



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**

**HPL5-2-27**

Order Number

**11745044**

Test Number

**11745044.07**

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:	24.9 °C
Voltage:	11.99 VAC
Current:	0.3035 A
Power:	2.202 W
Power Factor:	0.605
Frequency:	60 Hz
Current THD:	85.8 %

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
24.9 °C	11.99 VAC	0.3035 A	2.202 W	0.605	60 Hz	85.8 %

### Summary of Results

#### Spacing Criteria

0-180: 1.88

90-270: 1.88

Total Lumen Output:

95.88 Lumens

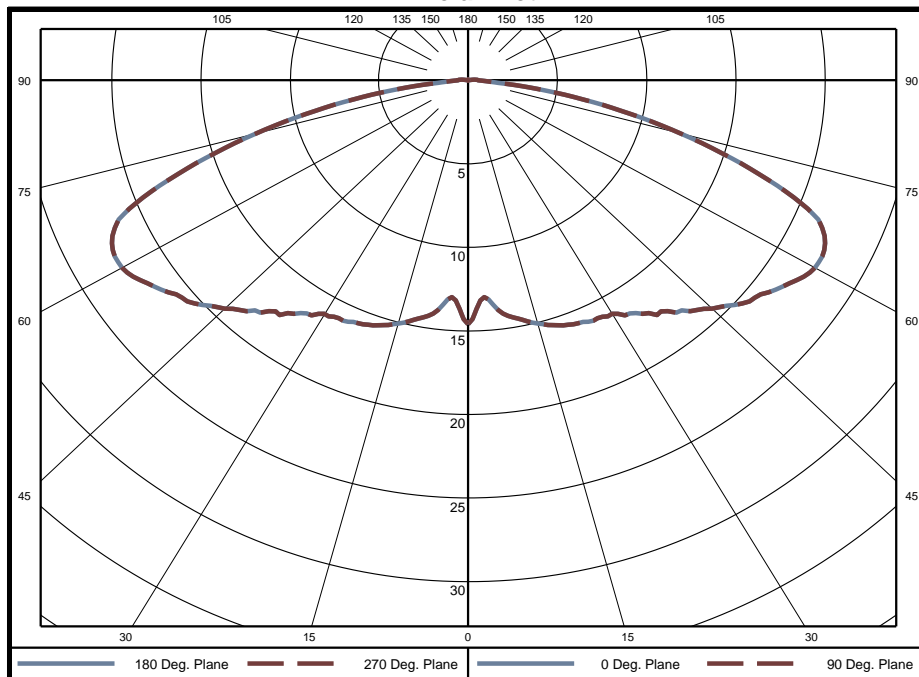
Luminaire Efficacy:

43.5 lm/w

Maximum Candela:

22 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.32	0.3%	60-65	10.87	11.3%	120-125	0.02	0.0%
5-10	1.00	1.0%	65-70	10.46	10.9%	125-130	0.01	0.0%
10-15	1.75	1.8%	70-75	8.06	8.4%	130-135	0.01	0.0%
15-20	2.53	2.6%	75-80	5.04	5.3%	135-140	0.01	0.0%
20-25	3.31	3.5%	80-85	2.18	2.3%	140-145	0.01	0.0%
25-30	4.06	4.2%	85-90	0.57	0.6%	145-150	0.01	0.0%
30-35	4.89	5.1%	90-95	0.29	0.3%	150-155	0.01	0.0%
35-40	5.86	6.1%	95-100	0.19	0.2%	155-160	0.01	0.0%
40-45	6.92	7.2%	100-105	0.06	0.1%	160-165	0.00	0.0%
45-50	8.06	8.4%	105-110	0.03	0.0%	165-170	0.00	0.0%
50-55	9.12	9.5%	110-115	0.02	0.0%	170-175	0.00	0.0%
55-60	10.18	10.6%	115-120	0.02	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	24	24.7%
0-60	58	60.5%
0-90	95	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	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59	14.59
	5	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16
	10	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40
	15	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07	15.07
	20	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60	15.60
	25	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94	15.94
	30	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13
	35	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05	17.05
	40	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15
	45	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32	19.32
	50	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58	20.58
	55	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51
	60	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43	22.43
	65	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03	22.03
	70	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44
	75	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38	12.38
	80	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49	6.49
	85	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
	90	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
	95	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
	100	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
	105	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	110	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	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	0.03	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
	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	0.03	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
	155	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
	160	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
	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	0.03	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
	180	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

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

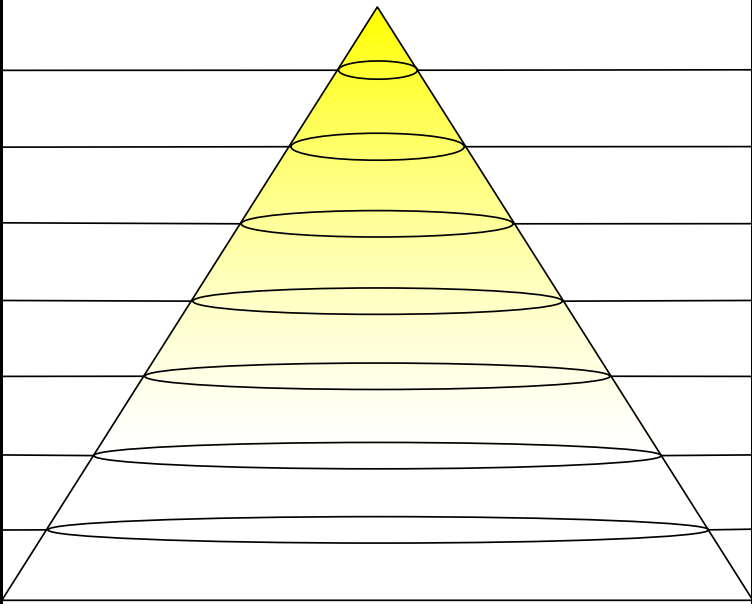
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	2048	2048	2048
	45	3835	3835	3835
	55	5263	5263	5263
	65	7316	7316	7316
	75	6713	6713	6713
	85	2723	2723	2723



### 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	114	114	114	114	111	111	111	111	106	106	106	101	101	101	97	97	97	95
1	101	95	90	86	98	93	88	84	89	85	81	85	82	79	81	79	76	74
2	90	80	72	65	87	78	70	64	74	68	62	71	65	61	67	63	59	57
3	80	67	58	50	77	66	57	50	63	55	49	60	53	48	57	51	47	44
4	72	58	48	40	69	56	47	40	54	46	39	51	44	38	49	43	38	35
5	65	50	40	33	63	49	40	33	47	39	32	45	37	32	43	36	31	29
6	59	44	35	27	57	43	34	27	42	33	27	40	32	27	38	31	26	24
7	54	40	30	23	53	39	30	23	37	29	23	36	28	23	34	27	22	20
8	50	36	26	20	49	35	26	20	33	26	20	32	25	20	31	24	19	17
9	47	32	24	18	45	32	23	18	30	23	17	29	22	17	28	22	17	15
10	44	30	21	16	42	29	21	16	28	21	15	27	20	15	26	20	15	13

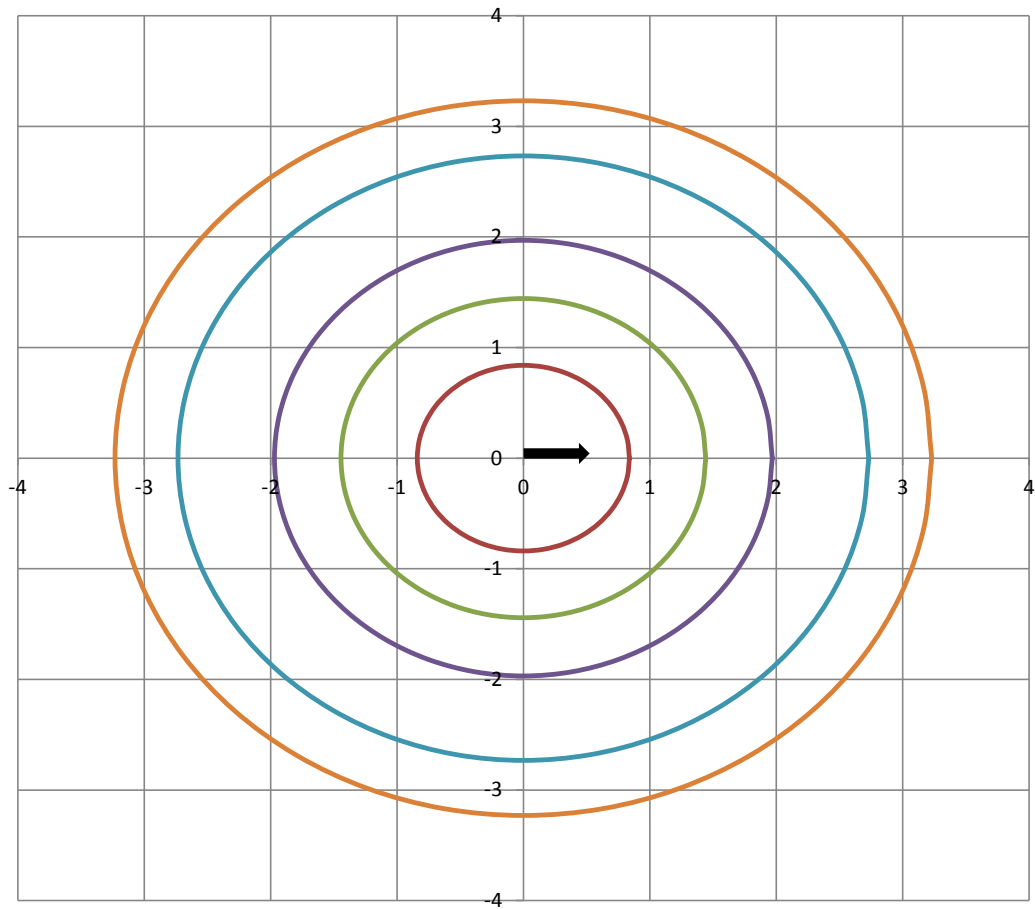
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	14.59 Candela
Central Cone Intensity:	14 Candela
Beam Flux:	91.9 Lumens
Beam Angle (0-180):	158.7 Degrees
Beam Angle (90-270):	158.7 Degrees
Field Angle (0-180):	171.3 Degrees
Field Angle (90-270):	171.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		0.912	7.51
6.00		0.405	11.3
8.00		0.228	15.0
10.0		0.146	18.8
12.0		0.101	22.5
14.0		0.0745	26.3
16.0		0.0570	30.0

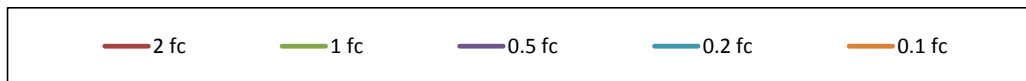


## ISOFootcandle Plot

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)	6.5	6.8%
FM	(30-60)	22.6	23.5%
FH	(60-80)	17.2	17.9%
FVH	(80-90)	1.4	1.5%
BL	(0-30)	6.5	6.8%
BM	(30-60)	22.6	23.5%
BH	(60-80)	17.2	17.9%
BVH	(80-90)	1.4	1.5%
UL	(90-100)	0.5	0.5%
UH	(100-180)	0.2	0.2%
Total		96.1	100.0%
BUG Rating	B0 U1 G0		