



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): 120.18

LampCAT:

Current(A): 2.4030

Lamp flux(lm): -1.0

Power (W): 288.38

Number of Lamps: 1

PF: 0.9987

Length(mm): 360

Width(mm): 360

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 40731.73, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 141.24

Central intensity(cd): 36229.340, Maximum intensity(cd): 37799.540

Angle of maximum intensity: C=270.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=53.4

[C90/270]Total=56.6

Field angle(10%Imax): [C0/180]Total=110.9

[C90/270]Total=116.7

Maximum s/h(1/2): C0_180=0.76 C90_270=0.83

Maximum s/h(1/4): C0_180=0.84 C90_270=0.89

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 0.23%

Down flux rate of LUM(%): 99.77%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 91.824%

Equipment: GMS-3000
Temperature(°C): 25

Date:
Humidity(%): 58%

Operator: Sam

Zonal flux distribution table

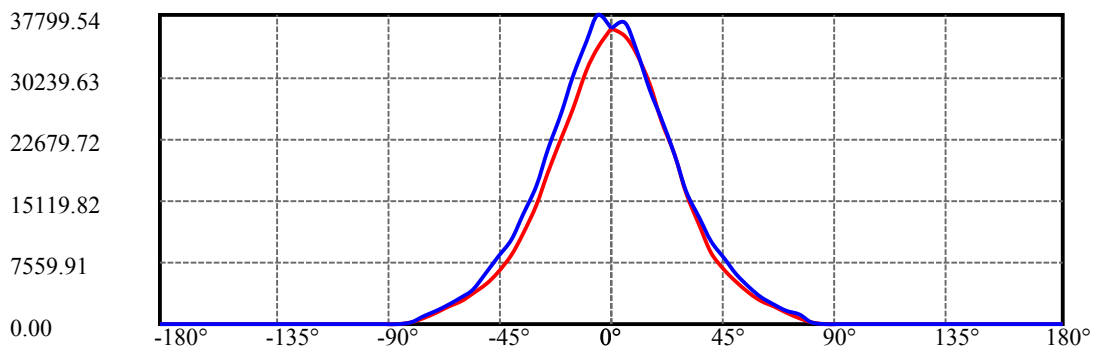
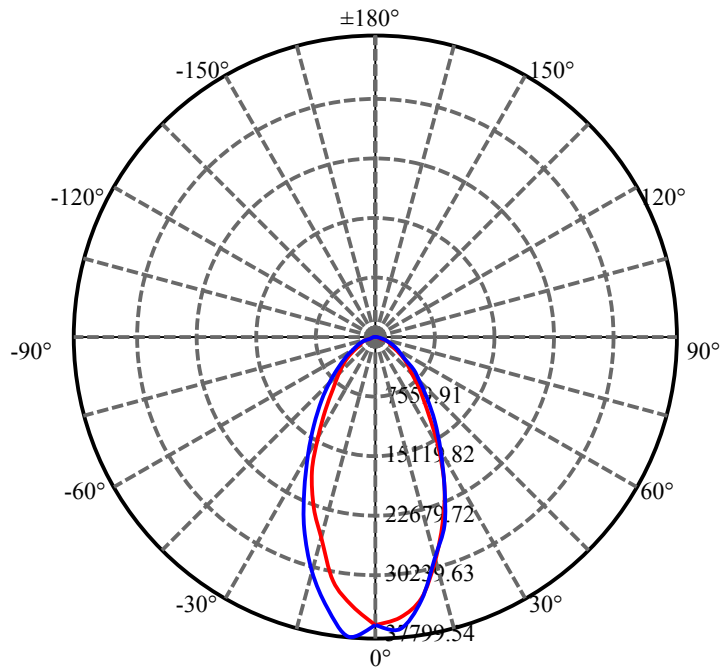
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	36229.340	0.000	0	0.00%	0.00%
5.0	35011.848	851.668	851.668	0.00%	2.09%
10.0	32305.320	2408.147	3259.815	0.00%	8.00%
15.0	27942.865	3573.882	6833.697	0.00%	16.78%
20.0	24247.457	4301.216	11134.913	0.00%	27.34%
25.0	20058.824	4646.911	15781.824	0.00%	38.75%
30.0	15818.733	4540.335	20322.159	0.00%	49.89%
35.0	12267.429	4135.884	24458.043	0.00%	60.05%
40.0	9341.706	3605.321	28063.363	0.00%	68.90%
45.0	7168.110	3056.926	31120.29	0.00%	76.40%
50.0	5503.272	2560.438	33680.728	0.00%	82.69%
55.0	4075.133	2082.664	35763.392	0.00%	87.80%
60.0	3012.038	1638.180	37401.572	0.00%	91.82%
65.0	2200.107	1267.082	38668.654	0.00%	94.93%
70.0	1537.237	946.320	39614.974	0.00%	97.26%
75.0	841.009	621.635	40236.609	0.00%	98.78%
80.0	307.334	307.264	40543.873	0.00%	99.54%
85.0	17.773	88.339	40632.213	0.00%	99.76%
90.0	3.525	5.832	40638.044	0.00%	99.77%
95.0	2.917	1.764	40639.808	0.00%	99.77%
100.0	4.551	2.029	40641.838	0.00%	99.78%
105.0	4.133	2.324	40644.161	0.00%	99.79%
110.0	4.930	2.369	40646.53	0.00%	99.79%
115.0	6.510	2.897	40649.427	0.00%	99.80%
120.0	8.549	3.661	40653.088	0.00%	99.81%
125.0	11.156	4.555	40657.642	0.00%	99.82%
130.0	14.397	5.556	40663.198	0.00%	99.83%
135.0	18.341	6.615	40669.813	0.00%	99.85%
140.0	23.081	7.670	40677.483	0.00%	99.87%
145.0	28.308	8.574	40686.057	0.00%	99.89%
150.0	34.075	9.186	40695.243	0.00%	99.91%
155.0	39.788	9.347	40704.59	0.00%	99.93%
160.0	44.393	8.829	40713.419	0.00%	99.96%
165.0	47.716	7.591	40721.01	0.00%	99.97%
170.0	49.728	5.780	40726.791	0.00%	99.99%
175.0	52.199	3.646	40730.437	0.00%	100.00%
180.0	55.840	1.292	40731.729	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	20322.16	N.A.	49.89%
0-40	28063.36	N.A.	68.90%
0-60	37401.57	N.A.	91.82%
0-90	40638.04	N.A.	99.77%
0-120	40653.09	N.A.	99.81%
0-180	40731.73	N.A.	100.00%
60-90	3236.47	N.A.	7.95%
90-120	15.04	N.A.	0.04%
90-130	25.15	N.A.	0.06%
90-150	57.20	N.A.	0.14%
90-180	92.39	N.A.	0.23%
0-47.86	32585.38	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	3259.81
10-20	7875.10
20-30	9187.25
30-40	7741.20
40-50	5617.36
50-60	3720.84
60-70	2213.40
70-80	928.90
80-90	94.17
90-100	3.79
100-110	4.69
110-120	6.56
120-130	10.11
130-140	14.28
140-150	17.76
150-160	18.18
160-170	13.37
170-180	3.65



C0/C180: —

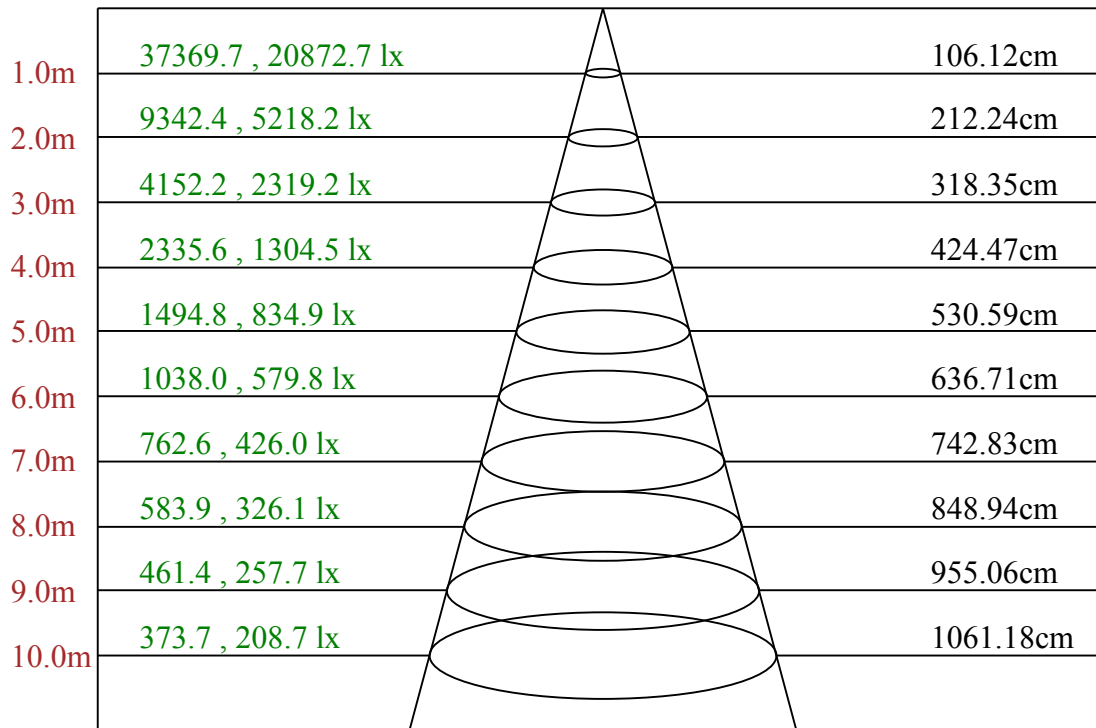
C90/C270: —

Field angle(10%Imax):C0/180Left:55.5 Right:55.4

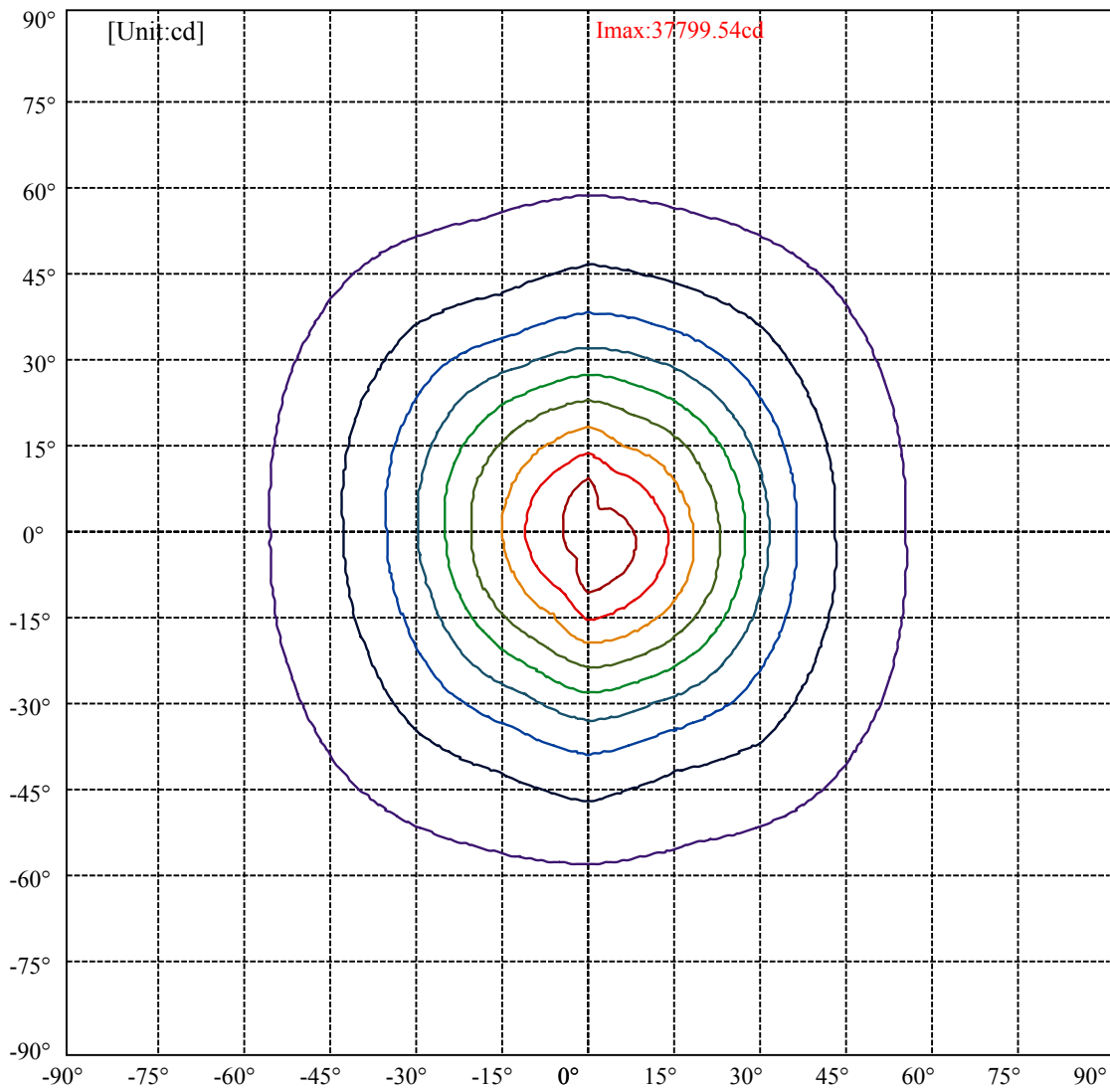
:C90/270Left:58.1 Right:58.6

Beam Angle(50%Imax):C0/180Left:25.6 Right:27.8

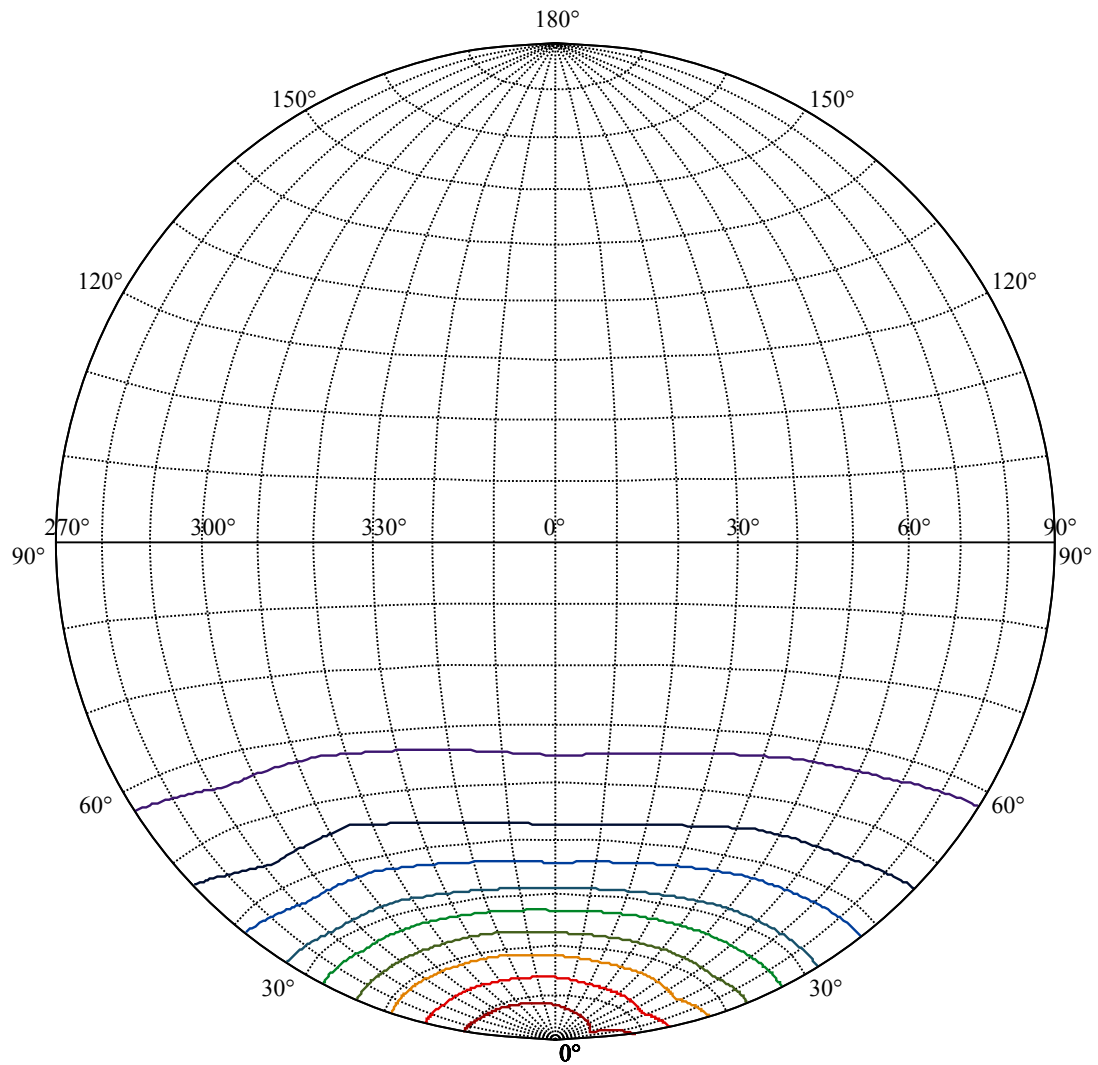
:C90/270Left:28.7 Right:27.9



Max , Ave Beam angle of C270 plane 55.90



(10%Imax) 3779.95	—
(20%Imax) 7559.91	—
(30%Imax) 11339.9	—
(40%Imax) 15119.8	—
(50%Imax) 18899.8	—
(60%Imax) 22679.7	—
(70%Imax) 26459.7	—
(80%Imax) 30239.6	—
(90%Imax) 34019.6	—



House

[Unit:cd]

Road

Imax:37799.54

(10%Imax)	3779.95	—
(20%Imax)	7559.91	—
(30%Imax)	11339.9	—
(40%Imax)	15119.8	—
(50%Imax)	18899.8	—
(60%Imax)	22679.7	—
(70%Imax)	26459.7	—
(80%Imax)	30239.6	—
(90%Imax)	34019.6	—

Luminance Limiting Curve(no luminous side)

Luminance Table

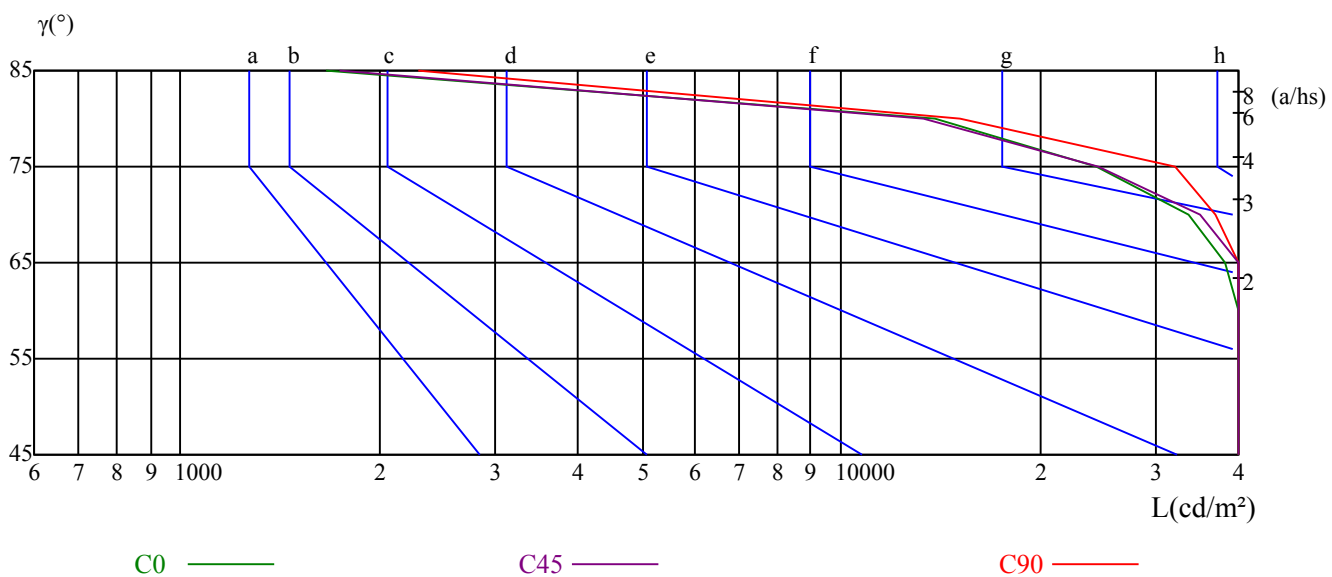
γ	45	50	55	60	65	70	75	80	85
C0	71506	60634	49843	42838	38041	33609	24403	13904	1664
C45	82471	69479	56657	46786	40522	35095	24480	13376	1741
C90	86315	74485	61148	50238	42511	37026	31985	15152	2296

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
38126	42396	40714	24339	28677	24469	1416	1789	1607

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



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	23.70	25.01	24.07	25.33	25.65	24.28	25.59	24.65	25.91	26.23
	3H	24.88	26.06	25.27	26.40	26.75	25.44	26.62	25.83	26.96	27.31
	4H	25.19	26.28	25.59	26.64	27.01	25.81	26.91	26.21	27.26	27.63
	6H	25.31	26.31	25.72	26.69	27.09	25.95	26.96	26.37	27.33	27.74
	8H	25.27	26.24	25.69	26.62	27.03	25.92	26.88	26.34	27.27	27.68
	12H	25.22	26.14	25.64	26.53	26.95	25.86	26.78	26.29	27.18	27.60
4H	2H	24.12	25.21	24.52	25.57	25.94	24.61	25.70	25.01	26.06	26.43
	3H	25.46	26.38	25.89	26.77	27.19	25.93	26.84	26.35	27.23	27.65
	4H	25.89	26.69	26.33	27.11	27.56	26.40	27.19	26.84	27.62	28.07
	6H	26.01	26.71	26.48	27.16	27.62	26.53	27.23	27.00	27.68	28.14
	8H	26.01	26.66	26.49	27.12	27.59	26.53	27.18	27.01	27.64	28.11
	12H	25.97	26.58	26.46	27.03	27.55	26.50	27.10	26.98	27.55	28.07
8H	4H	25.95	26.61	26.44	27.06	27.54	26.43	27.08	26.91	27.54	28.01
	6H	26.10	26.64	26.60	27.11	27.63	26.58	27.12	27.08	27.60	28.11
	8H	26.15	26.62	26.68	27.14	27.63	26.63	27.10	27.16	27.62	28.12
	12H	26.12	26.50	26.65	27.02	27.54	26.60	26.98	27.14	27.50	28.02
12H	4H	25.93	26.53	26.42	26.98	27.50	26.40	27.00	26.89	27.46	27.97
	6H	26.12	26.58	26.64	27.10	27.60	26.60	27.06	27.12	27.58	28.08
	8H	26.13	26.51	26.67	27.03	27.55	26.61	26.99	27.15	27.51	28.03
Variation with the observer position at spacings:											
S = 1.0H	0.4/-0.7					0.5/-0.9					
S = 1.5H	1.1/-1.4					1.2/-1.6					
S = 2.0H	3.0/-1.9					2.9/-2.0					
Standard tables:	BK2					BK2					
Uncorrected UGR	9.1					8.6					

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	36229.34	35269.13	33147.13	29231.57	24853.59	20769.49	16056.57	11916.28	8607.95
22.5	36229.34	34661.91	32483.73	28315.35	24354.42	20758.69	16140.84	12335.50	9148.17
45.0	36229.34	34216.77	32090.45	27809.70	24267.99	20322.18	16326.68	12735.26	9710.00
67.5	36229.34	33706.80	31424.89	27014.49	23729.92	20123.38	16166.77	12683.40	9822.37
90.0	36229.34	36812.01	33501.51	28600.59	25035.11	20600.94	16300.75	12886.53	10025.50
112.5	36229.34	35366.37	32220.10	27576.32	24125.37	19877.04	15514.18	11950.86	8953.69
135.0	36229.34	34428.54	31537.26	27025.30	23706.15	19689.04	16011.19	12661.79	9826.69
157.5	36229.34	33842.94	31098.59	26456.98	23442.52	19429.73	15356.44	11996.24	9292.95
180.0	36229.34	33739.21	30997.03	26271.14	22690.53	18556.73	14597.96	11121.07	8370.25
202.5	36229.34	33752.18	30791.74	26078.82	23051.40	18539.44	14321.37	11164.29	8456.68
225.0	36229.34	33868.87	30945.17	26554.22	22897.98	18615.07	15021.50	11784.47	9221.64
247.5	36229.34	34022.29	31247.69	26768.15	23405.79	19101.28	14980.44	11793.11	9135.21
270.0	36229.34	37799.54	34538.75	30366.04	25724.43	21279.46	16987.91	13394.34	10364.76
292.5	36229.34	36805.53	33786.75	29765.31	25635.84	20860.25	16266.17	12473.79	9191.39
315.0	36229.34	36213.44	33644.13	29739.39	25473.77	21117.39	16719.96	12970.80	9982.28
337.5	36229.34	35684.02	33430.20	29512.49	25564.53	21301.07	16331.00	12411.13	9357.78
360.0	36229.34	35269.13	33147.13	29231.57	24853.59	20769.49	16056.57	11916.28	8607.95
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	6552.93	5051.10	3705.08	2775.89	2083.54	1489.72	818.55	312.90	18.80
22.5	6814.40	5221.82	3926.79	2921.97	2142.10	1512.41	849.23	317.65	11.67
45.0	7557.75	5787.97	4211.59	3031.74	2219.46	1555.63	821.14	301.01	19.66
67.5	7412.97	5584.85	4148.50	3129.63	2269.59	1577.03	867.82	315.49	25.50
90.0	7909.97	6205.02	4545.45	3255.40	2328.37	1641.20	1072.89	340.99	25.93
112.5	6680.42	5156.99	3949.05	2978.80	2179.27	1531.00	861.12	329.32	20.53
135.0	7663.63	5921.95	4303.43	3091.17	2257.06	1559.09	837.57	326.73	20.10
157.5	7041.29	5379.56	4052.77	2987.44	2179.27	1509.39	799.75	296.48	13.40
180.0	6453.53	4917.13	3726.47	2782.16	2092.83	1492.10	814.23	303.17	13.18
202.5	6568.06	5079.20	3871.25	2868.60	2116.60	1528.84	813.15	291.51	14.48
225.0	7222.81	5587.01	4134.88	3058.75	2205.20	1535.32	794.78	284.16	13.61
247.5	6993.75	5332.02	4093.83	3060.92	2250.58	1537.48	778.57	279.40	20.96
270.0	8139.03	6248.24	4275.77	3220.82	2315.84	1587.61	850.96	320.46	14.48
292.5	6786.31	5135.38	3892.21	2921.75	2135.62	1480.22	813.58	305.98	14.91
315.0	7832.18	6008.38	4301.27	3089.44	2238.04	1534.89	829.57	302.09	19.23
337.5	7060.74	5435.74	4063.79	3018.13	2188.34	1523.87	833.24	289.99	17.94
360.0	6552.93	5051.10	3705.08	2775.89	2083.54	1489.72	818.55	312.90	18.80
C/ γ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.67	2.81	3.46	3.89	4.75	6.48	8.21	10.59	13.83
22.5	3.67	2.81	4.11	3.89	4.97	6.27	8.43	10.80	14.05
45.0	3.46	2.81	5.19	4.11	4.97	6.48	8.64	11.24	14.26
67.5	3.46	3.03	4.75	4.11	4.97	6.48	8.86	11.24	14.48
90.0	3.46	2.81	3.67	3.89	4.97	6.70	8.64	11.45	14.48
112.5	3.46	2.81	4.11	3.89	4.75	6.70	8.64	11.24	14.69
135.0	3.67	3.24	4.54	4.11	4.75	6.70	8.43	10.80	14.48
157.5	3.67	2.81	4.75	3.89	4.97	6.48	8.43	11.24	14.26
180.0	3.46	3.03	3.46	3.46	4.75	6.27	8.00	10.59	13.61
202.5	3.24	3.03	4.11	3.67	4.75	6.27	8.21	10.80	14.05
225.0	3.67	2.81	5.19	4.32	4.75	6.48	8.43	11.02	14.26
247.5	3.89	3.03	5.62	4.75	5.19	6.70	8.86	11.67	14.91
270.0	3.24	2.59	5.62	4.32	5.19	6.70	9.08	11.67	15.34
292.5	3.46	3.03	4.97	4.75	5.19	6.48	8.86	11.67	15.13
315.0	3.46	3.03	4.75	4.75	4.97	6.70	8.64	11.45	14.69
337.5	3.46	3.03	4.54	4.32	4.97	6.27	8.43	11.02	13.83
360.0	3.67	2.81	3.46	3.89	4.75	6.48	8.21	10.59	13.83

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	17.72	22.04	27.01	32.63	38.46	43.22	46.89	48.84	51.86
22.5	17.72	22.26	27.23	32.85	38.46	43.43	46.89	49.05	52.08
45.0	18.37	23.12	28.09	33.71	39.33	43.87	47.54	49.70	52.08
67.5	18.15	22.91	27.88	33.93	39.76	44.08	47.97	49.49	52.08
90.0	18.80	23.55	29.60	35.66	41.27	46.03	49.49	51.21	53.16
112.5	18.58	23.77	29.39	35.01	40.84	45.16	48.40	50.35	52.08
135.0	18.37	22.91	28.74	34.79	40.41	44.95	47.76	49.70	51.65
157.5	18.15	23.34	28.31	33.93	39.76	43.87	46.89	48.62	51.21
180.0	17.94	22.69	28.09	34.14	39.33	44.08	46.46	48.19	50.78
202.5	17.94	22.91	27.88	33.93	39.33	43.87	46.24	48.40	50.78
225.0	18.15	22.91	27.88	33.49	39.33	43.65	46.89	48.84	50.78
247.5	18.80	23.12	28.31	33.71	39.76	43.87	47.32	49.27	51.00
270.0	19.66	24.42	30.25	36.74	43.22	48.19	51.86	54.02	56.83
292.5	19.02	24.20	29.39	34.57	40.41	45.16	48.84	51.00	53.81
315.0	18.37	22.69	27.66	33.28	38.68	43.87	47.32	49.92	52.94
337.5	17.72	22.47	27.23	32.85	38.25	43.00	46.68	49.05	52.08
360.0	17.72	22.04	27.01	32.63	38.46	43.22	46.89	48.84	51.86
C/ γ (°)	180.0								
0.0	55.84								
22.5	55.84								
45.0	55.84								
67.5	55.84								
90.0	55.84								
112.5	55.84								
135.0	55.84								
157.5	55.84								
180.0	55.84								
202.5	55.84								
225.0	55.84								
247.5	55.84								
270.0	55.84								
292.5	55.84								
315.0	55.84								
337.5	55.84								
360.0	55.84								