UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300

Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For

Auroralight Inc
2742 Loker Ave W
#100
Carlsbad, CA 92010-6619
United States

Catalog Number

LSW8-WF-40 (60° OPTIC, 4000K)
Order Number
12250114
Test Number
12250114.110

Report Date

2018-05-09

Prepared By

Sean Gregory, Project Handler

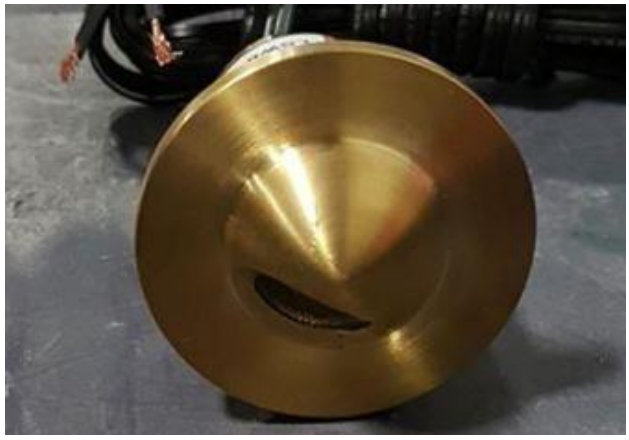
Approved By

Alexa Lambert, Project Handler

Luminaire Description: Cylindrical copper housing with circular metal domed faceplate
Lamp: One (1) Cree XP-L 4000K LED with 60° wide flood optic
Mounting: Step/Wall
Ballast/Driver: Integrated
Note:

This report has been pro-rated using data from report numbers 12250114.108, 12250114.01, 12250114.02, 12250114.03, 12250114.04, 12250114.05, and 12250114.06 to account for differences in color temperature.

Luminaire



Luminaire Characteristics

Luminous Length:	0.50	in.
Luminous Width:	0.5000	in.
Luminous Height:	1.00	in.

Summary of Results

Roadway Classification:	Type II, Very Short
Cutoff Classification:	Noncutoff
BUG Rating:	B0 U1 G0

Test Conditions

Test Temperature:	24.4	°C
Voltage:	12.01	VAC
Current:	0.1678	A
Power:	1.235	W
Power Factor:	0.613	
Frequency:	60	Hz
Current THD:	81.0	%

Tested in 30 planes left side, 30 planes right side, left and right averaged
Vertical test increments are 2.5 degrees
Test distance exceeds five times the greatest luminous opening of luminaire

Laboratory results may not be representative of field performance
Ballast factors have not been applied

Distribution - Goniophotometer

Distribution Test Conditions

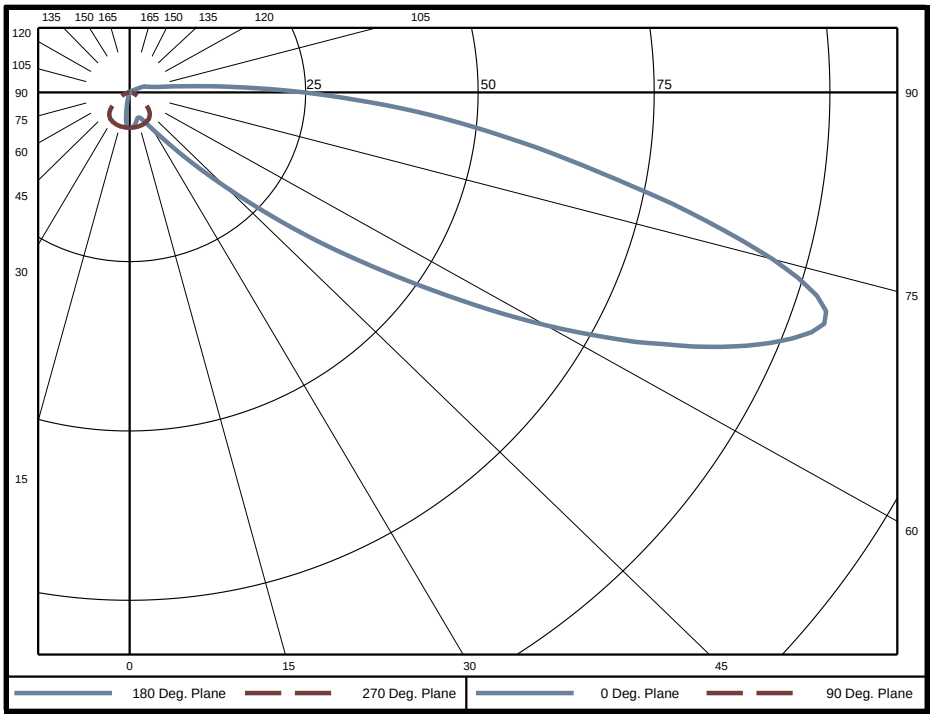
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.4 °C	12.01 VAC	0.1678 A	1.235 W	0.613	60 Hz	81.0 %

Summary of Results

Spacing Criteria
0-180: 6.52
90-270: 1.38

Total Lumen Output: 44.41 Lumens
Luminaire Efficacy: 36.0 lm/w
Maximum Candela: 105 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.124	0.3%	60-65	5.548	12.5%	120-125	0.031	0.1%
5-10	0.344	0.8%	65-70	6.412	14.4%	125-130	0.008	0.0%
10-15	0.477	1.1%	70-75	6.043	13.6%	130-135	0.001	0.0%
15-20	0.552	1.2%	75-80	4.346	9.8%	135-140	0.000	0.0%
20-25	0.614	1.4%	80-85	2.775	6.2%	140-145	0	0.0%
25-30	0.707	1.6%	85-90	1.706	3.8%	145-150	0	0.0%
30-35	0.849	1.9%	90-95	0.906	2.0%	150-155	0	0.0%
35-40	1.080	2.4%	95-100	0.463	1.0%	155-160	0	0.0%
40-45	1.456	3.3%	100-105	0.288	0.6%	160-165	0	0.0%
45-50	2.070	4.7%	105-110	0.206	0.5%	165-170	0	0.0%
50-55	2.986	6.7%	110-115	0.141	0.3%	170-175	0	0.0%
55-60	4.211	9.5%	115-120	0.067	0.2%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	5	10.7%
0-60	15	34.8%
0-90	42	95.2%
90-180	2	4.8%

Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
5	5.1	5.1	5.1	5.2	5.2	5.3	5.1	5.0	4.9	5.0	5.1	5.3	5.2	5.2	5.1	5.1
10	4.7	4.6	4.9	5.1	5.2	5.1	4.2	3.1	2.5	3.1	4.2	5.1	5.2	5.1	4.9	4.6
15	4.1	4.0	4.4	4.9	5.2	4.7	2.3	1.3	0.8	1.3	2.3	4.7	5.2	4.9	4.4	4.0
20	4.0	3.8	3.9	4.7	5.1	3.8	1.1	0.4	0.2	0.4	1.1	3.8	5.1	4.7	3.9	3.8
25	4.6	4.1	3.6	4.4	5.0	2.8	0.4	0.0	0.0	0.0	0.4	2.8	5.0	4.4	3.6	4.1
30	5.9	5.0	3.5	4.0	4.8	2.0	0.1	0.0	0.0	0.0	0.1	2.0	4.8	4.0	3.5	5.0
35	8.4	6.6	3.8	3.5	4.7	1.4	0.0	0.0	0.0	0.0	0.0	1.4	4.7	3.5	3.8	6.6
40	13.0	9.1	4.2	3.1	4.3	0.9	0.0	0.0	0.0	0.0	0.0	0.9	4.3	3.1	4.2	9.1
45	20.6	13.5	4.7	2.6	3.8	0.5	0.0	0.0	0.0	0.0	0.0	0.5	3.8	2.6	4.7	13.5
50	32.7	20.2	5.1	2.3	3.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3	3.0	2.3	5.1	20.2
55	48.6	29.3	5.3	1.9	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.2	1.9	5.3	29.3
60	68.9	40.0	5.0	1.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.6	5.0	40.0
65	88.8	47.5	4.1	1.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.4	4.1	47.5
70	103.6	44.0	3.1	1.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.2	3.1	44.0
75	95.0	28.7	2.3	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.1	2.3	28.7
80	68.2	13.6	1.8	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.8	13.6
85	45.4	7.0	1.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	1.5	7.0
90	24.8	4.1	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.3	4.1
95	10.3	2.5	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	2.5
100	4.7	1.7	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	1.7
105	3.1	1.4	0.6	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.6	1.4
110	2.4	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	1.0
115	1.6	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.6
120	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
125	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Average Luminance (cd/m^2)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
0	#VALUE!	#VALUE!	#VALUE!
45	#VALUE!	#VALUE!	#VALUE!
55	#VALUE!	#VALUE!	#VALUE!
65	#VALUE!	#VALUE!	#VALUE!
75	#VALUE!	#VALUE!	#VALUE!
85	#VALUE!	#VALUE!	#VALUE!

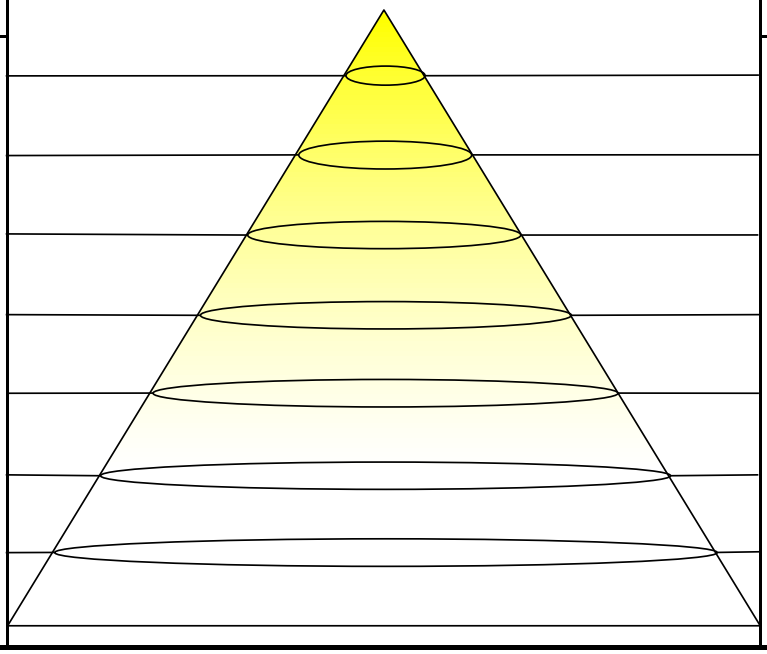
Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	52	52	52	52	51	51	51	51	48	48	48	46	46	46	43	43	43	42
1	44	41	38	35	43	39	36	34	37	35	32	35	33	31	33	31	30	28
2	38	33	28	24	37	31	27	23	29	26	22	27	24	22	26	23	21	19
3	33	27	21	17	32	26	21	17	24	20	16	22	19	16	21	18	15	14
4	30	22	17	13	28	22	17	13	20	16	12	19	15	12	17	14	11	10
5	27	19	14	10	26	19	14	10	17	13	10	16	12	9	15	12	9	8
6	24	17	12	8	23	16	12	8	15	11	8	14	10	8	13	10	7	6
7	22	15	10	7	21	15	10	7	14	9	7	13	9	6	12	9	6	5
8	21	14	9	6	20	13	9	6	12	8	6	11	8	5	11	8	5	4
9	19	12	8	5	18	12	8	5	11	7	5	10	7	5	10	7	4	4
10	18	11	7	4	17	11	7	4	10	7	4	10	6	4	9	6	4	3

Beam and Field Information	
CIE Type:	Direct
Center Beam Intenisty:	5.2 Candela
Central Cone Intensity:	5 Candela
Beam Flux:	41.6 Lumens
Beam Angle (0-180):	118.0 Degrees
Beam Angle (90-270):	104.6 Degrees
Field Angle (0-180):	137.9 Degrees
Field Angle (90-270):	152.4 Degrees

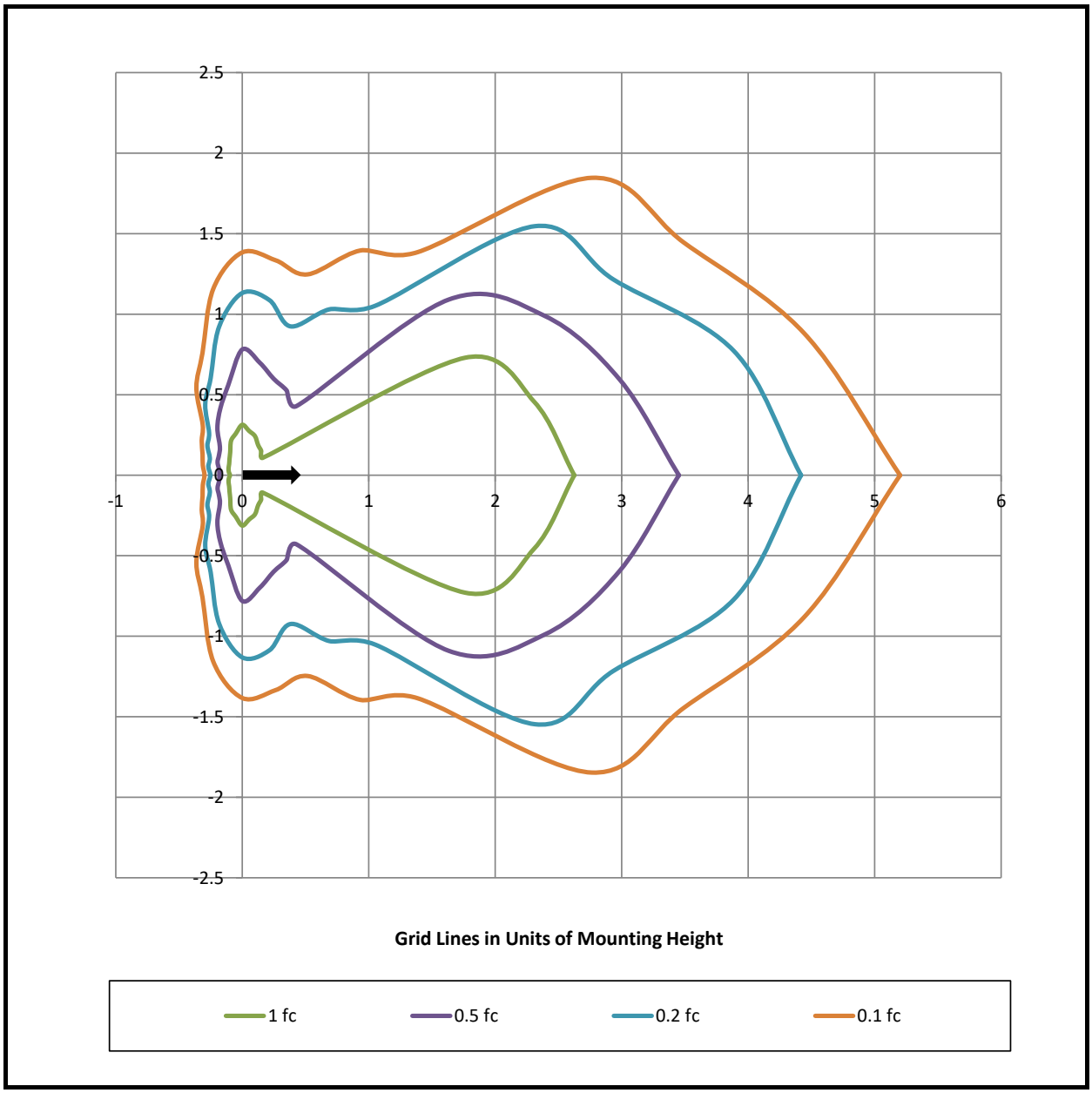
Cone of Light Tabulation

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	0.325	2.88
6.00	0.144	4.33
8.00	0.0812	5.77
10.0	0.0519	7.21
12.0	0.0361	8.65
14.0	0.0265	10.1
16.0	0.0203	11.5

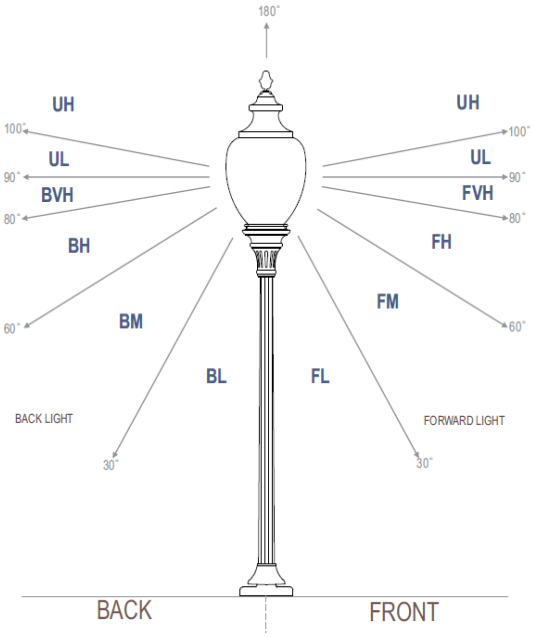


ISOFootcandle Plot

Mounting Height - 2 Feet



IES "BUG" Rating
(Back Light, Uplight, Glare)
Per IES TM-15-11



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	1.9	4.3%
FM	(30-60)	12.1	27.6%
FH	(60-80)	21.8	49.9%
FVH	(80-90)	4.2	9.7%
BL	(0-30)	1.0	2.2%
BM	(30-60)	0.7	1.5%
BH	(60-80)	0.1	0.2%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	1.3	2.9%
UH	(100-180)	0.7	1.7%
Total		43.8	100.0%
BUG Rating	**B0 U1 G0**		