
Light Blue USA-Rayhil

Client:

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

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.211

Lamp flux(lm): 2115.2

Power (W): 25.190

Number of Lamps: 1

PF: 0.994

Length(mm): 185

Width(mm): 55

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2115.23, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 83.97

Central intensity(cd): 3081.438, Maximum intensity(cd): 3081.438

Angle of maximum intensity: C=75.0 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 : 93.741%

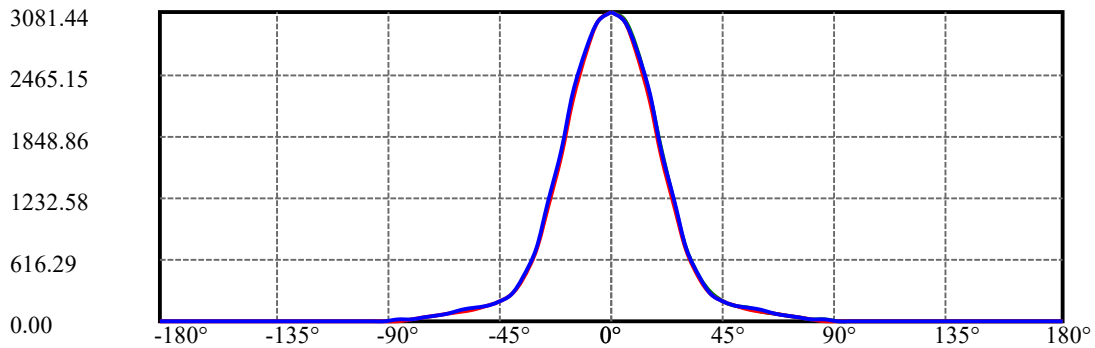
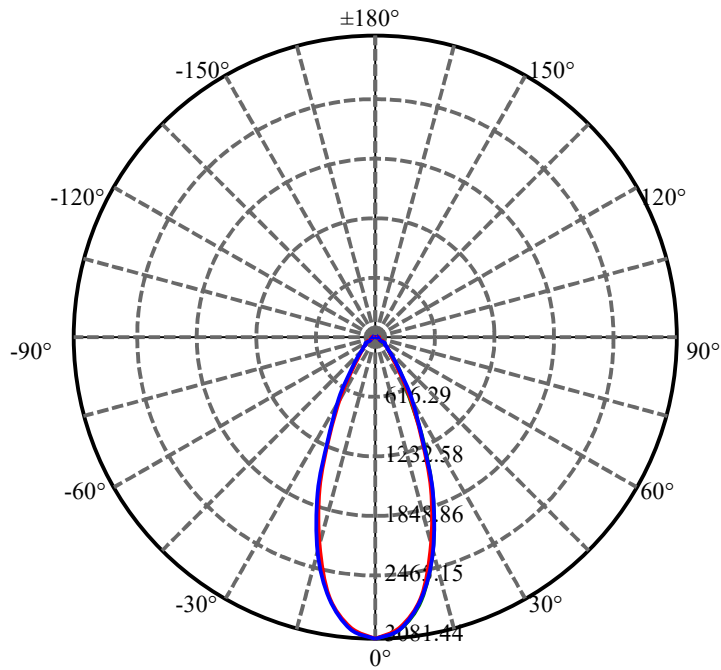
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3081.438	0.000	0	0.00%	0.00%
5.0	2987.509	72.553	72.553	3.43%	3.43%
10.0	2704.745	203.630	276.182	9.63%	13.06%
15.0	2235.779	293.069	569.251	13.86%	26.91%
20.0	1687.023	323.294	892.545	15.28%	42.20%
25.0	1152.773	297.842	1190.387	14.08%	56.28%
30.0	711.953	235.983	1426.37	11.16%	67.43%
35.0	434.119	168.767	1595.137	7.98%	75.41%
40.0	272.720	117.931	1713.068	5.58%	80.99%
45.0	198.104	87.177	1800.244	4.12%	85.11%
50.0	153.380	71.023	1871.267	3.36%	88.47%
55.0	123.330	60.166	1931.433	2.84%	91.31%
60.0	99.068	51.407	1982.84	2.43%	93.74%
65.0	73.485	41.948	2024.788	1.98%	95.72%
70.0	51.787	31.720	2056.507	1.50%	97.22%
75.0	36.430	23.059	2079.566	1.09%	98.31%
80.0	23.903	16.143	2095.709	0.76%	99.08%
85.0	10.944	9.469	2105.178	0.45%	99.52%
90.0	2.189	3.596	2108.774	0.17%	99.69%
95.0	0.000	0.599	2109.373	0.03%	99.72%
100.0	0.000	0.000	2109.373	0.00%	99.72%
105.0	0.000	0.000	2109.373	0.00%	99.72%
110.0	0.000	0.000	2109.373	0.00%	99.72%
115.0	0.000	0.000	2109.373	0.00%	99.72%
120.0	0.000	0.000	2109.373	0.00%	99.72%
125.0	0.000	0.000	2109.373	0.00%	99.72%
130.0	0.000	0.000	2109.373	0.00%	99.72%
135.0	0.000	0.000	2109.373	0.00%	99.72%
140.0	0.689	0.128	2109.501	0.01%	99.73%
145.0	1.304	0.333	2109.833	0.02%	99.74%
150.0	2.415	0.548	2110.381	0.03%	99.77%
155.0	4.371	0.859	2111.24	0.04%	99.81%
160.0	6.289	1.118	2112.358	0.05%	99.86%
165.0	7.744	1.157	2113.514	0.05%	99.92%
170.0	8.281	0.951	2114.465	0.04%	99.96%
175.0	8.741	0.609	2115.074	0.03%	99.99%
180.0	4.563	0.159	2115.233	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1426.37	67.43%	67.43%
0-40	1713.07	80.99%	80.99%
0-60	1982.84	93.74%	93.74%
0-90	2108.77	99.69%	99.69%
0-120	2109.37	99.72%	99.72%
0-180	2115.23	100.00%	100.00%
60-90	125.93	5.95%	5.95%
90-120	0.60	0.03%	0.03%
90-130	0.60	0.03%	0.03%
90-150	1.61	0.08%	0.08%
90-180	6.30	0.30%	0.30%
0-39.11	1692.19	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	276.18
10-20	616.36
20-30	533.82
30-40	286.70
40-50	158.20
50-60	111.57
60-70	73.67
70-80	39.20
80-90	13.06
90-100	0.60
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.13
140-150	0.88
150-160	1.98
160-170	2.11
170-180	0.61



C75(Max): —————

C0/C180: —————

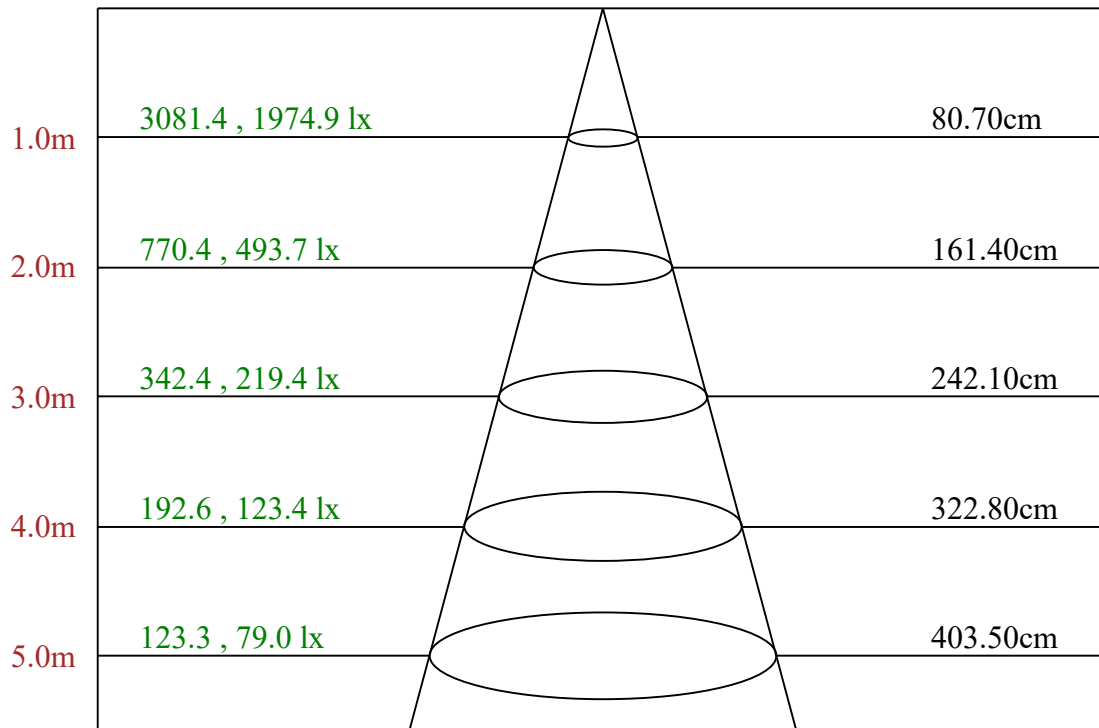
C90/C270: —————

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

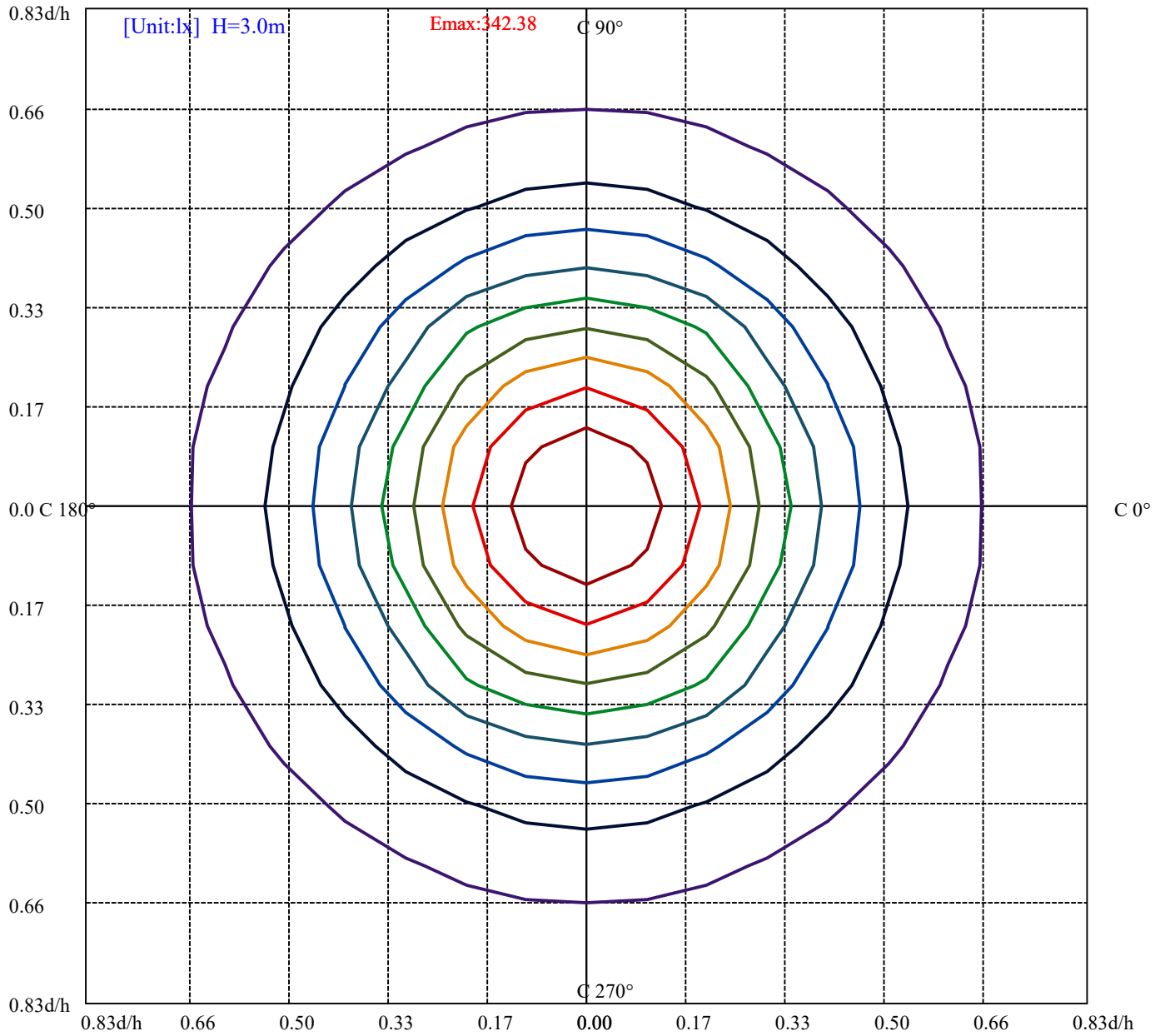
:C90/270Left:38.8 Right:38.8

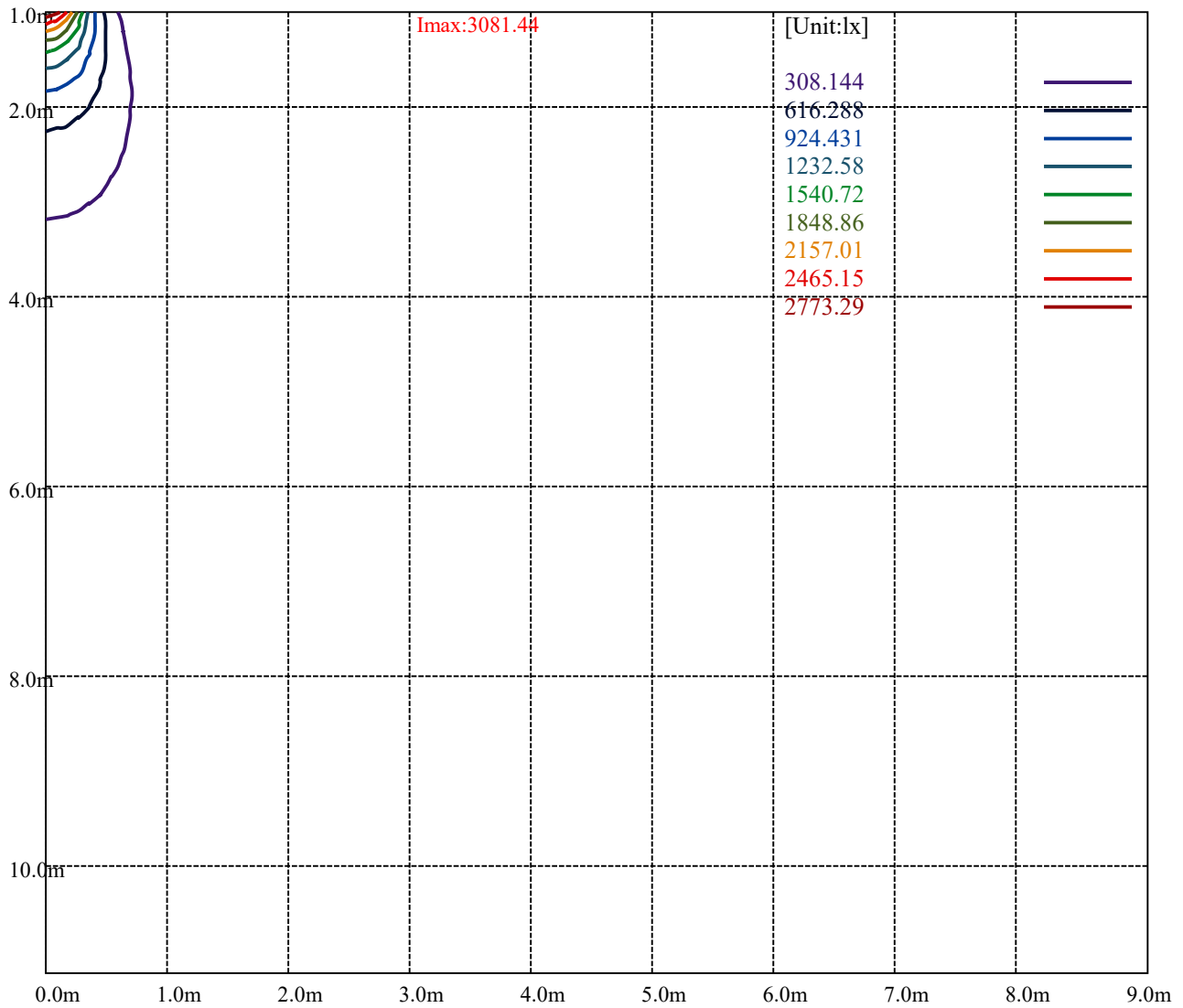
Beam Angle(50%Imax):C0/180Left:21.1 Right:21.1

:C90/270Left:21.5 Right:21.5



Max , Ave Beam angle of C75 plane 43.95





Luminance Table

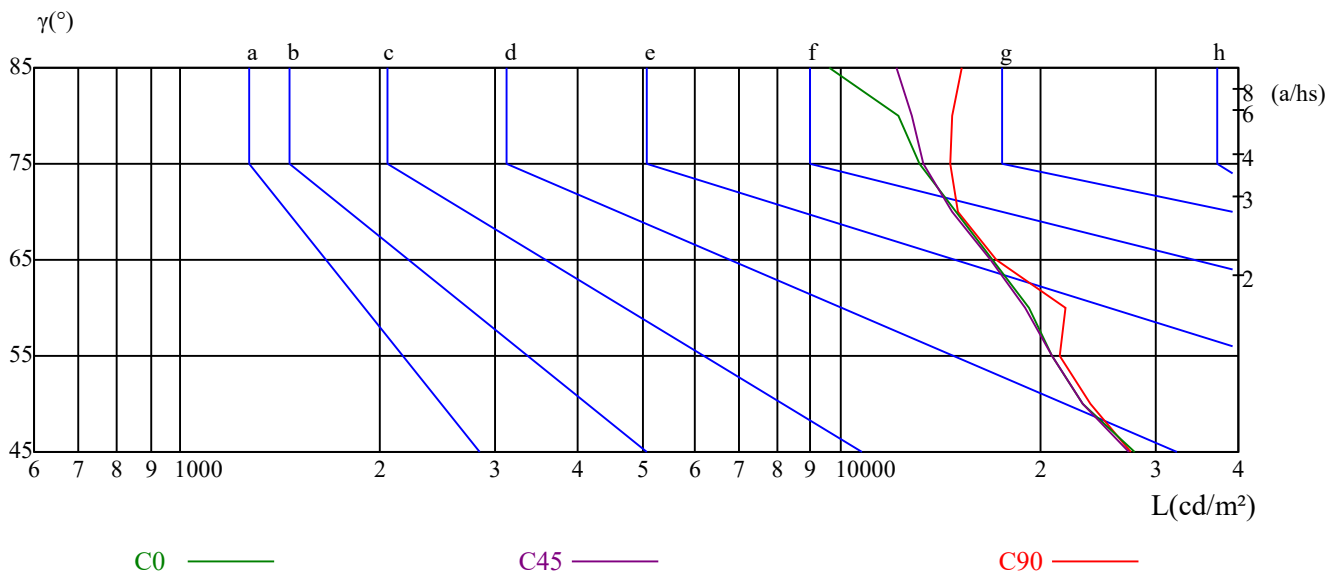
γ	45	50	55	60	65	70	75	80	85
C0	27782	23282	20935	19248	17027	14973	13134	12203	9624
C45	27389	23220	20833	19073	16911	14699	13327	12853	12160
C90	27473	23878	21487	21900	17237	15003	14693	14775	15245

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17027	17237	16911	13134	14693	13327	9624	15245	12160

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	3081.44	3072.45	2892.78	2462.46	1930.62	1361.94	872.33	514.77	318.03		
15.0	3081.44	3091.42	2913.62	2508.15	1972.05	1370.64	896.22	529.75	325.65		
30.0	3081.44	3114.58	2970.96	2577.84	2024.52	1431.62	910.53	531.22	333.28		
45.0	3081.44	3128.02	2978.24	2580.96	2019.28	1463.09	928.82	548.89	322.39		
60.0	3081.44	3125.56	2985.83	2594.22	2031.62	1447.87	913.77	535.94	328.18		
75.0	3081.44	3135.25	2997.93	2581.32	2046.87	1451.18	916.73	533.52	309.91		
90.0	3081.44	3125.26	2974.22	2569.57	2010.16	1446.08	905.32	542.63	303.95		
105.0	3081.44	3128.58	2976.77	2563.78	1996.15	1404.00	876.91	540.29	307.39		
120.0	3081.44	3100.99	2911.02	2507.80	1951.86	1374.49	856.73	541.98	297.99		
135.0	3081.44	3072.22	2864.76	2431.40	1874.50	1300.07	827.06	538.47	292.28		
150.0	3081.44	3056.68	2842.99	2372.52	1403.15	1255.50	770.36	536.50	287.05		
165.0	3081.44	3037.79	2784.11	2311.31	1744.85	1192.93	754.68	525.54	267.32		
180.0	3081.44	2889.18	2480.42	1936.01	1370.03	898.38	528.25	320.72	226.39		
195.0	3081.44	2869.18	2478.21	1911.27	1375.17	882.61	518.86	316.58	224.96		
210.0	3081.44	2866.93	2431.45	1934.30	1377.30	881.07	520.17	317.63	226.48		
225.0	3081.44	2846.72	2433.00	1945.31	1369.93	899.59	525.14	316.91	222.84		
240.0	3081.44	2841.51	2450.81	1921.30	1362.38	895.38	524.91	318.07	222.47		
255.0	3081.44	2863.39	2455.13	1945.73	1386.23	894.46	544.66	325.68	228.25		
270.0	3081.44	2861.40	2461.42	1977.53	1386.41	917.44	547.29	325.39	230.29		
285.0	3081.44	2868.34	2496.83	1960.32	1423.80	937.26	556.32	338.51	301.73		
300.0	3081.44	2871.91	2482.66	1985.38	1867.11	958.24	569.91	339.90	234.67		
315.0	3081.44	2888.73	2505.17	2031.24	1489.09	985.65	588.26	349.45	239.73		
330.0	3081.44	2914.53	2561.45	2031.36	1536.13	995.96	616.29	365.00	248.53		
345.0	3081.44	2929.59	2584.08	2017.62	1539.36	1021.08	617.38	365.52	245.50		
360.0	3081.44	3072.45	2892.78	2462.46	1930.62	1361.94	872.33	514.77	318.03		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	229.09	170.69	135.66	109.60	85.35	61.99	42.22	28.75	14.37		
15.0	230.40	174.16	138.79	111.57	87.08	62.59	43.54	29.03	15.42		
30.0	234.77	176.77	139.02	111.40	86.54	63.53	43.27	30.38	15.65		
45.0	228.32	173.52	138.82	111.42	84.94	61.19	42.92	28.31	15.53		
60.0	227.98	172.83	136.05	108.48	83.65	60.67	42.29	28.50	18.39		
75.0	223.62	170.73	136.40	107.63	83.51	59.38	41.75	29.69	18.56		
90.0	218.17	170.62	134.26	109.09	82.98	58.74	41.96	28.90	18.65		
105.0	219.70	167.84	132.95	105.61	82.03	58.46	40.55	28.29	16.97		
120.0	214.18	164.83	130.37	103.37	77.29	55.87	38.18	26.07	14.90		
135.0	213.91	161.36	128.16	102.35	77.45	54.40	37.80	23.05	12.91		
150.0	208.18	158.66	125.64	100.88	77.95	55.03	37.60	23.84	10.09		
165.0	200.03	155.48	123.66	100.02	76.38	52.74	36.37	23.64	10.00		
180.0	170.69	133.86	108.70	86.24	61.09	42.22	26.95	14.37	2.70		
195.0	169.63	133.34	109.76	87.08	62.59	43.54	29.03	15.42	3.63		
210.0	168.48	134.42	109.56	85.62	61.68	42.35	29.46	14.73	4.60		
225.0	167.13	131.51	105.94	84.94	61.19	42.92	28.31	18.27	5.48		
240.0	170.07	135.13	113.07	89.17	63.43	43.21	33.09	20.22	6.43		
255.0	175.37	140.11	115.98	90.93	64.02	44.54	35.26	32.48	7.42		
270.0	177.15	141.72	116.54	113.75	65.26	45.69	35.43	23.31	8.39		
285.0	181.04	143.32	118.81	92.41	66.95	46.20	36.77	23.57	9.43		
300.0	178.80	140.62	117.33	92.19	68.91	46.56	34.46	23.28	9.31		
315.0	178.87	141.07	113.41	89.44	67.31	46.10	31.35	21.21	9.22		
330.0	184.34	143.07	115.55	91.71	66.95	47.69	33.02	18.34	7.34		
345.0	184.58	145.48	115.47	92.74	69.10	47.28	32.73	20.00	7.27		
360.0	229.09	170.69	135.66	109.60	85.35	61.99	42.22	28.75	14.37		

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	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15.0	3.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30.0	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
45.0	5.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
60.0	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
75.0	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
90.0	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105.0	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120.0	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
135.0	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
150.0	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
165.0	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
195.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
210.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
240.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
255.0	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
315.0	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
330.0	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
345.0	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
360.0	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	0.00	0.90	1.80	2.70	5.39	7.19	8.98	8.98	8.98		
15.0	0.00	0.91	1.81	2.72	5.44	7.26	9.07	9.07	9.07		
30.0	0.00	0.92	0.92	2.76	4.60	7.37	9.21	9.21	9.21		
45.0	0.00	0.91	0.91	2.74	4.57	7.31	8.22	9.13	9.13		
60.0	0.00	0.92	1.84	2.76	4.60	7.35	9.19	9.19	9.19		
75.0	0.00	0.93	1.86	2.78	4.64	7.42	9.28	9.28	9.28		
90.0	0.00	0.93	1.86	2.80	5.59	7.46	8.39	9.32	9.32		
105.0	0.00	0.94	1.89	2.83	5.66	7.54	9.43	9.43	9.43		
120.0	0.00	0.93	1.86	2.79	5.59	7.45	9.31	9.31	9.31		
135.0	0.00	0.92	1.84	3.69	5.53	7.38	9.22	9.22	9.22		
150.0	0.00	0.92	1.83	3.67	5.50	7.34	9.17	9.17	9.17		
165.0	0.00	0.91	1.82	3.64	5.46	7.27	9.09	9.09	9.09		
180.0	0.00	0.90	0.90	1.80	3.59	5.39	6.29	7.19	8.09		
195.0	0.00	0.91	0.91	1.81	3.63	3.63	6.35	7.26	8.16		
210.0	0.00	0.00	0.92	1.84	3.68	5.52	6.44	7.37	8.29		
225.0	0.00	0.91	0.91	1.83	3.65	5.48	6.39	7.31	8.22		
240.0	0.00	0.92	0.92	1.84	3.68	5.52	6.43	7.35	8.27		
255.0	0.00	0.93	0.93	1.86	3.71	5.57	6.50	7.42	8.35		
270.0	0.00	0.93	0.93	1.86	3.73	5.59	6.53	7.46	8.39		
285.0	0.00	0.00	0.94	1.89	3.77	5.66	6.60	7.54	8.49		
300.0	0.00	0.00	0.93	1.86	3.72	5.59	6.52	7.45	8.38		
315.0	0.00	0.00	0.92	1.84	3.69	4.61	6.45	7.38	8.30		
330.0	0.00	0.00	0.92	1.83	2.75	5.50	6.42	7.34	8.25		
345.0	0.00	0.00	0.91	1.82	2.73	4.55	6.36	7.27	8.18		
360.0	0.00	0.90	1.80	2.70	5.39	7.19	8.98	8.98	8.98		

Intensity data(cd)

C/γ(°)	180.0
0.0	8.09
15.0	9.07
30.0	9.21
45.0	9.13
60.0	9.19
75.0	9.28
90.0	9.32
105.0	9.43
120.0	9.31
135.0	9.22
150.0	9.17
165.0	9.09
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	8.09