
Westgate MFG. INC.

Client:

LumCAT: WMCL-UDL-MCT-**

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP19090126

Voltage(V): 119.980

LampCAT:

Current(A): 0.332

Lamp flux(lm): 2804.6

Power (W): 39.450

Number of Lamps: 1

PF: 0.990

Length(mm): -120

Width(mm): -120

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2804.64, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 71.09

Central intensity(cd): 3042.406, Maximum intensity(cd): 3046.099

Angle of maximum intensity: C=30.0 γ =180.0

Beam Angle(50% I_{max}): [C0/180]Total=N.A.
[C90/270]Total=N.A.

Field angle(10% I_{max}): [C0/180]Total=N.A.
[C90/270]Total=N.A.

Maximum s/h(1/2): C0_180=0.36 C90_270=0.35

Maximum s/h(1/4): C0_180=0.44 C90_270=0.44

Up flux rate of lamp(%): 50.00%

Down flux rate of lamp(%): 50.00%

Up flux rate of LUM(%): 50.00%

Down flux rate of LUM(%): 50.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 49.431%

Zonal flux distribution table

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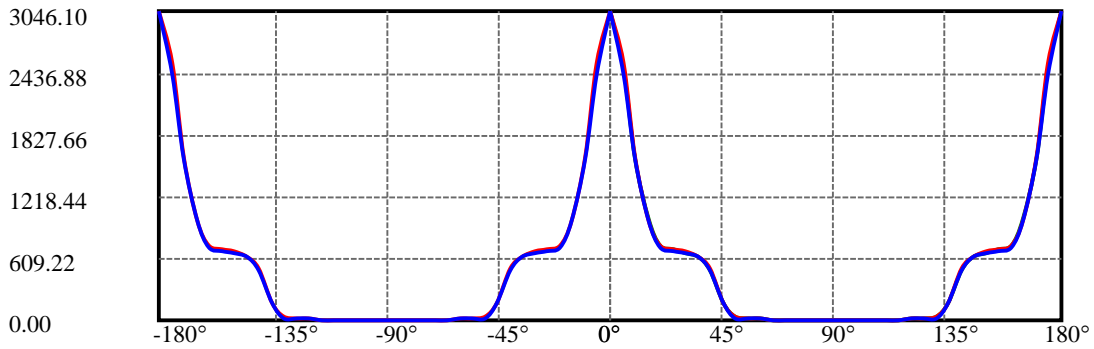
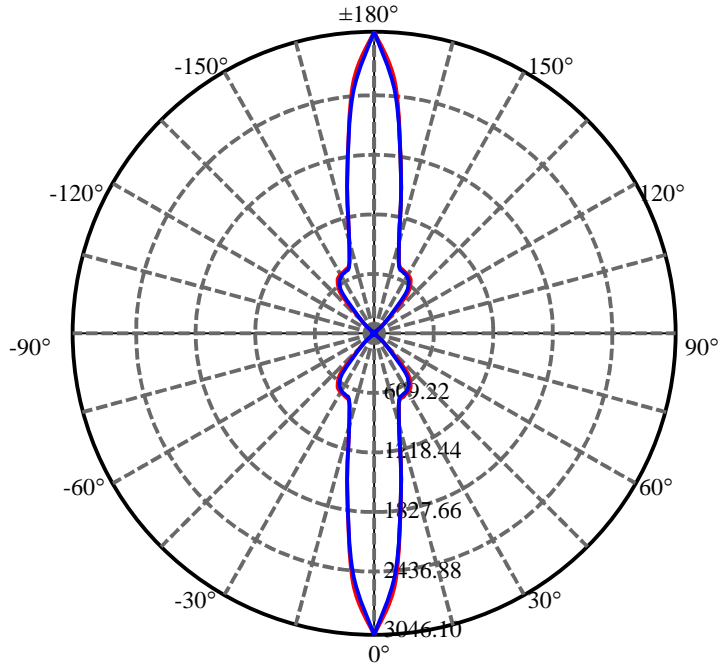
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3042.406	0.000	0	0.00%	0.00%
5.0	2466.023	65.852	65.852	2.35%	2.35%
10.0	1588.275	145.035	210.887	5.17%	7.52%
15.0	996.650	153.336	364.223	5.47%	12.99%
20.0	737.018	142.879	507.101	5.09%	18.08%
25.0	693.017	149.984	657.086	5.35%	23.43%
30.0	673.870	172.981	830.066	6.17%	29.60%
35.0	624.174	191.146	1021.212	6.82%	36.41%
40.0	491.981	186.222	1207.434	6.64%	43.05%
45.0	168.117	122.223	1329.657	4.36%	47.41%
50.0	29.608	39.953	1369.61	1.42%	48.83%
55.0	17.143	10.165	1379.775	0.36%	49.20%
60.0	11.401	6.598	1386.373	0.24%	49.43%
65.0	8.249	4.777	1391.15	0.17%	49.60%
70.0	6.413	3.713	1394.863	0.13%	49.73%
75.0	5.181	3.031	1397.893	0.11%	49.84%
80.0	4.087	2.480	1400.373	0.09%	49.93%
85.0	1.311	1.467	1401.84	0.05%	49.98%
90.0	0.000	0.359	1402.199	0.01%	50.00%
95.0	1.311	0.359	1402.558	0.01%	50.01%
100.0	4.089	1.467	1404.025	0.05%	50.06%
105.0	5.175	2.479	1406.504	0.09%	50.15%
110.0	6.413	3.029	1409.533	0.11%	50.26%
115.0	8.251	3.713	1413.246	0.13%	50.39%
120.0	11.404	4.778	1418.024	0.17%	50.56%
125.0	17.139	6.598	1424.622	0.24%	50.80%
130.0	29.563	10.155	1434.776	0.36%	51.16%
135.0	168.041	39.929	1474.705	1.42%	52.58%
140.0	492.300	122.267	1596.972	4.36%	56.94%
145.0	624.250	186.288	1783.26	6.64%	63.58%
150.0	674.039	191.182	1974.443	6.82%	70.40%
155.0	693.202	173.026	2147.468	6.17%	76.57%
160.0	737.126	150.015	2297.483	5.35%	81.92%
165.0	996.670	142.889	2440.372	5.09%	87.01%
170.0	1588.301	153.339	2593.711	5.47%	92.48%
175.0	2466.414	145.050	2738.761	5.17%	97.65%
180.0	3044.046	65.876	2804.637	2.35%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	830.07	29.60%	29.60%
0-40	1207.43	43.05%	43.05%
0-60	1386.37	49.43%	49.43%
0-90	1402.20	50.00%	50.00%
0-120	1418.02	50.56%	50.56%
0-180	2804.64	100.00%	100.00%
60-90	15.83	0.56%	0.56%
90-120	15.83	0.56%	0.56%
90-130	32.58	1.16%	1.16%
90-150	572.24	20.40%	20.40%
90-180	1336.56	47.66%	47.66%
0-158.21	2243.71	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	210.89
10-20	296.21
20-30	322.97
30-40	377.37
40-50	162.18
50-60	16.76
60-70	8.49
70-80	5.51
80-90	1.83
90-100	1.83
100-110	5.51
110-120	8.49
120-130	16.75
130-140	162.20
140-150	377.47
150-160	323.04
160-170	296.23
170-180	145.05



C30(Max): ———

C0/C180: ———

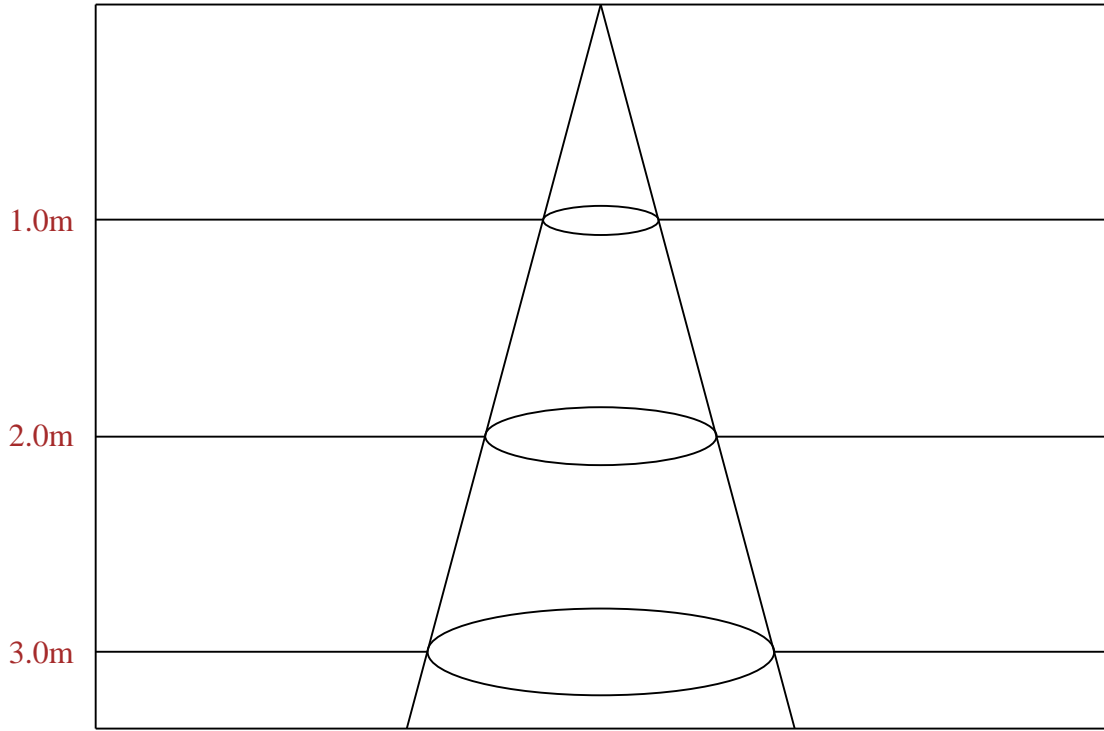
C90/C270: ———

Field angle(10% I_{max}):C0/180Left:0.0 Right:0.0

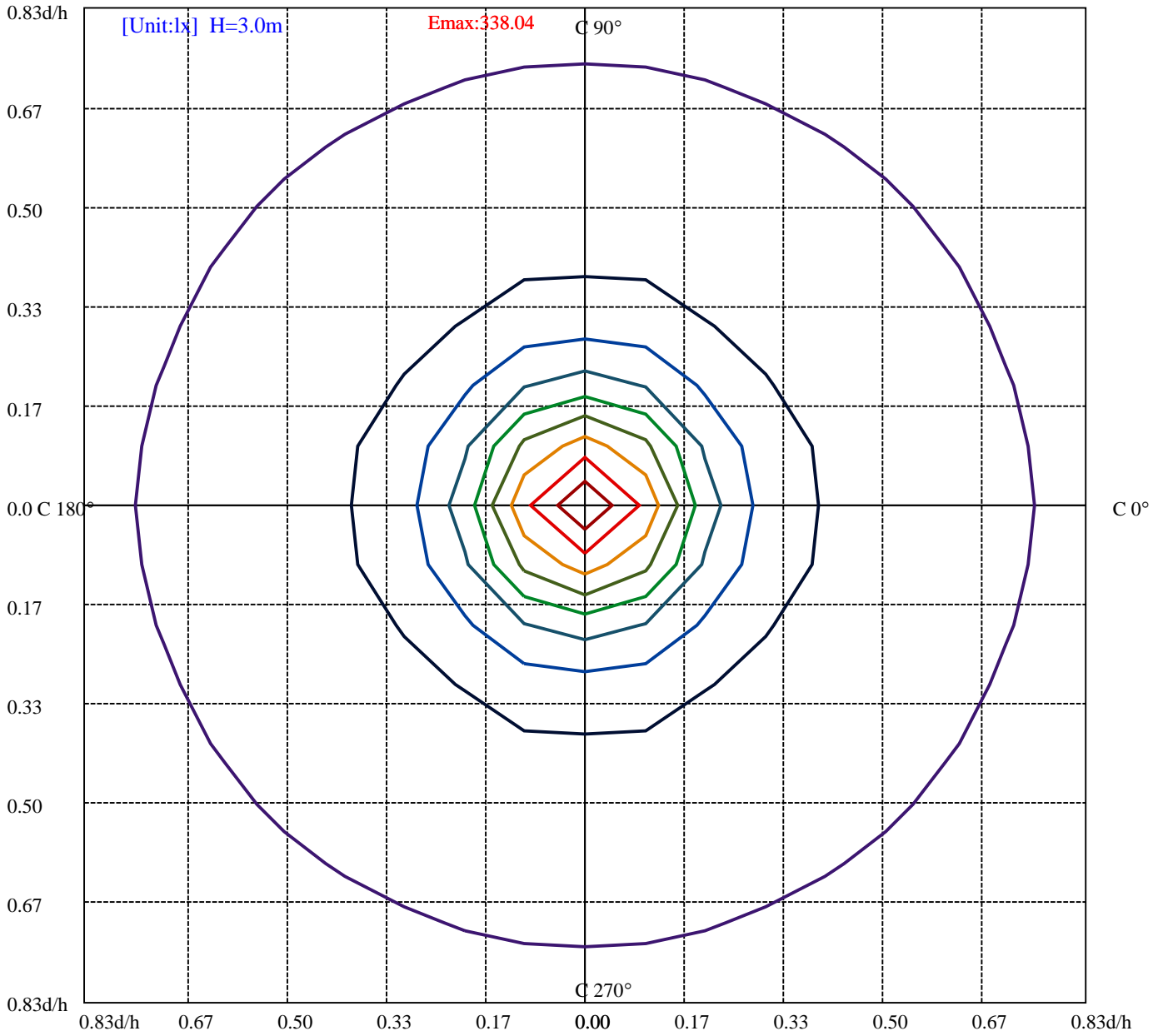
:C90/270Left:0.0 Right:0.0

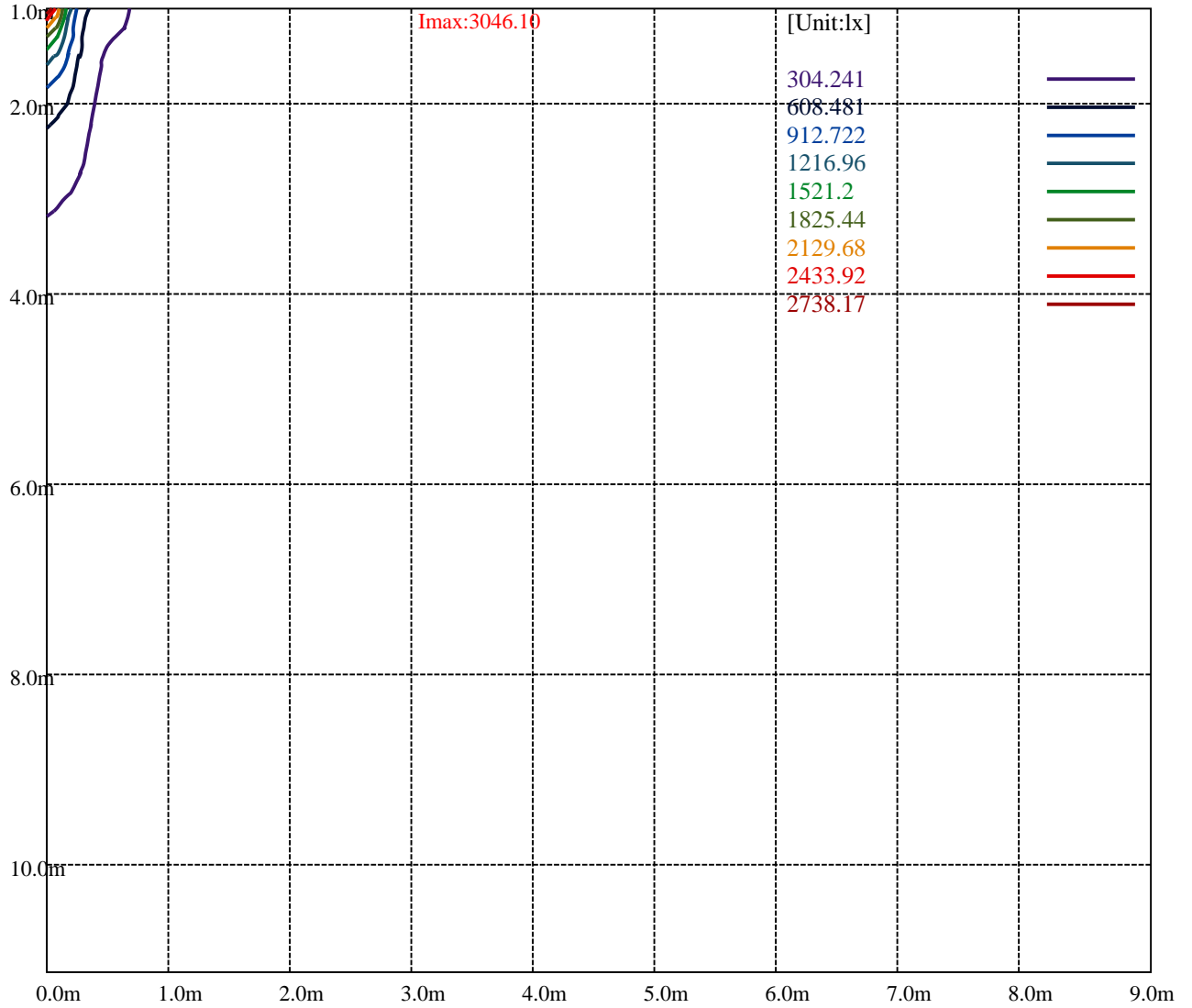
Beam Angle(50% I_{max}):C0/180Left:0.0 Right:0.0

:C90/270Left:0.0 Right:0.0



Max , Ave Beam angle of C30 plane 3226.10





Luminance Table

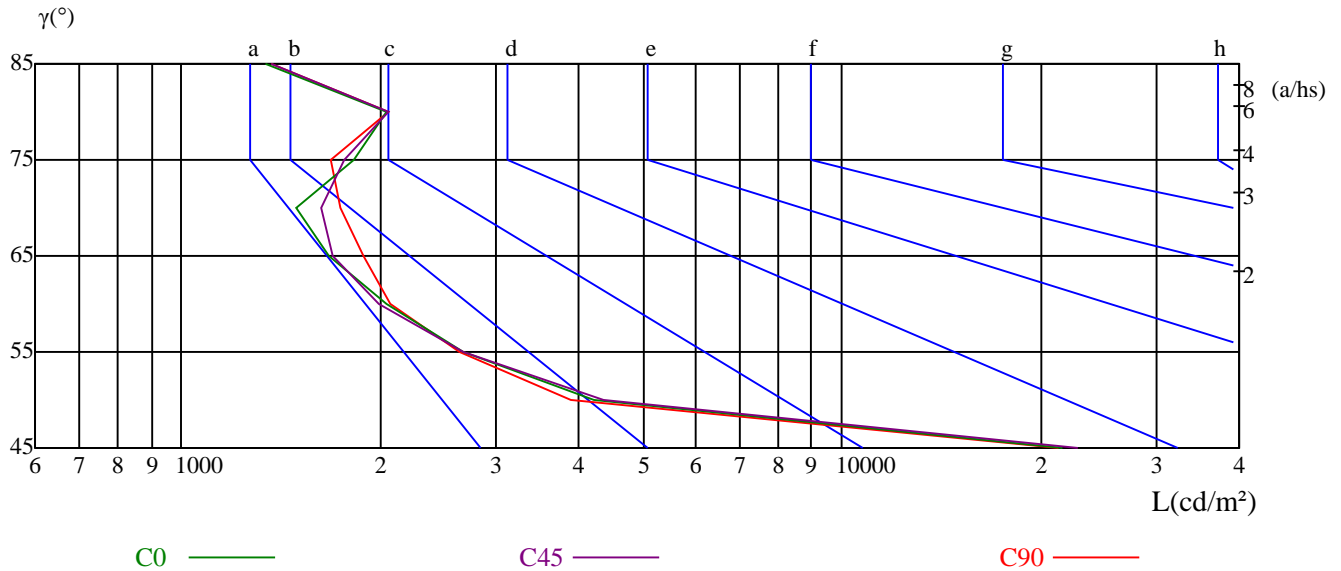
γ	45	50	55	60	65	70	75	80	85
C0	21644	4218	2677	2047	1675	1496	1830	2038	1344
C45	22737	4371	2671	1989	1694	1628	1768	2062	1371
C90	21354	3894	2633	2066	1880	1743	1689	2059	1368

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1675	1880	1694	1830	1689	1768	1344	1368	1371

Glare Table

Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
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



RHOCC	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	1.07	1.07	1.07	0.99	0.99	0.99	0.83	0.83	0.83	0.69	0.69	0.69	0.56	0.56	0.56	0.50
1	0.96	0.93	0.91	0.89	0.87	0.84	0.76	0.74	0.73	0.64	0.63	0.62	0.53	0.52	0.52	0.46
2	0.87	0.82	0.78	0.81	0.77	0.73	0.70	0.67	0.64	0.59	0.57	0.56	0.50	0.48	0.47	0.43
3	0.79	0.73	0.68	0.74	0.69	0.65	0.64	0.60	0.57	0.55	0.52	0.50	0.46	0.45	0.43	0.40
4	0.72	0.65	0.60	0.67	0.62	0.57	0.59	0.55	0.51	0.51	0.48	0.46	0.44	0.42	0.40	0.37
5	0.66	0.59	0.54	0.62	0.56	0.52	0.54	0.50	0.47	0.47	0.44	0.42	0.41	0.39	0.37	0.34
6	0.60	0.54	0.49	0.57	0.51	0.47	0.50	0.46	0.42	0.44	0.41	0.38	0.38	0.36	0.34	0.32
7	0.56	0.49	0.44	0.53	0.47	0.42	0.47	0.42	0.39	0.41	0.38	0.35	0.36	0.34	0.32	0.29
8	0.52	0.45	0.40	0.49	0.43	0.39	0.44	0.39	0.36	0.39	0.35	0.33	0.34	0.32	0.30	0.28
9	0.48	0.41	0.37	0.45	0.40	0.36	0.41	0.36	0.33	0.36	0.33	0.30	0.32	0.30	0.28	0.26
10	0.45	0.38	0.34	0.43	0.37	0.33	0.38	0.34	0.31	0.34	0.31	0.28	0.30	0.28	0.26	0.24

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	3042.41	2462.50	1554.39	991.09	774.43	744.01	718.19	652.73	483.10
15.0	3042.41	2462.50	1554.39	991.09	774.43	744.01	718.19	652.73	483.10
30.0	3042.41	2841.85	1914.50	1194.15	796.71	718.51	688.15	651.35	577.75
45.0	3042.41	2841.85	1914.50	1194.15	796.71	718.51	688.15	651.35	577.75
60.0	3042.41	2734.60	1842.25	1133.48	750.78	685.02	678.63	643.01	557.15
75.0	3042.41	2734.60	1842.25	1133.48	750.78	685.02	678.63	643.01	557.15
90.0	3042.41	2642.44	1760.73	1056.08	722.63	668.70	660.61	628.25	538.38
105.0	3042.41	2642.44	1760.73	1056.08	722.63	668.70	660.61	628.25	538.38
120.0	3042.41	2607.40	1698.31	1037.81	711.11	662.28	649.85	616.12	530.89
135.0	3042.41	2607.40	1698.31	1037.81	711.11	662.28	649.85	616.12	530.89
150.0	3042.41	2571.24	1628.92	991.37	716.38	668.21	651.57	610.41	520.20
165.0	3042.41	2571.24	1628.92	991.37	716.38	668.21	651.57	610.41	520.20
180.0	3042.41	2601.24	1655.02	992.84	708.80	663.91	646.64	611.24	530.95
195.0	3042.41	2208.90	1333.99	849.15	707.47	683.55	667.91	613.63	397.44
210.0	3042.41	2208.90	1333.99	849.15	707.47	683.55	667.91	613.63	397.44
225.0	3042.41	2211.25	1382.83	892.35	721.56	688.67	671.32	613.78	423.80
240.0	3042.41	2211.25	1382.83	892.35	721.56	688.67	671.32	613.78	423.80
255.0	3042.41	2215.52	1424.58	921.26	731.62	697.46	672.30	610.28	449.40
270.0	3042.41	2215.52	1424.58	921.26	731.62	697.46	672.30	610.28	449.40
285.0	3042.41	2281.58	1455.06	957.91	740.40	702.23	671.16	608.13	450.99
300.0	3042.41	2281.58	1455.06	957.91	740.40	702.23	671.16	608.13	450.99
315.0	3042.41	2283.12	1459.02	943.20	729.51	693.61	674.34	610.41	467.66
330.0	3042.41	2283.12	1459.02	943.20	729.51	693.61	674.34	610.41	467.66
345.0	3042.41	2462.50	1554.39	991.09	774.43	744.01	718.19	652.73	483.10
360.0	3042.41	2462.50	1554.39	991.09	774.43	744.01	718.19	652.73	483.10

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	135.53	27.66	16.59	11.06	7.38	5.53	5.53	3.69	0.92
15.0	135.53	27.66	16.59	11.06	7.38	5.53	5.53	3.69	0.92
30.0	296.24	45.08	20.24	12.88	9.20	6.44	5.52	4.60	1.84
45.0	296.24	45.08	20.24	12.88	9.20	6.44	5.52	4.60	1.84
60.0	263.96	34.71	19.18	12.79	9.13	7.31	5.48	4.57	1.83
75.0	263.96	34.71	19.18	12.79	9.13	7.31	5.48	4.57	1.83
90.0	223.80	33.26	18.87	12.58	9.89	7.19	5.39	4.49	1.80
105.0	223.80	33.26	18.87	12.58	9.89	7.19	5.39	4.49	1.80
120.0	200.64	31.96	18.64	12.43	8.88	7.10	5.33	4.44	1.78
135.0	200.64	31.96	18.64	12.43	8.88	7.10	5.33	4.44	1.78
150.0	191.79	30.65	18.39	12.26	8.76	7.01	5.25	4.38	1.75
165.0	191.79	30.65	18.39	12.26	8.76	7.01	5.25	4.38	1.75
180.0	210.65	33.67	18.13	12.09	8.63	6.04	5.18	4.32	1.73
195.0	61.64	23.92	15.64	10.12	7.36	6.44	5.52	3.68	0.92
210.0	61.64	23.92	15.64	10.12	7.36	6.44	5.52	3.68	0.92
225.0	88.60	24.66	15.53	10.05	7.31	6.39	5.48	3.65	0.91
240.0	88.60	24.66	15.53	10.05	7.31	6.39	5.48	3.65	0.91
255.0	117.74	23.37	15.28	10.79	8.09	6.29	4.49	3.60	0.90
270.0	117.74	23.37	15.28	10.79	8.09	6.29	4.49	3.60	0.90
285.0	122.51	23.97	15.09	10.65	7.99	6.21	4.44	4.44	0.89
300.0	122.51	23.97	15.09	10.65	7.99	6.21	4.44	4.44	0.89
315.0	141.87	25.40	14.89	9.63	7.01	5.25	4.38	3.50	0.88
330.0	141.87	25.40	14.89	9.63	7.01	5.25	4.38	3.50	0.88
345.0	135.53	27.66	16.59	11.06	7.38	5.53	5.53	3.69	0.92
360.0	135.53	27.66	16.59	11.06	7.38	5.53	5.53	3.69	0.92

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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	0.00	0.92	3.69	5.53	5.53	7.38	11.06	16.59	27.66
15.0	0.00	0.92	3.69	5.53	5.53	7.38	11.06	16.59	27.66
30.0	0.00	0.92	3.68	4.60	5.52	7.36	10.12	15.64	26.68
45.0	0.00	0.92	3.68	4.60	5.52	7.36	10.12	15.64	26.68
60.0	0.00	0.91	4.57	4.57	6.39	8.22	10.96	15.53	24.66
75.0	0.00	0.91	4.57	4.57	6.39	8.22	10.96	15.53	24.66
90.0	0.00	0.90	3.60	4.49	6.29	8.09	10.79	15.28	23.37
105.0	0.00	0.90	3.60	4.49	6.29	8.09	10.79	15.28	23.37
120.0	0.00	0.89	3.55	5.33	6.21	7.10	9.77	15.09	23.97
135.0	0.00	0.89	3.55	5.33	6.21	7.10	9.77	15.09	23.97
150.0	0.00	0.88	3.50	5.25	6.13	7.01	9.63	14.89	22.77
165.0	0.00	0.88	3.50	5.25	6.13	7.01	9.63	14.89	22.77
180.0	0.00	1.73	4.32	5.18	6.04	8.63	12.09	18.13	33.67
195.0	0.00	1.84	4.60	5.52	7.36	9.20	12.88	19.32	32.20
210.0	0.00	1.84	4.60	5.52	7.36	9.20	12.88	19.32	32.20
225.0	0.00	1.83	4.57	5.48	7.31	9.13	12.79	19.18	32.88
240.0	0.00	1.83	4.57	5.48	7.31	9.13	12.79	19.18	32.88
255.0	0.00	1.80	4.49	5.39	7.19	9.89	12.58	18.87	33.26
270.0	0.00	1.80	4.49	5.39	7.19	9.89	12.58	18.87	33.26
285.0	0.00	1.78	4.44	5.33	7.10	8.88	12.43	18.64	33.74
300.0	0.00	1.78	4.44	5.33	7.10	8.88	12.43	18.64	33.74
315.0	0.00	1.75	4.38	5.25	6.13	8.76	12.26	19.27	42.91
330.0	0.00	1.75	4.38	5.25	6.13	8.76	12.26	19.27	42.91
345.0	0.00	0.92	3.69	5.53	5.53	7.38	11.06	16.59	27.66
360.0	0.00	0.92	3.69	5.53	5.53	7.38	11.06	16.59	27.66
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	135.53	483.10	652.73	718.19	744.01	774.43	991.09	1554.39	2462.50
15.0	135.53	483.10	652.73	718.19	744.01	774.43	991.09	1554.39	2462.50
30.0	149.04	491.27	641.23	708.39	728.63	766.35	990.83	1532.70	2398.41
45.0	149.04	491.27	641.23	708.39	728.63	766.35	990.83	1532.70	2398.41
60.0	126.04	463.99	625.65	690.50	722.47	761.74	985.52	1497.00	2347.34
75.0	126.04	463.99	625.65	690.50	722.47	761.74	985.52	1497.00	2347.34
90.0	117.74	449.40	610.28	672.30	697.46	731.62	921.26	1424.58	2215.52
105.0	117.74	449.40	610.28	672.30	697.46	731.62	921.26	1424.58	2215.52
120.0	86.11	411.93	596.58	652.51	669.38	701.34	867.36	1344.09	2149.30
135.0	86.11	411.93	596.58	652.51	669.38	701.34	867.36	1344.09	2149.30
150.0	58.68	378.33	584.13	635.80	650.69	673.46	808.33	1269.86	2102.71
165.0	58.68	378.33	584.13	635.80	650.69	673.46	808.33	1269.86	2102.71
180.0	210.65	530.95	611.24	646.64	663.91	708.80	992.84	1655.02	2601.24
195.0	201.48	546.47	641.23	684.47	701.95	752.55	1041.43	1711.18	2701.09
210.0	201.48	546.47	641.23	684.47	701.95	752.55	1041.43	1711.18	2701.09
225.0	206.42	546.19	633.87	668.58	681.37	731.60	1067.72	1747.26	2682.54
240.0	206.42	546.19	633.87	668.58	681.37	731.60	1067.72	1747.26	2682.54
255.0	223.80	538.38	628.25	660.61	668.70	722.63	1056.08	1760.73	2642.44
270.0	223.80	538.38	628.25	660.61	668.70	722.63	1056.08	1760.73	2642.44
285.0	256.57	541.54	624.99	659.62	665.83	729.75	1101.73	1790.64	2658.00
300.0	256.57	541.54	624.99	659.62	665.83	729.75	1101.73	1790.64	2658.00
315.0	282.00	549.98	620.04	655.07	683.97	758.41	1136.74	1822.47	2705.24
330.0	282.00	549.98	620.04	655.07	683.97	758.41	1136.74	1822.47	2705.24
345.0	135.53	483.10	652.73	718.19	744.01	774.43	991.09	1554.39	2462.50
360.0	135.53	483.10	652.73	718.19	744.01	774.43	991.09	1554.39	2462.50

Intensity data(cd)

C/ γ (°)	180.0
0.0	3042.41
15.0	3042.41
30.0	3196.04
45.0	3196.04
60.0	3130.09
75.0	3130.09
90.0	3042.41
105.0	3042.41
120.0	2957.18
135.0	2957.18
150.0	2896.15
165.0	2896.15
180.0	3042.41
195.0	3196.04
210.0	3196.04
225.0	3130.09
240.0	3130.09
255.0	3042.41
270.0	3042.41
285.0	2957.18
300.0	2957.18
315.0	2896.15
330.0	2896.15
345.0	3042.41
360.0	3042.41