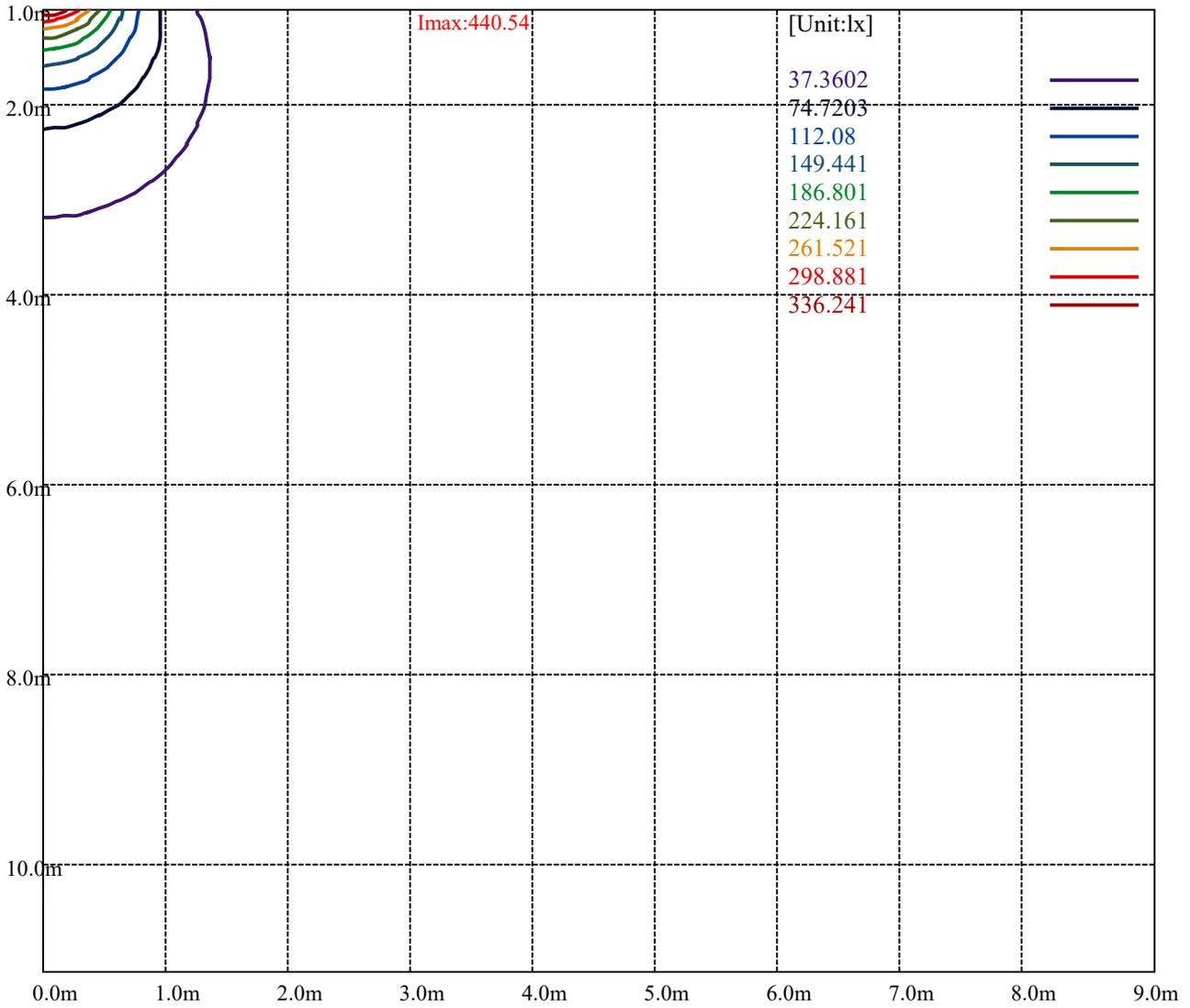
Beam Angle(50%Imax):C0/180Left:54.2 Right:54.2
 :C90/270Left:55.8 Right:65.7



Max , Ave Beam angle of C90 plane 143.79



- (10%Emax) 1.549552
- (20%Emax) 3.099104
- (30%Emax) 4.64864
- (40%Emax) 6.1982
- (50%Emax) 7.74776
- (60%Emax) 9.29732
- (70%Emax) 10.84688
- (80%Emax) 12.3964
- (90%Emax) 13.94596



Luminance Table

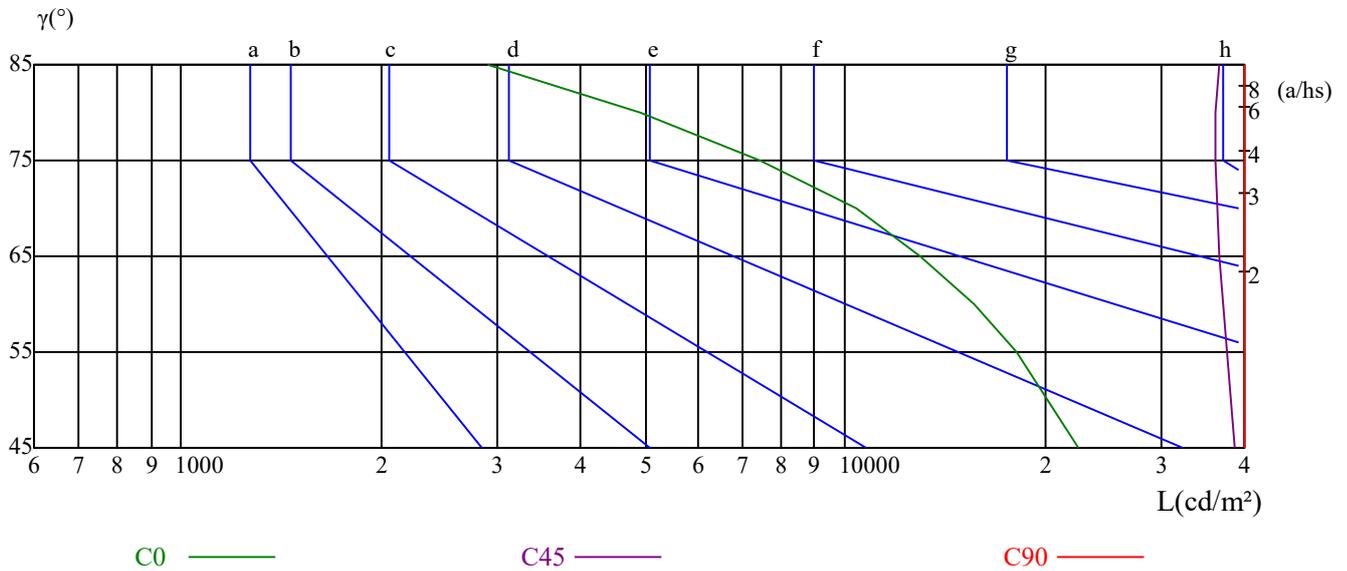
γ	45	50	55	60	65	70	75	80	85
C0	22423	20259	18097	15650	13012	10385	7427	4929	2887
C45	38701	38217	37692	37146	36718	36401	36192	36245	36712
C90	66132	70835	76167	83038	92538	106502	129790	173458	292548

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
31614	59695	46677	25906	82524	60655	24889	201817	136750

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	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	0.95	0.95	0.95	0.88	0.88	0.88	0.84
1	0.96	0.91	0.86	0.93	0.88	0.84	0.85	0.82	0.78	0.79	0.76	0.73	0.73	0.70	0.68	0.65
2	0.83	0.75	0.68	0.79	0.72	0.66	0.73	0.67	0.62	0.67	0.63	0.59	0.62	0.58	0.55	0.52
3	0.72	0.63	0.56	0.69	0.61	0.54	0.64	0.57	0.51	0.59	0.53	0.48	0.54	0.50	0.46	0.43
4	0.63	0.54	0.47	0.61	0.52	0.45	0.56	0.49	0.43	0.52	0.46	0.41	0.48	0.43	0.39	0.36
5	0.56	0.47	0.40	0.54	0.45	0.39	0.50	0.43	0.37	0.46	0.40	0.35	0.43	0.38	0.33	0.31
6	0.50	0.41	0.34	0.49	0.40	0.34	0.45	0.38	0.32	0.42	0.35	0.30	0.39	0.33	0.29	0.27
7	0.45	0.36	0.30	0.44	0.35	0.29	0.41	0.33	0.28	0.38	0.32	0.27	0.35	0.30	0.26	0.23
8	0.41	0.33	0.27	0.40	0.32	0.26	0.37	0.30	0.25	0.35	0.29	0.24	0.32	0.27	0.23	0.21
9	0.38	0.29	0.24	0.37	0.29	0.23	0.34	0.27	0.22	0.32	0.26	0.21	0.30	0.25	0.21	0.19
10	0.35	0.27	0.21	0.34	0.26	0.21	0.32	0.25	0.20	0.30	0.24	0.19	0.28	0.22	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	373.60	375.38	374.49	368.28	359.40	346.98	331.01	314.14	291.07
15.0	373.60	380.77	384.35	383.46	380.77	373.60	362.85	348.52	332.39
30.0	373.60	385.28	393.36	399.65	401.44	399.65	394.26	383.48	370.91
45.0	373.60	387.94	400.48	411.23	416.61	417.50	414.81	409.44	399.58
60.0	373.60	389.73	406.75	419.29	427.36	431.84	431.84	428.25	421.98
75.0	373.60	390.75	407.89	421.43	431.36	437.67	439.48	438.58	434.06
90.0	373.60	390.79	407.07	421.55	432.40	438.73	440.54	439.64	435.11
105.0	373.60	388.98	406.17	418.83	426.07	430.59	431.50	428.78	422.45
120.0	373.60	386.21	398.81	407.81	414.11	415.91	413.21	406.91	397.91
135.0	373.60	375.37	384.20	388.62	390.38	387.73	381.55	372.72	361.24
150.0	373.60	379.92	381.72	382.63	373.60	371.80	360.97	347.43	331.19
165.0	373.60	375.39	372.71	366.43	356.58	344.93	328.81	310.89	288.49
180.0	373.60	367.39	357.63	344.32	327.46	308.82	285.75	261.79	236.94
195.0	373.60	363.75	349.41	331.49	309.09	284.90	255.34	225.77	191.73
210.0	373.60	359.23	340.37	313.43	286.49	253.26	218.23	189.50	163.45
225.0	373.60	355.68	330.60	298.34	263.40	229.36	204.27	179.19	158.58
240.0	373.60	352.10	322.53	286.70	248.17	220.40	198.00	177.39	157.68
255.0	373.60	351.94	319.46	281.55	245.46	222.00	199.43	181.39	162.44
270.0	373.60	350.08	320.23	280.43	247.86	223.44	203.54	183.63	163.73
285.0	373.60	353.70	323.85	288.57	252.38	227.06	206.25	186.35	181.83
300.0	373.60	355.60	330.39	298.88	289.88	232.26	209.76	188.15	168.35
315.0	373.60	353.29	332.09	308.24	278.21	245.53	216.39	192.54	171.34
330.0	373.60	363.67	350.14	330.29	308.63	282.46	252.68	220.19	188.61
345.0	373.60	369.12	360.16	347.62	331.49	312.68	289.38	264.30	237.42
360.0	373.60	375.38	374.49	368.28	359.40	346.98	331.01	314.14	291.07
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	268.00	243.15	215.64	186.36	156.18	126.90	95.84	65.67	37.27
15.0	312.68	290.28	265.19	241.00	213.23	182.77	152.31	122.74	95.86
30.0	353.84	334.09	313.43	288.28	264.04	235.30	210.15	182.31	157.16
45.0	386.14	370.02	351.20	330.60	308.20	284.01	258.92	234.73	208.75
60.0	412.13	398.69	381.66	361.95	340.45	318.95	296.55	271.47	246.38
75.0	426.84	415.11	399.77	382.63	362.77	342.02	318.55	294.19	269.82
90.0	427.88	417.93	402.55	384.46	364.56	342.85	321.13	296.71	273.19
105.0	412.50	400.74	384.46	367.27	348.27	326.56	302.14	280.43	256.00
120.0	384.40	370.00	352.90	333.99	311.48	288.98	266.47	242.17	219.66
135.0	344.46	326.79	306.48	283.51	260.55	237.59	213.74	189.01	166.93
150.0	311.33	288.77	265.31	240.04	212.97	186.80	158.83	133.56	109.19
165.0	266.09	241.90	217.71	187.25	159.48	127.22	96.76	68.09	44.80
180.0	207.66	177.48	149.09	117.14	84.30	54.13	24.85	7.99	1.77
195.0	158.58	129.01	102.14	77.05	53.76	34.94	21.50	11.65	7.17
210.0	141.00	115.85	96.09	76.34	59.27	44.90	33.23	24.25	17.96
225.0	137.97	117.37	99.45	83.32	68.99	55.55	44.80	35.84	27.77
240.0	138.87	121.85	104.82	91.38	77.05	65.40	54.65	44.80	36.73
255.0	144.39	128.14	111.00	98.36	84.83	73.10	60.46	56.85	41.51
270.0	147.45	131.17	113.98	110.36	89.56	75.99	63.32	50.66	43.42
285.0	148.36	132.07	112.17	102.22	86.84	72.37	58.80	47.94	40.71
300.0	149.44	130.54	111.63	93.63	81.92	68.42	54.01	43.21	35.11
315.0	149.26	129.83	109.52	90.09	72.42	60.06	47.69	33.56	25.61
330.0	162.44	138.97	115.51	92.95	72.19	52.34	39.71	27.07	17.15
345.0	207.86	177.39	144.24	111.09	82.43	56.44	34.94	16.13	8.06
360.0	268.00	243.15	215.64	186.36	156.18	126.90	95.84	65.67	37.27

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	14.20	2.66	1.77	1.77	2.66	2.66	3.55	3.55	4.44
15.0	70.78	51.07	38.52	29.57	23.29	19.71	17.02	15.23	13.44
30.0	132.92	110.46	94.30	79.03	65.56	54.78	46.70	39.52	33.23
45.0	184.56	161.27	141.56	123.64	107.51	91.38	78.84	66.30	56.44
60.0	222.19	198.90	177.39	157.68	138.87	120.95	104.82	89.59	76.15
75.0	245.46	220.19	198.53	175.97	157.92	138.97	121.83	104.68	88.44
90.0	247.86	223.44	200.82	181.83	161.02	142.02	124.84	106.74	91.37
105.0	231.58	208.06	187.25	167.35	148.36	131.17	113.98	97.70	83.22
120.0	196.25	175.55	155.74	138.64	121.53	106.23	90.92	78.32	67.52
135.0	146.61	127.18	110.40	95.39	83.02	70.66	61.83	52.11	44.16
150.0	89.34	73.10	61.36	51.44	43.32	37.00	31.58	27.97	24.37
165.0	27.77	18.81	14.33	11.65	10.75	9.86	9.86	9.86	8.96
180.0	1.77	0.89	1.77	1.77	1.77	2.66	2.66	2.66	3.55
195.0	3.58	2.69	1.79	1.79	0.90	0.90	0.90	0.90	0.90
210.0	11.68	8.08	5.39	4.49	2.69	2.69	1.80	0.90	0.90
225.0	20.61	16.13	12.54	8.96	6.27	4.48	4.48	2.69	1.79
240.0	28.67	23.29	21.50	13.44	9.86	7.17	5.38	3.58	2.69
255.0	34.29	27.97	21.66	17.15	12.63	9.93	7.22	4.51	3.61
270.0	35.28	28.95	22.62	18.09	13.57	9.95	7.24	5.43	3.62
285.0	33.47	27.14	21.71	16.28	12.66	9.05	6.33	4.52	2.71
300.0	27.91	22.51	17.10	12.60	9.90	6.30	4.50	3.60	1.80
315.0	19.43	15.01	10.60	7.95	5.30	3.53	2.65	1.77	0.88
330.0	10.83	6.32	4.51	2.71	1.80	1.80	0.90	0.90	0.90
345.0	3.58	1.79	0.90	0.90	0.90	0.90	0.90	0.90	0.90
360.0	14.20	2.66	1.77	1.77	2.66	2.66	3.55	3.55	4.44
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	4.44	5.32	6.21	6.21	7.10	7.10	7.10	6.21	6.21
15.0	12.54	11.65	11.65	10.75	10.75	9.86	8.96	7.17	6.27
30.0	27.84	24.25	20.66	17.96	16.17	14.37	12.57	8.98	7.18
45.0	46.59	38.52	32.25	26.88	22.40	17.92	15.23	11.65	8.06
60.0	63.61	51.96	43.00	34.94	27.77	22.40	17.02	13.44	9.86
75.0	74.00	61.36	50.54	40.61	31.58	24.37	18.95	14.44	10.83
90.0	76.89	63.32	51.56	41.61	32.57	25.33	19.00	14.47	10.86
105.0	70.56	57.89	47.94	38.90	30.76	23.52	19.00	14.47	10.86
120.0	55.82	46.81	38.71	31.51	26.11	20.71	16.20	12.60	9.90
135.0	37.98	31.80	26.50	22.96	19.43	15.90	13.25	11.48	9.72
150.0	21.66	18.95	17.15	15.34	13.54	12.63	11.73	9.93	9.02
165.0	8.96	8.96	8.96	8.96	8.96	8.96	8.96	8.96	8.06
180.0	3.55	4.44	4.44	5.32	5.32	5.32	5.32	5.32	6.21
195.0	0.90	1.79	1.79	2.69	2.69	2.69	3.58	4.48	5.38
210.0	0.90	0.90	0.90	1.80	1.80	2.69	3.59	4.49	5.39
225.0	0.90	0.90	0.90	0.90	1.79	2.69	3.58	3.58	5.38
240.0	1.79	0.90	0.90	0.90	0.90	1.79	2.69	3.58	4.48
255.0	1.80	0.90	0.90	0.90	0.90	1.80	2.71	3.61	3.61
270.0	1.81	0.90	0.90	0.90	0.90	1.81	2.71	2.71	3.62
285.0	1.81	0.90	0.90	0.90	0.90	1.81	2.71	2.71	4.52
300.0	0.90	0.90	0.90	0.90	0.90	1.80	2.70	3.60	5.40
315.0	0.88	0.88	0.88	0.88	1.77	1.77	2.65	3.53	5.30
330.0	0.90	0.00	0.90	1.80	1.80	2.71	3.61	4.51	6.32
345.0	1.79	1.79	2.69	2.69	3.58	4.48	4.48	5.38	6.27
360.0	4.44	5.32	6.21	6.21	7.10	7.10	7.10	6.21	6.21

Intensity data(cd)

C/γ(°)	180.0
0.0	6.21
15.0	6.27
30.0	6.29
45.0	6.27
60.0	5.38
75.0	8.12
90.0	8.14
105.0	8.14
120.0	8.10
135.0	7.95
150.0	8.12
165.0	7.17
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	6.21