Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.
www.bellingeel.com

Tel:0755-21038430
Address:Rm. 108, No.1 Building, Meibaohe industrial park, No.14 Shilongzi Road, Dalang street, Longhua district, Shenzhen, China

Client:
LumCAT:
Luminaire:
Report No:
Ballast type:

Test No:	Voltage(V): 120.17
LampCAT:	Current(A): 0.3710
Lamp flux(lm): -1.0	Power (W): 44.25
Number of Lamps: 1	PF: 0.9930
Length(mm): 1130	Width(mm): 540
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 5558.37, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 125.61
Central intensity(cd): 2448.775, Maximum intensity(cd): 2478.669
Angle of maximum intensity: C=112.5 γ=5.0
Beam Angle(50%Imax): [C0/180]Total=103.2
[C90/270]Total=84.3
Field angle(10%Imax): [C0/180]Total=158.6
[C90/270]Total=137.9
Maximum s/h(1/2): C0_180=1.22 C90_270=1.17
Maximum s/h(1/4): C0_180=1.34 C90_270=1.19
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 0.00%
Up flux rate of LUM(%): 0.22%
Down flux rate of LUM(%): 99.78%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 84.930%

Zonal flux distribution table

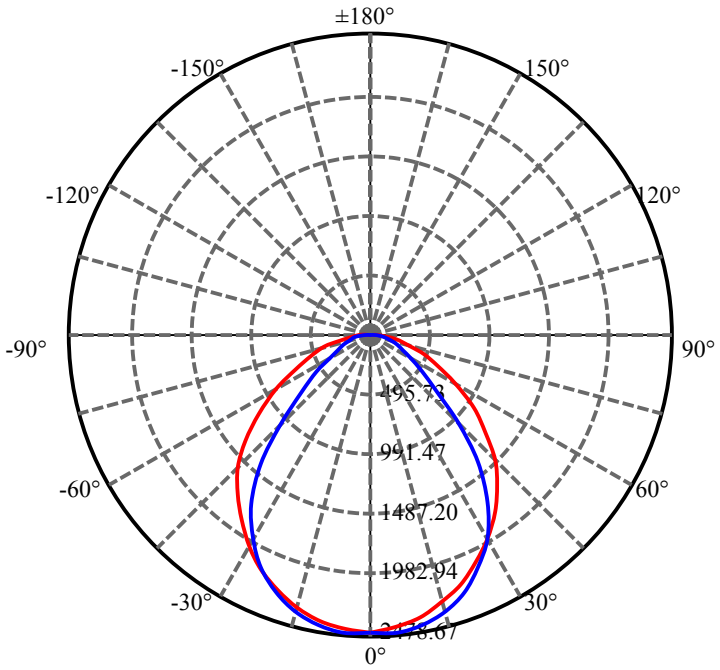
γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2448.775	0.000	0	0.00%	0.00%
5.0	2434.201	58.375	58.375	0.00%	1.05%
10.0	2391.623	172.635	231.01	0.00%	4.16%
15.0	2319.973	279.489	510.498	0.00%	9.18%
20.0	2220.713	374.216	884.715	0.00%	15.92%
25.0	2093.619	452.494	1337.208	0.00%	24.06%
30.0	1942.567	510.783	1847.991	0.00%	33.25%
35.0	1762.379	545.579	2393.57	0.00%	43.06%
40.0	1553.684	553.260	2946.831	0.00%	53.02%
45.0	1317.540	531.631	3478.461	0.00%	62.58%
50.0	1072.983	483.040	3961.501	0.00%	71.27%
55.0	844.334	416.889	4378.39	0.00%	78.77%
60.0	636.622	342.319	4720.709	0.00%	84.93%
65.0	468.637	268.690	4989.399	0.00%	89.76%
70.0	346.369	206.365	5195.764	0.00%	93.48%
75.0	253.291	156.741	5352.505	0.00%	96.30%
80.0	163.928	111.636	5464.141	0.00%	98.30%
85.0	68.213	63.078	5527.219	0.00%	99.44%
90.0	1.740	19.154	5546.373	0.00%	99.78%
95.0	0.907	0.725	5547.098	0.00%	99.80%
100.0	0.993	0.516	5547.614	0.00%	99.81%
105.0	1.036	0.543	5548.157	0.00%	99.82%
110.0	1.228	0.592	5548.749	0.00%	99.83%
115.0	1.441	0.676	5549.424	0.00%	99.84%
120.0	1.676	0.758	5550.182	0.00%	99.85%
125.0	1.900	0.827	5551.009	0.00%	99.87%
130.0	2.167	0.884	5551.893	0.00%	99.88%
135.0	2.434	0.930	5552.823	0.00%	99.90%
140.0	2.669	0.945	5553.768	0.00%	99.92%
145.0	2.947	0.937	5554.705	0.00%	99.93%
150.0	3.128	0.895	5555.6	0.00%	99.95%
155.0	3.310	0.815	5556.415	0.00%	99.96%
160.0	3.289	0.692	5557.107	0.00%	99.98%
165.0	3.321	0.545	5557.651	0.00%	99.99%
170.0	3.321	0.394	5558.045	0.00%	99.99%
175.0	3.416	0.241	5558.286	0.00%	100.00%
180.0	3.517	0.083	5558.369	0.00%	100.00%

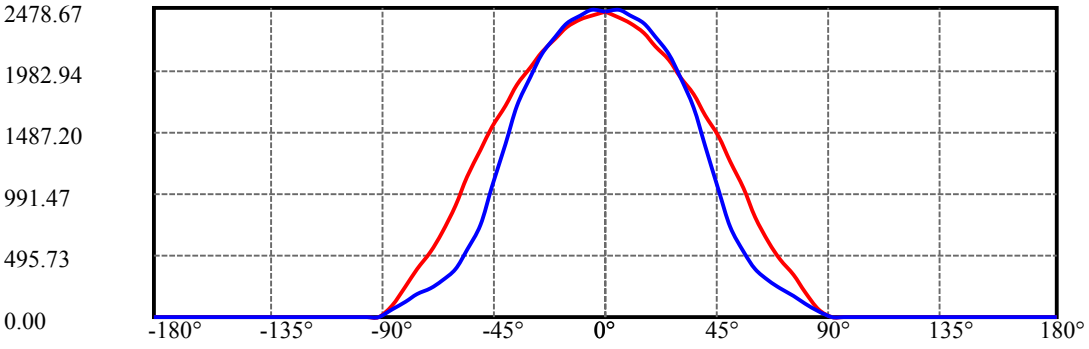
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1847.99	N.A.	33.25%
0-40	2946.83	N.A.	53.02%
0-60	4720.71	N.A.	84.93%
0-90	5546.37	N.A.	99.78%
0-120	5550.18	N.A.	99.85%
0-180	5558.37	N.A.	100.00%
60-90	825.66	N.A.	14.85%
90-120	3.81	N.A.	0.07%
90-130	5.52	N.A.	0.10%
90-150	9.23	N.A.	0.17%
90-180	11.91	N.A.	0.21%
0-56.00	4446.70	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	231.01
10-20	653.70
20-30	963.28
30-40	1098.84
40-50	1014.67
50-60	759.21
60-70	475.06
70-80	268.38
80-90	82.23
90-100	1.24
100-110	1.13
110-120	1.43
120-130	1.71
130-140	1.87
140-150	1.83
150-160	1.51
160-170	0.94
170-180	0.24



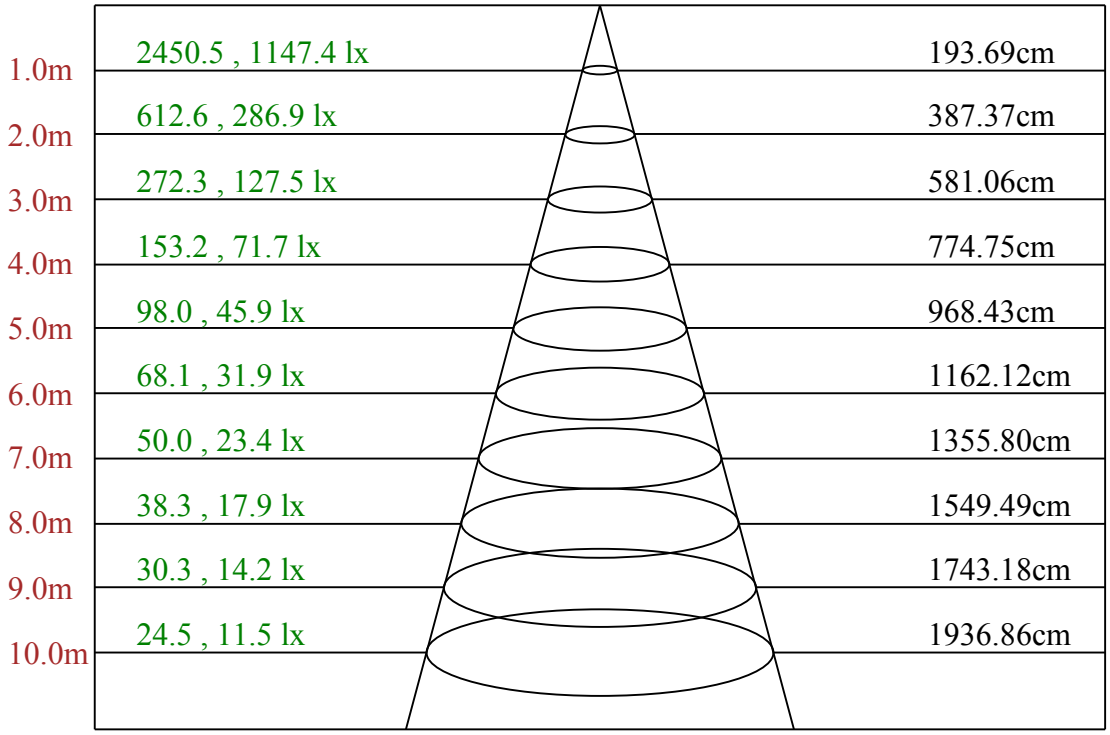


C0/C180:

C90/C270:

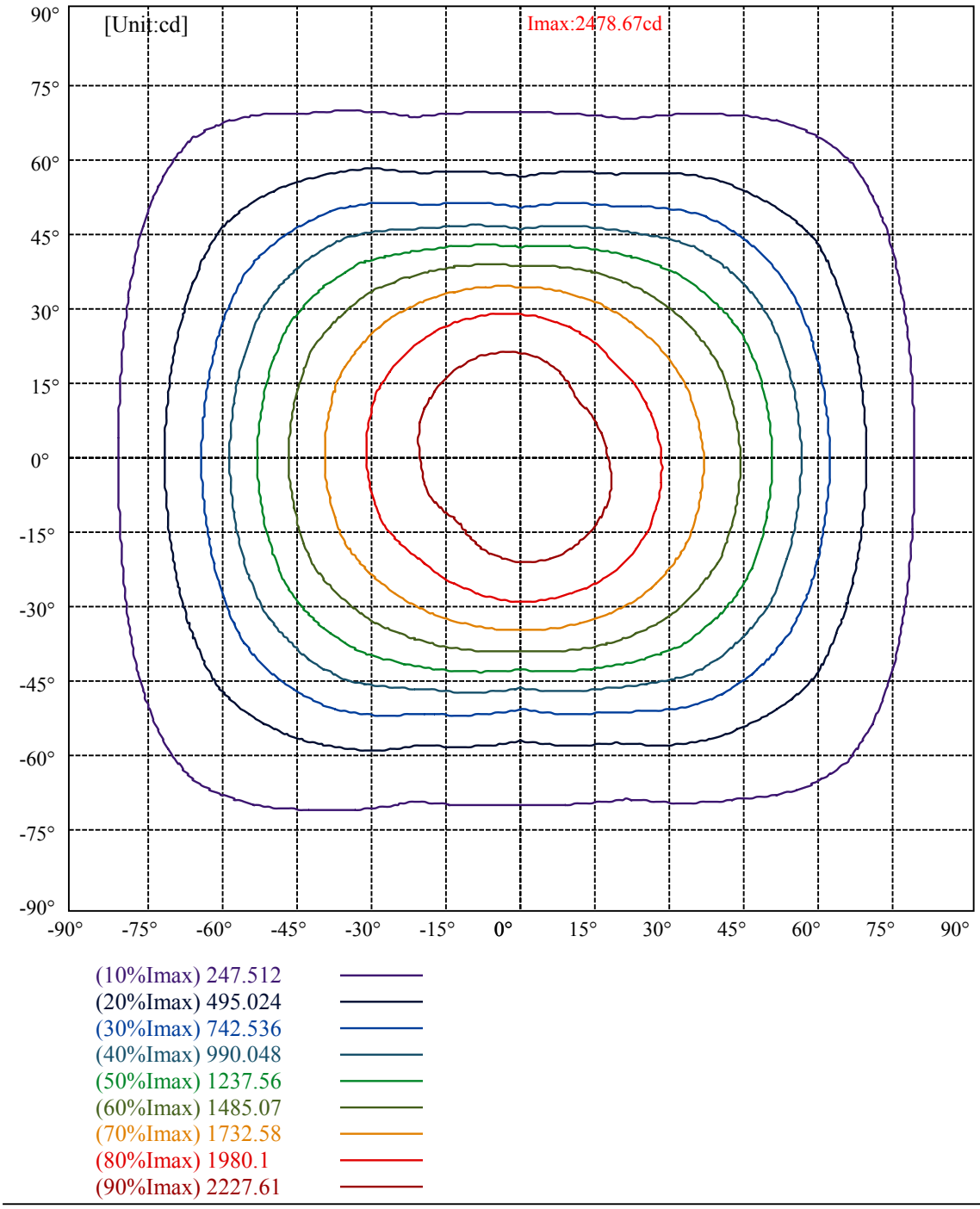
Field angle(10%Imax):C0/180Left:80.1 Right:78.5
:C90/270Left:69.2 Right:68.7

Beam Angle(50%Imax):C0/180Left:52.7 Right:50.5
:C90/270Left:42.3 Right:42.0

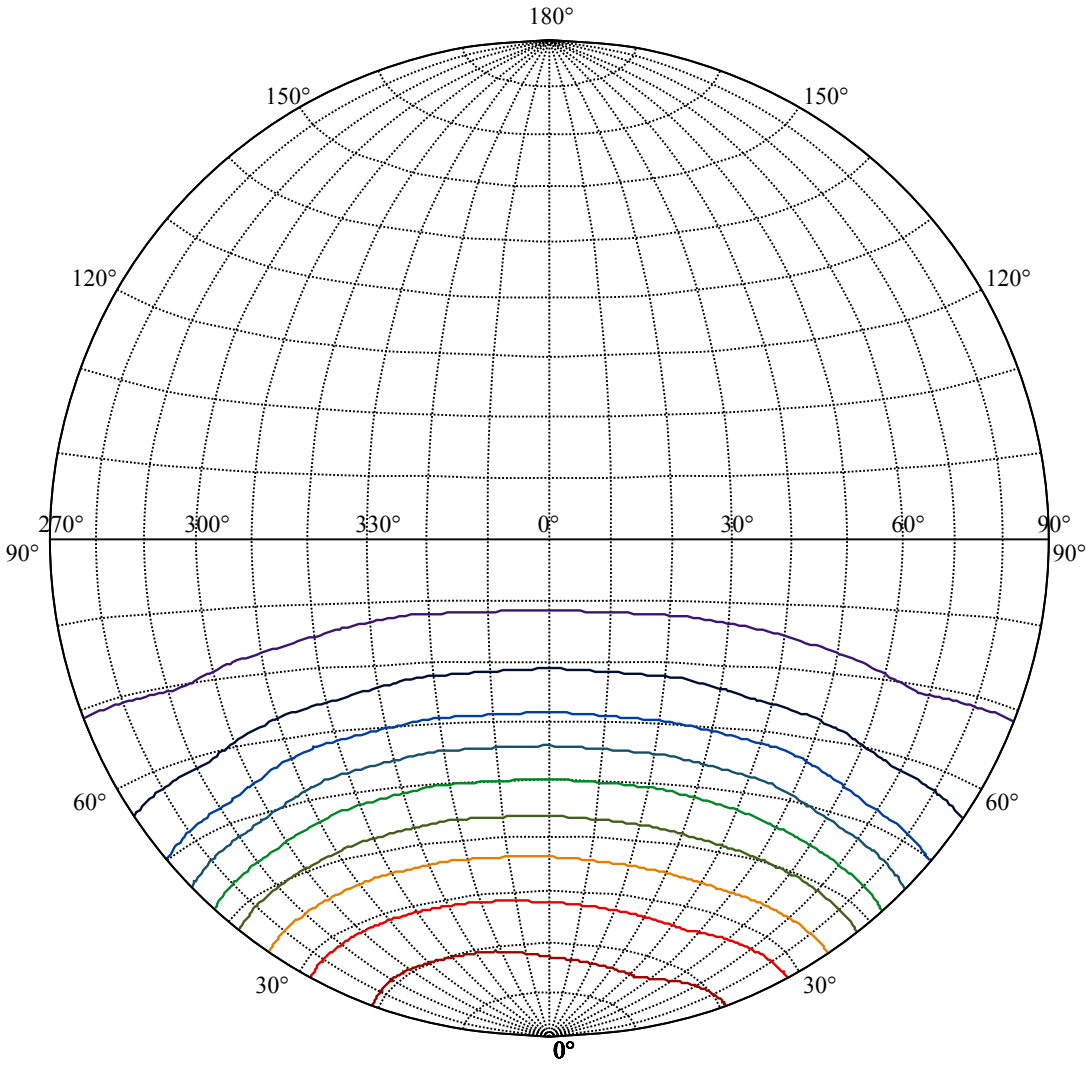


Max , Ave

Beam angle of C112.5 plane 88.16


[Unit:cd]
Imax:2478.67cd
90°
75°
60°
45°
30°
15°
0°
-15°
-30°
-45°
-60°
-75°
-90°
-90° -75° -60° -45° -30° -15° 0° 15° 30° 45° 60° 75° 90°
(10%Imax) 247.512
(20%Imax) 495.024
(30%Imax) 742.536
(40%Imax) 990.048
(50%Imax) 1237.56
(60%Imax) 1485.07
(70%Imax) 1732.58
(80%Imax) 1980.1
(90%Imax) 2227.61

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2478.67

(10%Imax) 247.849
(20%Imax) 495.698
(30%Imax) 743.547
(40%Imax) 991.396
(50%Imax) 1239.25
(60%Imax) 1487.09
(70%Imax) 1734.94
(80%Imax) 1982.79
(90%Imax) 2230.64

Luminance Limitting Curve(no luminous side)

Luminance Table

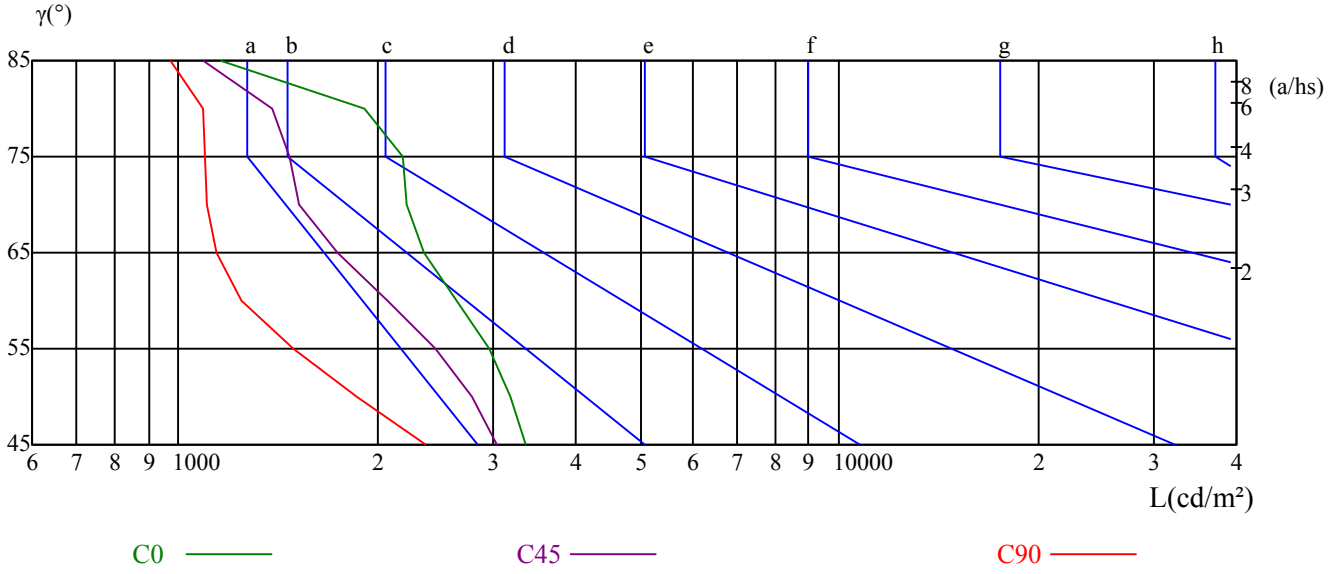
γ	45	50	55	60	65	70	75	80	85
C0	3348	3175	2949	2638	2357	2215	2178	1915	1153
C45	3036	2775	2456	2076	1743	1527	1474	1388	1086
C90	2366	1862	1491	1248	1139	1102	1095	1088	970

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2493	1149	1834	2313	1124	1509	1415	997	1327

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 Limitting Curve



Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	15.61	17.14	15.97	17.45	17.77	11.85	13.37	12.21	13.69	14.01
	3H	17.08	18.46	17.47	18.80	19.15	13.03	14.40	13.42	14.75	15.09
	4H	17.73	19.02	18.13	19.37	19.74	13.57	14.85	13.96	15.21	15.58
	6H	18.24	19.43	18.65	19.80	20.20	14.07	15.26	14.48	15.63	16.03
	8H	18.36	19.51	18.78	19.89	20.30	14.24	15.39	14.65	15.77	16.17
	12H	18.40	19.50	18.82	19.89	20.31	14.35	15.45	14.77	15.84	16.25
4H	2H	15.82	17.10	16.21	17.46	17.82	12.75	14.04	13.15	14.39	14.76
	3H	17.51	18.60	17.93	18.99	19.41	14.08	15.17	14.51	15.56	15.98
	4H	18.39	19.35	18.82	19.77	20.21	14.72	15.68	15.16	16.10	16.55
	6H	19.00	19.86	19.47	20.30	20.75	15.26	16.12	15.73	16.56	17.01
	8H	19.21	20.01	19.69	20.46	20.93	15.50	16.30	15.98	16.75	17.22
	12H	19.31	20.05	19.79	20.50	21.01	15.67	16.41	16.15	16.86	17.37
8H	4H	18.47	19.27	18.95	19.72	20.19	15.23	16.03	15.71	16.48	16.95
	6H	19.21	19.88	19.70	20.35	20.85	15.89	16.56	16.38	17.03	17.53
	8H	19.54	20.12	20.06	20.64	21.13	16.24	16.82	16.76	17.34	17.83
	12H	19.69	20.18	20.22	20.70	21.21	16.47	16.96	16.99	17.47	17.99
12H	4H	18.46	19.21	18.94	19.65	20.16	15.32	16.07	15.81	16.51	17.02
	6H	19.27	19.85	19.78	20.36	20.86	16.08	16.66	16.59	17.18	17.67
	8H	19.58	20.08	20.11	20.59	21.10	16.43	16.92	16.95	17.43	17.94

Variation with the observer position at spacings:		
S = 1.0H	0.3/-0.8	0.3/-0.6
S = 1.5H	0.8/-1.4	0.5/-0.8
S = 2.0H	1.6/-1.6	1.1/-0.9
Standard tables:	BK4	BK3
Uncorrected UGR	-0.9	1.1

UGR calculation is based on CIE Publ. 117 ,S/H = 1

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	2448.78	2406.07	2354.48	2275.56	2176.14	2061.69	1928.44	1780.51	1617.37
22.5	2448.78	2393.77	2341.84	2260.53	2154.27	2036.92	1902.14	1748.22	1580.13
45.0	2448.78	2369.00	2322.71	2249.42	2145.56	2012.49	1871.90	1706.54	1517.61
67.5	2448.78	2420.25	2377.37	2306.14	2207.74	2071.08	1898.89	1689.63	1448.94
90.0	2448.78	2461.25	2421.61	2354.82	2252.50	2109.35	1926.73	1681.77	1366.94
112.5	2448.78	2478.67	2439.21	2372.93	2275.56	2138.22	1961.41	1742.59	1488.40
135.0	2448.78	2470.64	2431.69	2365.07	2265.14	2136.34	1989.60	1816.55	1621.47
157.5	2448.78	2465.69	2426.40	2355.68	2258.99	2145.56	2012.83	1862.33	1698.34
180.0	2448.78	2422.47	2384.03	2317.58	2226.70	2119.08	1998.82	1857.38	1701.07
202.5	2448.78	2410.34	2375.49	2309.38	2219.53	2111.74	1983.45	1837.22	1680.75
225.0	2448.78	2377.71	2342.69	2274.36	2181.26	2063.05	1923.83	1769.23	1588.50
247.5	2448.78	2423.66	2385.40	2317.41	2221.41	2086.11	1917.51	1722.43	1481.91
270.0	2448.78	2461.93	2420.42	2353.11	2251.30	2110.88	1930.83	1695.44	1389.66
292.5	2448.78	2472.86	2429.47	2354.82	2252.16	2107.64	1937.84	1726.19	1481.05
315.0	2448.78	2460.56	2413.41	2335.52	2229.09	2097.73	1948.77	1771.80	1573.47
337.5	2448.78	2452.36	2399.75	2317.24	2214.06	2090.04	1948.09	1790.25	1623.35
360.0	2448.78	2406.07	2354.48	2275.56	2176.14	2061.69	1928.44	1780.51	1617.37

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1444.50	1245.31	1032.30	804.76	607.80	462.25	344.04	202.94	61.33
22.5	1406.74	1207.05	985.83	758.98	572.61	431.33	313.81	187.91	64.23
45.0	1309.89	1088.33	859.76	633.25	449.44	318.76	232.83	147.08	57.74
67.5	1158.71	856.52	613.43	441.92	317.56	229.08	162.80	112.23	53.98
90.0	1020.68	730.28	521.70	380.77	293.65	229.93	172.88	115.31	51.59
112.5	1177.50	863.86	624.71	446.54	321.49	236.42	169.12	113.26	58.59
135.0	1402.64	1171.01	921.26	674.93	480.19	333.96	235.40	157.50	76.87
157.5	1515.56	1312.62	1085.08	851.90	634.10	471.48	350.87	228.74	90.88
180.0	1529.57	1343.20	1126.08	892.73	677.83	517.94	386.58	248.89	89.17
202.5	1503.43	1306.98	1087.98	859.93	642.64	480.87	353.95	232.49	89.68
225.0	1388.64	1169.98	942.78	705.51	503.25	357.54	256.75	169.12	80.12
247.5	1207.22	897.34	649.82	463.62	334.48	244.96	173.56	120.43	62.86
270.0	1039.47	742.41	534.17	389.82	298.77	235.91	182.10	121.29	54.49
292.5	1183.48	878.55	627.95	452.69	326.45	237.45	170.83	115.48	59.62
315.0	1356.35	1123.52	885.22	649.82	458.49	322.86	228.22	152.72	67.48
337.5	1436.30	1230.79	1011.28	778.79	579.44	431.16	318.93	197.47	72.77
360.0	1444.50	1245.31	1032.30	804.76	607.80	462.25	344.04	202.94	61.33

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.20	1.20	1.20	1.37	1.54	1.71	2.05	2.22	2.39
22.5	1.03	1.03	1.37	1.37	1.37	1.71	1.71	2.05	2.39
45.0	1.03	1.03	1.03	1.20	1.20	1.37	1.71	2.05	2.05
67.5	0.85	0.85	1.03	1.20	1.03	1.37	1.71	1.71	1.88
90.0	0.85	0.85	0.68	0.85	0.85	1.20	1.37	1.54	1.88
112.5	1.20	0.68	0.68	0.68	0.85	1.03	1.37	1.54	1.88
135.0	1.88	0.68	0.68	0.68	1.03	1.03	1.20	1.54	1.88
157.5	1.71	1.03	0.85	1.03	1.03	1.37	1.54	1.88	2.05
180.0	2.05	0.85	1.03	0.85	1.37	1.54	1.71	1.71	2.05
202.5	1.88	0.68	1.03	0.85	1.37	1.37	1.54	1.88	2.05
225.0	2.73	0.68	0.68	0.85	1.03	1.37	1.54	1.88	2.22
247.5	2.39	0.68	0.68	0.51	1.03	1.37	1.37	1.54	2.05
270.0	2.90	1.20	1.37	1.20	1.54	1.71	1.88	2.22	2.39
292.5	2.56	0.85	1.20	1.20	1.37	1.54	1.88	2.05	2.39
315.0	2.22	1.03	1.20	1.20	1.54	1.54	2.22	2.39	2.56
337.5	1.37	1.20	1.20	1.54	1.54	1.88	2.05	2.22	2.56
360.0	1.20	1.20	1.20	1.37	1.54	1.71	2.05	2.22	2.39

Intensity data(cd)

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	2.56	2.90	3.08	3.25	3.42	3.25	3.25	3.25	3.42
22.5	2.39	2.90	3.08	3.25	3.25	3.25	3.42	3.25	3.42
45.0	2.39	2.56	2.90	3.08	3.42	3.25	3.42	3.25	3.25
67.5	2.39	2.56	2.73	3.08	3.25	3.25	3.25	3.42	3.59
90.0	2.39	2.56	2.73	3.08	3.25	3.25	3.42	3.42	3.59
112.5	2.05	2.22	2.73	3.08	3.25	3.25	3.25	3.25	3.42
135.0	1.88	2.22	2.73	2.90	3.25	3.08	3.25	3.25	3.42
157.5	2.39	2.39	2.73	2.90	3.08	3.08	3.25	3.25	3.42
180.0	2.22	2.56	2.90	2.90	3.08	3.08	3.25	3.25	3.25
202.5	2.39	2.56	2.90	2.90	3.08	3.25	3.08	3.08	3.25
225.0	2.39	2.73	2.73	3.25	3.25	3.25	3.25	3.25	3.42
247.5	2.22	2.56	2.90	3.08	3.25	3.25	3.25	3.25	3.25
270.0	2.73	3.25	3.42	3.59	3.76	3.76	3.93	3.76	3.76
292.5	2.73	2.90	3.08	3.25	3.59	3.42	3.59	3.59	3.42
315.0	2.90	2.90	3.25	3.42	3.42	3.59	3.25	3.42	3.42
337.5	2.90	2.90	3.25	3.08	3.42	3.42	3.08	3.25	3.42
360.0	2.56	2.90	3.08	3.25	3.42	3.25	3.25	3.25	3.42

C/γ(°)	180.0
0.0	3.52
22.5	3.52
45.0	3.52
67.5	3.52
90.0	3.52
112.5	3.52
135.0	3.52
157.5	3.52
180.0	3.52
202.5	3.52
225.0	3.52
247.5	3.52
270.0	3.52
292.5	3.52
315.0	3.52
337.5	3.52
360.0	3.52