



UL LLC
1075 W Lambert Rd Suite B
Brea, CA 92821

Photometric Test Report

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

Prepared For
Auroralight Inc
2742 Loker Ave. West
Carlsbad, CA 92010

Catalog Number
LBD400-S13-SL-20-30-48 (STACKED LOUVERS, 3000K)
Order Number
11263738
Test Number
1254184

Test Date

2016-05-24

Prepared By

Austin Duff, Technician

Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Spherical 13" copper shades with stacked louvers and cylindrical 48" copper stem with brass base
Lamp: Fourteen (14) Cree XP-L 3000K LEDs
Mounting: Path/Area
Ballast/Driver: THOMAS LED30W-66-C0450

Luminaire



Luminaire Characteristics

Luminous Diameter: 12.00 in.
Luminous Height: 1.75 in.

Summary of Results

Roadway Classification: Type IV, Very Short
Cutoff Classification: Semicutoff
BUG Rating: B0 U1 G1

Test Conditions

Test Temperature: 24.1 °C
Voltage: 120.1 VAC
Current: 0.1947 A
Power: 20.20 W
Power Factor: 0.864
Frequency: 60 Hz
Current THD: 34.5 %

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	120.1 VAC	0.1947 A	20.20 W	0.864	60 Hz	34.5 %

Summary of Results

Spacing Criteria

0-180: 1.05

90-270: 0.98

Total Lumen Output:

498.4 Lumens

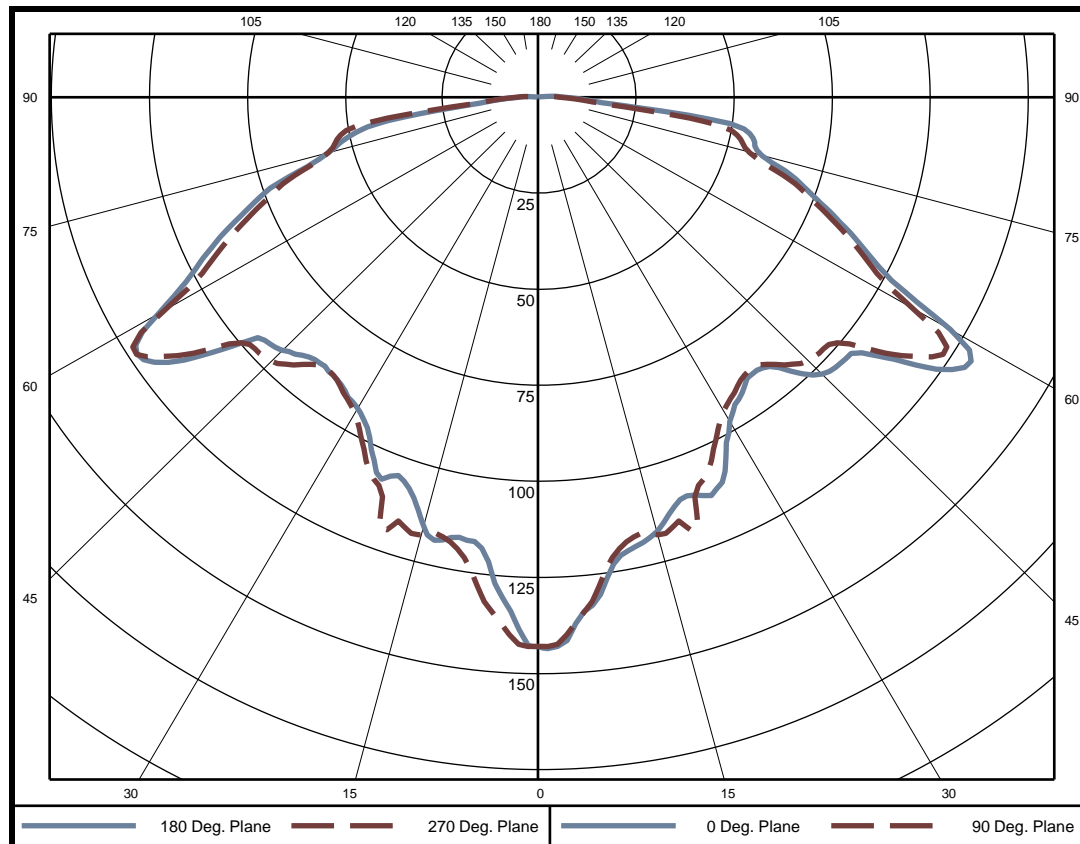
Luminaire Efficacy:

24.7 lm/w

Maximum Candela:

144 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.30	0.7%	60-65	46.75	9.4%	120-125	0	0.0%
5-10	8.95	1.8%	65-70	40.42	8.1%	125-130	0	0.0%
10-15	13.88	2.8%	70-75	33.54	6.7%	130-135	0	0.0%
15-20	18.57	3.7%	75-80	28.04	5.6%	135-140	0	0.0%
20-25	22.56	4.5%	80-85	17.35	3.5%	140-145	0	0.0%
25-30	24.81	5.0%	85-90	5.24	1.1%	145-150	0	0.0%
30-35	26.96	5.4%	90-95	2.14	0.4%	150-155	0	0.0%
35-40	29.78	6.0%	95-100	0.49	0.1%	155-160	0	0.0%
40-45	34.68	7.0%	100-105	0.03	0.0%	160-165	0	0.0%
45-50	39.25	7.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	47.21	9.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	54.50	10.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	149	29.9%
0-60	324	65.1%
0-90	496	99.5%
90-180	3	0.5%



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	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0
	5	134.4	138.6	137.8	135.2	134.6	134.3	130.5	129.8	127.0	129.8	130.5	134.3	134.6	135.2	137.8
	10	121.1	125.1	122.1	119.7	119.3	120.8	113.8	116.1	116.3	116.1	113.8	120.8	119.3	119.7	122.1
	15	117.0	119.0	116.5	117.1	117.9	113.0	111.4	111.0	114.7	111.0	111.4	113.0	117.9	117.1	116.5
	20	110.5	113.4	111.4	112.2	119.2	104.7	105.2	112.4	104.8	112.4	105.2	104.7	119.2	112.2	111.4
	25	110.7	106.2	103.9	104.9	104.4	102.6	99.5	101.6	101.3	101.6	99.5	102.6	104.4	104.9	103.9
	30	97.4	95.3	93.8	93.8	94.4	92.3	92.1	93.8	93.1	93.8	92.1	92.3	94.4	93.8	93.8
	35	91.6	89.9	89.0	89.2	89.9	88.3	88.7	90.1	89.8	90.1	88.7	88.3	89.9	89.2	89.0
	40	91.5	91.1	91.1	90.8	90.8	89.0	89.9	91.4	89.2	91.4	89.9	89.0	90.8	90.8	91.1
	45	101.9	97.4	96.1	96.5	97.0	94.2	92.6	97.0	93.1	97.0	92.6	94.2	97.0	96.5	96.1
	50	103.8	98.6	98.3	98.6	99.4	98.2	96.1	101.3	99.6	101.3	96.1	98.2	99.4	98.6	98.3
	55	123.5	115.2	116.4	114.7	117.6	116.1	115.2	119.5	120.3	119.5	115.2	116.1	117.6	114.7	116.4
	60	120.8	106.6	106.3	105.3	110.3	107.4	108.2	109.7	112.4	109.7	108.2	107.4	110.3	105.3	106.3
	65	90.0	84.7	84.8	84.1	87.8	88.0	89.5	89.4	92.4	89.4	89.5	88.0	87.8	84.1	84.8
	70	73.9	71.0	70.9	69.5	72.1	73.7	74.3	74.0	76.0	74.0	74.3	73.7	72.1	69.5	70.9
	75	58.9	55.6	55.0	54.6	55.8	55.8	57.2	57.1	55.7	57.1	57.2	55.8	55.8	54.6	55.0
	80	54.6	48.5	47.8	49.3	50.1	45.2	49.2	48.3	44.4	48.3	49.2	45.2	50.1	49.3	47.8
	85	16.2	15.4	15.3	14.3	13.8	13.9	13.6	13.4	12.9	13.4	13.6	13.9	13.8	14.3	15.3
	90	6.9	6.1	6.1	5.7	5.5	5.4	5.4	5.4	4.8	5.4	5.4	5.4	5.5	5.7	6.1
	95	2.6	2.1	2.1	1.9	1.7	1.6	1.6	1.6	1.4	1.6	1.6	1.6	1.7	1.9	2.1
	100	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4
	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)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	1960	1960
	45	3965	3739
	55	3170	2989
	65	2084	1963
	75	1264	1180
	85	337	317



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	593	593	593	593	579	579	579	579	552	552	552	528	528	528	506	506	506	496
1	527	498	471	447	513	486	461	439	463	443	425	443	426	411	424	411	398	386
2	470	421	380	345	456	410	373	341	392	360	332	374	347	324	358	336	316	303
3	422	360	312	274	408	352	307	271	336	297	266	321	288	261	307	279	255	243
4	382	313	262	224	369	306	258	222	292	251	218	279	244	215	268	237	211	199
5	348	275	225	187	336	269	221	186	258	215	183	247	210	181	237	204	178	166
6	319	245	195	159	308	240	193	158	230	188	157	221	183	155	212	179	153	141
7	294	220	172	138	285	216	170	137	207	166	136	199	162	135	192	159	133	122
8	273	199	153	121	264	196	151	121	188	148	120	182	145	119	175	142	117	107
9	254	182	138	108	247	179	136	107	173	134	107	167	131	106	161	129	105	95
10	238	167	125	97	231	165	124	97	159	122	96	154	120	95	149	117	94	85

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	143.0 Candela
Central Cone Intensity:	140 Candela
Beam Flux:	414.3 Lumens
Beam Angle (0-180):	142.2 Degrees
Beam Angle (90-270):	140.5 Degrees
Field Angle (0-180):	170.2 Degrees
Field Angle (90-270):	169.8 Degrees

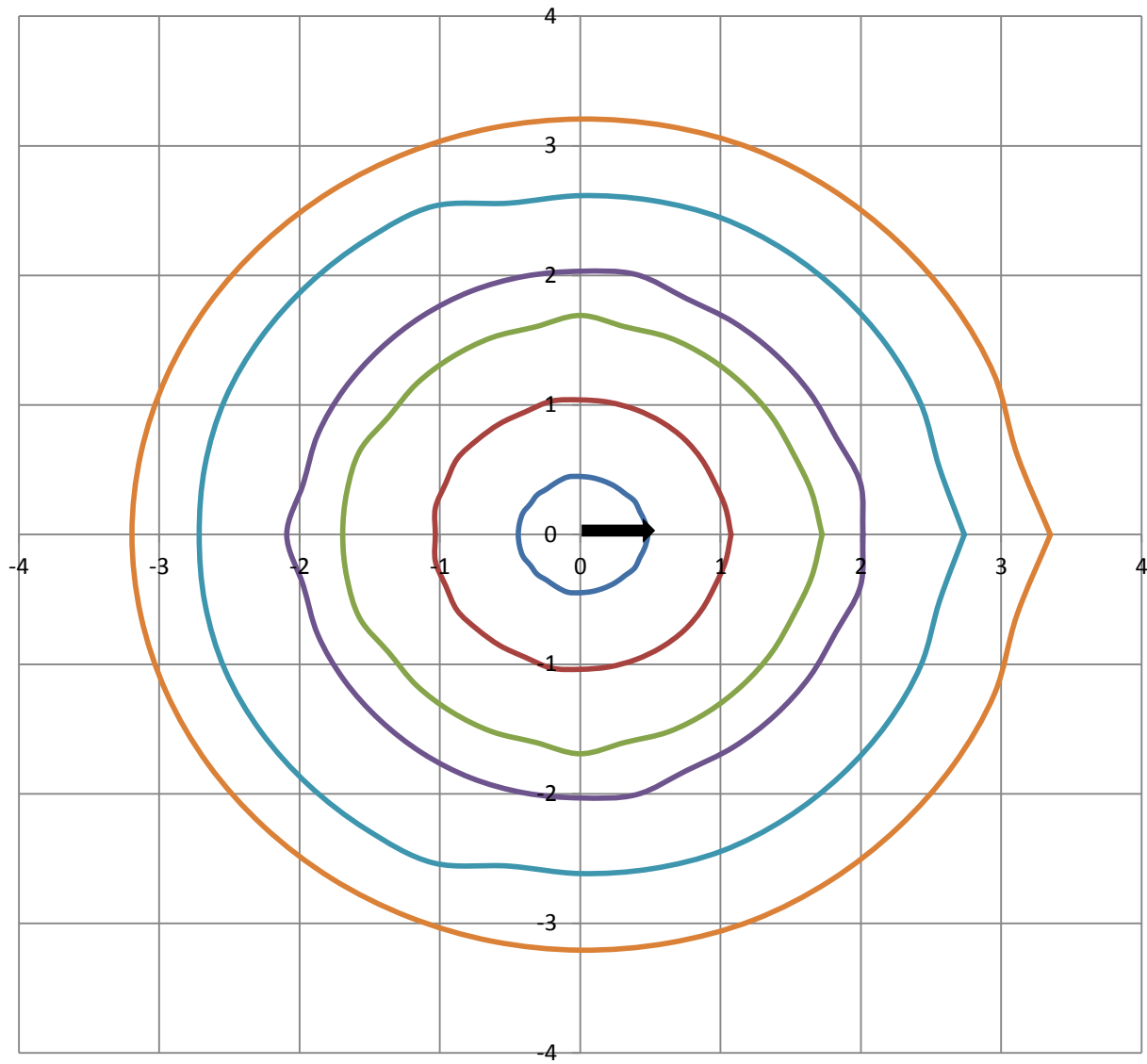
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		8.94	4.00
6.00		3.97	6.00
8.00		2.23	8.00
10.0		1.43	10.00
12.0		0.993	12.0
14.0		0.729	14.0
16.0		0.559	16.0



ISOFootcandle Plot

Mounting Height - 4 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc



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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	46.9	9.4%
FM	(30-60)	116.3	23.3%
FH	(60-80)	73.5	14.7%
FVH	(80-90)	12.1	2.4%
BL	(0-30)	45.3	9.1%
BM	(30-60)	115.7	23.2%
BH	(60-80)	75.7	15.2%
BVH	(80-90)	10.6	2.1%
UL	(90-100)	2.7	0.5%
UH	(100-180)	0.0	0.0%
Total		498.9	100.0%
BUG Rating	B0 U1 G1		