
Light Blue USA-Rayhil

Client:

LumCAT: INV-12-CCT-UNV-**-5000K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.020

LampCAT:

Current(A): 0.159

Lamp flux(lm): 1514.6

Power (W): 17.750

Number of Lamps: 1

PF: 0.928

Length(mm): -270

Width(mm): -270

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1514.58, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 85.33

Central intensity(cd): 549.452, Maximum intensity(cd): 549.452

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=109.2

[C90/270]Total=109.4

Field angle(10%Imax): [C0/180]Total=158.4

[C90/270]Total=158.6

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(%): 0.22%

Down flux rate of lamp(%): 99.78%

Up flux rate of LUM(%): 0.22%

Down flux rate of LUM(%): 99.78%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 80.167%

Light Blue USA-Rayhil INV-12-CCT-UNV-**-5000K-F

Zonal flux distribution table

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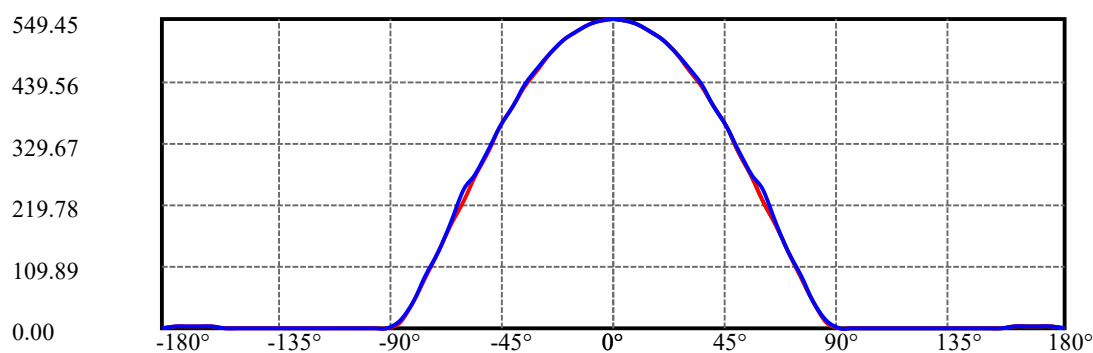
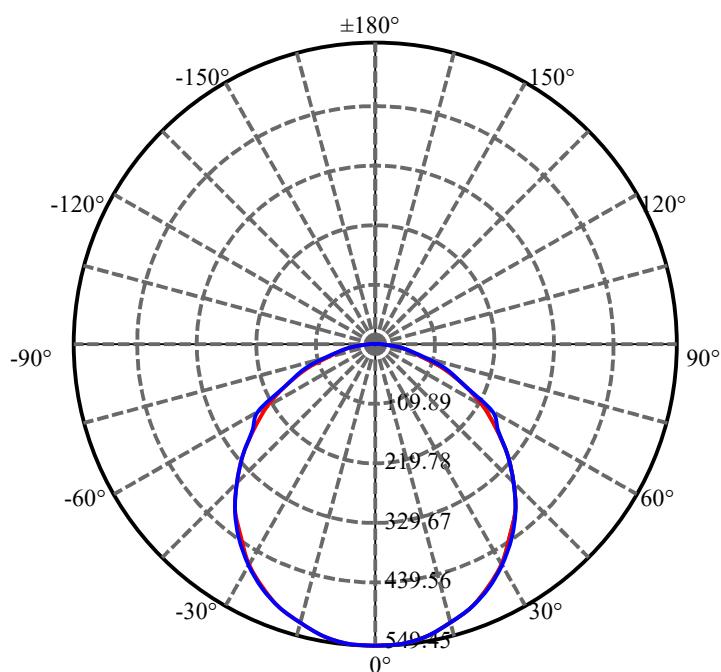
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	549.452	0.000	0	0.00%	0.00%
5.0	547.114	13.109	13.109	0.87%	0.87%
10.0	539.600	38.875	51.984	2.57%	3.43%
15.0	527.105	63.276	115.261	4.18%	7.61%
20.0	510.314	85.498	200.758	5.64%	13.26%
25.0	488.504	104.758	305.516	6.92%	20.17%
30.0	462.323	120.328	425.844	7.94%	28.12%
35.0	431.276	131.589	557.433	8.69%	36.80%
40.0	397.122	138.212	695.644	9.13%	45.93%
45.0	356.987	139.629	835.274	9.22%	55.15%
50.0	315.167	135.818	971.092	8.97%	64.12%
55.0	271.506	127.562	1098.655	8.42%	72.54%
60.0	228.307	115.530	1214.185	7.63%	80.17%
65.0	181.158	99.542	1313.727	6.57%	86.74%
70.0	135.964	80.297	1394.024	5.30%	92.04%
75.0	91.577	59.476	1453.5	3.93%	95.97%
80.0	50.255	37.950	1491.45	2.51%	98.47%
85.0	11.043	16.656	1508.106	1.10%	99.57%
90.0	0.191	3.076	1511.182	0.20%	99.78%
95.0	0.307	0.136	1511.318	0.01%	99.78%
100.0	0.384	0.188	1511.506	0.01%	99.80%
105.0	0.460	0.226	1511.732	0.01%	99.81%
110.0	0.460	0.240	1511.972	0.02%	99.83%
115.0	0.383	0.213	1512.186	0.01%	99.84%
120.0	0.383	0.186	1512.372	0.01%	99.85%
125.0	0.191	0.133	1512.505	0.01%	99.86%
130.0	0.153	0.075	1512.579	0.00%	99.87%
135.0	0.000	0.031	1512.61	0.00%	99.87%
140.0	0.460	0.085	1512.695	0.01%	99.88%
145.0	0.537	0.166	1512.862	0.01%	99.89%
150.0	1.227	0.260	1513.121	0.02%	99.90%
155.0	1.380	0.330	1513.451	0.02%	99.93%
160.0	1.610	0.314	1513.765	0.02%	99.95%
165.0	2.300	0.322	1514.087	0.02%	99.97%
170.0	2.300	0.273	1514.36	0.02%	99.99%
175.0	2.491	0.171	1514.531	0.01%	100.00%
180.0	1.380	0.046	1514.578	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	425.84	28.12%	28.12%
0-40	695.64	45.93%	45.93%
0-60	1214.19	80.17%	80.17%
0-90	1511.18	99.78%	99.78%
0-120	1512.37	99.85%	99.85%
0-180	1514.58	100.00%	100.00%
60-90	297.00	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	3.35	0.22%	0.22%
0-59.89	1211.66	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	51.98
10-20	148.77
20-30	225.09
30-40	269.80
40-50	275.45
50-60	243.09
60-70	179.84
70-80	97.43
80-90	19.73
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	0.64
160-170	0.60
170-180	0.17



C0(Max): —————

C0/C180: —————

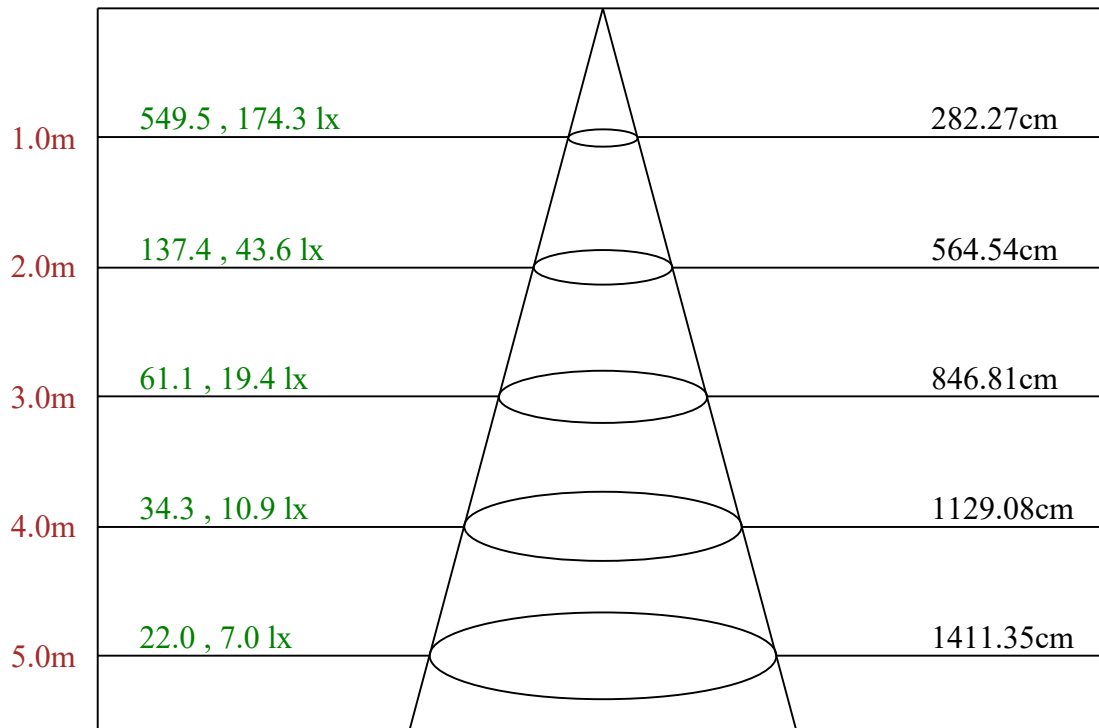
C90/C270: —————

Field angle(10%Imax):C0/180Left:79.2 Right:79.2

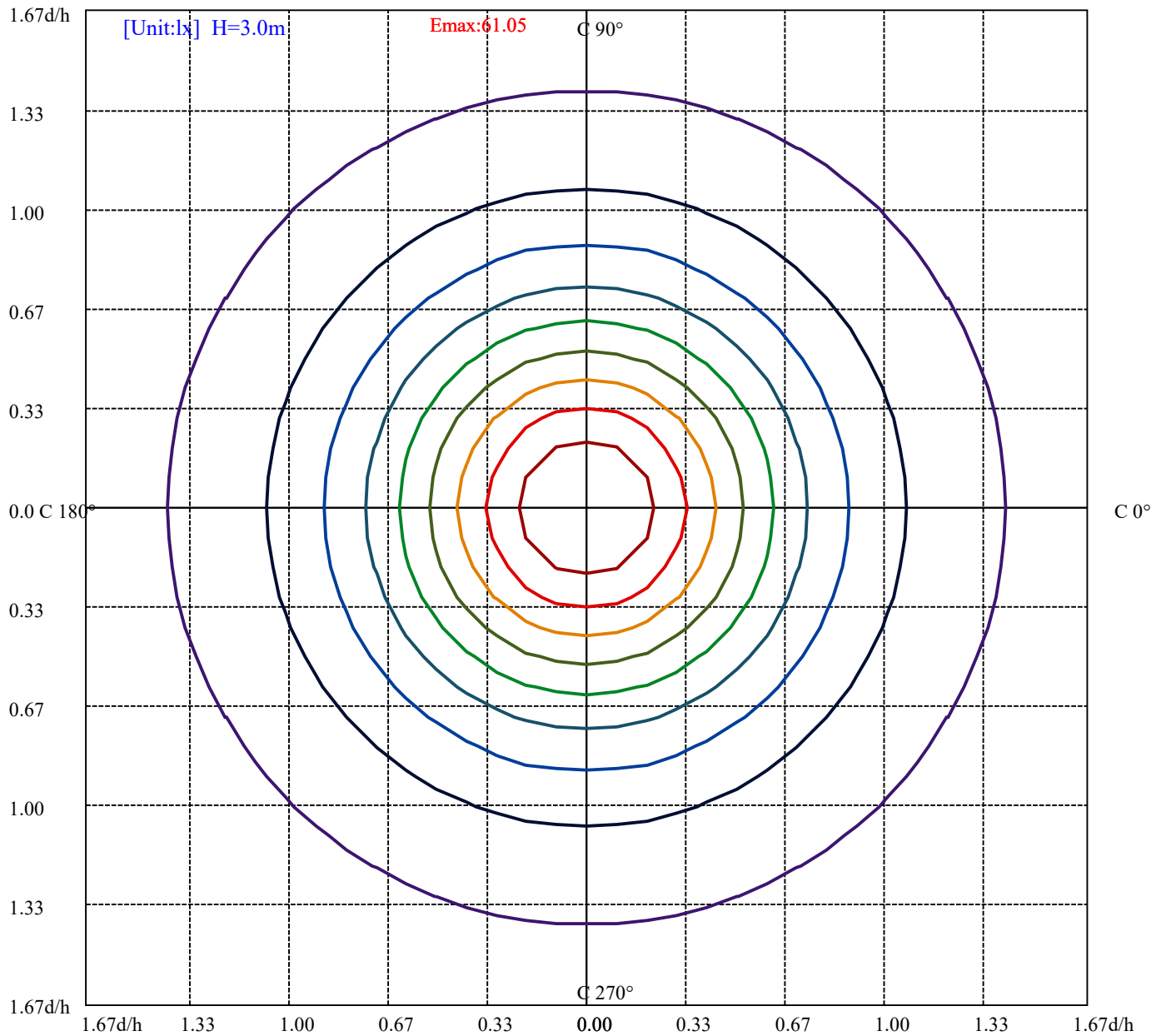
:C90/270Left:79.3 Right:79.3

Beam Angle(50%Imax):C0/180Left:54.6 Right:54.6

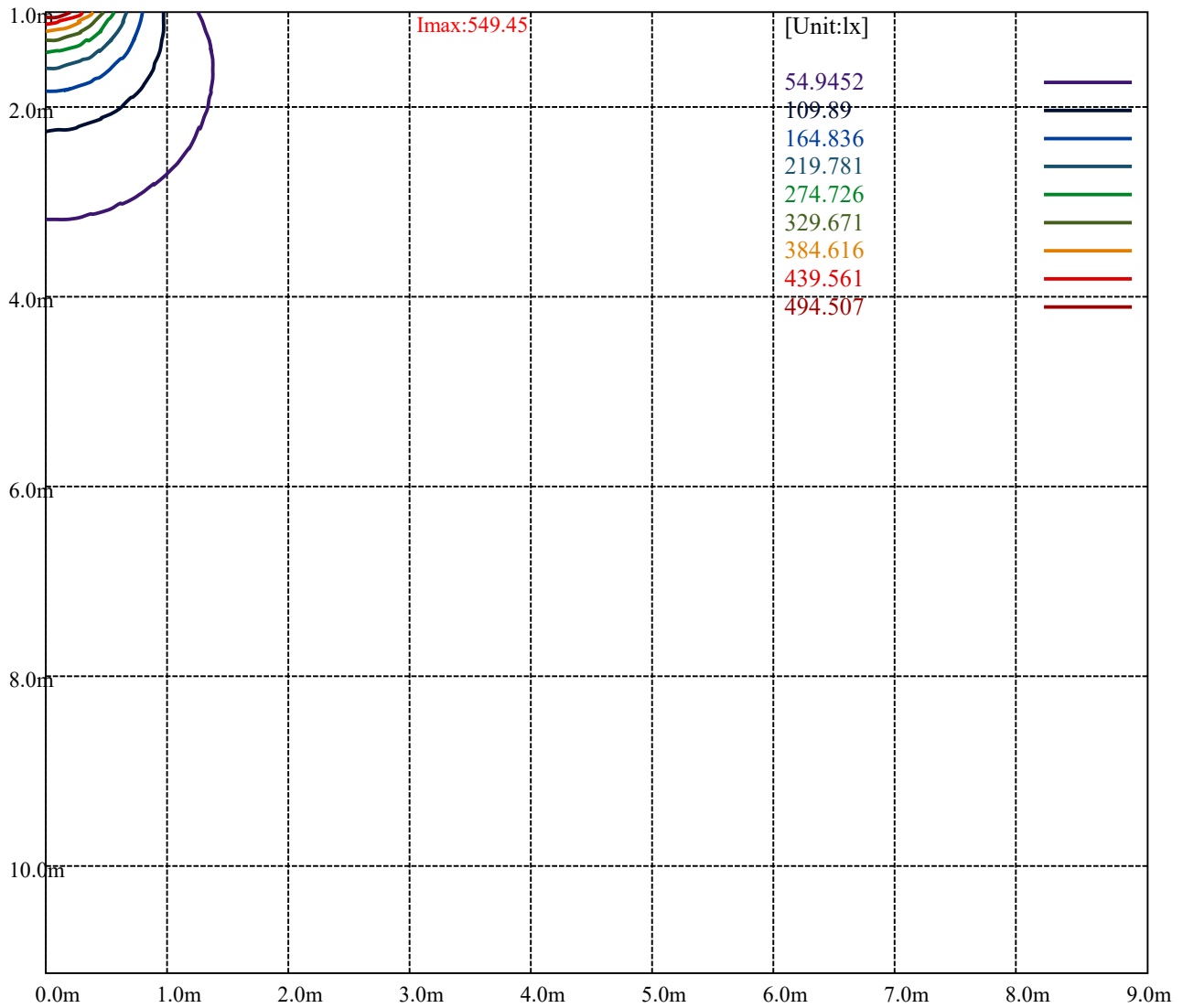
:C90/270Left:54.7 Right:54.7



Max , Ave Beam angle of C0 plane 109.36



(10%Emax) 6.105022	—
(20%Emax) 12.21	—
(30%Emax) 18.31511	—
(40%Emax) 24.42011	—
(50%Emax) 30.52511	—
(60%Emax) 36.63011	—
(70%Emax) 42.73511	—
(80%Emax) 48.84011	—
(90%Emax) 54.94522	—



Light Blue USA-Rayhil INV-12-CCT-UNV-**-5000K-F

Luminance Limiting Curve(no luminous side)

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Luminance Table

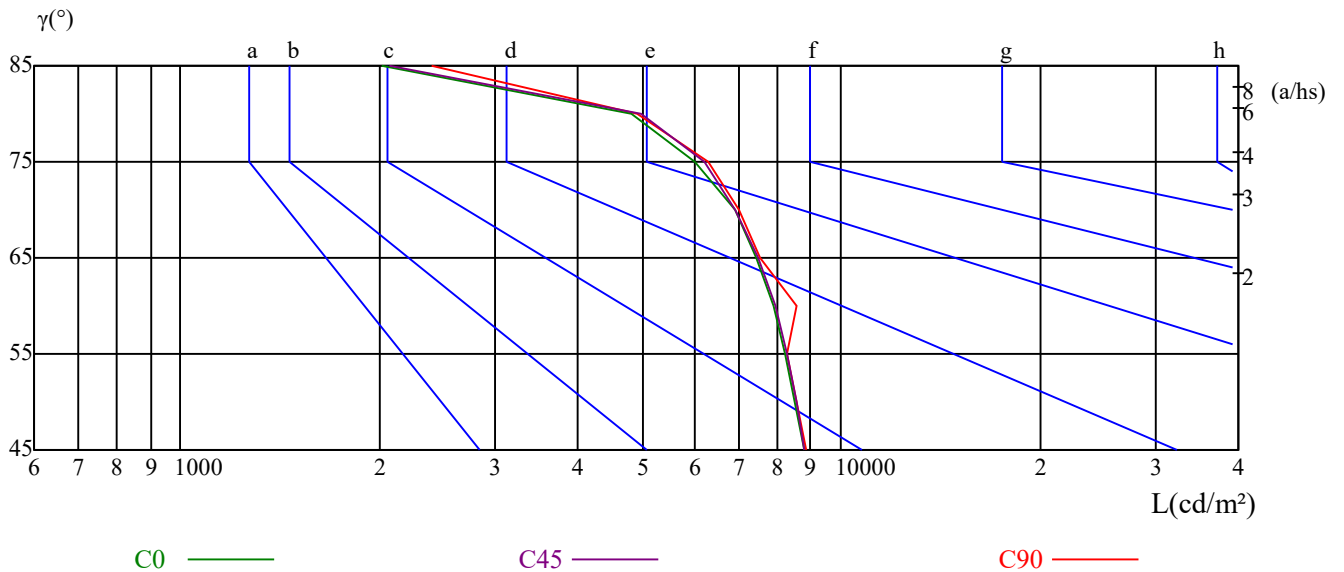
γ	45	50	55	60	65	70	75	80	85
C0	8829	8533	8254	7920	7424	6910	6015	4828	2015
C45	8816	8572	8274	7939	7480	6938	6200	4980	2077
C90	8843	8590	8281	8584	7569	7003	6304	4906	2398

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7424	7569	7480	6015	6304	6200	2015	2398	2077

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-**-5000K-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	549.45	548.54	542.14	529.34	513.80	491.86	465.34	433.34	399.52		
15.0	549.45	546.71	540.31	528.42	511.05	490.03	463.51	432.43	398.60		
30.0	549.45	548.53	541.20	528.35	511.84	490.75	465.98	434.79	399.02		
45.0	549.45	547.61	541.18	529.24	513.62	492.49	465.84	436.44	400.60		
60.0	549.45	549.45	542.09	530.12	514.48	492.39	467.54	437.17	402.20		
75.0	549.45	547.61	541.17	530.12	515.40	493.31	466.62	436.25	404.96		
90.0	549.45	547.61	541.17	529.20	514.48	493.31	468.46	439.01	404.04		
105.0	549.45	547.61	543.00	531.94	515.34	495.06	470.17	441.59	404.71		
120.0	549.45	548.53	542.08	531.01	515.34	495.06	472.01	441.59	405.64		
135.0	549.45	549.45	543.91	533.75	517.13	496.82	471.88	441.41	410.01		
150.0	549.45	549.45	542.99	533.75	503.28	496.82	472.81	443.26	410.01		
165.0	549.45	549.45	543.91	533.75	519.90	497.74	472.81	445.10	408.16		
180.0	549.45	546.71	538.48	524.77	507.40	483.63	457.11	423.29	390.38		
195.0	549.45	545.79	536.65	523.85	506.48	484.54	458.03	426.03	391.29		
210.0	549.45	546.70	538.44	525.60	508.17	487.08	460.48	428.37	392.60		
225.0	549.45	546.70	539.34	526.48	509.02	486.97	460.33	429.09	392.33		
240.0	549.45	546.69	539.33	525.52	509.88	486.87	461.10	429.81	394.83		
255.0	549.45	546.69	538.41	524.60	508.96	485.95	460.18	427.96	393.91		
270.0	549.45	545.77	536.57	523.68	506.20	485.95	457.42	427.04	390.23		
285.0	549.45	545.76	537.47	523.64	505.20	484.00	458.18	424.07	415.78		
300.0	549.45	544.84	535.62	522.72	518.11	480.31	452.65	422.23	383.51		
315.0	549.45	544.83	535.60	520.82	502.36	479.27	450.64	418.32	383.23		
330.0	549.45	544.83	534.68	520.82	500.51	477.42	448.80	417.40	378.61		
345.0	549.45	544.83	534.68	518.98	499.59	476.50	447.87	414.63	376.77		
360.0	549.45	548.54	542.14	529.34	513.80	491.86	465.34	433.34	399.52		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	363.86	319.98	278.84	233.13	187.42	141.71	96.91	53.94	15.54		
15.0	360.21	319.98	276.10	230.39	184.67	141.71	96.91	53.94	13.71		
30.0	359.57	318.30	276.10	231.16	186.21	140.34	96.31	52.29	14.68		
45.0	360.18	320.67	276.56	232.46	186.52	140.58	97.39	54.21	14.70		
60.0	363.54	322.12	280.71	232.85	189.59	143.58	97.56	54.30	16.57		
75.0	366.30	323.96	280.71	235.61	189.59	143.58	101.24	57.06	16.57		
90.0	365.38	323.96	280.71	238.37	192.35	146.34	101.24	57.06	19.33		
105.0	367.84	326.35	283.02	237.85	191.76	146.58	104.17	59.92	20.28		
120.0	368.76	327.27	283.94	241.54	195.44	149.35	104.17	60.85	20.28		
135.0	370.30	331.52	288.12	242.87	196.69	150.52	108.04	64.64	21.24		
150.0	372.15	331.52	288.12	245.64	197.62	153.29	108.04	64.64	24.01		
165.0	373.07	333.36	290.89	245.64	199.46	154.22	111.74	67.41	26.78		
180.0	351.06	308.10	263.30	220.33	171.88	128.91	81.37	42.05	4.57		
195.0	349.24	309.92	265.13	220.33	174.62	128.91	84.11	42.05	5.49		
210.0	352.24	309.12	264.18	219.23	174.28	131.17	84.39	44.03	5.50		
225.0	354.66	309.64	267.38	222.35	177.33	131.39	86.37	45.02	4.59		
240.0	355.26	312.00	266.90	222.73	178.55	132.53	87.43	44.18	5.52		
255.0	352.50	312.00	266.90	222.73	176.71	130.69	85.59	75.47	4.60		
270.0	350.66	308.32	263.22	253.10	173.95	127.93	85.59	40.50	4.60		
285.0	347.56	304.23	259.98	214.80	171.47	126.30	82.05	39.64	2.77		
300.0	344.79	302.38	258.13	213.88	167.79	121.69	78.36	35.95	0.92		
315.0	342.60	300.12	254.87	211.47	163.45	120.97	75.72	34.17	0.92		
330.0	339.83	296.43	252.10	206.85	161.60	116.35	72.03	33.24	0.92		
345.0	336.14	292.73	250.25	204.08	158.83	114.51	71.11	29.55	0.92		
360.0	363.86	319.98	278.84	233.13	187.42	141.71	96.91	53.94	15.54		

Light Blue USA-Rayhil INV-12-CCT-UNV-**-5000K-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	1.83	2.74	2.74	2.74
30.0	0.00	0.92	0.92	1.83	1.83	1.83	2.75	2.75	2.75
45.0	0.00	0.92	0.92	1.84	1.84	1.84	2.76	2.76	2.76
60.0	0.00	0.92	0.92	0.92	1.84	1.84	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	1.84	2.76	2.76	2.76
105.0	0.00	0.92	0.92	1.84	1.84	1.84	2.77	2.77	2.77
120.0	0.00	0.92	0.92	1.84	1.84	1.84	2.77	2.77	2.77
135.0	0.00	0.92	0.92	1.85	1.85	1.85	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	1.85	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	1.83	1.83	1.83	2.75
225.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	2.76
240.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	1.84
255.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	1.84
270.0	0.00	0.00	0.00	0.92	0.92	1.84	1.84	1.84	1.84
285.0	0.00	0.00	0.00	0.92	0.92	0.92	1.84	1.84	1.84
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	1.85	1.85	1.85
330.0	0.00	0.00	0.00	0.92	0.92	0.92	1.85	1.85	1.85
345.0	0.00	0.00	0.00	0.92	0.92	0.92	1.85	1.85	1.85
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	2.76
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