
Light Blue USA-Rayhil

Client:

LumCAT: INV-9-CCT-120-**-4000K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.030

LampCAT:

Current(A): 0.129

Lamp flux(lm): 1251.4

Power (W): 14.650

Number of Lamps: 1

PF: 0.950

Length(mm): -210

Width(mm): -210

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1251.43, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 85.42

Central intensity(cd): 448.753, Maximum intensity(cd): 448.753

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=110.6

[C90/270]Total=109.8

Field angle(10%Imax): [C0/180]Total=158.6

[C90/270]Total=158.2

Maximum s/h(1/2): C0_180=1.26 C90_270=1.26

Maximum s/h(1/4): C0_180=1.37 C90_270=1.37

Up flux rate of lamp(%): 0.91%

Down flux rate of lamp(%): 99.09%

Up flux rate of LUM(%): 0.91%

Down flux rate of LUM(%): 99.09%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 79.621%

Light Blue USA-Rayhil INV-9-CCT-120-**-4000K-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	448.753	0.000	0	0.00%	0.00%
5.0	446.502	10.703	10.703	0.86%	0.86%
10.0	440.398	31.727	42.43	2.54%	3.39%
15.0	430.440	51.658	94.087	4.13%	7.52%
20.0	416.819	69.826	163.913	5.58%	13.10%
25.0	399.384	85.605	249.518	6.84%	19.94%
30.0	378.437	98.434	347.952	7.87%	27.80%
35.0	353.981	107.854	455.806	8.62%	36.42%
40.0	325.787	113.414	569.22	9.06%	45.49%
45.0	294.387	114.830	684.05	9.18%	54.66%
50.0	259.096	111.839	795.89	8.94%	63.60%
55.0	224.949	105.248	901.137	8.41%	72.01%
60.0	187.178	95.262	996.399	7.61%	79.62%
65.0	150.055	81.982	1078.381	6.55%	86.17%
70.0	111.482	66.223	1144.604	5.29%	91.46%
75.0	74.665	48.656	1193.26	3.89%	95.35%
80.0	40.098	30.708	1223.967	2.45%	97.81%
85.0	8.776	13.280	1237.248	1.06%	98.87%
90.0	1.526	2.821	1240.068	0.23%	99.09%
95.0	0.763	0.627	1240.695	0.05%	99.14%
100.0	0.534	0.353	1241.048	0.03%	99.17%
105.0	0.839	0.368	1241.415	0.03%	99.20%
110.0	0.916	0.459	1241.874	0.04%	99.24%
115.0	1.373	0.580	1242.454	0.05%	99.28%
120.0	1.831	0.779	1243.233	0.06%	99.35%
125.0	1.908	0.864	1244.097	0.07%	99.41%
130.0	2.098	0.871	1244.968	0.07%	99.48%
135.0	2.060	0.840	1245.808	0.07%	99.55%
140.0	2.518	0.848	1246.656	0.07%	99.62%
145.0	2.900	0.904	1247.56	0.07%	99.69%
150.0	3.205	0.899	1248.459	0.07%	99.76%
155.0	3.853	0.893	1249.352	0.07%	99.83%
160.0	3.815	0.804	1250.157	0.06%	99.90%
165.0	3.625	0.613	1250.77	0.05%	99.95%
170.0	3.090	0.398	1251.168	0.03%	99.98%
175.0	2.747	0.209	1251.377	0.02%	100.00%
180.0	1.374	0.049	1251.426	0.00%	100.00%

Equipment: LC-I-902 GMS-2000
Temperature($^{\circ}\text{C}$): 24.8

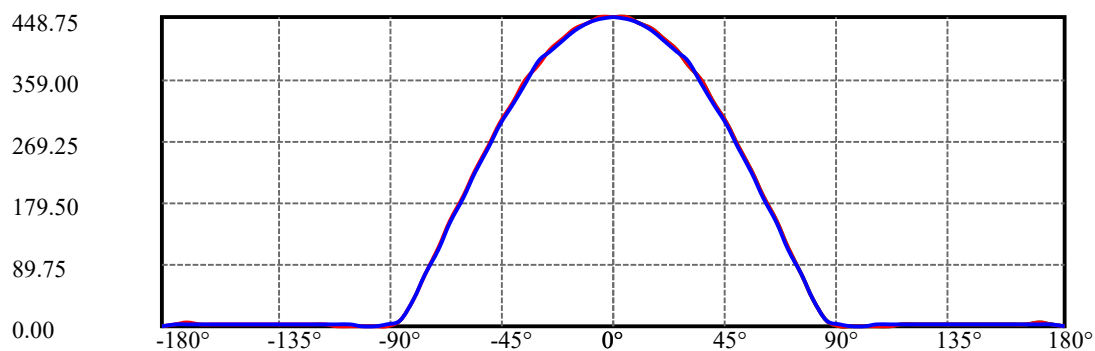
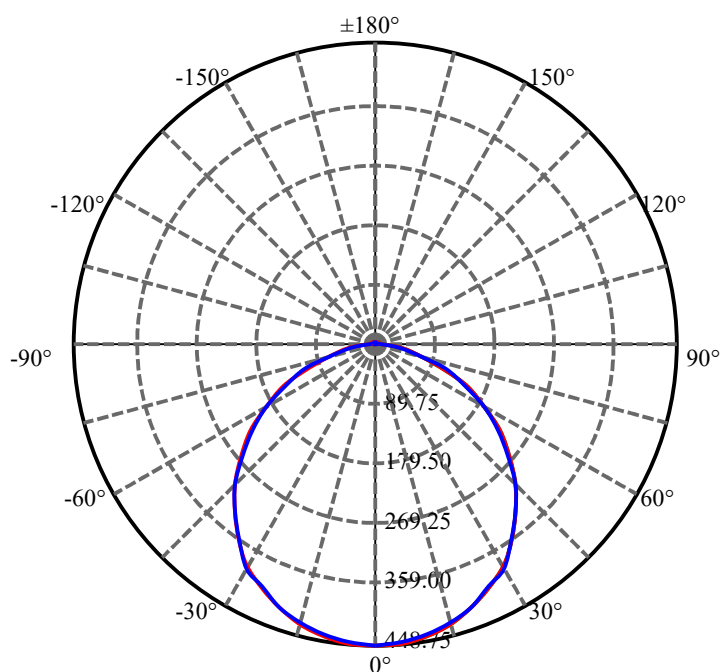
Date: 2024/12/18
Humidity(%): 60.2%

Operator: JUN WANG
Distance(m): 30.26

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	347.95	27.80%	27.80%
0-40	569.22	45.49%	45.49%
0-60	996.40	79.62%	79.62%
0-90	1240.07	99.09%	99.09%
0-120	1243.23	99.34%	99.35%
0-180	1251.43	100.00%	100.00%
60-90	243.67	19.47%	19.47%
90-120	3.16	0.25%	0.25%
90-130	4.90	0.39%	0.39%
90-150	8.39	0.67%	0.67%
90-180	11.31	0.90%	0.90%
0-60.29	1001.14	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	42.43
10-20	121.48
20-30	184.04
30-40	221.27
40-50	226.67
50-60	200.51
60-70	148.20
70-80	79.36
80-90	16.10
90-100	0.98
100-110	0.83
110-120	1.36
120-130	1.74
130-140	1.69
140-150	1.80
150-160	1.70
160-170	1.01
170-180	0.21



C0(Max):

C0/C180:

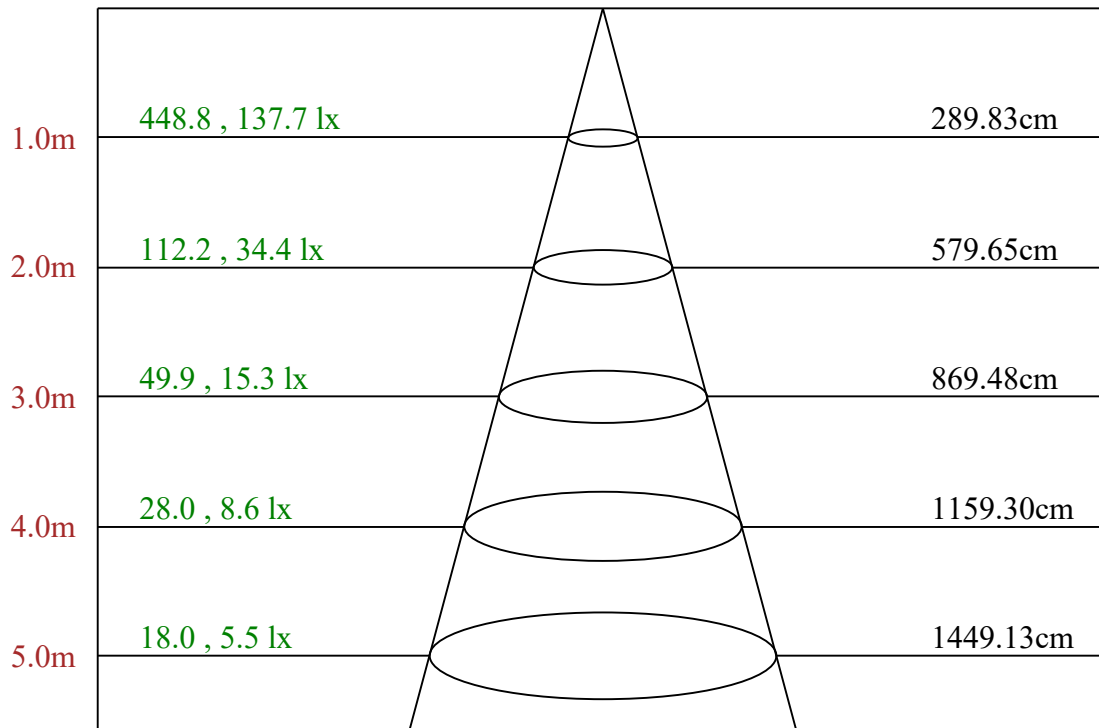
C90/C270:

Field angle(10%Imax):C0/180Left:79.3 Right:79.3

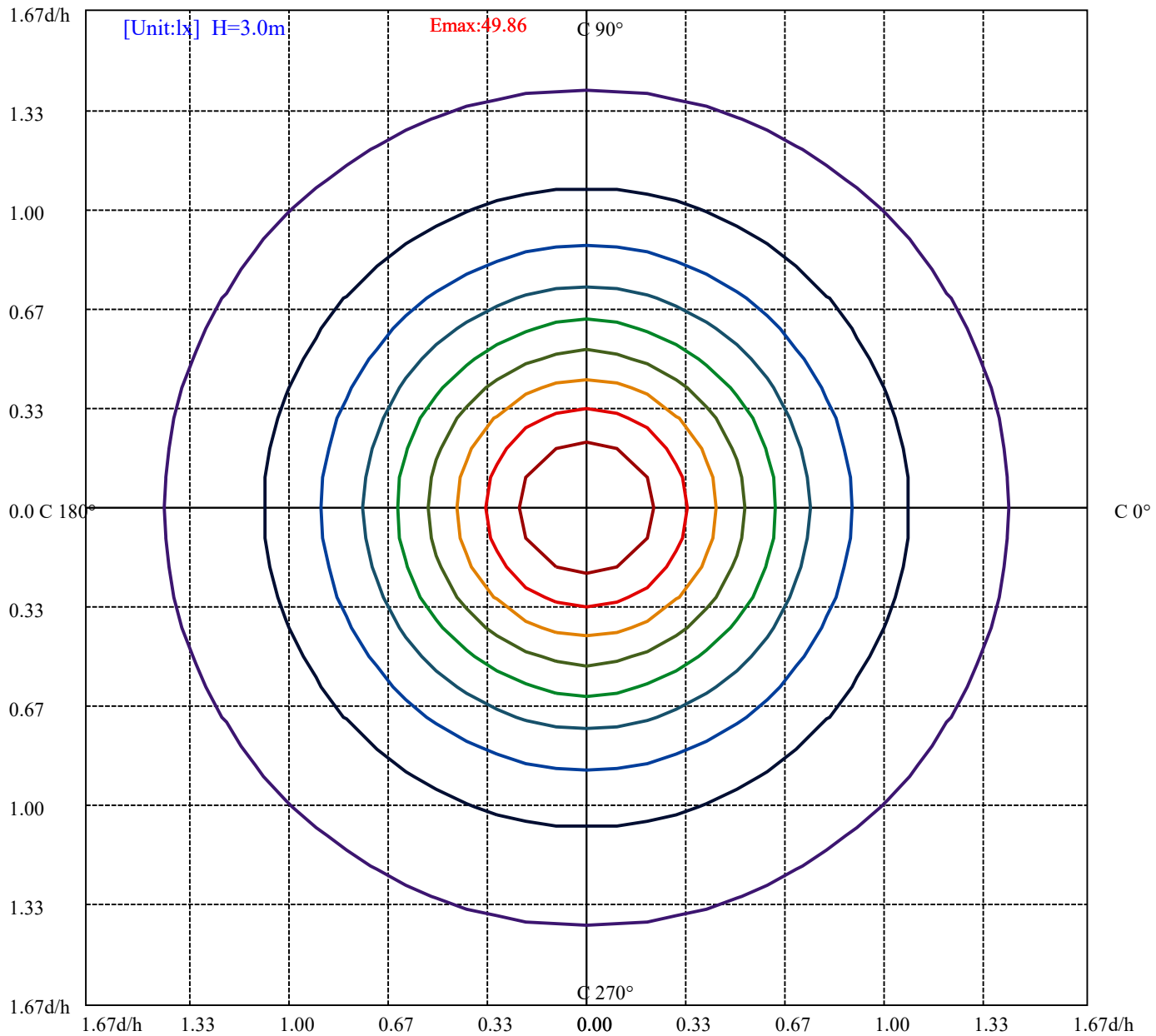
:C90/270Left:79.1 Right:79.1

Beam Angle(50%Imax):C0/180Left:55.3 Right:55.3

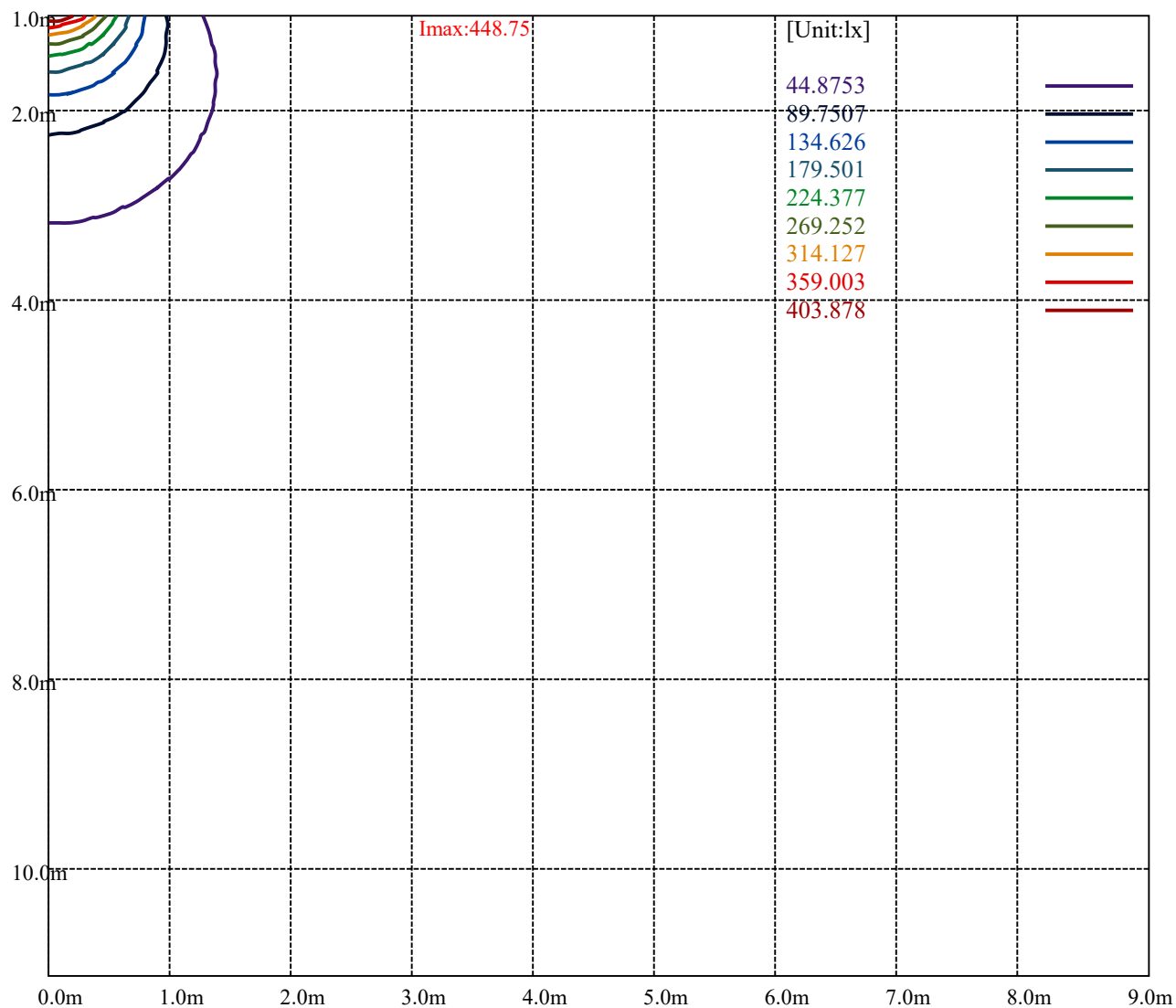
:C90/270Left:54.9 Right:54.9



Max , Ave Beam angle of C0 plane 110.78



(10%Emax) 4.986145	—
(20%Emax) 9.972301	—
(30%Emax) 14.95845	—
(40%Emax) 19.94456	—
(50%Emax) 24.93078	—
(60%Emax) 29.91689	—
(70%Emax) 34.903	—
(80%Emax) 39.88922	—
(90%Emax) 44.87533	—



Luminance Table

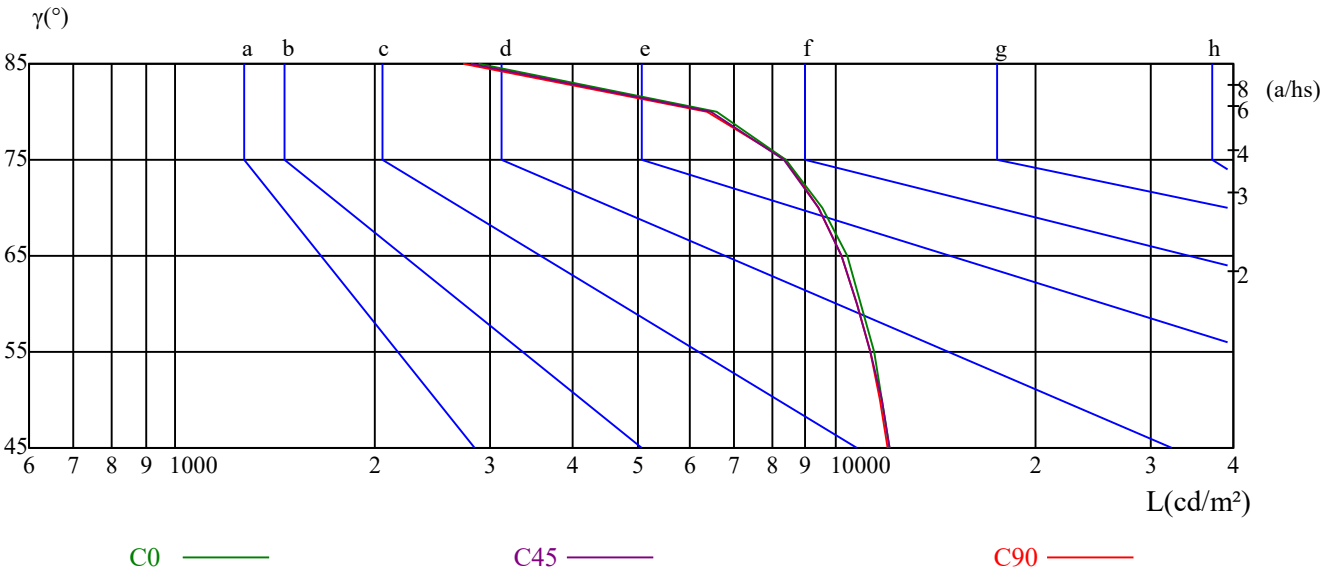
γ	45	50	55	60	65	70	75	80	85
C0	12072	11720	11409	10898	10396	9567	8411	6610	2876
C45	12041	11703	11283	10788	10183	9412	8326	6471	2806
C90	11966	11641	11248	10788	10229	9393	8377	6395	2730

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10396	10229	10183	8411	8377	8326	2876	2730	2806

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



RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFCIENTS 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	1.01	1.01	1.01	0.99
1	1.04	1.00	0.96	1.02	0.98	0.95	0.97	0.94	0.92	0.93	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	0.85	0.80	0.76	0.82	0.78	0.74	0.79	0.75	0.72	0.70
3	0.80	0.72	0.65	0.78	0.71	0.65	0.75	0.69	0.64	0.72	0.67	0.62	0.70	0.65	0.61	0.59
4	0.71	0.62	0.56	0.70	0.61	0.55	0.67	0.60	0.54	0.64	0.58	0.53	0.62	0.57	0.53	0.50
5	0.63	0.54	0.48	0.62	0.54	0.48	0.60	0.53	0.47	0.58	0.51	0.46	0.56	0.50	0.46	0.44
6	0.57	0.48	0.42	0.56	0.48	0.42	0.54	0.47	0.41	0.52	0.46	0.41	0.51	0.45	0.40	0.38
7	0.52	0.43	0.37	0.51	0.43	0.37	0.49	0.42	0.36	0.48	0.41	0.36	0.46	0.40	0.36	0.34
8	0.47	0.39	0.33	0.46	0.38	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	0.41	0.34	0.29	0.40	0.34	0.29	0.39	0.33	0.29	0.27
10	0.40	0.32	0.27	0.39	0.32	0.27	0.38	0.31	0.27	0.37	0.31	0.26	0.36	0.31	0.26	0.25

Light Blue USA-Rayhil INV-9-CCT-120-**-4000K-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	448.75	448.75	443.27	434.13	422.25	406.71	385.69	363.76	334.51		
15.0	448.75	448.75	443.27	434.13	421.33	404.88	384.78	361.01	334.51		
30.0	448.75	447.84	441.44	433.22	419.51	403.97	384.78	360.10	331.77		
45.0	448.75	448.75	442.34	432.27	420.36	402.96	382.81	359.00	331.53		
60.0	448.75	446.92	442.34	432.27	419.45	402.96	382.81	359.00	331.53		
75.0	448.75	446.92	441.43	432.27	419.45	402.96	382.81	359.00	332.44		
90.0	448.75	446.92	441.43	432.27	419.45	401.13	380.98	359.00	331.53		
105.0	448.75	446.92	442.34	432.27	419.45	401.13	382.81	359.00	331.53		
120.0	448.75	446.92	435.02	432.27	420.36	404.79	382.81	360.83	334.28		
135.0	448.75	446.92	442.34	434.10	420.36	404.79	368.16	361.75	334.28		
150.0	448.75	446.92	442.34	434.10	420.36	405.71	385.56	361.75	335.19		
165.0	448.75	448.75	444.16	435.88	422.09	407.37	387.14	363.23	338.40		
180.0	448.75	446.01	438.70	428.65	414.02	396.66	374.72	348.22	318.97		
195.0	448.75	446.01	440.53	428.65	414.02	396.66	374.72	349.13	318.97		
210.0	448.75	446.01	438.70	426.82	414.02	394.83	374.72	348.22	318.97		
225.0	448.75	445.09	439.60	427.69	413.04	395.64	375.49	348.93	319.62		
240.0	448.75	445.09	439.60	429.52	414.87	395.64	373.66	347.10	317.79		
255.0	448.75	445.09	437.76	427.69	413.04	393.80	371.82	348.93	319.62		
270.0	448.75	445.09	437.76	426.77	413.04	393.80	388.31	346.18	317.79		
285.0	448.75	445.09	444.17	427.69	413.04	393.80	371.82	346.18	317.79		
300.0	448.75	445.09	437.76	427.69	412.12	393.80	371.82	347.10	317.79		
315.0	448.75	445.09	437.76	426.77	412.12	393.80	371.82	346.18	316.87		
330.0	448.75	445.09	436.85	424.94	412.12	392.89	371.82	346.18	316.87		
345.0	448.75	445.99	438.64	428.52	413.81	394.50	370.59	345.76	316.33		
360.0	448.75	448.75	443.27	434.13	422.25	406.71	385.69	363.76	334.51		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	304.35	270.53	235.80	199.24	162.68	122.47	85.00	48.44	12.80		
15.0	301.61	268.70	233.97	195.59	158.11	119.73	82.26	48.44	12.80		
30.0	301.61	267.79	233.97	194.67	159.03	118.81	83.17	46.61	12.80		
45.0	302.22	266.50	232.62	195.07	156.61	119.06	83.34	43.96	11.91		
60.0	300.39	266.50	231.70	193.24	158.44	119.97	82.42	45.79	11.91		
75.0	297.64	268.34	231.70	195.07	156.61	119.06	80.59	46.71	12.82		
90.0	300.39	266.50	231.70	195.07	158.44	119.97	82.42	45.79	11.91		
105.0	302.22	268.34	234.45	195.99	158.44	119.97	82.42	46.71	11.91		
120.0	302.22	268.34	232.62	197.82	161.18	119.97	82.42	48.54	12.82		
135.0	303.14	271.08	232.62	197.82	159.35	121.80	85.17	48.54	12.82		
150.0	304.97	243.61	236.28	197.82	161.18	122.72	86.09	49.45	14.65		
165.0	307.14	274.03	238.17	201.39	163.68	119.54	88.28	49.66	16.55		
180.0	286.98	251.34	217.52	178.22	141.66	104.19	65.80	31.07	4.57		
195.0	287.90	253.17	216.61	178.22	140.75	104.19	65.80	31.99	4.57		
210.0	286.98	251.34	217.52	177.31	141.66	104.19	67.63	31.07	4.57		
225.0	288.48	253.68	217.05	178.59	141.04	104.40	65.94	32.05	4.58		
240.0	287.57	251.85	217.97	180.42	141.95	104.40	65.94	31.14	4.58		
255.0	287.57	251.85	215.22	177.67	141.04	102.57	65.94	56.78	4.58		
270.0	285.74	251.85	215.22	178.59	141.04	102.57	67.77	31.14	4.58		
285.0	285.74	251.85	217.05	178.59	141.04	102.57	65.94	31.14	4.58		
300.0	285.74	250.94	214.30	177.67	139.21	102.57	65.94	31.14	4.58		
315.0	285.74	250.94	214.30	175.84	139.21	100.74	64.11	31.14	4.58		
330.0	283.91	249.10	215.22	175.84	141.04	99.82	64.11	27.47	4.58		
345.0	285.07	250.12	215.18	176.56	137.94	100.23	63.45	27.59	4.60		
360.0	304.35	270.53	235.80	199.24	162.68	122.47	85.00	48.44	12.80		

Light Blue USA-Rayhil INV-9-CCT-120-**-4000K-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	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
15.0	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
30.0	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83
45.0	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
60.0	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83
75.0	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
90.0	1.83	0.00	0.00	1.83	1.83	1.83	1.83	1.83	2.75
105.0	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	2.75
120.0	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
135.0	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83
150.0	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83
165.0	1.84	0.00	0.00	0.00	0.00	0.00	1.84	1.84	1.84
180.0	0.00	1.83	0.00	1.83	1.83	1.83	1.83	1.83	1.83
195.0	1.83	1.83	0.00	1.83	1.83	1.83	1.83	1.83	1.83
210.0	1.83	1.83	1.83	1.83	1.83	0.00	1.83	1.83	1.83
225.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
240.0	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83	1.83
255.0	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83
270.0	1.83	1.83	0.00	1.83	1.83	1.83	1.83	1.83	2.75
285.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	2.75	2.75
300.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	2.75	2.75
315.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	2.75
330.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	2.75
345.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
360.0	1.83	0.00	0.00	0.00	0.00	1.83	1.83	1.83	1.83

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.83	2.74	2.74	4.57	4.57	4.57	4.57	4.57	2.74
15.0	1.83	2.74	2.74	2.74	4.57	4.57	4.57	4.57	2.74
30.0	1.83	2.74	2.74	2.74	4.57	4.57	4.57	2.74	2.74
45.0	1.83	2.75	2.75	2.75	4.58	2.75	2.75	4.58	2.75
60.0	1.83	2.75	2.75	2.75	4.58	4.58	2.75	2.75	2.75
75.0	1.83	2.75	2.75	2.75	4.58	4.58	4.58	2.75	2.75
90.0	2.75	2.75	2.75	4.58	4.58	4.58	4.58	2.75	2.75
105.0	2.75	2.75	4.58	4.58	4.58	5.49	4.58	2.75	2.75
120.0	2.75	2.75	4.58	4.58	5.49	5.49	4.58	2.75	2.75
135.0	1.83	2.75	2.75	4.58	4.58	5.49	4.58	4.58	2.75
150.0	1.83	2.75	2.75	4.58	4.58	4.58	4.58	4.58	2.75
165.0	1.84	1.84	2.76	2.76	2.76	4.60	4.60	4.60	2.76
180.0	1.83	1.83	1.83	1.83	2.74	2.74	2.74	4.57	2.74
195.0	1.83	1.83	1.83	1.83	2.74	2.74	2.74	2.74	2.74
210.0	1.83	1.83	1.83	1.83	2.74	2.74	2.74	2.74	2.74
225.0	0.00	1.83	1.83	1.83	2.75	2.75	2.75	2.75	2.75
240.0	1.83	2.75	2.75	2.75	2.75	1.83	2.75	2.75	2.75
255.0	1.83	2.75	2.75	2.75	2.75	2.75	1.83	1.83	2.75
270.0	2.75	2.75	2.75	2.75	2.75	2.75	1.83	1.83	2.75
285.0	2.75	2.75	4.58	4.58	4.58	2.75	1.83	1.83	2.75
300.0	2.75	2.75	4.58	4.58	4.58	4.58	2.75	1.83	2.75
315.0	2.75	2.75	2.75	2.75	4.58	2.75	4.58	1.83	2.75
330.0	2.75	2.75	2.75	2.75	2.75	4.58	4.58	2.75	2.75
345.0	1.84	1.84	2.76	2.76	2.76	2.76	4.60	2.76	2.76
360.0	1.83	2.74	2.74	4.57	4.57	4.57	4.57	4.57	2.74

Intensity data(cd)

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