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Light Blue USA-Rayhil

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Client:

LumCAT: LB85190

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.940

LampCAT:

Current(A): 0.196

Lamp flux(lm): 2775.5

Power (W): 23.230

Number of Lamps: 1

PF: 0.986

Length(mm): 610

Width(mm): 110

Phm Type: C

Height(mm): 50

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Photometric Results

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Lumens(lm): 2775.46, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 119.48

Central intensity(cd): 743.854, Maximum intensity(cd): 743.854

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

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

[C90/270]Total=111.8

Field angle(10%Imax): [C0/180]Total=239.8

[C90/270]Total=159.0

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  $\pi$  solid angle : 62.509%

# Light Blue USA-Rayhil LB85190

Zonal flux distribution table

Appendix Page: 2 Total:12

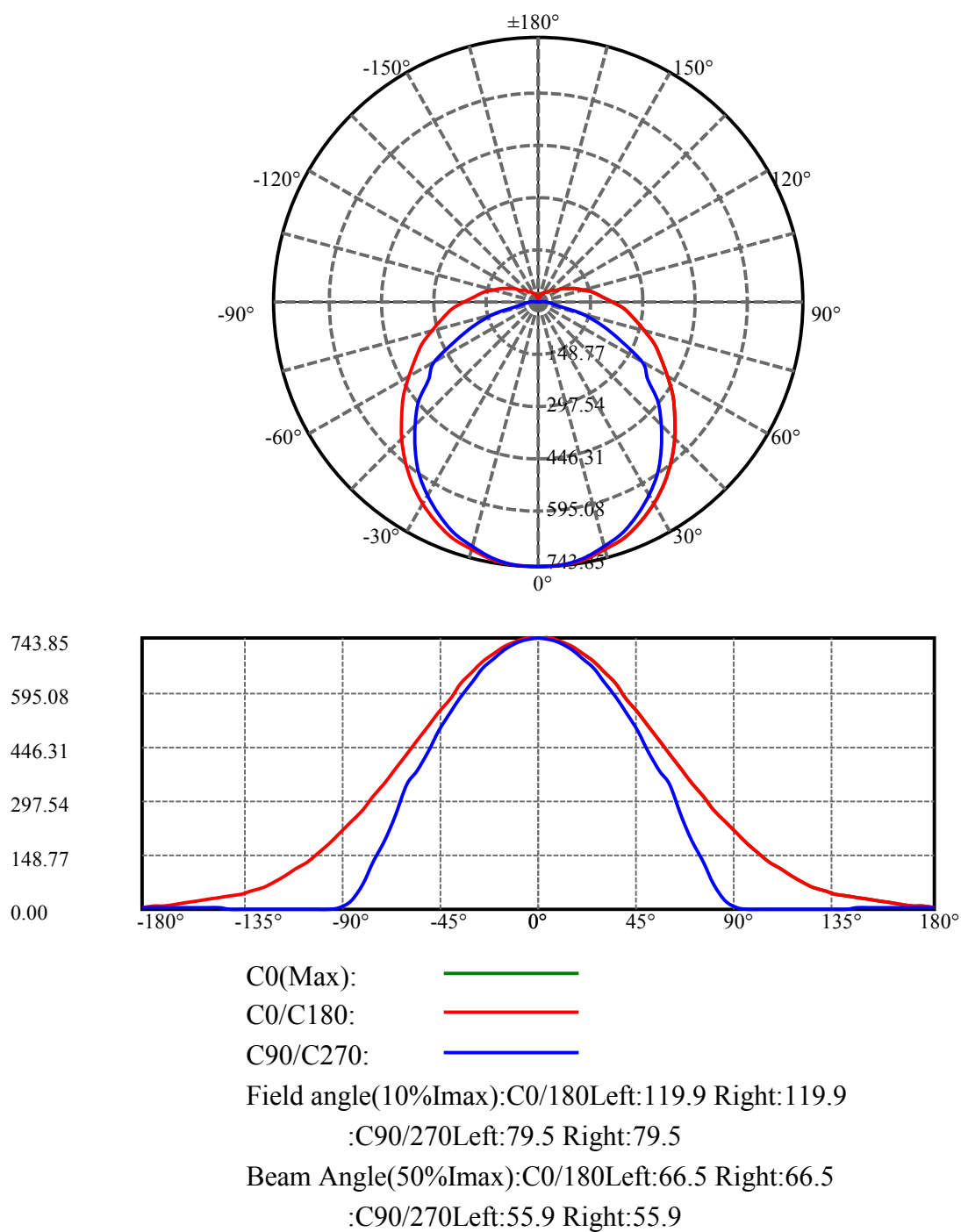
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	743.854	0.000	0	0.00%	0.00%
5.0	741.241	17.754	17.754	0.64%	0.64%
10.0	732.763	52.730	70.484	1.90%	2.54%
15.0	717.732	86.042	156.526	3.10%	5.64%
20.0	697.387	116.626	273.152	4.20%	9.84%
25.0	670.253	143.440	416.592	5.17%	15.01%
30.0	638.527	165.627	582.219	5.97%	20.98%
35.0	601.501	182.603	764.822	6.58%	27.56%
40.0	561.758	194.081	958.903	6.99%	34.55%
45.0	515.909	199.539	1158.441	7.19%	41.74%
50.0	469.279	199.072	1357.513	7.17%	48.91%
55.0	421.234	193.627	1551.14	6.98%	55.89%
60.0	373.801	183.770	1734.91	6.62%	62.51%
65.0	322.903	169.370	1904.28	6.10%	68.61%
70.0	274.877	151.362	2055.642	5.45%	74.06%
75.0	229.615	131.866	2187.508	4.75%	78.82%
80.0	189.437	112.127	2299.634	4.04%	82.86%
85.0	151.802	92.723	2392.357	3.34%	86.20%
90.0	123.461	75.369	2467.727	2.72%	88.91%
95.0	101.352	61.556	2529.282	2.22%	91.13%
100.0	84.118	50.397	2579.679	1.82%	92.95%
105.0	69.042	40.981	2620.66	1.48%	94.42%
110.0	56.981	32.940	2653.601	1.19%	95.61%
115.0	47.445	26.441	2680.042	0.95%	96.56%
120.0	40.069	21.275	2701.317	0.77%	97.33%
125.0	33.914	17.101	2718.418	0.62%	97.94%
130.0	29.089	13.699	2732.116	0.49%	98.44%
135.0	25.372	11.005	2743.121	0.40%	98.83%
140.0	22.562	8.875	2751.996	0.32%	99.15%
145.0	19.988	7.099	2759.095	0.26%	99.41%
150.0	17.653	5.543	2764.638	0.20%	99.61%
155.0	15.397	4.183	2768.821	0.15%	99.76%
160.0	13.105	2.989	2771.81	0.11%	99.87%
165.0	10.461	1.942	2773.752	0.07%	99.94%
170.0	8.047	1.098	2774.85	0.04%	99.98%
175.0	6.108	0.506	2775.356	0.02%	100.00%
180.0	2.766	0.106	2775.463	0.00%	100.00%

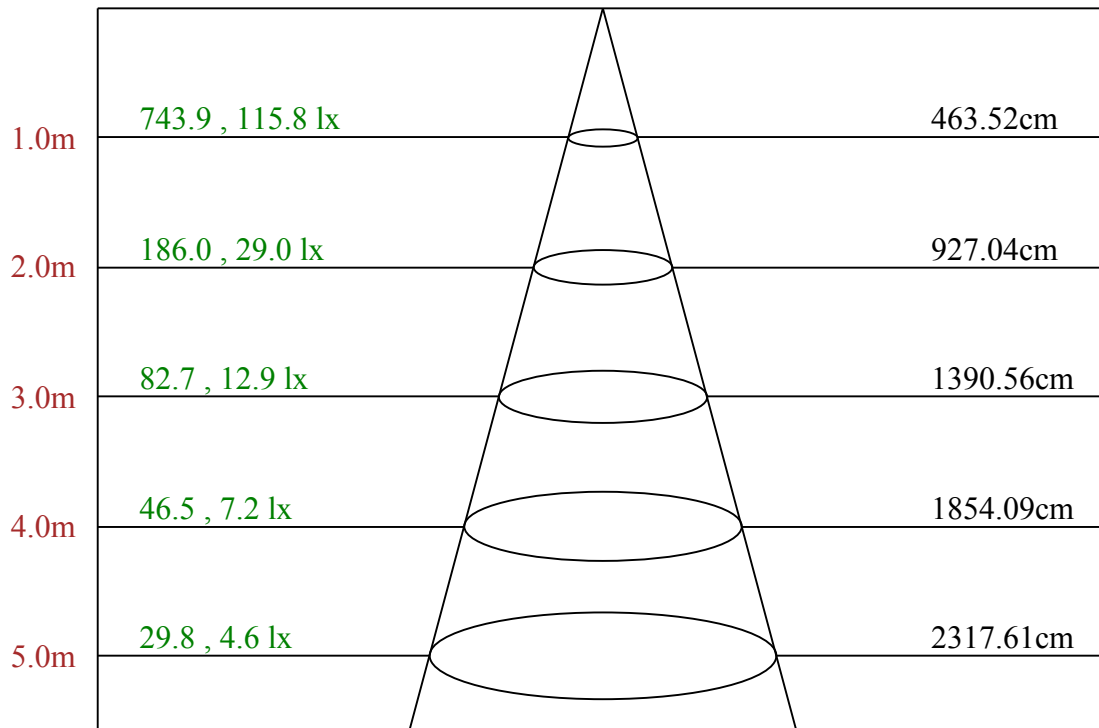
## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	582.22	20.98%	20.98%
0-40	958.90	34.55%	34.55%
0-60	1734.91	62.51%	62.51%
0-90	2467.73	88.91%	88.91%
0-120	2701.32	97.33%	97.33%
0-180	2775.46	100.00%	100.00%
60-90	732.82	26.40%	26.40%
90-120	233.59	8.42%	8.42%
90-130	264.39	9.53%	9.53%
90-150	296.91	10.70%	10.70%
90-180	307.63	11.08%	11.08%
0-76.47	2220.37	80.00%	80.00%

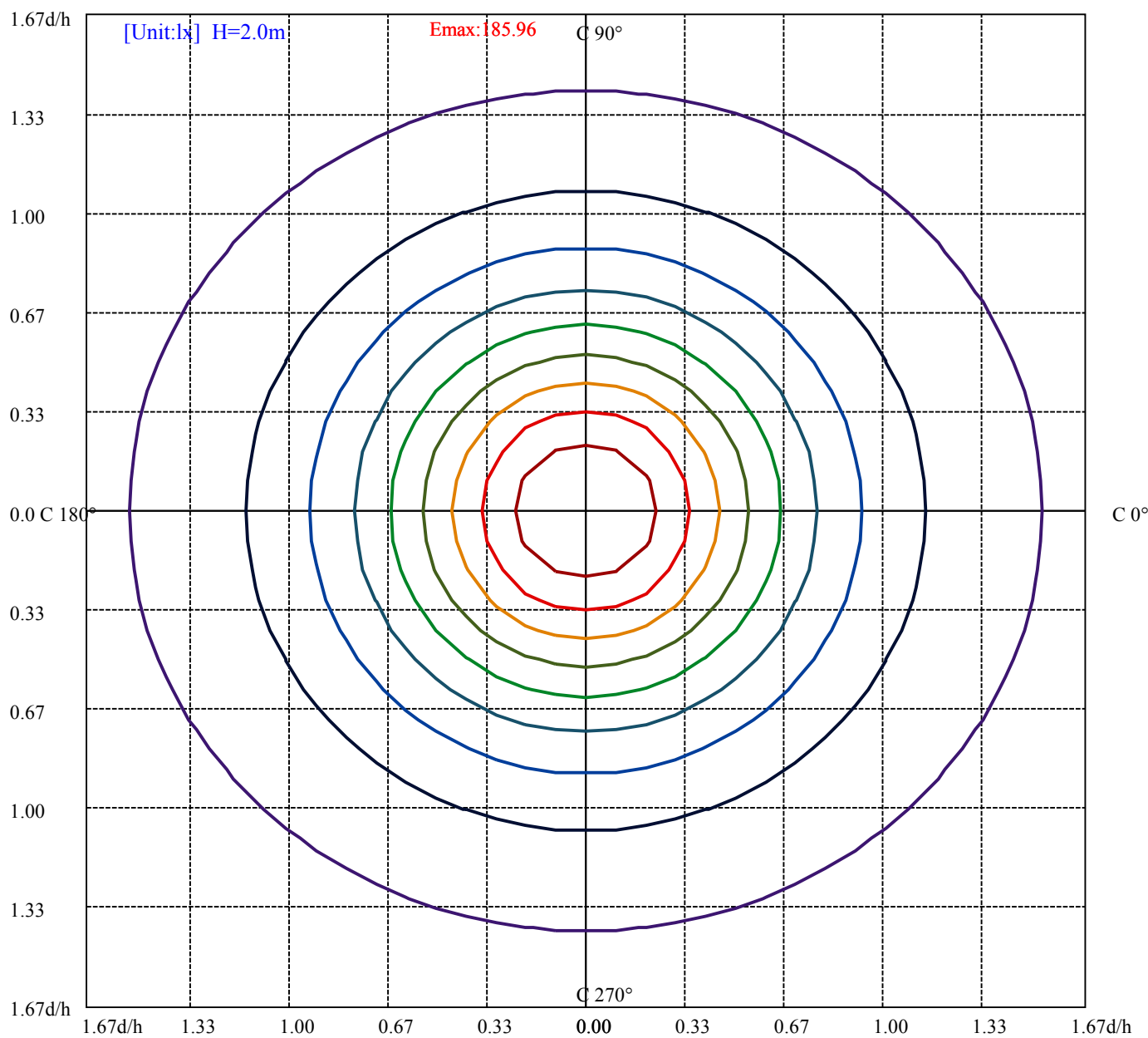
## ZONAL LUMEN SUMMARY

0-10	70.48
10-20	202.67
20-30	309.07
30-40	376.68
40-50	398.61
50-60	377.40
60-70	320.73
70-80	243.99
80-90	168.09
90-100	111.95
100-110	73.92
110-120	47.72
120-130	30.80
130-140	19.88
140-150	12.64
150-160	7.17
160-170	3.04
170-180	0.51

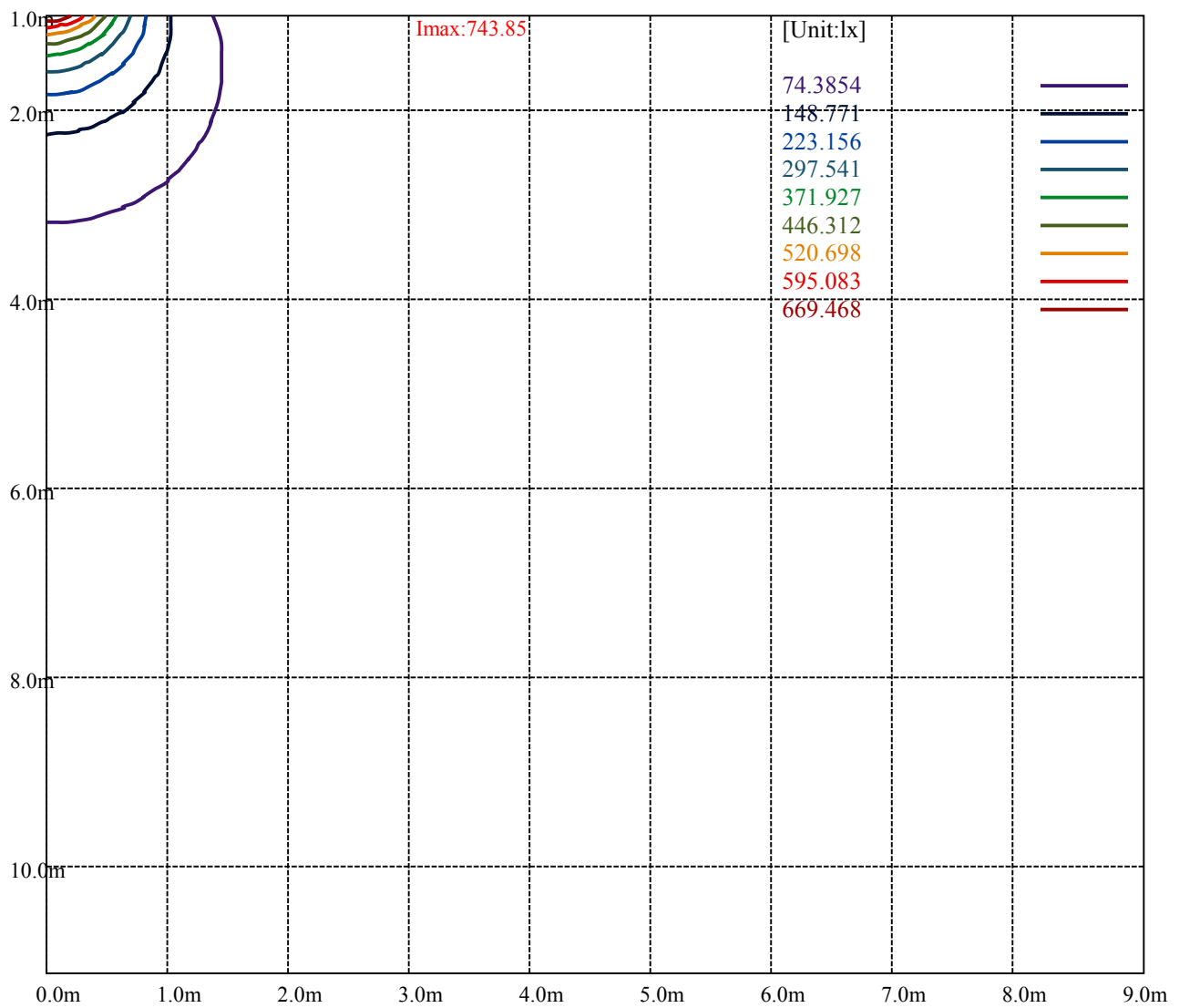




Max , Ave      Beam angle of C0 plane 133.32



(10%Emax)	18.59635	
(20%Emax)	37.19275	
(30%Emax)	55.789	
(40%Emax)	74.38525	
(50%Emax)	92.98175	
(60%Emax)	111.578	
(70%Emax)	130.1745	
(80%Emax)	148.7708	
(90%Emax)	167.367	



# Light Blue USA-Rayhil LB85190

## Luminance Limiting Curve(no luminous side)

Appendix Page: 8 Total:12

Luminance Table

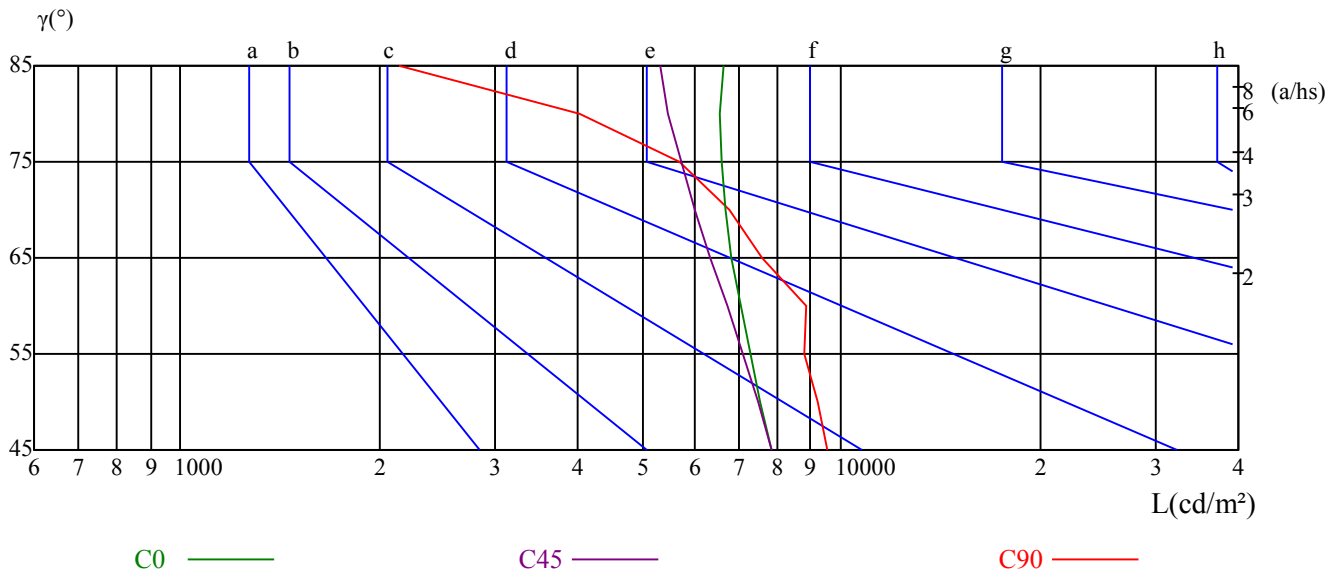
$\gamma$	45	50	55	60	65	70	75	80	85
C0	7856	7560	7300	7056	6847	6704	6592	6556	6646
C45	7875	7473	7094	6716	6342	6007	5725	5459	5315
C90	9519	9212	8811	8867	7613	6789	5687	4030	2145

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13522	8951	11502	17773	7426	13832	41173	4154	28362

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





RHOCC	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

# Light Blue USA-Rayhil LB85190

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	743.85	742.45	736.91	723.63	707.01	683.80	655.14	621.46	585.24		
15.0	743.85	742.08	735.61	723.21	705.31	682.63	651.88	619.27	581.97		
30.0	743.85	742.24	734.82	722.39	703.34	678.47	648.16	612.92	575.08		
45.0	743.85	741.43	733.60	719.75	700.33	672.89	642.41	605.26	563.80		
60.0	743.85	741.96	733.41	718.30	696.43	668.89	635.78	597.08	553.53		
75.0	743.85	741.24	732.13	716.00	694.72	666.32	632.15	592.67	548.22		
90.0	743.85	741.42	732.11	715.77	693.01	663.92	629.24	590.77	544.25		
105.0	743.85	741.51	732.56	716.94	696.16	668.07	634.65	595.44	551.18		
120.0	743.85	742.32	734.30	720.42	699.68	672.73	641.27	603.50	561.14		
135.0	743.85	743.49	736.28	722.75	705.34	680.17	649.33	613.34	572.57		
150.0	743.85	743.13	737.19	724.59	691.02	684.00	656.45	620.27	584.44		
165.0	743.85	743.50	738.12	726.82	709.88	687.38	659.14	628.39	588.06		
180.0	743.85	741.57	733.74	719.76	699.80	674.57	644.23	612.23	573.89		
195.0	743.85	741.28	733.04	718.60	700.17	673.23	644.79	610.23	573.02		
210.0	743.85	741.08	732.67	718.45	697.97	671.86	640.46	604.24	566.68		
225.0	743.85	740.53	730.99	715.34	695.83	668.49	635.66	597.80	555.62		
240.0	743.85	740.16	729.73	713.71	690.67	660.16	627.14	587.54	545.88		
255.0	743.85	739.98	728.53	710.68	688.68	656.41	622.96	582.30	537.13		
270.0	743.85	739.07	727.15	710.17	685.42	654.89	620.39	576.86	533.50		
285.0	743.85	739.43	728.14	710.52	686.22	655.87	622.63	581.80	569.34		
300.0	743.85	739.26	730.06	712.93	706.44	660.65	623.96	586.38	542.03		
315.0	743.85	740.43	732.04	713.55	692.98	664.84	631.11	592.68	549.93		
330.0	743.85	740.25	730.98	715.86	694.44	667.34	636.65	600.02	560.05		
345.0	743.85	740.00	732.20	715.44	696.43	668.46	639.06	603.56	565.64		
360.0	743.85	742.45	736.91	723.63	707.01	683.80	655.14	621.46	585.24		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	546.72	507.16	468.38	427.50	387.40	348.54	313.02	275.30	243.38		
15.0	542.54	501.51	460.31	420.26	378.09	340.07	301.79	265.55	231.97		
30.0	530.99	489.49	445.40	400.77	357.30	315.27	277.17	239.96	205.62		
45.0	518.57	470.81	424.13	372.96	326.64	280.69	239.77	198.13	163.23		
60.0	507.54	456.43	402.61	347.63	292.38	239.55	190.42	148.75	111.77		
75.0	499.54	446.62	389.55	332.67	271.27	209.70	150.65	100.43	56.98		
90.0	497.02	443.73	386.83	325.41	262.73	201.32	137.37	77.13	28.72		
105.0	502.59	449.74	396.18	337.65	277.31	217.51	160.42	112.10	69.10		
120.0	514.17	463.96	411.41	357.14	306.48	253.03	207.24	163.88	126.65		
135.0	528.19	481.74	436.19	388.03	341.40	296.03	255.08	213.77	179.58		
150.0	543.49	500.82	457.71	414.50	373.46	330.07	292.00	254.37	219.54		
165.0	553.27	515.18	474.57	433.87	392.81	353.01	314.73	279.60	245.35		
180.0	537.58	498.28	458.36	418.70	379.49	343.44	304.31	271.34	238.19		
195.0	533.94	493.54	454.73	411.58	373.48	334.40	296.74	261.21	227.99		
210.0	522.94	482.16	438.16	394.51	351.94	310.53	271.18	234.33	202.40		
225.0	510.38	462.63	414.24	368.28	318.73	275.38	232.93	194.17	159.72		
240.0	495.12	446.44	392.71	338.09	284.01	231.99	183.85	141.28	105.83		
255.0	487.01	433.37	376.30	316.98	259.01	197.62	139.65	125.22	50.49		
270.0	480.31	428.56	370.75	354.04	244.94	180.45	120.57	60.42	19.87		
285.0	487.41	431.05	377.39	318.23	257.62	198.36	143.35	96.02	60.97		
300.0	493.80	442.15	389.05	335.69	282.96	233.02	187.32	148.64	114.21		
315.0	504.38	457.12	409.22	364.22	317.94	274.02	233.07	195.73	160.91		
330.0	518.38	474.99	429.26	388.85	346.63	306.13	267.87	233.76	199.65		
345.0	525.93	485.24	446.15	403.66	365.65	326.93	290.26	255.39	221.15		
360.0	546.72	507.16	468.38	427.50	387.40	348.54	313.02	275.30	243.38		

Light Blue USA-Rayhil LB85190

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	211.99	182.97	156.33	132.06	111.31	91.97	75.79	62.69	52.67		
15.0	202.11	171.90	147.26	123.70	102.61	84.62	70.53	58.48	48.82		
30.0	174.67	146.77	122.44	101.87	82.46	68.06	56.17	47.13	39.98		
45.0	134.18	108.19	86.61	69.07	55.22	45.15	38.31	33.19	29.59		
60.0	82.52	60.56	44.81	34.92	28.17	23.94	21.87	20.61	19.08		
75.0	31.28	17.22	12.17	10.46	10.01	9.65	9.38	9.29	8.38		
90.0	3.43	1.54	1.45	1.35	1.17	1.08	1.35	1.63	1.72		
105.0	42.45	26.01	17.79	14.54	13.37	12.47	12.10	11.56	10.84		
120.0	96.45	72.65	55.80	42.28	34.16	28.94	25.69	23.44	21.72		
135.0	148.37	121.31	98.04	78.74	63.14	51.86	43.38	37.25	32.56		
150.0	187.85	159.05	134.57	111.25	91.18	74.62	62.02	51.31	43.75		
165.0	213.08	183.50	156.52	131.68	109.36	90.90	74.76	61.67	51.45		
180.0	207.24	178.58	152.29	128.20	106.57	88.89	72.28	60.05	49.59		
195.0	197.06	168.80	144.07	119.53	99.68	81.96	67.34	55.65	46.16		
210.0	170.20	144.17	119.76	98.47	80.40	65.74	54.65	45.70	38.73		
225.0	130.14	104.68	83.91	67.45	53.69	44.70	43.08	33.01	29.05		
240.0	79.55	57.77	54.35	34.20	28.62	25.02	22.59	20.70	18.81		
255.0	27.68	17.22	13.16	11.99	11.18	10.64	10.01	9.20	8.38		
270.0	2.89	2.53	2.62	2.89	2.53	2.35	2.08	1.99	1.72		
285.0	35.77	22.94	17.07	14.54	13.55	12.83	12.10	11.29	10.21		
300.0	86.63	65.35	49.76	38.94	31.91	27.49	24.43	22.17	20.19		
315.0	133.49	109.41	87.67	71.26	57.64	47.44	39.87	33.91	29.86		
330.0	171.20	144.11	120.35	99.46	81.64	67.60	55.36	46.54	39.15		
345.0	192.82	165.21	140.02	118.15	97.98	80.77	66.51	55.49	45.72		
360.0	211.99	182.97	156.33	132.06	111.31	91.97	75.79	62.69	52.67		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	43.88	38.16	33.68	29.54	25.32	21.37	16.53	11.87	8.00		
15.0	41.38	35.97	32.08	28.00	24.63	20.38	16.04	11.43	7.89		
30.0	35.06	31.30	28.08	24.86	21.64	18.25	14.22	10.55	7.33		
45.0	26.89	24.64	22.12	19.97	17.54	14.66	11.87	9.08	6.66		
60.0	17.73	16.47	15.21	13.50	12.24	10.53	9.00	7.38	5.94		
75.0	8.02	7.66	7.21	6.94	6.94	6.67	6.31	5.77	5.41		
90.0	1.99	2.35	2.98	3.61	4.34	4.88	5.15	5.33	5.42		
105.0	10.21	9.76	9.21	8.76	8.13	7.59	6.59	5.69	5.42		
120.0	19.92	18.30	16.86	15.50	13.97	12.17	9.74	7.30	5.68		
135.0	29.13	26.61	23.90	21.38	18.85	16.15	13.26	9.47	6.31		
150.0	37.62	33.12	29.70	26.37	22.77	19.17	15.39	11.61	7.38		
165.0	43.75	37.74	33.26	29.13	25.01	21.16	16.94	12.82	8.07		
180.0	41.76	35.70	31.13	26.64	22.25	18.02	13.80	9.76	6.24		
195.0	39.25	33.85	29.42	25.25	21.27	20.03	13.20	9.39	6.03		
210.0	33.54	32.47	25.85	22.09	18.69	15.38	11.98	8.50	5.63		
225.0	26.08	23.11	20.15	17.54	15.11	12.59	9.71	6.93	5.40		
240.0	16.92	14.94	13.41	11.97	10.53	8.73	6.84	5.58	5.22		
255.0	7.66	6.94	6.13	5.68	5.32	4.87	4.60	4.69	5.23		
270.0	1.72	1.81	1.99	2.62	3.07	3.61	4.15	4.70	5.15		
285.0	8.85	7.68	7.05	6.50	6.05	5.69	5.06	4.97	5.24		
300.0	18.21	16.23	14.42	12.44	10.46	8.92	7.30	6.13	5.41		
315.0	26.79	23.63	20.75	18.13	15.42	12.09	9.38	7.22	5.68		
330.0	33.75	29.61	26.01	22.32	18.81	14.94	11.52	8.28	5.85		
345.0	38.82	33.44	29.13	24.92	21.16	16.67	12.46	8.70	6.01		
360.0	43.88	38.16	33.68	29.54	25.32	21.37	16.53	11.87	8.00		

Intensity data(cd)

C/γ(°)	180.0
0.0	5.89
15.0	5.49
30.0	5.63
45.0	5.49
60.0	5.58
75.0	5.50
90.0	5.51
105.0	5.42
120.0	5.50
135.0	5.50
150.0	5.49
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	5.89