



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-GL-20-30-48 (GRADUATED LOUVERS, 3000K)**  
Order Number  
11263738  
Test Number  
1254186

Test Date

1900-01-00

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 shade with graduated 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 V, Very Short  
Cutoff Classification: Cutoff  
BUG Rating: B0 U1 G1

**Test Conditions**

Test Temperature: 24.7 °C  
Voltage: 120.0 VAC  
Current: 0.1944 A  
Power: 20.09 W  
Power Factor: 0.861  
Frequency: 60 Hz  
Current THD: 34.9 %

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
24.7 °C	120.0 VAC	0.1944 A	20.09 W	0.861	60 Hz	34.9 %

### Summary of Results

#### Spacing Criteria

0-180: 1.03

90-270: 1.03

Total Lumen Output:

976.2 Lumens

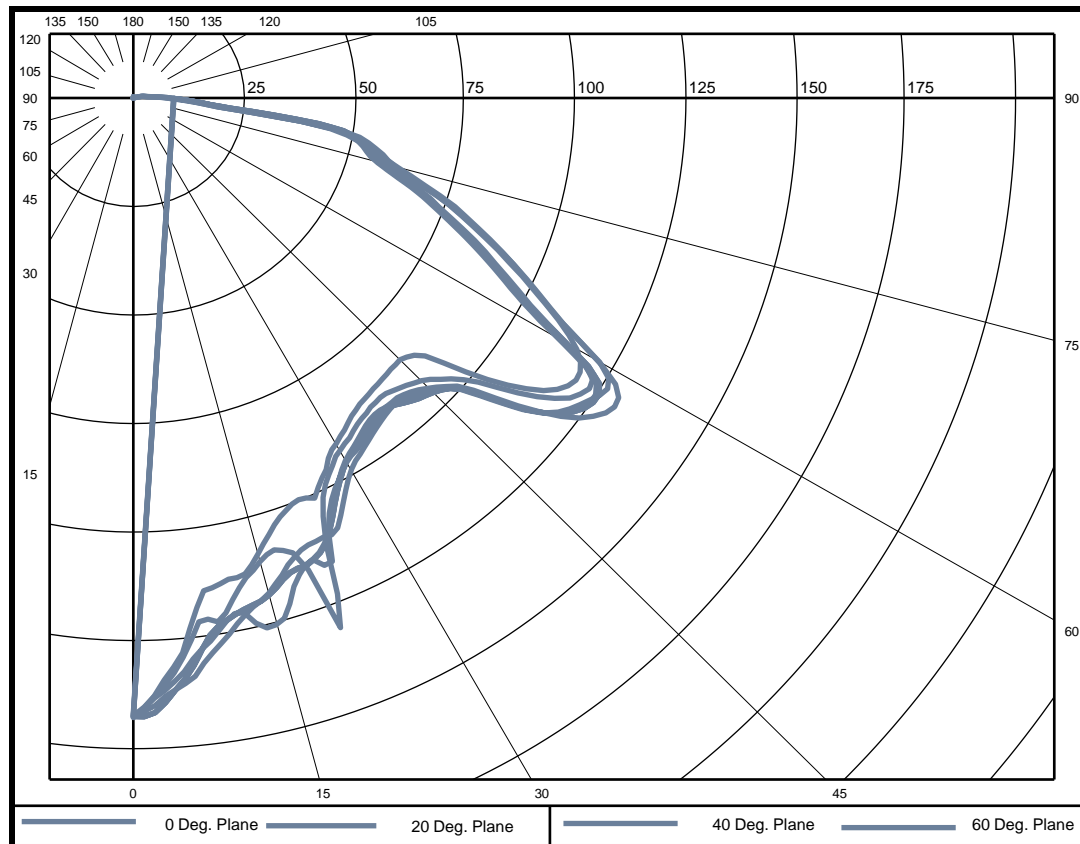
Luminaire Efficacy:

48.6 lm/w

Maximum Candela:

143 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.3	0.3%	60-65	48.3	4.9%	120-125	94.7	9.7%
5-10	9.1	0.9%	65-70	40.8	4.2%	125-130	65.3	6.7%
10-15	14.3	1.5%	70-75	33.9	3.5%	130-135	24.4	2.5%
15-20	19.1	2.0%	75-80	28.9	3.0%	135-140	4.7	0.5%
20-25	23.4	2.4%	80-85	19.4	2.0%	140-145	1.1	0.1%
25-30	25.5	2.6%	85-90	-50.7	-5.2%	145-150	0.3	0.0%
30-35	27.8	2.8%	90-95	12.0	1.2%	150-155	0.2	0.0%
35-40	30.6	3.1%	95-100	32.3	3.3%	155-160	0.2	0.0%
40-45	34.9	3.6%	100-105	47.6	4.9%	160-165	0.1	0.0%
45-50	40.6	4.2%	105-110	57.3	5.9%	165-170	0.1	0.0%
50-55	51.6	5.3%	110-115	72.1	7.4%	170-175	0.1	0.0%
55-60	56.8	5.8%	115-120	106.4	10.9%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	153	15.7%
0-60	337	34.5%
0-90	458	46.9%
90-180	519	53.2%



### 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	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
5	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4	134.4
10	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2	122.2
15	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6	118.6
20	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6	114.6
25	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6	106.6
30	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
35	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2
40	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3
45	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
50	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2
55	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6
60	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9	112.9
65	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2
70	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6
75	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
80	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7	50.7
85	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
90	142.8	142.8	142.7	142.7	142.5	142.4	142.4	142.4	142.4	142.6	142.4	142.3	142.6	142.4	142.4	142.3
95	125.4	124.9	124.1	123.3	122.4	121.6	121.0	120.7	120.5	120.4	118.3	115.4	113.6	113.6	113.5	112.8
100	110.8	111.1	111.4	112.4	114.5	115.5	120.9	138.9	115.7	107.8	104.2	101.5	101.1	102.3	103.8	104.9
105	98.7	98.7	98.3	97.5	97.0	96.4	95.4	94.4	93.7	92.7	92.1	91.7	91.9	91.5	92.1	93.0
110	92.0	91.9	91.7	91.7	91.6	91.0	90.6	90.0	88.9	88.2	87.0	86.4	86.1	86.0	86.8	89.1
115	109.4	107.6	106.6	107.5	107.5	106.7	105.9	104.1	101.8	99.4	97.3	97.0	98.2	100.5	104.5	108.5
120	121.7	120.1	120.3	121.9	123.2	121.6	117.9	114.5	113.3	112.7	112.5	114.4	115.8	115.2	114.5	115.9
125	80.0	80.0	80.1	80.0	80.0	78.2	75.7	73.5	73.6	74.8	76.4	78.2	78.8	77.7	76.6	77.0
130	49.0	48.4	48.9	50.3	51.4	51.4	50.5	49.8	50.4	51.2	52.3	53.0	52.0	49.0	46.2	46.0
135	8.6	8.3	7.9	7.7	7.7	7.6	7.6	7.7	8.1	8.4	8.6	8.9	9.0	8.9	8.7	8.6
140	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.4
145	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
150	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
155	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	0.2
160	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	0.2
165	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	0.2
170	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	0.2
175	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3
180	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)

	0	45	90
0	1953	1953	1953
45	3732	3732	3732
55	3199	3199	3199
65	2065	2065	2065
75	1236	1236	1236
85	366	366	366



### 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	1039	1039	1039	1039	954	954	954	954	796	796	796	652	652	652	520	520	520	457
1	951	911	874	841	873	839	807	779	703	681	661	579	564	550	465	455	446	393
2	857	783	722	670	784	721	668	622	604	564	530	496	468	443	396	376	359	312
3	774	678	604	544	707	624	559	506	522	473	432	427	391	361	340	314	292	251
4	703	592	512	450	641	545	474	419	456	402	359	373	333	300	296	267	242	205
5	641	522	439	378	584	481	407	353	403	346	302	330	287	253	262	230	205	171
6	587	464	382	323	535	428	354	301	359	301	258	294	250	216	234	201	175	146
7	541	416	336	279	493	384	312	260	322	265	224	265	221	188	211	178	152	126
8	500	376	297	244	456	347	277	228	292	236	196	240	197	165	192	159	134	110
9	464	341	266	215	424	315	247	201	266	212	173	220	177	146	176	143	119	98
10	433	312	239	191	396	288	223	179	244	191	155	202	160	131	162	130	107	87

### Beam and Field Information

CIE Type:	Direct/Indirect
Center Beam Intensity:	142.5 Candela
Central Cone Intensity:	140 Candela
Beam Flux:	436.3 Lumens
Beam Angle (0-180):	251.7 Degrees
Beam Angle (90-270):	252.2 Degrees
Field Angle (0-180):	266.3 Degrees
Field Angle (90-270):	266.3 Degrees

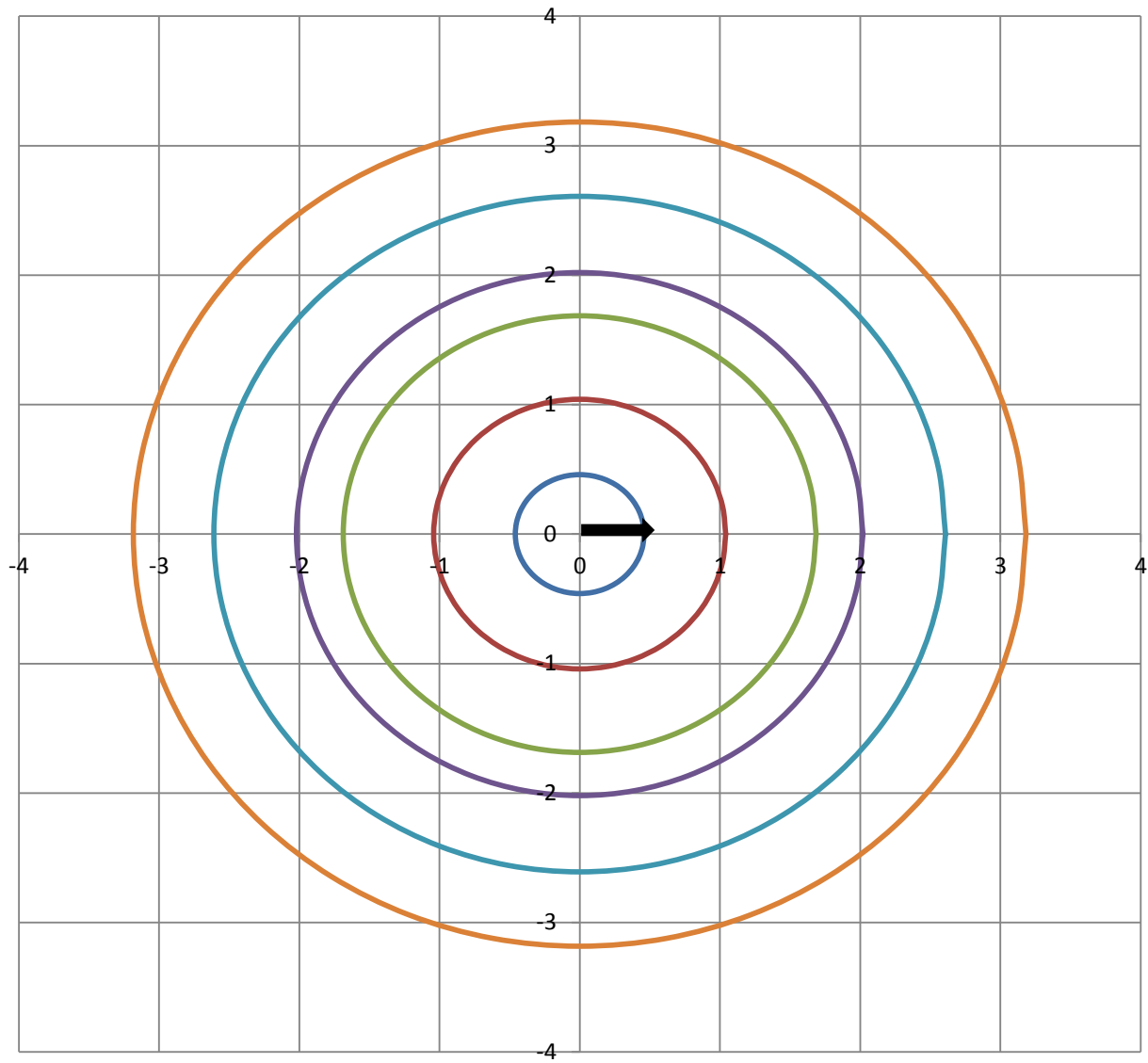
### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		8.91	4.11
6.00		3.96	6.17
8.00		2.23	8.22
10.0		1.42	10.3
12.0		0.990	12.3
14.0		0.727	14.4
16.0		0.557	16.4



## ISOFootcandle Plot

Mounting Height - 4 Feet

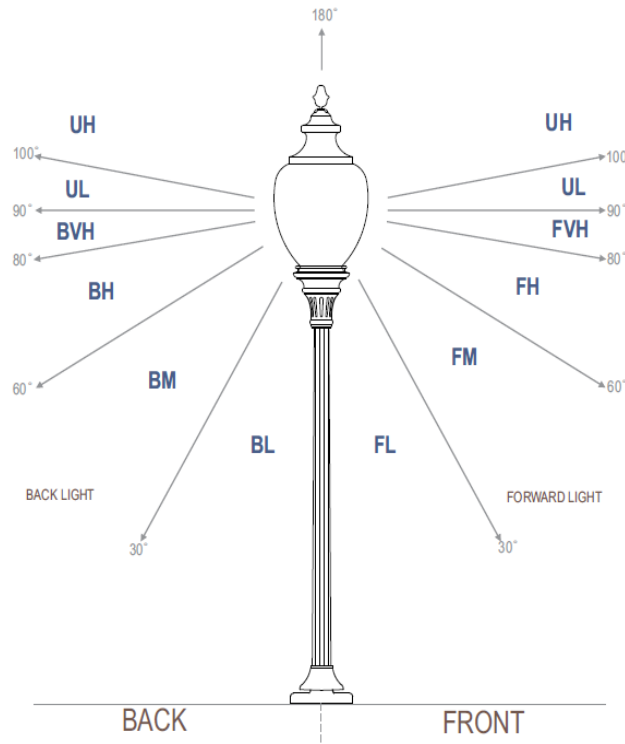


Grid Lines in Units of Mounting Height

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)	47.3	9.1%
FM	(30-60)	121.0	23.1%
FH	(60-80)	76.2	14.6%
FVH	(80-90)	13.2	2.5%
BL	(0-30)	47.3	9.1%
BM	(30-60)	121.0	23.1%
BH	(60-80)	76.2	14.6%
BVH	(80-90)	13.2	2.5%
UL	(90-100)	5.0	1.0%
UH	(100-180)	2.2	0.4%
Total		522.6	100.0%
<b>BUG Rating</b>	<b>B0 U1 G1</b>		