



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-FL-WF-40 (60° OPTIC, 4000K)

Order Number
12250114
Test Number
12250114.99

Report Date

2018-05-09

Prepared By

Sean Gregory, Project Handler

Approved By

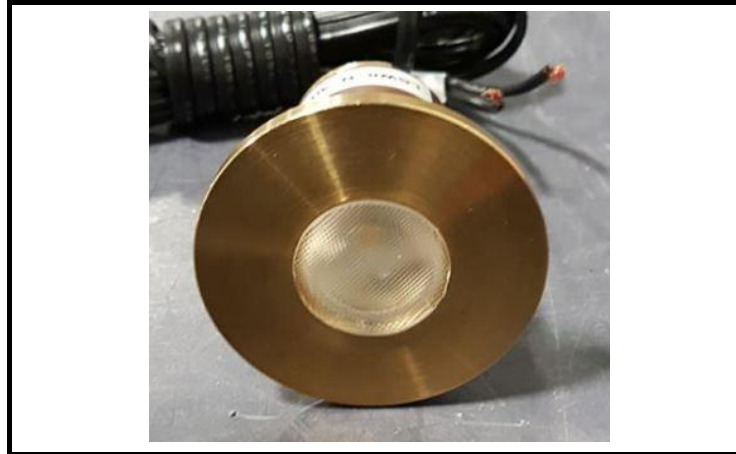
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Cylindrical copper housing with circular metal flush faceplate
Lamp: One (1) Cree XP-L 4000K LED with 60° wide flood optic
Mounting: Recessed Downlight
Ballast/Driver: Integrated
Note: This report has been pro-rated using data from report numbers 12250114.97, 12250114.01, 12250114.02, 12250114.03, 12250114.04, 12250114.05, and 12250114.06 to account for differences in color temperature.

Luminaire



Luminaire Characteristics

Luminous Diameter: 1.00 in.

Summary of Results

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

Test Conditions

Test Temperature: 24.4 °C
Voltage: 12.01 VAC
Current: 0.1699 A
Power: 1.247 W
Power Factor: 0.612
Frequency: 60 Hz
Current THD: 80.6 %

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	0.1699 A	1.247 W	0.612	60 Hz	80.6 %

Summary of Results

Spacing Criteria

0-180: 1.00
90-270: 1.00

Total Lumen Output:

147.7 Lumens

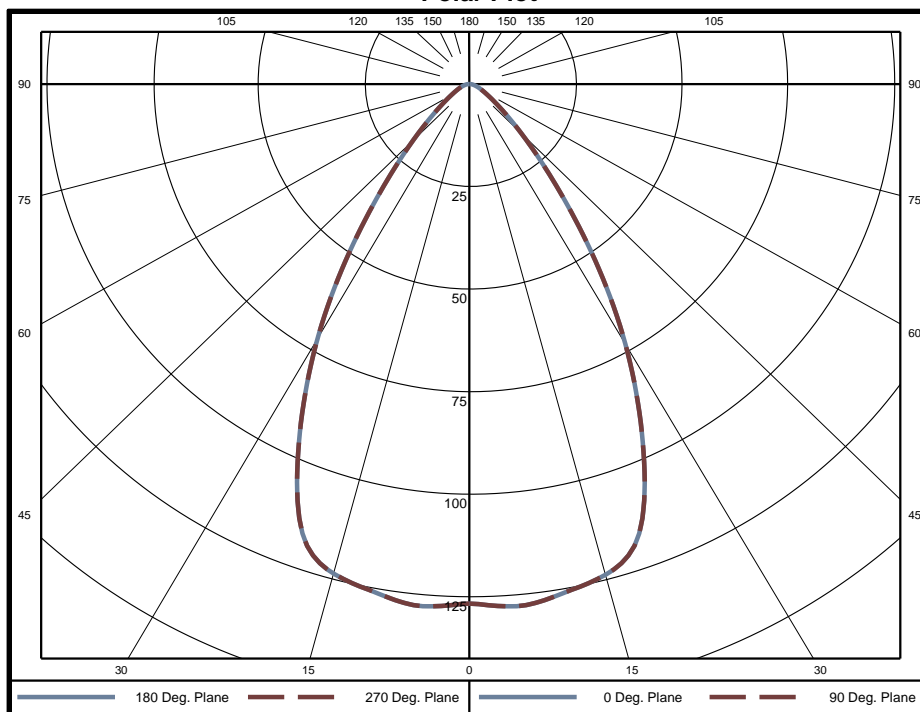
Luminaire Efficacy:

118.4 lm/w

Maximum Candela:

128 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.05	2.1%	60-65	1.76	1.2%	120-125	0	0.0%
5-10	9.09	6.2%	65-70	1.28	0.9%	125-130	0	0.0%
10-15	14.82	10.0%	70-75	0.92	0.6%	130-135	0	0.0%
15-20	19.93	13.5%	75-80	0.64	0.4%	135-140	0	0.0%
20-25	22.40	15.2%	80-85	0.42	0.3%	140-145	0	0.0%
25-30	21.40	14.5%	85-90	0.23	0.2%	145-150	0	0.0%
30-35	18.04	12.2%	90-95	0.01	0.0%	150-155	0	0.0%
35-40	13.14	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	8.74	5.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	5.64	3.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	3.67	2.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	2.48	1.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	122	82.5%
0-60	142	96.4%
0-90	148	100.0%
90-180	0	0.0%



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	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7	126.7
	5	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8
	10	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1	126.1
	15	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8	123.8
	20	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6	116.6
	25	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
	30	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3
	35	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
	40	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
	45	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
	50	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
	55	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
	60	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
	65	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	70	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	75	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	80	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	85	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	90	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	95	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
	100	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
	105	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
	110	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
	115	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
	120	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
	125	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	250000	250000
	45	50230	50230
	55	22760	22760
	65	14030	14030
	75	11030	11030
	85	13260	13260



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	176	176	176	176	172	172	172	172	164	164	164	157	157	157	151	151	151	148
1	166	162	157	154	163	158	155	151	152	149	147	147	144	142	142	140	138	135
2	157	149	142	136	153	146	140	135	141	136	132	137	132	129	133	129	126	124
3	148	137	129	122	145	135	127	121	131	124	119	127	122	117	124	119	115	113
4	139	127	118	111	136	125	117	110	122	114	109	119	112	107	116	110	106	104
5	131	118	108	101	129	116	107	100	113	106	100	111	104	99	108	103	98	95
6	124	109	100	93	122	108	99	92	106	98	92	104	97	91	102	95	90	88
7	117	102	92	86	115	101	92	85	99	91	85	97	90	84	96	89	84	82
8	111	96	86	79	109	95	86	79	93	85	79	91	84	78	90	83	78	76
9	105	90	80	74	103	89	80	74	88	79	73	86	79	73	85	78	73	71
10	100	84	75	69	98	84	75	69	83	74	69	81	74	68	80	73	68	66

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	126.7 Candela
Central Cone Intensity:	127 Candela
Beam Flux:	99.0 Lumens
Beam Angle (0-180):	64.2 Degrees
Beam Angle (90-270):	64.2 Degrees
Field Angle (0-180):	96.7 Degrees
Field Angle (90-270):	96.7 Degrees

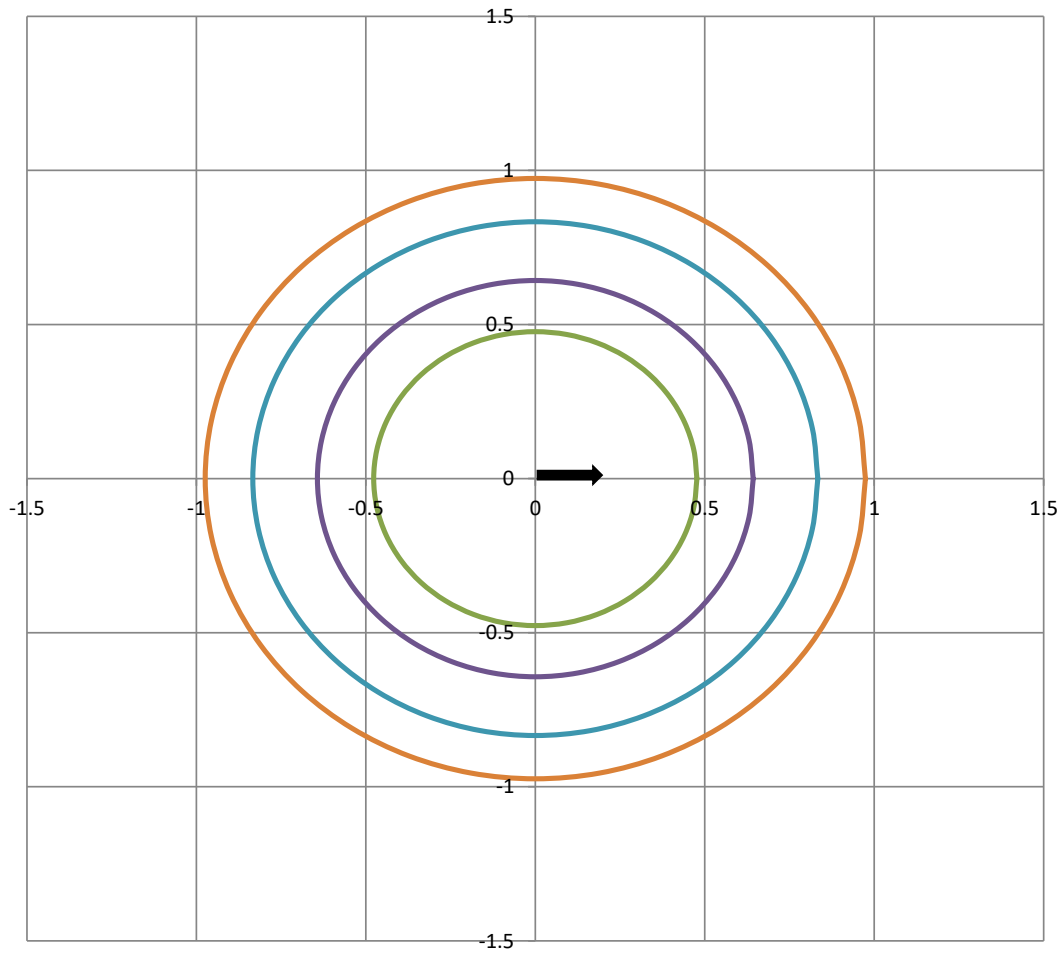
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		7.92	4.02
6.00		3.52	6.02
8.00		1.98	8.03
10.0		1.27	10.0
12.0		0.880	12.0
14.0		0.646	14.1
16.0		0.495	16.1



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	45.4	30.7%
FM	(30-60)	25.9	17.5%
FH	(60-80)	2.3	1.6%
FVH	(80-90)	0.3	0.2%
BL	(0-30)	45.4	30.7%
BM	(30-60)	25.9	17.5%
BH	(60-80)	2.3	1.6%
BVH	(80-90)	0.3	0.2%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		147.9	100.0%
BUG Rating	B0 U1 G0		