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Light Blue USA-Rayhil

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Client:

LumCAT: INF-RD-CCT-BK

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.020

LampCAT:

Current(A): 0.095

Lamp flux(lm): 822.0

Power (W): 11.170

Number of Lamps: 1

PF: 0.979

Length(mm): -50

Width(mm): -50

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 822.03, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 73.59

Central intensity(cd): 2341.246, Maximum intensity(cd): 2341.246

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

Beam Angle(50%Imax): [C0/180]Total=31.0

[C90/270]Total=31.6

Field angle(10%Imax): [C0/180]Total=57.4

[C90/270]Total=57.8

Maximum s/h(1/2): C0\_180=0.50 C90\_270=0.51

Maximum s/h(1/4): C0\_180=0.57 C90\_270=0.58

Up flux rate of lamp(%): 0.28%

Down flux rate of lamp(%): 99.72%

Up flux rate of LUM(%): 0.28%

Down flux rate of LUM(%): 99.72%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.678%

# Light Blue USA-Rayhil INF-RD-CCT-BK

Zonal flux distribution table

Appendix Page: 2 Total:12

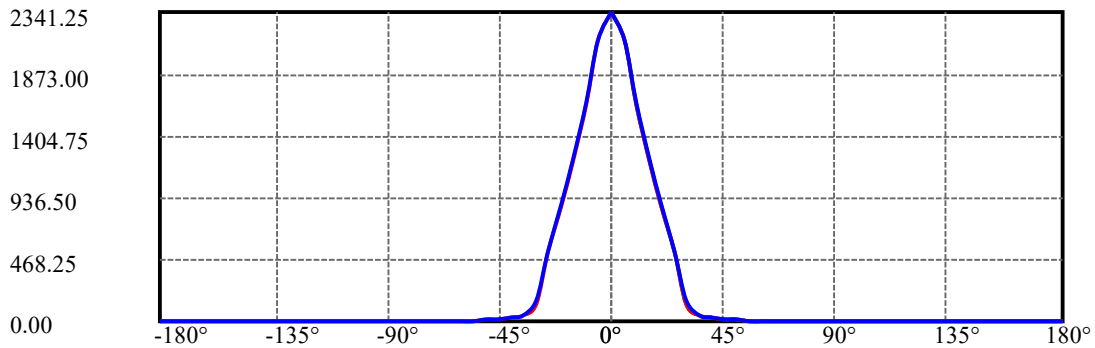
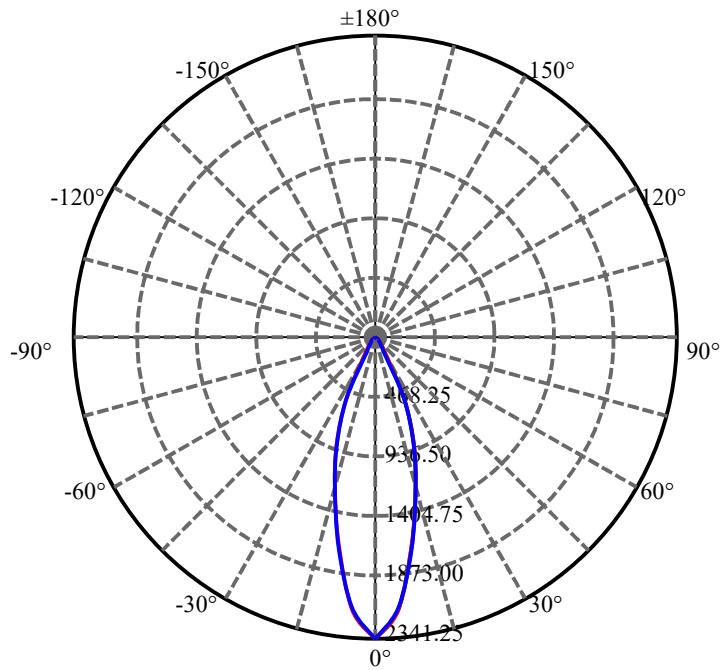
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2341.246	0.000	0	0.00%	0.00%
5.0	2117.009	53.297	53.297	6.48%	6.48%
10.0	1654.852	134.931	188.229	16.41%	22.90%
15.0	1220.435	170.560	358.789	20.75%	43.65%
20.0	882.893	173.344	532.132	21.09%	64.73%
25.0	522.338	147.383	679.515	17.93%	82.66%
30.0	147.497	84.768	764.283	10.31%	92.98%
35.0	41.522	27.834	792.118	3.39%	96.36%
40.0	25.457	11.175	803.293	1.36%	97.72%
45.0	14.953	7.482	810.775	0.91%	98.63%
50.0	8.053	4.649	815.424	0.57%	99.20%
55.0	4.103	2.643	818.067	0.32%	99.52%
60.0	1.569	1.311	819.378	0.16%	99.68%
65.0	0.000	0.381	819.759	0.05%	99.72%
70.0	0.000	0.000	819.759	0.00%	99.72%
75.0	0.000	0.000	819.759	0.00%	99.72%
80.0	0.000	0.000	819.759	0.00%	99.72%
85.0	0.000	0.000	819.759	0.00%	99.72%
90.0	0.000	0.000	819.759	0.00%	99.72%
95.0	0.000	0.000	819.759	0.00%	99.72%
100.0	0.000	0.000	819.759	0.00%	99.72%
105.0	0.000	0.000	819.759	0.00%	99.72%
110.0	0.000	0.000	819.759	0.00%	99.72%
115.0	0.000	0.000	819.759	0.00%	99.72%
120.0	0.000	0.000	819.759	0.00%	99.72%
125.0	0.000	0.000	819.759	0.00%	99.72%
130.0	0.000	0.000	819.759	0.00%	99.72%
135.0	0.000	0.000	819.759	0.00%	99.72%
140.0	0.000	0.000	819.759	0.00%	99.72%
145.0	0.000	0.000	819.759	0.00%	99.72%
150.0	0.460	0.068	819.827	0.01%	99.73%
155.0	1.684	0.271	820.098	0.03%	99.77%
160.0	3.146	0.507	820.605	0.06%	99.83%
165.0	3.831	0.575	821.18	0.07%	99.90%
170.0	4.141	0.473	821.653	0.06%	99.95%
175.0	4.141	0.296	821.949	0.04%	99.99%
180.0	2.263	0.077	822.025	0.01%	100.00%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	764.28	92.98%	92.98%
0-40	803.29	97.72%	97.72%
0-60	819.38	99.68%	99.68%
0-90	819.76	99.72%	99.72%
0-120	819.76	99.72%	99.72%
0-180	822.03	100.00%	100.00%
60-90	0.38	0.05%	0.05%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.07	0.01%	0.01%
90-180	2.19	0.27%	0.27%
0-24.26	657.62	80.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	188.23
10-20	343.90
20-30	232.15
30-40	39.01
40-50	12.13
50-60	3.95
60-70	0.38
70-80	0.00
80-90	0.00
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.07
150-160	0.78
160-170	1.05
170-180	0.30



C0(Max):

C0/C180:

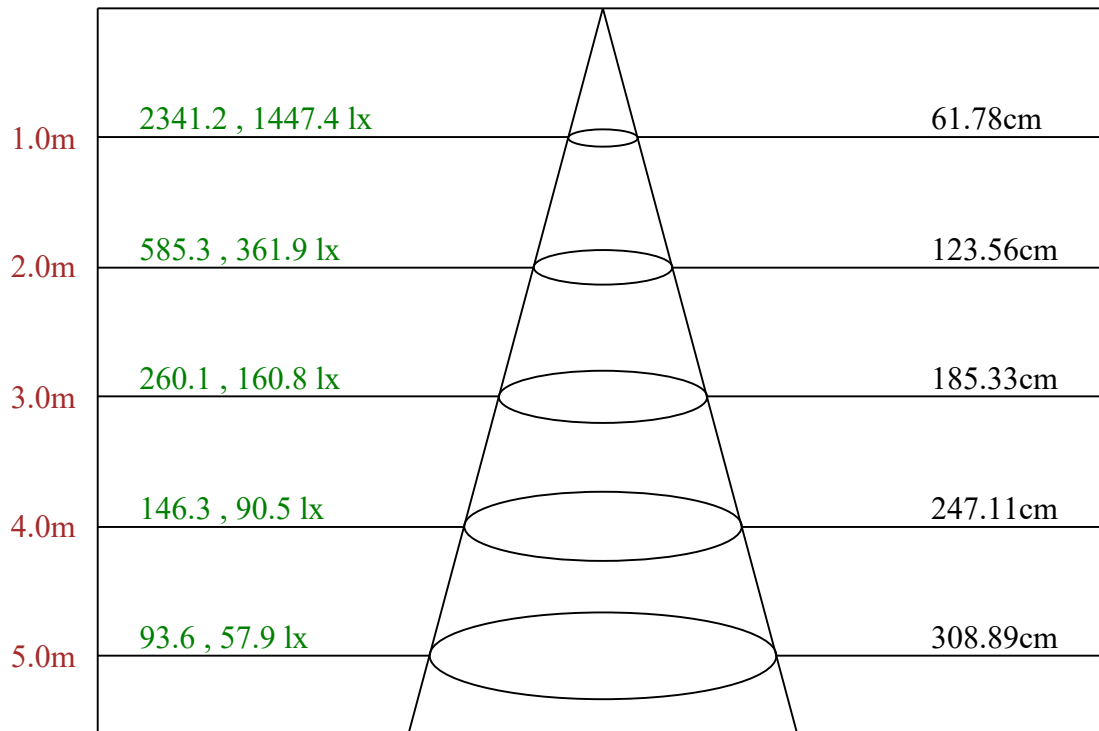
C90/C270:

Field angle(10%Imax):C0/180Left:28.7 Right:28.7

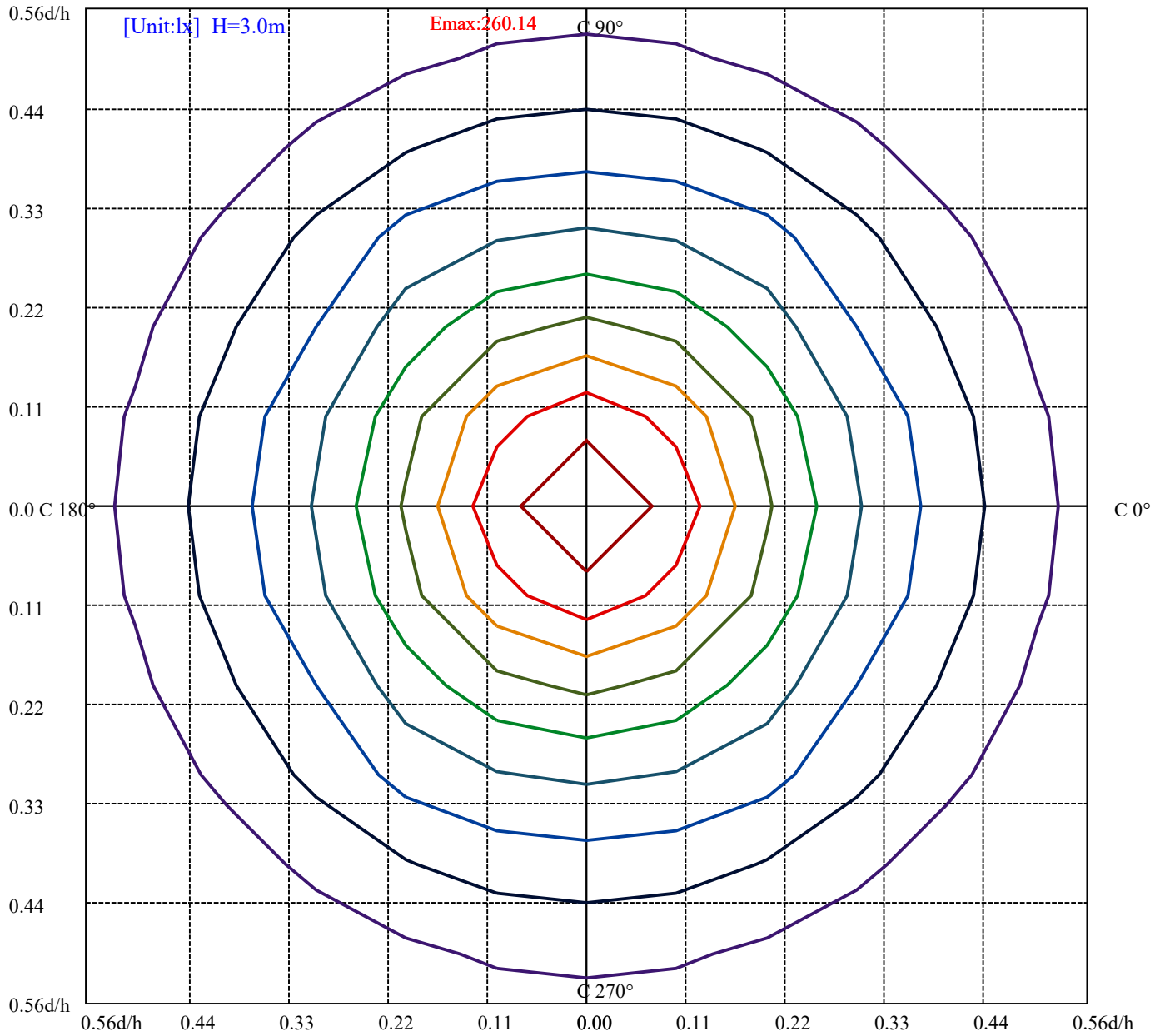
:C90/270Left:28.9 Right:28.9

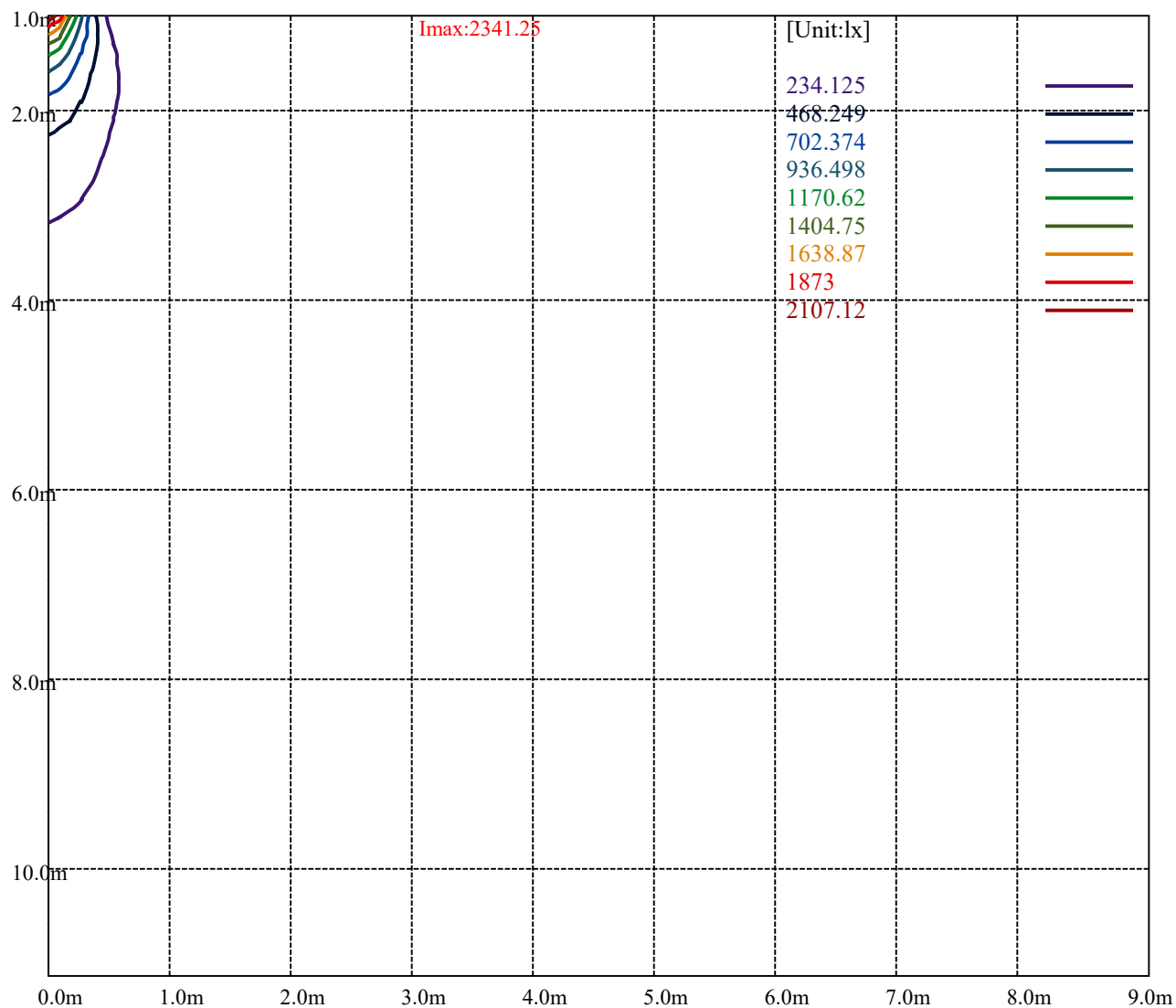
Beam Angle(50%Imax):C0/180Left:15.5 Right:15.5

:C90/270Left:15.8 Right:15.8



Max , Ave      Beam angle of C0 plane 34.33





# Light Blue USA-Rayhil INF-RD-CCT-BK

## Luminance Limiting Curve(no luminous side)

Appendix Page: 8 Total:12

Luminance Table

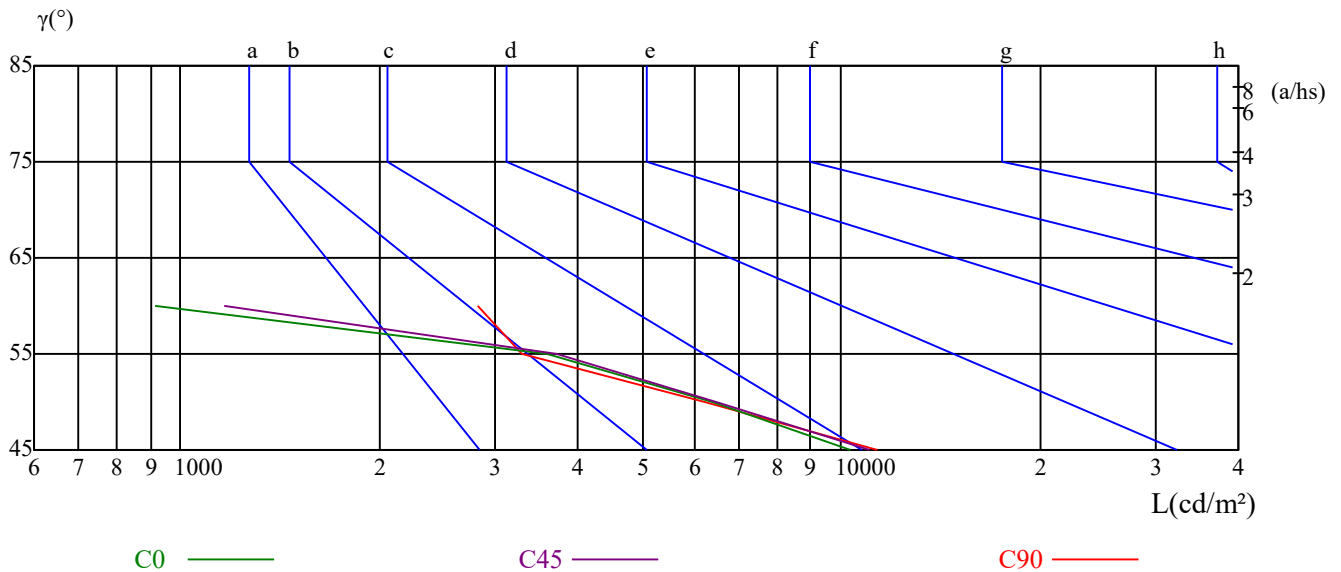
$\gamma$	45	50	55	60	65	70	75	80	85
C0	10326	6389	3580	913	0	0	0	0	0
C45	11039	6448	3714	1168	0	0	0	0	0
C90	11326	6230	3285	2827	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.95
2	1.06	1.03	1.00	1.04	1.01	0.99	1.01	0.99	0.97	0.98	0.96	0.95	0.96	0.94	0.93	0.91
3	1.01	0.97	0.94	0.99	0.96	0.93	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.89	0.87
4	0.96	0.92	0.88	0.95	0.91	0.88	0.93	0.89	0.87	0.91	0.88	0.86	0.89	0.87	0.85	0.83
5	0.92	0.87	0.84	0.91	0.86	0.83	0.89	0.85	0.83	0.88	0.84	0.82	0.86	0.83	0.81	0.80
6	0.88	0.83	0.80	0.87	0.83	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.78	0.77
7	0.84	0.79	0.76	0.84	0.79	0.76	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.75	0.74
8	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.71
9	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.76	0.72	0.69	0.75	0.72	0.69	0.68
10	0.75	0.70	0.67	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.66

# Light Blue USA-Rayhil INF-RD-CCT-BK

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	2341.25	2199.68	1705.09	1249.92	913.02	577.02	187.26	45.70	27.78		
15.0	2341.25	2199.30	1709.67	1264.96	921.76	600.14	185.97	46.72	29.65		
30.0	2341.25	2206.07	1749.18	1280.57	925.50	601.98	213.58	45.96	27.94		
45.0	2341.25	2241.27	1771.39	1295.14	939.77	608.94	223.58	47.26	29.99		
60.0	2341.25	2260.48	1781.40	1330.77	964.58	624.09	212.01	48.64	28.45		
75.0	2341.25	2273.80	1809.06	1349.87	1001.54	631.05	231.91	50.82	30.49		
90.0	2341.25	2271.87	1832.48	1357.02	994.41	632.72	241.43	48.10	28.68		
105.0	2341.25	2275.23	1857.75	1380.76	1006.98	663.88	242.68	49.28	30.68		
120.0	2341.25	2281.97	1831.88	1387.34	999.29	659.40	243.57	47.23	28.71		
135.0	2341.25	2303.24	1889.91	1409.12	1031.90	676.53	248.00	49.41	28.51		
150.0	2341.25	2255.40	1835.48	1354.92	739.05	652.26	227.69	47.59	27.99		
165.0	2341.25	2240.55	1804.19	1378.08	984.61	661.07	230.30	45.69	25.17		
180.0	2341.25	2038.40	1572.48	1153.15	834.18	461.44	85.12	34.94	22.40		
195.0	2341.25	2013.33	1556.94	1140.98	816.65	448.30	74.57	35.94	20.66		
210.0	2341.25	1975.37	1537.40	1139.08	815.56	425.35	72.99	35.15	20.73		
225.0	2341.25	1956.79	1528.72	1121.54	813.44	422.62	73.62	35.45	20.90		
240.0	2341.25	1984.23	1501.48	1114.18	809.48	421.26	71.59	34.88	21.11		
255.0	2341.25	1965.21	1530.03	1097.63	805.67	421.31	71.14	36.03	21.25		
270.0	2341.25	1962.91	1495.77	1089.68	781.65	411.64	68.45	35.15	21.28		
285.0	2341.25	1962.82	1501.63	1083.22	781.96	387.73	68.81	36.26	32.54		
300.0	2341.25	1970.80	1475.32	1071.53	994.66	380.64	63.90	33.34	21.30		
315.0	2341.25	2025.79	1486.08	1100.31	791.50	398.13	66.51	36.11	21.85		
330.0	2341.25	1975.46	1475.29	1067.51	755.84	389.12	67.19	35.46	21.46		
345.0	2341.25	1968.29	1477.85	1073.19	766.43	379.49	68.06	35.43	21.45		
360.0	2341.25	2199.68	1705.09	1249.92	913.02	577.02	187.26	45.70	27.78		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	16.13	8.96	4.48	0.90	0.00	0.00	0.00	0.00	0.00		
15.0	16.17	8.98	4.49	2.70	0.00	0.00	0.00	0.00	0.00		
30.0	16.22	9.01	4.51	2.70	0.00	0.00	0.00	0.00	0.00		
45.0	18.18	9.09	4.54	2.73	0.00	0.00	0.00	0.00	0.00		
60.0	18.36	9.18	4.59	2.75	0.00	0.00	0.00	0.00	0.00		
75.0	18.48	9.24	4.62	2.77	0.00	0.00	0.00	0.00	0.00		
90.0	18.50	9.25	4.63	2.78	0.00	0.00	0.00	0.00	0.00		
105.0	18.60	9.30	4.65	2.79	0.00	0.00	0.00	0.00	0.00		
120.0	16.67	9.26	4.63	2.78	0.00	0.00	0.00	0.00	0.00		
135.0	17.10	9.50	4.75	0.95	0.00	0.00	0.00	0.00	0.00		
150.0	16.80	9.33	4.67	0.93	0.00	0.00	0.00	0.00	0.00		
165.0	15.85	8.39	4.66	0.93	0.00	0.00	0.00	0.00	0.00		
180.0	12.54	7.17	3.58	0.90	0.00	0.00	0.00	0.00	0.00		
195.0	12.58	6.29	3.59	0.90	0.00	0.00	0.00	0.00	0.00		
210.0	12.62	6.31	3.60	0.90	0.00	0.00	0.00	0.00	0.00		
225.0	12.72	6.36	3.64	0.91	0.00	0.00	0.00	0.00	0.00		
240.0	11.93	7.34	3.67	0.92	0.00	0.00	0.00	0.00	0.00		
255.0	12.94	6.47	3.70	0.92	0.00	0.00	0.00	0.00	0.00		
270.0	12.95	6.48	2.78	2.78	0.00	0.00	0.00	0.00	0.00		
285.0	12.09	7.44	3.72	0.93	0.00	0.00	0.00	0.00	0.00		
300.0	12.04	7.41	3.70	0.93	0.00	0.00	0.00	0.00	0.00		
315.0	13.30	7.60	3.80	0.00	0.00	0.00	0.00	0.00	0.00		
330.0	13.06	7.47	3.73	0.93	0.00	0.00	0.00	0.00	0.00		
345.0	13.05	7.46	3.73	0.93	0.00	0.00	0.00	0.00	0.00		
360.0	16.13	8.96	4.48	0.90	0.00	0.00	0.00	0.00	0.00		

Light Blue USA-Rayhil INF-RD-CCT-BK

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
45.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
60.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
75.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
165.0	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
330.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
345.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
360.0	0.00	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	0.00	0.00	0.90	2.69	3.58	4.48	4.48	4.48		
15.0	0.00	0.00	0.00	0.90	2.70	3.59	4.49	4.49	4.49		
30.0	0.00	0.00	0.00	0.90	2.70	3.60	4.51	4.51	4.51		
45.0	0.00	0.00	0.00	0.91	2.73	3.64	4.54	4.54	4.54		
60.0	0.00	0.00	0.00	0.92	2.75	3.67	4.59	4.59	4.59		
75.0	0.00	0.00	0.00	0.92	2.77	3.70	3.70	4.62	4.62		
90.0	0.00	0.00	0.00	0.93	2.78	3.70	3.70	4.63	4.63		
105.0	0.00	0.00	0.00	0.93	2.79	3.72	3.72	4.65	4.65		
120.0	0.00	0.00	0.00	0.93	2.78	3.70	3.70	4.63	4.63		
135.0	0.00	0.00	0.00	0.95	0.95	3.80	3.80	4.75	4.75		
150.0	0.00	0.00	0.00	0.93	2.80	3.73	3.73	4.67	4.67		
165.0	0.00	0.00	0.00	0.93	0.93	3.73	3.73	4.66	4.66		
180.0	0.00	0.00	0.00	0.00	0.90	2.69	3.58	3.58	3.58		
195.0	0.00	0.00	0.00	0.00	0.90	0.90	3.59	3.59	3.59		
210.0	0.00	0.00	0.00	0.00	0.90	2.70	3.60	3.60	3.60		
225.0	0.00	0.00	0.00	0.00	0.91	2.73	3.64	3.64	3.64		
240.0	0.00	0.00	0.00	0.00	0.92	2.75	2.75	3.67	3.67		
255.0	0.00	0.00	0.00	0.00	0.92	2.77	3.70	3.70	3.70		
270.0	0.00	0.00	0.00	0.00	0.93	2.78	3.70	3.70	3.70		
285.0	0.00	0.00	0.00	0.00	0.93	2.79	3.72	3.72	3.72		
300.0	0.00	0.00	0.00	0.00	0.93	2.78	3.70	3.70	3.70		
315.0	0.00	0.00	0.00	0.00	0.95	2.85	3.80	3.80	3.80		
330.0	0.00	0.00	0.00	0.00	0.93	2.80	3.73	3.73	3.73		
345.0	0.00	0.00	0.00	0.00	0.93	2.80	3.73	3.73	3.73		
360.0	0.00	0.00	0.00	0.90	2.69	3.58	4.48	4.48	4.48		

## Light Blue USA-Rayhil INF-RD-CCT-BK

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Intensity data(cd)

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C/γ(°)	180.0
0.0	3.58
15.0	4.49
30.0	4.51
45.0	4.54
60.0	4.59
75.0	4.62
90.0	4.63
105.0	4.65
120.0	4.63
135.0	4.75
150.0	4.67
165.0	4.66
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	3.58