
AFX

Client:

LumCAT: ELZV2402LAJD4**

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.040

LampCAT:

Current(A): 0.136

Lamp flux(lm): 1286.9

Power (W): 16.150

Number of Lamps: 1

PF: 0.987

Length(mm): 590

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 1286.85, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 79.68

Central intensity(cd): 325.655, Maximum intensity(cd): 372.660

Angle of maximum intensity: C=90.0 γ =25.0

Beam Angle(50%Imax): [C0/180]Total=107.8

[C90/270]Total=119.6

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(%): 14.46%

Down flux rate of lamp(%): 85.54%

Up flux rate of LUM(%): 14.46%

Down flux rate of LUM(%): 85.54%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 57.916%

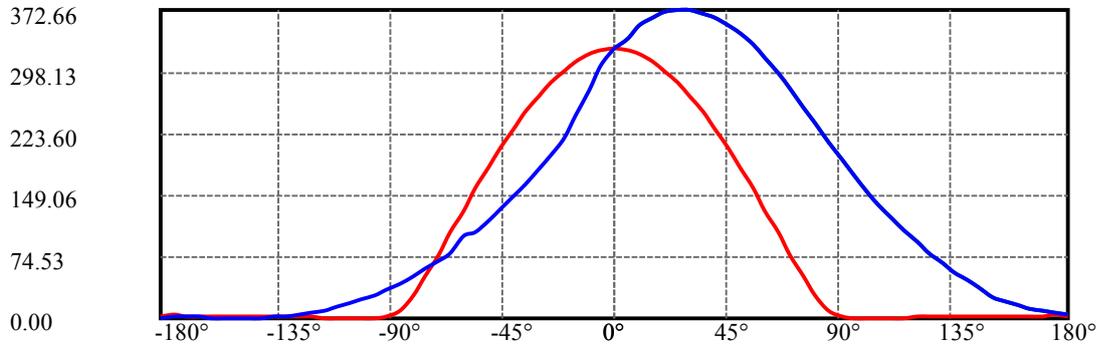
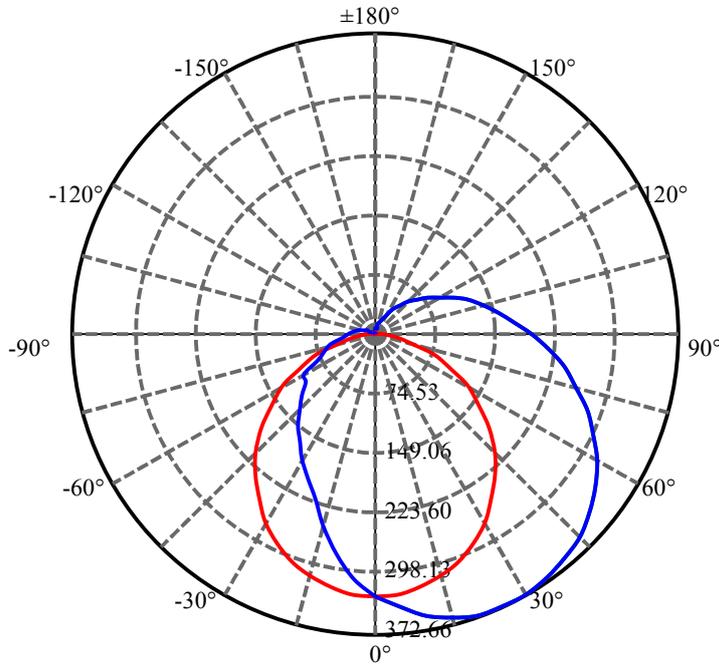
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	325.655	0.000	0	0.00%	0.00%
5.0	322.839	7.753	7.753	0.60%	0.60%
10.0	316.923	22.886	30.639	1.78%	2.38%
15.0	307.481	37.039	67.678	2.88%	5.26%
20.0	296.351	49.764	117.442	3.87%	9.13%
25.0	282.916	60.754	178.197	4.72%	13.85%
30.0	269.565	69.917	248.114	5.43%	19.28%
35.0	254.759	77.210	325.324	6.00%	25.28%
40.0	239.342	82.437	407.761	6.41%	31.69%
45.0	221.773	85.379	493.14	6.63%	38.32%
50.0	203.829	85.999	579.139	6.68%	45.00%
55.0	185.545	84.663	663.802	6.58%	51.58%
60.0	167.027	81.496	745.298	6.33%	57.92%
65.0	148.128	76.615	821.913	5.95%	63.87%
70.0	129.649	70.335	892.248	5.47%	69.34%
75.0	112.148	63.202	955.449	4.91%	74.25%
80.0	96.306	55.776	1011.226	4.33%	78.58%
85.0	81.501	48.314	1059.54	3.75%	82.34%
90.0	69.193	41.261	1100.801	3.21%	85.54%
95.0	58.966	35.091	1135.892	2.73%	88.27%
100.0	50.642	29.783	1165.675	2.31%	90.58%
105.0	43.269	25.128	1190.803	1.95%	92.54%
110.0	37.018	20.986	1211.788	1.63%	94.17%
115.0	31.327	17.305	1229.094	1.34%	95.51%
120.0	26.604	14.083	1243.177	1.09%	96.61%
125.0	22.379	11.322	1254.499	0.88%	97.49%
130.0	18.574	8.904	1263.404	0.69%	98.18%
135.0	15.372	6.859	1270.263	0.53%	98.71%
140.0	12.519	5.164	1275.427	0.40%	99.11%
145.0	10.130	3.779	1279.206	0.29%	99.41%
150.0	8.037	2.675	1281.881	0.21%	99.61%
155.0	6.740	1.870	1283.752	0.15%	99.76%
160.0	5.653	1.300	1285.051	0.10%	99.86%
165.0	4.914	0.871	1285.922	0.07%	99.93%
170.0	4.386	0.552	1286.474	0.04%	99.97%
175.0	4.145	0.305	1286.779	0.02%	99.99%
180.0	2.046	0.074	1286.853	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	248.11	19.28%	19.28%
0-40	407.76	31.69%	31.69%
0-60	745.30	57.92%	57.92%
0-90	1100.80	85.54%	85.54%
0-120	1243.18	96.61%	96.61%
0-180	1286.85	100.00%	100.00%
60-90	355.50	27.63%	27.63%
90-120	142.38	11.06%	11.06%
90-130	162.60	12.64%	12.64%
90-150	181.08	14.07%	14.07%
90-180	185.98	14.45%	14.45%
0-81.89	1029.48	80.00%	80.00%

ZONAL LUMEN SUMMARY

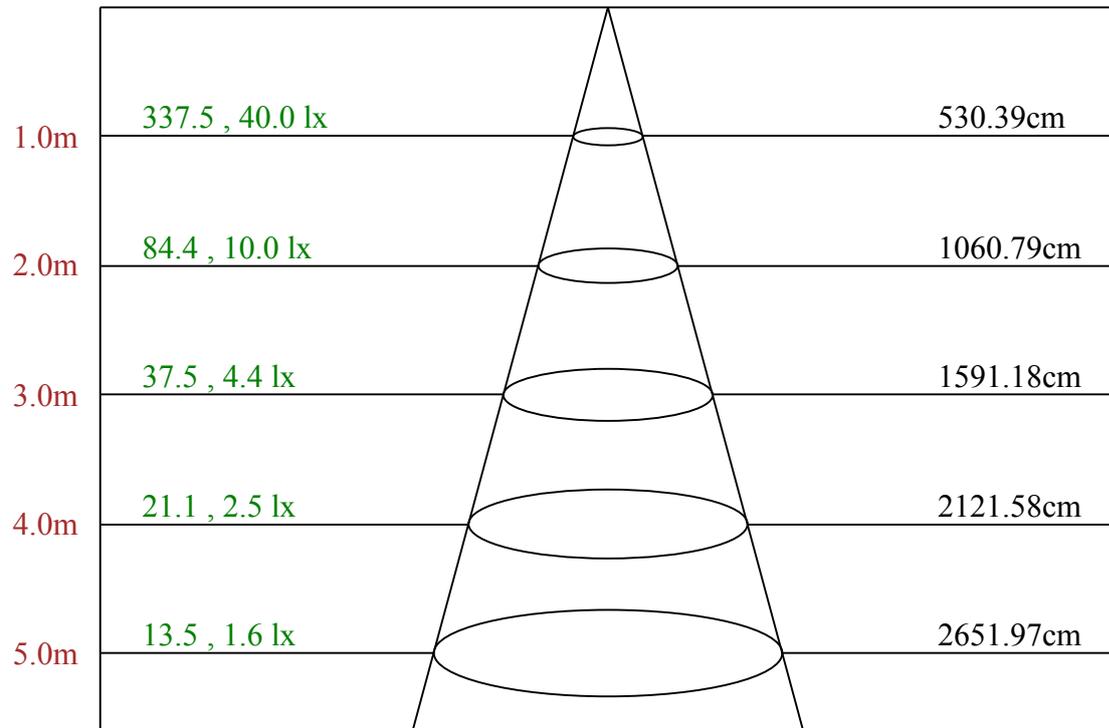
0-10	30.64
10-20	86.80
20-30	130.67
30-40	159.65
40-50	171.38
50-60	166.16
60-70	146.95
70-80	118.98
80-90	89.58
90-100	64.87
100-110	46.11
110-120	31.39
120-130	20.23
130-140	12.02
140-150	6.45
150-160	3.17
160-170	1.42
170-180	0.31



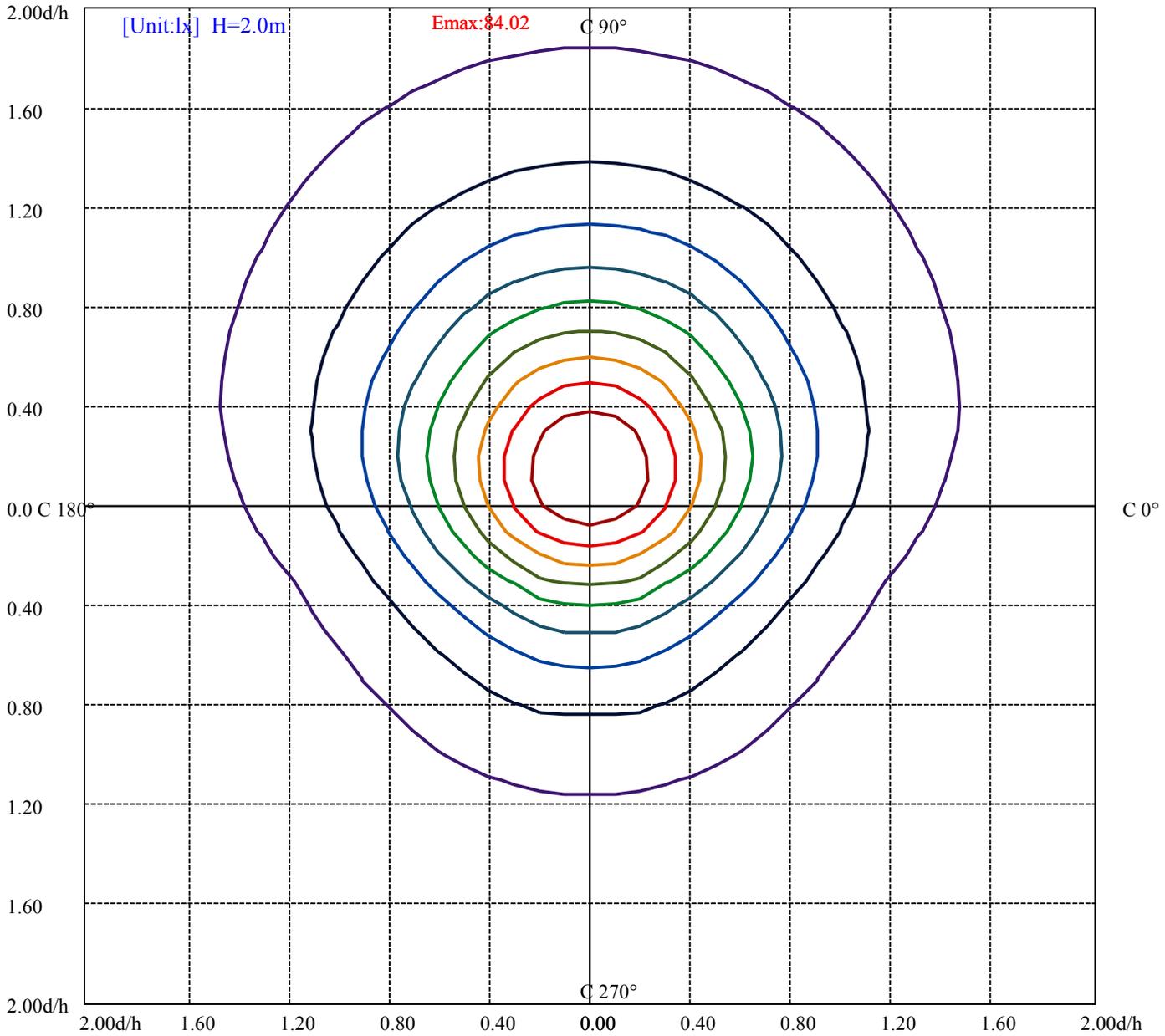
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:79.1 Right:79.1
 :C90/270Left:113.0 Right:119.9

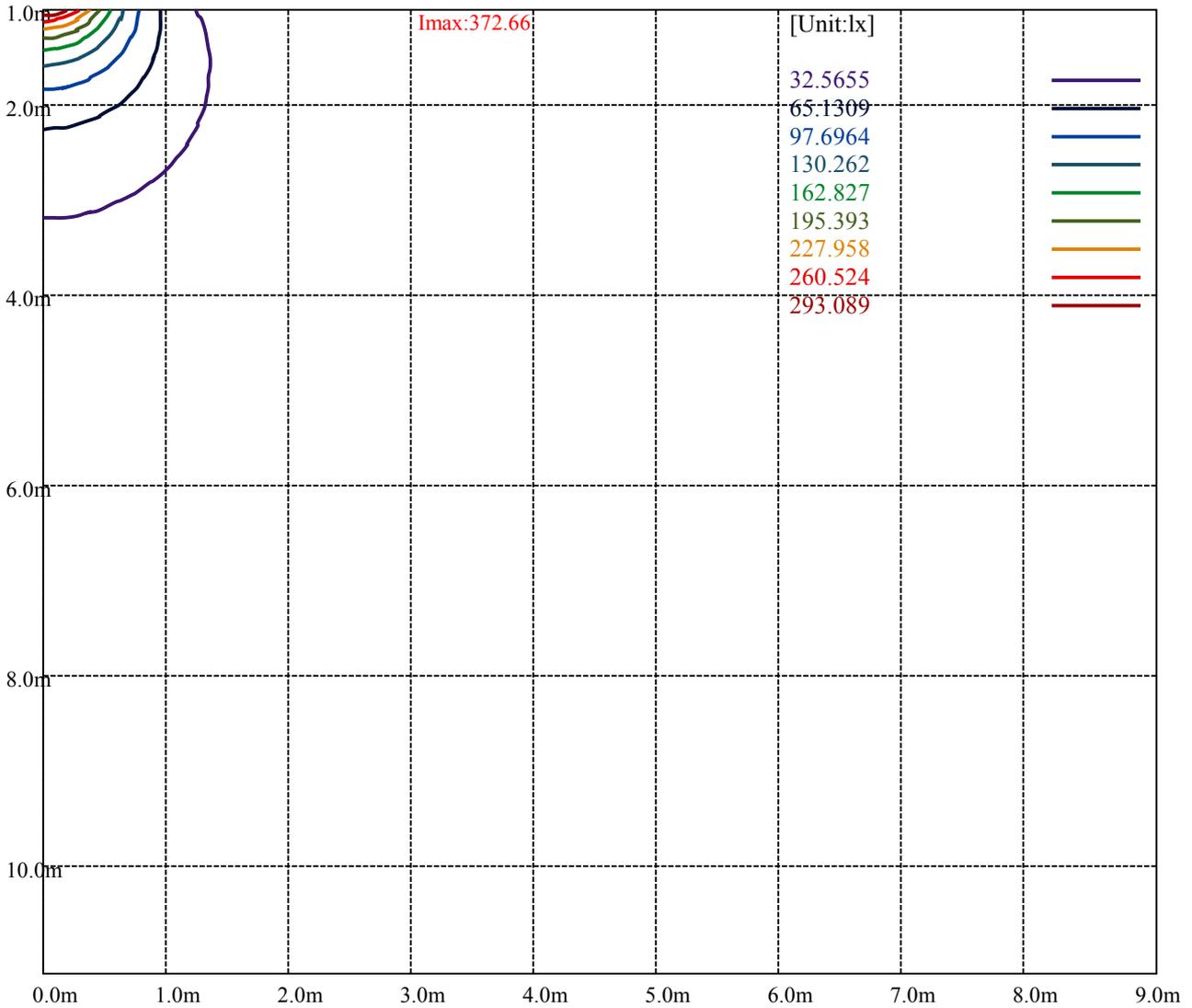
Beam Angle(50%Imax):C0/180Left:53.9 Right:53.9
 :C90/270Left:53.0 Right:66.6



Max , Ave Beam angle of C90 plane 138.68



- (10%Emax) 8.401725
- (20%Emax) 16.80345
- (30%Emax) 25.20525
- (40%Emax) 33.607
- (50%Emax) 42.0085
- (60%Emax) 50.41025
- (70%Emax) 58.812
- (80%Emax) 67.21375
- (90%Emax) 75.6155



Luminance Table

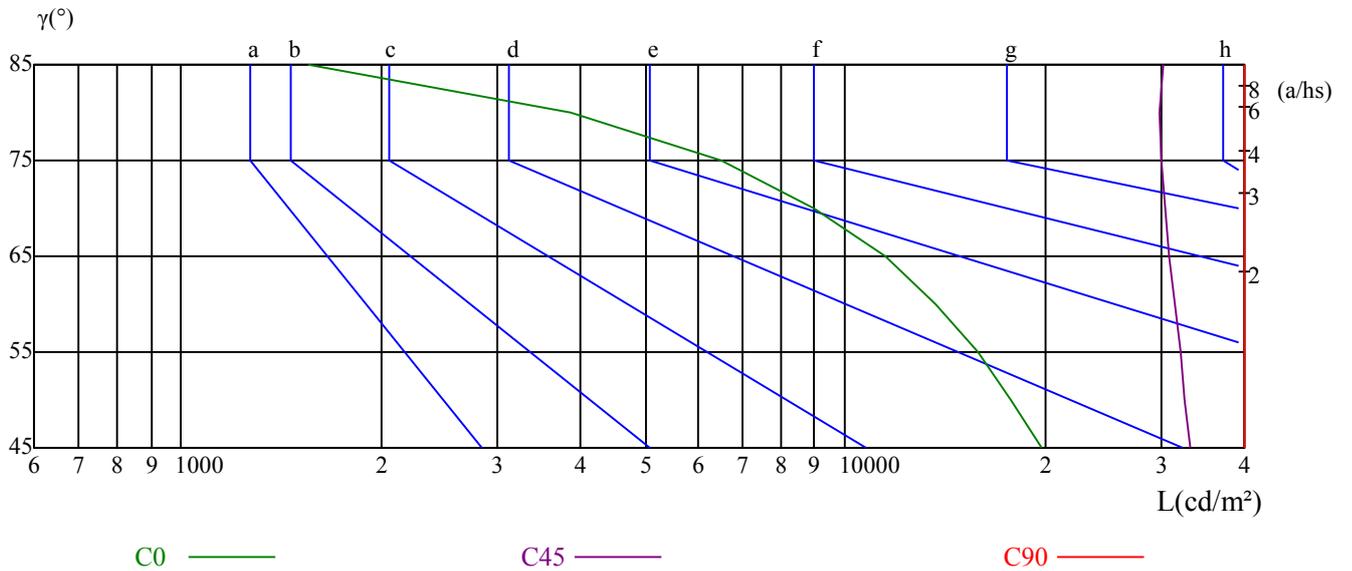
γ	45	50	55	60	65	70	75	80	85
C0	19821	17843	15874	13666	11541	8999	6495	3860	1558
C45	33095	32528	32023	31398	30855	30374	30079	29856	30204
C90	55802	59365	63545	68974	76390	87709	105020	139945	232146

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
28041	50223	40053	22654	68774	51451	13432	165567	115600

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	325.65	326.27	322.32	315.65	305.55	292.29	276.93	260.16	238.64
15.0	325.65	329.64	330.17	327.07	320.79	312.29	300.88	287.16	269.55
30.0	325.65	331.78	336.67	338.89	336.58	330.89	322.64	311.45	298.21
45.0	325.65	335.58	343.63	348.90	350.69	348.55	343.09	334.60	323.33
60.0	325.65	339.28	350.11	358.41	363.91	364.09	360.76	356.51	346.59
75.0	325.65	339.54	352.43	362.62	368.66	370.91	370.82	367.31	361.36
90.0	325.65	339.10	353.34	363.58	370.26	372.66	372.39	368.92	363.67
105.0	325.65	339.57	353.04	362.89	369.49	372.11	370.76	367.32	360.27
120.0	325.65	337.48	348.57	357.12	362.03	362.39	359.76	354.30	345.84
135.0	325.65	328.25	336.14	342.14	343.84	342.59	337.39	329.15	318.40
150.0	325.65	332.75	337.11	338.20	334.29	332.84	324.47	314.11	300.65
165.0	325.65	329.29	329.66	326.66	320.56	311.92	301.28	288.27	271.71
180.0	325.65	322.41	316.35	305.90	293.34	278.94	260.95	239.61	217.57
195.0	325.65	319.02	308.75	294.95	277.16	257.96	236.72	208.84	183.45
210.0	325.65	314.11	299.72	280.01	256.03	230.63	204.52	178.06	154.44
225.0	325.65	311.97	291.23	265.92	239.10	208.43	187.42	167.75	149.06
240.0	325.65	309.86	283.79	256.17	225.40	202.85	183.72	165.85	149.43
255.0	325.65	306.18	279.31	247.67	220.08	199.25	182.21	164.99	148.49
270.0	325.65	305.27	275.98	245.09	216.78	196.92	179.48	162.65	147.43
285.0	325.65	306.31	279.74	247.92	219.54	200.74	182.40	165.58	160.61
300.0	325.65	307.10	284.19	255.54	248.17	201.34	182.88	164.78	147.69
315.0	325.65	304.15	284.80	261.33	234.10	206.68	185.54	164.84	146.93
330.0	325.65	314.83	300.65	282.28	258.00	234.44	206.80	179.79	156.14
345.0	325.65	318.38	308.46	294.64	278.08	258.25	235.78	212.22	184.75
360.0	325.65	326.27	322.32	315.65	305.55	292.29	276.93	260.16	238.64
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	218.01	194.39	169.72	144.35	118.97	90.08	64.97	39.69	17.65
15.0	250.70	230.35	208.05	185.04	159.73	132.39	106.10	82.03	58.14
30.0	280.81	262.69	242.44	220.24	197.06	173.71	151.59	129.66	108.79
45.0	309.47	293.55	277.01	256.09	236.51	215.67	194.39	173.02	153.62
60.0	336.48	323.40	307.25	289.56	270.43	251.48	229.28	209.79	188.86
75.0	351.62	339.90	326.02	308.89	290.49	271.02	250.01	229.36	209.26
90.0	355.12	344.53	330.37	314.17	296.10	277.85	255.77	235.74	213.75
105.0	351.14	339.39	325.47	307.94	290.59	270.43	249.91	229.49	209.78
120.0	335.29	320.93	306.10	289.01	270.91	249.90	229.71	208.52	188.06
135.0	304.96	289.73	272.53	254.43	233.56	212.41	191.99	170.31	150.42
150.0	282.73	262.72	242.26	220.07	196.98	174.97	151.96	129.32	108.31
165.0	250.43	229.69	207.67	185.66	160.01	132.81	105.70	79.96	57.13
180.0	195.45	169.90	144.87	116.25	90.79	64.18	38.81	17.03	3.07
195.0	155.57	127.25	101.50	77.52	57.17	36.55	22.03	12.21	6.55
210.0	133.03	113.41	92.45	74.60	57.37	43.60	32.59	23.53	16.87
225.0	130.55	112.04	94.96	78.95	65.10	53.83	43.10	34.16	26.82
240.0	131.83	116.67	100.97	86.62	73.63	62.17	51.88	42.77	35.01
255.0	132.98	118.29	104.31	90.88	79.52	67.35	57.88	56.35	40.39
270.0	131.67	117.96	104.60	100.60	79.59	69.26	59.29	49.77	41.66
285.0	133.41	117.32	104.12	91.20	79.09	67.79	57.03	47.54	39.59
300.0	131.13	115.13	99.67	85.21	73.30	61.48	51.74	42.38	34.19
315.0	127.66	110.73	93.62	77.58	64.06	51.96	41.93	33.15	25.80
330.0	134.14	111.86	93.03	73.93	56.66	43.29	32.37	23.28	16.10
345.0	158.37	130.08	104.06	79.87	57.49	37.39	21.47	12.28	6.19
360.0	218.01	194.39	169.72	144.35	118.97	90.08	64.97	39.69	17.65

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	3.07	0.61	0.53	0.61	0.70	0.79	1.05	1.40	1.67
15.0	40.53	27.70	19.65	14.96	12.04	9.11	7.70	6.90	6.37
30.0	89.96	74.86	60.48	50.18	41.38	34.10	28.51	24.24	18.56
45.0	134.48	117.31	100.59	86.47	74.22	62.59	53.29	44.80	37.11
60.0	168.92	150.51	133.37	116.04	101.33	87.17	74.89	63.52	53.24
75.0	189.15	168.33	151.47	134.43	118.92	103.05	89.53	76.36	64.37
90.0	192.65	172.62	153.92	137.37	121.52	106.65	92.50	79.59	66.86
105.0	187.55	168.02	150.04	133.68	117.59	102.22	89.03	75.92	63.99
120.0	168.06	148.32	131.59	116.04	101.12	87.12	74.57	63.20	53.75
135.0	132.32	113.69	98.91	84.48	72.48	61.37	52.32	43.81	36.55
150.0	89.48	73.21	60.47	49.02	40.83	33.83	28.28	23.74	18.28
165.0	39.66	26.65	18.92	14.37	11.46	8.64	7.28	6.64	6.09
180.0	1.14	0.88	0.97	1.14	1.14	1.32	1.58	1.67	1.93
195.0	3.27	2.04	1.24	0.97	0.80	0.71	0.62	0.53	0.53
210.0	11.19	7.73	4.80	3.46	2.22	1.69	1.15	0.71	0.44
225.0	20.12	15.11	11.09	7.96	5.72	3.84	2.68	1.88	0.98
240.0	27.88	21.75	20.48	12.81	9.38	6.77	4.51	3.16	2.08
255.0	32.55	26.42	21.01	16.32	12.35	9.02	6.40	4.06	2.89
270.0	34.27	27.78	22.08	17.54	13.18	9.88	7.03	4.54	3.03
285.0	32.90	26.57	20.79	16.18	12.11	8.95	6.33	4.34	2.89
300.0	27.74	21.55	16.55	12.55	9.37	6.82	4.82	3.18	2.09
315.0	19.53	14.69	10.48	7.70	5.46	3.94	2.69	1.70	0.99
330.0	10.91	7.00	4.82	3.36	2.36	1.64	1.09	0.64	0.55
345.0	3.27	1.82	1.18	0.82	0.73	0.64	0.64	0.55	0.55
360.0	3.07	0.61	0.53	0.61	0.70	0.79	1.05	1.40	1.67
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.93	2.02	2.55	2.63	2.90	2.81	2.90	2.99	3.51
15.0	5.93	5.66	5.66	5.58	5.40	5.13	4.51	3.63	3.72
30.0	15.19	12.79	11.01	9.50	8.44	7.28	6.04	4.44	3.82
45.0	30.67	23.52	18.42	15.02	12.25	9.84	8.05	5.72	3.76
60.0	44.49	36.45	27.34	20.75	16.51	12.72	9.75	7.49	4.60
75.0	53.64	43.73	34.89	25.42	19.29	14.61	11.09	8.20	6.22
90.0	56.26	46.20	37.12	26.62	20.21	15.22	11.13	8.37	6.14
105.0	53.24	43.57	34.98	25.31	19.16	14.55	11.03	8.32	6.24
120.0	44.38	36.47	27.10	20.64	16.10	12.64	9.82	7.64	5.91
135.0	30.19	22.76	18.28	14.78	12.00	9.77	8.15	6.54	5.46
150.0	14.91	12.64	10.82	9.37	8.37	7.28	6.46	5.73	5.09
165.0	5.64	5.46	5.46	5.37	5.37	5.09	4.91	4.73	4.09
180.0	1.84	2.11	2.02	2.20	2.37	2.46	2.63	3.25	3.86
195.0	0.44	0.62	0.88	1.33	1.68	1.77	2.30	2.92	3.72
210.0	0.44	0.44	0.62	0.80	1.24	1.95	2.13	2.84	3.55
225.0	0.45	0.45	0.54	0.72	1.07	1.34	2.06	2.59	3.49
240.0	1.17	0.54	0.63	0.81	1.08	1.26	1.99	2.62	3.43
255.0	1.71	0.90	0.63	0.81	1.08	1.26	1.62	2.61	3.25
270.0	1.96	1.16	0.71	0.80	1.16	1.16	1.69	2.58	2.58
285.0	1.81	0.90	0.63	0.90	0.99	1.27	1.72	2.17	2.80
300.0	1.18	0.55	0.64	0.82	1.00	1.27	1.73	2.09	3.27
315.0	0.54	0.45	0.63	0.72	0.99	1.34	1.97	2.24	3.49
330.0	0.45	0.45	0.55	0.73	1.36	1.64	2.00	2.64	3.73
345.0	0.45	0.64	1.00	1.27	1.73	2.00	2.27	2.91	3.73
360.0	1.93	2.02	2.55	2.63	2.90	2.81	2.90	2.99	3.51

Intensity data(cd)

C/γ(°)	180.0
0.0	3.95
15.0	3.98
30.0	3.91
45.0	3.84
60.0	3.61
75.0	3.25
90.0	4.01
105.0	4.79
120.0	4.73
135.0	4.48
150.0	4.46
165.0	4.09
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	3.95