



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
LDPI Inc
4404 Anderson Dr
Eau Claire, WI 54703
United States

Catalog Number
LE155-H-5-V1-4-2-HY-D-CP2
Order Number
12326622
Test Number
12326622.02A

Test Date

2018-05-31

Revised: 2018-7-17

Prepared By

Matt Finn, Technician

Approved By

Kevin Rodriguez, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Black formed steel housing, frosted plastic lens enclosure
Lamp: 160 white LEDs
Mounting: Surface – Ceiling
Ballast/Driver: T1M1UNV240P-96L

Luminaire



Luminaire Characteristics

Luminous Length: 1.50 in.
Luminous Width: 48.00 in.
Luminous Height: 9.00 in.

Summary of Results

Total Luminaire Output: 15680 Lumens
Luminaire Efficacy: 109 lm/w
Maximum Candela: 6042 Candela

Test Conditions

Test Temperature: 25.0 °C
Voltage: 120.0 VAC
Current: 1.190 A
Power: 143.9 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 4.68 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

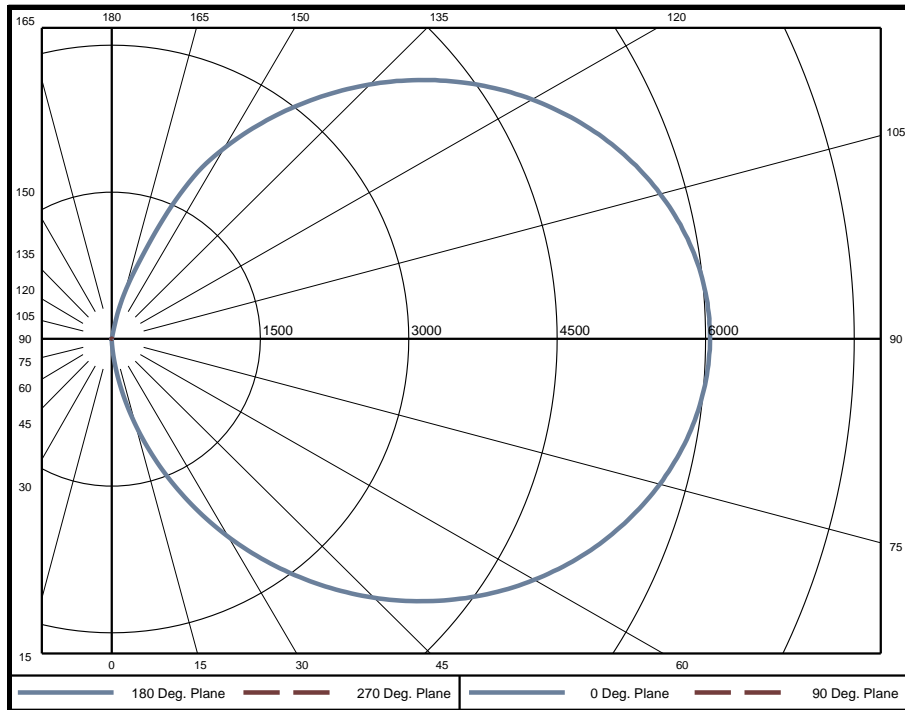
| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|---------|---------|--------------|-----------|-------------|
| 25.0 °C | 120.0 VAC | 1.190 A | 143.9 W | 0.998 | 60 Hz | 4.68 % |

Summary of Results

Spacing Criteria
 0-180: 31.16
 90-270: 0.02

Total Lumen Output: 15680 Lumens
Luminaire Efficacy: 109.0 lm/w
Maximum Candela: 6042 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 0.4 | 0.0% | 60-65 | 714.4 | 4.6% | 120-125 | 621.7 | 4.0% |
| 5-10 | 5.5 | 0.0% | 65-70 | 787.8 | 5.0% | 125-130 | 533.4 | 3.4% |
| 10-15 | 21.2 | 0.1% | 70-75 | 850.4 | 5.4% | 130-135 | 440.0 | 2.8% |
| 15-20 | 49.8 | 0.3% | 75-80 | 900.1 | 5.7% | 135-140 | 348.1 | 2.2% |
| 20-25 | 91.8 | 0.6% | 80-85 | 935.3 | 6.0% | 140-145 | 265.5 | 1.7% |
| 25-30 | 146.7 | 0.9% | 85-90 | 955.0 | 6.1% | 145-150 | 187.6 | 1.2% |
| 30-35 | 213.1 | 1.4% | 90-95 | 954.1 | 6.1% | 150-155 | 114.7 | 0.7% |
| 35-40 | 288.8 | 1.8% | 95-100 | 933.1 | 6.0% | 155-160 | 57.5 | 0.4% |
| 40-45 | 371.6 | 2.4% | 100-105 | 895.9 | 5.7% | 160-165 | 23.1 | 0.1% |
| 45-50 | 458.6 | 2.9% | 105-110 | 844.0 | 5.4% | 165-170 | 4.4 | 0.0% |
| 50-55 | 546.8 | 3.5% | 110-115 | 779.4 | 5.0% | 170-175 | 0.0 | 0.0% |
| 55-60 | 633.1 | 4.0% | 115-120 | 704.4 | 4.5% | 175-180 | 0 | 0.0% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 817 | 5.2% |
| 0-60 | 2827 | 18.0% |
| 0-90 | 7970 | 50.8% |
| 90-180 | 7707 | 49.2% |



Candela Tabulation
Horizontal 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 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 5 | 136 | 113 | 62 | 19 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 19 | 62 | 113 |
| 10 | 464 | 402 | 245 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 245 | 402 |
| 15 | 879 | 775 | 499 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 163 | 499 | 775 |
| 20 | 1339 | 1189 | 789 | 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 280 | 789 | 1189 |
| 25 | 1821 | 1627 | 1101 | 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 410 | 1101 | 1627 |
| 30 | 2313 | 2074 | 1420 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 550 | 1420 | 2074 |
| 35 | 2798 | 2515 | 1740 | 694 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 694 | 1740 | 2515 |
| 40 | 3273 | 2948 | 2053 | 837 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 837 | 2053 | 2948 |
| 45 | 3732 | 3361 | 2351 | 976 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 976 | 2351 | 3361 |
| 50 | 4162 | 3755 | 2631 | 1107 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1107 | 2631 | 3755 |
| 55 | 4561 | 4116 | 2892 | 1228 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1228 | 2892 | 4116 |
| 60 | 4919 | 4445 | 3127 | 1335 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1335 | 3127 | 4445 |
| 65 | 5236 | 4734 | 3335 | 1426 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1426 | 3335 | 4734 |
| 70 | 5508 | 4983 | 3512 | 1499 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1499 | 3512 | 4983 |
| 75 | 5730 | 5184 | 3653 | 1552 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1552 | 3653 | 5184 |
| 80 | 5897 | 5335 | 3758 | 1592 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1592 | 3758 | 5335 |
| 85 | 6001 | 5431 | 3824 | 1620 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1620 | 3824 | 5431 |
| 90 | 6042 | 5540 | 3845 | 1629 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1629 | 3845 | 5540 |
| 95 | 6007 | 5430 | 3815 | 1608 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1608 | 3815 | 5430 |
| 100 | 5905 | 5327 | 3742 | 1565 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1565 | 3742 | 5327 |
| 105 | 5731 | 5168 | 3627 | 1512 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1512 | 3627 | 5168 |
| 110 | 5506 | 4958 | 3478 | 1446 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1446 | 3478 | 4958 |
| 115 | 5225 | 4701 | 3293 | 1360 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1360 | 3293 | 4701 |
| 120 | 4896 | 4404 | 3077 | 1257 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1257 | 3077 | 4404 |
| 125 | 4524 | 4068 | 2834 | 1140 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1140 | 2834 | 4068 |
| 130 | 4113 | 3695 | 2569 | 956 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 956 | 2569 | 3695 |
| 135 | 3674 | 3296 | 2283 | 690 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 690 | 2283 | 3296 |
| 140 | 3206 | 2872 | 1976 | 476 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 476 | 1976 | 2872 |
| 145 | 2728 | 2436 | 1619 | 332 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 332 | 1619 | 2436 |
| 150 | 2232 | 1981 | 1105 | 172 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 172 | 1105 | 1981 |
| 155 | 1636 | 1350 | 668 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 668 | 1350 |
| 160 | 903 | 739 | 382 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 382 | 739 |
| 165 | 459 | 361 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 361 |
| 170 | 23 | 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 |
| 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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

| | 0 | 45 | 90 |
|----|-------|-------|----|
| 0 | 69 | 69 | 69 |
| 45 | 16230 | 13320 | 0 |
| 55 | 17890 | 14970 | 0 |
| 65 | 19230 | 16360 | 0 |
| 75 | 20370 | 17530 | 0 |
| 85 | 21300 | 18520 | 0 |

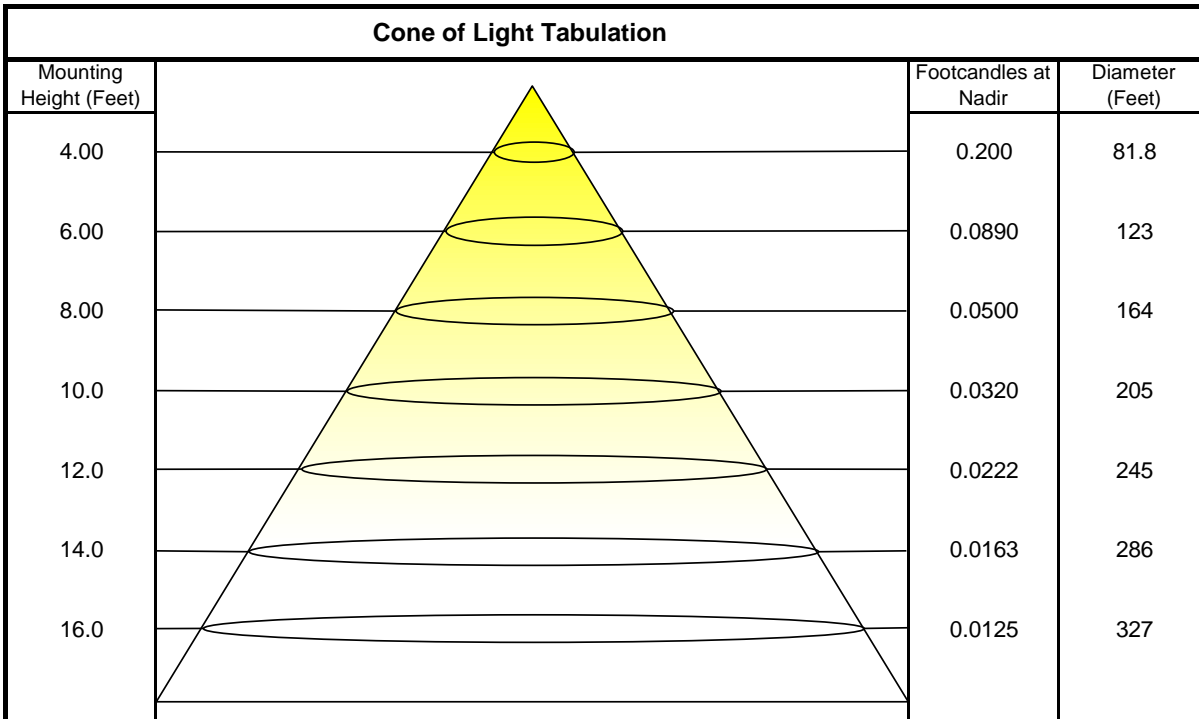


Coefficients of Utilization - Zonal Cavity Method

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 percent of total lumen output delivered to the task surface ** | | | | | | | | | | | | | | | | | |
| 0 | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 84 | 84 | 84 | 70 | 70 | 70 | 57 | 57 | 57 | 51 |
| 1 | 92 | 85 | 78 | 73 | 84 | 78 | 72 | 67 | 64 | 60 | 56 | 52 | 49 | 45 | 40 | 38 | 36 | 30 |
| 2 | 81 | 71 | 62 | 55 | 74 | 64 | 57 | 50 | 53 | 47 | 41 | 42 | 37 | 33 | 32 | 29 | 25 | 20 |
| 3 | 73 | 60 | 50 | 43 | 66 | 55 | 46 | 39 | 45 | 38 | 32 | 35 | 30 | 25 | 26 | 22 | 19 | 14 |
| 4 | 65 | 52 | 42 | 34 | 59 | 47 | 38 | 31 | 38 | 31 | 26 | 30 | 25 | 20 | 23 | 18 | 15 | 11 |
| 5 | 59 | 45 | 35 | 28 | 54 | 41 | 32 | 26 | 34 | 26 | 21 | 26 | 21 | 16 | 20 | 15 | 12 | 8 |
| 6 | 54 | 40 | 30 | 24 | 49 | 36 | 28 | 22 | 30 | 23 | 18 | 23 | 18 | 14 | 17 | 13 | 10 | 6 |
| 7 | 50 | 36 | 26 | 20 | 45 | 33 | 24 | 18 | 27 | 20 | 15 | 21 | 15 | 11 | 16 | 11 | 8 | 5 |
| 8 | 46 | 32 | 23 | 17 | 42 | 29 | 21 | 16 | 24 | 17 | 13 | 19 | 14 | 10 | 14 | 10 | 7 | 4 |
| 9 | 43 | 29 | 21 | 15 | 39 | 26 | 19 | 14 | 22 | 15 | 11 | 17 | 12 | 8 | 13 | 9 | 6 | 3 |
| 10 | 40 | 26 | 18 | 13 | 36 | 24 | 17 | 12 | 20 | 14 | 10 | 16 | 11 | 7 | 12 | 8 | 5 | 3 |

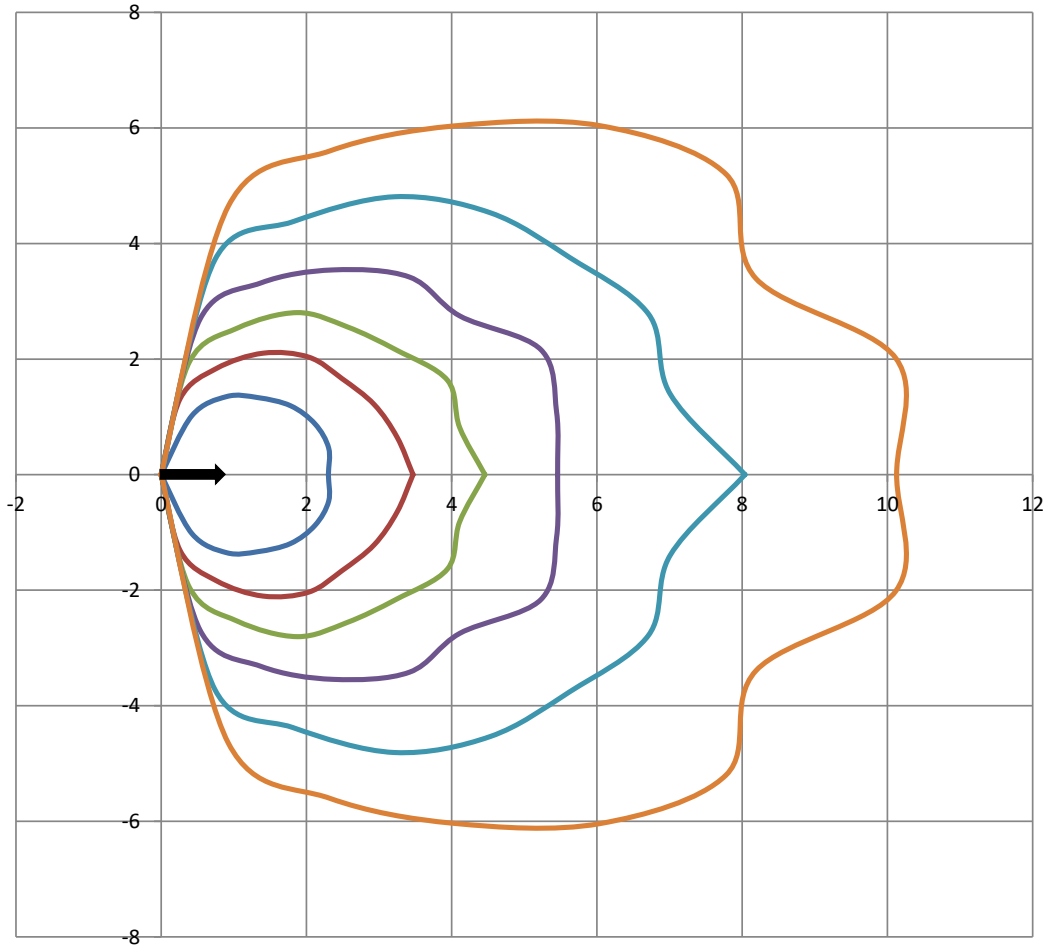
| Beam and Field Information | |
|----------------------------|-----------------|
| CIE Type: | Direct/Indirect |
| Center Beam Intensity: | 3 Candela |
| Central Cone Intensity: | 14 Candela |
| Beam Flux: | 15676.7 Lumens |
| Beam Angle (0-180): | 322.4 Degrees |
| Beam Angle (90-270): | 0.9 Degrees |
| Field Angle (0-180): | 335.5 Degrees |
| Field Angle (90-270): | 19.2 Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

