
弗格斯莱

Client:

LumCAT: CLSP24LAJUDBK

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.040

LampCAT:

Current(A): 0.209

Lamp flux(lm): 1344.9

Power (W): 24.910

Number of Lamps: 1

PF: 0.995

Length(mm): 540

Width(mm): 520

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1344.92, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 53.99

Central intensity(cd): 394.744, Maximum intensity(cd): 394.744

Angle of maximum intensity: C=45.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=117.0

[C90/270]Total=120.0

Field angle(10%Imax): [C0/180]Total=193.6

[C90/270]Total=186.6

Maximum s/h(1/2): C0_180=1.26 C90_270=1.25

Maximum s/h(1/4): C0_180=1.38 C90_270=1.38

Up flux rate of lamp(%): 6.21%

Down flux rate of lamp(%): 93.79%

Up flux rate of LUM(%): 6.21%

Down flux rate of LUM(%): 93.79%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 66.755%

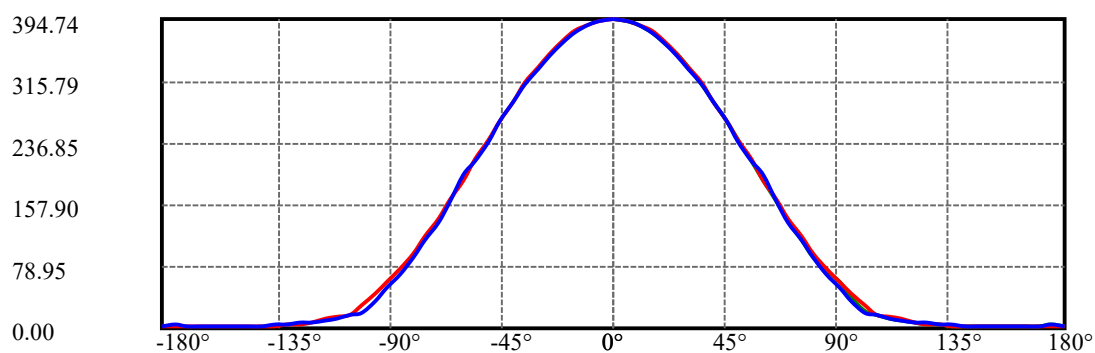
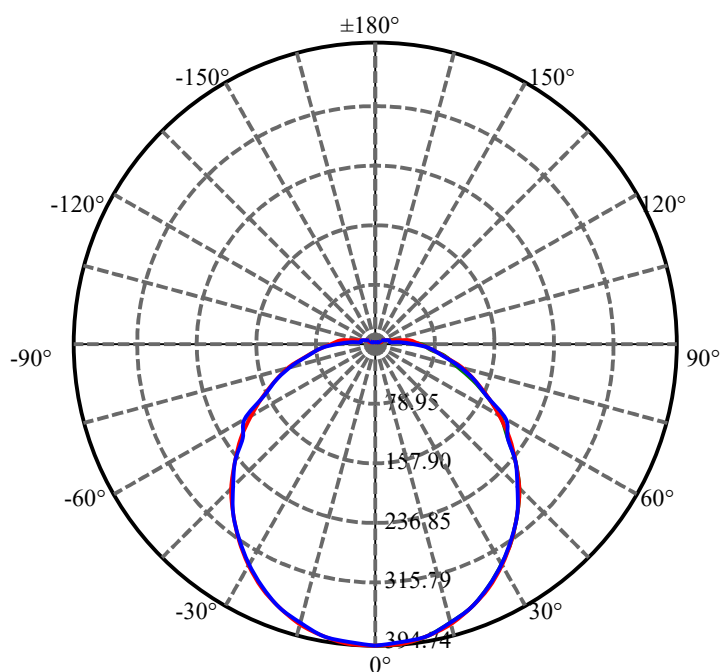
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	394.744	0.000	0	0.00%	0.00%
5.0	393.133	9.419	9.419	0.70%	0.70%
10.0	387.691	27.933	37.351	2.08%	2.78%
15.0	378.644	45.458	82.81	3.38%	6.16%
20.0	366.453	61.406	144.216	4.57%	10.72%
25.0	350.929	75.240	219.457	5.59%	16.32%
30.0	332.608	86.502	305.959	6.43%	22.75%
35.0	311.908	94.910	400.868	7.06%	29.81%
40.0	290.059	100.434	501.302	7.47%	37.27%
45.0	265.105	102.793	604.095	7.64%	44.92%
50.0	239.729	102.009	706.104	7.58%	52.50%
55.0	213.738	98.599	804.703	7.33%	59.83%
60.0	189.016	93.096	897.799	6.92%	66.75%
65.0	162.411	85.433	983.231	6.35%	73.11%
70.0	137.341	75.899	1059.13	5.64%	78.75%
75.0	113.803	65.645	1124.775	4.88%	83.63%
80.0	93.106	55.363	1180.138	4.12%	87.75%
85.0	73.670	45.317	1225.455	3.37%	91.12%
90.0	57.726	35.977	1261.432	2.68%	93.79%
95.0	39.317	26.571	1288.003	1.98%	95.77%
100.0	24.250	17.273	1305.276	1.28%	97.05%
105.0	17.249	11.104	1316.38	0.83%	97.88%
110.0	12.686	7.824	1324.205	0.58%	98.46%
115.0	9.389	5.589	1329.794	0.42%	98.88%
120.0	7.169	4.025	1333.819	0.30%	99.17%
125.0	5.444	2.916	1336.735	0.22%	99.39%
130.0	3.949	2.042	1338.777	0.15%	99.54%
135.0	2.990	1.402	1340.18	0.10%	99.65%
140.0	2.301	0.980	1341.159	0.07%	99.72%
145.0	2.147	0.742	1341.901	0.06%	99.78%
150.0	2.377	0.666	1342.567	0.05%	99.83%
155.0	2.607	0.631	1343.198	0.05%	99.87%
160.0	2.800	0.567	1343.765	0.04%	99.91%
165.0	2.991	0.477	1344.242	0.04%	99.95%
170.0	3.181	0.366	1344.609	0.03%	99.98%
175.0	3.603	0.243	1344.851	0.02%	100.00%
180.0	1.840	0.065	1344.916	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	305.96	22.75%	22.75%
0-40	501.30	37.27%	37.27%
0-60	897.80	66.75%	66.75%
0-90	1261.43	93.79%	93.79%
0-120	1333.82	99.17%	99.17%
0-180	1344.92	100.00%	100.00%
60-90	363.63	27.04%	27.04%
90-120	72.39	5.38%	5.38%
90-130	77.35	5.75%	5.75%
90-150	81.14	6.03%	6.03%
90-180	83.42	6.20%	6.20%
0-71.28	1075.93	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	37.35
10-20	106.86
20-30	161.74
30-40	195.34
40-50	204.80
50-60	191.69
60-70	161.33
70-80	121.01
80-90	81.29
90-100	43.84
100-110	18.93
110-120	9.61
120-130	4.96
130-140	2.38
140-150	1.41
150-160	1.20
160-170	0.84
170-180	0.24



C45(Max):

C0/C180:

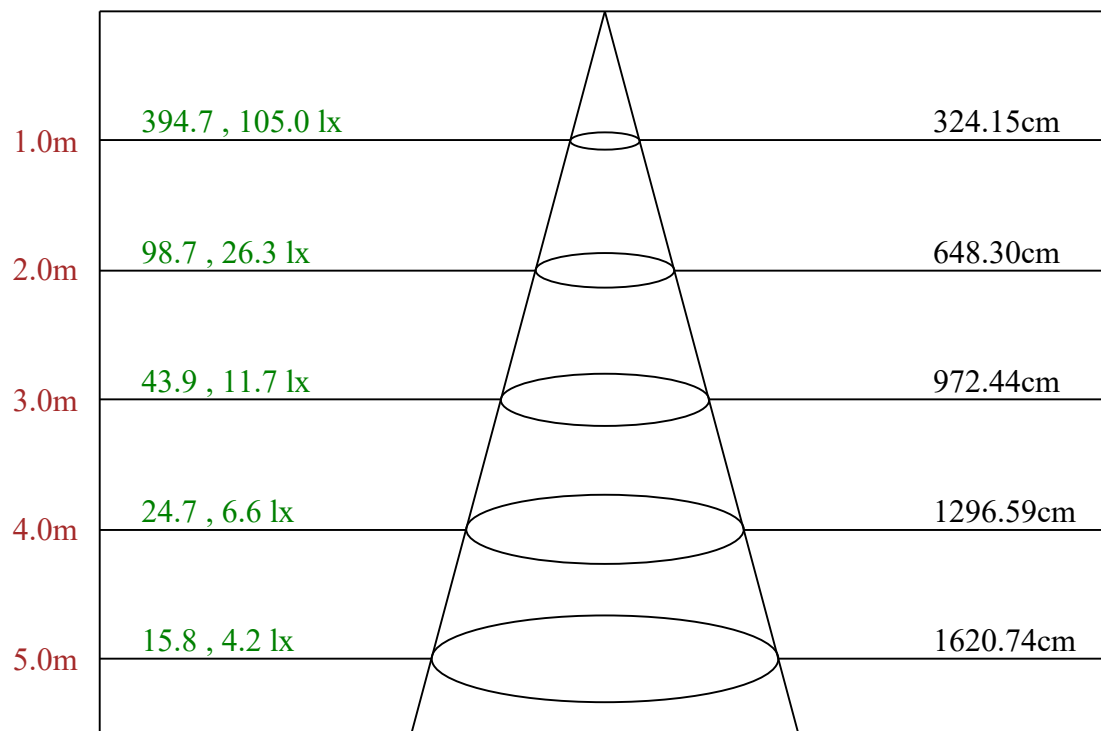
C90/C270:

Field angle(10%Imax):C0/180Left:96.8 Right:96.8

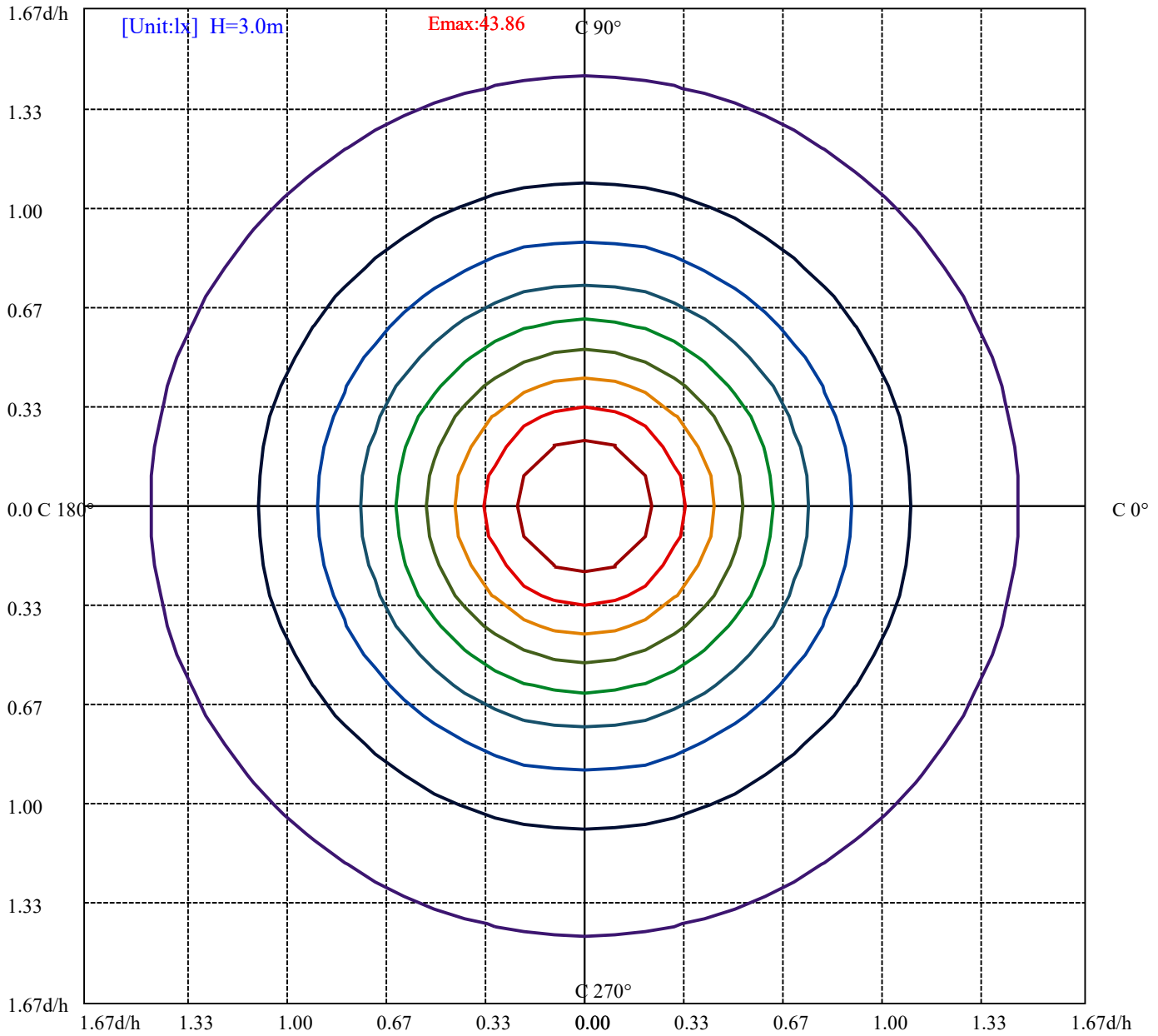
:C90/270Left:93.3 Right:93.3

Beam Angle(50%Imax):C0/180Left:58.5 Right:58.5

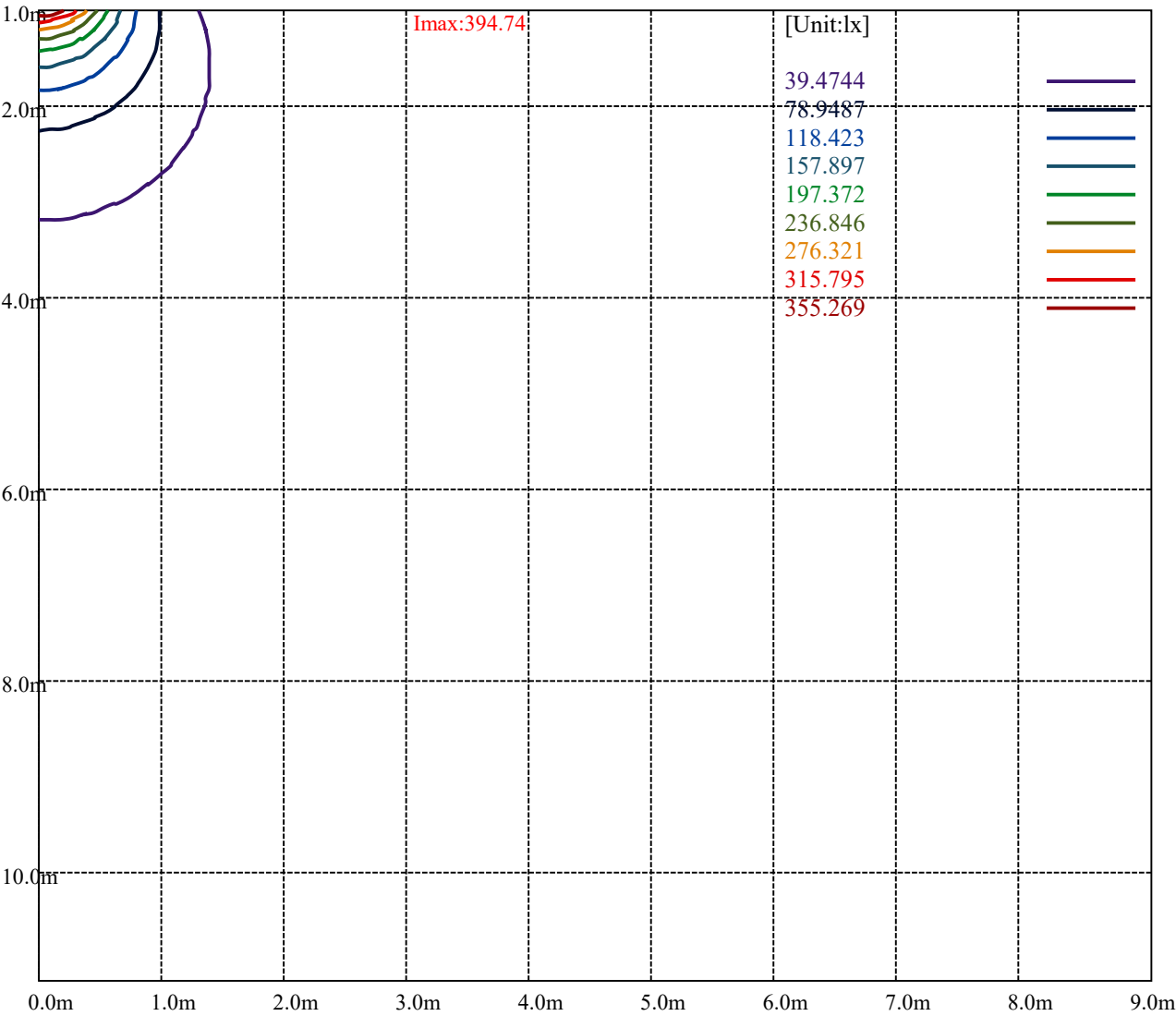
:C90/270Left:60.0 Right:60.0



Max , Ave Beam angle of C45 plane 116.65



(10%Emax) 4.386045	—
(20%Emax) 8.772078	—
(30%Emax) 13.15811	—
(40%Emax) 17.54411	—
(50%Emax) 21.93022	—
(60%Emax) 26.31622	—
(70%Emax) 30.70234	—
(80%Emax) 35.08833	—
(90%Emax) 39.47433	—



Luminance Table

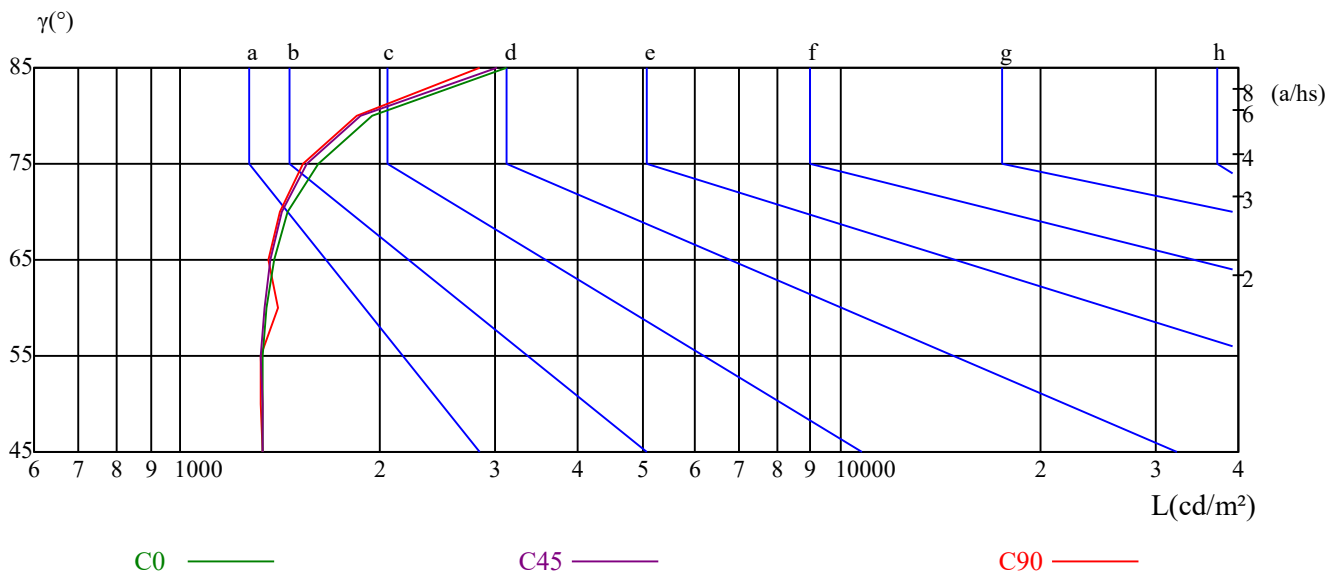
γ	45	50	55	60	65	70	75	80	85
C0	1335	1330	1335	1351	1384	1455	1617	1954	3115
C45	1335	1327	1323	1339	1364	1424	1553	1875	3011
C90	1328	1321	1323	1406	1356	1412	1536	1844	2845

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1384	1356	1364	1617	1536	1553	3115	2845	3011

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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	0.96	0.96	0.96	0.94
1	1.00	0.94	0.90	0.97	0.92	0.88	0.91	0.87	0.84	0.86	0.83	0.80	0.81	0.79	0.77	0.74
2	0.86	0.78	0.72	0.83	0.76	0.70	0.79	0.73	0.68	0.74	0.70	0.65	0.70	0.66	0.63	0.60
3	0.75	0.66	0.59	0.73	0.65	0.58	0.69	0.62	0.56	0.65	0.59	0.54	0.62	0.57	0.53	0.50
4	0.66	0.57	0.50	0.64	0.56	0.49	0.61	0.53	0.47	0.58	0.51	0.46	0.55	0.49	0.45	0.42
5	0.59	0.49	0.42	0.57	0.48	0.42	0.54	0.47	0.41	0.52	0.45	0.40	0.49	0.43	0.39	0.36
6	0.53	0.44	0.37	0.52	0.43	0.36	0.49	0.41	0.36	0.47	0.40	0.35	0.45	0.39	0.34	0.32
7	0.48	0.39	0.32	0.47	0.38	0.32	0.45	0.37	0.31	0.43	0.36	0.31	0.41	0.35	0.30	0.28
8	0.44	0.35	0.29	0.43	0.34	0.29	0.41	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.27	0.25
9	0.40	0.32	0.26	0.39	0.31	0.26	0.37	0.30	0.25	0.36	0.29	0.25	0.34	0.29	0.24	0.22
10	0.37	0.29	0.23	0.36	0.28	0.23	0.35	0.28	0.23	0.33	0.27	0.22	0.32	0.26	0.22	0.20

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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	394.74	397.47	394.74	390.21	381.13	369.33	353.91	335.76	315.79		
15.0	394.74	397.48	396.57	392.01	383.80	371.95	357.37	340.04	319.99		
30.0	394.74	398.42	398.42	393.83	386.48	375.47	360.78	342.42	322.22		
45.0	394.74	398.43	398.43	394.74	387.37	375.38	361.54	344.94	324.65		
60.0	394.74	398.43	398.43	394.74	386.44	376.30	362.46	344.94	324.65		
75.0	394.74	398.43	398.43	393.82	386.44	374.45	360.62	342.17	323.73		
90.0	394.74	397.51	396.59	391.98	383.68	371.69	357.85	340.33	320.04		
105.0	394.74	397.51	395.67	391.05	381.83	369.84	354.16	336.64	315.43		
120.0	394.74	396.59	393.82	388.29	378.14	365.23	349.55	330.18	307.13		
135.0	394.74	394.74	391.06	383.70	373.58	359.78	342.30	323.89	300.89		
150.0	394.74	393.82	389.20	380.88	356.84	354.99	337.43	317.09	294.90		
165.0	394.74	392.89	387.35	378.10	366.09	350.37	331.88	310.62	285.66		
180.0	394.74	389.30	380.22	367.52	352.09	333.94	311.26	289.48	264.98		
195.0	394.74	389.27	378.33	365.57	349.16	330.02	307.23	283.52	260.73		
210.0	394.74	388.32	378.22	363.53	347.01	326.81	305.70	279.99	255.21		
225.0	394.74	387.37	377.22	362.46	345.86	325.57	303.44	278.53	254.55		
240.0	394.74	387.37	376.30	361.54	344.94	324.65	301.59	278.53	252.71		
255.0	394.74	388.29	377.22	362.46	345.86	325.57	302.51	279.46	252.71		
270.0	394.74	387.37	377.22	363.39	347.71	326.49	304.36	281.30	256.40		
285.0	394.74	390.13	380.91	368.00	351.40	332.03	309.89	286.83	281.30		
300.0	394.74	390.13	382.75	369.84	367.07	336.64	316.35	293.29	269.31		
315.0	394.74	390.14	382.78	373.58	358.86	342.30	322.05	300.89	276.96		
330.0	394.74	391.97	385.50	376.25	364.24	349.45	330.96	308.77	287.51		
345.0	394.74	393.82	389.20	379.95	368.86	354.07	337.43	316.16	293.98		
360.0	394.74	397.47	394.74	390.21	381.13	369.33	353.91	335.76	315.79		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	292.20	268.61	244.11	217.79	191.47	164.25	140.66	116.15	95.28		
15.0	298.11	273.49	248.88	221.53	196.00	170.48	144.95	120.34	98.46		
30.0	302.02	276.32	252.45	225.83	198.29	171.67	144.13	123.01	99.14		
45.0	303.44	278.53	252.71	226.89	198.29	171.55	141.11	113.44	93.15		
60.0	301.59	278.53	251.79	225.96	198.29	171.55	142.96	117.13	96.84		
75.0	300.67	276.69	251.79	225.04	196.45	167.86	142.96	114.36	90.39		
90.0	296.98	273.00	248.10	222.27	194.60	167.86	141.11	117.13	92.23		
105.0	292.37	268.39	243.49	217.66	192.76	164.17	140.19	116.21	94.07		
120.0	284.99	261.01	235.19	211.21	185.38	159.56	134.66	110.68	91.31		
135.0	278.80	253.96	228.20	202.43	178.51	151.82	128.82	106.74	86.49		
150.0	271.79	245.91	220.02	195.99	170.10	146.06	122.03	100.77	79.50		
165.0	264.40	238.51	211.70	185.82	160.86	137.74	115.56	94.29	72.11		
180.0	237.75	211.44	186.03	161.53	137.03	115.25	94.38	74.41	57.17		
195.0	232.47	206.94	179.59	154.98	130.37	106.66	85.69	67.46	51.05		
210.0	228.58	201.04	174.42	148.72	124.85	100.06	79.87	62.42	48.65		
225.0	225.96	199.22	170.63	145.72	119.90	95.92	75.63	57.18	42.43		
240.0	225.96	199.22	171.55	145.72	118.05	95.92	73.78	57.18	41.50		
255.0	227.81	201.98	174.31	148.49	122.67	96.84	76.55	71.94	43.35		
270.0	230.57	203.83	178.00	172.47	127.28	103.30	82.08	62.72	47.04		
285.0	236.11	210.28	183.54	157.71	133.73	109.75	86.70	70.09	53.49		
300.0	244.41	217.66	191.84	166.94	142.96	118.98	98.69	80.24	64.56		
315.0	252.12	226.36	200.59	176.67	150.90	127.90	105.82	88.33	72.69		
330.0	262.55	236.66	210.78	185.82	160.86	136.82	112.78	93.37	79.50		
345.0	270.87	245.91	220.02	193.21	168.25	144.22	120.18	98.92	77.65		
360.0	292.20	268.61	244.11	217.79	191.47	164.25	140.66	116.15	95.28		

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Intensity data(cd)									Appendix Page: 11 Total:12
C/ γ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	75.32	58.08	40.84	21.78	18.15	15.43	9.07	7.26	6.35
15.0	77.49	55.61	37.38	21.88	17.32	11.85	7.29	6.38	4.56
30.0	76.19	56.92	33.97	19.28	15.61	10.10	6.43	5.51	4.59
45.0	74.71	54.42	29.51	21.21	12.91	9.22	7.38	5.53	4.61
60.0	74.71	50.73	30.44	20.29	13.83	11.07	9.22	7.38	4.61
75.0	74.71	52.57	33.20	25.82	17.52	12.91	11.07	8.30	5.53
90.0	69.17	52.57	29.51	28.59	19.37	13.83	11.99	9.22	6.46
105.0	73.78	43.35	23.98	28.59	17.52	11.99	10.15	7.38	5.53
120.0	71.94	43.35	23.98	18.45	15.68	10.15	7.38	5.53	3.69
135.0	69.01	41.41	23.00	15.64	11.96	9.20	6.44	4.60	2.76
150.0	61.94	42.53	24.96	17.56	11.09	8.32	5.55	3.70	2.77
165.0	52.69	38.83	25.88	17.56	12.02	8.32	6.47	4.62	2.77
180.0	40.84	30.85	19.96	14.52	10.89	8.17	5.44	3.63	1.81
195.0	41.94	31.91	21.88	14.59	10.03	7.29	5.47	3.65	1.82
210.0	38.56	31.21	22.03	11.93	7.34	6.43	4.59	2.75	1.84
225.0	34.13	24.90	16.60	9.22	4.61	3.69	3.69	1.84	1.84
240.0	29.51	21.21	17.52	5.53	3.69	2.77	1.84	1.84	1.84
255.0	29.51	15.68	7.38	5.53	3.69	3.69	2.77	2.77	1.84
270.0	33.20	14.76	11.99	7.38	6.46	4.61	4.61	3.69	2.77
285.0	39.66	18.45	17.52	11.99	8.30	6.46	5.53	4.61	4.61
300.0	53.49	28.59	19.37	16.60	12.91	11.07	8.30	5.53	3.69
315.0	60.73	38.65	19.32	19.32	14.72	12.88	11.04	8.28	6.44
330.0	64.71	46.22	24.04	21.26	18.49	12.94	11.09	9.24	6.47
345.0	67.49	50.85	27.73	19.41	20.34	12.94	9.24	7.40	5.55
360.0	75.32	58.08	40.84	21.78	18.15	15.43	9.07	7.26	6.35
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	4.54	3.63	2.72	2.72	2.72	2.72	2.72	3.63	3.63
15.0	3.65	2.73	2.73	2.73	2.73	2.73	2.73	3.65	3.65
30.0	2.75	2.75	1.84	2.75	2.75	2.75	3.67	3.67	3.67
45.0	3.69	2.77	2.77	2.77	2.77	2.77	3.69	3.69	3.69
60.0	3.69	2.77	2.77	2.77	2.77	3.69	3.69	3.69	3.69
75.0	3.69	2.77	2.77	3.69	3.69	3.69	3.69	3.69	3.69
90.0	4.61	2.77	2.77	3.69	3.69	3.69	3.69	3.69	3.69
105.0	3.69	2.77	2.77	3.69	3.69	3.69	3.69	3.69	3.69
120.0	2.77	1.84	1.84	1.84	2.77	3.69	3.69	3.69	3.69
135.0	1.84	1.84	1.84	1.84	2.76	2.76	2.76	3.68	3.68
150.0	1.85	1.85	1.85	1.85	2.77	2.77	2.77	2.77	3.70
165.0	1.85	1.85	1.85	1.85	2.77	2.77	2.77	2.77	3.70
180.0	1.81	0.91	0.91	1.81	1.81	1.81	2.72	2.72	3.63
195.0	1.82	0.91	0.91	1.82	1.82	1.82	1.82	2.73	3.65
210.0	1.84	1.84	1.84	1.84	1.84	1.84	2.75	2.75	3.67
225.0	1.84	1.84	1.84	1.84	1.84	2.77	2.77	2.77	3.69
240.0	1.84	1.84	1.84	1.84	2.77	2.77	2.77	2.77	3.69
255.0	1.84	1.84	1.84	1.84	2.77	2.77	2.77	2.77	3.69
270.0	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	3.69
285.0	3.69	2.77	2.77	2.77	2.77	2.77	2.77	2.77	3.69
300.0	2.77	2.77	2.77	2.77	2.77	2.77	2.77	3.69	2.77
315.0	3.68	1.84	1.84	1.84	2.76	2.76	2.76	2.76	3.68
330.0	4.62	2.77	1.85	1.85	1.85	2.77	2.77	2.77	2.77
345.0	4.62	2.77	1.85	1.85	1.85	1.85	2.77	2.77	3.70
360.0	4.54	3.63	2.72	2.72	2.72	2.72	2.72	3.63	3.63

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	3.63
15.0	3.65
30.0	3.67
45.0	3.69
60.0	3.69
75.0	3.69
90.0	3.69
105.0	3.69
120.0	3.69
135.0	3.68
150.0	3.70
165.0	3.70
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	3.63