
Light Blue USA-Rayhil

Client:

LumCAT: INV-16-CCT-UNV-**-5000K-F

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.020

LampCAT:

Current(A): 0.202

Lamp flux(lm): 1919.0

Power (W): 24.080

Number of Lamps: 1

PF: 0.993

Length(mm): -380

Width(mm): -380

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1919.00, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 79.69

Central intensity(cd): 662.714, Maximum intensity(cd): 662.714

Angle of maximum intensity: C=0.0 γ =0.0

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

[C90/270]Total=114.0

Field angle(10%Imax): [C0/180]Total=162.2

[C90/270]Total=162.0

Maximum s/h(1/2): C0_180=1.27 C90_270=1.26

Maximum s/h(1/4): C0_180=1.39 C90_270=1.38

Up flux rate of lamp(%): 0.40%

Down flux rate of lamp(%): 99.60%

Up flux rate of LUM(%): 0.40%

Down flux rate of LUM(%): 99.60%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 78.261%

Light Blue USA-Rayhil INV-16-CCT-UNV-**-5000K-F

Zonal flux distribution table

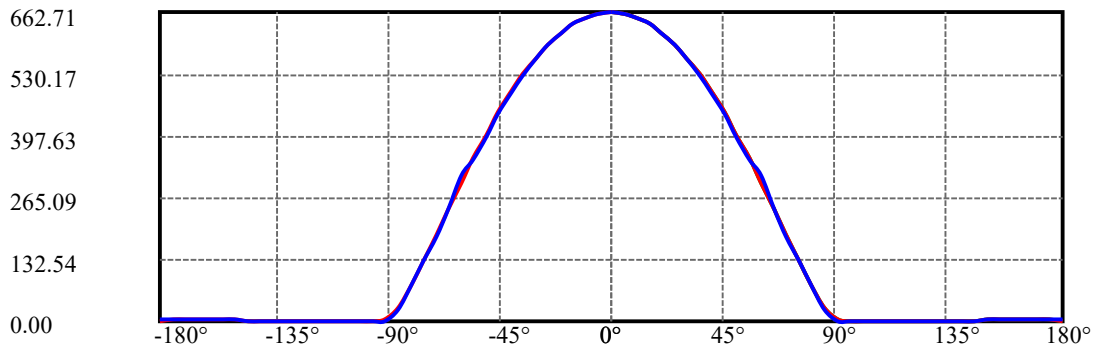
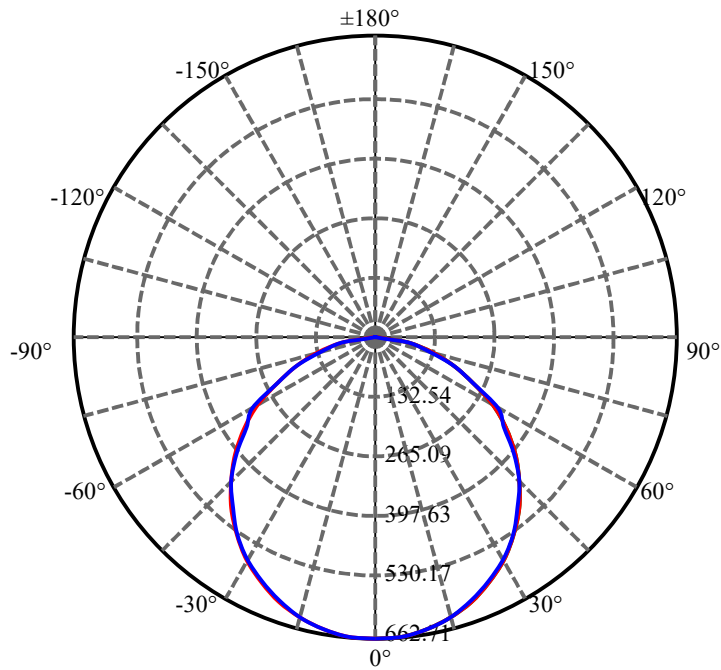
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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	662.714	0.000	0	0.00%	0.00%
5.0	660.084	15.814	15.814	0.82%	0.82%
10.0	651.462	46.918	62.732	2.44%	3.27%
15.0	637.497	76.460	139.192	3.98%	7.25%
20.0	618.037	103.474	242.666	5.39%	12.65%
25.0	593.849	127.105	369.77	6.62%	19.27%
30.0	564.473	146.587	516.357	7.64%	26.91%
35.0	529.753	161.132	677.489	8.40%	35.30%
40.0	491.485	170.386	847.875	8.88%	44.18%
45.0	445.930	173.570	1021.445	9.04%	53.23%
50.0	397.857	170.500	1191.944	8.88%	62.11%
55.0	346.197	161.782	1353.727	8.43%	70.54%
60.0	294.541	148.105	1501.831	7.72%	78.26%
65.0	238.836	129.665	1631.496	6.76%	85.02%
70.0	183.478	106.932	1738.429	5.57%	90.59%
75.0	129.568	81.825	1820.254	4.26%	94.85%
80.0	78.062	55.556	1875.81	2.90%	97.75%
85.0	25.636	28.177	1903.987	1.47%	99.22%
90.0	1.448	7.416	1911.403	0.39%	99.60%
95.0	0.762	0.605	1912.008	0.03%	99.64%
100.0	0.686	0.394	1912.402	0.02%	99.66%
105.0	0.534	0.326	1912.728	0.02%	99.67%
110.0	0.496	0.269	1912.997	0.01%	99.69%
115.0	0.648	0.290	1913.287	0.02%	99.70%
120.0	1.068	0.417	1913.704	0.02%	99.72%
125.0	0.916	0.459	1914.162	0.02%	99.75%
130.0	0.916	0.398	1914.561	0.02%	99.77%
135.0	0.916	0.370	1914.931	0.02%	99.79%
140.0	0.916	0.339	1915.27	0.02%	99.81%
145.0	1.831	0.458	1915.728	0.02%	99.83%
150.0	2.365	0.618	1916.346	0.03%	99.86%
155.0	3.205	0.705	1917.051	0.04%	99.90%
160.0	3.205	0.672	1917.723	0.04%	99.93%
165.0	3.205	0.528	1918.251	0.03%	99.96%
170.0	3.663	0.407	1918.659	0.02%	99.98%
175.0	3.892	0.270	1918.929	0.01%	100.00%
180.0	2.175	0.073	1919.002	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	516.36	26.91%	26.91%
0-40	847.87	44.18%	44.18%
0-60	1501.83	78.26%	78.26%
0-90	1911.40	99.60%	99.60%
0-120	1913.70	99.72%	99.72%
0-180	1919.00	100.00%	100.00%
60-90	409.57	21.34%	21.34%
90-120	2.30	0.12%	0.12%
90-130	3.16	0.16%	0.16%
90-150	4.94	0.26%	0.26%
90-180	7.53	0.39%	0.39%
0-61.29	1535.20	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	62.73
10-20	179.93
20-30	273.69
30-40	331.52
40-50	344.07
50-60	309.89
60-70	236.60
70-80	137.38
80-90	35.59
90-100	1.00
100-110	0.60
110-120	0.71
120-130	0.86
130-140	0.71
140-150	1.08
150-160	1.38
160-170	0.94
170-180	0.27



C0(Max): —————

C0/C180: —————

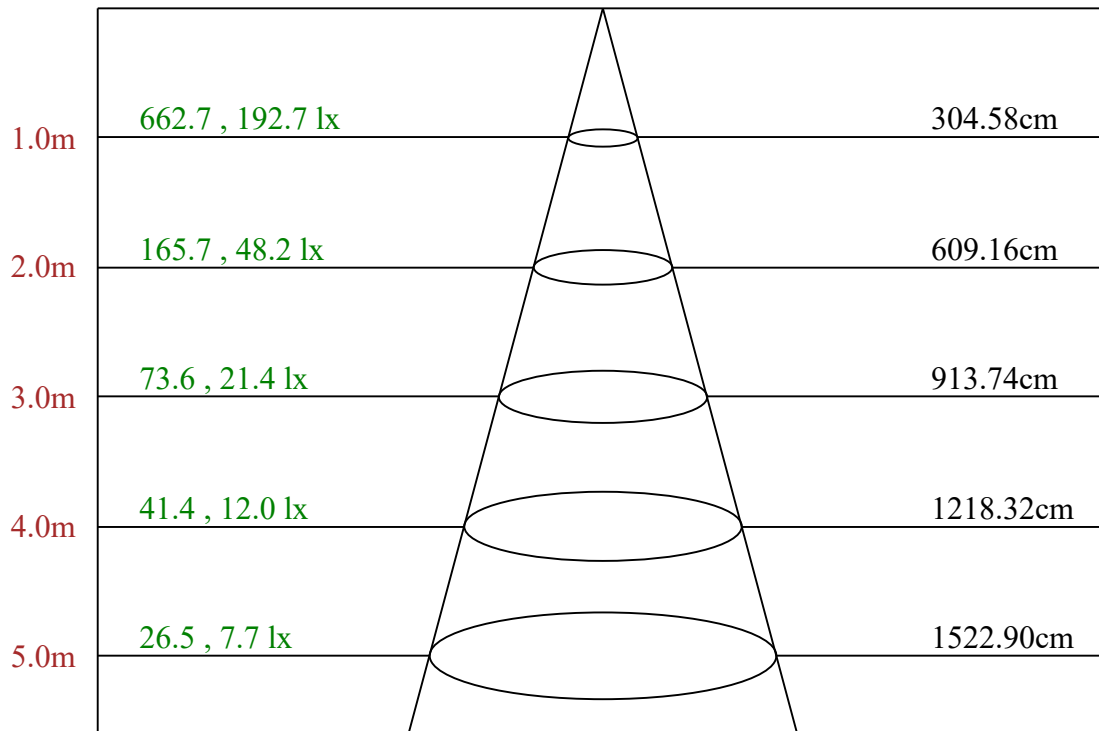
C90/C270: —————

Field angle(10%Imax):C0/180Left:81.1 Right:81.1

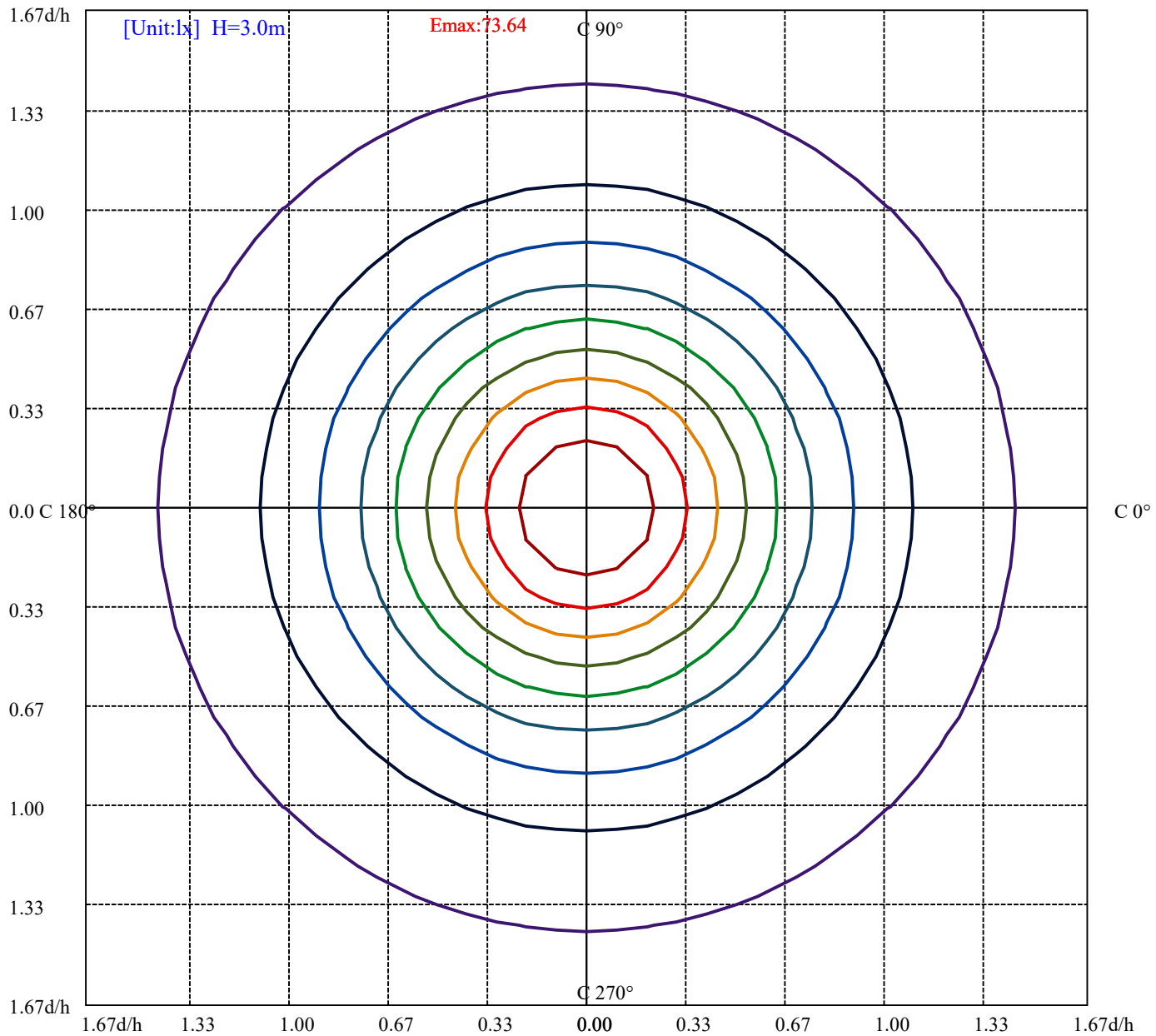
:C90/270Left:81.0 Right:81.0

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

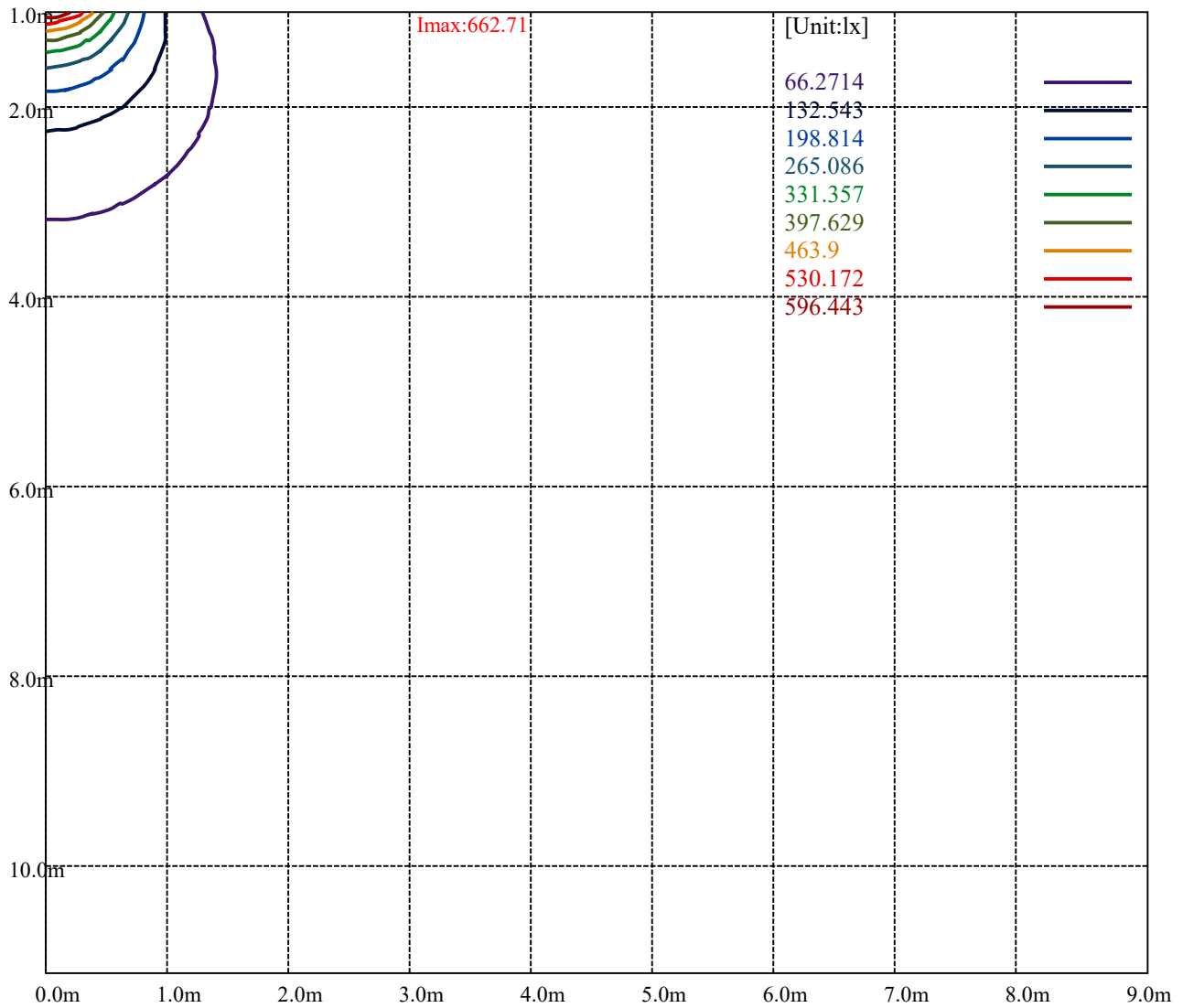
:C90/270Left:57.0 Right:57.0



Max , Ave Beam angle of C0 plane 113.42



(10%Emax) 7.363489	—
(20%Emax) 14.727	—
(30%Emax) 22.09044	—
(40%Emax) 29.454	—
(50%Emax) 36.81744	—
(60%Emax) 44.181	—
(70%Emax) 51.54445	—
(80%Emax) 58.90789	—
(90%Emax) 66.27145	—



Light Blue USA-Rayhil INV-16-CCT-UNV-**-5000K-F

Luminance Limiting Curve(no luminous side)

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Luminance Table

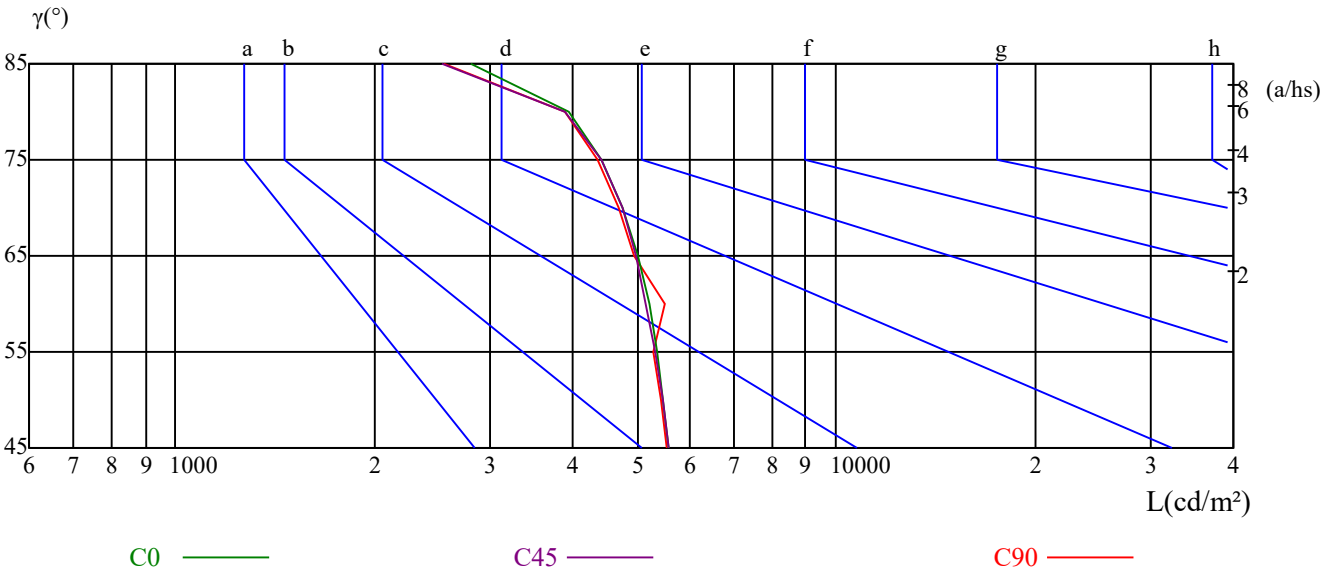
γ	45	50	55	60	65	70	75	80	85
C0	5579	5484	5352	5204	5003	4756	4401	3936	2797
C45	5565	5454	5326	5144	4971	4747	4430	3878	2529
C90	5549	5426	5298	5504	4944	4691	4356	3886	2550

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5003	4944	4971	4401	4356	4430	2797	2550	2529

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	0.62	0.56	0.52	0.49
5	0.63	0.53	0.47	0.61	0.53	0.47	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-**-5000K-F

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Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	662.71	662.71	656.37	645.49	628.26	606.51	580.22	546.67	510.41
15.0	662.71	662.71	656.34	644.51	627.21	606.27	578.96	547.10	508.87
30.0	662.71	660.89	655.42	643.57	627.16	605.29	576.11	544.21	508.66
45.0	662.71	661.80	656.32	642.60	627.06	601.47	574.96	542.97	504.58
60.0	662.71	661.80	654.48	642.58	624.27	600.47	572.09	539.14	499.78
75.0	662.71	660.88	654.46	640.72	622.38	598.55	568.30	537.14	499.56
90.0	662.71	659.96	652.63	639.80	622.38	596.72	568.30	533.47	495.89
105.0	662.71	659.96	651.71	638.88	619.63	594.88	567.39	531.64	494.06
120.0	662.71	660.88	653.52	638.82	620.43	596.53	567.12	534.03	493.59
135.0	662.71	661.79	653.51	638.78	619.45	595.52	566.99	534.77	491.51
150.0	662.71	661.79	653.51	638.78	601.97	597.36	569.75	532.01	493.35
165.0	662.71	660.87	653.51	637.86	619.45	597.36	566.99	532.01	490.59
180.0	662.71	657.27	645.49	629.17	608.32	582.03	550.30	512.22	474.14
195.0	662.71	656.34	646.33	630.85	608.10	583.52	552.57	514.33	472.46
210.0	662.71	656.33	645.39	630.81	608.93	583.41	550.59	516.86	474.02
225.0	662.71	658.14	647.17	630.72	610.61	585.02	552.11	516.46	474.41
240.0	662.71	658.14	647.15	631.59	610.54	583.99	552.87	517.17	476.90
255.0	662.71	659.05	648.05	634.30	612.30	586.64	556.39	520.64	479.39
270.0	662.71	659.05	648.97	634.30	612.30	587.55	557.30	521.56	481.22
285.0	662.71	659.05	648.97	635.22	615.05	589.38	560.05	523.39	513.31
300.0	662.71	659.96	650.77	636.98	632.38	591.02	562.53	526.68	488.99
315.0	662.71	660.87	651.67	637.86	617.61	594.60	565.15	530.17	489.67
330.0	662.71	660.87	651.67	637.86	618.53	594.60	565.15	530.17	489.67
345.0	662.71	660.87	651.67	637.86	618.53	593.68	565.15	529.25	490.59
360.0	662.71	662.71	656.37	645.49	628.26	606.51	580.22	546.67	510.41
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	466.89	421.56	370.79	318.21	262.91	207.61	152.31	99.72	48.05
15.0	466.08	418.75	367.77	316.79	263.08	206.64	152.93	98.31	44.61
30.0	462.17	417.50	366.45	312.67	257.98	202.37	147.68	97.54	44.67
45.0	462.53	415.00	363.81	309.88	257.77	199.27	147.17	92.32	40.22
60.0	459.51	412.82	361.56	308.47	253.55	197.72	142.79	90.62	36.61
75.0	455.56	407.89	356.56	301.57	250.24	195.24	140.24	87.08	35.75
90.0	453.73	404.23	354.73	301.57	246.57	191.57	136.58	86.16	31.16
105.0	450.06	404.23	352.90	297.90	245.65	187.91	135.66	82.50	29.33
120.0	451.31	399.83	351.12	298.73	243.58	188.43	134.20	82.72	29.41
135.0	450.09	400.39	347.93	295.46	240.23	188.69	134.38	80.08	27.61
150.0	448.25	403.15	347.93	298.22	243.00	187.77	132.54	77.32	28.53
165.0	448.25	402.23	350.69	298.22	243.00	187.77	134.38	80.08	27.61
180.0	427.91	378.05	325.46	271.98	216.67	161.37	106.07	55.30	7.25
195.0	426.03	375.96	324.07	269.46	217.57	162.95	109.24	55.53	7.28
210.0	427.53	378.30	325.43	271.65	217.87	162.26	111.21	55.61	9.12
225.0	428.71	380.26	331.81	273.31	222.12	166.36	111.52	58.50	9.14
240.0	432.96	383.53	330.44	277.35	222.43	166.59	115.33	59.50	12.81
255.0	432.64	385.90	330.90	279.57	225.49	170.49	116.41	103.58	15.58
270.0	436.31	386.81	334.57	322.65	227.32	172.32	119.16	66.91	19.25
285.0	439.98	390.48	338.23	285.07	231.90	174.16	122.83	70.58	20.17
300.0	439.36	394.32	342.85	289.54	234.39	178.32	124.09	70.78	22.98
315.0	443.65	394.87	342.40	288.10	232.87	182.25	127.02	74.56	23.01
330.0	446.41	394.87	346.08	291.78	236.55	182.25	127.02	72.71	21.17
345.0	446.41	397.63	344.24	290.86	239.31	183.17	128.86	75.48	23.93
360.0	466.89	421.56	370.79	318.21	262.91	207.61	152.31	99.72	48.05

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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	3.63	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
15.0	3.64	0.91	0.00	0.00	0.00	0.91	0.91	0.91	0.91
30.0	2.73	0.91	0.91	0.91	0.00	0.91	0.91	0.91	0.91
45.0	2.74	0.91	0.91	0.00	0.00	0.00	0.91	0.91	0.91
60.0	2.75	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92
75.0	2.75	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	2.75	0.92	0.92
285.0	0.92	0.92	0.92	0.92	0.92	0.92	2.75	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	3.63	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	2.72	2.72	3.63	3.63	3.63	3.63	3.63
15.0	0.91	0.91	2.73	2.73	3.64	3.64	3.64	3.64	3.64
30.0	0.91	0.91	2.73	2.73	3.65	3.65	3.65	3.65	4.56
45.0	0.91	0.91	2.74	2.74	3.66	3.66	3.66	3.66	4.57
60.0	0.92	0.92	2.75	2.75	3.66	3.66	3.66	3.66	4.58
75.0	0.92	0.92	2.75	2.75	3.67	3.67	3.67	3.67	3.67
90.0	0.92	0.92	2.75	2.75	3.67	3.67	3.67	3.67	4.58
105.0	0.92	0.92	2.75	2.75	3.67	3.67	3.67	3.67	3.67
120.0	0.92	0.92	2.76	2.76	3.68	3.68	3.68	3.68	4.60
135.0	0.92	0.92	2.76	2.76	3.68	3.68	3.68	3.68	3.68
150.0	0.92	0.92	2.76	2.76	3.68	3.68	3.68	3.68	4.60
165.0	0.92	0.92	2.76	2.76	3.68	3.68	3.68	3.68	3.68
180.0	0.91	0.91	0.91	2.72	2.72	2.72	2.72	3.63	3.63
195.0	0.91	0.91	0.91	2.73	2.73	2.73	2.73	3.64	3.64
210.0	0.91	0.91	0.91	2.73	2.73	2.73	2.73	3.65	3.65
225.0	0.91	0.91	0.91	0.91	2.74	2.74	2.74	3.66	3.66
240.0	0.92	0.92	0.92	0.92	2.75	2.75	2.75	3.66	3.66
255.0	0.92	0.92	0.92	2.75	2.75	2.75	2.75	3.67	3.67
270.0	0.92	0.92	0.92	2.75	2.75	2.75	2.75	3.67	3.67
285.0	0.92	0.92	0.92	2.75	2.75	2.75	2.75	3.67	3.67
300.0	0.92	0.92	0.92	0.92	2.76	2.76	2.76	3.68	3.68
315.0	0.92	0.92	0.92	2.76	2.76	2.76	2.76	3.68	3.68
330.0	0.92	0.92	0.92	0.92	2.76	2.76	2.76	3.68	3.68
345.0	0.92	0.92	0.92	0.92	2.76	2.76	2.76	3.68	3.68
360.0	0.91	0.91	2.72	2.72	3.63	3.63	3.63	3.63	3.63

Intensity data(cd)

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C/γ(°)	180.0
0.0	3.63
15.0	4.55
30.0	3.65
45.0	4.57
60.0	4.58
75.0	4.58
90.0	4.58
105.0	4.58
120.0	4.60
135.0	4.60
150.0	3.68
165.0	4.60
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