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## Indoor Distribution Test Report

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

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

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United States

**Catalog Number**  
**LR202-22G-5500-35K-A75-UNI-XXXX**

Order Number  
11228120  
Test Number  
1241929

Test Date

2016-04-28

Prepared By

Dane Hernandez-Adams, Technician

Approved By

Timothy Wagner, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Formed steel housing, steel reflectors, frosted plastic patterned lens enclosure  
**Lamp:** 88 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** One Philips Advance Xitanium XI075C200V054BPT1

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 23.00 in.  
Luminous Width: 20.75 in.

**Summary of Results**

|                         |              |
|-------------------------|--------------|
| Total Luminaire Output: | 5468 Lumens  |
| Luminaire Efficacy:     | 111.7 lm/w   |
| Maximum Candela:        | 1987 Candela |

**Test Conditions**

|                   |           |
|-------------------|-----------|
| Test Temperature: | 24.6 °C   |
| Voltage:          | 120.0 VAC |
| Current:          | 0.4094 A  |
| Power:            | 48.96 W   |
| Power Factor:     | 0.996     |
| Frequency:        | 60 Hz     |
| Current THD:      | 7.03 %    |

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 | 0.4094 A | 48.96 W | 0.996        | 60 Hz     | 7.03 %      |

### Summary of Results

#### Spacing Criteria

0-180: 1.17

90-270: 1.17

#### Total Lumen Output:

5468 Lumens

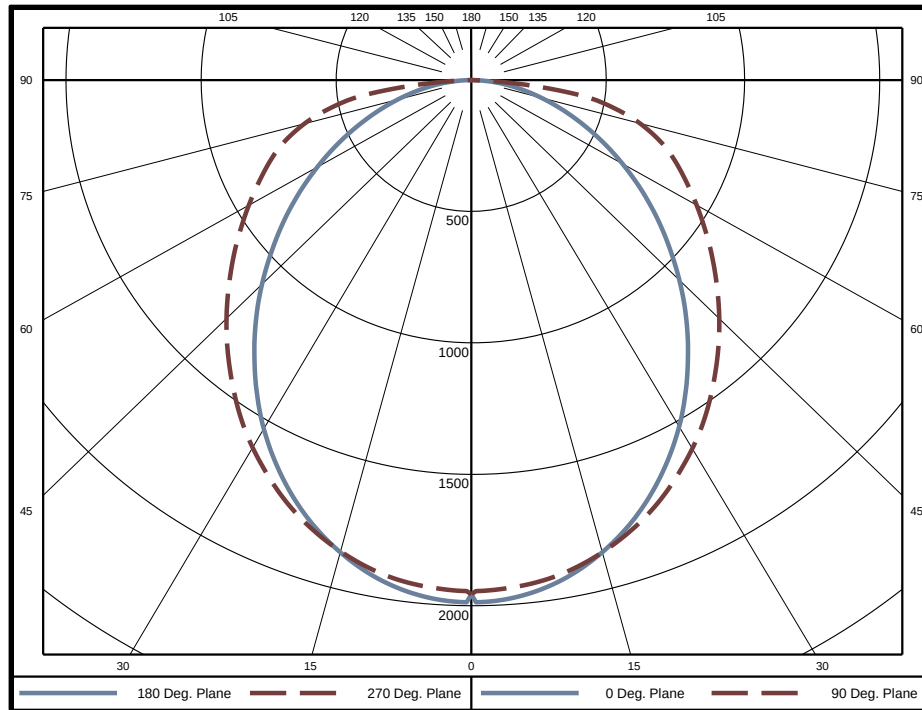
#### Luminaire Efficacy:

111.7 lm/w

#### Maximum Candela:

1987 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 46.6   | 0.9%           | 60-65   | 360.2  | 6.6%           | 120-125 | 0      | 0.0%           |
| 5-10  | 137.9  | 2.5%           | 65-70   | 319.2  | 5.8%           | 125-130 | 0      | 0.0%           |
| 10-15 | 223.2  | 4.1%           | 70-75   | 273.3  | 5.0%           | 130-135 | 0      | 0.0%           |
| 15-20 | 298.9  | 5.5%           | 75-80   | 217.1  | 4.0%           | 135-140 | 0      | 0.0%           |
| 20-25 | 362.4  | 6.6%           | 80-85   | 140.1  | 2.6%           | 140-145 | 0      | 0.0%           |
| 25-30 | 411.1  | 7.5%           | 85-90   | 34.0   | 0.6%           | 145-150 | 0      | 0.0%           |
| 30-35 | 444.1  | 8.1%           | 90-95   | 0      | 0.0%           | 150-155 | 0      | 0.0%           |
| 35-40 | 460.7  | 8.4%           | 95-100  | 0      | 0.0%           | 155-160 | 0      | 0.0%           |
| 40-45 | 462.5  | 8.5%           | 100-105 | 0      | 0.0%           | 160-165 | 0      | 0.0%           |
| 45-50 | 451.0  | 8.2%           | 105-110 | 0      | 0.0%           | 165-170 | 0      | 0.0%           |
| 50-55 | 428.5  | 7.8%           | 110-115 | 0      | 0.0%           | 170-175 | 0      | 0.0%           |
| 55-60 | 397.4  | 7.3%           | 115-120 | 0      | 0.0%           | 175-180 | 0      | 0.0%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 2385   | 43.6%          |
| 0-60   | 4124   | 75.4%          |
| 0-90   | 5468   | 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   | 1957 | 1957 | 1957 | 1957 | 1957  | 1957 | 1957  | 1957 | 1957  | 1957 | 1957  | 1957 | 1957  | 1957 | 1957  |
|                          | 5   | 1973 | 1947 | 1940 | 1939 | 1934  | 1939 | 1940  | 1947 | 1973  | 1947 | 1940  | 1939 | 1934  | 1939 | 1940  |
|                          | 10  | 1931 | 1907 | 1905 | 1910 | 1908  | 1910 | 1905  | 1907 | 1931  | 1907 | 1905  | 1910 | 1908  | 1910 | 1905  |
|                          | 15  | 1861 | 1842 | 1848 | 1859 | 1860  | 1859 | 1848  | 1842 | 1861  | 1842 | 1848  | 1859 | 1860  | 1859 | 1848  |
|                          | 20  | 1771 | 1756 | 1770 | 1791 | 1796  | 1791 | 1770  | 1756 | 1771  | 1756 | 1770  | 1791 | 1796  | 1791 | 1770  |
|                          | 25  | 1659 | 1651 | 1677 | 1706 | 1715  | 1706 | 1677  | 1651 | 1659  | 1651 | 1677  | 1706 | 1715  | 1706 | 1677  |
|                          | 30  | 1531 | 1530 | 1565 | 1607 | 1621  | 1607 | 1565  | 1530 | 1531  | 1530 | 1565  | 1607 | 1621  | 1607 | 1565  |
|                          | 35  | 1388 | 1395 | 1443 | 1497 | 1516  | 1497 | 1443  | 1395 | 1388  | 1395 | 1443  | 1497 | 1516  | 1497 | 1443  |
|                          | 40  | 1241 | 1252 | 1312 | 1378 | 1403  | 1378 | 1312  | 1252 | 1241  | 1252 | 1312  | 1378 | 1403  | 1378 | 1312  |
|                          | 45  | 1090 | 1109 | 1179 | 1257 | 1288  | 1257 | 1179  | 1109 | 1090  | 1109 | 1179  | 1257 | 1288  | 1257 | 1179  |
|                          | 50  | 939  | 963  | 1047 | 1138 | 1172  | 1138 | 1047  | 963  | 939   | 963  | 1047  | 1138 | 1172  | 1138 | 1047  |
|                          | 55  | 793  | 823  | 918  | 1021 | 1062  | 1021 | 918   | 823  | 793   | 823  | 918   | 1021 | 1062  | 1021 | 918   |
|                          | 60  | 651  | 686  | 797  | 910  | 957   | 910  | 797   | 686  | 651   | 686  | 797   | 910  | 957   | 910  | 797   |
|                          | 65  | 517  | 560  | 683  | 807  | 858   | 807  | 683   | 560  | 517   | 560  | 683   | 807  | 858   | 807  | 683   |
|                          | 70  | 390  | 443  | 580  | 710  | 764   | 710  | 580   | 443  | 390   | 443  | 580   | 710  | 764   | 710  | 580   |
|                          | 75  | 276  | 337  | 477  | 594  | 644   | 594  | 477   | 337  | 276   | 337  | 477   | 594  | 644   | 594  | 477   |
|                          | 80  | 173  | 236  | 356  | 443  | 484   | 443  | 356   | 236  | 173   | 236  | 356   | 443  | 484   | 443  | 356   |
|                          | 85  | 81   | 122  | 183  | 194  | 197   | 194  | 183   | 122  | 81    | 122  | 183   | 194  | 197   | 194  | 183   |
|                          | 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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | 0  | 45   | 90   |
|--------------------------|----|------|------|
|                          | 0  | 6354 | 6354 |
|                          | 45 | 5006 | 5416 |
|                          | 55 | 4492 | 5197 |
|                          | 65 | 3969 | 5250 |
|                          | 75 | 3464 | 5982 |
|                          | 85 | 3036 | 6811 |



### 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                                      | 6510                                                               | 6510 | 6510 | 6510 | 6358 | 6358 | 6358 | 6358 | 6076 | 6076 | 6076 | 5817 | 5817 | 5817 | 5580 | 5580 | 5580 | 5468 |
| 1                                      | 5900                                                               | 5618 | 5365 | 5138 | 5748 | 5492 | 5262 | 5053 | 5257 | 5067 | 4893 | 5041 | 4886 | 4742 | 4842 | 4717 | 4600 | 4482 |
| 2                                      | 5346                                                               | 4870 | 4477 | 4146 | 5198 | 4765 | 4403 | 4096 | 4568 | 4263 | 3999 | 4387 | 4131 | 3906 | 4219 | 4007 | 3818 | 3696 |
| 3                                      | 4865                                                               | 4265 | 3801 | 3431 | 4726 | 4177 | 3747 | 3400 | 4012 | 3642 | 3338 | 3859 | 3543 | 3278 | 3717 | 3450 | 3221 | 3098 |
| 4                                      | 4452                                                               | 3776 | 3280 | 2902 | 4324 | 3702 | 3239 | 2881 | 3563 | 3160 | 2840 | 3433 | 3084 | 2800 | 3313 | 3011 | 2762 | 2640 |
| 5                                      | 4095                                                               | 3374 | 2871 | 2499 | 3977 | 3312 | 2838 | 2484 | 3194 | 2776 | 2456 | 3085 | 2717 | 2429 | 2982 | 2660 | 2402 | 2283 |
| 6                                      | 3783                                                               | 3040 | 2541 | 2183 | 3677 | 2987 | 2516 | 2173 | 2887 | 2466 | 2153 | 2794 | 2419 | 2133 | 2707 | 2374 | 2113 | 1998 |
| 7                                      | 3510                                                               | 2758 | 2272 | 1930 | 3414 | 2714 | 2251 | 1923 | 2628 | 2211 | 1908 | 2548 | 2173 | 1893 | 2473 | 2136 | 1879 | 1768 |
| 8                                      | 3270                                                               | 2520 | 2048 | 1724 | 3183 | 2481 | 2032 | 1719 | 2408 | 1999 | 1707 | 2339 | 1968 | 1696 | 2275 | 1937 | 1685 | 1580 |
| 9                                      | 3057                                                               | 2315 | 1861 | 1554 | 2978 | 2282 | 1847 | 1550 | 2219 | 1820 | 1541 | 2159 | 1794 | 1532 | 2103 | 1769 | 1524 | 1423 |
| 10                                     | 2868                                                               | 2138 | 1702 | 1411 | 2797 | 2110 | 1690 | 1408 | 2055 | 1668 | 1401 | 2003 | 1646 | 1394 | 1954 | 1625 | 1388 | 1291 |

#### Beam and Field Information

|                         |               |
|-------------------------|---------------|
| CIE Type:               | Direct        |
| Center Beam Intensity:  | 1957 Candela  |
| Central Cone Intensity: | 1952 Candela  |
| Beam Flux:              | 3597.2 Lumens |
| Beam Angle (0-180):     | 97.3 Degrees  |
| Beam Angle (90-270):    | 117.9 Degrees |
| Field Angle (0-180):    | 157.7 Degrees |
| Field Angle (90-270):   | 170.0 Degrees |

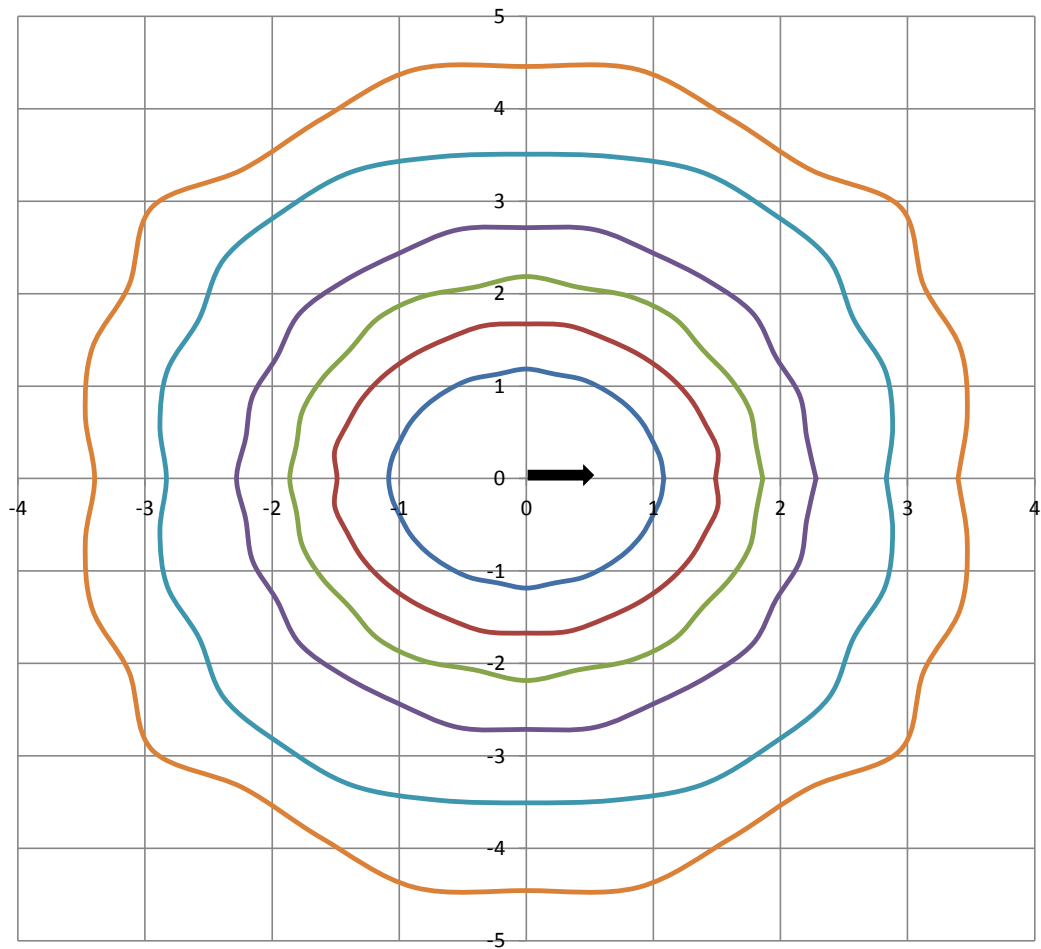
#### Cone of Light Tabulation

| Mounting Height (Feet) |  | Footcandles at Nadir | Diameter (Feet) |
|------------------------|--|----------------------|-----------------|
| 4.00                   |  | 122                  | 4.79            |
| 6.00                   |  | 54.3                 | 7.18            |
| 8.00                   |  | 30.6                 | 9.58            |
| 10.0                   |  | 19.6                 | 12.0            |
| 12.0                   |  | 13.6                 | 14.4            |
| 14.0                   |  | 9.98                 | 16.8            |
| 16.0                   |  | 7.64                 | 19.2            |



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

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