



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**  
**HSL11-2-W-45 (2W, 40° OPTIC, 4500K)**

Order Number  
12250114  
Test Number  
12250114.25

Report Date

2018-05-07

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 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 12250114.23, 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: B0 U0 G0

#### Test Conditions

Test Temperature: 24.5 °C  
Voltage: 12.02 VAC  
Current: 0.1588 A  
Power: 1.792 W  
Power Factor: 0.938  
Frequency: 60 Hz  
Current THD: 21.4 %

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
24.5 °C	12.02 VAC	0.1588 A	1.792 W	0.938	60 Hz	21.4 %

### Summary of Results

#### Spacing Criteria

0-180: 0.52

90-270: 0.52

#### Total Lumen Output:

79.87 Lumens

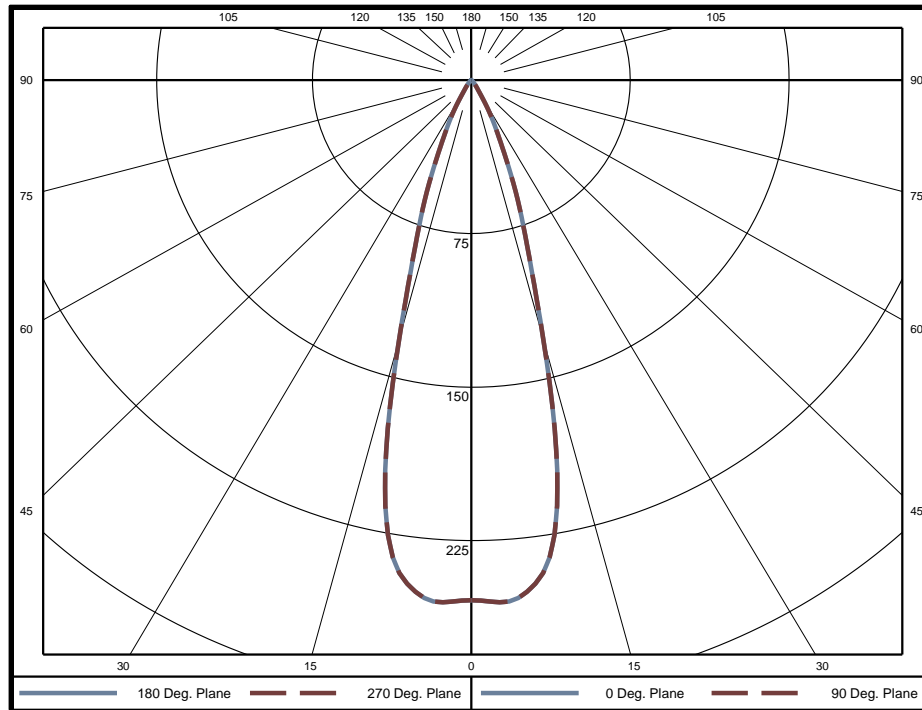
#### Luminaire Efficacy:

44.6 lm/w

#### Maximum Candela:

255 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	6.10	7.6%	60-65	0.05	0.1%	120-125	0	0.0%
5-10	17.33	21.7%	65-70	0.01	0.0%	125-130	0	0.0%
10-15	21.29	26.7%	70-75	0	0.0%	130-135	0	0.0%
15-20	15.23	19.1%	75-80	0	0.0%	135-140	0	0.0%
20-25	9.72	12.2%	80-85	0	0.0%	140-145	0	0.0%
25-30	5.34	6.7%	85-90	0	0.0%	145-150	0	0.0%
30-35	2.24	2.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	1.13	1.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.67	0.8%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.42	0.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.24	0.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.12	0.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	78	98.1%
0-60	80	99.9%
0-90	80	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	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1	254.1
	5	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0	254.0
	10	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7	225.7
	15	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1
	20	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
	25	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
	30	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
	35	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
	40	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	45	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
	50	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
	55	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
	60	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
	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	222900	222900
	45	1684	1684
	55	573	573
	65	94	94
	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	95	95	95	95	93	93	93	93	89	89	89	85	85	85	81	81	81	80
1	92	90	88	87	90	88	87	86	85	84	83	82	81	81	79	79	78	77
2	89	85	83	81	87	84	82	80	82	80	78	79	78	77	77	76	75	74
3	85	82	79	76	84	81	78	76	79	76	74	77	75	73	75	73	72	71
4	83	78	75	72	81	77	74	72	76	73	71	74	72	70	73	71	69	68
5	80	75	72	69	79	74	71	69	73	70	68	72	69	68	71	69	67	66
6	77	72	69	66	76	72	68	66	71	68	65	70	67	65	69	66	65	64
7	75	70	66	64	74	69	66	63	68	65	63	67	65	63	67	64	62	62
8	73	67	64	61	72	67	63	61	66	63	61	65	63	61	65	62	60	60
9	71	65	62	59	70	65	61	59	64	61	59	63	61	59	63	60	59	58
10	69	63	60	57	68	63	59	57	62	59	57	62	59	57	61	59	57	56

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	254.1 Candela
Central Cone Intensity:	255 Candela
Beam Flux:	45.6 Lumens
Beam Angle (0-180):	30.4 Degrees
Beam Angle (90-270):	30.4 Degrees
Field Angle (0-180):	52.6 Degrees
Field Angle (90-270):	52.6 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
6.00		7.06	3.12
10.0		2.54	5.20
14.0		1.30	7.28
18.0		0.784	9.36
22.0		0.525	11.4
26.0		0.376	13.5
30.0		0.282	15.6



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	37.5	47.2%
FM	(30-60)	2.3	2.8%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	37.5	47.2%
BM	(30-60)	2.3	2.8%
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		79.6	100.0%
<b>BUG Rating</b>	<b>B0 U0 G0</b>		