



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-GTL-NL-20-30-48 (NO LOUVERS, 3000K)
Order Number
11263738
Test Number
1254187

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 14" stacked copper shades 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: 14.00 in.
Luminous Height: 1.00 in.

Summary of Results

Roadway Classification: Type II, Very Short
Cutoff Classification: Cutoff
BUG Rating: B1 U1 G1

Test Conditions

Test Temperature: 24.8 °C
Voltage: 120.1 VAC
Current: 0.1950 A
Power: 20.17 W
Power Factor: 0.862
Frequency: 60 Hz
Current THD: 34.8 %

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	120.1 VAC	0.1950 A	20.17 W	0.862	60 Hz	34.8 %

Summary of Results

Spacing Criteria

0-180: 1.85

90-270: 1.95

Total Lumen Output:

803.1 Lumens

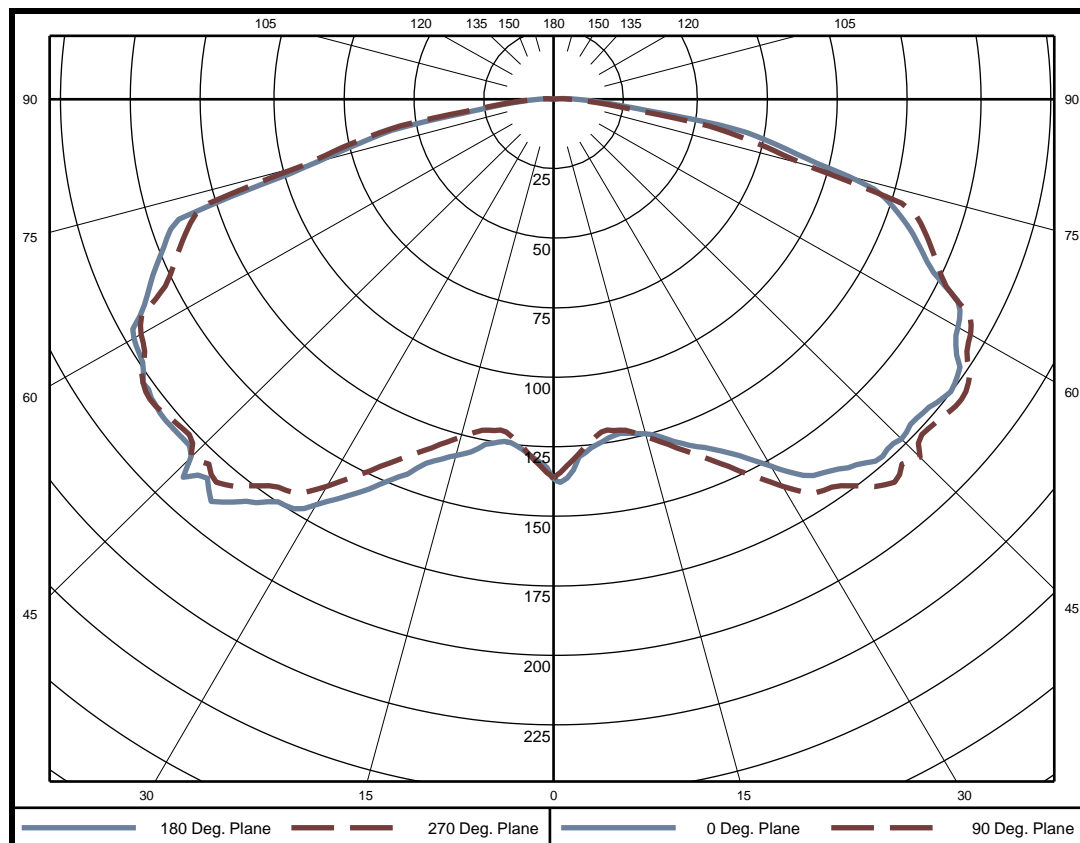
Luminaire Efficacy:

39.8 lm/w

Maximum Candela:

189 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.12	0.4%	60-65	78.19	9.7%	120-125	0	0.0%
5-10	8.90	1.1%	65-70	73.36	9.1%	125-130	0	0.0%
10-15	14.83	1.8%	70-75	65.64	8.2%	130-135	0	0.0%
15-20	21.60	2.7%	75-80	41.70	5.2%	135-140	0	0.0%
20-25	29.36	3.7%	80-85	17.96	2.2%	140-145	0	0.0%
25-30	38.66	4.8%	85-90	6.10	0.8%	145-150	0	0.0%
30-35	48.86	6.1%	90-95	2.26	0.3%	150-155	0	0.0%
35-40	58.02	7.2%	95-100	0.55	0.1%	155-160	0	0.0%
40-45	66.27	8.3%	100-105	0.00	0.0%	160-165	0	0.0%
45-50	71.41	8.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	77.08	9.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	79.27	9.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	223	27.8%
0-60	517	64.4%
0-90	800	99.7%
90-180	3	0.3%



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	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5	136.5
	5	127.7	128.3	128.6	127.1	125.5	126.8	127.0	127.1	126.4	127.1	127.0	126.8	125.5	127.1	128.6
	10	122.8	123.1	123.7	122.1	120.9	123.5	124.5	125.0	125.6	125.0	124.5	123.5	120.9	122.1	123.7
	15	124.6	125.6	125.5	125.5	125.7	128.8	128.8	131.3	132.5	131.3	128.8	128.8	125.7	125.5	125.5
	20	131.7	132.7	131.2	132.0	134.4	136.1	136.1	140.0	141.0	140.0	136.1	136.1	134.4	132.0	131.2
	25	139.7	141.9	141.3	140.5	145.7	146.9	147.9	152.9	154.6	152.9	147.9	146.9	145.7	140.5	141.3
	30	152.3	156.1	155.2	154.4	160.6	160.5	162.8	169.3	168.3	169.3	162.8	160.5	160.6	154.4	155.2
	35	164.3	168.4	165.5	164.9	170.2	168.4	170.2	177.3	176.6	177.3	170.2	168.4	170.2	164.9	165.5
	40	170.8	179.4	174.9	172.8	180.9	178.7	176.2	185.8	188.7	185.8	176.2	178.7	180.9	172.8	174.9
	45	173.0	184.1	177.3	175.4	181.9	178.2	174.1	181.8	181.5	181.8	174.1	178.2	181.9	175.4	177.3
	50	172.4	183.3	176.5	174.8	177.8	176.1	172.1	179.6	179.5	179.6	172.1	176.1	177.8	174.8	176.5
	55	173.4	185.9	176.4	173.7	177.8	175.0	167.7	176.1	177.6	176.1	167.7	175.0	177.8	173.7	176.4
	60	164.2	178.1	168.6	164.8	169.0	168.8	159.3	167.4	171.7	167.4	159.3	168.8	169.0	164.8	168.6
	65	147.4	159.9	152.1	147.2	150.2	153.6	143.9	151.7	157.7	151.7	143.9	153.6	150.2	147.2	152.1
	70	132.3	147.2	139.5	133.5	138.5	142.2	130.7	139.5	145.7	139.5	130.7	142.2	138.5	133.5	139.5
	75	107.7	109.6	103.1	104.7	91.9	92.0	97.1	95.8	86.1	95.8	97.1	92.0	91.9	104.7	103.1
	80	69.0	64.1	62.2	66.5	55.4	53.8	56.9	52.8	46.0	52.8	56.9	53.8	55.4	66.5	62.2
	85	21.5	20.2	19.5	19.3	16.7	15.9	16.4	15.9	14.5	15.9	16.4	15.9	16.7	19.3	19.5
	90	7.9	7.2	7.0	7.1	5.9	5.5	6.0	5.9	5.2	5.9	6.0	5.5	5.9	7.1	7.0
	95	2.9	2.6	2.6	2.6	2.1	1.9	2.1	2.0	1.7	2.0	2.1	1.9	2.1	2.6	2.6
	100	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	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
	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
	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	1374	1374
	45	9283	9516
	55	11470	11670
	65	2983	3077
	75	1894	1814
	85	347	313



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	955	955	955	955	933	933	933	933	891	891	891	852	852	852	817	817	817	800
1	852	804	762	724	828	785	746	711	750	717	688	717	690	666	687	665	645	627
2	756	676	610	554	733	660	599	547	630	578	533	602	558	520	576	539	507	487
3	676	576	498	435	654	562	489	431	536	474	422	512	459	414	490	445	406	386
4	610	497	414	351	589	485	408	349	463	396	343	443	385	337	424	374	332	312
5	553	435	351	290	535	425	347	288	406	337	284	389	328	280	373	319	276	257
6	506	384	303	244	489	376	299	243	360	291	240	345	284	237	331	277	234	215
7	465	343	264	209	450	336	261	208	322	255	205	310	249	203	298	243	201	183
8	430	309	233	181	416	303	230	180	291	225	178	280	220	177	270	216	175	158
9	399	280	208	159	387	275	206	158	265	201	157	256	197	155	247	193	154	138
10	372	256	187	140	361	252	185	140	243	181	139	235	178	138	227	175	137	121

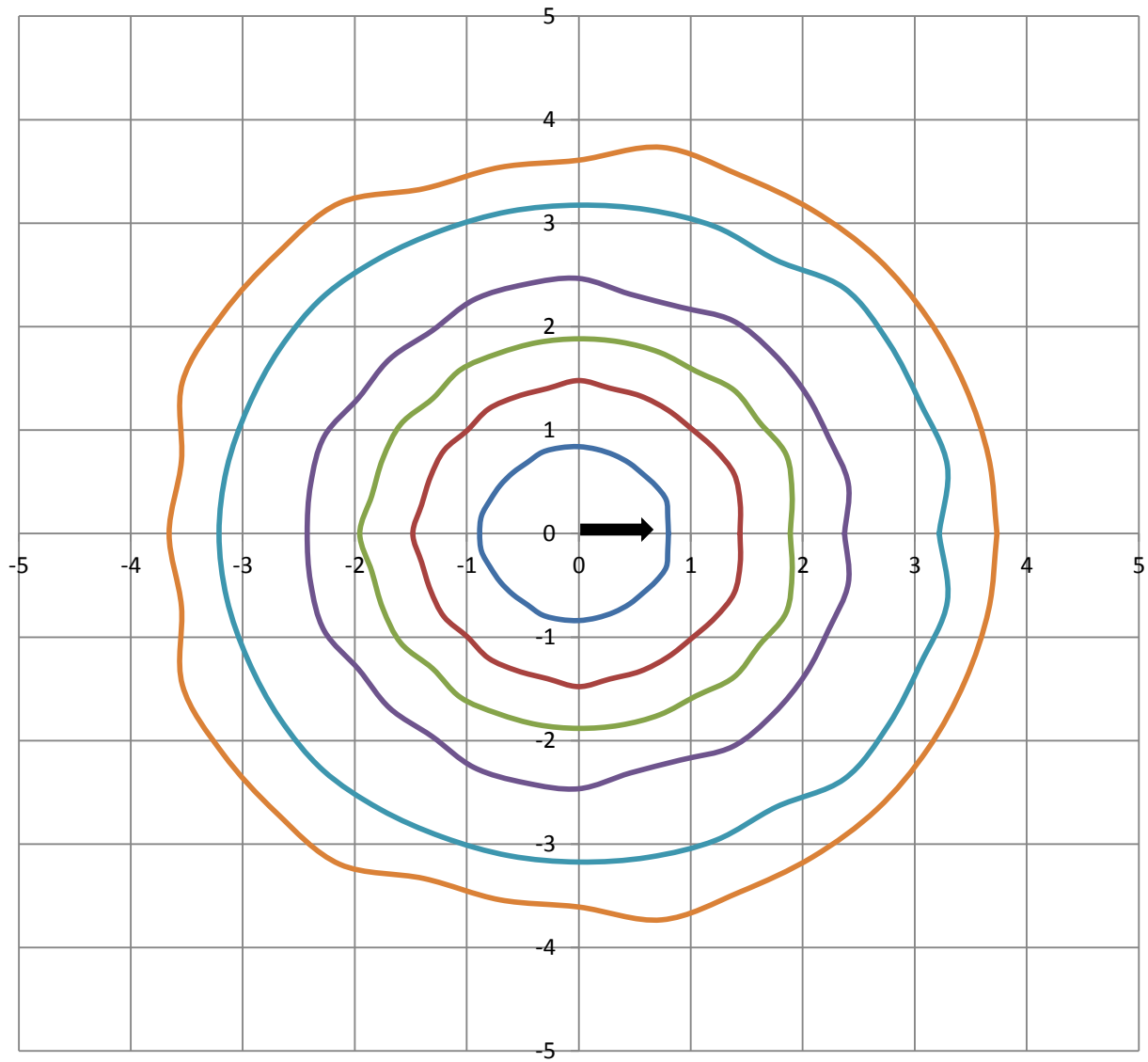
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	136.5 Candela
Central Cone Intensity:	132 Candela
Beam Flux:	768.6 Lumens
Beam Angle (0-180):	157.5 Degrees
Beam Angle (90-270):	156.3 Degrees
Field Angle (0-180):	172.6 Degrees
Field Angle (90-270):	171.9 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		8.53	7.59
6.00		3.79	11.4
8.00		2.13	15.2
10.0		1.36	19.0
12.0		0.948	22.8
14.0		0.696	26.6
16.0		0.533	30.3



ISOFootcandle Plot

Mounting Height - 4 Feet

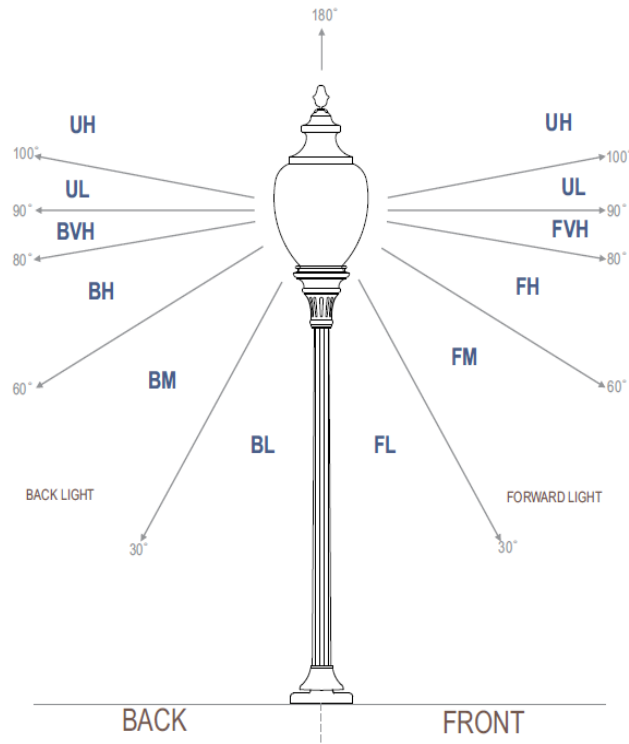


Grid Lines in Units of Mounting Height

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)	57.3	7.1%
FM	(30-60)	200.0	24.9%
FH	(60-80)	131.1	16.3%
FVH	(80-90)	13.6	1.7%
BL	(0-30)	59.5	7.4%
BM	(30-60)	201.2	25.0%
BH	(60-80)	127.4	15.8%
BVH	(80-90)	11.1	1.4%
UL	(90-100)	2.9	0.4%
UH	(100-180)	0.0	0.0%
Total		804.1	100.0%
BUG Rating	B1 U1 G1		