



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

HPL9-3-27

Order Number

11745044

Test Number

11745044.29

Test Date

2017-05-22

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 9" 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: 9.00 in.

Summary of Results

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

Test Conditions

Test Temperature:	24.7 °C
Voltage:	12.00 VAC
Current:	0.4968 A
Power:	3.334 W
Power Factor:	0.559
Frequency:	60 Hz
Current THD:	78.6 %

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	12.00 VAC	0.4968 A	3.334 W	0.559	60 Hz	78.6 %

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.28

Total Lumen Output:

170.3 Lumens

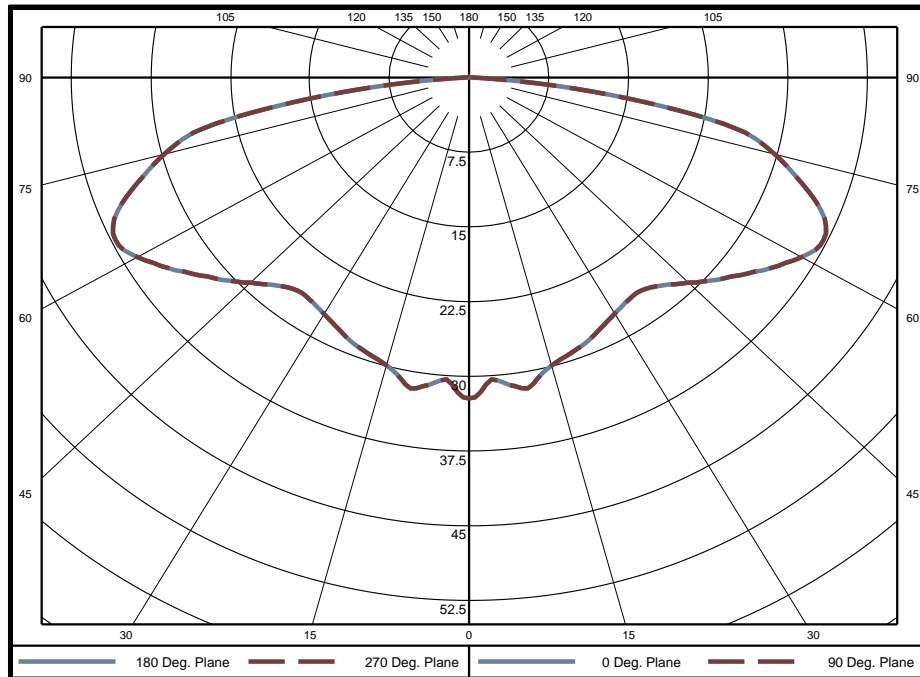
Luminaire Efficacy:

51.1 lm/w

Maximum Candela:

37 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.74	0.4%	60-65	17.89	10.5%	120-125	0.02	0.0%
5-10	2.24	1.3%	65-70	18.14	10.7%	125-130	0.02	0.0%
10-15	3.64	2.1%	70-75	16.68	9.8%	130-135	0.01	0.0%
15-20	4.86	2.9%	75-80	14.23	8.4%	135-140	0.01	0.0%
20-25	6.03	3.5%	80-85	7.36	4.3%	140-145	0.01	0.0%
25-30	7.04	4.1%	85-90	1.09	0.6%	145-150	0.01	0.0%
30-35	7.96	4.7%	90-95	0.16	0.1%	150-155	0.01	0.0%
35-40	8.99	5.3%	95-100	0.05	0.0%	155-160	0.01	0.0%
40-45	10.45	6.1%	100-105	0.03	0.0%	160-165	0.01	0.0%
45-50	12.23	7.2%	105-110	0.03	0.0%	165-170	0.01	0.0%
50-55	14.13	8.3%	110-115	0.02	0.0%	170-175	0.00	0.0%
55-60	16.14	9.5%	115-120	0.02	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	42	24.4%
0-60	94	55.5%
0-90	170	99.7%
90-180	0	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	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21
	5	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52
	10	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70	31.70
	15	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94	29.94
	20	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14
	25	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28
	30	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37	27.37
	35	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79
	40	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36	27.36
	45	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12	29.12
	50	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34	31.34
	55	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75
	60	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06
	65	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00
	70	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11	34.11
	75	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73	29.73
	80	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55	21.55
	85	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93	5.93
	90	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	95	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	100	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
	105	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
	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	0.04	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
	125	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
	130	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
	135	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
	140	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
	145	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
	150	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
	155	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
	160	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
	165	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
	170	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
	175	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
	180	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

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	785	785	785
	45	1003	1003	1003
	55	1434	1434	1434
	65	2133	2133	2133
	75	2798	2798	2798
	85	1656	1656	1656



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																	
Ceiling Cavity Reflectance	80				70				50			30			10		
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																
0	203	203	203	203	198	198	198	198	189	189	189	181	181	181	173	173	173
1	178	166	156	147	173	162	153	145	155	147	140	148	141	135	141	136	131
2	156	138	123	110	151	134	120	108	128	116	105	122	112	103	116	108	100
3	139	116	99	85	134	113	97	84	108	94	82	103	90	80	98	88	79
4	125	100	82	68	121	98	80	67	93	78	66	88	75	65	84	73	64
5	114	87	69	56	110	85	68	55	81	66	54	78	64	54	74	62	53
6	104	77	60	47	100	76	59	46	72	57	46	69	56	45	66	54	45
7	96	69	52	40	93	68	51	40	65	50	39	62	49	39	60	48	39
8	89	63	46	35	86	61	46	35	59	45	34	57	44	34	54	43	34
9	83	57	41	31	80	56	41	31	54	40	30	52	39	30	50	38	30
10	77	52	38	28	75	51	37	27	50	36	27	48	36	27	46	35	27

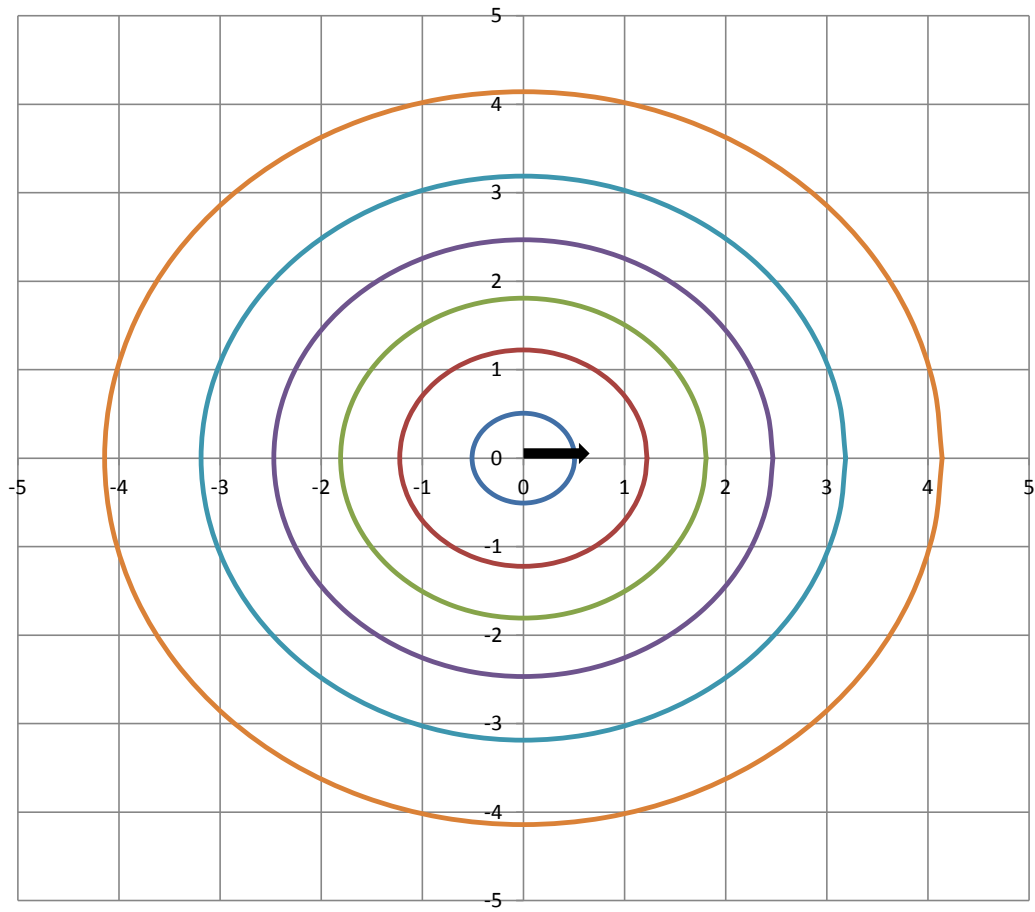
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	32.21 Candela
Central Cone Intensity:	31 Candela
Beam Flux:	164.8 Lumens
Beam Angle (0-180):	163.4 Degrees
Beam Angle (90-270):	163.4 Degrees
Field Angle (0-180):	172.2 Degrees
Field Angle (90-270):	172.2 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		2.01	5.13
6.00		0.895	7.70
8.00		0.503	10.3
10.0		0.322	12.8
12.0		0.224	15.4
14.0		0.164	18.0
16.0		0.126	20.5



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)	12.3	7.2%
FM	(30-60)	35.0	20.5%
FH	(60-80)	33.4	19.6%
FVH	(80-90)	4.3	2.5%
BL	(0-30)	12.3	7.2%
BM	(30-60)	35.0	20.5%
BH	(60-80)	33.4	19.6%
BVH	(80-90)	4.3	2.5%
UL	(90-100)	0.2	0.1%
UH	(100-180)	0.2	0.1%
Total		170.3	100.0%
BUG Rating	B0 U1 G0		