
Light Blue USA-Rayhil

Client:

LumCAT: INV-20-CCT-UNV-**-5000K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.265

Lamp flux(lm): 2299.3

Power (W): 31.590

Number of Lamps: 1

PF: 0.993

Length(mm): -480

Width(mm): -480

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2299.29, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 72.79

Central intensity(cd): 786.940, Maximum intensity(cd): 786.940

Angle of maximum intensity: C=0.0 γ =0.0

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

[C90/270]Total=115.4

Field angle(10%Imax): [C0/180]Total=162.8

[C90/270]Total=162.8

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(%): 0.57%

Down flux rate of lamp(%): 99.43%

Up flux rate of LUM(%): 0.57%

Down flux rate of LUM(%): 99.43%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 77.665%

Light Blue USA-Rayhil INV-20-CCT-UNV-**-5000K

Zonal flux distribution table

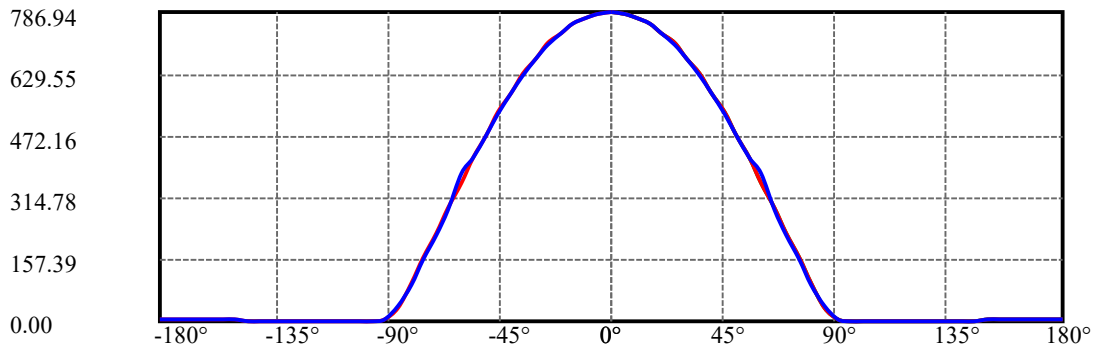
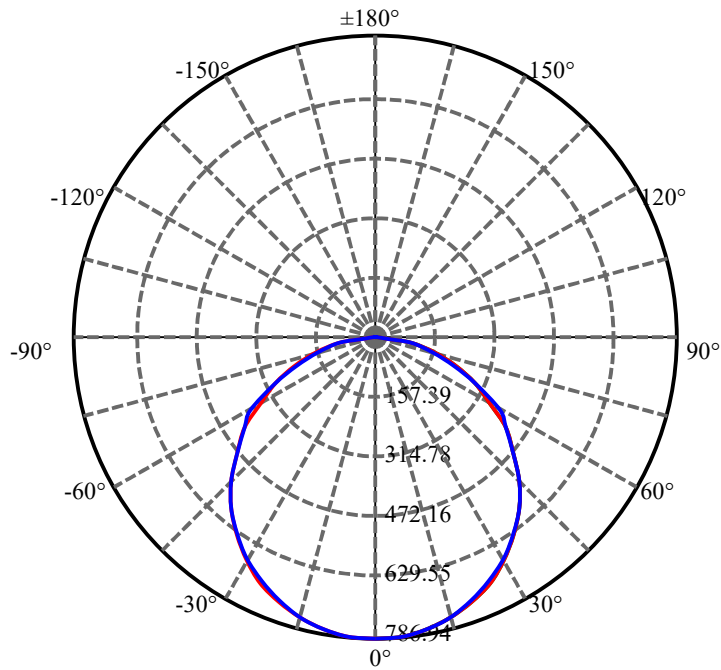
Appendix Page: 2 Total:12

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	786.940	0.000	0	0.00%	0.00%
5.0	783.697	18.777	18.777	0.82%	0.82%
10.0	773.929	55.721	74.498	2.42%	3.24%
15.0	757.028	90.815	165.313	3.95%	7.19%
20.0	733.903	122.874	288.187	5.34%	12.53%
25.0	704.753	150.888	439.075	6.56%	19.10%
30.0	669.883	173.961	613.037	7.57%	26.66%
35.0	629.135	191.290	804.326	8.32%	34.98%
40.0	584.082	202.416	1006.742	8.80%	43.78%
45.0	530.357	206.347	1213.089	8.97%	52.76%
50.0	473.395	202.823	1415.912	8.82%	61.58%
55.0	413.228	192.781	1608.694	8.38%	69.96%
60.0	352.723	177.047	1785.741	7.70%	77.66%
65.0	287.131	155.550	1941.291	6.77%	84.43%
70.0	222.119	128.946	2070.236	5.61%	90.04%
75.0	158.291	99.433	2169.67	4.32%	94.36%
80.0	97.250	68.376	2238.045	2.97%	97.34%
85.0	37.121	36.512	2274.557	1.59%	98.92%
90.0	5.226	11.595	2286.152	0.50%	99.43%
95.0	1.374	1.807	2287.959	0.08%	99.51%
100.0	1.374	0.746	2288.706	0.03%	99.54%
105.0	1.374	0.735	2289.441	0.03%	99.57%
110.0	1.450	0.738	2290.179	0.03%	99.60%
115.0	1.526	0.753	2290.932	0.03%	99.64%
120.0	1.374	0.705	2291.637	0.03%	99.67%
125.0	1.564	0.679	2292.316	0.03%	99.70%
130.0	1.831	0.738	2293.054	0.03%	99.73%
135.0	1.831	0.740	2293.794	0.03%	99.76%
140.0	1.908	0.692	2294.487	0.03%	99.79%
145.0	2.289	0.700	2295.187	0.03%	99.82%
150.0	3.205	0.809	2295.996	0.04%	99.86%
155.0	3.433	0.840	2296.836	0.04%	99.89%
160.0	4.083	0.788	2297.624	0.03%	99.93%
165.0	4.121	0.676	2298.3	0.03%	99.96%
170.0	4.807	0.530	2298.83	0.02%	99.98%
175.0	5.341	0.363	2299.193	0.02%	100.00%
180.0	2.747	0.097	2299.29	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	613.04	26.66%	26.66%
0-40	1006.74	43.78%	43.78%
0-60	1785.74	77.66%	77.66%
0-90	2286.15	99.43%	99.43%
0-120	2291.64	99.67%	99.67%
0-180	2299.29	100.00%	100.00%
60-90	500.41	21.76%	21.76%
90-120	5.48	0.24%	0.24%
90-130	6.90	0.30%	0.30%
90-150	9.84	0.43%	0.43%
90-180	13.04	0.57%	0.57%
0-61.73	1839.43	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	74.50
10-20	213.69
20-30	324.85
30-40	393.71
40-50	409.17
50-60	369.83
60-70	284.50
70-80	167.81
80-90	48.11
90-100	2.55
100-110	1.47
110-120	1.46
120-130	1.42
130-140	1.43
140-150	1.51
150-160	1.63
160-170	1.21
170-180	0.36



C0(Max): —————

C0/C180: —————

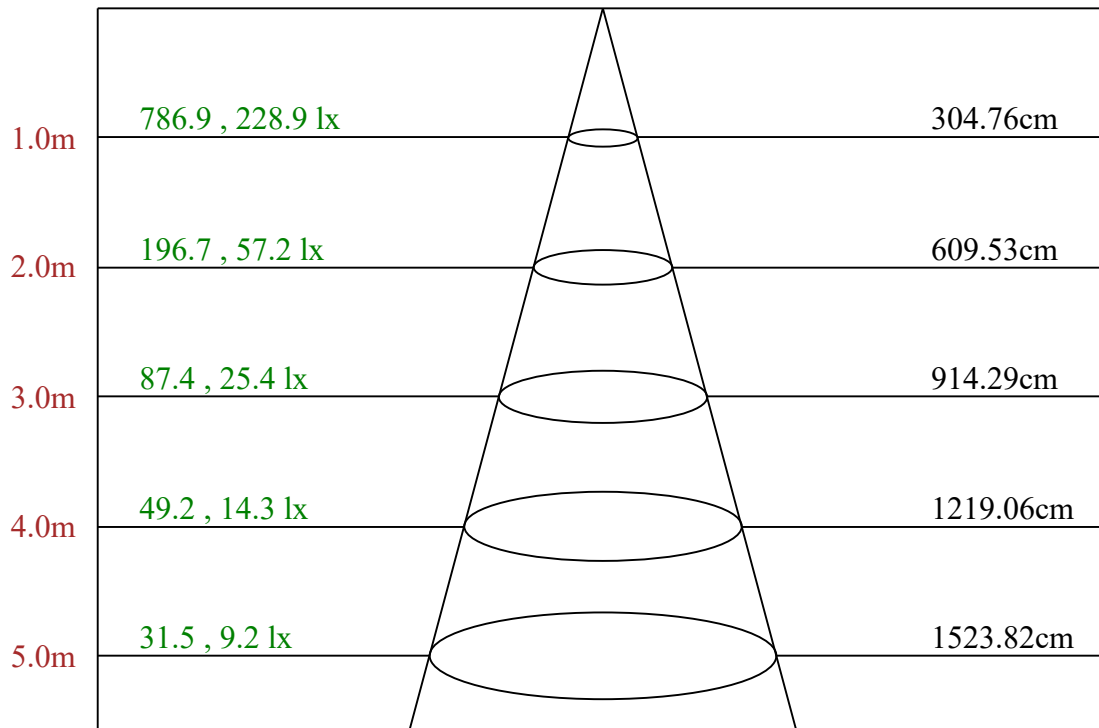
C90/C270: —————

Field angle(10%Imax):C0/180Left:81.4 Right:81.4

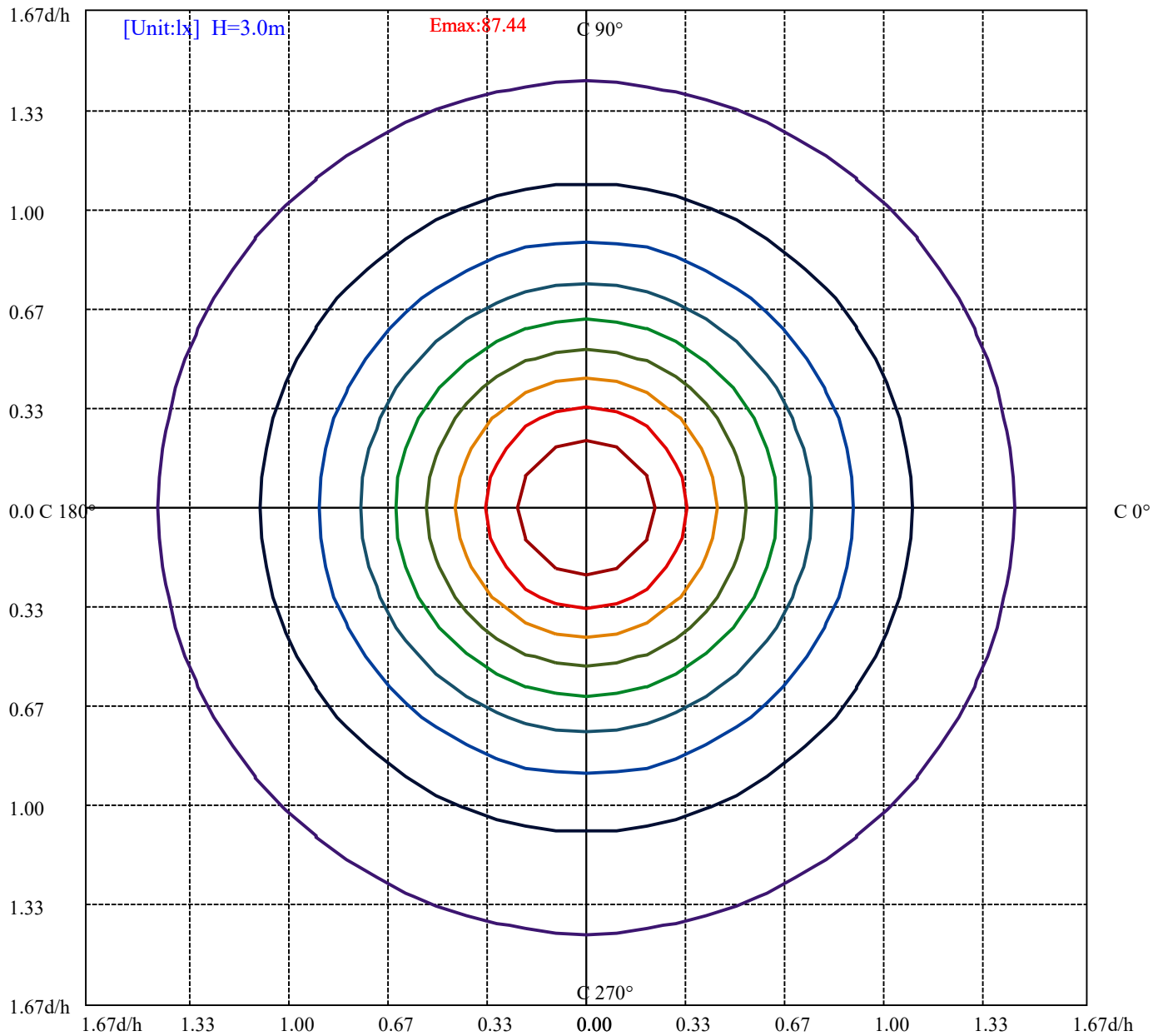
:C90/270Left:81.4 Right:81.4

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

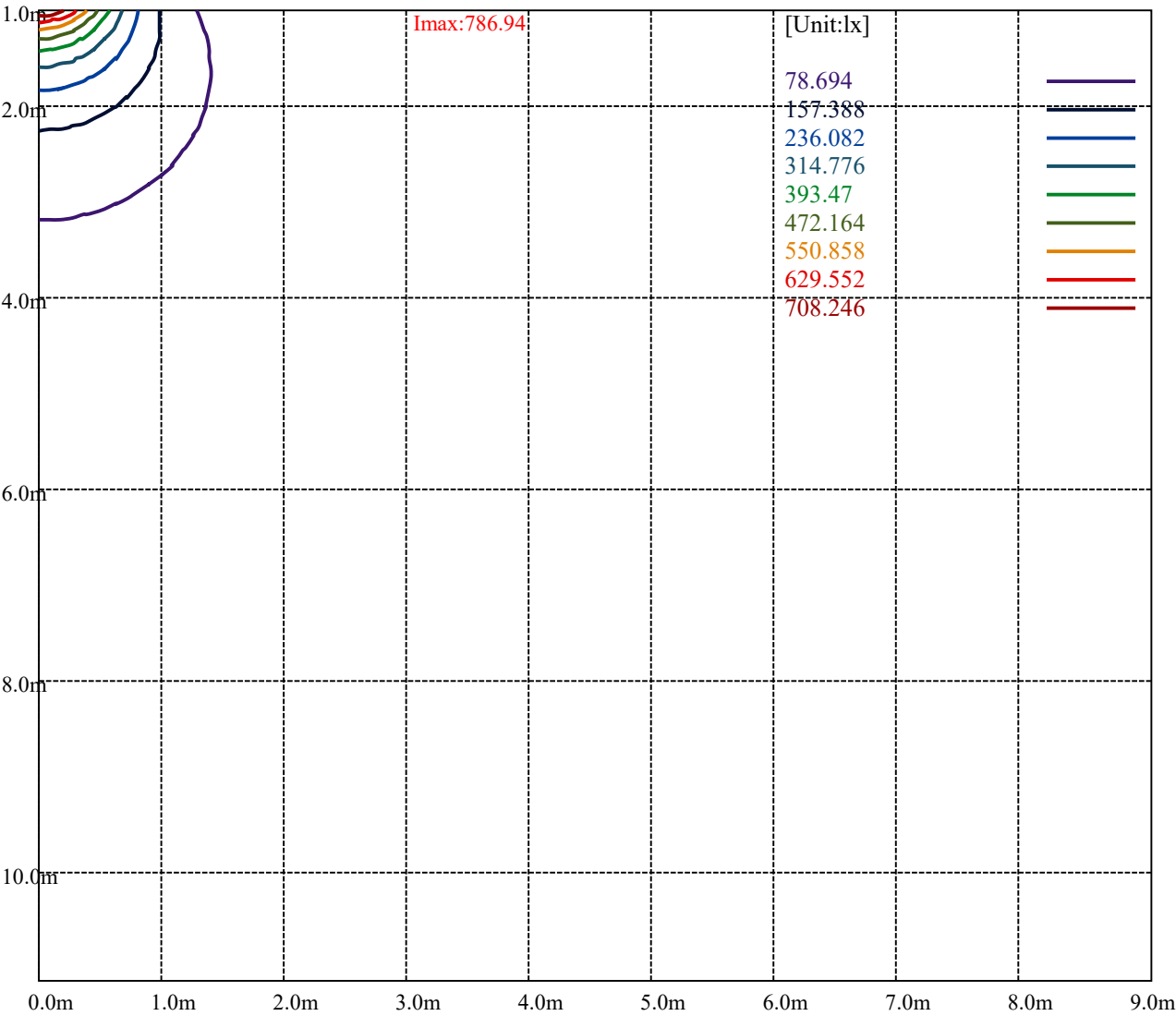
:C90/270Left:57.7 Right:57.7



Max , Ave Beam angle of C0 plane 113.45



(10%Emax) 8.743778	—
(20%Emax) 17.48756	—
(30%Emax) 26.23133	—
(40%Emax) 34.97511	—
(50%Emax) 43.71889	—
(60%Emax) 52.46267	—
(70%Emax) 61.20644	—
(80%Emax) 69.95023	—
(90%Emax) 78.694	—



Luminance Table

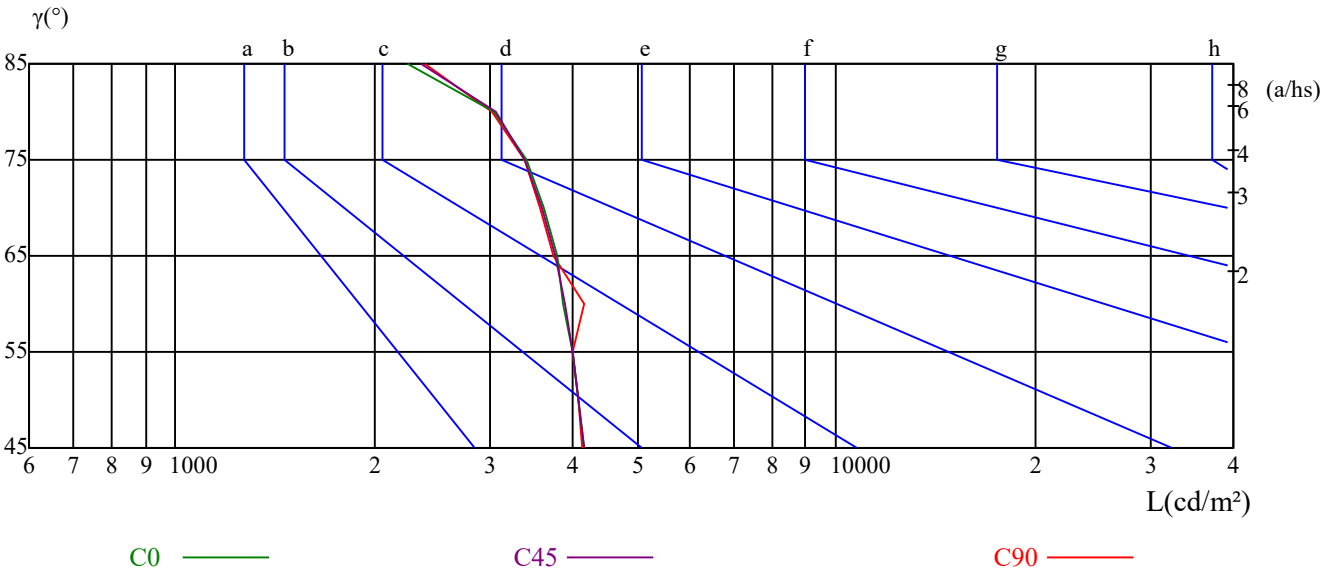
γ	45	50	55	60	65	70	75	80	85
C0	4151	4076	3992	3868	3777	3614	3393	3040	2239
C45	4150	4076	3981	3883	3761	3580	3386	3056	2354
C90	4136	4077	3990	4156	3730	3571	3378	3021	2384

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3777	3730	3761	3393	3378	3386	2239	2384	2354

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	0.99
1	1.04	0.99	0.95	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	0.77	0.88	0.82	0.76	0.84	0.79	0.74	0.81	0.77	0.73	0.78	0.74	0.71	0.69
3	0.79	0.71	0.64	0.77	0.70	0.63	0.74	0.68	0.62	0.71	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.68	0.60	0.54	0.66	0.59	0.53	0.63	0.57	0.52	0.61	0.56	0.51	0.49
5	0.62	0.53	0.47	0.61	0.53	0.46	0.59	0.51	0.46	0.57	0.50	0.45	0.55	0.49	0.45	0.42
6	0.56	0.47	0.41	0.55	0.47	0.40	0.53	0.46	0.40	0.51	0.45	0.39	0.50	0.44	0.39	0.37
7	0.51	0.42	0.36	0.50	0.42	0.36	0.48	0.41	0.35	0.47	0.40	0.35	0.45	0.39	0.35	0.33
8	0.46	0.38	0.32	0.46	0.37	0.32	0.44	0.37	0.31	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.42	0.34	0.29	0.42	0.34	0.29	0.41	0.33	0.28	0.40	0.33	0.28	0.38	0.32	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	0.25	0.24

Light Blue USA-Rayhil INV-20-CCT-UNV-**-5000K

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	786.94	786.94	779.70	765.21	745.28	719.93	685.52	650.20	604.92		
15.0	786.94	786.94	780.58	766.95	747.87	721.51	689.71	651.54	607.92		
30.0	786.94	786.94	780.56	767.81	747.78	722.27	693.13	654.87	611.15		
45.0	786.94	787.85	783.28	769.57	751.29	725.70	694.63	657.15	614.20		
60.0	786.94	788.77	783.28	770.45	751.21	725.56	696.25	657.77	616.54		
75.0	786.94	787.86	783.28	771.37	751.21	726.48	693.50	657.77	614.71		
90.0	786.94	788.77	782.35	770.43	751.17	724.57	692.47	654.87	612.68		
105.0	786.94	788.78	782.34	771.31	751.09	725.35	692.25	654.56	613.19		
120.0	786.94	787.86	781.42	768.55	750.17	721.67	690.41	651.80	608.59		
135.0	786.94	786.94	780.50	767.63	746.49	719.83	686.73	649.96	603.08		
150.0	786.94	786.94	780.49	764.82	726.12	717.83	685.58	647.80	602.65		
165.0	786.94	786.94	778.66	763.93	741.84	715.15	681.09	643.36	593.66		
180.0	786.94	781.51	769.73	748.91	725.36	694.57	656.54	613.98	563.26		
195.0	786.94	780.58	767.86	747.87	722.42	691.53	651.54	607.92	560.67		
210.0	786.94	778.74	765.08	745.95	720.45	687.66	650.32	605.69	558.33		
225.0	786.94	779.63	765.92	744.90	718.39	686.40	648.01	603.23	553.87		
240.0	786.94	779.61	766.79	742.97	717.32	686.17	647.69	601.89	550.58		
255.0	786.94	778.70	764.04	742.05	714.57	681.59	644.94	598.22	549.67		
270.0	786.94	778.69	764.01	742.92	713.57	682.38	642.94	598.00	549.39		
285.0	786.94	779.59	764.88	743.73	716.15	682.14	644.45	603.08	589.29		
300.0	786.94	778.67	766.72	745.57	738.22	683.06	647.20	601.24	553.43		
315.0	786.94	778.67	764.88	746.49	717.07	687.65	649.04	604.91	556.19		
330.0	786.94	780.49	768.51	748.24	722.44	690.19	653.33	612.78	563.02		
345.0	786.94	782.34	769.45	751.04	726.19	694.90	659.93	616.67	566.97		
360.0	786.94	786.94	779.70	765.21	745.28	719.93	685.52	650.20	604.92		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	554.21	498.06	438.30	375.81	316.04	250.84	185.64	121.35	58.86		
15.0	559.76	506.15	446.18	384.38	319.86	258.07	189.92	128.13	65.43		
30.0	561.97	508.23	449.03	387.09	326.07	261.40	195.82	131.16	71.04		
45.0	566.67	509.09	452.42	391.19	328.12	262.31	200.16	136.18	73.12		
60.0	567.07	512.11	452.56	390.26	329.80	264.76	200.63	136.50	76.04		
75.0	567.07	510.27	455.31	393.93	329.80	264.76	198.80	136.50	74.21		
90.0	564.07	510.87	453.09	394.39	326.52	263.23	198.11	133.91	70.62		
105.0	561.71	509.30	449.55	387.95	323.60	258.33	193.06	132.38	69.87		
120.0	558.95	503.79	447.71	382.44	321.76	256.49	191.22	126.87	64.35		
135.0	556.19	501.95	443.11	380.60	315.33	250.06	184.78	124.11	61.59		
150.0	551.04	494.83	434.94	376.88	308.69	246.96	181.53	117.03	55.29		
165.0	544.88	488.73	430.75	368.16	302.81	238.38	177.64	113.21	51.54		
180.0	508.02	450.07	390.30	324.19	261.71	196.51	132.21	69.73	11.77		
195.0	506.15	447.08	384.38	320.77	255.35	190.83	129.04	63.61	9.09		
210.0	500.03	440.83	378.90	317.87	253.21	187.63	123.87	60.11	5.46		
225.0	498.12	438.71	375.65	312.58	250.43	182.80	121.56	58.49	4.57		
240.0	494.70	434.24	371.94	310.56	246.43	182.31	117.26	54.97	4.58		
255.0	493.78	435.15	372.86	308.73	247.35	178.64	117.26	99.86	4.58		
270.0	494.36	437.49	375.13	357.70	243.97	178.85	118.32	55.95	4.59		
285.0	497.35	434.84	375.08	311.65	247.30	182.95	118.59	57.00	4.60		
300.0	498.27	438.52	376.92	313.49	252.81	184.78	124.11	61.59	7.35		
315.0	502.87	446.79	381.52	320.84	256.49	191.22	127.79	65.27	9.19		
330.0	508.65	450.60	389.78	325.28	260.78	195.35	131.77	72.80	14.74		
345.0	512.66	453.76	392.09	328.58	266.92	203.41	139.90	77.31	18.41		
360.0	554.21	498.06	438.30	375.81	316.04	250.84	185.64	121.35	58.86		

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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	5.43	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.81		
15.0	7.27	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.82		
30.0	9.11	0.91	0.91	0.91	0.91	3.64	0.91	1.82	1.82		
45.0	12.80	0.91	0.91	0.91	0.91	0.91	0.91	1.83	1.83		
60.0	12.83	0.92	0.92	0.92	0.92	0.92	0.92	1.83	1.83		
75.0	13.74	0.92	0.92	0.92	0.92	1.83	0.92	0.92	1.83		
90.0	11.92	0.92	0.92	0.92	0.92	0.92	0.92	1.83	1.83		
105.0	11.03	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84		
120.0	7.35	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84		
135.0	5.52	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84		
150.0	3.69	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84		
165.0	2.76	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84		
180.0	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81		
195.0	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82		
210.0	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82		
225.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83		
240.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83		
255.0	1.83	1.83	1.83	1.83	2.75	1.83	1.83	1.83	1.83		
270.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83		
285.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
300.0	1.84	1.84	1.84	1.84	2.76	1.84	1.84	1.84	1.84		
315.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
330.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
345.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
360.0	5.43	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.81		

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	1.81	1.81	2.72	3.62	4.53	4.53	4.53	5.43	5.43		
15.0	1.82	1.82	2.73	3.63	4.54	4.54	4.54	4.54	5.45		
30.0	1.82	2.73	2.73	3.64	4.55	4.55	4.55	4.55	5.46		
45.0	1.83	1.83	2.74	3.66	4.57	4.57	4.57	5.48	5.48		
60.0	1.83	1.83	2.75	3.66	3.66	4.58	4.58	4.58	5.50		
75.0	1.83	1.83	2.75	3.66	3.66	4.58	4.58	4.58	5.50		
90.0	1.83	1.83	2.75	3.67	3.67	4.59	4.59	5.50	4.59		
105.0	1.84	2.76	2.76	3.68	3.68	4.60	4.60	5.52	5.52		
120.0	1.84	1.84	2.76	3.68	4.60	4.60	4.60	5.52	5.52		
135.0	1.84	1.84	2.76	3.68	3.68	4.60	4.60	4.60	5.52		
150.0	1.84	1.84	2.76	3.69	3.69	4.61	4.61	4.61	5.53		
165.0	1.84	1.84	2.76	3.68	4.60	4.60	4.60	5.52	5.52		
180.0	1.81	1.81	1.81	2.72	2.72	3.62	3.62	4.53	5.43		
195.0	1.82	1.82	1.82	2.73	2.73	2.73	3.63	4.54	4.54		
210.0	1.82	1.82	1.82	2.73	2.73	3.64	3.64	4.55	5.46		
225.0	1.83	1.83	1.83	2.74	2.74	3.66	3.66	4.57	5.48		
240.0	1.83	1.83	1.83	2.75	2.75	3.66	3.66	4.58	5.50		
255.0	1.83	1.83	1.83	2.75	2.75	3.66	3.66	4.58	5.50		
270.0	1.83	1.83	1.83	2.75	2.75	3.67	3.67	4.59	5.50		
285.0	1.84	1.84	1.84	2.76	2.76	3.68	3.68	4.60	5.52		
300.0	1.84	1.84	1.84	2.76	2.76	3.68	3.68	4.60	4.60		
315.0	1.84	1.84	1.84	2.76	2.76	3.68	3.68	4.60	4.60		
330.0	1.84	1.84	1.84	2.76	2.76	3.69	3.69	4.61	5.53		
345.0	1.84	1.84	1.84	2.76	2.76	3.68	3.68	4.60	5.52		
360.0	1.81	1.81	2.72	3.62	4.53	4.53	4.53	5.43	5.43		

Intensity data(cd)

C/γ(°)	180.0
0.0	5.43
15.0	5.45
30.0	5.46
45.0	5.48
60.0	5.50
75.0	5.50
90.0	5.50
105.0	5.52
120.0	5.52
135.0	5.52
150.0	5.53
165.0	5.52
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	5.43