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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**  
**HSL11-4-N-27 (4W, 15° OPTIC, 2700K)**

Order Number

12250114

Test Number

12250114.33

Report Date

2018-05-07

Prepared By

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Approved By

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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 2700K LED with 15°, narrow optic

**Mounting:** Flood

**Ballast/Driver:** Integrated

**Note:** This report has been pro-rated using data from report numbers 12250114.32, 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: 24.8 °C  
Voltage: 12.02 VAC  
Current: 0.3497 A  
Power: 4.123 W  
Power Factor: 0.981  
Frequency: 60 Hz  
Current THD: 10.4 %

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
24.8 °C	12.02 VAC	0.3497 A	4.123 W	0.981	60 Hz	10.4 %

### Summary of Results

#### Spacing Criteria

0-180: 0.28

90-270: 0.28

#### Total Lumen Output:

251.7 Lumens

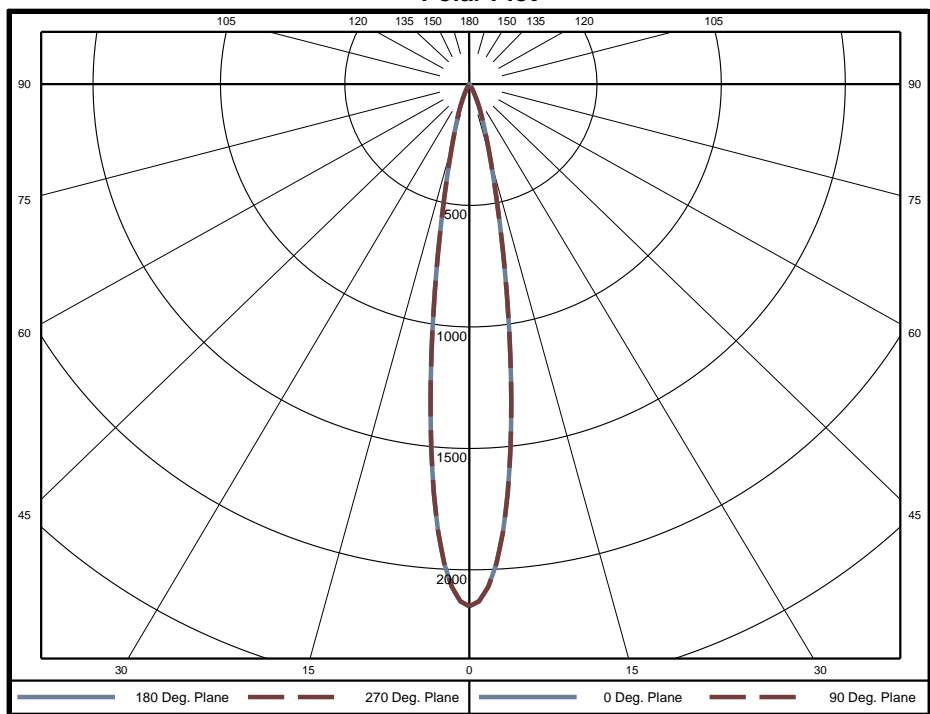
#### Luminaire Efficacy:

61.0 lm/w

#### Maximum Candela:

2150 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	45.77	18.2%	60-65	0	0.0%	120-125	0	0.0%
5-10	84.21	33.5%	65-70	0	0.0%	125-130	0	0.0%
10-15	57.47	22.8%	70-75	0	0.0%	130-135	0	0.0%
15-20	32.73	13.0%	75-80	0	0.0%	135-140	0	0.0%
20-25	18.61	7.4%	80-85	0	0.0%	140-145	0	0.0%
25-30	8.31	3.3%	85-90	0	0.0%	145-150	0	0.0%
30-35	2.95	1.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	1.07	0.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.42	0.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.12	0.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.00	0.0%	110-115	0	0.0%	170-175	0.00	0.0%
55-60	0	0.0%	115-120	0	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	251	99.8%
0-60	252	100.0%
0-90	252	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	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150
	5	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687
	10	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784
	15	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297
	20	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134
	25	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
	30	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
	35	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	40	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	45	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	75	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
	85	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
	95	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
	105	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
	115	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
	125	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
	135	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
	145	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
	155	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
	165	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
	175	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

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	1886000	1886000
	45	782	782
	55	0	0
	65	0	0
	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	300	300	300	300	293	293	293	293	280	280	280	268	268	268	257	257	257	252
1	291	286	282	278	285	281	277	273	271	268	265	262	259	257	253	251	250	246
2	283	275	268	262	278	271	265	259	263	258	254	256	252	249	249	246	244	240
3	275	265	257	251	271	262	255	249	256	250	245	250	245	241	245	241	238	235
4	268	257	248	241	265	254	246	240	249	243	237	245	239	235	241	236	232	230
5	262	249	240	234	259	247	239	233	243	236	231	240	234	229	236	231	227	225
6	256	243	234	227	253	241	233	227	238	231	225	235	229	224	232	227	223	220
7	251	237	228	222	248	236	227	221	233	226	220	230	224	219	228	222	218	216
8	246	231	223	217	243	230	222	216	228	221	215	226	220	215	224	218	214	212
9	241	227	218	212	239	226	217	212	224	216	211	222	215	211	220	214	210	208
10	236	222	214	208	234	221	213	208	220	212	207	218	211	207	217	211	206	204

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2150 Candela
Central Cone Intensity:	1982 Candela
Beam Flux:	101.7 Lumens
Beam Angle (0-180):	16.6 Degrees
Beam Angle (90-270):	16.6 Degrees
Field Angle (0-180):	33.8 Degrees
Field Angle (90-270):	33.8 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
6.00		59.7	1.71
10.0		21.5	2.85
14.0		11.0	3.98
18.0		6.64	5.12
22.0		4.44	6.26
26.0		3.18	7.40
30.0		2.39	8.54



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	124.0	49.2%
FM	(30-60)	2.1	0.8%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	124.0	49.2%
BM	(30-60)	2.1	0.8%
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		252.2	100.0%
<b>BUG Rating</b>	<b>B1 U0 G0</b>		