
Light Blue USA-Rayhil

Client:

LumCAT: INV-20-CCT-UNV-**-2700K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.264

Lamp flux(lm): 2089.9

Power (W): 31.430

Number of Lamps: 1

PF: 0.993

Length(mm): -480

Width(mm): -480

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2089.89, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 66.49

Central intensity(cd): 715.541, Maximum intensity(cd): 715.541

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(%): 0.56%

Down flux rate of lamp(%): 99.44%

Up flux rate of LUM(%): 0.56%

Down flux rate of LUM(%): 99.44%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 77.675%

Light Blue USA-Rayhil INV-20-CCT-UNV-**-2700K

Zonal flux distribution table

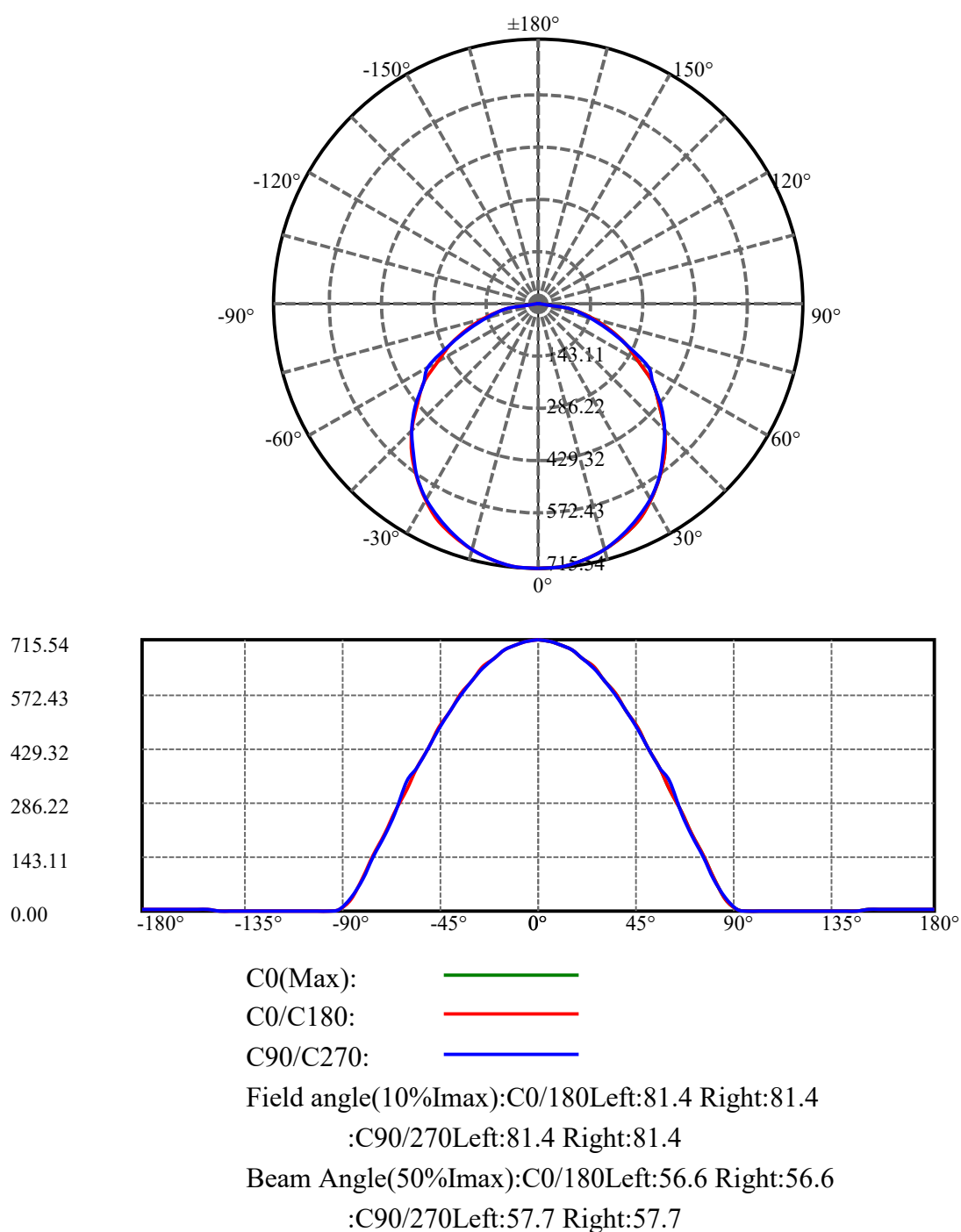
Appendix Page: 2 Total:12

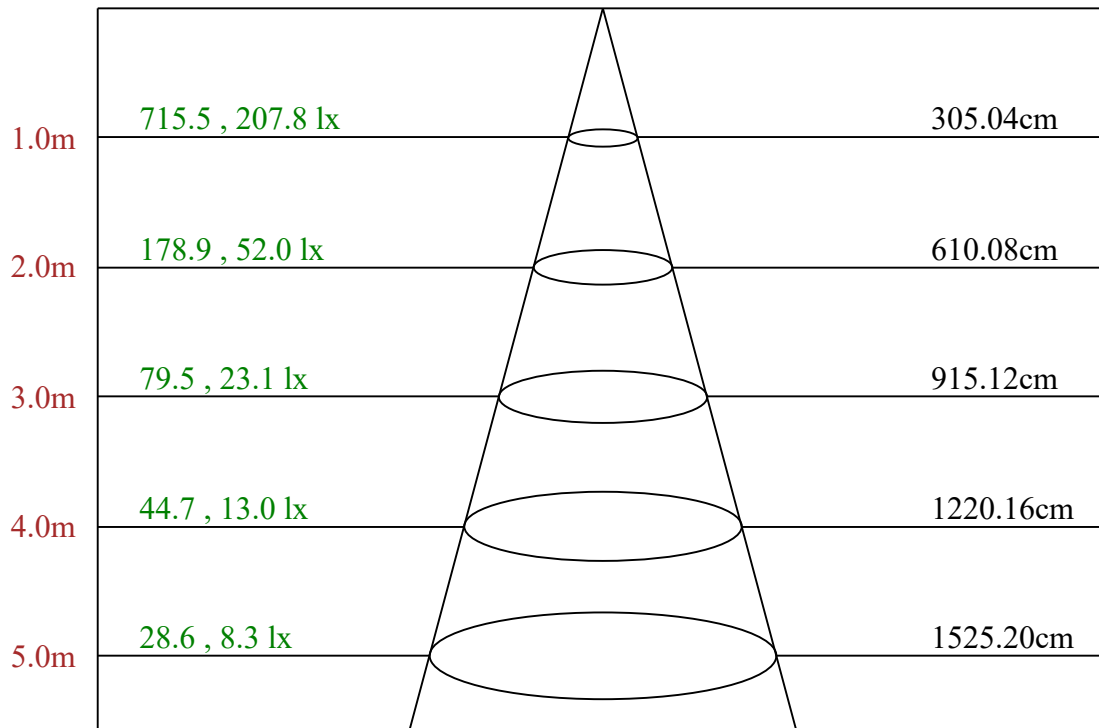
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	715.541	0.000	0	0.00%	0.00%
5.0	712.371	17.070	17.07	0.82%	0.82%
10.0	703.439	50.648	67.718	2.42%	3.24%
15.0	688.140	82.547	150.266	3.95%	7.19%
20.0	667.064	111.688	261.954	5.34%	12.53%
25.0	640.650	137.155	399.109	6.56%	19.10%
30.0	608.980	158.142	557.25	7.57%	26.66%
35.0	571.888	173.891	731.141	8.32%	34.98%
40.0	530.945	183.999	915.141	8.80%	43.79%
45.0	482.106	187.575	1102.715	8.98%	52.76%
50.0	430.371	184.379	1287.094	8.82%	61.59%
55.0	375.732	175.274	1462.368	8.39%	69.97%
60.0	320.572	160.949	1623.317	7.70%	77.67%
65.0	261.020	141.386	1764.703	6.77%	84.44%
70.0	201.891	117.212	1881.915	5.61%	90.05%
75.0	143.915	90.388	1972.303	4.33%	94.37%
80.0	88.426	62.168	2034.471	2.97%	97.35%
85.0	33.687	33.181	2067.652	1.59%	98.94%
90.0	4.832	10.547	2078.199	0.50%	99.44%
95.0	1.252	1.666	2079.865	0.08%	99.52%
100.0	1.175	0.660	2080.525	0.03%	99.55%
105.0	1.141	0.620	2081.144	0.03%	99.58%
110.0	1.202	0.612	2081.757	0.03%	99.61%
115.0	1.350	0.646	2082.403	0.03%	99.64%
120.0	1.320	0.649	2083.052	0.03%	99.67%
125.0	1.389	0.626	2083.678	0.03%	99.70%
130.0	1.435	0.614	2084.292	0.03%	99.73%
135.0	1.526	0.598	2084.891	0.03%	99.76%
140.0	1.816	0.619	2085.509	0.03%	99.79%
145.0	2.247	0.678	2086.187	0.03%	99.82%
150.0	2.690	0.727	2086.914	0.03%	99.86%
155.0	3.224	0.748	2087.663	0.04%	99.89%
160.0	3.613	0.717	2088.38	0.03%	99.93%
165.0	3.915	0.620	2089	0.03%	99.96%
170.0	4.224	0.483	2089.483	0.02%	99.98%
175.0	4.658	0.318	2089.801	0.02%	100.00%
180.0	2.442	0.085	2089.886	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	557.25	26.66%	26.66%
0-40	915.14	43.79%	43.79%
0-60	1623.32	77.67%	77.67%
0-90	2078.20	99.44%	99.44%
0-120	2083.05	99.67%	99.67%
0-180	2089.89	100.00%	100.00%
60-90	454.88	21.77%	21.77%
90-120	4.85	0.23%	0.23%
90-130	6.09	0.29%	0.29%
90-150	8.72	0.42%	0.42%
90-180	11.60	0.56%	0.56%
0-61.72	1671.91	80.00%	80.00%

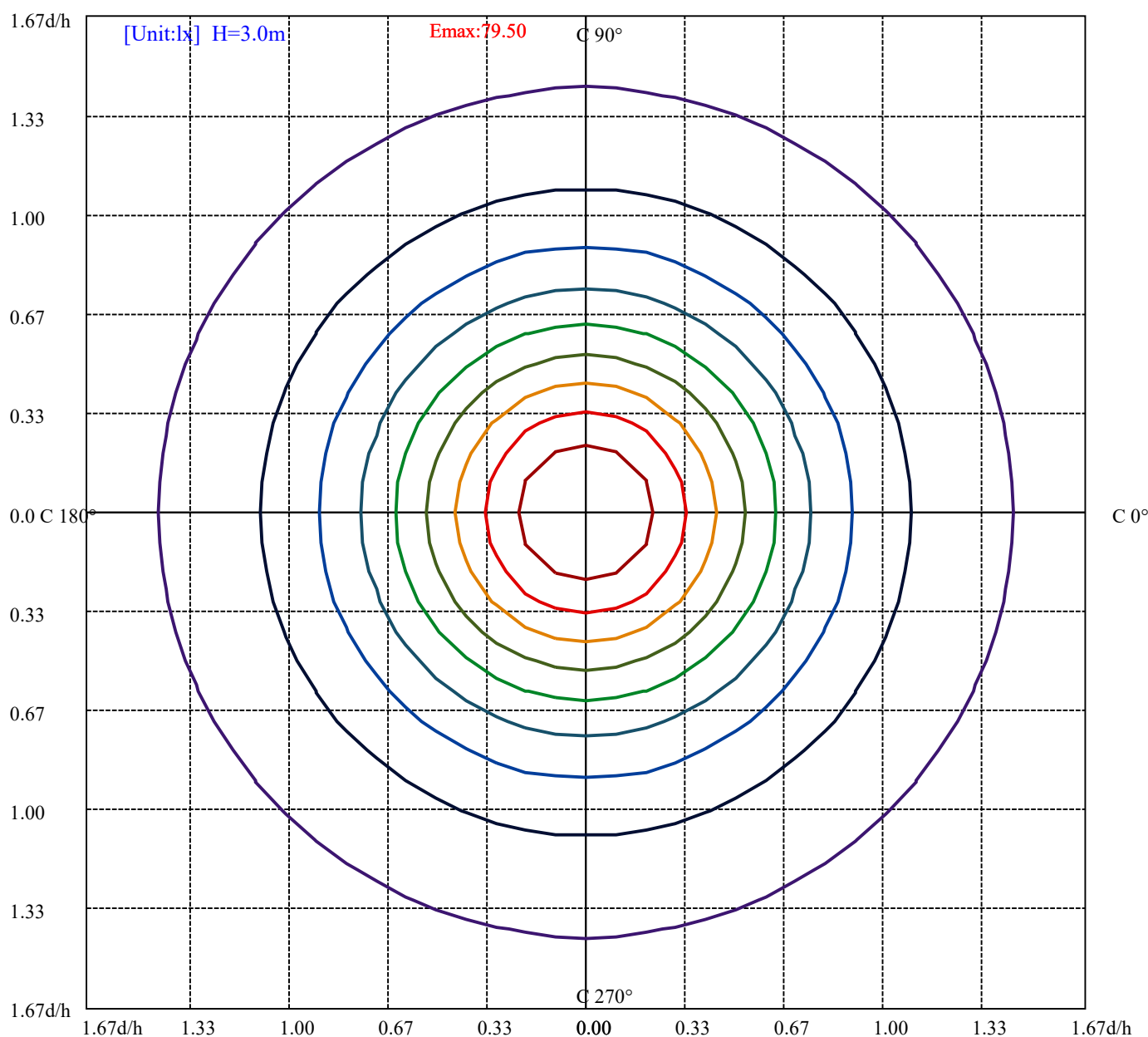
ZONAL LUMEN SUMMARY

0-10	67.72
10-20	194.24
20-30	295.30
30-40	357.89
40-50	371.95
50-60	336.22
60-70	258.60
70-80	152.56
80-90	43.73
90-100	2.33
100-110	1.23
110-120	1.30
120-130	1.24
130-140	1.22
140-150	1.40
150-160	1.47
160-170	1.10
170-180	0.32

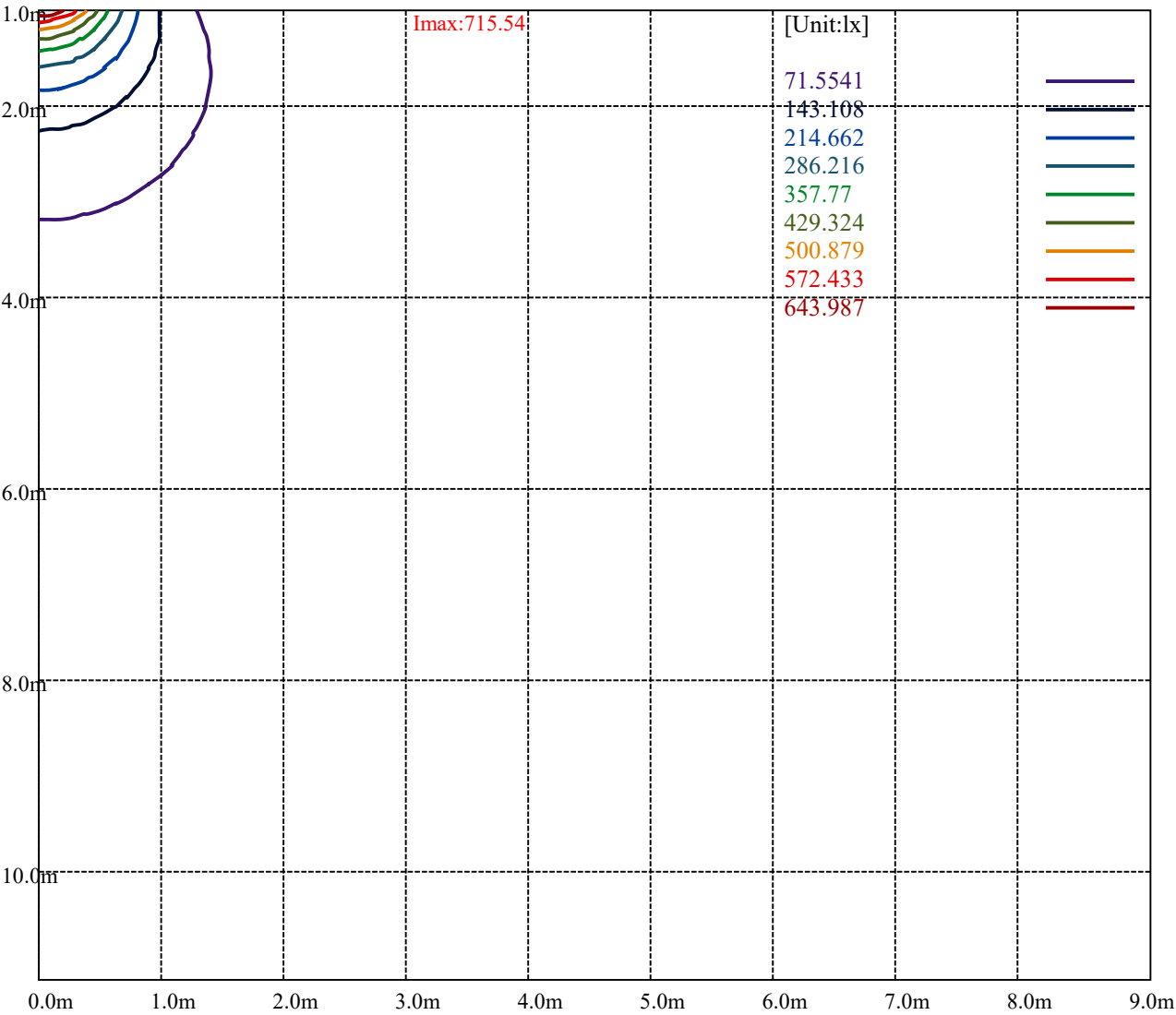




Max , Ave Beam angle of C0 plane 113.50



(10%Emax)	7.950456	
(20%Emax)	15.90089	
(30%Emax)	23.85133	
(40%Emax)	31.80178	
(50%Emax)	39.75222	
(60%Emax)	47.70267	
(70%Emax)	55.65322	
(80%Emax)	63.60366	
(90%Emax)	71.55411	



Light Blue USA-Rayhil INV-20-CCT-UNV-**-2700K

Luminance Limiting Curve(no luminous side)

Appendix Page: 8 Total:12

Luminance Table

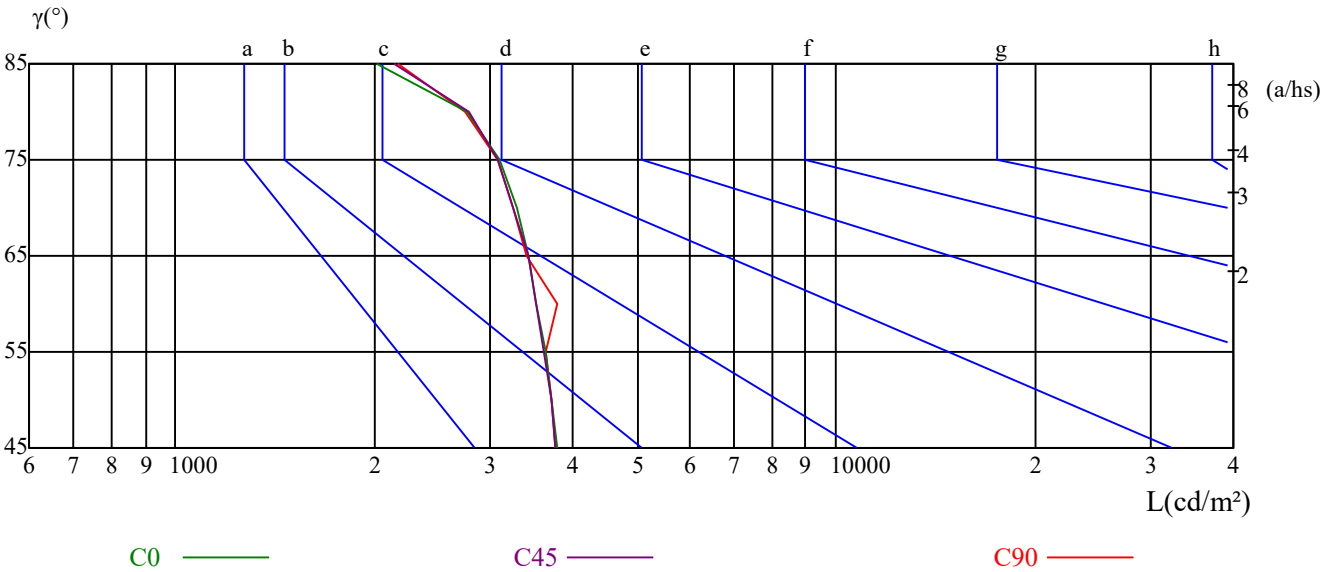
γ	45	50	55	60	65	70	75	80	85
C0	3773	3704	3630	3516	3434	3285	3087	2761	2023
C45	3771	3705	3621	3527	3418	3255	3078	2774	2137
C90	3761	3709	3627	3776	3392	3249	3069	2742	2173

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3434	3392	3418	3087	3069	3078	2023	2173	2137

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	0.39	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-**-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	715.54	715.09	708.48	695.71	676.88	654.43	622.84	590.79	550.05		
15.0	715.54	715.54	709.27	697.46	679.38	656.12	627.13	592.15	552.72		
30.0	715.54	714.99	709.44	697.60	679.65	656.61	629.74	594.95	555.33		
45.0	715.54	716.18	711.70	699.28	682.92	659.71	631.30	597.58	558.11		
60.0	715.54	716.91	711.69	700.52	682.75	659.22	632.75	597.86	560.40		
75.0	715.54	716.18	712.24	701.15	683.38	660.20	630.87	597.89	558.94		
90.0	715.54	717.01	711.78	700.49	682.97	659.12	629.48	595.63	557.09		
105.0	715.54	717.10	710.95	700.74	682.82	659.11	629.25	594.78	557.38		
120.0	715.54	716.09	710.48	698.53	681.98	656.13	627.81	592.96	553.32		
135.0	715.54	715.54	710.39	698.06	679.39	654.92	624.83	590.89	548.85		
150.0	715.54	715.26	709.55	695.45	659.79	652.14	623.11	588.84	547.64		
165.0	715.54	714.80	707.63	694.01	674.22	650.02	619.20	584.97	539.14		
180.0	715.54	710.02	699.61	680.51	658.87	630.90	596.95	557.66	512.03		
195.0	715.54	709.54	697.64	679.47	656.48	628.22	592.06	552.17	509.83		
210.0	715.54	707.80	695.14	678.11	654.70	625.37	590.85	550.59	507.15		
225.0	715.54	708.87	695.71	676.89	652.49	623.53	589.26	547.87	503.10		
240.0	715.54	708.12	696.49	675.52	652.26	623.50	588.70	547.21	500.69		
255.0	715.54	707.84	694.37	674.58	649.48	619.88	586.07	543.73	499.66		
270.0	715.54	708.11	694.44	675.54	649.21	620.67	584.98	543.97	499.29		
285.0	715.54	708.19	695.32	675.75	650.38	620.06	585.23	547.64	535.23		
300.0	715.54	708.37	696.87	677.93	671.03	621.37	588.82	546.98	503.02		
315.0	715.54	708.18	696.04	679.20	652.43	625.20	590.70	550.41	506.25		
330.0	715.54	709.92	698.22	680.16	656.38	627.54	593.90	557.14	511.98		
345.0	715.54	711.22	699.07	682.69	659.69	631.62	599.69	560.67	515.49		
360.0	715.54	715.09	708.48	695.71	676.88	654.43	622.84	590.79	550.05		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	503.70	453.01	398.60	341.84	287.07	228.04	168.93	110.17	53.50		
15.0	509.01	459.67	405.88	349.27	290.85	234.97	172.46	116.76	59.51		
30.0	511.06	462.15	408.23	351.67	296.65	237.45	178.16	119.32	64.49		
45.0	514.61	462.99	411.54	355.35	297.78	238.67	182.20	123.44	66.15		
60.0	515.16	465.24	411.67	355.07	299.84	240.77	182.07	123.73	69.24		
75.0	515.97	464.29	413.71	357.91	299.63	240.35	180.79	124.25	67.07		
90.0	512.59	464.70	411.76	358.37	296.80	239.55	180.10	121.47	64.50		
105.0	510.05	462.63	408.78	352.16	293.90	234.99	175.81	120.39	63.50		
120.0	507.99	457.78	407.01	347.61	292.43	233.21	173.90	115.50	58.85		
135.0	505.61	456.48	402.85	345.81	286.84	227.41	168.17	112.69	56.12		
150.0	500.83	449.87	395.69	342.43	280.50	224.20	165.13	106.80	50.50		
165.0	495.52	443.90	391.82	334.40	275.60	216.80	161.13	103.25	46.93		
180.0	461.88	408.65	354.96	294.49	238.18	178.52	120.22	63.37	10.32		
195.0	460.13	406.25	349.46	291.58	232.43	173.18	117.58	57.42	8.00		
210.0	454.77	401.03	344.29	289.37	230.35	170.96	112.30	54.92	5.01		
225.0	452.39	398.29	341.64	283.71	227.88	165.75	110.20	53.18	4.48		
240.0	449.49	395.00	337.94	282.53	223.92	165.31	106.97	50.10	3.85		
255.0	449.17	395.84	339.40	280.94	224.95	162.46	107.02	91.08	4.21		
270.0	449.93	398.09	341.12	324.88	221.94	162.58	107.34	50.83	4.04		
285.0	451.88	395.36	341.04	283.15	224.51	165.88	107.98	51.56	4.23		
300.0	452.81	399.11	342.55	284.98	229.62	167.64	112.65	56.28	6.35		
315.0	457.40	406.25	347.19	291.72	233.02	174.06	116.01	59.34	8.10		
330.0	462.50	409.60	353.95	295.89	237.01	177.94	119.70	66.07	13.09		
345.0	466.08	412.71	356.48	298.60	242.75	184.68	127.17	70.30	16.47		
360.0	503.70	453.01	398.60	341.84	287.07	228.04	168.93	110.17	53.50		

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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	5.25	0.72	0.63	0.63	0.63	0.54	0.91	1.18	1.27		
15.0	7.00	0.82	0.64	0.64	0.55	0.73	0.91	1.09	1.27		
30.0	8.47	0.73	0.64	0.55	0.55	2.91	1.00	1.28	1.37		
45.0	11.70	0.82	0.55	0.55	0.55	1.01	1.10	1.28	1.46		
60.0	11.72	0.82	0.64	0.55	0.55	0.82	1.01	1.28	1.56		
75.0	12.55	0.82	0.64	0.55	0.64	1.28	0.92	1.19	1.47		
90.0	10.55	0.83	0.64	0.55	0.55	0.73	0.92	1.28	1.47		
105.0	10.11	0.83	0.55	0.46	0.55	0.64	0.92	1.19	1.47		
120.0	6.71	1.01	0.74	0.64	0.55	0.83	0.92	1.29	1.38		
135.0	5.15	1.01	0.92	0.74	0.64	1.20	0.92	1.10	1.29		
150.0	3.04	1.01	0.83	0.83	0.65	0.65	0.83	1.11	1.29		
165.0	2.39	0.92	0.92	0.83	0.74	0.64	0.83	1.20	1.29		
180.0	1.72	1.54	1.63	1.63	1.54	1.63	1.63	1.45	1.45		
195.0	1.91	1.64	1.54	1.73	1.54	1.64	1.64	1.45	1.45		
210.0	2.00	1.64	1.55	1.64	2.00	1.91	1.73	1.64	1.55		
225.0	2.01	1.64	1.64	1.55	1.83	1.92	1.74	2.01	1.46		
240.0	1.92	1.56	1.65	1.74	1.74	2.01	1.83	1.56	1.47		
255.0	1.83	1.65	1.56	1.74	2.20	1.74	1.83	1.56	1.56		
270.0	1.65	1.56	1.65	1.65	1.83	1.74	1.74	1.56	1.56		
285.0	1.65	1.56	1.65	1.75	1.65	1.65	1.65	1.56	1.47		
300.0	1.75	1.75	1.75	1.66	2.76	1.66	1.93	1.56	1.47		
315.0	1.66	1.75	1.93	1.66	1.56	1.56	1.66	1.47	1.56		
330.0	1.57	1.75	1.66	1.47	1.57	1.47	1.57	1.47	1.47		
345.0	1.66	1.66	1.66	1.66	1.47	1.47	1.56	1.56	1.38		
360.0	5.25	0.72	0.63	0.63	0.63	0.54	0.91	1.18	1.27		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	1.45	1.99	2.72	3.26	3.71	4.16	4.35	4.53	4.80		
15.0	1.45	2.00	2.45	3.00	3.73	4.09	4.36	4.45	4.72		
30.0	1.55	2.09	2.64	3.28	3.83	4.19	4.37	4.46	4.83		
45.0	1.55	2.01	2.65	3.29	3.84	4.11	4.39	4.57	4.84		
60.0	1.56	2.01	2.66	3.30	3.66	4.21	4.49	4.49	4.76		
75.0	1.65	2.02	2.57	3.02	3.57	4.12	4.40	4.49	4.67		
90.0	1.56	2.02	2.66	2.94	3.67	4.13	4.40	4.59	4.50		
105.0	1.56	2.11	2.67	3.12	3.68	4.04	4.41	4.60	4.78		
120.0	1.56	2.02	2.57	3.03	3.77	4.14	4.32	4.60	4.78		
135.0	1.47	2.02	2.48	2.94	3.68	4.14	4.23	4.42	4.78		
150.0	1.57	2.03	2.67	3.04	3.69	4.05	4.42	4.52	4.79		
165.0	1.56	2.02	2.67	3.13	3.77	4.14	4.42	4.60	4.78		
180.0	1.45	1.54	1.72	2.08	2.63	3.08	3.44	3.89	4.53		
195.0	1.36	1.45	1.64	2.18	2.64	2.73	3.36	3.82	4.45		
210.0	1.55	1.55	2.00	2.37	2.73	3.10	3.37	3.92	4.55		
225.0	1.55	1.64	2.01	2.28	2.74	3.11	3.56	3.93	4.57		
240.0	1.47	1.56	1.92	2.38	2.75	3.11	3.39	3.94	4.58		
255.0	1.56	1.56	1.92	2.20	2.75	3.12	3.39	4.03	4.58		
270.0	1.56	1.56	1.74	2.20	2.75	3.12	3.49	4.04	4.68		
285.0	1.47	1.93	2.02	2.48	2.76	3.12	3.58	4.04	4.60		
300.0	1.56	1.66	2.02	2.30	2.76	3.22	3.40	4.05	4.51		
315.0	1.47	1.56	1.75	2.21	2.76	3.22	3.50	3.77	4.51		
330.0	1.66	1.57	1.84	2.21	2.76	3.13	3.50	3.87	4.61		
345.0	1.47	1.66	1.93	2.30	2.76	3.13	3.40	3.77	4.60		
360.0	1.45	1.99	2.72	3.26	3.71	4.16	4.35	4.53	4.80		

Intensity data(cd)

C/γ(°)	180.0
0.0	4.71
15.0	4.91
30.0	4.83
45.0	4.93
60.0	4.95
75.0	4.95
90.0	4.77
105.0	4.87
120.0	4.97
135.0	4.97
150.0	4.88
165.0	4.88
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	4.71