
乐达凯

Client:

LumCAT: LCD-SQD-12-CCT-UNV-WT

Luminaire: LED LAMP

Report No:

Ballast type:

Test No:

Voltage(V): 120.090

LampCAT:

Current(A): 0.247

Lamp flux(lm): 2357.6

Power (W): 29.420

Number of Lamps: 1

PF: 0.991

Length(mm): 200

Width(mm): 70

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2357.64, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 80.14

Central intensity(cd): 1004.681, Maximum intensity(cd): 1004.681

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=94.2

[C90/270]Total=93.0

Field angle(10%Imax): [C0/180]Total=154.0

[C90/270]Total=153.8

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

Maximum s/h(1/4): C0_180=1.27 C90_270=1.26

Up flux rate of lamp(%): 0.42%

Down flux rate of lamp(%): 99.58%

Up flux rate of LUM(%): 0.42%

Down flux rate of LUM(%): 99.58%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 83.211%

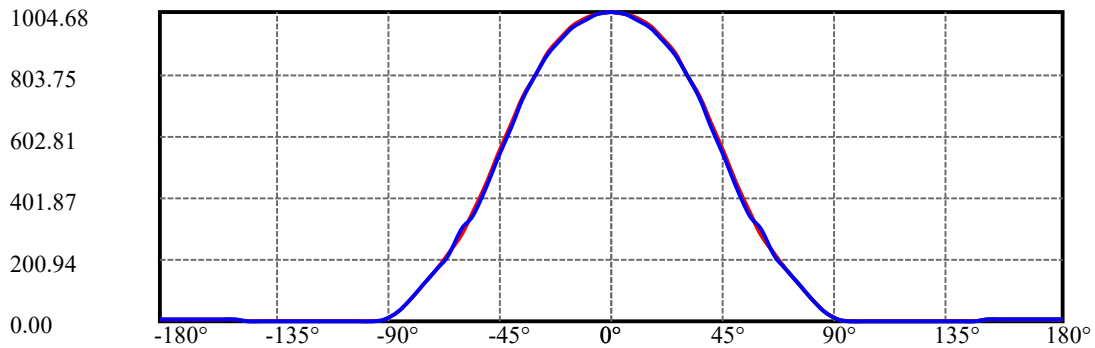
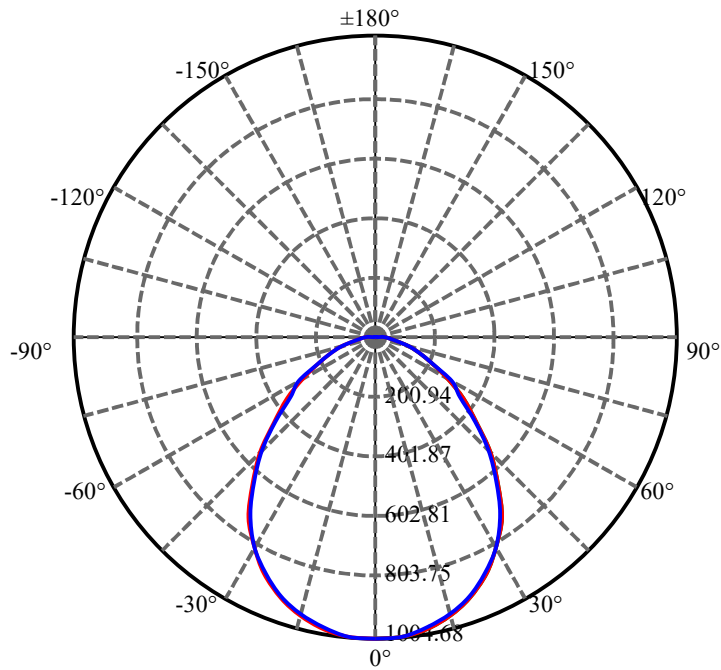
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1004.681	0.000	0	0.00%	0.00%
5.0	999.159	23.955	23.955	1.02%	1.02%
10.0	983.601	70.930	94.885	3.01%	4.02%
15.0	957.933	115.170	210.055	4.88%	8.91%
20.0	920.498	154.809	364.864	6.57%	15.48%
25.0	869.563	187.744	552.609	7.96%	23.44%
30.0	807.055	212.177	764.786	9.00%	32.44%
35.0	730.454	226.409	991.195	9.60%	42.04%
40.0	643.245	229.191	1220.386	9.72%	51.76%
45.0	542.342	219.521	1439.907	9.31%	61.07%
50.0	444.547	199.415	1639.323	8.46%	69.53%
55.0	357.234	174.334	1813.657	7.39%	76.93%
60.0	283.780	148.169	1961.825	6.28%	83.21%
65.0	220.216	122.522	2084.348	5.20%	88.41%
70.0	167.303	98.122	2182.47	4.16%	92.57%
75.0	119.049	74.848	2257.317	3.17%	95.74%
80.0	74.944	51.907	2309.225	2.20%	97.95%
85.0	30.847	28.746	2337.971	1.22%	99.17%
90.0	4.510	9.681	2347.652	0.41%	99.58%
95.0	0.577	1.393	2349.045	0.06%	99.64%
100.0	0.463	0.283	2349.327	0.01%	99.65%
105.0	0.463	0.248	2349.575	0.01%	99.66%
110.0	0.463	0.242	2349.817	0.01%	99.67%
115.0	0.463	0.235	2350.052	0.01%	99.68%
120.0	0.578	0.253	2350.305	0.01%	99.69%
125.0	0.927	0.348	2350.653	0.01%	99.70%
130.0	0.927	0.403	2351.056	0.02%	99.72%
135.0	0.927	0.375	2351.431	0.02%	99.74%
140.0	1.390	0.429	2351.86	0.02%	99.75%
145.0	2.665	0.677	2352.536	0.03%	99.78%
150.0	3.707	0.938	2353.475	0.04%	99.82%
155.0	4.478	1.036	2354.51	0.04%	99.87%
160.0	5.134	1.008	2355.518	0.04%	99.91%
165.0	5.560	0.881	2356.4	0.04%	99.95%
170.0	5.984	0.685	2357.085	0.03%	99.98%
175.0	6.370	0.442	2357.527	0.02%	100.00%
180.0	3.243	0.115	2357.642	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	764.79	32.44%	32.44%
0-40	1220.39	51.76%	51.76%
0-60	1961.83	83.21%	83.21%
0-90	2347.65	99.58%	99.58%
0-120	2350.31	99.69%	99.69%
0-180	2357.64	100.00%	100.00%
60-90	385.83	16.36%	16.36%
90-120	2.65	0.11%	0.11%
90-130	3.40	0.14%	0.14%
90-150	5.82	0.25%	0.25%
90-180	9.87	0.42%	0.42%
0-57.45	1886.11	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	94.88
10-20	269.98
20-30	399.92
30-40	455.60
40-50	418.94
50-60	322.50
60-70	220.64
70-80	126.75
80-90	38.43
90-100	1.68
100-110	0.49
110-120	0.49
120-130	0.75
130-140	0.80
140-150	1.61
150-160	2.04
160-170	1.57
170-180	0.44

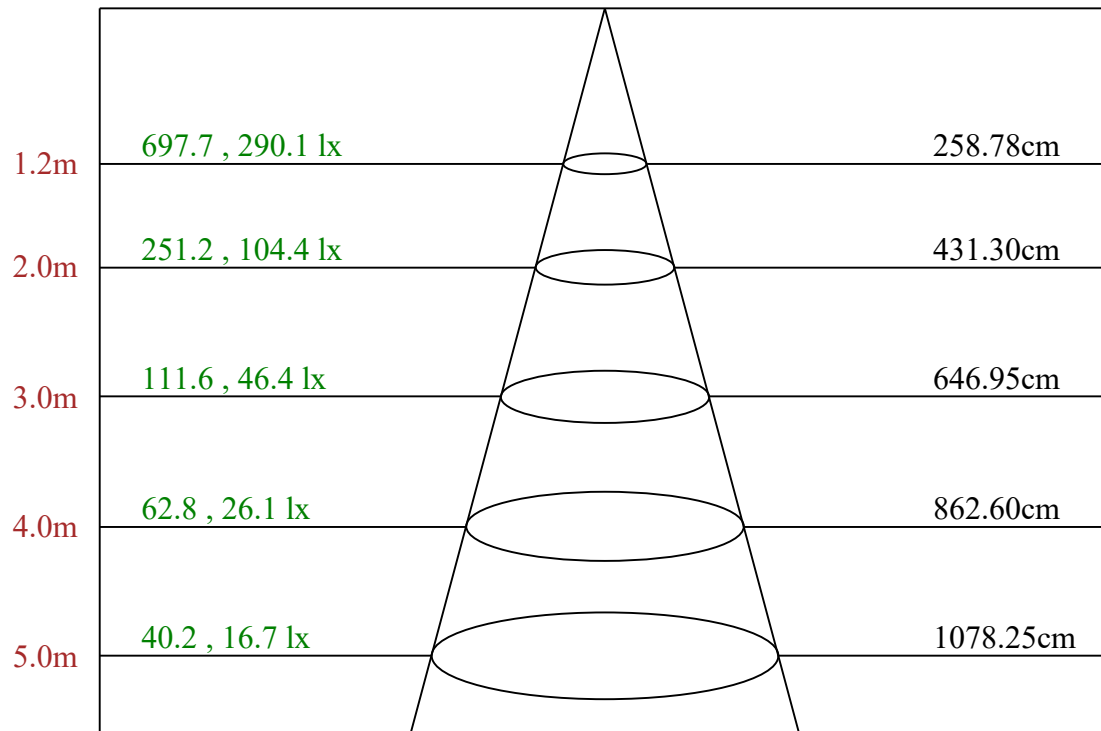
C0(Max): —————C0/C180: —————C90/C270: —————

Field angle(10%Imax):C0/180Left:77.0 Right:77.0

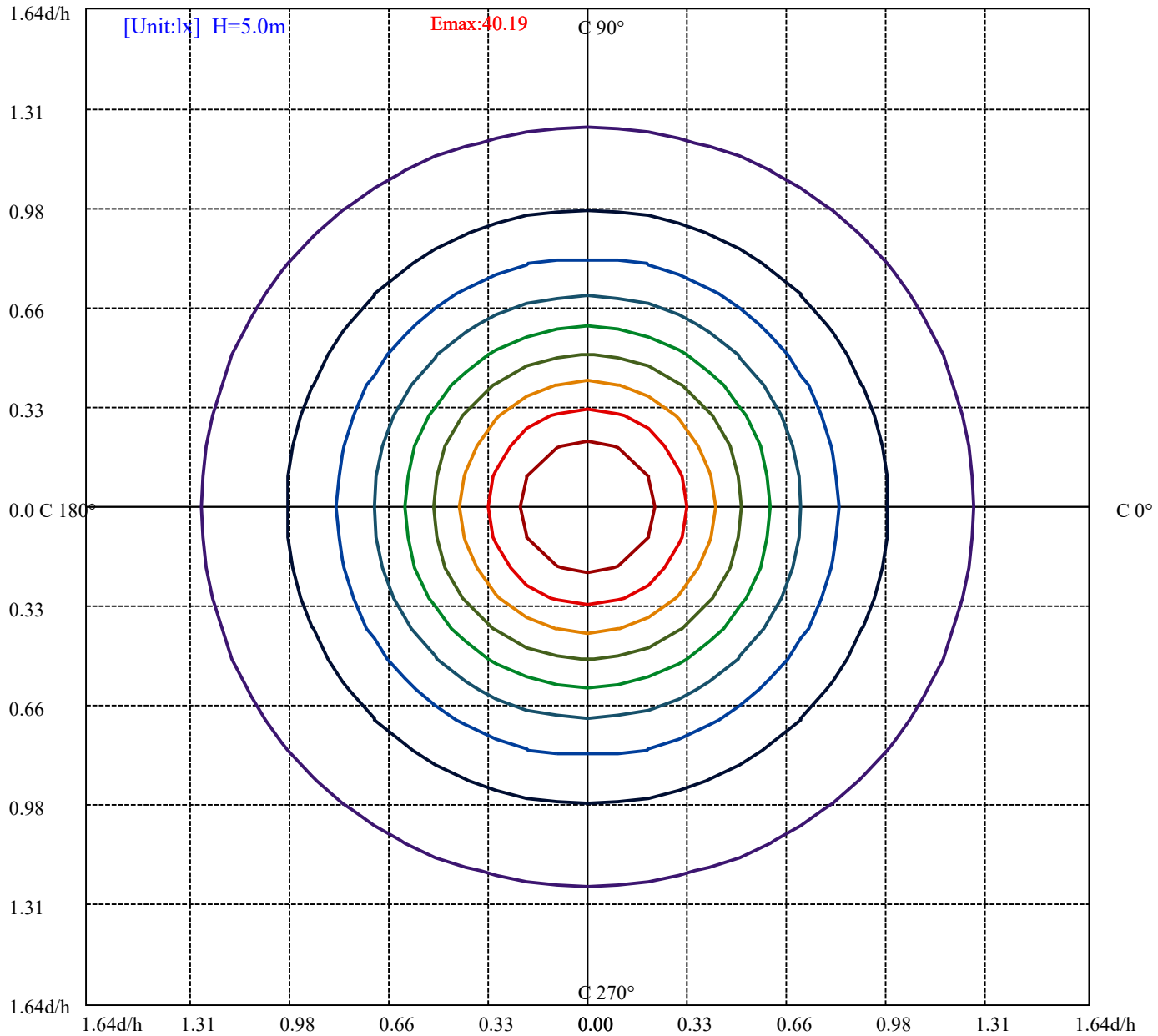
:C90/270Left:76.9 Right:76.9

Beam Angle(50%Imax):C0/180Left:47.1 Right:47.1

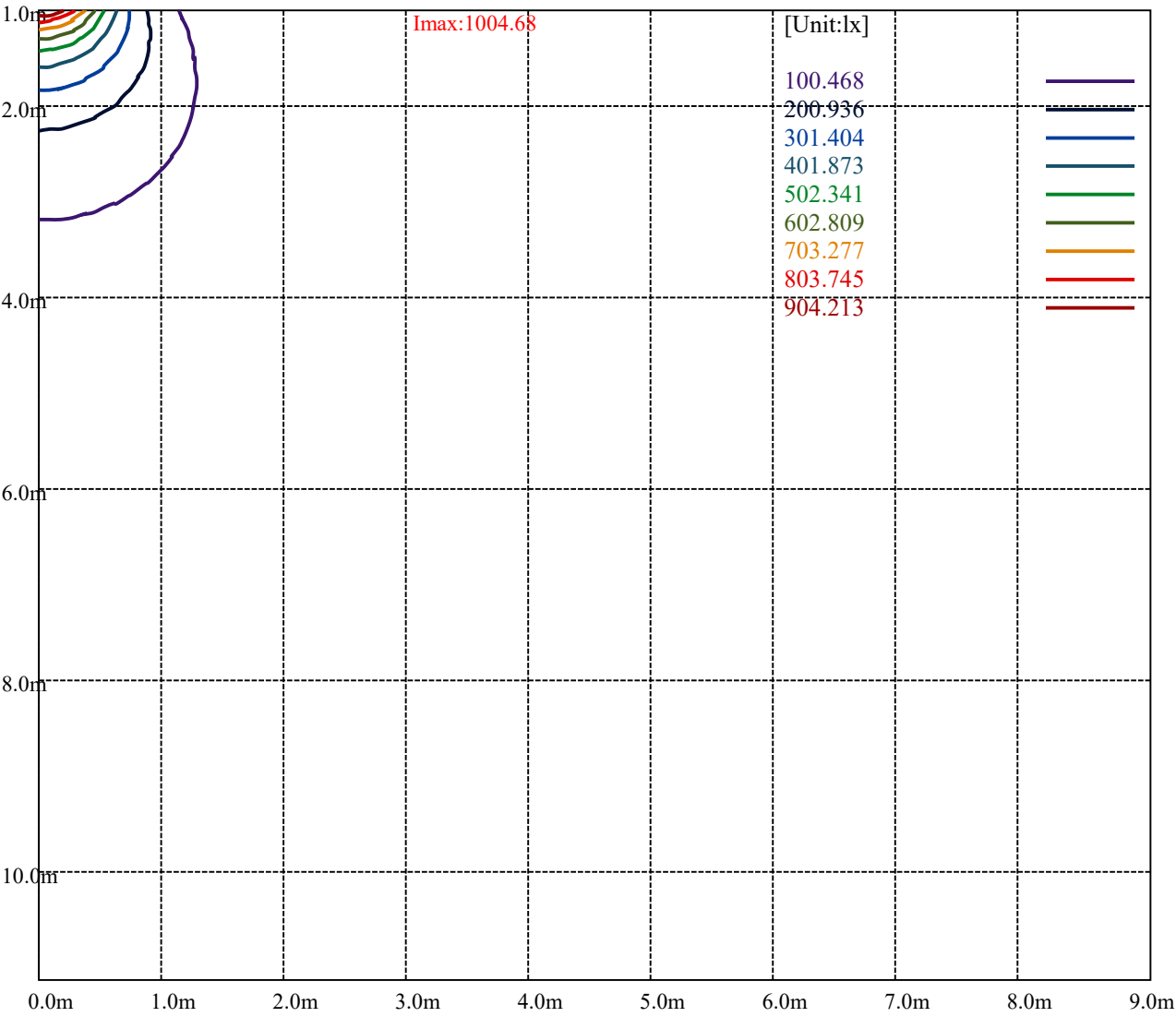
:C90/270Left:46.5 Right:46.5



Max , Ave Beam angle of C0 plane 94.31



(10%Emax) 4.01872	—
(20%Emax) 8.03744	—
(30%Emax) 12.05616	—
(40%Emax) 16.07488	—
(50%Emax) 20.09364	—
(60%Emax) 24.11236	—
(70%Emax) 28.13108	—
(80%Emax) 32.1498	—
(90%Emax) 36.16852	—



Luminance Table

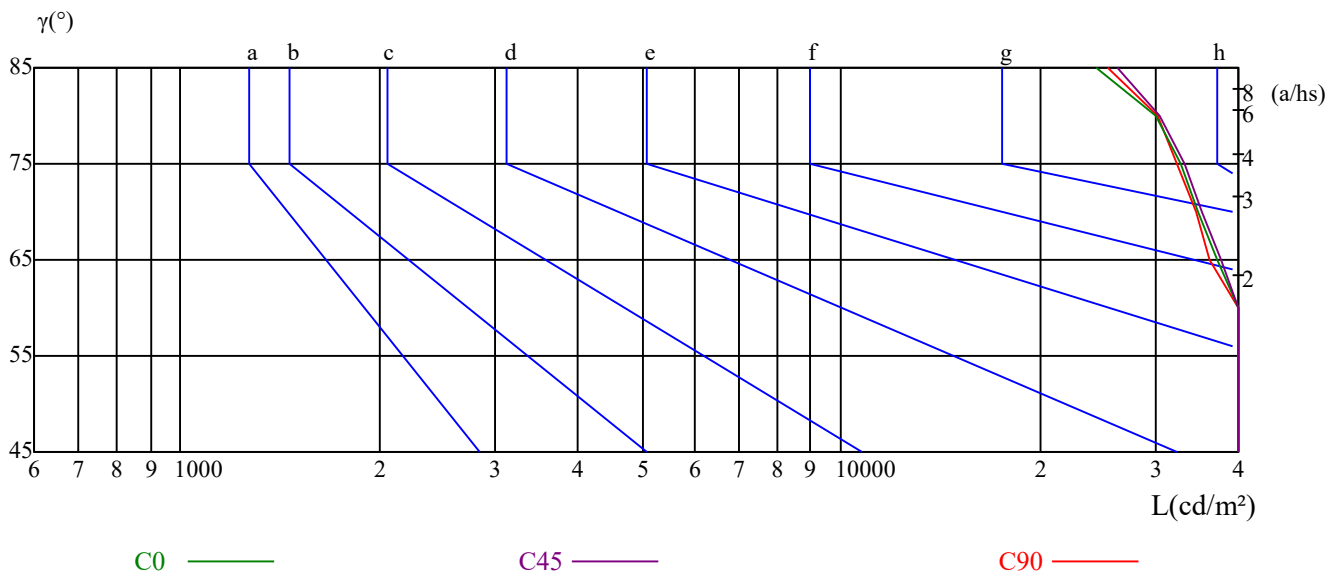
γ	45	50	55	60	65	70	75	80	85
C0	54696	49625	44580	40347	37169	34657	32766	29968	24326
C45	55503	49870	45232	40786	37672	35311	33222	30434	26224
C90	53595	48295	43052	42466	36171	34577	32192	30182	25442

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
37169	36171	37672	32766	32192	33222	24326	25442	26224

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.05	1.01	0.97	1.03	0.99	0.96	0.98	0.95	0.93	0.94	0.92	0.90	0.91	0.89	0.87	0.85
2	0.93	0.86	0.81	0.91	0.85	0.80	0.87	0.82	0.78	0.84	0.80	0.76	0.81	0.77	0.74	0.72
3	0.82	0.74	0.68	0.81	0.73	0.68	0.78	0.71	0.66	0.75	0.70	0.65	0.72	0.68	0.64	0.62
4	0.73	0.65	0.59	0.72	0.64	0.58	0.70	0.63	0.57	0.67	0.61	0.57	0.65	0.60	0.56	0.54
5	0.66	0.58	0.51	0.65	0.57	0.51	0.63	0.56	0.50	0.61	0.55	0.50	0.59	0.54	0.49	0.47
6	0.60	0.51	0.45	0.59	0.51	0.45	0.57	0.50	0.45	0.55	0.49	0.44	0.54	0.48	0.44	0.42
7	0.55	0.46	0.40	0.54	0.46	0.40	0.52	0.45	0.40	0.51	0.44	0.39	0.49	0.44	0.39	0.37
8	0.50	0.42	0.36	0.49	0.41	0.36	0.48	0.41	0.36	0.47	0.40	0.36	0.46	0.40	0.35	0.34
9	0.46	0.38	0.33	0.45	0.38	0.33	0.44	0.37	0.32	0.43	0.37	0.32	0.42	0.36	0.32	0.30
10	0.43	0.35	0.30	0.42	0.35	0.30	0.41	0.34	0.30	0.40	0.34	0.30	0.39	0.33	0.29	0.28

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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	1004.68	1007.38	994.79	975.90	947.12	901.25	845.48	777.12	695.27		
15.0	1004.68	1004.68	995.61	976.57	948.46	905.85	850.53	779.81	697.29		
30.0	1004.68	1006.50	995.56	974.60	946.33	903.48	848.78	784.96	702.91		
45.0	1004.68	1005.60	994.61	972.63	946.07	901.19	850.82	780.30	698.79		
60.0	1004.68	1005.61	994.46	973.08	942.41	902.45	847.61	778.84	692.40		
75.0	1004.68	1004.68	990.65	973.81	945.75	898.97	840.04	769.88	679.14		
90.0	1004.68	1004.68	994.33	971.76	940.71	892.74	837.23	760.10	672.61		
105.0	1004.68	1002.80	991.50	967.96	936.89	890.75	828.60	753.28	663.82		
120.0	1004.68	1005.63	994.28	968.77	934.74	888.43	827.94	756.11	668.21		
135.0	1004.68	1006.56	994.34	968.97	933.25	887.20	829.87	753.75	664.46		
150.0	1004.68	1001.89	989.80	966.54	893.98	879.10	817.70	748.86	659.55		
165.0	1004.68	1000.06	987.12	963.09	923.35	870.66	813.36	736.64	637.75		
180.0	1004.68	994.79	975.00	945.32	898.55	840.08	769.03	684.48	588.24		
195.0	1004.68	992.89	972.95	938.49	897.68	835.12	768.93	685.50	587.58		
210.0	1004.68	992.83	970.95	938.13	892.54	835.11	766.73	684.68	593.51		
225.0	1004.68	990.03	969.88	936.91	892.95	836.17	762.90	683.22	590.72		
240.0	1004.68	992.60	971.22	938.69	892.22	836.46	768.61	684.97	591.10		
255.0	1004.68	990.65	970.07	936.39	891.49	835.36	769.88	680.08	587.47		
270.0	1004.68	993.39	969.88	942.59	897.44	839.12	768.56	682.96	587.95		
285.0	1004.68	989.62	970.78	940.65	896.40	838.02	771.17	689.25	663.82		
300.0	1004.68	996.18	977.27	949.86	937.58	849.68	781.63	703.18	613.39		
315.0	1004.68	997.16	978.37	955.81	918.22	865.59	796.98	719.91	628.75		
330.0	1004.68	997.24	981.42	959.10	919.10	868.86	802.81	728.39	638.16		
345.0	1004.68	996.36	981.57	954.77	918.72	867.89	804.11	724.63	634.97		
360.0	1004.68	1007.38	994.79	975.90	947.12	901.25	845.48	777.12	695.27		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	598.13	500.09	402.95	319.30	250.05	191.58	143.01	96.24	51.27		
15.0	600.27	498.71	408.04	319.18	253.89	194.95	143.27	96.12	51.68		
30.0	607.18	505.99	408.44	322.74	251.63	196.01	144.96	97.55	53.79		
45.0	603.54	498.22	408.47	323.29	252.77	194.16	144.70	95.25	54.03		
60.0	598.53	495.37	398.71	316.00	248.15	193.32	142.20	95.73	51.12		
75.0	579.98	478.95	389.15	307.77	243.22	186.16	137.51	93.55	46.77		
90.0	572.89	470.36	377.23	298.21	235.18	184.38	135.46	90.31	46.09		
105.0	570.61	465.15	375.70	297.54	234.46	180.79	131.82	86.63	44.25		
120.0	569.92	467.84	376.16	302.44	234.39	182.41	133.26	86.01	41.59		
135.0	571.42	466.16	378.75	298.87	234.02	179.51	131.58	82.71	40.41		
150.0	560.02	460.48	368.38	294.89	227.91	175.82	126.52	80.93	36.28		
165.0	544.39	452.89	361.39	284.68	223.67	170.07	122.00	76.71	33.27		
180.0	484.80	393.06	313.01	245.55	189.78	140.31	94.44	49.47	8.10		
195.0	486.93	392.62	311.92	244.82	192.23	141.45	95.21	50.78	8.16		
210.0	488.67	396.58	314.53	247.07	190.54	141.31	94.82	50.14	10.03		
225.0	490.89	396.56	314.13	246.36	190.50	142.87	94.33	52.20	10.99		
240.0	491.65	397.78	318.78	247.22	193.32	143.13	96.66	52.05	12.08		
255.0	488.31	394.76	314.31	248.83	195.51	142.19	98.22	86.06	14.97		
270.0	488.23	398.86	314.20	296.32	192.85	146.75	97.83	56.44	15.99		
285.0	496.22	401.12	323.91	253.29	199.62	148.77	102.63	58.38	16.95		
300.0	516.05	421.53	336.47	265.58	206.04	155.95	106.80	63.32	20.79		
315.0	531.95	434.20	351.50	273.49	214.28	159.77	110.90	65.79	22.56		
330.0	538.62	442.80	352.57	278.15	214.89	160.94	114.42	66.98	25.12		
345.0	537.00	439.03	354.92	279.13	216.28	162.67	114.61	69.32	24.03		
360.0	598.13	500.09	402.95	319.30	250.05	191.58	143.01	96.24	51.27		

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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	7.20	0.90	0.00	0.00	0.00	0.00	0.00	0.90	0.90		
15.0	9.97	0.91	0.00	0.00	0.00	0.00	0.91	0.91	0.91		
30.0	10.94	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.91		
45.0	11.91	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92		
60.0	12.08	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.93		
75.0	11.23	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94		
90.0	8.47	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94		
105.0	7.53	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94		
120.0	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.95		
135.0	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94		
150.0	2.79	0.00	0.00	0.00	0.00	0.00	0.93	0.93	0.93		
165.0	1.85	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
180.0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
195.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
210.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
225.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
240.0	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
255.0	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
270.0	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
285.0	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
300.0	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
315.0	1.88	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
330.0	1.86	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
345.0	1.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
360.0	7.20	0.90	0.00	0.00	0.00	0.00	0.00	0.90	0.90		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	0.90	1.80	3.60	4.50	5.40	6.30	6.30	6.30	6.30		
15.0	0.91	1.81	2.72	4.53	5.44	6.35	6.35	6.35	6.35		
30.0	0.91	1.82	3.65	4.56	5.47	6.38	6.38	6.38	6.38		
45.0	0.92	1.83	2.75	4.58	5.50	6.41	6.41	6.41	6.41		
60.0	0.93	1.86	3.72	4.65	5.58	6.51	6.51	6.51	6.51		
75.0	0.94	1.87	2.81	4.68	5.61	6.55	6.55	6.55	6.55		
90.0	0.94	1.88	3.76	4.70	5.64	6.58	6.58	6.58	6.58		
105.0	0.94	1.88	3.77	4.71	5.65	6.59	6.59	6.59	6.59		
120.0	0.95	1.89	3.78	4.73	5.67	6.62	6.62	5.67	6.62		
135.0	0.94	1.88	3.76	4.70	5.64	6.58	6.58	6.58	6.58		
150.0	0.93	1.86	3.72	4.65	5.58	6.51	6.51	6.51	6.51		
165.0	0.92	1.85	3.70	4.62	5.55	6.47	6.47	6.47	6.47		
180.0	0.90	0.90	1.80	2.70	3.60	4.50	4.50	5.40	6.30		
195.0	0.91	0.91	1.81	2.72	3.63	3.63	4.53	5.44	6.35		
210.0	0.91	0.91	1.82	2.74	3.65	3.65	4.56	5.47	6.38		
225.0	0.92	0.92	1.83	2.75	3.66	3.66	4.58	5.50	6.41		
240.0	0.93	0.93	1.86	2.79	3.72	3.72	4.65	5.58	6.51		
255.0	0.94	0.94	1.87	2.81	3.74	3.74	4.68	5.61	6.55		
270.0	0.94	0.94	1.88	2.82	3.76	3.76	4.70	5.64	6.58		
285.0	0.94	0.94	1.88	2.82	2.82	3.77	4.71	5.65	6.59		
300.0	0.95	0.95	1.89	2.84	3.78	3.78	4.73	5.67	6.62		
315.0	0.94	0.94	1.88	2.82	2.82	3.76	4.70	5.64	5.64		
330.0	0.93	0.93	1.86	2.79	2.79	3.72	4.65	5.58	5.58		
345.0	0.92	0.92	1.85	2.77	2.77	3.70	4.62	5.55	5.55		
360.0	0.90	1.80	3.60	4.50	5.40	6.30	6.30	6.30	6.30		

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	6.30
15.0	6.35
30.0	6.38
45.0	6.41
60.0	6.51
75.0	6.55
90.0	6.58
105.0	6.59
120.0	6.62
135.0	6.58
150.0	6.51
165.0	6.47
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	6.30