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## 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**  
**HSL11-6-W-45 (6W, 40° OPTIC, 4500K)**

Order Number  
12250114  
Test Number  
12250114.49

Report Date

2018-05-07

Prepared By

A handwritten signature in black ink, appearing to read 'Sean Gregory'.

Sean Gregory, Project Handler

Approved By

A handwritten signature in black ink, appearing to read 'Alexa Lambert'.

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Cylindrical metal housing, with adjustable knuckle, clear glass lens and internal LED module  
**Lamp:** One (1) Cree XHP 4500K LED with 40°, wide optic  
**Mounting:** Flood  
**Ballast/Driver:** Integrated  
**Note:** This report has been pro-rated using data from report numbers 12250114.48, 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: 1.50 in.  
Luminous Height: 1.000 in.

**Summary of Results**

Roadway Classification: Type V, Very Short  
Cutoff Classification: Full Cutoff  
BUG Rating: B1 U0 G0

**Test Conditions**

Test Temperature: 24.3 °C  
Voltage: 12.01 VAC  
Current: 0.5349 A  
Power: 6.359 W  
Power Factor: 0.990  
Frequency: 60 Hz  
Current THD: 7.14 %

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	0.5349 A	6.359 W	0.990	60 Hz	7.14 %

### Summary of Results

#### Spacing Criteria

0-180: 0.50

90-270: 0.50

#### Total Lumen Output:

275.7 Lumens

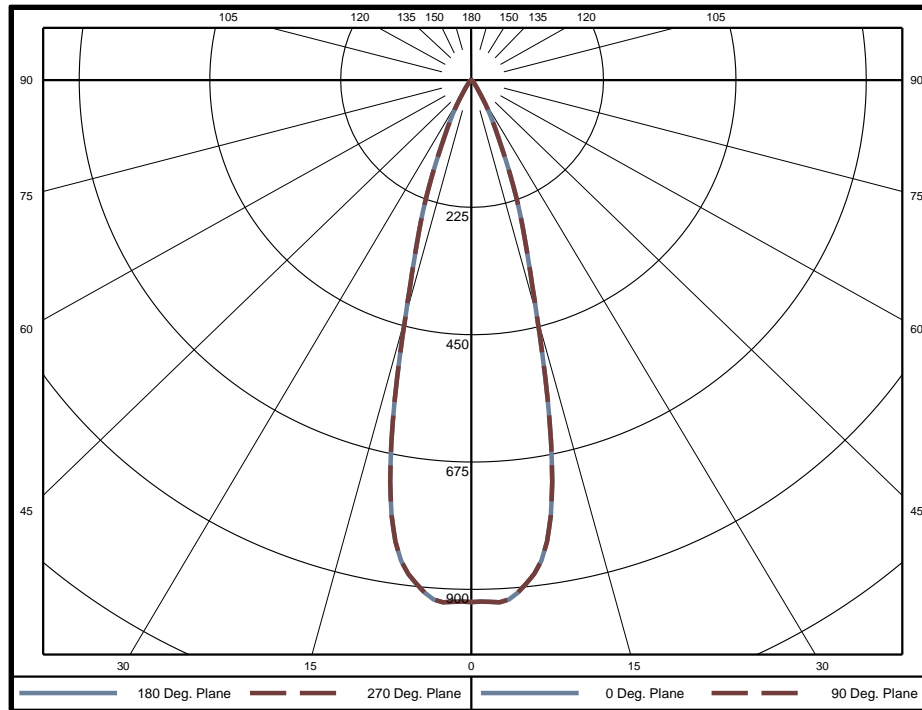
#### Luminaire Efficacy:

43.4 lm/w

#### Maximum Candela:

924 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.99	8.0%	60-65	0.35	0.1%	120-125	0	0.0%
5-10	61.12	22.2%	65-70	0.15	0.1%	125-130	0	0.0%
10-15	71.41	25.9%	70-75	0.02	0.0%	130-135	0	0.0%
15-20	51.98	18.9%	75-80	0	0.0%	135-140	0	0.0%
20-25	32.92	11.9%	80-85	0	0.0%	140-145	0	0.0%
25-30	17.80	6.5%	85-90	0	0.0%	145-150	0	0.0%
30-35	7.99	2.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	4.06	1.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	2.51	0.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	1.67	0.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.08	0.4%	110-115	0	0.0%	170-175	0.00	0.0%
55-60	0.64	0.2%	115-120	0	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	269	97.7%
0-60	275	99.8%
0-90	276	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	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5	922.5
	5	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4	909.4
	10	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2	781.2
	15	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4	432.4
	20	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8
	25	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.2
	30	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
	35	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
	40	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	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	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	55	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	60	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
	65	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	70	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
	75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	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	809200	809200
	45	6488	6488
	55	2861	2861
	65	986	986
	75	0	0
	85	0	0



### 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	328	328	328	328	321	321	321	321	306	306	306	293	293	293	281	281	281	276
1	317	310	305	300	310	305	300	295	294	290	286	283	281	278	274	272	270	265
2	305	295	286	279	300	290	283	276	282	275	270	274	269	264	267	263	259	255
3	295	281	271	263	290	278	268	261	271	263	257	265	258	253	259	253	249	245
4	285	269	258	249	281	266	256	248	261	252	245	256	248	242	251	245	240	236
5	276	259	247	238	272	256	245	237	252	242	235	248	239	233	244	237	231	228
6	267	249	237	228	264	247	236	227	243	233	226	240	231	224	237	229	223	220
7	259	240	228	219	256	238	227	219	235	225	218	232	223	217	230	222	216	213
8	251	232	220	211	248	230	219	211	228	218	210	225	216	209	223	215	209	206
9	244	224	212	204	241	223	212	204	221	211	203	219	209	203	217	208	202	199
10	237	217	206	198	235	216	205	198	214	204	197	213	203	197	211	202	196	194

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	922.5 Candela
Central Cone Intensity:	921 Candela
Beam Flux:	148.8 Lumens
Beam Angle (0-180):	29.2 Degrees
Beam Angle (90-270):	29.2 Degrees
Field Angle (0-180):	51.4 Degrees
Field Angle (90-270):	51.4 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
6.00		25.6	2.99
10.0		9.23	4.98
14.0		4.71	6.97
18.0		2.85	8.96
22.0		1.91	10.9
26.0		1.36	12.9
30.0		1.03	14.9



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	128.7	46.9%
FM	(30-60)	8.5	3.1%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	128.7	46.9%
BM	(30-60)	8.5	3.1%
BH	(60-80)	0.0	0.0%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		274.3	100.0%
<b>BUG Rating</b>	<b>B1 U0 G0</b>		