

---

Light Blue USA-Rayhil

---

Client:

LumCAT: INV-16-CCT-UNV-\*\*-2700K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.040

LampCAT:

Current(A): 0.201

Lamp flux(lm): 1373.3

Power (W): 23.910

Number of Lamps: 1

PF: 0.993

Length(mm): -380

Width(mm): -380

Phm Type: C

Height(mm): 0

---

Photometric Results

---

Lumens(lm): 1373.29, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 57.44

Central intensity(cd): 473.980, Maximum intensity(cd): 473.980

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

Beam Angle(50%Imax): [C0/180]Total=113.2

[C90/270]Total=114.2

Field angle(10%Imax): [C0/180]Total=162.4

[C90/270]Total=161.8

Maximum s/h(1/2): C0\_180=1.27 C90\_270=1.26

Maximum s/h(1/4): C0\_180=1.38 C90\_270=1.38

Up flux rate of lamp(%): 0.44%

Down flux rate of lamp(%): 99.56%

Up flux rate of LUM(%): 0.44%

Down flux rate of LUM(%): 99.56%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 78.219%

## Light Blue USA-Rayhil INV-16-CCT-UNV-\*\*-2700K

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	473.980	0.000	0	0.00%	0.00%
5.0	472.069	11.310	11.31	0.82%	0.82%
10.0	466.018	33.558	44.868	2.44%	3.27%
15.0	456.041	54.696	99.564	3.98%	7.25%
20.0	442.026	74.013	173.577	5.39%	12.64%
25.0	424.660	90.899	264.477	6.62%	19.26%
30.0	403.699	104.830	369.306	7.63%	26.89%
35.0	378.949	115.250	484.557	8.39%	35.28%
40.0	351.494	121.869	606.425	8.87%	44.16%
45.0	318.923	124.133	730.559	9.04%	53.20%
50.0	284.481	121.927	852.485	8.88%	62.08%
55.0	247.736	115.722	968.207	8.43%	70.50%
60.0	210.692	105.964	1074.172	7.72%	78.22%
65.0	170.885	92.762	1166.934	6.75%	84.97%
70.0	131.295	76.514	1243.448	5.57%	90.55%
75.0	92.635	58.532	1301.98	4.26%	94.81%
80.0	55.822	39.723	1341.703	2.89%	97.70%
85.0	18.388	20.165	1361.867	1.47%	99.17%
90.0	1.135	5.346	1367.213	0.39%	99.56%
95.0	0.686	0.499	1367.712	0.04%	99.59%
100.0	0.687	0.373	1368.085	0.03%	99.62%
105.0	0.626	0.351	1368.436	0.03%	99.65%
110.0	0.595	0.319	1368.755	0.02%	99.67%
115.0	0.645	0.314	1369.069	0.02%	99.69%
120.0	0.786	0.348	1369.417	0.03%	99.72%
125.0	0.710	0.346	1369.763	0.03%	99.74%
130.0	0.744	0.316	1370.079	0.02%	99.77%
135.0	0.778	0.308	1370.386	0.02%	99.79%
140.0	0.946	0.319	1370.706	0.02%	99.81%
145.0	1.190	0.356	1371.062	0.03%	99.84%
150.0	1.599	0.411	1371.473	0.03%	99.87%
155.0	1.896	0.442	1371.915	0.03%	99.90%
160.0	2.285	0.439	1372.354	0.03%	99.93%
165.0	2.407	0.387	1372.74	0.03%	99.96%
170.0	2.644	0.300	1373.04	0.02%	99.98%
175.0	2.892	0.198	1373.238	0.01%	100.00%
180.0	1.522	0.053	1373.291	0.00%	100.00%

Equipment: LC-I-902 GMS-2000  
Temperature( $^{\circ}\text{C}$ ): 24.9

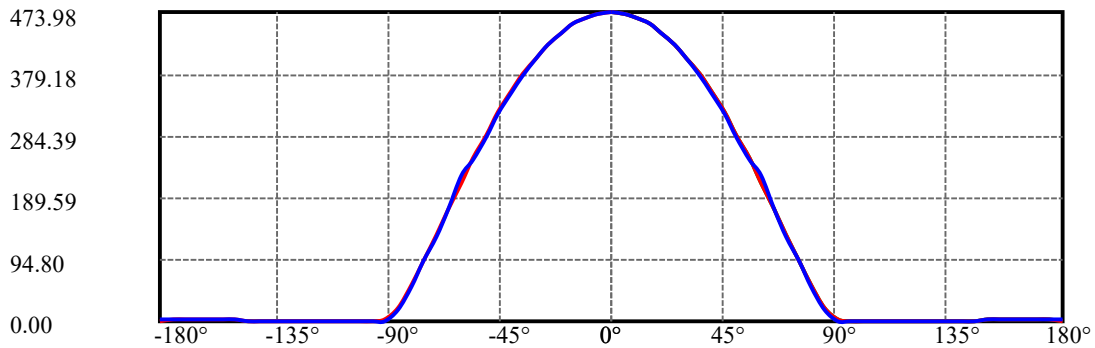
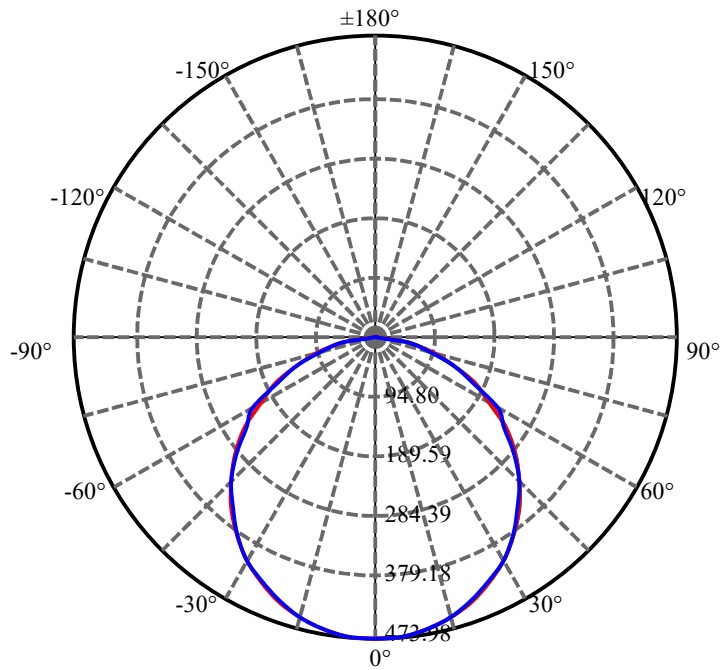
Date: 2024/12/18  
Humidity(%): 61.2%

Operator: JUN WANG  
Distance(m): 30.26

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	369.31	26.89%	26.89%
0-40	606.43	44.16%	44.16%
0-60	1074.17	78.22%	78.22%
0-90	1367.21	99.56%	99.56%
0-120	1369.42	99.72%	99.72%
0-180	1373.29	100.00%	100.00%
60-90	293.04	21.34%	21.34%
90-120	2.20	0.16%	0.16%
90-130	2.87	0.21%	0.21%
90-150	4.26	0.31%	0.31%
90-180	6.03	0.44%	0.44%
0-61.32	1098.63	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	44.87
10-20	128.71
20-30	195.73
30-40	237.12
40-50	246.06
50-60	221.69
60-70	169.28
70-80	98.26
80-90	25.51
90-100	0.87
100-110	0.67
110-120	0.66
120-130	0.66
130-140	0.63
140-150	0.77
150-160	0.88
160-170	0.69
170-180	0.20



C0(Max): —————

C0/C180: —————

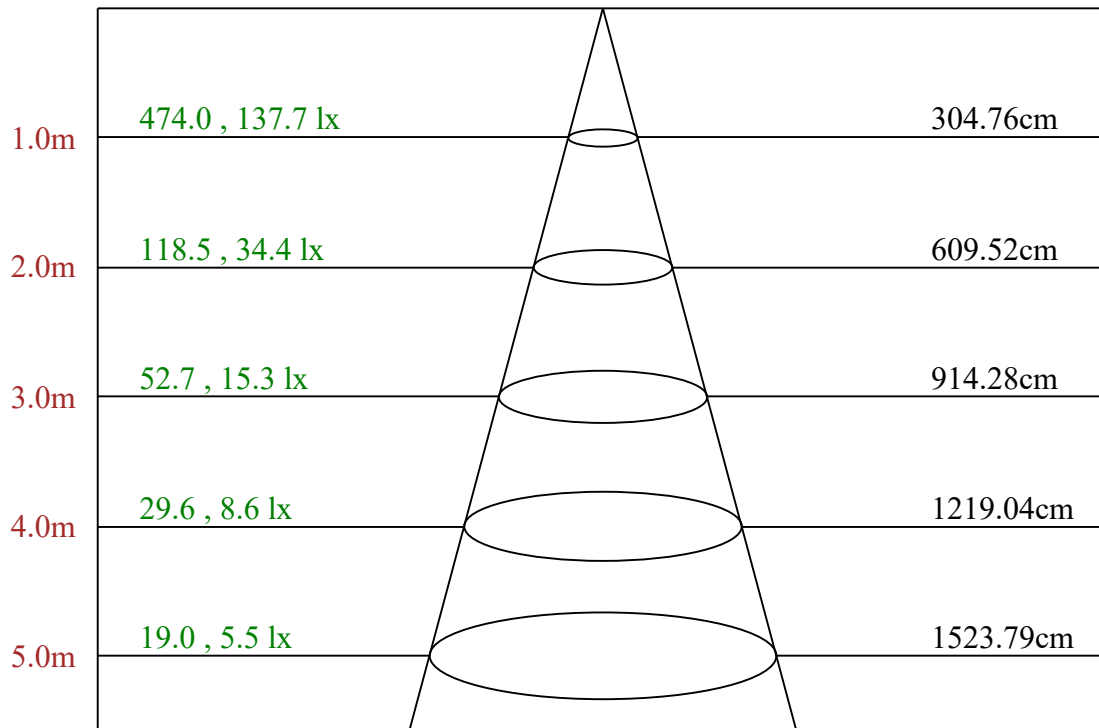
C90/C270: —————

Field angle(10%Imax):C0/180Left:81.2 Right:81.2

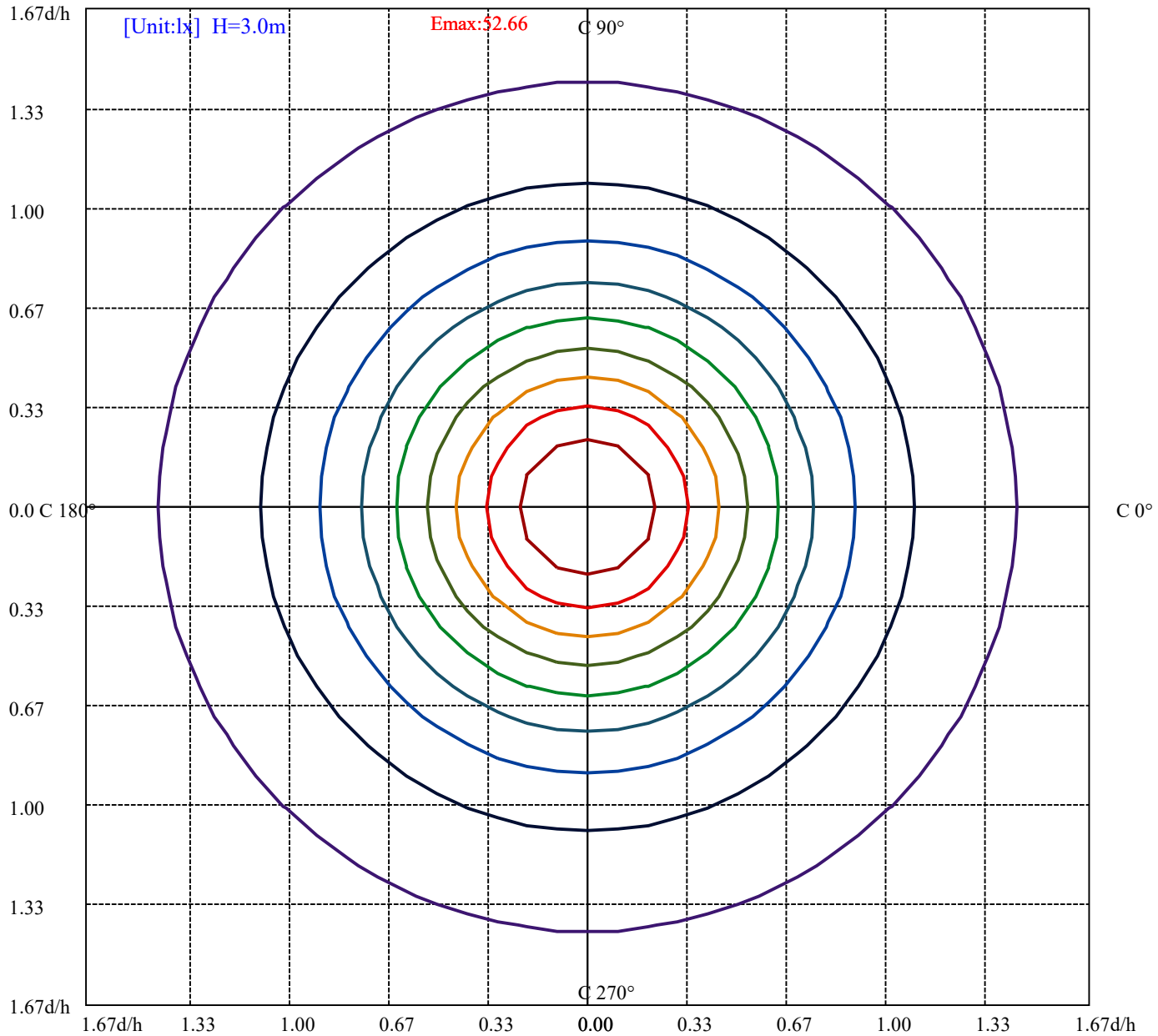
:C90/270Left:80.9 Right:80.9

Beam Angle(50%Imax):C0/180Left:56.6 Right:56.6

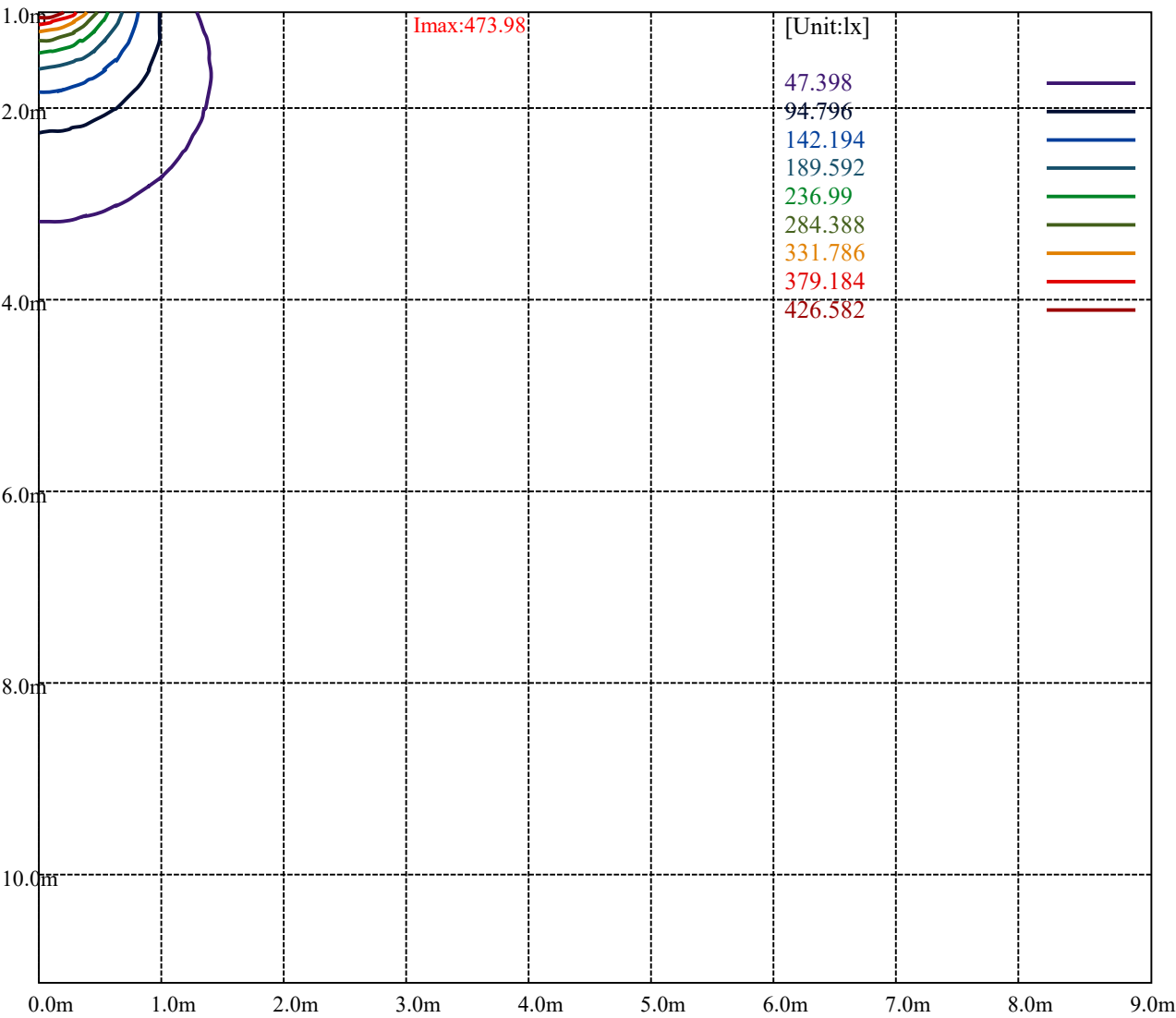
:C90/270Left:57.1 Right:57.1



Max , Ave      Beam angle of C0 plane 113.45



(10%Emax) 5.266444	
(20%Emax) 10.53289	
(30%Emax) 15.79933	
(40%Emax) 21.06578	
(50%Emax) 26.33222	
(60%Emax) 31.59867	
(70%Emax) 36.86511	
(80%Emax) 42.13155	
(90%Emax) 47.398	



# Light Blue USA-Rayhil INV-16-CCT-UNV-\*\*-2700K

## Luminance Limiting Curve(no luminous side)

Appendix Page: 8 Total:12

Luminance Table

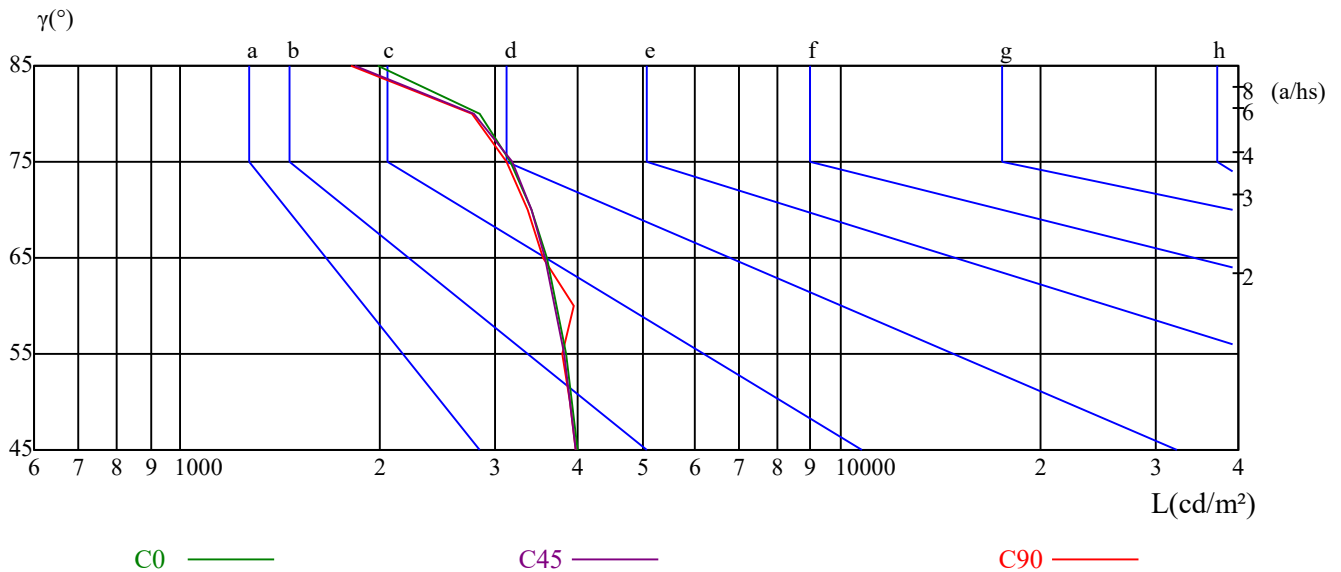
$\gamma$	45	50	55	60	65	70	75	80	85
C0	3984	3924	3831	3719	3581	3402	3154	2840	1995
C45	3977	3899	3810	3682	3558	3392	3170	2777	1840
C90	3968	3880	3796	3938	3543	3363	3116	2756	1809

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3581	3543	3558	3154	3116	3170	1995	1809	1840

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	1.04	0.99	0.96	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.90	0.83	0.78	0.88	0.82	0.77	0.85	0.79	0.75	0.81	0.77	0.73	0.78	0.75	0.71	0.69
3	0.79	0.71	0.64	0.78	0.70	0.64	0.74	0.68	0.63	0.72	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.69	0.60	0.54	0.66	0.59	0.53	0.64	0.57	0.52	0.61	0.56	0.52	0.49
5	0.63	0.53	0.47	0.61	0.53	0.46	0.59	0.52	0.46	0.57	0.51	0.45	0.55	0.49	0.45	0.43
6	0.56	0.47	0.41	0.55	0.47	0.41	0.53	0.46	0.40	0.52	0.45	0.40	0.50	0.44	0.39	0.37
7	0.51	0.42	0.36	0.50	0.42	0.36	0.49	0.41	0.36	0.47	0.40	0.35	0.46	0.40	0.35	0.33
8	0.46	0.38	0.32	0.46	0.38	0.32	0.44	0.37	0.32	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.43	0.34	0.29	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.39	0.33	0.28	0.26
10	0.39	0.31	0.26	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.26	0.24

Light Blue USA-Rayhil INV-16-CCT-UNV-\*\*-2700K

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	473.98	473.80	469.72	461.65	449.42	434.01	414.25	390.86	365.21		
15.0	473.98	473.89	469.88	461.32	449.02	433.81	413.78	391.55	364.32		
30.0	473.98	473.71	469.33	461.02	448.43	433.19	412.66	389.57	363.74		
45.0	473.98	473.25	468.77	459.91	448.21	430.12	411.57	387.90	361.04		
60.0	473.98	473.16	468.12	460.15	446.96	429.93	409.59	385.87	358.03		
75.0	473.98	473.34	468.02	458.85	445.55	428.21	407.03	384.65	357.41		
90.0	473.98	472.24	467.10	458.12	444.83	427.32	406.32	382.21	354.43		
105.0	473.98	472.24	466.65	457.02	443.18	425.76	405.68	380.38	353.51		
120.0	473.98	472.42	466.82	456.63	443.23	425.78	405.40	381.17	352.34		
135.0	473.98	473.15	467.17	457.32	443.14	426.11	405.40	382.20	352.01		
150.0	473.98	472.69	466.71	456.87	430.47	426.61	406.83	380.80	352.29		
165.0	473.98	471.86	466.53	456.05	443.08	426.25	404.92	380.09	350.75		
180.0	473.98	470.08	462.20	450.41	435.27	415.97	393.40	367.02	338.56		
195.0	473.98	470.15	462.23	451.57	435.00	417.69	395.47	368.51	338.27		
210.0	473.98	470.33	462.76	450.98	435.74	417.13	394.95	369.86	339.65		
225.0	473.98	470.69	462.65	451.50	436.33	417.60	395.21	369.26	339.29		
240.0	473.98	470.77	463.63	452.18	437.07	418.38	396.04	370.67	341.63		
255.0	473.98	471.23	464.07	453.25	438.30	419.59	398.04	372.36	342.46		
270.0	473.98	471.41	464.54	453.54	438.50	420.07	399.26	372.95	344.62		
285.0	473.98	471.05	464.35	454.73	439.78	421.63	400.36	374.33	367.72		
300.0	473.98	471.41	465.17	454.70	451.49	422.57	401.73	376.39	348.94		
315.0	473.98	472.60	466.25	455.94	441.76	425.19	403.56	379.07	349.98		
330.0	473.98	472.32	466.07	455.68	441.79	424.68	403.80	378.78	349.44		
345.0	473.98	471.86	465.70	455.59	442.07	424.23	403.54	378.34	350.20		
360.0	473.98	473.80	469.72	461.65	449.42	434.01	414.25	390.86	365.21		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	333.48	301.66	265.50	227.43	188.27	148.75	109.05	71.97	34.17		
15.0	333.26	299.38	263.13	226.97	187.99	148.28	108.93	70.31	32.52		
30.0	330.98	298.95	262.36	224.12	184.88	145.28	106.04	69.54	32.03		
45.0	330.15	296.25	260.06	221.68	184.40	142.64	105.18	66.52	29.15		
60.0	328.81	295.38	259.11	220.55	181.07	141.32	101.85	65.12	26.29		
75.0	326.14	291.74	254.78	216.17	178.84	139.50	100.61	62.18	25.31		
90.0	324.45	288.79	254.04	215.63	176.48	136.97	97.64	61.15	22.46		
105.0	322.53	288.61	251.93	213.43	176.02	134.58	97.36	58.67	21.64		
120.0	322.32	285.60	251.08	213.08	173.88	134.49	95.20	58.75	21.39		
135.0	321.54	286.56	249.46	211.26	172.23	134.95	96.01	57.26	19.98		
150.0	320.37	287.81	249.09	213.12	174.03	134.38	94.74	55.74	20.42		
165.0	320.68	287.66	250.78	212.62	173.54	133.90	96.19	57.02	19.59		
180.0	305.56	270.48	232.87	194.34	155.00	115.21	76.14	39.88	5.26		
195.0	304.94	269.51	231.98	193.27	156.11	116.58	77.51	39.62	5.10		
210.0	306.53	270.66	233.34	194.65	155.77	116.44	79.57	39.70	6.48		
225.0	306.67	271.94	236.67	195.82	158.54	118.79	79.86	41.85	7.04		
240.0	309.67	274.59	237.04	198.29	159.00	119.53	82.43	42.86	9.07		
255.0	309.81	275.97	236.99	200.03	160.96	121.89	83.28	74.56	10.73		
270.0	311.98	276.87	239.83	231.03	163.19	123.95	85.26	47.40	13.29		
285.0	314.64	279.62	242.40	203.71	166.40	124.87	88.10	50.15	14.12		
300.0	314.52	281.47	244.84	206.37	167.36	127.61	88.50	50.49	16.07		
315.0	317.40	282.14	245.04	206.29	166.98	129.89	91.13	53.11	16.57		
330.0	318.99	282.29	246.88	208.61	169.61	130.06	90.60	52.25	15.82		
345.0	318.75	283.62	246.46	208.11	170.68	131.23	92.06	53.61	16.83		
360.0	333.48	301.66	265.50	227.43	188.27	148.75	109.05	71.97	34.17		

Light Blue USA-Rayhil INV-16-CCT-UNV-\*\*-2700K

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	2.54	0.54	0.45	0.54	0.45	0.54	0.63	0.73	0.82	
15.0	2.28	0.46	0.36	0.36	0.36	0.46	0.55	0.55	0.73	
30.0	2.10	0.55	0.46	0.46	0.27	0.55	0.46	0.55	0.64	
45.0	1.74	0.46	0.46	0.27	0.27	0.37	0.55	0.46	0.64	
60.0	1.56	0.46	0.37	0.27	0.27	0.18	0.55	0.55	0.64	
75.0	1.47	0.46	0.46	0.37	0.37	0.37	0.55	0.64	0.73	
90.0	0.92	0.46	0.37	0.37	0.37	0.28	0.55	0.64	0.64	
105.0	0.55	0.37	0.46	0.37	0.37	0.46	0.83	0.64	0.64	
120.0	0.55	0.37	0.37	0.37	0.28	0.46	0.55	0.55	0.73	
135.0	0.46	0.28	0.28	0.18	0.18	0.28	0.46	0.64	0.64	
150.0	0.55	0.46	0.46	0.37	0.28	0.28	0.46	0.55	0.74	
165.0	0.55	0.37	0.37	0.28	0.18	0.18	0.46	0.55	0.74	
180.0	1.09	1.09	1.00	0.82	0.73	0.91	0.91	0.73	0.73	
195.0	1.00	1.00	1.00	0.91	0.82	0.82	0.82	0.73	0.73	
210.0	1.10	1.00	1.10	0.91	0.82	0.82	0.82	0.73	0.82	
225.0	1.10	1.01	1.01	0.91	0.91	0.82	0.82	0.73	0.64	
240.0	1.10	0.92	0.92	0.92	0.92	0.92	0.92	0.73	0.73	
255.0	1.01	0.92	0.92	0.92	1.01	1.10	1.01	0.83	0.73	
270.0	1.01	0.92	0.92	0.92	0.92	1.10	1.56	1.01	0.92	
285.0	0.92	0.92	0.92	0.92	0.83	0.92	1.74	0.92	0.92	
300.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
315.0	0.92	0.83	0.92	0.83	0.83	0.92	0.92	0.92	0.83	
330.0	0.92	0.83	0.92	0.83	1.01	0.92	0.92	0.92	0.83	
345.0	0.92	0.92	1.10	1.01	0.92	0.92	0.92	0.83	0.74	
360.0	2.54	0.54	0.45	0.54	0.45	0.54	0.63	0.73	0.82	
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	
0.0	0.82	1.09	1.36	1.90	2.27	2.63	2.72	2.90	2.90	
15.0	0.82	1.18	1.37	1.91	2.28	2.64	2.73	2.91	2.91	
30.0	0.82	1.00	1.46	1.92	2.28	2.74	2.83	2.92	3.01	
45.0	0.82	1.10	1.55	2.01	2.28	2.65	2.74	2.92	3.02	
60.0	0.73	1.10	1.47	1.92	2.29	2.66	2.75	2.93	3.02	
75.0	0.73	1.19	1.47	2.02	2.29	2.75	2.75	2.93	2.93	
90.0	0.83	1.10	1.47	2.02	2.20	2.66	2.75	2.84	3.03	
105.0	0.83	1.10	1.47	1.83	2.20	2.66	2.75	2.84	2.93	
120.0	0.83	1.10	1.47	1.93	2.30	2.66	2.85	2.94	3.03	
135.0	0.83	1.20	1.47	2.03	2.30	2.67	2.76	2.95	2.95	
150.0	0.92	1.01	1.47	2.02	2.39	2.67	2.76	2.94	3.04	
165.0	0.83	1.10	1.56	1.93	2.30	2.67	2.76	2.94	2.94	
180.0	0.73	0.82	0.91	1.27	1.45	2.08	2.08	2.36	2.72	
195.0	0.73	0.82	0.91	1.28	1.55	1.64	2.09	2.37	2.82	
210.0	0.73	0.82	0.91	1.28	1.55	1.92	2.10	2.37	2.74	
225.0	0.73	0.82	0.91	1.19	1.55	1.74	2.01	2.38	2.83	
240.0	0.73	0.82	0.82	1.19	1.47	1.92	2.01	2.29	2.75	
255.0	0.73	0.73	1.01	1.28	1.56	2.02	2.11	2.38	2.75	
270.0	0.83	0.73	0.92	1.28	1.47	2.02	2.02	2.38	2.75	
285.0	0.83	0.83	1.01	1.28	1.56	1.93	2.02	2.38	2.84	
300.0	0.83	0.83	0.92	1.19	1.56	1.74	2.02	2.39	2.94	
315.0	0.74	0.74	0.92	1.29	1.38	1.93	2.03	2.39	2.95	
330.0	0.64	0.74	0.92	1.20	1.47	1.84	2.02	2.39	2.76	
345.0	0.64	0.74	0.83	1.20	1.56	2.02	2.12	2.39	2.85	
360.0	0.82	1.09	1.36	1.90	2.27	2.63	2.72	2.90	2.90	

Intensity data(cd)

C/γ(°)	180.0
0.0	2.90
15.0	3.01
30.0	2.92
45.0	3.02
60.0	3.11
75.0	3.12
90.0	3.21
105.0	3.12
120.0	3.03
135.0	3.04
150.0	2.94
165.0	3.13
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	2.90