



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440227 KAI 15W 4000K 1800lm

Luminaire:

Report No:

Voltage(V): 230.0000

Test No: KYZ-A250930027-01-004

Current(A): 0.0690

LampCAT: LED

Power (W): 15.0000

Lamp flux(lm)

PF: 0.9458

Number of Lamps: 1

Ballast type:

Length(mm): -192

Width(mm): -192

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1800.00

Lumens(lm)/Power(W): 120.00

Central intensity(cd): 895.924

Maximum intensity(cd): 895.924

Angle of maximum intensity: $C=0.0$ $\gamma=0.0$

Beam Angle(50%Imax): [C0/180]Total=84.5

[C90/270]Total=85.1

Field angle(10%Imax): [C0/180]Total=142.1

[C90/270]Total=139.1

Maximum s/h(1/2): C0_180=1.12 C90_270=1.17

Maximum s/h(1/4): C0_180=1.16 C90_270=1.21

Up flux rate of LUM(%): 0.44%

Down flux rate of LUM(%): 99.56%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.817%

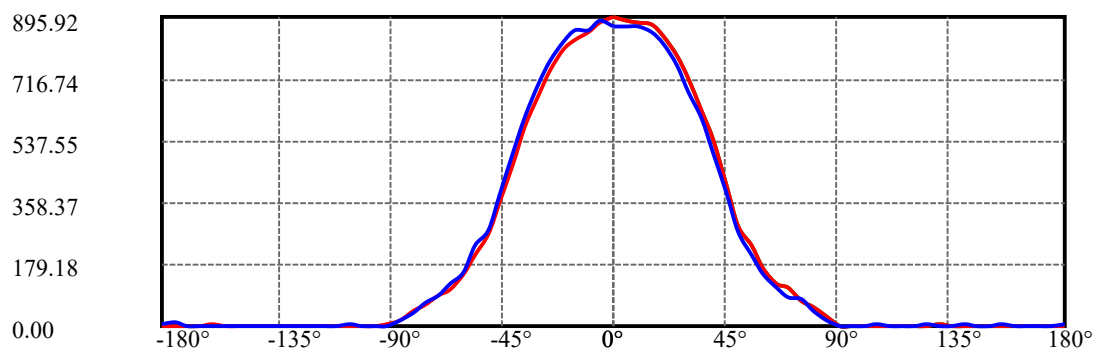
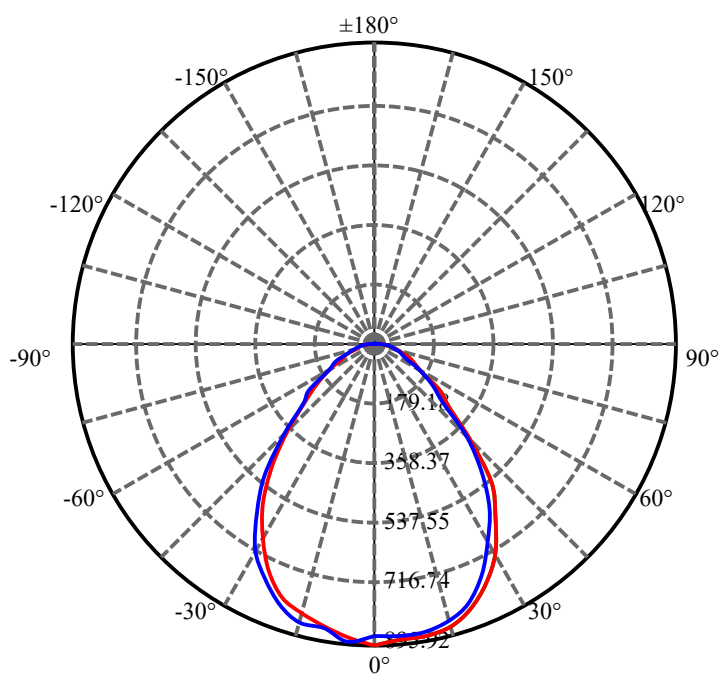
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	959.133	0.000	0	.000%	.000%
5.0	957.298	20.894	20.894	1.161%	1.161%
10.0	952.952	62.321	83.214	3.462%	4.623%
15.0	937.954	102.294	185.509	5.683%	10.306%
20.0	900.722	138.195	323.703	7.677%	17.983%
25.0	839.800	166.480	490.184	9.249%	27.232%
30.0	756.116	184.187	674.371	10.233%	37.465%
35.0	660.047	190.184	864.555	10.566%	48.031%
40.0	554.582	184.814	1049.369	10.267%	58.298%
45.0	437.662	167.551	1216.92	9.308%	67.607%
50.0	329.760	141.419	1358.339	7.857%	75.463%
55.0	245.825	114.135	1472.475	6.341%	81.804%
60.0	182.265	90.242	1562.716	5.013%	86.817%
65.0	138.903	71.204	1633.921	3.956%	90.773%
70.0	105.289	56.389	1690.309	3.133%	93.906%
75.0	77.905	43.669	1733.978	2.426%	96.332%
80.0	56.451	32.786	1766.764	1.821%	98.153%
85.0	22.284	19.511	1786.275	1.084%	99.237%
90.0	1.281	5.884	1792.159	.327%	99.564%
95.0	0.879	0.540	1792.699	.030%	99.594%
100.0	1.784	0.660	1793.359	.037%	99.631%
105.0	0.879	0.650	1794.008	.036%	99.667%
110.0	0.075	0.228	1794.236	.013%	99.680%
115.0	2.236	0.534	1794.77	.030%	99.709%
120.0	1.633	0.858	1795.628	.048%	99.757%
125.0	1.206	0.598	1796.226	.033%	99.790%
130.0	1.960	0.628	1796.854	.035%	99.825%
135.0	1.256	0.593	1797.446	.033%	99.858%
140.0	1.985	0.547	1797.994	.030%	99.888%
145.0	1.131	0.474	1798.468	.026%	99.915%
150.0	2.060	0.428	1798.896	.024%	99.938%
155.0	0.553	0.302	1799.198	.017%	99.955%
160.0	1.708	0.216	1799.414	.012%	99.967%
165.0	1.608	0.249	1799.663	.014%	99.981%
170.0	1.859	0.188	1799.851	.010%	99.991%
175.0	1.432	0.107	1799.958	.006%	99.997%
180.0	2.763	0.046	1800.004	.003%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	674.37	37.46%
0-40	1049.37	58.30%
0-60	1562.72	86.82%
0-90	1792.16	99.56%
0-120	1795.63	99.76%
0-180	1800.00	100.00%
60-90	319.68	17.76%
90-120	9.35	0.52%
90-130	10.58	0.59%
90-150	12.62	0.70%
90-180	13.68	0.76%
0-53.58	1440.00	80.00%

ZONAL LUMEN SUMMARY

0-10	83.21
10-20	240.49
20-30	350.67
30-40	375.00
40-50	308.97
50-60	204.38
60-70	127.59
70-80	76.45
80-90	25.40
90-100	1.20
100-110	0.88
110-120	1.39
120-130	1.23
130-140	1.14
140-150	0.90
150-160	0.52
160-170	0.44
170-180	0.11



C0(Max):

C0/C180:

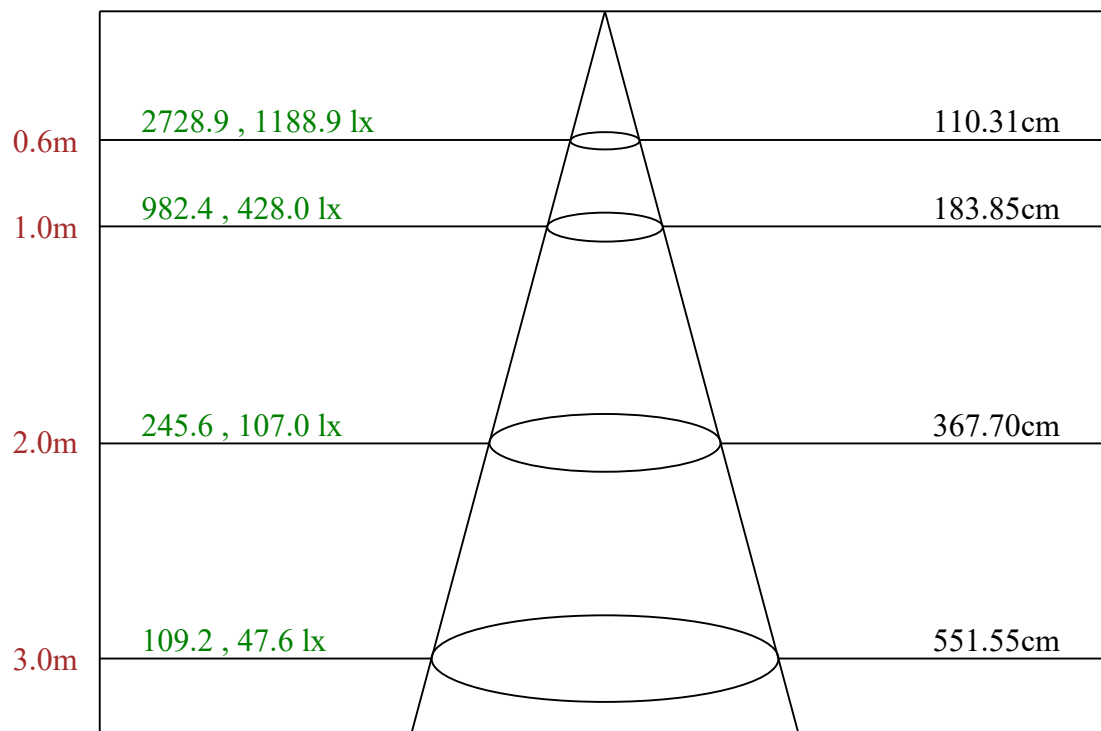
C90/C270:

Field angle(10%Imax):C0/180Left:69.5 Right:72.6

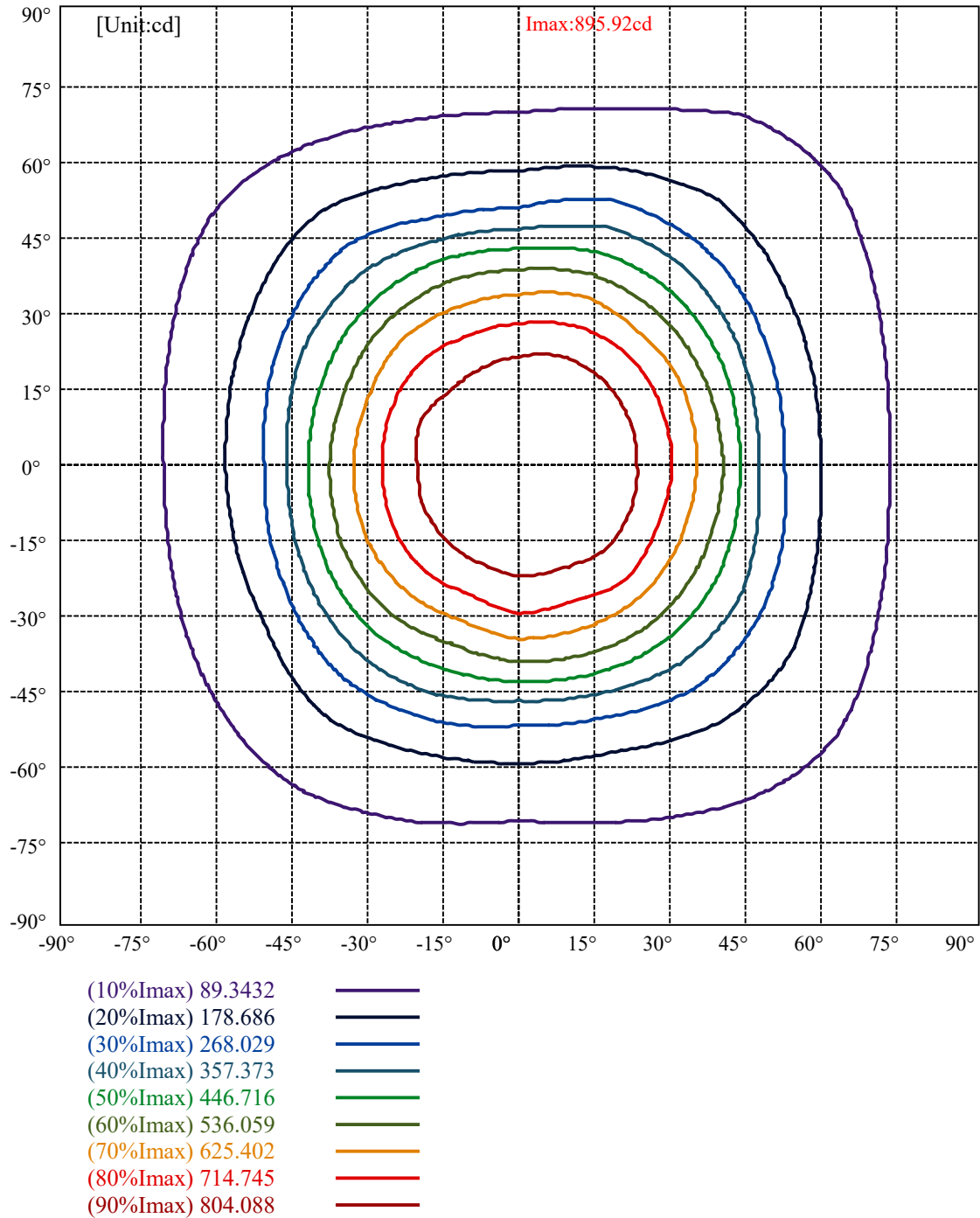
:C90/270Left:64.9 Right:74.2

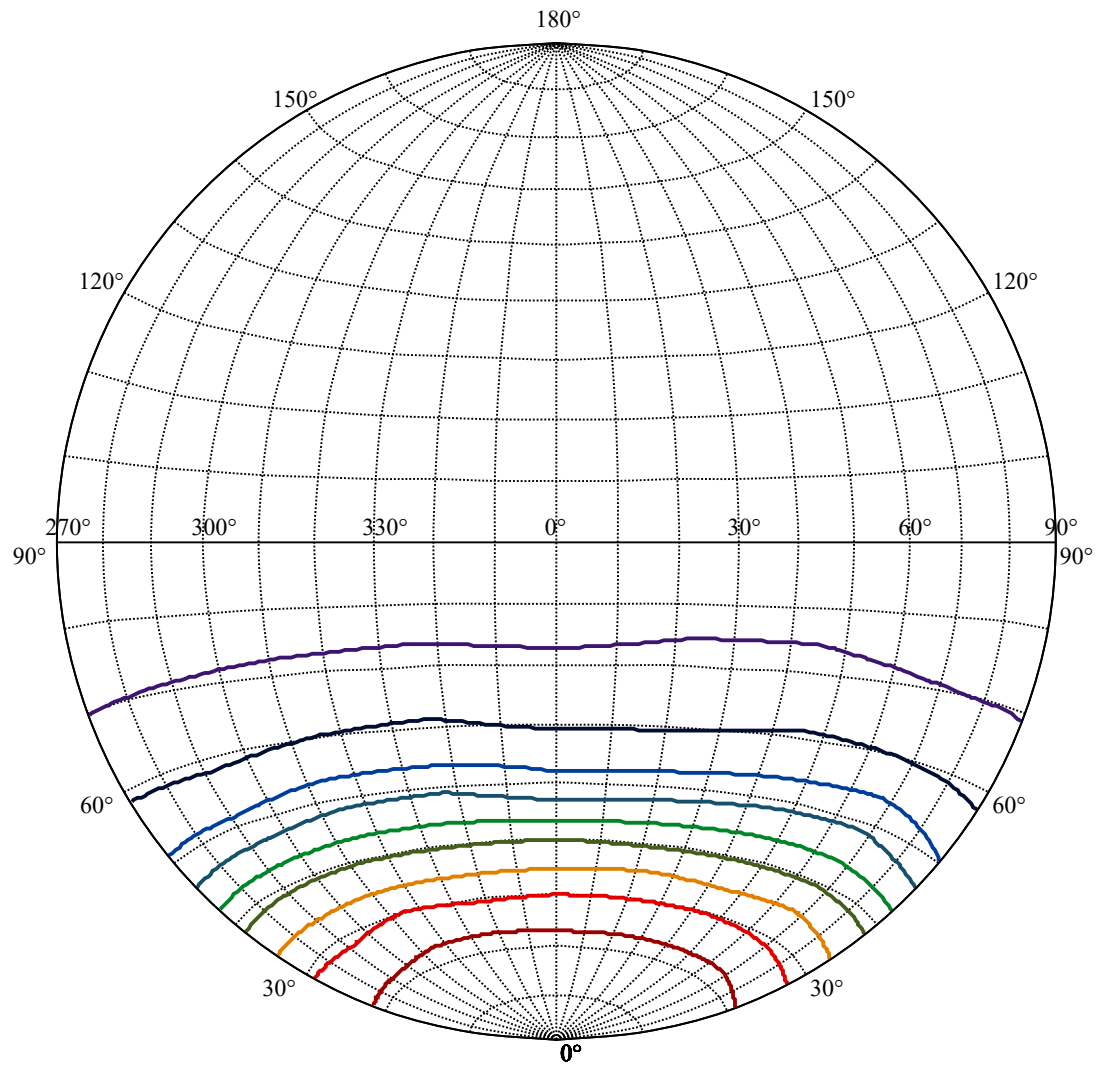
Beam Angle(50%Imax):C0/180Left:41.1 Right:43.4

:C90/270Left:37.6 Right:47.5



Max , Ave Beam angle of C0 plane 85.18



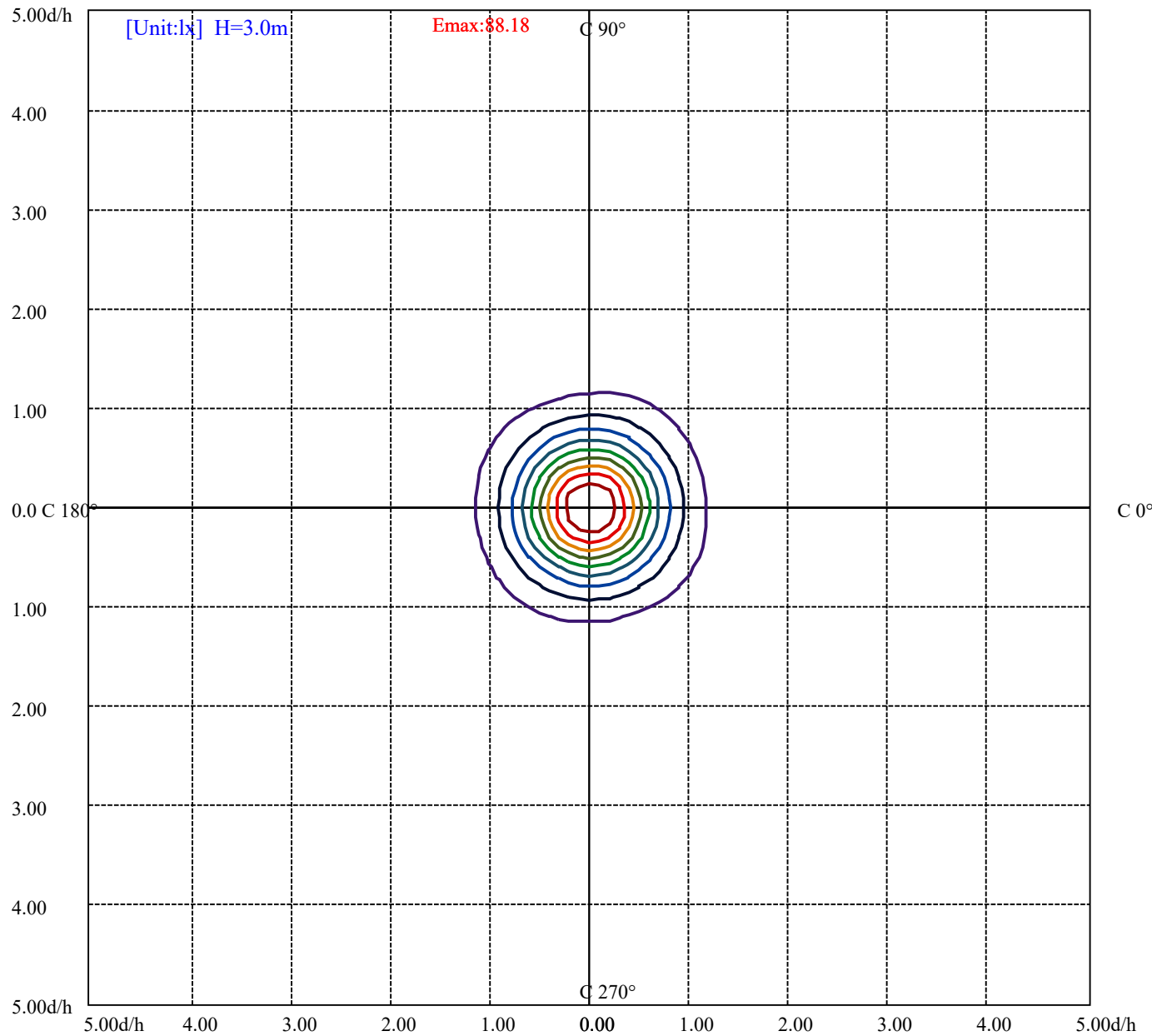


House

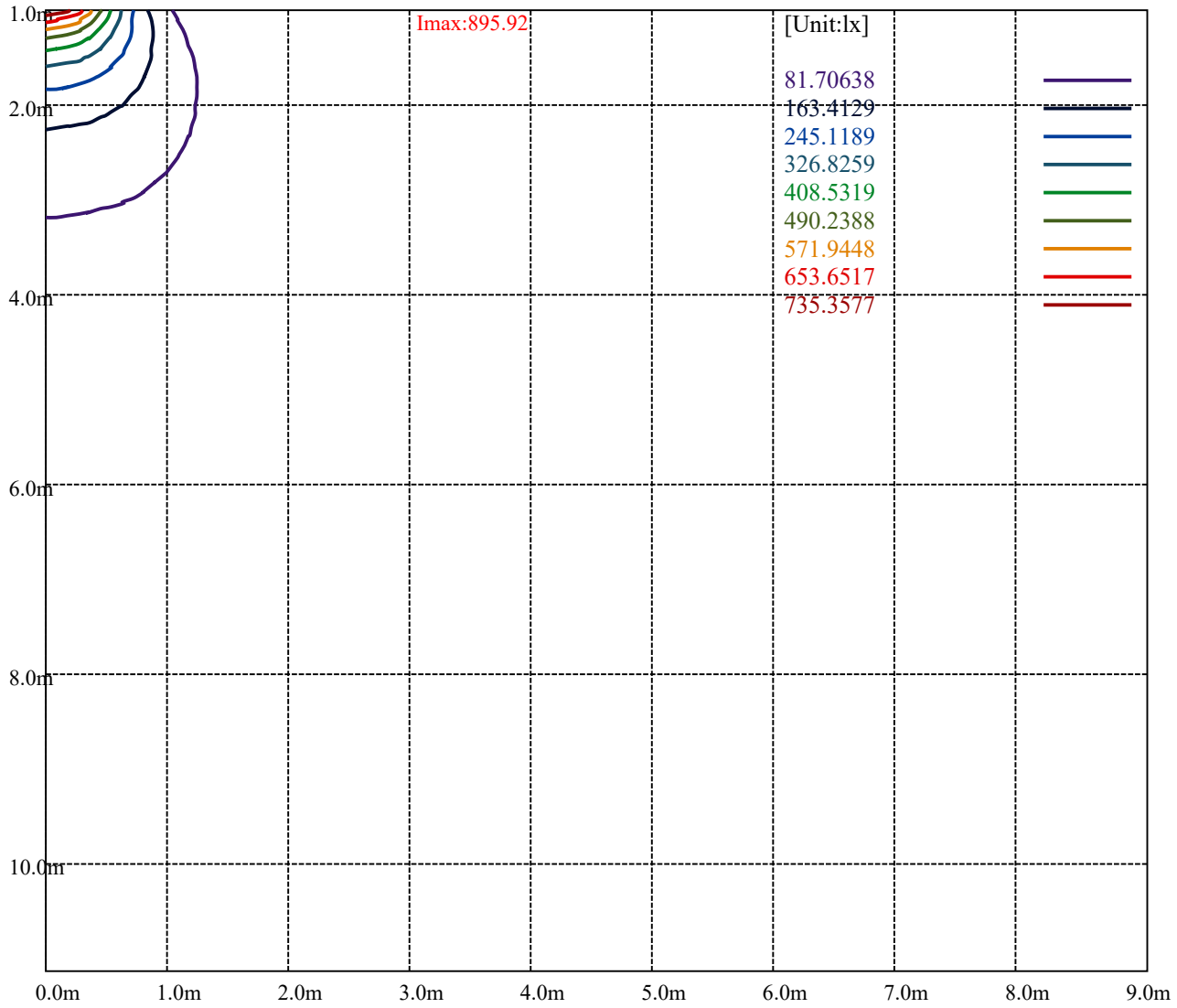
[Unit:cd]

Road

	Imax:895.92	
(10%Imax)	81.70638	—
(20%Imax)	163.4129	—
(30%Imax)	245.1189	—
(40%Imax)	326.8259	—
(50%Imax)	408.5319	—
(60%Imax)	490.2388	—
(70%Imax)	571.9448	—
(80%Imax)	653.6517	—
(90%Imax)	735.3577	—



(10%Emax)	8.81848	
(20%Emax)	17.63696	
(30%Emax)	26.45549	
(40%Emax)	35.27392	
(50%Emax)	44.09245	
(60%Emax)	52.91088	
(70%Emax)	61.72942	
(80%Emax)	70.54784	
(90%Emax)	79.36638	



Luminance Table

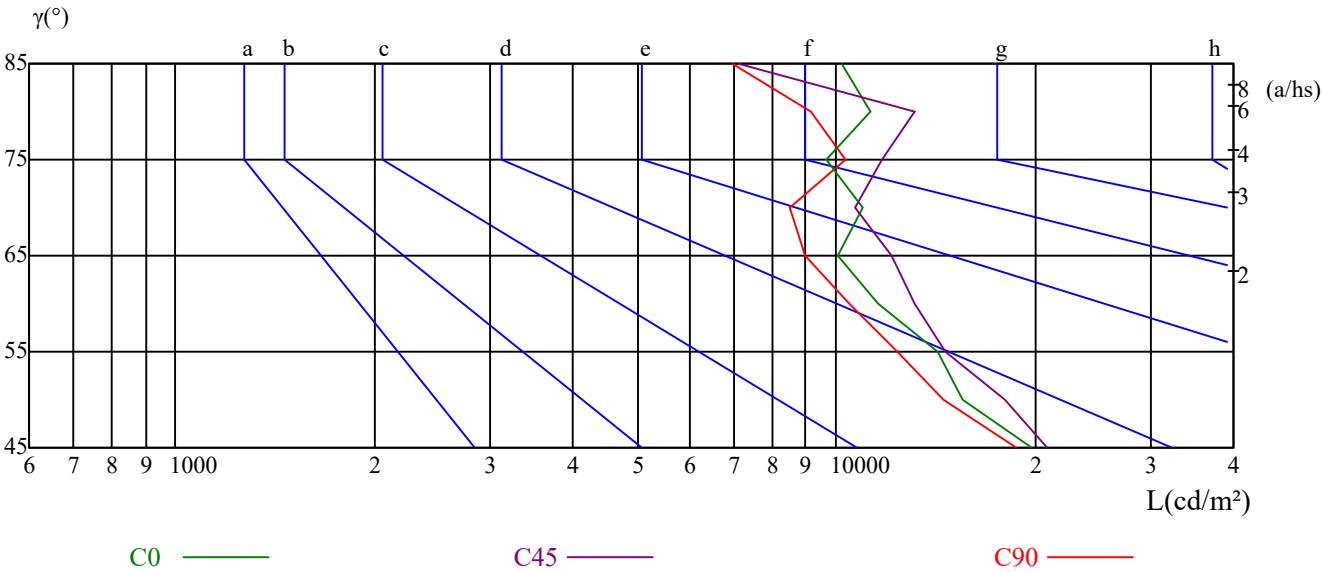
γ	45	50	55	60	65	70	75	80	85
C0	19750	15541	14238	11572	10036	10995	9637	11302	10169
C45	20878	17984	14679	13142	12163	10699	11741	13124	7118
C90	18783	14576	12384	10458	8958	8514	10371	9187	6973

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9437	9587	11175	8903	9539	9711	7917	7264	6973

Glare Table

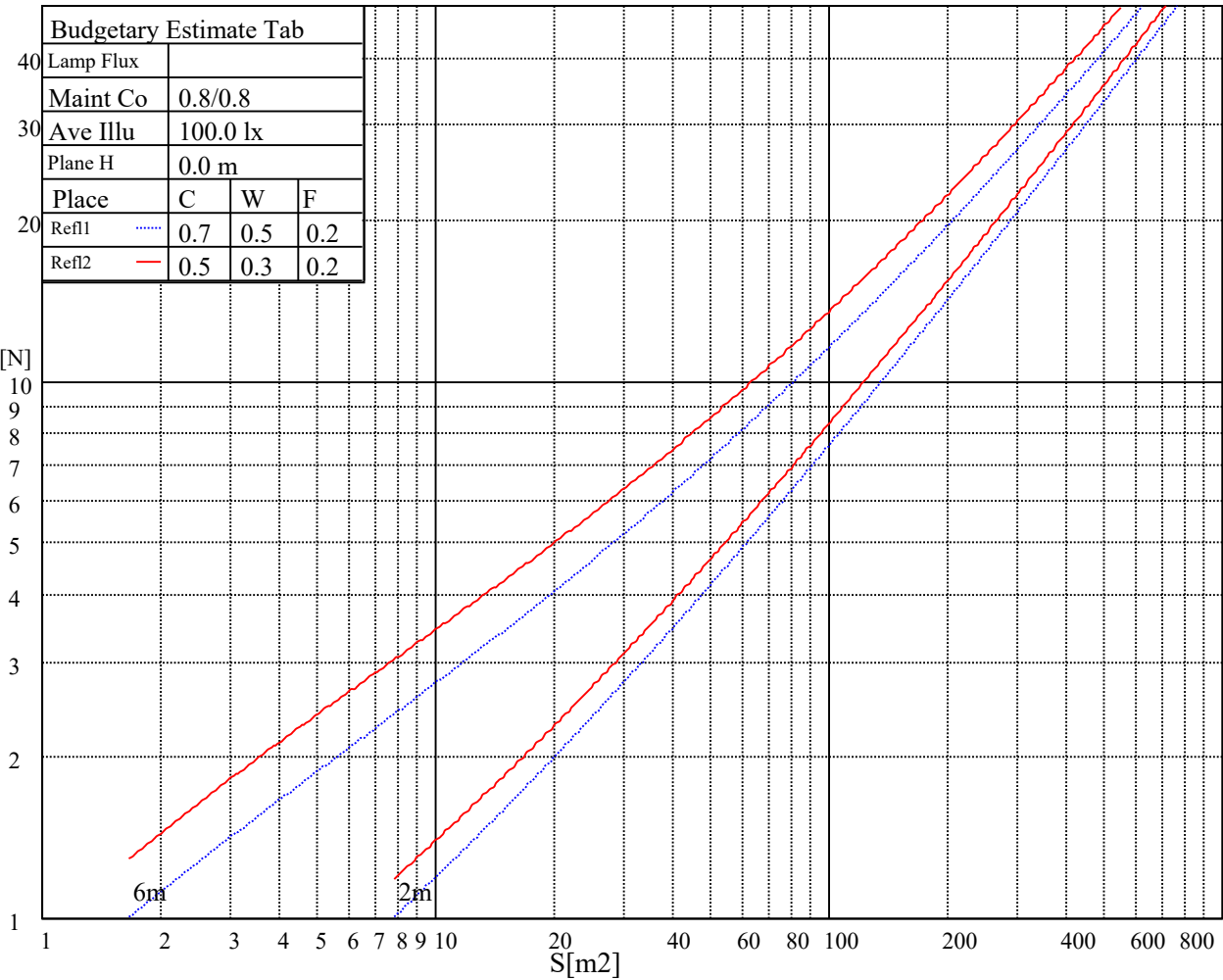
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

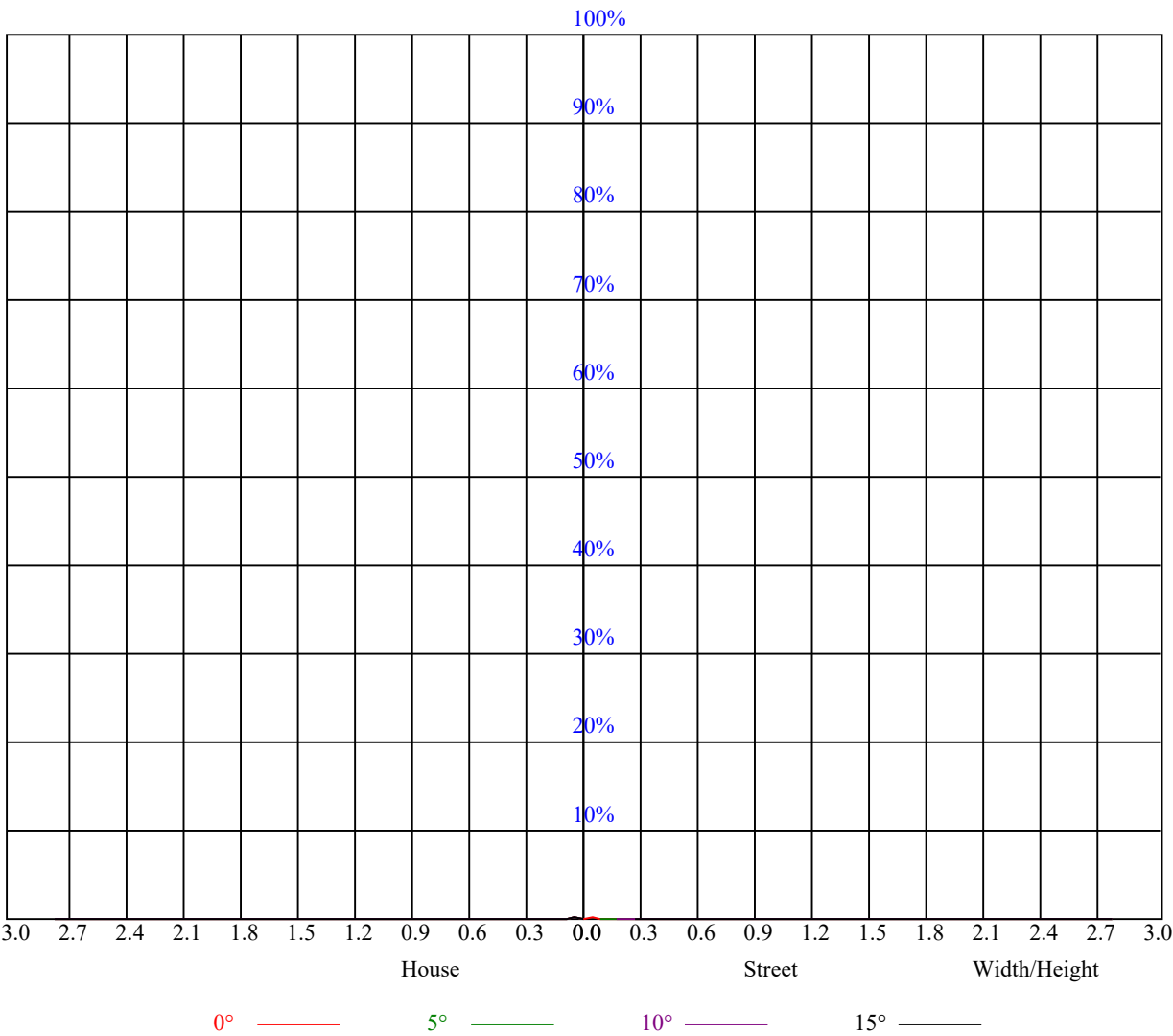


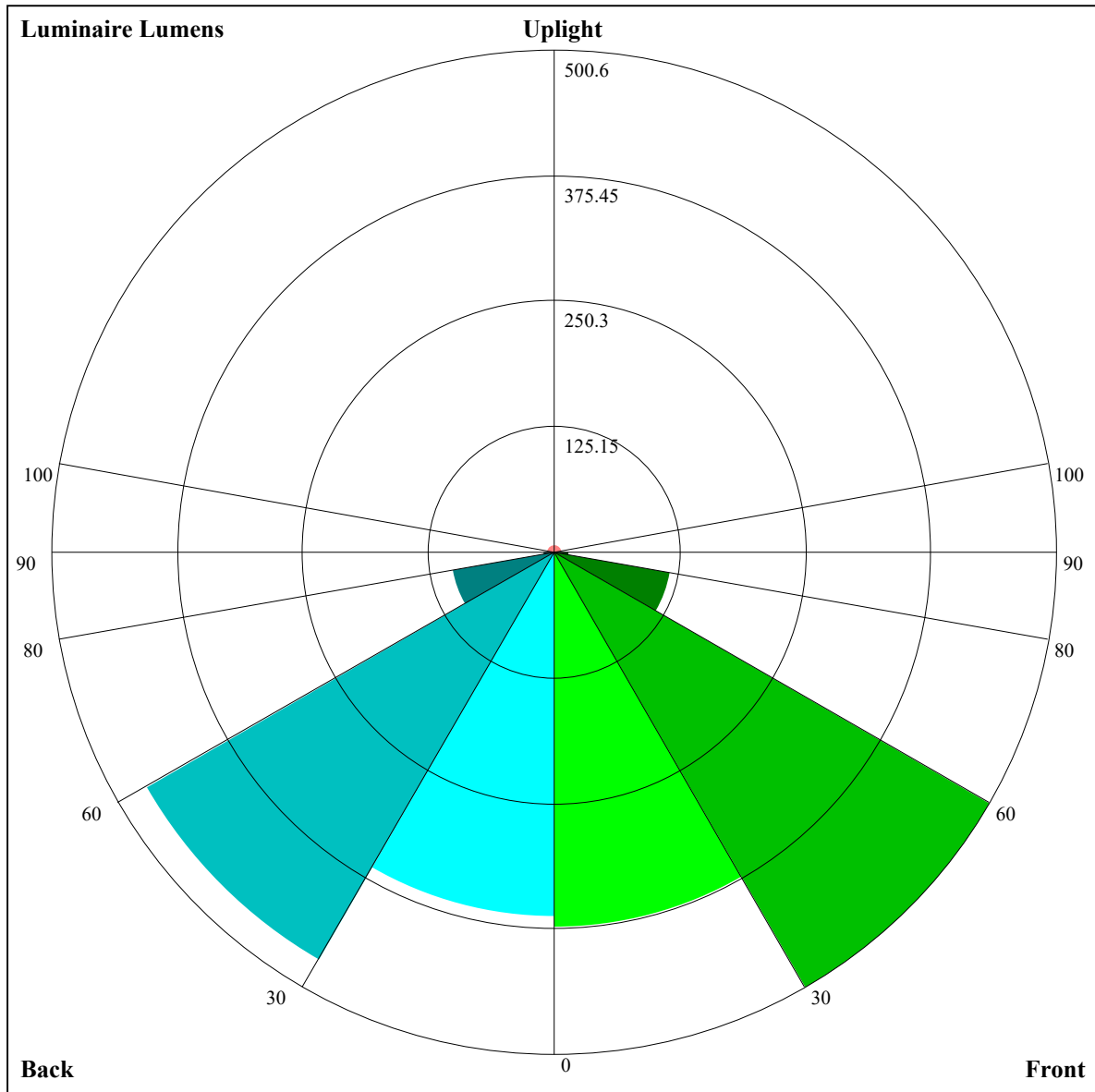
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	17.04	18.49	17.40	18.81	19.13	17.07	18.52	17.44	18.85	19.17
	3H	18.09	19.39	18.48	19.74	20.09	17.93	19.23	18.32	19.58	19.93
	4H	18.62	19.84	19.02	20.20	20.57	18.40	19.62	18.80	19.98	20.36
	6H	19.15	20.28	19.57	20.66	21.06	18.87	20.00	19.28	20.37	20.78
	8H	19.35	20.44	19.77	20.83	21.24	18.99	20.08	19.41	20.47	20.88
	12H	19.49	20.53	19.91	20.92	21.34	19.05	20.09	19.48	20.49	20.91
4H	2H	17.52	18.74	17.92	19.10	19.47	17.55	18.77	17.95	19.13	19.50
	3H	18.80	19.83	19.23	20.23	20.65	18.61	19.64	19.03	20.04	20.46
	4H	19.56	20.47	20.00	20.89	21.34	19.28	20.18	19.72	20.61	21.06
	6H	20.24	21.05	20.71	21.50	21.95	19.87	20.68	20.34	21.13	21.58
	8H	20.55	21.30	21.03	21.76	22.23	20.09	20.85	20.58	21.30	21.78
	12H	20.77	21.47	21.25	21.92	22.43	20.23	20.93	20.71	21.38	21.89
8H	4H	19.85	20.61	20.34	21.06	21.54	19.61	20.36	20.09	20.82	21.29
	6H	20.74	21.37	21.24	21.85	22.36	20.40	21.03	20.90	21.50	22.02
	8H	21.22	21.77	21.74	22.28	22.78	20.78	21.33	21.30	21.84	22.34
	12H	21.56	22.02	22.09	22.54	23.06	20.99	21.46	21.53	21.97	22.49
12H	4H	19.90	20.60	20.38	21.05	21.56	19.66	20.36	20.15	20.81	21.33
	6H	20.88	21.43	21.40	21.94	22.44	20.55	21.10	21.08	21.62	22.12
	8H	21.36	21.82	21.89	22.33	22.86	20.93	21.39	21.47	21.91	22.43
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.8					0.4/-0.6				
S = 1.5H		0.7/-1.2					0.6/-1.0				
S = 2.0H		1.4/-1.4					1.2/-1.2				
Standard tables:		BK4					BK4				
Uncorrected UGR		6.4					6.6				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



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 RHOF=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	1.06	1.02	0.99	1.04	1.00	0.97	0.99	0.97	0.94	0.96	0.93	0.91	0.92	0.90	0.88	0.86
2	0.94	0.88	0.83	0.92	0.87	0.82	0.89	0.84	0.80	0.86	0.82	0.79	0.83	0.80	0.77	0.75
3	0.84	0.77	0.72	0.83	0.76	0.71	0.80	0.74	0.70	0.77	0.72	0.68	0.75	0.71	0.67	0.65
4	0.76	0.68	0.62	0.75	0.67	0.62	0.72	0.66	0.61	0.70	0.65	0.60	0.68	0.63	0.59	0.57
5	0.69	0.61	0.55	0.68	0.60	0.55	0.66	0.59	0.54	0.64	0.58	0.53	0.62	0.57	0.53	0.51
6	0.63	0.55	0.49	0.62	0.54	0.49	0.60	0.53	0.48	0.58	0.52	0.48	0.57	0.52	0.47	0.45
7	0.58	0.49	0.44	0.57	0.49	0.44	0.55	0.48	0.43	0.54	0.48	0.43	0.52	0.47	0.43	0.41
8	0.53	0.45	0.40	0.52	0.45	0.40	0.51	0.44	0.39	0.50	0.44	0.39	0.49	0.43	0.39	0.37
9	0.49	0.41	0.36	0.48	0.41	0.36	0.47	0.41	0.36	0.46	0.40	0.36	0.45	0.40	0.35	0.34
10	0.45	0.38	0.33	0.45	0.38	0.33	0.44	0.37	0.33	0.43	0.37	0.33	0.42	0.37	0.33	0.31





Luminaire Lumens:

FL=374.15,FM=500.6,FH=117.69,FVH=15.83

BL=364.27,BM=469.02,BH=104.02,BVH=11.54

UL=1.31,UH=7.28

BUG Rating:B1-U1-G1

Intensity data(cd)

Appendix Page: 16 Total:17

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	895.92	883.46	879.80	871.00	838.00	784.85	716.30	622.82	537.77
22.5	869.53	871.00	880.53	866.60	833.24	789.98	714.83	630.15	527.14
45.0	870.26	873.20	872.46	871.73	838.74	783.75	714.10	615.12	527.14
67.5	877.96	863.30	876.50	856.33	835.07	782.28	701.27	628.32	526.78
90.0	865.86	869.16	866.60	850.10	818.94	756.62	677.07	600.83	500.02
112.5	867.70	875.76	859.27	839.10	806.48	742.69	674.14	590.20	502.95
135.0	875.40	866.96	861.47	869.16	798.05	748.56	680.37	589.10	479.49
157.5	875.03	871.36	867.70	841.67	818.21	752.96	661.68	570.03	467.02
180.0	895.92	879.06	851.93	828.47	802.45	740.49	665.71	579.56	472.52
202.5	869.53	861.83	870.63	839.47	807.58	749.29	669.01	590.20	483.89
225.0	870.26	887.49	860.00	847.17	806.85	761.02	667.18	588.73	493.05
247.5	877.96	868.06	876.13	843.14	812.71	745.63	667.54	574.43	483.52
270.0	865.86	886.03	859.27	854.50	824.44	766.52	703.84	608.52	507.72
292.5	867.70	871.00	868.80	873.93	827.01	768.72	692.11	610.36	520.91
315.0	875.40	868.80	875.76	864.76	832.14	791.45	721.43	615.12	530.81
337.5	875.03	872.10	878.33	869.16	843.14	789.25	706.40	617.69	531.54
360.0	895.92	883.46	879.80	871.00	838.00	784.85	716.30	622.82	537.77
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	404.34	289.23	236.45	167.53	122.80	108.87	72.22	56.82	25.66
22.5	419.00	308.29	232.41	173.03	122.44	109.97	87.61	63.05	35.56
45.0	427.43	334.69	243.78	190.26	148.83	105.94	87.98	65.98	17.96
67.5	425.23	340.19	251.84	178.89	140.40	93.11	74.78	58.29	26.76
90.0	384.54	271.27	205.65	151.40	109.61	84.31	77.72	46.19	17.60
112.5	383.08	273.84	217.75	150.30	119.51	82.48	68.55	50.59	12.83
135.0	396.27	305.36	232.05	174.86	129.04	87.61	59.75	34.82	21.26
157.5	394.81	289.60	206.02	163.13	114.01	96.41	58.65	48.02	26.76
180.0	362.55	264.67	206.02	150.67	108.14	87.61	61.22	42.16	14.30
202.5	377.21	275.67	193.92	137.47	118.77	84.31	64.15	39.59	12.10
225.0	394.07	304.26	218.85	170.09	129.77	94.58	68.55	45.09	8.80
247.5	394.81	310.49	207.49	166.43	127.94	97.88	64.15	39.22	19.43
270.0	383.08	276.40	235.35	155.43	125.00	87.61	65.25	39.59	19.06
292.5	399.57	290.33	216.28	157.63	118.41	96.41	68.92	55.72	17.23
315.0	418.64	333.22	239.74	181.82	139.30	107.77	74.78	60.12	22.36
337.5	421.57	344.22	243.41	190.62	152.86	111.44	82.48	78.45	27.49
360.0	404.34	289.23	236.45	167.53	122.80	108.87	72.22	56.82	25.66
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	4.03
22.5	0.00	0.37	5.86	1.83	0.00	0.00	0.00	0.00	3.67
45.0	0.00	1.10	4.03	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	5.50	0.00	0.00	0.00	3.30	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.73	1.47	0.00	0.00
135.0	0.00	6.23	0.00	0.00	0.00	2.20	1.83	6.60	0.00
157.5	0.00	0.00	8.80	0.00	0.00	0.00	0.00	0.00	0.00
180.0	6.96	2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	5.86	8.80	0.00	0.00
225.0	0.00	1.83	0.00	1.47	0.00	6.23	0.00	0.00	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77	12.46
270.0	0.00	0.00	0.00	2.93	0.00	0.37	0.00	0.00	0.73
292.5	0.00	1.10	1.10	0.00	1.10	14.66	0.00	1.83	0.00
315.0	6.96	0.00	0.00	0.00	0.00	2.57	0.00	1.10	0.00
337.5	4.77	0.00	6.23	0.00	0.00	0.00	11.73	0.00	7.70
360.0	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	4.03

Intensity data(cd)										Appendix Page: 17 Total:17	
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	2.57	2.20	2.20	0.00	0.00	0.00	1.10	1.10	0.73		
22.5	0.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00	1.83		
45.0	0.00	0.00	0.00	6.60	0.00	3.67	0.00	0.00	0.00		
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.90		
90.0	0.00	6.96	0.00	0.00	3.67	1.47	0.00	0.00	0.00		
112.5	1.10	0.00	1.47	4.40	0.00	0.73	0.00	6.96	0.00		
135.0	0.00	0.00	0.73	0.00	0.00	0.00	9.90	0.00	0.00		
157.5	4.40	2.57	0.00	0.00	0.00	0.00	5.13	8.43	0.00		
180.0	1.47	0.00	0.00	0.00	0.00	4.40	2.20	0.00	0.00		
202.5	0.00	1.47	0.00	0.00	0.00	1.10	0.00	0.00	0.00		
225.0	3.30	2.20	0.00	3.30	2.93	0.00	0.00	0.00	0.00		
247.5	0.00	0.00	0.00	0.00	0.00	0.00	1.10	2.93	0.00		
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	8.43		
292.5	0.00	0.00	12.10	0.00	0.00	10.26	0.00	6.23	0.00		
315.0	5.50	9.16	0.00	0.00	1.47	3.30	0.00	0.00	0.00		
337.5	0.00	2.93	0.00	15.76	0.00	0.00	4.03	0.00	0.00		
360.0	2.57	2.20	2.20	0.00	0.00	0.00	1.10	1.10	0.73		
C/ γ (°)	180.0										
0.0	0.00										
22.5	3.30										
45.0	0.00										
67.5	0.00										
90.0	5.86										
112.5	0.00										
135.0	5.13										
157.5	5.86										
180.0	0.00										
202.5	3.30										
225.0	0.00										
247.5	0.00										
270.0	5.86										
292.5	0.00										
315.0	5.13										
337.5	5.86										
360.0	0.00										