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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): 0.097

Lamp flux(lm): 767.0

Power (W): 11.350

Number of Lamps: 1

PF: 0.980

Length(mm): -50

Width(mm): -50

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 767.01, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 67.58

Central intensity(cd): 2186.078, Maximum intensity(cd): 2186.078

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(%): 0.26%

Down flux rate of lamp(%): 99.74%

Up flux rate of LUM(%): 0.26%

Down flux rate of LUM(%): 99.74%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.714%

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

Zonal flux distribution table

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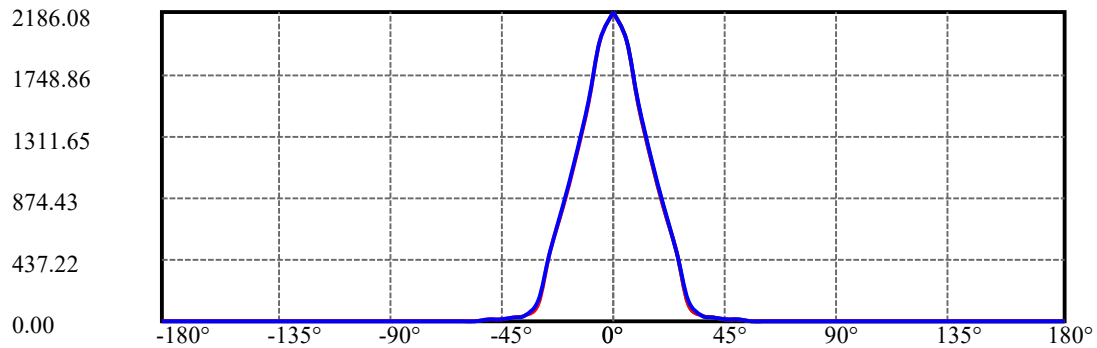
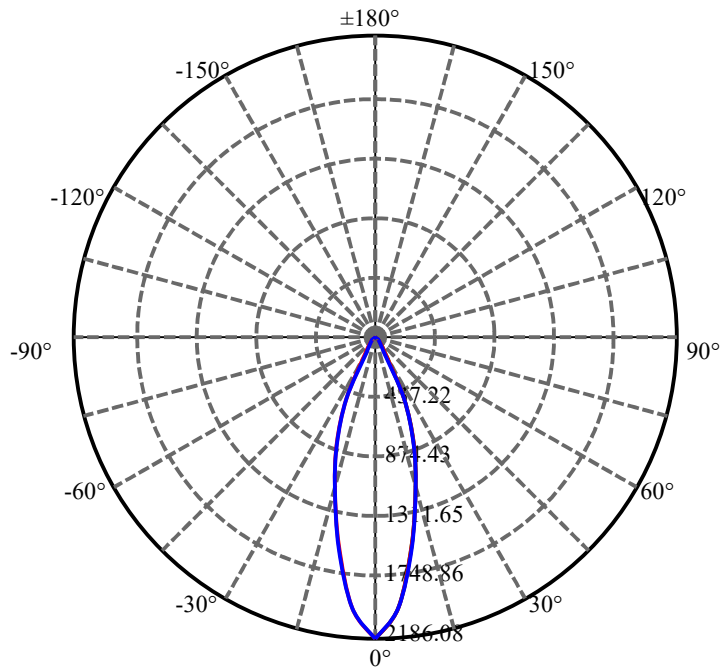
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2186.078	0.000	0	0.00%	0.00%
5.0	1976.776	49.766	49.766	6.49%	6.49%
10.0	1545.208	125.992	175.758	16.43%	22.91%
15.0	1139.466	159.253	335.011	20.76%	43.68%
20.0	824.205	161.834	496.845	21.10%	64.78%
25.0	487.834	137.609	634.454	17.94%	82.72%
30.0	137.639	79.154	713.608	10.32%	93.04%
35.0	38.531	25.942	739.55	3.38%	96.42%
40.0	24.003	10.433	749.984	1.36%	97.78%
45.0	13.995	7.036	757.019	0.92%	98.70%
50.0	7.514	4.346	761.366	0.57%	99.26%
55.0	3.564	2.409	763.774	0.31%	99.58%
60.0	0.958	1.045	764.819	0.14%	99.71%
65.0	0.000	0.233	765.052	0.03%	99.74%
70.0	0.000	0.000	765.052	0.00%	99.74%
75.0	0.000	0.000	765.052	0.00%	99.74%
80.0	0.000	0.000	765.052	0.00%	99.74%
85.0	0.000	0.000	765.052	0.00%	99.74%
90.0	0.000	0.000	765.052	0.00%	99.74%
95.0	0.000	0.000	765.052	0.00%	99.74%
100.0	0.000	0.000	765.052	0.00%	99.74%
105.0	0.000	0.000	765.052	0.00%	99.74%
110.0	0.000	0.000	765.052	0.00%	99.74%
115.0	0.000	0.000	765.052	0.00%	99.74%
120.0	0.000	0.000	765.052	0.00%	99.74%
125.0	0.000	0.000	765.052	0.00%	99.74%
130.0	0.000	0.000	765.052	0.00%	99.74%
135.0	0.000	0.000	765.052	0.00%	99.74%
140.0	0.000	0.000	765.052	0.00%	99.74%
145.0	0.000	0.000	765.052	0.00%	99.74%
150.0	0.460	0.068	765.12	0.01%	99.75%
155.0	0.995	0.184	765.304	0.02%	99.78%
160.0	2.913	0.410	765.714	0.05%	99.83%
165.0	3.258	0.509	766.222	0.07%	99.90%
170.0	4.102	0.437	766.659	0.06%	99.95%
175.0	3.909	0.287	766.946	0.04%	99.99%
180.0	1.878	0.069	767.015	0.01%	100.00%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	713.61	93.04%	93.04%
0-40	749.98	97.78%	97.78%
0-60	764.82	99.71%	99.71%
0-90	765.05	99.74%	99.74%
0-120	765.05	99.74%	99.74%
0-180	767.01	100.00%	100.00%
60-90	0.23	0.03%	0.03%
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	1.89	0.25%	0.25%
0-24.24	613.61	80.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	175.76
10-20	321.09
20-30	216.76
30-40	36.38
40-50	11.38
50-60	3.45
60-70	0.23
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	0.59
160-170	0.95
170-180	0.29



C0(Max):

C0/C180:

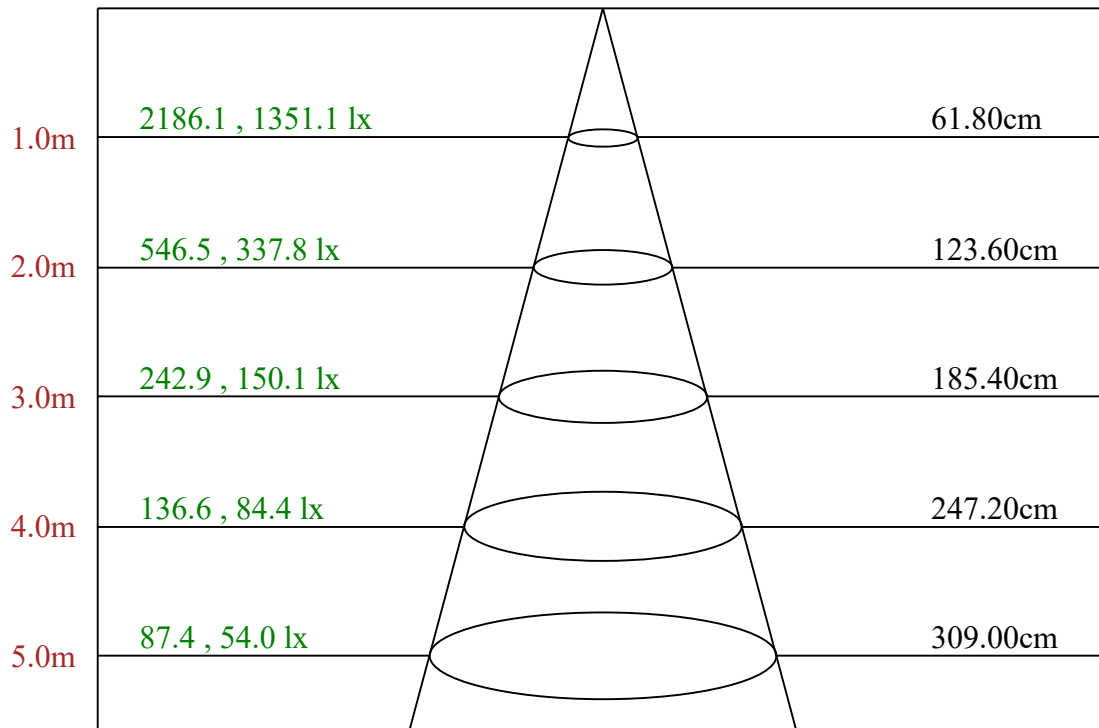
C90/C270:

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

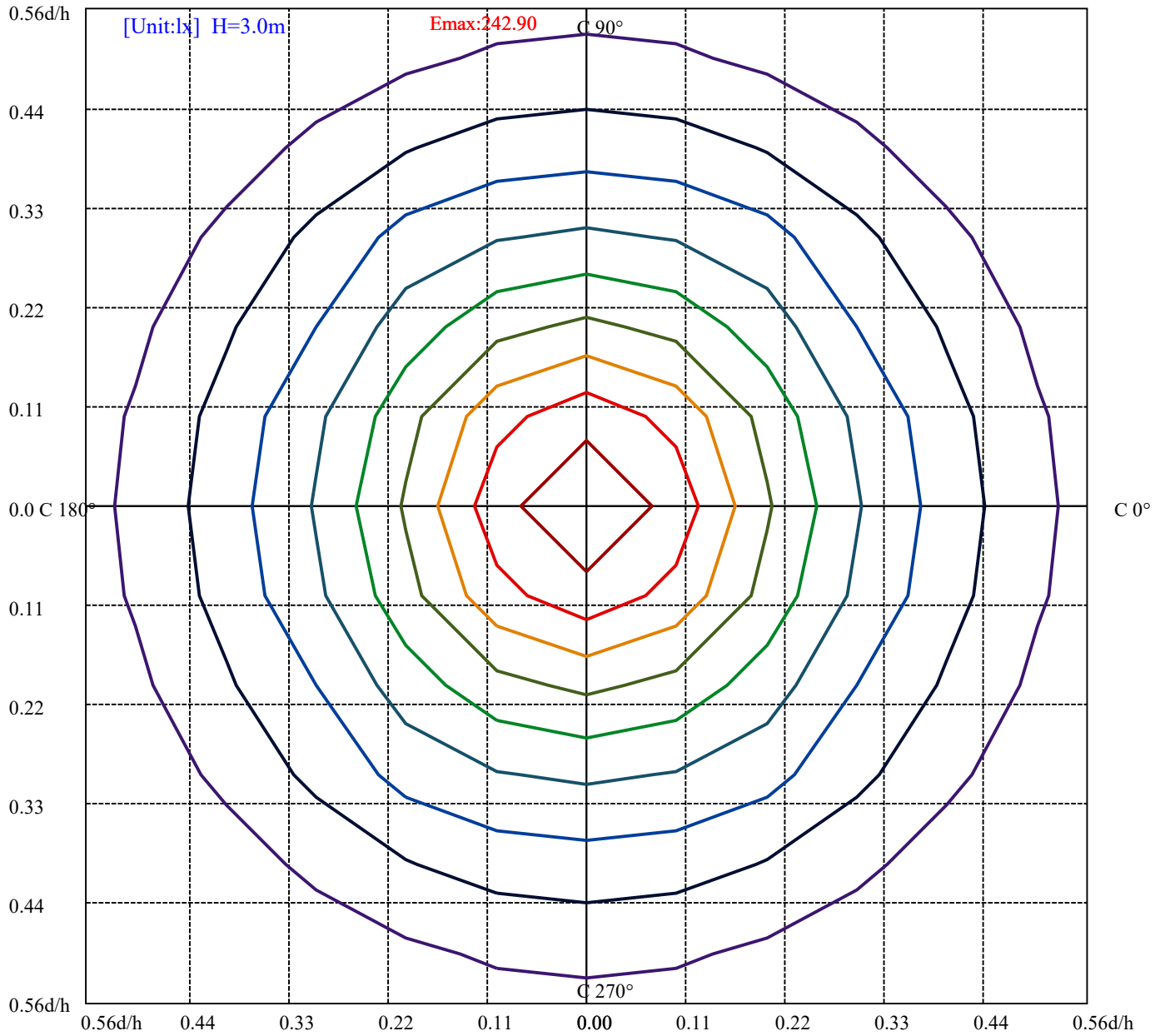
:C90/270Left:28.9 Right:28.9

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

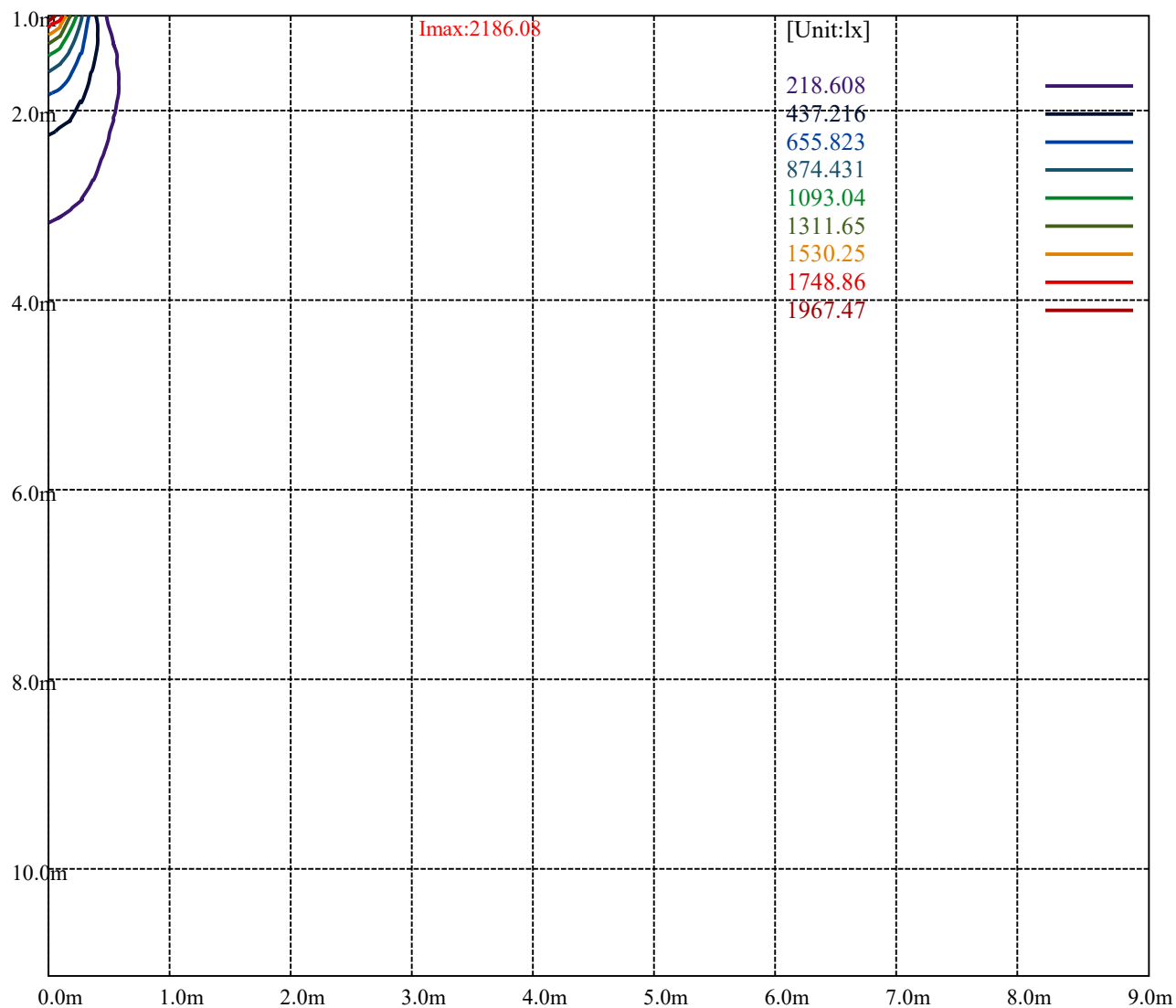
:C90/270Left:15.8 Right:15.8



Max , Ave      Beam angle of C0 plane 34.34



(10%Emax)	24.28967	
(20%Emax)	48.57933	
(30%Emax)	72.86911	
(40%Emax)	97.15878	
(50%Emax)	121.4489	
(60%Emax)	145.7378	
(70%Emax)	170.0278	
(80%Emax)	194.3178	
(90%Emax)	218.6067	



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

## Luminance Limiting Curve(no luminous side)

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Luminance Table

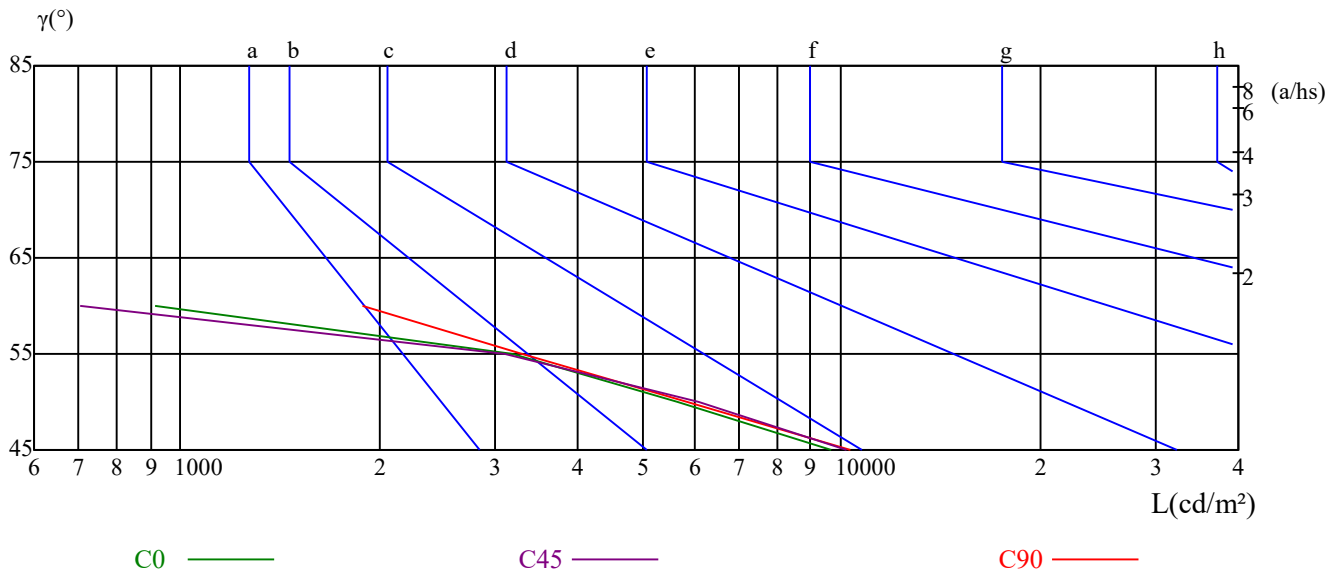
$\gamma$	45	50	55	60	65	70	75	80	85
C0	9676	5677	3181	912	0	0	0	0	0
C45	10210	6074	3092	705	0	0	0	0	0
C90	10324	5862	3284	1884	0	0	0	0	0

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	$\leq 300$				
1.5	B		2000	1000	500	$\leq 300$			
1.85	C			2000	1000	500	$\leq 300$		
2.2	D				2000	1000	500	$\leq 300$	
2.55	E					2000	1000	500	$\leq 300$
		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	1.05	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	0.87	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	0.75	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	2186.08	2053.53	1590.53	1166.92	852.58	539.13	175.53	42.09	25.97
15.0	2186.08	2054.00	1597.55	1181.54	860.77	560.67	172.51	43.13	26.96
30.0	2186.08	2060.77	1632.57	1195.36	863.61	562.52	199.23	43.27	27.04
45.0	2186.08	2094.23	1654.11	1209.44	877.52	568.34	209.15	43.65	28.19
60.0	2186.08	2109.90	1663.88	1242.63	899.39	582.77	198.23	44.97	26.61
75.0	2186.08	2122.35	1688.28	1259.74	935.57	588.31	216.11	47.10	28.63
90.0	2186.08	2121.35	1710.76	1265.96	928.44	589.98	225.64	45.31	27.74
105.0	2186.08	2124.71	1735.10	1288.77	939.15	620.21	226.88	45.56	27.90
120.0	2186.08	2130.50	1710.88	1294.97	931.86	616.92	226.02	44.46	26.86
135.0	2186.08	2150.91	1765.02	1316.40	962.82	631.11	230.96	45.62	27.56
150.0	2186.08	2105.84	1713.03	1265.18	690.44	610.20	213.66	43.85	25.19
165.0	2186.08	2090.99	1683.61	1287.41	919.18	616.20	215.34	42.88	24.24
180.0	2186.08	1901.29	1468.73	1076.47	778.25	430.77	78.81	32.24	19.70
195.0	2186.08	1881.48	1453.79	1065.63	762.84	418.71	70.08	34.14	19.77
210.0	2186.08	1845.32	1436.05	1062.84	761.75	397.55	67.61	32.45	19.83
225.0	2186.08	1827.79	1428.59	1047.57	760.22	394.66	68.20	32.74	20.01
240.0	2186.08	1852.93	1402.32	1040.73	755.31	392.80	67.00	32.12	20.19
255.0	2186.08	1835.12	1428.75	1024.23	751.78	394.36	66.50	33.25	20.32
270.0	2186.08	1830.98	1396.35	1017.21	728.69	383.77	63.81	32.37	20.34
285.0	2186.08	1832.73	1402.21	1010.75	729.93	362.64	64.16	33.47	30.69
300.0	2186.08	1841.49	1378.34	1001.33	929.08	355.70	60.21	31.49	20.38
315.0	2186.08	1892.38	1387.68	1028.41	740.42	371.63	61.78	33.27	20.91
330.0	2186.08	1844.59	1377.15	996.47	706.30	363.88	61.58	32.66	20.53
345.0	2186.08	1837.42	1379.70	1001.21	715.02	355.18	64.32	32.63	20.51
360.0	2186.08	2053.53	1590.53	1166.92	852.58	539.13	175.53	42.09	25.97
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	15.22	8.06	4.48	0.90	0.00	0.00	0.00	0.00	0.00
15.0	15.27	8.09	4.49	0.90	0.00	0.00	0.00	0.00	0.00
30.0	15.33	9.01	4.51	0.90	0.00	0.00	0.00	0.00	0.00
45.0	16.37	9.09	4.55	0.91	0.00	0.00	0.00	0.00	0.00
60.0	16.52	9.18	4.59	0.92	0.00	0.00	0.00	0.00	0.00
75.0	16.62	9.24	4.62	0.92	0.00	0.00	0.00	0.00	0.00
90.0	16.65	8.32	4.62	0.92	0.00	0.00	0.00	0.00	0.00
105.0	16.74	8.37	4.65	0.93	0.00	0.00	0.00	0.00	0.00
120.0	15.75	8.34	4.63	0.93	0.00	0.00	0.00	0.00	0.00
135.0	16.16	8.55	3.80	0.95	0.00	0.00	0.00	0.00	0.00
150.0	15.86	8.40	3.73	0.93	0.00	0.00	0.00	0.00	0.00
165.0	15.85	8.39	3.73	0.93	0.00	0.00	0.00	0.00	0.00
180.0	11.64	6.27	2.69	0.90	0.00	0.00	0.00	0.00	0.00
195.0	11.68	6.29	2.70	0.90	0.00	0.00	0.00	0.00	0.00
210.0	11.72	6.31	2.70	0.90	0.00	0.00	0.00	0.00	0.00
225.0	11.82	6.37	2.73	0.91	0.00	0.00	0.00	0.00	0.00
240.0	11.93	6.42	2.75	0.92	0.00	0.00	0.00	0.00	0.00
255.0	12.01	6.46	2.77	0.92	0.00	0.00	0.00	0.00	0.00
270.0	12.02	6.47	2.77	2.77	0.00	0.00	0.00	0.00	0.00
285.0	12.09	6.51	2.79	0.93	0.00	0.00	0.00	0.00	0.00
300.0	12.04	6.48	2.78	0.93	0.00	0.00	0.00	0.00	0.00
315.0	12.36	6.65	2.85	0.00	0.00	0.00	0.00	0.00	0.00
330.0	12.13	6.53	2.80	0.93	0.00	0.00	0.00	0.00	0.00
345.0	12.12	6.53	2.80	0.93	0.00	0.00	0.00	0.00	0.00
360.0	15.22	8.06	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	0.90	3.59	3.59	4.49	4.49		
30.0	0.00	0.00	0.00	0.90	0.90	3.61	3.61	4.51	4.51		
45.0	0.00	0.00	0.00	0.91	0.91	3.64	3.64	4.55	3.64		
60.0	0.00	0.00	0.00	0.92	0.92	3.67	3.67	4.59	4.59		
75.0	0.00	0.00	0.00	0.92	0.92	3.69	3.69	4.62	3.69		
90.0	0.00	0.00	0.00	0.92	0.92	2.77	3.70	4.62	3.70		
105.0	0.00	0.00	0.00	0.93	0.93	2.79	3.72	4.65	4.65		
120.0	0.00	0.00	0.00	0.93	0.93	2.78	3.71	4.63	3.71		
135.0	0.00	0.00	0.00	0.95	0.95	2.85	3.80	4.75	3.80		
150.0	0.00	0.00	0.00	0.93	0.93	2.80	3.73	3.73	3.73		
165.0	0.00	0.00	0.00	0.93	0.93	2.80	3.73	4.66	4.66		
180.0	0.00	0.00	0.00	0.00	0.90	2.69	2.69	3.58	3.58		
195.0	0.00	0.00	0.00	0.00	0.90	0.90	2.70	3.59	3.59		
210.0	0.00	0.00	0.00	0.00	0.90	2.70	2.70	3.61	3.61		
225.0	0.00	0.00	0.00	0.00	0.91	2.73	2.73	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	2.77	3.69	3.69		
270.0	0.00	0.00	0.00	0.00	0.92	2.77	2.77	3.70	3.70		
285.0	0.00	0.00	0.00	0.00	0.93	2.79	2.79	3.72	3.72		
300.0	0.00	0.00	0.00	0.00	0.93	2.78	2.78	3.71	3.71		
315.0	0.00	0.00	0.00	0.00	0.95	2.85	2.85	3.80	3.80		
330.0	0.00	0.00	0.00	0.00	0.93	2.80	2.80	3.73	3.73		
345.0	0.00	0.00	0.00	0.00	0.93	2.80	2.80	3.73	3.73		
360.0	0.00	0.00	0.00	0.90	2.69	3.58	4.48	4.48	4.48		

Intensity data(cd)

C/γ(°)	180.0
0.0	3.58
15.0	4.49
30.0	3.61
45.0	3.64
60.0	3.67
75.0	3.69
90.0	3.70
105.0	3.72
120.0	3.71
135.0	3.80
150.0	3.73
165.0	3.73
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