
ZhongShan Halcon Lighting & Electrical Co., Ltd

Client:

LumCAT: HG-L203-252F-25W

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.219

Lamp flux(lm): 3275.0

Power (W): 25.070

Number of Lamps: 1

PF: 0.955

Length(mm): 560

Width(mm): 170

Phm Type: C

Height(mm): 70

Photometric Results

Lumens(lm): 3275.01, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 130.63

Central intensity(cd): 5246.356, Maximum intensity(cd): 5246.356

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=42.6

[C90/270]Total=33.8

Field angle(10%Imax): [C0/180]Total=85.2

[C90/270]Total=65.2

Maximum s/h(1/2): C0_180=0.67 C90_270=0.55

Maximum s/h(1/4): C0_180=0.72 C90_270=0.57

Up flux rate of lamp(%): 2.41%

Down flux rate of lamp(%): 97.59%

Up flux rate of LUM(%): 2.41%

Down flux rate of LUM(%): 97.59%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 90.294%

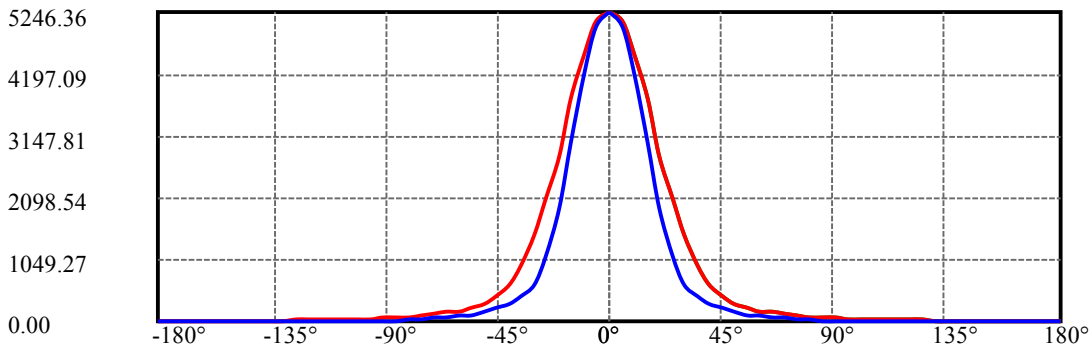
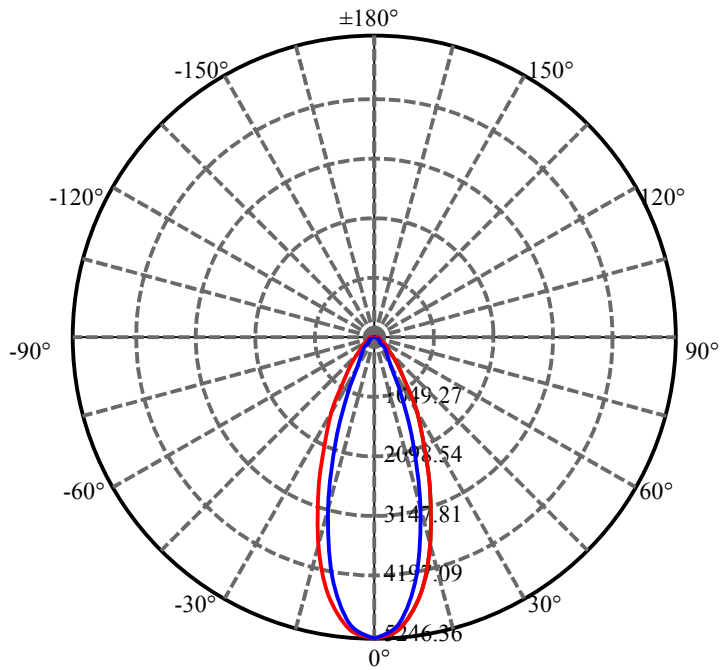
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5246.356	0.000	0	0.00%	0.00%
5.0	5012.895	122.646	122.646	3.74%	3.74%
10.0	4345.552	334.781	457.428	10.22%	13.97%
15.0	3401.738	459.564	916.992	14.03%	28.00%
20.0	2391.523	477.446	1394.438	14.58%	42.58%
25.0	1565.506	415.019	1809.457	12.67%	55.25%
30.0	1002.864	325.029	2134.486	9.92%	65.17%
35.0	635.915	241.322	2375.808	7.37%	72.54%
40.0	429.712	177.792	2553.6	5.43%	77.97%
45.0	306.913	136.392	2689.992	4.16%	82.14%
50.0	225.117	107.504	2797.496	3.28%	85.42%
55.0	174.876	86.972	2884.468	2.66%	88.08%
60.0	139.504	72.668	2957.136	2.22%	90.29%
65.0	113.173	61.426	3018.563	1.88%	92.17%
70.0	91.604	51.851	3070.414	1.58%	93.75%
75.0	72.651	42.934	3113.347	1.31%	95.06%
80.0	56.241	34.488	3147.835	1.05%	96.12%
85.0	43.441	27.086	3174.921	0.83%	96.94%
90.0	33.776	21.143	3196.064	0.65%	97.59%
95.0	27.438	16.761	3212.825	0.51%	98.10%
100.0	21.467	13.289	3226.113	0.41%	98.51%
105.0	15.354	9.852	3235.965	0.30%	98.81%
110.0	11.281	6.962	3242.927	0.21%	99.02%
115.0	9.403	5.237	3248.165	0.16%	99.18%
120.0	8.955	4.463	3252.627	0.14%	99.32%
125.0	7.960	3.910	3256.537	0.12%	99.44%
130.0	6.416	3.126	3259.663	0.10%	99.53%
135.0	5.088	2.325	3261.987	0.07%	99.60%
140.0	5.089	1.884	3263.872	0.06%	99.66%
145.0	5.717	1.803	3265.674	0.06%	99.71%
150.0	6.970	1.868	3267.543	0.06%	99.77%
155.0	8.373	1.942	3269.484	0.06%	99.83%
160.0	9.518	1.876	3271.361	0.06%	99.89%
165.0	9.850	1.596	3272.957	0.05%	99.94%
170.0	9.777	1.164	3274.121	0.04%	99.97%
175.0	9.999	0.707	3274.829	0.02%	99.99%
180.0	5.019	0.180	3275.008	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2134.49	65.17%	65.17%
0-40	2553.60	77.97%	77.97%
0-60	2957.14	90.29%	90.29%
0-90	3196.06	97.59%	97.59%
0-120	3252.63	99.32%	99.32%
0-180	3275.01	100.00%	100.00%
60-90	238.93	7.30%	7.30%
90-120	56.56	1.73%	1.73%
90-130	63.60	1.94%	1.94%
90-150	71.48	2.18%	2.18%
90-180	78.76	2.41%	2.41%
0-42.43	2620.01	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	457.43
10-20	937.01
20-30	740.05
30-40	419.11
40-50	243.90
50-60	159.64
60-70	113.28
70-80	77.42
80-90	48.23
90-100	30.05
100-110	16.81
110-120	9.70
120-130	7.04
130-140	4.21
140-150	3.67
150-160	3.82
160-170	2.76
170-180	0.71



C0(Max): ———

C0/C180: ———

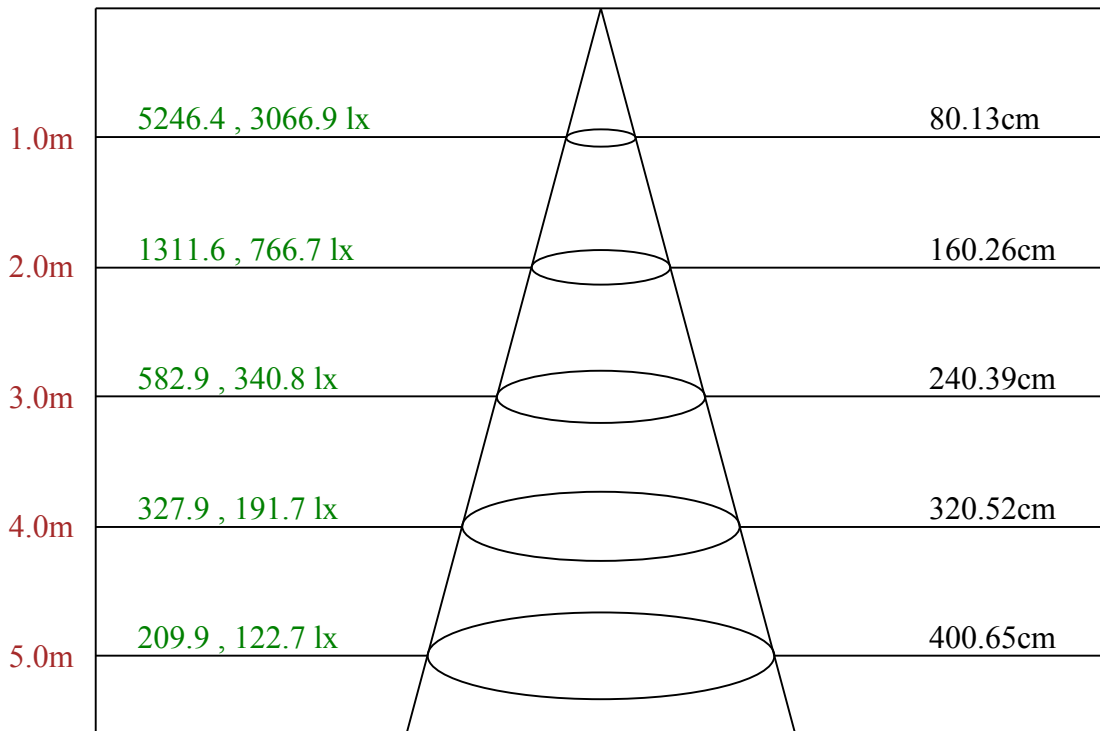
C90/C270: ———

Field angle(10%Imax):C0/180Left:42.6 Right:42.6

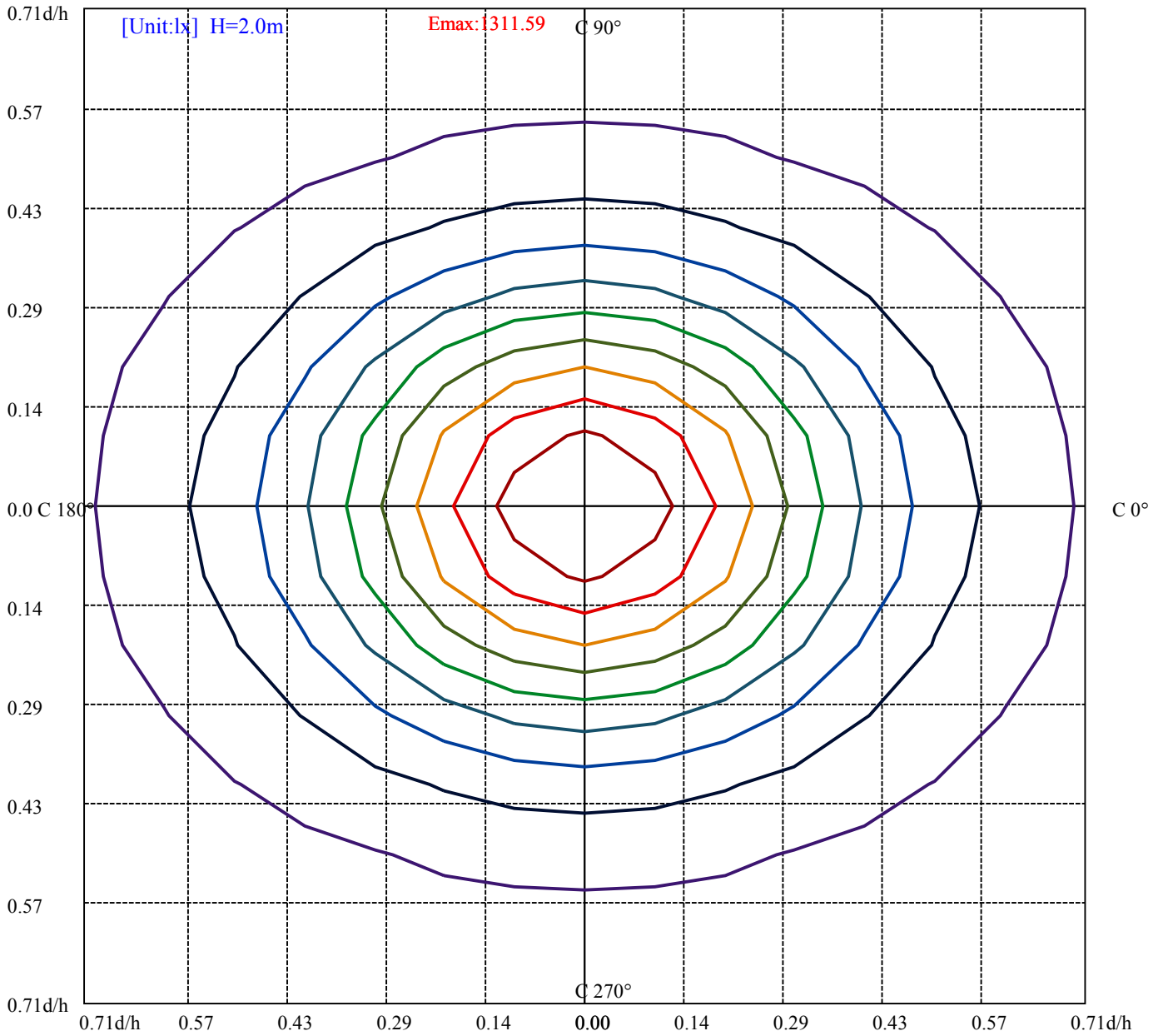
:C90/270Left:32.6 Right:32.6

Beam Angle(50%Imax):C0/180Left:21.3 Right:21.3

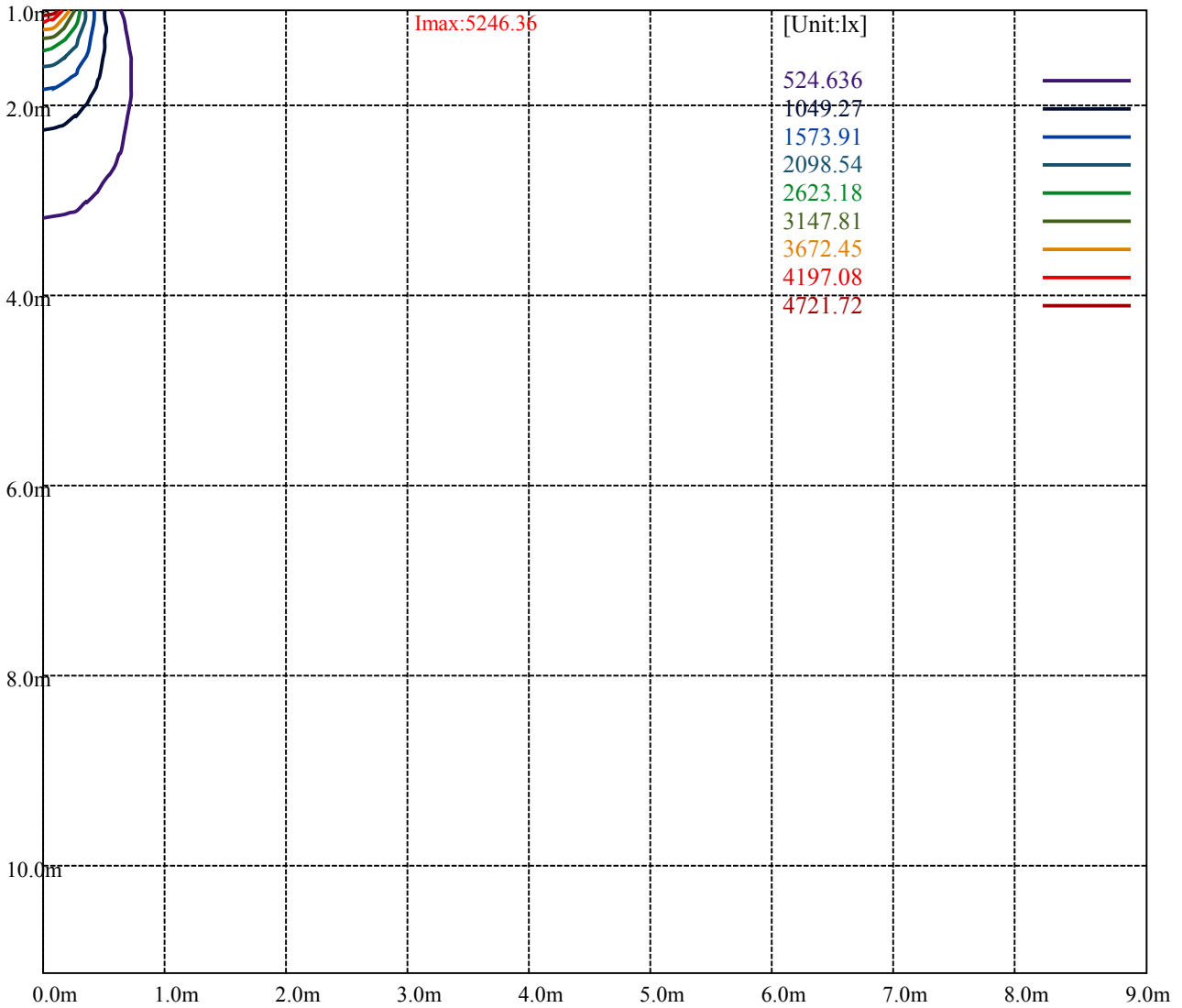
:C90/270Left:16.9 Right:16.9



Max , Ave Beam angle of C0 plane 43.67



(10%Emax) 131.1588	
(20%Emax) 262.3175	
(30%Emax) 393.475	
(40%Emax) 524.635	
(50%Emax) 655.7925	
(60%Emax) 786.9525	
(70%Emax) 918.11	
(80%Emax) 1049.27	
(90%Emax) 1180.427	



Luminance Table

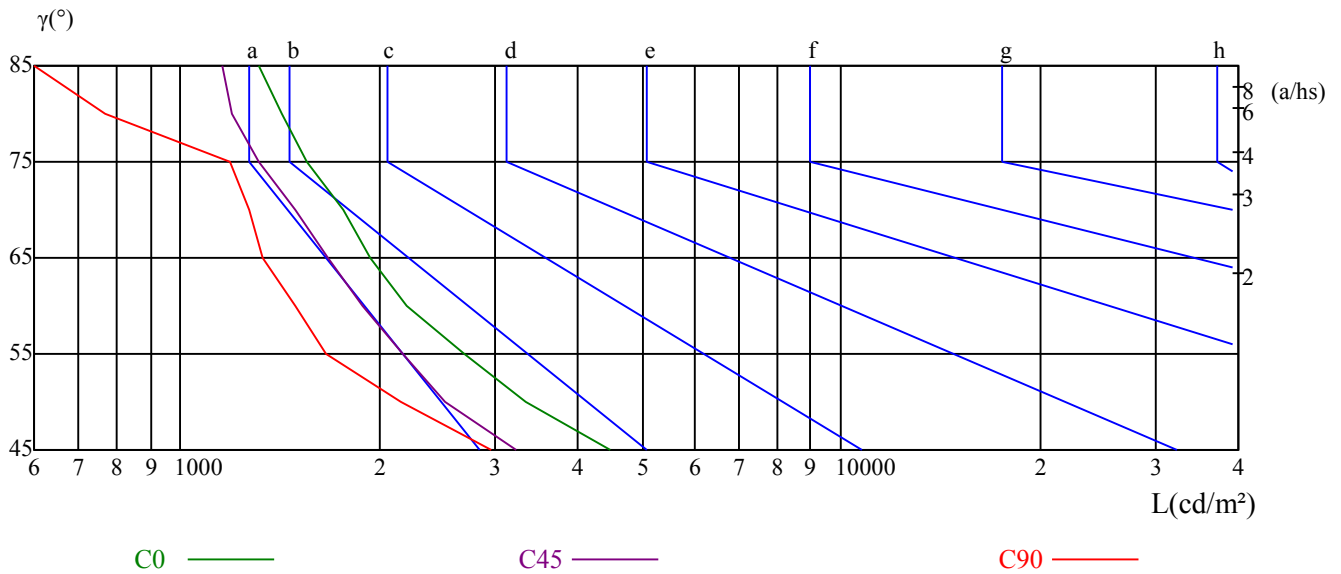
γ	45	50	55	60	65	70	75	80	85
C0	4487	3325	2687	2198	1943	1769	1551	1419	1315
C45	3232	2523	2169	1882	1676	1492	1316	1193	1158
C90	2947	2158	1661	1494	1330	1268	1191	769	396

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3658	1687	3040	3934	1746	3180	7503	962	6180

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	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	0.98
1	1.08	1.05	1.02	1.06	1.03	1.01	1.01	0.99	0.97	0.97	0.95	0.94	0.93	0.92	0.91	0.89
2	0.99	0.95	0.91	0.98	0.93	0.90	0.94	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.83	0.81
3	0.92	0.86	0.82	0.90	0.85	0.81	0.87	0.83	0.79	0.85	0.81	0.78	0.82	0.79	0.76	0.75
4	0.86	0.80	0.75	0.84	0.79	0.74	0.82	0.77	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.69
5	0.80	0.74	0.69	0.79	0.73	0.69	0.77	0.72	0.68	0.75	0.70	0.67	0.73	0.69	0.66	0.64
6	0.75	0.69	0.64	0.74	0.68	0.64	0.72	0.67	0.63	0.71	0.66	0.63	0.69	0.65	0.62	0.60
7	0.71	0.64	0.60	0.70	0.64	0.60	0.68	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.58	0.57
8	0.67	0.61	0.56	0.66	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.55	0.63	0.58	0.55	0.54
9	0.63	0.57	0.53	0.63	0.57	0.53	0.62	0.56	0.53	0.61	0.56	0.53	0.60	0.55	0.52	0.51
10	0.60	0.54	0.50	0.60	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.48

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	5246.36	5561.19	5306.83	4749.20	3814.48	2854.86	2048.20	1308.25	854.68
15.0	5246.36	5529.85	5249.94	4639.90	3764.31	2776.59	1968.28	1292.75	800.23
30.0	5246.36	5493.85	5157.51	4496.62	3619.05	2479.49	1586.51	1041.66	647.30
45.0	5246.36	5428.61	5013.33	4261.64	3095.59	2056.47	1275.77	759.84	478.75
60.0	5246.36	5348.15	4850.90	3883.42	2675.43	1693.54	973.78	564.81	379.24
75.0	5246.36	5224.07	4721.19	3546.02	2367.28	1434.63	770.37	475.24	337.93
90.0	5246.36	5115.04	4539.21	3356.50	2198.63	1309.59	714.24	468.47	328.29
105.0	5246.36	4995.32	4365.09	3225.76	2124.17	1278.01	717.13	465.21	337.06
120.0	5246.36	4899.32	4263.53	3256.36	2147.42	1368.99	819.31	500.11	357.47
135.0	5246.36	4846.40	4221.26	3334.40	2324.95	1487.66	929.46	591.24	413.00
150.0	5246.36	4836.00	4171.11	3334.81	2470.81	1630.18	1036.29	683.07	464.03
165.0	5246.36	4832.71	4194.15	3348.77	2462.03	1728.68	1147.86	779.89	510.16
180.0	5246.36	4634.47	3777.13	2792.60	1814.30	1326.04	904.48	586.98	408.22
195.0	5246.36	4665.92	3797.51	2867.19	2031.98	1360.03	908.78	570.57	400.12
210.0	5246.36	4700.60	3819.40	2915.55	1848.51	1267.39	823.17	534.88	372.60
225.0	5246.36	4721.36	3836.39	2756.47	1860.62	1158.80	729.01	466.97	334.58
240.0	5246.36	4756.31	3775.32	2686.24	1740.38	1044.95	613.46	417.98	303.58
255.0	5246.36	4746.15	3766.25	2633.88	1643.28	906.79	554.59	391.43	296.02
270.0	5246.36	4867.50	3844.49	2720.33	1644.09	899.68	553.65	377.97	283.04
285.0	5246.36	4945.28	3977.12	2821.99	1780.97	983.09	576.69	385.34	287.90
300.0	5246.36	4961.95	4140.90	3062.40	2030.01	1206.35	694.06	436.62	303.54
315.0	5246.36	5022.90	4375.15	3368.31	2387.55	1501.57	902.51	557.33	375.61
330.0	5246.36	5075.81	4525.20	3728.72	2659.54	1761.77	1444.91	733.28	477.02
345.0	5246.36	5100.72	4604.35	3854.62	2891.18	2057.01	1376.22	872.09	562.73
360.0	5246.36	5561.19	5306.83	4749.20	3814.48	2854.86	2048.20	1308.25	854.68
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	546.07	372.64	281.04	211.67	174.32	146.74	116.51	95.16	73.82
15.0	509.56	343.60	257.47	202.75	165.07	139.05	118.42	95.99	76.26
30.0	427.00	295.54	225.74	180.41	145.05	124.20	101.54	79.78	66.18
45.0	329.14	243.00	196.76	156.86	126.94	102.46	79.79	63.47	51.68
60.0	273.85	211.69	161.25	123.41	97.29	75.67	57.65	45.04	33.33
75.0	250.55	177.43	123.94	90.05	74.90	55.28	41.02	31.21	20.51
90.0	243.11	165.92	111.79	88.73	71.87	53.24	47.02	25.73	9.76
105.0	252.79	185.21	136.05	101.82	83.39	61.44	42.13	29.84	20.19
120.0	270.49	213.09	170.47	134.81	110.46	86.11	66.10	52.19	38.27
135.0	298.23	228.67	190.41	153.03	126.94	103.47	82.60	63.47	53.04
150.0	334.17	251.93	201.72	163.62	130.73	104.75	85.71	68.39	55.41
165.0	363.66	272.31	211.13	167.18	134.43	110.30	91.35	71.53	57.74
180.0	306.83	233.90	184.99	146.74	120.06	98.72	77.37	61.37	50.69
195.0	294.26	228.77	189.29	151.61	124.70	103.17	83.43	67.28	53.83
210.0	277.41	218.48	173.16	145.05	119.67	98.82	81.59	65.27	53.49
225.0	263.86	209.46	170.47	144.17	119.69	97.93	77.07	62.56	51.68
240.0	248.63	190.97	157.64	127.02	100.89	80.17	61.26	46.84	35.13
255.0	220.23	158.71	122.15	96.30	75.79	52.61	39.23	28.53	16.05
270.0	203.18	137.52	102.03	84.29	63.88	57.67	39.04	17.75	6.21
285.0	213.30	149.22	107.09	86.90	70.22	50.91	43.01	28.97	17.56
300.0	236.57	184.39	141.77	124.37	89.58	69.58	53.92	41.75	32.18
315.0	309.53	215.63	173.02	139.98	115.64	93.03	73.90	59.12	48.69
330.0	324.65	244.14	193.92	155.83	132.46	109.08	85.71	70.99	56.27
345.0	368.83	270.59	213.71	171.49	142.19	124.09	98.24	77.56	64.63
360.0	546.07	372.64	281.04	211.67	174.32	146.74	116.51	95.16	73.82

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	61.37	56.03	47.14	34.69	25.79	23.12	24.01	24.01	18.68
15.0	63.70	56.52	48.44	35.88	22.43	19.74	18.84	18.84	15.25
30.0	54.39	46.24	38.08	26.29	15.41	11.79	9.97	9.07	8.16
45.0	42.62	33.55	28.11	20.85	11.79	9.07	6.35	6.35	5.44
60.0	25.22	19.82	17.12	12.61	8.11	5.40	4.50	4.50	4.50
75.0	9.81	5.35	2.67	3.57	3.57	2.67	2.67	2.67	2.67
90.0	3.55	0.00	0.00	0.00	0.00	0.00	0.89	0.89	0.89
105.0	10.53	6.14	3.51	3.51	3.51	2.63	2.63	2.63	2.63
120.0	28.70	22.61	18.26	12.18	7.83	5.22	4.35	4.35	4.35
135.0	41.73	32.17	24.35	16.52	10.43	6.96	6.96	6.09	6.09
150.0	43.29	33.76	26.84	16.45	12.12	9.52	9.52	8.66	7.79
165.0	46.53	37.06	29.30	20.68	17.24	16.37	16.37	15.51	10.34
180.0	41.80	34.69	25.79	22.23	20.46	20.46	20.46	14.23	8.89
195.0	43.96	34.99	25.12	20.63	18.84	17.94	17.05	12.56	8.97
210.0	41.70	34.45	23.57	16.32	12.69	10.88	9.97	8.16	7.25
225.0	39.90	33.55	24.48	15.41	9.97	8.16	7.25	6.35	5.44
240.0	26.12	20.72	16.21	10.81	7.21	5.40	5.40	4.50	3.60
255.0	7.13	4.46	3.57	3.57	3.57	2.67	2.67	2.67	2.67
270.0	2.66	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
285.0	8.78	5.27	4.39	4.39	3.51	3.51	2.63	2.63	2.63
300.0	25.22	20.87	17.40	12.18	7.83	5.22	5.22	4.35	3.48
315.0	40.00	32.17	25.21	16.52	11.30	7.83	6.96	6.09	5.22
330.0	46.75	38.09	27.70	18.18	14.72	11.25	10.39	8.66	6.93
345.0	55.15	49.12	37.06	24.13	21.54	18.96	18.96	16.37	11.20
360.0	61.37	56.03	47.14	34.69	25.79	23.12	24.01	24.01	18.68
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	11.56	8.00	7.11	8.89	9.78	11.56	11.56	10.67	10.67
15.0	9.87	7.18	7.18	8.97	9.87	11.66	11.66	10.77	10.77
30.0	6.35	6.35	6.35	8.16	9.97	10.88	11.79	10.88	10.88
45.0	4.53	5.44	5.44	7.25	9.07	10.88	10.88	10.88	10.88
60.0	3.60	3.60	5.40	6.31	8.11	9.91	10.81	10.81	10.81
75.0	2.67	2.67	4.46	6.24	8.02	9.81	10.70	10.70	10.70
90.0	1.77	1.77	3.55	5.32	7.10	8.87	9.76	9.76	9.76
105.0	2.63	3.51	4.39	6.14	7.90	9.66	9.66	9.66	9.66
120.0	3.48	4.35	5.22	6.96	8.70	9.57	10.44	10.44	9.57
135.0	5.22	5.22	6.09	7.83	9.56	10.43	10.43	10.43	9.56
150.0	6.06	6.06	6.93	7.79	9.52	10.39	11.25	10.39	10.39
165.0	7.76	6.89	7.76	8.62	9.48	11.20	11.20	10.34	9.48
180.0	6.23	6.23	7.11	8.00	8.89	9.78	8.89	9.78	9.78
195.0	7.18	7.18	7.18	8.07	8.97	9.87	9.87	9.87	9.87
210.0	6.35	6.35	7.25	7.25	9.07	9.07	9.97	9.97	9.97
225.0	4.53	5.44	6.35	7.25	8.16	9.07	9.07	9.07	9.97
240.0	3.60	4.50	5.40	6.31	7.21	9.01	9.01	9.01	9.91
255.0	2.67	3.57	4.46	5.35	7.13	8.02	8.02	8.92	9.81
270.0	1.77	2.66	3.55	4.44	6.21	7.10	7.99	8.87	9.76
285.0	2.63	2.63	3.51	5.27	7.02	7.90	8.78	8.78	9.66
300.0	3.48	4.35	4.35	6.09	6.96	7.83	8.70	8.70	9.57
315.0	4.35	5.22	5.22	6.09	7.83	8.69	8.69	8.69	9.56
330.0	6.06	6.06	6.06	6.93	7.79	8.66	8.66	8.66	9.52
345.0	7.76	6.89	6.89	7.76	8.62	8.62	8.62	8.62	9.48
360.0	11.56	8.00	7.11	8.89	9.78	11.56	11.56	10.67	10.67

Intensity data(cd)

C/γ(°)	180.0
0.0	10.67
15.0	10.77
30.0	10.88
45.0	10.88
60.0	9.91
75.0	9.81
90.0	9.76
105.0	9.66
120.0	9.57
135.0	9.56
150.0	9.52
165.0	9.48
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	10.67