
AFX

Client:

LumCAT: EMAF06LAJD1SB

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.134

Lamp flux(lm): 1159.1

Power (W): 15.060

Number of Lamps: 1

PF: 0.940

Length(mm): -140

Width(mm): -140

Phm Type: C

Height(mm): 20

Photometric Results

Lumens(lm): 1159.09, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 76.96

Central intensity(cd): 372.219, Maximum intensity(cd): 372.219

Angle of maximum intensity: C=90.0 γ =0.0

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

[C90/270]Total=108.0

Field angle(10%Imax): [C0/180]Total=165.2

[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(%): 10.52%

Down flux rate of lamp(%): 89.48%

Up flux rate of LUM(%): 10.52%

Down flux rate of LUM(%): 89.48%

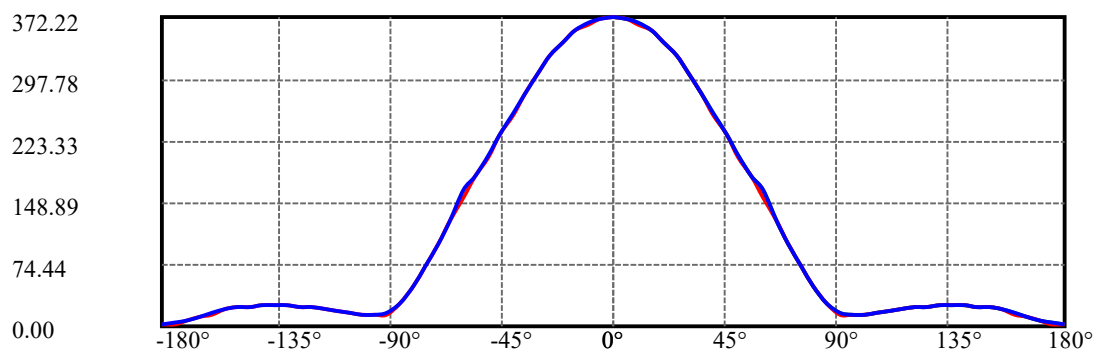
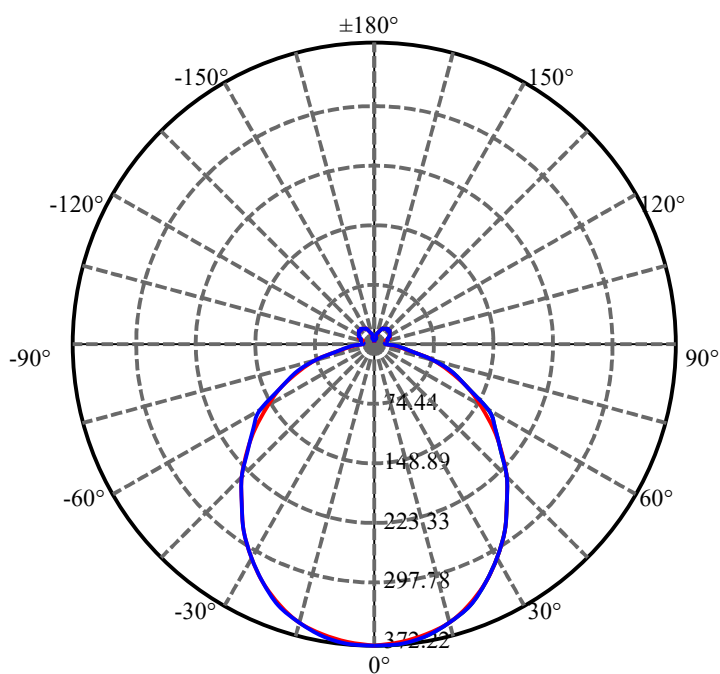
CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 69.077%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	372.219	0.000	0	0.00%	0.00%
5.0	370.197	8.875	8.875	0.77%	0.77%
10.0	364.628	26.287	35.162	2.27%	3.03%
15.0	355.470	42.716	77.878	3.69%	6.72%
20.0	342.688	57.538	135.416	4.96%	11.68%
25.0	325.174	70.046	205.463	6.04%	17.73%
30.0	304.460	79.681	285.143	6.87%	24.60%
35.0	280.536	86.145	371.288	7.43%	32.03%
40.0	256.582	89.614	460.902	7.73%	39.76%
45.0	230.441	90.176	551.078	7.78%	47.54%
50.0	205.299	88.048	639.126	7.60%	55.14%
55.0	180.459	83.877	723.003	7.24%	62.38%
60.0	155.509	77.658	800.661	6.70%	69.08%
65.0	127.463	68.791	869.452	5.93%	75.01%
70.0	99.120	57.372	926.824	4.95%	79.96%
75.0	72.717	44.915	971.739	3.88%	83.84%
80.0	49.292	32.646	1004.386	2.82%	86.65%
85.0	27.667	20.912	1025.297	1.80%	88.46%
90.0	15.689	11.871	1037.168	1.02%	89.48%
95.0	14.040	8.140	1045.308	0.70%	90.18%
100.0	14.232	7.682	1052.991	0.66%	90.85%
105.0	16.064	8.106	1061.097	0.70%	91.55%
110.0	19.000	9.165	1070.262	0.79%	92.34%
115.0	21.175	10.172	1080.435	0.88%	93.21%
120.0	22.931	10.722	1091.157	0.93%	94.14%
125.0	24.075	10.865	1102.022	0.94%	95.08%
130.0	24.571	10.577	1112.599	0.91%	95.99%
135.0	24.686	9.953	1122.552	0.86%	96.85%
140.0	24.226	9.056	1131.609	0.78%	97.63%
145.0	23.503	7.963	1139.572	0.69%	98.32%
150.0	22.091	6.714	1146.286	0.58%	98.90%
155.0	19.686	5.287	1151.573	0.46%	99.35%
160.0	16.025	3.745	1155.318	0.32%	99.67%
165.0	11.411	2.261	1157.579	0.20%	99.87%
170.0	6.831	1.082	1158.661	0.09%	99.96%
175.0	3.474	0.369	1159.03	0.03%	100.00%
180.0	1.146	0.055	1159.085	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	285.14	24.60%	24.60%
0-40	460.90	39.76%	39.76%
0-60	800.66	69.08%	69.08%
0-90	1037.17	89.48%	89.48%
0-120	1091.16	94.14%	94.14%
0-180	1159.09	100.00%	100.00%
60-90	236.51	20.40%	20.40%
90-120	53.99	4.66%	4.66%
90-130	75.43	6.51%	6.51%
90-150	109.12	9.41%	9.41%
90-180	121.86	10.51%	10.51%
0-70.05	927.27	80.00%	80.00%

ZONAL LUMEN SUMMARY	
0-10	35.16
10-20	100.25
20-30	149.73
30-40	175.76
40-50	178.22
50-60	161.53
60-70	126.16
70-80	77.56
80-90	32.78
90-100	15.82
100-110	17.27
110-120	20.89
120-130	21.44
130-140	19.01
140-150	14.68
150-160	9.03
160-170	3.34
170-180	0.37



C90(Max): —————

C0/C180: —————

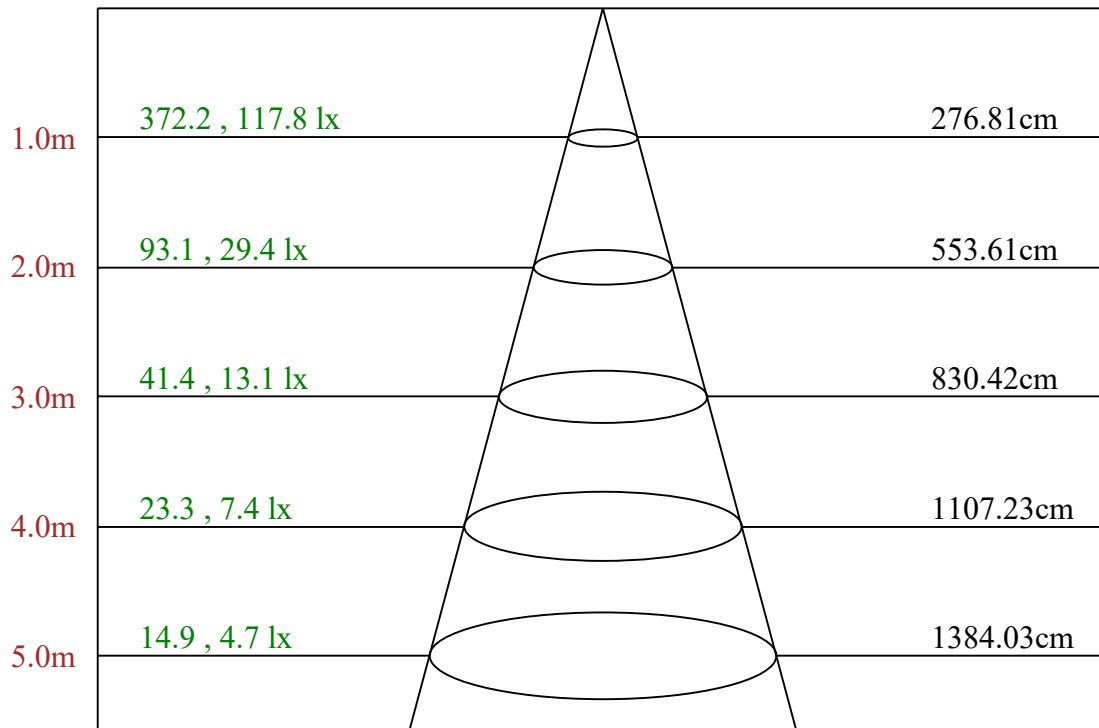
C90/C270: —————

Field angle(10%Imax):C0/180Left:82.6 Right:82.6

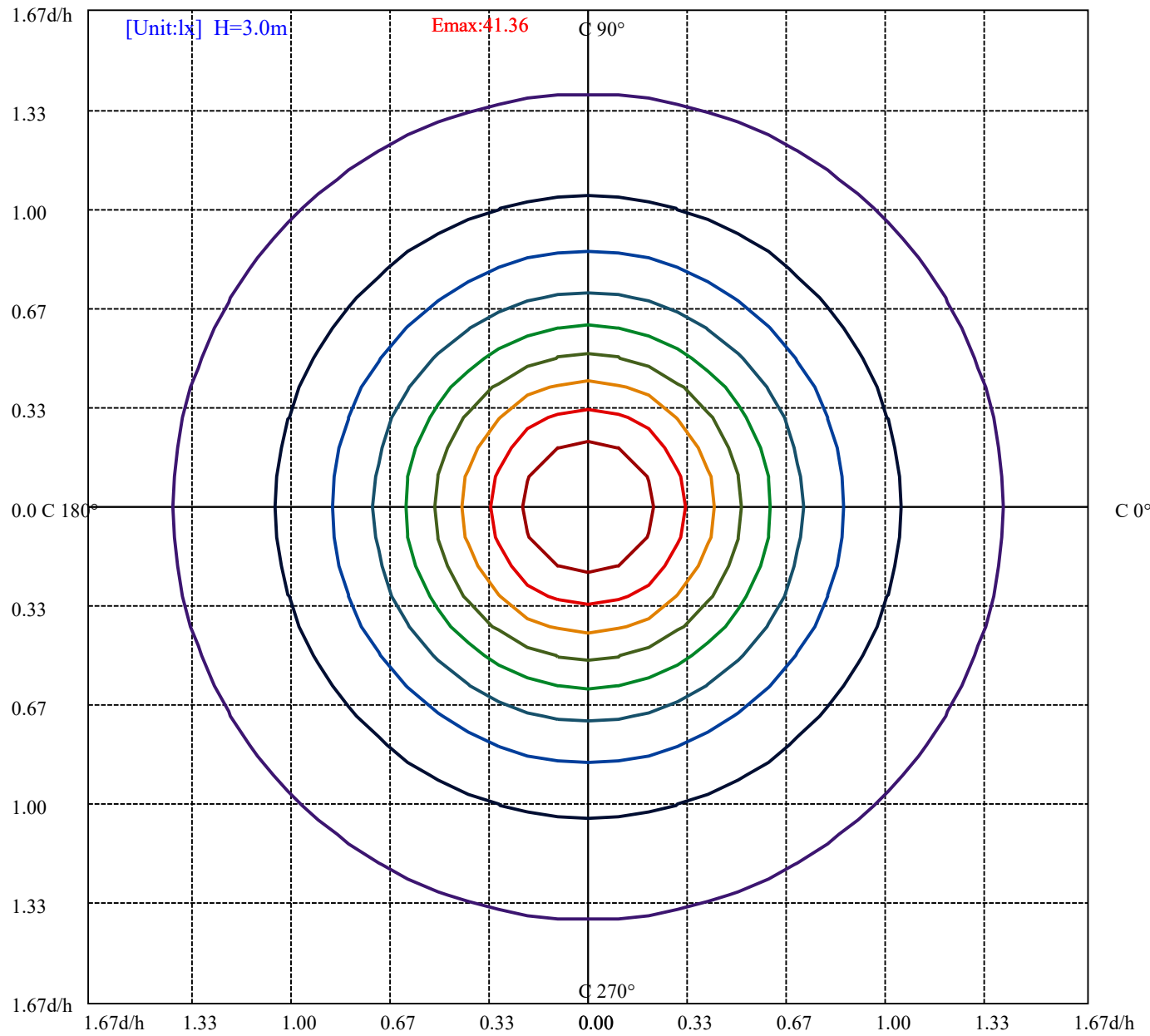
:C90/270Left:82.7 Right:82.7

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

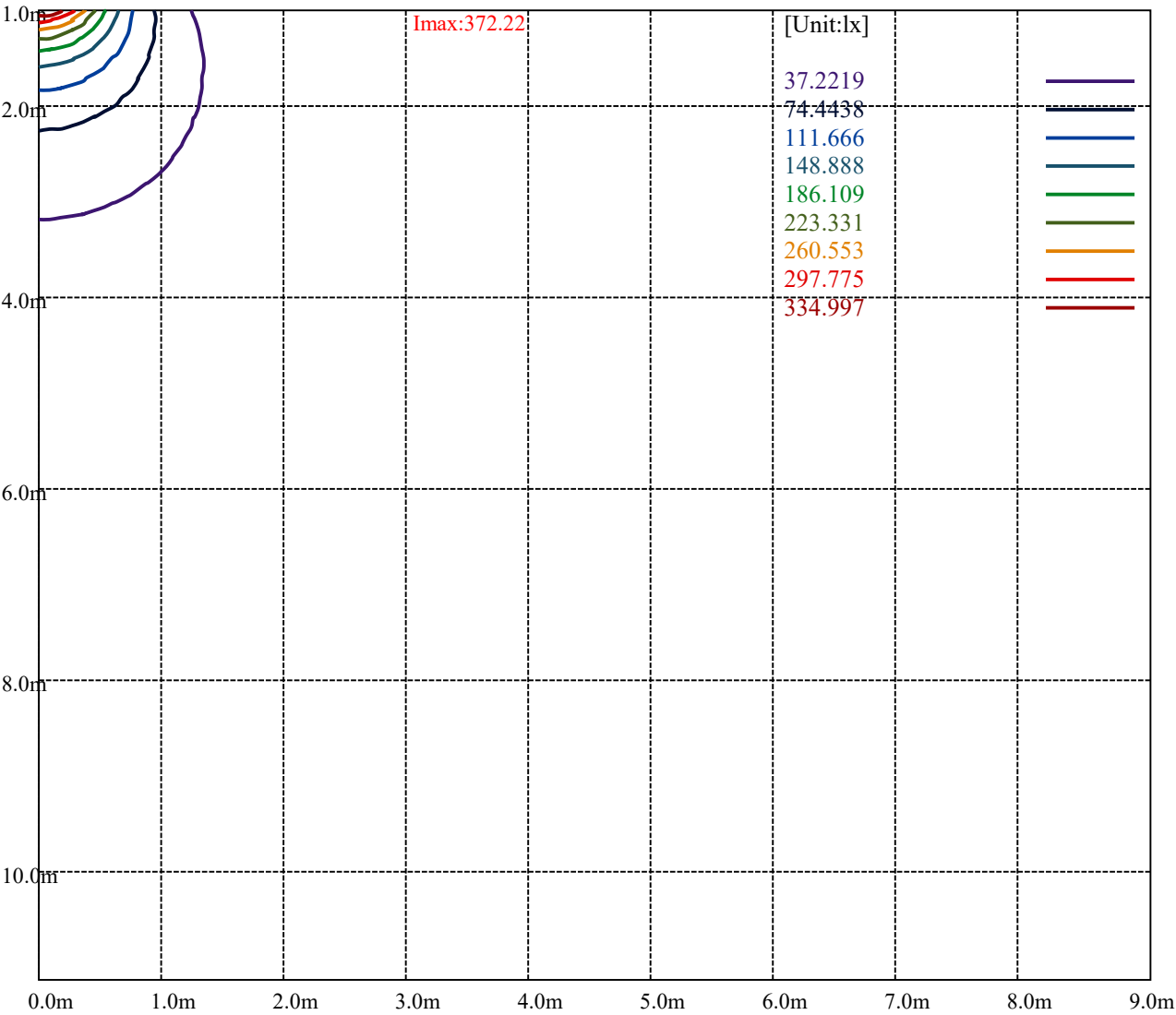
:C90/270Left:54.0 Right:54.0



Max , Ave Beam angle of C90 plane 108.30



(10%Emax)	4.135767	
(20%Emax)	8.271534	
(30%Emax)	12.40733	
(40%Emax)	16.54311	
(50%Emax)	20.67878	
(60%Emax)	24.81455	
(70%Emax)	28.95033	
(80%Emax)	33.08611	
(90%Emax)	37.22189	



Luminance Table

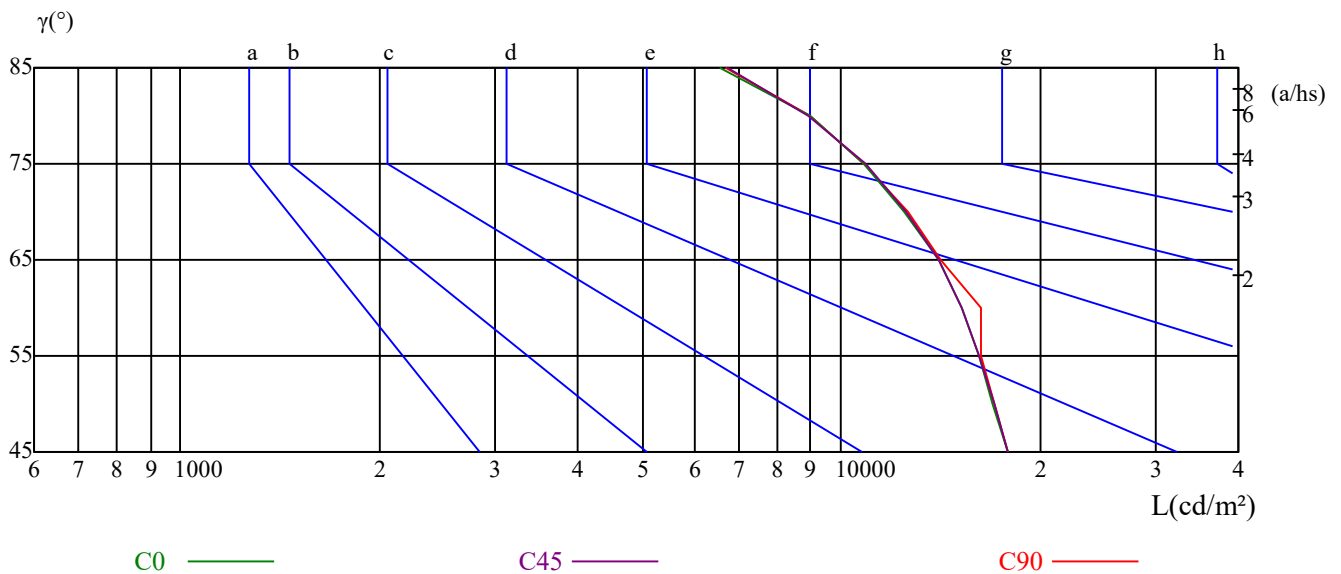
γ	45	50	55	60	65	70	75	80	85
C0	17934	16992	16246	15271	14052	12498	10847	8962	6545
C45	17922	17057	16195	15261	14116	12568	10896	8905	6715
C90	17895	17061	16277	16299	14126	12629	10855	8970	6674

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
19533	19637	19622	18210	18223	18293	20152	20551	20676

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	0.59	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)

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	372.22	370.42	365.01	355.10	343.38	326.25	305.53	282.09	256.86
15.0	372.22	370.41	364.07	355.01	342.33	326.03	304.30	281.65	257.20
30.0	372.22	369.50	363.14	354.06	341.35	324.10	304.13	280.53	256.01
45.0	372.22	369.49	364.03	354.02	341.28	323.99	303.96	280.30	255.73
60.0	372.22	370.39	363.99	354.84	342.04	324.66	304.54	280.76	256.07
75.0	372.22	370.39	363.99	353.93	342.04	325.58	304.54	280.76	257.90
90.0	372.22	370.38	365.79	355.68	343.73	327.18	306.97	283.99	259.17
105.0	372.22	371.30	365.77	357.48	345.50	327.99	309.57	285.61	261.66
120.0	372.22	372.22	366.68	359.29	347.28	331.58	311.26	289.09	264.16
135.0	372.22	372.22	367.60	359.29	349.13	332.50	313.11	290.02	266.00
150.0	372.22	370.37	367.60	361.14	338.04	334.35	315.88	293.71	267.85
165.0	372.22	371.30	369.45	362.06	350.98	335.27	317.73	294.63	269.70
180.0	372.22	369.52	363.21	355.10	341.58	324.45	302.82	278.49	253.25
195.0	372.22	370.41	364.97	356.82	343.24	326.03	305.20	280.75	255.39
210.0	372.22	370.40	364.96	356.79	343.17	325.92	304.13	281.43	256.01
225.0	372.22	370.40	364.94	356.75	344.01	326.72	304.87	282.12	255.73
240.0	372.22	371.30	365.82	357.59	344.78	326.49	305.46	280.76	256.07
255.0	372.22	370.39	364.90	355.76	343.87	325.58	303.63	278.94	254.24
270.0	372.22	370.38	365.79	355.68	342.81	323.51	303.29	277.56	252.74
285.0	372.22	370.38	363.93	354.71	340.89	321.55	300.35	275.48	271.79
300.0	372.22	369.45	363.91	352.82	350.05	319.57	297.41	272.47	246.61
315.0	372.22	368.52	362.06	350.98	337.12	316.80	295.56	269.70	244.76
330.0	372.22	368.52	360.21	349.13	334.35	314.95	292.79	266.93	242.91
345.0	372.22	366.68	359.29	347.28	331.58	313.11	290.02	265.08	240.14
360.0	372.22	370.42	365.01	355.10	343.38	326.25	305.53	282.09	256.86
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	233.43	207.29	183.86	157.72	129.78	100.04	73.90	48.67	27.04
15.0	232.75	207.39	182.94	157.58	130.41	99.62	73.36	48.00	26.26
30.0	230.59	207.90	183.39	158.87	130.73	101.68	73.54	49.93	27.24
45.0	231.16	207.50	182.92	158.35	132.87	101.93	75.54	50.05	28.21
60.0	232.29	207.60	184.74	160.96	133.52	105.17	76.82	53.04	28.35
75.0	232.29	208.52	184.74	160.04	135.35	105.17	79.57	53.96	31.09
90.0	233.44	209.55	186.57	161.75	136.02	108.45	80.88	56.98	34.01
105.0	236.78	210.99	187.03	163.08	138.20	109.64	83.84	58.97	35.01
120.0	240.14	212.43	189.34	165.33	139.47	112.68	84.97	60.04	37.87
135.0	241.06	216.13	190.27	166.25	140.39	114.53	87.74	62.81	39.72
150.0	242.91	217.05	193.96	169.02	143.16	116.38	89.59	63.73	42.49
165.0	245.68	220.75	194.88	169.95	144.08	118.22	91.44	66.50	42.49
180.0	228.02	201.88	177.55	151.41	124.37	97.34	71.20	48.67	27.04
195.0	229.13	202.86	178.41	152.15	125.88	98.71	72.45	48.90	27.17
210.0	229.69	204.27	178.85	152.52	125.28	97.14	72.63	47.21	27.24
225.0	231.16	203.86	179.28	152.89	125.59	97.38	70.99	46.41	25.48
240.0	229.55	204.86	178.34	151.81	123.46	95.11	69.51	45.73	24.69
255.0	227.72	203.94	176.51	150.90	122.55	93.28	66.76	61.27	22.86
270.0	227.01	201.27	175.54	168.19	119.48	90.99	64.33	40.44	21.14
285.0	224.81	199.01	172.29	145.57	117.93	87.53	61.73	38.70	20.27
300.0	221.67	196.73	170.87	143.16	113.61	84.97	59.11	36.02	18.47
315.0	218.90	193.96	168.10	140.39	111.76	83.13	57.26	34.17	17.55
330.0	216.13	192.11	166.25	138.54	108.99	80.35	54.49	31.40	16.63
345.0	214.28	189.34	164.40	135.77	106.22	79.43	53.57	31.40	15.70
360.0	233.43	207.29	183.86	157.72	129.78	100.04	73.90	48.67	27.04

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	14.42	13.52	13.52	15.32	18.03	20.73	22.53	23.43	24.33
15.0	14.49	13.58	13.58	15.40	18.11	20.83	22.64	23.55	24.45
30.0	14.53	13.62	13.62	15.43	19.06	20.88	22.70	23.60	24.51
45.0	14.56	13.65	13.65	15.47	19.11	20.93	22.75	24.57	24.57
60.0	14.63	13.72	13.72	15.55	19.21	21.03	22.86	24.69	24.69
75.0	15.55	13.72	13.72	15.55	19.21	21.03	22.86	24.69	25.61
90.0	16.54	13.79	13.79	15.62	18.38	21.14	22.98	24.81	25.73
105.0	17.51	13.82	13.82	15.66	18.43	21.19	23.03	24.88	25.80
120.0	19.40	13.85	13.85	14.78	18.47	21.24	23.09	24.94	25.86
135.0	20.32	13.85	13.85	14.78	17.55	20.32	23.09	24.94	24.94
150.0	21.24	13.85	13.85	14.78	17.55	20.32	23.09	24.01	24.94
165.0	22.17	13.85	13.85	14.78	17.55	20.32	22.17	24.01	24.94
180.0	15.32	14.42	14.42	16.22	19.83	21.63	23.43	24.33	25.24
195.0	14.49	14.49	14.49	16.30	19.92	21.74	23.55	24.45	24.45
210.0	14.53	14.53	14.53	16.34	19.06	21.79	22.70	23.60	24.51
225.0	14.56	14.56	14.56	16.38	19.11	20.93	21.84	23.66	23.66
240.0	14.63	14.63	14.63	16.46	19.21	21.03	22.86	23.78	23.78
255.0	14.63	14.63	14.63	16.46	19.21	21.03	22.86	23.78	23.78
270.0	13.79	14.70	14.70	16.54	19.30	21.14	22.98	22.98	23.90
285.0	13.82	14.74	14.74	17.51	19.35	21.19	23.03	23.03	23.95
300.0	13.85	13.85	14.78	17.55	19.40	21.24	23.09	24.01	24.01
315.0	13.85	13.85	14.78	17.55	20.32	22.17	23.09	24.01	24.01
330.0	13.85	13.85	14.78	17.55	20.32	22.17	23.09	24.01	24.01
345.0	13.85	13.85	15.70	17.55	20.32	22.17	24.01	24.01	24.01
360.0	14.42	13.52	13.52	15.32	18.03	20.73	22.53	23.43	24.33
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	24.33	24.33	23.43	21.63	19.83	16.22	11.72	7.21	3.61
15.0	24.45	24.45	23.55	21.74	19.92	16.30	11.77	7.25	3.62
30.0	24.51	24.51	22.70	21.79	19.97	16.34	11.80	7.26	3.63
45.0	24.57	24.57	23.66	21.84	20.02	16.38	11.83	7.28	3.64
60.0	24.69	24.69	23.78	22.86	20.12	16.46	12.80	8.23	3.66
75.0	25.61	24.69	23.78	22.86	21.03	17.38	12.80	8.23	4.57
90.0	25.73	24.81	24.81	22.98	21.14	17.46	13.79	9.19	4.60
105.0	25.80	24.88	24.88	23.03	21.19	18.43	13.82	9.21	4.61
120.0	25.86	25.86	24.94	24.01	21.24	18.47	14.78	9.24	5.54
135.0	25.86	24.94	24.94	24.01	21.24	18.47	14.78	9.24	5.54
150.0	25.86	24.94	24.94	24.01	22.17	17.55	14.78	9.24	5.54
165.0	24.94	24.94	24.94	24.01	22.17	19.40	13.85	9.24	5.54
180.0	25.24	24.33	23.43	22.53	19.83	13.52	9.91	5.41	2.70
195.0	24.45	24.45	23.55	22.64	19.02	18.11	9.06	5.43	2.72
210.0	24.51	24.51	23.60	21.79	19.97	14.53	9.99	5.45	2.72
225.0	24.57	23.66	23.66	21.84	19.11	15.47	10.92	6.37	2.73
240.0	23.78	23.78	22.86	21.95	19.21	15.55	10.06	6.40	2.74
255.0	23.78	23.78	22.86	21.95	19.21	15.55	10.97	5.49	2.74
270.0	23.90	23.90	22.98	21.14	18.38	14.70	10.11	5.51	2.76
285.0	23.95	23.03	22.11	21.19	18.43	14.74	10.13	5.53	2.76
300.0	24.01	23.09	22.17	20.32	17.55	13.85	9.24	4.62	1.85
315.0	24.01	23.09	22.17	20.32	17.55	13.85	9.24	4.62	1.85
330.0	24.01	23.09	22.17	20.32	17.55	12.93	8.31	4.62	1.85
345.0	24.01	23.09	22.17	19.40	16.63	12.93	7.39	3.69	1.85
360.0	24.33	24.33	23.43	21.63	19.83	16.22	11.72	7.21	3.61

Intensity data(cd)

C/ γ (°)	180.0
0.0	2.70
15.0	1.81
30.0	1.82
45.0	1.82
60.0	1.83
75.0	1.83
90.0	2.76
105.0	1.84
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	2.70