



Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.
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Client:

LumCAT:

Luminaire:

Report No:

Ballast type:

Test No:

Voltage(V): 120.02

LampCAT:

Current(A): 3.1290

Lamp flux(lm): -1.0

Power (W): 374.37

Number of Lamps: 1

PF: 0.9969

Length(mm): 1150

Width(mm): 310

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 60659.32, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 162.03

Central intensity(cd): 26192.170, Maximum intensity(cd): 26458.330

Angle of maximum intensity: C=157.5 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=91.4

[C90/270]Total=93.9

Field angle(10%Imax): [C0/180]Total=148.4

[C90/270]Total=148.3

Maximum s/h(1/2): C0_180=1.30 C90_270=1.28

Maximum s/h(1/4): C0_180=1.31 C90_270=1.33

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 0.26%

Down flux rate of LUM(%): 99.74%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.022%

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	26192.170	0.000	0	0.00%	0.00%
5.0	26132.107	625.522	625.522	0.00%	1.03%
10.0	25864.838	1860.094	2485.616	0.00%	4.10%
15.0	25339.266	3037.393	5523.009	0.00%	9.10%
20.0	24612.352	4116.715	9639.724	0.00%	15.89%
25.0	23669.822	5063.909	14703.633	0.00%	24.24%
30.0	22413.893	5831.933	20535.565	0.00%	33.85%
35.0	20654.967	6342.191	26877.756	0.00%	44.31%
40.0	18051.254	6457.840	33335.597	0.00%	54.96%
45.0	14569.641	6040.023	39375.62	0.00%	64.91%
50.0	11007.274	5168.190	44543.809	0.00%	73.43%
55.0	8482.812	4237.794	48781.603	0.00%	80.42%
60.0	6220.453	3398.618	52180.221	0.00%	86.02%
65.0	4621.390	2635.673	54815.894	0.00%	90.37%
70.0	3520.299	2061.528	56877.422	0.00%	93.77%
75.0	2580.964	1594.772	58472.194	0.00%	96.39%
80.0	1691.954	1143.314	59615.508	0.00%	98.28%
85.0	759.010	665.986	60281.494	0.00%	99.38%
90.0	45.348	220.239	60501.733	0.00%	99.74%
95.0	10.239	15.220	60516.953	0.00%	99.77%
100.0	9.894	5.470	60522.424	0.00%	99.77%
105.0	11.106	5.619	60528.043	0.00%	99.78%
110.0	13.175	6.347	60534.389	0.00%	99.79%
115.0	16.447	7.500	60541.89	0.00%	99.81%
120.0	20.074	8.878	60550.768	0.00%	99.82%
125.0	24.335	10.265	60561.033	0.00%	99.84%
130.0	28.355	11.457	60572.489	0.00%	99.86%
135.0	32.058	12.207	60584.697	0.00%	99.88%
140.0	35.589	12.525	60597.222	0.00%	99.90%
145.0	39.065	12.455	60609.677	0.00%	99.92%
150.0	42.249	11.974	60621.651	0.00%	99.94%
155.0	44.532	10.982	60632.634	0.00%	99.96%
160.0	45.173	9.408	60642.042	0.00%	99.97%
165.0	45.141	7.443	60649.485	0.00%	99.98%
170.0	45.799	5.395	60654.88	0.00%	99.99%
175.0	46.469	3.301	60658.18	0.00%	100.00%
180.0	48.634	1.137	60659.317	0.00%	100.00%

Equipment: GMS-3000
Temperature($^{\circ}\text{C}$): 25

Date:
Humidity(%): 58%

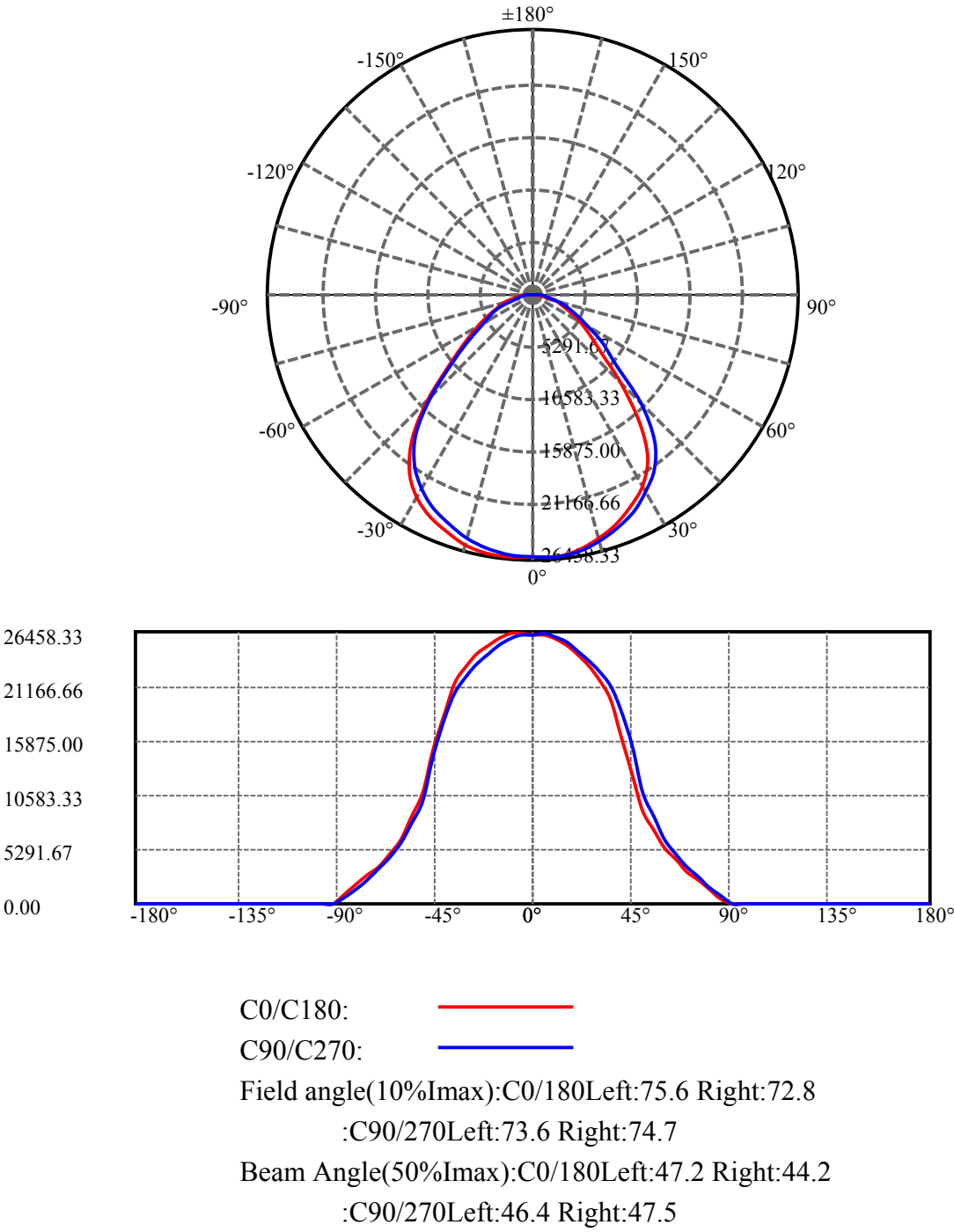
Operator: Sam

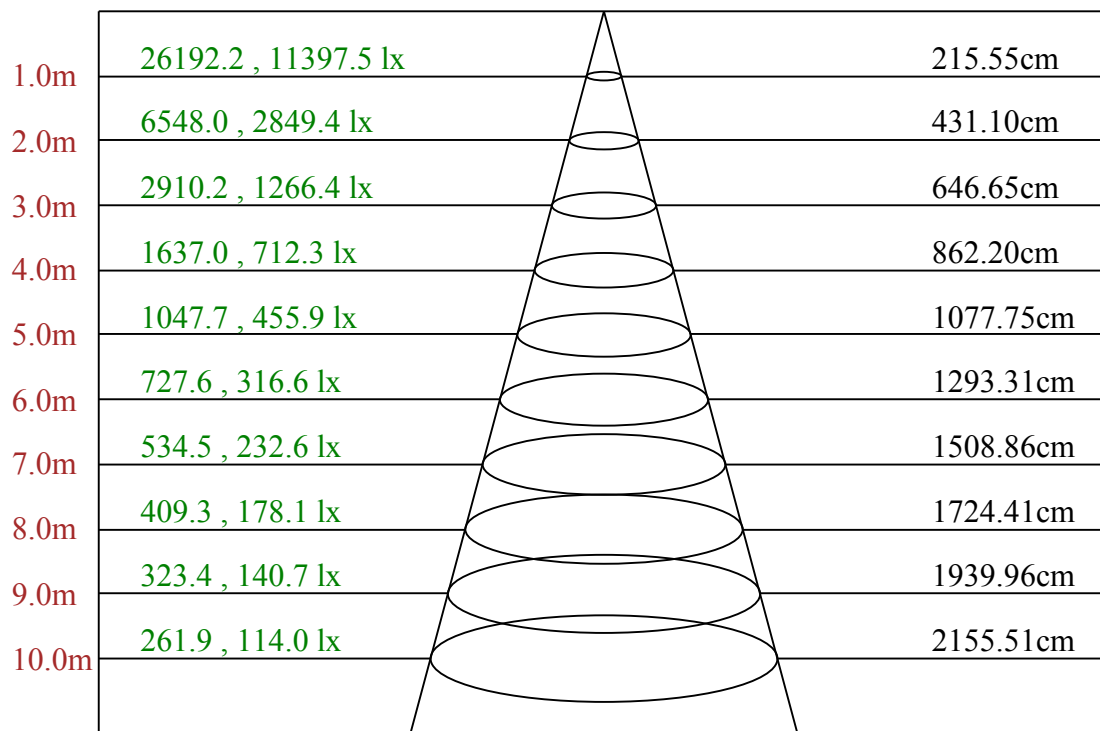
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	20535.57	N.A.	33.85%
0-40	33335.60	N.A.	54.96%
0-60	52180.22	N.A.	86.02%
0-90	60501.73	N.A.	99.74%
0-120	60550.77	N.A.	99.82%
0-180	60659.32	N.A.	100.00%
60-90	8321.51	N.A.	13.72%
90-120	49.03	N.A.	0.08%
90-130	70.76	N.A.	0.12%
90-150	119.92	N.A.	0.20%
90-180	156.45	N.A.	0.26%
0-54.70	48527.45	N.A.	80.00%

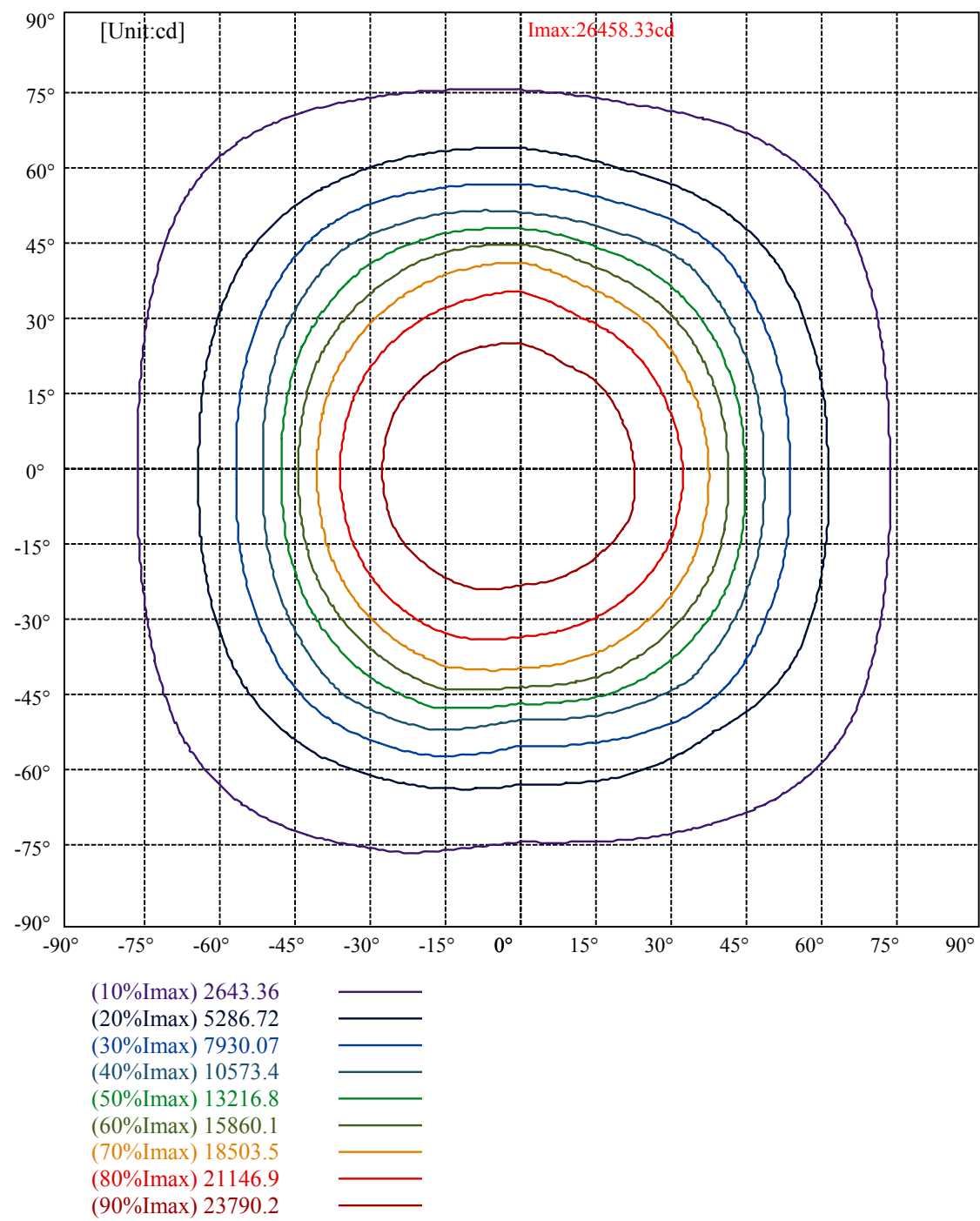
ZONAL LUMEN SUMMARY

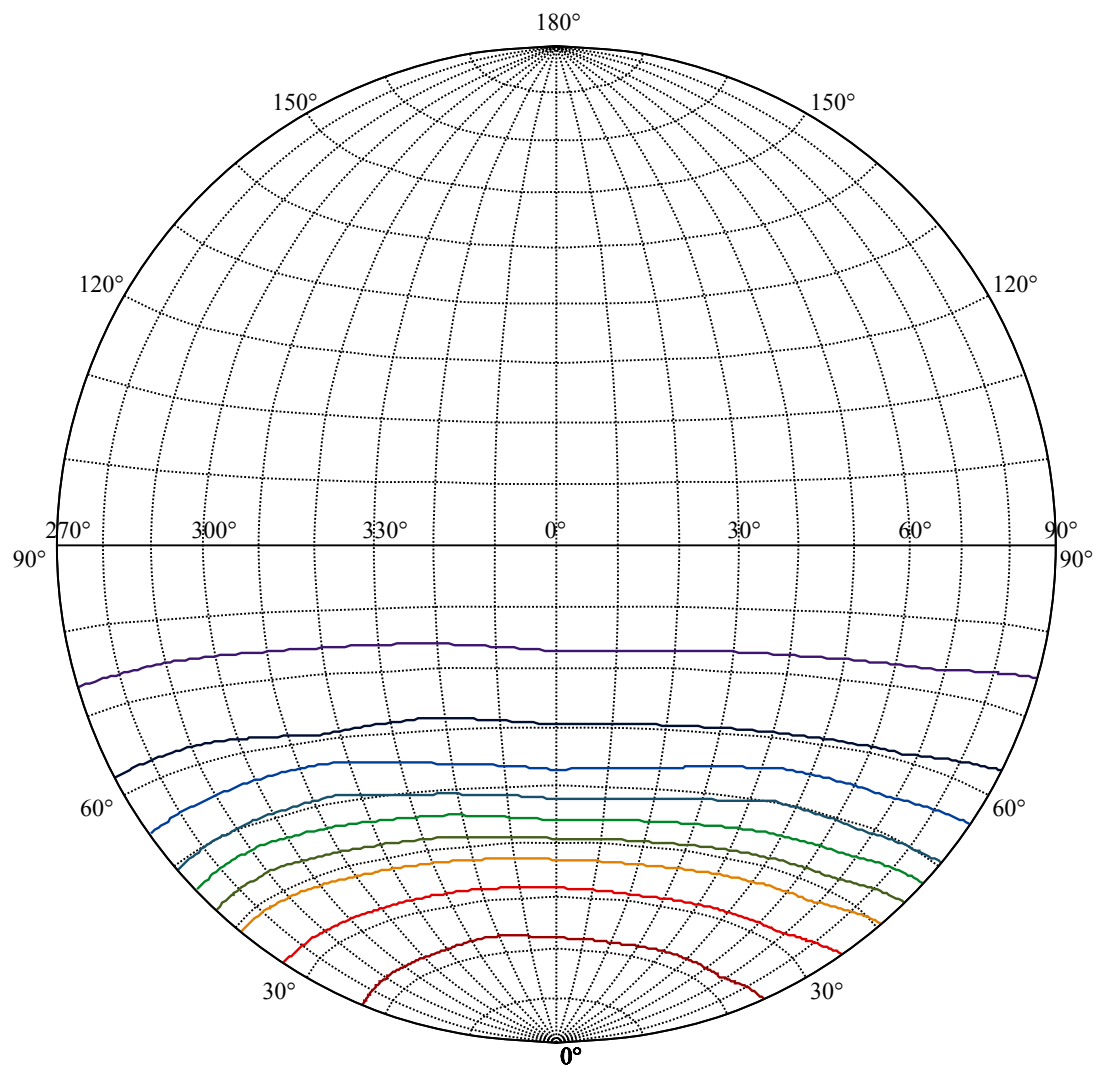
0-10	2485.62
10-20	7154.11
20-30	10895.84
30-40	12800.03
40-50	11208.21
50-60	7636.41
60-70	4697.20
70-80	2738.09
80-90	886.23
90-100	20.69
100-110	11.97
110-120	16.38
120-130	21.72
130-140	24.73
140-150	24.43
150-160	20.39
160-170	12.84
170-180	3.30





Max , Ave Beam angle of C157.5 plane 94.29





House

[Unit:cd]

Road

Imax:26458.33	
(10%Imax) 2645.35	
(20%Imax) 5290.69	
(30%Imax) 7936.04	
(40%Imax) 10581.4	
(50%Imax) 13226.7	
(60%Imax) 15872.1	
(70%Imax) 18517.4	
(80%Imax) 21162.8	
(90%Imax) 23808.1	

Luminance Limiting Curve(no luminous side)

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Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	49262	39770	34368	30235	28127	25215	24442	23855	18015
C45	52997	46691	40103	31239	27177	26266	24892	23593	15523
C90	60745	47084	40870	34581	31690	29570	27628	27851	25344

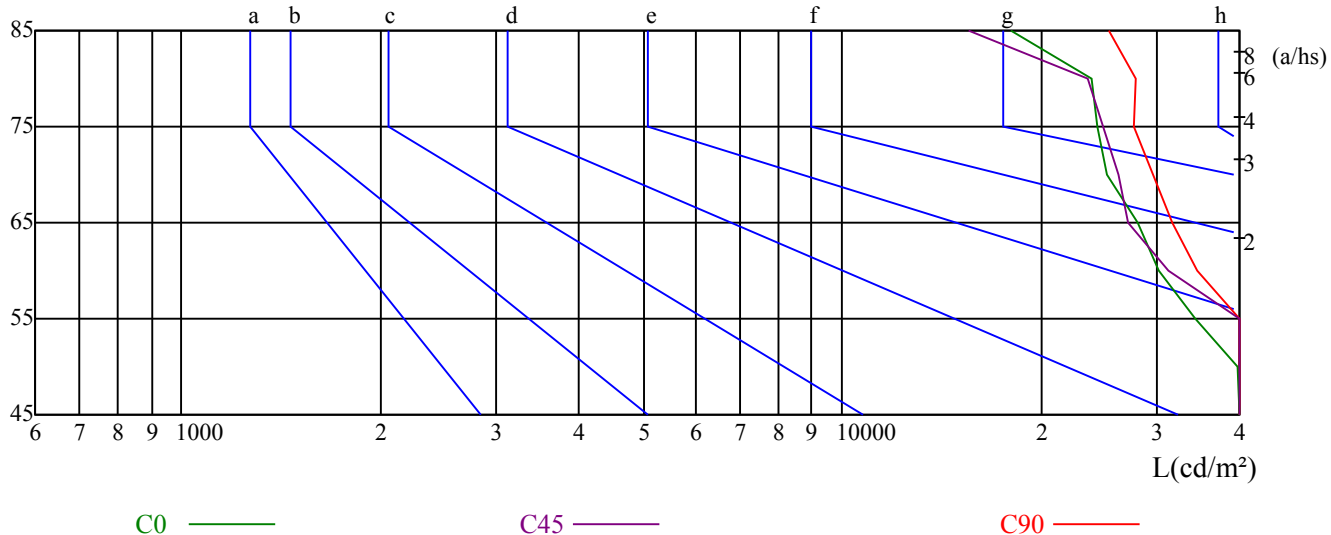
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30084	30747	30480	26960	26359	28510	24326	22520	26175

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

$\gamma(^{\circ})$



Equipment: GMS-3000
Temperature($^{\circ}$ C): 25

Date:
Humidity(%): 58%

Operator: Sam

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	23.01	24.50	23.37	24.82	25.15	23.38	24.87	23.74	25.19	25.52
	3H	24.42	25.77	24.80	26.11	26.46	24.83	26.17	25.21	26.52	26.86
	4H	25.00	26.26	25.39	26.61	26.98	25.43	26.70	25.83	27.05	27.42
	6H	25.49	26.66	25.90	27.03	27.43	25.97	27.14	26.38	27.51	27.91
	8H	25.63	26.76	26.05	27.14	27.55	26.15	27.28	26.57	27.66	28.06
	12H	25.70	26.78	26.12	27.17	27.59	26.26	27.34	26.68	27.73	28.15
4H	2H	23.42	24.68	23.82	25.04	25.41	23.73	24.99	24.13	25.35	25.72
	3H	25.09	26.15	25.51	26.54	26.96	25.40	26.46	25.82	26.86	27.27
	4H	25.86	26.80	26.30	27.22	27.67	26.18	27.12	26.62	27.54	27.99
	6H	26.44	27.27	26.90	27.72	28.17	26.79	27.63	27.26	28.07	28.52
	8H	26.65	27.43	27.13	27.88	28.35	27.04	27.82	27.52	28.27	28.74
	12H	26.78	27.50	27.26	27.95	28.46	27.21	27.94	27.70	28.39	28.90
8H	4H	26.11	26.89	26.59	27.34	27.81	26.40	27.18	26.88	27.63	28.10
	6H	26.81	27.46	27.30	27.93	28.44	27.10	27.76	27.60	28.23	28.74
	8H	27.13	27.70	27.65	28.22	28.71	27.45	28.02	27.97	28.53	29.03
	12H	27.30	27.78	27.83	28.30	28.81	27.65	28.13	28.18	28.65	29.16
12H	4H	26.13	26.86	26.61	27.30	27.81	26.42	27.14	26.90	27.59	28.10
	6H	26.91	27.48	27.42	27.99	28.49	27.20	27.77	27.72	28.28	28.78
	8H	27.22	27.70	27.75	28.22	28.73	27.52	28.00	28.05	28.52	29.03
Variation with the observer position at spacings:											
S = 1.0H		0.2/-0.6					0.3/-0.7				
S = 1.5H		0.7/-1.1					0.8/-1.1				
S = 2.0H		1.7/-1.2					1.5/-1.3				
Standard tables:		BK3					BK3				
Uncorrected UGR		9.5					9.1				

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

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	26192.17	26152.05	25806.47	25192.43	24300.69	23220.73	21912.43	19848.16	16484.85
22.5	26192.17	26114.87	25749.21	25086.27	24262.79	23112.31	21667.51	19568.69	16527.48
45.0	26192.17	26098.87	25714.38	25052.82	24261.22	23268.89	21781.81	19751.91	16896.48
67.5	26192.17	26084.93	25692.68	25057.73	24261.93	23246.02	21818.10	19981.00	17161.84
90.0	26192.17	26213.67	25936.84	25407.38	24687.10	23730.31	22620.32	21136.76	18932.91
112.5	26192.17	26227.35	25964.84	25431.72	24749.75	23851.29	22644.31	21042.23	18869.13
135.0	26192.17	26239.04	25966.10	25500.18	24799.92	23975.60	22751.53	21094.61	18646.46
157.5	26192.17	26458.33	26230.61	25775.17	25204.40	24340.84	23007.05	21318.38	18742.49
180.0	26192.17	26223.02	26235.37	25735.50	25096.78	24269.84	23199.13	21480.45	18564.55
202.5	26192.17	26064.34	26028.66	25734.35	25095.19	24301.45	23213.38	21539.68	18926.56
225.0	26192.17	26081.91	25802.02	25465.59	24871.89	24032.22	22989.00	21434.07	19030.99
247.5	26192.17	26090.58	25870.46	25413.30	24702.16	23858.39	22738.07	21236.78	19196.49
270.0	26192.17	26068.54	25746.02	25157.44	24372.65	23362.11	22174.18	20526.67	18148.13
292.5	26192.17	26043.32	25699.63	25096.15	24330.29	23350.64	22013.76	20300.72	17978.78
315.0	26192.17	25902.69	25615.97	25064.59	24309.19	23322.21	22004.40	20148.99	17502.34
337.5	26192.17	26050.21	25778.13	25257.63	24491.67	23474.32	22087.30	20070.36	17210.56
360.0	26192.17	26152.05	25806.47	25192.43	24300.69	23220.73	21912.43	19848.16	16484.85

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12418.02	9113.34	7027.47	5389.32	4237.77	3074.50	2255.27	1476.77	559.73
22.5	12867.92	9541.32	7448.44	5501.23	4262.75	3244.85	2292.06	1380.88	475.06
45.0	13359.72	10699.36	8200.16	5568.36	4094.57	3202.60	2296.78	1460.51	482.31
67.5	13513.03	10092.80	7815.46	5551.96	4194.30	3215.64	2284.67	1341.00	363.19
90.0	15312.69	10789.44	8357.14	6164.05	4774.55	3605.44	2549.20	1724.11	787.47
112.5	15656.85	11876.25	8696.44	6693.84	4772.42	3684.52	2694.04	1744.16	789.41
135.0	15398.81	12272.45	9769.16	6786.17	4732.26	3560.57	2741.76	1834.73	930.46
157.5	15400.63	11789.65	8867.75	6759.13	4937.37	3840.18	2831.71	1876.47	913.24
180.0	14892.68	10853.62	8320.34	6215.95	4827.43	3673.41	2719.96	1926.96	951.91
202.5	15573.20	11809.59	9003.23	6922.25	5144.49	3967.25	2861.35	1933.83	1012.25
225.0	15822.17	12551.15	10193.30	7391.59	5209.03	3815.24	2958.62	2065.24	1116.44
247.5	16179.80	12683.37	9652.57	7141.01	4987.84	3839.30	2964.49	2044.52	1140.93
270.0	14259.15	10028.84	7714.80	5914.10	4490.47	3374.84	2315.11	1523.07	611.97
292.5	14655.54	10772.12	8117.31	6174.25	4430.63	3455.85	2501.63	1576.10	637.86
315.0	14050.67	11142.11	8856.62	5470.02	4332.78	3270.82	2525.34	1623.00	723.97
337.5	13753.37	10100.98	7684.79	5884.03	4513.58	3499.78	2503.44	1539.92	647.97
360.0	12418.02	9113.34	7027.47	5389.32	4237.77	3074.50	2255.27	1476.77	559.73

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	12.65	10.49	9.87	11.42	12.96	16.35	20.06	24.69	29.31
22.5	12.49	10.11	10.11	11.30	13.68	17.24	21.11	26.16	29.73
45.0	11.87	10.18	10.46	12.16	14.42	18.09	21.77	26.29	30.25
67.5	11.85	11.01	11.01	12.42	14.96	19.19	22.58	26.81	30.76
90.0	15.32	9.68	9.94	11.02	13.17	16.13	19.89	24.46	28.49
112.5	19.76	10.01	9.47	10.55	12.99	16.51	20.30	24.09	28.15
135.0	29.50	9.37	9.37	10.48	12.96	16.27	19.57	23.71	27.57
157.5	54.71	9.46	9.17	10.06	12.42	15.38	19.52	24.25	28.10
180.0	70.04	9.26	8.95	10.18	12.03	14.81	18.21	22.83	27.15
202.5	107.62	9.51	8.92	9.81	11.30	14.27	17.84	21.70	25.86
225.0	144.47	10.74	9.33	10.46	11.87	14.42	17.81	21.77	25.44
247.5	178.07	11.01	10.16	11.01	12.70	16.09	19.19	22.86	27.37
270.0	12.63	10.21	10.75	12.09	14.78	18.28	22.85	26.34	31.18
292.5	14.07	10.83	10.55	11.91	14.34	17.05	20.84	25.17	28.96
315.0	15.44	11.30	10.48	11.30	13.51	16.82	19.85	23.99	27.57
337.5	15.08	10.65	9.76	11.53	12.72	16.27	19.82	24.25	27.80
360.0	12.65	10.49	9.87	11.42	12.96	16.35	20.06	24.69	29.31

Intensity data(cd)									Appendix Page: 11 Total:11	
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	
0.0	32.40	35.79	38.57	41.96	43.51	44.74	44.74	45.98	50.30	
22.5	33.00	36.27	38.94	41.92	44.30	45.19	46.38	47.57	49.65	
45.0	33.64	36.75	39.86	43.26	45.23	45.80	46.08	45.80	46.65	
67.5	34.71	38.38	42.05	44.87	46.56	46.56	47.13	45.43	46.28	
90.0	33.33	36.55	40.85	44.35	46.23	47.03	45.15	46.23	44.35	
112.5	32.48	36.26	39.78	42.76	45.47	46.01	45.74	45.47	43.84	
135.0	31.43	35.01	38.32	42.46	44.11	46.04	45.77	45.49	44.66	
157.5	31.64	34.90	37.86	41.11	44.07	45.25	46.14	47.91	48.50	
180.0	30.86	33.94	37.34	40.11	42.89	44.43	45.05	45.67	47.83	
202.5	28.84	32.40	35.97	39.54	42.51	44.00	44.00	44.00	44.89	
225.0	28.84	32.23	36.47	39.86	42.69	43.82	43.54	44.39	44.10	
247.5	31.32	35.28	39.23	42.33	45.15	45.15	44.87	46.56	44.87	
270.0	35.21	39.78	43.54	46.50	48.38	47.03	46.23	48.38	46.77	
292.5	33.29	36.81	40.05	42.49	44.65	44.11	44.11	45.74	45.74	
315.0	30.60	34.46	37.77	41.08	43.01	43.84	43.28	43.84	46.59	
337.5	31.35	34.60	38.45	41.40	43.77	43.77	44.07	44.36	48.50	
360.0	32.40	35.79	38.57	41.96	43.51	44.74	44.74	45.98	50.30	
C/ γ (°)	180.0									
0.0	48.63									
22.5	48.63									
45.0	48.63									
67.5	48.63									
90.0	48.63									
112.5	48.63									
135.0	48.63									
157.5	48.63									
180.0	48.63									
202.5	48.63									
225.0	48.63									
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292.5	48.63									
315.0	48.63									
337.5	48.63									
360.0	48.63									