
Light Blue USA-Rayhil

Client:

LumCAT: INV-12-CCT-UNV-**-3500K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.020

LampCAT:

Current(A): 0.162

Lamp flux(lm): 1541.9

Power (W): 18.100

Number of Lamps: 1

PF: 0.932

Length(mm): -270

Width(mm): -270

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1541.85, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 85.19

Central intensity(cd): 559.035, Maximum intensity(cd): 559.035

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=109.0

[C90/270]Total=109.4

Field angle(10%Imax): [C0/180]Total=158.2

[C90/270]Total=158.8

Maximum s/h(1/2): C0_180=1.25 C90_270=1.25

Maximum s/h(1/4): C0_180=1.36 C90_270=1.36

Up flux rate of lamp(%): 0.23%

Down flux rate of lamp(%): 99.77%

Up flux rate of LUM(%): 0.23%

Down flux rate of LUM(%): 99.77%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 80.166%

Light Blue USA-Rayhil INV-12-CCT-UNV-**-3500K-F

Zonal flux distribution table

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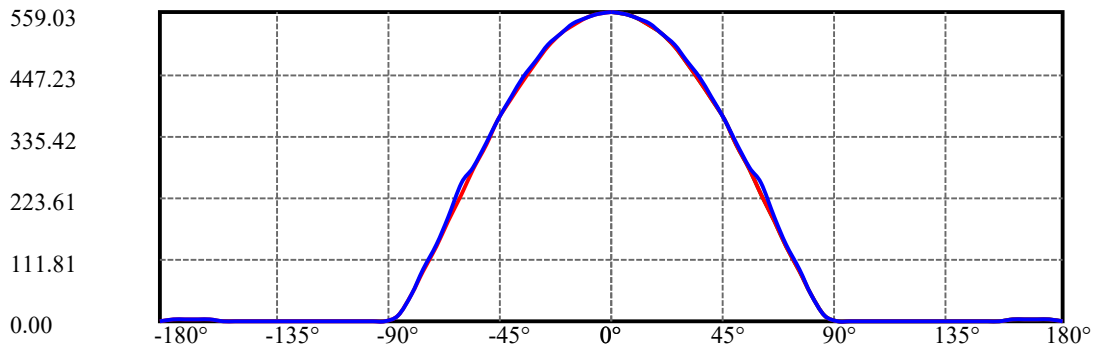
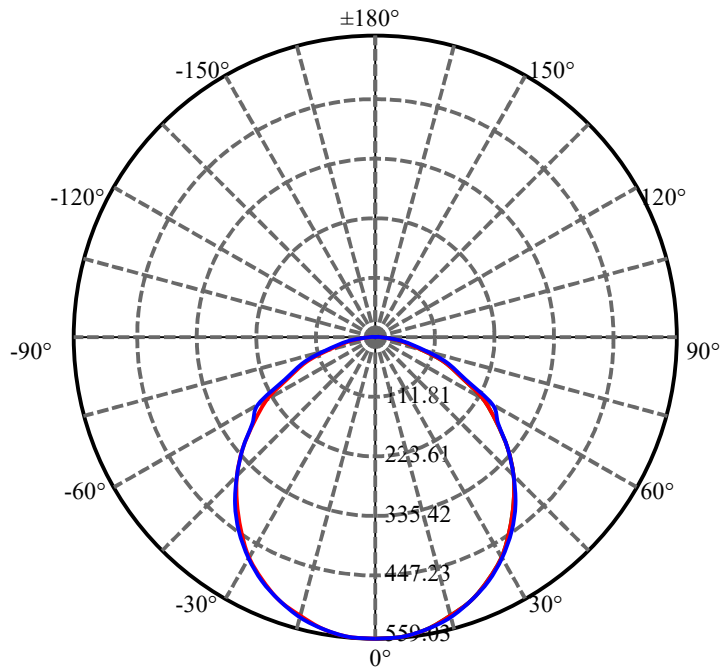
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	559.035	0.000	0	0.00%	0.00%
5.0	556.774	13.339	13.339	0.87%	0.87%
10.0	549.375	39.570	52.91	2.57%	3.43%
15.0	536.458	64.411	117.32	4.18%	7.61%
20.0	519.475	87.024	204.344	5.64%	13.25%
25.0	497.359	106.647	310.991	6.92%	20.17%
30.0	470.565	122.492	433.483	7.94%	28.11%
35.0	439.096	133.954	567.437	8.69%	36.80%
40.0	404.252	140.706	708.143	9.13%	45.93%
45.0	363.350	142.128	850.271	9.22%	55.15%
50.0	320.916	138.266	988.536	8.97%	64.11%
55.0	276.451	129.887	1118.424	8.42%	72.54%
60.0	232.371	117.613	1236.037	7.63%	80.17%
65.0	184.416	101.322	1337.358	6.57%	86.74%
70.0	138.341	81.724	1419.083	5.30%	92.04%
75.0	93.149	60.508	1479.59	3.92%	95.96%
80.0	51.366	38.668	1518.258	2.51%	98.47%
85.0	11.196	17.000	1535.258	1.10%	99.57%
90.0	0.191	3.118	1538.376	0.20%	99.77%
95.0	0.307	0.136	1538.512	0.01%	99.78%
100.0	0.384	0.188	1538.7	0.01%	99.80%
105.0	0.460	0.226	1538.926	0.01%	99.81%
110.0	0.460	0.240	1539.166	0.02%	99.83%
115.0	0.383	0.213	1539.38	0.01%	99.84%
120.0	0.383	0.186	1539.566	0.01%	99.85%
125.0	0.191	0.133	1539.699	0.01%	99.86%
130.0	0.153	0.075	1539.773	0.00%	99.87%
135.0	0.000	0.031	1539.804	0.00%	99.87%
140.0	0.460	0.085	1539.889	0.01%	99.87%
145.0	0.537	0.166	1540.056	0.01%	99.88%
150.0	1.227	0.260	1540.315	0.02%	99.90%
155.0	1.380	0.330	1540.645	0.02%	99.92%
160.0	1.955	0.350	1540.995	0.02%	99.94%
165.0	2.300	0.351	1541.345	0.02%	99.97%
170.0	2.300	0.273	1541.618	0.02%	99.99%
175.0	2.760	0.181	1541.799	0.01%	100.00%
180.0	1.380	0.049	1541.849	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	433.48	28.11%	28.11%
0-40	708.14	45.93%	45.93%
0-60	1236.04	80.17%	80.17%
0-90	1538.38	99.77%	99.77%
0-120	1539.57	99.85%	99.85%
0-180	1541.85	100.00%	100.00%
60-90	302.34	19.61%	19.61%
90-120	1.19	0.08%	0.08%
90-130	1.40	0.09%	0.09%
90-150	1.94	0.13%	0.13%
90-180	3.42	0.22%	0.22%
0-59.89	1233.48	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	52.91
10-20	151.43
20-30	229.14
30-40	274.66
40-50	280.39
50-60	247.50
60-70	183.05
70-80	99.18
80-90	20.12
90-100	0.32
100-110	0.47
110-120	0.40
120-130	0.21
130-140	0.12
140-150	0.43
150-160	0.68
160-170	0.62
170-180	0.18



C0(Max): —————

C0/C180: —————

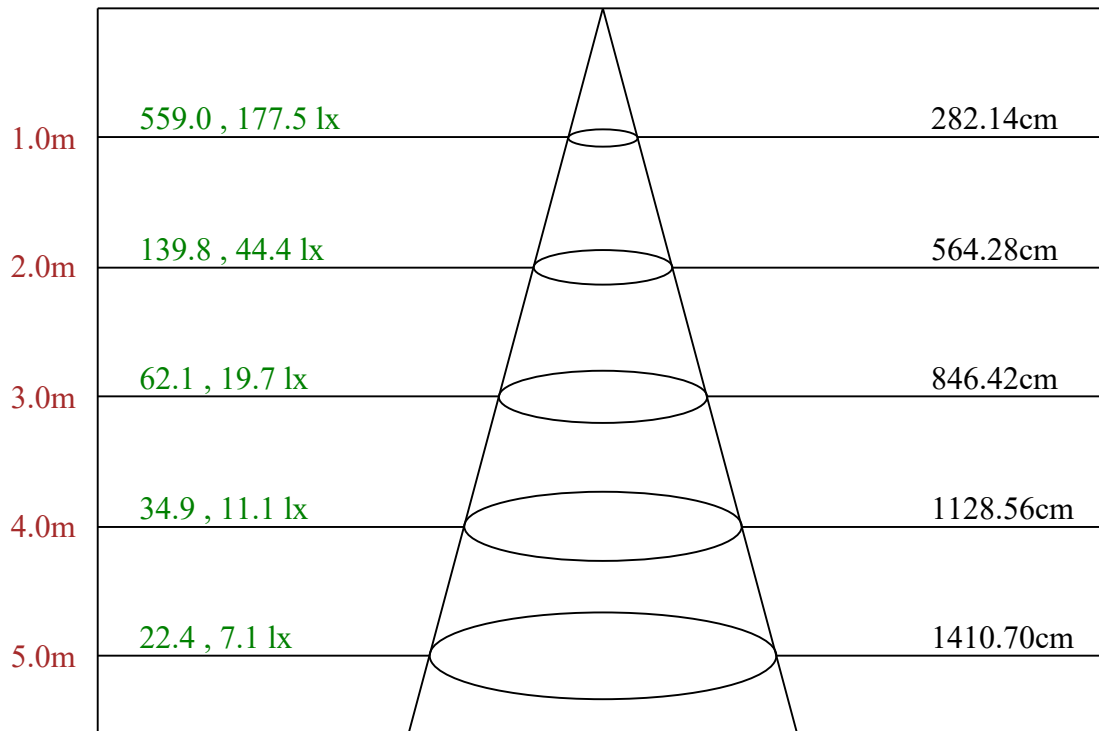
C90/C270: —————

Field angle(10%Imax):C0/180Left:79.1 Right:79.1

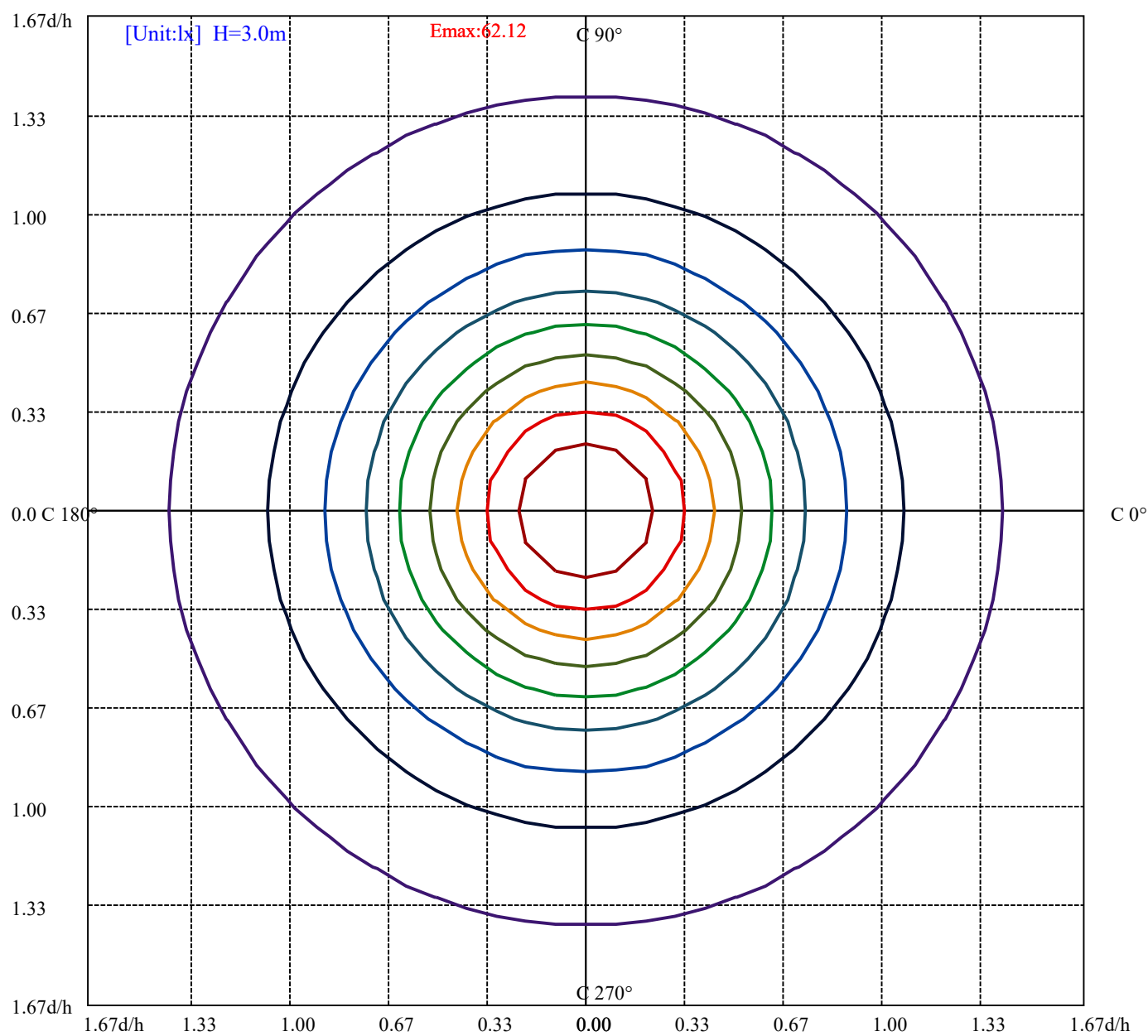
:C90/270Left:79.4 Right:79.4

Beam Angle(50%Imax):C0/180Left:54.5 Right:54.5

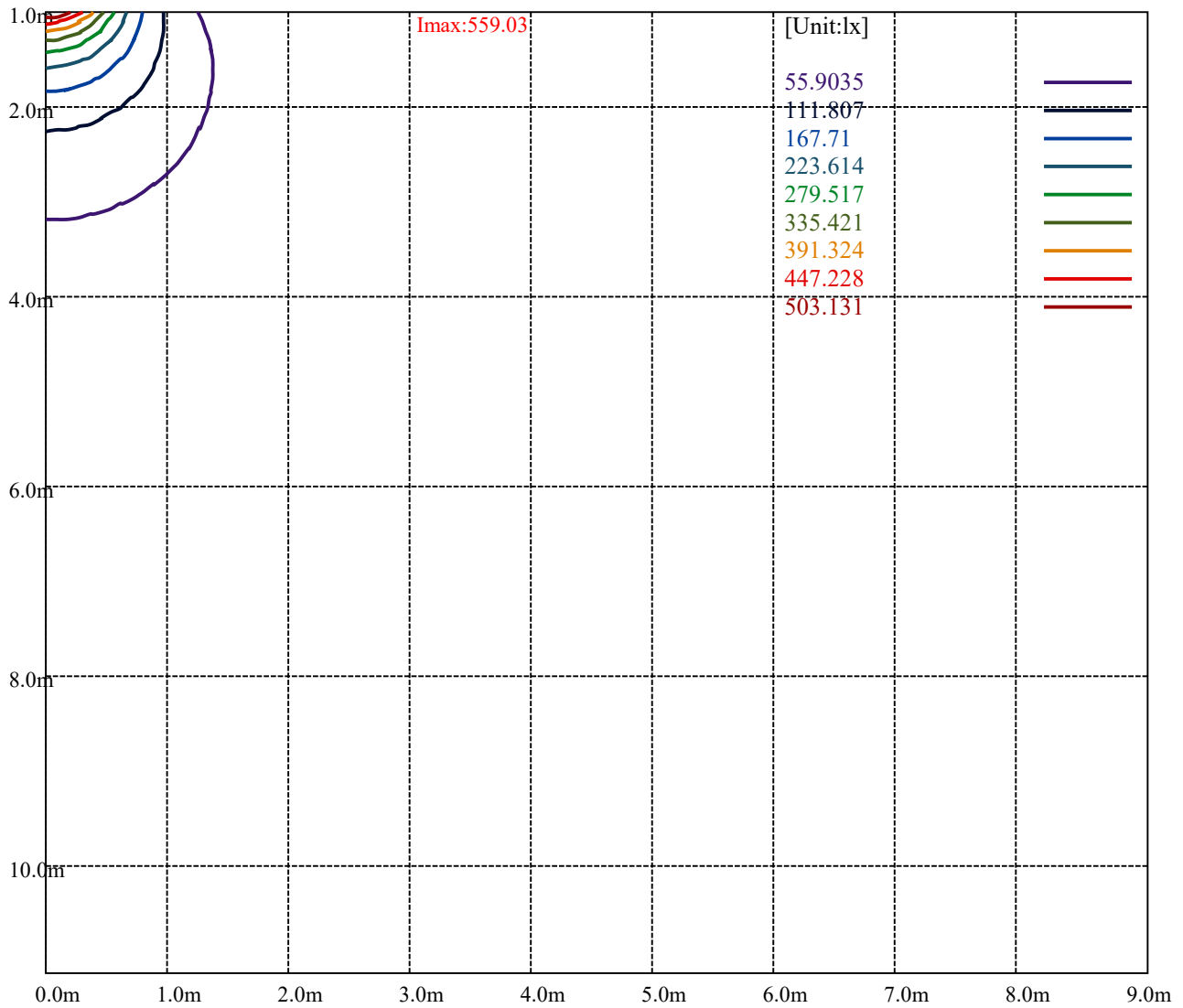
:C90/270Left:54.7 Right:54.7



Max , Ave Beam angle of C0 plane 109.34



(10%Emax) 6.2115	—
(20%Emax) 12.423	—
(30%Emax) 18.63445	—
(40%Emax) 24.846	—
(50%Emax) 31.05744	—
(60%Emax) 37.269	—
(70%Emax) 43.48045	—
(80%Emax) 49.692	—
(90%Emax) 55.90345	—



Light Blue USA-Rayhil INV-12-CCT-UNV-**-3500K-F

Luminance Limiting Curve(no luminous side)

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Luminance Table

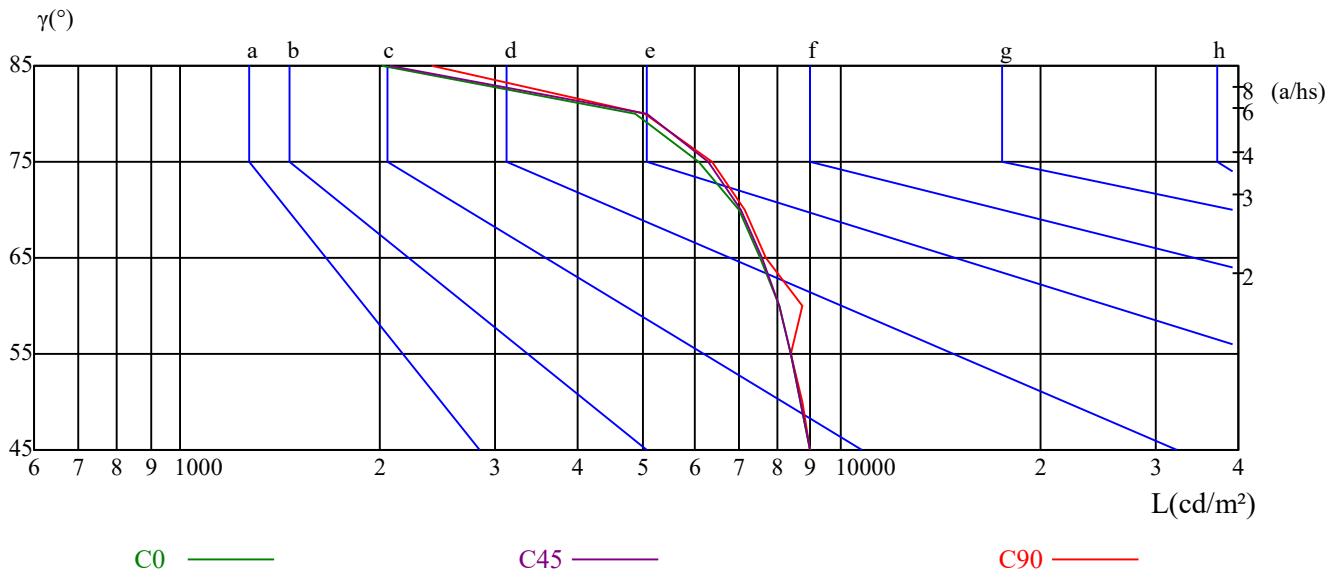
γ	45	50	55	60	65	70	75	80	85
C0	8969	8699	8386	8057	7531	6997	6103	4869	2014
C45	8967	8714	8420	8084	7606	7049	6303	5067	2075
C90	8997	8759	8427	8734	7707	7149	6401	5048	2399

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7531	7707	7606	6103	6401	6303	2014	2399	2075

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	1.04	1.00	0.96	1.02	0.98	0.95	0.98	0.95	0.92	0.94	0.91	0.89	0.90	0.88	0.86	0.84
2	0.91	0.84	0.79	0.89	0.83	0.78	0.86	0.80	0.76	0.82	0.78	0.74	0.79	0.76	0.73	0.70
3	0.80	0.72	0.66	0.79	0.71	0.65	0.76	0.69	0.64	0.73	0.67	0.63	0.70	0.66	0.62	0.59
4	0.71	0.62	0.56	0.70	0.62	0.55	0.67	0.60	0.54	0.65	0.59	0.54	0.63	0.57	0.53	0.51
5	0.63	0.55	0.48	0.62	0.54	0.48	0.60	0.53	0.47	0.58	0.52	0.47	0.56	0.51	0.46	0.44
6	0.57	0.48	0.42	0.56	0.48	0.42	0.54	0.47	0.41	0.53	0.46	0.41	0.51	0.45	0.41	0.38
7	0.52	0.43	0.37	0.51	0.43	0.37	0.49	0.42	0.37	0.48	0.41	0.36	0.47	0.41	0.36	0.34
8	0.47	0.39	0.33	0.47	0.39	0.33	0.45	0.38	0.33	0.44	0.37	0.32	0.43	0.37	0.32	0.30
9	0.43	0.35	0.30	0.43	0.35	0.30	0.42	0.35	0.29	0.41	0.34	0.29	0.40	0.34	0.29	0.27
10	0.40	0.32	0.27	0.40	0.32	0.27	0.39	0.32	0.27	0.38	0.31	0.27	0.37	0.31	0.26	0.25

Light Blue USA-Rayhil INV-12-CCT-UNV-**-3500K-F

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	559.03	557.21	551.73	538.03	522.50	500.57	473.17	441.20	406.49		
15.0	559.03	557.20	550.80	537.99	520.61	498.65	472.11	441.01	406.24		
30.0	559.03	558.12	550.77	538.84	521.40	499.37	474.58	442.45	406.65		
45.0	559.03	556.28	549.86	537.92	522.32	500.29	473.66	443.37	407.57		
60.0	559.03	558.12	551.68	538.81	523.18	501.11	475.36	445.02	409.16		
75.0	559.03	557.20	550.76	538.81	524.10	502.03	474.44	444.10	411.92		
90.0	559.03	558.11	551.67	539.69	524.04	502.86	477.07	446.68	411.68		
105.0	559.03	558.11	552.58	541.51	524.90	504.61	478.78	450.18	412.36		
120.0	559.03	558.11	552.58	540.58	524.90	504.61	480.62	450.18	413.28		
135.0	559.03	559.03	552.58	542.43	525.82	504.61	479.70	449.26	416.97		
150.0	559.03	559.03	553.49	543.33	512.83	506.37	481.42	451.85	417.66		
165.0	559.03	559.96	553.49	543.33	529.47	507.29	482.34	452.77	415.81		
180.0	559.03	556.29	548.07	533.46	516.10	492.35	464.95	430.24	396.44		
195.0	559.03	555.38	547.14	533.42	516.03	494.07	465.71	434.60	398.92		
210.0	559.03	556.28	548.94	535.17	516.81	496.61	469.08	436.95	400.23		
225.0	559.03	556.28	548.02	535.17	517.73	495.70	468.16	436.03	399.31		
240.0	559.03	556.28	548.00	535.13	518.58	494.67	468.93	436.75	400.89		
255.0	559.03	555.36	548.00	533.29	517.66	494.67	468.01	435.83	400.89		
270.0	559.03	555.35	547.06	533.25	515.75	494.57	466.02	434.70	397.86		
285.0	559.03	556.27	547.04	533.20	514.75	492.61	466.78	431.73	423.43		
300.0	559.03	555.34	545.20	532.28	527.67	489.85	461.25	430.81	390.22		
315.0	559.03	554.42	545.20	530.44	511.06	487.08	458.48	425.27	389.29		
330.0	559.03	554.41	545.17	530.39	510.06	486.96	457.39	425.05	385.32		
345.0	559.03	554.41	545.17	528.54	509.14	485.11	455.54	422.28	383.47		
360.0	559.03	557.21	551.73	538.03	522.50	500.57	473.17	441.20	406.49		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	369.95	326.10	283.17	237.50	190.00	143.41	97.74	54.81	15.53		
15.0	366.90	325.72	280.89	235.14	188.48	143.65	97.90	54.90	14.64		
30.0	366.26	324.04	280.89	235.00	190.02	143.20	98.22	54.16	15.61		
45.0	366.26	325.87	281.81	235.91	190.02	143.20	99.14	55.08	14.69		
60.0	369.63	327.33	285.03	237.22	193.09	146.19	99.30	55.17	16.55		
75.0	372.38	330.09	285.95	239.98	193.09	146.19	102.98	57.93	16.55		
90.0	372.08	330.63	285.50	242.22	196.17	149.20	103.15	58.94	19.34		
105.0	375.46	332.10	287.82	241.69	195.57	149.44	106.09	61.81	20.29		
120.0	375.46	333.02	289.66	245.38	199.26	152.21	106.09	62.73	21.22		
135.0	376.38	337.63	293.35	247.23	200.18	153.13	109.78	65.50	21.22		
150.0	379.77	337.27	293.84	250.41	201.44	156.16	109.96	66.53	24.95		
165.0	379.77	340.04	296.61	250.41	203.29	157.08	113.66	69.30	26.80		
180.0	356.25	314.23	267.64	223.80	174.47	130.62	83.12	42.02	4.57		
195.0	355.92	315.66	270.83	224.16	177.50	130.84	86.01	43.00	5.49		
210.0	358.92	315.78	269.88	223.06	177.17	134.02	86.29	44.98	5.51		
225.0	360.76	314.86	271.71	226.73	179.92	133.10	87.21	45.90	4.59		
240.0	361.35	317.22	272.16	226.19	182.05	135.16	89.19	45.05	5.52		
255.0	358.59	317.22	272.16	226.19	179.30	132.40	87.35	77.24	4.60		
270.0	356.42	314.05	268.01	257.87	176.83	130.78	86.57	41.44	4.60		
285.0	354.24	309.96	264.76	218.63	174.35	128.23	83.95	40.59	2.77		
300.0	351.47	308.11	262.91	217.71	170.66	124.54	79.33	36.90	0.92		
315.0	348.70	304.42	259.22	215.86	166.05	122.69	77.49	35.05	0.92		
330.0	345.59	302.16	256.88	210.68	164.48	118.28	73.00	33.26	0.92		
345.0	341.89	298.46	254.11	207.91	162.63	116.43	72.07	30.49	0.92		
360.0	369.95	326.10	283.17	237.50	190.00	143.41	97.74	54.81	15.53		

Light Blue USA-Rayhil INV-12-CCT-UNV-**-3500K-F

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	0.92	0.00	0.00
180.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
195.0	0.91	0.00	0.00	0.91	0.91	0.91	0.91	0.91	0.91
210.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
225.0	0.00	0.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92
240.0	0.00	0.00	0.00	0.92	0.92	0.92	0.92	0.92	0.00
255.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00	0.00
270.0	0.92	0.92	0.92	0.92	0.92	0.92	0.00	0.00	0.00
285.0	0.00	0.92	0.92	0.92	0.92	0.00	0.00	0.00	0.00
300.0	0.00	0.92	0.92	0.92	0.92	0.00	0.00	0.00	0.00
315.0	0.00	0.92	0.92	0.92	0.92	0.92	0.92	0.00	0.00
330.0	0.00	0.00	0.92	0.92	0.92	0.92	0.92	0.00	0.00
345.0	0.00	0.92	0.92	0.92	0.92	0.92	0.92	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	0.91	0.91	0.91	1.83	1.83	2.74	2.74	2.74
15.0	0.00	0.91	0.91	1.83	1.83	2.74	2.74	2.74	2.74
30.0	0.00	0.92	0.92	1.84	1.84	2.75	2.75	2.75	2.75
45.0	0.00	0.92	0.92	1.84	1.84	2.75	2.75	2.75	2.75
60.0	0.00	0.92	0.92	0.92	1.84	2.76	2.76	2.76	2.76
75.0	0.00	0.92	0.92	0.92	1.84	1.84	2.76	2.76	2.76
90.0	0.00	0.92	0.92	1.84	1.84	2.76	2.76	2.76	2.76
105.0	0.00	0.92	0.92	1.84	1.84	2.77	2.77	2.77	2.77
120.0	0.00	0.92	0.92	1.84	1.84	2.77	2.77	2.77	2.77
135.0	0.00	0.92	0.92	1.84	1.84	2.77	2.77	2.77	2.77
150.0	0.00	0.92	0.92	1.85	1.85	1.85	2.77	2.77	2.77
165.0	0.00	0.92	0.92	0.92	1.85	2.77	2.77	2.77	2.77
180.0	0.00	0.00	0.00	0.91	0.91	1.83	1.83	1.83	2.74
195.0	0.00	0.00	0.91	0.91	0.91	0.91	1.83	1.83	2.74
210.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.75
225.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.75
240.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.76
255.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.76
270.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.76
285.0	0.00	0.00	0.00	0.92	0.92	0.92	1.84	1.84	2.77
300.0	0.00	0.00	0.00	0.92	0.92	0.92	1.84	1.84	2.77
315.0	0.00	0.00	0.92	0.92	0.92	0.92	1.84	1.84	2.77
330.0	0.00	0.00	0.00	0.92	0.92	0.92	1.85	1.85	2.77
345.0	0.00	0.00	0.00	0.92	0.92	0.92	1.85	1.85	2.77
360.0	0.00	0.91	0.91	0.91	1.83	1.83	2.74	2.74	2.74

Intensity data(cd)

C/γ(°)	180.0
0.0	2.74
15.0	2.74
30.0	2.75
45.0	2.75
60.0	2.76
75.0	2.76
90.0	2.76
105.0	2.77
120.0	2.77
135.0	2.77
150.0	2.77
165.0	2.77
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	2.74