



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300



## Indoor Distribution Test Report

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

**Prepared For**  
**Mercury Lighting**

Stephen Bambush  
20 Audrey Pl  
Fairfield, NJ 07004-3416  
United States

**Catalog Number**  
**LR302-22G-4300-35K-U55SQ-UNI-XXXX**

Order Number  
**11170243**  
Test Number  
**1215241**

Test Date

2016-02-24

Prepared By

Derek Smarr, Technician

Approved By

Kyle Spaziani, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** White steel housing / reflector, frosted plastic lens enclosure  
**Lamp:** 96 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** One Universal Everline D10CC55UNVTW-LS

#### Luminaire



#### Luminaire Characteristics

Luminous Length: 23.00 in.  
Luminous Width: 23.00 in.

#### Summary of Results

Total Luminaire Output: 4395 Lumens  
Luminaire Efficacy: 98.9 lm/w  
Maximum Candela: 1607 Candela

#### Electrical Data

Test Temperature: 24.6 °C  
Voltage: 120.0 VAC  
Current: 0.3712 A  
Power: 44.44 W  
Power Factor: 0.998  
Frequency: 60 Hz  
Current THD: 4.92 %

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     | 120.0 VAC | 0.3712 A | 44.44 W | 0.998        | 60 Hz     | 4.92 %      |

### Summary of Results

#### Spacing Criteria

0-180: 1.17

90-270: 1.17

#### Total Lumen Output:

4395 Lumens

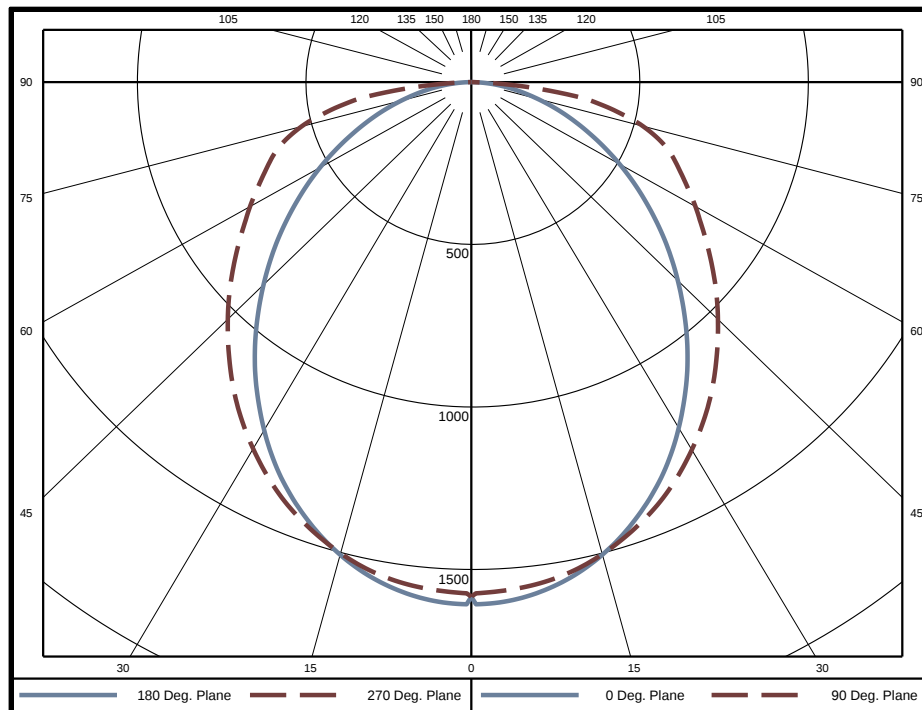
#### Luminaire Efficacy:

98.9 lm/w

#### Maximum Candela:

1607 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 37.8   | 0.9%           | 60-65   | 287.4  | 6.5%           | 120-125 | 0      | 0.0%           |
| 5-10  | 111.7  | 2.5%           | 65-70   | 255.2  | 5.8%           | 125-130 | 0      | 0.0%           |
| 10-15 | 180.7  | 4.1%           | 70-75   | 219.7  | 5.0%           | 130-135 | 0      | 0.0%           |
| 15-20 | 241.9  | 5.5%           | 75-80   | 173.1  | 3.9%           | 135-140 | 0      | 0.0%           |
| 20-25 | 293.2  | 6.7%           | 80-85   | 108.8  | 2.5%           | 140-145 | 0      | 0.0%           |
| 25-30 | 332.5  | 7.6%           | 85-90   | 26.4   | 0.6%           | 145-150 | 0      | 0.0%           |
| 30-35 | 358.7  | 8.2%           | 90-95   | 0      | 0.0%           | 150-155 | 0      | 0.0%           |
| 35-40 | 371.8  | 8.5%           | 95-100  | 0      | 0.0%           | 155-160 | 0      | 0.0%           |
| 40-45 | 372.5  | 8.5%           | 100-105 | 0      | 0.0%           | 160-165 | 0      | 0.0%           |
| 45-50 | 362.6  | 8.3%           | 105-110 | 0      | 0.0%           | 165-170 | 0      | 0.0%           |
| 50-55 | 343.6  | 7.8%           | 110-115 | 0      | 0.0%           | 170-175 | 0      | 0.0%           |
| 55-60 | 317.8  | 7.2%           | 115-120 | 0      | 0.0%           | 175-180 | 0      | 0.0%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 1928   | 43.9%          |
| 0-60   | 3325   | 75.6%          |
| 0-90   | 4395   | 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   | 1584 | 1584 | 1584 | 1584 | 1584  | 1584 | 1584  | 1584 | 1584  | 1584 | 1584  | 1584 | 1584  | 1584 | 1584  |
|                          | 5   | 1596 | 1576 | 1571 | 1570 | 1565  | 1570 | 1571  | 1576 | 1596  | 1576 | 1571  | 1570 | 1565  | 1570 | 1571  |
|                          | 10  | 1563 | 1544 | 1544 | 1547 | 1543  | 1547 | 1544  | 1544 | 1563  | 1544 | 1544  | 1547 | 1543  | 1547 | 1544  |
|                          | 15  | 1507 | 1492 | 1497 | 1504 | 1504  | 1504 | 1497  | 1492 | 1507  | 1492 | 1497  | 1504 | 1504  | 1504 | 1497  |
|                          | 20  | 1432 | 1421 | 1434 | 1449 | 1451  | 1449 | 1434  | 1421 | 1432  | 1421 | 1434  | 1449 | 1451  | 1449 | 1434  |
|                          | 25  | 1343 | 1336 | 1357 | 1380 | 1386  | 1380 | 1357  | 1336 | 1343  | 1336 | 1357  | 1380 | 1386  | 1380 | 1357  |
|                          | 30  | 1236 | 1236 | 1267 | 1299 | 1308  | 1299 | 1267  | 1236 | 1236  | 1267 | 1299  | 1308 | 1299  | 1267 | 1236  |
|                          | 35  | 1121 | 1126 | 1167 | 1209 | 1224  | 1209 | 1167  | 1126 | 1121  | 1126 | 1167  | 1209 | 1224  | 1209 | 1167  |
|                          | 40  | 999  | 1009 | 1060 | 1112 | 1130  | 1112 | 1060  | 1009 | 999   | 1009 | 1060  | 1112 | 1130  | 1112 | 1060  |
|                          | 45  | 875  | 890  | 950  | 1013 | 1036  | 1013 | 950   | 890  | 875   | 890  | 950   | 1013 | 1036  | 1013 | 950   |
|                          | 50  | 753  | 772  | 841  | 915  | 942   | 915  | 841   | 772  | 753   | 772  | 841   | 915  | 942   | 915  | 841   |
|                          | 55  | 632  | 655  | 736  | 820  | 851   | 820  | 736   | 655  | 632   | 655  | 736   | 820  | 851   | 820  | 736   |
|                          | 60  | 517  | 545  | 636  | 731  | 769   | 731  | 636   | 545  | 517   | 545  | 636   | 731  | 769   | 731  | 636   |
|                          | 65  | 406  | 440  | 544  | 650  | 694   | 650  | 544   | 440  | 406   | 440  | 544   | 650  | 694   | 650  | 544   |
|                          | 70  | 305  | 347  | 462  | 578  | 626   | 578  | 462   | 347  | 305   | 347  | 462   | 578  | 626   | 578  | 462   |
|                          | 75  | 212  | 261  | 383  | 486  | 529   | 486  | 383   | 261  | 212   | 261  | 383   | 486  | 529   | 486  | 383   |
|                          | 80  | 130  | 180  | 282  | 354  | 385   | 354  | 282   | 180  | 130   | 180  | 282   | 354  | 385   | 354  | 282   |
|                          | 85  | 59   | 89   | 137  | 153  | 160   | 153  | 137   | 89   | 59    | 89   | 137   | 153  | 160   | 153  | 137   |
|                          | 90  | 1    | 1    | 1    | 1    | 1     | 1    | 1     | 1    | 1     | 1    | 1     | 1    | 1     | 1    | 1     |
|                          | 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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | 0  | 45   | 90   |
|--------------------------|----|------|------|
|                          | 0  | 4641 | 4641 |
|                          | 45 | 3626 | 4292 |
|                          | 55 | 3230 | 4347 |
|                          | 65 | 2815 | 4809 |
|                          | 75 | 2400 | 5994 |
|                          | 85 | 1981 | 5371 |



### 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                          | 5233                                                               | 5233 | 5233 | 5233 | 5111 | 5111 | 5111 | 5111 | 4884 | 4884 | 4884 | 4676 | 4676 | 4676 | 4485 | 4485 | 4485 | 4395 |
| 1                          | 4745                                                               | 4519 | 4317 | 4135 | 4623 | 4418 | 4234 | 4067 | 4230 | 4077 | 3938 | 4056 | 3932 | 3817 | 3896 | 3796 | 3702 | 3608 |
| 2                          | 4300                                                               | 3920 | 3604 | 3339 | 4182 | 3835 | 3545 | 3299 | 3677 | 3432 | 3221 | 3531 | 3327 | 3147 | 3397 | 3227 | 3076 | 2977 |
| 3                          | 3915                                                               | 3434 | 3062 | 2765 | 3803 | 3363 | 3018 | 2740 | 3230 | 2934 | 2690 | 3108 | 2855 | 2642 | 2993 | 2779 | 2596 | 2497 |
| 4                          | 3583                                                               | 3041 | 2644 | 2340 | 3480 | 2981 | 2610 | 2323 | 2869 | 2546 | 2290 | 2766 | 2485 | 2258 | 2669 | 2427 | 2227 | 2129 |
| 5                          | 3296                                                               | 2718 | 2314 | 2016 | 3202 | 2668 | 2288 | 2004 | 2573 | 2238 | 1981 | 2485 | 2191 | 1959 | 2403 | 2145 | 1937 | 1842 |
| 6                          | 3045                                                               | 2449 | 2049 | 1762 | 2960 | 2407 | 2028 | 1753 | 2327 | 1989 | 1737 | 2252 | 1951 | 1721 | 2181 | 1914 | 1706 | 1613 |
| 7                          | 2826                                                               | 2223 | 1832 | 1558 | 2748 | 2187 | 1816 | 1552 | 2118 | 1784 | 1540 | 2054 | 1753 | 1528 | 1994 | 1723 | 1517 | 1428 |
| 8                          | 2632                                                               | 2031 | 1652 | 1392 | 2563 | 2000 | 1639 | 1388 | 1941 | 1613 | 1379 | 1886 | 1588 | 1370 | 1834 | 1563 | 1361 | 1276 |
| 9                          | 2461                                                               | 1866 | 1501 | 1255 | 2398 | 1839 | 1490 | 1251 | 1789 | 1469 | 1245 | 1741 | 1448 | 1238 | 1696 | 1428 | 1231 | 1150 |
| 10                         | 2310                                                               | 1724 | 1373 | 1140 | 2253 | 1701 | 1364 | 1137 | 1657 | 1346 | 1132 | 1615 | 1329 | 1126 | 1576 | 1312 | 1121 | 1043 |

### Cone of Light Tabulation

| Mounting Height | Footcandles at Nadir | Diameter (Feet) |
|-----------------|----------------------|-----------------|
| 4.00            | 99.0                 | 4.78            |
| 6.00            | 44.0                 | 7.17            |
| 8.00            | 24.7                 | 9.56            |
| 10.0            | 15.8                 | 12.0            |
| 12.0            | 11.0                 | 14.3            |
| 14.0            | 8.08                 | 16.7            |
| 16.0            | 6.19                 | 19.1            |

### Cone of Light Plot

