



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-GL-20-30-48 (GRADUATED LOUVERS, 3000K)**  
Order Number  
11263738  
Test Number  
1254185

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 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: 14.50 in.  
Luminous Height: 2.00 in.

**Summary of Results**

Roadway Classification: Type II, Very Short  
Cutoff Classification: Noncutoff  
BUG Rating: B0 U2 G1

**Test Conditions**

Test Temperature: 24.7 °C  
Voltage: 120.1 VAC  
Current: 0.1954 A  
Power: 20.23 W  
Power Factor: 0.862  
Frequency: 60 Hz  
Current THD: 34.8 %

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
24.7 °C	120.1 VAC	0.1954 A	20.23 W	0.862	60 Hz	34.8 %

### Summary of Results

#### Spacing Criteria

0-180: 1.38

90-270: 1.41

Total Lumen Output:

593.7 Lumens

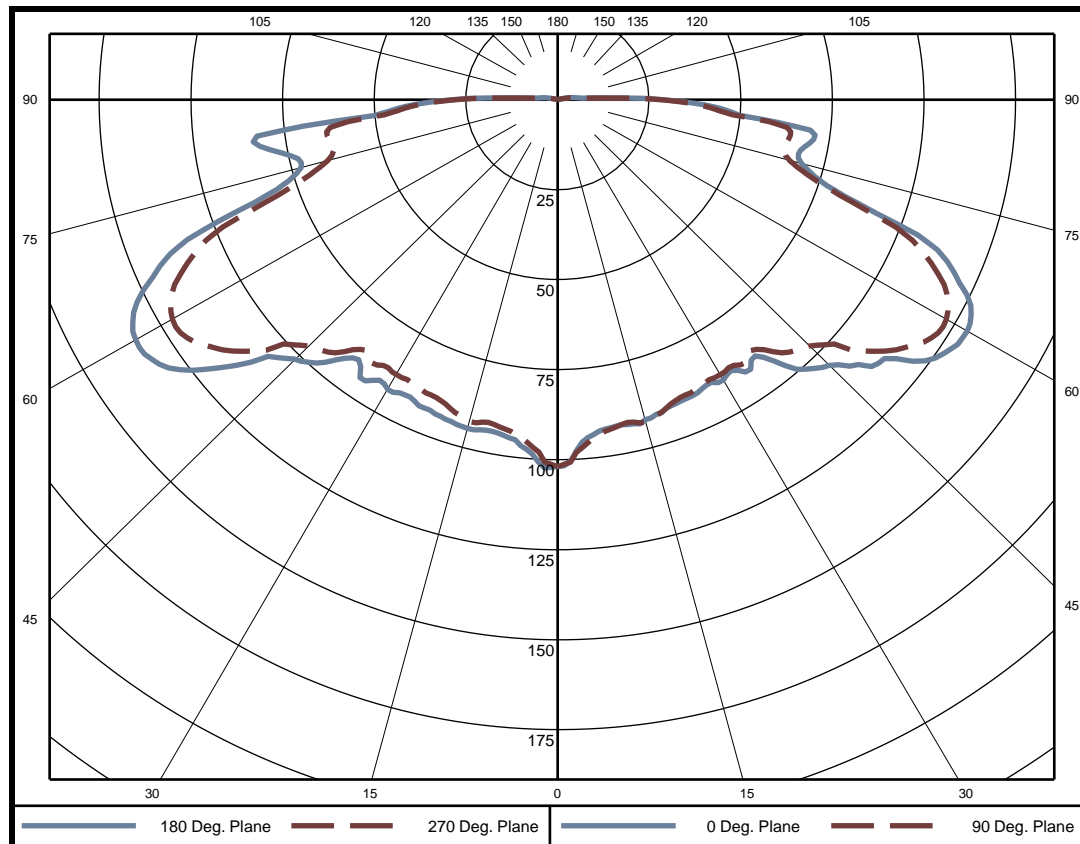
Luminaire Efficacy:

29.3 lm/w

Maximum Candela:

136 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	2.35	0.4%	60-65	61.41	10.3%	120-125	0	0.0%
5-10	6.73	1.1%	65-70	56.55	9.5%	125-130	0	0.0%
10-15	11.05	1.9%	70-75	41.16	6.9%	130-135	0	0.0%
15-20	15.21	2.6%	75-80	38.01	6.4%	135-140	0	0.0%
20-25	19.09	3.2%	80-85	38.85	6.5%	140-145	0	0.0%
25-30	22.85	3.8%	85-90	21.55	3.6%	145-150	0	0.0%
30-35	26.79	4.5%	90-95	7.75	1.3%	150-155	0	0.0%
35-40	30.12	5.1%	95-100	2.45	0.4%	155-160	0	0.0%
40-45	36.18	6.1%	100-105	1.07	0.2%	160-165	0	0.0%
45-50	43.01	7.2%	105-110	0.30	0.1%	165-170	0	0.0%
50-55	51.90	8.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	59.27	10.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	134	22.6%
0-60	325	54.7%
0-90	582	98.0%
90-180	12	1.9%



### 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	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9
	5	94.2	95.9	95.3	93.9	95.6	97.5	96.2	96.5	97.5	96.5	96.2	97.5	95.6	93.9	95.3
	10	92.0	94.9	93.8	90.1	92.3	94.9	93.2	92.6	94.0	92.6	93.2	94.9	92.3	90.1	93.8
	15	92.0	95.2	94.5	90.7	92.6	94.2	92.4	93.3	94.6	93.3	92.4	94.2	92.6	90.7	94.5
	20	90.4	93.0	92.8	88.5	90.0	92.7	90.7	91.7	93.6	91.7	90.7	92.7	90.0	88.5	92.8
	25	89.8	91.4	91.9	88.2	88.7	91.5	90.4	91.3	92.5	91.3	90.4	91.5	88.7	88.2	91.9
	30	89.9	90.9	91.8	88.2	88.3	91.9	90.7	91.5	92.9	91.5	90.7	91.9	88.3	88.2	91.8
	35	91.4	91.6	94.1	89.9	89.2	94.2	93.2	93.7	94.2	93.7	93.2	94.2	89.2	89.9	94.1
	40	96.5	91.0	93.1	93.7	91.4	93.3	92.7	94.1	94.3	94.1	92.7	93.3	91.4	93.7	93.1
	45	104.4	96.7	102.5	102.8	96.8	102.0	102.6	103.5	101.9	103.5	102.6	102.0	96.8	102.8	102.5
	50	113.8	109.7	114.4	112.1	108.6	114.5	114.4	113.6	114.8	113.6	114.4	114.5	108.6	112.1	114.4
	55	125.1	118.1	125.6	127.0	118.7	125.8	131.1	130.6	129.9	130.6	131.1	125.8	118.7	127.0	125.6
	60	128.5	120.0	127.7	129.1	122.2	130.6	136.0	136.3	133.2	136.3	136.0	130.6	122.2	129.1	127.7
	65	120.4	111.3	119.0	121.1	114.3	123.4	128.9	129.7	124.9	129.7	128.9	123.4	114.3	121.1	119.0
	70	92.0	87.0	94.3	94.2	89.2	99.6	105.1	105.5	98.8	105.5	105.1	99.6	89.2	94.2	94.3
	75	68.6	69.5	69.3	68.1	65.5	70.0	72.2	72.8	72.6	72.8	72.2	70.0	65.5	68.1	69.3
	80	69.5	83.0	81.8	70.4	63.8	77.5	77.5	73.9	79.9	73.9	77.5	77.5	63.8	70.4	81.8
	85	49.6	45.5	44.4	49.5	47.9	45.3	51.4	52.8	50.4	52.8	51.4	45.3	47.9	49.5	44.4
	90	28.8	25.8	25.8	29.5	28.4	26.4	30.4	31.0	29.0	31.0	30.4	26.4	28.4	29.5	25.8
	95	5.9	5.5	5.6	5.8	5.4	5.8	6.0	6.1	5.6	6.1	6.0	5.8	5.4	5.8	5.6
	100	3.6	3.3	3.3	3.5	3.3	3.5	3.7	3.7	3.4	3.7	3.7	3.5	3.3	3.5	3.3
	105	1.1	1.0	1.0	1.1	1.0	1.1	1.2	1.2	1.0	1.2	1.2	1.1	1.0	1.1	1.0
	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/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	956	956	956
	45	2913	2862	2701
	55	2234	2243	2119
	65	1935	1913	1837
	75	1016	1026	970
	85	708	634	683



### 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	704	704	704	704	686	686	686	686	653	653	653	623	623	623	595	595	595	582
1	611	569	531	497	592	553	519	488	525	496	470	498	474	453	474	454	437	421
2	539	473	419	373	520	460	410	367	435	393	356	413	377	345	392	362	335	319
3	481	401	339	289	463	389	332	285	369	319	278	349	307	271	331	295	264	248
4	433	345	280	231	416	335	275	229	318	265	224	301	256	219	286	247	214	198
5	393	301	237	190	378	293	233	188	278	225	184	264	217	181	251	210	177	162
6	359	266	204	159	346	260	201	158	247	194	155	235	188	152	223	182	149	135
7	331	238	178	136	318	232	175	135	221	170	133	211	165	130	201	160	128	115
8	306	215	157	118	295	210	155	117	200	151	115	191	146	114	183	142	112	99
9	285	195	141	104	275	191	139	103	183	135	102	175	131	100	168	128	99	86
10	266	179	127	92	257	175	125	92	168	122	90	161	119	89	155	116	88	77

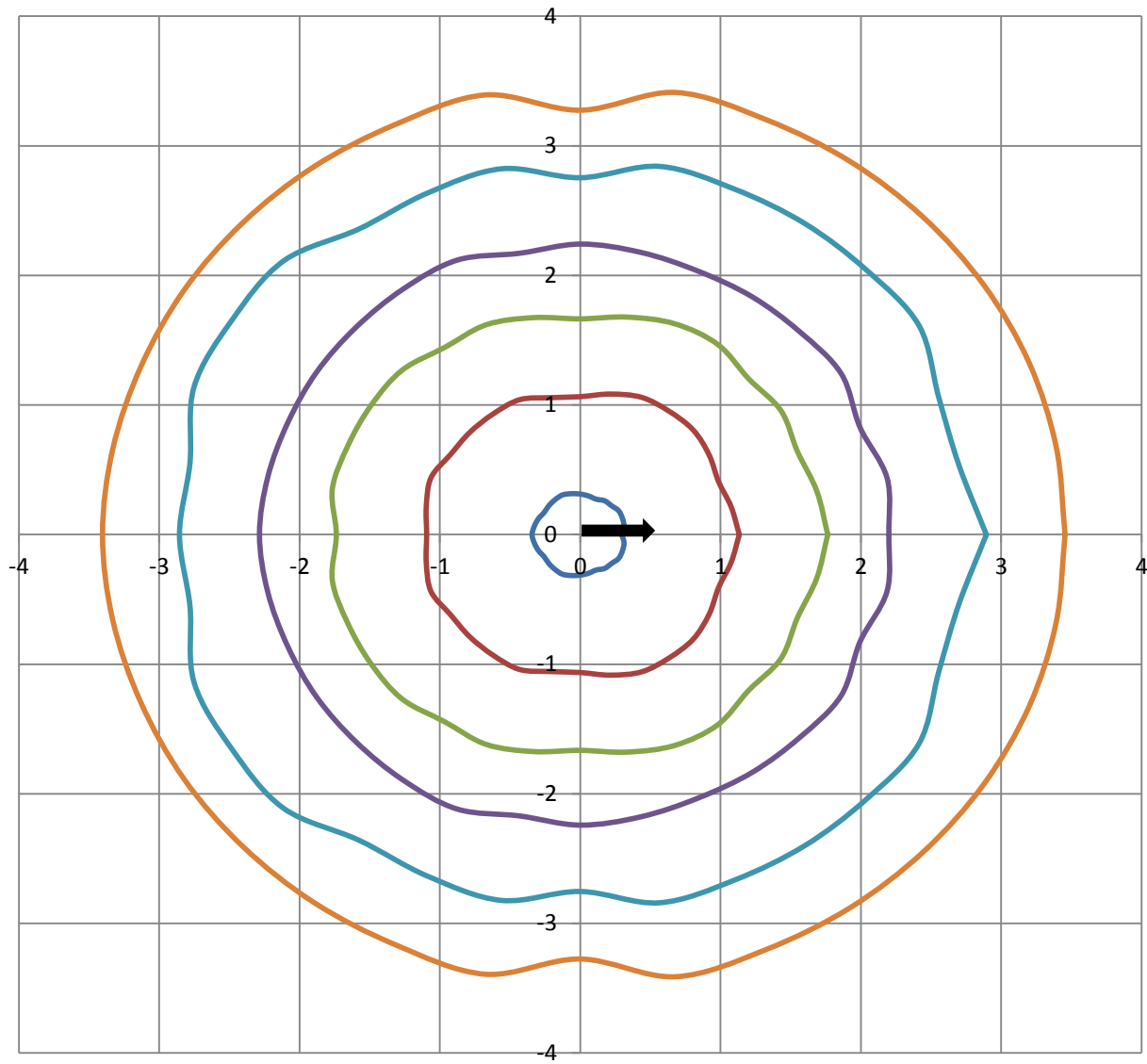
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	101.9 Candela
Central Cone Intensity:	99 Candela
Beam Flux:	559.9 Lumens
Beam Angle (0-180):	169.8 Degrees
Beam Angle (90-270):	169.4 Degrees
Field Angle (0-180):	185.8 Degrees
Field Angle (90-270):	185.6 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		6.37	5.58
6.00		2.83	8.37
8.00		1.59	11.2
10.0		1.02	14.0
12.0		0.707	16.7
14.0		0.520	19.5
16.0		0.398	22.3



## 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)	38.5	6.5%
FM	(30-60)	122.2	20.6%
FH	(60-80)	95.9	16.2%
FVH	(80-90)	29.6	5.0%
BL	(0-30)	38.9	6.6%
BM	(30-60)	124.7	21.0%
BH	(60-80)	101.7	17.1%
BVH	(80-90)	29.9	5.0%
UL	(90-100)	10.4	1.8%
UH	(100-180)	1.4	0.2%
Total		593.2	100.0%
BUG Rating	B0 U2 G1		