



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-C10-GL-20-30-48 (NO LOUVERS, 3000K)
Order Number
11263738
Test Number
1254188

Test Date

2016-05-25

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 10" 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: 10.00 in.
Luminous Height: 3.00 in.

Summary of Results

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

Test Conditions

Test Temperature: 24.9 °C
Voltage: 120.1 VAC
Current: 0.1946 A
Power: 20.12 W
Power Factor: 0.860
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
24.9 °C	120.1 VAC	0.1946 A	20.12 W	0.860	60 Hz	34.9 %

Summary of Results

Spacing Criteria

0-180: 3.77

90-270: 3.48

Total Lumen Output:

481.0 Lumens

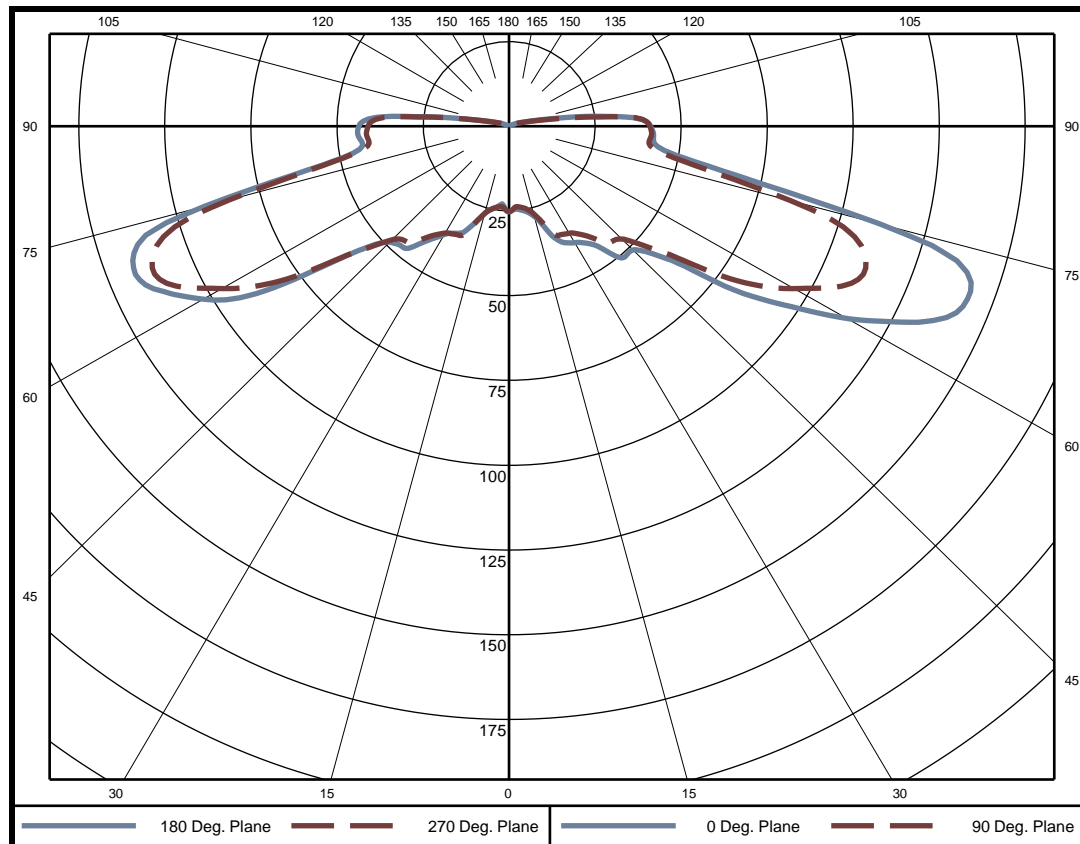
Luminaire Efficacy:

23.9 lm/w

Maximum Candela:

142 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.58	0.1%	60-65	57.45	11.9%	120-125	0.07	0.0%
5-10	1.72	0.4%	65-70	65.25	13.6%	125-130	0	0.0%
10-15	3.02	0.6%	70-75	62.93	13.1%	130-135	0	0.0%
15-20	4.77	1.0%	75-80	36.17	7.5%	135-140	0	0.0%
20-25	7.19	1.5%	80-85	23.80	4.9%	140-145	0	0.0%
25-30	9.35	1.9%	85-90	23.57	4.9%	145-150	0	0.0%
30-35	11.60	2.4%	90-95	21.81	4.5%	150-155	0	0.0%
35-40	15.05	3.1%	95-100	11.89	2.5%	155-160	0	0.0%
40-45	18.28	3.8%	100-105	4.40	0.9%	160-165	0	0.0%
45-50	22.01	4.6%	105-110	2.02	0.4%	165-170	0	0.0%
50-55	31.19	6.5%	110-115	1.03	0.2%	170-175	0	0.0%
55-60	45.47	9.5%	115-120	0.43	0.1%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	53	11.1%
0-60	170	35.4%
0-90	439	91.4%
90-180	42	8.7%



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	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3
	5	24.5	24.2	23.9	23.8	23.8	23.6	23.4	23.3	23.0	23.3	23.4	23.6	23.8	23.8	24.2
	10	25.3	25.3	25.0	24.5	24.5	24.3	23.9	24.2	24.6	24.2	23.9	24.3	24.5	24.5	25.3
	15	27.3	27.3	27.1	26.5	26.4	26.1	25.8	26.5	26.4	26.5	25.8	26.1	26.4	26.5	27.1
	20	32.9	32.7	32.2	32.1	31.5	31.0	30.7	31.3	31.0	31.3	30.7	31.0	31.5	32.1	32.2
	25	37.9	36.9	36.3	37.4	35.3	34.9	35.3	35.7	34.8	35.7	35.3	34.9	35.3	37.4	36.3
	30	39.5	38.7	38.5	38.7	36.3	37.0	37.3	37.2	36.7	37.2	37.3	37.0	36.3	38.7	38.5
	35	42.6	42.2	42.1	42.2	39.5	41.3	41.0	40.7	41.1	40.7	41.0	41.3	39.5	42.2	42.1
	40	50.7	50.3	50.9	50.2	45.0	48.5	48.1	47.7	47.0	47.7	48.1	48.5	45.0	50.2	50.9
	45	51.4	51.4	52.2	51.4	47.1	49.2	50.5	51.6	48.4	51.6	50.5	49.2	47.1	51.4	52.2
	50	61.5	59.5	60.2	61.4	57.3	58.3	59.9	60.1	57.2	60.1	59.9	58.3	57.3	61.4	60.2
	55	88.5	91.0	90.2	86.0	78.4	87.3	83.3	86.4	82.9	86.4	83.3	87.3	78.4	86.0	90.2
	60	113.5	112.8	114.4	110.9	95.7	109.8	108.6	110.8	102.0	110.8	108.6	109.8	95.7	110.9	114.4
	65	135.5	131.3	133.9	132.2	109.5	125.0	126.7	126.8	113.4	126.8	126.7	125.0	109.5	132.2	133.9
	70	142.2	133.0	136.1	136.5	109.8	128.6	129.5	128.4	115.8	128.4	129.5	128.6	109.8	136.5	136.1
	75	111.0	101.2	102.6	106.3	84.3	99.5	100.2	101.4	91.2	101.4	100.2	99.5	84.3	106.3	102.6
	80	49.0	45.0	45.9	50.5	45.0	45.1	50.4	51.2	45.8	51.2	50.4	45.1	45.0	50.5	45.9
	85	42.0	41.5	41.9	44.6	41.1	42.4	44.5	44.7	43.3	44.7	44.5	42.4	41.1	44.6	41.9
	90	41.0	41.2	41.5	43.9	40.9	42.8	43.6	44.8	43.4	44.8	43.6	42.8	40.9	43.9	41.5
	95	32.4	33.5	33.3	33.8	32.6	34.0	32.7	34.3	33.8	34.3	32.7	34.0	32.6	33.8	33.3
	100	13.3	13.1	13.1	13.1	11.7	12.0	12.3	12.5	12.0	12.5	12.3	12.0	11.7	13.1	13.1
	105	5.5	5.3	5.4	5.5	4.9	5.1	5.3	5.3	5.1	5.3	5.3	5.1	4.9	5.5	5.4
	110	2.9	2.9	2.9	2.9	2.6	2.7	2.9	2.9	2.7	2.9	2.9	2.7	2.6	2.9	2.9
	115	1.4	1.3	1.4	1.4	1.2	1.3	1.4	1.4	1.3	1.4	1.4	1.3	1.2	1.4	1.4
	120	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.4
	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	498	498
	45	1632	1494
	55	2630	2330
	65	3928	3175
	75	3261	2476
	85	1294	1268



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	563	563	563	563	545	545	545	545	511	511	511	481	481	481	453	453	453	439
1	479	441	407	377	459	425	394	366	396	370	347	368	347	328	343	326	311	295
2	414	355	306	265	395	341	296	258	315	277	245	292	260	232	270	244	220	205
3	363	292	237	193	345	281	230	189	258	215	179	238	201	170	219	188	161	146
4	324	247	190	147	307	237	184	143	218	172	136	200	161	129	184	150	122	108
5	292	212	157	116	277	204	152	113	187	142	107	172	133	102	158	124	96	82
6	265	186	132	93	252	178	128	91	164	120	87	151	112	82	139	105	78	65
7	243	164	113	77	231	158	110	76	146	103	72	135	96	68	124	90	64	52
8	225	147	99	65	214	142	96	64	131	90	61	122	85	57	112	79	54	43
9	209	134	87	56	199	129	85	55	120	80	52	111	75	49	103	70	47	36
10	195	122	78	49	186	118	76	48	110	72	46	102	68	43	95	63	41	31

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	25.3 Candela
Central Cone Intensity:	25 Candela
Beam Flux:	473.1 Lumens
Beam Angle (0-180):	200.1 Degrees
Beam Angle (90-270):	199.3 Degrees
Field Angle (0-180):	221.7 Degrees
Field Angle (90-270):	220.5 Degrees

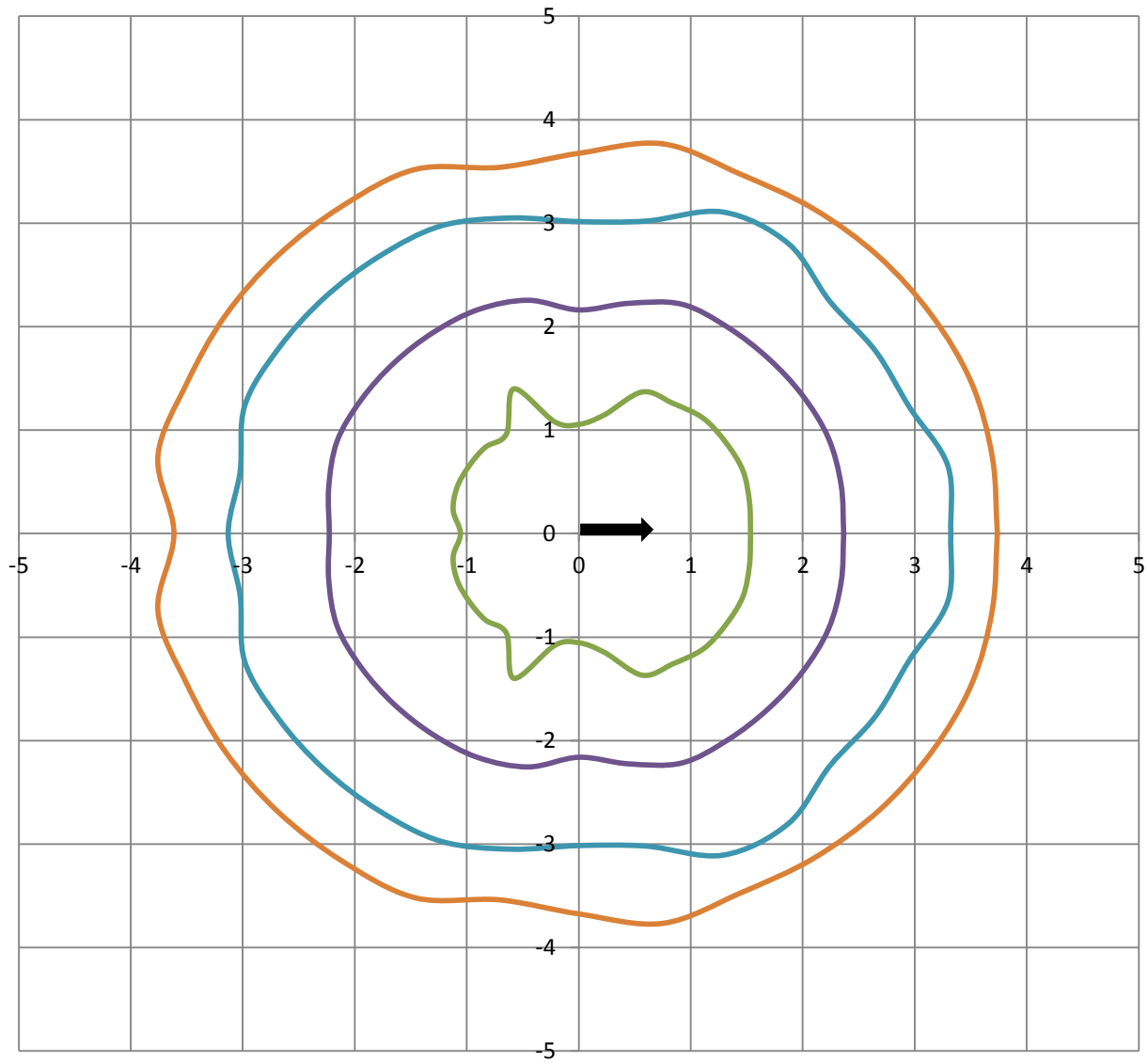
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		1.58	14.6
6.00		0.702	21.9
8.00		0.395	29.2
10.0		0.253	36.5
12.0		0.175	43.8
14.0		0.129	51.0
16.0		0.0987	58.3



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)	13.6	2.8%
FM	(30-60)	73.4	15.1%
FH	(60-80)	114.6	23.6%
FVH	(80-90)	23.6	4.9%
BL	(0-30)	13.1	2.7%
BM	(30-60)	71.1	14.7%
BH	(60-80)	109.5	22.6%
BVH	(80-90)	24.0	5.0%
UL	(90-100)	33.7	7.0%
UH	(100-180)	8.1	1.7%
Total		484.8	100.0%
BUG Rating	B0 U2 G1		