



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-C14-SL-20-30-48 (STACKED LOUVERS, 3000K)**  
Order Number  
11263738  
Test Number  
1254183

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:** Conical 14" 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: 14.50 in.  
Luminous Height: 2.00 in.

**Summary of Results**

Roadway Classification: Type II, Very Short  
Cutoff Classification: Noncutoff  
BUG Rating: B0 U1 G1

**Test Conditions**

Test Temperature: 25.1 °C  
Voltage: 120.0 VAC  
Current: 0.1945 A  
Power: 20.17 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
25.1 °C	120.0 VAC	0.1945 A	20.17 W	0.864	60 Hz	34.5 %

### Summary of Results

#### Spacing Criteria

0-180: 1.46  
90-270: 1.40

#### Total Lumen Output:

578.9 Lumens

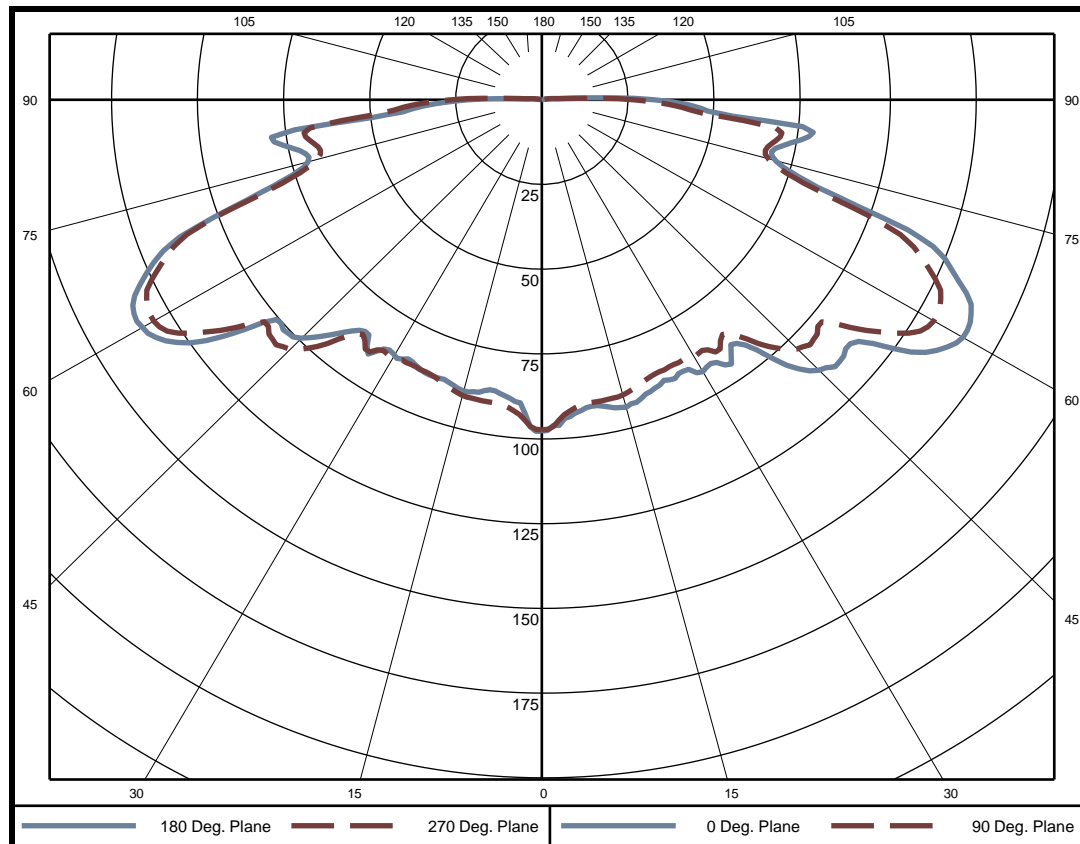
#### Luminaire Efficacy:

28.7 lm/w

#### Maximum Candela:

140 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	2.24	0.4%	60-65	62.31	10.8%	120-125	0	0.0%
5-10	6.40	1.1%	65-70	58.39	10.1%	125-130	0	0.0%
10-15	10.56	1.8%	70-75	41.25	7.1%	130-135	0	0.0%
15-20	14.60	2.5%	75-80	36.28	6.3%	135-140	0	0.0%
20-25	18.32	3.2%	80-85	37.20	6.4%	140-145	0	0.0%
25-30	22.09	3.8%	85-90	19.85	3.4%	145-150	0	0.0%
30-35	26.16	4.5%	90-95	6.75	1.2%	150-155	0	0.0%
35-40	29.64	5.1%	95-100	1.46	0.3%	155-160	0	0.0%
40-45	36.51	6.3%	100-105	0.39	0.1%	160-165	0	0.0%
45-50	42.02	7.3%	105-110	0.00	0.0%	165-170	0	0.0%
50-55	48.22	8.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	58.24	10.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	130	22.5%
0-60	315	54.4%
0-90	570	98.5%
90-180	9	1.5%



### 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	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5
	5	93.7	92.8	91.6	91.4	92.2	91.1	89.4	89.4	89.3	89.4	89.4	91.1	92.2	91.4	92.8
	10	91.5	91.4	88.8	88.6	90.5	88.2	86.1	86.9	86.8	86.9	86.1	88.2	90.5	88.6	88.8
	15	93.8	92.0	89.3	88.4	90.2	89.1	86.6	87.3	88.8	87.3	86.6	89.1	90.2	88.4	89.3
	20	91.5	90.6	88.2	87.0	87.9	87.9	85.8	85.6	87.4	85.6	85.8	87.9	87.9	87.0	88.2
	25	90.7	89.5	87.3	86.5	86.9	86.9	85.5	85.2	86.5	85.2	85.5	86.9	86.9	86.5	87.3
	30	92.6	90.7	89.4	88.4	87.8	87.8	86.5	85.9	86.4	85.9	86.5	87.8	87.8	88.4	89.4
	35	95.1	92.5	91.9	90.3	89.8	90.3	88.8	88.0	88.6	88.0	88.8	90.3	89.8	90.3	91.9
	40	96.2	94.5	94.5	93.9	92.1	90.9	90.9	91.6	89.4	91.6	90.9	90.9	92.1	93.9	94.5
	45	112.7	104.4	103.5	104.9	104.0	100.1	98.8	100.9	99.4	100.9	98.8	100.1	104.0	104.9	103.5
	50	114.2	105.9	105.8	105.2	104.0	101.1	99.9	100.9	100.8	100.9	99.9	101.1	104.0	105.2	105.8
	55	129.6	118.7	120.3	118.7	119.4	120.7	118.5	116.9	124.9	116.9	118.5	120.7	119.4	118.7	120.3
	60	140.0	125.4	127.7	127.0	130.6	129.5	128.6	129.7	134.2	129.7	128.6	129.5	130.6	127.0	127.7
	65	134.8	120.0	122.1	122.5	125.4	123.7	123.2	126.0	129.0	126.0	123.2	123.7	125.4	122.5	122.1
	70	112.2	97.0	97.7	99.0	101.6	98.0	98.2	100.1	102.2	100.1	98.2	98.0	101.6	99.0	97.7
	75	69.8	65.4	65.7	64.4	67.9	68.9	69.8	69.2	70.4	69.2	69.8	68.9	67.9	64.4	65.7
	80	72.8	71.9	74.1	65.1	68.7	77.1	73.8	65.8	76.7	65.8	73.8	77.1	68.7	65.1	74.1
	85	55.0	46.9	47.8	47.5	47.3	41.4	44.0	43.9	40.6	43.9	44.0	41.4	47.3	47.5	47.8
	90	32.5	26.7	27.4	27.7	26.7	22.8	24.4	24.0	21.7	24.0	24.4	22.8	26.7	27.7	27.4
	95	4.5	4.1	4.2	4.0	4.0	3.8	3.9	3.9	3.6	3.9	3.9	3.8	4.0	4.0	4.2
	100	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.6	1.6	1.6
	105	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	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>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	915	915	915
	45	3147	2888	2903
	55	2315	2148	2132
	65	2166	1962	2016
	75	1033	972	1005
	85	785	682	675



### 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	687	687	687	687	670	670	670	670	638	638	638	609	609	609	583	583	583	570
1	596	556	519	486	578	541	507	477	513	485	460	488	465	443	464	446	428	413
2	526	462	408	364	508	449	400	358	426	384	348	404	369	338	384	355	328	313
3	469	390	330	281	452	380	323	278	360	311	271	341	300	265	324	289	259	243
4	422	336	273	225	406	327	268	222	310	258	218	294	249	213	279	241	209	193
5	383	293	230	184	368	285	226	182	271	219	179	258	212	176	245	205	173	158
6	350	259	198	154	337	252	195	153	240	189	150	229	183	148	218	177	145	131
7	322	231	173	131	310	226	170	130	215	165	129	205	160	127	196	156	125	111
8	298	209	153	114	287	204	150	113	195	146	112	186	142	110	178	138	109	96
9	277	190	136	100	268	186	135	99	178	131	98	171	128	97	164	124	96	84
10	259	174	123	89	251	170	121	88	164	119	87	157	116	86	151	113	85	74

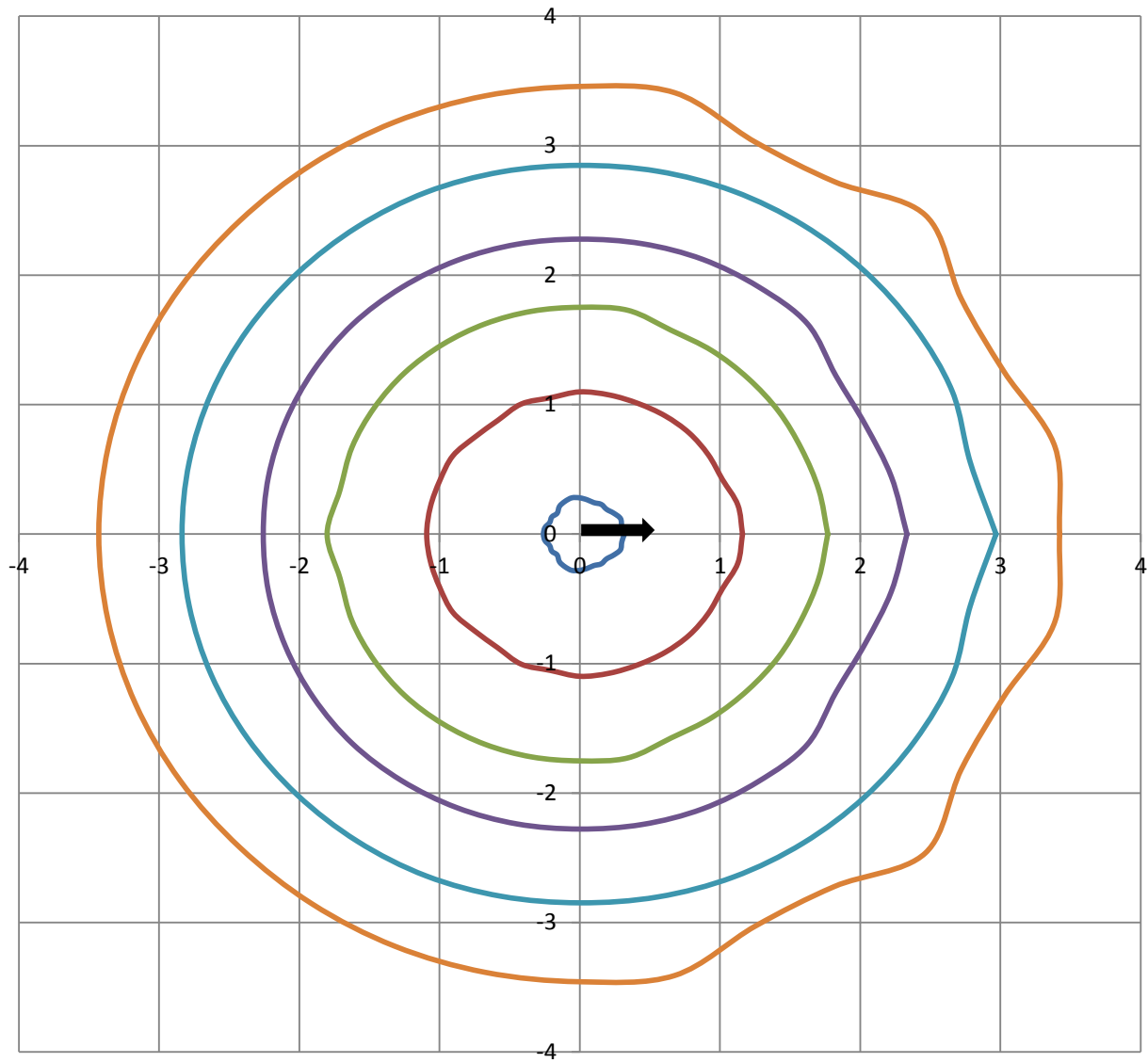
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	97.5 Candela
Central Cone Intensity:	95 Candela
Beam Flux:	549.3 Lumens
Beam Angle (0-180):	170.0 Degrees
Beam Angle (90-270):	169.7 Degrees
Field Angle (0-180):	185.1 Degrees
Field Angle (90-270):	185.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		6.09	5.66
6.00		2.71	8.50
8.00		1.52	11.3
10.0		0.975	14.2
12.0		0.677	17.0
14.0		0.497	19.8
16.0		0.381	22.7



# ISOFootcandle Plot

Mounting Height - 4 Feet



Grid Lines in Units of Mounting Height





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



**Luminaire Classification System (LCS)**

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	37.6	6.5%
FM	(30-60)	122.1	21.1%
FH	(60-80)	98.4	17.0%
FVH	(80-90)	28.7	5.0%
BL	(0-30)	36.7	6.4%
BM	(30-60)	118.4	20.5%
BH	(60-80)	99.8	17.3%
BVH	(80-90)	27.1	4.7%
UL	(90-100)	8.4	1.5%
UH	(100-180)	0.4	0.1%
Total		577.6	100.0%
BUG Rating	B0 U1 G1		