



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-WF-30 (4W, 60° OPTIC, 3000K)

Order Number
12250114
Test Number
12250114.38

Test Date

2018-04-27

Prepared By

Cordaryl Cousar, Technician

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



Luminaire Description: Cylindrical metal housing, with adjustable knuckle, clear glass lens and internal LED module
Lamp: One (1) Cree XHP 3000K LED with 60°, wide flood optic
Mounting: Flood
Ballast/Driver: Integrated

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: B0 U0 G0

Test Conditions

Test Temperature: 24.3 °C
Voltage: 12.02 VAC
Current: 0.3501 A
Power: 4.130 W
Power Factor: 0.981
Frequency: 60 Hz
Current THD: 10.3 %

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
24.3 °C	12.02 VAC	0.3501 A	4.130 W	0.981	60 Hz	10.3 %

Summary of Results

Spacing Criteria

0-180: 0.63

90-270: 0.63

Total Lumen Output:

140.5 Lumens

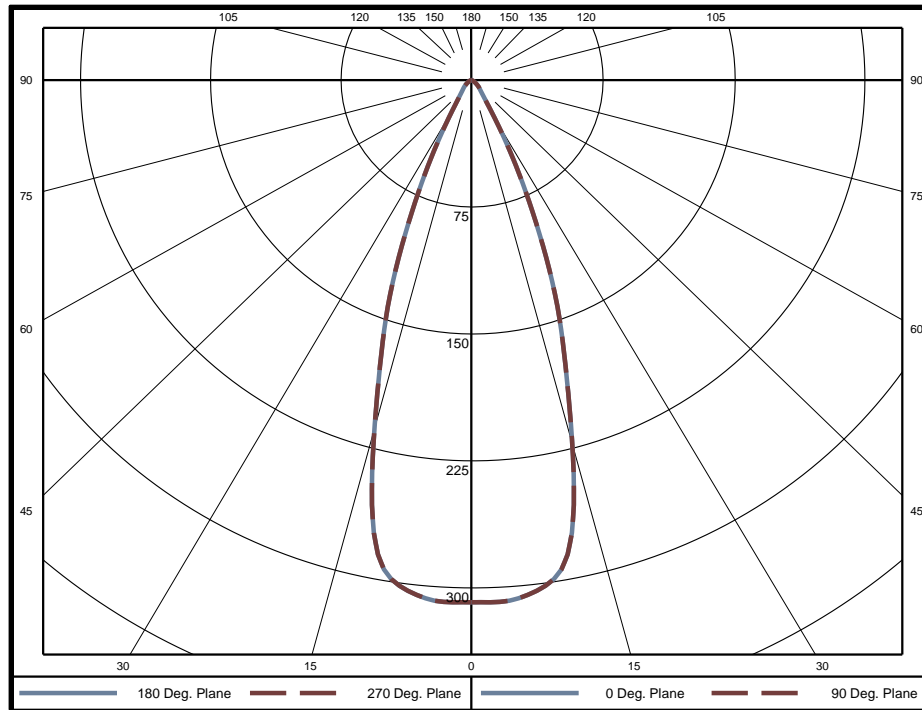
Luminaire Efficacy:

34.0 lm/w

Maximum Candela:

309 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	7.37	5.2%	60-65	0.68	0.5%	120-125	0	0.0%
5-10	21.56	15.3%	65-70	0.41	0.3%	125-130	0	0.0%
10-15	30.86	22.0%	70-75	0.18	0.1%	130-135	0	0.0%
15-20	29.16	20.8%	75-80	0.02	0.0%	135-140	0	0.0%
20-25	22.05	15.7%	80-85	0	0.0%	140-145	0	0.0%
25-30	12.09	8.6%	85-90	0	0.0%	145-150	0	0.0%
30-35	5.52	3.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	3.37	2.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	2.61	1.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	2.08	1.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.50	1.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.03	0.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	132	93.9%
0-60	139	99.1%
0-90	140	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	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5	308.5
	5	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3
	10	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5
	15	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9	219.9
	20	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4
	25	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7
	30	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
	35	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
	40	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
	45	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
	50	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	55	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	60	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	65	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	70	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	75	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	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)

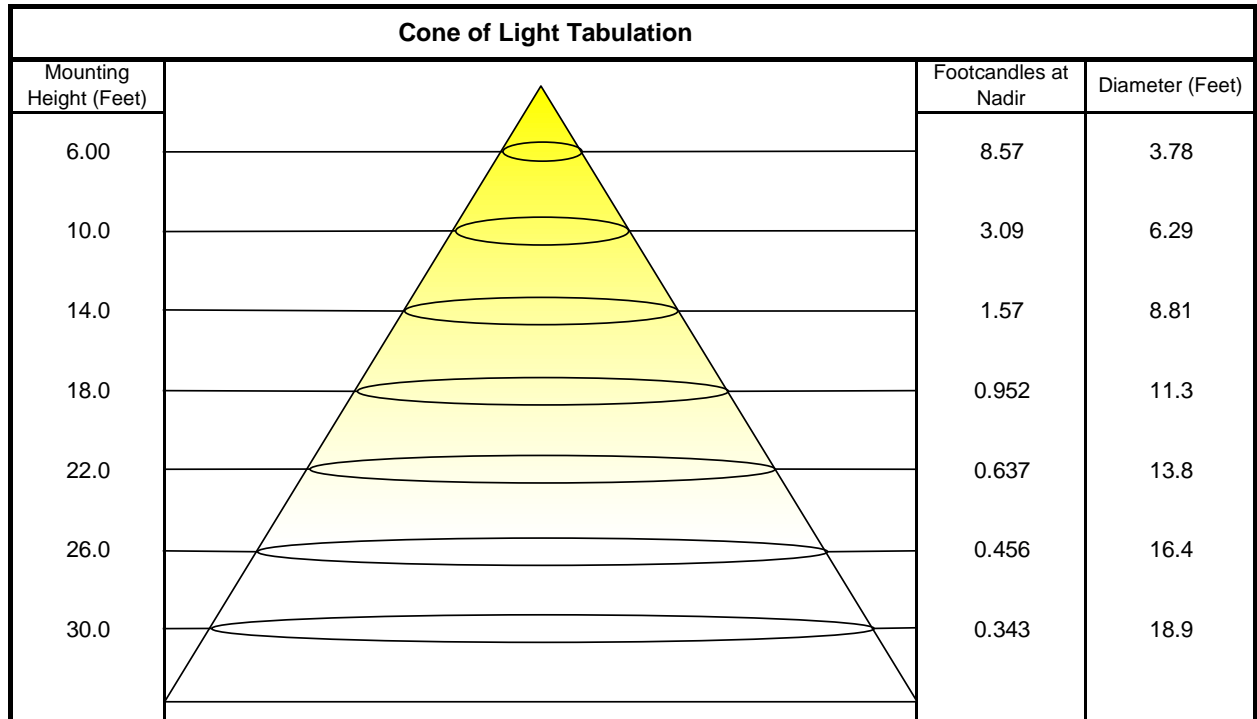
Vertical Angle (Degrees)	0	45	90
	0	270600	270600
	45	5540	5540
	55	2644	2644
	65	1086	1086
	75	173	173
	85	0	0



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	167	167	167	167	163	163	163	163	156	156	156	149	149	149	143	143	143	140
1	161	157	154	151	157	154	151	149	148	146	144	143	142	140	138	137	136	134
2	154	148	143	139	151	146	141	137	141	137	134	137	134	131	133	131	129	127
3	148	140	134	129	145	138	132	128	134	130	126	131	127	124	128	125	122	120
4	142	133	126	121	139	131	125	120	128	123	119	126	121	118	123	119	116	114
5	136	126	119	114	134	125	119	114	123	117	113	120	116	112	118	114	111	109
6	131	120	113	108	129	119	113	108	117	112	107	116	110	107	114	109	106	104
7	126	115	108	103	124	114	108	103	113	107	102	111	106	102	110	105	101	100
8	122	110	103	98	120	110	103	98	108	102	98	107	101	98	106	101	97	96
9	117	106	99	94	116	105	99	94	104	98	94	103	97	94	102	97	93	92
10	113	102	95	91	112	101	95	90	100	94	90	99	94	90	98	93	90	88

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	308.5 Candela
Central Cone Intensity:	308 Candela
Beam Flux:	84.3 Lumens
Beam Angle (0-180):	38.3 Degrees
Beam Angle (90-270):	38.3 Degrees
Field Angle (0-180):	59.3 Degrees
Field Angle (90-270):	59.3 Degrees





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



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	61.6	44.1%
FM	(30-60)	8.0	5.7%
FH	(60-80)	0.2	0.2%
FVH	(80-90)	0.0	0.0%
BL	(0-30)	61.6	44.1%
BM	(30-60)	8.0	5.7%
BH	(60-80)	0.2	0.2%
BVH	(80-90)	0.0	0.0%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		139.7	100.0%
BUG Rating	B0 U0 G0		