
AFX

Client:

LumCAT: ELZP42LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.203

Lamp flux(lm): 2151.0

Power (W): 23.970

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2150.96, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 89.74

Central intensity(cd): 576.514, Maximum intensity(cd): 584.603

Angle of maximum intensity: C=75.0 γ =10.0

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

[C90/270]Total=137.4

Field angle(10%Imax): [C0/180]Total=159.2

[C90/270]Total=237.8

Maximum s/h(1/2): C0_180=1.23 C90_270=1.41

Maximum s/h(1/4): C0_180=1.36 C90_270=1.55

Up flux rate of lamp(%): 10.66%

Down flux rate of lamp(%): 89.34%

Up flux rate of LUM(%): 10.66%

Down flux rate of LUM(%): 89.34%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.177%

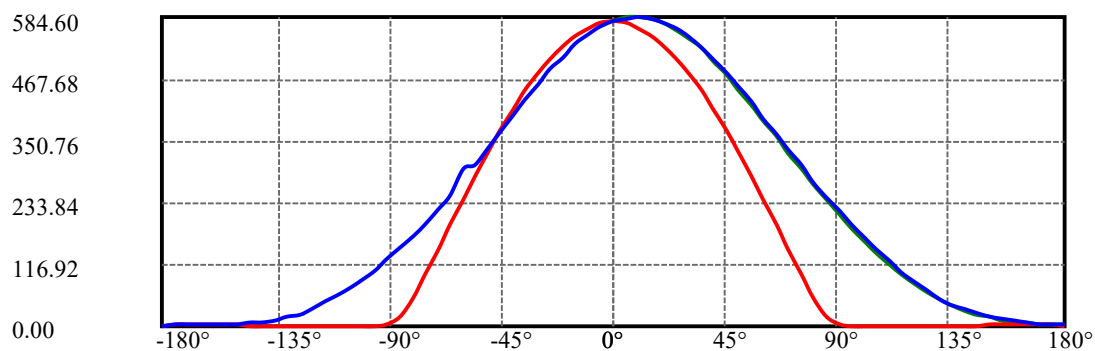
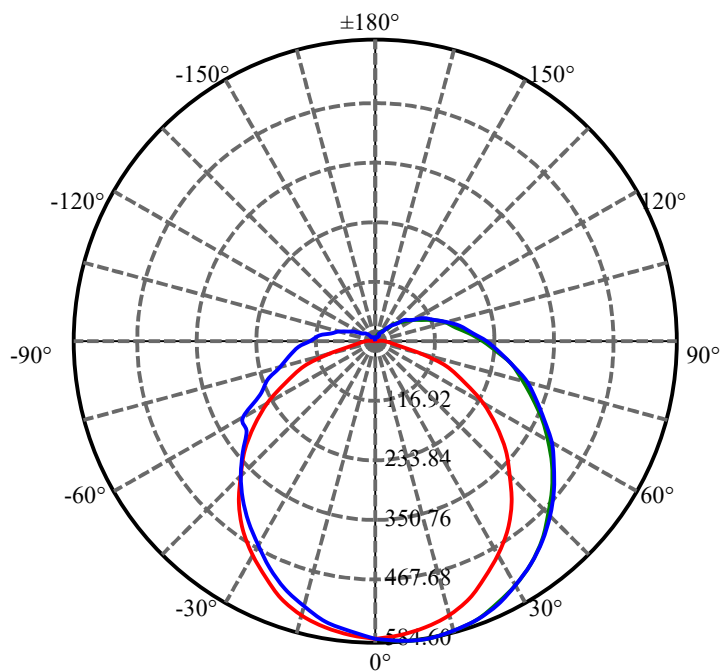
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	576.514	0.000	0	0.00%	0.00%
5.0	573.639	13.750	13.75	0.64%	0.64%
10.0	566.050	40.770	54.52	1.90%	2.53%
15.0	553.750	66.426	120.946	3.09%	5.62%
20.0	536.927	89.887	210.833	4.18%	9.80%
25.0	515.355	110.365	321.198	5.13%	14.93%
30.0	490.420	127.282	448.479	5.92%	20.85%
35.0	462.082	140.263	588.742	6.52%	27.37%
40.0	432.023	149.175	737.917	6.94%	34.31%
45.0	397.555	153.603	891.52	7.14%	41.45%
50.0	362.675	153.615	1045.135	7.14%	48.59%
55.0	326.149	149.773	1194.908	6.96%	55.55%
60.0	290.366	142.506	1337.414	6.63%	62.18%
65.0	253.286	132.163	1469.577	6.14%	68.32%
70.0	217.471	119.199	1588.775	5.54%	73.86%
75.0	183.790	104.883	1693.658	4.88%	78.74%
80.0	153.141	90.153	1783.812	4.19%	82.93%
85.0	125.066	75.595	1859.407	3.51%	86.45%
90.0	102.558	62.325	1921.732	2.90%	89.34%
95.0	84.498	51.218	1972.95	2.38%	91.72%
100.0	69.808	41.929	2014.879	1.95%	93.67%
105.0	56.463	33.787	2048.665	1.57%	95.24%
110.0	45.588	26.674	2075.34	1.24%	96.48%
115.0	36.207	20.711	2096.051	0.96%	97.45%
120.0	28.473	15.724	2111.775	0.73%	98.18%
125.0	21.970	11.660	2123.434	0.54%	98.72%
130.0	16.702	8.409	2131.843	0.39%	99.11%
135.0	12.742	5.950	2137.793	0.28%	99.39%
140.0	9.827	4.179	2141.971	0.19%	99.58%
145.0	7.772	2.936	2144.908	0.14%	99.72%
150.0	6.390	2.085	2146.993	0.10%	99.82%
155.0	5.269	1.476	2148.469	0.07%	99.88%
160.0	4.485	1.023	2149.492	0.05%	99.93%
165.0	3.888	0.690	2150.182	0.03%	99.96%
170.0	3.776	0.455	2150.636	0.02%	99.98%
175.0	3.589	0.263	2150.9	0.01%	100.00%
180.0	1.794	0.064	2150.964	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	448.48	20.85%	20.85%
0-40	737.92	34.31%	34.31%
0-60	1337.41	62.18%	62.18%
0-90	1921.73	89.34%	89.34%
0-120	2111.77	98.18%	98.18%
0-180	2150.96	100.00%	100.00%
60-90	584.32	27.17%	27.17%
90-120	190.04	8.84%	8.84%
90-130	210.11	9.77%	9.77%
90-150	225.26	10.47%	10.47%
90-180	229.17	10.65%	10.65%
0-76.50	1720.77	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	54.52
10-20	156.31
20-30	237.65
30-40	289.44
40-50	307.22
50-60	292.28
60-70	251.36
70-80	195.04
80-90	137.92
90-100	93.15
100-110	60.46
110-120	36.43
120-130	20.07
130-140	10.13
140-150	5.02
150-160	2.50
160-170	1.14
170-180	0.26



C75(Max): —————

C0/C180: —————

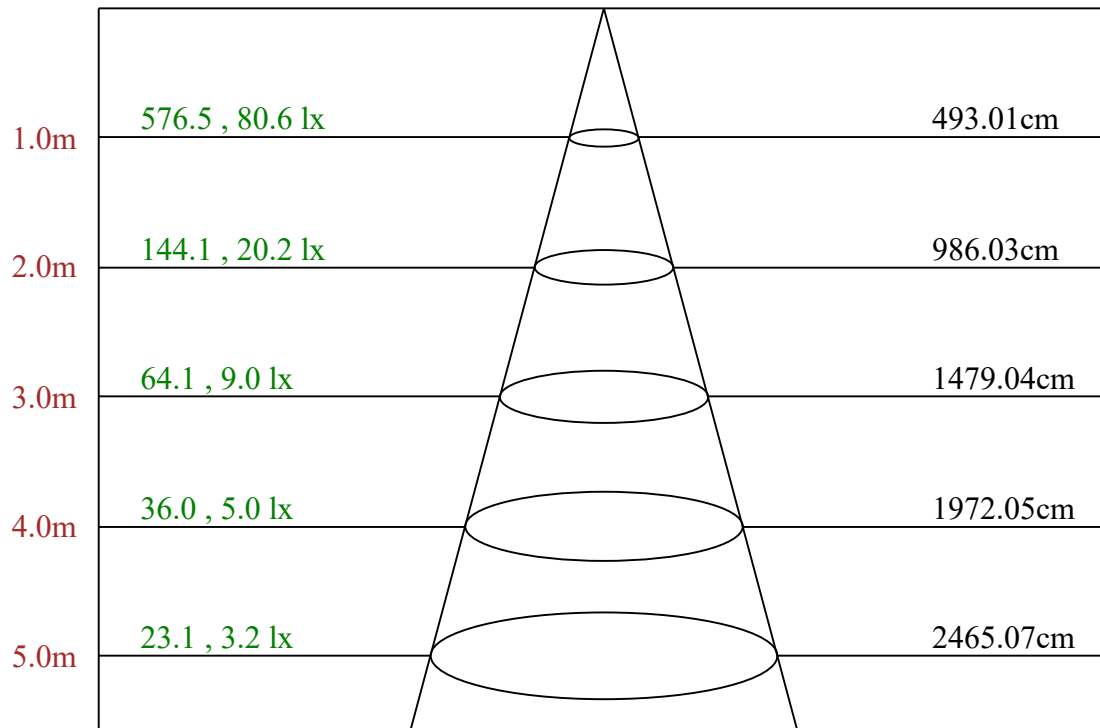
C90/C270: —————

Field angle(10%Imax):C0/180Left:79.6 Right:79.6

:C90/270Left:119.6 Right:118.2

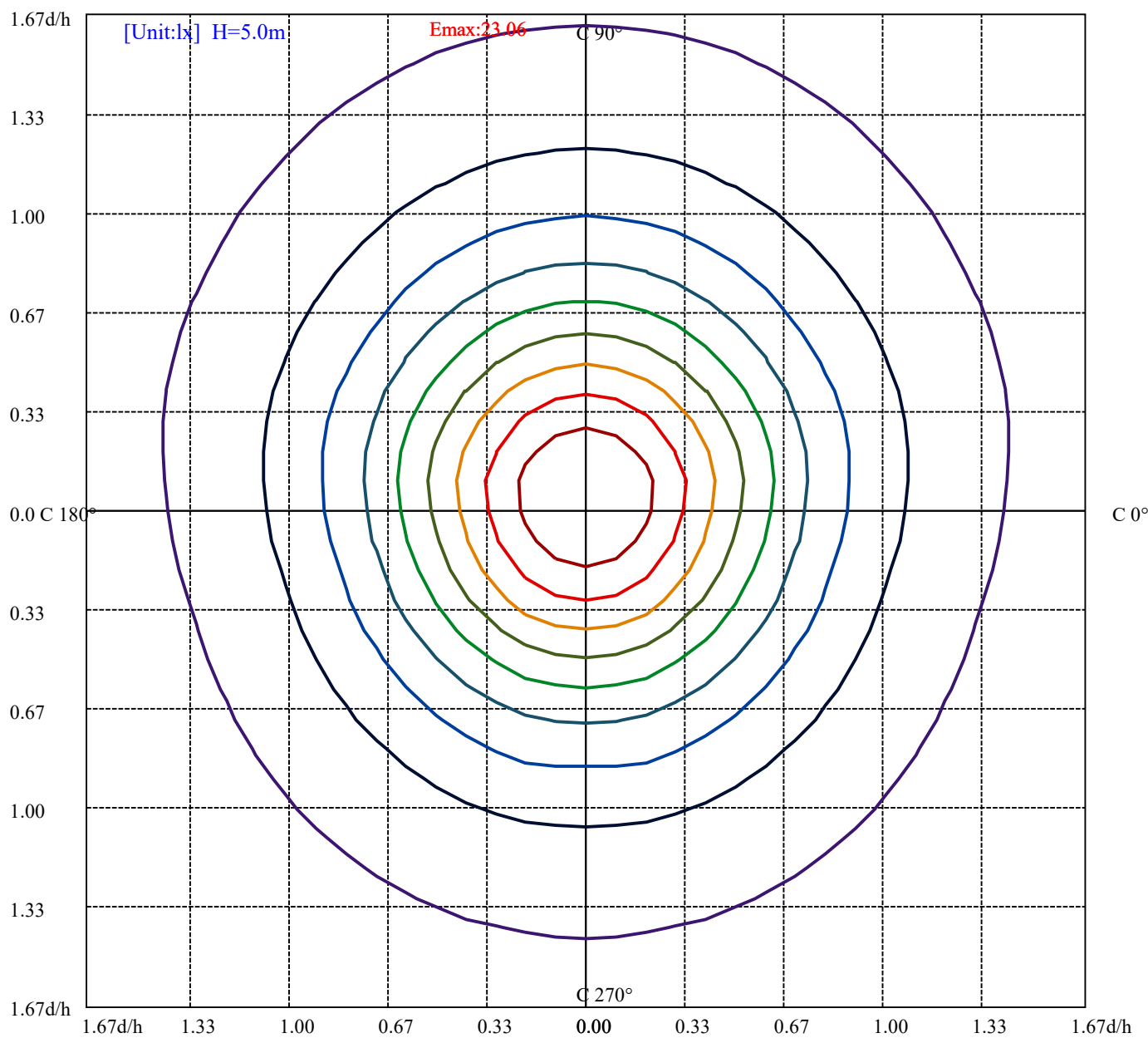
Beam Angle(50%Imax):C0/180Left:54.6 Right:54.6

:C90/270Left:70.5 Right:66.9

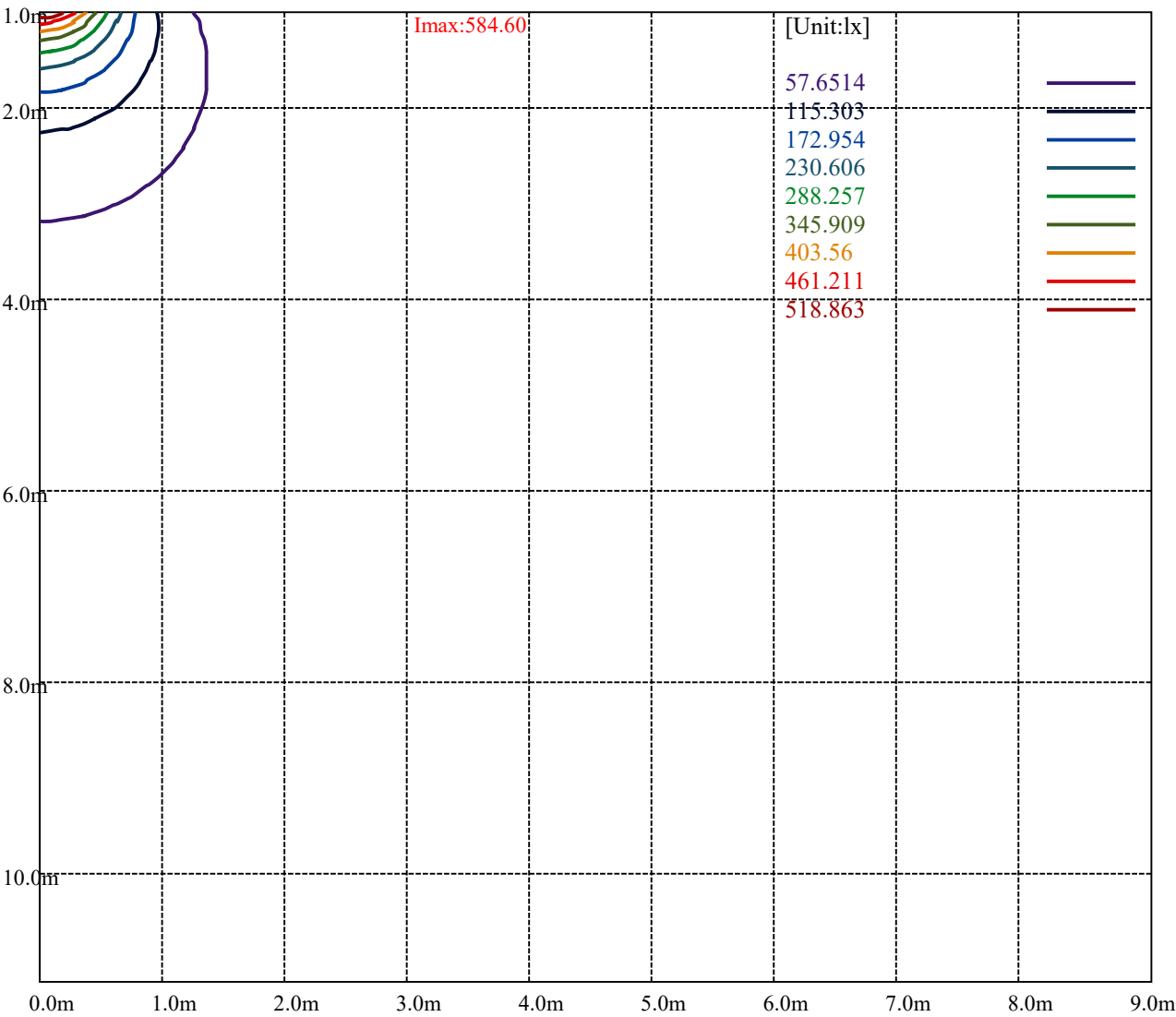


Max , Ave

Beam angle of C75 plane 135.84



(10%Emax) 2.306056	—
(20%Emax) 4.61212	—
(30%Emax) 6.91816	—
(40%Emax) 9.22424	—
(50%Emax) 11.53028	—
(60%Emax) 13.83636	—
(70%Emax) 16.1424	—
(80%Emax) 18.44844	—
(90%Emax) 20.75452	—



Luminance Table

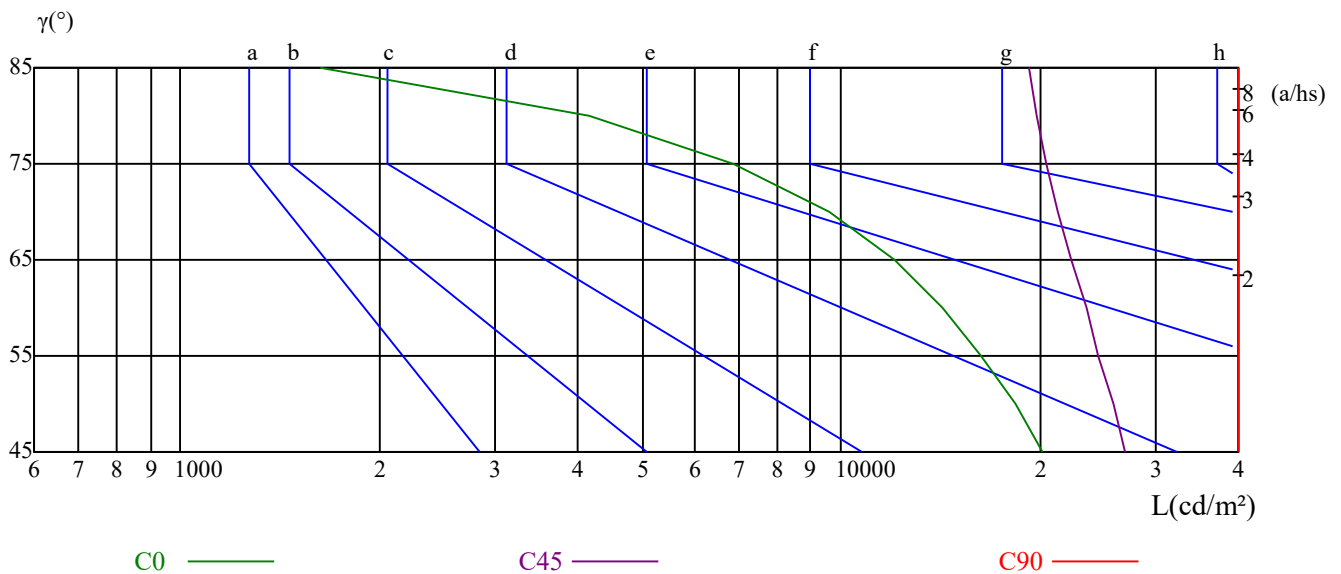
γ	45	50	55	60	65	70	75	80	85
C0	20180	18343	16299	14266	12080	9599	6886	4156	1632
C45	27005	25866	24601	23528	22375	21372	20439	19735	19312
C90	42965	44630	46760	49666	54029	61015	72649	95761	161789

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
29351	46291	38832	24018	61683	47432	14069	144181	100330

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	0.66	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	0.40	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)

Appendix Page: 10 Total:12

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	576.51	574.73	567.62	555.16	538.26	515.13	489.33	457.30	424.38
15.0	576.51	578.31	573.82	562.15	548.68	528.02	502.88	473.24	440.02
30.0	576.51	580.11	577.41	570.22	555.83	537.84	514.46	489.27	457.79
45.0	576.51	581.01	580.11	573.82	562.12	546.83	526.15	500.07	471.28
60.0	576.51	580.11	581.01	577.41	566.62	554.03	535.14	512.66	489.27
75.0	576.51	582.82	584.62	580.12	572.91	560.30	544.99	525.17	501.75
90.0	576.51	581.86	584.53	581.86	573.84	562.26	547.11	527.51	506.12
105.0	576.51	582.79	584.58	581.00	573.82	560.38	544.24	526.30	502.10
120.0	576.51	582.79	582.79	579.20	570.24	555.89	537.06	516.44	489.54
135.0	576.51	577.41	575.62	569.37	557.77	543.49	522.97	498.87	470.31
150.0	576.51	579.20	576.51	568.44	541.55	537.06	513.75	485.96	455.47
165.0	576.51	577.42	573.79	563.82	548.41	526.66	502.18	472.27	437.82
180.0	576.51	570.29	560.50	543.60	523.13	497.33	467.08	432.39	395.91
195.0	576.51	571.13	558.55	541.49	519.04	492.10	463.37	429.24	390.63
210.0	576.51	569.32	555.83	538.74	517.15	488.37	457.79	424.52	389.44
225.0	576.51	568.42	554.03	535.14	512.66	485.68	456.89	425.42	390.34
240.0	576.51	564.82	551.33	534.24	510.86	484.78	456.89	426.31	394.84
255.0	576.51	565.70	551.29	532.37	510.76	485.53	460.31	428.78	399.06
270.0	576.51	564.93	550.67	531.96	509.68	485.63	457.11	428.60	398.30
285.0	576.51	566.65	550.51	532.58	511.06	484.16	458.16	428.58	422.30
300.0	576.51	566.65	551.41	533.48	527.20	485.06	454.58	425.89	393.61
315.0	576.51	563.13	547.96	530.11	506.90	480.13	449.79	416.77	383.75
330.0	576.51	567.55	553.20	535.27	511.96	484.16	451.89	416.92	379.26
345.0	576.51	570.17	557.48	538.44	515.78	487.68	455.95	421.51	385.25
360.0	576.51	574.73	567.62	555.16	538.26	515.13	489.33	457.30	424.38
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	386.12	345.20	301.60	256.23	210.85	161.92	112.99	67.62	28.47
15.0	403.20	362.79	321.48	275.69	230.79	184.99	141.88	98.78	67.35
30.0	422.72	385.84	346.27	304.00	262.62	223.05	186.18	151.10	120.52
45.0	440.71	408.33	371.45	336.37	300.40	265.32	231.15	200.57	170.89
60.0	460.49	429.91	398.43	366.06	332.78	300.40	270.72	241.04	213.16
75.0	474.72	446.80	417.07	389.15	358.52	327.89	297.27	269.34	237.81
90.0	478.50	452.66	424.14	393.85	363.55	334.15	303.85	273.55	244.15
105.0	476.10	446.51	418.71	387.33	356.85	324.57	295.88	265.39	238.50
120.0	462.65	431.26	399.88	366.71	333.54	301.26	269.88	238.50	209.80
135.0	439.97	406.06	369.47	334.66	297.18	262.38	228.46	196.34	168.67
150.0	419.61	381.95	342.50	301.26	262.70	220.56	183.80	148.84	118.35
165.0	403.38	364.40	321.80	280.10	234.78	187.64	142.32	99.71	65.27
180.0	355.87	314.95	267.79	223.31	176.16	128.11	80.96	40.04	9.79
195.0	351.12	308.91	264.01	220.91	176.91	134.70	96.09	63.76	37.72
210.0	353.46	312.09	272.52	232.04	195.17	160.09	127.71	98.93	73.75
225.0	355.26	320.19	285.11	250.03	216.76	185.28	157.39	130.41	107.03
240.0	361.56	330.08	295.90	265.32	234.74	205.96	178.98	153.80	131.31
255.0	368.43	337.80	305.37	275.65	247.72	217.99	192.77	185.57	146.83
270.0	367.12	337.71	306.52	297.61	246.82	220.98	194.25	170.19	147.92
285.0	365.81	335.33	303.95	272.57	243.88	215.18	189.18	164.08	141.66
300.0	360.43	327.26	294.09	260.91	229.53	201.74	174.84	149.73	126.42
315.0	349.84	312.35	278.44	242.74	209.72	178.49	149.04	123.16	99.06
330.0	341.60	302.15	261.81	222.36	186.49	149.73	118.35	90.56	66.35
345.0	342.65	303.67	259.25	213.93	170.42	126.91	87.02	54.39	30.82
360.0	386.12	345.20	301.60	256.23	210.85	161.92	112.99	67.62	28.47

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	42.21	26.04	16.16	10.78	7.18	5.39	4.49	3.59	2.69
30.0	95.34	73.75	57.56	44.07	33.28	24.28	18.89	14.39	11.69
45.0	145.70	122.32	100.73	82.74	67.45	53.96	42.27	32.38	25.18
60.0	184.38	161.89	136.71	116.92	97.14	80.05	64.76	51.27	39.57
75.0	210.79	186.47	161.24	137.82	118.01	98.19	80.17	64.86	50.45
90.0	216.53	191.58	165.74	143.46	122.07	102.47	83.76	68.61	52.57
105.0	209.80	182.91	159.59	136.28	116.56	95.94	79.80	63.66	49.31
120.0	183.80	157.80	136.28	113.87	95.04	78.00	62.76	49.31	38.55
135.0	143.68	119.59	98.17	79.43	64.26	50.87	40.16	31.24	24.10
150.0	92.35	70.83	53.80	41.24	31.38	23.31	17.93	13.45	10.76
165.0	39.88	22.66	14.50	9.06	6.35	4.53	3.63	2.72	2.72
180.0	1.78	1.78	1.78	1.78	1.78	1.78	0.89	0.89	0.89
195.0	21.55	11.67	6.29	4.49	3.59	2.69	1.80	1.80	0.90
210.0	54.86	38.67	26.98	17.99	11.69	8.99	6.30	4.50	3.60
225.0	85.44	67.45	52.17	39.57	28.78	20.69	17.99	9.89	7.20
240.0	108.83	90.84	85.44	57.56	44.97	32.38	23.38	17.09	11.69
255.0	122.51	103.59	85.58	69.36	54.95	42.34	30.63	21.62	15.31
270.0	126.53	106.93	88.21	73.07	57.03	45.44	32.08	23.17	16.93
285.0	121.94	100.42	83.38	67.25	52.90	41.24	29.59	21.52	15.24
300.0	105.80	86.07	69.04	53.80	42.14	29.59	21.52	16.14	10.76
315.0	80.32	62.47	47.30	35.70	24.10	16.96	12.49	8.92	6.25
330.0	47.52	33.17	23.31	14.35	9.86	7.17	5.38	4.48	2.69
345.0	15.41	8.16	4.53	3.63	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	2.67	2.67	3.56	3.56	3.56	3.56	3.56
15.0	2.69	2.69	2.69	3.59	3.59	3.59	3.59	3.59	3.59
30.0	8.99	7.20	6.30	6.30	5.40	4.50	4.50	3.60	3.60
45.0	19.79	15.29	11.69	9.89	8.09	6.30	4.50	3.60	3.60
60.0	30.58	23.38	17.99	13.49	10.79	8.09	6.30	4.50	3.60
75.0	38.73	29.73	22.52	17.12	12.61	9.01	7.21	4.50	3.60
90.0	40.99	31.19	24.06	17.82	13.37	9.80	7.13	4.46	3.56
105.0	38.55	29.59	22.42	17.04	12.55	8.97	6.28	4.48	3.59
120.0	29.59	22.42	17.04	13.45	9.86	8.07	5.38	4.48	3.59
135.0	17.85	14.28	11.60	8.92	7.14	6.25	4.46	3.57	3.57
150.0	8.07	7.17	6.28	5.38	4.48	4.48	4.48	3.59	3.59
165.0	1.81	2.72	2.72	2.72	3.63	3.63	3.63	3.63	3.63
180.0	0.89	0.89	0.89	1.78	2.67	2.67	2.67	3.56	3.56
195.0	0.90	0.90	1.80	1.80	2.69	1.80	2.69	3.59	3.59
210.0	2.70	2.70	1.80	1.80	1.80	2.70	2.70	3.60	3.60
225.0	5.40	3.60	2.70	2.70	1.80	2.70	2.70	3.60	3.60
240.0	8.09	6.30	4.50	3.60	2.70	2.70	2.70	3.60	3.60
255.0	10.81	7.21	5.40	4.50	3.60	2.70	2.70	3.60	3.60
270.0	11.58	8.02	6.24	4.46	3.56	2.67	2.67	3.56	3.56
285.0	10.76	7.17	5.38	4.48	3.59	2.69	2.69	3.59	3.59
300.0	8.07	5.38	4.48	3.59	2.69	2.69	2.69	3.59	3.59
315.0	4.46	3.57	2.68	2.68	2.68	2.68	2.68	3.57	3.57
330.0	2.69	1.79	1.79	1.79	1.79	2.69	2.69	3.59	3.59
345.0	0.91	0.91	0.91	1.81	1.81	2.72	2.72	3.63	3.63
360.0	0.89	1.78	2.67	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	3.56
105.0	3.59
120.0	3.59
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