



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-NL-20-30-48 (NO LOUVERS, 3000K)
Order Number
11263738
Test Number
1254181

Test Date

2016-05-23

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 no 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 I, Very Short
Cutoff Classification: Noncutoff
BUG Rating: B1 U2 G1

Test Conditions

Test Temperature: 24.7 °C
Voltage: 120.0 VAC
Current: 0.1944 A
Power: 20.17 W
Power Factor: 0.865
Frequency: 60 Hz
Current THD: 34.5 %

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	120.0 VAC	0.1944 A	20.17 W	0.865	60 Hz	34.5 %

Summary of Results

Spacing Criteria

0-180: 1.87
90-270: 1.89

Total Lumen Output:

1027 Lumens

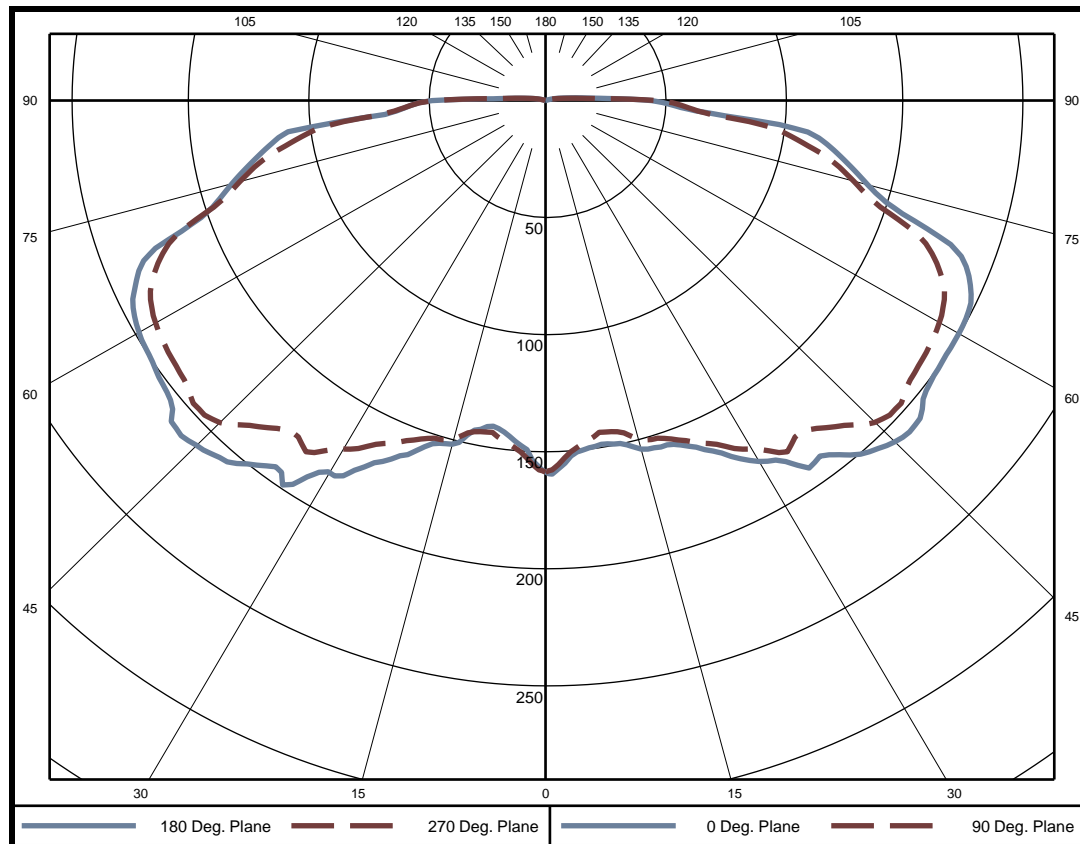
Luminaire Efficacy:

50.9 lm/w

Maximum Candela:

211 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.64	0.4%	60-65	94.20	9.2%	120-125	0	0.0%
5-10	10.40	1.0%	65-70	92.58	9.0%	125-130	0	0.0%
10-15	17.35	1.7%	70-75	78.08	7.6%	130-135	0	0.0%
15-20	25.05	2.4%	75-80	68.64	6.7%	135-140	0	0.0%
20-25	33.59	3.3%	80-85	57.00	5.6%	140-145	0	0.0%
25-30	43.49	4.2%	85-90	30.82	3.0%	145-150	0	0.0%
30-35	54.08	5.3%	90-95	13.15	1.3%	150-155	0	0.0%
35-40	63.62	6.2%	95-100	4.49	0.4%	155-160	0	0.0%
40-45	74.11	7.2%	100-105	1.94	0.2%	160-165	0	0.0%
45-50	82.59	8.0%	105-110	0.49	0.0%	165-170	0	0.0%
50-55	86.57	8.4%	110-115	0.00	0.0%	170-175	0	0.0%
55-60	90.91	8.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	251	24.5%
0-60	585	57.0%
0-90	1007	98.0%
90-180	20	2.0%



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	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6	158.6
	5	150.6	148.7	149.9	149.8	148.8	148.5	147.8	147.1	146.1	147.1	147.8	148.5	148.8	149.8	149.9	148.7
	10	148.9	145.6	143.5	144.7	143.7	142.4	142.8	144.0	141.4	144.0	142.8	142.4	143.7	144.7	143.5	145.6
	15	154.1	150.0	147.9	148.5	149.6	146.6	147.2	150.6	152.0	150.6	147.2	146.6	149.6	148.5	147.9	150.0
	20	156.2	156.4	154.0	153.3	153.8	154.1	154.6	157.0	159.1	157.0	154.6	154.1	153.8	153.3	154.0	156.4
	25	165.1	165.1	163.5	162.6	161.6	165.3	165.8	169.4	170.7	169.4	165.8	165.3	161.6	162.6	163.5	165.1
	30	178.0	176.0	175.8	174.9	171.8	178.1	178.0	180.8	183.1	180.8	178.0	178.1	171.8	174.9	175.8	176.0
	35	191.6	188.5	190.6	187.4	179.2	190.9	189.5	191.6	193.9	191.6	189.5	190.9	179.2	187.4	190.6	188.5
	40	197.6	195.1	199.4	193.8	182.3	199.3	196.2	199.3	202.4	199.3	196.2	199.3	182.3	193.8	199.4	195.1
	45	206.0	201.9	208.7	201.2	194.4	206.3	202.5	205.4	208.1	205.4	202.5	206.3	194.4	201.2	208.7	201.9
	50	205.0	200.0	208.9	199.2	195.8	204.2	200.0	203.0	205.0	203.0	200.0	204.2	195.8	199.2	208.9	200.0
	55	199.8	194.6	205.1	194.1	192.4	200.2	195.6	198.4	200.5	198.4	195.6	200.2	192.4	194.1	205.1	194.6
	60	198.9	192.8	205.0	191.8	190.0	198.9	193.3	195.8	197.8	195.8	193.3	198.9	190.0	191.8	205.0	192.8
	65	195.7	188.3	201.6	186.8	183.4	193.5	187.0	189.5	191.0	189.5	187.0	193.5	183.4	186.8	201.6	188.3
	70	179.7	170.6	182.3	166.3	164.7	167.7	161.2	168.6	163.1	168.6	161.2	167.7	164.7	166.3	182.3	170.6
	75	139.1	133.3	143.7	134.2	133.6	135.4	136.1	139.6	136.6	139.6	136.1	135.4	133.6	134.2	143.7	133.3
	80	122.1	116.5	127.4	117.9	111.5	119.8	120.6	123.9	119.9	123.9	120.6	119.8	111.5	117.9	127.4	116.5
	85	75.4	77.5	80.7	66.5	70.2	72.4	60.4	64.0	67.9	64.0	60.4	72.4	70.2	66.5	80.7	77.5
	90	44.2	51.3	50.2	38.5	47.1	47.1	37.8	43.1	47.8	43.1	37.8	47.1	47.1	38.5	50.2	51.3
	95	13.8	13.1	13.1	13.2	11.7	11.6	11.9	11.9	11.8	11.9	11.9	11.6	11.7	13.2	13.1	13.1
	100	6.0	5.6	5.6	5.8	5.0	5.0	5.3	5.3	5.1	5.3	5.3	5.0	5.0	5.8	5.6	5.6
	105	2.4	2.2	2.2	2.3	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.3	2.2	2.2
	110	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)		0	45	90
	0	1489	1489	1489
	45	5750	5825	5426
	55	3568	3663	3436
	65	3146	3239	2947
	75	2059	2128	1978
	85	1076	1151	1001



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	1218	1218	1218	1218	1187	1187	1187	1187	1130	1130	1130	1077	1077	1077	1029	1029	1029	1007
1	1063	993	930	873	1030	966	909	857	916	869	825	871	832	795	829	797	767	741
2	940	828	736	659	908	806	721	649	763	691	629	724	664	611	688	638	593	566
3	839	703	598	514	809	684	586	508	648	564	495	615	543	483	584	523	471	443
4	756	607	497	413	728	591	488	409	560	471	400	532	454	391	505	438	383	356
5	687	531	421	341	662	517	414	337	491	400	331	467	387	325	444	375	319	293
6	629	470	363	286	605	458	357	284	436	346	279	415	335	274	396	325	270	245
7	578	420	317	245	558	410	312	243	391	303	239	373	294	235	356	286	232	208
8	535	378	280	212	516	370	276	211	354	268	208	338	261	205	324	254	202	179
9	498	344	250	186	481	336	247	185	322	240	182	309	234	180	296	228	178	157
10	465	315	225	165	449	308	222	164	296	217	162	284	211	160	273	206	158	138

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	158.6 Candela
Central Cone Intensity:	154 Candela
Beam Flux:	972.9 Lumens
Beam Angle (0-180):	169.3 Degrees
Beam Angle (90-270):	168.8 Degrees
Field Angle (0-180):	187.6 Degrees
Field Angle (90-270):	186.9 Degrees

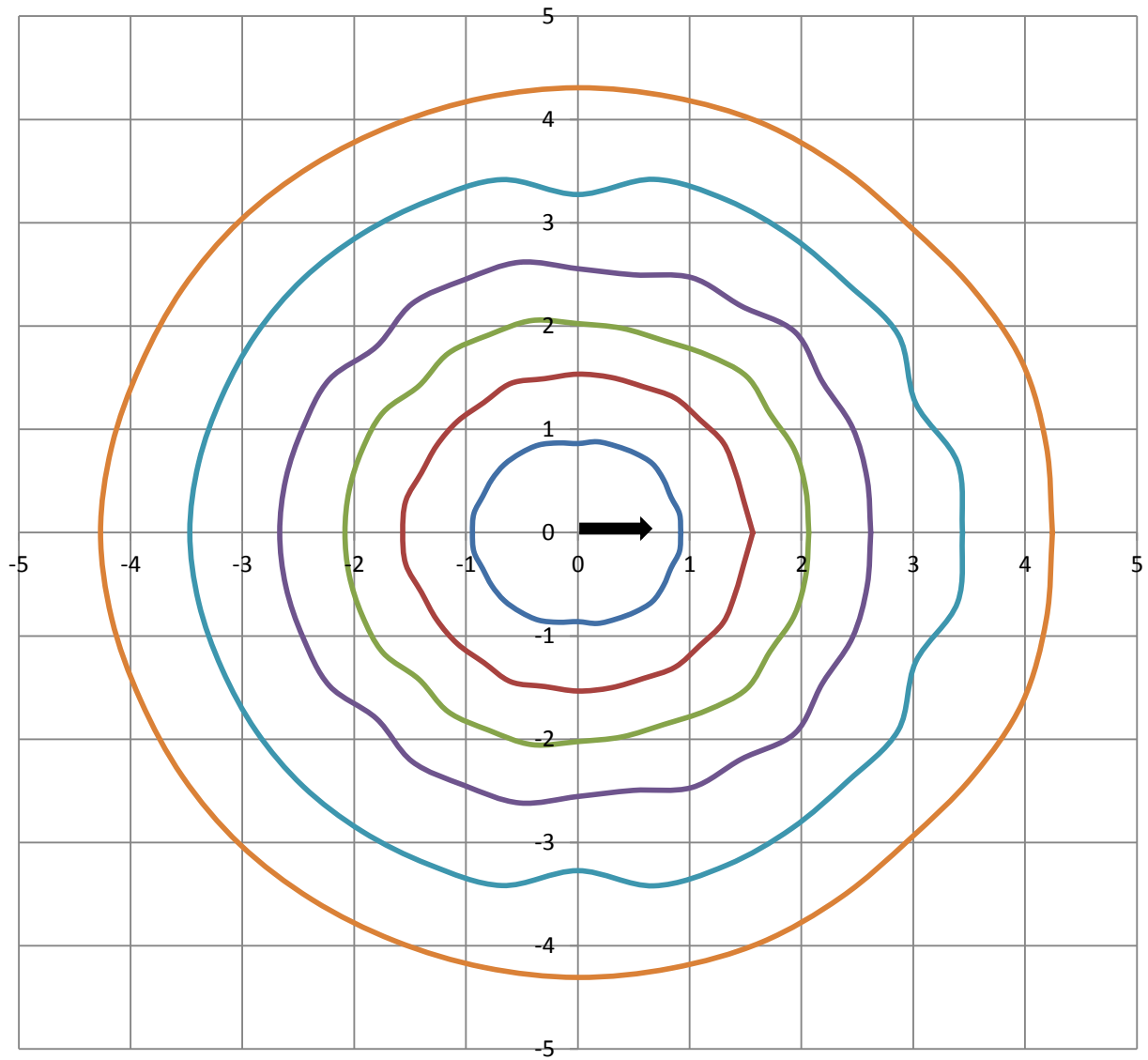
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		9.91	7.40
6.00		4.41	11.1
8.00		2.48	14.8
10.0		1.59	18.5
12.0		1.10	22.2
14.0		0.809	25.9
16.0		0.620	29.6



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)	66.7	6.5%
FM	(30-60)	226.4	22.0%
FH	(60-80)	168.9	16.4%
FVH	(80-90)	44.7	4.4%
BL	(0-30)	67.1	6.5%
BM	(30-60)	225.9	22.0%
BH	(60-80)	164.6	16.0%
BVH	(80-90)	42.8	4.2%
UL	(90-100)	18.3	1.8%
UH	(100-180)	2.5	0.2%
Total		1028.0	100.0%
BUG Rating	B1 U2 G1		