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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**  
**HSL11-2-M-30 (2W, 25° OPTIC, 3000K)**

Order Number  
12250114  
Test Number  
12250114.17

Test Date

2018-04-19

Prepared By

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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 metal housing, with adjustable knuckle, clear glass lens and internal LED module  
**Lamp:** One (1) Cree XHP 3000K LED with 25°, medium optic  
**Mounting:** Flood  
**Ballast/Driver:** Integrated

**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: B0 U0 G0

**Test Conditions**

Test Temperature: 24.6 °C  
Voltage: 12.02 VAC  
Current: 0.1593 A  
Power: 1.793 W  
Power Factor: 0.936  
Frequency: 60 Hz  
Current THD: 22.0 %

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
24.6 °C	12.02 VAC	0.1593 A	1.793 W	0.936	60 Hz	22.0 %

### Summary of Results

#### Spacing Criteria

0-180: 0.44

90-270: 0.44

#### Total Lumen Output:

102.7 Lumens

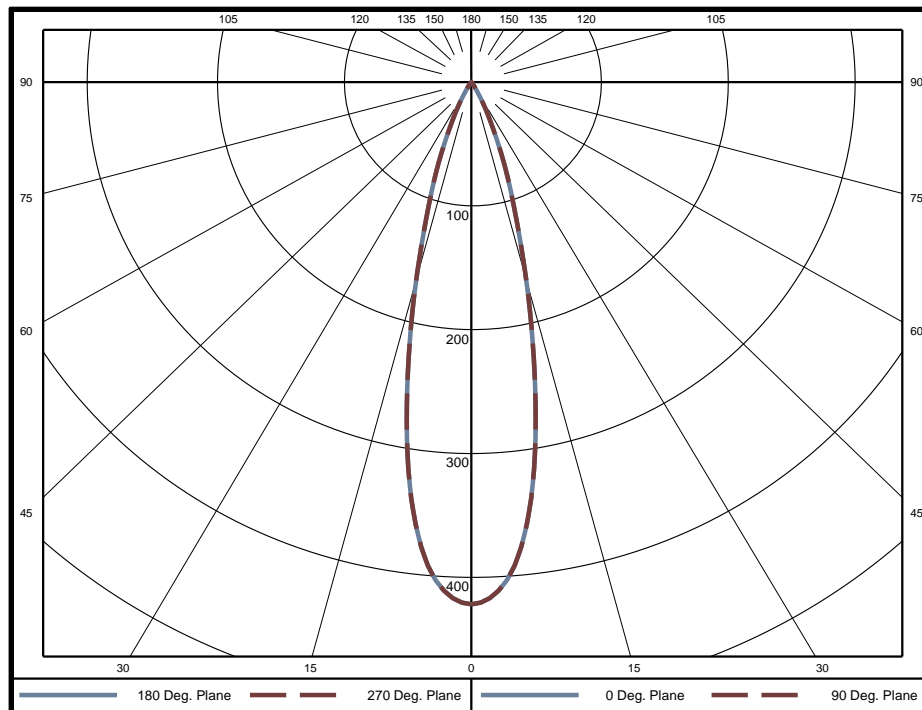
#### Luminaire Efficacy:

57.3 lm/w

#### Maximum Candela:

422 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	9.73	9.5%	60-65	0	0.0%	120-125	0	0.0%
5-10	24.44	23.8%	65-70	0	0.0%	125-130	0	0.0%
10-15	26.67	26.0%	70-75	0	0.0%	130-135	0	0.0%
15-20	20.08	19.6%	75-80	0	0.0%	135-140	0	0.0%
20-25	12.57	12.2%	80-85	0	0.0%	140-145	0	0.0%
25-30	6.05	5.9%	85-90	0	0.0%	145-150	0	0.0%
30-35	2.02	2.0%	90-95	0	0.0%	150-155	0	0.0%
35-40	0.69	0.7%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.29	0.3%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.11	0.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.02	0.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	0	0.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	102	99.6%
0-60	103	100.0%
0-90	103	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	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7	421.7
	5	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0	392.0
	10	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7	291.7
	15	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3	169.3
	20	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
	25	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
	30	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
	35	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	3.4
	40	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	1.2
	45	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
	50	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
	55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	369900	369900
	45	420	420
	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	122	122	122	122	119	119	119	119	114	114	114	109	109	109	105	105	105	103
1	118	116	114	112	116	114	112	110	110	108	107	106	105	104	102	102	101	99
2	114	111	107	105	112	109	106	104	106	103	102	103	101	99	100	99	97	96
3	111	106	102	99	109	105	101	98	102	99	97	100	97	95	97	96	94	93
4	107	102	98	95	106	101	97	94	99	95	93	97	94	92	95	93	91	90
5	104	98	94	91	103	97	93	90	95	92	90	94	91	89	92	90	88	87
6	101	95	90	87	100	94	90	87	92	89	86	91	88	86	90	87	85	84
7	98	91	87	84	97	91	87	84	90	86	84	89	86	83	88	85	83	82
8	95	89	84	81	94	88	84	81	87	84	81	86	83	81	85	83	80	79
9	93	86	82	79	92	86	82	79	85	81	79	84	81	78	83	80	78	77
10	90	83	79	77	90	83	79	77	82	79	76	82	78	76	81	78	76	75

#### Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	421.7 Candela
Central Cone Intensity:	411 Candela
Beam Flux:	51.4 Lumens
Beam Angle (0-180):	26.4 Degrees
Beam Angle (90-270):	26.4 Degrees
Field Angle (0-180):	48.9 Degrees
Field Angle (90-270):	48.9 Degrees

#### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
6.00		11.7	2.67
10.0		4.22	4.45
14.0		2.15	6.23
18.0		1.30	8.01
22.0		0.871	9.79
26.0		0.624	11.6
30.0		0.469	13.3



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	49.8	48.5%
FM	(30-60)	1.5	1.5%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	49.8	48.5%
BM	(30-60)	1.5	1.5%
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		102.7	100.0%
<b>BUG Rating</b>	<b>B0 U0 G0</b>		