



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 Ave W
#100
Carlsbad, CA 92010-6619
United States

Catalog Number
HSL11-4-M-45 (4W, 25° OPTIC, 4500K)

Order Number
12250114
Test Number
12250114.31

Report Date

2018-05-07

Prepared By

Sean Gregory, Project Handler

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Cylindrical metal housing, with adjustable knuckle, clear glass lens and internal LED module

Lamp: One (1) Cree XHP 4500K LED with 25°, medium optic

Mounting: Flood

Ballast/Driver: Integrated

Note: This report has been pro-rated using data from report numbers 12250114.29, 12250114.01, 12250114.02, 12250114.03, 12250114.04, 12250114.05, and 12250114.06 to account for differences in color temperature.

Luminaire



Luminaire Characteristics

Luminous Diameter: 1.50 in.
Luminous Height: 1.000 in.

Summary of Results

Roadway Classification: Type V, Very Short
Cutoff Classification: Full Cutoff
BUG Rating: B1 U0 G0

Test Conditions

Test Temperature: 24.7 °C
Voltage: 12.02 VAC
Current: 0.3500 A
Power: 4.125 W
Power Factor: 0.980
Frequency: 60 Hz
Current THD: 10.6 %

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	12.02 VAC	0.3500 A	4.125 W	0.980	60 Hz	10.6 %

Summary of Results

Spacing Criteria

0-180: 0.44

90-270: 0.44

Total Lumen Output:

234.7 Lumens

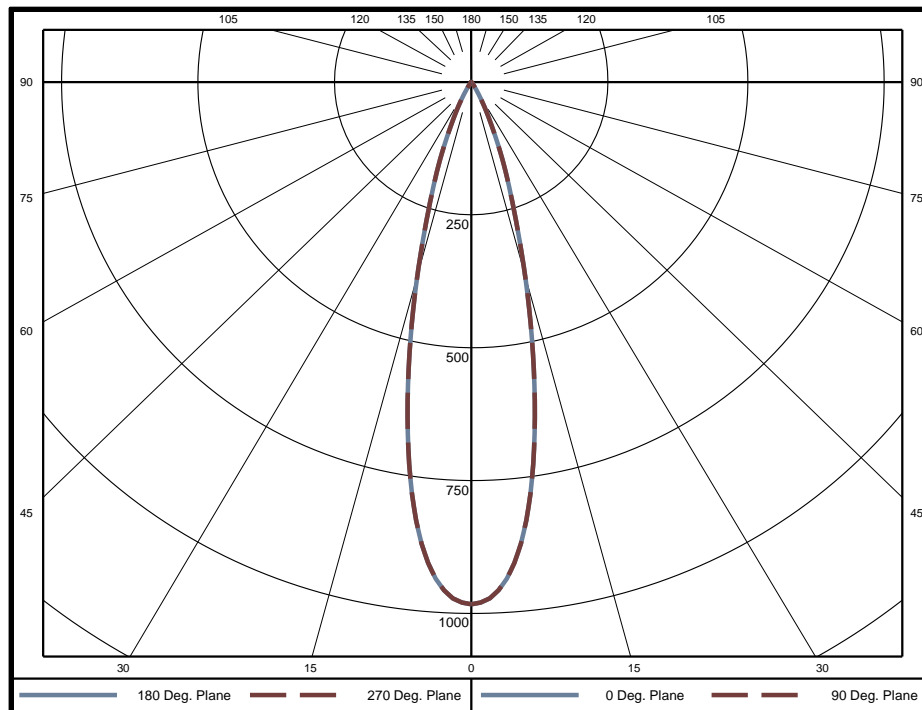
Luminaire Efficacy:

56.9 lm/w

Maximum Candela:

983 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	22.64	9.6%	60-65	0	0.0%	120-125	0	0.0%
5-10	56.39	24.0%	65-70	0	0.0%	125-130	0	0.0%
10-15	61.33	26.1%	70-75	0	0.0%	130-135	0	0.0%
15-20	45.35	19.3%	75-80	0	0.0%	135-140	0	0.0%
20-25	27.61	11.8%	80-85	0	0.0%	140-145	0	0.0%
25-30	13.18	5.6%	85-90	0	0.0%	145-150	0	0.0%
30-35	4.84	2.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	1.90	0.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.89	0.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.39	0.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.12	0.1%	110-115	0	0.0%	170-175	0.00	0.0%
55-60	0.01	0.0%	115-120	0	0.0%	175-180	0.00	0.0%

Zone	Lumens	% of Luminaire
0-40	233	99.4%
0-60	235	100.0%
0-90	235	100.0%
90-180	0	0.0%



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	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9	982.9
	5	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6	908.6
	10	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8	670.8
	15	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3	387.3
	20	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5	193.5
	25	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
	30	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
	35	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
	40	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
	45	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	50	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	55	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	60	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
	65	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
	70	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
	75	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
	80	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
	85	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
	90	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
	95	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
	100	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
	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	862200	862200
	45	1887	1887
	55	118	118
	65	0	0
	75	0	0
	85	0	0



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	279	279	279	279	273	273	273	273	261	261	261	250	250	250	239	239	239	235
1	270	265	261	257	264	260	256	252	251	248	245	242	240	238	234	232	231	227
2	261	253	246	240	256	249	242	237	241	236	232	235	231	227	229	225	223	219
3	253	242	234	227	249	239	231	225	233	227	222	228	223	218	223	219	215	212
4	245	232	223	216	241	230	222	215	225	218	213	221	215	210	217	212	208	205
5	238	224	214	207	234	222	213	206	218	210	205	215	208	203	211	206	201	199
6	231	216	206	199	228	215	205	199	211	203	197	209	202	196	206	200	195	193
7	224	209	199	192	222	208	199	192	205	197	191	203	196	190	200	194	189	187
8	218	203	193	186	216	201	192	186	199	191	185	197	190	184	195	189	184	182
9	212	197	187	181	210	196	186	180	194	185	180	192	185	179	190	184	179	176
10	207	191	182	175	205	190	181	175	188	180	175	187	180	174	186	179	174	172

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	982.9 Candela
Central Cone Intensity:	957 Candela
Beam Flux:	117.6 Lumens
Beam Angle (0-180):	26.1 Degrees
Beam Angle (90-270):	26.1 Degrees
Field Angle (0-180):	48.1 Degrees
Field Angle (90-270):	48.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
6.00		27.3	2.65
10.0		9.83	4.41
14.0		5.01	6.18
18.0		3.03	7.94
22.0		2.03	9.71
26.0		1.45	11.5
30.0		1.09	13.2



IES "BUG" Rating
(Back Light, Uplight, Glare)
Per IES TM-15-11



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	113.3	48.4%
FM	(30-60)	3.7	1.6%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	113.3	48.4%
BM	(30-60)	3.7	1.6%
BH	(60-80)	0.0	0.0%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		234.0	100.0%
BUG Rating	B1 U0 G0		