
AFX

Client:

LumCAT: EMAF06LAJD1BK

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.134

Lamp flux(lm): 1030.1

Power (W): 15.140

Number of Lamps: 1

PF: 0.942

Length(mm): -140

Width(mm): -140

Phm Type: C

Height(mm): 20

Photometric Results

Lumens(lm): 1030.13, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 68.04

Central intensity(cd): 342.536, Maximum intensity(cd): 342.536

Angle of maximum intensity: C=15.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=106.4

[C90/270]Total=105.2

Field angle(10%Imax): [C0/180]Total=163.4

[C90/270]Total=162.8

Maximum s/h(1/2): C0_180=1.20 C90_270=1.19

Maximum s/h(1/4): C0_180=1.32 C90_270=1.30

Up flux rate of lamp(%): 10.05%

Down flux rate of lamp(%): 89.95%

Up flux rate of LUM(%): 10.05%

Down flux rate of LUM(%): 89.95%

CIE Type : Semidirect lighting

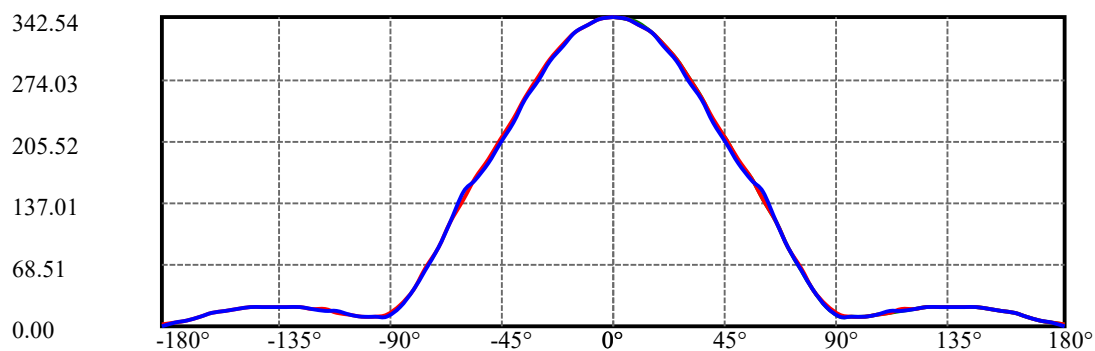
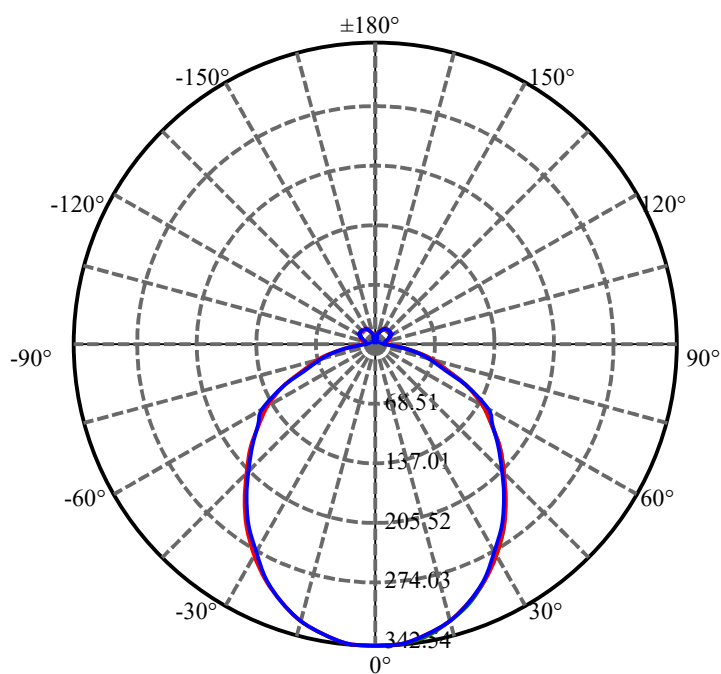
Output flux ratio in π solid angle : 69.970%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	342.536	0.000	0	0.00%	0.00%
5.0	340.975	8.171	8.171	0.79%	0.79%
10.0	335.253	24.191	32.362	2.35%	3.14%
15.0	325.638	39.204	71.566	3.81%	6.95%
20.0	312.167	52.564	124.13	5.10%	12.05%
25.0	294.997	63.680	187.81	6.18%	18.23%
30.0	274.429	72.061	259.871	7.00%	25.23%
35.0	251.537	77.452	337.324	7.52%	32.75%
40.0	228.262	80.051	417.374	7.77%	40.52%
45.0	204.263	80.086	497.46	7.77%	48.29%
50.0	182.669	78.185	575.645	7.59%	55.88%
55.0	162.336	75.015	650.661	7.28%	63.16%
60.0	141.011	70.118	720.778	6.81%	69.97%
65.0	115.182	62.281	783.06	6.05%	76.02%
70.0	87.713	51.374	834.434	4.99%	81.00%
75.0	61.806	39.082	873.516	3.79%	84.80%
80.0	40.249	27.307	900.823	2.65%	87.45%
85.0	21.516	16.783	917.606	1.63%	89.08%
90.0	11.444	9.025	926.63	0.88%	89.95%
95.0	10.720	6.069	932.699	0.59%	90.54%
100.0	11.102	5.929	938.629	0.58%	91.12%
105.0	12.819	6.401	945.029	0.62%	91.74%
110.0	15.719	7.459	952.489	0.72%	92.46%
115.0	17.930	8.520	961.009	0.83%	93.29%
120.0	19.686	9.145	970.154	0.89%	94.18%
125.0	20.831	9.365	979.519	0.91%	95.09%
130.0	21.403	9.183	988.702	0.89%	95.98%
135.0	21.518	8.673	997.375	0.84%	96.82%
140.0	21.443	7.954	1005.329	0.77%	97.59%
145.0	21.214	7.117	1012.446	0.69%	98.28%
150.0	19.915	6.056	1018.503	0.59%	98.87%
155.0	17.625	4.751	1023.253	0.46%	99.33%
160.0	14.610	3.381	1026.634	0.33%	99.66%
165.0	10.643	2.081	1028.715	0.20%	99.86%
170.0	6.445	1.014	1029.729	0.10%	99.96%
175.0	3.241	0.347	1030.075	0.03%	100.00%
180.0	1.029	0.051	1030.126	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	259.87	25.23%	25.23%
0-40	417.37	40.52%	40.52%
0-60	720.78	69.97%	69.97%
0-90	926.63	89.95%	89.95%
0-120	970.15	94.18%	94.18%
0-180	1030.13	100.00%	100.00%
60-90	205.85	19.98%	19.98%
90-120	43.52	4.23%	4.23%
90-130	62.07	6.03%	6.03%
90-150	91.87	8.92%	8.92%
90-180	103.45	10.04%	10.04%
0-68.99	824.10	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	32.36
10-20	91.77
20-30	135.74
30-40	157.50
40-50	158.27
50-60	145.13
60-70	113.66
70-80	66.39
80-90	25.81
90-100	12.00
100-110	13.86
110-120	17.66
120-130	18.55
130-140	16.63
140-150	13.17
150-160	8.13
160-170	3.09
170-180	0.35

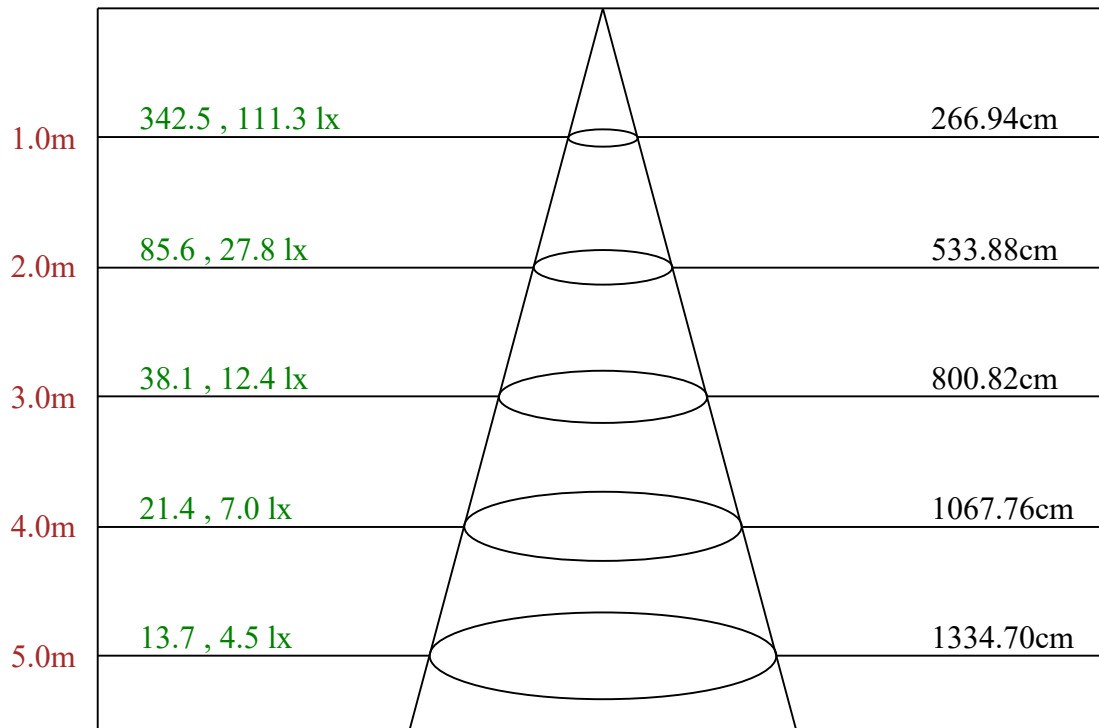
C15(Max): C0/C180: C90/C270: 

Field angle(10%Imax):C0/180Left:81.7 Right:81.7

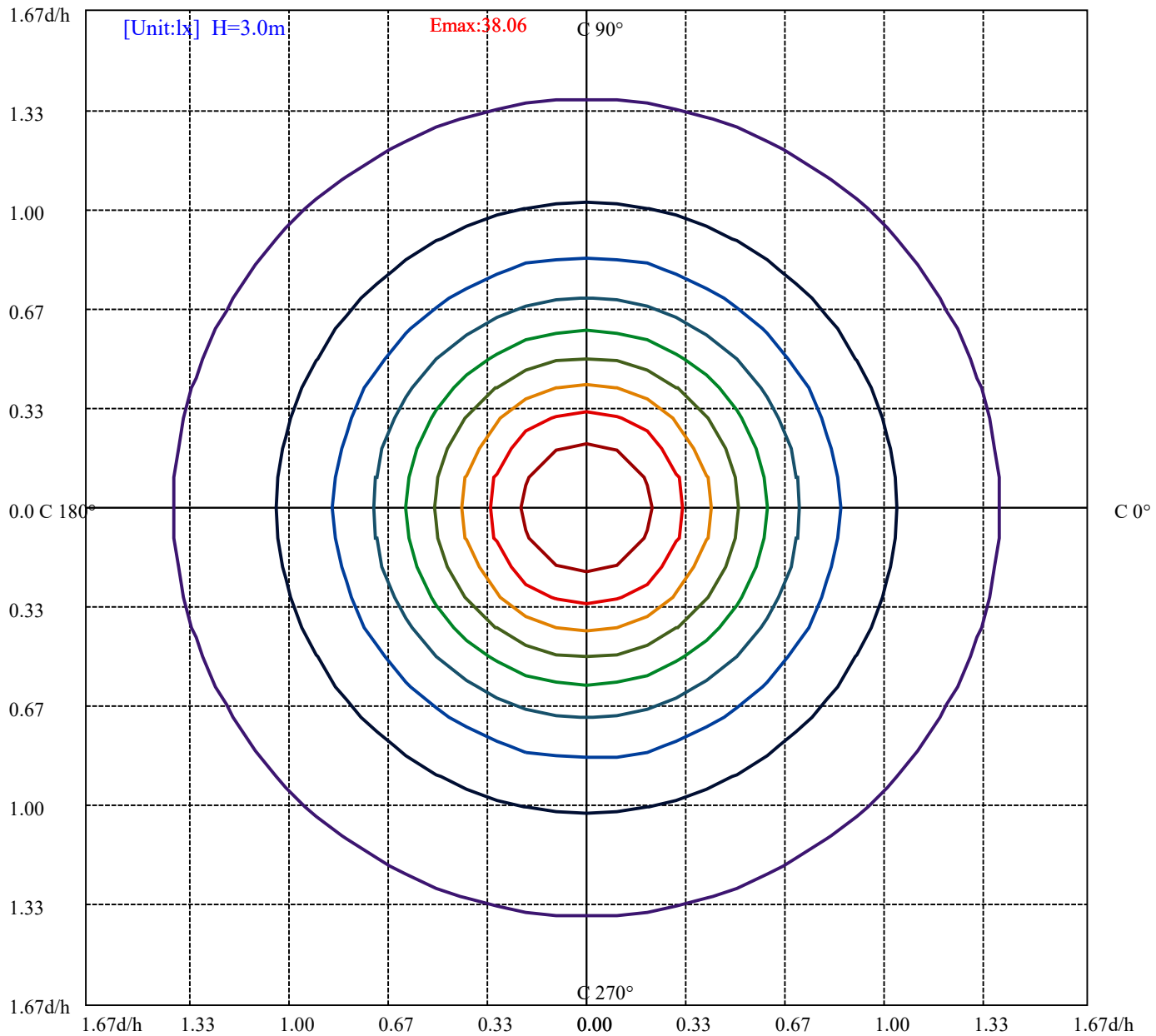
:C90/270Left:81.4 Right:81.4

Beam Angle(50%Imax):C0/180Left:53.2 Right:53.2

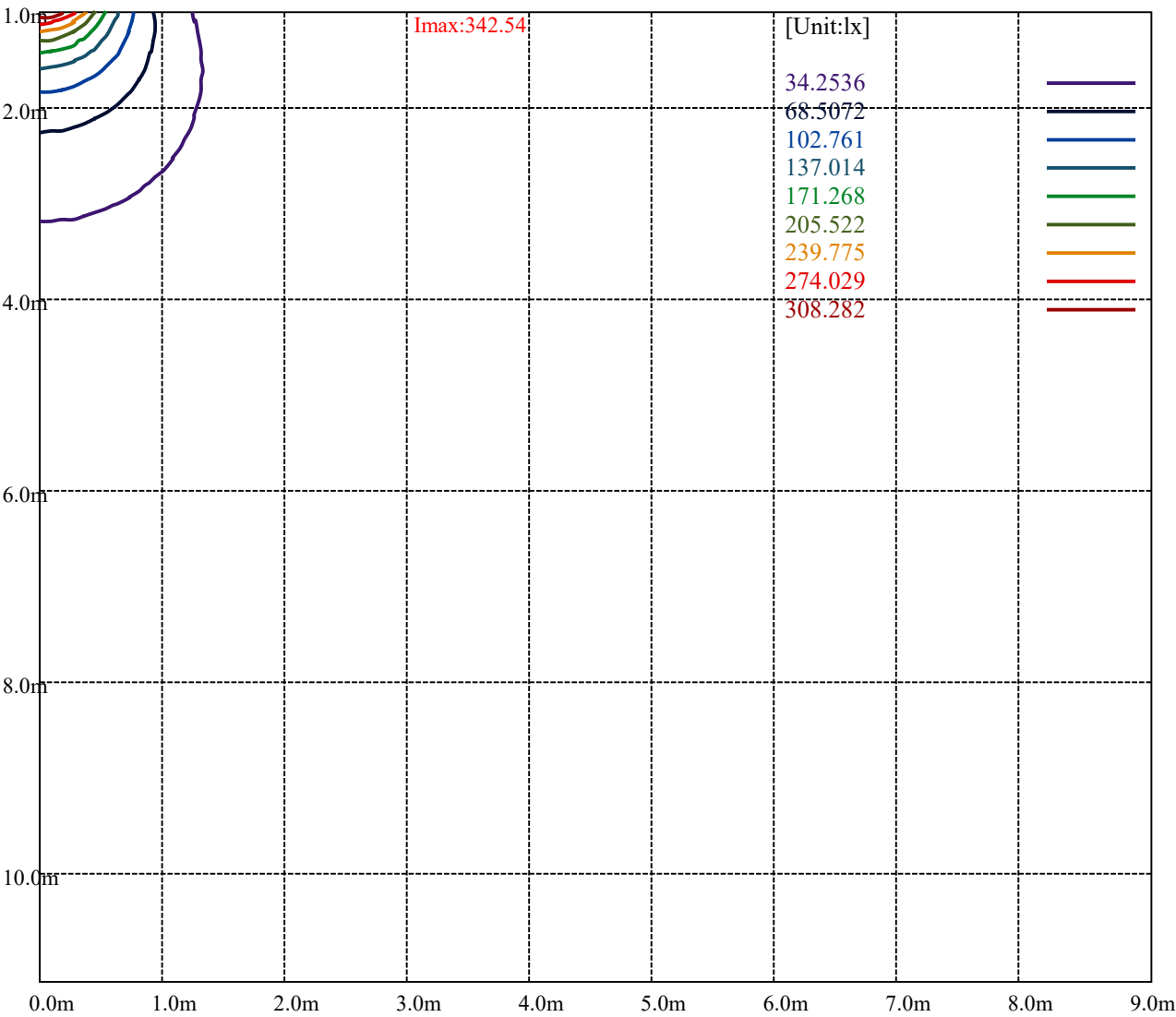
:C90/270Left:52.6 Right:52.6



Max , Ave Beam angle of C15 plane 106.32



(10%Emax) 3.805956	—
(20%Emax) 7.611911	—
(30%Emax) 11.41789	—
(40%Emax) 15.22378	—
(50%Emax) 19.02978	—
(60%Emax) 22.83578	—
(70%Emax) 26.64167	—
(80%Emax) 30.44767	—
(90%Emax) 34.25356	—



Luminance Limiting Curve(no luminous side)

Luminance Table

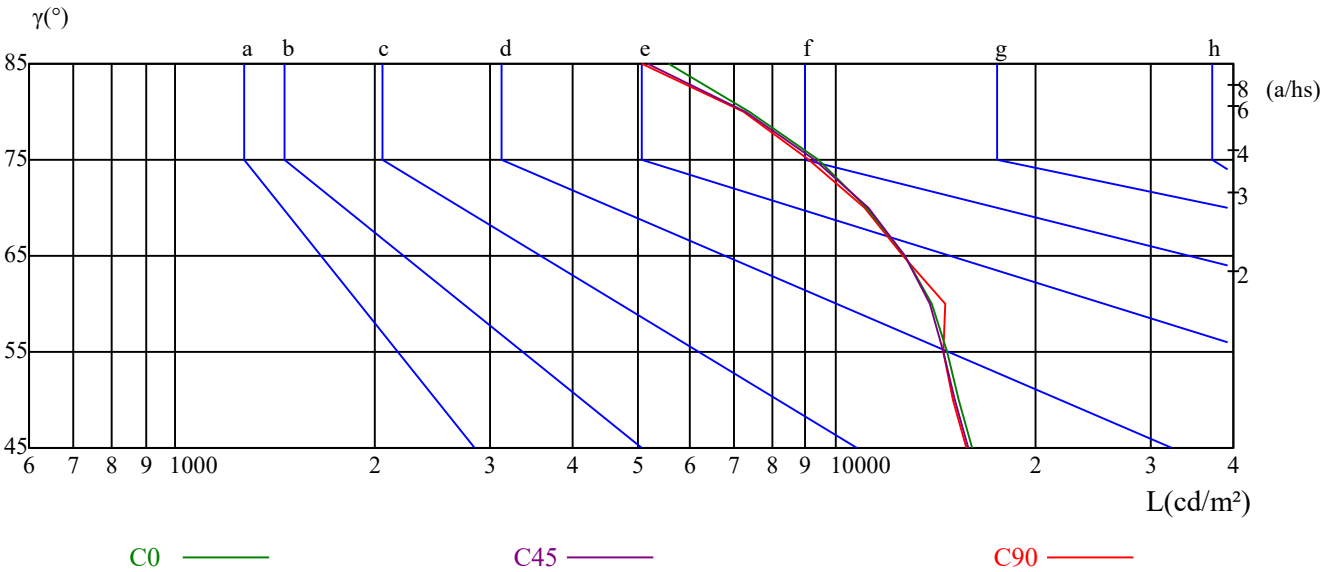
γ	45	50	55	60	65	70	75	80	85
C0	16053	15314	14707	13929	12742	11103	9391	7406	5579
C45	15904	15179	14591	13877	12761	11180	9280	7281	5175
C90	15733	15062	14533	14613	12659	11019	9106	7252	5099

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17713	17597	17739	15766	15287	15579	17178	15701	15935

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	1.06	1.06	1.06	0.99	0.99	0.99	0.93	0.93	0.93	0.90
1	1.01	0.97	0.93	0.98	0.94	0.91	0.92	0.89	0.86	0.86	0.84	0.82	0.81	0.79	0.77	0.75
2	0.88	0.81	0.76	0.86	0.79	0.74	0.80	0.75	0.71	0.76	0.71	0.68	0.71	0.68	0.65	0.62
3	0.77	0.69	0.63	0.75	0.68	0.62	0.71	0.64	0.59	0.67	0.61	0.57	0.63	0.59	0.55	0.52
4	0.69	0.60	0.53	0.67	0.59	0.52	0.63	0.56	0.51	0.59	0.54	0.49	0.56	0.51	0.47	0.45
5	0.61	0.52	0.46	0.60	0.51	0.45	0.56	0.49	0.44	0.53	0.47	0.42	0.51	0.45	0.41	0.39
6	0.55	0.46	0.40	0.54	0.45	0.39	0.51	0.44	0.38	0.48	0.42	0.37	0.46	0.40	0.36	0.34
7	0.50	0.41	0.35	0.49	0.41	0.35	0.46	0.39	0.34	0.44	0.38	0.33	0.42	0.36	0.32	0.30
8	0.46	0.37	0.32	0.45	0.37	0.31	0.42	0.35	0.30	0.40	0.34	0.30	0.39	0.33	0.29	0.27
9	0.42	0.34	0.28	0.41	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.27	0.36	0.30	0.26	0.24
10	0.39	0.31	0.26	0.38	0.30	0.25	0.36	0.29	0.25	0.35	0.29	0.24	0.33	0.28	0.24	0.22

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	342.54	343.44	340.73	333.50	323.56	310.00	291.02	268.43	244.02
15.0	342.54	343.44	340.72	332.54	321.64	307.10	288.93	267.12	242.59
30.0	342.54	342.54	337.98	330.69	318.85	304.27	285.14	262.37	238.68
45.0	342.54	341.63	337.07	327.96	316.12	299.72	279.68	258.72	234.13
60.0	342.54	340.71	335.23	326.09	313.31	295.95	276.77	253.02	229.27
75.0	342.54	340.70	334.29	324.22	310.48	293.08	272.01	249.12	224.39
90.0	342.54	339.79	333.38	322.39	307.73	289.42	268.35	245.45	221.64
105.0	342.54	338.86	331.52	321.41	306.72	287.44	265.40	242.44	219.48
120.0	342.54	337.94	331.52	320.50	305.80	285.60	264.48	241.52	218.56
135.0	342.54	342.54	334.18	323.97	308.19	288.70	267.35	245.07	220.00
150.0	342.54	337.93	331.49	320.44	291.89	288.21	265.19	244.01	220.99
165.0	342.54	339.77	333.30	322.22	308.37	289.91	269.60	247.44	221.59
180.0	342.54	338.02	328.98	317.23	300.96	281.98	262.10	237.70	216.01
195.0	342.54	339.81	331.63	318.00	304.38	285.30	264.40	241.68	218.06
210.0	342.54	338.89	331.60	320.67	306.10	286.97	266.92	244.15	221.37
225.0	342.54	339.80	331.60	322.49	307.92	289.70	268.75	245.97	222.28
240.0	342.54	339.80	334.32	324.27	310.57	293.21	271.29	249.37	225.62
255.0	342.54	341.62	335.21	326.97	313.23	296.74	274.76	251.86	228.97
270.0	342.54	341.62	336.12	327.88	314.14	298.57	276.59	254.61	229.88
285.0	342.54	342.54	338.86	329.68	316.82	300.29	280.09	256.21	250.70
300.0	342.54	342.54	337.94	329.68	327.84	301.21	281.93	256.21	232.34
315.0	342.54	345.32	341.61	333.25	321.19	305.40	284.05	259.92	234.86
330.0	342.54	341.62	337.93	329.64	317.67	301.10	280.84	257.82	231.12
345.0	342.54	342.54	338.84	329.61	318.53	300.07	280.68	256.67	231.74
360.0	342.54	343.44	340.73	333.50	323.56	310.00	291.02	268.43	244.02
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	218.72	195.22	173.53	151.84	127.43	100.32	75.01	49.71	30.73
15.0	218.06	194.44	171.72	149.92	126.29	98.13	71.78	48.15	27.26
30.0	214.09	192.22	171.27	148.49	123.90	95.66	68.33	45.55	24.60
45.0	210.44	188.58	167.62	145.76	120.25	92.92	65.59	41.91	22.78
60.0	206.44	184.51	165.33	144.32	118.75	89.52	62.11	39.28	21.01
75.0	203.32	182.26	163.03	141.04	114.48	87.01	59.53	37.55	20.15
90.0	198.74	178.59	159.36	137.38	111.74	83.34	57.70	36.63	18.32
105.0	197.44	177.24	157.03	134.99	108.36	82.65	56.94	35.81	18.37
120.0	196.52	175.40	157.03	133.16	108.36	80.81	56.02	34.90	18.37
135.0	198.65	178.23	158.74	136.46	110.47	82.62	58.48	36.20	18.57
150.0	198.89	178.63	159.30	138.12	112.34	84.71	58.93	36.83	19.34
165.0	201.27	181.89	162.50	141.26	115.41	86.79	61.86	37.85	21.24
180.0	194.31	173.53	153.64	130.15	103.03	75.01	50.61	30.73	15.36
195.0	195.35	175.36	155.37	130.84	105.40	78.14	53.61	32.71	16.35
210.0	198.60	177.65	156.69	133.01	107.50	80.17	56.48	34.62	18.22
225.0	199.51	178.56	157.60	135.74	111.14	83.81	58.30	37.35	20.04
240.0	202.78	180.86	159.85	137.93	112.35	86.78	61.20	40.19	21.92
255.0	204.24	184.09	163.03	141.04	116.32	88.84	63.20	57.70	22.90
270.0	206.07	184.09	163.94	158.45	117.23	90.67	64.11	42.13	23.81
285.0	207.54	184.58	164.38	144.18	119.38	92.75	66.12	43.16	23.88
300.0	207.54	184.58	164.38	143.26	120.30	91.83	65.20	42.24	24.79
315.0	209.79	185.66	165.23	143.88	119.75	93.76	65.91	42.70	24.14
330.0	207.18	184.16	162.98	142.72	117.86	90.24	63.53	41.44	23.02
345.0	206.81	183.73	162.50	140.34	116.33	88.63	62.78	40.62	21.24
360.0	218.72	195.22	173.53	151.84	127.43	100.32	75.01	49.71	30.73

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	14.46	10.85	10.85	11.75	14.46	18.08	19.88	20.79	21.69
15.0	12.72	10.90	10.90	12.72	15.45	18.17	19.99	21.81	21.81
30.0	11.84	10.93	10.93	12.75	15.49	18.22	20.04	21.86	21.86
45.0	10.93	10.93	10.93	12.75	16.40	18.22	20.04	20.95	21.86
60.0	10.96	10.96	10.96	12.79	16.44	18.27	20.10	21.92	21.92
75.0	10.99	10.99	10.99	12.82	16.49	18.32	20.15	21.07	21.98
90.0	10.99	10.99	10.99	12.82	16.49	18.32	20.15	21.07	21.98
105.0	10.10	10.10	11.02	12.86	15.61	18.37	20.20	21.12	22.04
120.0	11.02	10.10	11.02	12.86	15.61	17.45	19.28	21.12	21.12
135.0	11.14	10.21	11.14	13.00	15.78	17.64	19.49	21.35	21.35
150.0	11.05	10.13	11.05	11.97	14.73	17.50	19.34	20.26	21.18
165.0	11.08	10.16	11.08	12.00	14.77	16.62	19.39	20.31	21.24
180.0	10.85	10.85	11.75	13.56	16.27	18.98	19.88	20.79	21.69
195.0	10.90	10.90	11.81	13.63	16.35	18.17	19.99	20.90	20.90
210.0	10.93	10.93	11.84	12.75	15.49	18.22	20.04	20.95	20.95
225.0	10.93	10.93	10.93	12.75	15.49	18.22	18.22	20.04	20.95
240.0	10.96	10.96	10.96	12.79	15.53	17.36	19.18	20.10	21.01
255.0	11.91	10.99	10.99	12.82	15.57	17.40	19.23	20.15	21.07
270.0	11.91	10.99	10.99	12.82	15.57	17.40	19.23	20.15	21.07
285.0	11.94	10.10	11.02	12.86	15.61	17.45	19.28	20.20	21.12
300.0	11.94	11.02	11.02	12.86	15.61	17.45	19.28	20.20	21.12
315.0	12.07	10.21	11.14	13.00	15.78	17.64	19.49	20.42	21.35
330.0	11.97	11.05	11.05	12.89	15.65	18.42	20.26	21.18	21.18
345.0	11.08	11.08	11.08	13.85	16.62	18.47	20.31	21.24	21.24
360.0	14.46	10.85	10.85	11.75	14.46	18.08	19.88	20.79	21.69
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	21.69	21.69	21.69	20.79	18.98	16.27	13.56	9.04	4.52
15.0	21.81	21.81	21.81	20.90	19.08	16.35	12.72	8.18	4.54
30.0	21.86	21.86	21.86	20.95	19.13	16.40	12.75	8.20	3.64
45.0	21.86	21.86	21.86	20.95	19.13	15.49	11.84	7.29	3.64
60.0	21.92	21.92	21.92	21.01	18.27	15.53	10.96	7.31	3.65
75.0	21.98	21.98	21.98	20.15	18.32	14.65	10.99	6.41	2.75
90.0	21.98	21.98	21.07	20.15	17.40	14.65	10.07	5.50	2.75
105.0	22.04	21.12	21.12	19.28	17.45	13.77	9.18	5.51	2.75
120.0	22.04	22.04	21.12	19.28	16.53	12.86	8.26	4.59	2.75
135.0	22.28	22.28	21.35	19.49	16.71	13.00	9.28	4.64	1.86
150.0	21.18	22.10	21.18	19.34	16.57	12.89	10.13	4.60	2.76
165.0	21.24	21.24	21.24	19.39	16.62	13.85	10.16	5.54	2.77
180.0	21.69	20.79	19.88	18.08	15.36	11.75	8.13	4.52	2.71
195.0	20.90	20.90	19.99	19.08	16.35	16.35	9.09	5.45	2.73
210.0	21.86	20.95	20.95	20.04	17.31	14.58	10.02	6.38	2.73
225.0	20.95	20.95	20.95	20.04	18.22	14.58	10.02	6.38	2.73
240.0	21.01	21.01	21.01	20.10	18.27	14.61	10.96	6.39	3.65
255.0	21.07	21.07	21.07	20.15	18.32	14.65	10.99	7.33	3.66
270.0	21.07	21.07	21.07	20.15	17.40	14.65	10.99	7.33	3.66
285.0	21.12	21.12	21.12	20.20	17.45	14.69	11.02	7.35	3.67
300.0	21.12	21.12	21.12	19.28	17.45	14.69	11.02	7.35	3.67
315.0	21.35	21.35	21.35	19.49	17.64	14.85	11.14	6.50	3.71
330.0	21.18	21.18	21.18	20.26	17.50	14.73	11.05	6.45	3.68
345.0	21.24	21.24	21.24	19.39	17.54	14.77	11.08	6.46	2.77
360.0	21.69	21.69	21.69	20.79	18.98	16.27	13.56	9.04	4.52

Intensity data(cd)

C/ γ (°)	180.0
0.0	2.71
15.0	2.73
30.0	2.73
45.0	1.82
60.0	1.83
75.0	1.83
90.0	1.83
105.0	1.84
120.0	1.84
135.0	1.86
150.0	1.84
165.0	1.85
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	2.71