



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**

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

**Catalog Number**  
**HSL16/HSL20-LM-8-SF-30 (8W, 60° SUPER FLOOD OPTIC, 3000K)**

Order Number  
13931356  
Test Number  
13931356.15

Test Date

2021-07-29

Prepared By

Josh Mitchell, Technician

Approved By

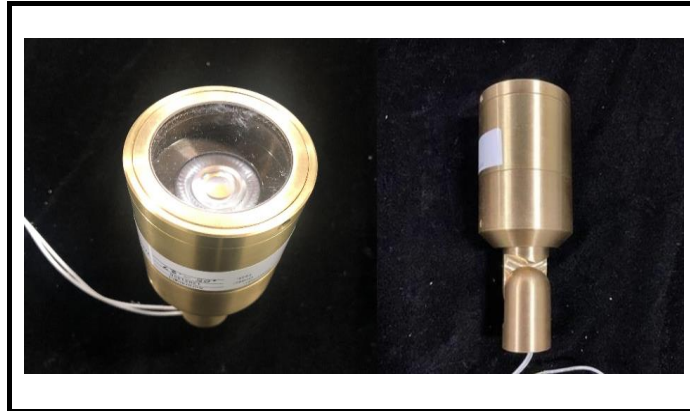
Alexa Lambert, Project Handler

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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 13931356.07, 13931356.08, and 13931356.10

#### 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: 24.1 °C  
Voltage: 12.20 VAC  
Current: 0.7024 A  
Power: 7.824 W  
Power Factor: 0.905  
Frequency: 60 Hz  
Current THD: 41.9 %

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
24.1 °C	12.20 VAC	0.7024 A	7.824 W	0.905	60 Hz	41.9 %

### Summary of Results

#### Spacing Criteria

0-180: 1.01

90-270: 1.01

Total Lumen Output:

584.3 Lumens

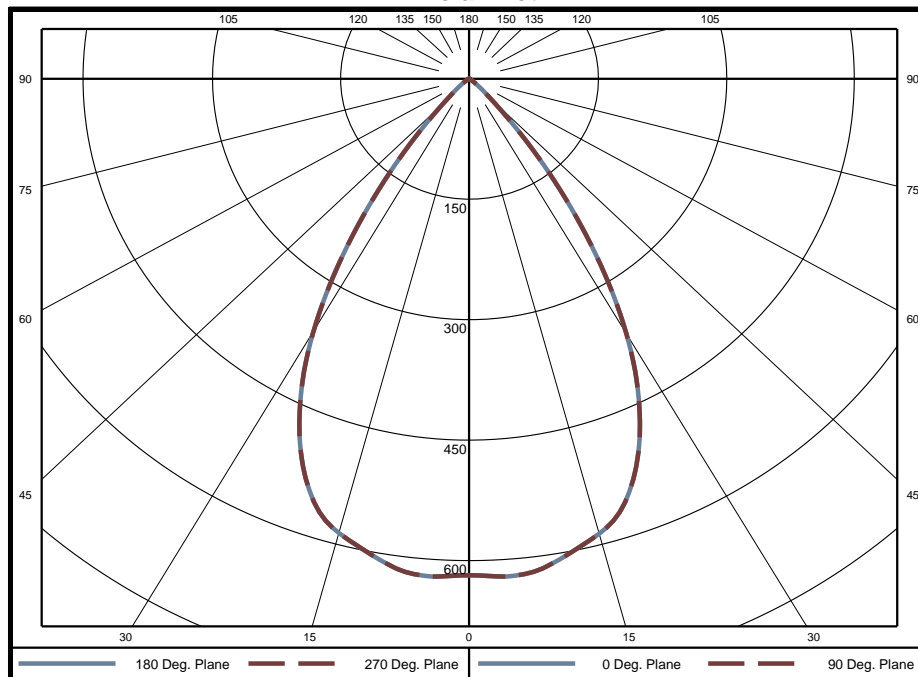
Luminaire Efficacy:

74.7 lm/w

Maximum Candela:

578 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	13.80	2.4%	60-65	0.68	0.1%	120-125	0	0.0%
5-10	40.96	7.0%	65-70	0.58	0.1%	125-130	0	0.0%
10-15	65.81	11.3%	70-75	0.47	0.1%	130-135	0	0.0%
15-20	87.23	14.9%	75-80	0.32	0.1%	135-140	0	0.0%
20-25	99.54	17.0%	80-85	0.16	0.0%	140-145	0	0.0%
25-30	98.86	16.9%	85-90	0.06	0.0%	145-150	0	0.0%
30-35	82.72	14.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	54.10	9.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	24.65	4.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	9.25	1.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	3.78	0.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.31	0.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	543	92.9%
0-60	582	99.6%
0-90	584	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	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0	575.0
	5	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7	577.7
	10	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3
	15	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4	545.4
	20	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4	508.4
	25	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2	438.2
	30	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1
	35	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7	221.7
	40	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7
	45	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7
	50	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
	55	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
	60	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
	65	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
	70	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
	75	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
	80	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
	85	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
	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>)**

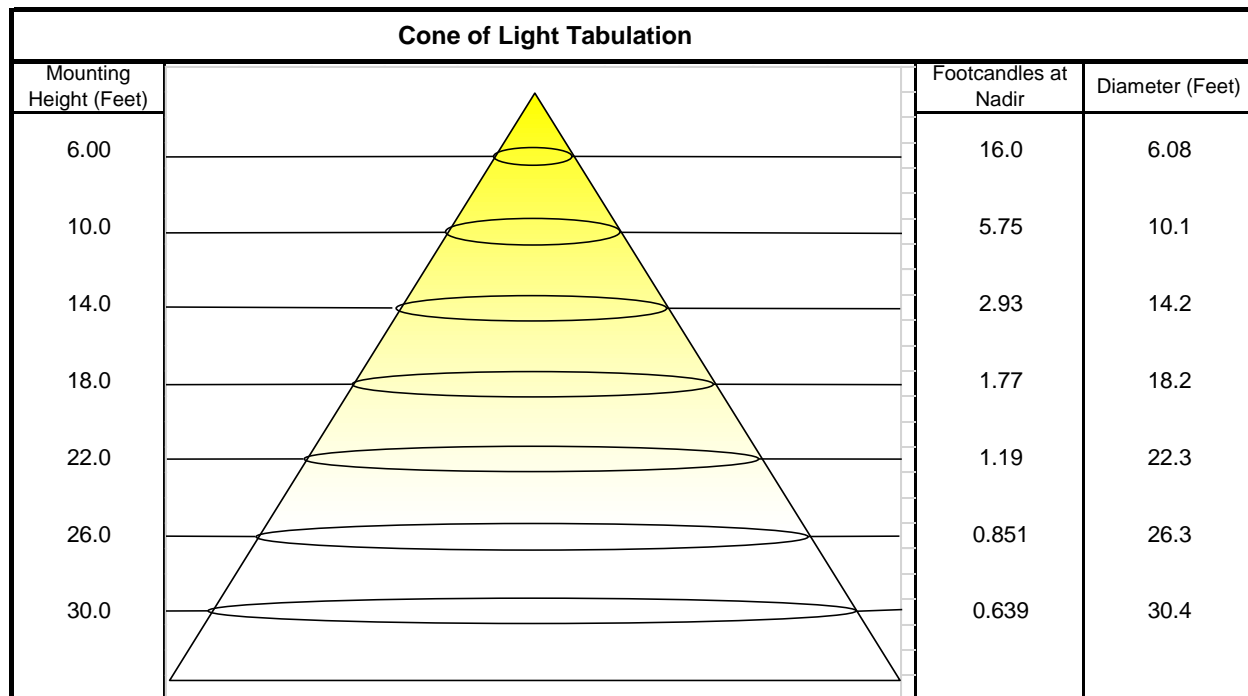
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	321100	321100	321100
	45	28210	28210	28210
	55	4808	4808	4808
	65	1643	1643	1643
	75	1616	1616	1616
	85	1204	1204	1204



### 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	696	696	696	696	679	679	679	679	649	649	649	622	622	622	596	596	596	584
1	663	647	632	619	648	634	621	609	610	600	590	589	580	573	568	562	556	546
2	630	601	577	557	617	591	569	551	572	554	539	555	540	527	538	527	516	507
3	597	560	530	507	586	551	524	503	536	513	495	522	503	487	509	493	479	470
4	567	522	489	464	556	515	485	462	503	477	456	491	469	451	480	461	446	437
5	537	488	453	428	528	482	450	426	472	444	422	462	438	418	453	432	415	406
6	510	457	422	396	501	452	419	395	443	414	392	435	409	389	427	405	387	378
7	484	429	393	368	476	425	391	367	417	387	365	410	383	363	404	380	361	353
8	459	403	368	343	452	400	366	342	393	363	341	387	360	339	381	357	338	330
9	437	380	345	321	430	377	343	320	371	341	319	366	338	318	361	336	317	309
10	416	358	324	301	410	356	323	300	351	321	300	346	318	299	342	316	298	290

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	575.0 Candela
Central Cone Intensity:	577 Candela
Beam Flux:	446.3 Lumens
Beam Angle (0-180):	64.6 Degrees
Beam Angle (90-270):	64.6 Degrees
Field Angle (0-180):	85.9 Degrees
Field Angle (90-270):	85.9 Degrees





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	218.3	34.7%
FM	(30-60)	94.6	15.1%
FH	(60-80)	1.1	0.2%
FVH	(80-90)	0.1	0.0%
BL	(0-30)	218.3	34.7%
BM	(30-60)	94.6	15.1%
BH	(60-80)	1.1	0.2%
BVH	(80-90)	0.1	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		628.1	100.0%
<b>BUG Rating</b>	<b>B1 U0 G0</b>		