



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

HPL9-5-30

Order Number

11745044

Test Number

11745044.32

Test Date

1900-01-00

Prepared By

Javier Caban, Technician

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:	24.8 °C
Voltage:	12.02 VAC
Current:	0.5799 A
Power:	4.526 W
Power Factor:	0.649
Frequency:	60 Hz
Current THD:	70.9 %

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	12.02 VAC	0.5799 A	4.526 W	0.649	60 Hz	70.9 %

Summary of Results

Spacing Criteria

0-180: 1.27

90-270: 1.27

Total Lumen Output:

191.9 Lumens

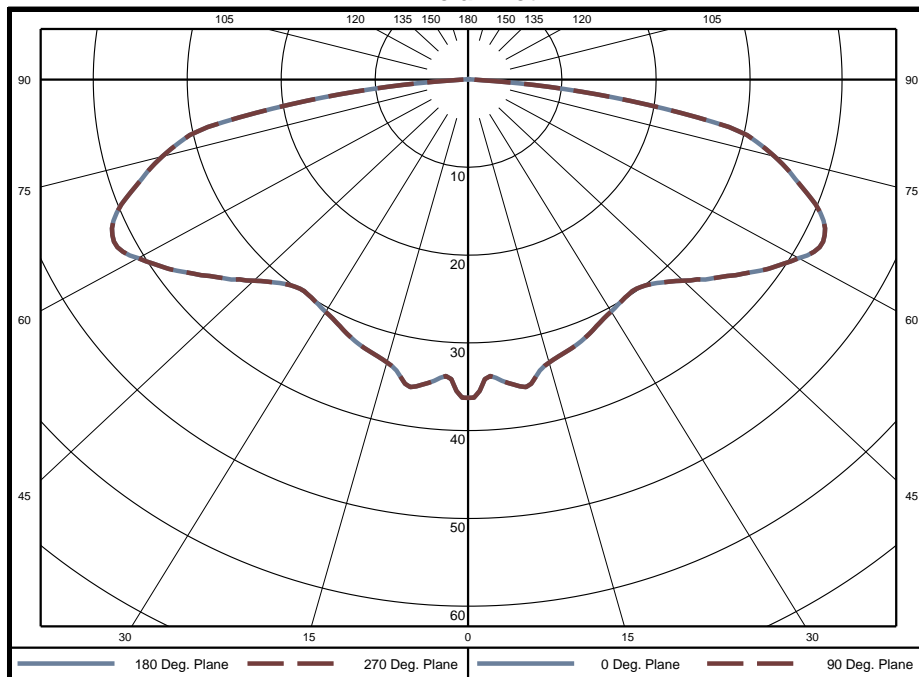
Luminaire Efficacy:

42.4 lm/w

Maximum Candela:

42 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.82	0.4%	60-65	20.28	10.6%	120-125	0.02	0.0%
5-10	2.50	1.3%	65-70	20.58	10.7%	125-130	0.02	0.0%
10-15	4.07	2.1%	70-75	18.94	9.9%	130-135	0.02	0.0%
15-20	5.42	2.8%	75-80	16.30	8.5%	135-140	0.02	0.0%
20-25	6.72	3.5%	80-85	8.55	4.5%	140-145	0.02	0.0%
25-30	7.83	4.1%	85-90	1.20	0.6%	145-150	0.02	0.0%
30-35	8.88	4.6%	90-95	0.18	0.1%	150-155	0.01	0.0%
35-40	10.00	5.2%	95-100	0.06	0.0%	155-160	0.01	0.0%
40-45	11.60	6.0%	100-105	0.04	0.0%	160-165	0.01	0.0%
45-50	13.63	7.1%	105-110	0.03	0.0%	165-170	0.01	0.0%
50-55	15.86	8.3%	110-115	0.02	0.0%	170-175	0.00	0.0%
55-60	18.20	9.5%	115-120	0.02	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	46	24.1%
0-60	106	55.0%
0-90	191	99.7%
90-180	1	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	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25	36.25
	5	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10	34.10
	10	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56	35.56
	15	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37	33.37
	20	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51	32.51
	25	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49	31.49
	30	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51
	35	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87	29.87
	40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40	30.40
	45	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40	32.40
	50	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01
	55	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96	37.96
	60	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68	40.68
	65	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93	41.93
	70	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66	38.66
	75	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81
	80	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84	24.84
	85	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03
	90	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
	95	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
	100	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
	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	0.05	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
	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	0.05	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
	145	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
	150	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
	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	0.06	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
	165	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
	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)

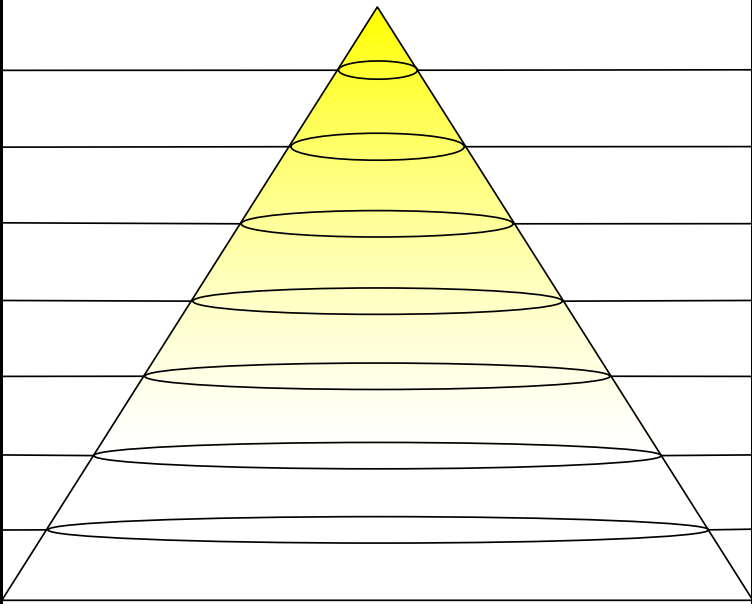
Vertical Angle (Degrees)	0	45	90
	0	883	883
	45	1116	1116
	55	1613	1613
	65	2417	2417
	75	3183	3183
	85	1966	1966



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	228	228	228	228	223	223	223	223	213	213	213	204	204	204	195	195	195	191
1	200	187	176	166	194	183	172	163	174	165	157	166	159	152	159	153	147	143
2	176	155	138	123	170	151	135	121	144	130	118	137	125	115	130	121	112	107
3	157	131	111	95	151	127	109	94	121	105	92	115	101	90	110	98	88	83
4	141	112	92	76	136	110	90	75	104	87	74	99	84	72	95	82	71	66
5	128	98	77	62	123	96	76	62	91	74	61	87	72	60	83	70	59	54
6	117	87	67	52	113	85	66	52	81	64	51	78	62	51	74	61	50	45
7	108	78	58	45	104	76	58	45	73	56	44	70	55	44	67	53	43	39
8	100	70	52	39	97	69	51	39	66	50	39	63	49	38	61	48	38	34
9	93	64	46	35	90	63	46	34	60	45	34	58	44	34	56	43	33	30
10	87	59	42	31	84	58	42	31	56	41	30	54	40	30	52	39	30	26

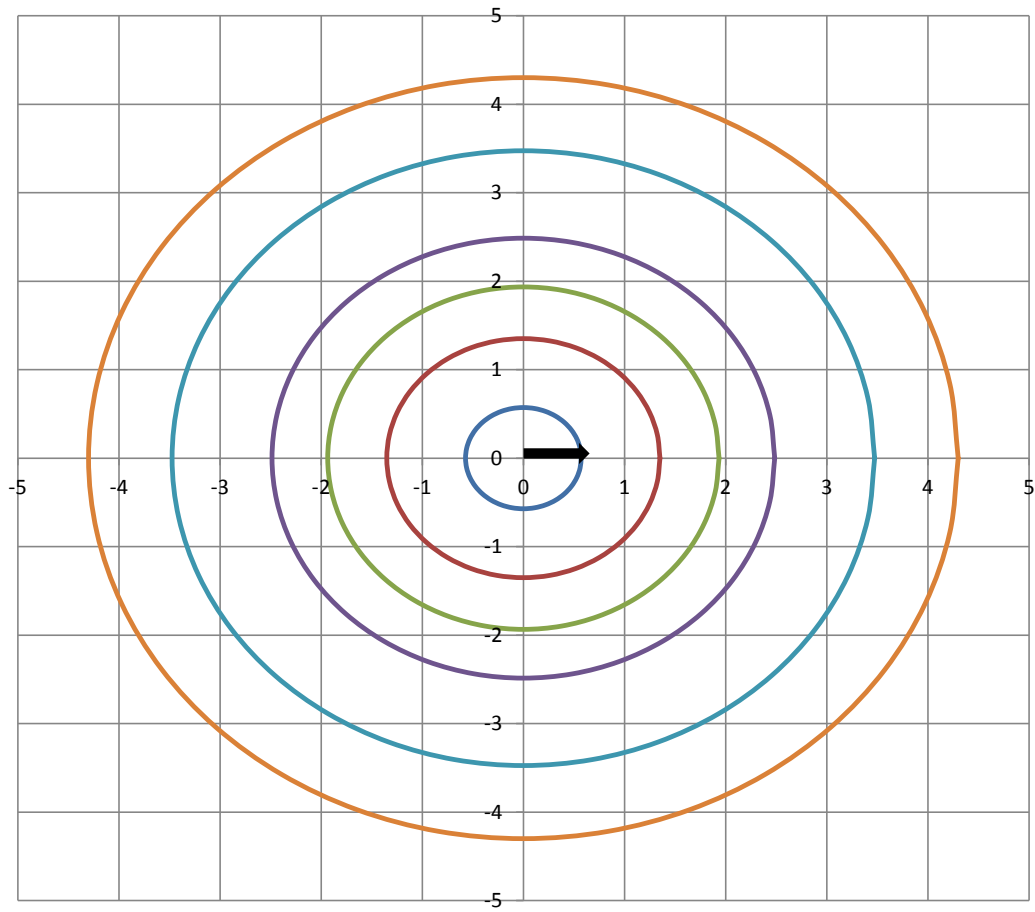
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	36.25 Candela
Central Cone Intensity:	35 Candela
Beam Flux:	185.9 Lumens
Beam Angle (0-180):	163.6 Degrees
Beam Angle (90-270):	163.6 Degrees
Field Angle (0-180):	172.2 Degrees
Field Angle (90-270):	172.2 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		2.27	5.08
6.00		1.01	7.62
8.00		0.566	10.2
10.0		0.363	12.7
12.0		0.252	15.2
14.0		0.185	17.8
16.0		0.142	20.3



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)	13.7	7.1%
FM	(30-60)	39.1	20.4%
FH	(60-80)	37.9	19.8%
FVH	(80-90)	5.0	2.6%
BL	(0-30)	13.7	7.1%
BM	(30-60)	39.1	20.4%
BH	(60-80)	37.9	19.8%
BVH	(80-90)	5.0	2.6%
UL	(90-100)	0.2	0.1%
UH	(100-180)	0.3	0.1%
Total		191.9	100.0%
BUG Rating	B0 U1 G0		