

LCTECH

Email:hejy@lccert.com

AFX

LumCAT: GHRF4450L30SN

Luminaire: LED lamp

Report No:

Voltage(V): 119.9800

Test No: LCZP19070391

Current(A): 0.2060

LampCAT:

Power (W): 24.2400

Lamp flux(lm): 2057.0

PF: 0.9817

Number of Lamps: 1

Ballast type:

Length(mm): 800

Width(mm): 40

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2057.01

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 84.86

Central intensity(cd): 7641.157

Maximum intensity(cd): 7641.157

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=27.4

[C90/270]Total=27.3

Field angle(10%Imax): [C0/180]Total=49.2

[C90/270]Total=48.1

Maximum s/h(1/2): C0_180=0.47 C90_270=0.47

Maximum s/h(1/4): C0_180=0.46 C90_270=0.45

Up flux rate of lamp(%): 0.46%

Down flux rate of lamp(%): 99.54%

Up flux rate of LUM(%): 0.46%

Down flux rate of LUM(%): 99.54%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.215%

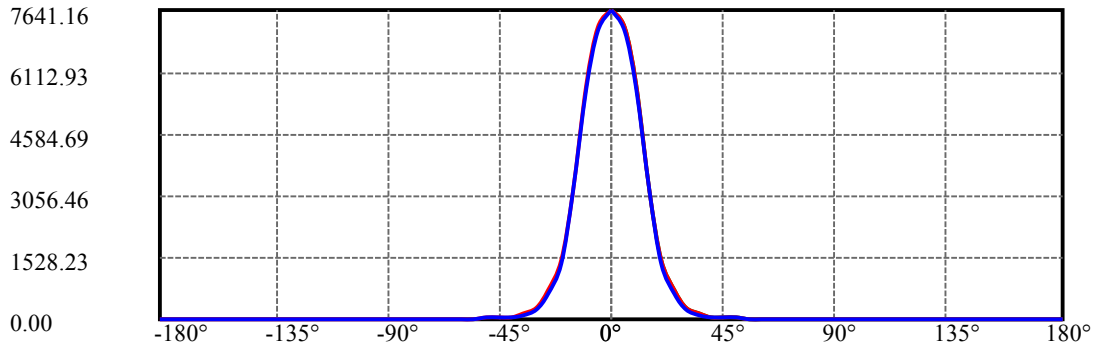
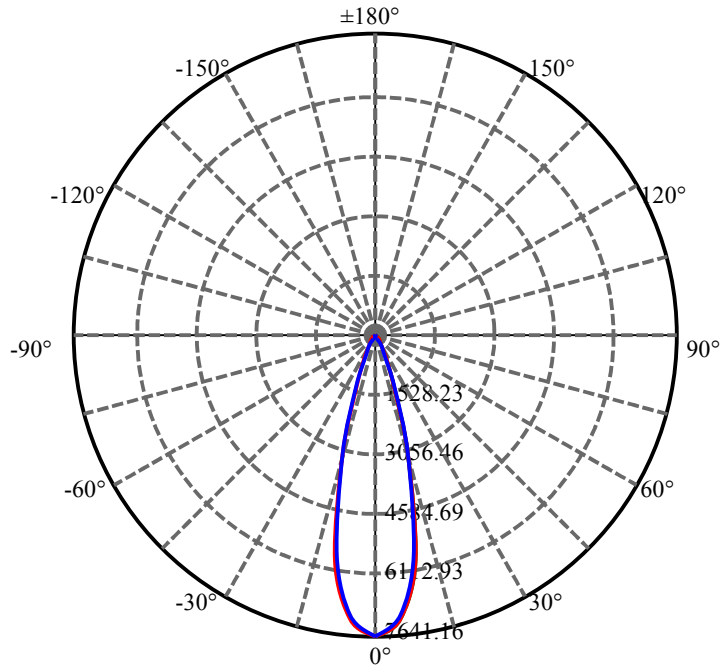
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7641.157	.000	.000	.000%	.000%
5.0	7171.624	177.083	177.083	8.609%	8.609%
10.0	5771.365	463.011	640.094	22.509%	31.118%
15.0	3173.472	530.602	1170.696	25.795%	56.912%
20.0	1423.204	378.831	1549.526	18.417%	75.329%
25.0	654.704	217.934	1767.461	10.595%	85.924%
30.0	279.160	118.181	1885.642	5.745%	91.669%
35.0	113.802	57.866	1943.508	2.813%	94.482%
40.0	51.855	27.638	1971.146	1.344%	95.826%
45.0	35.238	16.126	1987.272	.784%	96.610%
50.0	27.437	12.664	1999.936	.616%	97.225%
55.0	22.347	10.825	2010.761	.526%	97.752%
60.0	18.869	9.527	2020.288	.463%	98.215%
65.0	16.338	8.559	2028.847	.416%	98.631%
70.0	13.738	7.615	2036.462	.370%	99.001%
75.0	9.474	6.067	2042.529	.295%	99.296%
80.0	3.836	3.561	2046.091	.173%	99.469%
85.0	.829	1.268	2047.359	.062%	99.531%
90.0	.004	.228	2047.587	.011%	99.542%
95.0	.004	.002	2047.589	.000%	99.542%
100.0	.008	.003	2047.592	.000%	99.542%
105.0	.000	.002	2047.594	.000%	99.542%
110.0	.004	.001	2047.595	.000%	99.542%
115.0	.015	.005	2047.599	.000%	99.543%
120.0	.139	.037	2047.637	.002%	99.544%
125.0	.210	.081	2047.717	.004%	99.548%
130.0	.218	.093	2047.810	.005%	99.553%
135.0	.458	.137	2047.947	.007%	99.559%
140.0	1.235	.313	2048.260	.015%	99.575%
145.0	2.716	.659	2048.919	.032%	99.607%
150.0	4.726	1.096	2050.015	.053%	99.660%
155.0	6.941	1.476	2051.492	.072%	99.732%
160.0	8.914	1.663	2053.155	.081%	99.813%
165.0	10.128	1.569	2054.724	.076%	99.889%
170.0	10.740	1.238	2055.962	.060%	99.949%
175.0	11.117	.782	2056.744	.038%	99.987%
180.0	11.501	.270	2057.014	.013%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1885.64	91.67%	91.67%
0-40	1971.15	95.83%	95.83%
0-60	2020.29	98.21%	98.21%
0-90	2047.59	99.54%	99.54%
0-120	2047.64	99.54%	99.54%
0-180	2057.01	100.00%	100.00%
60-90	36.83	1.79%	1.79%
90-120	0.28	0.01%	0.01%
90-130	0.45	0.02%	0.02%
90-150	2.66	0.13%	0.13%
90-180	9.39	0.46%	0.46%
0-22.20	1645.61	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	640.09
10-20	909.43
20-30	336.12
30-40	85.50
40-50	28.79
50-60	20.35
60-70	16.17
70-80	9.63
80-90	1.50
90-100	0.01
100-110	0.00
110-120	0.04
120-130	0.17
130-140	0.45
140-150	1.75
150-160	3.14
160-170	2.81
170-180	0.78



C0(Max): ———

C0/C180: ———

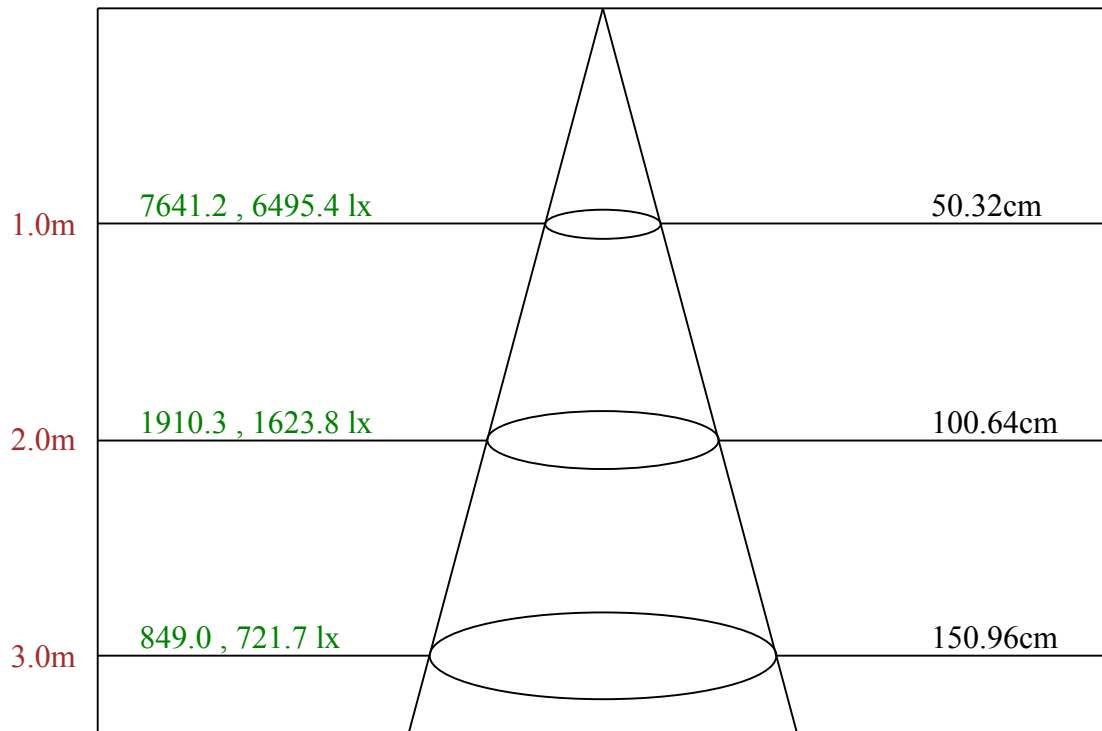
C90/C270: ———

Field angle(10%Imax):C0/180Left:24.6 Right:24.6

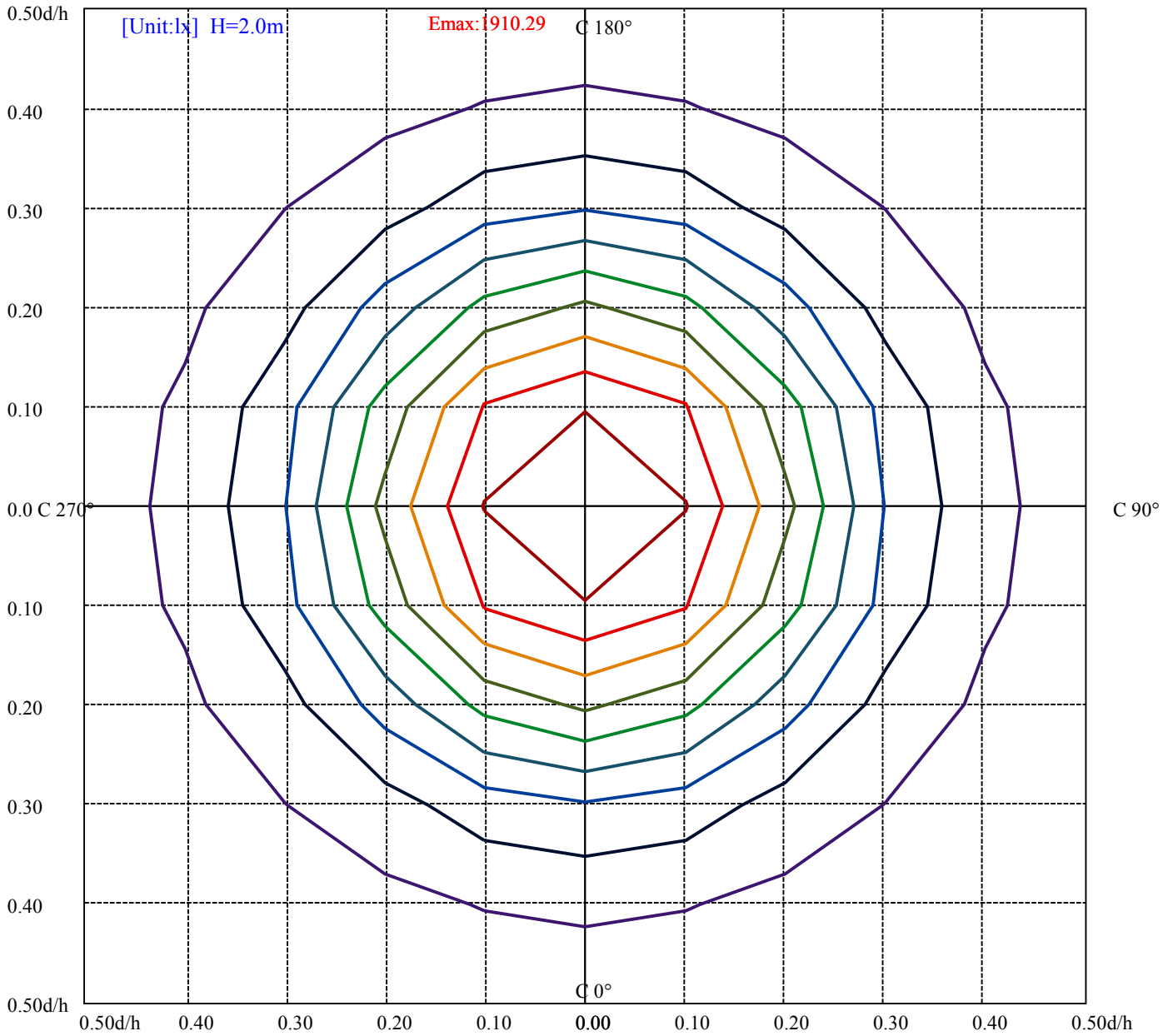
:C90/270Left:24.0 Right:24.0

Beam Angle(50%Imax):C0/180Left:13.7 Right:13.7

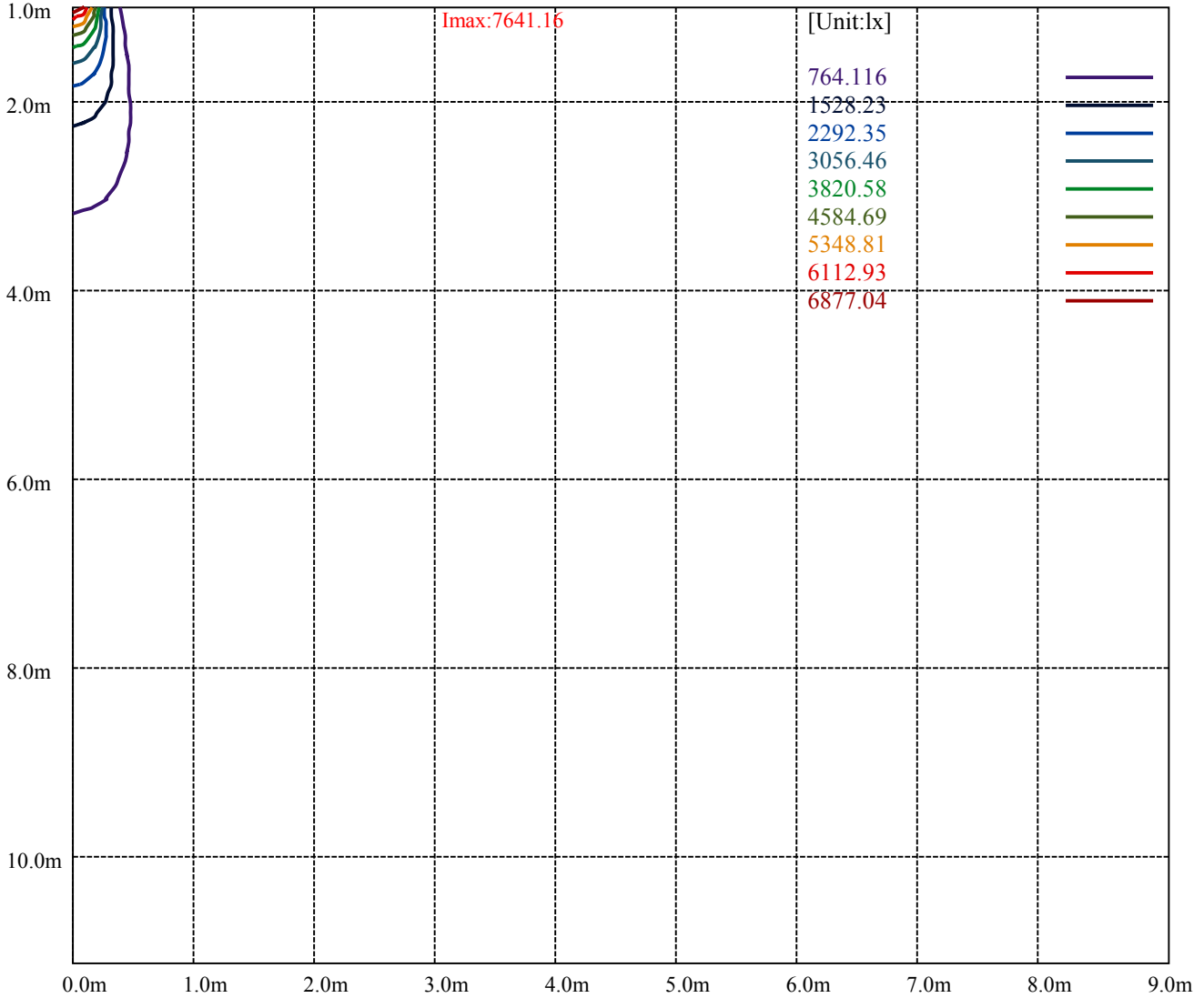
:C90/270Left:13.7 Right:13.7



Max , Ave Beam angle of C0plane28.25



(10%Emax) 191.0285	—
(20%Emax) 382.0575	—
(30%Emax) 573.085	—
(40%Emax) 764.115	—
(50%Emax) 955.1425	—
(60%Emax) 1146.172	—
(70%Emax) 1337.2	—
(80%Emax) 1528.23	—
(90%Emax) 1719.257	—



Luminance Table

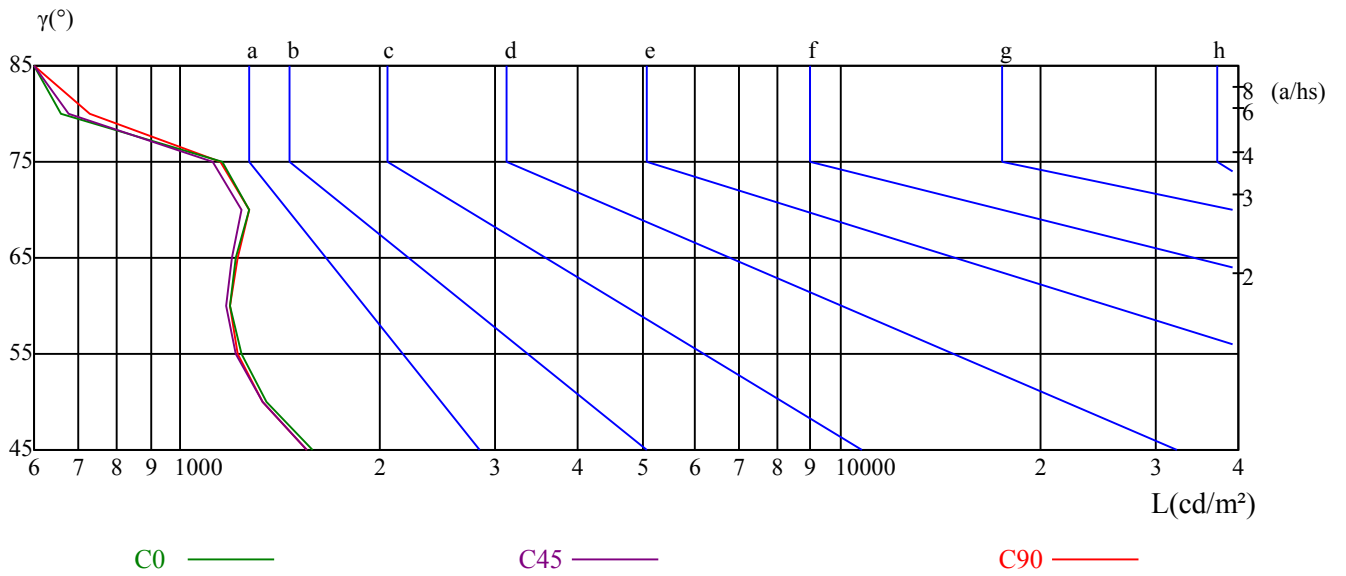
γ	45	50	55	60	65	70	75	80	85
C0	1582	1351	1241	1192	1214	1269	1159	657	290
C45	1554	1328	1209	1172	1198	1238	1121	675	274
C90	1551	1328	1221	1190	1224	1268	1149	728	287

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
1214	1224	1198	1159	1149	1121	290	287	274

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



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	1.19	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	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.95
2	1.06	1.03	1.01	1.05	1.02	0.99	1.02	0.99	0.97	0.99	0.97	0.95	0.96	0.94	0.93	0.92
3	1.01	0.98	0.94	1.00	0.97	0.94	0.98	0.95	0.92	0.95	0.93	0.91	0.93	0.91	0.89	0.88
4	0.97	0.93	0.90	0.96	0.92	0.89	0.94	0.91	0.88	0.92	0.89	0.87	0.90	0.88	0.86	0.85
5	0.93	0.89	0.86	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.86	0.84	0.88	0.85	0.83	0.82
6	0.90	0.85	0.82	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.81	0.85	0.82	0.80	0.79
7	0.87	0.82	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.83	0.80	0.78	0.76
8	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.74
9	0.81	0.77	0.74	0.81	0.76	0.74	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.73	0.72
10	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.70

Intensity data(cd)

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C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	7641.16	7217.85	5781.68	3146.72	1472.98	698.69	308.35	131.20	54.01
15.0	7641.16	7171.14	5823.60	3221.83	1473.24	704.12	313.43	124.48	54.32
30.0	7641.16	7174.16	5827.25	3183.36	1450.92	679.45	293.94	116.32	51.98
45.0	7641.16	7194.96	5825.21	3217.22	1439.10	648.18	265.12	109.36	51.60
60.0	7641.16	7157.40	5709.57	3133.84	1381.24	624.68	265.73	109.03	50.73
75.0	7641.16	7152.12	5706.87	3138.78	1371.41	614.17	253.89	105.43	50.10
90.0	7641.16	7142.07	5689.72	3144.89	1373.66	616.57	257.33	105.16	50.80
105.0	7641.16	7152.12	5706.87	3138.78	1371.41	614.17	253.89	105.43	50.10
120.0	7641.16	7157.40	5709.57	3133.84	1381.24	624.68	265.73	109.03	50.73
135.0	7641.16	7194.96	5825.21	3217.22	1439.10	648.18	265.12	109.36	51.60
150.0	7641.16	7174.16	5827.25	3183.36	1450.92	679.45	293.94	116.32	51.98
165.0	7641.16	7171.14	5823.60	3221.83	1473.24	704.12	313.43	124.48	54.32
180.0	7641.16	7217.85	5781.68	3146.72	1472.98	698.69	308.35	131.20	54.01
195.0	7641.16	7171.14	5823.60	3221.83	1473.24	704.12	313.43	124.48	54.32
210.0	7641.16	7174.16	5827.25	3183.36	1450.92	679.45	293.94	116.32	51.98
225.0	7641.16	7194.96	5825.21	3217.22	1439.10	648.18	265.12	109.36	51.60
240.0	7641.16	7157.40	5709.57	3133.84	1381.24	624.68	265.73	109.03	50.73
255.0	7641.16	7152.12	5706.87	3138.78	1371.41	614.17	253.89	105.43	50.10
270.0	7641.16	7142.07	5689.72	3144.89	1373.66	616.57	257.33	105.16	50.80
285.0	7641.16	7152.12	5706.87	3138.78	1371.41	614.17	253.89	105.43	50.10
300.0	7641.16	7157.40	5709.57	3133.84	1381.24	624.68	265.73	109.03	50.73
315.0	7641.16	7194.96	5825.21	3217.22	1439.10	648.18	265.12	109.36	51.60
330.0	7641.16	7174.16	5827.25	3183.36	1450.92	679.45	293.94	116.32	51.98
345.0	7641.16	7171.14	5823.60	3221.83	1473.24	704.12	313.43	124.48	54.32
360.0	7641.16	7217.85	5781.68	3146.72	1472.98	698.69	308.35	131.20	54.01
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	35.80	27.78	22.77	19.07	16.42	13.89	9.60	3.65	0.81
15.0	35.71	27.95	22.73	19.11	16.52	13.93	9.59	3.86	0.86
30.0	35.27	27.36	22.04	18.52	16.14	13.76	9.40	3.77	0.90
45.0	35.15	27.31	22.18	18.75	16.21	13.55	9.28	3.75	0.76
60.0	34.88	27.15	22.19	18.84	16.29	13.61	9.42	3.87	0.83
75.0	34.97	27.30	22.34	18.95	16.39	13.69	9.59	3.91	0.81
90.0	35.10	27.31	22.42	19.04	16.55	13.88	9.52	4.05	0.80
105.0	34.97	27.30	22.34	18.95	16.39	13.69	9.59	3.91	0.81
120.0	34.88	27.15	22.19	18.84	16.29	13.61	9.42	3.87	0.83
135.0	35.15	27.31	22.18	18.75	16.21	13.55	9.28	3.75	0.76
150.0	35.27	27.36	22.04	18.52	16.14	13.76	9.40	3.77	0.90
165.0	35.71	27.95	22.73	19.11	16.52	13.93	9.59	3.86	0.86
180.0	35.80	27.78	22.77	19.07	16.42	13.89	9.60	3.65	0.81
195.0	35.71	27.95	22.73	19.11	16.52	13.93	9.59	3.86	0.86
210.0	35.27	27.36	22.04	18.52	16.14	13.76	9.40	3.77	0.90
225.0	35.15	27.31	22.18	18.75	16.21	13.55	9.28	3.75	0.76
240.0	34.88	27.15	22.19	18.84	16.29	13.61	9.42	3.87	0.83
255.0	34.97	27.30	22.34	18.95	16.39	13.69	9.59	3.91	0.81
270.0	35.10	27.31	22.42	19.04	16.55	13.88	9.52	4.05	0.80
285.0	34.97	27.30	22.34	18.95	16.39	13.69	9.59	3.91	0.81
300.0	34.88	27.15	22.19	18.84	16.29	13.61	9.42	3.87	0.83
315.0	35.15	27.31	22.18	18.75	16.21	13.55	9.28	3.75	0.76
330.0	35.27	27.36	22.04	18.52	16.14	13.76	9.40	3.77	0.90
345.0	35.71	27.95	22.73	19.11	16.52	13.93	9.59	3.86	0.86
360.0	35.80	27.78	22.77	19.07	16.42	13.89	9.60	3.65	0.81

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	0.00	0.00	0.00	0.05	0.00	0.27	0.36	0.31
15.0	0.02	0.02	0.00	0.00	0.00	0.02	0.20	0.30	0.34
30.0	0.00	0.00	0.02	0.00	0.00	0.02	0.20	0.27	0.27
45.0	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.18	0.22
60.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.16	0.14
75.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.13	0.13
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09
105.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.13	0.13
120.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.16	0.14
135.0	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.18	0.22
150.0	0.00	0.00	0.02	0.00	0.00	0.02	0.20	0.27	0.27
165.0	0.02	0.02	0.00	0.00	0.00	0.02	0.20	0.30	0.34
180.0	0.00	0.00	0.00	0.00	0.05	0.00	0.27	0.36	0.31
195.0	0.02	0.02	0.00	0.00	0.00	0.02	0.20	0.30	0.34
210.0	0.00	0.00	0.02	0.00	0.00	0.02	0.20	0.27	0.27
225.0	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.18	0.22
240.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.16	0.14
255.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.13	0.13
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09
285.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.13	0.13
300.0	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.16	0.14
315.0	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.18	0.22
330.0	0.00	0.00	0.02	0.00	0.00	0.02	0.20	0.27	0.27
345.0	0.02	0.02	0.00	0.00	0.00	0.02	0.20	0.30	0.34
360.0	0.00	0.00	0.00	0.00	0.05	0.00	0.27	0.36	0.31
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.63	1.57	3.02	4.78	6.67	8.47	9.51	10.19	11.05
15.0	0.64	1.57	2.98	4.77	6.79	8.59	9.59	10.34	11.27
30.0	0.56	1.41	2.87	4.76	6.78	8.62	9.76	10.44	11.18
45.0	0.49	1.26	2.72	4.74	6.97	8.90	10.16	10.65	11.28
60.0	0.36	1.06	2.55	4.69	7.10	9.15	10.48	11.06	11.09
75.0	0.25	0.90	2.47	4.71	7.12	9.34	10.69	11.25	10.98
90.0	0.27	0.85	2.40	4.58	7.12	9.30	10.68	11.21	10.76
105.0	0.25	0.90	2.47	4.71	7.12	9.34	10.69	11.25	10.98
120.0	0.36	1.06	2.55	4.69	7.10	9.15	10.48	11.06	11.09
135.0	0.49	1.26	2.72	4.74	6.97	8.90	10.16	10.65	11.28
150.0	0.56	1.41	2.87	4.76	6.78	8.62	9.76	10.44	11.18
165.0	0.64	1.57	2.98	4.77	6.79	8.59	9.59	10.34	11.27
180.0	0.63	1.57	3.02	4.78	6.67	8.47	9.51	10.19	11.05
195.0	0.64	1.57	2.98	4.77	6.79	8.59	9.59	10.34	11.27
210.0	0.56	1.41	2.87	4.76	6.78	8.62	9.76	10.44	11.18
225.0	0.49	1.26	2.72	4.74	6.97	8.90	10.16	10.65	11.28
240.0	0.36	1.06	2.55	4.69	7.10	9.15	10.48	11.06	11.09
255.0	0.25	0.90	2.47	4.71	7.12	9.34	10.69	11.25	10.98
270.0	0.27	0.85	2.40	4.58	7.12	9.30	10.68	11.21	10.76
285.0	0.25	0.90	2.47	4.71	7.12	9.34	10.69	11.25	10.98
300.0	0.36	1.06	2.55	4.69	7.10	9.15	10.48	11.06	11.09
315.0	0.49	1.26	2.72	4.74	6.97	8.90	10.16	10.65	11.28
330.0	0.56	1.41	2.87	4.76	6.78	8.62	9.76	10.44	11.18
345.0	0.64	1.57	2.98	4.77	6.79	8.59	9.59	10.34	11.27
360.0	0.63	1.57	3.02	4.78	6.67	8.47	9.51	10.19	11.05

Intensity data(cd)

C/ γ (°)	180.0
0.0	11.82
15.0	11.91
30.0	11.67
45.0	11.60
60.0	11.36
75.0	11.09
90.0	10.94
105.0	11.09
120.0	11.36
135.0	11.60
150.0	11.67
165.0	11.91
180.0	11.82
195.0	11.91
210.0	11.67
225.0	11.60
240.0	11.36
255.0	11.09
270.0	10.94
285.0	11.09
300.0	11.36
315.0	11.60
330.0	11.67
345.0	11.91
360.0	11.82