



UL Verification Services Inc.
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Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
Auroralight Inc

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#100
Carlsbad, CA 92010-6619
United States

Catalog Number
HSL16/HSL20-LM-4-M-30 (4W, 30° MEDIUM OPTIC, 3000K)

Order Number

13931356

Test Number

13931356.05A

Revision of Test Number 13931356.05 on:

2021-08-04

Test Date

2021-07-28

Prepared By

Josh Mitchell, Technician

Approved By

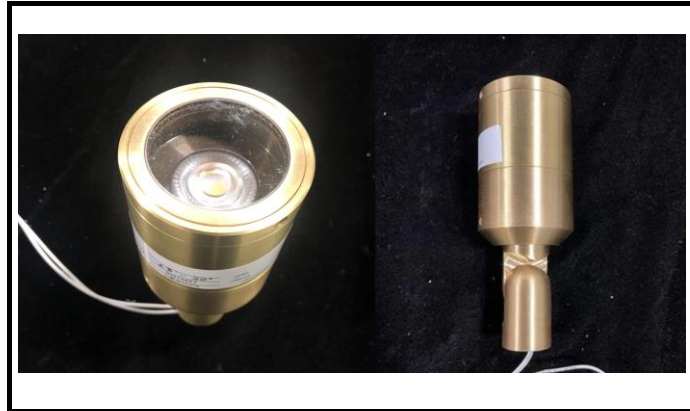
Alexa Lambert, Project Handler

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

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: 25.0 °C
Voltage: 12.21 VAC
Current: 0.3481 A
Power: 3.706 W
Power Factor: 0.872
Frequency: 60 Hz
Current THD: 47.8 %

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
25.0 °C	12.21 VAC	0.3481 A	3.706 W	0.872	60 Hz	47.8 %

Summary of Results

Spacing Criteria

0-180: 0.47

90-270: 0.47

Total Lumen Output:

313.7 Lumens

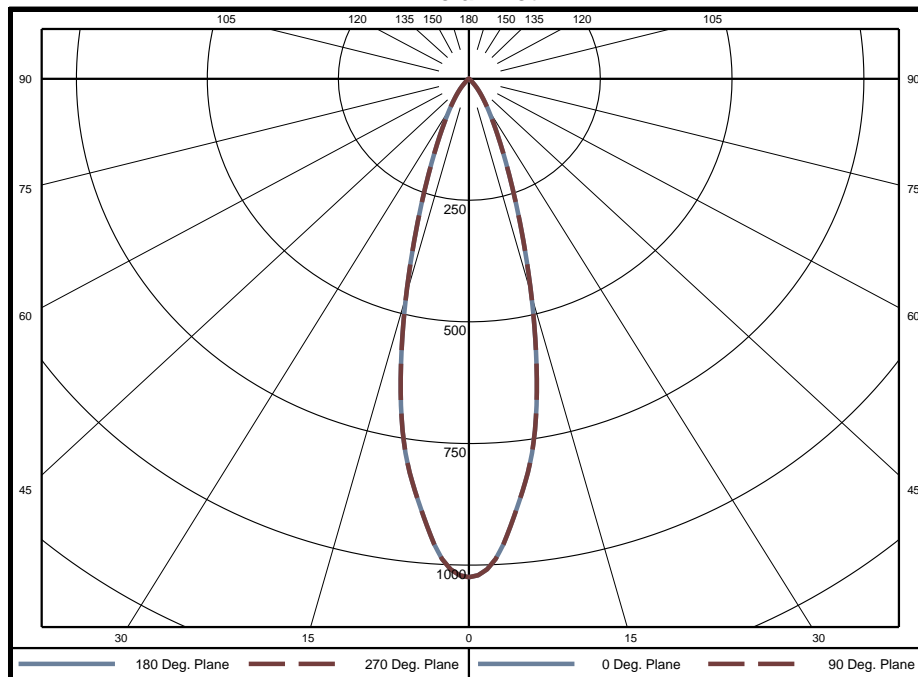
Luminaire Efficacy:

84.7 lm/w

Maximum Candela:

1025 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	23.29	7.4%	60-65	0.32	0.1%	120-125	0	0.0%
5-10	58.91	18.8%	65-70	0.28	0.1%	125-130	0	0.0%
10-15	70.52	22.5%	70-75	0.23	0.1%	130-135	0	0.0%
15-20	57.63	18.4%	75-80	0.14	0.0%	135-140	0	0.0%
20-25	39.59	12.6%	80-85	0.07	0.0%	140-145	0	0.0%
25-30	26.21	8.4%	85-90	0.02	0.0%	145-150	0	0.0%
30-35	17.29	5.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	10.73	3.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	5.20	1.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	1.98	0.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.84	0.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.46	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	304	97.0%
0-60	313	99.7%
0-90	314	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	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025
	5	923	923	923	923	923	923	923	923	923	923	923	923	923	923	923
	10	734	734	734	734	734	734	734	734	734	734	734	734	734	734	734
	15	469	469	469	469	469	469	469	469	469	469	469	469	469	469	469
	20	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256
	25	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138
	30	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	35	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	40	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	45	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	50	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	65	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90	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
	100	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
	110	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
	120	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
	130	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
	140	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
	150	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
	160	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
	170	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
	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m²)

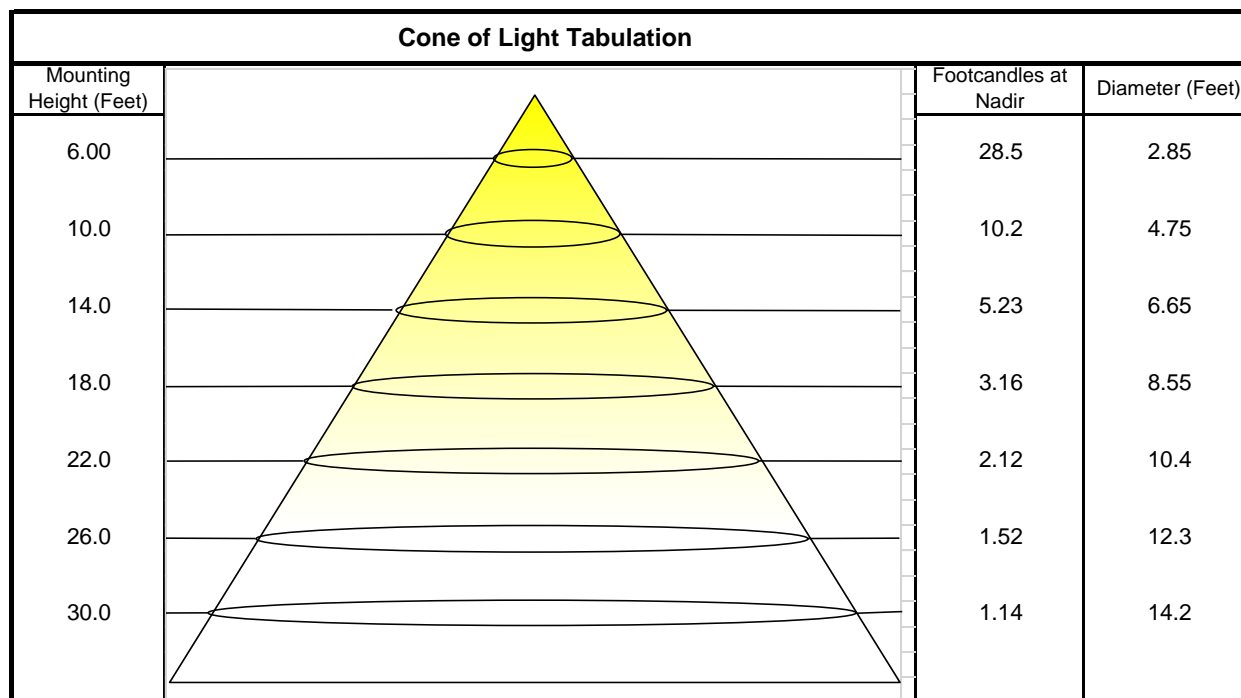
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
	0	572300	572300
	45	6501	6501
	55	1356	1356
	65	799	799
	75	756	756
	85	484	484



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	373	373	373	373	365	365	365	365	349	349	349	334	334	334	320	320	320	314
1	359	352	345	339	352	345	339	334	333	328	324	321	318	314	311	308	305	300
2	346	333	323	314	339	328	318	310	318	310	304	309	303	297	300	295	291	286
3	333	316	304	293	327	312	300	291	304	295	287	297	289	282	290	284	278	274
4	320	301	287	277	315	298	285	275	292	281	272	286	276	269	280	272	266	262
5	309	288	273	262	304	285	271	261	280	268	259	275	265	257	270	262	255	251
6	298	276	261	250	294	273	259	249	269	257	248	265	254	246	261	252	245	241
7	288	265	250	239	284	263	249	239	259	246	237	256	244	236	252	243	235	231
8	278	254	240	229	275	253	239	229	250	237	228	247	235	227	244	234	226	223
9	269	245	230	220	266	244	230	220	241	228	219	238	227	219	236	226	218	215
10	260	236	222	212	258	235	221	212	233	220	212	231	219	211	229	218	211	207

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1025 Candela
Central Cone Intensity:	989 Candela
Beam Flux:	141.1 Lumens
Beam Angle (0-180):	28.4 Degrees
Beam Angle (90-270):	28.4 Degrees
Field Angle (0-180):	55.0 Degrees
Field Angle (90-270):	55.0 Degrees





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	137.9	44.0%
FM	(30-60)	18.3	5.8%
FH	(60-80)	0.5	0.2%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	137.9	44.0%
BM	(30-60)	18.3	5.8%
BH	(60-80)	0.5	0.2%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		313.5	100.0%
BUG Rating	B1 U0 G0		



Attachment A

Amended Report Documentation

[illegible]