
AFX

Client:

LumCAT: ELZP42LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.205

Lamp flux(lm): 1991.8

Power (W): 24.300

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1991.75, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 81.96

Central intensity(cd): 533.898, Maximum intensity(cd): 541.537

Angle of maximum intensity: C=75.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=109.2

[C90/270]Total=137.5

Field angle(10%Imax): [C0/180]Total=159.0

[C90/270]Total=238.0

Maximum s/h(1/2): C0_180=1.24 C90_270=1.41

Maximum s/h(1/4): C0_180=1.35 C90_270=1.55

Up flux rate of lamp(%): 10.65%

Down flux rate of lamp(%): 89.35%

Up flux rate of LUM(%): 10.65%

Down flux rate of LUM(%): 89.35%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.184%

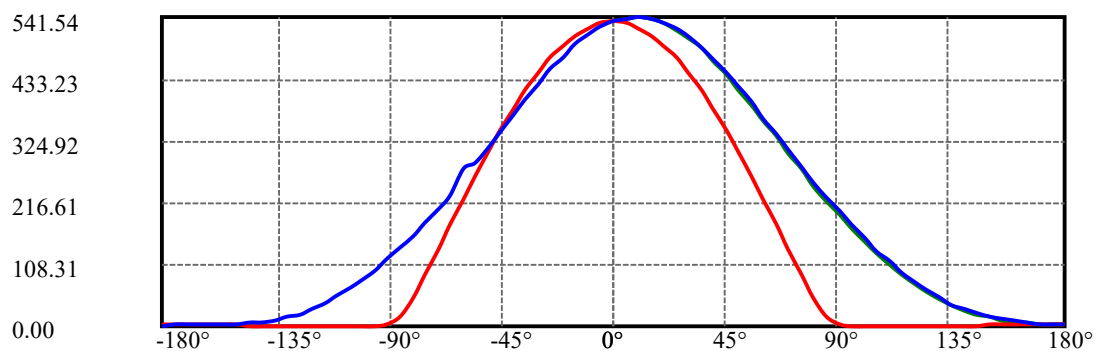
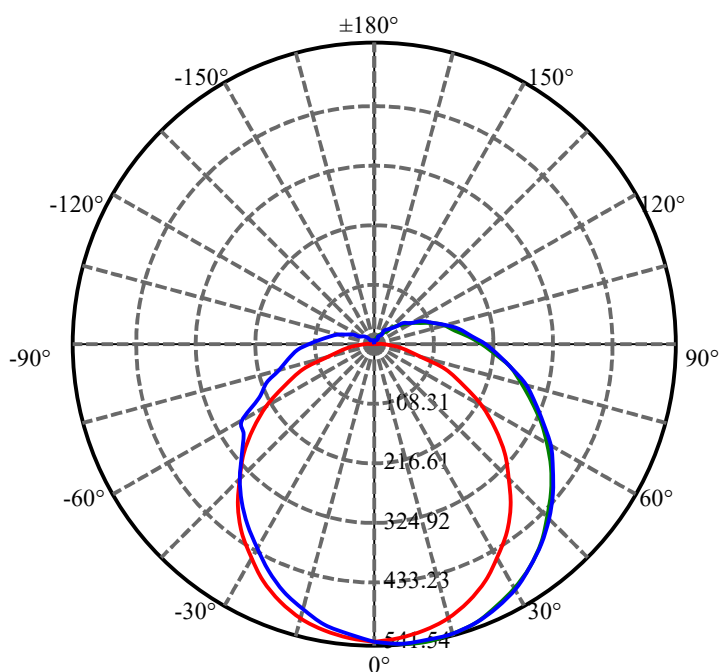
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	533.898	0.000	0	0.00%	0.00%
5.0	531.209	12.733	12.733	0.64%	0.64%
10.0	524.218	37.756	50.489	1.90%	2.53%
15.0	512.928	61.523	112.012	3.09%	5.62%
20.0	497.263	83.254	195.266	4.18%	9.80%
25.0	477.262	102.210	297.475	5.13%	14.94%
30.0	454.159	117.872	415.347	5.92%	20.85%
35.0	427.915	129.891	545.239	6.52%	27.37%
40.0	400.101	138.148	683.387	6.94%	34.31%
45.0	368.099	142.238	825.625	7.14%	41.45%
50.0	335.762	142.225	967.851	7.14%	48.59%
55.0	302.115	138.696	1106.547	6.96%	55.56%
60.0	268.988	132.009	1238.556	6.63%	62.18%
65.0	234.600	122.423	1360.979	6.15%	68.33%
70.0	201.328	110.380	1471.359	5.54%	73.87%
75.0	170.189	97.108	1568.467	4.88%	78.75%
80.0	141.708	83.455	1651.922	4.19%	82.94%
85.0	115.764	69.961	1721.883	3.51%	86.45%
90.0	94.977	57.703	1779.586	2.90%	89.35%
95.0	78.188	47.414	1827	2.38%	91.73%
100.0	64.657	38.814	1865.814	1.95%	93.68%
105.0	52.318	31.299	1897.113	1.57%	95.25%
110.0	42.153	24.693	1921.807	1.24%	96.49%
115.0	33.520	19.161	1940.968	0.96%	97.45%
120.0	26.345	14.553	1955.521	0.73%	98.18%
125.0	20.254	10.771	1966.292	0.54%	98.72%
130.0	15.508	7.776	1974.068	0.39%	99.11%
135.0	11.771	5.512	1979.58	0.28%	99.39%
140.0	9.043	3.854	1983.434	0.19%	99.58%
145.0	7.213	2.712	1986.146	0.14%	99.72%
150.0	5.942	1.937	1988.083	0.10%	99.82%
155.0	4.858	1.367	1989.45	0.07%	99.88%
160.0	4.037	0.933	1990.383	0.05%	99.93%
165.0	3.701	0.638	1991.02	0.03%	99.96%
170.0	3.290	0.415	1991.435	0.02%	99.98%
175.0	3.589	0.246	1991.681	0.01%	100.00%
180.0	1.794	0.064	1991.745	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	415.35	20.85%	20.85%
0-40	683.39	34.31%	34.31%
0-60	1238.56	62.18%	62.18%
0-90	1779.59	89.35%	89.35%
0-120	1955.52	98.18%	98.18%
0-180	1991.75	100.00%	100.00%
60-90	541.03	27.16%	27.16%
90-120	175.94	8.83%	8.83%
90-130	194.48	9.76%	9.76%
90-150	208.50	10.47%	10.47%
90-180	212.10	10.65%	10.65%
0-76.49	1593.40	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	50.49
10-20	144.78
20-30	220.08
30-40	268.04
40-50	284.46
50-60	270.70
60-70	232.80
70-80	180.56
80-90	127.66
90-100	86.23
100-110	55.99
110-120	33.71
120-130	18.55
130-140	9.37
140-150	4.65
150-160	2.30
160-170	1.05
170-180	0.25

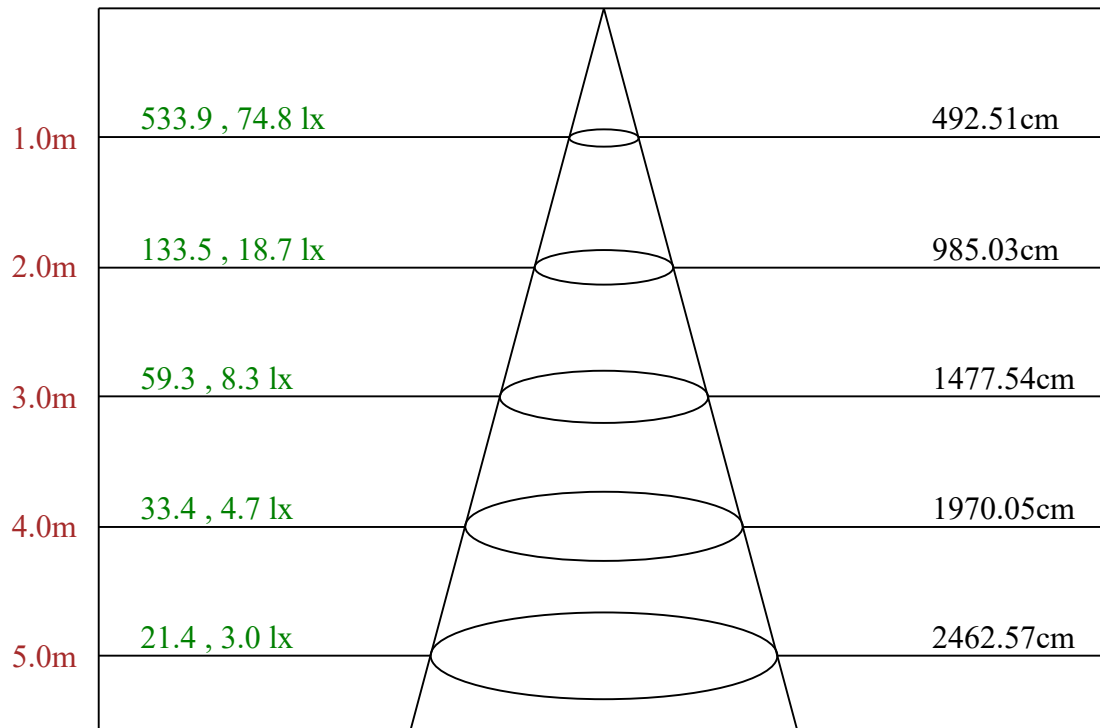
C75(Max): —————C0/C180: —————C90/C270: —————

Field angle(10%Imax):C0/180Left:79.5 Right:79.5

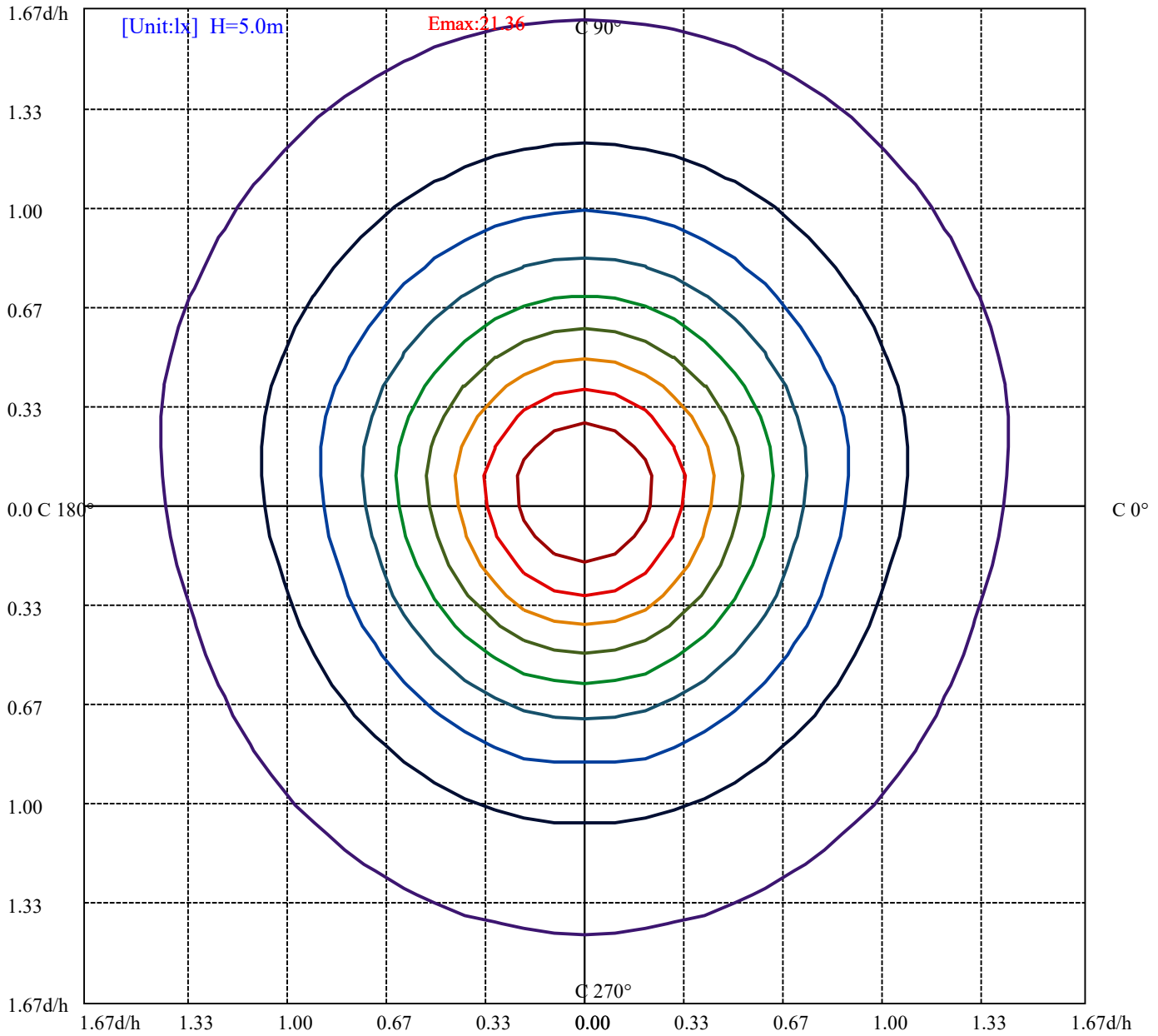
:C90/270Left:119.8 Right:118.2

Beam Angle(50%Imax):C0/180Left:54.6 Right:54.6

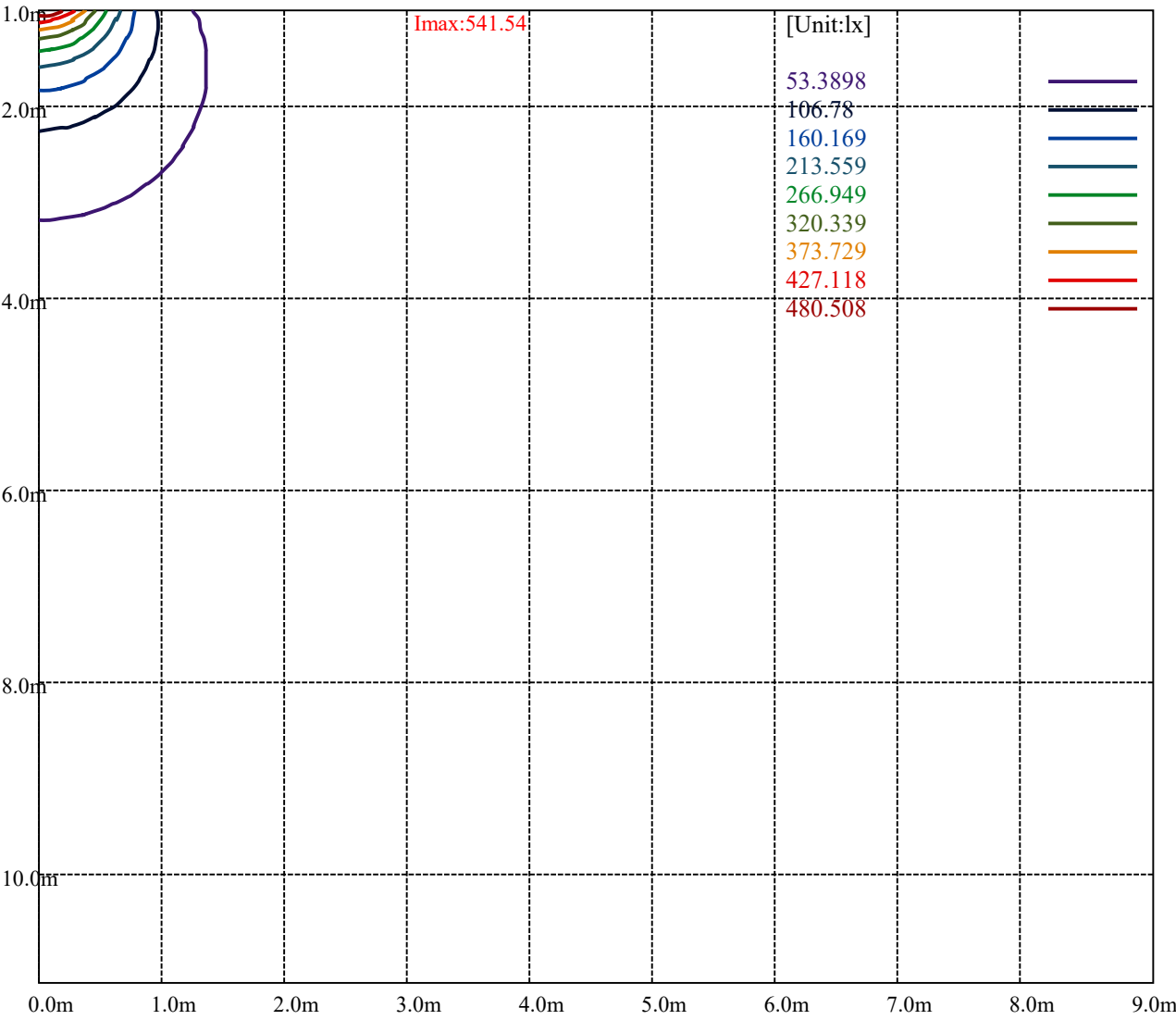
:C90/270Left:70.6 Right:66.9



Max , Ave Beam angle of C75 plane 135.80



(10%Emax) 2.135592	
(20%Emax) 4.2712	
(30%Emax) 6.40676	
(40%Emax) 8.54236	
(50%Emax) 10.67796	
(60%Emax) 12.81356	
(70%Emax) 14.94916	
(80%Emax) 17.08472	
(90%Emax) 19.22032	



Luminance Table

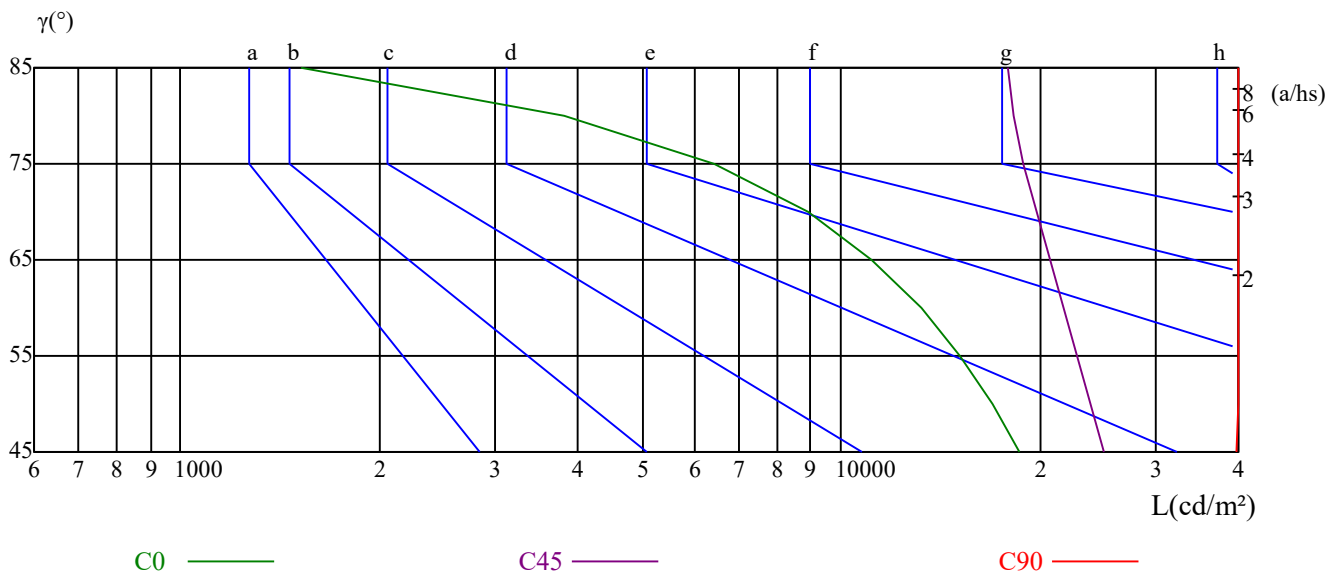
γ	45	50	55	60	65	70	75	80	85
C0	18658	16986	15105	13210	11166	8893	6413	3813	1518
C45	24969	23929	22814	21798	20729	19773	18923	18308	17883
C90	39856	41304	43334	45971	49939	56476	67129	88613	150023

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
27129	42857	35974	22369	57065	43876	13089	133734	92904

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	0.98	0.98	0.98	0.92	0.92	0.92	0.89
1	0.98	0.93	0.88	0.95	0.90	0.86	0.89	0.85	0.81	0.83	0.80	0.77	0.77	0.75	0.73	0.70
2	0.84	0.77	0.70	0.82	0.75	0.69	0.76	0.70	0.65	0.71	0.67	0.62	0.67	0.63	0.59	0.56
3	0.74	0.65	0.58	0.71	0.63	0.56	0.67	0.60	0.54	0.62	0.57	0.52	0.58	0.54	0.49	0.47
4	0.65	0.55	0.48	0.63	0.54	0.47	0.59	0.51	0.46	0.55	0.49	0.44	0.52	0.46	0.42	0.39
5	0.58	0.48	0.41	0.56	0.47	0.41	0.52	0.45	0.39	0.49	0.43	0.38	0.46	0.41	0.36	0.34
6	0.52	0.42	0.36	0.50	0.41	0.35	0.47	0.40	0.34	0.45	0.38	0.33	0.42	0.36	0.32	0.29
7	0.47	0.38	0.31	0.45	0.37	0.31	0.43	0.35	0.30	0.41	0.34	0.29	0.38	0.32	0.28	0.26
8	0.43	0.34	0.28	0.41	0.33	0.27	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.29	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	0.32	0.27	0.23	0.21
10	0.36	0.28	0.23	0.35	0.27	0.22	0.33	0.26	0.22	0.32	0.25	0.21	0.30	0.24	0.20	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	533.90	532.12	525.89	514.32	498.30	477.84	453.81	423.56	392.42
15.0	533.90	535.69	531.21	520.44	507.88	489.03	464.81	437.89	406.48
30.0	533.90	536.59	533.90	527.61	514.12	497.95	476.37	453.00	424.24
45.0	533.90	537.49	536.59	531.20	520.42	506.03	487.16	462.89	436.83
60.0	533.90	537.50	538.40	534.80	525.80	513.19	496.08	475.38	453.77
75.0	533.90	539.30	541.10	537.50	530.30	518.59	504.19	486.18	464.57
90.0	533.90	539.25	541.03	539.25	532.12	520.53	507.16	488.44	468.83
105.0	533.90	540.18	541.97	539.28	532.10	519.54	505.18	487.24	464.81
120.0	533.90	539.27	539.27	535.69	527.63	514.19	497.17	477.46	453.28
135.0	533.90	534.79	533.01	527.65	516.93	503.54	484.79	462.47	435.69
150.0	533.90	536.59	533.90	527.62	501.60	498.01	475.57	450.45	421.73
165.0	533.90	534.80	531.18	522.11	507.61	487.67	465.01	437.81	405.18
180.0	533.90	528.56	519.66	503.64	484.07	460.93	432.46	401.31	366.61
195.0	533.90	528.51	516.85	500.70	480.06	455.83	428.02	396.61	361.62
210.0	533.90	526.71	515.02	498.84	478.17	452.11	423.34	392.78	360.43
225.0	533.90	525.81	513.23	495.25	474.58	449.41	422.44	393.68	360.43
240.0	533.90	523.99	511.39	495.18	473.58	449.27	423.16	395.25	366.44
255.0	533.90	523.99	510.49	493.38	472.68	449.27	425.86	397.05	370.04
270.0	533.90	523.20	509.83	492.90	472.40	449.22	423.38	396.64	369.00
285.0	533.90	524.93	510.57	493.52	473.78	448.65	424.43	396.61	391.23
300.0	533.90	524.04	509.71	493.59	488.21	448.80	421.03	394.15	364.59
315.0	533.90	521.40	508.01	491.04	469.62	444.62	416.94	386.59	355.34
330.0	533.90	526.72	513.26	496.21	474.68	448.65	419.04	386.74	351.74
345.0	533.90	527.55	515.77	498.55	477.70	451.41	422.40	389.77	357.14
360.0	533.90	532.12	525.89	514.32	498.30	477.84	453.81	423.56	392.42
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	356.82	319.45	279.41	236.69	194.87	150.38	105.00	62.29	25.81
15.0	373.28	335.59	297.91	254.84	213.56	170.49	131.90	91.53	61.91
30.0	391.88	356.83	319.98	281.33	243.58	206.73	172.57	140.22	111.45
45.0	407.16	377.50	344.25	311.89	277.73	245.38	213.92	186.06	158.19
60.0	426.76	398.85	370.04	339.43	308.81	278.20	251.19	223.28	197.17
75.0	439.36	414.15	386.24	360.13	332.22	303.41	274.60	248.49	219.68
90.0	443.88	418.92	393.07	364.55	336.03	309.29	280.76	253.13	226.39
105.0	441.48	413.66	388.53	358.92	331.11	301.50	273.68	245.86	220.74
120.0	428.19	399.53	369.97	339.51	308.16	278.59	249.93	220.37	194.39
135.0	407.12	375.87	342.84	309.80	275.88	242.84	211.60	182.13	156.24
150.0	388.53	353.54	317.65	279.06	243.17	203.69	170.49	137.29	109.47
165.0	373.46	337.20	298.22	259.24	217.55	174.04	131.44	92.46	59.83
180.0	329.24	291.86	248.26	207.33	162.84	118.35	75.64	36.48	9.79
195.0	324.83	285.34	244.07	204.59	163.31	124.73	88.83	59.22	35.00
210.0	327.17	288.52	252.57	214.82	180.66	148.31	118.64	91.68	68.31
225.0	328.97	296.61	263.35	231.00	200.44	171.67	145.61	120.44	98.87
240.0	334.92	306.11	273.70	245.79	217.88	190.87	165.66	142.25	121.55
255.0	341.23	312.42	282.70	255.69	229.59	201.67	178.27	171.96	135.95
270.0	340.48	312.85	284.33	276.31	229.07	204.11	180.05	157.76	137.26
285.0	338.29	310.47	281.75	253.04	226.12	199.20	174.98	151.65	131.01
300.0	333.24	302.78	271.43	241.87	212.31	187.22	162.14	138.85	116.45
315.0	324.09	289.27	258.02	224.99	194.63	165.17	137.49	114.28	91.96
330.0	316.75	279.96	242.27	206.38	173.18	138.19	109.47	83.45	61.91
345.0	317.26	281.00	240.21	198.51	157.72	117.84	80.67	49.85	29.01
360.0	356.82	319.45	279.41	236.69	194.87	150.38	105.00	62.29	25.81

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	4.45	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
15.0	38.58	24.23	15.25	9.87	6.28	5.38	3.59	3.59	2.69
30.0	88.08	68.31	53.03	40.45	30.56	22.47	17.98	13.48	10.79
45.0	134.82	113.25	93.48	76.40	62.02	49.44	38.65	29.66	23.37
60.0	171.06	150.36	126.95	108.04	90.03	73.83	59.42	47.72	36.91
75.0	194.47	171.96	149.46	127.85	108.94	90.93	74.73	59.42	46.82
90.0	200.55	177.37	153.31	132.81	113.20	94.48	77.54	63.28	49.02
105.0	194.72	169.59	148.06	126.52	107.68	88.83	73.58	58.33	45.76
120.0	170.20	146.02	125.41	105.70	87.79	72.56	58.23	45.69	35.83
135.0	133.03	110.71	90.17	74.10	59.82	47.32	37.50	28.57	22.32
150.0	86.14	65.50	50.25	38.58	28.71	21.54	16.15	12.56	9.87
165.0	37.16	21.75	13.60	8.16	5.44	4.53	2.72	2.72	2.72
180.0	1.78	1.78	1.78	1.78	1.78	0.89	0.89	0.89	0.89
195.0	19.74	10.77	6.28	4.49	2.69	2.69	1.79	1.79	0.90
210.0	51.23	35.05	25.17	17.08	10.79	8.09	5.39	4.49	2.70
225.0	79.10	62.92	47.64	35.95	26.96	18.88	17.08	8.99	6.29
240.0	100.84	83.73	79.23	53.12	41.42	29.71	21.61	16.21	10.80
255.0	113.44	95.44	79.23	63.92	51.32	39.61	28.81	19.81	14.41
270.0	116.76	98.94	82.00	67.74	53.48	41.89	30.30	21.39	15.15
285.0	113.06	93.32	77.17	62.81	49.35	37.69	26.92	19.74	14.36
300.0	97.64	78.83	63.60	50.16	38.52	27.77	19.71	14.33	9.85
315.0	74.10	57.14	43.75	33.03	22.32	16.07	11.61	8.04	6.25
330.0	43.97	30.51	21.54	13.46	8.97	7.18	5.38	3.59	2.69
345.0	14.50	8.16	4.53	2.72	2.72	1.81	1.81	0.91	0.91
360.0	4.45	0.89	0.89	0.89	0.89	0.89	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	1.78	1.78	2.67	3.56	3.56	3.56	3.56	3.56
15.0	2.69	2.69	2.69	2.69	3.59	3.59	3.59	3.59	3.59
30.0	8.09	7.19	6.29	5.39	4.49	4.49	3.60	3.60	3.60
45.0	17.98	13.48	10.79	8.99	7.19	5.39	4.49	3.60	3.60
60.0	28.81	21.61	17.11	12.60	9.90	7.20	5.40	3.60	3.60
75.0	36.01	27.01	20.71	15.31	11.70	8.10	6.30	4.50	3.60
90.0	38.33	29.41	22.28	16.94	12.48	8.91	6.24	4.46	3.57
105.0	35.00	26.92	20.64	15.25	11.67	8.08	6.28	4.49	3.59
120.0	27.77	20.60	16.12	12.54	9.85	7.17	5.37	4.48	3.58
135.0	16.96	13.39	10.71	8.93	7.14	5.36	4.46	3.57	3.57
150.0	7.18	6.28	5.38	5.38	4.49	4.49	3.59	3.59	3.59
165.0	1.81	1.81	2.72	2.72	3.63	3.63	3.63	3.63	3.63
180.0	0.89	0.89	0.89	1.78	1.78	1.78	2.67	2.67	3.56
195.0	0.90	0.90	0.90	1.79	1.79	1.79	2.69	2.69	3.59
210.0	2.70	1.80	1.80	1.80	1.80	2.70	2.70	2.70	3.60
225.0	4.49	3.60	2.70	2.70	1.80	1.80	2.70	2.70	3.60
240.0	7.20	5.40	4.50	3.60	2.70	2.70	2.70	2.70	3.60
255.0	9.90	7.20	5.40	4.50	2.70	2.70	2.70	2.70	3.60
270.0	10.70	7.13	5.35	4.46	3.57	2.67	2.67	2.67	3.57
285.0	9.87	6.28	5.38	3.59	2.69	2.69	2.69	2.69	3.59
300.0	7.17	5.37	3.58	3.58	2.69	2.69	2.69	2.69	3.58
315.0	4.46	3.57	2.68	1.79	1.79	1.79	2.68	2.68	3.57
330.0	1.79	1.79	1.79	1.79	1.79	1.79	2.69	2.69	3.59
345.0	0.91	0.91	0.91	1.81	1.81	1.81	2.72	2.72	3.63
360.0	0.89	1.78	1.78	2.67	3.56	3.56	3.56	3.56	3.56

Intensity data(cd)

C/ γ (°)	180.0
0.0	3.56
15.0	3.59
30.0	3.60
45.0	3.60
60.0	3.60
75.0	3.60
90.0	3.57
105.0	3.59
120.0	3.58
135.0	3.57
150.0	3.59
165.0	3.63
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	3.56