



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-GTL-NL-12-30-32 (NO LOUVERS, 3000K)
Order Number
11263738
Test Number
1254198

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: Conical 11" stacked copper shades 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. DL112W480C24LP65-0000

Luminaire



Luminaire Characteristics

Luminous Diameter: 11.00 in.
Luminous Height: 0.75 in.

Summary of Results

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

Test Conditions

Test Temperature: 24.6 °C
Voltage: 12.03 VAC
Current: 1.908 A
Power: 12.42 W
Power Factor: 0.541
Frequency: 60 Hz
Current THD: 84.2 %

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
24.6 °C	12.03 VAC	1.908 A	12.42 W	0.541	60 Hz	84.2 %

Summary of Results

Spacing Criteria

0-180: 1.89

90-270: 2.09

Total Lumen Output:

394.4 Lumens

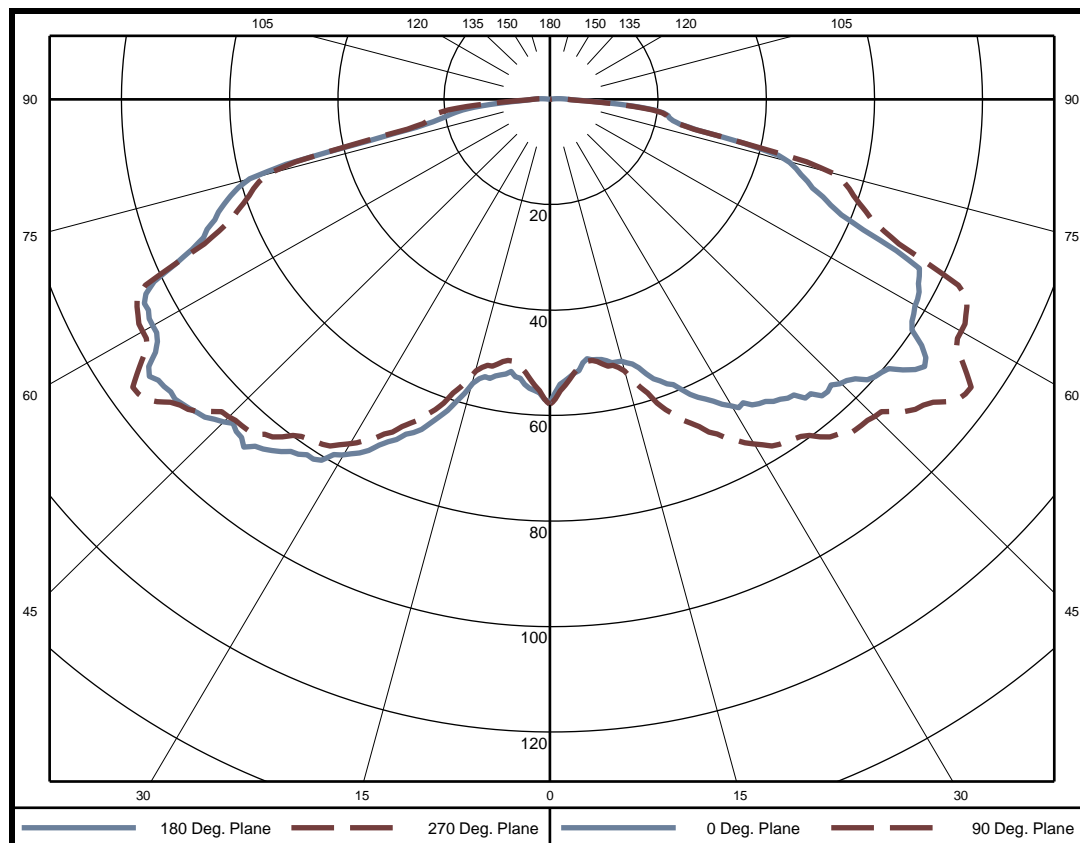
Luminaire Efficacy:

31.8 lm/w

Maximum Candela:

98 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.29	0.3%	60-65	42.18	10.7%	120-125	0	0.0%
5-10	3.66	0.9%	65-70	35.81	9.1%	125-130	0	0.0%
10-15	6.24	1.6%	70-75	30.31	7.7%	130-135	0	0.0%
15-20	9.63	2.4%	75-80	18.32	4.6%	135-140	0	0.0%
20-25	13.58	3.4%	80-85	11.03	2.8%	140-145	0	0.0%
25-30	18.00	4.6%	85-90	4.12	1.0%	145-150	0	0.0%
30-35	22.57	5.7%	90-95	1.31	0.3%	150-155	0	0.0%
35-40	26.90	6.8%	95-100	0.44	0.1%	155-160	0	0.0%
40-45	31.18	7.9%	100-105	0.02	0.0%	160-165	0	0.0%
45-50	35.46	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	40.59	10.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	41.82	10.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	102	25.8%
0-60	251	63.6%
0-90	393	99.6%
90-180	2	0.4%



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	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82	57.82
	5	52.10	50.81	50.78	51.23	52.02	53.04	53.51	54.11	54.27	54.11	53.51	53.04	52.02	51.23	50.81
	10	50.09	49.52	49.55	50.28	50.50	51.87	52.41	52.58	53.07	52.58	52.41	51.87	50.50	50.28	49.55
	15	51.39	53.35	54.09	53.91	53.33	55.79	57.05	57.04	55.75	57.04	57.05	55.79	53.33	53.91	54.09
	20	56.39	58.60	59.58	62.44	62.63	62.84	62.22	63.80	65.33	63.80	62.22	62.84	62.63	62.44	59.58
	25	61.72	63.82	64.28	68.40	69.65	70.34	69.61	70.16	71.65	70.16	69.61	70.34	69.65	68.40	64.28
	30	67.06	69.96	69.85	75.32	75.49	76.91	76.25	76.67	77.90	76.67	76.25	76.91	75.49	75.32	69.85
	35	69.93	75.41	74.02	79.75	78.67	80.80	81.24	81.60	82.17	81.60	81.24	80.80	78.67	79.75	74.02
	40	73.94	79.98	77.02	84.14	82.94	85.60	86.75	86.11	85.90	86.11	86.75	85.60	82.94	84.14	77.02
	45	76.27	83.22	79.78	86.82	85.07	87.33	87.71	87.65	86.51	87.65	87.71	87.33	85.07	86.82	79.78
	50	80.54	89.56	85.97	93.15	90.24	93.33	93.06	92.66	89.88	92.66	93.06	93.33	90.24	93.15	85.97
	55	85.39	95.24	91.62	97.64	95.20	98.22	97.88	97.73	91.59	97.73	97.88	98.22	95.20	97.64	91.62
	60	78.42	88.66	84.03	90.69	87.94	91.08	89.95	89.72	85.88	89.72	89.95	91.08	87.94	90.69	84.03
	65	75.85	85.59	80.35	87.64	83.43	86.06	86.81	85.42	81.81	85.42	86.81	86.06	83.43	87.64	80.35
	70	54.08	62.41	54.11	64.33	62.27	64.15	64.37	64.53	66.78	64.53	64.37	64.15	62.27	64.33	54.11
	75	46.18	54.16	45.52	55.99	54.40	56.36	55.02	55.46	58.21	55.46	55.02	56.36	54.40	55.99	45.52
	80	23.26	23.71	23.96	23.05	23.03	22.65	21.70	22.05	20.45	22.05	21.70	22.65	23.03	23.05	23.96
	85	16.61	16.89	17.62	16.59	15.64	14.92	14.09	13.38	11.40	13.38	14.09	14.92	15.64	16.59	17.62
	90	3.49	3.63	3.65	3.44	3.28	3.20	3.26	3.19	3.28	3.19	3.26	3.20	3.28	3.44	3.65
	95	1.53	1.66	1.67	1.53	1.42	1.38	1.40	1.34	1.39	1.34	1.40	1.38	1.42	1.53	1.67
	100	0.32	0.34	0.32	0.27	0.19	0.16	0.13	0.10	0.06	0.10	0.13	0.16	0.19	0.27	0.32
	105	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
	110	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
	115	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
	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	0.00	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
	130	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
	135	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
	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	943	943	943
	45	6922	7242	7721
	55	9554	10250	10650
	65	2515	2664	2766
	75	1326	1307	1562
	85	435	461	410



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	469	469	469	469	458	458	458	458	437	437	437	418	418	418	401	401	401	393
1	417	393	372	353	405	384	364	347	366	350	335	350	337	324	335	324	314	305
2	370	330	297	269	358	322	291	265	307	281	259	293	271	252	280	262	246	236
3	330	280	241	210	319	273	237	208	261	229	204	249	222	200	238	215	196	186
4	297	241	200	169	287	235	197	167	224	191	164	214	185	162	205	180	159	149
5	269	210	169	138	260	205	166	137	196	162	135	187	157	133	179	153	132	122
6	246	185	145	116	237	181	143	115	173	139	113	166	135	112	159	132	111	101
7	226	165	126	98	218	161	124	98	155	121	97	148	118	96	143	115	95	86
8	208	148	111	85	201	145	109	84	139	107	83	134	104	83	129	102	82	73
9	193	134	98	74	187	132	97	74	127	95	73	122	93	72	118	91	72	64
10	180	123	88	65	175	120	87	65	116	85	64	112	84	64	108	82	63	56

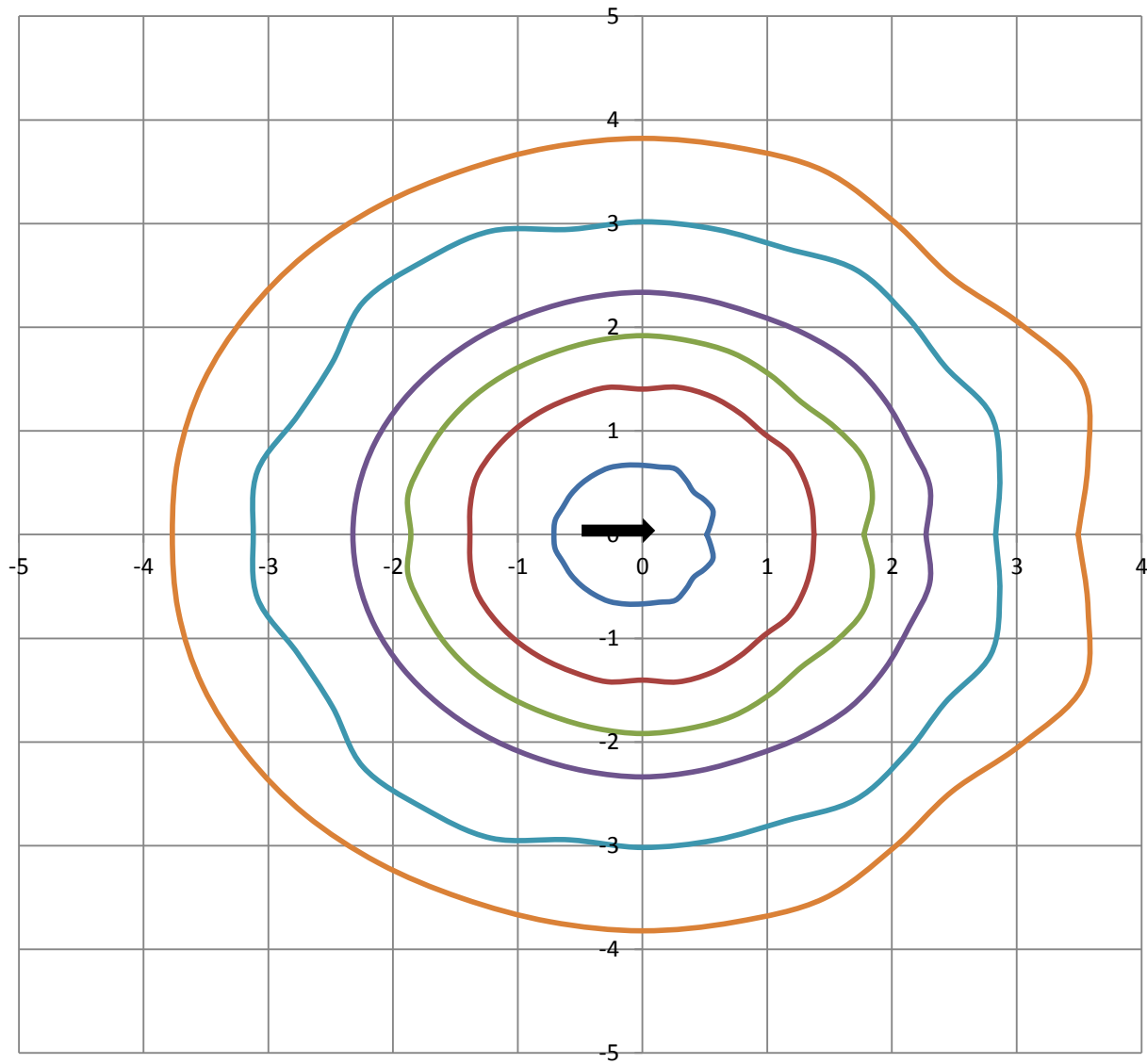
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	57.82 Candela
Central Cone Intensity:	55 Candela
Beam Flux:	371.5 Lumens
Beam Angle (0-180):	155.5 Degrees
Beam Angle (90-270):	155.6 Degrees
Field Angle (0-180):	175.0 Degrees
Field Angle (90-270):	175.4 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		3.61	8.25
6.00		1.61	12.4
8.00		0.903	16.5
10.0		0.578	20.6
12.0		0.402	24.7
14.0		0.295	28.9
16.0		0.226	33.0



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)	25.6	6.5%
FM	(30-60)	97.6	24.6%
FH	(60-80)	62.5	15.8%
FVH	(80-90)	8.2	2.1%
BL	(0-30)	27.0	6.8%
BM	(30-60)	101.6	25.7%
BH	(60-80)	64.6	16.3%
BVH	(80-90)	7.1	1.8%
UL	(90-100)	1.8	0.4%
UH	(100-180)	0.0	0.0%
Total		395.8	100.0%
BUG Rating	B0 U1 G0		