



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-S10-GL-12-30-32 (GRADUATED LOUVERS, 3000K)**  
Order Number  
11263738  
Test Number  
1254195

Test Date

2016-05-27

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:** Spherical 10" copper shade with graduated 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. DL112W480C24LP65-0000

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 9.75 in.  
Luminous Height: 1.500 in.

**Summary of Results**

Roadway Classification:	Type II, Short
Cutoff Classification:	Semicutoff
BUG Rating:	B0 U1 G0

**Test Conditions**

Test Temperature:	24.8 °C
Voltage:	12.03 VAC
Current:	1.909 A
Power:	12.43 W
Power Factor:	0.541
Frequency:	60 Hz
Current THD:	84.0 %

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
24.8 °C	12.03 VAC	1.909 A	12.43 W	0.541	60 Hz	84.0 %

### Summary of Results

#### Spacing Criteria

0-180: 1.05  
90-270: 1.04

#### Total Lumen Output:

280.4 Lumens

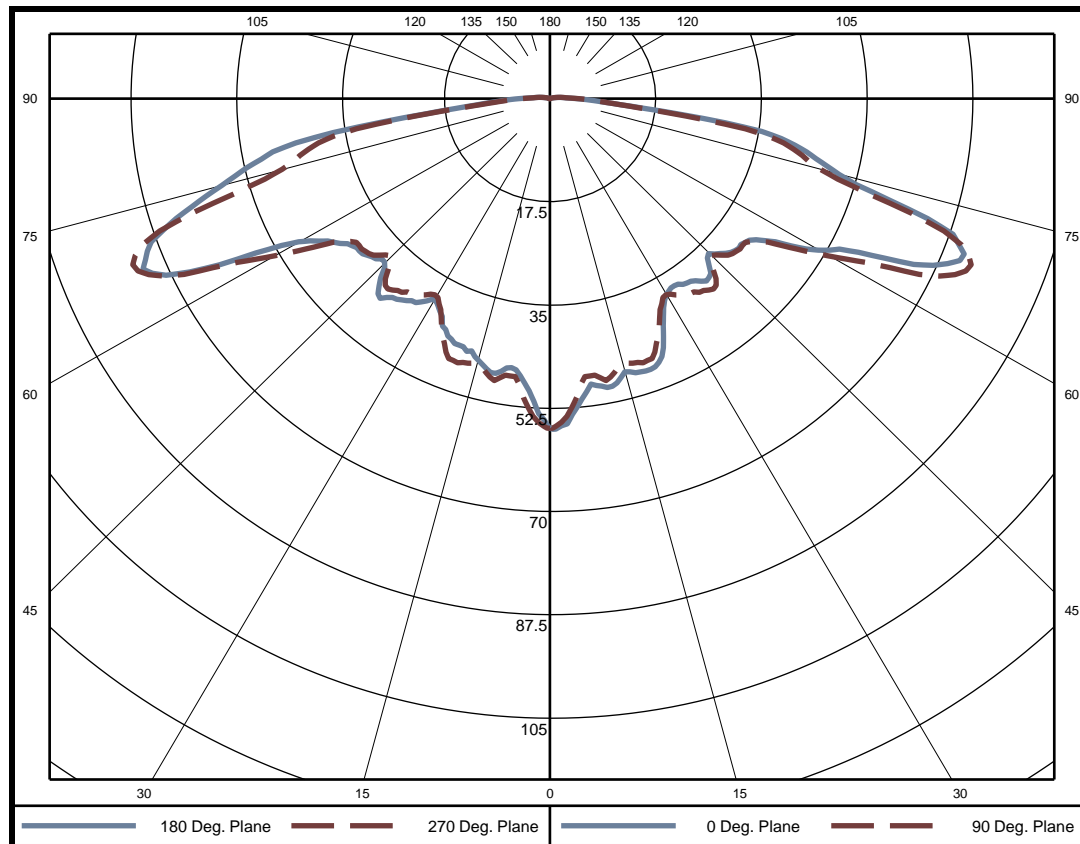
#### Luminaire Efficacy:

22.6 lm/w

#### Maximum Candela:

87 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.27	0.5%	60-65	31.58	11.3%	120-125	0.00	0.0%
5-10	3.43	1.2%	65-70	38.91	13.9%	125-130	0.00	0.0%
10-15	5.61	2.0%	70-75	33.37	11.9%	130-135	0.00	0.0%
15-20	7.71	2.7%	75-80	23.74	8.5%	135-140	0.00	0.0%
20-25	9.68	3.5%	80-85	12.46	4.4%	140-145	0	0.0%
25-30	10.18	3.6%	85-90	4.21	1.5%	145-150	0	0.0%
30-35	11.52	4.1%	90-95	1.76	0.6%	150-155	0	0.0%
35-40	13.64	4.9%	95-100	0.93	0.3%	155-160	0	0.0%
40-45	14.85	5.3%	100-105	0.44	0.2%	160-165	0	0.0%
45-50	15.71	5.6%	105-110	0.17	0.1%	165-170	0	0.0%
50-55	17.55	6.3%	110-115	0.04	0.0%	170-175	0.00	0.0%
55-60	21.67	7.7%	115-120	0.00	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	63	22.5%
0-60	133	47.4%
0-90	277	98.8%
90-180	3	1.2%



### 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	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90
	5	52.43	52.06	52.26	52.05	50.85	50.05	49.44	48.82	48.41	48.82	49.44	50.05	50.85	52.05	52.26
	10	49.51	48.70	48.28	47.86	48.05	47.22	46.62	46.61	46.95	46.61	46.62	47.22	48.05	47.86	48.28
	15	47.96	47.10	46.45	46.05	46.64	45.51	45.10	45.58	45.99	45.58	45.10	45.51	46.64	46.05	46.45
	20	48.86	49.43	49.39	47.47	47.23	46.50	46.06	46.34	44.46	46.34	46.06	46.50	47.23	47.47	49.39
	25	44.54	44.96	44.42	42.49	42.78	42.48	42.56	42.64	42.54	42.64	42.56	42.48	42.78	42.49	44.42
	30	38.45	37.92	38.59	39.13	38.41	38.82	39.64	40.05	39.25	40.05	39.64	38.82	38.41	39.13	38.59
	35	38.45	37.47	38.06	39.95	40.41	40.21	40.04	41.03	41.80	41.03	40.04	40.21	40.41	39.95	38.06
	40	40.36	39.78	40.94	41.81	42.13	42.50	42.71	43.62	44.19	43.62	42.71	42.50	42.13	41.81	40.94
	45	37.17	37.84	38.53	38.70	37.66	38.43	39.61	40.08	39.13	40.08	39.61	38.43	37.66	38.70	38.53
	50	40.07	38.52	38.24	39.36	40.25	39.88	39.16	40.06	40.91	40.06	39.16	39.88	40.25	39.36	38.24
	55	41.71	41.36	41.44	41.34	42.35	42.68	41.90	42.66	42.80	42.66	41.90	42.68	42.35	41.34	41.44
	60	51.38	52.88	53.21	52.64	53.40	53.98	57.39	58.47	48.53	58.47	57.39	53.98	53.40	52.64	53.21
	65	66.52	66.22	75.72	74.33	71.18	76.60	81.35	83.50	70.84	83.50	81.35	76.60	71.18	74.33	75.72
	70	72.05	67.64	76.58	75.50	72.43	77.97	80.07	83.89	70.96	83.89	80.07	77.97	72.43	75.50	76.58
	75	49.58	40.81	51.54	48.74	46.31	56.31	54.03	54.47	56.82	54.47	54.03	56.31	46.31	48.74	51.54
	80	38.93	28.53	38.09	36.57	36.69	41.63	37.69	38.37	43.15	38.37	37.69	41.63	36.69	36.57	38.09
	85	11.84	11.71	11.68	10.77	11.43	12.32	11.14	11.14	12.50	11.14	11.14	12.32	11.43	10.77	11.68
	90	4.55	4.93	4.88	4.44	4.64	5.14	4.77	4.79	5.29	4.79	4.77	5.14	4.64	4.44	4.88
	95	2.20	2.35	2.38	2.18	2.20	2.37	2.23	2.21	2.38	2.21	2.23	2.37	2.20	2.18	2.38
	100	1.20	1.25	1.26	1.15	1.15	1.22	1.13	1.11	1.22	1.11	1.13	1.22	1.15	1.15	1.26
	105	0.54	0.56	0.57	0.52	0.51	0.53	0.49	0.47	0.52	0.47	0.49	0.53	0.51	0.52	0.56
	110	0.21	0.22	0.21	0.20	0.18	0.17	0.16	0.15	0.16	0.15	0.16	0.17	0.18	0.20	0.21
	115	0.00	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.03
	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	125	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	130	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	135	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	175	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00
	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	1161	1161	1161
	45	1393	1444	1412
	55	1598	1588	1622
	65	2304	2623	2465
	75	1600	1663	1495
	85	372	367	359



### 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	333	333	333	333	325	325	325	325	310	310	310	296	296	296	283	283	283	277
1	289	270	252	236	281	263	246	232	249	236	224	237	226	216	226	217	209	201
2	253	221	194	172	244	215	190	170	204	183	165	193	176	160	183	169	156	148
3	224	185	155	131	216	180	152	129	170	146	126	161	141	123	153	135	120	113
4	201	159	127	104	194	154	125	102	146	121	100	138	116	98	131	112	96	89
5	183	139	108	85	176	135	106	84	128	102	82	121	99	81	115	95	79	72
6	167	123	93	71	161	120	91	71	114	88	70	108	86	68	103	83	67	60
7	154	110	81	61	149	107	80	61	102	78	60	98	75	59	93	73	58	52
8	143	100	72	53	138	97	71	53	93	69	52	89	67	52	85	66	51	45
9	134	91	65	47	129	89	64	47	85	63	47	82	61	46	78	59	45	40
10	125	84	59	42	121	82	58	42	79	57	42	76	56	41	73	54	41	35

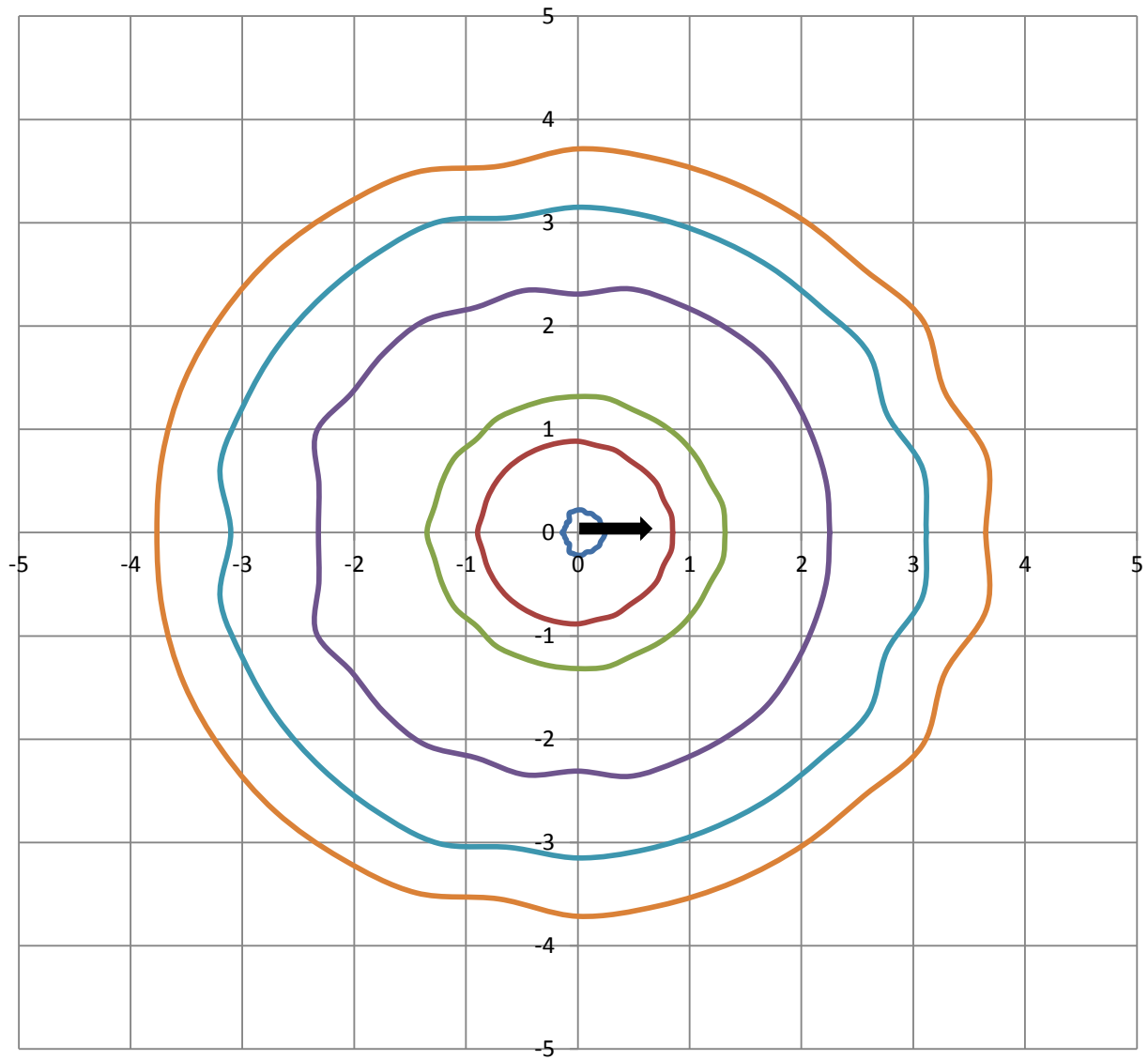
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	55.90 Candela
Central Cone Intensity:	54 Candela
Beam Flux:	265.8 Lumens
Beam Angle (0-180):	164.2 Degrees
Beam Angle (90-270):	163.4 Degrees
Field Angle (0-180):	178.7 Degrees
Field Angle (90-270):	178.2 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		3.49	4.14
6.00		1.55	6.22
8.00		0.873	8.29
10.0		0.559	10.4
12.0		0.388	12.4
14.0		0.285	14.5
16.0		0.218	16.6



## ISOFootcandle Plot

Mounting Height - 3 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)	19.2	6.8%
FM	(30-60)	46.7	16.6%
FH	(60-80)	60.1	21.4%
FVH	(80-90)	8.2	2.9%
BL	(0-30)	18.7	6.7%
BM	(30-60)	48.4	17.2%
BH	(60-80)	67.6	24.1%
BVH	(80-90)	8.6	3.1%
UL	(90-100)	2.7	1.0%
UH	(100-180)	0.7	0.2%
Total		280.9	100.0%
BUG Rating	B0 U1 G0		