
Light Blue USA-Rayhil

Client:

LumCAT: LB85190

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.010

LampCAT:

Current(A): 0.194

Lamp flux(lm): 2845.2

Power (W): 22.980

Number of Lamps: 1

PF: 0.986

Length(mm): 610

Width(mm): 110

Phm Type: C

Height(mm): 50

Photometric Results

Lumens(lm): 2845.21, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 123.81

Central intensity(cd): 762.530, Maximum intensity(cd): 762.530

Angle of maximum intensity: C=60.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=133.0

[C90/270]Total=111.8

Field angle(10%Imax): [C0/180]Total=239.6

[C90/270]Total=159.2

Maximum s/h(1/2): C0_180=1.30 C90_270=1.25

Maximum s/h(1/4): C0_180=1.44 C90_270=1.37

Up flux rate of lamp(%): 11.09%

Down flux rate of lamp(%): 88.91%

Up flux rate of LUM(%): 11.09%

Down flux rate of LUM(%): 88.91%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.509%

Light Blue USA-Rayhil LB85190

Zonal flux distribution table

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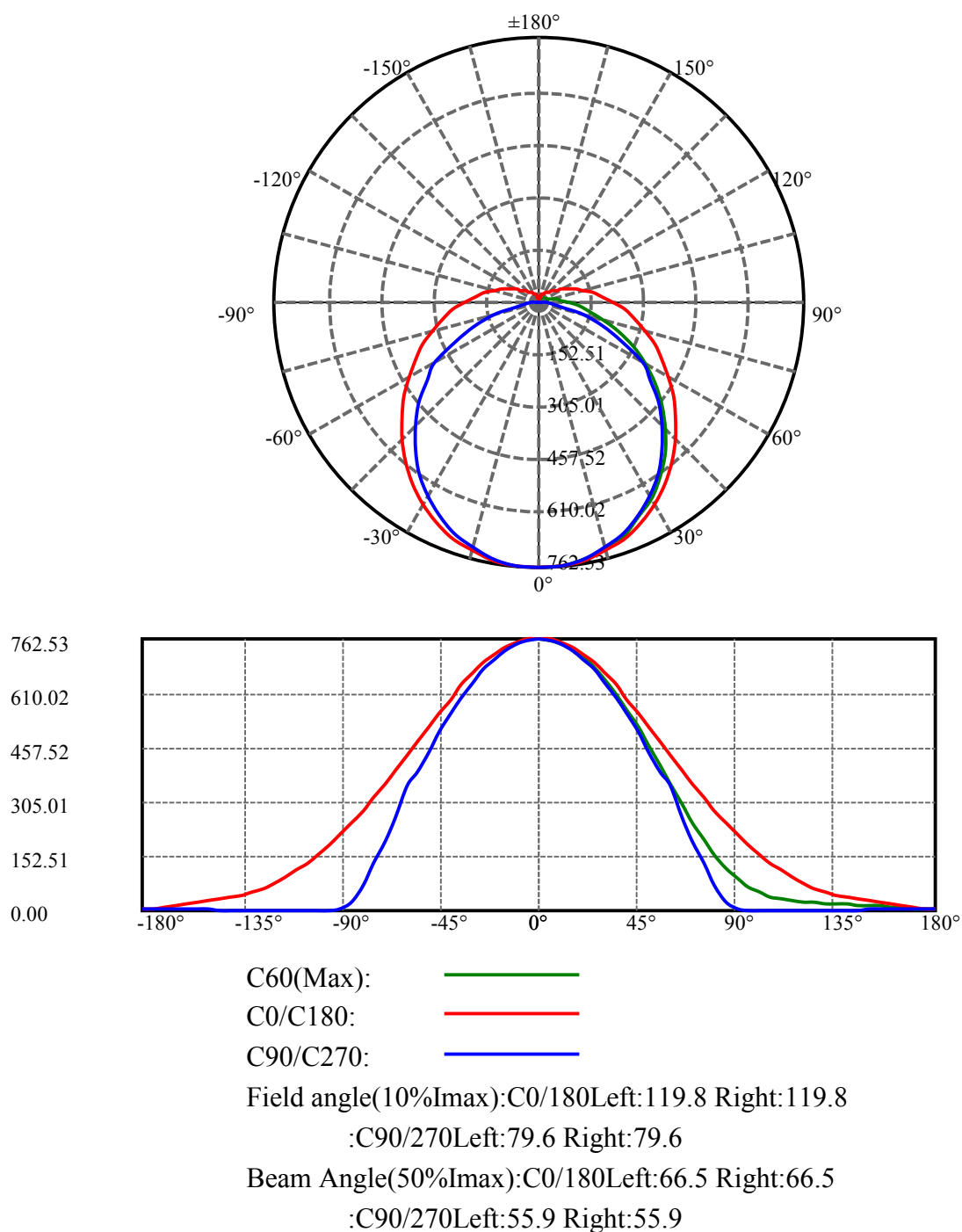
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	762.530	0.000	0	0.00%	0.00%
5.0	759.910	18.200	18.2	0.64%	0.64%
10.0	751.156	54.056	72.256	1.90%	2.54%
15.0	735.709	88.200	160.456	3.10%	5.64%
20.0	714.915	119.552	280.007	4.20%	9.84%
25.0	687.125	147.048	427.056	5.17%	15.01%
30.0	654.554	169.791	596.846	5.97%	20.98%
35.0	616.667	187.196	784.043	6.58%	27.56%
40.0	575.950	198.979	983.022	6.99%	34.55%
45.0	528.846	204.562	1187.583	7.19%	41.74%
50.0	481.112	204.077	1391.66	7.17%	48.91%
55.0	431.801	198.498	1590.158	6.98%	55.89%
60.0	383.100	188.362	1778.52	6.62%	62.51%
65.0	330.965	173.591	1952.11	6.10%	68.61%
70.0	281.756	155.145	2107.255	5.45%	74.06%
75.0	235.433	135.185	2242.44	4.75%	78.81%
80.0	194.136	114.941	2357.381	4.04%	82.85%
85.0	155.644	95.044	2452.425	3.34%	86.19%
90.0	126.650	77.294	2529.719	2.72%	88.91%
95.0	103.886	63.122	2592.841	2.22%	91.13%
100.0	86.211	51.654	2644.495	1.82%	92.95%
105.0	70.858	42.027	2686.523	1.48%	94.42%
110.0	58.417	33.791	2720.313	1.19%	95.61%
115.0	48.628	27.105	2747.418	0.95%	96.56%
120.0	41.116	21.817	2769.235	0.77%	97.33%
125.0	34.753	17.537	2786.772	0.62%	97.95%
130.0	29.844	14.046	2800.817	0.49%	98.44%
135.0	25.974	11.279	2812.096	0.40%	98.84%
140.0	23.146	9.095	2821.191	0.32%	99.16%
145.0	20.389	7.263	2828.455	0.26%	99.41%
150.0	18.044	5.660	2834.114	0.20%	99.61%
155.0	15.809	4.284	2838.398	0.15%	99.76%
160.0	13.499	3.074	2841.472	0.11%	99.87%
165.0	10.707	1.995	2843.467	0.07%	99.94%
170.0	8.174	1.120	2844.587	0.04%	99.98%
175.0	6.164	0.513	2845.1	0.02%	100.00%
180.0	2.728	0.106	2845.206	0.00%	100.00%

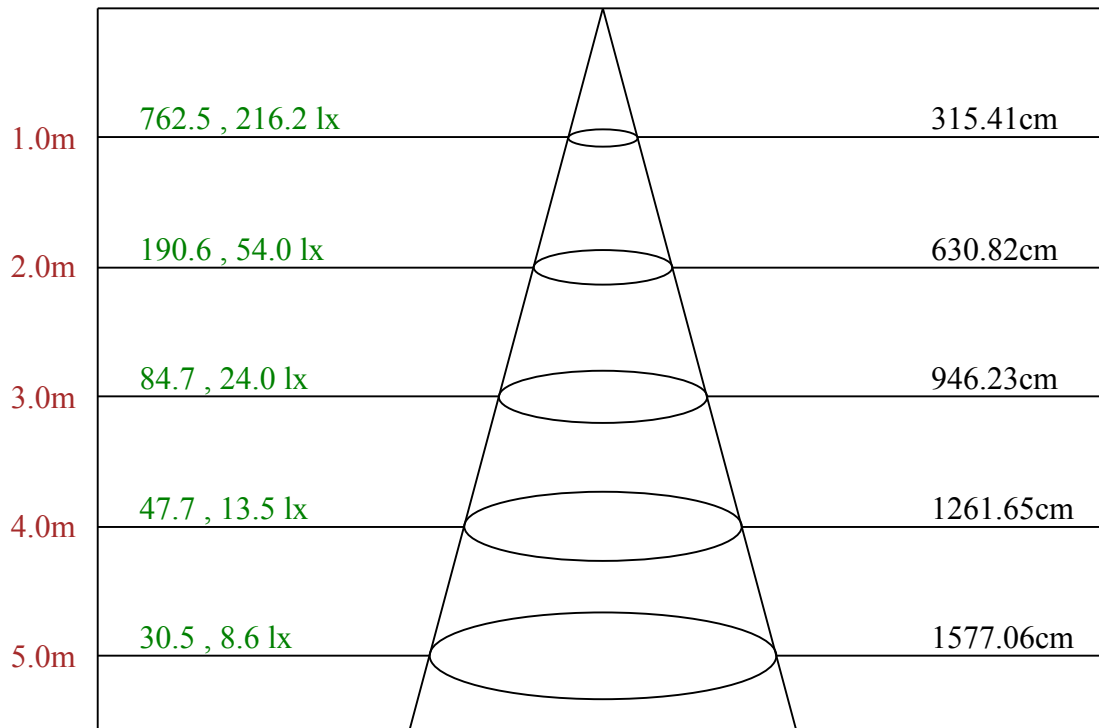
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	596.85	20.98%	20.98%
0-40	983.02	34.55%	34.55%
0-60	1778.52	62.51%	62.51%
0-90	2529.72	88.91%	88.91%
0-120	2769.23	97.33%	97.33%
0-180	2845.21	100.00%	100.00%
60-90	751.20	26.40%	26.40%
90-120	239.52	8.42%	8.42%
90-130	271.10	9.53%	9.53%
90-150	304.40	10.70%	10.70%
90-180	315.38	11.08%	11.08%
0-76.47	2276.17	80.00%	80.00%

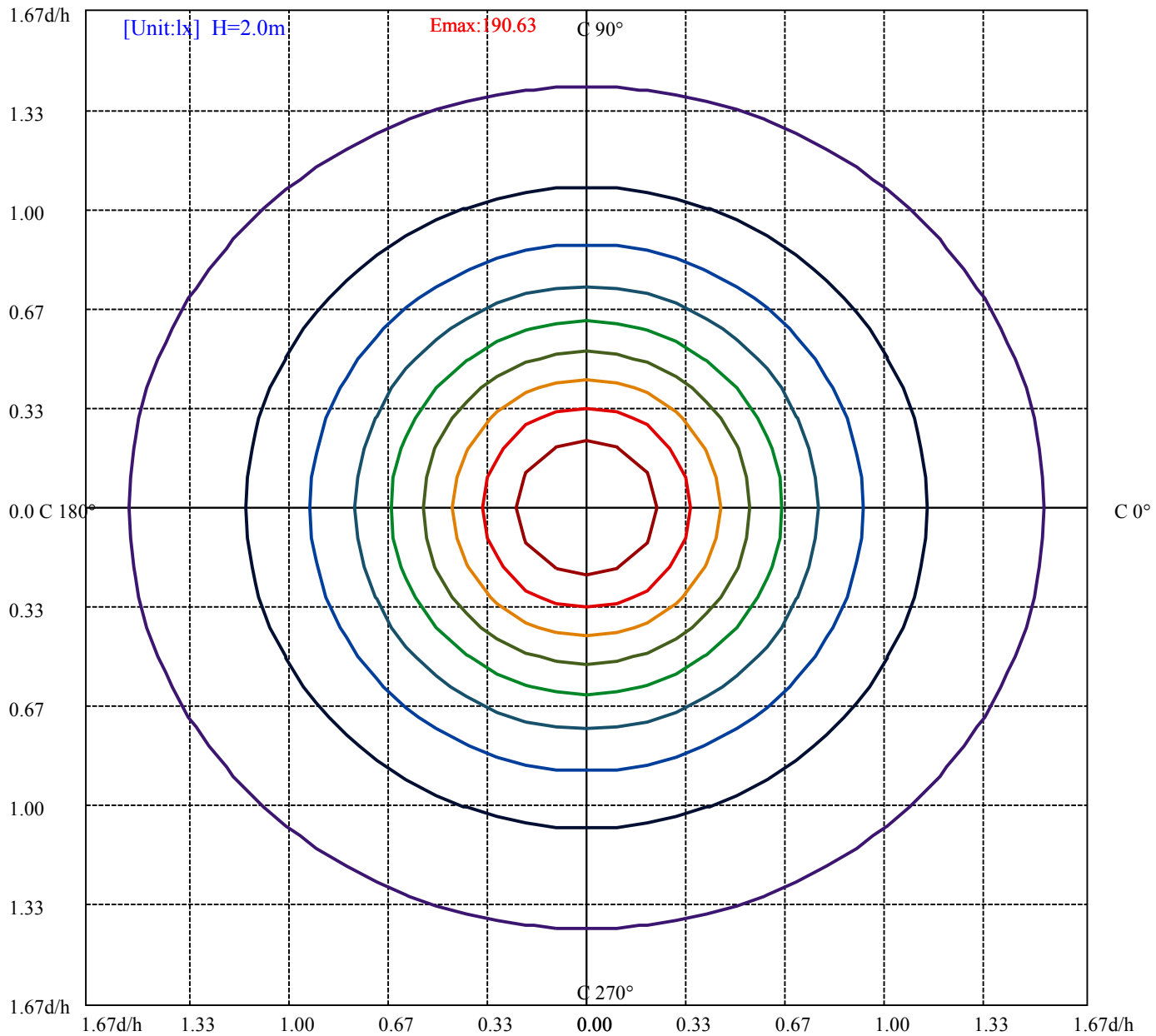
ZONAL LUMEN SUMMARY

0-10	72.26
10-20	207.75
20-30	316.84
30-40	386.18
40-50	408.64
50-60	386.86
60-70	328.74
70-80	250.13
80-90	172.34
90-100	114.78
100-110	75.82
110-120	48.92
120-130	31.58
130-140	20.37
140-150	12.92
150-160	7.36
160-170	3.11
170-180	0.51

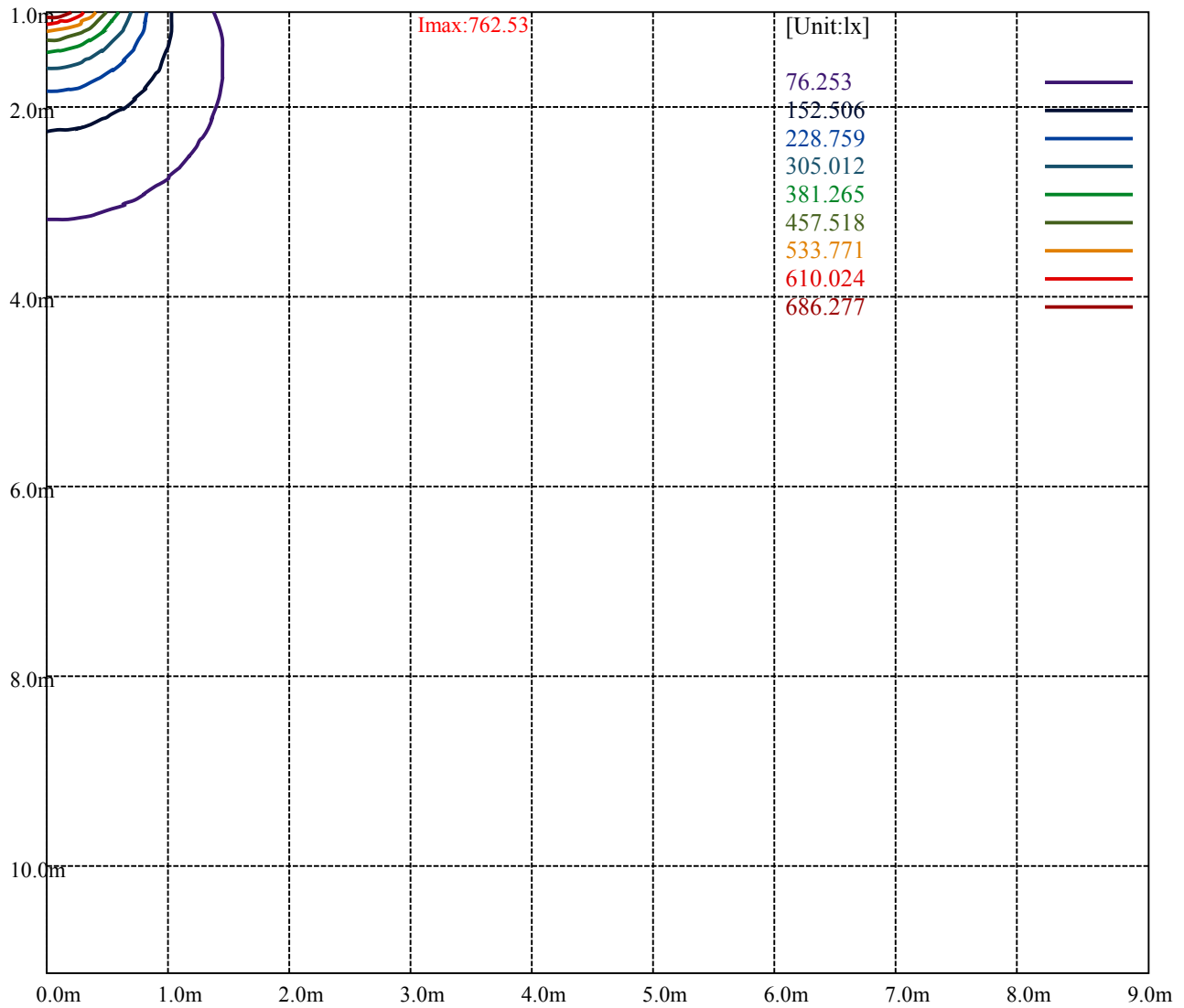




Max , Ave Beam angle of C60 plane 115.24



(10%Emax) 19.06325	—
(20%Emax) 38.1265	—
(30%Emax) 57.18975	—
(40%Emax) 76.253	—
(50%Emax) 95.31625	—
(60%Emax) 114.3795	—
(70%Emax) 133.4427	—
(80%Emax) 152.506	—
(90%Emax) 171.5692	—



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Luminance Limiting Curve(no luminous side)

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Luminance Table

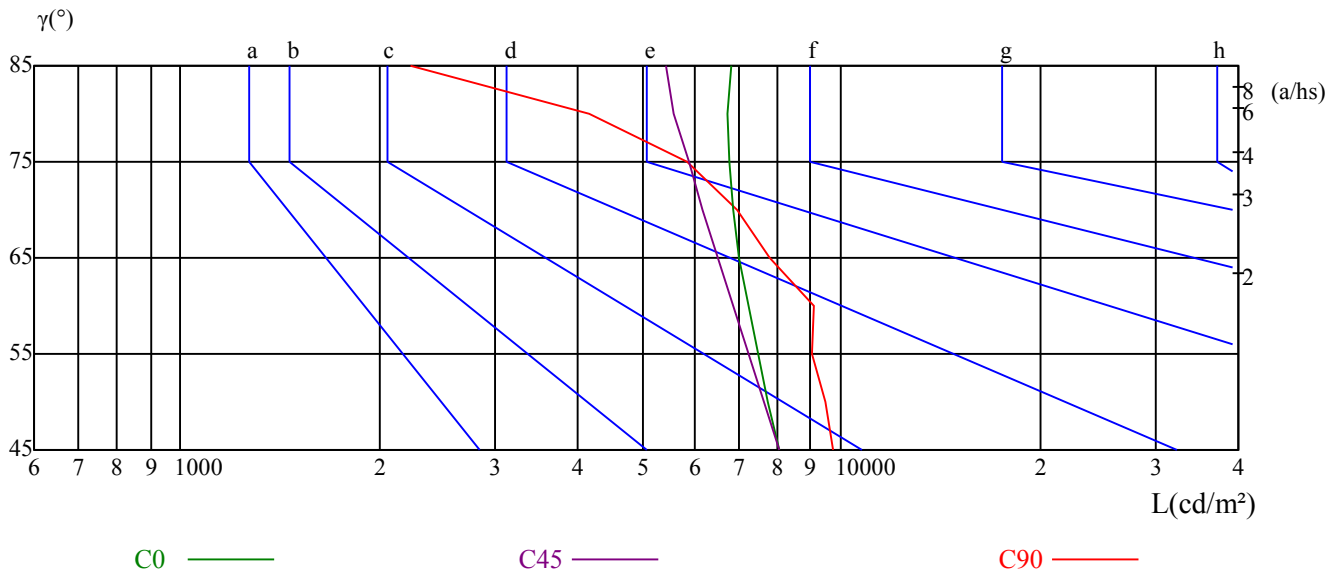
γ	45	50	55	60	65	70	75	80	85
C0	8054	7751	7483	7231	7020	6868	6761	6719	6821
C45	8073	7666	7272	6886	6498	6155	5872	5593	5449
C90	9759	9446	9036	9091	7804	6973	5836	4155	2233

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13864	9176	11785	18231	7621	14187	42260	4326	29075

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	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	0.98	0.98	0.98	0.92	0.92	0.92	0.89
1	0.98	0.93	0.89	0.95	0.90	0.86	0.89	0.85	0.81	0.83	0.80	0.77	0.77	0.75	0.73	0.70
2	0.85	0.77	0.71	0.82	0.75	0.69	0.76	0.71	0.66	0.71	0.67	0.63	0.67	0.63	0.60	0.57
3	0.74	0.65	0.58	0.71	0.63	0.57	0.67	0.60	0.54	0.62	0.57	0.52	0.58	0.54	0.50	0.47
4	0.65	0.56	0.49	0.63	0.54	0.48	0.59	0.52	0.46	0.55	0.49	0.44	0.52	0.47	0.42	0.40
5	0.58	0.48	0.42	0.56	0.47	0.41	0.53	0.45	0.39	0.49	0.43	0.38	0.46	0.41	0.36	0.34
6	0.52	0.43	0.36	0.50	0.42	0.35	0.47	0.40	0.34	0.45	0.38	0.33	0.42	0.36	0.32	0.30
7	0.47	0.38	0.32	0.46	0.37	0.31	0.43	0.36	0.30	0.41	0.34	0.29	0.38	0.33	0.28	0.26
8	0.43	0.34	0.28	0.42	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.29	0.25	0.23
9	0.39	0.31	0.25	0.38	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.23	0.32	0.27	0.23	0.21
10	0.36	0.28	0.23	0.35	0.28	0.22	0.33	0.26	0.22	0.32	0.26	0.21	0.30	0.25	0.21	0.19

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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	762.53	761.65	755.49	742.30	724.71	700.96	671.94	637.64	599.82		
15.0	762.53	760.76	753.67	741.27	722.68	699.65	667.77	635.00	596.03		
30.0	762.53	760.74	752.70	740.18	720.51	695.48	664.20	628.44	589.11		
45.0	762.53	759.83	751.74	737.35	717.57	689.69	658.22	620.45	578.19		
60.0	762.53	760.73	752.63	736.42	713.92	686.01	651.80	612.18	568.07		
75.0	762.53	759.83	750.81	733.69	712.06	683.21	648.06	607.50	561.53		
90.0	762.53	760.72	750.78	733.62	711.03	681.22	645.08	606.23	558.35		
105.0	762.53	760.72	750.78	735.43	713.74	684.83	650.50	610.75	565.57		
120.0	762.53	760.73	752.62	738.19	717.46	689.52	657.07	618.32	575.05		
135.0	762.53	762.53	755.31	741.77	723.73	697.56	665.97	628.97	587.46		
150.0	762.53	761.63	756.23	742.72	708.51	701.31	673.40	635.59	599.58		
165.0	762.53	761.63	756.26	744.61	727.58	704.29	675.61	644.25	603.03		
180.0	762.53	760.77	752.86	737.90	717.68	692.17	660.51	627.97	588.39		
195.0	762.53	759.87	751.02	735.96	717.36	689.91	660.68	625.26	587.17		
210.0	762.53	758.95	750.91	736.61	715.15	688.33	656.15	619.50	581.06		
225.0	762.53	758.93	749.04	732.86	713.07	685.20	651.93	612.36	569.20		
240.0	762.53	758.93	748.13	731.92	708.51	677.00	642.79	602.28	559.97		
255.0	762.53	758.02	746.31	728.28	705.75	672.40	638.15	596.68	550.72		
270.0	762.53	758.01	745.36	728.20	702.90	671.28	636.04	591.77	547.50		
285.0	762.53	758.01	746.27	728.20	703.80	672.18	638.75	596.29	583.64		
300.0	762.53	758.02	748.11	730.98	723.77	676.90	639.95	601.19	555.22		
315.0	762.53	759.82	750.80	731.85	711.09	682.22	647.02	608.22	564.00		
330.0	762.53	758.93	749.93	733.72	712.11	684.21	652.70	614.89	574.37		
345.0	762.53	758.05	749.99	732.96	713.25	685.47	655.01	618.27	579.74		
360.0	762.53	761.65	755.49	742.30	724.71	700.96	671.94	637.64	599.82		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	560.24	519.79	480.21	437.99	397.54	357.08	321.02	282.32	249.78		
15.0	556.18	513.67	472.04	430.42	387.02	348.05	309.09	271.89	237.35		
30.0	544.41	501.50	456.80	410.32	366.52	322.71	284.27	245.83	210.97		
45.0	531.43	482.88	434.32	382.16	334.51	287.75	245.48	203.22	167.25		
60.0	520.36	468.14	413.22	356.51	299.79	245.77	195.36	152.15	114.33		
75.0	511.96	457.88	399.29	340.70	277.61	214.52	154.13	102.75	58.59		
90.0	509.56	455.35	396.62	333.38	269.23	206.90	140.94	79.51	29.81		
105.0	514.98	460.77	406.56	346.03	284.59	223.16	164.43	114.74	70.47		
120.0	527.28	475.91	421.83	365.94	314.57	259.58	212.72	167.65	129.79		
135.0	541.44	494.52	447.59	397.96	350.13	303.21	261.70	219.28	184.09		
150.0	557.27	513.15	469.04	424.93	382.62	338.50	299.79	261.08	225.07		
165.0	567.19	527.77	486.55	444.44	402.32	362.00	322.57	286.73	251.79		
180.0	551.45	510.99	469.66	429.20	388.74	351.80	312.22	277.92	244.50		
195.0	547.32	505.70	465.84	421.56	382.59	342.74	303.77	267.46	233.81		
210.0	535.47	494.35	448.76	404.06	360.26	318.24	278.02	240.47	207.39		
225.0	523.34	473.88	424.43	377.67	326.41	282.35	239.19	198.73	163.66		
240.0	507.75	458.24	402.42	346.60	291.69	237.67	188.16	144.94	108.93		
255.0	499.34	444.36	385.77	324.48	265.89	202.80	143.31	127.99	51.38		
270.0	492.39	439.09	380.36	363.20	251.17	185.21	123.78	62.34	20.78		
285.0	499.62	441.80	386.69	326.15	263.81	203.28	147.27	98.48	62.34		
300.0	506.55	453.37	398.39	344.31	290.23	238.85	191.98	152.33	117.17		
315.0	517.08	469.25	419.62	373.59	325.77	280.65	239.14	200.33	165.14		
330.0	531.16	487.05	440.23	398.82	355.61	314.19	274.58	239.47	204.36		
345.0	538.52	497.30	456.98	413.97	374.54	335.12	297.49	261.64	226.70		
360.0	560.24	519.79	480.21	437.99	397.54	357.08	321.02	282.32	249.78		

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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	217.24	187.33	160.07	135.44	114.34	94.11	77.40	64.20	53.65	
15.0	207.24	176.24	150.56	126.65	105.39	86.79	72.62	60.22	49.60	
30.0	178.79	150.18	125.15	104.59	84.92	69.73	57.21	48.27	41.12	
45.0	137.58	110.60	89.02	71.04	56.65	45.86	39.57	34.17	30.57	
60.0	84.63	62.12	45.91	36.01	28.81	24.31	22.51	20.71	19.81	
75.0	32.45	18.03	12.62	10.82	9.91	9.91	9.91	9.91	9.01	
90.0	3.61	1.81	1.81	1.81	0.90	0.90	1.81	1.81	1.81	
105.0	43.37	27.10	18.07	15.36	13.55	12.65	12.65	11.75	10.84	
120.0	99.15	74.81	56.78	43.26	35.15	29.74	26.14	24.34	22.53	
135.0	152.51	124.53	100.17	81.22	64.97	53.24	44.22	37.90	33.39	
150.0	192.66	162.95	137.74	114.33	93.63	76.52	63.92	52.22	45.01	
165.0	218.63	188.17	160.39	135.30	112.01	93.19	77.06	63.62	52.87	
180.0	212.84	182.94	156.55	131.05	109.06	91.47	73.88	61.57	51.01	
195.0	201.92	172.70	147.90	122.22	101.85	84.14	69.08	56.68	46.94	
210.0	174.32	147.50	122.47	101.02	82.24	67.05	56.32	46.48	39.33	
225.0	133.08	107.01	86.32	69.24	54.85	45.86	44.06	34.17	29.67	
240.0	81.92	59.42	55.82	35.11	29.71	26.11	23.41	21.61	18.91	
255.0	27.94	18.03	13.52	12.62	11.72	10.82	9.91	9.01	9.01	
270.0	2.71	2.71	2.71	2.71	2.71	2.71	1.81	1.81	1.81	
285.0	37.04	23.49	17.17	15.36	13.55	13.55	12.65	11.75	10.84	
300.0	89.23	66.70	51.38	39.66	32.45	27.94	25.24	22.53	20.73	
315.0	137.17	111.90	90.24	73.09	59.56	48.73	40.61	35.19	30.68	
330.0	175.55	147.64	123.34	101.73	83.73	69.32	56.72	47.71	40.51	
345.0	198.02	169.35	143.37	120.97	100.36	82.44	68.10	56.45	46.59	
360.0	217.24	187.33	160.07	135.44	114.34	94.11	77.40	64.20	53.65	
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	
0.0	44.85	38.70	34.30	29.90	26.39	21.99	16.71	12.31	7.92	
15.0	42.51	37.20	32.77	28.34	25.68	21.26	16.83	11.51	7.97	
30.0	35.76	32.18	28.61	25.92	22.35	18.77	14.30	10.73	7.15	
45.0	27.88	25.18	22.48	20.68	17.98	15.29	12.59	8.99	7.19	
60.0	18.01	17.11	15.30	13.50	12.60	10.80	9.00	7.20	6.30	
75.0	8.11	8.11	7.21	7.21	7.21	7.21	6.31	6.31	5.41	
90.0	1.81	2.71	2.71	3.61	4.52	5.42	5.42	5.42	5.42	
105.0	10.84	9.94	9.03	9.03	8.13	8.13	6.32	5.42	5.42	
120.0	20.73	18.93	17.13	16.22	14.42	12.62	9.91	7.21	5.41	
135.0	29.78	27.07	24.36	21.66	18.95	16.24	13.54	9.93	6.32	
150.0	38.71	34.21	30.61	27.01	23.41	19.81	16.20	11.70	7.20	
165.0	44.80	38.53	34.05	29.57	25.99	21.50	17.02	13.44	8.06	
180.0	43.10	36.94	31.66	27.26	22.87	18.47	14.07	9.67	6.16	
195.0	39.85	34.54	30.11	25.68	22.14	20.37	13.28	9.74	6.20	
210.0	33.97	33.08	26.82	22.35	18.77	16.09	12.52	8.94	5.36	
225.0	26.98	23.38	20.68	17.98	15.29	12.59	9.89	7.19	5.40	
240.0	17.11	15.30	13.50	12.60	10.80	9.00	7.20	5.40	5.40	
255.0	8.11	7.21	6.31	5.41	5.41	5.41	4.51	4.51	5.41	
270.0	1.81	1.81	1.81	2.71	2.71	3.61	4.52	4.52	5.42	
285.0	9.03	8.13	7.23	6.32	6.32	5.42	5.42	5.42	5.42	
300.0	18.93	16.22	14.42	12.62	10.82	9.01	7.21	6.31	5.41	
315.0	27.07	24.36	21.66	18.95	16.24	12.63	9.93	7.22	5.41	
330.0	34.21	30.61	27.01	22.51	18.91	15.30	11.70	8.10	6.30	
345.0	39.43	34.05	29.57	25.99	21.50	17.02	12.54	8.96	6.27	
360.0	44.85	38.70	34.30	29.90	26.39	21.99	16.71	12.31	7.92	

Intensity data(cd)

C/γ(°)	180.0
0.0	6.16
15.0	5.31
30.0	5.36
45.0	5.40
60.0	5.40
75.0	5.41
90.0	5.42
105.0	5.42
120.0	5.41
135.0	5.41
150.0	5.40
165.0	5.38
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	6.16