



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**

Stacia Elmore  
2742 Loker Ave W  
#100  
Carlsbad, CA 92010-6619  
United States

**Catalog Number**  
**HSL16/HSL20-LM-6-W-30 (6W, 40° WIDE OPTIC, 3000K)**

Order Number  
13931356  
Test Number  
13931356.22

Test Date

2021-07-30

Prepared By

Josh Mitchell, Technician

Approved By

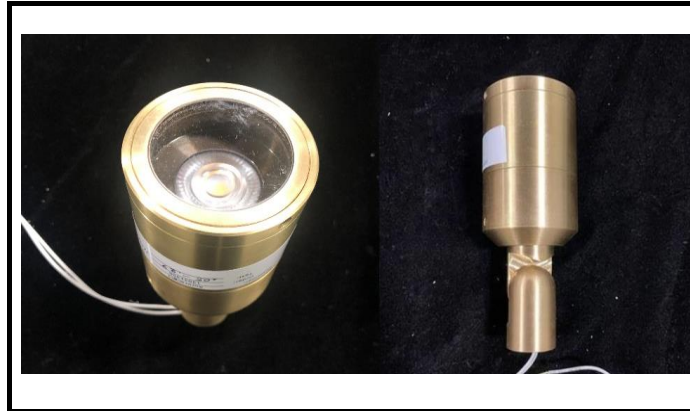
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Cylindrical brass body with adjustable knuckle  
**Lamp:** One white LED  
**Mounting:** Flood  
**Ballast/Driver:** Integral  
**Note:** Report extrapolated using data from Test Numbers 13931356.06, 13931356.08, and 13931356.12

#### Luminaire



#### Luminaire Characteristics

Luminous Diameter: 1.88 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: 12.00 VAC  
Current: 0.5259 A  
Power: 5.547 W  
Power Factor: 0.889  
Frequency: 60 Hz  
Current THD: 45.1 %

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	12.00 VAC	0.5259 A	5.547 W	0.889	60 Hz	45.1 %

### Summary of Results

#### Spacing Criteria

0-180: 0.66  
90-270: 0.66

#### Total Lumen Output:

437.3 Lumens

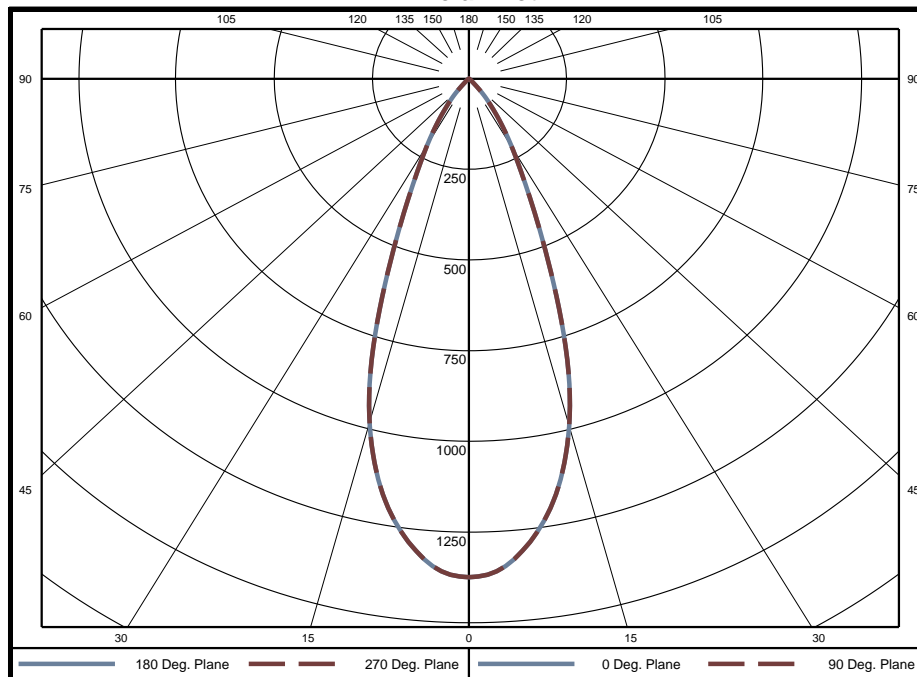
#### Luminaire Efficacy:

78.8 lm/w

#### Maximum Candela:

888 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	20.90	4.8%	60-65	0.34	0.1%	120-125	0	0.0%
5-10	58.46	13.4%	65-70	0.28	0.1%	125-130	0	0.0%
10-15	84.15	19.2%	70-75	0.23	0.1%	130-135	0	0.0%
15-20	89.00	20.4%	75-80	0.16	0.0%	135-140	0	0.0%
20-25	69.44	15.9%	80-85	0.09	0.0%	140-145	0	0.0%
25-30	47.91	11.0%	85-90	0.04	0.0%	145-150	0	0.0%
30-35	32.79	7.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	19.78	4.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	8.90	2.0%	100-105	0	0.0%	160-165	0	0.0%
45-50	2.96	0.7%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.23	0.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.59	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	422	96.6%
0-60	436	99.7%
0-90	437	100.0%
90-180	0	0.0%



### Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal 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	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1	888.1
5	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3	859.3
10	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9	776.9
15	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9	640.9
20	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3	436.3
25	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5	247.5
30	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1
35	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
40	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8
45	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
50	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
55	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
60	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
65	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
70	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	0.5
75	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	0.4
80	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	0.2
85	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	0.1
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.0

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

Horizontal Angle (Degrees)

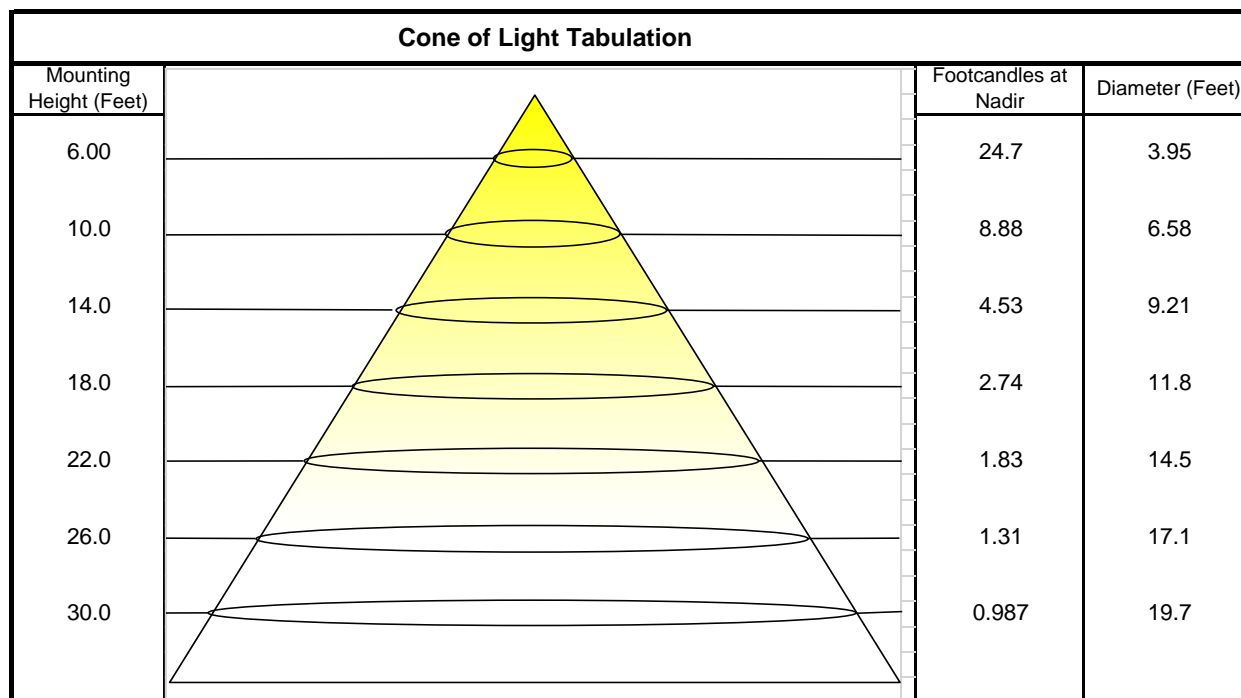
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	495900	495900	495900
45	9042	9042	9042
55	1758	1758	1758
65	815	815	815
75	812	812	812
85	699	699	699



### 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	521	521	521	521	508	508	508	508	486	486	486	465	465	465	446	446	446	437
1	499	489	479	470	489	479	471	463	462	455	449	446	440	435	431	427	423	415
2	479	460	444	431	469	452	438	426	439	427	417	426	417	408	414	407	400	393
3	459	434	415	400	450	428	411	397	417	403	391	407	395	385	397	387	379	373
4	440	411	390	374	432	406	387	372	397	381	368	389	375	363	381	369	359	353
5	422	390	368	352	415	386	366	350	379	361	347	372	356	344	365	352	341	336
6	405	371	349	332	399	368	347	331	362	343	329	356	339	327	350	336	325	319
7	389	354	331	315	383	351	330	314	346	327	313	341	324	311	336	321	310	304
8	374	338	315	300	369	335	314	299	331	312	298	327	309	297	323	307	296	290
9	359	323	301	286	355	321	300	285	317	298	284	314	296	283	310	294	283	278
10	346	309	288	273	342	308	287	273	304	285	272	301	284	271	298	282	271	266

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	888.1 Candela
Central Cone Intensity:	878 Candela
Beam Flux:	250.0 Lumens
Beam Angle (0-180):	39.7 Degrees
Beam Angle (90-270):	39.7 Degrees
Field Angle (0-180):	68.8 Degrees
Field Angle (90-270):	68.8 Degrees





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	286.3	42.3%
FM	(30-60)	51.6	7.6%
FH	(60-80)	0.8	0.1%
FVH	(80-90)	0.1	0.0%
BL	(0-30)	286.3	42.3%
BM	(30-60)	51.6	7.6%
BH	(60-80)	0.8	0.1%
BVH	(80-90)	0.1	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		677.4	100.0%
<b>BUG Rating</b>	<b>B1 U0 G0</b>		