
AFX

Client:

LumCAT: EMAF06LAJD1SB

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.135

Lamp flux(lm): 1197.4

Power (W): 15.250

Number of Lamps: 1

PF: 0.942

Length(mm): -140

Width(mm): -140

Phm Type: C

Height(mm): 20

Photometric Results

Lumens(lm): 1197.36, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 78.52

Central intensity(cd): 384.352, Maximum intensity(cd): 384.352

Angle of maximum intensity: C=15.0 γ =0.0

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

[C90/270]Total=107.6

Field angle(10%Imax): [C0/180]Total=165.4

[C90/270]Total=165.4

Maximum s/h(1/2): C0_180=1.22 C90_270=1.22

Maximum s/h(1/4): C0_180=1.33 C90_270=1.33

Up flux rate of lamp(%): 10.53%

Down flux rate of lamp(%): 89.47%

Up flux rate of LUM(%): 10.53%

Down flux rate of LUM(%): 89.47%

CIE Type : Semidirect lighting

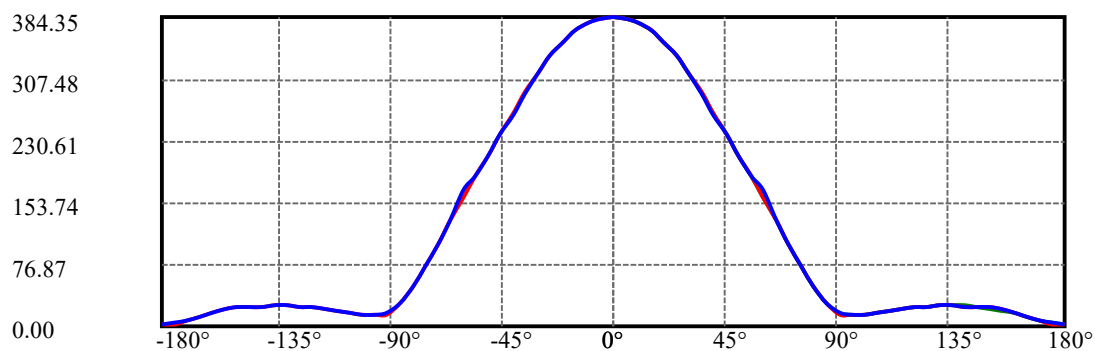
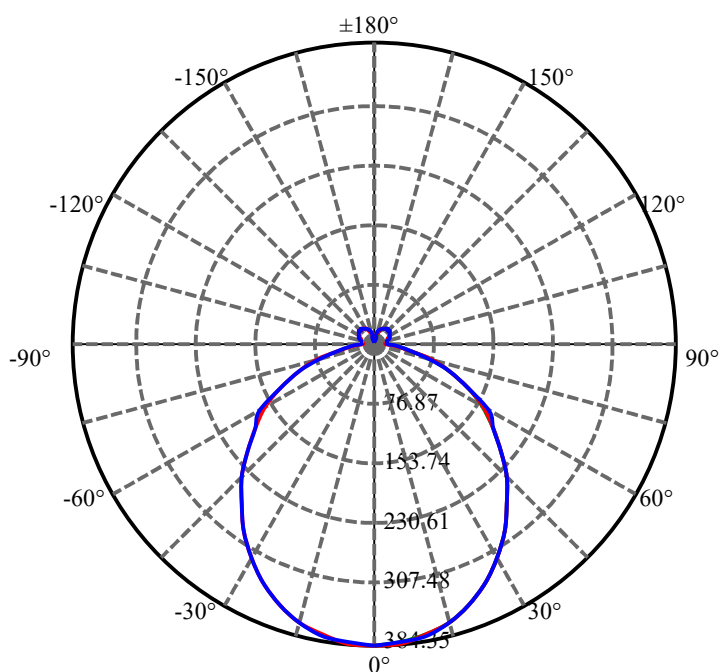
Output flux ratio in π solid angle : 69.074%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	384.352	0.000	0	0.00%	0.00%
5.0	382.367	9.166	9.166	0.77%	0.77%
10.0	376.569	27.150	36.315	2.27%	3.03%
15.0	367.219	44.121	80.436	3.68%	6.72%
20.0	353.905	59.431	139.867	4.96%	11.68%
25.0	335.856	72.343	212.21	6.04%	17.72%
30.0	314.531	82.307	294.517	6.87%	24.60%
35.0	289.806	88.993	383.51	7.43%	32.03%
40.0	265.087	92.580	476.09	7.73%	39.76%
45.0	238.147	93.178	569.268	7.78%	47.54%
50.0	212.050	90.969	660.237	7.60%	55.14%
55.0	186.372	86.630	746.867	7.24%	62.38%
60.0	160.619	80.206	827.073	6.70%	69.07%
65.0	131.660	71.053	898.126	5.93%	75.01%
70.0	102.324	59.246	957.372	4.95%	79.96%
75.0	75.007	46.352	1003.724	3.87%	83.83%
80.0	50.856	33.677	1037.401	2.81%	86.64%
85.0	28.583	21.585	1058.987	1.80%	88.44%
90.0	16.109	12.237	1071.224	1.02%	89.47%
95.0	14.497	8.380	1079.604	0.70%	90.17%
100.0	14.881	7.983	1087.587	0.67%	90.83%
105.0	16.750	8.463	1096.05	0.71%	91.54%
110.0	19.534	9.484	1105.534	0.79%	92.33%
115.0	21.976	10.511	1116.045	0.88%	93.21%
120.0	23.617	11.084	1127.128	0.93%	94.13%
125.0	24.838	11.200	1138.329	0.94%	95.07%
130.0	25.486	10.942	1149.271	0.91%	95.98%
135.0	25.525	10.308	1159.578	0.86%	96.84%
140.0	25.066	9.367	1168.946	0.78%	97.63%
145.0	24.380	8.250	1177.196	0.69%	98.32%
150.0	22.930	6.967	1184.162	0.58%	98.90%
155.0	20.221	5.461	1189.623	0.46%	99.35%
160.0	16.483	3.850	1193.473	0.32%	99.68%
165.0	11.828	2.333	1195.806	0.19%	99.87%
170.0	7.021	1.118	1196.924	0.09%	99.96%
175.0	3.628	0.381	1197.305	0.03%	100.00%
180.0	1.260	0.058	1197.363	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	294.52	24.60%	24.60%
0-40	476.09	39.76%	39.76%
0-60	827.07	69.07%	69.07%
0-90	1071.22	89.47%	89.47%
0-120	1127.13	94.13%	94.13%
0-180	1197.36	100.00%	100.00%
60-90	244.15	20.39%	20.39%
90-120	55.90	4.67%	4.67%
90-130	78.05	6.52%	6.52%
90-150	112.94	9.43%	9.43%
90-180	126.08	10.53%	10.53%
0-70.06	957.89	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	36.32
10-20	103.55
20-30	154.65
30-40	181.57
40-50	184.15
50-60	166.84
60-70	130.30
70-80	80.03
80-90	33.82
90-100	16.36
100-110	17.95
110-120	21.59
120-130	22.14
130-140	19.67
140-150	15.22
150-160	9.31
160-170	3.45
170-180	0.38



C15(Max):

C0/C180:

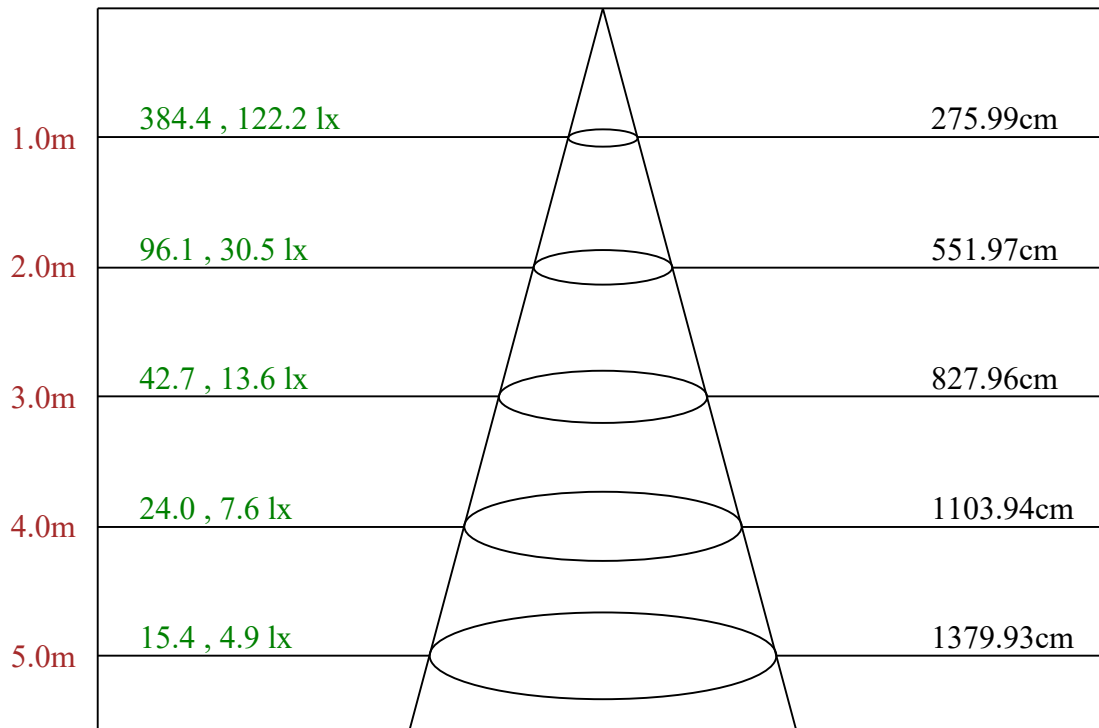
C90/C270:

Field angle(10%Imax):C0/180Left:82.7 Right:82.7

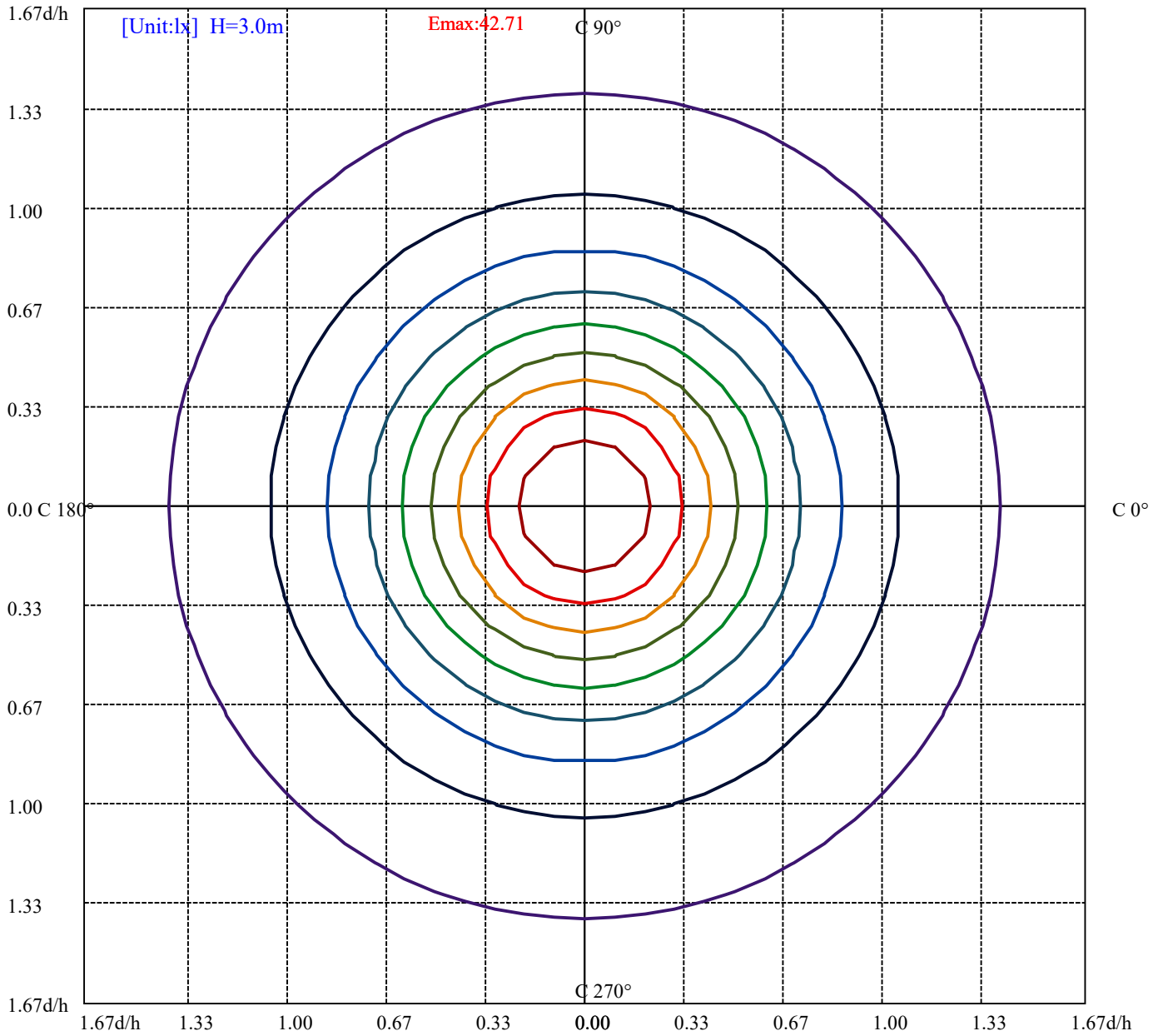
:C90/270Left:82.7 Right:82.7

Beam Angle(50%Imax):C0/180Left:53.9 Right:53.9

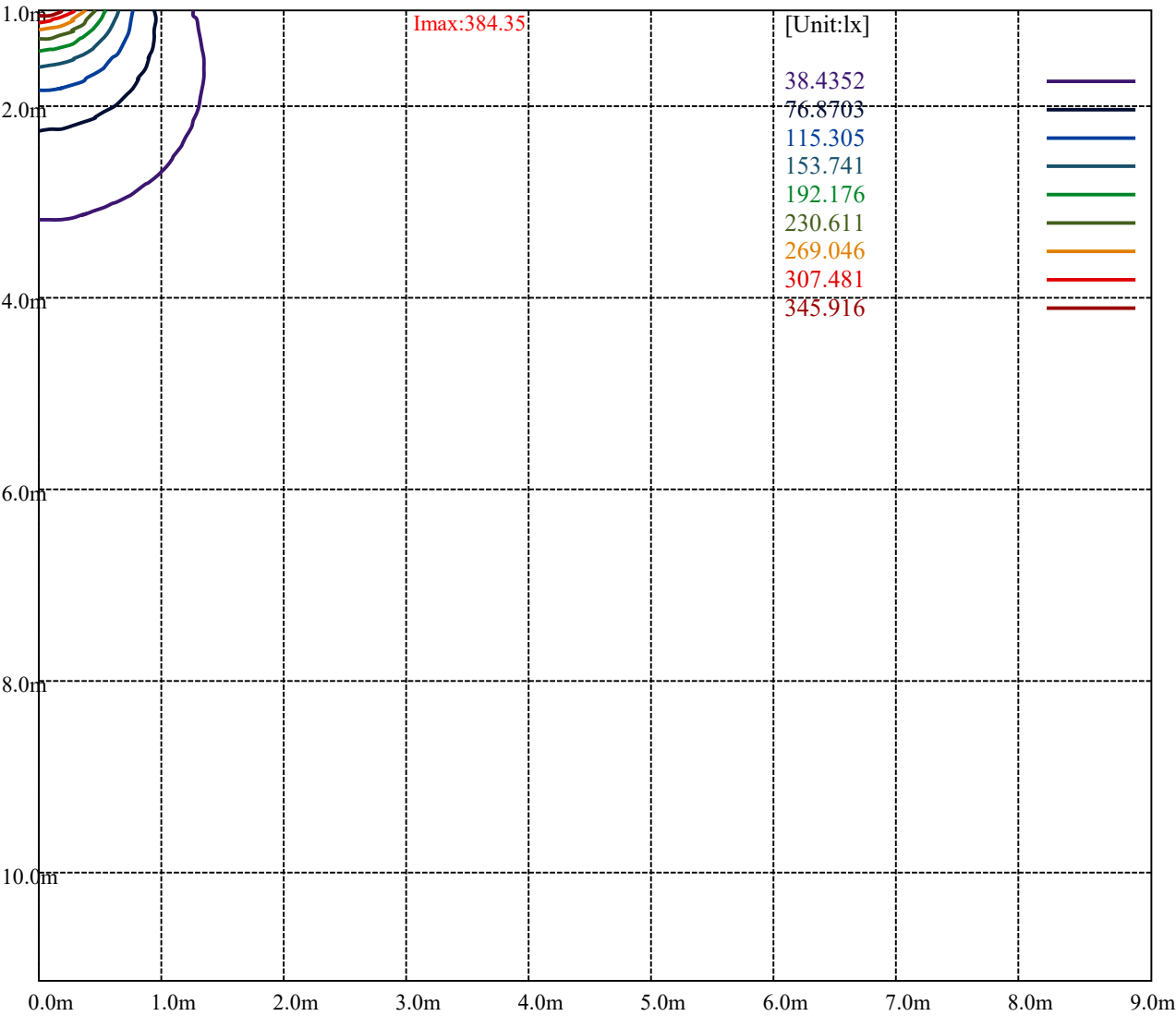
:C90/270Left:53.8 Right:53.8



Max , Ave Beam angle of C15 plane 108.14



(10%Emax)	4.270578	
(20%Emax)	8.541144	
(30%Emax)	12.81167	
(40%Emax)	17.08233	
(50%Emax)	21.35289	
(60%Emax)	25.62344	
(70%Emax)	29.894	
(80%Emax)	34.16455	
(90%Emax)	38.43511	



Luminance Limiting Curve(no luminous side)

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Luminance Table

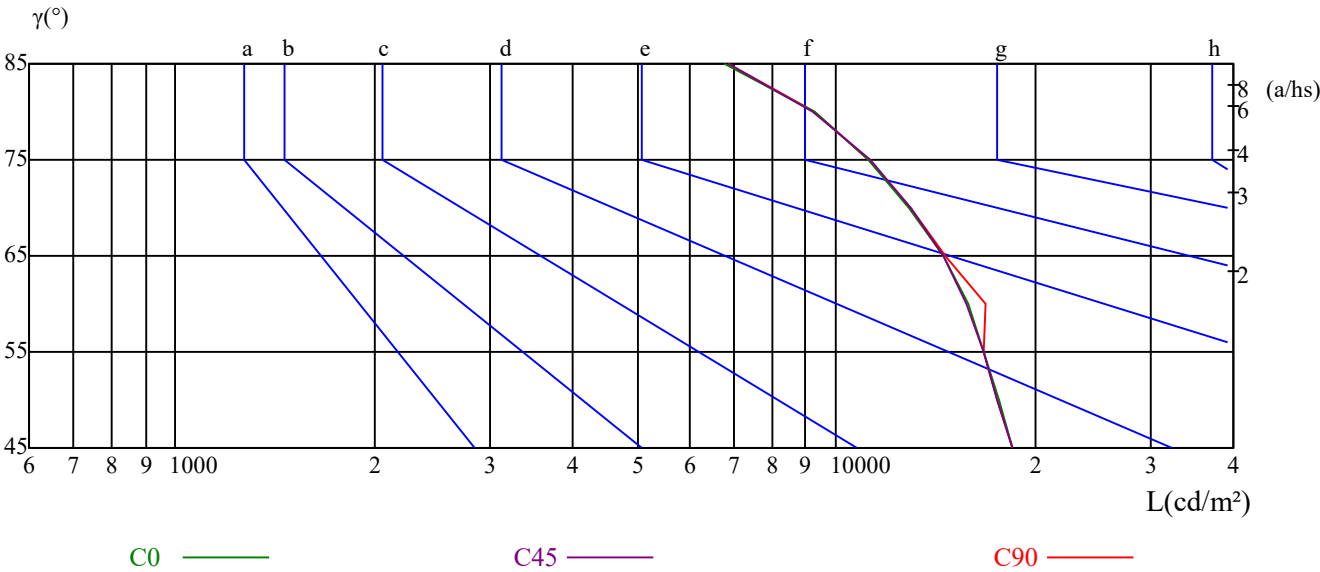
γ	45	50	55	60	65	70	75	80	85
C0	18550	17610	16790	15822	14516	12912	11196	9304	6771
C45	18503	17599	16740	15791	14555	12982	11245	9206	6885
C90	18503	17562	16741	16857	14607	13011	11177	9290	6884

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
20178	20304	20232	18796	18764	18879	20847	21195	21199

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	0.89
1	1.01	0.97	0.93	0.98	0.94	0.90	0.91	0.88	0.85	0.86	0.83	0.81	0.81	0.79	0.77	0.74
2	0.88	0.81	0.75	0.85	0.79	0.73	0.80	0.75	0.70	0.75	0.71	0.67	0.70	0.67	0.64	0.61
3	0.77	0.69	0.62	0.75	0.67	0.61	0.70	0.64	0.59	0.66	0.61	0.56	0.62	0.58	0.54	0.52
4	0.68	0.60	0.53	0.66	0.58	0.52	0.62	0.55	0.50	0.59	0.53	0.48	0.56	0.51	0.47	0.44
5	0.61	0.52	0.45	0.59	0.51	0.45	0.56	0.49	0.43	0.53	0.47	0.42	0.50	0.45	0.40	0.38
6	0.55	0.46	0.40	0.53	0.45	0.39	0.50	0.43	0.38	0.48	0.42	0.37	0.45	0.40	0.36	0.33
7	0.50	0.41	0.35	0.48	0.40	0.34	0.46	0.39	0.34	0.44	0.37	0.33	0.41	0.36	0.32	0.29
8	0.45	0.37	0.31	0.44	0.36	0.31	0.42	0.35	0.30	0.40	0.34	0.29	0.38	0.32	0.28	0.26
9	0.42	0.33	0.28	0.41	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.30	0.26	0.24
10	0.38	0.31	0.25	0.37	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.24	0.33	0.27	0.23	0.21

Intensity data(cd)

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C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	384.35	382.55	377.13	367.21	354.58	337.44	316.68	292.32	266.16
15.0	384.35	382.54	376.19	367.13	353.53	337.21	314.55	291.89	266.51
30.0	384.35	381.63	375.27	366.18	352.55	335.29	314.39	289.85	264.41
45.0	384.35	381.62	376.15	366.14	352.47	334.26	314.22	289.63	264.13
60.0	384.35	381.61	375.22	366.09	352.40	335.05	314.05	289.40	263.84
75.0	384.35	382.52	376.12	366.05	353.24	335.85	314.80	290.09	266.30
90.0	384.35	381.60	377.01	366.01	354.08	337.57	316.47	292.62	266.94
105.0	384.35	382.51	377.00	367.80	355.85	338.38	319.07	295.16	269.41
120.0	384.35	384.35	378.81	370.49	359.41	341.85	321.52	298.43	272.56
135.0	384.35	384.35	379.73	371.42	360.33	343.70	323.37	299.35	275.33
150.0	384.35	383.43	379.73	372.34	349.24	345.55	327.07	303.05	277.18
165.0	384.35	383.43	381.58	374.19	363.10	346.47	328.92	304.89	278.10
180.0	384.35	382.55	375.33	367.21	352.77	334.73	313.08	287.81	262.55
195.0	384.35	383.45	377.10	368.94	355.34	337.21	315.46	290.08	263.79
210.0	384.35	382.53	377.08	368.90	355.28	337.10	314.39	290.76	265.32
225.0	384.35	382.53	377.07	368.87	356.12	337.90	315.13	291.45	264.13
240.0	384.35	383.44	377.96	368.83	355.14	336.88	314.97	289.40	264.76
255.0	384.35	382.52	377.03	367.88	355.07	335.85	313.89	288.26	262.64
270.0	384.35	381.60	377.01	366.92	353.16	333.90	312.80	286.20	260.52
285.0	384.35	382.51	375.16	365.96	351.25	331.94	309.87	284.13	280.45
300.0	384.35	382.50	376.04	364.95	362.18	330.76	307.67	281.80	255.00
315.0	384.35	381.58	374.19	363.10	348.32	327.07	304.89	279.02	253.15
330.0	384.35	380.66	372.34	361.25	345.55	325.22	302.12	275.33	250.38
345.0	384.35	378.81	371.42	359.41	342.78	323.37	299.35	274.40	248.54
360.0	384.35	382.55	377.13	367.21	354.58	337.44	316.68	292.32	266.16
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	241.80	214.73	190.37	163.30	133.53	102.85	75.79	50.53	27.97
15.0	240.22	214.84	189.46	162.26	135.07	103.34	75.24	49.86	27.19
30.0	238.97	215.35	189.90	164.46	135.39	104.49	75.42	50.88	28.17
45.0	238.63	214.03	189.44	163.94	136.62	105.65	78.33	51.91	29.15
60.0	240.11	213.63	190.81	165.24	137.86	107.73	79.43	53.86	29.21
75.0	240.68	215.05	190.35	165.64	140.01	108.90	81.45	55.82	32.03
90.0	241.25	215.57	191.72	166.95	140.35	111.91	83.47	58.71	34.86
105.0	243.67	217.92	193.10	167.35	142.52	113.10	86.43	60.69	36.78
120.0	247.61	219.89	195.87	170.00	144.13	116.41	87.77	61.90	39.73
135.0	248.54	222.67	196.80	171.85	145.06	118.26	90.54	64.67	40.65
150.0	251.31	224.51	200.49	174.62	147.83	120.11	92.39	66.52	43.42
165.0	254.08	227.28	201.41	175.55	148.75	121.96	94.24	68.37	44.35
180.0	235.48	209.32	183.15	156.99	129.02	101.05	73.98	50.53	27.97
195.0	236.59	210.31	184.92	156.82	130.53	101.53	74.33	49.86	28.10
210.0	238.06	211.71	184.45	158.10	129.03	100.86	74.51	49.07	28.17
225.0	238.63	211.30	184.89	158.48	129.33	100.19	72.86	48.27	26.41
240.0	237.37	210.89	184.42	157.03	126.90	98.60	72.12	47.47	25.56
255.0	236.10	210.48	182.11	155.57	126.29	97.00	69.55	63.14	23.79
270.0	234.83	207.31	180.71	174.29	123.84	93.57	66.05	42.20	22.02
285.0	231.71	205.05	177.46	149.88	121.37	90.11	64.37	39.54	20.23
300.0	229.13	203.26	176.47	147.83	118.26	87.77	60.98	36.96	18.48
315.0	226.36	199.57	173.70	145.06	115.49	85.92	59.13	35.11	17.55
330.0	222.67	198.64	171.85	143.21	112.72	82.23	56.36	32.34	17.55
345.0	221.74	195.87	169.08	140.44	109.95	82.23	55.44	32.34	16.63
360.0	241.80	214.73	190.37	163.30	133.53	102.85	75.79	50.53	27.97

Intensity data(cd)

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C/ γ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	14.44	14.44	14.44	16.24	18.95	20.75	22.56	24.36	25.26
15.0	14.50	14.50	14.50	16.32	19.04	21.76	23.57	24.48	25.38
30.0	14.54	14.54	14.54	16.36	19.08	21.81	23.62	24.53	25.44
45.0	14.57	14.57	14.57	16.39	19.13	21.86	23.68	24.59	25.50
60.0	15.52	14.61	14.61	16.43	19.17	21.91	23.74	25.56	25.56
75.0	15.56	14.64	14.64	16.47	19.22	21.96	23.79	25.62	26.54
90.0	17.43	14.68	14.68	16.51	19.26	22.02	23.85	25.68	26.60
105.0	18.39	13.79	14.71	15.63	19.31	22.07	23.91	25.75	26.67
120.0	19.40	13.86	14.78	15.71	18.48	22.17	24.02	25.87	26.79
135.0	20.33	13.86	14.78	15.71	18.48	21.25	24.02	25.87	25.87
150.0	22.17	13.86	14.78	15.71	17.55	21.25	23.10	24.95	25.87
165.0	23.10	13.86	14.78	14.78	17.55	20.33	23.10	24.95	25.87
180.0	15.34	15.34	15.34	17.14	19.85	22.56	24.36	25.26	26.16
195.0	15.41	14.50	15.41	17.22	19.94	22.66	24.48	25.38	26.38
210.0	15.45	14.54	14.54	17.26	19.99	22.72	23.62	24.53	25.44
225.0	15.48	14.57	14.57	16.39	20.04	21.86	22.77	24.59	24.59
240.0	14.61	14.61	14.61	16.43	20.08	21.91	23.74	24.65	24.65
255.0	14.64	14.64	14.64	17.39	20.13	21.96	22.88	23.79	24.71
270.0	14.68	14.68	14.68	17.43	20.18	22.02	22.93	23.85	24.77
285.0	13.79	14.71	14.71	17.47	20.23	22.07	22.99	23.91	24.83
300.0	14.78	14.78	15.71	17.55	20.33	22.17	24.02	24.02	24.95
315.0	14.78	14.78	15.71	18.48	20.33	22.17	24.02	24.02	24.95
330.0	13.86	14.78	15.71	18.48	21.25	23.10	24.02	24.95	24.95
345.0	13.86	14.78	15.71	18.48	21.25	23.10	24.02	24.95	24.95
360.0	14.44	14.44	14.44	16.24	18.95	20.75	22.56	24.36	25.26
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	25.26	24.36	24.36	22.56	20.75	17.14	12.63	7.22	3.61
15.0	25.38	25.38	24.48	22.66	19.94	17.22	12.69	7.25	3.63
30.0	25.44	25.44	23.62	22.72	19.99	16.36	12.72	7.27	3.63
45.0	25.50	25.50	24.59	22.77	20.95	16.39	12.75	7.29	3.64
60.0	25.56	25.56	24.65	23.74	21.00	17.35	12.78	8.22	3.65
75.0	26.54	25.62	24.71	23.79	21.05	17.39	12.81	8.24	4.58
90.0	26.60	25.68	25.68	23.85	22.02	18.35	13.76	9.17	4.59
105.0	26.67	25.75	25.75	23.91	22.07	18.39	14.71	10.11	4.60
120.0	26.79	26.79	25.87	24.95	22.17	19.40	14.78	9.24	5.54
135.0	26.79	25.87	25.87	24.95	22.17	19.40	14.78	9.24	5.54
150.0	26.79	25.87	25.87	24.95	23.10	18.48	14.78	9.24	5.54
165.0	25.87	25.87	25.87	24.95	23.10	19.40	13.86	9.24	5.54
180.0	26.16	25.26	24.36	23.46	19.85	14.44	10.83	5.41	2.71
195.0	25.38	25.38	24.48	22.66	19.94	18.13	9.97	6.35	2.72
210.0	25.44	25.44	24.53	22.72	19.99	15.45	10.90	6.36	2.73
225.0	24.59	24.59	23.68	22.77	19.13	15.48	10.93	6.38	2.73
240.0	24.65	24.65	23.74	22.82	20.08	15.52	10.96	6.39	2.74
255.0	24.71	24.71	23.79	21.96	19.22	15.56	10.98	6.41	2.75
270.0	24.77	23.85	23.85	22.02	19.26	15.59	11.01	5.50	2.75
285.0	23.91	23.91	22.99	22.07	18.39	14.71	10.11	5.52	2.76
300.0	24.95	24.02	23.10	21.25	18.48	14.78	9.24	5.54	2.77
315.0	24.95	24.02	23.10	21.25	18.48	13.86	9.24	4.62	2.77
330.0	24.95	24.02	23.10	21.25	17.55	13.86	8.32	4.62	2.77
345.0	24.95	24.02	23.10	20.33	16.63	12.93	8.32	3.70	2.77
360.0	25.26	24.36	24.36	22.56	20.75	17.14	12.63	7.22	3.61

Intensity data(cd)

C/ γ (°)	180.0
0.0	2.71
15.0	2.72
30.0	1.82
45.0	1.82
60.0	1.83
75.0	2.75
90.0	2.75
105.0	2.76
120.0	2.77
135.0	2.77
150.0	2.77
165.0	2.77
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