



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**

**LSW4-UF-30**

Order Number

**12790877**

Test Number

**12790877.18**

Test Date

2019-04-09

Prepared By

Approved By

Josh Mitchell, Technician

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Cylindrical brass housing with circular brass domed faceplate, clear glass lens and PVC sleeve  
**Lamp:** One (1) Cree MHD-E 3000K LED with 75° ultra flood acrylic optic  
**Mounting:** Step/Wall

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 1.25 in.  
Luminous Width: 2.250 in.  
Luminous Height: 0.50 in.

**Summary of Results**

Roadway Classification: Type I, Very Short  
Cutoff Classification: Semicutoff  
BUG Rating: B0 U1 G0

**Test Conditions**

Test Temperature: 25.0 °C  
Voltage: 12.03 VAC  
Current: 0.4870 A  
Power: 5.781 W  
Power Factor: 0.987  
Frequency: 60 Hz  
Current THD: 9.22 %

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
25.0 °C	12.03 VAC	0.4870 A	5.781 W	0.987	60 Hz	9.22 %

### Summary of Results

#### Spacing Criteria

0-180: 1.52

90-270: 0.94

#### Total Lumen Output:

124.9 Lumens

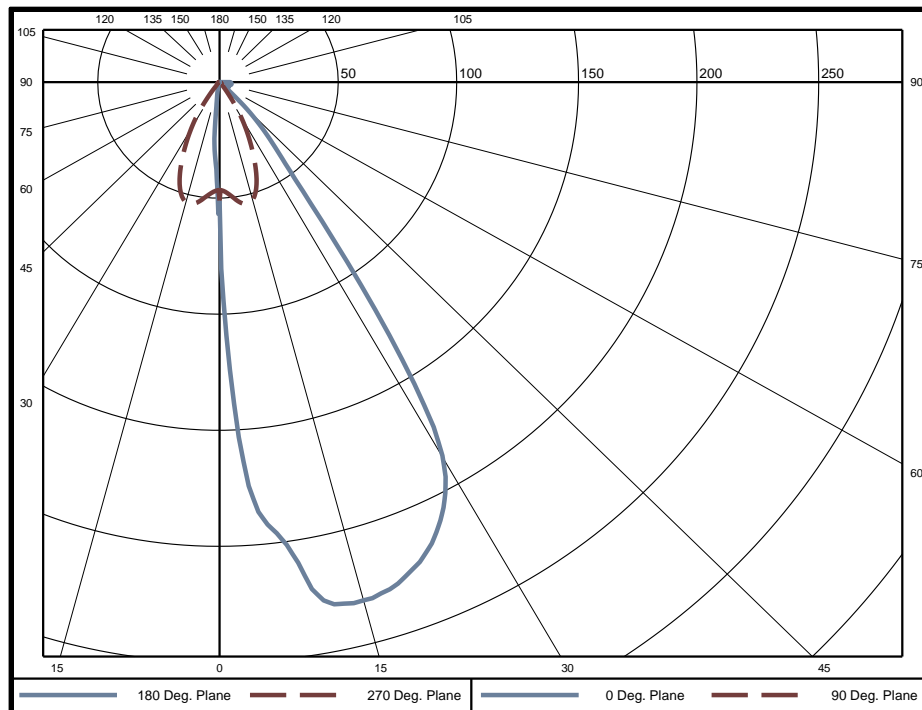
#### Luminaire Efficacy:

21.6 lm/w

#### Maximum Candela:

233 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.61	1.3%	60-65	0.74	0.6%	120-125	0	0.0%
5-10	6.23	5.0%	65-70	0.75	0.6%	125-130	0	0.0%
10-15	11.73	9.4%	70-75	0.85	0.7%	130-135	0	0.0%
15-20	16.98	13.6%	75-80	0.94	0.8%	135-140	0	0.0%
20-25	21.17	16.9%	80-85	0.95	0.8%	140-145	0	0.0%
25-30	23.55	18.9%	85-90	0.88	0.7%	145-150	0	0.0%
30-35	20.51	16.4%	90-95	0.08	0.1%	150-155	0	0.0%
35-40	9.99	8.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	4.53	3.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	1.72	1.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.87	0.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.86	0.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	112	89.5%
0-60	120	95.9%
0-90	125	100.0%
90-180	0	0.1%



**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	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
	5	185.9	157.1	137.2	93.4	48.7	33.8	26.5	19.2	24.4	19.2	26.5	33.8	48.7	93.4	137.2
	10	221.8	206.6	193.4	146.7	52.8	25.1	7.5	5.2	5.6	5.2	7.5	25.1	52.8	146.7	193.4
	15	231.2	231.7	219.3	177.9	53.4	11.9	3.6	2.2	2.2	2.2	3.6	11.9	53.4	177.9	219.3
	20	226.6	230.9	232.3	191.3	46.8	5.0	1.9	1.6	1.7	1.6	1.9	5.0	46.8	191.3	232.3
	25	214.0	219.7	224.7	192.6	34.7	2.6	1.4	1.2	1.3	1.2	1.4	2.6	34.7	192.6	224.7
	30	185.8	198.5	202.2	173.7	22.0	1.7	1.2	1.1	1.2	1.1	1.2	1.7	22.0	173.7	202.2
	35	82.6	116.4	123.3	93.4	9.6	1.2	1.1	1.2	1.2	1.1	1.2	9.6	93.4	123.3	116.4
	40	34.3	41.8	43.5	31.7	2.5	1.0	1.0	1.2	1.3	1.2	1.0	2.5	31.7	43.5	41.8
	45	14.3	19.0	18.7	12.7	1.4	0.8	0.9	1.1	1.4	1.1	0.9	0.8	1.4	12.7	18.7
	50	4.1	4.1	4.0	3.3	1.2	0.7	0.6	0.7	0.7	0.7	0.6	0.7	1.2	3.3	4.0
	55	4.3	4.0	3.7	3.2	0.9	0.6	0.5	0.4	0.5	0.4	0.5	0.6	0.9	3.2	3.7
	60	4.1	3.8	3.5	2.6	0.8	0.4	0.3	0.1	0.0	0.1	0.3	0.4	0.8	2.6	3.5
	65	3.5	3.1	2.9	2.2	0.8	0.3	0.2	0.0	0.0	0.0	0.2	0.3	0.8	2.2	2.9
	70	4.2	3.6	3.3	2.4	0.7	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.7	2.4	3.3
	75	4.8	4.2	3.7	2.5	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.6	2.5	3.7
	80	5.1	4.6	4.0	2.5	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.5	2.5	4.0
	85	4.9	4.6	3.9	2.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.4	3.9
	90	4.4	4.0	3.4	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.1	3.4
	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	28160	28160
	45	7944	10130
	55	2627	2193
	65	2474	1964
	75	4072	2974
	85	5602	4065



### 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	149	149	149	149	145	145	145	145	139	139	139	133	133	133	127	127	127	125
1	140	136	133	129	137	134	130	127	128	126	123	124	122	120	119	118	116	114
2	133	126	120	115	130	123	118	114	119	115	111	116	112	109	112	109	107	104
3	125	116	109	104	123	115	108	103	111	106	101	108	103	100	105	101	98	96
4	118	108	100	94	116	106	99	94	104	98	93	101	96	92	99	94	91	89
5	112	100	92	87	110	99	92	86	97	90	85	95	89	85	93	88	84	82
6	106	94	85	80	104	93	85	79	91	84	79	89	83	78	87	82	78	76
7	100	87	79	74	98	87	79	73	85	78	73	83	77	73	82	76	72	70
8	95	82	74	68	93	81	73	68	80	73	68	78	72	67	77	71	67	65
9	90	77	69	63	88	76	68	63	75	68	63	74	67	63	73	67	63	61
10	85	72	64	59	84	72	64	59	70	64	59	69	63	59	68	63	58	57

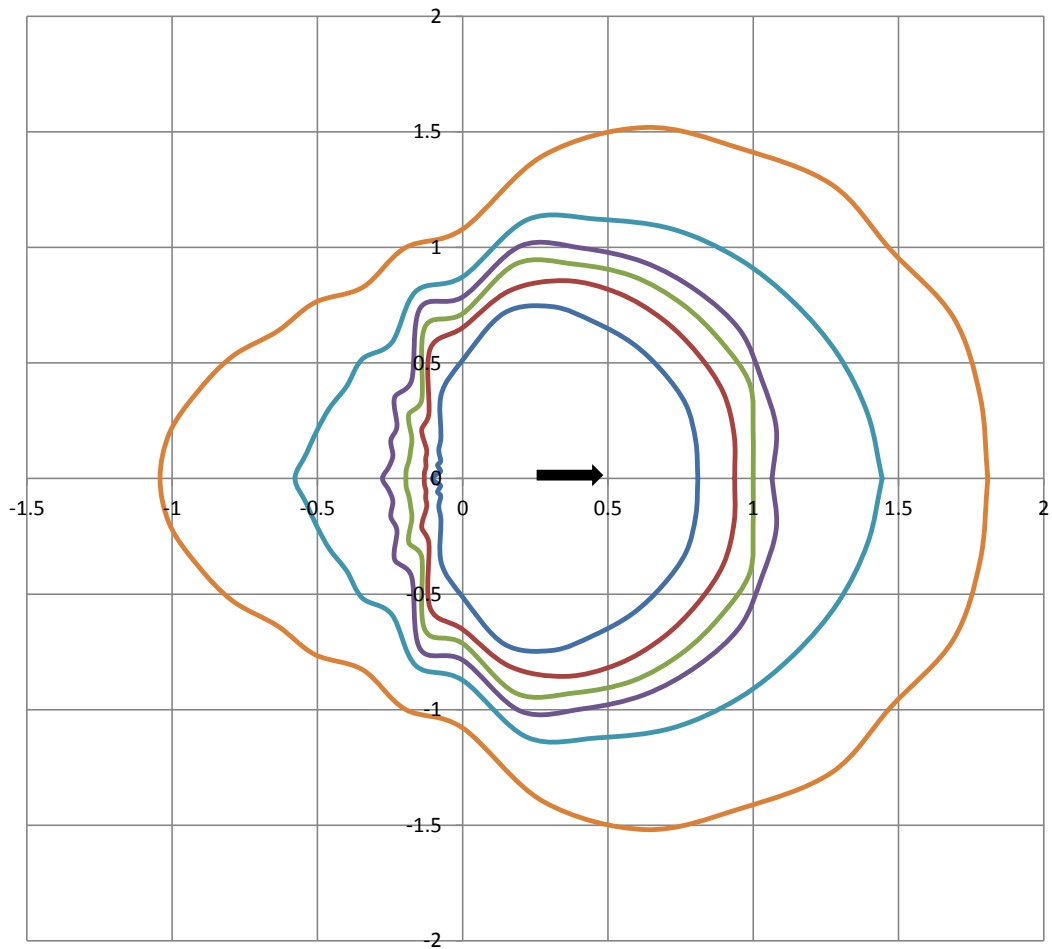
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	51.1 Candela
Central Cone Intensity:	63 Candela
Beam Flux:	111.7 Lumens
Beam Angle (0-180):	46.9 Degrees
Beam Angle (90-270):	57.1 Degrees
Field Angle (0-180):	57.5 Degrees
Field Angle (90-270):	75.2 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		3.19	5.64
6.00		1.42	8.46
8.00		0.798	11.3
10.0		0.511	14.1
12.0		0.355	16.9
14.0		0.261	19.7
16.0		0.200	22.6



## ISOFootcandle Plot

Mounting Height - 2 Feet

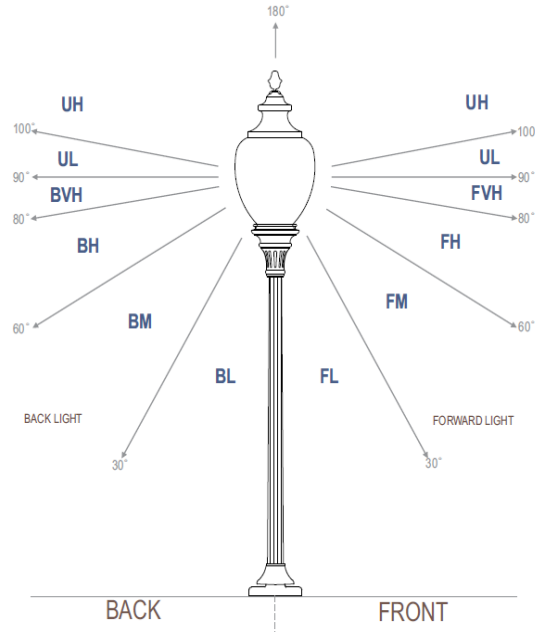


Grid Lines in Units of Mounting Height

5 fc    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)	77.8	61.9%
FM	(30-60)	38.0	30.2%
FH	(60-80)	3.1	2.5%
FVH	(80-90)	1.8	1.4%
BL	(0-30)	3.5	2.8%
BM	(30-60)	1.1	0.9%
BH	(60-80)	0.2	0.1%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	0.2	0.2%
UH	(100-180)	0.0	0.0%
Total		125.8	100.0%
<b>BUG Rating</b>	<b>B0 U1 G0</b>		