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Light Blue USA-Rayhil

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Client:

LumCAT: INF-RD-CCT-WH

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.040

LampCAT:

Current(A): 0.095

Lamp flux(lm): 886.0

Power (W): 11.140

Number of Lamps: 1

PF: 0.978

Length(mm): -50

Width(mm): -50

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 885.98, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 79.53

Central intensity(cd): 1802.067, Maximum intensity(cd): 1802.067

Angle of maximum intensity: C=30.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=35.2

[C90/270]Total=36.2

Field angle(10%Imax): [C0/180]Total=59.0

[C90/270]Total=60.2

Maximum s/h(1/2): C0\_180=0.56 C90\_270=0.58

Maximum s/h(1/4): C0\_180=0.61 C90\_270=0.61

Up flux rate of lamp(%): 0.21%

Down flux rate of lamp(%): 99.79%

Up flux rate of LUM(%): 0.21%

Down flux rate of LUM(%): 99.79%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 93.765%

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

Zonal flux distribution table

Appendix Page: 2 Total:12

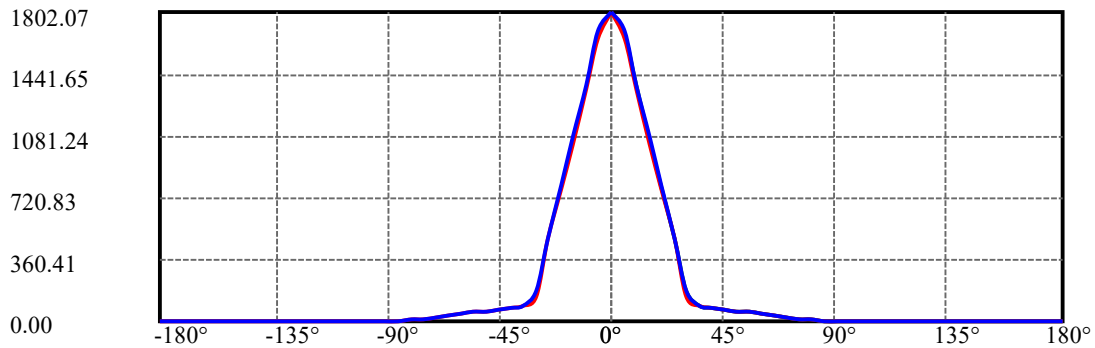
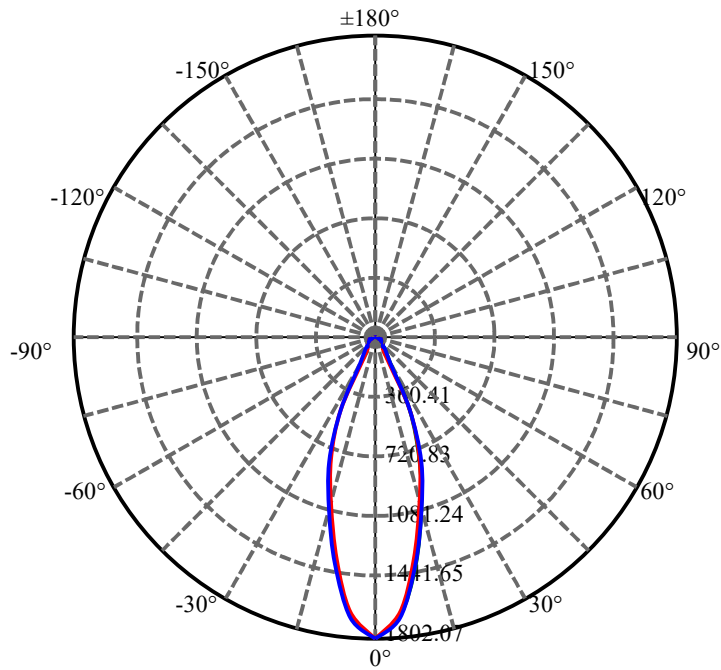
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1802.067	0.000	0	0.00%	0.00%
5.0	1671.716	41.528	41.528	4.69%	4.69%
10.0	1375.522	109.009	150.537	12.30%	16.99%
15.0	1064.028	144.712	295.25	16.33%	33.32%
20.0	789.127	152.726	447.976	17.24%	50.56%
25.0	479.279	133.032	581.008	15.02%	65.58%
30.0	172.125	82.436	663.444	9.30%	74.88%
35.0	90.923	38.736	702.179	4.37%	79.25%
40.0	79.457	28.427	730.606	3.21%	82.46%
45.0	69.476	27.576	758.182	3.11%	85.58%
50.0	60.275	26.218	784.4	2.96%	88.54%
55.0	51.993	24.411	808.811	2.76%	91.29%
60.0	42.865	21.926	830.737	2.47%	93.77%
65.0	32.670	18.363	849.1	2.07%	95.84%
70.0	23.158	14.136	863.236	1.60%	97.43%
75.0	15.378	10.073	873.308	1.14%	98.57%
80.0	8.819	6.475	879.783	0.73%	99.30%
85.0	3.334	3.302	883.085	0.37%	99.67%
90.0	0.312	0.998	884.083	0.11%	99.79%
95.0	0.000	0.085	884.169	0.01%	99.80%
100.0	0.000	0.000	884.169	0.00%	99.80%
105.0	0.000	0.000	884.169	0.00%	99.80%
110.0	0.000	0.000	884.169	0.00%	99.80%
115.0	0.000	0.000	884.169	0.00%	99.80%
120.0	0.000	0.000	884.169	0.00%	99.80%
125.0	0.000	0.000	884.169	0.00%	99.80%
130.0	0.000	0.000	884.169	0.00%	99.80%
135.0	0.000	0.000	884.169	0.00%	99.80%
140.0	0.000	0.000	884.169	0.00%	99.80%
145.0	0.000	0.000	884.169	0.00%	99.80%
150.0	0.460	0.068	884.237	0.01%	99.80%
155.0	1.341	0.228	884.465	0.03%	99.83%
160.0	2.301	0.382	884.847	0.04%	99.87%
165.0	3.222	0.455	885.302	0.05%	99.92%
170.0	3.222	0.382	885.684	0.04%	99.97%
175.0	3.260	0.232	885.916	0.03%	99.99%
180.0	1.841	0.061	885.977	0.01%	100.00%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	663.44	74.88%	74.88%
0-40	730.61	82.46%	82.46%
0-60	830.74	93.76%	93.77%
0-90	884.08	99.79%	99.79%
0-120	884.17	99.80%	99.80%
0-180	885.98	100.00%	100.00%
60-90	53.35	6.02%	6.02%
90-120	0.09	0.01%	0.01%
90-130	0.09	0.01%	0.01%
90-150	0.15	0.02%	0.02%
90-180	1.83	0.21%	0.21%
0-36.16	708.78	80.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	150.54
10-20	297.44
20-30	215.47
30-40	67.16
40-50	53.79
50-60	46.34
60-70	32.50
70-80	16.55
80-90	4.30
90-100	0.09
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.07
150-160	0.61
160-170	0.84
170-180	0.23



C30(Max): —————

C0/C180: —————

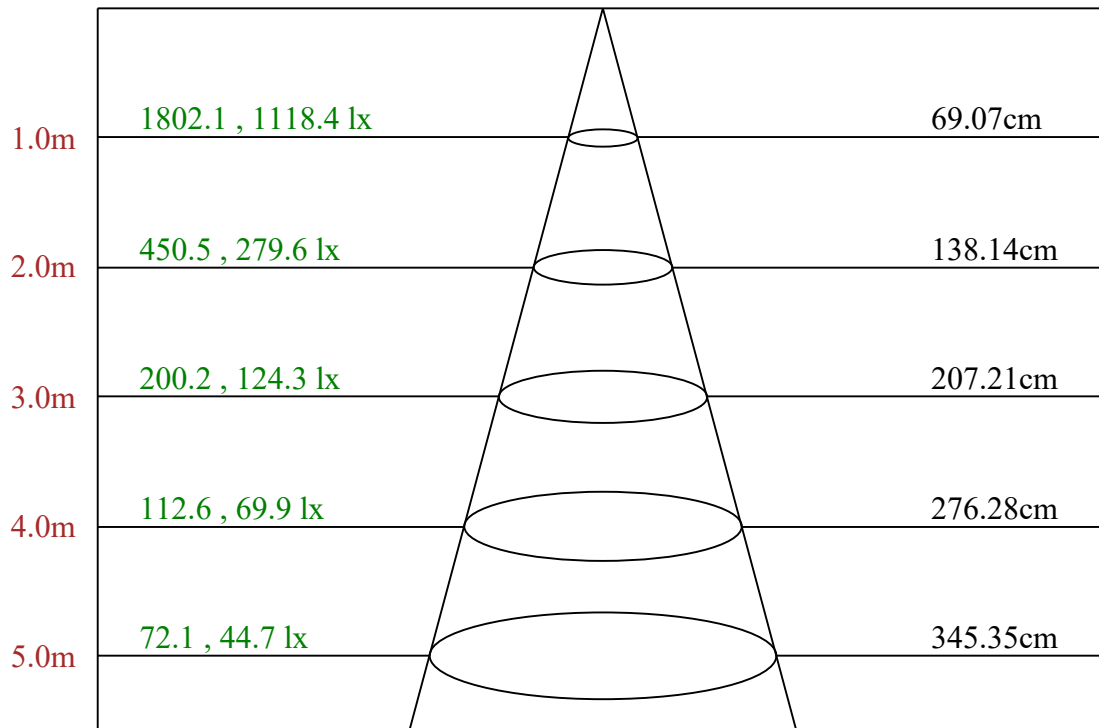
C90/C270: —————

Field angle(10%Imax):C0/180Left:29.5 Right:29.5

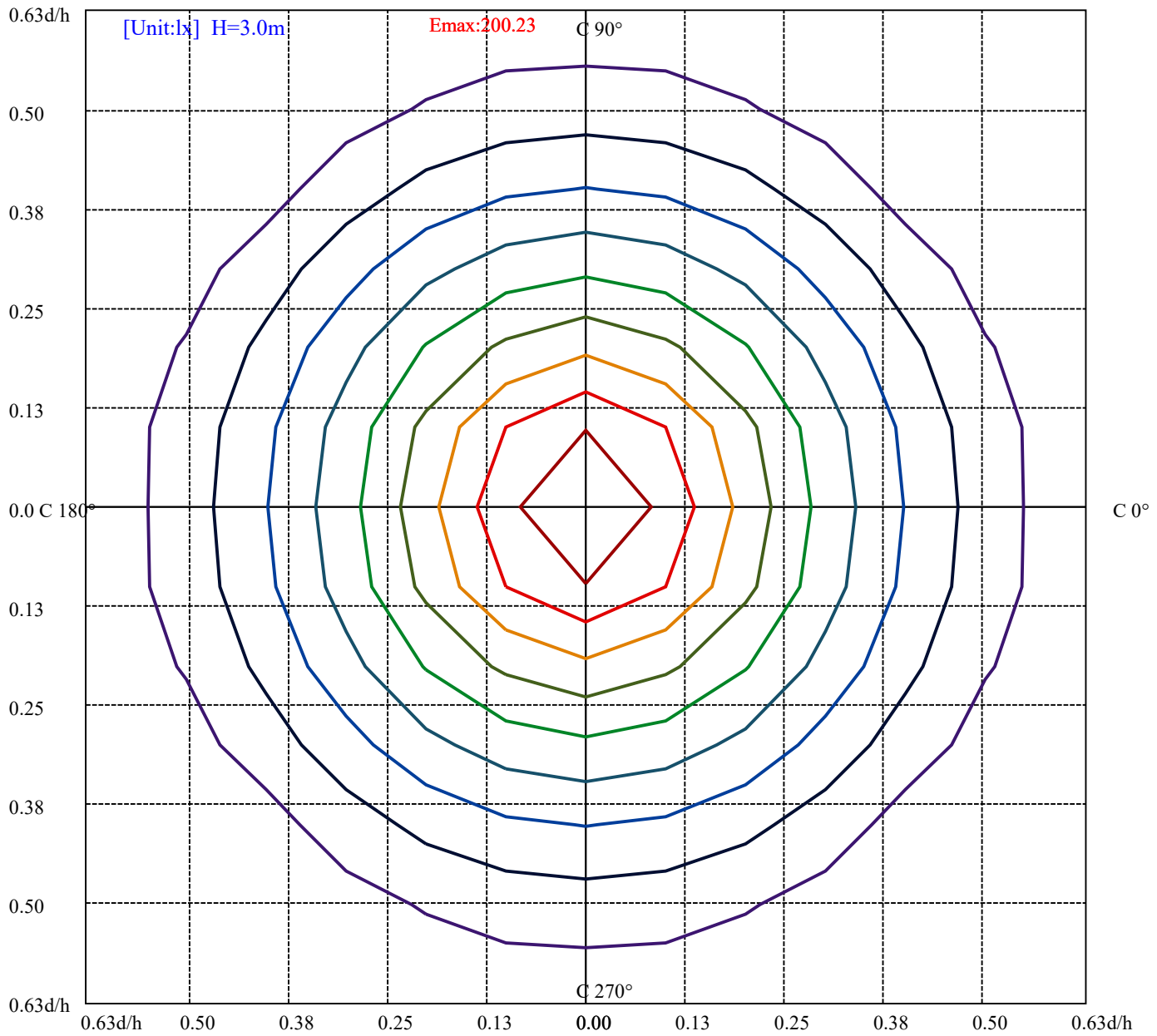
:C90/270Left:30.1 Right:30.1










Beam Angle(50%Imax):C0/180Left:17.6 Right:17.6

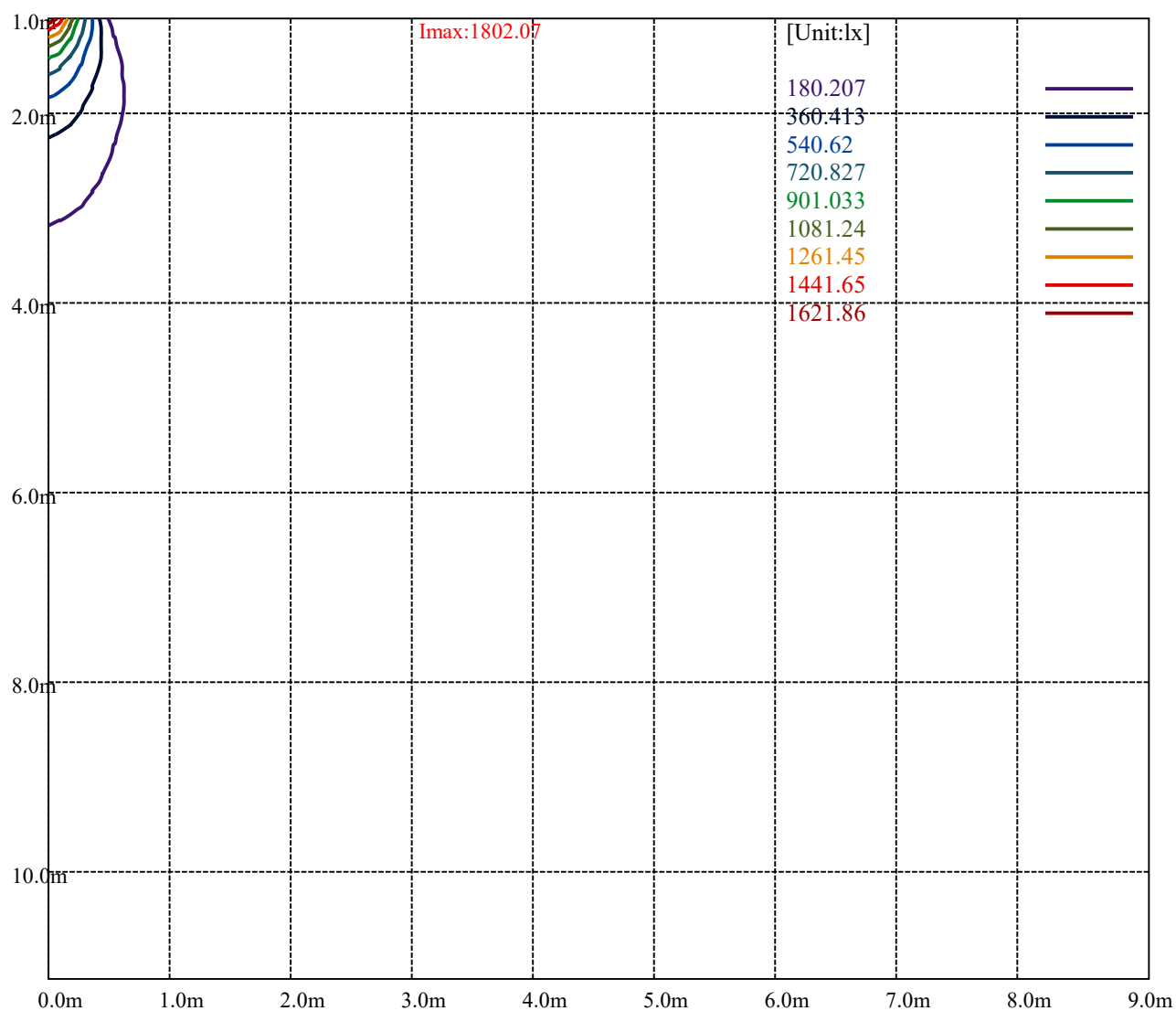
:C90/270Left:18.1 Right:18.1



Max , Ave      Beam angle of C30 plane 38.10



(10%Emax)	20.02289	
(20%Emax)	40.04589	
(30%Emax)	60.06878	
(40%Emax)	80.09167	
(50%Emax)	100.1146	
(60%Emax)	120.1378	
(70%Emax)	140.16	
(80%Emax)	160.1833	
(90%Emax)	180.2067	



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

## Luminance Limiting Curve(no luminous side)

Appendix Page: 8 Total:12

Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	49506	47129	45382	43533	38761	32805	29478	25845	20597
C45	50149	47680	46055	43207	39448	34336	29946	25699	18864
C90	50178	47839	46601	43524	39180	34580	30160	25882	18998

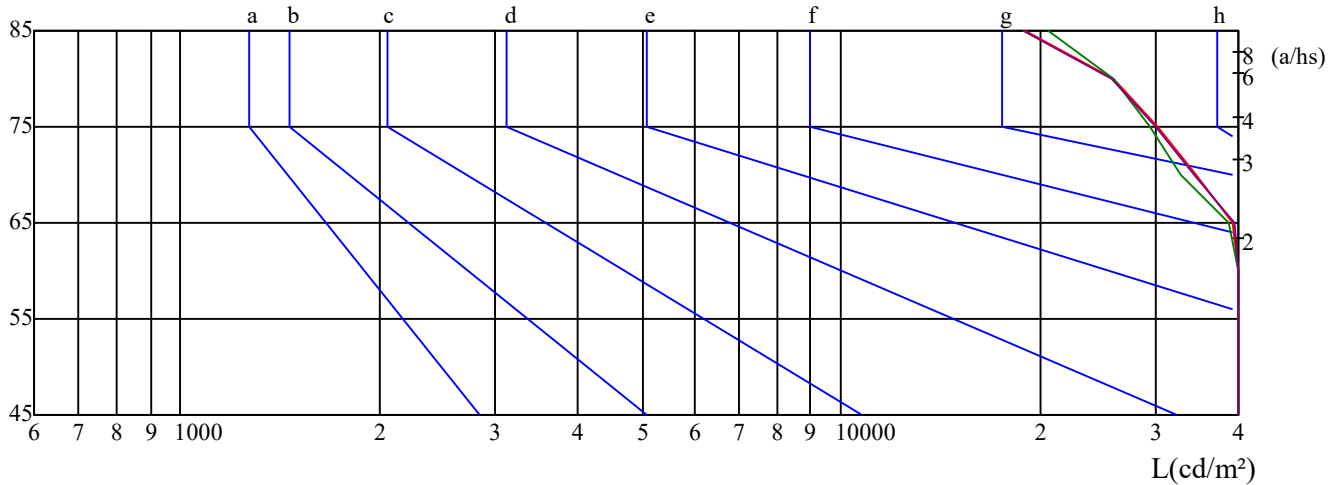
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
38761	39180	39448	29478	30160	29946	20597	18998	18864

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

$\gamma(^{\circ})$



C0 ———

C45 ———

C90 ———



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	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	1.00	1.00	0.98	0.97	0.96	0.95	0.94	0.92
2	1.02	0.97	0.94	1.00	0.96	0.93	0.97	0.93	0.91	0.94	0.91	0.89	0.91	0.89	0.87	0.85
3	0.95	0.90	0.85	0.93	0.89	0.85	0.91	0.87	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.79
4	0.89	0.83	0.79	0.88	0.82	0.78	0.85	0.81	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.74
5	0.84	0.78	0.73	0.83	0.77	0.73	0.81	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.69
6	0.79	0.73	0.69	0.78	0.73	0.68	0.77	0.72	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.66
7	0.75	0.69	0.65	0.74	0.69	0.65	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.62
8	0.71	0.65	0.61	0.71	0.65	0.61	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.59
9	0.68	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.56
10	0.65	0.59	0.56	0.64	0.59	0.56	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.54

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

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	1802.07	1656.67	1365.87	1060.97	814.23	530.49	183.29	91.65	80.19
15.0	1802.07	1671.64	1376.17	1069.17	813.64	538.58	191.65	92.28	79.86
30.0	1802.07	1689.60	1382.57	1071.06	822.04	555.17	203.50	91.93	80.33
45.0	1802.07	1718.80	1408.35	1102.42	854.42	557.55	211.79	93.23	81.46
60.0	1802.07	1732.13	1439.66	1119.93	851.99	574.95	233.43	93.55	81.75
75.0	1802.07	1778.99	1484.49	1173.37	879.80	599.15	243.72	95.09	83.09
90.0	1802.07	1811.36	1523.40	1216.86	906.61	615.86	264.74	95.68	83.60
105.0	1802.07	1832.01	1555.05	1252.84	917.88	632.50	290.05	97.31	84.21
120.0	1802.07	1851.15	1369.72	1268.72	958.14	656.07	307.74	99.12	85.90
135.0	1802.07	1849.98	1589.73	1278.73	947.07	646.41	109.93	99.59	85.50
150.0	1802.07	1867.51	1644.62	1277.57	962.68	665.82	318.68	99.59	85.36
165.0	1802.07	1875.45	1637.20	1302.71	945.35	670.89	321.15	100.06	86.72
180.0	1802.07	1639.04	1342.08	1007.22	735.81	421.22	113.68	86.36	75.78
195.0	1802.07	1637.92	1324.71	1003.51	727.57	417.91	116.23	86.95	75.42
210.0	1802.07	1627.13	1319.20	985.38	722.08	420.39	107.11	85.69	74.97
225.0	1802.07	1602.94	1289.78	983.85	721.37	406.39	109.52	86.89	75.12
240.0	1802.07	1570.45	1265.26	964.61	716.65	384.21	104.45	85.38	75.39
255.0	1802.07	1582.35	1263.85	956.42	707.16	366.51	102.47	86.78	76.62
270.0	1802.07	1557.77	1235.44	935.40	687.39	339.98	100.32	85.46	76.17
285.0	1802.07	1544.76	1451.20	911.33	679.28	320.93	101.05	86.08	75.79
300.0	1802.07	1508.49	1202.64	916.61	661.73	316.23	99.12	85.90	76.46
315.0	1802.07	1507.99	1185.72	898.21	640.78	291.26	97.71	85.50	75.16
330.0	1802.07	1506.15	1180.83	886.81	633.57	286.43	99.59	85.36	75.88
345.0	1802.07	1500.93	1175.01	892.93	631.82	287.80	100.06	86.72	76.24
360.0	1802.07	1656.67	1365.87	1060.97	814.23	530.49	183.29	91.65	80.19
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	71.38	61.68	53.75	44.94	34.37	23.79	16.74	10.57	4.41
15.0	70.98	61.22	53.24	45.25	34.60	24.84	16.86	10.65	4.44
30.0	70.51	61.59	53.55	45.52	35.70	24.99	16.96	10.71	4.46
45.0	71.50	61.55	54.31	45.26	36.20	25.34	17.20	10.86	4.53
60.0	71.76	61.76	54.50	45.41	36.33	25.43	18.17	10.90	4.54
75.0	72.93	63.70	55.39	47.08	36.93	26.77	18.46	12.00	5.54
90.0	73.38	64.09	55.73	46.45	38.08	26.94	18.58	12.08	5.57
105.0	73.92	64.56	56.14	47.72	38.36	27.13	18.71	12.16	5.61
120.0	74.57	65.13	56.64	47.20	39.65	27.38	18.88	12.27	5.66
135.0	75.16	64.83	56.37	46.98	38.52	28.19	18.79	12.21	5.64
150.0	75.88	57.86	56.91	47.42	38.89	27.51	19.92	12.33	5.69
165.0	75.28	65.75	56.23	47.65	39.07	26.68	19.06	12.39	5.72
180.0	66.09	57.28	48.47	40.54	29.96	20.27	13.22	7.05	2.64
195.0	66.55	56.79	48.80	39.93	29.28	20.41	13.31	7.10	2.66
210.0	66.05	56.23	49.09	39.27	28.56	20.53	13.39	6.25	1.79
225.0	66.07	57.02	48.88	38.92	28.96	19.91	12.67	6.34	1.81
240.0	66.31	57.22	49.05	39.06	29.07	25.43	12.72	6.36	1.82
255.0	65.55	63.70	48.93	38.77	27.70	19.39	12.00	5.54	1.85
270.0	65.95	56.66	49.23	39.01	26.94	19.51	12.08	5.57	0.93
285.0	65.50	57.07	49.59	39.30	27.13	19.65	12.16	5.61	0.94
300.0	65.13	57.58	48.14	39.65	27.38	18.88	12.27	5.66	0.94
315.0	65.77	57.31	47.92	38.52	27.25	18.79	12.21	5.64	0.94
330.0	65.44	57.86	48.37	38.89	27.51	18.97	12.33	5.69	0.95
345.0	65.75	58.13	48.60	40.02	27.64	19.06	12.39	5.72	0.95
360.0	71.38	61.68	53.75	44.94	34.37	23.79	16.74	10.57	4.41

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

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	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
90.0	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105.0	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120.0	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
135.0	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
150.0	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
165.0	0.95	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	0.91	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	0.88	1.76	2.64	3.52	3.52	3.52		
15.0	0.00	0.00	0.00	0.89	1.77	2.66	3.55	3.55	3.55		
30.0	0.00	0.00	0.00	0.89	1.79	2.68	3.57	3.57	3.57		
45.0	0.00	0.00	0.00	0.91	1.81	2.72	3.62	3.62	3.62		
60.0	0.00	0.00	0.00	0.91	1.82	2.72	3.63	3.63	3.63		
75.0	0.00	0.00	0.00	0.92	1.85	2.77	3.69	3.69	3.69		
90.0	0.00	0.00	0.00	0.93	1.86	2.79	3.72	3.72	3.72		
105.0	0.00	0.00	0.00	0.94	1.87	2.81	3.74	3.74	3.74		
120.0	0.00	0.00	0.00	0.94	1.89	2.83	3.78	3.78	3.78		
135.0	0.00	0.00	0.00	0.94	1.88	2.82	3.76	3.76	3.76		
150.0	0.00	0.00	0.00	0.95	1.90	2.85	3.79	3.79	3.79		
165.0	0.00	0.00	0.00	0.95	0.95	2.86	3.81	3.81	3.81		
180.0	0.00	0.00	0.00	0.00	0.88	1.76	2.64	2.64	2.64		
195.0	0.00	0.00	0.00	0.00	0.89	1.77	2.66	2.66	2.66		
210.0	0.00	0.00	0.00	0.00	0.89	1.79	2.68	2.68	2.68		
225.0	0.00	0.00	0.00	0.00	0.91	1.81	2.72	2.72	3.62		
240.0	0.00	0.00	0.00	0.00	0.91	1.82	2.72	2.72	2.72		
255.0	0.00	0.00	0.00	0.00	0.92	1.85	2.77	2.77	2.77		
270.0	0.00	0.00	0.00	0.00	0.93	1.86	2.79	2.79	2.79		
285.0	0.00	0.00	0.00	0.00	0.94	1.87	2.81	2.81	2.81		
300.0	0.00	0.00	0.00	0.00	0.94	1.89	2.83	2.83	2.83		
315.0	0.00	0.00	0.00	0.00	0.94	1.88	2.82	2.82	2.82		
330.0	0.00	0.00	0.00	0.00	0.95	1.90	2.85	2.85	2.85		
345.0	0.00	0.00	0.00	0.00	0.95	1.91	2.86	2.86	2.86		
360.0	0.00	0.00	0.00	0.88	1.76	2.64	3.52	3.52	3.52		

Intensity data(cd)

C/γ(°)	180.0
0.0	3.52
15.0	3.55
30.0	3.57
45.0	3.62
60.0	3.63
75.0	3.69
90.0	3.72
105.0	3.74
120.0	3.78
135.0	3.76
150.0	3.79
165.0	3.81
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	3.52