



UL Verification Services Inc.  
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Allentown, PA 18106  
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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**  
**LSW4-WF-30**

Order Number  
12790877  
Test Number  
12790877.16

Test Date

2019-04-09

Prepared By

Josh Mitchell, Technician

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 brass housing with circular brass domed faceplate, clear glass lens and PVC sleeve  
**Lamp:** One (1) Cree MHD-E 3000K LED with 50° wide 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: 25.2 °C  
Voltage: 12.02 VAC  
Current: 0.4870 A  
Power: 5.780 W  
Power Factor: 0.987  
Frequency: 60 Hz  
Current THD: 9.27 %

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
25.2 °C	12.02 VAC	0.4870 A	5.780 W	0.987	60 Hz	9.27 %

### Summary of Results

#### Spacing Criteria

0-180: 1.28

90-270: 0.79

#### Total Lumen Output:

184.0 Lumens

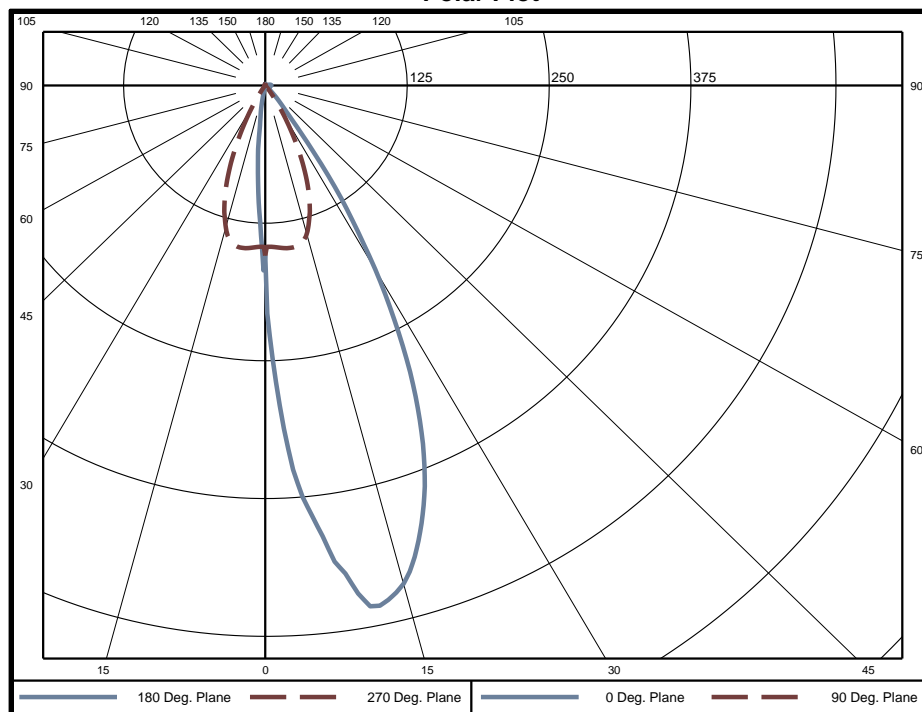
#### Luminaire Efficacy:

31.8 lm/w

#### Maximum Candela:

483 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	4.07	2.2%	60-65	0.65	0.4%	120-125	0.01	0.0%
5-10	13.88	7.5%	65-70	0.68	0.4%	125-130	0.01	0.0%
10-15	24.76	13.5%	70-75	0.71	0.4%	130-135	0.02	0.0%
15-20	33.17	18.0%	75-80	0.74	0.4%	135-140	0.03	0.0%
20-25	35.51	19.3%	80-85	0.78	0.4%	140-145	0.05	0.0%
25-30	30.87	16.8%	85-90	0.83	0.5%	145-150	0.07	0.0%
30-35	20.56	11.2%	90-95	0.86	0.5%	150-155	0.09	0.0%
35-40	8.67	4.7%	95-100	0.77	0.4%	155-160	0.11	0.1%
40-45	2.64	1.4%	100-105	0.54	0.3%	160-165	0.12	0.1%
45-50	0.99	0.5%	105-110	0.24	0.1%	165-170	0.11	0.1%
50-55	0.67	0.4%	110-115	0.04	0.0%	170-175	0.08	0.0%
55-60	0.65	0.4%	115-120	0.01	0.0%	175-180	0.03	0.0%

Zone	Lumens	% of Luminaire
0-40	171	93.2%
0-60	176	95.9%
0-90	181	98.3%
90-180	3	1.7%



**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	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
	5	374.8	325.2	289.0	222.5	147.9	105.9	78.0	57.4	71.1	57.4	78.0	105.9	147.9	222.5	289.0
	10	468.2	429.9	390.3	298.1	148.3	70.6	25.8	15.5	17.8	15.5	25.8	70.6	148.3	298.1	390.3
	15	468.1	473.1	445.3	347.1	136.8	35.1	6.8	1.9	1.8	1.9	6.8	35.1	136.8	347.1	445.3
	20	405.5	423.5	424.6	342.2	107.6	9.2	1.6	1.2	1.1	1.2	1.6	9.2	107.6	342.2	424.6
	25	311.5	332.6	333.3	291.0	68.4	3.1	1.1	0.8	0.8	0.8	1.1	3.1	68.4	291.0	333.3
	30	192.6	221.2	220.4	197.7	31.2	1.5	0.8	0.7	0.7	0.7	0.8	1.5	31.2	197.7	220.4
	35	73.9	106.7	110.3	97.5	8.2	0.9	0.6	0.6	0.6	0.6	0.9	8.2	97.5	110.3	106.7
	40	20.2	27.4	29.8	25.5	2.3	0.7	0.6	0.6	0.7	0.6	0.6	0.7	2.3	25.5	29.8
	45	6.6	8.9	9.1	7.1	1.0	0.5	0.5	0.6	0.7	0.6	0.5	0.5	1.0	7.1	9.1
	50	4.0	3.6	3.3	2.6	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.7	2.6	3.3	3.6
	55	3.8	3.1	2.9	2.2	0.6	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.6	2.2	2.9
	60	3.9	3.1	2.8	2.1	0.5	0.3	0.2	0.1	0.0	0.1	0.2	0.3	0.5	2.1	2.8
	65	3.9	3.0	2.8	2.1	0.5	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.5	2.1	2.8
	70	4.0	3.1	2.8	2.1	0.4	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.4	2.1	2.8
	75	4.2	3.3	2.9	2.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.4	2.1	2.9
	80	4.5	3.5	3.1	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0	3.1
	85	4.9	3.7	3.2	2.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.1	3.2
	90	5.3	4.0	3.4	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	3.4
	95	5.3	4.0	3.4	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	3.4
	100	4.3	3.3	2.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.7	3.3
	105	2.5	2.0	1.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.6	2.0
	110	0.4	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.5
	115	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
	140	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0
	145	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.0	0.0
	150	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.6	0.6	0.6	0.5	0.4	0.3	0.1	0.0
	155	0.1	0.1	0.1	0.3	0.4	0.6	0.7	0.8	0.8	0.8	0.7	0.6	0.4	0.3	0.1
	160	0.2	0.2	0.3	0.4	0.6	0.8	0.9	1.0	1.0	1.0	0.9	0.8	0.6	0.4	0.3
	165	0.5	0.4	0.6	0.7	0.8	1.0	1.1	1.2	1.2	1.2	1.1	1.0	0.8	0.7	0.6
	170	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.1	1.0	1.0	0.9	0.9
	175	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	180	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

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	85080	85080
	45	3651	4902
	55	2353	1682
	65	2711	1852
	75	3624	2371
	85	5519	3364



### 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	218	218	218	218	213	213	213	213	203	203	203	193	193	193	185	185	185	181
1	208	202	197	193	203	198	194	190	190	186	183	182	180	177	176	174	172	168
2	197	188	181	174	193	185	178	172	178	173	168	172	168	164	167	163	160	157
3	188	176	167	160	184	173	165	158	168	161	155	163	157	152	159	154	150	147
4	179	165	155	147	175	163	153	146	158	150	144	154	148	142	151	145	140	137
5	170	155	144	137	167	153	143	136	149	141	134	146	139	133	143	137	132	129
6	162	146	135	127	159	144	134	127	141	132	126	138	131	125	136	129	124	121
7	154	138	127	119	152	136	126	119	134	125	118	131	123	117	129	122	116	114
8	147	130	119	112	145	129	119	112	127	118	111	125	116	110	123	115	110	107
9	140	123	113	106	138	122	112	105	120	111	105	118	110	104	117	109	104	101
10	134	117	106	100	132	116	106	99	114	105	99	113	104	99	111	104	98	96

#### Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	154.4 Candela
Central Cone Intensity:	166 Candela
Beam Flux:	160.1 Lumens
Beam Angle (0-180):	39.5 Degrees
Beam Angle (90-270):	47.9 Degrees
Field Angle (0-180):	51.8 Degrees
Field Angle (90-270):	65.9 Degrees

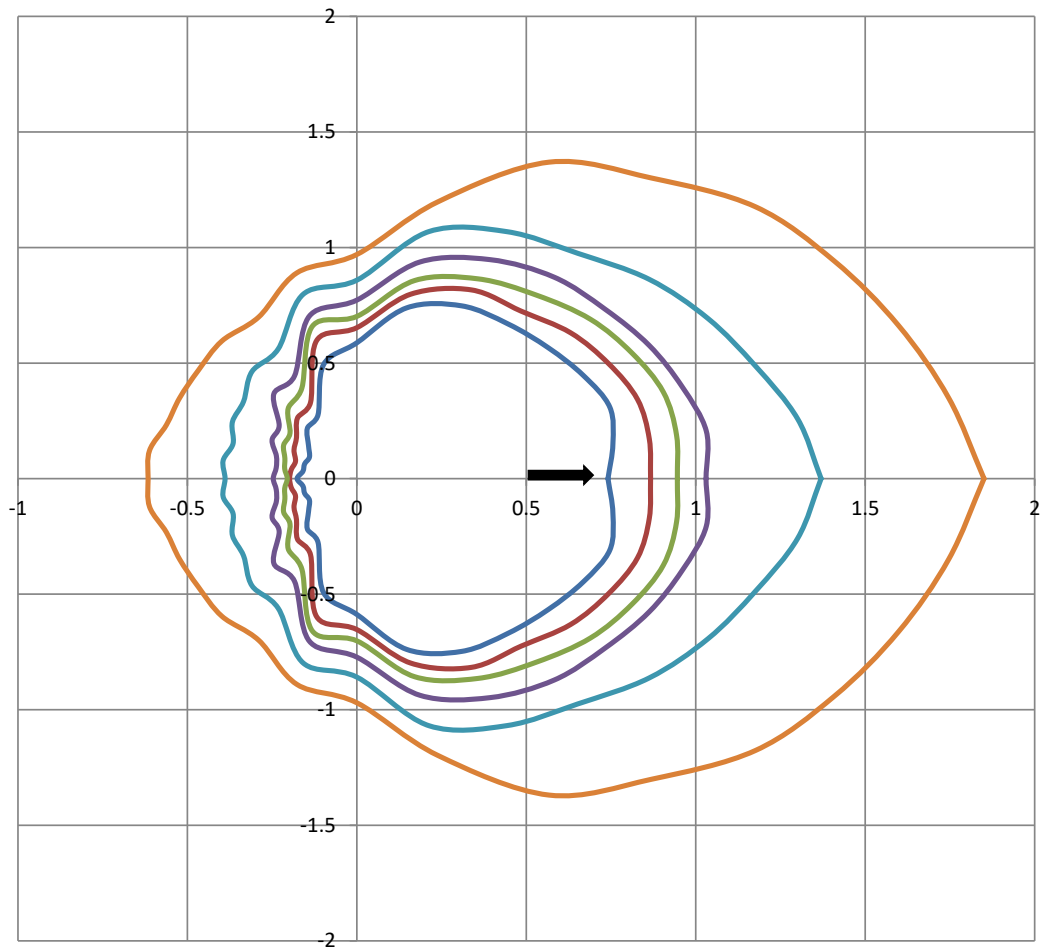
#### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		9.65	4.32
6.00		4.29	6.49
8.00		2.41	8.65
10.0		1.54	10.8
12.0		1.07	13.0
14.0		0.788	15.1
16.0		0.603	17.3



## 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)	134.0	72.4%
FM	(30-60)	34.1	18.4%
FH	(60-80)	2.7	1.4%
FVH	(80-90)	1.6	0.9%
BL	(0-30)	8.6	4.6%
BM	(30-60)	0.8	0.4%
BH	(60-80)	0.1	0.1%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	1.6	0.9%
UH	(100-180)	1.5	0.8%
Total		185.0	100.0%
<b>BUG Rating</b>	<b>B0 U1 G0</b>		