



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-W-40 (40° OPTIC, 4000K)**

Order Number  
12250114  
Test Number  
12250114.96

Report Date

2018-05-08

Prepared By

Sean Gregory, Project Handler

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.  
This report must not be used by the client to claim product certification, approval, or endorsement by  
NVLAP, NIST, or any agency of the Federal Government.



**Luminaire Description:** Cylindrical copper housing with circular metal flush faceplate  
**Lamp:** One (1) Cree XP-L 4000K LED with 40° wide optic  
**Mounting:** Recessed Downlight  
**Ballast/Driver:** Integrated  
**Note:** This report has been pro-rated using data from report numbers 12250114.94, 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: 24.3 °C  
Voltage: 12.01 VAC  
Current: 0.1704 A  
Power: 1.251 W  
Power Factor: 0.611  
Frequency: 60 Hz  
Current THD: 80.4 %

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
24.3 °C	12.01 VAC	0.1704 A	1.251 W	0.611	60 Hz	80.4 %

### Summary of Results

#### Spacing Criteria

0-180: 0.66

90-270: 0.66

#### Total Lumen Output:

154.5 Lumens

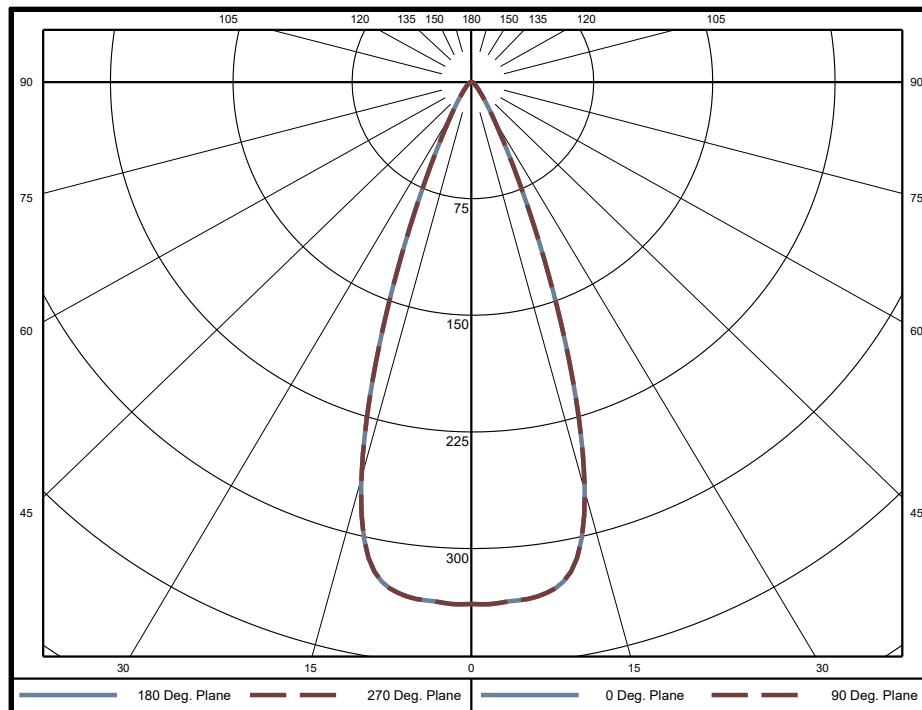
#### Luminaire Efficacy:

123.5 lm/w

#### Maximum Candela:

336 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	8.01	5.2%	60-65	0.97	0.6%	120-125	0	0.0%
5-10	23.71	15.3%	65-70	0.81	0.5%	125-130	0	0.0%
10-15	35.83	23.2%	70-75	0.63	0.4%	130-135	0	0.0%
15-20	34.71	22.5%	75-80	0.46	0.3%	135-140	0	0.0%
20-25	21.70	14.0%	80-85	0.29	0.2%	140-145	0	0.0%
25-30	10.91	7.1%	85-90	0.13	0.1%	145-150	0	0.0%
30-35	5.94	3.8%	90-95	0.01	0.0%	150-155	0	0.0%
35-40	3.63	2.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	2.42	1.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	1.77	1.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.39	0.9%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.15	0.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	144	93.5%
0-60	151	97.8%
0-90	154	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	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7	335.7
	5	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6
	10	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1	326.1
	15	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9	268.9
	20	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3	154.3
	25	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
	30	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
	35	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4
	40	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
	45	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
	50	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	55	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	60	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	65	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	70	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
	75	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
	80	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	85	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	90	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	0.1
	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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	662400	662400
	45	14580	14580
	55	9639	9639
	65	8361	8361
	75	7870	7870
	85	8500	8500



### 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	184	184	184	184	180	180	180	180	172	172	172	164	164	164	158	158	158	154
1	176	172	169	166	172	169	166	163	163	160	158	157	155	153	152	150	149	146
2	169	162	157	152	166	160	155	150	155	151	147	150	147	144	146	143	141	138
3	162	153	147	141	159	151	145	140	147	142	138	144	139	136	140	137	134	132
4	156	146	138	133	153	144	137	132	141	135	130	138	133	129	135	131	127	125
5	150	139	131	125	147	137	130	125	135	128	124	132	127	123	130	125	122	120
6	144	132	125	119	142	131	124	119	129	123	118	127	121	117	125	120	116	114
7	139	127	119	114	137	126	118	113	124	117	113	122	116	112	121	115	112	110
8	134	122	114	109	132	121	113	108	119	113	108	118	112	108	116	111	107	105
9	129	117	109	104	128	116	109	104	115	108	104	114	108	103	112	107	103	101
10	125	112	105	100	123	112	105	100	111	104	100	110	104	99	109	103	99	98

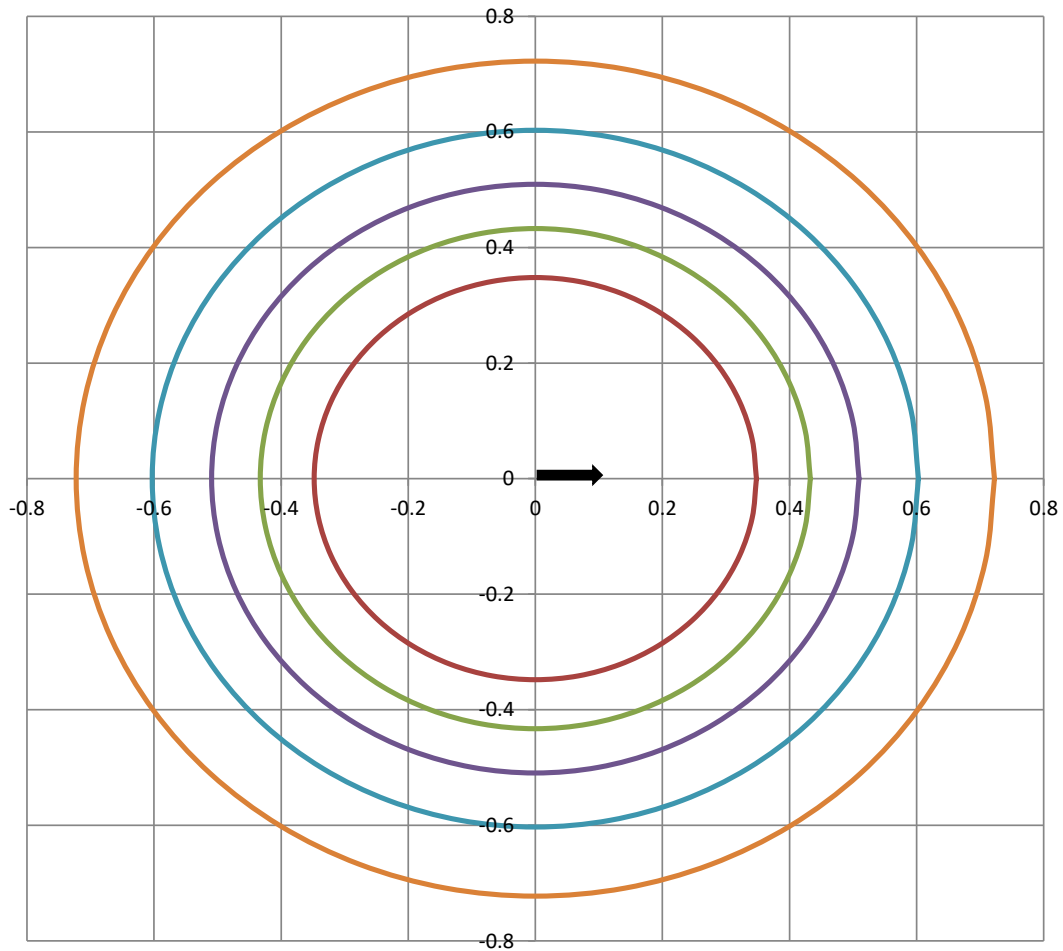
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	335.7 Candela
Central Cone Intensity:	335 Candela
Beam Flux:	99.0 Lumens
Beam Angle (0-180):	38.9 Degrees
Beam Angle (90-270):	38.9 Degrees
Field Angle (0-180):	57.7 Degrees
Field Angle (90-270):	57.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		21.0	2.64
6.00		9.32	3.96
8.00		5.24	5.28
10.0		3.36	6.60
12.0		2.33	7.92
14.0		1.71	9.24
16.0		1.31	10.6



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

— 2 fc      — 1 fc      — 0.5 fc      — 0.2 fc      — 0.1 fc



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	67.5	43.6%
FM	(30-60)	8.2	5.3%
FH	(60-80)	1.4	0.9%
FVH	(80-90)	0.2	0.1%
BL	(0-30)	67.5	43.6%
BM	(30-60)	8.2	5.3%
BH	(60-80)	1.4	0.9%
BVH	(80-90)	0.2	0.1%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		154.8	100.0%
<b>BUG Rating</b>	<b>B0 U1 G0</b>		