
Light Blue USA-Rayhil

Client:

LumCAT: INV-20-CCT-UNV-**-3500K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.263

Lamp flux(lm): 2282.3

Power (W): 31.310

Number of Lamps: 1

PF: 0.993

Length(mm): -480

Width(mm): -480

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2282.31, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 72.89

Central intensity(cd): 781.370, Maximum intensity(cd): 781.370

Angle of maximum intensity: C=60.0 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 : 77.663%

Light Blue USA-Rayhil INV-20-CCT-UNV-**-3500K

Zonal flux distribution table

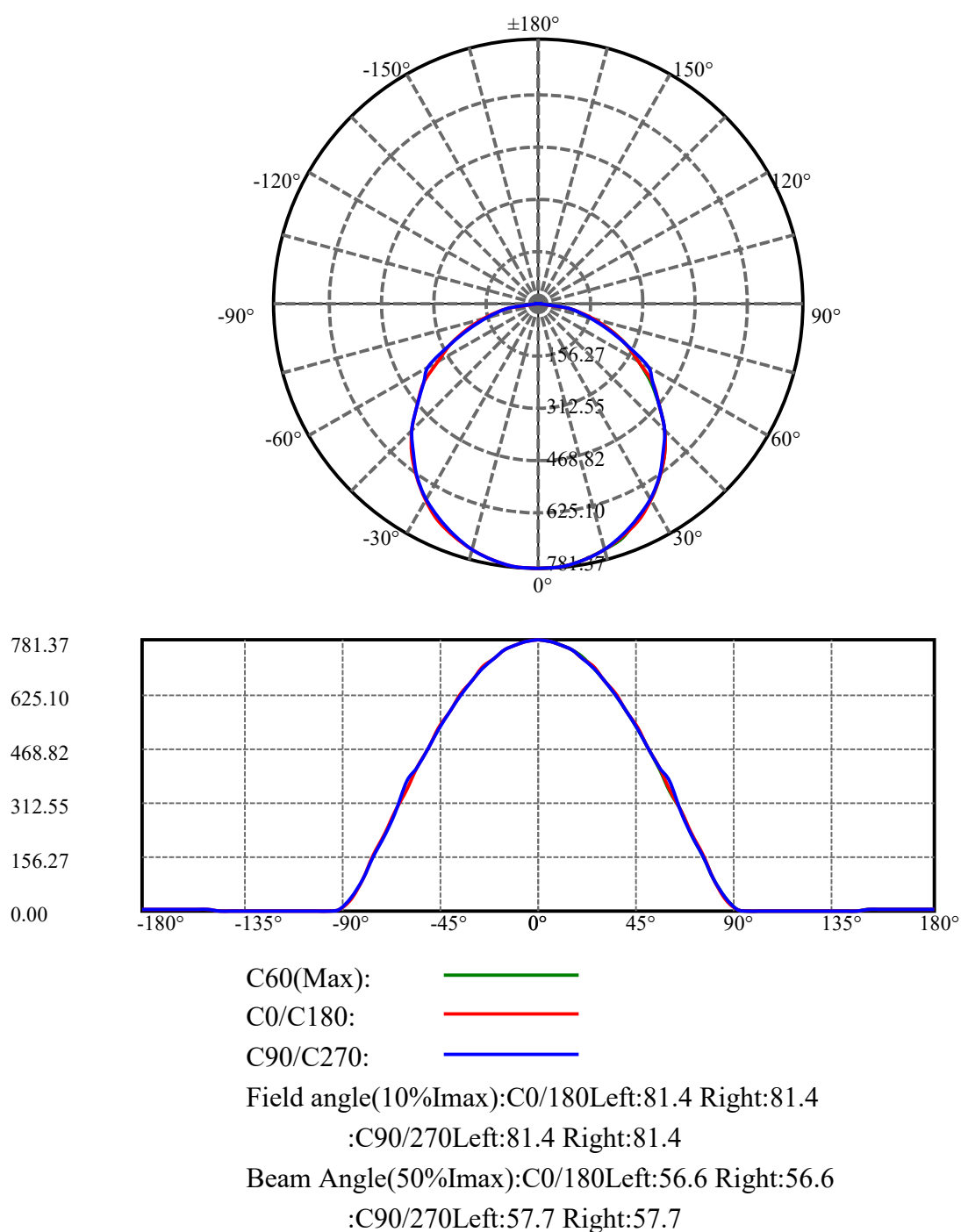
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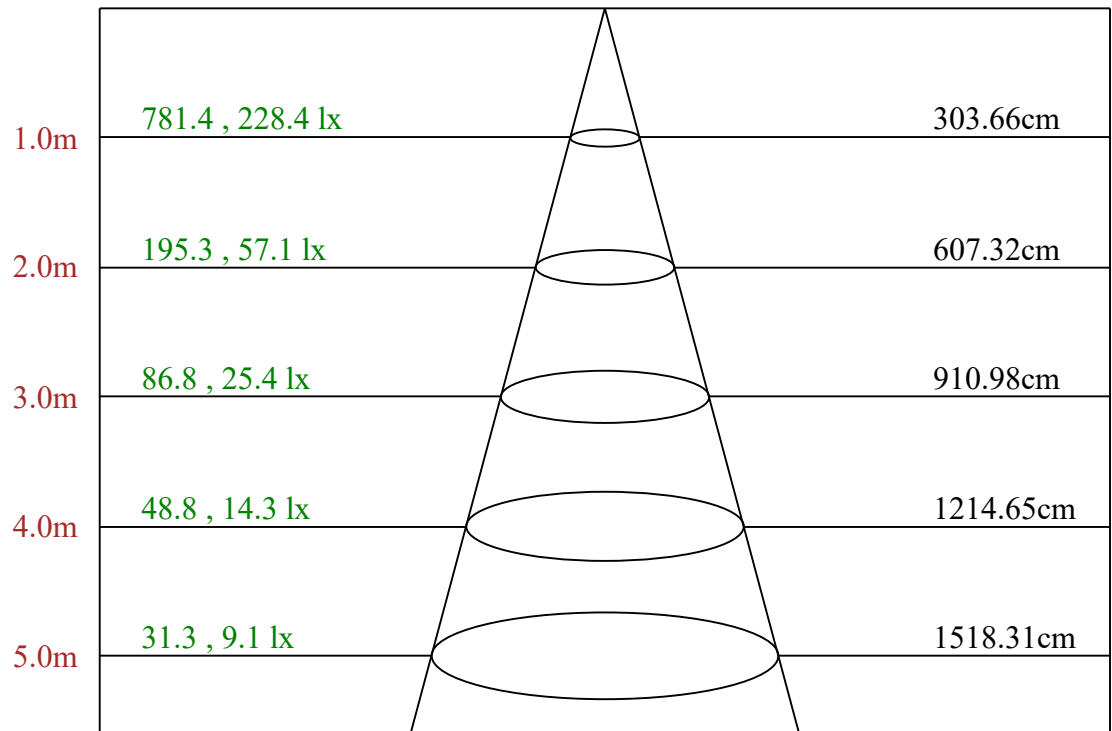
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	781.370	0.000	0	0.00%	0.00%
5.0	777.860	18.640	18.64	0.82%	0.82%
10.0	768.016	55.301	73.941	2.42%	3.24%
15.0	751.458	90.134	164.075	3.95%	7.19%
20.0	728.409	121.962	286.037	5.34%	12.53%
25.0	699.489	149.760	435.797	6.56%	19.09%
30.0	664.885	172.663	608.46	7.57%	26.66%
35.0	624.442	189.863	798.322	8.32%	34.98%
40.0	579.732	200.907	999.23	8.80%	43.78%
45.0	526.427	204.814	1204.044	8.97%	52.76%
50.0	469.962	201.335	1405.379	8.82%	61.58%
55.0	410.252	191.388	1596.767	8.39%	69.96%
60.0	350.052	175.742	1772.509	7.70%	77.66%
65.0	284.956	154.372	1926.88	6.76%	84.43%
70.0	220.402	127.960	2054.84	5.61%	90.03%
75.0	157.223	98.705	2153.545	4.32%	94.36%
80.0	96.602	67.916	2221.462	2.98%	97.33%
85.0	36.930	36.284	2257.746	1.59%	98.92%
90.0	5.226	11.543	2269.289	0.51%	99.43%
95.0	1.374	1.807	2271.096	0.08%	99.51%
100.0	1.374	0.746	2271.842	0.03%	99.54%
105.0	1.374	0.735	2272.577	0.03%	99.57%
110.0	1.450	0.738	2273.315	0.03%	99.61%
115.0	1.488	0.744	2274.059	0.03%	99.64%
120.0	1.374	0.696	2274.754	0.03%	99.67%
125.0	1.564	0.679	2275.433	0.03%	99.70%
130.0	1.831	0.738	2276.172	0.03%	99.73%
135.0	1.831	0.740	2276.912	0.03%	99.76%
140.0	1.908	0.692	2277.604	0.03%	99.79%
145.0	2.289	0.700	2278.304	0.03%	99.82%
150.0	3.128	0.798	2279.102	0.03%	99.86%
155.0	3.281	0.811	2279.913	0.04%	99.90%
160.0	4.083	0.772	2280.686	0.03%	99.93%
165.0	4.121	0.676	2281.362	0.03%	99.96%
170.0	4.502	0.511	2281.873	0.02%	99.98%
175.0	5.036	0.341	2282.214	0.01%	100.00%
180.0	2.747	0.093	2282.307	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	608.46	26.66%	26.66%
0-40	999.23	43.78%	43.78%
0-60	1772.51	77.66%	77.66%
0-90	2269.29	99.43%	99.43%
0-120	2274.75	99.67%	99.67%
0-180	2282.31	100.00%	100.00%
60-90	496.78	21.77%	21.77%
90-120	5.47	0.24%	0.24%
90-130	6.88	0.30%	0.30%
90-150	9.81	0.43%	0.43%
90-180	12.93	0.57%	0.57%
0-61.73	1825.85	80.00%	80.00%

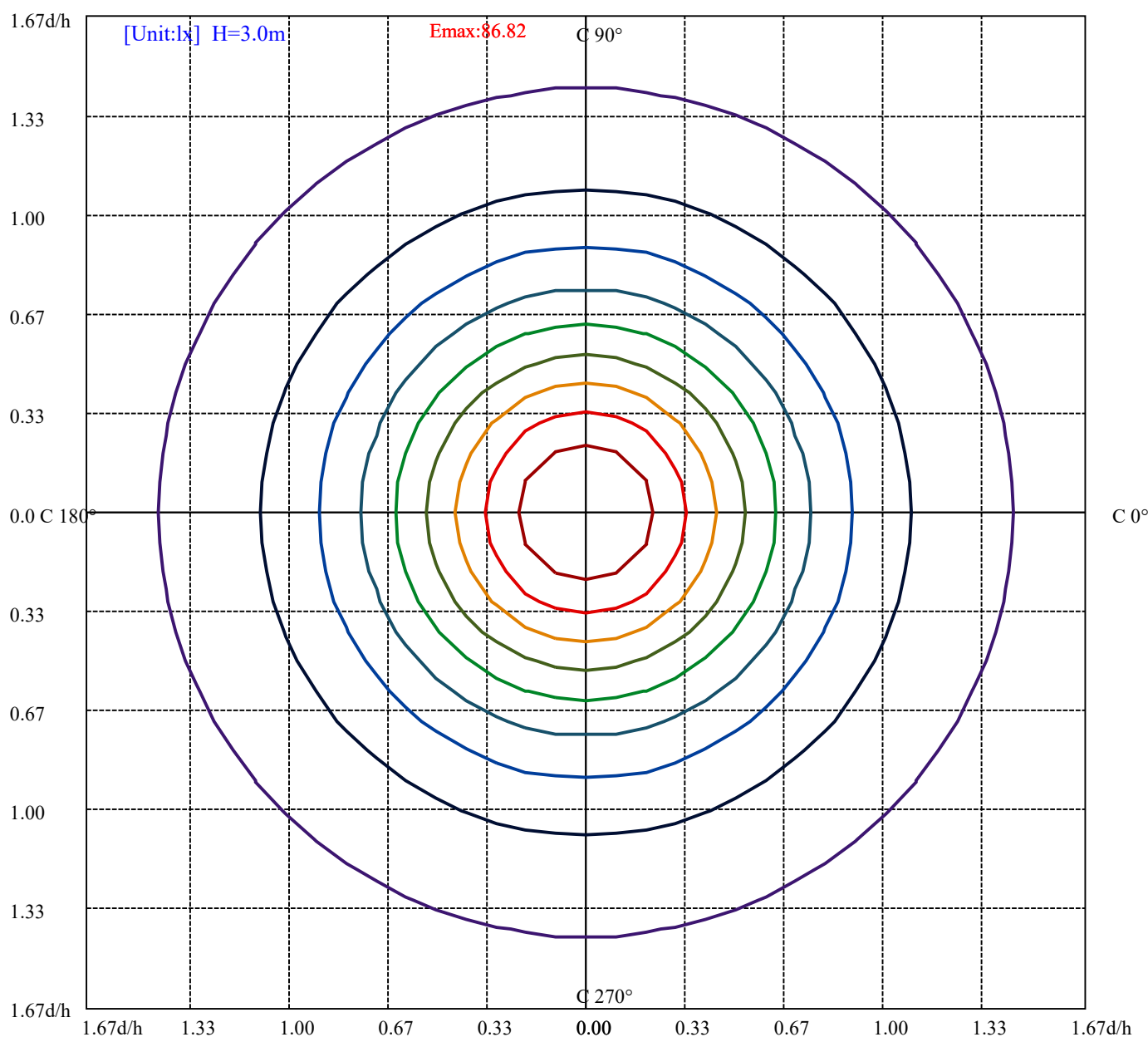
ZONAL LUMEN SUMMARY

0-10	73.94
10-20	212.10
20-30	322.42
30-40	390.77
40-50	406.15
50-60	367.13
60-70	282.33
70-80	166.62
80-90	47.83
90-100	2.55
100-110	1.47
110-120	1.44
120-130	1.42
130-140	1.43
140-150	1.50
150-160	1.58
160-170	1.19
170-180	0.34

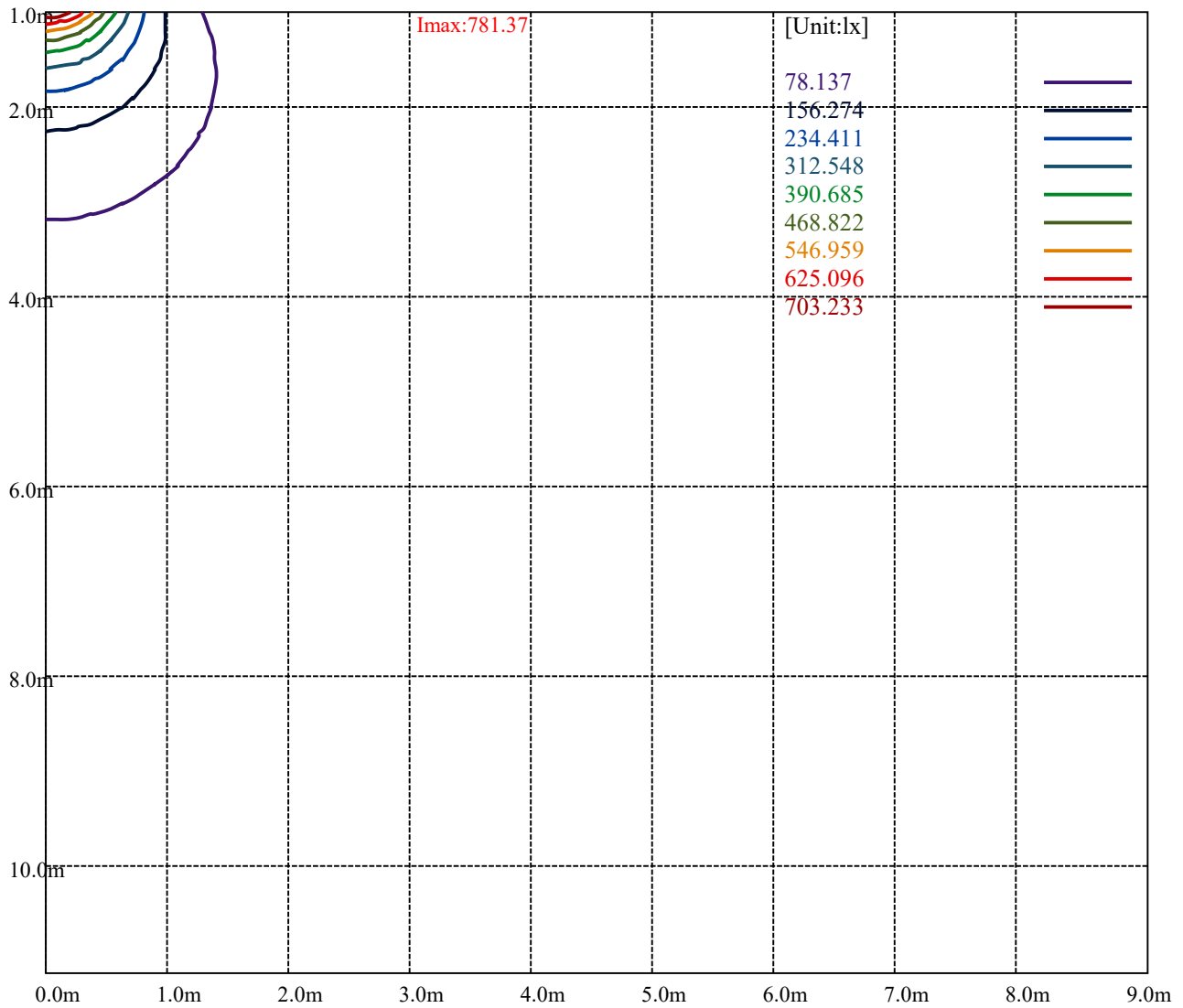




Max , Ave Beam angle of C60 plane 113.26



(10%Emax)	8.681878	—
(20%Emax)	17.36378	—
(30%Emax)	26.04567	—
(40%Emax)	34.72755	—
(50%Emax)	43.40944	—
(60%Emax)	52.09133	—
(70%Emax)	60.77322	—
(80%Emax)	69.45511	—
(90%Emax)	78.13689	—



Light Blue USA-Rayhil INV-20-CCT-UNV-**-3500K

Luminance Limiting Curve(no luminous side)

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Luminance Table

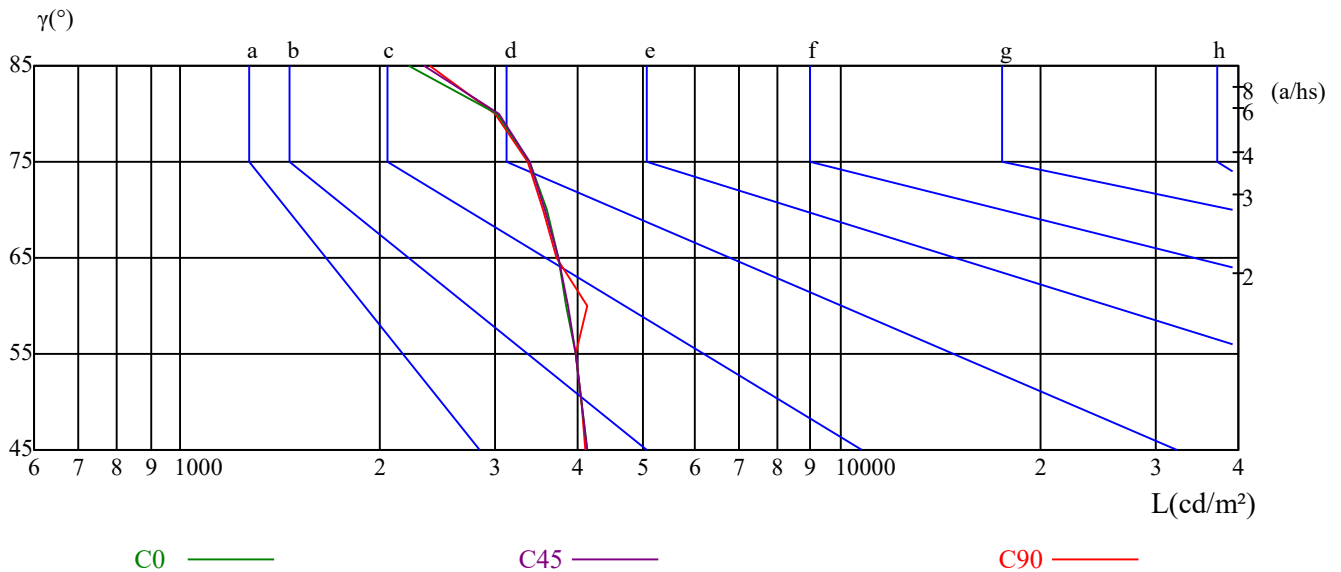
γ	45	50	55	60	65	70	75	80	85
C0	4122	4044	3965	3838	3747	3584	3373	3011	2210
C45	4119	4047	3954	3852	3732	3556	3368	3035	2340
C90	4103	4049	3959	4125	3700	3542	3348	2992	2384

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3747	3700	3732	3373	3348	3368	2210	2384	2340

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-**-3500K

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	781.37	781.37	774.13	759.64	738.82	714.37	679.96	645.56	600.29		
15.0	781.37	781.37	774.10	761.38	741.39	715.95	685.06	646.90	603.29		
30.0	781.37	780.46	774.08	761.33	742.21	716.71	687.57	649.32	606.52		
45.0	781.37	782.28	776.80	764.01	745.73	720.14	689.07	652.51	609.56		
60.0	781.37	783.20	777.71	764.88	745.64	720.00	690.68	653.13	611.90		
75.0	781.37	781.37	777.71	765.80	745.64	720.91	688.85	652.21	610.07		
90.0	781.37	782.29	776.78	764.86	745.60	719.01	686.91	650.22	608.04		
105.0	781.37	783.21	776.77	765.74	745.52	719.78	687.61	649.92	608.55		
120.0	781.37	781.37	775.85	762.07	744.60	716.10	684.85	647.16	603.95		
135.0	781.37	781.37	775.85	762.96	741.79	715.10	682.89	645.16	599.14		
150.0	781.37	781.37	774.92	759.26	720.56	712.26	680.01	643.16	598.01		
165.0	781.37	780.45	773.09	758.36	736.27	709.58	676.45	638.72	589.02		
180.0	781.37	775.03	764.17	743.34	719.80	689.02	651.90	609.34	559.54		
195.0	781.37	775.01	761.38	742.30	716.86	685.97	645.99	603.29	556.95		
210.0	781.37	773.17	758.60	740.39	714.89	683.02	644.77	601.05	553.70		
225.0	781.37	774.06	759.44	739.33	712.83	680.84	643.37	598.59	549.24		
240.0	781.37	773.13	760.30	737.40	712.67	680.61	643.05	597.25	546.87		
255.0	781.37	773.13	757.55	736.48	709.00	676.94	639.39	593.58	545.04		
270.0	781.37	773.12	757.52	737.35	708.92	677.74	638.30	593.36	544.76		
285.0	781.37	773.10	759.31	738.16	710.59	677.49	638.88	598.44	584.65		
300.0	781.37	773.10	760.23	740.00	732.65	678.41	642.56	596.60	548.80		
315.0	781.37	774.01	760.20	741.79	712.34	682.89	645.16	600.98	553.12		
330.0	781.37	774.92	762.02	742.67	716.87	685.54	648.68	608.14	559.31		
345.0	781.37	776.77	763.88	745.48	720.63	689.34	655.28	612.03	563.25		
360.0	781.37	781.37	774.13	759.64	738.82	714.37	679.96	645.56	600.29		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	550.49	494.35	435.50	373.03	313.27	248.99	184.70	120.42	58.85		
15.0	556.04	501.53	443.38	381.60	318.00	256.22	188.07	127.20	65.42		
30.0	558.25	504.52	445.33	384.31	324.20	259.55	194.89	130.23	70.12		
45.0	562.04	505.38	449.63	388.40	325.34	260.46	199.23	135.25	72.20		
60.0	562.44	508.39	449.77	387.48	327.02	262.90	198.78	135.57	76.03		
75.0	563.36	506.56	451.60	391.14	327.02	261.98	196.95	135.57	73.28		
90.0	559.43	507.16	449.38	391.60	323.74	261.37	196.26	132.98	70.62		
105.0	557.07	505.59	446.76	384.25	320.82	256.47	192.12	131.45	68.94		
120.0	554.31	500.08	444.00	379.65	318.98	254.63	189.37	125.94	64.35		
135.0	552.20	498.82	439.92	377.34	312.92	248.49	184.07	123.33	61.66		
150.0	546.41	491.12	432.15	374.10	305.91	245.10	180.60	117.02	55.29		
165.0	541.16	485.02	427.96	365.38	300.95	236.53	175.79	113.20	51.54		
180.0	504.31	446.37	387.52	321.42	259.85	194.66	131.28	68.81	10.86		
195.0	502.44	443.38	381.60	318.00	253.49	188.98	128.11	62.69	9.09		
210.0	496.32	438.04	376.11	316.01	251.35	186.69	122.94	60.11	5.46		
225.0	494.41	435.01	372.86	309.81	248.58	180.95	120.63	58.49	4.57		
240.0	490.99	431.45	369.16	308.70	244.58	180.46	117.25	54.96	4.58		
255.0	490.07	432.36	370.07	306.87	245.49	177.71	117.25	99.85	4.58		
270.0	490.65	434.71	372.34	354.92	242.11	177.00	117.39	55.03	4.59		
285.0	493.64	432.05	372.30	308.87	245.44	181.09	117.67	56.07	4.60		
300.0	494.56	435.73	374.14	310.71	250.96	182.93	123.18	61.59	7.35		
315.0	499.75	443.60	379.18	318.44	254.93	190.51	127.01	64.42	9.20		
330.0	504.94	446.89	386.08	323.42	258.92	194.42	130.84	71.87	14.74		
345.0	508.95	450.97	389.30	325.80	265.06	201.55	138.97	76.39	18.41		
360.0	550.49	494.35	435.50	373.03	313.27	248.99	184.70	120.42	58.85		

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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	2.73	0.91	1.82	1.82		
45.0	12.79	0.91	0.91	0.91	0.91	0.91	0.91	1.83	1.83		
60.0	12.82	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	3.62	4.53	4.53	4.53	5.43		
15.0	1.82	1.82	2.73	3.63	3.63	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	4.57	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	2.75	3.67	4.59	4.59	4.59	4.59		
105.0	1.84	2.76	2.76	3.68	3.68	4.60	4.60	4.60	5.52		
120.0	1.84	1.84	2.76	3.68	3.68	4.60	4.60	4.60	5.52		
135.0	1.84	1.84	2.76	2.76	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	3.68	4.60	4.60	4.60	5.52		
180.0	1.81	1.81	1.81	2.72	2.72	3.62	3.62	4.53	4.53		
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	4.55		
225.0	1.83	1.83	1.83	2.74	2.74	3.66	3.66	4.57	4.57		
240.0	1.83	1.83	1.83	2.75	2.75	3.66	3.66	4.58	4.58		
255.0	1.83	1.83	1.83	2.75	2.75	3.66	3.66	4.58	4.58		
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	4.60		
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	3.68	4.60		
330.0	1.84	1.84	1.84	2.76	2.76	3.69	3.69	4.61	4.61		
345.0	1.84	1.84	1.84	2.76	2.76	3.68	3.68	3.68	4.60		
360.0	1.81	1.81	2.72	3.62	3.62	4.53	4.53	4.53	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