



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
LSR5-L-3-30 (3.5W, 3000K)

Order Number
12250114
Test Number
12250114.53

Test Date

2018-04-19

Prepared By

Cordaryl Cousar, Technician

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Stainless steel housing with rectangular louvered metal faceplate and frosted glass lens
Lamp: Three (3) Cree XP-G 3000K LEDs
Mounting: Step/Wall
Ballast/Driver: Integrated

Luminaire



Luminaire Characteristics

Luminous Length: 0.25 in.
Luminous Width: 2.750 in.
Luminous Height: 1.75 in.

Summary of Results

Roadway Classification: Type II, Very Short
Cutoff Classification: Noncutoff
BUG Rating: B0 U1 G0

Test Conditions

Test Temperature: 24.6 °C
Voltage: 12.09 VAC
Current: 0.2434 A
Power: 2.842 W
Power Factor: 0.966
Frequency: 60 Hz
Current THD: 15.4 %

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 |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.6 °C | 12.09 VAC | 0.2434 A | 2.842 W | 0.966 | 60 Hz | 15.4 % |

Summary of Results

Spacing Criteria

0-180: 13.09
90-270: 0.80

Total Lumen Output:

34.26 Lumens

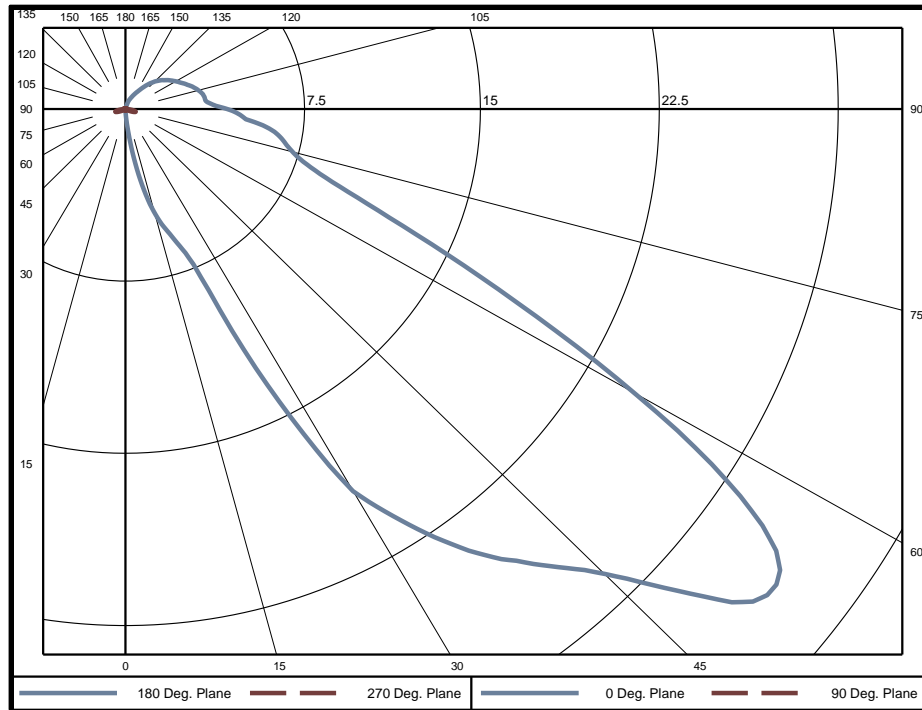
Luminaire Efficacy:

12.1 lm/w

Maximum Candela:

34 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 0.003 | 0.0% | 60-65 | 3.470 | 10.1% | 120-125 | 0.274 | 0.8% |
| 5-10 | 0.030 | 0.1% | 65-70 | 2.397 | 7.0% | 125-130 | 0.228 | 0.7% |
| 10-15 | 0.119 | 0.3% | 70-75 | 1.629 | 4.8% | 130-135 | 0.180 | 0.5% |
| 15-20 | 0.259 | 0.8% | 75-80 | 1.223 | 3.6% | 135-140 | 0.134 | 0.4% |
| 20-25 | 0.454 | 1.3% | 80-85 | 0.955 | 2.8% | 140-145 | 0.093 | 0.3% |
| 25-30 | 0.909 | 2.7% | 85-90 | 0.697 | 2.0% | 145-150 | 0.063 | 0.2% |
| 30-35 | 1.534 | 4.5% | 90-95 | 0.530 | 1.5% | 150-155 | 0.041 | 0.1% |
| 35-40 | 2.187 | 6.4% | 95-100 | 0.475 | 1.4% | 155-160 | 0.024 | 0.1% |
| 40-45 | 2.815 | 8.2% | 100-105 | 0.445 | 1.3% | 160-165 | 0.009 | 0.0% |
| 45-50 | 3.511 | 10.2% | 105-110 | 0.406 | 1.2% | 165-170 | 0.002 | 0.0% |
| 50-55 | 4.213 | 12.3% | 110-115 | 0.362 | 1.1% | 170-175 | 0.000 | 0.0% |
| 55-60 | 4.280 | 12.5% | 115-120 | 0.317 | 0.9% | 175-180 | 0.000 | 0.0% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 5 | 16.0% |
| 0-60 | 20 | 59.3% |
| 0-90 | 31 | 89.6% |
| 90-180 | 4 | 10.5% |



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 | 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 |
| | 5 | 0.55 | 0.62 | 0.35 | 0.10 | 0.04 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.04 | 0.04 | 0.10 | 0.35 |
| | 10 | 2.42 | 2.37 | 1.26 | 0.37 | 0.04 | 0.03 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.37 | 1.26 |
| | 15 | 4.62 | 4.36 | 2.81 | 0.77 | 0.04 | 0.03 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.77 | 2.81 |
| | 20 | 6.07 | 5.75 | 4.23 | 1.39 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 1.39 | 4.23 |
| | 25 | 10.68 | 8.90 | 5.22 | 2.13 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | 2.13 | 5.22 |
| | 30 | 19.23 | 16.39 | 6.77 | 2.80 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.03 | 2.80 | 6.77 |
| | 35 | 22.78 | 20.81 | 11.65 | 3.36 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 3.36 | 11.65 |
| | 40 | 25.69 | 23.94 | 16.29 | 3.82 | 0.04 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.04 | 3.82 | 16.29 |
| | 45 | 28.65 | 26.83 | 18.89 | 4.59 | 0.05 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.05 | 4.59 | 18.89 |
| | 50 | 33.43 | 30.28 | 21.19 | 6.21 | 0.07 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.07 | 6.21 | 21.19 |
| | 55 | 33.55 | 30.65 | 22.67 | 8.26 | 0.09 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.09 | 8.26 | 22.67 |
| | 60 | 24.95 | 23.66 | 21.41 | 9.42 | 0.15 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.15 | 9.42 | 21.41 |
| | 65 | 14.99 | 14.57 | 15.52 | 8.95 | 0.26 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.26 | 8.95 | 15.52 |
| | 70 | 9.29 | 8.87 | 9.24 | 6.96 | 0.38 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.38 | 6.96 | 9.24 |
| | 75 | 7.34 | 6.57 | 5.76 | 4.35 | 0.42 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.42 | 4.35 | 5.76 |
| | 80 | 6.56 | 5.64 | 4.33 | 2.58 | 0.32 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.32 | 2.58 | 4.33 |
| | 85 | 5.10 | 4.38 | 3.08 | 1.59 | 0.13 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.13 | 1.59 | 3.08 |
| | 90 | 4.29 | 3.49 | 2.21 | 0.81 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.81 | 2.21 |
| | 95 | 3.46 | 2.92 | 1.83 | 0.59 | 0.03 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.59 | 1.83 |
| | 100 | 3.35 | 2.84 | 1.73 | 0.53 | 0.04 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.04 | 0.53 | 1.73 |
| | 105 | 3.18 | 2.66 | 1.59 | 0.50 | 0.05 | 0.01 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 | 0.05 | 0.50 | 1.59 |
| | 110 | 2.94 | 2.44 | 1.46 | 0.47 | 0.05 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.05 | 0.47 | 1.46 |
| | 115 | 2.66 | 2.23 | 1.35 | 0.41 | 0.05 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.05 | 0.41 | 1.35 |
| | 120 | 2.43 | 2.04 | 1.24 | 0.36 | 0.04 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.04 | 0.36 | 1.24 |
| | 125 | 2.19 | 1.84 | 1.11 | 0.31 | 0.04 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.04 | 0.31 | 1.11 |
| | 130 | 1.95 | 1.63 | 0.91 | 0.27 | 0.02 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.02 | 0.27 | 0.91 |
| | 135 | 1.65 | 1.35 | 0.71 | 0.23 | 0.02 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.02 | 0.01 | 0.02 | 0.23 | 0.71 |
| | 140 | 1.32 | 1.04 | 0.58 | 0.19 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | 0.19 | 0.58 |
| | 145 | 0.97 | 0.78 | 0.45 | 0.16 | 0.02 | 0.01 | 0.01 | 0.02 | 0.03 | 0.02 | 0.01 | 0.01 | 0.02 | 0.16 | 0.45 |
| | 150 | 0.72 | 0.58 | 0.35 | 0.13 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.13 | 0.35 |
| | 155 | 0.52 | 0.42 | 0.26 | 0.10 | 0.01 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 | 0.01 | 0.10 | 0.26 |
| | 160 | 0.36 | 0.23 | 0.16 | 0.07 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.07 | 0.16 |
| | 165 | 0.07 | 0.07 | 0.08 | 0.04 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.04 | 0.08 |
| | 170 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| | 175 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | 180 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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

| Vertical Angle (Degrees) | 0 | 45 | 90 |
|--------------------------|----|-------|-------|
| | 0 | 98 | 98 |
| | 45 | 11420 | 9412 |
| | 55 | 11990 | 10230 |
| | 65 | 4996 | 6580 |
| | 75 | 2356 | 2372 |
| | 85 | 1629 | 1270 |



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 | 40 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 36 | 36 | 36 | 34 | 34 | 34 | 32 | 32 | 32 | 31 |
| 1 | 35 | 33 | 32 | 30 | 34 | 32 | 31 | 29 | 30 | 29 | 27 | 28 | 27 | 26 | 26 | 25 | 25 | 24 |
| 2 | 31 | 28 | 25 | 23 | 30 | 27 | 24 | 22 | 25 | 23 | 21 | 23 | 22 | 20 | 22 | 20 | 19 | 18 |
| 3 | 28 | 24 | 20 | 18 | 27 | 23 | 20 | 17 | 21 | 19 | 16 | 20 | 18 | 16 | 18 | 17 | 15 | 14 |
| 4 | 25 | 20 | 17 | 14 | 24 | 19 | 16 | 14 | 18 | 15 | 13 | 17 | 14 | 12 | 16 | 14 | 12 | 11 |
| 5 | 23 | 17 | 14 | 11 | 21 | 17 | 13 | 11 | 16 | 13 | 10 | 14 | 12 | 10 | 13 | 11 | 9 | 9 |
| 6 | 20 | 15 | 12 | 9 | 19 | 15 | 11 | 9 | 14 | 11 | 8 | 13 | 10 | 8 | 12 | 9 | 8 | 7 |
| 7 | 19 | 13 | 10 | 7 | 18 | 13 | 10 | 7 | 12 | 9 | 7 | 11 | 9 | 7 | 10 | 8 | 6 | 6 |
| 8 | 17 | 12 | 8 | 6 | 16 | 11 | 8 | 6 | 11 | 8 | 6 | 10 | 7 | 6 | 9 | 7 | 5 | 5 |
| 9 | 16 | 11 | 7 | 5 | 15 | 10 | 7 | 5 | 9 | 7 | 5 | 9 | 6 | 5 | 8 | 6 | 4 | 4 |
| 10 | 15 | 10 | 6 | 4 | 14 | 9 | 6 | 4 | 9 | 6 | 4 | 8 | 6 | 4 | 7 | 5 | 4 | 3 |

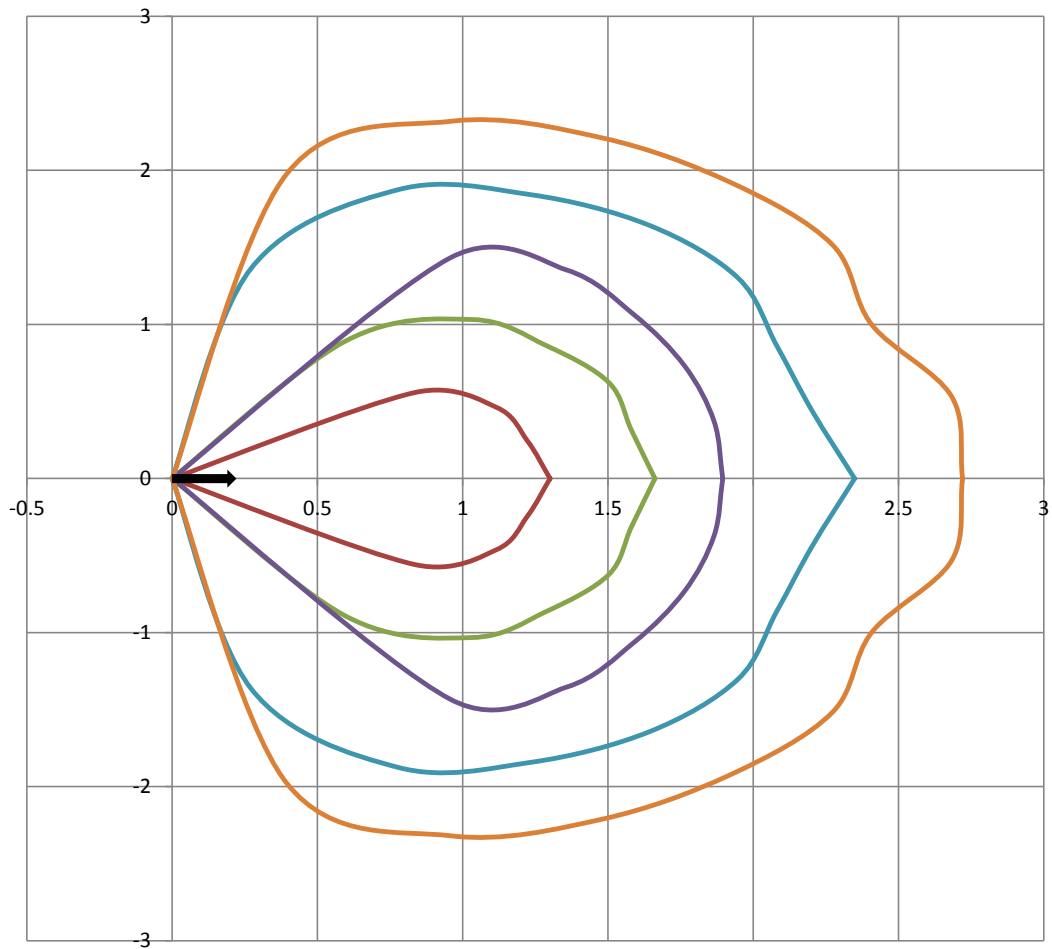
| Beam and Field Information | |
|----------------------------|---------------|
| CIE Type: | Semi-Direct |
| Center Beam Intensity: | 0.04 Candela |
| Central Cone Intensity: | 0 Candela |
| Beam Flux: | 34.2 Lumens |
| Beam Angle (0-180): | 167.5 Degrees |
| Beam Angle (90-270): | 262.4 Degrees |
| Field Angle (0-180): | 346.0 Degrees |
| Field Angle (90-270): | 333.5 Degrees |

| Cone of Light Tabulation | | | |
|--------------------------|--|----------------------|-----------------|
| Mounting Height (Feet) | | Footcandles at Nadir | Diameter (Feet) |
| 4.00 | | 0.00272 | 36.7 |
| 6.00 | | 0.00121 | 55.1 |
| 8.00 | | 0.000680 | 73.4 |
| 10.0 | | 0.000435 | 91.8 |
| 12.0 | | 0.000302 | 110 |
| 14.0 | | 0.000222 | 128 |
| 16.0 | | 0.000170 | 147 |



ISOFootcandle Plot

Mounting Height - 2 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc



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



Luminaire Classification System (LCS)

| LCS | Zone | Lumens | Luminaire % |
|-------------------|-----------------|--------|-------------|
| FL | (0-30) | 1.8 | 5.3% |
| FM | (30-60) | 18.5 | 54.1% |
| FH | (60-80) | 8.6 | 25.2% |
| FVH | (80-90) | 1.6 | 4.8% |
| BL | (0-30) | 0.0 | 0.0% |
| BM | (30-60) | 0.0 | 0.0% |
| BH | (60-80) | 0.0 | 0.1% |
| BVH | (80-90) | 0.0 | 0.0% |
| UL | (90-100) | 1.0 | 2.9% |
| UH | (100-180) | 2.6 | 7.5% |
| Total | | 34.2 | 100.0% |
| BUG Rating | B0 U1 G0 | | |