
Light Blue USA-Rayhil

Client:

LumCAT: LCD-RDD-2x12-5CCT-36-UNV-**

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP24120175

Voltage(V): 119.990

LampCAT:

Current(A): 0.211

Lamp flux(lm): 1894.5

Power (W): 25.150

Number of Lamps: 1

PF: 0.994

Length(mm): 185

Width(mm): 55

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1894.48, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 75.33

Central intensity(cd): 2759.755, Maximum intensity(cd): 2759.755

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=42.2

[C90/270]Total=43.0

Field angle(10%Imax): [C0/180]Total=77.6

[C90/270]Total=77.6

Maximum s/h(1/2): C0_180=0.67 C90_270=0.69

Maximum s/h(1/4): C0_180=0.69 C90_270=0.70

Up flux rate of lamp(%): 0.31%

Down flux rate of lamp(%): 99.69%

Up flux rate of LUM(%): 0.31%

Down flux rate of LUM(%): 99.69%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 93.738%

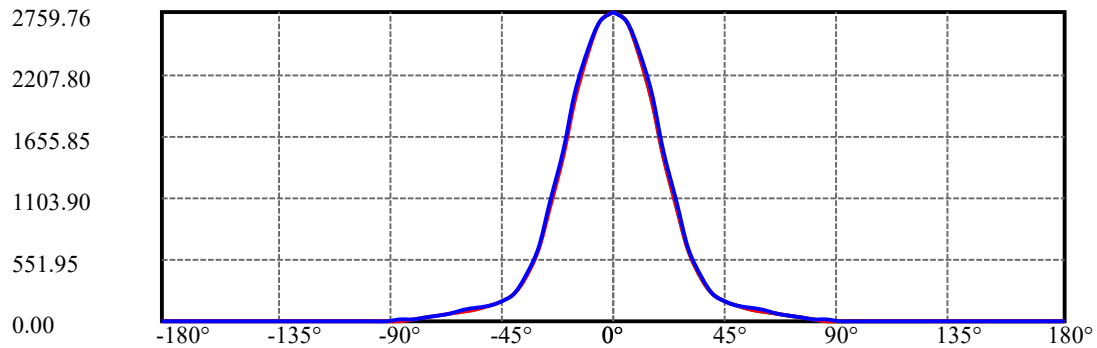
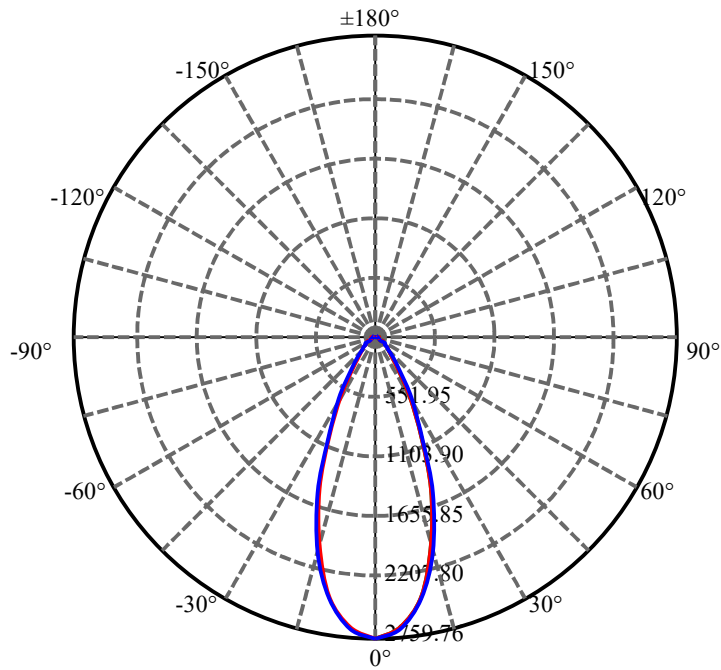
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2759.755	0.000	0	0.00%	0.00%
5.0	2675.594	64.978	64.978	3.43%	3.43%
10.0	2422.413	182.372	247.35	9.63%	13.06%
15.0	2002.411	262.478	509.827	13.85%	26.91%
20.0	1510.904	289.546	799.374	15.28%	42.19%
25.0	1032.476	266.754	1066.127	14.08%	56.28%
30.0	637.656	211.356	1277.484	11.16%	67.43%
35.0	388.798	151.152	1428.636	7.98%	75.41%
40.0	244.217	105.614	1534.25	5.57%	80.99%
45.0	177.477	78.080	1612.33	4.12%	85.11%
50.0	137.348	63.615	1675.945	3.36%	88.46%
55.0	110.421	53.873	1729.818	2.84%	91.31%
60.0	88.743	46.036	1775.854	2.43%	93.74%
65.0	65.841	37.580	1813.434	1.98%	95.72%
70.0	46.470	28.438	1841.872	1.50%	97.22%
75.0	32.598	20.667	1862.539	1.09%	98.31%
80.0	21.355	14.436	1876.976	0.76%	99.08%
85.0	9.772	8.458	1885.433	0.45%	99.52%
90.0	2.055	3.238	1888.672	0.17%	99.69%
95.0	0.011	0.566	1889.237	0.03%	99.72%
100.0	0.000	0.003	1889.241	0.00%	99.72%
105.0	0.000	0.000	1889.241	0.00%	99.72%
110.0	0.004	0.001	1889.242	0.00%	99.72%
115.0	0.000	0.001	1889.243	0.00%	99.72%
120.0	0.004	0.001	1889.243	0.00%	99.72%
125.0	0.011	0.004	1889.247	0.00%	99.72%
130.0	0.065	0.017	1889.264	0.00%	99.72%
135.0	0.103	0.034	1889.298	0.00%	99.73%
140.0	0.444	0.101	1889.399	0.01%	99.73%
145.0	1.085	0.255	1889.654	0.01%	99.75%
150.0	2.258	0.492	1890.147	0.03%	99.77%
155.0	3.838	0.771	1890.918	0.04%	99.81%
160.0	5.583	0.988	1891.906	0.05%	99.86%
165.0	6.924	1.031	1892.937	0.05%	99.92%
170.0	7.476	0.854	1893.791	0.05%	99.96%
175.0	7.879	0.549	1894.34	0.03%	99.99%
180.0	4.141	0.144	1894.484	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1277.48	67.43%	67.43%
0-40	1534.25	80.99%	80.99%
0-60	1775.85	93.74%	93.74%
0-90	1888.67	99.69%	99.69%
0-120	1889.24	99.72%	99.72%
0-180	1894.48	100.00%	100.00%
60-90	112.82	5.96%	5.96%
90-120	0.57	0.03%	0.03%
90-130	0.59	0.03%	0.03%
90-150	1.47	0.08%	0.08%
90-180	5.67	0.30%	0.30%
0-39.12	1515.59	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	247.35
10-20	552.02
20-30	478.11
30-40	256.77
40-50	141.70
50-60	99.91
60-70	66.02
70-80	35.10
80-90	11.70
90-100	0.57
100-110	0.00
110-120	0.00
120-130	0.02
130-140	0.14
140-150	0.75
150-160	1.76
160-170	1.88
170-180	0.55



C0(Max):

C0/C180:

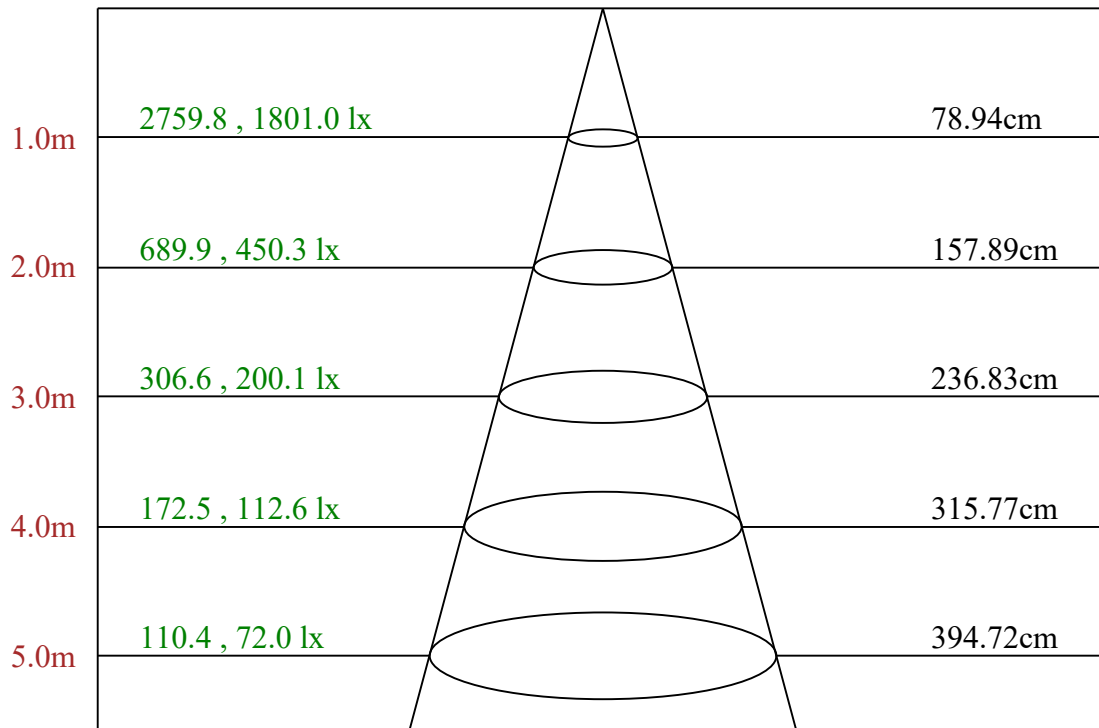
C90/C270:

Field angle(10%Imax):C0/180Left:38.8 Right:38.8

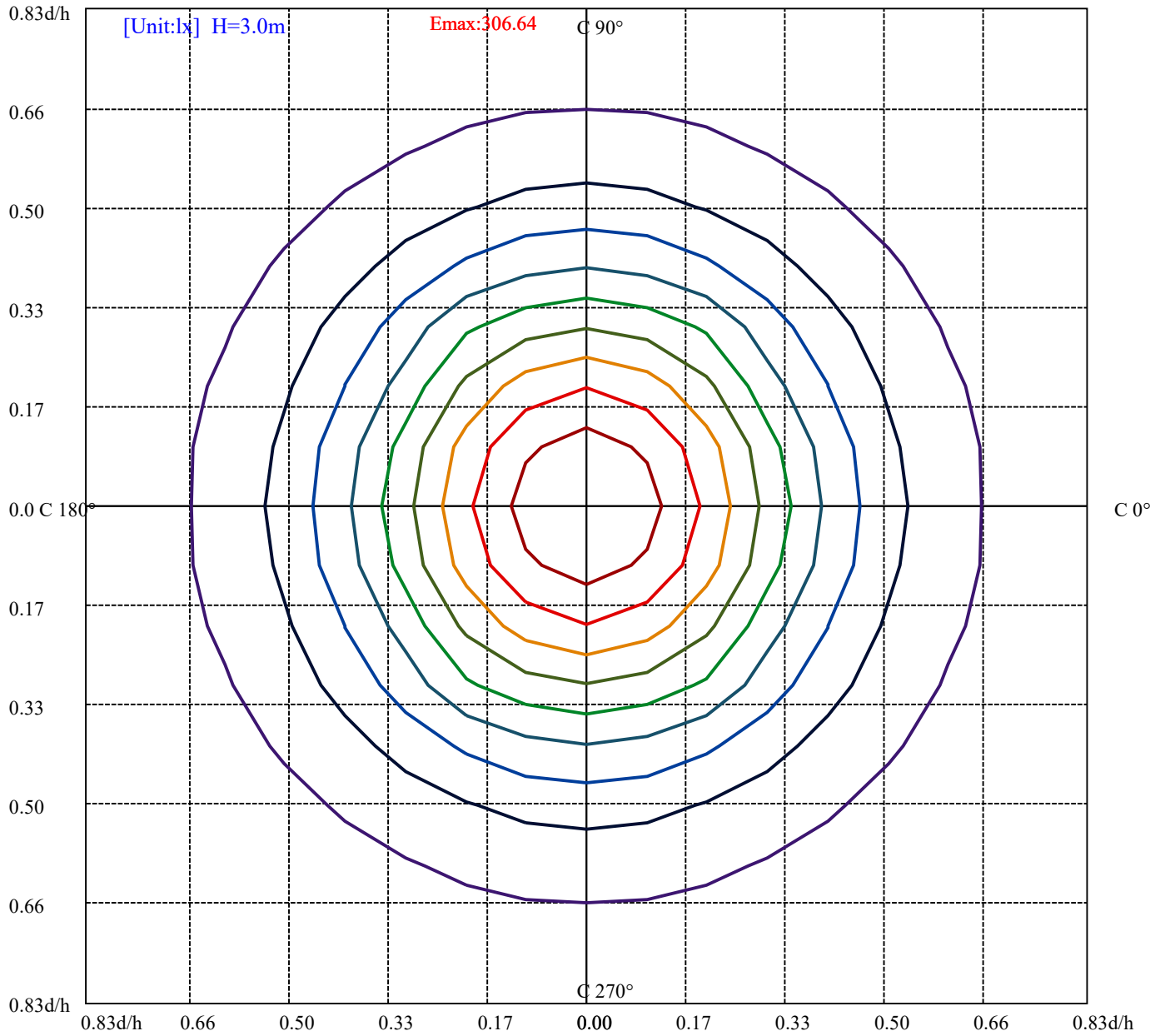
:C90/270Left:38.8 Right:38.8

Beam Angle(50%Imax):C0/180Left:21.1 Right:21.1

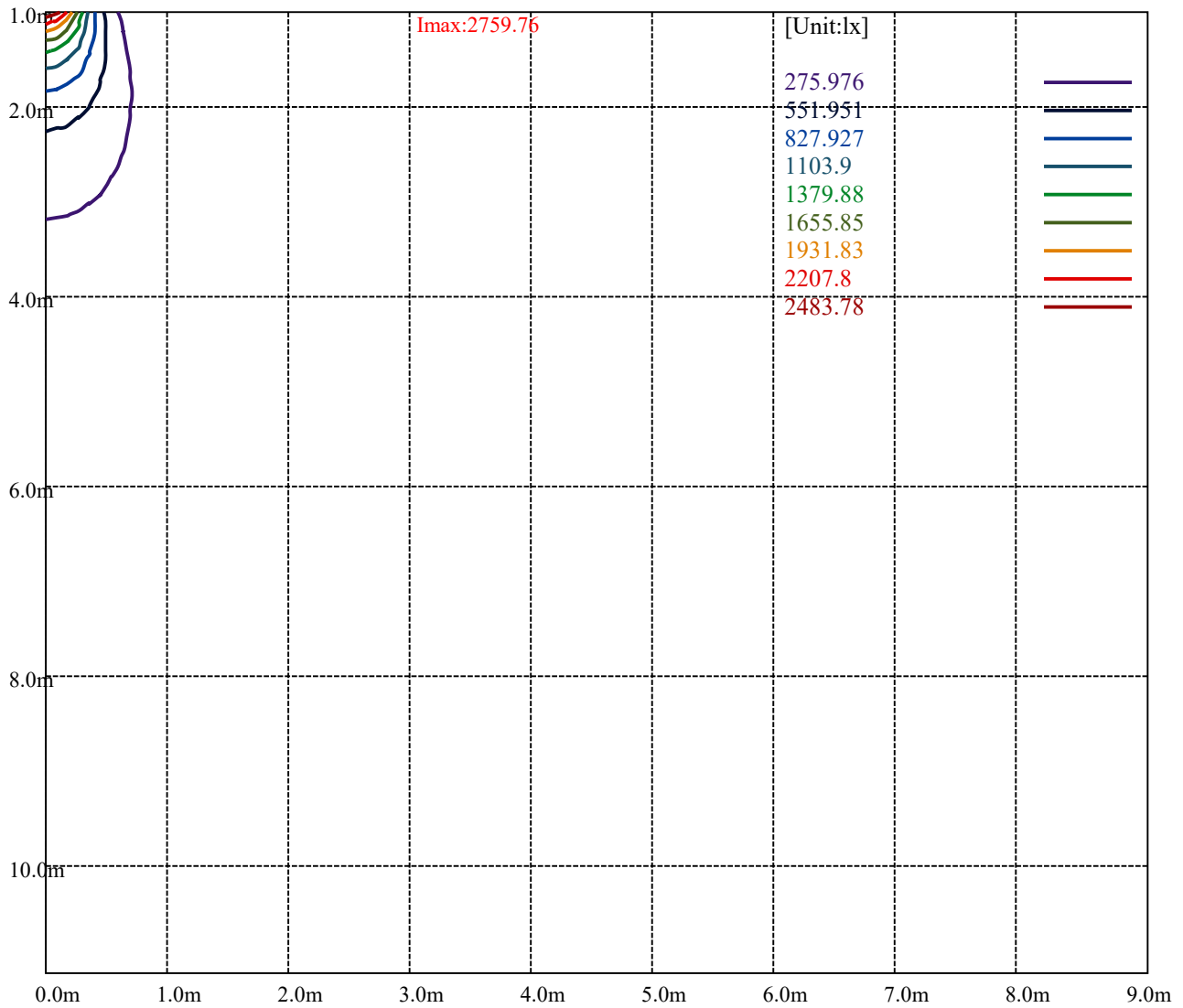
:C90/270Left:21.5 Right:21.5



Max , Ave Beam angle of C0 plane 43.08



(10%Emax) 30.66389	—
(20%Emax) 61.32789	—
(30%Emax) 91.99178	—
(40%Emax) 122.6556	—
(50%Emax) 153.32	—
(60%Emax) 183.9833	—
(70%Emax) 214.6478	—
(80%Emax) 245.3111	—
(90%Emax) 275.9756	—



Luminance Table

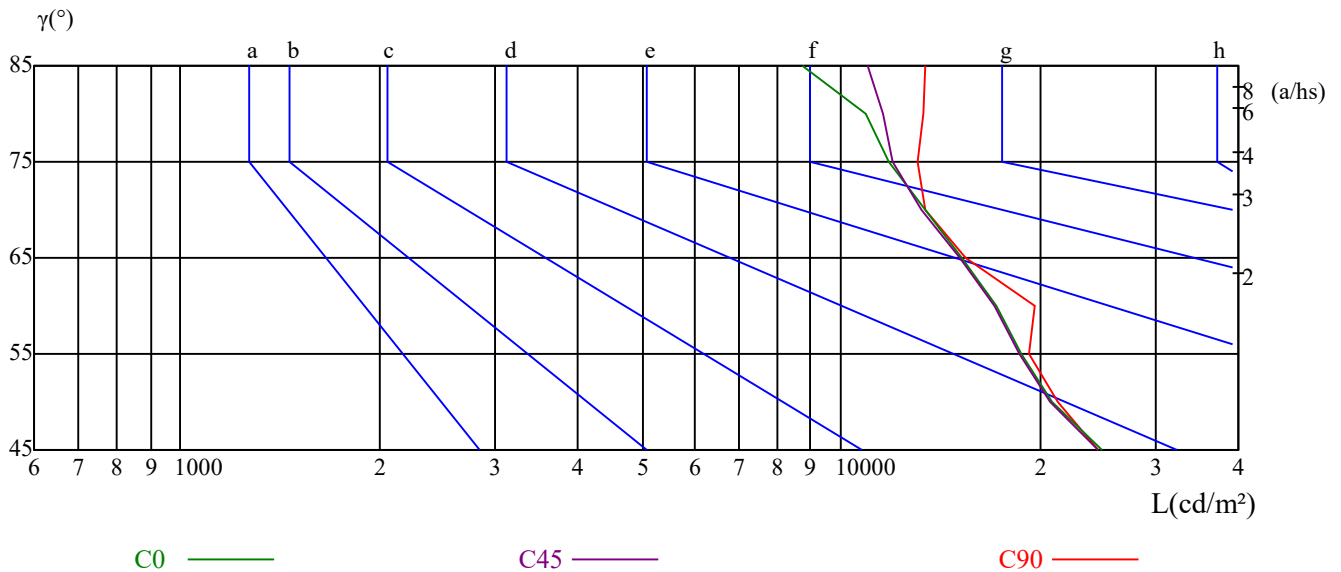
γ	45	50	55	60	65	70	75	80	85
C0	24897	20871	18795	17217	15282	13411	11786	10881	8763
C45	24541	20782	18667	17062	15140	13203	11968	11593	10969
C90	24602	21369	19242	19609	15437	13396	13029	13298	13405

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
15282	15437	15140	11786	13029	11968	8763	13405	10969

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	1.09	1.06	1.04	1.07	1.05	1.02	1.03	1.01	0.99	0.99	0.98	0.96	0.96	0.94	0.93	0.91
2	1.01	0.96	0.92	0.99	0.95	0.91	0.96	0.92	0.89	0.93	0.90	0.87	0.90	0.87	0.85	0.84
3	0.93	0.88	0.83	0.92	0.87	0.83	0.89	0.85	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.77
4	0.87	0.81	0.76	0.86	0.80	0.76	0.83	0.79	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.71
5	0.81	0.75	0.70	0.80	0.74	0.70	0.78	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.66
6	0.76	0.70	0.65	0.75	0.69	0.65	0.74	0.68	0.64	0.72	0.68	0.64	0.71	0.67	0.64	0.62
7	0.72	0.65	0.61	0.71	0.65	0.61	0.70	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.58
8	0.68	0.61	0.57	0.67	0.61	0.57	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.56	0.55
9	0.64	0.58	0.54	0.64	0.58	0.54	0.63	0.57	0.54	0.62	0.57	0.53	0.61	0.56	0.53	0.52
10	0.61	0.55	0.51	0.60	0.55	0.51	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.50	0.49

Light Blue USA-Rayhil LCD-RDD-2x12-5CCT-36-UNV-**

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	2759.76	2751.67	2590.86	2205.47	1729.34	1219.97	781.57	460.86	284.87
15.0	2759.76	2768.83	2610.06	2246.27	1766.35	1227.47	802.89	474.47	291.58
30.0	2759.76	2789.21	2660.34	2308.69	1812.53	1282.30	815.59	475.92	298.34
45.0	2759.76	2800.85	2667.52	2311.36	1808.18	1310.47	831.94	491.31	288.40
60.0	2759.76	2799.29	2674.26	2323.09	1819.31	1297.14	818.18	479.88	293.90
75.0	2759.76	2808.01	2685.52	2312.48	1833.65	1300.07	821.25	477.90	277.37
90.0	2759.76	2798.91	2663.72	2301.04	1800.37	1295.03	811.14	485.75	272.15
105.0	2759.76	2802.18	2665.47	2295.87	1787.67	1257.78	785.40	483.69	274.94
120.0	2759.76	2776.51	2607.06	2245.79	1747.66	1230.90	767.22	485.10	266.66
135.0	2759.76	2751.46	2566.12	2177.93	1679.09	1164.57	740.42	482.24	261.59
150.0	2759.76	2737.74	2546.06	2125.08	1256.52	1124.45	689.71	480.60	257.36
165.0	2759.76	2720.65	2493.33	2070.50	1563.10	1068.44	675.62	471.02	239.78
180.0	2759.76	2587.27	2221.64	1734.19	1227.16	804.57	473.25	287.12	202.58
195.0	2759.76	2570.15	2219.96	1712.01	1231.91	790.73	464.86	283.69	201.13
210.0	2759.76	2567.36	2177.06	1732.17	1233.33	789.08	465.79	284.17	203.07
225.0	2759.76	2549.71	2178.95	1742.34	1226.73	805.74	470.58	284.19	199.54
240.0	2759.76	2544.64	2195.30	1720.57	1220.38	801.54	470.22	284.62	199.31
255.0	2759.76	2564.88	2199.27	1742.71	1241.24	800.83	488.11	291.47	204.62
270.0	2759.76	2563.03	2204.07	1771.00	1241.70	821.96	489.86	291.45	206.24
285.0	2759.76	2568.35	2236.47	1755.51	1275.22	839.15	498.21	303.22	270.60
300.0	2759.76	2571.67	2223.45	1778.11	1671.96	857.81	510.05	304.65	209.96
315.0	2759.76	2587.33	2243.40	1818.97	1333.41	882.88	526.96	313.04	214.93
330.0	2759.76	2610.26	2293.83	1819.29	1375.93	891.67	551.77	327.25	222.60
345.0	2759.76	2624.27	2314.19	1807.44	1378.97	914.86	553.13	327.53	219.69
360.0	2759.76	2751.67	2590.86	2205.47	1729.34	1219.97	781.57	460.86	284.87

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	205.01	152.90	121.73	98.28	76.45	55.25	37.55	25.51	13.03
15.0	206.12	155.86	124.02	99.79	77.66	56.43	39.19	26.22	13.61
30.0	210.62	158.52	124.27	100.06	77.51	57.07	39.03	26.97	13.81
45.0	204.84	155.34	124.02	99.54	76.07	55.16	38.54	25.39	14.25
60.0	203.99	154.72	122.08	97.17	74.65	54.70	38.15	25.46	16.09
75.0	200.44	153.30	121.93	96.79	74.98	53.45	37.77	26.26	16.70
90.0	195.05	152.63	119.99	97.62	74.40	52.49	37.20	25.83	16.50
105.0	196.68	150.20	118.89	94.38	73.83	52.42	36.02	24.99	15.09
120.0	191.80	147.67	116.76	92.46	69.55	49.81	33.98	23.00	13.69
135.0	191.88	144.30	115.17	91.65	69.25	48.87	33.56	20.75	11.62
150.0	186.37	142.07	112.63	90.62	70.16	48.98	33.38	21.55	9.08
165.0	179.50	139.40	110.48	89.39	68.20	47.56	32.46	21.19	9.18
180.0	153.26	120.11	97.65	76.90	54.98	38.09	24.53	12.94	2.52
195.0	151.87	119.48	98.52	77.93	56.34	38.83	26.22	13.43	2.90
210.0	150.78	120.59	98.22	76.86	55.42	38.11	26.33	13.53	4.23
225.0	149.77	117.53	95.16	75.98	55.07	38.17	25.75	16.71	5.11
240.0	152.51	120.80	100.94	79.89	56.91	38.89	29.51	18.29	5.79
255.0	156.73	125.65	104.02	81.29	57.35	40.00	31.27	29.05	6.68
270.0	158.97	126.89	104.61	101.91	58.37	40.74	31.42	21.16	7.27
285.0	162.55	128.04	105.98	82.78	59.78	41.58	32.91	20.84	8.39
300.0	160.43	125.79	104.84	82.96	61.36	41.99	30.63	20.67	8.01
315.0	159.79	126.51	101.43	80.04	60.03	41.59	28.22	19.09	7.93
330.0	164.81	128.04	103.46	82.18	59.89	42.37	29.26	16.14	6.70
345.0	165.68	130.03	103.30	83.38	62.01	42.74	29.46	17.55	6.37
360.0	205.01	152.90	121.73	98.28	76.45	55.25	37.55	25.51	13.03

Light Blue USA-Rayhil LCD-RDD-2x12-5CCT-36-UNV-**

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	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
15.0	3.63	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
30.0	4.23	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
45.0	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
60.0	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
75.0	5.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
90.0	4.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105.0	4.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
120.0	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19		
135.0	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
150.0	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18		
165.0	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
195.0	0.27	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.09		
210.0	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
225.0	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00		
240.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
255.0	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00		
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
285.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
300.0	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00		
315.0	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
330.0	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
345.0	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
360.0	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	0.18	0.54	1.26	2.70	4.58	6.47	7.82	8.26	8.09		
15.0	0.09	0.54	1.27	2.63	4.54	6.44	7.80	8.26	7.98		
30.0	0.18	0.55	1.20	2.76	4.51	6.44	7.92	8.28	8.10		
45.0	0.18	0.46	1.19	2.65	4.47	6.30	7.76	8.13	8.13		
60.0	0.09	0.55	1.29	2.76	4.50	6.53	7.91	8.27	8.18		
75.0	0.09	0.46	1.30	2.88	4.45	6.59	7.98	8.35	8.26		
90.0	0.09	0.47	1.31	2.80	4.66	6.71	7.92	8.39	8.39		
105.0	0.09	0.57	1.41	2.92	4.71	6.79	8.11	8.49	8.39		
120.0	0.09	0.47	1.49	2.89	4.75	6.70	8.01	8.57	8.38		
135.0	0.09	0.55	1.38	2.95	4.70	6.73	8.02	8.48	8.21		
150.0	0.18	0.55	1.47	2.93	4.77	6.70	8.07	8.53	8.25		
165.0	0.18	0.55	1.55	2.91	4.73	6.82	8.00	8.37	8.09		
180.0	0.09	0.45	0.81	1.71	2.96	4.67	5.84	6.47	7.37		
195.0	0.09	0.45	0.91	1.81	3.08	3.45	5.90	6.53	7.44		
210.0	0.18	0.09	0.83	1.66	3.22	4.79	5.98	6.63	7.64		
225.0	0.09	0.46	0.82	1.83	3.10	4.75	5.84	6.58	7.49		
240.0	0.09	0.46	0.83	1.75	3.13	4.78	5.88	6.62	7.63		
255.0	0.09	0.46	0.93	1.76	3.25	4.73	6.03	6.68	7.61		
270.0	0.09	0.47	0.84	1.86	3.17	4.75	5.97	6.71	7.74		
285.0	0.09	0.38	0.85	1.70	3.11	4.71	6.03	6.79	7.83		
300.0	0.09	0.28	0.74	1.68	3.07	4.66	6.05	6.70	7.54		
315.0	0.00	0.28	0.83	1.57	2.95	4.52	5.90	6.55	7.56		
330.0	0.00	0.28	0.83	1.56	2.84	4.59	5.78	6.42	7.43		
345.0	0.00	0.36	0.73	1.55	2.82	4.36	5.64	6.37	7.37		
360.0	0.18	0.54	1.26	2.70	4.58	6.47	7.82	8.26	8.09		

Intensity data(cd)

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C/γ(°)	180.0
0.0	7.55
15.0	8.16
30.0	8.28
45.0	8.22
60.0	8.27
75.0	8.35
90.0	8.48
105.0	8.49
120.0	8.47
135.0	8.39
150.0	8.44
165.0	8.27
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	7.55