



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300



## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-2002

**Prepared For**  
**Auroralight Inc**

2742 Loker Avenue West  
Carlsbad  
CA, 92010  
United States

**Catalog Number**

**HPL5-2-30**

Order Number

**11745044**

Test Number

**11745044.08**

Test Date

2017-05-05

Prepared By

Alexa Lambert, Project Handler

Approved By

Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Conical 5" copper shade with clear glass lens, cylindrical copper stem and brass base  
**Lamp:** 64 white LEDs  
**Mounting:** Path/Area  
**Ballast/Driver:** Integrated

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 3.75 in.

**Summary of Results**

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

**Test Conditions**

Test Temperature:	25.0 °C
Voltage:	12.00 VAC
Current:	0.2861 A
Power:	2.130 W
Power Factor:	0.620
Frequency:	60 Hz
Current THD:	88.7 %

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
25.0 °C	12.00 VAC	0.2861 A	2.130 W	0.620	60 Hz	88.7 %

### Summary of Results

#### Spacing Criteria

0-180: 1.94

90-270: 1.94

Total Lumen Output:

88.31 Lumens

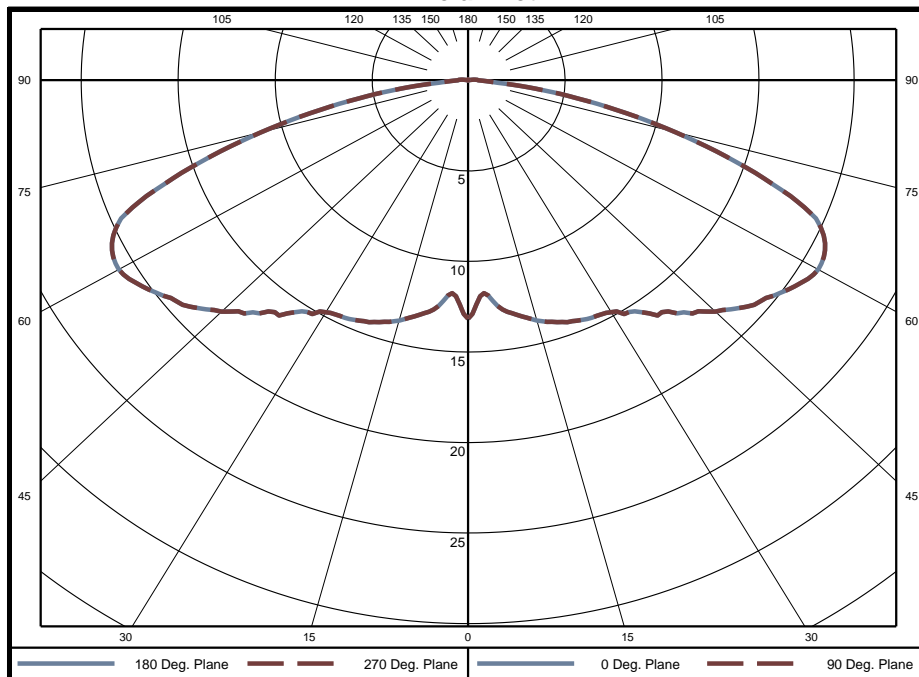
Luminaire Efficacy:

41.5 lm/w

Maximum Candela:

21 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.29	0.3%	60-65	10.06	11.4%	120-125	0.01	0.0%
5-10	0.91	1.0%	65-70	9.57	10.8%	125-130	0.01	0.0%
10-15	1.59	1.8%	70-75	7.29	8.3%	130-135	0.01	0.0%
15-20	2.31	2.6%	75-80	4.49	5.1%	135-140	0.01	0.0%
20-25	3.02	3.4%	80-85	1.95	2.2%	140-145	0.01	0.0%
25-30	3.71	4.2%	85-90	0.52	0.6%	145-150	0.01	0.0%
30-35	4.48	5.1%	90-95	0.27	0.3%	150-155	0.01	0.0%
35-40	5.42	6.1%	95-100	0.17	0.2%	155-160	0.01	0.0%
40-45	6.44	7.3%	100-105	0.05	0.1%	160-165	0.00	0.0%
45-50	7.55	8.5%	105-110	0.03	0.0%	165-170	0.00	0.0%
50-55	8.56	9.7%	110-115	0.02	0.0%	170-175	0.00	0.0%
55-60	9.52	10.8%	115-120	0.02	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	22	24.6%
0-60	54	60.9%
0-90	88	99.3%
90-180	1	0.7%



**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	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17	13.17
	5	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93
	10	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06
	15	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74
	20	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21	14.21
	25	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
	30	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79	14.79
	35	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64
	40	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81	16.81
	45	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07	18.07
	50	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30
	55	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17	20.17
	60	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89	20.89
	65	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27	20.27
	70	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71	16.71
	75	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12
	80	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74	5.74
	85	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
	90	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	95	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
	100	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	105	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	110	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	115	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	120	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	125	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	130	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	135	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	140	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	145	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	150	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	155	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	160	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	165	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	170	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	175	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	180	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

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

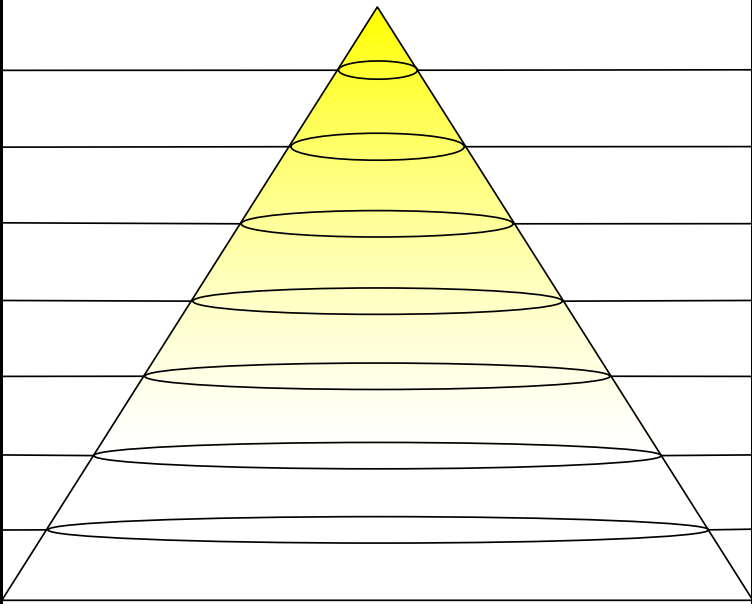
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	1849	1849	1849
	45	3586	3586	3586
	55	4935	4935	4935
	65	6731	6731	6731
	75	6031	6031	6031
	85	2465	2465	2465



### 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	105	105	105	105	102	102	102	102	98	98	98	93	93	93	90	90	90	88
1	93	88	83	79	91	86	82	78	82	78	75	78	75	73	75	72	70	68
2	83	74	66	60	80	72	65	59	68	62	57	65	60	56	62	58	55	52
3	74	62	53	46	71	61	53	46	58	51	45	55	49	44	53	47	43	41
4	66	53	44	37	64	52	43	37	50	42	36	47	41	35	45	40	35	33
5	60	46	37	30	58	45	37	30	43	36	30	41	35	29	40	34	29	27
6	55	41	32	25	53	40	31	25	38	31	25	37	30	24	35	29	24	22
7	50	37	28	21	48	36	27	21	34	27	21	33	26	21	31	25	21	19
8	46	33	24	19	45	32	24	18	31	23	18	30	23	18	28	22	18	16
9	43	30	22	16	42	29	21	16	28	21	16	27	20	16	26	20	16	14
10	40	27	19	14	39	27	19	14	26	19	14	25	18	14	24	18	14	12

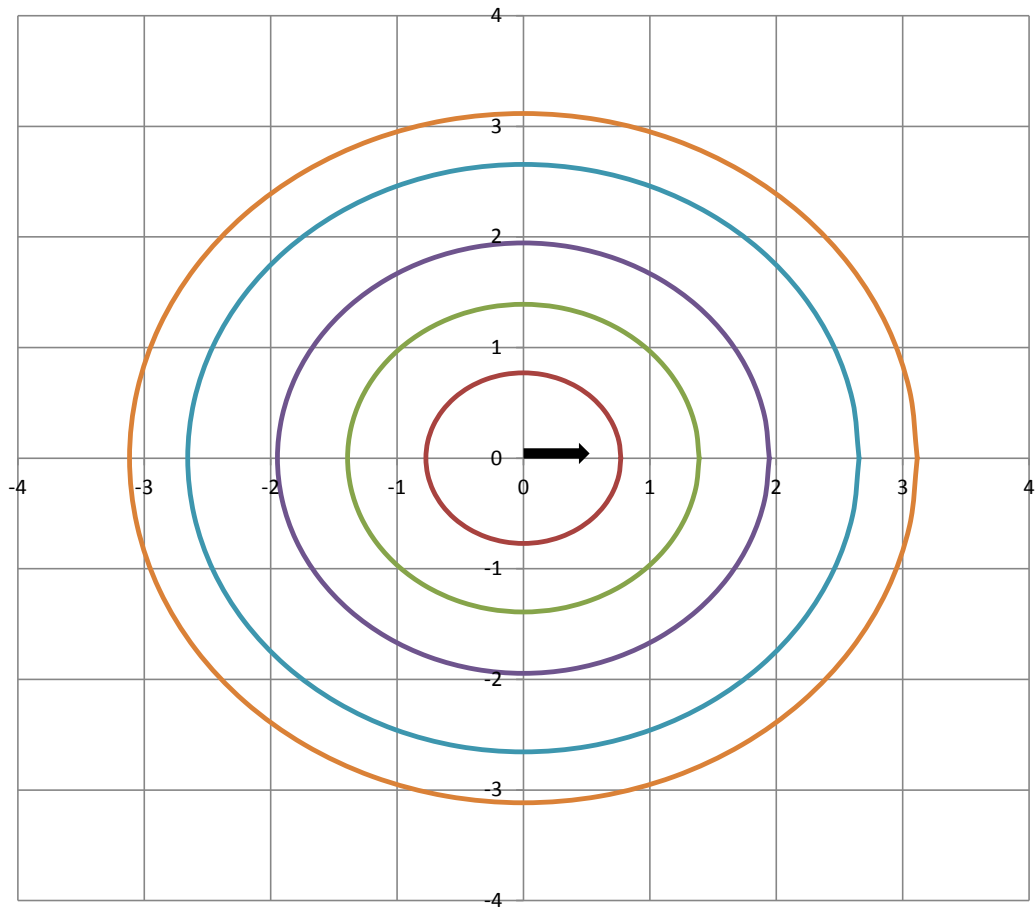
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	13.17 Candela
Central Cone Intensity:	12 Candela
Beam Flux:	84.7 Lumens
Beam Angle (0-180):	158.4 Degrees
Beam Angle (90-270):	158.4 Degrees
Field Angle (0-180):	171.4 Degrees
Field Angle (90-270):	171.4 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		0.823	7.76
6.00		0.366	11.6
8.00		0.206	15.5
10.0		0.132	19.4
12.0		0.0915	23.3
14.0		0.0672	27.1
16.0		0.0515	31.0

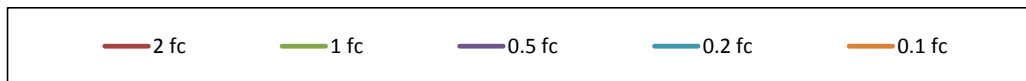


## ISOFootcandle Plot

Mounting Height - 2 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)	5.9	6.7%
FM	(30-60)	21.0	23.7%
FH	(60-80)	15.8	17.8%
FVH	(80-90)	1.3	1.4%
BL	(0-30)	5.9	6.7%
BM	(30-60)	21.0	23.7%
BH	(60-80)	15.8	17.8%
BVH	(80-90)	1.3	1.4%
UL	(90-100)	0.4	0.5%
UH	(100-180)	0.2	0.2%
Total		88.6	100.0%
<b>BUG Rating</b>	<b>B0 U1 G0</b>		