
Light Blue USA-Rayhil

Client:

LumCAT: INV-16-CCT-UNV-**-3500K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.020

LampCAT:

Current(A): 0.199

Lamp flux(lm): 1526.7

Power (W): 23.680

Number of Lamps: 1

PF: 0.993

Length(mm): -380

Width(mm): -380

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1526.74, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 64.47

Central intensity(cd): 527.119, Maximum intensity(cd): 527.119

Angle of maximum intensity: C=0.0 γ =0.0

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

[C90/270]Total=114.2

Field angle(10%Imax): [C0/180]Total=162.4

[C90/270]Total=161.8

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(%): 0.43%

Down flux rate of lamp(%): 99.57%

Up flux rate of LUM(%): 0.43%

Down flux rate of LUM(%): 99.57%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 78.231%

Light Blue USA-Rayhil INV-16-CCT-UNV-**-3500K

Zonal flux distribution table

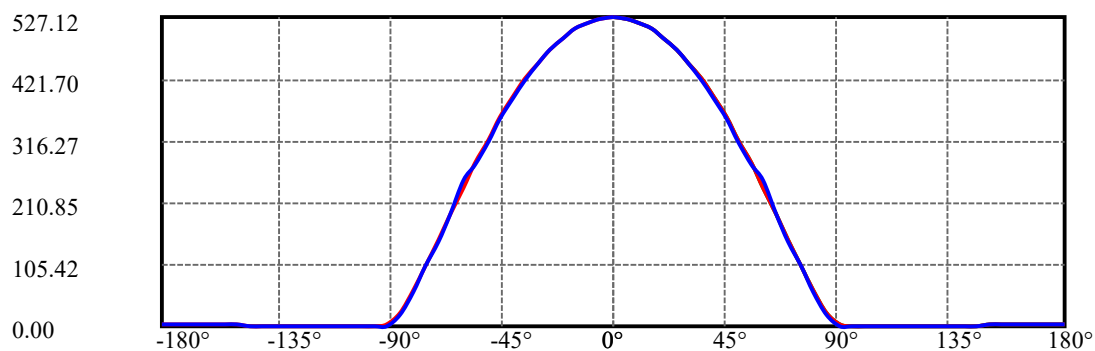
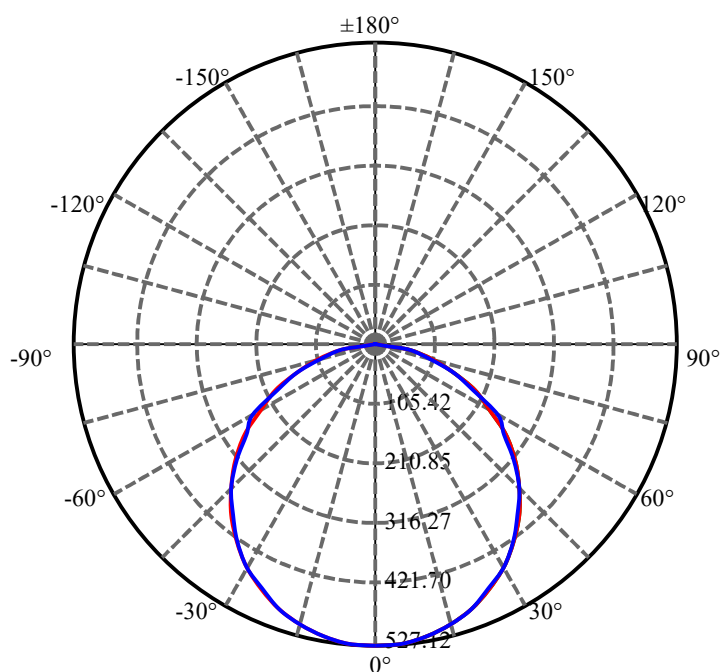
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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	527.119	0.000	0	0.00%	0.00%
5.0	524.983	12.578	12.578	0.82%	0.82%
10.0	518.077	37.314	49.891	2.44%	3.27%
15.0	507.127	60.814	110.706	3.98%	7.25%
20.0	491.522	82.303	193.008	5.39%	12.64%
25.0	472.141	101.070	294.079	6.62%	19.26%
30.0	448.944	116.564	410.643	7.63%	26.90%
35.0	421.322	128.153	538.796	8.39%	35.29%
40.0	390.837	135.502	674.298	8.88%	44.17%
45.0	354.554	138.015	812.313	9.04%	53.21%
50.0	316.324	135.561	947.874	8.88%	62.08%
55.0	275.462	128.674	1076.548	8.43%	70.51%
60.0	234.297	117.829	1194.377	7.72%	78.23%
65.0	190.038	103.157	1297.534	6.76%	84.99%
70.0	145.973	85.080	1382.614	5.57%	90.56%
75.0	102.975	65.071	1447.685	4.26%	94.82%
80.0	61.960	44.132	1491.817	2.89%	97.71%
85.0	20.410	22.382	1514.199	1.47%	99.18%
90.0	1.258	5.933	1520.131	0.39%	99.57%
95.0	0.763	0.553	1520.685	0.04%	99.60%
100.0	0.686	0.394	1521.078	0.03%	99.63%
105.0	0.534	0.326	1521.405	0.02%	99.65%
110.0	0.496	0.269	1521.674	0.02%	99.67%
115.0	0.648	0.290	1521.963	0.02%	99.69%
120.0	0.992	0.399	1522.362	0.03%	99.71%
125.0	0.916	0.441	1522.803	0.03%	99.74%
130.0	0.916	0.398	1523.201	0.03%	99.77%
135.0	0.916	0.370	1523.571	0.02%	99.79%
140.0	0.916	0.339	1523.91	0.02%	99.81%
145.0	1.374	0.382	1524.292	0.03%	99.84%
150.0	1.640	0.444	1524.736	0.03%	99.87%
155.0	2.289	0.497	1525.233	0.03%	99.90%
160.0	2.327	0.484	1525.718	0.03%	99.93%
165.0	2.479	0.396	1526.114	0.03%	99.96%
170.0	3.129	0.333	1526.446	0.02%	99.98%
175.0	3.281	0.229	1526.676	0.02%	100.00%
180.0	1.831	0.061	1526.737	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	410.64	26.90%	26.90%
0-40	674.30	44.17%	44.17%
0-60	1194.38	78.23%	78.23%
0-90	1520.13	99.57%	99.57%
0-120	1522.36	99.71%	99.71%
0-180	1526.74	100.00%	100.00%
60-90	325.75	21.34%	21.34%
90-120	2.23	0.15%	0.15%
90-130	3.07	0.20%	0.20%
90-150	4.60	0.30%	0.30%
90-180	6.54	0.43%	0.43%
0-61.31	1221.39	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	49.89
10-20	143.12
20-30	217.63
30-40	263.66
40-50	273.58
50-60	246.50
60-70	188.24
70-80	109.20
80-90	28.31
90-100	0.95
100-110	0.60
110-120	0.69
120-130	0.84
130-140	0.71
140-150	0.83
150-160	0.98
160-170	0.73
170-180	0.23



C0(Max):

C0/C180:

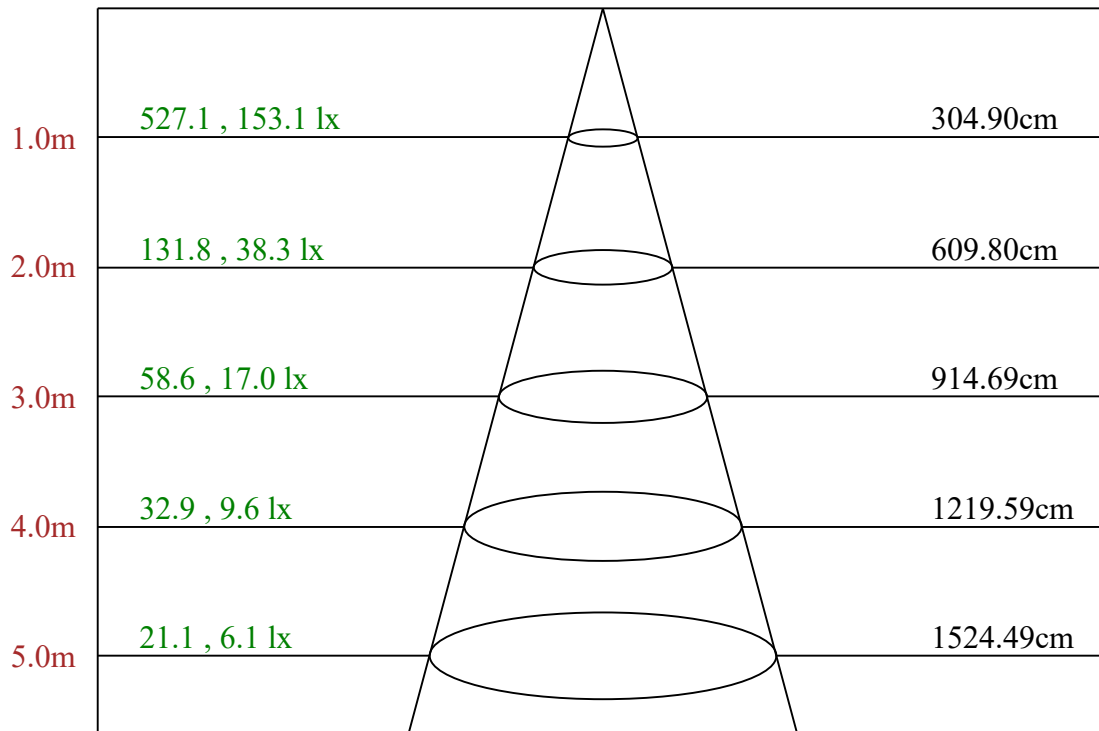
C90/C270:

Field angle(10%Imax):C0/180Left:81.2 Right:81.2

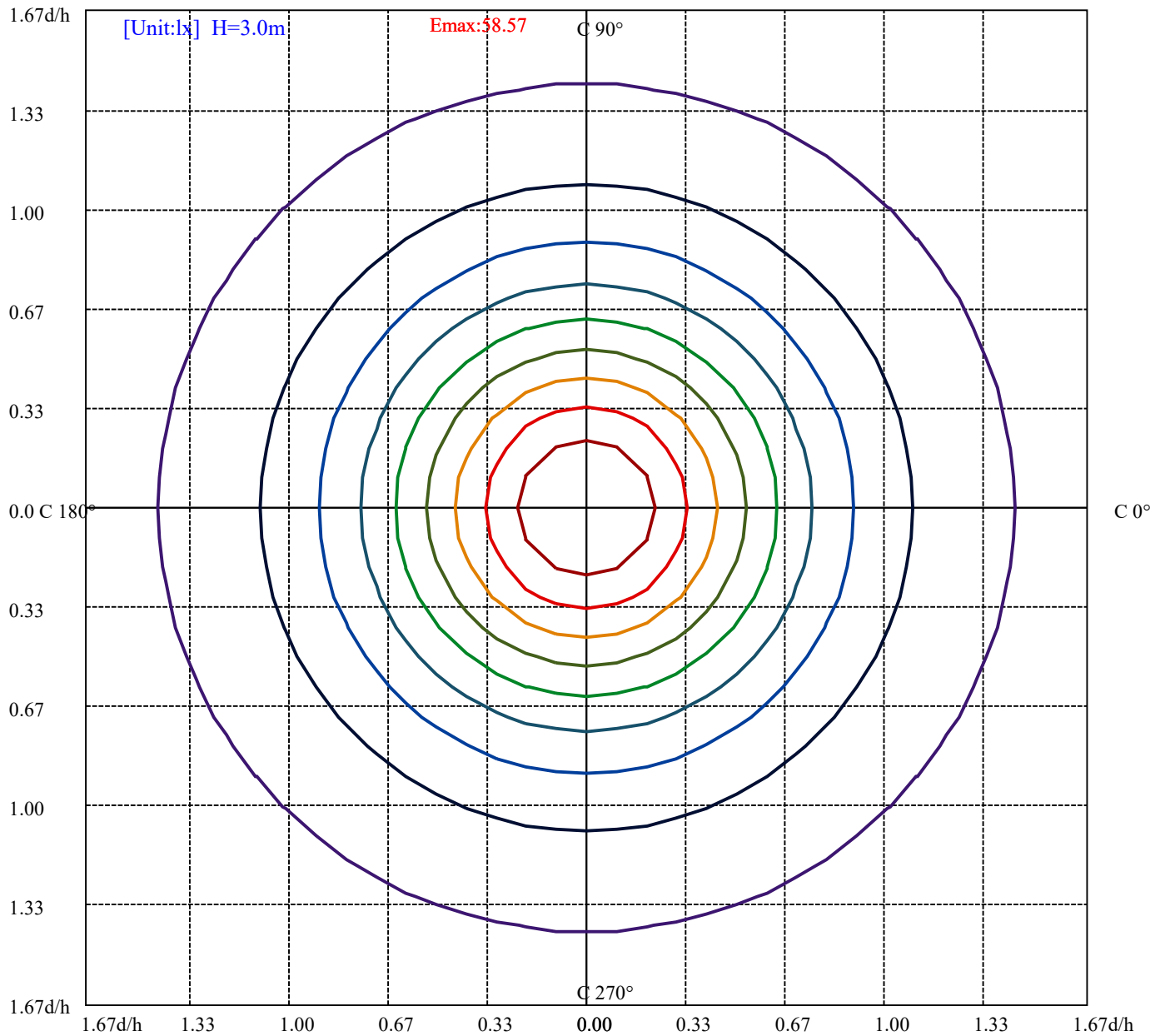
:C90/270Left:80.9 Right:80.9

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

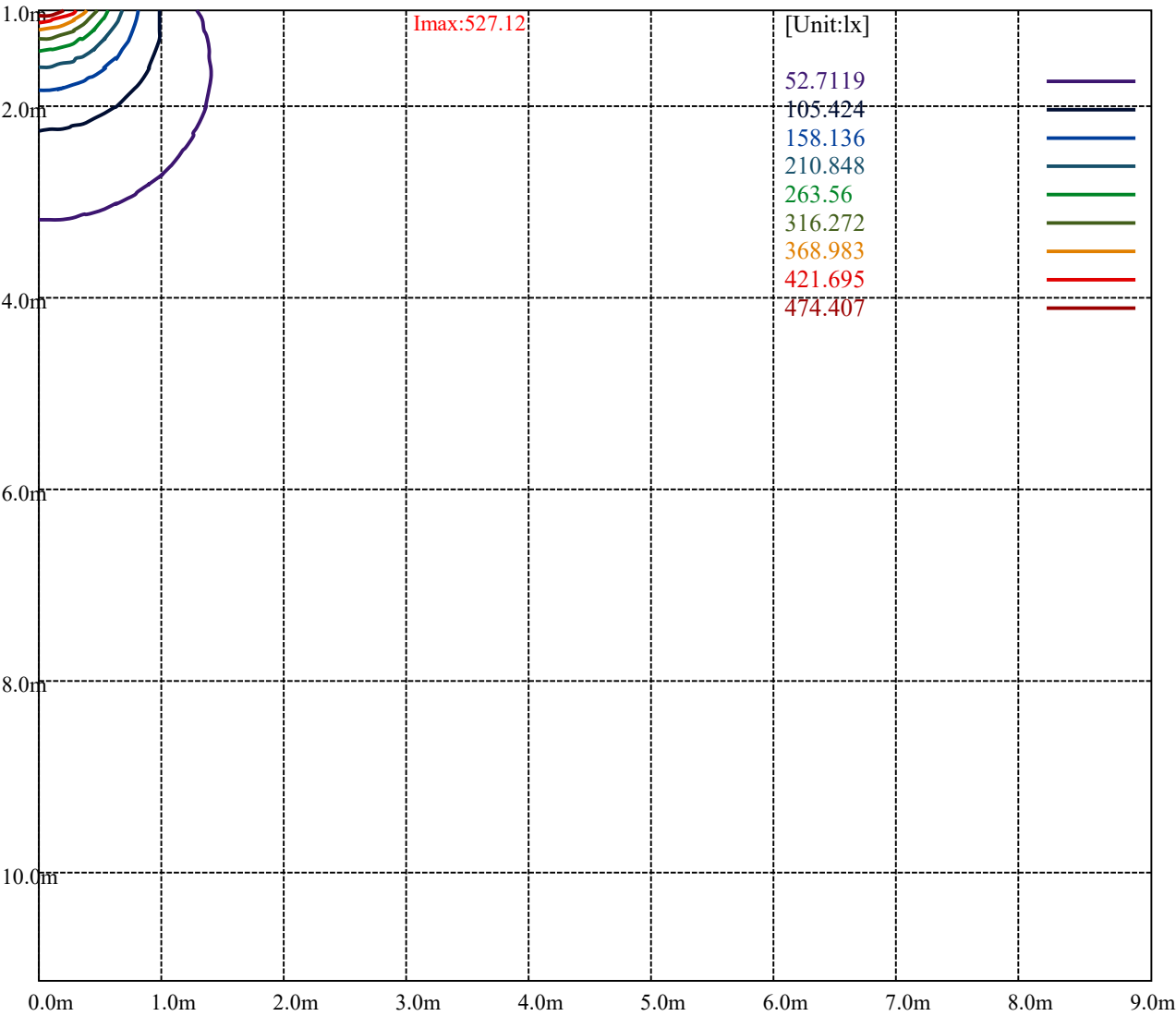
:C90/270Left:57.1 Right:57.1



Max , Ave Beam angle of C0 plane 113.47



(10%Emax) 5.856878	—
(20%Emax) 11.71378	—
(30%Emax) 17.57067	—
(40%Emax) 23.42756	—
(50%Emax) 29.28444	—
(60%Emax) 35.14133	—
(70%Emax) 40.99811	—
(80%Emax) 46.855	—
(90%Emax) 52.71189	—



Light Blue USA-Rayhil INV-16-CCT-UNV-**-3500K

Luminance Limiting Curve(no luminous side)

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Luminance Table

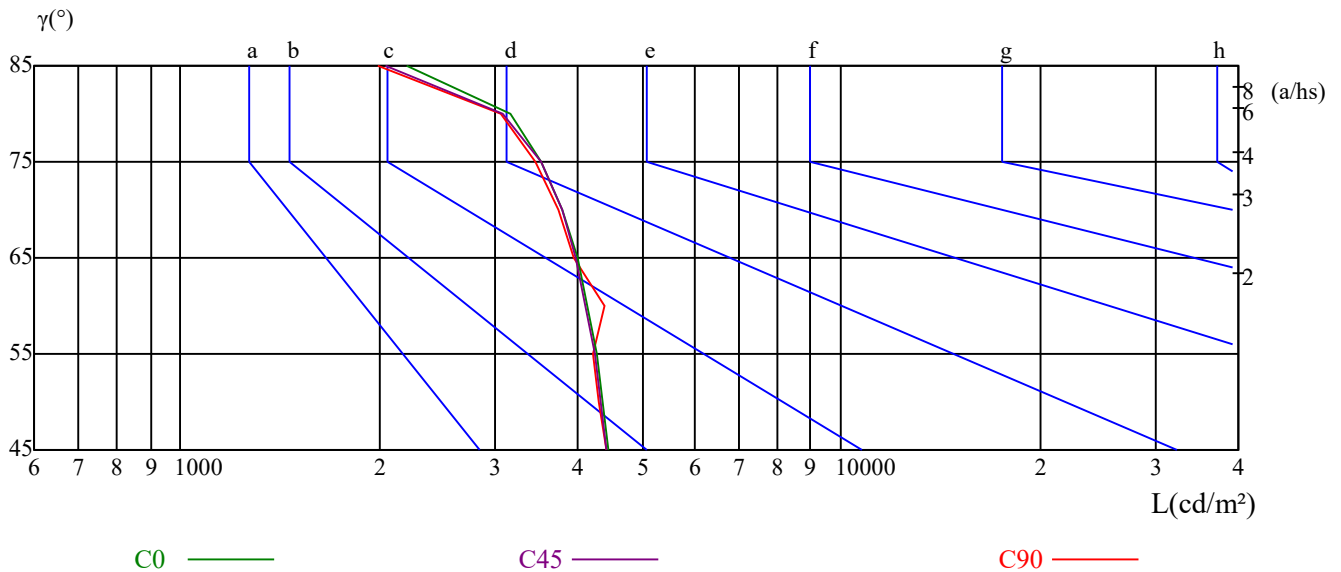
γ	45	50	55	60	65	70	75	80	85
C0	4435	4368	4268	4136	3985	3777	3508	3156	2203
C45	4418	4332	4231	4090	3954	3776	3521	3084	2040
C90	4413	4313	4221	4381	3940	3734	3451	3049	1994

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3985	3940	3954	3508	3451	3521	2203	1994	2040

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	1.00
1	1.04	0.99	0.96	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	0.78	0.88	0.82	0.77	0.85	0.79	0.75	0.81	0.77	0.73	0.78	0.75	0.71	0.69
3	0.79	0.71	0.64	0.78	0.70	0.64	0.74	0.68	0.63	0.72	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.69	0.60	0.54	0.66	0.59	0.53	0.64	0.57	0.52	0.61	0.56	0.52	0.49
5	0.63	0.53	0.47	0.61	0.53	0.46	0.59	0.52	0.46	0.57	0.51	0.45	0.55	0.49	0.45	0.43
6	0.56	0.47	0.41	0.55	0.47	0.41	0.53	0.46	0.40	0.52	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	0.49	0.41	0.36	0.47	0.40	0.35	0.46	0.40	0.35	0.33
8	0.46	0.38	0.32	0.46	0.38	0.32	0.44	0.37	0.32	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.43	0.34	0.29	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.39	0.33	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	0.26	0.24

Light Blue USA-Rayhil INV-16-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	527.12	527.12	522.58	513.51	499.90	482.66	460.89	434.58	406.45		
15.0	527.12	527.12	522.57	512.55	498.90	482.51	459.75	435.17	405.13		
30.0	527.12	526.21	521.65	512.53	497.94	481.52	458.72	433.19	404.00		
45.0	527.12	526.21	520.72	511.59	497.89	477.79	457.69	431.20	401.05		
60.0	527.12	526.20	520.70	512.45	497.78	478.53	455.61	429.03	398.78		
75.0	527.12	526.20	519.79	509.70	495.03	475.78	451.95	427.20	396.94		
90.0	527.12	525.29	519.79	509.70	495.03	474.87	451.95	425.36	394.19		
105.0	527.12	525.29	518.87	507.87	493.20	473.03	451.03	422.61	393.28		
120.0	527.12	525.28	518.85	507.83	493.14	473.86	450.90	424.27	392.13		
135.0	527.12	526.20	518.84	507.80	492.16	473.76	450.77	425.01	390.97		
150.0	527.12	525.28	518.84	507.80	478.36	474.68	452.60	423.17	391.89		
165.0	527.12	525.28	518.84	506.88	493.08	473.76	450.77	423.17	390.05		
180.0	527.12	523.49	514.42	501.72	484.48	462.70	438.21	408.27	376.51		
195.0	527.12	522.57	513.46	501.63	483.42	464.30	439.72	409.68	375.99		
210.0	527.12	522.56	514.35	501.58	484.26	463.28	438.66	411.30	377.56		
225.0	527.12	523.47	514.33	501.54	485.10	464.08	439.42	410.18	377.30		
240.0	527.12	524.37	516.12	503.28	486.78	465.70	440.95	412.53	380.44		
255.0	527.12	523.45	516.12	504.20	486.78	466.62	442.78	413.44	380.44		
270.0	527.12	524.37	516.12	504.20	487.70	466.62	443.70	414.36	383.19		
285.0	527.12	523.45	516.12	506.03	488.62	468.45	445.53	416.20	408.86		
300.0	527.12	524.36	517.02	506.00	502.32	470.18	447.22	418.76	388.45		
315.0	527.12	525.28	517.92	506.88	491.24	472.84	448.01	421.33	389.13		
330.0	527.12	525.28	517.92	506.88	491.24	471.92	448.93	421.33	388.21		
345.0	527.12	525.28	517.92	506.88	492.16	471.92	448.93	420.41	389.13		
360.0	527.12	527.12	522.58	513.51	499.90	482.66	460.89	434.58	406.45		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	371.07	335.69	295.77	253.13	209.58	165.12	121.57	79.84	38.11		
15.0	370.53	332.29	292.24	252.18	209.39	164.78	121.08	78.29	36.42		
30.0	367.52	331.96	291.83	248.97	205.19	161.42	117.64	77.52	35.57		
45.0	367.25	328.88	288.68	246.66	204.64	158.96	116.93	74.00	31.97		
60.0	365.77	329.11	288.77	245.68	201.68	157.68	113.67	72.42	29.34		
75.0	362.11	324.52	283.27	240.18	198.93	154.93	111.84	68.75	28.42		
90.0	361.19	320.86	282.35	240.18	196.18	152.18	108.17	67.84	24.75		
105.0	358.44	320.86	280.52	237.43	195.26	149.43	108.17	65.09	23.83		
120.0	358.15	317.74	279.17	236.93	193.77	149.69	105.61	65.20	23.88		
135.0	356.93	318.30	276.90	234.58	191.35	149.95	106.71	63.48	22.08		
150.0	356.01	320.14	276.90	237.34	193.19	149.03	105.79	61.64	23.00		
165.0	356.93	320.14	278.74	236.42	193.19	149.03	106.71	63.48	22.08		
180.0	340.22	301.21	259.48	215.93	172.38	127.92	84.38	44.46	5.44		
195.0	338.67	299.52	257.64	214.85	173.89	129.28	86.49	43.70	5.46		
210.0	340.17	300.95	259.00	216.14	173.27	129.50	88.46	43.77	7.30		
225.0	340.75	302.39	263.10	217.43	176.32	132.46	88.61	46.59	8.22		
240.0	344.69	305.27	264.02	220.93	176.93	132.93	91.67	47.67	10.08		
255.0	344.69	307.10	263.10	222.77	178.76	135.68	92.59	82.51	11.92		
270.0	346.52	308.02	266.77	256.68	181.51	137.51	94.42	52.25	14.67		
285.0	350.19	310.77	269.52	226.43	185.18	138.43	98.09	55.92	15.58		
300.0	349.88	313.15	272.74	229.58	186.42	142.34	98.26	56.02	17.45		
315.0	352.33	313.70	272.30	229.06	185.83	144.43	101.19	58.88	18.40		
330.0	355.09	313.70	274.14	231.82	188.59	144.43	101.19	57.96	17.48		
345.0	354.17	315.54	274.14	231.82	189.51	146.27	102.11	59.80	18.40		
360.0	371.07	335.69	295.77	253.13	209.58	165.12	121.57	79.84	38.11		

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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	2.72	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
15.0	2.73	0.91	0.00	0.00	0.00	0.91	0.91	0.91	0.91		
30.0	2.74	0.91	0.91	0.91	0.00	0.91	0.91	0.91	0.91		
45.0	1.83	0.91	0.91	0.00	0.00	0.00	0.91	0.91	0.91		
60.0	1.83	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
75.0	1.83	0.92	0.92	0.00	0.00	0.00	0.92	0.92	0.92		
90.0	0.92	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
105.0	0.92	0.00	0.92	0.00	0.00	0.92	0.92	0.92	0.92		
120.0	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92		
135.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
150.0	0.92	0.92	0.92	0.00	0.00	0.00	0.92	0.92	0.92		
165.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
180.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
195.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
210.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
225.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
240.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
255.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
270.0	0.92	0.92	0.92	0.92	0.92	0.92	1.83	0.92	0.92		
285.0	0.92	0.92	0.92	0.92	0.92	0.92	1.83	0.92	0.92		
300.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
315.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
330.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
345.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
360.0	2.72	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	0.91	0.91	1.81	1.81	2.72	2.72	2.72	3.63	3.63		
15.0	0.91	0.91	1.82	1.82	2.73	2.73	2.73	3.64	3.64		
30.0	0.91	0.91	1.82	1.82	2.74	2.74	2.74	3.65	3.65		
45.0	0.91	0.91	1.83	1.83	2.74	2.74	2.74	3.65	3.65		
60.0	0.92	0.92	1.83	1.83	2.75	2.75	2.75	3.67	3.67		
75.0	0.92	0.92	1.83	1.83	2.75	2.75	2.75	3.67	3.67		
90.0	0.92	0.92	1.83	1.83	2.75	2.75	2.75	2.75	3.67		
105.0	0.92	0.92	1.83	1.83	2.75	2.75	2.75	2.75	3.67		
120.0	0.92	0.92	1.84	1.84	2.75	2.75	2.75	3.67	3.67		
135.0	0.92	0.92	1.84	1.84	2.76	2.76	2.76	3.68	3.68		
150.0	0.92	0.92	1.84	1.84	2.76	2.76	2.76	3.68	3.68		
165.0	0.92	0.92	1.84	1.84	2.76	2.76	2.76	3.68	3.68		
180.0	0.91	0.91	0.91	1.81	1.81	2.72	2.72	2.72	2.72		
195.0	0.91	0.91	0.91	1.82	1.82	1.82	2.73	2.73	2.73		
210.0	0.91	0.91	0.91	1.82	1.82	1.82	2.74	2.74	2.74		
225.0	0.91	0.91	0.91	0.91	1.83	1.83	1.83	2.74	2.74		
240.0	0.92	0.92	0.92	0.92	1.83	1.83	1.83	2.75	2.75		
255.0	0.92	0.92	0.92	1.83	1.83	1.83	2.75	2.75	2.75		
270.0	0.92	0.92	0.92	1.83	1.83	1.83	1.83	2.75	2.75		
285.0	0.92	0.92	0.92	1.83	1.83	1.83	1.83	2.75	2.75		
300.0	0.92	0.92	0.92	0.92	1.84	1.84	1.84	2.75	3.67		
315.0	0.92	0.92	0.92	1.84	1.84	1.84	1.84	2.76	3.68		
330.0	0.92	0.92	0.92	0.92	1.84	1.84	1.84	2.76	2.76		
345.0	0.92	0.92	0.92	0.92	1.84	1.84	2.76	2.76	2.76		
360.0	0.91	0.91	1.81	1.81	2.72	2.72	2.72	3.63	3.63		

Intensity data(cd)

C/γ(°)	180.0
0.0	3.63
15.0	3.64
30.0	3.65
45.0	3.65
60.0	3.67
75.0	3.67
90.0	3.67
105.0	3.67
120.0	3.67
135.0	3.68
150.0	3.68
165.0	3.68
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	3.63