



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-WF-30 (6W, 50° WIDE FLOOD OPTIC, 3000K)**

Order Number  
13931356  
Test Number  
13931356.23

Test Date

2021-07-30

Prepared By

A handwritten signature in black ink, appearing to read 'Josh Mitchell'.

Josh Mitchell, Technician

Approved By

A handwritten signature in black ink, appearing to read 'Alexa Lambert'.

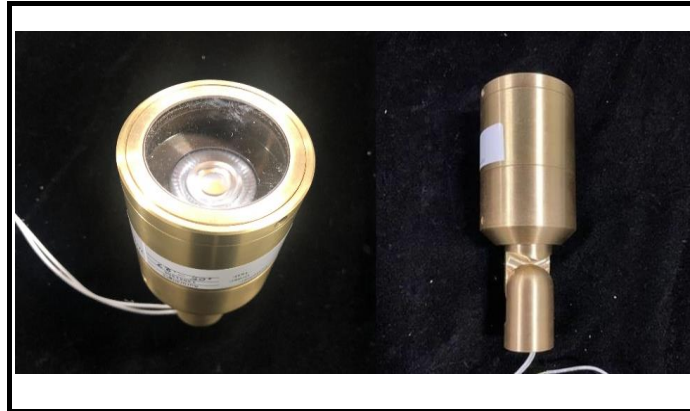
Alexa Lambert, Project Handler

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 13931356.13

**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: 0.79

90-270: 0.79

Total Lumen Output:

432.2 Lumens

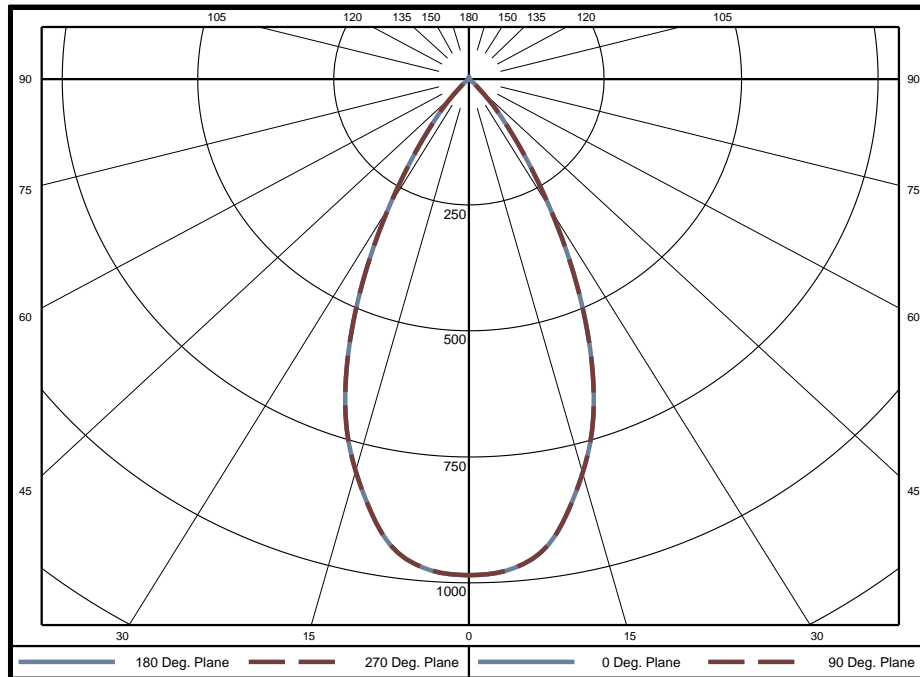
Luminaire Efficacy:

77.9 lm/w

Maximum Candela:

636 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	15.14	3.5%	60-65	0.39	0.1%	120-125	0	0.0%
5-10	43.85	10.1%	65-70	0.33	0.1%	125-130	0	0.0%
10-15	66.02	15.3%	70-75	0.26	0.1%	130-135	0	0.0%
15-20	78.87	18.2%	75-80	0.18	0.0%	135-140	0	0.0%
20-25	78.37	18.1%	80-85	0.09	0.0%	140-145	0	0.0%
25-30	64.01	14.8%	85-90	0.03	0.0%	145-150	0	0.0%
30-35	42.71	9.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	24.12	5.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	11.12	2.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	4.26	1.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.78	0.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.68	0.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	413	95.6%
0-60	431	99.7%
0-90	432	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	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4
	5	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0
	10	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5	593.5
	15	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1	522.1
	20	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2	433.2
	25	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4	315.4
	30	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5
	35	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2	103.2
	40	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
	45	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
	50	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
	55	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	60	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
	65	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
	70	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
	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
	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
	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
	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>)**

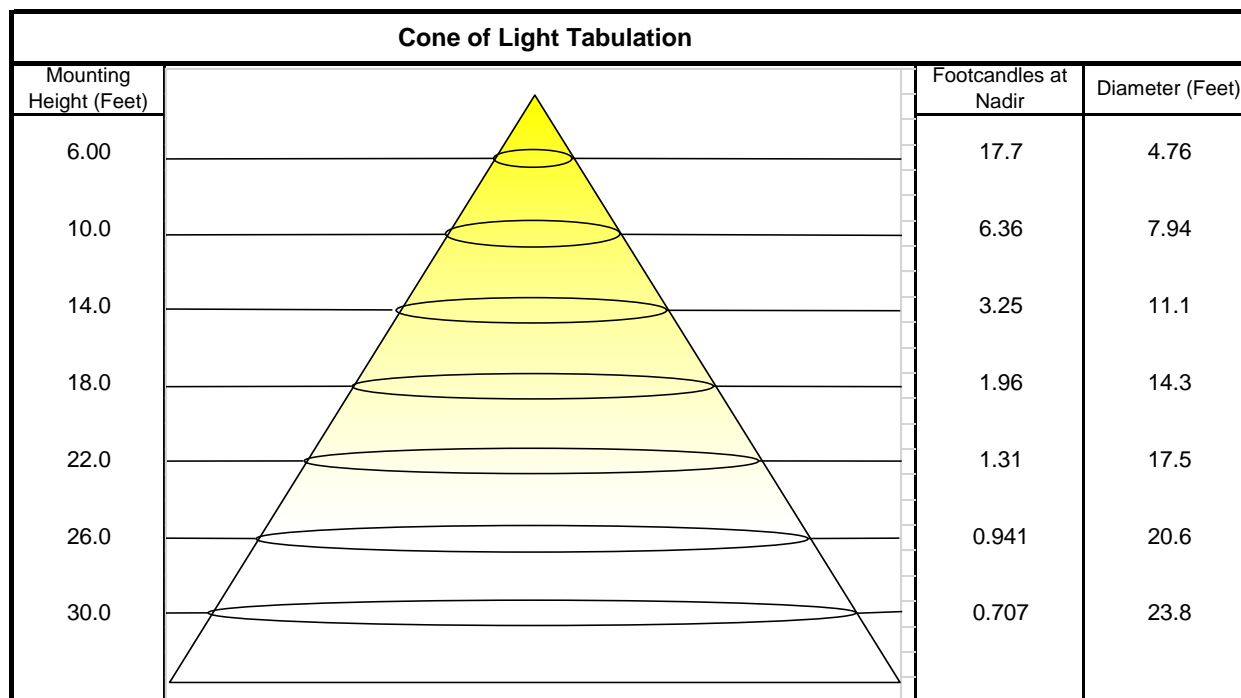
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	355400	355400	355400
	45	12510	12510	12510
	55	2183	2183	2183
	65	933	933	933
	75	901	901	901
	85	680	680	680



### Utilization of Lumens - Zonal Cavity Method

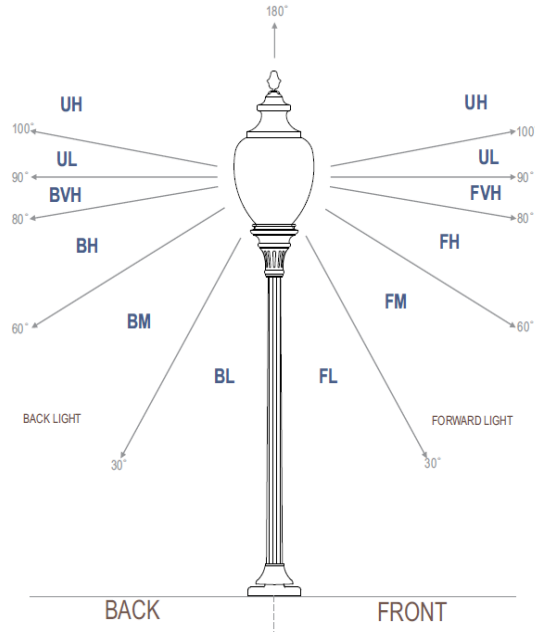
Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	515	515	515	515	503	503	503	503	480	480	480	460	460	460	441	441	441	432
1	492	481	471	462	482	472	463	454	454	447	441	438	433	427	424	419	415	407
2	470	450	434	420	461	443	428	416	429	417	407	416	407	398	405	397	390	383
3	449	423	403	387	440	417	399	384	406	390	378	395	383	372	386	375	366	360
4	428	398	376	359	421	393	373	357	384	366	353	376	361	349	368	355	345	338
5	409	375	352	335	402	371	350	333	364	345	330	357	340	327	350	336	325	319
6	390	355	331	314	384	351	329	313	345	325	310	339	322	308	334	318	306	301
7	373	336	312	295	367	333	310	294	328	307	293	323	305	291	318	302	290	284
8	357	319	295	278	352	316	293	278	312	291	277	307	289	275	303	287	274	269
9	341	303	279	263	337	301	278	263	297	276	262	293	274	261	290	273	260	255
10	327	288	265	250	323	286	264	249	283	263	248	280	261	248	277	260	247	242

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	636.4 Candela
Central Cone Intensity:	634 Candela
Beam Flux:	280.0 Lumens
Beam Angle (0-180):	49.8 Degrees
Beam Angle (90-270):	49.8 Degrees
Field Angle (0-180):	76.5 Degrees
Field Angle (90-270):	76.5 Degrees





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	267.8	40.0%
FM	(30-60)	65.9	9.8%
FH	(60-80)	0.9	0.1%
FVH	(80-90)	0.1	0.0%
BL	(0-30)	267.8	40.0%
BM	(30-60)	65.9	9.8%
BH	(60-80)	0.9	0.1%
BVH	(80-90)	0.1	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		669.2	100.0%
BUG Rating	B1 U0 G0		