
Jen Lighting

Client:

LumCAT: JEN-B4-S72-3065

Luminaire: 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces

Report No:

Ballast type:

Test No: LCZP23090163

Voltage(V): 120.000

LampCAT:

Current(A): 0.576

Lamp flux(lm): 9657.5

Power (W): 68.590

Number of Lamps: 1

PF: 0.992

Length(mm): 1160

Width(mm): 550

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 9657.51, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 140.80

Central intensity(cd): 2312.119, Maximum intensity(cd): 3646.838

Angle of maximum intensity: C=45.0 γ =30.0

Beam Angle(50%Imax): [C0/180]Total=109.0

[C90/270]Total=111.0

Field angle(10%Imax): [C0/180]Total=142.4

[C90/270]Total=143.8

Maximum s/h(1/2): C0_180=1.97 C90_270=1.97

Maximum s/h(1/4): C0_180=1.72 C90_270=1.76

Up flux rate of lamp(%): 0.23%

Down flux rate of lamp(%): 99.77%

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 : 89.187%

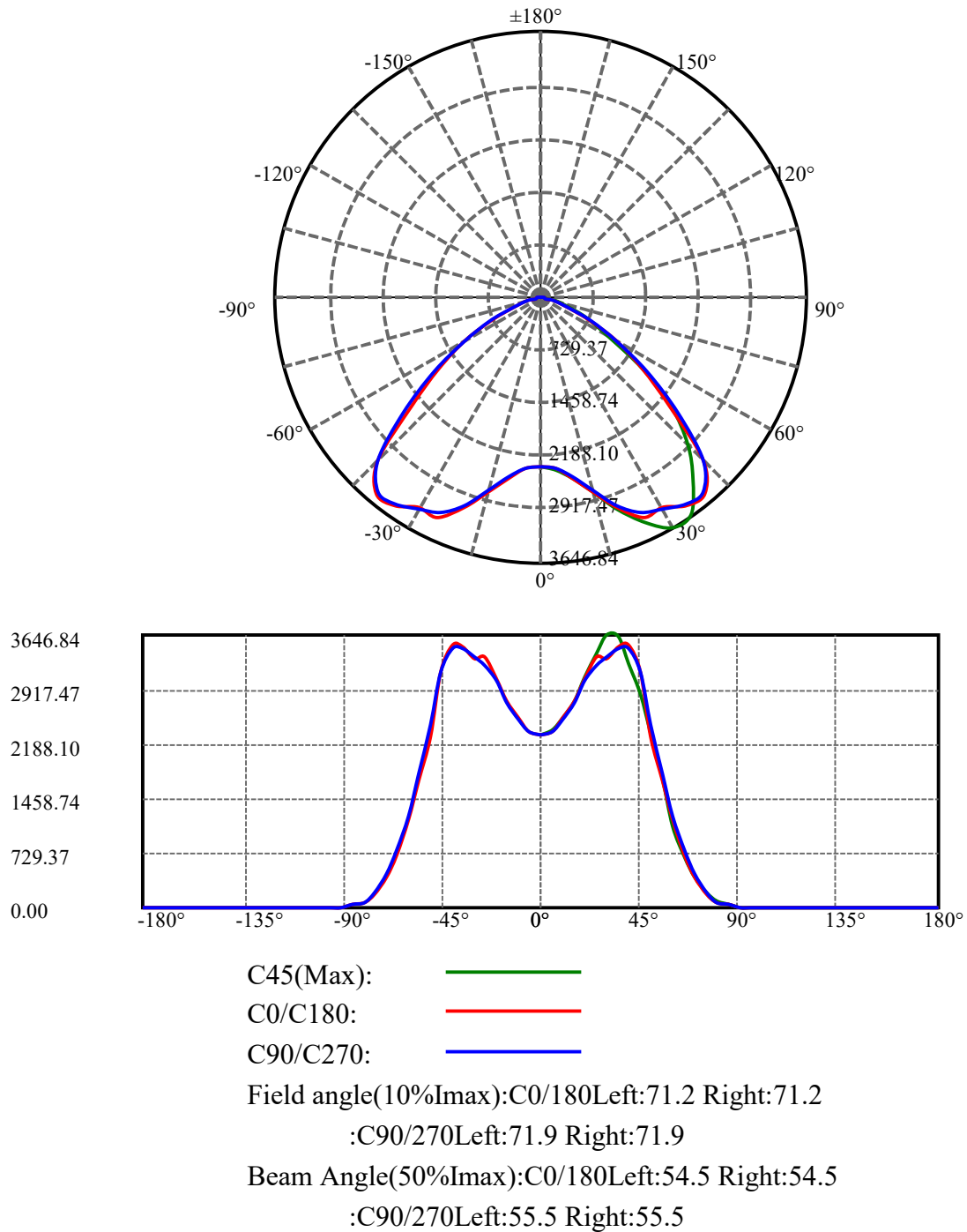
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2312.119	0.000	0	0.00%	0.00%
5.0	2365.374	55.918	55.918	0.58%	0.58%
10.0	2525.144	174.949	230.867	1.81%	2.39%
15.0	2768.379	314.008	544.876	3.25%	5.64%
20.0	3062.924	480.581	1025.457	4.98%	10.62%
25.0	3341.889	671.747	1697.204	6.96%	17.57%
30.0	3478.156	863.082	2560.286	8.94%	26.51%
35.0	3522.157	1030.845	3591.131	10.67%	37.18%
40.0	3443.119	1162.104	4753.235	12.03%	49.22%
45.0	3088.466	1209.376	5962.611	12.52%	61.74%
50.0	2384.813	1105.956	7068.566	11.45%	73.19%
55.0	1694.403	886.957	7955.524	9.18%	82.38%
60.0	1150.888	657.681	8613.205	6.81%	89.19%
65.0	719.569	454.712	9067.916	4.71%	93.89%
70.0	416.926	287.768	9355.684	2.98%	96.87%
75.0	200.117	161.285	9516.969	1.67%	98.54%
80.0	80.057	74.967	9591.936	0.78%	99.32%
85.0	37.616	31.974	9623.91	0.33%	99.65%
90.0	4.526	11.539	9635.449	0.12%	99.77%
95.0	1.870	1.751	9637.2	0.02%	99.79%
100.0	1.796	0.996	9638.196	0.01%	99.80%
105.0	2.094	1.041	9639.237	0.01%	99.81%
110.0	1.945	1.056	9640.293	0.01%	99.82%
115.0	2.694	1.175	9641.467	0.01%	99.83%
120.0	2.769	1.328	9642.795	0.01%	99.85%
125.0	3.593	1.470	9644.266	0.02%	99.86%
130.0	3.630	1.571	9645.836	0.02%	99.88%
135.0	3.630	1.467	9647.303	0.02%	99.89%
140.0	3.967	1.407	9648.71	0.01%	99.91%
145.0	4.117	1.349	9650.058	0.01%	99.92%
150.0	4.864	1.323	9651.381	0.01%	99.94%
155.0	5.390	1.298	9652.679	0.01%	99.95%
160.0	7.633	1.366	9654.044	0.01%	99.96%
165.0	8.683	1.345	9655.389	0.01%	99.98%
170.0	10.105	1.115	9656.504	0.01%	99.99%
175.0	10.779	0.747	9657.251	0.01%	100.00%
180.0	10.779	0.258	9657.508	0.00%	100.00%

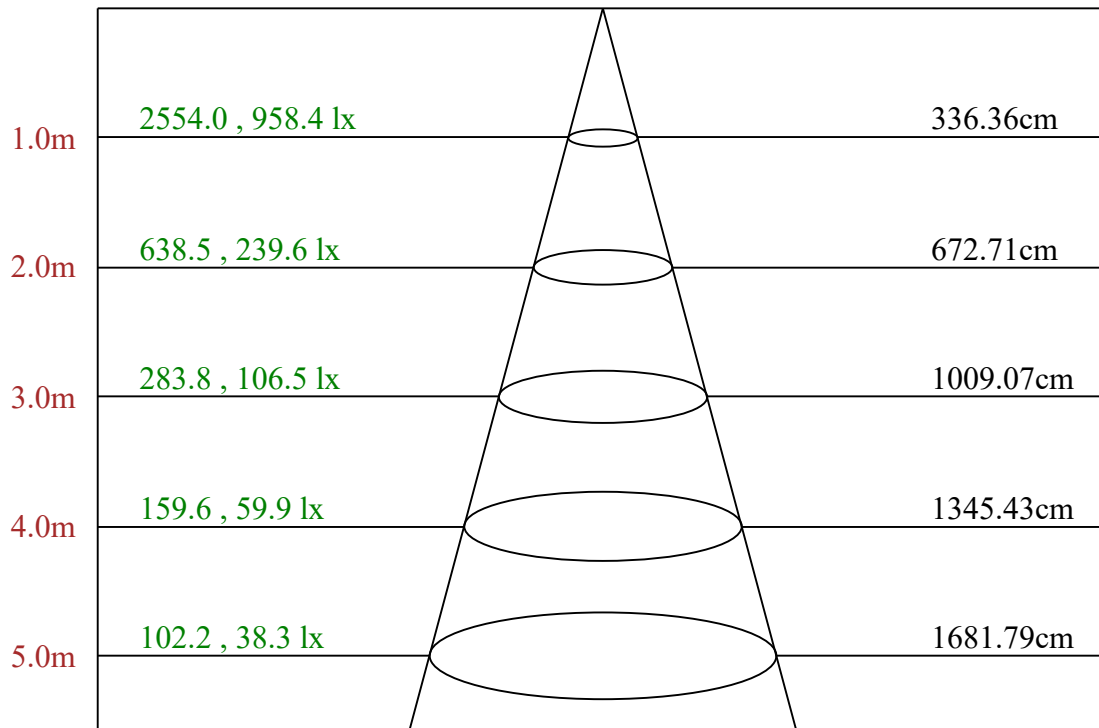
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2560.29	26.51%	26.51%
0-40	4753.23	49.22%	49.22%
0-60	8613.20	89.19%	89.19%
0-90	9635.45	99.77%	99.77%
0-120	9642.80	99.85%	99.85%
0-180	9657.51	100.00%	100.00%
60-90	1022.24	10.58%	10.58%
90-120	7.35	0.08%	0.08%
90-130	10.39	0.11%	0.11%
90-150	15.93	0.16%	0.16%
90-180	21.80	0.23%	0.23%
0-53.71	7726.01	80.00%	80.00%

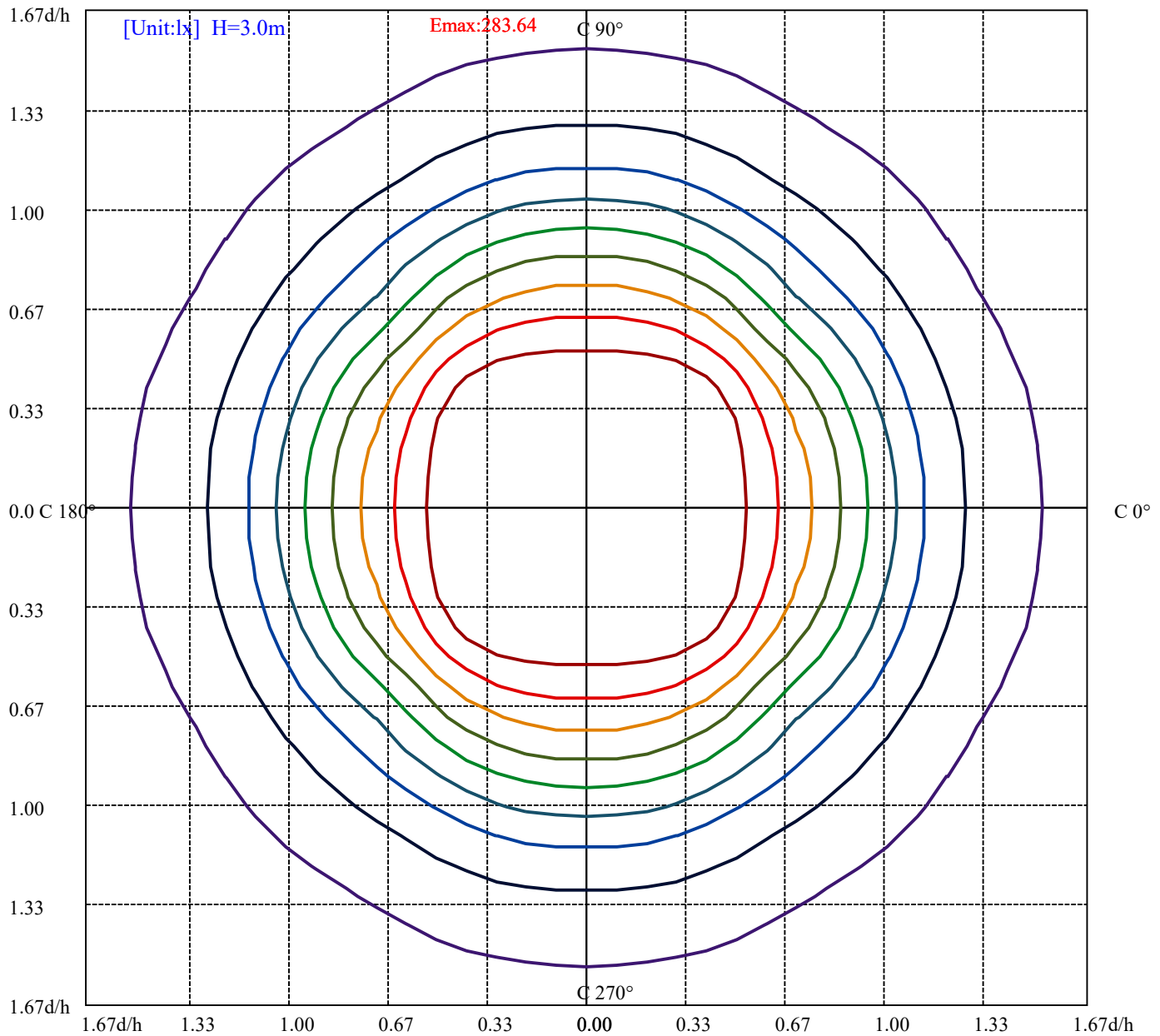
ZONAL LUMEN SUMMARY

0-10	230.87
10-20	794.59
20-30	1534.83
30-40	2192.95
40-50	2315.33
50-60	1544.64
60-70	742.48
70-80	236.25
80-90	43.51
90-100	2.75
100-110	2.10
110-120	2.50
120-130	3.04
130-140	2.87
140-150	2.67
150-160	2.66
160-170	2.46
170-180	0.75

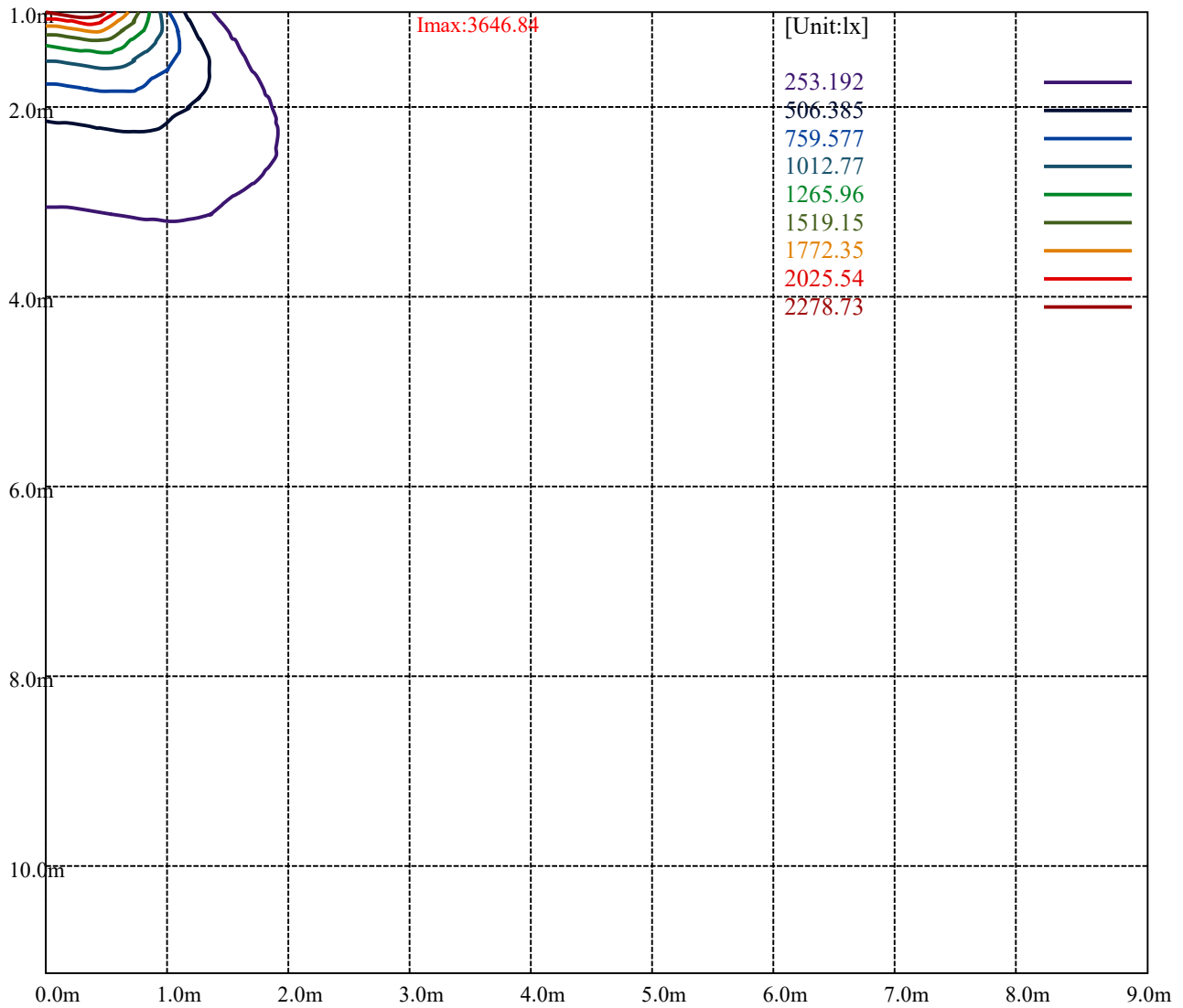




Max , Ave Beam angle of C45 plane 118.53



(10%Emax) 28.36378	—
(20%Emax) 56.72744	—
(30%Emax) 85.09122	—
(40%Emax) 113.4544	—
(50%Emax) 141.8189	—
(60%Emax) 170.1822	—
(70%Emax) 198.5456	—
(80%Emax) 226.91	—
(90%Emax) 255.2733	—



Luminance Table

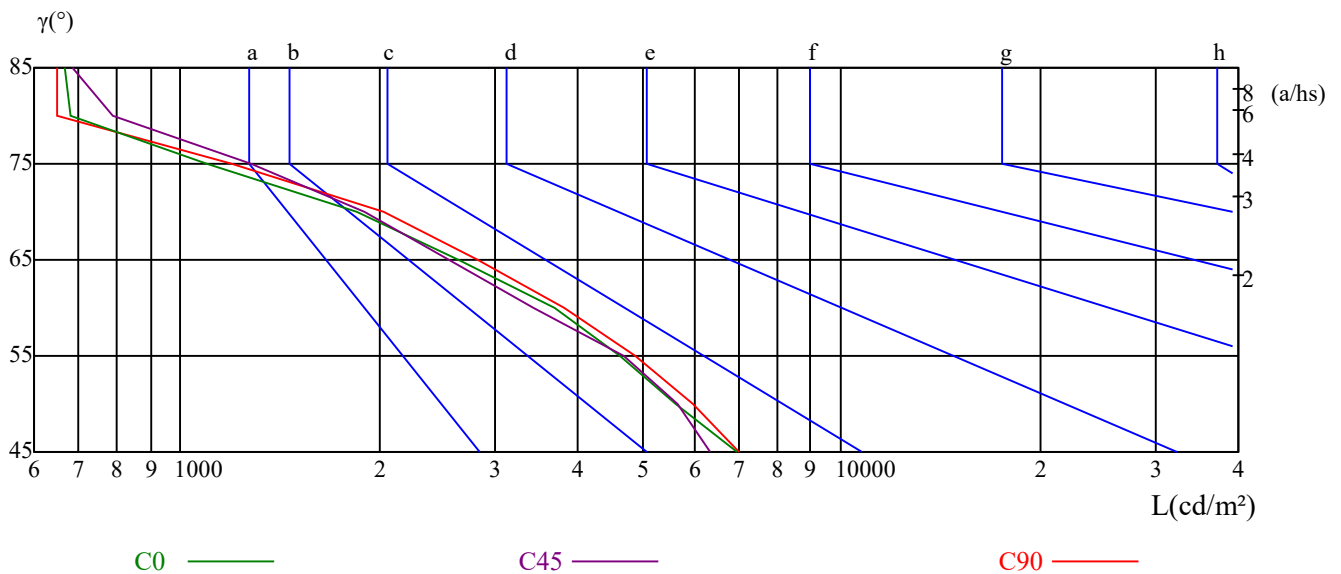
γ	45	50	55	60	65	70	75	80	85
C0	6985	5604	4621	3685	2630	1843	1099	683	669
C45	6348	5663	4685	3427	2546	1895	1282	792	686
C90	6991	5983	4893	3810	2823	2027	1198	649	651

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2630	2823	2546	1099	1198	1282	669	651	686

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



RHOC	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	1.06	1.02	0.99	1.04	1.01	0.98	1.00	0.97	0.94	0.96	0.94	0.92	0.92	0.90	0.89	0.87
2	0.94	0.88	0.83	0.92	0.86	0.82	0.88	0.84	0.80	0.85	0.81	0.78	0.82	0.79	0.76	0.74
3	0.83	0.75	0.70	0.81	0.74	0.69	0.78	0.73	0.68	0.76	0.71	0.66	0.73	0.69	0.65	0.63
4	0.74	0.65	0.59	0.72	0.65	0.59	0.70	0.63	0.58	0.68	0.62	0.57	0.65	0.61	0.56	0.54
5	0.66	0.57	0.51	0.65	0.57	0.51	0.63	0.56	0.50	0.61	0.54	0.50	0.59	0.53	0.49	0.47
6	0.59	0.50	0.44	0.58	0.50	0.44	0.56	0.49	0.44	0.55	0.48	0.43	0.53	0.47	0.43	0.41
7	0.53	0.45	0.39	0.53	0.44	0.39	0.51	0.44	0.38	0.50	0.43	0.38	0.48	0.42	0.38	0.36
8	0.48	0.40	0.34	0.48	0.40	0.34	0.46	0.39	0.34	0.45	0.39	0.34	0.44	0.38	0.34	0.32
9	0.44	0.36	0.31	0.44	0.36	0.30	0.42	0.35	0.30	0.41	0.35	0.30	0.40	0.34	0.30	0.28
10	0.40	0.33	0.27	0.40	0.32	0.27	0.39	0.32	0.27	0.38	0.32	0.27	0.37	0.31	0.27	0.25

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Intensity data(cd)

Appendix Page: 10 Total:12

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2312.12	2345.52	2512.54	2755.40	3033.47	3302.51	3281.75	3444.25	3436.13
15.0	2312.12	2294.15	2370.51	2549.26	2814.25	3125.94	3242.72	3301.10	3417.88
30.0	2312.12	2261.02	2326.46	2495.91	2740.65	3042.78	3312.63	3280.36	3391.53
45.0	2312.12	2250.38	2301.38	2441.86	2689.72	2993.94	3318.75	3521.87	3250.75
60.0	2312.12	2236.06	2279.01	2412.33	2644.98	2940.26	3266.85	3399.28	3341.12
75.0	2312.12	2224.63	2257.66	2394.25	2629.92	2903.09	3161.09	3251.25	3347.46
90.0	2312.12	2238.86	2273.70	2400.57	2626.60	2903.55	3128.69	3196.59	3268.95
105.0	2312.12	2250.33	2303.16	2455.40	2664.94	2959.55	3205.80	3269.38	3284.61
120.0	2312.12	2258.24	2331.87	2487.21	2740.42	3042.12	3347.41	3456.06	3384.22
135.0	2312.12	2293.21	2384.15	2567.82	2822.62	3136.85	3455.57	3643.75	3347.53
150.0	2312.12	2313.02	2428.72	2642.03	2904.16	3213.28	3468.18	3421.18	3470.89
165.0	2312.12	2339.28	2474.17	2714.97	2995.62	3311.56	3361.35	3449.17	3534.27
180.0	2312.12	2381.30	2540.60	2784.56	3092.23	3380.79	3369.87	3529.17	3591.98
195.0	2312.12	2450.45	2684.00	2970.54	3302.90	3506.80	3473.57	3620.88	3541.84
210.0	2312.12	2477.08	2728.10	3061.61	3405.87	3725.03	3654.21	3690.07	3508.97
225.0	2312.12	2486.60	2763.98	3100.42	3460.13	3797.46	3945.99	3569.29	3199.74
240.0	2312.12	2494.65	2781.88	3128.16	3474.44	3743.77	3807.30	3735.72	3542.45
255.0	2312.12	2485.30	2770.08	3120.02	3464.61	3625.30	3661.90	3735.99	3676.18
270.0	2312.12	2486.33	2748.99	3090.27	3451.20	3586.11	3596.83	3729.94	3677.23
285.0	2312.12	2493.01	2747.32	3084.91	3430.57	3582.80	3630.26	3726.08	3693.84
300.0	2312.12	2468.36	2726.06	3064.57	3400.39	3664.37	3745.18	3711.96	3658.09
315.0	2312.12	2446.27	2682.17	2980.18	3339.43	3682.46	3867.04	3736.49	3231.38
330.0	2312.12	2412.18	2616.80	2900.74	3231.56	3579.50	3744.46	3579.50	3401.02
345.0	2312.12	2382.73	2570.13	2838.09	3149.52	3455.50	3428.35	3532.45	3509.82
360.0	2312.12	2345.52	2512.54	2755.40	3033.47	3302.51	3281.75	3444.25	3436.13

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	3014.51	2173.08	1632.30	1115.88	678.02	362.93	147.16	70.42	28.89
15.0	3263.38	2640.88	1821.67	1386.01	843.47	509.31	241.63	82.64	49.40
30.0	3240.91	2641.14	1778.69	1225.54	850.80	489.50	249.23	95.03	49.31
45.0	2899.99	2408.76	1908.57	1269.70	778.46	489.45	267.54	107.37	49.21
60.0	3044.95	2469.60	1825.36	1228.54	850.94	475.13	263.07	100.22	49.21
75.0	3222.68	2745.08	1966.64	1375.67	838.25	523.13	266.92	86.59	49.10
90.0	3213.56	2683.77	1949.40	1403.53	876.43	547.65	275.17	82.19	47.35
105.0	3232.67	2753.59	1945.87	1376.35	896.37	545.34	265.06	85.97	49.25
120.0	3152.56	2555.45	1847.90	1231.04	852.12	496.54	259.50	100.57	47.59
135.0	2917.16	2412.96	1854.74	1258.70	763.50	494.30	264.71	108.04	47.72
150.0	3251.25	2601.36	1729.12	1164.19	818.01	472.73	248.57	101.23	46.10
165.0	3285.31	2530.29	1771.66	1268.32	769.50	486.14	234.47	83.29	46.17
180.0	3287.94	2423.17	1749.56	1235.25	740.06	441.49	215.74	81.02	45.51
195.0	2959.76	2058.81	1497.40	963.83	602.73	319.78	133.84	71.86	25.15
210.0	2921.75	2038.68	1335.81	961.07	554.05	304.82	141.65	71.72	25.10
225.0	2798.88	2185.95	1456.71	855.41	575.35	308.70	148.53	69.79	26.84
240.0	2882.99	2069.63	1407.49	968.16	551.19	316.75	139.59	66.21	26.84
255.0	3136.98	2220.17	1584.56	998.05	582.05	314.23	131.23	63.38	26.78
270.0	3093.84	2223.67	1631.35	1027.41	645.93	336.81	120.61	61.64	25.02
285.0	3204.01	2317.49	1690.66	1110.39	656.38	339.39	133.43	63.58	26.86
300.0	3208.23	2249.27	1503.10	1046.07	626.74	344.80	162.52	65.55	28.73
315.0	2838.83	2282.41	1637.75	988.59	628.45	361.94	165.67	65.73	28.81
330.0	2934.99	2250.82	1517.07	1055.55	648.11	372.28	169.47	66.70	28.85
345.0	3116.02	2299.45	1622.29	1108.08	642.76	353.06	157.52	70.61	28.97
360.0	3014.51	2173.08	1632.30	1115.88	678.02	362.93	147.16	70.42	28.89

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Intensity data(cd)									Appendix Page: 11 Total:12		
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0		
0.0	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61		
15.0	6.29	0.00	0.00	0.00	0.00	1.80	1.80	3.59	3.59		
30.0	6.28	0.00	0.00	0.00	0.00	1.79	1.79	3.59	3.59		
45.0	6.26	0.00	0.00	0.00	0.00	1.79	1.79	3.58	3.58		
60.0	6.26	0.00	0.00	0.00	1.79	1.79	1.79	3.58	3.58		
75.0	6.25	1.79	0.00	1.79	0.00	1.79	1.79	3.57	3.57		
90.0	6.25	0.00	0.00	1.79	0.00	1.79	3.57	3.57	4.47		
105.0	6.27	0.00	0.00	0.00	0.00	1.79	1.79	3.58	3.58		
120.0	6.29	0.00	0.00	0.00	0.00	1.80	1.80	3.59	3.59		
135.0	4.50	0.00	0.00	0.00	0.00	1.80	1.80	3.60	3.60		
150.0	3.62	0.00	0.00	0.00	0.00	1.81	1.81	3.62	3.62		
165.0	3.62	0.00	0.00	0.00	0.00	1.81	1.81	3.62	3.62		
180.0	3.64	0.00	0.00	0.00	0.00	1.82	1.82	3.64	3.64		
195.0	3.59	3.59	3.59	4.49	3.59	3.59	3.59	3.59	3.59		
210.0	3.59	3.59	3.59	4.48	3.59	3.59	3.59	3.59	3.59		
225.0	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58		
240.0	3.58	3.58	3.58	3.58	4.47	3.58	3.58	3.58	3.58		
255.0	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57		
270.0	3.57	3.57	3.57	3.57	4.47	3.57	3.57	3.57	3.57		
285.0	3.58	3.58	3.58	4.48	3.58	3.58	3.58	3.58	3.58		
300.0	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59		
315.0	3.60	3.60	3.60	4.50	3.60	3.60	3.60	3.60	3.60		
330.0	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61		
345.0	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62		
360.0	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	3.61	3.61	3.61	3.61	4.51	6.32	6.32	9.93	10.83		
15.0	3.59	4.49	4.49	6.29	6.29	6.29	9.88	9.88	10.78		
30.0	3.59	4.48	4.48	6.28	6.28	9.86	9.86	9.86	10.76		
45.0	3.58	4.47	4.47	6.26	6.26	9.84	9.84	9.84	10.74		
60.0	3.58	4.47	4.47	6.26	6.26	9.84	9.84	10.74	10.74		
75.0	3.57	4.46	4.46	6.25	6.25	9.82	9.82	10.71	10.71		
90.0	4.47	4.47	6.25	6.25	6.25	9.83	9.83	10.72	10.72		
105.0	3.58	4.48	4.48	6.27	6.27	9.85	9.85	10.75	10.75		
120.0	3.59	4.49	4.49	6.29	6.29	9.88	9.88	10.77	10.77		
135.0	3.60	4.50	4.50	6.30	6.30	9.90	9.90	9.90	10.80		
150.0	3.62	4.52	4.52	6.33	6.33	9.94	9.94	9.94	10.85		
165.0	3.62	3.62	4.53	4.53	6.34	6.34	9.96	9.96	10.86		
180.0	3.64	3.64	4.55	4.55	6.37	6.37	10.01	10.92	10.92		
195.0	3.59	3.59	3.59	4.49	4.49	6.29	6.29	9.88	10.78		
210.0	3.59	3.59	3.59	3.59	4.48	6.28	6.28	9.86	10.76		
225.0	3.58	3.58	3.58	3.58	4.47	6.26	6.26	9.84	10.74		
240.0	3.58	3.58	3.58	3.58	4.47	6.26	6.26	9.84	10.74		
255.0	3.57	3.57	3.57	3.57	4.46	6.25	9.82	9.82	10.71		
270.0	3.57	3.57	3.57	3.57	4.47	6.25	6.25	9.83	10.72		
285.0	3.58	3.58	3.58	4.48	4.48	6.27	9.85	9.85	10.75		
300.0	3.59	3.59	3.59	3.59	4.49	6.29	9.88	9.88	10.77		
315.0	3.60	3.60	3.60	3.60	4.50	6.30	6.30	9.90	10.80		
330.0	3.61	3.61	3.61	3.61	4.51	6.31	6.31	9.92	10.82		
345.0	3.62	3.62	3.62	3.62	4.53	6.34	9.96	9.96	10.86		
360.0	3.61	3.61	3.61	3.61	4.51	6.32	6.32	9.93	10.83		

Intensity data(cd)

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C/γ(°)	180.0
0.0	10.83
15.0	10.78
30.0	10.76
45.0	10.74
60.0	10.74
75.0	10.71
90.0	10.72
105.0	10.75
120.0	10.77
135.0	10.80
150.0	10.85
165.0	10.86
180.0	10.92
195.0	10.78
210.0	10.76
225.0	10.74
240.0	10.74
255.0	10.71
270.0	10.72
285.0	10.75
300.0	10.77
315.0	10.80
330.0	10.82
345.0	10.86
360.0	10.83