
乐达凯

Client:

LumCAT: EMAV1604LAJUDLB

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP25010151

Voltage(V): 119.980

LampCAT:

Current(A): 0.143

Lamp flux(lm): 1058.6

Power (W): 16.990

Number of Lamps: 1

PF: 0.988

Length(mm): 335

Width(mm): 105

Phm Type: C

Height(mm): 25

Photometric Results

Lumens(lm): 1058.58, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 62.31

Central intensity(cd): 304.586, Maximum intensity(cd): 305.577

Angle of maximum intensity: C=75.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=124.4

[C90/270]Total=111.9

Field angle(10%Imax): [C0/180]Total=259.2

[C90/270]Total=203.2

Maximum s/h(1/2): C0_180=1.30 C90_270=1.39

Maximum s/h(1/4): C0_180=1.43 C90_270=1.53

Up flux rate of lamp(%): 12.38%

Down flux rate of lamp(%): 87.62%

Up flux rate of LUM(%): 12.38%

Down flux rate of LUM(%): 87.62%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 65.401%

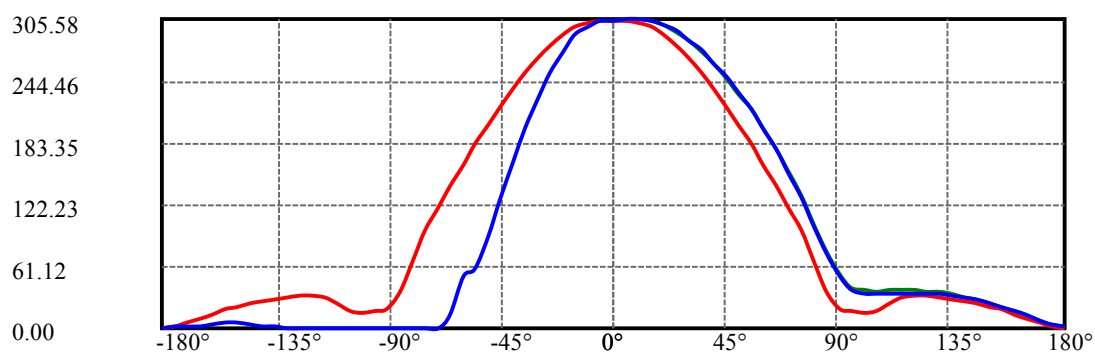
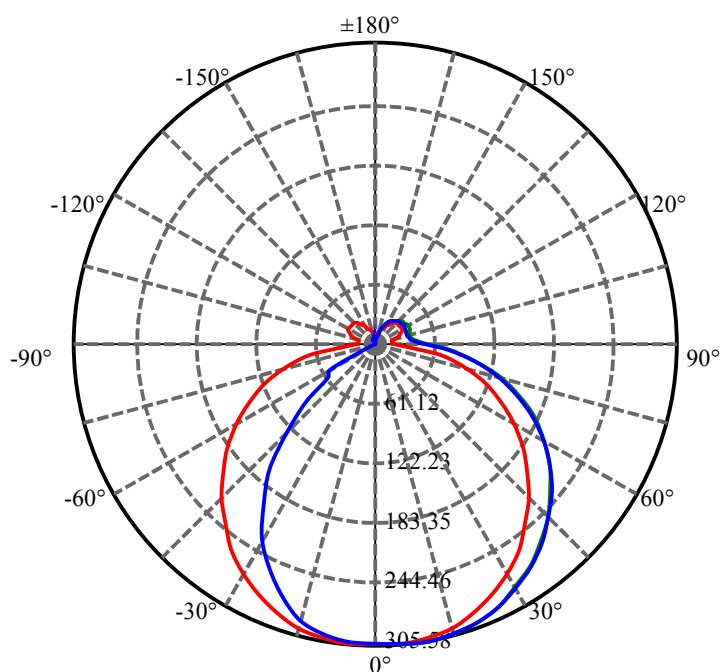
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	304.586	0.000	0	0.00%	0.00%
5.0	304.282	7.279	7.279	0.69%	0.69%
10.0	302.349	21.701	28.98	2.05%	2.74%
15.0	297.609	35.589	64.569	3.36%	6.10%
20.0	289.453	48.382	112.951	4.57%	10.67%
25.0	277.206	59.432	172.383	5.61%	16.28%
30.0	263.017	68.366	240.749	6.46%	22.74%
35.0	245.935	74.947	315.696	7.08%	29.82%
40.0	226.912	78.891	394.586	7.45%	37.28%
45.0	203.508	79.696	474.282	7.53%	44.80%
50.0	180.008	77.495	551.777	7.32%	52.12%
55.0	156.760	73.225	625.002	6.92%	59.04%
60.0	134.468	67.316	692.318	6.36%	65.40%
65.0	112.197	59.965	752.283	5.66%	71.07%
70.0	92.103	51.730	804.013	4.89%	75.95%
75.0	74.892	43.650	847.663	4.12%	80.08%
80.0	57.295	35.369	883.032	3.34%	83.42%
85.0	39.917	26.415	909.447	2.50%	85.91%
90.0	26.027	18.056	927.503	1.71%	87.62%
95.0	20.369	12.703	940.206	1.20%	88.82%
100.0	19.256	10.767	950.973	1.02%	89.84%
105.0	20.040	10.515	961.488	0.99%	90.83%
110.0	22.471	11.112	972.599	1.05%	91.88%
115.0	24.240	11.828	984.427	1.12%	93.00%
120.0	24.631	11.881	996.307	1.12%	94.12%
125.0	24.406	11.335	1007.642	1.07%	95.19%
130.0	23.839	10.490	1018.132	0.99%	96.18%
135.0	23.006	9.466	1027.598	0.89%	97.07%
140.0	21.935	8.321	1035.919	0.79%	97.86%
145.0	20.355	7.056	1042.975	0.67%	98.53%
150.0	18.174	5.674	1048.648	0.54%	99.06%
155.0	15.402	4.249	1052.897	0.40%	99.46%
160.0	11.967	2.871	1055.768	0.27%	99.73%
165.0	8.442	1.682	1057.45	0.16%	99.89%
170.0	5.062	0.801	1058.251	0.08%	99.97%
175.0	2.774	0.280	1058.531	0.03%	100.00%
180.0	0.957	0.045	1058.576	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	240.75	22.74%	22.74%
0-40	394.59	37.28%	37.28%
0-60	692.32	65.40%	65.40%
0-90	927.50	87.62%	87.62%
0-120	996.31	94.12%	94.12%
0-180	1058.58	100.00%	100.00%
60-90	235.18	22.22%	22.22%
90-120	68.80	6.50%	6.50%
90-130	90.63	8.56%	8.56%
90-150	121.15	11.44%	11.44%
90-180	131.03	12.38%	12.38%
0-74.91	846.86	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	28.98
10-20	83.97
20-30	127.80
30-40	153.84
40-50	157.19
50-60	140.54
60-70	111.69
70-80	79.02
80-90	44.47
90-100	23.47
100-110	21.63
110-120	23.71
120-130	21.82
130-140	17.79
140-150	12.73
150-160	7.12
160-170	2.48
170-180	0.28

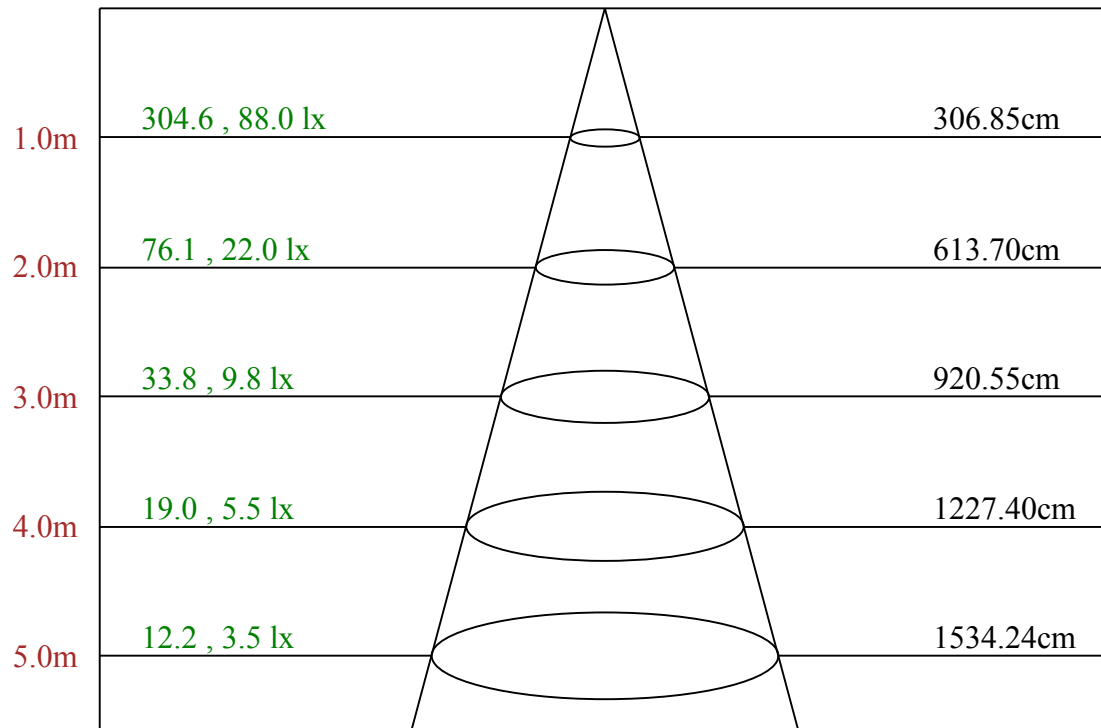
C75(Max): C0/C180: C90/C270: 

Field angle(10%Imax):C0/180Left:129.6 Right:129.6

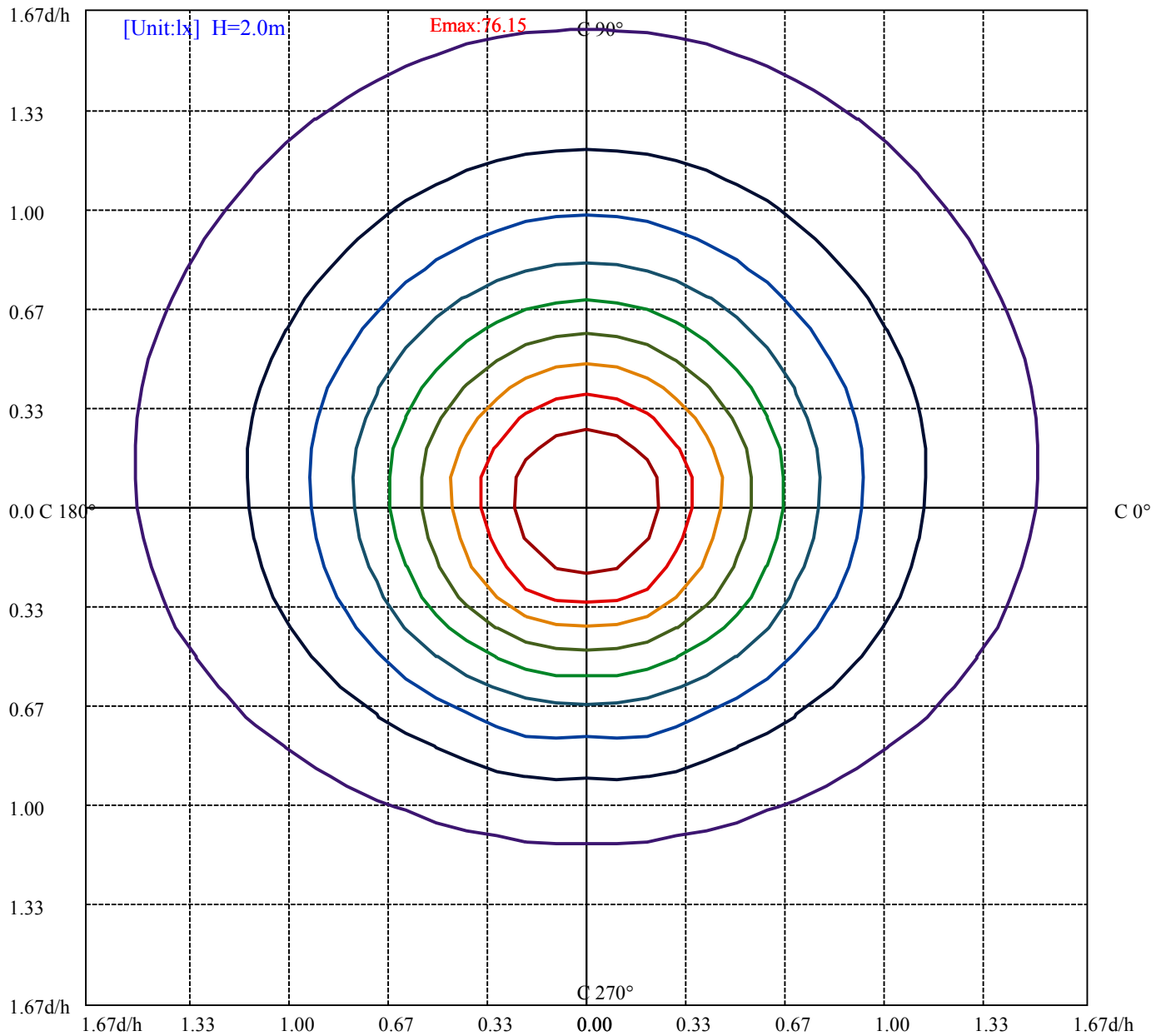
:C90/270Left:72.7 Right:130.5

Beam Angle(50%Imax):C0/180Left:62.2 Right:62.2

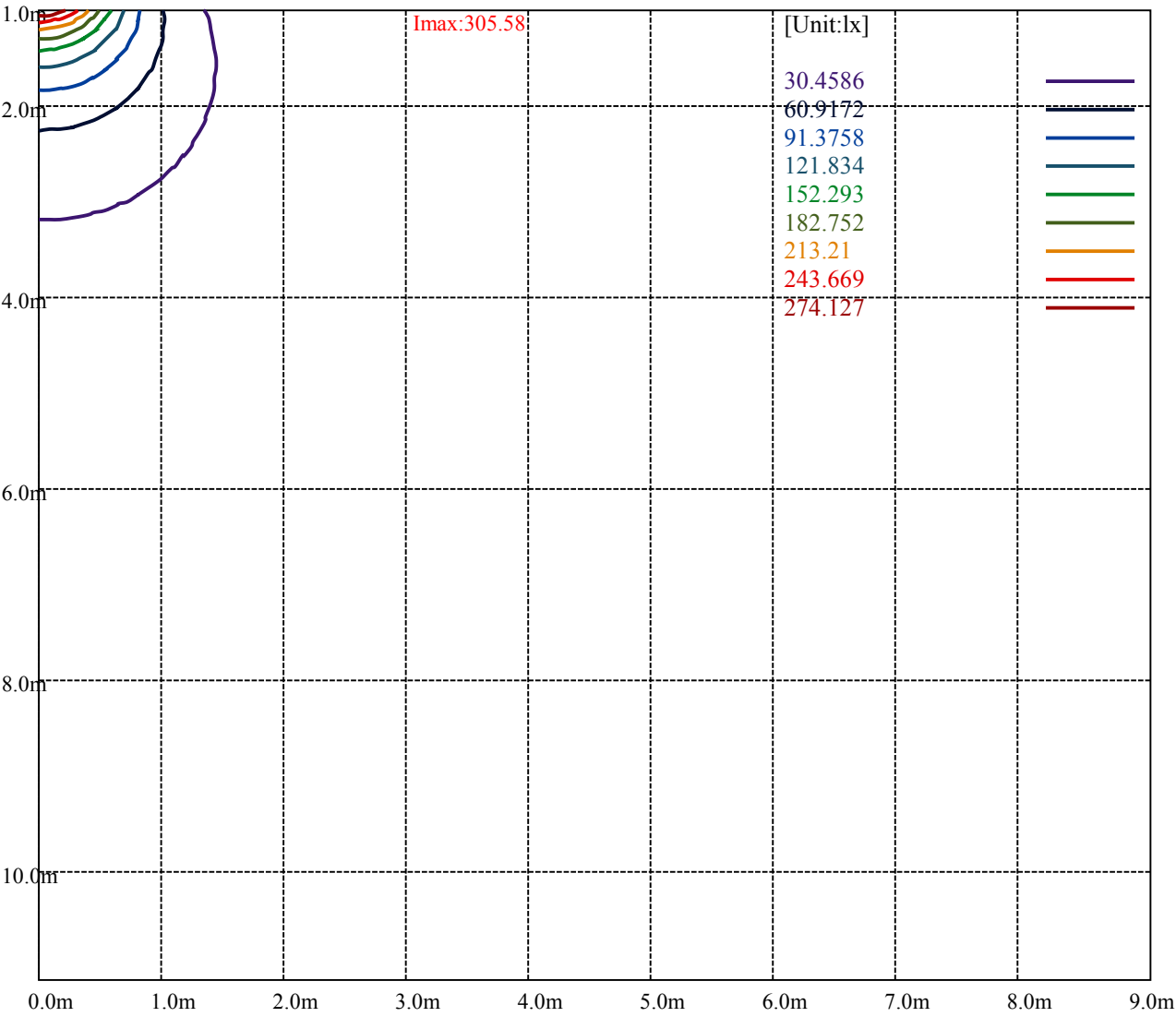
:C90/270Left:51.6 Right:60.3



Max , Ave Beam angle of C75 plane 113.81



(10%Emax) 7.61465	—
(20%Emax) 15.2293	—
(30%Emax) 22.84395	—
(40%Emax) 30.4585	—
(50%Emax) 38.07325	—
(60%Emax) 45.688	—
(70%Emax) 53.3025	—
(80%Emax) 60.91725	—
(90%Emax) 68.53175	—



Luminance Table

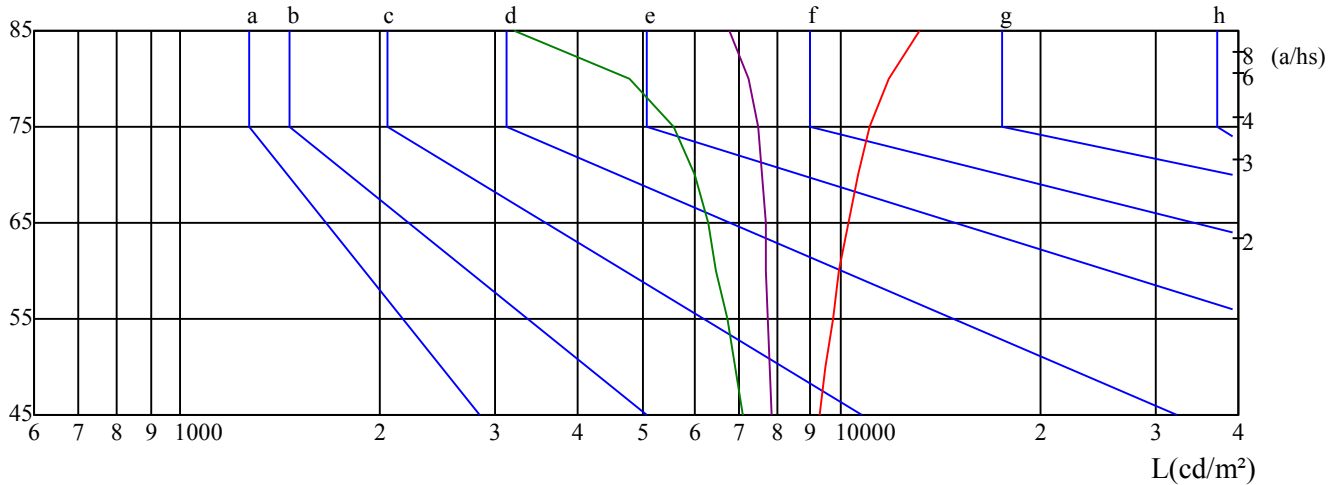
γ	45	50	55	60	65	70	75	80	85
C0	7117	6912	6727	6489	6280	6002	5596	4790	3198
C45	7870	7792	7746	7677	7675	7620	7520	7253	6789
C90	9308	9447	9701	9954	10274	10632	11039	11821	13163

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9486	6416	7057	10569	7087	7736	11900	12313	13314

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

 $\gamma(^{\circ})$ 

C0 ———

C45 ———

C90 ———

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	1.16	1.16	1.16	1.12	1.12	1.12	1.04	1.04	1.04	0.97	0.97	0.97	0.91	0.91	0.91	0.88
1	1.00	0.95	0.91	0.96	0.92	0.88	0.90	0.86	0.83	0.84	0.81	0.78	0.78	0.76	0.74	0.71
2	0.86	0.79	0.73	0.83	0.77	0.71	0.78	0.72	0.68	0.73	0.68	0.64	0.68	0.64	0.61	0.58
3	0.76	0.67	0.61	0.73	0.65	0.59	0.68	0.62	0.57	0.64	0.59	0.54	0.60	0.55	0.52	0.49
4	0.67	0.58	0.51	0.65	0.56	0.50	0.61	0.54	0.48	0.57	0.51	0.46	0.53	0.48	0.44	0.42
5	0.60	0.51	0.44	0.58	0.49	0.43	0.54	0.47	0.41	0.51	0.45	0.40	0.48	0.43	0.38	0.36
6	0.54	0.45	0.38	0.52	0.44	0.37	0.49	0.42	0.36	0.46	0.40	0.35	0.43	0.38	0.34	0.31
7	0.49	0.40	0.34	0.47	0.39	0.33	0.44	0.37	0.32	0.42	0.36	0.31	0.40	0.34	0.30	0.28
8	0.44	0.36	0.30	0.43	0.35	0.29	0.41	0.34	0.29	0.38	0.32	0.28	0.36	0.31	0.27	0.25
9	0.41	0.32	0.27	0.39	0.32	0.26	0.37	0.30	0.26	0.35	0.29	0.25	0.34	0.28	0.24	0.22
10	0.37	0.29	0.24	0.36	0.29	0.24	0.35	0.28	0.23	0.33	0.27	0.23	0.31	0.26	0.22	0.20

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	304.59	304.67	303.44	299.72	292.82	283.18	271.42	257.36	242.24
15.0	304.59	305.03	304.23	300.95	294.55	284.88	273.16	260.11	244.84
30.0	304.59	304.85	304.32	301.30	295.26	286.47	275.18	262.84	248.80
45.0	304.59	305.12	304.94	302.09	296.82	288.78	277.98	266.72	252.44
60.0	304.59	305.21	305.03	302.79	297.95	290.51	280.83	270.07	257.78
75.0	304.59	305.30	305.75	303.69	299.29	292.73	283.48	273.52	260.77
90.0	304.59	305.40	305.49	303.78	299.82	293.25	284.43	274.62	262.29
105.0	304.59	304.95	305.40	303.86	299.79	293.64	284.24	274.83	262.71
120.0	304.59	304.50	304.50	302.60	298.09	291.05	281.76	271.66	259.93
135.0	304.59	304.95	304.86	302.87	297.99	290.68	280.93	269.55	256.73
150.0	304.59	304.77	304.86	302.69	292.02	290.22	279.55	267.89	253.70
165.0	304.59	304.40	304.22	301.87	296.71	288.56	277.87	265.55	250.33
180.0	304.59	303.88	301.40	295.57	286.99	275.84	263.55	248.87	231.89
195.0	304.59	303.96	300.77	294.82	286.12	275.56	263.22	248.04	230.19
210.0	304.59	303.88	300.94	294.73	285.58	273.41	258.93	239.39	214.78
225.0	304.59	303.96	300.48	293.51	284.32	267.62	249.58	225.29	197.25
240.0	304.59	304.05	300.73	293.47	280.47	261.01	238.50	212.05	179.51
255.0	304.59	303.87	299.92	291.92	277.29	254.66	232.12	202.76	168.73
270.0	304.59	303.33	298.83	290.37	274.08	251.59	227.74	197.42	165.12
285.0	304.59	303.41	299.34	291.29	275.74	255.57	232.06	203.21	195.61
300.0	304.59	303.68	299.71	292.50	290.15	260.47	237.82	211.66	179.90
315.0	304.59	303.59	299.44	292.40	281.65	265.67	247.61	223.31	195.68
330.0	304.59	303.05	298.98	292.11	281.90	268.79	254.33	235.17	211.58
345.0	304.59	302.96	298.79	291.73	281.49	268.81	256.13	240.55	223.07
360.0	304.59	304.67	303.44	299.72	292.82	283.18	271.42	257.36	242.24
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	224.99	206.95	188.11	168.57	148.40	128.15	105.51	82.07	46.87
15.0	227.71	209.95	191.04	172.76	152.87	132.54	110.88	87.89	57.26
30.0	232.64	215.32	197.02	178.36	160.07	138.13	116.90	91.05	65.91
45.0	237.08	220.74	204.40	185.20	166.00	146.27	123.32	98.22	71.79
60.0	242.45	227.57	210.71	192.87	173.41	151.80	127.59	103.02	76.48
75.0	246.58	231.31	215.60	196.11	176.99	154.18	129.31	102.46	75.16
90.0	248.80	232.60	216.58	197.69	177.17	154.14	128.49	102.76	74.77
105.0	248.24	232.87	216.14	198.96	177.43	156.54	131.95	104.63	77.50
120.0	244.32	229.61	212.83	194.79	175.66	154.37	131.72	104.30	79.39
135.0	241.01	224.49	206.88	188.28	170.40	148.46	126.60	101.50	75.04
150.0	238.52	219.54	202.18	182.84	163.14	142.44	119.67	95.35	70.59
165.0	234.85	216.73	197.44	177.61	158.77	136.22	115.11	91.84	63.13
180.0	213.32	194.30	175.64	153.80	133.63	110.73	86.94	55.45	26.09
195.0	209.24	186.34	163.52	140.80	117.27	93.30	66.05	38.97	22.55
210.0	189.56	161.22	133.42	104.64	76.66	51.43	33.58	22.47	15.63
225.0	165.64	132.07	98.58	66.70	40.63	20.98	14.20	10.89	7.77
240.0	145.88	107.95	75.32	44.38	20.17	5.92	2.51	2.24	1.97
255.0	132.45	96.53	63.22	34.30	14.73	1.62	0.63	0.63	0.81
270.0	126.69	90.97	59.75	51.20	13.59	0.63	0.54	0.72	0.72
285.0	133.75	97.49	63.67	34.18	13.57	1.09	0.54	0.63	0.81
300.0	145.26	109.71	75.42	46.10	21.02	8.03	4.78	3.79	3.07
315.0	165.61	133.19	100.32	69.26	42.62	24.74	17.61	13.09	8.67
330.0	186.19	160.43	133.40	107.83	80.89	55.86	36.06	23.23	15.18
345.0	203.42	182.32	161.03	140.02	117.65	92.92	66.93	37.86	20.83
360.0	224.99	206.95	188.11	168.57	148.40	128.15	105.51	82.07	46.87

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	22.91	15.21	17.16	15.12	21.14	28.48	31.84	31.66	30.78
15.0	34.36	23.70	24.15	23.44	28.94	33.11	34.09	33.73	32.67
30.0	41.57	31.44	30.20	31.00	34.64	36.15	36.24	35.62	34.38
45.0	48.31	37.95	35.45	36.25	38.49	39.11	38.84	37.68	36.16
60.0	52.72	41.33	38.64	39.00	40.08	40.17	39.36	38.20	36.40
75.0	52.71	39.78	37.27	36.37	36.46	37.00	36.82	35.92	34.93
90.0	50.75	37.70	34.82	33.56	33.29	34.46	34.82	34.64	33.92
105.0	53.45	41.24	38.16	37.53	37.80	38.25	37.98	37.08	35.63
120.0	54.58	41.95	38.80	39.25	40.42	40.69	40.06	38.70	36.90
135.0	49.85	37.38	34.59	34.86	37.84	39.01	38.74	37.75	36.30
150.0	44.74	31.36	29.74	30.19	33.80	36.06	36.15	35.61	34.44
165.0	34.87	22.73	22.82	21.47	25.54	31.25	33.96	33.42	32.42
180.0	16.10	17.51	15.03	19.90	28.04	32.81	32.37	31.31	29.98
195.0	14.29	14.83	13.23	18.02	24.24	27.79	28.41	28.23	27.61
210.0	10.04	9.86	9.42	11.28	14.12	16.34	17.77	18.74	19.45
225.0	5.45	5.27	5.09	5.63	6.25	7.14	7.23	9.29	10.27
240.0	1.70	1.88	1.79	1.79	1.88	1.97	1.79	1.88	2.15
255.0	0.81	0.90	0.81	0.90	0.81	0.72	0.72	0.81	0.99
270.0	0.90	0.90	0.90	0.81	0.72	0.72	0.72	0.54	0.72
285.0	0.81	0.90	0.81	0.81	0.81	0.72	0.81	0.90	1.63
300.0	2.35	2.44	2.35	2.53	2.62	2.62	2.62	2.80	3.25
315.0	6.41	6.23	6.14	6.86	7.49	8.76	10.02	11.11	12.10
330.0	10.76	10.85	10.67	13.83	16.72	18.89	20.16	20.97	21.24
345.0	14.22	15.49	14.13	20.56	27.17	29.53	29.62	29.16	27.80
360.0	22.91	15.21	17.16	15.12	21.14	28.48	31.84	31.66	30.78
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	29.63	28.21	26.18	23.35	20.08	16.10	11.85	7.43	2.92
15.0	31.25	29.65	27.17	24.41	20.86	16.78	12.07	7.63	3.73
30.0	32.95	30.82	28.42	25.14	21.50	17.05	12.44	7.64	3.91
45.0	34.20	31.97	29.11	25.63	21.70	17.14	12.59	7.77	3.75
60.0	34.25	32.10	29.05	25.64	21.88	17.13	12.46	7.71	3.68
75.0	33.22	30.98	28.38	25.23	21.46	17.06	12.39	7.54	3.77
90.0	32.48	30.77	28.34	25.28	21.33	17.19	12.51	7.74	3.78
105.0	33.73	31.38	28.76	25.32	21.70	17.36	12.84	7.87	3.98
120.0	34.83	32.21	29.23	25.80	21.83	17.68	12.90	8.12	3.97
135.0	34.50	31.97	29.17	25.92	22.03	17.61	12.91	8.31	4.24
150.0	32.72	31.00	28.38	25.58	21.60	17.35	13.01	8.32	4.16
165.0	31.07	29.34	27.44	24.36	21.10	17.21	12.77	8.06	4.35
180.0	28.21	25.74	22.99	19.81	16.01	11.76	7.61	2.83	1.95
195.0	26.19	24.06	21.31	18.29	14.74	13.76	6.57	2.66	1.95
210.0	19.63	19.72	18.12	15.72	12.61	9.06	5.33	2.58	1.87
225.0	10.89	11.16	10.98	10.09	7.95	5.36	3.39	2.32	1.79
240.0	3.05	3.77	4.75	5.92	5.56	3.68	2.78	2.06	1.61
255.0	1.44	3.50	4.94	6.11	5.75	3.68	2.87	1.71	1.62
270.0	1.44	2.61	4.14	5.58	5.40	3.96	2.79	1.53	1.53
285.0	2.80	4.07	4.79	5.43	5.25	3.53	2.62	1.72	1.63
300.0	3.79	4.51	5.05	5.68	5.50	3.61	2.62	2.08	1.62
315.0	12.73	12.73	12.19	9.66	8.04	5.06	3.43	2.08	1.63
330.0	21.24	20.52	18.62	14.37	11.75	8.04	5.60	2.62	1.63
345.0	25.90	23.64	21.01	17.84	14.04	10.05	6.25	3.17	1.54
360.0	29.63	28.21	26.18	23.35	20.08	16.10	11.85	7.43	2.92

Intensity data(cd)

Appendix Page: 12 Total:12

C/ $\gamma(^{\circ})$	180.0
0.0	1.77
15.0	1.78
30.0	1.78
45.0	1.96
60.0	1.88
75.0	1.89
90.0	1.98
105.0	1.99
120.0	1.89
135.0	1.99
150.0	2.08
165.0	1.99
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	1.77