



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-27 (4W, 25° OPTIC, 2700K)

Order Number
12250114
Test Number
12250114.30

Report Date

2018-05-07

Prepared By

Sean Gregory, Project Handler

Approved By

Alexa Lambert, Project Handler

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Luminaire Description: Cylindrical metal housing, with adjustable knuckle, clear glass lens and internal LED module
Lamp: One (1) Cree XHP 2700K 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:

252.8 Lumens

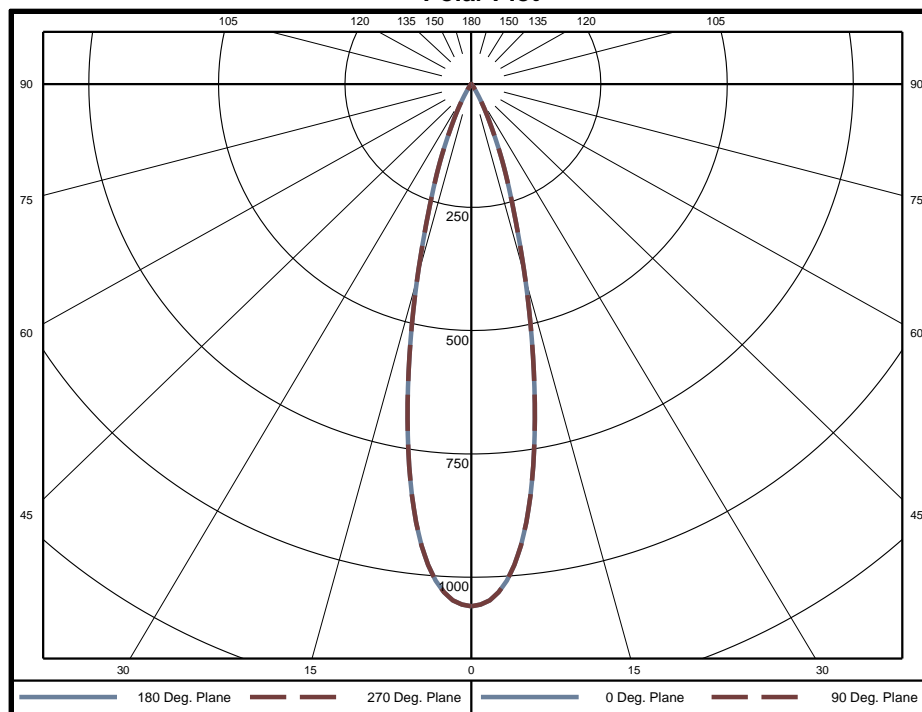
Luminaire Efficacy:

61.3 lm/w

Maximum Candela:

1059 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	24.39	9.6%	60-65	0	0.0%	120-125	0	0.0%
5-10	60.74	24.0%	65-70	0	0.0%	125-130	0	0.0%
10-15	66.07	26.1%	70-75	0	0.0%	130-135	0	0.0%
15-20	48.86	19.3%	75-80	0	0.0%	135-140	0	0.0%
20-25	29.75	11.8%	80-85	0	0.0%	140-145	0	0.0%
25-30	14.20	5.6%	85-90	0	0.0%	145-150	0	0.0%
30-35	5.22	2.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	2.05	0.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.96	0.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.42	0.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.13	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	251	99.4%
0-60	253	100.0%
0-90	253	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	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059	1059
	5	979	979	979	979	979	979	979	979	979	979	979	979	979	979	979
	10	723	723	723	723	723	723	723	723	723	723	723	723	723	723	723
	15	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417
	20	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208
	25	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
	35	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	40	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	45	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	60	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
	70	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
	80	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
	90	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
	100	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
	110	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
	120	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
	130	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
	140	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
	150	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
	160	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
	170	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
	180	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	928800	928800
	45	2033	2033
	55	127	127
	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	301	301	301	301	294	294	294	294	281	281	281	269	269	269	258	258	258	253
1	291	285	281	276	285	280	276	272	270	267	264	261	258	256	252	250	249	244
2	281	272	265	258	276	268	261	255	260	255	250	253	249	245	246	243	240	236
3	272	261	252	244	268	257	249	242	251	244	239	245	240	235	240	235	232	228
4	264	250	240	233	260	248	239	232	243	235	229	238	232	226	234	228	224	221
5	256	241	231	223	253	239	229	222	235	227	220	231	224	219	228	222	217	214
6	249	233	222	215	246	231	221	214	228	219	213	225	217	211	222	215	210	207
7	241	225	215	207	239	224	214	207	221	212	206	218	211	205	216	209	204	201
8	235	218	208	201	232	217	207	200	215	206	199	212	205	199	210	203	198	196
9	229	212	201	194	226	211	201	194	209	200	194	207	199	193	205	198	192	190
10	223	206	196	189	221	205	195	189	203	194	188	201	193	188	200	193	187	185

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	1059 Candela
Central Cone Intensity:	1031 Candela
Beam Flux:	126.6 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		29.4	2.65
10.0		10.6	4.41
14.0		5.40	6.18
18.0		3.27	7.94
22.0		2.19	9.71
26.0		1.57	11.5
30.0		1.18	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)	122.1	48.3%
FM	(30-60)	4.2	1.7%
FH	(60-80)	0.0	0.0%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	122.1	48.3%
BM	(30-60)	4.2	1.7%
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		252.6	100.0%
BUG Rating	B1 U0 G0		