
AFX

Client:

LumCAT: ELZP42LAJD4SN

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.205

Lamp flux(lm): 2327.5

Power (W): 24.220

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2327.51, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 96.10

Central intensity(cd): 633.336, Maximum intensity(cd): 636.028

Angle of maximum intensity: C=75.0 γ =5.0

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

[C90/270]Total=134.2

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

[C90/270]Total=238.1

Maximum s/h(1/2): C0_180=1.23 C90_270=1.34

Maximum s/h(1/4): C0_180=1.35 C90_270=1.49

Up flux rate of lamp(%): 10.46%

Down flux rate of lamp(%): 89.54%

Up flux rate of LUM(%): 10.46%

Down flux rate of LUM(%): 89.54%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.722%

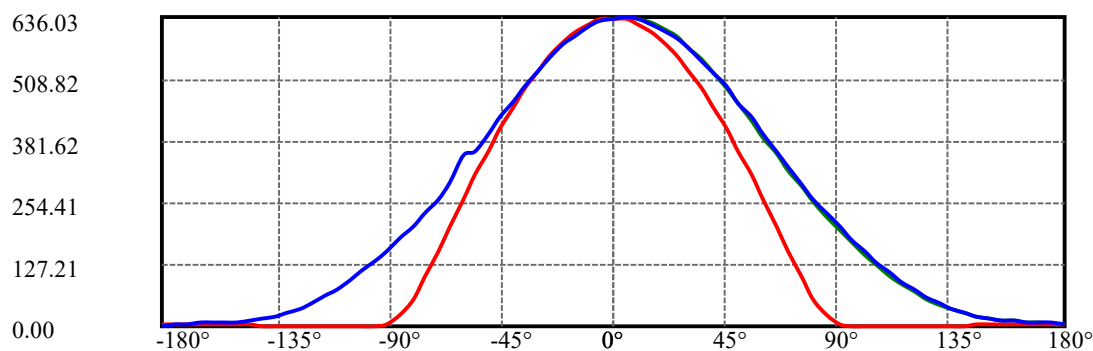
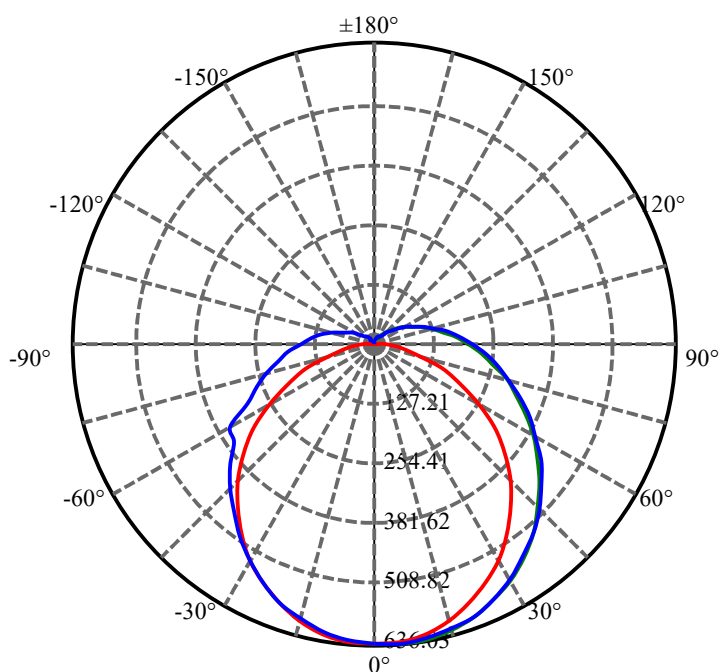
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	633.336	0.000	0	0.00%	0.00%
5.0	630.382	15.107	15.107	0.65%	0.65%
10.0	621.935	44.799	59.907	1.92%	2.57%
15.0	607.917	72.954	132.861	3.13%	5.71%
20.0	589.067	98.648	231.509	4.24%	9.95%
25.0	564.959	121.036	352.545	5.20%	15.15%
30.0	537.218	139.481	492.026	5.99%	21.14%
35.0	505.663	153.571	645.598	6.60%	27.74%
40.0	471.262	162.993	808.59	7.00%	34.74%
45.0	433.131	167.456	976.046	7.19%	41.94%
50.0	393.688	167.071	1143.117	7.18%	49.11%
55.0	353.420	162.446	1305.563	6.98%	56.09%
60.0	314.085	154.292	1459.855	6.63%	62.72%
65.0	272.478	142.595	1602.449	6.13%	68.85%
70.0	232.885	127.961	1730.41	5.50%	74.35%
75.0	195.724	112.031	1842.442	4.81%	79.16%
80.0	162.342	95.808	1938.25	4.12%	83.28%
85.0	132.133	80.016	2018.266	3.44%	86.71%
90.0	107.947	65.736	2084.002	2.82%	89.54%
95.0	88.285	53.730	2137.732	2.31%	91.85%
100.0	72.437	43.672	2181.404	1.88%	93.72%
105.0	59.022	35.175	2216.578	1.51%	95.23%
110.0	47.627	27.876	2244.455	1.20%	96.43%
115.0	38.063	21.697	2266.152	0.93%	97.36%
120.0	30.555	16.681	2282.833	0.72%	98.08%
125.0	23.793	12.563	2295.396	0.54%	98.62%
130.0	18.453	9.186	2304.581	0.39%	99.01%
135.0	14.195	6.597	2311.178	0.28%	99.30%
140.0	11.469	4.752	2315.93	0.20%	99.50%
145.0	9.490	3.497	2319.427	0.15%	99.65%
150.0	8.071	2.586	2322.013	0.11%	99.76%
155.0	7.287	1.944	2323.957	0.08%	99.85%
160.0	6.465	1.442	2325.399	0.06%	99.91%
165.0	5.867	1.016	2326.415	0.04%	99.95%
170.0	5.195	0.656	2327.072	0.03%	99.98%
175.0	4.822	0.358	2327.43	0.02%	100.00%
180.0	2.243	0.084	2327.515	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	492.03	21.14%	21.14%
0-40	808.59	34.74%	34.74%
0-60	1459.85	62.72%	62.72%
0-90	2084.00	89.54%	89.54%
0-120	2282.83	98.08%	98.08%
0-180	2327.51	100.00%	100.00%
60-90	624.15	26.82%	26.82%
90-120	198.83	8.54%	8.54%
90-130	220.58	9.48%	9.48%
90-150	238.01	10.23%	10.23%
90-180	243.43	10.46%	10.46%
0-76.02	1862.01	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	59.91
10-20	171.60
20-30	260.52
30-40	316.56
40-50	334.53
50-60	316.74
60-70	270.56
70-80	207.84
80-90	145.75
90-100	97.40
100-110	63.05
110-120	38.38
120-130	21.75
130-140	11.35
140-150	6.08
150-160	3.39
160-170	1.67
170-180	0.36

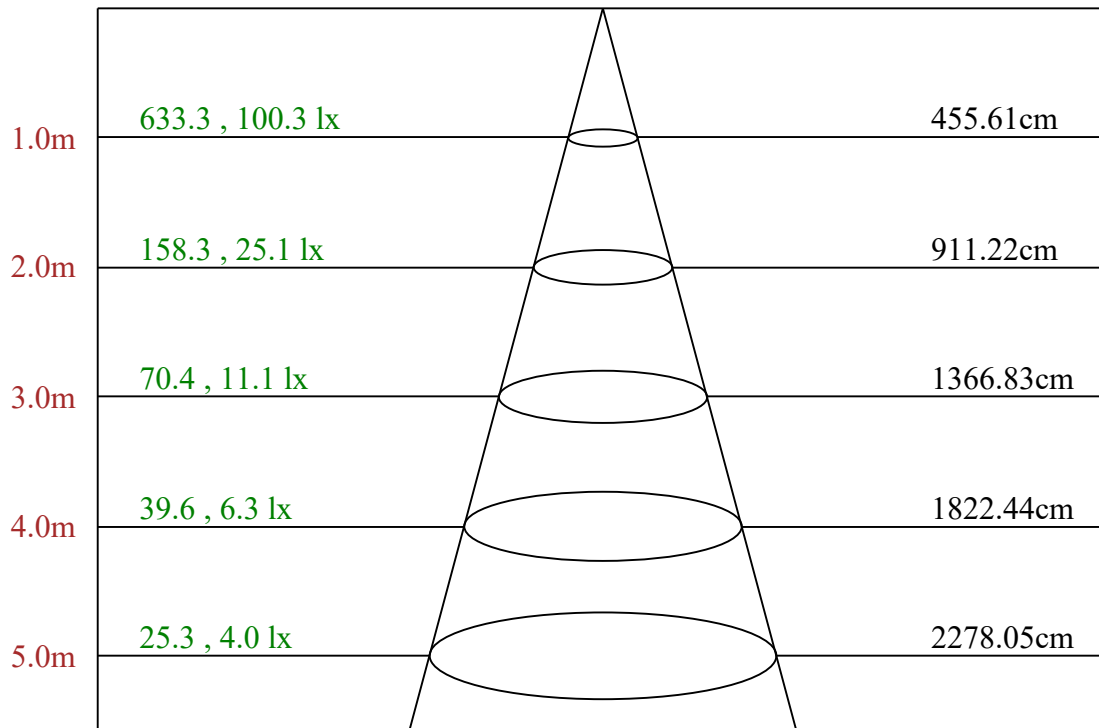
C75(Max): —————C0/C180: —————C90/C270: —————

Field angle(10%Imax):C0/180Left:79.2 Right:79.2

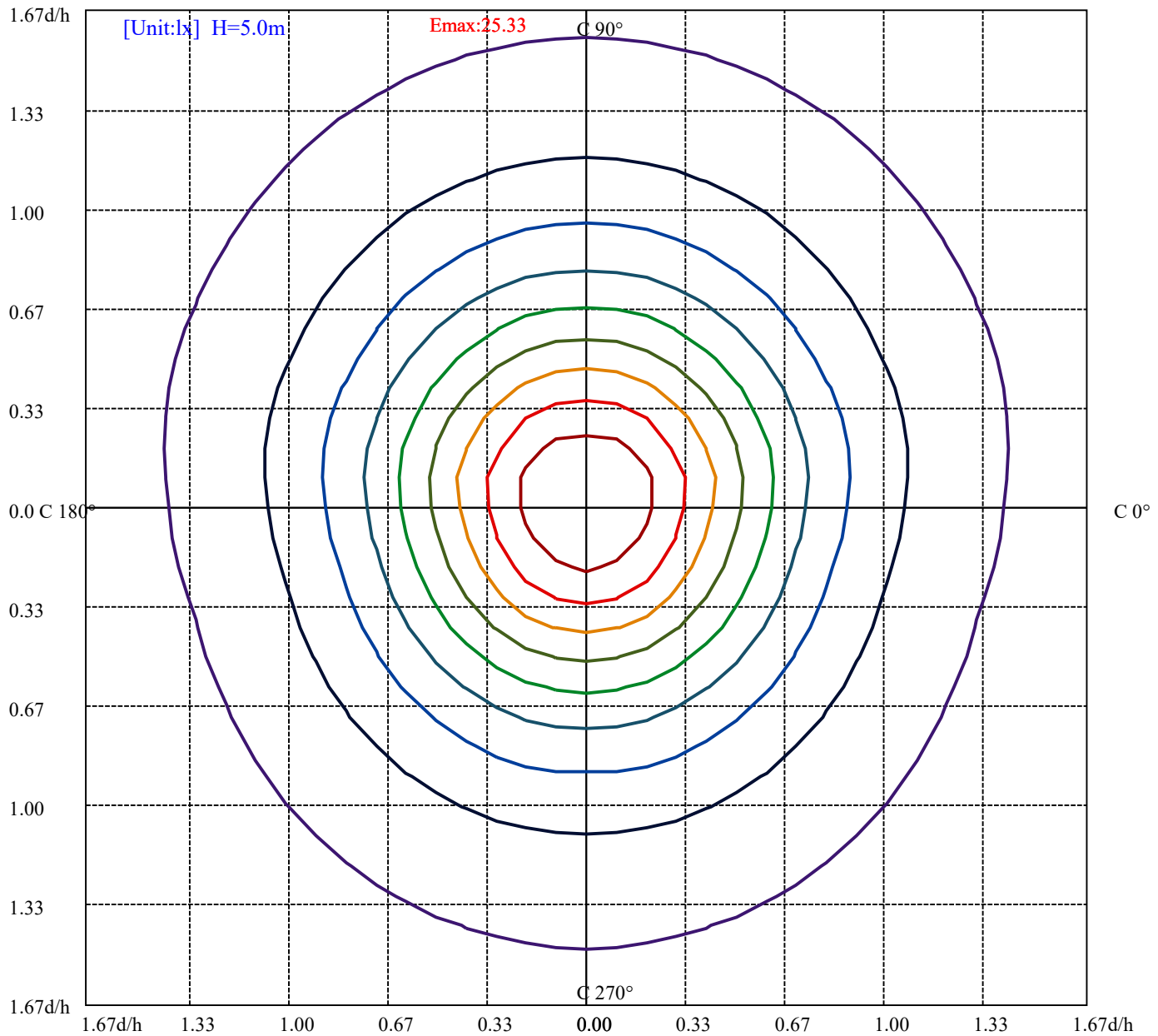
:C90/270Left:119.4 Right:118.7

Beam Angle(50%Imax):C0/180Left:54.4 Right:54.4

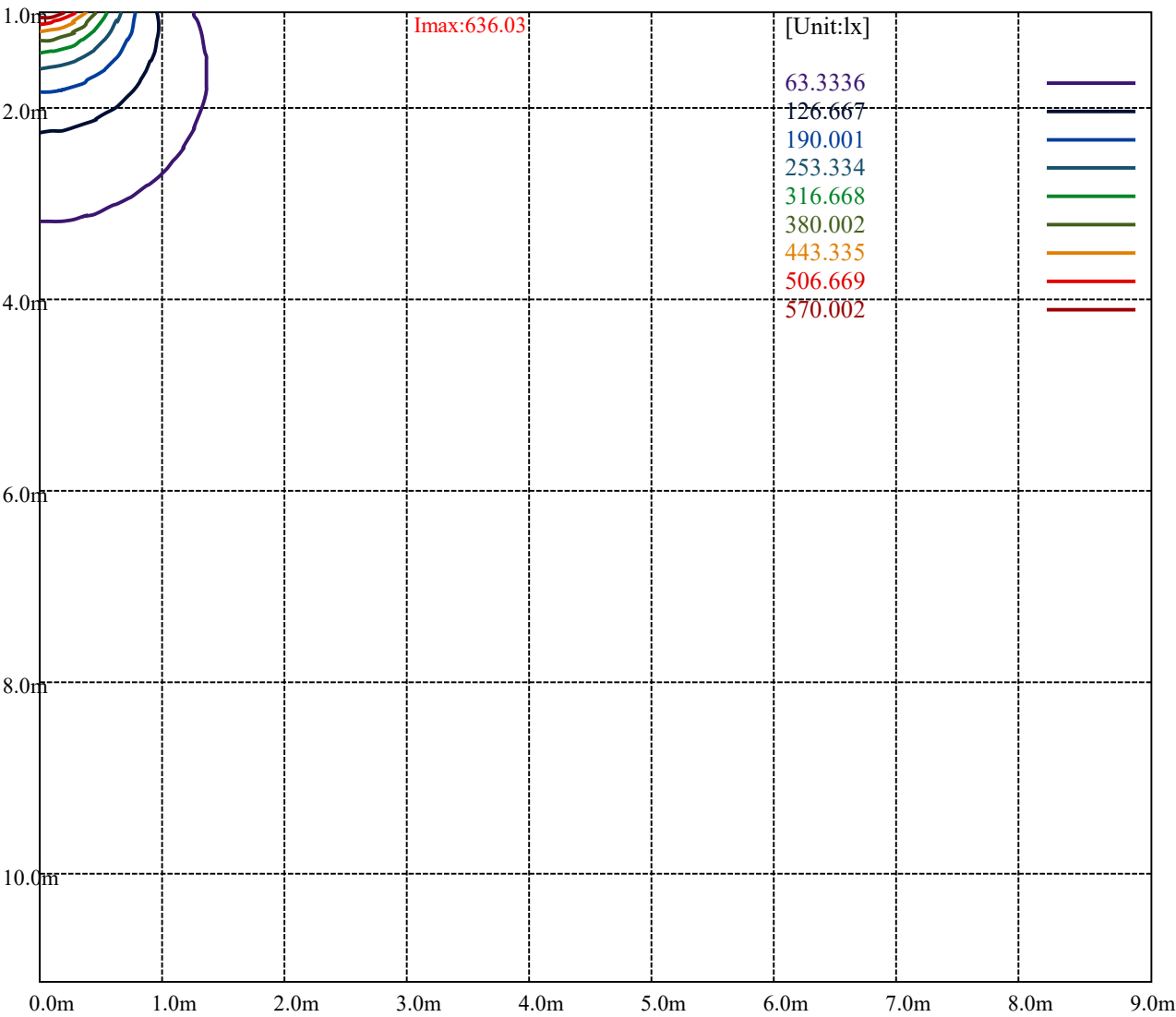
:C90/270Left:68.0 Right:66.3



Max , Ave Beam angle of C75 plane 132.60



(10%Emax) 2.533344	—
(20%Emax) 5.06668	—
(30%Emax) 7.60004	—
(40%Emax) 10.13336	—
(50%Emax) 12.66672	—
(60%Emax) 15.20008	—
(70%Emax) 17.7334	—
(80%Emax) 20.26676	—
(90%Emax) 22.80008	—



Luminance Table

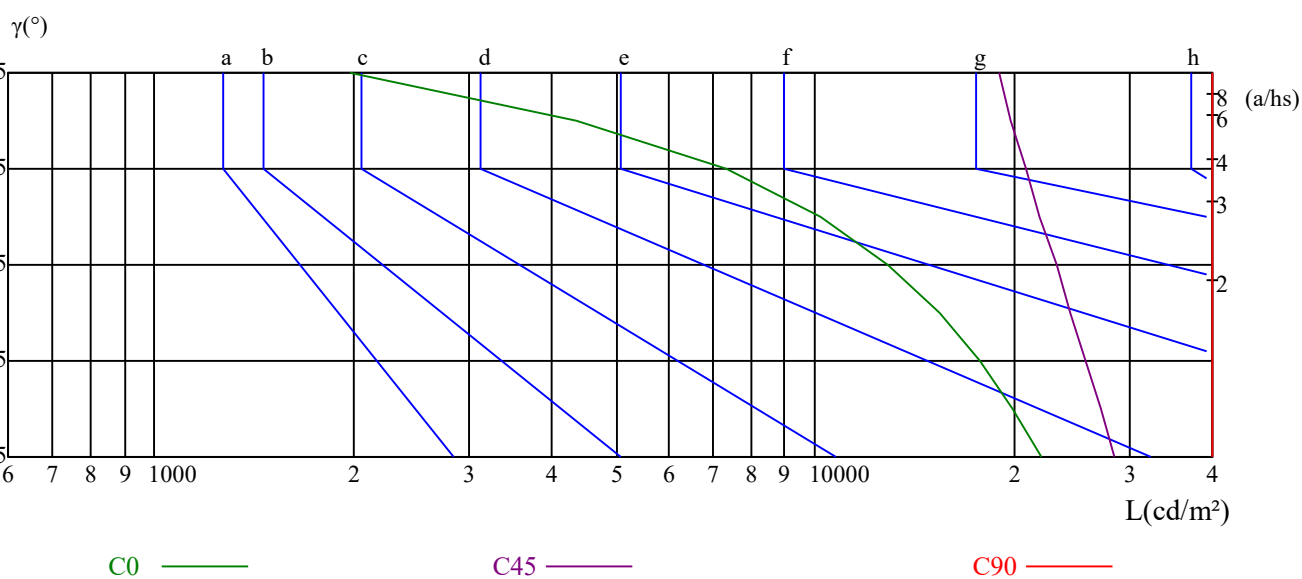
γ	45	50	55	60	65	70	75	80	85
C0	22083	19956	17797	15440	12910	10229	7326	4345	1982
C45	28512	27136	25683	24380	23244	21940	20855	19834	19059
C90	44275	45270	47270	49677	53500	59536	70267	91935	155090

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
31366	49658	42275	25553	65266	51064	17082	152753	106546

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



RHOC	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	1.05	1.05	1.05	0.99	0.99	0.99	0.92	0.92	0.92	0.90
1	0.98	0.93	0.89	0.95	0.90	0.86	0.89	0.85	0.82	0.83	0.80	0.77	0.78	0.75	0.73	0.70
2	0.85	0.77	0.71	0.82	0.75	0.69	0.76	0.71	0.66	0.72	0.67	0.63	0.67	0.63	0.60	0.57
3	0.74	0.65	0.58	0.71	0.63	0.57	0.67	0.60	0.54	0.63	0.57	0.52	0.59	0.54	0.50	0.47
4	0.65	0.56	0.49	0.63	0.54	0.48	0.59	0.52	0.46	0.55	0.49	0.44	0.52	0.47	0.42	0.40
5	0.58	0.48	0.42	0.56	0.47	0.41	0.53	0.45	0.39	0.50	0.43	0.38	0.47	0.41	0.37	0.34
6	0.52	0.43	0.36	0.50	0.42	0.35	0.47	0.40	0.34	0.45	0.38	0.33	0.42	0.37	0.32	0.30
7	0.47	0.38	0.32	0.46	0.37	0.31	0.43	0.36	0.30	0.41	0.34	0.29	0.39	0.33	0.28	0.26
8	0.43	0.34	0.28	0.42	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.30	0.25	0.23
9	0.39	0.31	0.25	0.38	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.23	0.33	0.27	0.23	0.21
10	0.36	0.28	0.23	0.35	0.28	0.22	0.33	0.27	0.22	0.32	0.26	0.21	0.30	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	633.34	635.12	631.55	619.04	602.07	577.06	550.26	517.21	480.58
15.0	633.34	636.04	631.53	621.62	606.31	583.79	556.76	526.13	490.09
30.0	633.34	635.13	630.65	620.79	604.67	584.07	558.09	526.73	492.69
45.0	633.34	635.14	633.34	625.24	611.74	591.95	567.66	540.67	509.19
60.0	633.34	635.14	633.34	627.94	614.44	596.45	573.96	546.07	518.18
75.0	633.34	636.93	636.03	627.94	615.34	599.15	577.56	551.47	524.48
90.0	633.34	636.02	630.66	619.94	610.11	594.03	572.59	546.69	520.78
105.0	633.34	635.12	629.76	621.72	609.22	591.35	569.02	545.79	516.32
120.0	633.34	633.34	629.76	620.83	606.54	586.89	563.66	536.86	506.49
135.0	633.34	632.44	627.06	616.29	601.04	579.51	553.50	524.79	490.70
150.0	633.34	633.34	627.93	615.32	580.18	574.78	546.85	513.52	477.48
165.0	633.34	632.44	624.34	611.74	591.95	567.66	538.88	503.79	460.61
180.0	633.34	625.30	611.00	589.57	564.55	534.18	499.34	461.83	418.95
195.0	633.34	627.03	612.62	592.80	567.57	534.24	500.90	462.16	418.02
210.0	633.34	623.48	607.36	588.55	561.67	533.01	498.07	462.24	420.13
225.0	633.34	623.44	610.85	591.05	567.66	539.77	506.49	472.30	435.42
240.0	633.34	625.24	611.74	594.65	571.26	544.27	516.38	483.10	448.91
255.0	633.34	625.24	614.44	596.45	574.86	550.57	521.78	492.09	457.91
270.0	633.34	627.98	617.26	598.50	580.63	553.83	526.14	494.88	461.83
285.0	633.34	627.98	613.68	597.60	577.95	552.05	525.25	494.88	486.84
300.0	633.34	627.08	614.58	597.60	592.24	550.26	522.57	491.30	454.68
315.0	633.34	625.26	614.50	597.45	574.13	547.22	519.41	484.42	448.54
330.0	633.34	627.03	615.32	599.10	577.48	547.75	515.32	479.28	437.84
345.0	633.34	627.94	617.14	598.25	573.96	545.17	512.79	477.70	433.62
360.0	633.34	635.12	631.55	619.04	602.07	577.06	550.26	517.21	480.58
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	438.60	393.94	348.38	298.36	246.55	192.95	142.03	87.54	42.88
15.0	449.55	404.51	358.56	312.61	259.46	210.81	163.96	118.02	78.38
30.0	455.07	414.76	375.34	331.45	287.55	241.87	202.45	162.14	129.00
45.0	473.20	435.42	395.83	357.15	319.37	280.68	242.90	206.91	175.43
60.0	484.00	452.51	415.63	381.44	343.66	307.67	272.59	240.20	207.81
75.0	492.99	460.61	427.32	392.24	359.85	323.86	292.38	259.99	229.40
90.0	493.09	459.15	428.77	393.94	359.99	326.05	293.89	262.62	234.04
105.0	485.94	452.00	418.06	383.22	349.27	317.11	284.06	253.69	224.21
120.0	472.55	437.71	402.87	368.03	329.62	294.78	259.94	226.89	199.20
135.0	456.61	418.93	377.67	338.20	301.42	261.05	226.06	191.97	159.68
150.0	437.84	394.60	353.15	310.81	266.67	222.52	181.98	145.95	111.71
165.0	421.92	379.64	331.96	284.28	235.70	186.22	140.34	96.26	60.27
180.0	373.39	324.26	273.34	220.64	167.04	116.13	64.32	25.01	3.57
195.0	374.78	327.03	276.58	228.83	179.28	132.43	90.99	57.66	33.33
210.0	379.82	335.93	292.03	249.93	206.93	170.20	131.68	103.91	78.83
225.0	397.63	355.35	317.57	277.08	242.00	206.91	174.53	146.64	120.55
240.0	412.93	376.04	340.06	304.07	268.99	235.70	207.81	177.23	153.84
255.0	423.72	391.34	355.35	322.07	289.68	259.09	227.61	221.31	174.53
270.0	428.77	395.72	359.99	351.95	294.78	262.62	233.15	206.35	181.34
285.0	428.77	393.04	359.10	324.26	290.32	259.94	229.57	200.09	175.08
300.0	420.74	382.32	347.49	310.86	276.02	242.08	210.81	183.12	154.54
315.0	409.07	368.70	328.33	288.86	252.08	213.50	181.21	150.71	123.80
330.0	395.50	353.15	305.41	263.97	219.82	178.38	141.44	108.11	82.88
345.0	388.64	341.86	293.28	243.80	193.42	146.64	101.66	63.87	36.88
360.0	438.60	393.94	348.38	298.36	246.55	192.95	142.03	87.54	42.88

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	9.83	0.89	0.89	0.89	0.00	0.00	0.89	0.89	0.89
15.0	47.75	28.83	17.12	10.81	7.21	5.41	4.50	4.50	4.50
30.0	99.43	76.14	56.44	42.10	31.35	23.29	17.92	13.44	10.75
45.0	145.74	120.55	98.96	78.27	62.97	49.48	38.68	29.69	22.49
60.0	181.72	154.74	130.45	108.85	89.06	72.87	58.48	45.88	35.09
75.0	201.52	175.43	149.34	126.85	106.16	87.26	71.07	56.68	44.98
90.0	205.45	178.66	153.64	131.31	110.77	90.22	74.14	59.85	46.45
105.0	195.63	168.83	145.60	123.27	102.73	83.97	67.89	55.38	42.88
120.0	171.51	145.60	122.38	101.83	83.08	67.89	54.49	42.88	33.05
135.0	133.66	109.44	89.71	71.77	56.52	43.96	34.99	26.91	20.63
150.0	87.39	64.87	47.75	35.14	26.13	19.82	15.32	11.71	9.91
165.0	35.09	19.79	10.80	7.20	5.40	4.50	4.50	3.60	3.60
180.0	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	0.89
195.0	19.82	11.71	8.11	6.31	5.41	4.50	4.50	3.60	3.60
210.0	58.23	43.00	32.25	24.19	17.92	14.33	10.75	8.96	7.17
225.0	98.96	79.17	63.87	50.38	38.68	29.69	27.89	17.09	13.49
240.0	129.55	108.85	89.06	73.77	58.48	46.78	35.98	26.99	20.69
255.0	150.24	126.85	107.06	88.16	72.87	57.58	45.88	35.09	26.09
270.0	155.43	133.99	113.45	93.79	76.82	61.64	49.13	37.52	27.69
285.0	150.07	126.85	107.19	88.43	71.46	57.17	44.66	33.94	25.91
300.0	131.31	108.09	90.22	73.25	58.06	45.56	34.84	26.80	19.65
315.0	100.47	79.84	62.80	49.34	38.57	28.71	21.53	16.15	12.56
330.0	60.36	44.14	32.43	23.42	17.12	12.61	9.91	8.11	7.21
345.0	19.79	10.80	7.20	5.40	4.50	4.50	3.60	3.60	2.70
360.0	9.83	0.89	0.89	0.89	0.00	0.00	0.89	0.89	0.89
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.89	1.79	2.68	2.68	3.57	3.57	4.47	4.47	4.47
15.0	3.60	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
30.0	8.96	8.06	8.06	7.17	7.17	6.27	6.27	5.37	4.48
45.0	17.09	14.39	11.70	9.90	9.90	8.10	7.20	5.40	5.40
60.0	27.89	20.69	16.19	13.49	11.70	9.90	9.00	6.30	5.40
75.0	34.19	26.09	20.69	16.19	12.59	10.80	9.00	7.20	5.40
90.0	35.73	28.58	21.44	16.97	13.40	10.72	9.83	7.15	6.25
105.0	33.05	25.91	19.65	15.19	12.51	10.72	8.93	7.15	6.25
120.0	25.01	19.65	16.08	12.51	10.72	9.83	8.93	7.15	5.36
135.0	16.15	13.46	11.66	9.87	8.97	8.07	7.18	6.28	5.38
150.0	8.11	7.21	7.21	7.21	7.21	6.31	6.31	5.41	4.50
165.0	3.60	3.60	4.50	4.50	4.50	4.50	4.50	4.50	4.50
180.0	0.89	0.89	1.79	1.79	2.68	3.57	3.57	4.47	4.47
195.0	2.70	2.70	2.70	2.70	2.70	2.70	3.60	4.50	4.50
210.0	6.27	6.27	5.37	5.37	4.48	4.48	3.58	4.48	4.48
225.0	9.90	8.10	7.20	7.20	6.30	5.40	4.50	4.50	4.50
240.0	15.29	11.70	9.90	8.10	7.20	6.30	5.40	4.50	4.50
255.0	18.89	14.39	11.70	9.00	8.10	7.20	5.40	4.50	4.50
270.0	20.55	15.19	11.61	9.83	8.04	7.15	6.25	4.47	4.47
285.0	18.76	14.29	10.72	8.93	8.04	7.15	5.36	4.47	4.47
300.0	15.19	11.61	8.93	8.04	7.15	6.25	5.36	4.47	4.47
315.0	9.87	8.07	7.18	6.28	6.28	5.38	4.49	4.49	4.49
330.0	5.41	5.41	4.50	4.50	4.50	3.60	3.60	4.50	4.50
345.0	2.70	2.70	1.80	1.80	2.70	2.70	3.60	4.50	4.50
360.0	0.89	1.79	2.68	2.68	3.57	3.57	4.47	4.47	4.47

Intensity data(cd)

C/ γ (°)	180.0
0.0	4.47
15.0	4.50
30.0	4.48
45.0	4.50
60.0	4.50
75.0	4.50
90.0	4.47
105.0	4.47
120.0	4.47
135.0	4.49
150.0	4.50
165.0	4.50
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	4.47