
Light Blue USA-Rayhil

Client:

LumCAT: INV-20-CCT-UNV-**-2700K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.264

Lamp flux(lm): 2508.1

Power (W): 31.430

Number of Lamps: 1

PF: 0.993

Length(mm): -480

Width(mm): -480

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2508.07, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 79.80

Central intensity(cd): 858.744, Maximum intensity(cd): 858.744

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=113.2

[C90/270]Total=115.4

Field angle(10%Imax): [C0/180]Total=162.8

[C90/270]Total=162.8

Maximum s/h(1/2): C0_180=1.27 C90_270=1.26

Maximum s/h(1/4): C0_180=1.38 C90_270=1.38

Up flux rate of lamp(%): 0.56%

Down flux rate of lamp(%): 99.44%

Up flux rate of LUM(%): 0.56%

Down flux rate of LUM(%): 99.44%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 77.673%

Light Blue USA-Rayhil INV-20-CCT-UNV-**-2700K-F

Zonal flux distribution table

Appendix Page: 2 Total:12

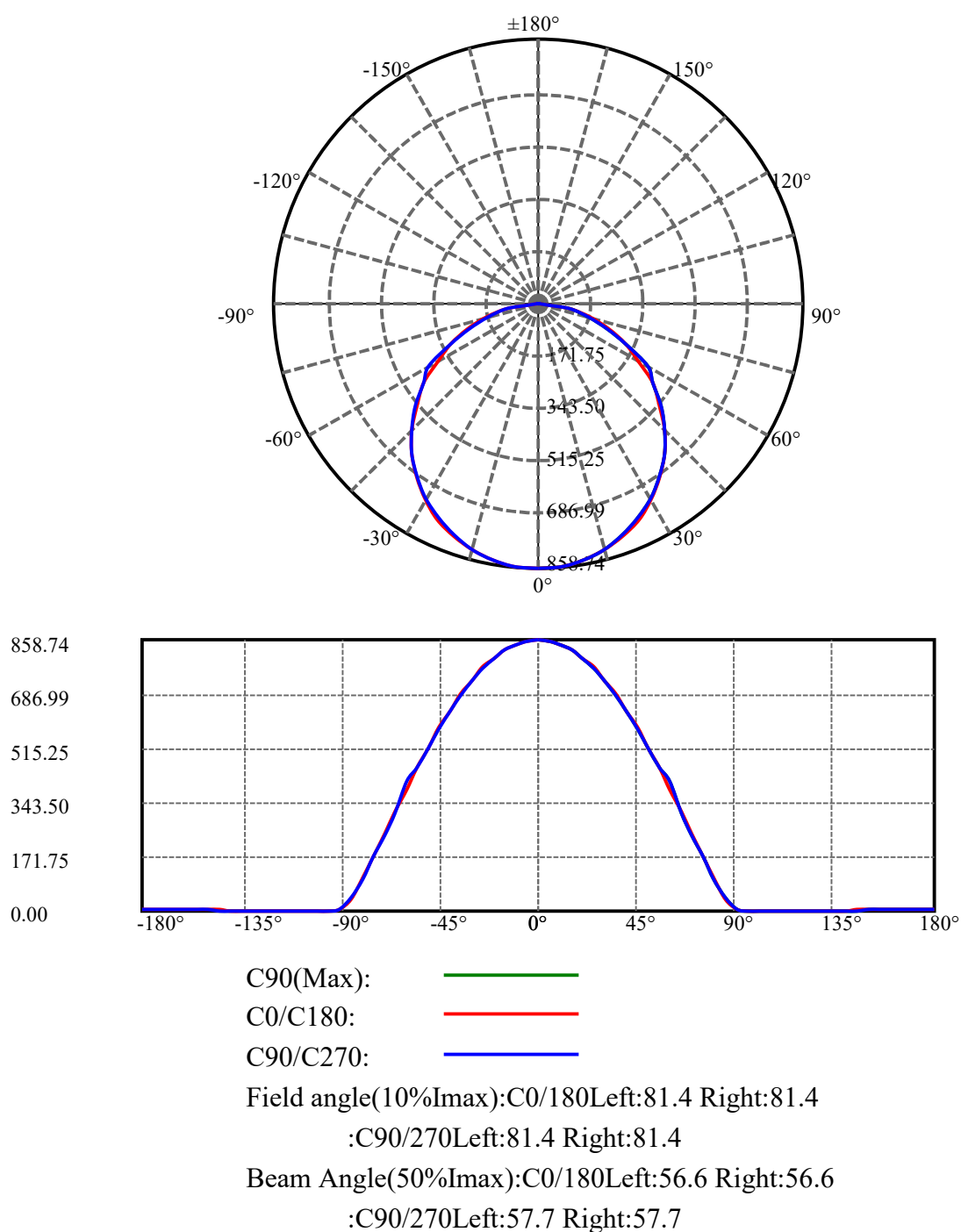
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	858.744	0.000	0	0.00%	0.00%
5.0	854.853	20.486	20.486	0.82%	0.82%
10.0	844.170	60.779	81.265	2.42%	3.24%
15.0	825.743	99.058	180.323	3.95%	7.19%
20.0	800.481	134.024	314.347	5.34%	12.53%
25.0	768.888	164.598	478.945	6.56%	19.10%
30.0	730.737	189.779	668.723	7.57%	26.66%
35.0	686.327	208.673	877.396	8.32%	34.98%
40.0	637.114	220.806	1098.202	8.80%	43.79%
45.0	578.544	225.089	1323.291	8.97%	52.76%
50.0	516.469	221.263	1544.554	8.82%	61.58%
55.0	450.999	210.360	1754.914	8.39%	69.97%
60.0	384.696	193.169	1948.083	7.70%	77.67%
65.0	313.227	169.666	2117.749	6.76%	84.44%
70.0	242.339	140.673	2258.422	5.61%	90.05%
75.0	172.712	108.488	2366.91	4.33%	94.37%
80.0	106.065	74.593	2441.503	2.97%	97.35%
85.0	40.516	39.829	2481.332	1.59%	98.93%
90.0	5.759	12.670	2494.003	0.51%	99.44%
95.0	1.374	1.953	2495.956	0.08%	99.52%
100.0	1.412	0.757	2496.712	0.03%	99.55%
105.0	1.374	0.745	2497.458	0.03%	99.58%
110.0	1.526	0.758	2498.216	0.03%	99.61%
115.0	1.678	0.811	2499.027	0.03%	99.64%
120.0	1.412	0.751	2499.778	0.03%	99.67%
125.0	1.755	0.732	2500.51	0.03%	99.70%
130.0	1.831	0.780	2501.29	0.03%	99.73%
135.0	1.831	0.740	2502.03	0.03%	99.76%
140.0	2.328	0.770	2502.8	0.03%	99.79%
145.0	2.594	0.821	2503.621	0.03%	99.82%
150.0	3.205	0.854	2504.475	0.03%	99.86%
155.0	4.045	0.917	2505.393	0.04%	99.89%
160.0	4.234	0.868	2506.261	0.03%	99.93%
165.0	4.808	0.745	2507.006	0.03%	99.96%
170.0	5.036	0.584	2507.59	0.02%	99.98%
175.0	5.494	0.377	2507.967	0.02%	100.00%
180.0	2.747	0.099	2508.065	0.00%	100.00%

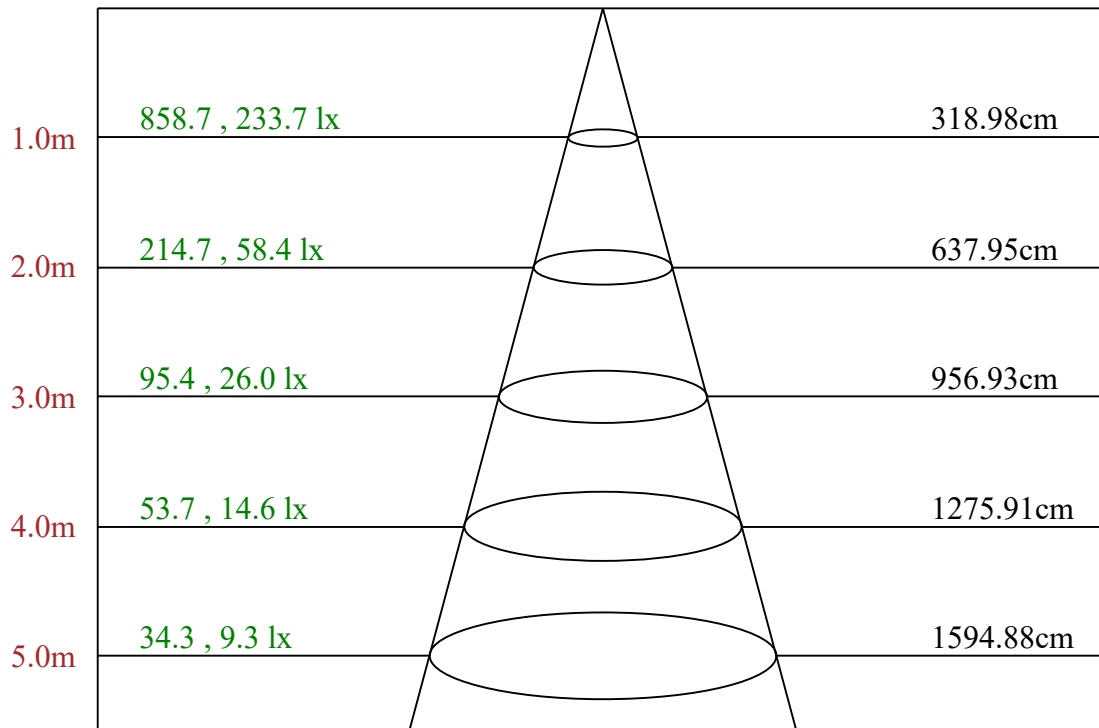
Zonal flux distribution table

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	668.72	26.66%	26.66%
0-40	1098.20	43.79%	43.79%
0-60	1948.08	77.67%	77.67%
0-90	2494.00	99.44%	99.44%
0-120	2499.78	99.67%	99.67%
0-180	2508.07	100.00%	100.00%
60-90	545.92	21.77%	21.77%
90-120	5.78	0.23%	0.23%
90-130	7.29	0.29%	0.29%
90-150	10.47	0.42%	0.42%
90-180	13.96	0.56%	0.56%
0-61.72	2006.45	80.00%	80.00%

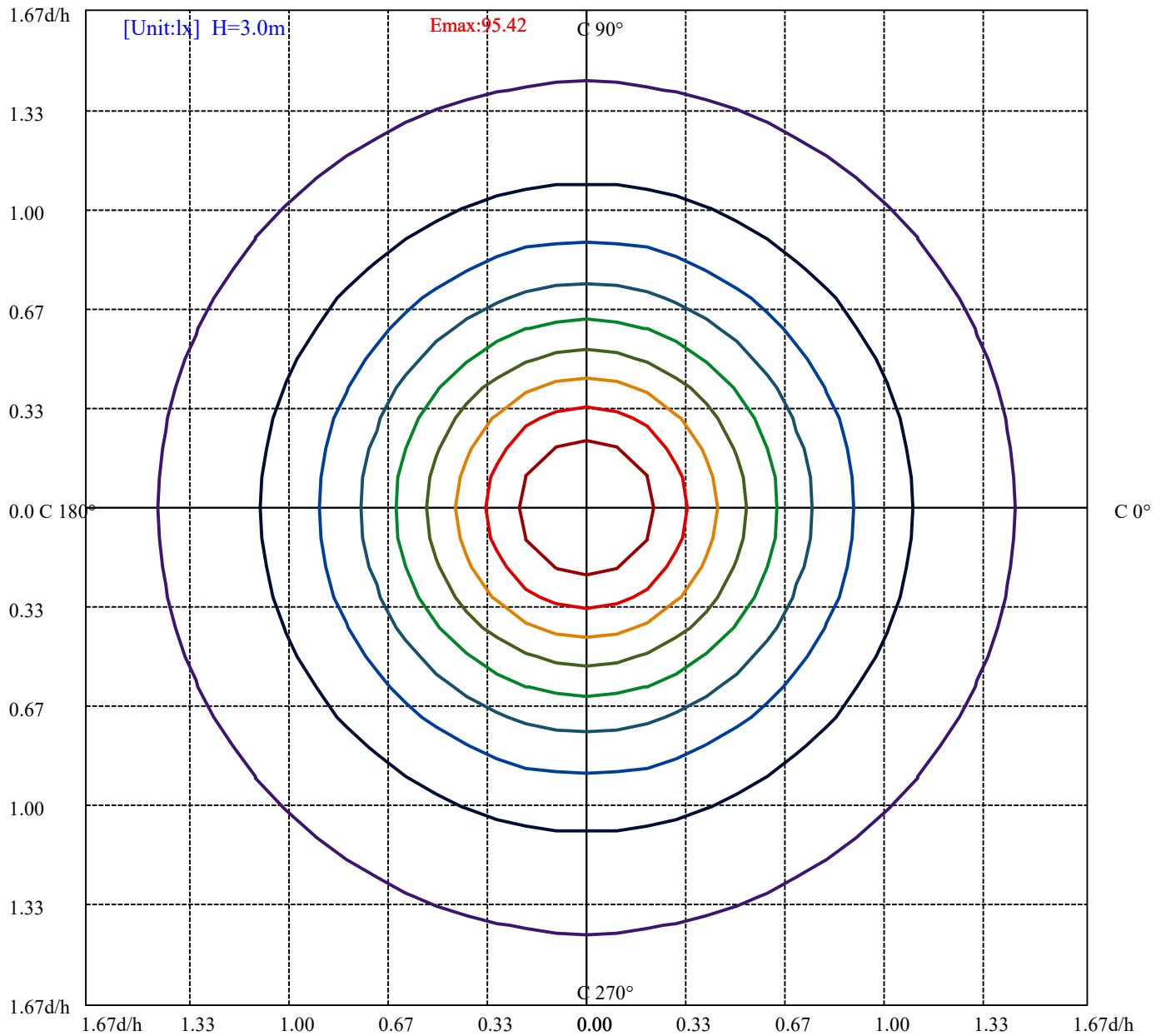
ZONAL LUMEN SUMMARY

0-10	81.26
10-20	233.08
20-30	354.38
30-40	429.48
40-50	446.35
50-60	403.53
60-70	310.34
70-80	183.08
80-90	52.50
90-100	2.71
100-110	1.50
110-120	1.56
120-130	1.51
130-140	1.51
140-150	1.68
150-160	1.79
160-170	1.33
170-180	0.38

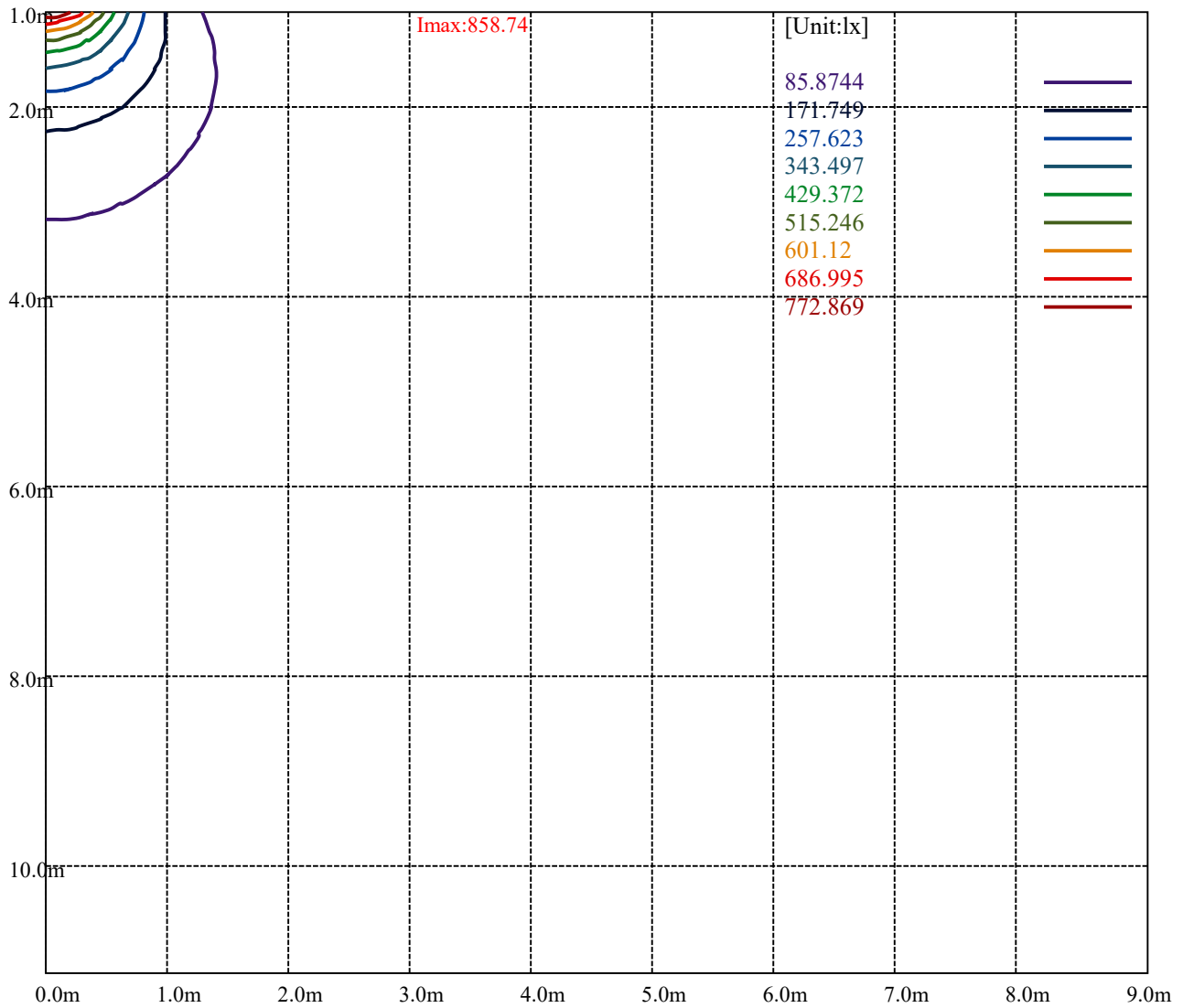




Max , Ave Beam angle of C90 plane 115.82



(10%Emax)	9.541589	
(20%Emax)	19.08322	
(30%Emax)	28.62478	
(40%Emax)	38.16634	
(50%Emax)	47.708	
(60%Emax)	57.24955	
(70%Emax)	66.79111	
(80%Emax)	76.33278	
(90%Emax)	85.87434	



Luminance Table

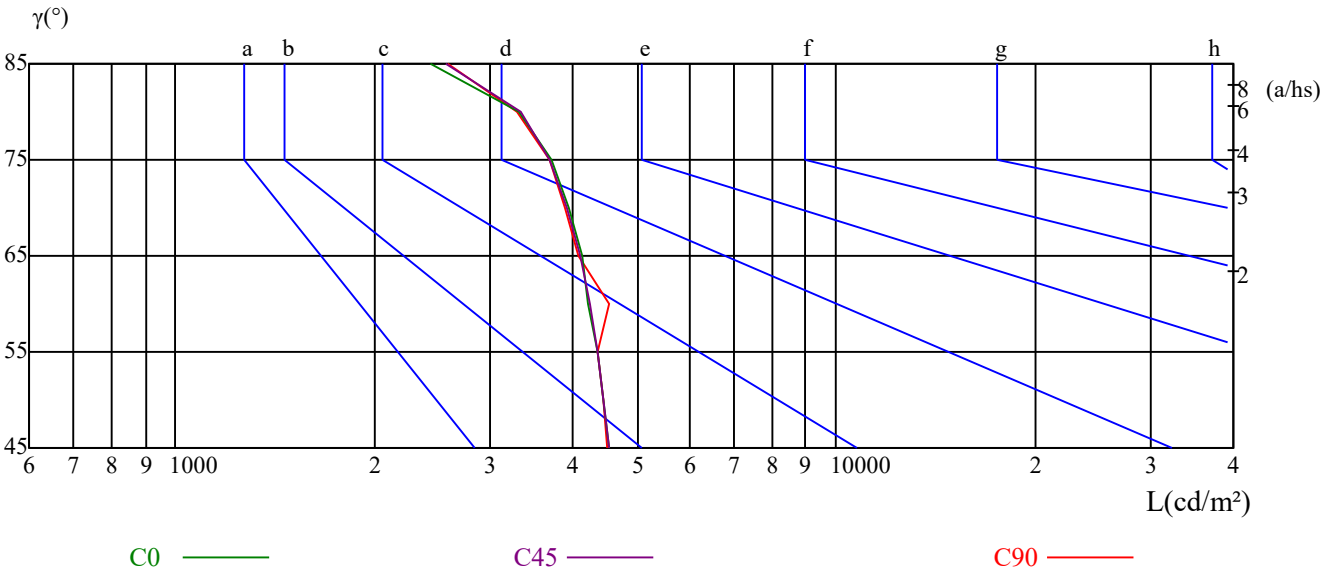
γ	45	50	55	60	65	70	75	80	85
C0	4526	4446	4355	4216	4124	3940	3700	3312	2438
C45	4527	4446	4349	4236	4101	3908	3690	3327	2572
C90	4514	4453	4353	4533	4067	3899	3683	3285	2589

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4124	4067	4101	3700	3683	3690	2438	2589	2572

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	0.99
1	1.04	0.99	0.95	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.90	0.83	0.77	0.88	0.82	0.76	0.84	0.79	0.74	0.81	0.77	0.73	0.78	0.74	0.71	0.69
3	0.79	0.71	0.64	0.77	0.70	0.63	0.74	0.68	0.62	0.71	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.68	0.60	0.54	0.66	0.59	0.53	0.63	0.57	0.52	0.61	0.56	0.51	0.49
5	0.62	0.53	0.47	0.61	0.53	0.46	0.59	0.51	0.46	0.57	0.50	0.45	0.55	0.49	0.45	0.42
6	0.56	0.47	0.41	0.55	0.47	0.40	0.53	0.46	0.40	0.51	0.45	0.39	0.50	0.44	0.39	0.37
7	0.51	0.42	0.36	0.50	0.42	0.36	0.48	0.41	0.35	0.47	0.40	0.35	0.45	0.39	0.35	0.33
8	0.46	0.38	0.32	0.46	0.37	0.32	0.44	0.37	0.31	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.42	0.34	0.29	0.42	0.34	0.29	0.41	0.33	0.28	0.40	0.33	0.28	0.38	0.32	0.28	0.26
10	0.39	0.31	0.26	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.25	0.24

Light Blue USA-Rayhil INV-20-CCT-UNV-**-2700K-F

Appendix Page: 10 Total:12

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	858.74	857.84	849.69	834.31	811.69	785.45	747.44	708.53	659.67
15.0	858.74	858.74	851.47	836.93	815.12	787.86	752.42	710.62	663.37
30.0	858.74	857.83	851.46	836.89	815.03	787.71	755.84	713.95	666.60
45.0	858.74	859.66	854.18	838.65	819.46	791.14	757.34	717.14	669.64
60.0	858.74	859.66	854.17	840.43	819.38	791.00	758.95	716.84	671.98
75.0	858.74	859.66	855.08	841.33	820.25	792.76	757.01	717.61	670.86
90.0	858.74	860.58	854.16	840.39	819.29	790.85	755.07	714.70	668.83
105.0	858.74	860.58	853.23	841.27	820.13	791.63	755.77	714.39	669.34
120.0	858.74	858.74	852.31	838.52	818.29	787.03	753.01	711.64	663.83
135.0	858.74	858.74	853.22	838.49	815.48	786.03	750.14	709.64	659.01
150.0	858.74	857.82	851.37	834.79	791.48	782.27	747.25	706.71	656.96
165.0	858.74	857.82	849.54	832.97	809.04	780.51	743.69	702.27	647.05
180.0	858.74	851.50	838.84	816.21	789.97	756.49	715.77	668.72	614.42
195.0	858.74	851.47	836.93	815.12	787.86	754.24	710.62	662.46	611.57
210.0	858.74	849.64	834.16	813.21	785.89	750.38	708.49	660.22	608.31
225.0	858.74	850.52	834.99	812.15	782.92	748.20	707.09	657.76	603.86
240.0	858.74	849.59	835.86	810.22	782.76	747.97	705.85	656.42	600.57
255.0	858.74	849.58	833.08	809.25	779.93	744.18	703.86	652.54	599.38
270.0	858.74	849.57	833.05	811.04	778.92	744.98	701.86	653.23	599.10
285.0	858.74	850.47	834.84	810.93	780.59	744.73	702.44	657.39	642.68
300.0	858.74	849.55	835.76	813.69	805.42	745.65	706.12	656.47	603.14
315.0	858.74	850.46	835.73	815.48	783.27	751.06	709.64	660.86	607.47
330.0	858.74	852.29	837.55	816.36	787.80	752.78	712.24	668.94	614.57
345.0	858.74	854.14	839.41	819.17	791.55	758.42	719.76	672.82	618.52
360.0	858.74	857.84	849.69	834.31	811.69	785.45	747.44	708.53	659.67
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	604.47	543.84	477.78	409.92	344.76	273.28	202.70	132.11	64.25
15.0	610.66	551.60	487.08	418.92	348.95	281.70	207.19	139.94	71.79
30.0	612.87	554.59	489.93	421.63	356.06	285.03	214.00	142.97	77.41
45.0	617.56	555.44	494.23	426.63	357.20	285.94	218.34	148.00	79.48
60.0	617.97	558.46	493.46	425.71	359.79	288.38	218.81	148.31	83.31
75.0	619.54	557.22	496.73	429.83	359.26	288.69	217.21	149.39	80.65
90.0	614.70	557.82	494.51	430.29	355.97	287.17	216.52	145.88	77.07
105.0	612.34	555.33	490.97	422.94	353.06	282.26	211.47	144.35	76.31
120.0	609.58	548.90	488.22	417.42	351.22	279.51	208.71	138.83	70.80
135.0	607.47	547.64	484.14	415.11	344.23	273.36	201.57	135.30	67.19
150.0	600.75	539.94	474.52	410.94	336.31	269.05	198.10	128.07	60.81
165.0	594.59	532.92	470.33	401.30	330.43	260.48	193.29	124.26	56.15
180.0	553.79	490.45	426.20	352.91	285.95	214.46	143.88	76.01	12.67
195.0	552.50	487.98	419.83	349.86	278.98	208.10	140.85	69.06	10.00
210.0	545.48	480.82	413.44	346.96	275.93	204.90	134.78	65.57	6.37
225.0	542.65	477.79	410.19	340.76	273.15	199.16	132.47	63.95	5.48
240.0	539.23	474.23	405.57	338.74	268.24	198.66	128.17	60.42	4.58
255.0	538.89	474.74	407.83	337.27	270.36	195.21	128.31	109.06	5.50
270.0	540.38	478.00	409.19	389.92	266.06	195.42	128.44	60.55	4.59
285.0	542.46	474.42	409.14	340.19	269.39	199.52	129.64	61.60	5.52
300.0	543.38	479.02	410.98	342.03	275.83	201.35	135.16	67.12	7.36
315.0	549.49	487.82	416.95	350.68	279.80	208.93	138.98	70.87	10.12
330.0	554.68	491.11	424.76	354.74	284.71	213.76	143.74	79.24	15.66
345.0	559.61	495.18	427.99	358.04	291.77	221.82	152.79	84.68	19.33
360.0	604.47	543.84	477.78	409.92	344.76	273.28	202.70	132.11	64.25

Light Blue USA-Rayhil INV-20-CCT-UNV-**-2700K-F

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	6.33	0.90	0.90	0.90	0.90	0.90	0.90	1.81	1.81
15.0	8.18	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.82
30.0	10.02	0.91	0.91	0.91	0.91	3.64	0.91	1.82	1.82
45.0	13.70	0.91	0.91	0.91	0.91	0.91	0.91	1.83	1.83
60.0	13.73	0.92	0.92	0.92	0.92	0.92	0.92	1.83	1.83
75.0	14.66	0.92	0.92	0.92	0.92	1.83	0.92	1.83	1.83
90.0	12.84	0.92	0.92	0.92	0.92	0.92	0.92	1.83	1.83
105.0	11.95	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84
120.0	8.27	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84
135.0	6.44	0.92	0.92	0.92	0.92	1.84	0.92	0.92	1.84
150.0	3.69	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84
165.0	2.76	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84
180.0	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
195.0	2.73	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
210.0	2.73	1.82	1.82	1.82	2.73	2.73	1.82	1.82	1.82
225.0	2.74	1.83	1.83	1.83	1.83	2.74	1.83	2.74	1.83
240.0	2.75	1.83	1.83	1.83	1.83	2.75	1.83	1.83	1.83
255.0	1.83	1.83	1.83	1.83	2.75	1.83	1.83	1.83	1.83
270.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
285.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
300.0	1.84	1.84	1.84	1.84	3.68	1.84	2.76	1.84	1.84
315.0	1.84	1.84	2.76	1.84	1.84	1.84	1.84	1.84	1.84
330.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
345.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
360.0	6.33	0.90	0.90	0.90	0.90	0.90	0.90	1.81	1.81

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.81	2.71	3.62	3.62	4.52	5.43	5.43	5.43	5.43
15.0	1.82	2.73	2.73	3.63	4.54	4.54	5.45	5.45	5.45
30.0	1.82	2.73	2.73	3.64	4.55	5.46	5.46	5.46	5.46
45.0	1.83	2.74	2.74	3.65	4.57	4.57	5.48	5.48	5.48
60.0	1.83	2.75	2.75	3.66	4.58	5.49	5.49	5.49	5.49
75.0	1.83	2.75	2.75	3.67	4.58	4.58	5.50	5.50	5.50
90.0	1.83	2.75	2.75	3.67	4.59	4.59	5.50	5.50	5.50
105.0	1.84	2.76	2.76	3.68	4.60	4.60	5.52	5.52	5.52
120.0	1.84	2.76	2.76	3.68	4.60	4.60	5.52	5.52	5.52
135.0	1.84	2.76	2.76	3.68	4.60	4.60	5.52	5.52	5.52
150.0	1.84	2.76	2.76	3.69	4.61	4.61	5.53	5.53	5.53
165.0	1.84	2.76	2.76	3.68	4.60	4.60	5.52	5.52	5.52
180.0	1.81	1.81	1.81	2.71	2.71	3.62	4.52	4.52	5.43
195.0	1.82	1.82	1.82	2.73	2.73	3.63	3.63	4.54	5.45
210.0	1.82	1.82	2.73	2.73	3.64	3.64	3.64	4.55	5.46
225.0	1.83	1.83	2.74	2.74	3.65	3.65	4.57	4.57	5.48
240.0	1.83	1.83	2.75	2.75	3.66	3.66	3.66	4.58	5.49
255.0	1.83	1.83	2.75	2.75	3.67	3.67	3.67	4.58	5.50
270.0	1.83	1.83	1.83	2.75	3.67	3.67	4.59	4.59	5.50
285.0	1.84	2.76	2.76	2.76	3.68	3.68	4.60	4.60	5.52
300.0	1.84	1.84	2.76	2.76	3.68	3.68	3.68	4.60	5.52
315.0	1.84	1.84	1.84	2.76	3.68	3.68	4.60	4.60	5.52
330.0	1.84	1.84	1.84	2.76	3.69	3.69	4.61	4.61	5.53
345.0	1.84	1.84	2.76	2.76	3.68	3.68	3.68	4.60	5.52
360.0	1.81	2.71	3.62	3.62	4.52	5.43	5.43	5.43	5.43

Intensity data(cd)

Appendix Page: 12 Total:12

C/γ(°)	180.0
0.0	5.43
15.0	5.45
30.0	5.46
45.0	5.48
60.0	5.49
75.0	5.50
90.0	5.50
105.0	5.52
120.0	5.52
135.0	5.52
150.0	5.53
165.0	5.52
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	5.43