



UL Verification Services Inc.
7036 Snowdrift Road
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-12-SF-30 (12W, 60° SUPER FLOOD OPTIC, 3000K)

Order Number

13931356

Test Number

13931356.10A

Revision of Test Number 13931356.10 on:

2021-08-04

Test Date

2021-07-29

Prepared By

Josh Mitchell, Technician

Approved By

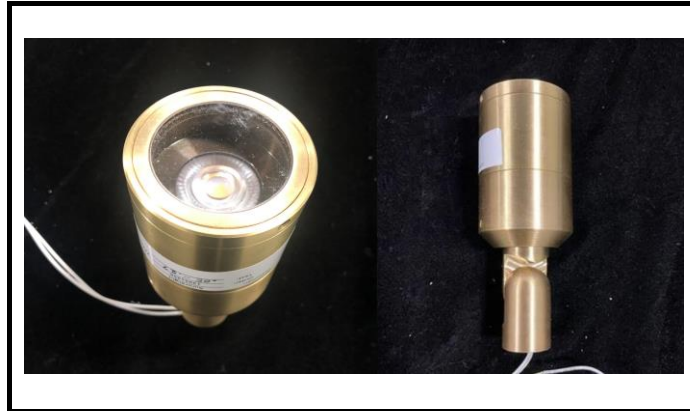
Alexa Lambert, Project Handler

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Luminaire Description: Cylindrical brass body with adjustable knuckle
Lamp: One white LED
Mounting: Flood
Ballast/Driver: Integral

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: 25.7 °C
Voltage: 12.08 VAC
Current: 0.9100 A
Power: 10.97 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.13 %

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
25.7 °C	12.08 VAC	0.9100 A	10.97 W	0.998	60 Hz	5.13 %

Summary of Results

Spacing Criteria

0-180: 1.01
90-270: 1.01

Total Lumen Output:

628.0 Lumens

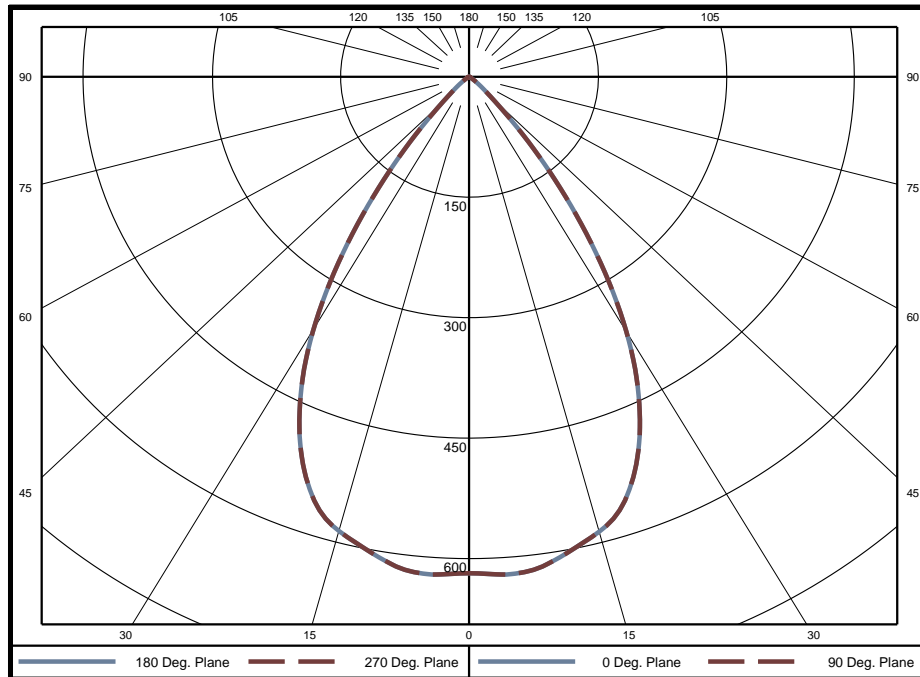
Luminaire Efficacy:

57.2 lm/w

Maximum Candela:

621 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	14.8	2.4%	60-65	0.7	0.1%	120-125	0	0.0%
5-10	44.0	7.0%	65-70	0.6	0.1%	125-130	0	0.0%
10-15	70.7	11.3%	70-75	0.5	0.1%	130-135	0	0.0%
15-20	93.8	14.9%	75-80	0.3	0.0%	135-140	0	0.0%
20-25	107.0	17.0%	80-85	0.2	0.0%	140-145	0	0.0%
25-30	106.3	16.9%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	88.9	14.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	58.2	9.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	26.5	4.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	9.9	1.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	4.1	0.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.4	0.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	584	92.9%
0-60	626	99.6%
0-90	628	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	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0	618.0
	5	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9
	10	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6	607.6
	15	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2	586.2
	20	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4
	25	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0	471.0
	30	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6
	35	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2	238.2
	40	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8
	45	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4
	50	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1
	55	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	60	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
	65	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
	70	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	75	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	80	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
	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/m²)

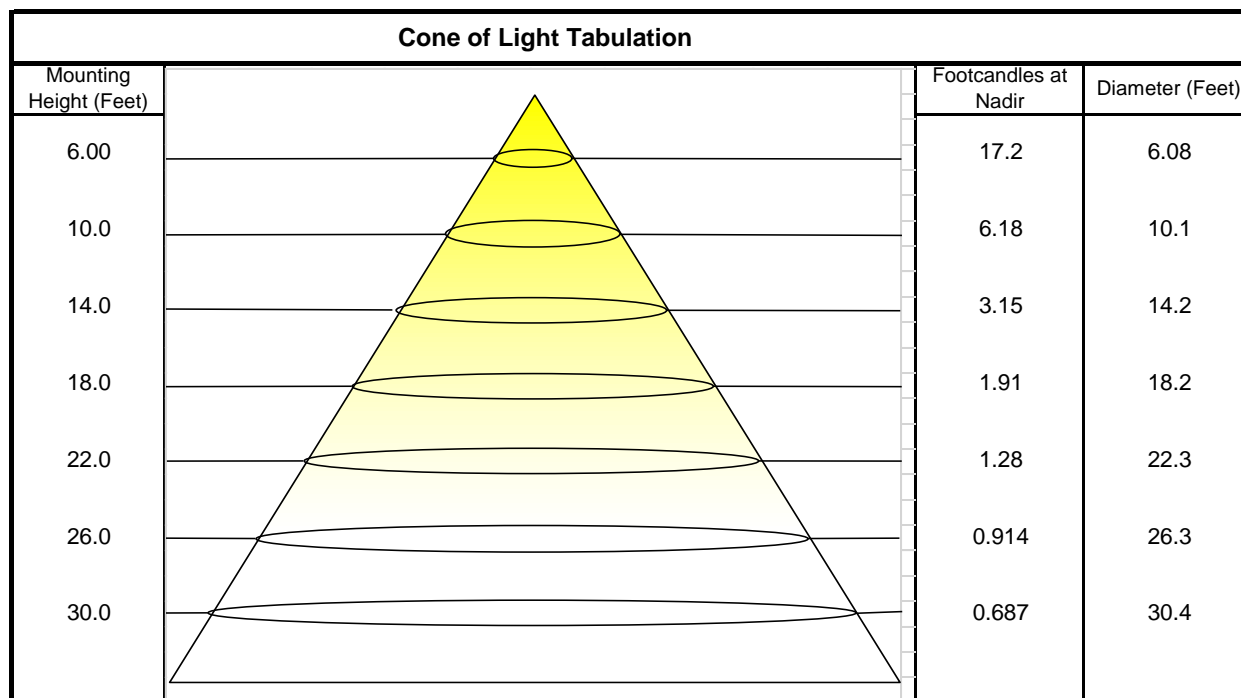
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	345100	345100	345100
	45	30320	30320	30320
	55	5168	5168	5168
	65	1766	1766	1766
	75	1737	1737	1737
	85	1294	1294	1294



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	748	748	748	748	730	730	730	730	698	698	698	668	668	668	641	641	641	628
1	712	695	679	665	697	681	667	654	656	645	634	633	624	615	611	604	598	586
2	677	646	620	599	663	635	612	592	615	596	579	596	580	567	579	566	555	545
3	642	601	570	545	630	593	564	540	576	552	532	561	540	523	547	530	515	505
4	609	561	526	499	598	554	521	496	540	512	490	528	504	484	516	496	479	469
5	577	524	487	460	567	518	484	458	507	477	454	497	470	450	487	464	446	436
6	548	491	453	426	538	486	450	424	477	445	421	468	440	418	459	435	416	406
7	520	461	422	396	511	456	420	395	448	416	392	441	412	390	434	408	388	379
8	494	433	395	369	486	430	393	368	423	390	366	416	386	365	410	383	363	355
9	469	408	370	345	462	405	369	344	399	366	343	393	363	342	388	361	341	332
10	447	385	348	323	440	382	347	323	377	344	322	372	342	321	368	340	320	312

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	618.0 Candela
Central Cone Intensity:	620 Candela
Beam Flux:	479.7 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%
BUG Rating	B1 U0 G0		



Attachment A

Amended Report Documentation

[illegible]