
Light Blue USA-Rayhil

Client:

LumCAT: INV-20-CCT-UNV-**-3000K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.265

Lamp flux(lm): 2581.6

Power (W): 31.560

Number of Lamps: 1

PF: 0.993

Length(mm): -480

Width(mm): -480

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2581.61, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 81.80

Central intensity(cd): 884.230, Maximum intensity(cd): 884.230

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(%): 0.54%

Down flux rate of lamp(%): 99.46%

Up flux rate of LUM(%): 0.54%

Down flux rate of LUM(%): 99.46%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 77.698%

Light Blue USA-Rayhil INV-20-CCT-UNV-**-3000K-F

Zonal flux distribution table

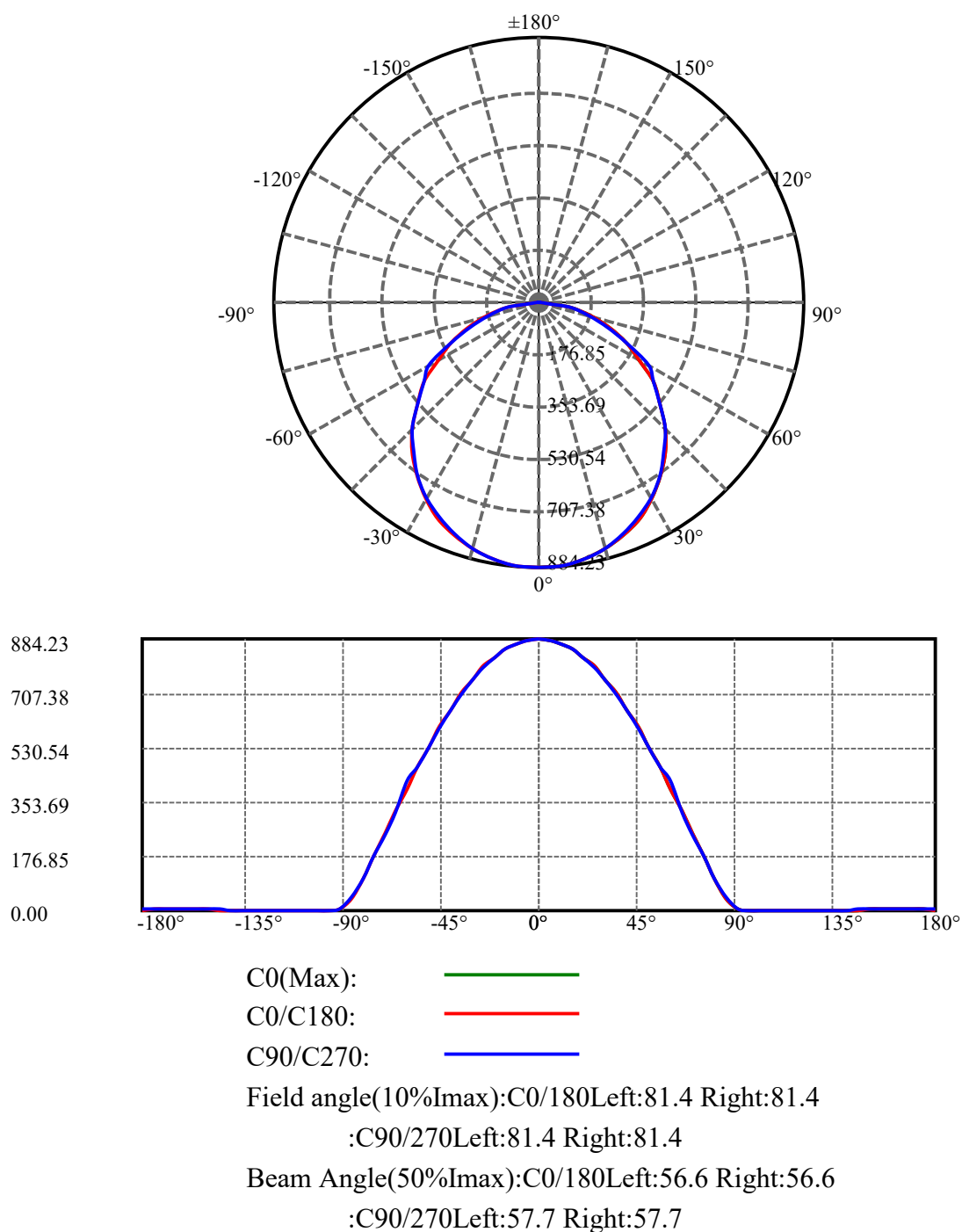
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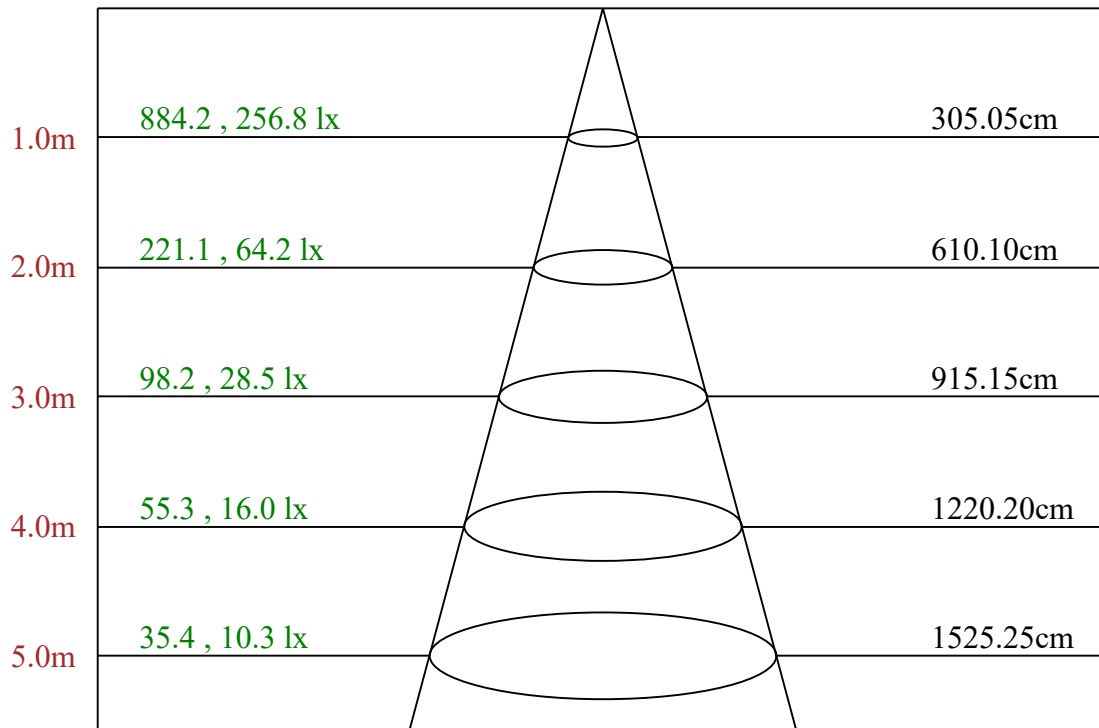
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	884.230	0.000	0	0.00%	0.00%
5.0	880.262	21.094	21.094	0.82%	0.82%
10.0	869.159	62.582	83.676	2.42%	3.24%
15.0	850.312	101.998	185.674	3.95%	7.19%
20.0	824.288	138.011	323.685	5.35%	12.54%
25.0	791.665	169.484	493.168	6.57%	19.10%
30.0	752.445	195.408	688.577	7.57%	26.67%
35.0	706.510	214.841	903.418	8.32%	34.99%
40.0	656.076	227.337	1130.755	8.81%	43.80%
45.0	595.636	231.764	1362.52	8.98%	52.78%
50.0	531.846	227.824	1590.344	8.82%	61.60%
55.0	464.353	216.607	1806.951	8.39%	69.99%
60.0	396.141	198.901	2005.851	7.70%	77.70%
65.0	322.460	174.693	2180.544	6.77%	84.46%
70.0	249.551	144.837	2325.381	5.61%	90.07%
75.0	177.673	111.669	2437.05	4.33%	94.40%
80.0	109.155	76.747	2513.797	2.97%	97.37%
85.0	41.661	40.980	2554.778	1.59%	98.96%
90.0	5.874	13.016	2567.793	0.50%	99.46%
95.0	1.374	1.984	2569.778	0.08%	99.54%
100.0	1.374	0.746	2570.524	0.03%	99.57%
105.0	1.374	0.735	2571.259	0.03%	99.60%
110.0	1.450	0.738	2571.997	0.03%	99.63%
115.0	1.487	0.744	2572.741	0.03%	99.66%
120.0	1.374	0.695	2573.437	0.03%	99.68%
125.0	1.374	0.635	2574.072	0.02%	99.71%
130.0	1.641	0.655	2574.727	0.03%	99.73%
135.0	1.831	0.702	2575.429	0.03%	99.76%
140.0	1.831	0.678	2576.107	0.03%	99.79%
145.0	2.747	0.764	2576.871	0.03%	99.82%
150.0	3.434	0.910	2577.781	0.04%	99.85%
155.0	4.121	0.956	2578.737	0.04%	99.89%
160.0	4.998	0.956	2579.693	0.04%	99.93%
165.0	5.036	0.827	2580.52	0.03%	99.96%
170.0	5.189	0.607	2581.127	0.02%	99.98%
175.0	5.494	0.382	2581.509	0.01%	100.00%
180.0	2.976	0.101	2581.61	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	688.58	26.67%	26.67%
0-40	1130.76	43.80%	43.80%
0-60	2005.85	77.70%	77.70%
0-90	2567.79	99.46%	99.46%
0-120	2573.44	99.68%	99.68%
0-180	2581.61	100.00%	100.00%
60-90	561.94	21.77%	21.77%
90-120	5.64	0.22%	0.22%
90-130	6.93	0.27%	0.27%
90-150	9.99	0.39%	0.39%
90-180	13.72	0.53%	0.53%
0-61.70	2065.29	80.00%	80.00%

ZONAL LUMEN SUMMARY

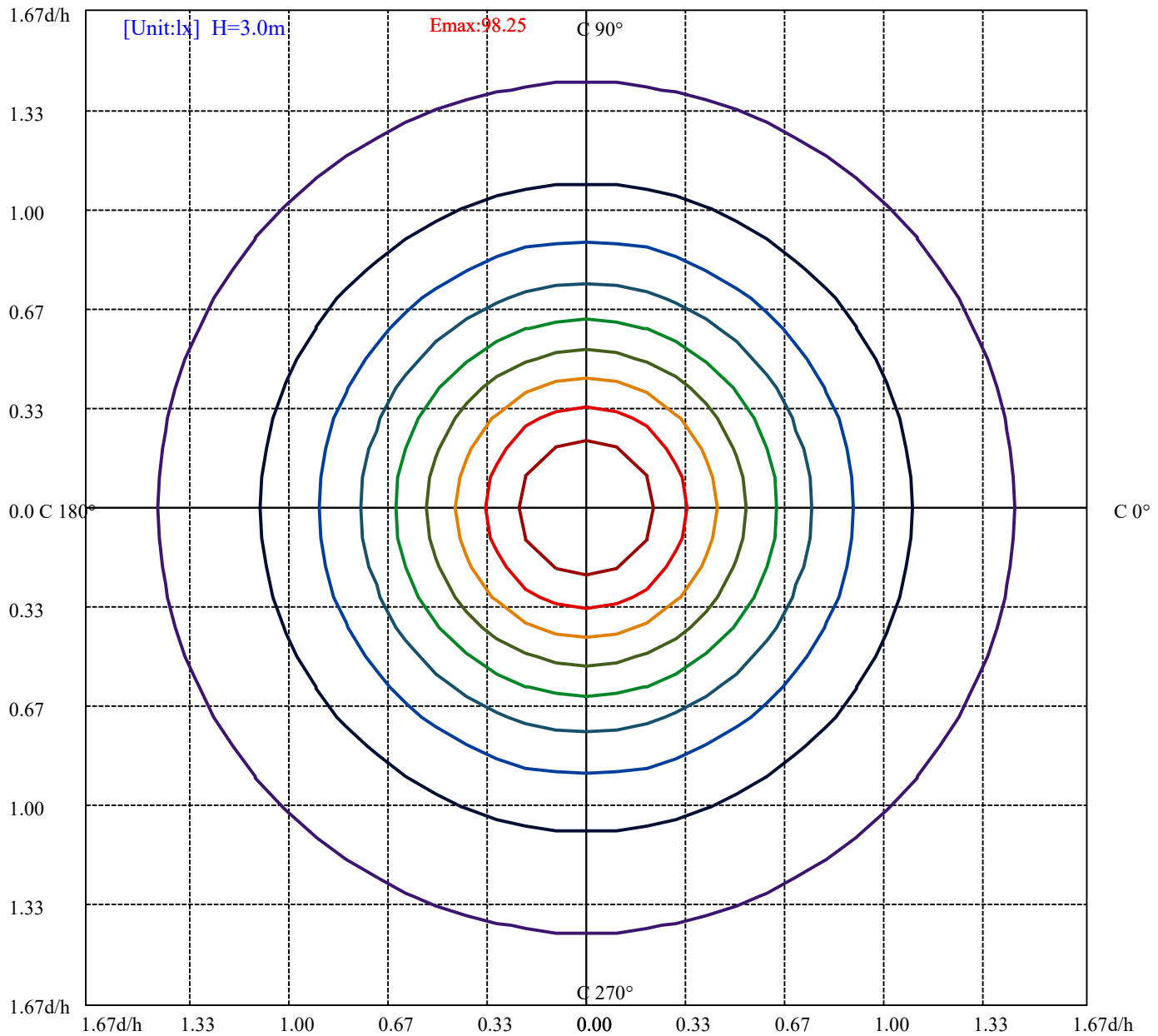
0-10	83.68
10-20	240.01
20-30	364.89
30-40	442.18
40-50	459.59
50-60	415.51
60-70	319.53
70-80	188.42
80-90	54.00
90-100	2.73
100-110	1.47
110-120	1.44
120-130	1.29
130-140	1.38
140-150	1.67
150-160	1.91
160-170	1.43
170-180	0.38



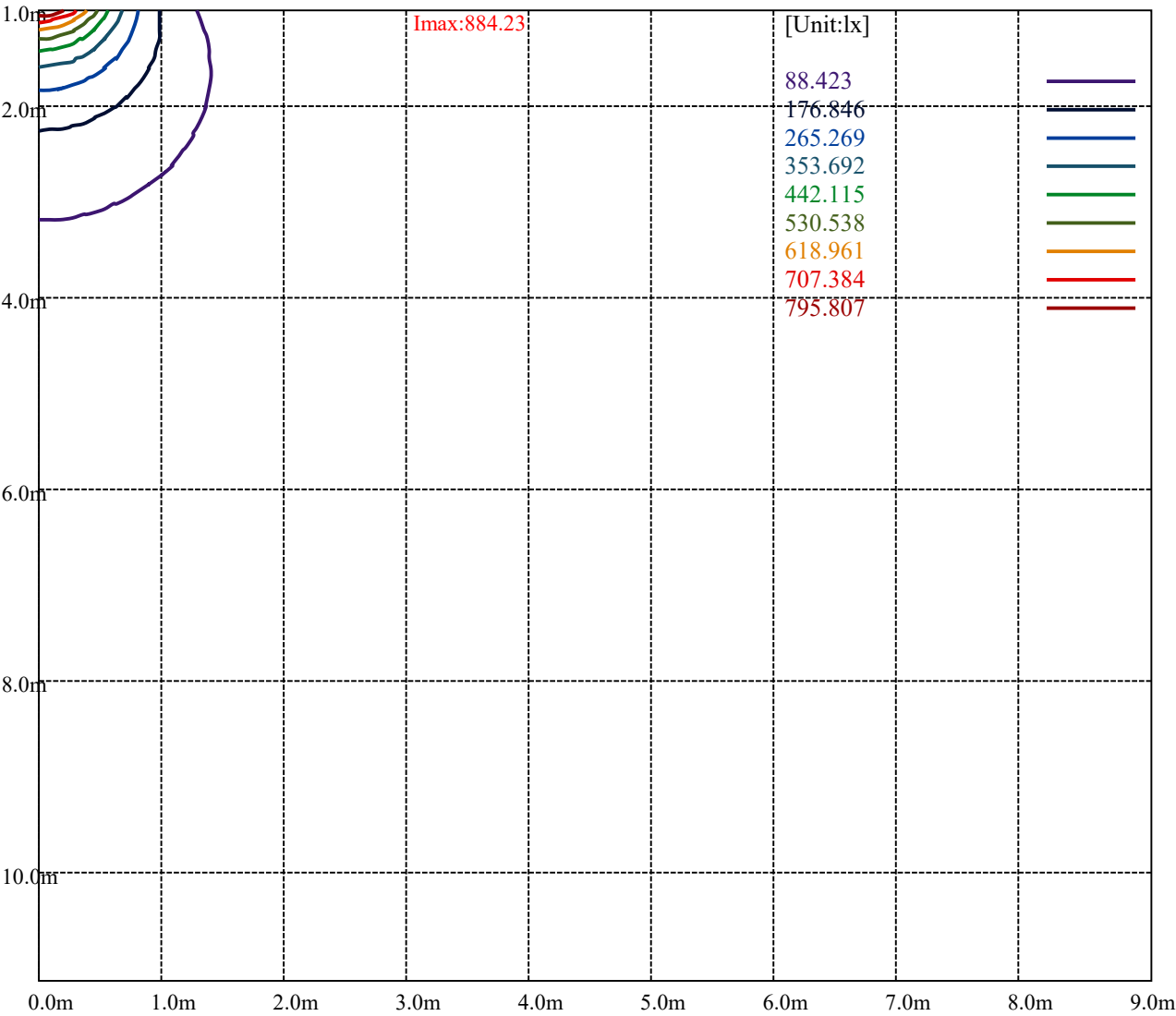


Max , Ave

Beam angle of C0 plane 113.50



(10%Emax)	9.824778	
(20%Emax)	19.64956	
(30%Emax)	29.47433	
(40%Emax)	39.29911	
(50%Emax)	49.12389	
(60%Emax)	58.94867	
(70%Emax)	68.77345	
(80%Emax)	78.59822	
(90%Emax)	88.423	



Light Blue USA-Rayhil INV-20-CCT-UNV-**-3000K-F

Luminance Limiting Curve(no luminous side)

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Luminance Table

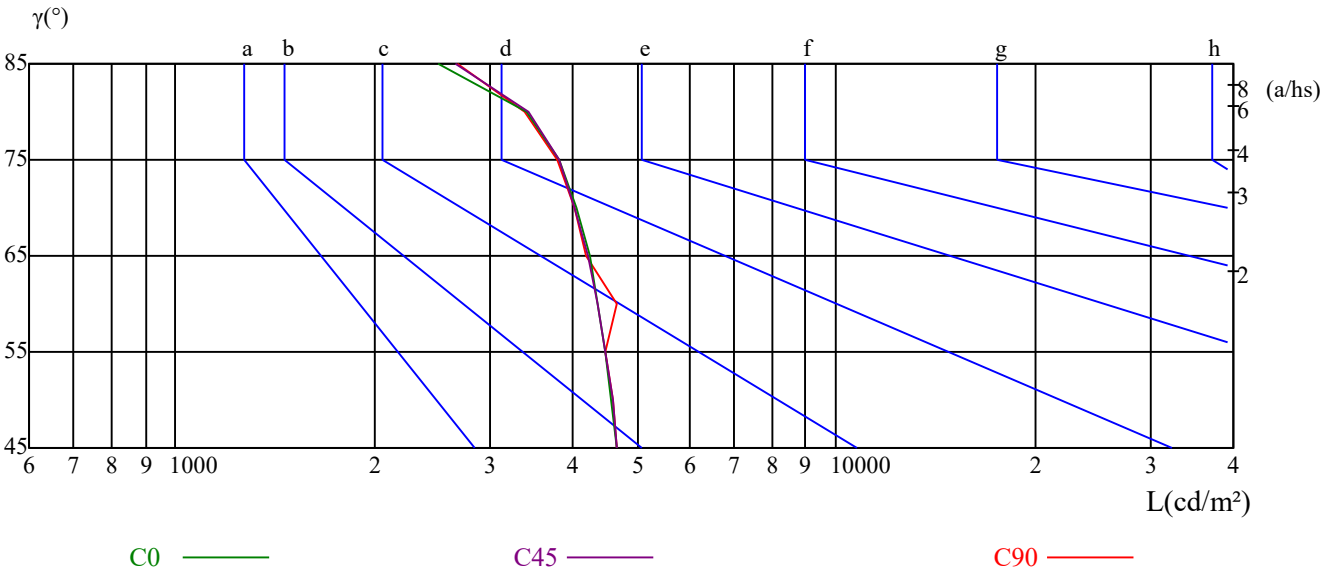
γ	45	50	55	60	65	70	75	80	85
C0	4661	4575	4486	4346	4243	4058	3807	3399	2496
C45	4661	4582	4478	4359	4225	4027	3804	3422	2660
C90	4645	4582	4481	4663	4192	4009	3780	3372	2675

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4243	4192	4225	3807	3780	3804	2496	2675	2660

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	1.02	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	0.40	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-**-3000K-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	884.23	883.32	875.18	858.89	836.26	808.21	769.29	729.47	679.69		
15.0	884.23	884.23	876.96	861.51	839.70	811.53	775.18	731.56	682.48		
30.0	884.23	883.32	876.03	862.37	839.61	810.47	777.69	735.80	686.62		
45.0	884.23	885.14	879.66	865.03	844.91	815.65	779.99	738.84	690.38		
60.0	884.23	885.15	878.74	865.92	843.95	813.75	780.80	737.77	692.01		
75.0	884.23	885.15	879.65	866.82	844.83	815.51	779.77	738.54	690.89		
90.0	884.23	886.06	879.64	864.97	843.87	814.52	776.91	735.64	687.94		
105.0	884.23	886.07	878.71	865.85	843.79	815.29	777.61	734.41	689.37		
120.0	884.23	885.15	878.71	863.07	843.74	811.54	776.58	733.33	684.56		
135.0	884.23	884.23	877.79	862.15	839.14	809.70	771.98	729.65	678.12		
150.0	884.23	883.31	876.86	858.44	814.23	805.94	769.10	727.65	676.07		
165.0	884.23	883.31	874.11	857.55	832.70	802.34	765.53	723.21	666.16		
180.0	884.23	877.89	864.32	840.79	813.64	780.15	737.61	688.74	631.72		
195.0	884.23	876.96	862.42	839.70	811.53	776.09	731.56	682.48	630.68		
210.0	884.23	874.21	858.73	837.79	808.65	772.22	730.33	679.34	626.52		
225.0	884.23	876.91	860.46	837.60	806.51	771.76	728.78	676.66	621.80		
240.0	884.23	874.16	860.43	834.80	805.51	769.81	726.79	675.53	618.78		
255.0	884.23	874.15	857.66	833.83	802.68	766.03	724.79	671.65	617.59		
270.0	884.23	875.06	857.63	834.70	802.59	766.82	722.79	672.34	616.39		
285.0	884.23	875.04	859.41	834.60	804.26	766.58	723.38	677.42	661.79		
300.0	884.23	875.95	861.23	838.22	829.02	768.30	727.81	675.36	622.00		
315.0	884.23	875.95	860.31	839.14	806.02	772.90	729.65	679.96	625.68		
330.0	884.23	876.86	862.12	840.02	810.54	774.62	734.09	688.96	631.86		
345.0	884.23	878.71	863.07	843.74	815.22	780.26	740.69	691.93	636.72		
360.0	884.23	883.32	875.18	858.89	836.26	808.21	769.29	729.47	679.69		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	622.67	559.32	492.34	422.66	354.78	281.47	208.16	135.76	66.07		
15.0	628.87	567.98	501.64	431.66	359.87	289.90	212.65	143.59	72.70		
30.0	631.98	570.06	504.49	435.29	366.08	293.23	219.46	147.52	80.14		
45.0	636.43	572.42	509.32	438.91	368.51	295.35	224.94	152.71	82.30		
60.0	636.17	574.84	508.94	438.45	369.80	297.49	225.18	152.86	86.04		
75.0	637.74	573.60	511.30	441.66	370.19	296.88	223.58	153.94	82.47		
90.0	632.90	574.20	508.16	442.11	366.90	296.27	221.97	149.51	78.88		
105.0	629.62	571.72	505.54	435.68	363.07	290.45	216.92	148.90	78.13		
120.0	628.44	566.79	503.30	429.69	360.68	288.00	215.31	142.62	72.69		
135.0	624.76	564.03	497.78	426.93	354.24	281.55	207.95	138.94	69.93		
150.0	618.96	556.33	488.17	423.69	346.32	277.24	204.48	131.71	61.71		
165.0	611.88	548.39	483.98	413.13	340.44	268.67	198.74	127.90	58.89		
180.0	570.18	505.02	438.95	363.83	294.14	220.83	148.43	77.83	12.67		
195.0	567.98	501.64	431.66	359.87	287.17	213.56	145.40	70.88	10.00		
210.0	561.86	495.39	425.27	356.97	284.12	211.27	138.42	67.39	6.37		
225.0	559.62	492.86	422.46	351.13	281.64	204.83	136.25	65.84	5.49		
240.0	554.70	487.88	417.40	349.66	276.44	204.12	131.81	61.33	4.58		
255.0	555.28	489.30	418.75	347.28	278.56	201.59	131.95	111.79	5.50		
270.0	555.85	491.65	421.94	401.76	274.26	199.96	132.08	62.37	5.50		
285.0	557.93	488.99	420.97	349.28	277.59	204.97	133.28	64.34	5.51		
300.0	559.43	493.18	424.17	352.40	283.40	207.95	138.94	69.93	7.36		
315.0	564.95	502.38	429.69	360.68	288.00	215.31	143.54	72.69	10.12		
330.0	571.07	506.59	437.51	365.67	292.90	220.14	148.29	81.98	16.58		
345.0	575.99	509.74	440.73	368.97	299.96	228.19	156.42	87.41	20.24		
360.0	622.67	559.32	492.34	422.66	354.78	281.47	208.16	135.76	66.07		

Light Blue USA-Rayhil INV-20-CCT-UNV-**-3000K-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	6.34	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
15.0	9.09	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
30.0	10.93	0.91	0.91	0.91	0.91	3.64	0.91	0.91	0.91	1.82	
45.0	14.63	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.83	
60.0	14.65	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.83	
75.0	15.58	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.83	
90.0	12.84	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.83	
105.0	11.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84	
120.0	9.20	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84	
135.0	6.44	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
150.0	3.68	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
165.0	3.68	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
180.0	1.81	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	1.82	
210.0	1.82	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	1.83	
240.0	1.83	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	1.83	1.83	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	1.83	
285.0	1.84	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	1.84	3.68	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	1.84	
330.0	1.84	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	1.84	
360.0	6.34	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
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	3.62	4.53	4.53	5.43	5.43	5.43	5.43		
15.0	1.82	1.82	3.64	3.64	4.54	5.45	5.45	5.45	5.45		
30.0	1.82	1.82	3.64	4.55	4.55	5.46	5.46	5.46	5.46		
45.0	1.83	1.83	3.66	4.57	4.57	5.49	5.49	5.49	5.49		
60.0	1.83	1.83	3.66	4.58	4.58	5.49	5.49	5.49	5.49		
75.0	1.83	1.83	3.67	3.67	4.58	5.50	5.50	5.50	5.50		
90.0	1.83	1.83	3.67	3.67	4.59	5.50	5.50	5.50	5.50		
105.0	1.84	1.84	3.68	4.60	4.60	5.51	5.51	5.51	5.51		
120.0	1.84	1.84	3.68	3.68	4.60	5.52	5.52	5.52	5.52		
135.0	1.84	1.84	3.68	3.68	4.60	5.52	5.52	5.52	5.52		
150.0	1.84	1.84	3.68	3.68	4.61	5.53	5.53	5.53	5.53		
165.0	1.84	1.84	3.68	4.60	4.60	5.52	5.52	5.52	5.52		
180.0	1.81	1.81	1.81	1.81	3.62	4.53	4.53	4.53	5.43		
195.0	1.82	1.82	1.82	1.82	3.64	3.64	4.54	4.54	5.45		
210.0	1.82	1.82	1.82	3.64	3.64	4.55	4.55	4.55	5.46		
225.0	1.83	1.83	1.83	3.66	3.66	4.57	4.57	4.57	5.49		
240.0	1.83	1.83	1.83	3.66	3.66	4.58	4.58	4.58	5.49		
255.0	1.83	1.83	1.83	1.83	3.67	4.58	4.58	5.50	5.50		
270.0	1.83	1.83	1.83	1.83	3.67	4.59	4.59	5.50	5.50		
285.0	1.84	1.84	1.84	3.68	3.68	4.60	4.60	5.51	5.51		
300.0	1.84	1.84	1.84	3.68	3.68	4.60	4.60	5.52	5.52		
315.0	1.84	1.84	1.84	1.84	3.68	4.60	4.60	4.60	5.52		
330.0	1.84	1.84	1.84	1.84	3.68	4.61	4.61	4.61	5.53		
345.0	1.84	1.84	1.84	3.68	3.68	4.60	4.60	4.60	5.52		
360.0	1.81	1.81	3.62	4.53	4.53	5.43	5.43	5.43	5.43		

Intensity data(cd)

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C/γ(°)	180.0
0.0	5.43
15.0	6.36
30.0	5.46
45.0	6.40
60.0	6.41
75.0	6.41
90.0	5.50
105.0	5.51
120.0	6.44
135.0	6.44
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