



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  
**LBD350-C11-NL-9-30-32 (NO LOUVERS, 3000K)**  
Order Number  
11263738  
Test Number  
1254191

Test Date

2016-07-28

Prepared By

Tony Rubio, 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 11" copper shade with no louvers and cylindrical 32" copper stem with brass base  
**Lamp:** Eight (8) Cree XP-L 3000K LEDs  
**Mounting:** Path/Area  
**Ballast/Driver:** L.T.F. DL110W350C30-0000

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 11.00 in.  
Luminous Height: 1.50 in.

**Summary of Results**

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

**Test Conditions**

Test Temperature: 24.7 °C  
Voltage: 12.11 VAC  
Current: 1.943 A  
Power: 13.40 W  
Power Factor: 0.569  
Frequency: 60 Hz  
Current THD: 83.0 %

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	12.11 VAC	1.943 A	13.40 W	0.569	60 Hz	83.0 %

### Summary of Results

#### Spacing Criteria

0-180: 1.83

90-270: 1.83

Total Lumen Output:

561.5 Lumens

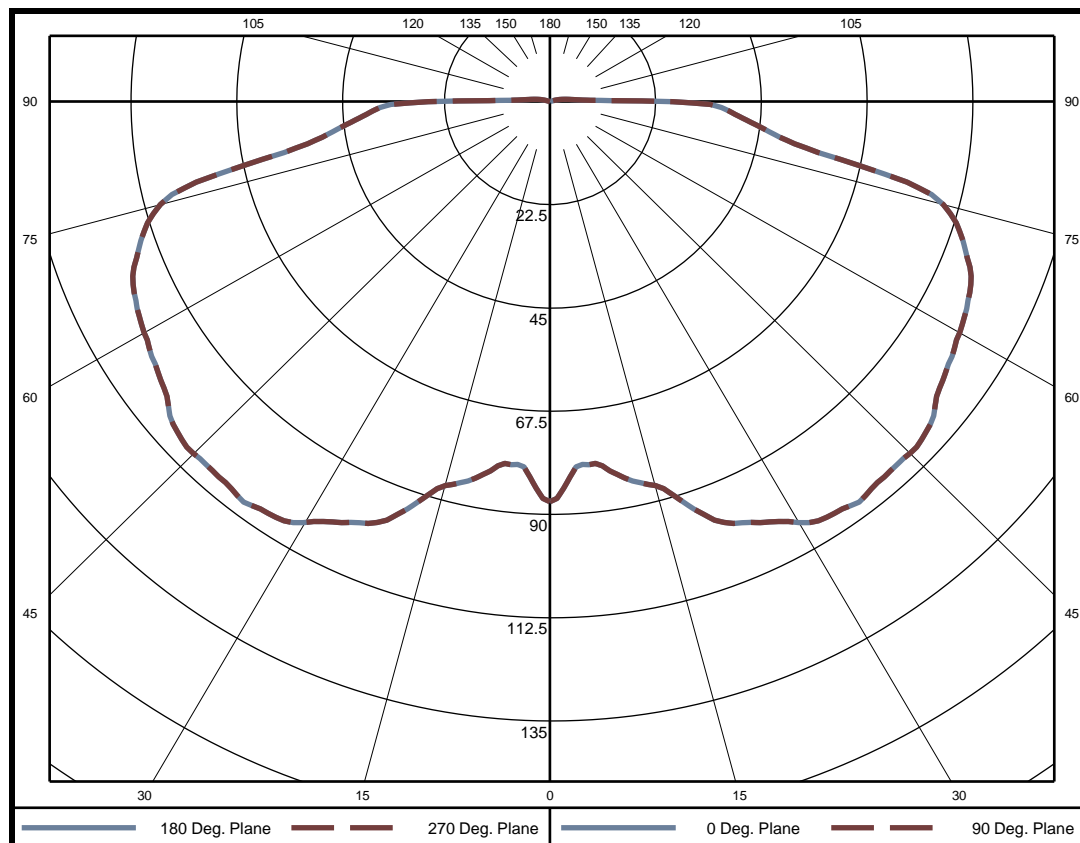
Luminaire Efficacy:

41.9 lm/w

Maximum Candela:

109 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.95	0.3%	60-65	48.45	8.6%	120-125	0	0.0%
5-10	5.76	1.0%	65-70	48.93	8.7%	125-130	0	0.0%
10-15	10.08	1.8%	70-75	47.46	8.5%	130-135	0	0.0%
15-20	15.02	2.7%	75-80	38.22	6.8%	135-140	0	0.0%
20-25	20.81	3.7%	80-85	25.17	4.5%	140-145	0	0.0%
25-30	26.19	4.7%	85-90	19.92	3.5%	145-150	0	0.0%
30-35	31.73	5.7%	90-95	5.50	1.0%	150-155	0	0.0%
35-40	36.33	6.5%	95-100	2.17	0.4%	155-160	0	0.0%
40-45	40.12	7.1%	100-105	1.21	0.2%	160-165	0	0.0%
45-50	43.56	7.8%	105-110	0.47	0.1%	165-170	0	0.0%
50-55	45.37	8.1%	110-115	0.04	0.0%	170-175	0	0.0%
55-60	47.01	8.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	148	26.3%
0-60	324	57.7%
0-90	552	98.3%
90-180	9	1.7%



### 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	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
5	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
10	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5
15	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
20	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
25	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2	101.2
30	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0
35	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4
40	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4
45	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4
50	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
55	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8
60	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7	100.7
65	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6
70	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0
75	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
80	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
85	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
90	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
95	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
100	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	3.0
105	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
110	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.0

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

Horizontal Angle (Degrees)

Vertical Angle (Degrees)

	0	45	90
0	1423	1423	1423
45	5308	5308	5308
55	3200	3200	3200
65	2760	2760	2760
75	2233	2233	2233
85	1021	1021	1021



### 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	666	666	666	666	650	650	650	650	619	619	619	590	590	590	564	564	564	552
1	582	544	510	480	565	530	499	471	503	477	454	479	457	438	456	439	423	408
2	515	455	405	363	498	443	397	357	420	381	347	399	366	337	379	352	328	313
3	461	387	330	284	444	377	324	281	357	312	274	339	300	267	323	290	261	246
4	416	335	275	230	401	326	270	227	310	261	223	294	252	218	280	244	214	199
5	378	294	234	190	365	286	230	189	272	223	185	259	216	182	247	209	179	165
6	347	260	202	161	334	254	199	159	242	193	157	231	188	154	221	182	152	139
7	319	233	177	138	308	228	175	137	218	170	135	208	165	133	199	161	131	118
8	296	210	157	120	285	206	155	119	197	151	118	189	147	116	181	143	115	103
9	275	191	140	106	266	188	139	105	180	135	104	173	132	103	166	129	101	90
10	257	175	127	94	249	172	125	94	165	122	92	159	119	91	153	117	90	80

### Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	87.2 Candela
Central Cone Intensity:	83 Candela
Beam Flux:	525.9 Lumens
Beam Angle (0-180):	167.4 Degrees
Beam Angle (90-270):	167.4 Degrees
Field Angle (0-180):	184.0 Degrees
Field Angle (90-270):	184.0 Degrees

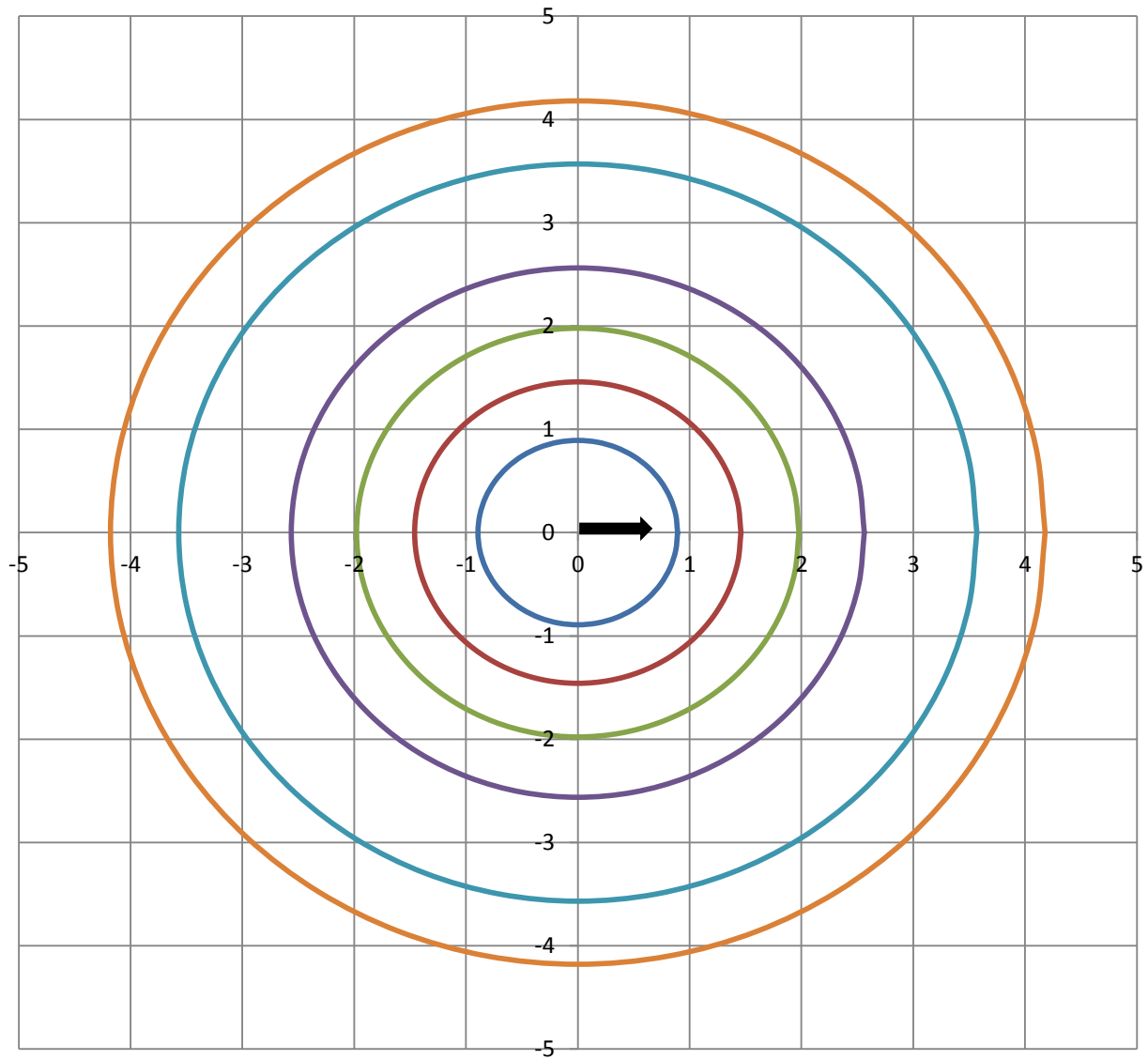
### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		5.45	7.30
6.00		2.42	11.0
8.00		1.36	14.6
10.0		0.872	18.3
12.0		0.606	21.9
14.0		0.445	25.6
16.0		0.341	29.2



## ISOFootcandle Plot

Mounting Height - 3 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)	40.0	7.1%
FM	(30-60)	122.0	21.7%
FH	(60-80)	91.2	16.3%
FVH	(80-90)	22.2	4.0%
BL	(0-30)	40.0	7.1%
BM	(30-60)	122.0	21.7%
BH	(60-80)	91.2	16.3%
BVH	(80-90)	22.2	4.0%
UL	(90-100)	8.6	1.5%
UH	(100-180)	1.7	0.3%
Total		561.3	100.0%
BUG Rating	B0 U1 G1		