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## 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

Catalog Number  
**LR202-24G-7500-35K-A75-UNI-XXXX**  
Order Number  
**11321901**  
Test Number  
**1261247**

Test Date

2016-06-21

Prepared By

Kevin Rodriguez, 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 white enamel steel housing / reflector, frosted plastic lens enclosure  
**Lamp:** 88 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** One Philips Advance XI075C200V054BPT1

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 45.00 in.  
Luminous Width: 20.50 in.

**Summary of Results**

|                         |              |
|-------------------------|--------------|
| Total Luminaire Output: | 7469 Lumens  |
| Luminaire Efficacy:     | 105.2 lm/w   |
| Maximum Candela:        | 2584 Candela |

**Test Conditions**

|                   |           |
|-------------------|-----------|
| Test Temperature: | 25.1 °C   |
| Voltage:          | 120.0 VAC |
| Current:          | 0.5930 A  |
| Power:            | 71.03 W   |
| Power Factor:     | 0.997     |
| Frequency:        | 60 Hz     |
| Current THD:      | 5.09 %    |

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 |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.1 °C     | 120.0 VAC | 0.5930 A | 71.03 W | 0.997        | 60 Hz     | 5.09 %      |

### Summary of Results

#### Spacing Criteria

0-180: 1.17

90-270: 1.17

#### Total Lumen Output:

7469 Lumens

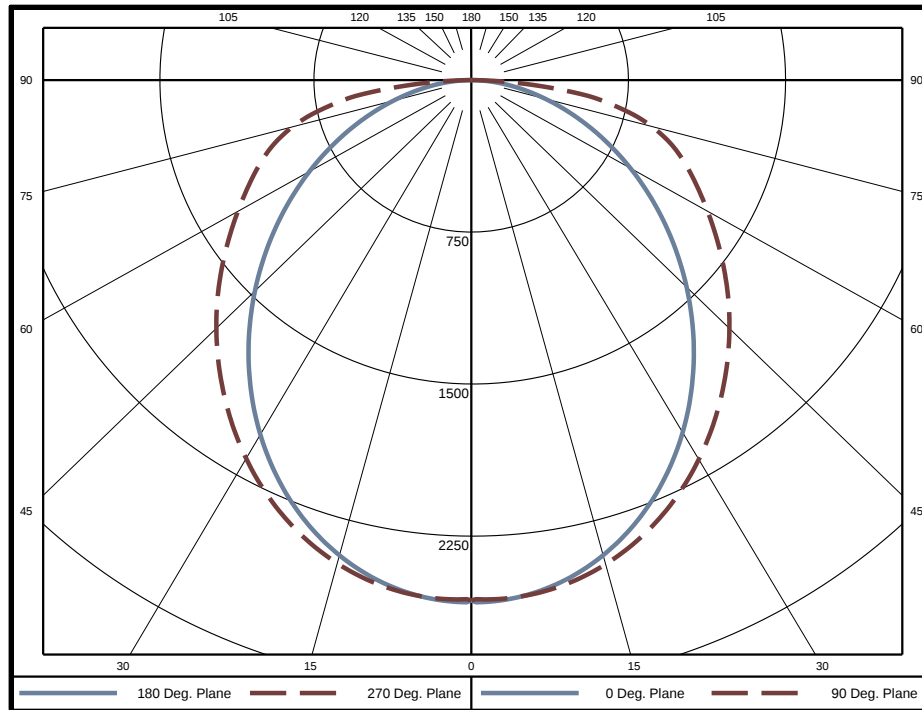
#### Luminaire Efficacy:

105.2 lm/w

#### Maximum Candela:

2584 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 61.4   | 0.8%           | 60-65   | 495.8  | 6.6%           | 120-125 | 0      | 0.0%           |
| 5-10  | 182.1  | 2.4%           | 65-70   | 442.2  | 5.9%           | 125-130 | 0      | 0.0%           |
| 10-15 | 295.5  | 4.0%           | 70-75   | 383.3  | 5.1%           | 130-135 | 0      | 0.0%           |
| 15-20 | 397.0  | 5.3%           | 75-80   | 310.8  | 4.2%           | 135-140 | 0      | 0.0%           |
| 20-25 | 482.7  | 6.5%           | 80-85   | 211.5  | 2.8%           | 140-145 | 0      | 0.0%           |
| 25-30 | 549.6  | 7.4%           | 85-90   | 68.5   | 0.9%           | 145-150 | 0      | 0.0%           |
| 30-35 | 596.1  | 8.0%           | 90-95   | 0      | 0.0%           | 150-155 | 0      | 0.0%           |
| 35-40 | 621.5  | 8.3%           | 95-100  | 0      | 0.0%           | 155-160 | 0      | 0.0%           |
| 40-45 | 626.8  | 8.4%           | 100-105 | 0      | 0.0%           | 160-165 | 0      | 0.0%           |
| 45-50 | 614.1  | 8.2%           | 105-110 | 0      | 0.0%           | 165-170 | 0      | 0.0%           |
| 50-55 | 585.6  | 7.8%           | 110-115 | 0      | 0.0%           | 170-175 | 0      | 0.0%           |
| 55-60 | 544.8  | 7.3%           | 115-120 | 0      | 0.0%           | 175-180 | 0      | 0.0%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 3186   | 42.7%          |
| 0-60   | 5557   | 74.4%          |
| 0-90   | 7469   | 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   | 2567 | 2567 | 2567 | 2567 | 2567  | 2567 | 2567  | 2567 | 2567  | 2567 | 2567  | 2567 | 2567  | 2567 | 2567  |
|                          | 5   | 2561 | 2571 | 2566 | 2563 | 2559  | 2563 | 2566  | 2571 | 2561  | 2571 | 2566  | 2563 | 2559  | 2563 | 2571  |
|                          | 10  | 2511 | 2524 | 2525 | 2531 | 2529  | 2531 | 2525  | 2524 | 2511  | 2524 | 2525  | 2531 | 2529  | 2531 | 2525  |
|                          | 15  | 2428 | 2445 | 2457 | 2472 | 2472  | 2472 | 2457  | 2445 | 2428  | 2445 | 2457  | 2472 | 2472  | 2472 | 2457  |
|                          | 20  | 2316 | 2339 | 2363 | 2389 | 2389  | 2389 | 2363  | 2339 | 2316  | 2339 | 2363  | 2389 | 2389  | 2389 | 2363  |
|                          | 25  | 2177 | 2206 | 2246 | 2284 | 2284  | 2284 | 2246  | 2206 | 2177  | 2206 | 2246  | 2284 | 2284  | 2284 | 2246  |
|                          | 30  | 2017 | 2053 | 2108 | 2159 | 2161  | 2159 | 2108  | 2053 | 2017  | 2053 | 2108  | 2159 | 2161  | 2159 | 2108  |
|                          | 35  | 1840 | 1882 | 1954 | 2019 | 2026  | 2019 | 1954  | 1882 | 1840  | 1882 | 1954  | 2019 | 2026  | 2019 | 1954  |
|                          | 40  | 1653 | 1699 | 1786 | 1867 | 1882  | 1867 | 1786  | 1699 | 1653  | 1699 | 1786  | 1867 | 1882  | 1867 | 1786  |
|                          | 45  | 1460 | 1511 | 1612 | 1711 | 1734  | 1711 | 1612  | 1511 | 1460  | 1511 | 1612  | 1711 | 1734  | 1711 | 1612  |
|                          | 50  | 1266 | 1320 | 1437 | 1552 | 1586  | 1552 | 1437  | 1320 | 1266  | 1320 | 1437  | 1552 | 1586  | 1552 | 1437  |
|                          | 55  | 1073 | 1132 | 1266 | 1396 | 1437  | 1396 | 1266  | 1132 | 1073  | 1132 | 1266  | 1396 | 1437  | 1396 | 1266  |
|                          | 60  | 886  | 950  | 1103 | 1247 | 1297  | 1247 | 1103  | 950  | 886   | 950  | 1103  | 1247 | 1297  | 1247 | 1103  |
|                          | 65  | 706  | 778  | 953  | 1112 | 1168  | 1112 | 953   | 778  | 706   | 778  | 953   | 1112 | 1168  | 1112 | 953   |
|                          | 70  | 536  | 621  | 818  | 986  | 1044  | 986  | 818   | 621  | 536   | 621  | 818   | 986  | 1044  | 986  | 818   |
|                          | 75  | 378  | 480  | 692  | 840  | 890   | 840  | 692   | 480  | 378   | 480  | 692   | 840  | 890   | 840  | 692   |
|                          | 80  | 236  | 354  | 537  | 634  | 668   | 634  | 537   | 354  | 236   | 354  | 537   | 634  | 668   | 634  | 537   |
|                          | 85  | 111  | 216  | 308  | 322  | 322   | 322  | 308   | 216  | 111   | 216  | 308   | 322  | 322   | 322  | 308   |
|                          | 90  | 0    | 4    | 7    | 9    | 9     | 9    | 7     | 4    | 0     | 4    | 7     | 9    | 9     | 9    | 7     |
|                          | 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  | 4313 | 4313 |
|                          | 45 | 3468 | 3831 |
|                          | 55 | 3144 | 3708 |
|                          | 65 | 2807 | 3788 |
|                          | 75 | 2452 | 4490 |
|                          | 85 | 2134 | 5927 |



### 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                                      | 8892                                                               | 8892 | 8892 | 8892 | 8685 | 8685 | 8685 | 8685 | 8299 | 8299 | 8299 | 7946 | 7946 | 7946 | 7622 | 7622 | 7622 | 7469 |
| 1                                      | 8036                                                               | 7641 | 7288 | 6969 | 7827 | 7469 | 7147 | 6855 | 7147 | 6881 | 6636 | 6852 | 6633 | 6431 | 6579 | 6403 | 6238 | 6075 |
| 2                                      | 7273                                                               | 6612 | 6066 | 5606 | 7070 | 6468 | 5965 | 5538 | 6198 | 5774 | 5407 | 5949 | 5594 | 5281 | 5719 | 5424 | 5161 | 4992 |
| 3                                      | 6613                                                               | 5783 | 5141 | 4629 | 6422 | 5663 | 5067 | 4586 | 5436 | 4924 | 4502 | 5226 | 4789 | 4422 | 5031 | 4661 | 4344 | 4174 |
| 4                                      | 6048                                                               | 5114 | 4431 | 3909 | 5872 | 5013 | 4374 | 3880 | 4822 | 4265 | 3825 | 4645 | 4162 | 3771 | 4480 | 4063 | 3718 | 3550 |
| 5                                      | 5560                                                               | 4567 | 3873 | 3360 | 5399 | 4482 | 3829 | 3341 | 4320 | 3744 | 3303 | 4170 | 3663 | 3265 | 4030 | 3585 | 3228 | 3065 |
| 6                                      | 5135                                                               | 4112 | 3425 | 2932 | 4989 | 4040 | 3390 | 2918 | 3903 | 3323 | 2891 | 3775 | 3258 | 2864 | 3655 | 3196 | 2838 | 2679 |
| 7                                      | 4763                                                               | 3729 | 3059 | 2590 | 4631 | 3668 | 3031 | 2580 | 3551 | 2977 | 2560 | 3441 | 2925 | 2540 | 3338 | 2874 | 2520 | 2368 |
| 8                                      | 4436                                                               | 3405 | 2757 | 2311 | 4316 | 3352 | 2734 | 2304 | 3252 | 2690 | 2289 | 3157 | 2647 | 2274 | 3069 | 2605 | 2259 | 2113 |
| 9                                      | 4146                                                               | 3127 | 2503 | 2081 | 4039 | 3082 | 2484 | 2075 | 2995 | 2447 | 2064 | 2913 | 2412 | 2052 | 2836 | 2377 | 2041 | 1902 |
| 10                                     | 3890                                                               | 2887 | 2288 | 1889 | 3792 | 2848 | 2272 | 1884 | 2773 | 2241 | 1875 | 2702 | 2212 | 1866 | 2635 | 2183 | 1857 | 1724 |

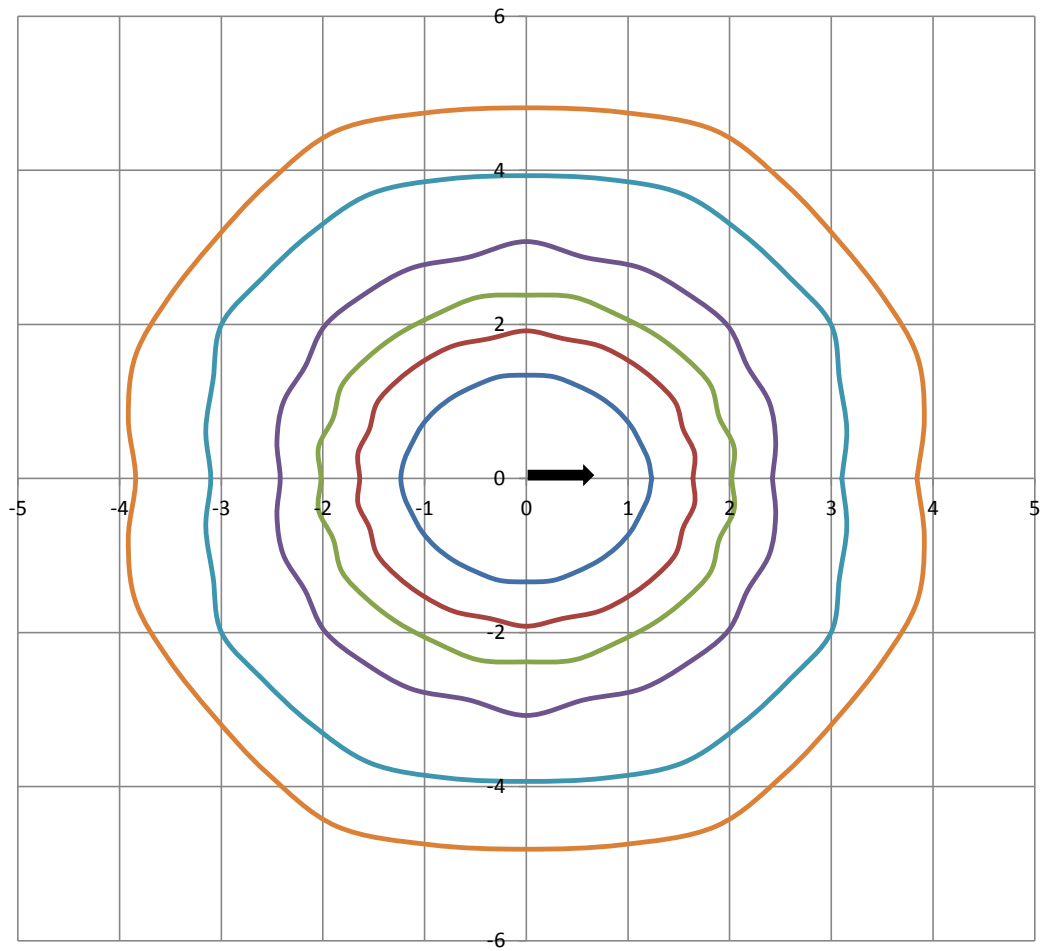
| Beam and Field Information |               |
|----------------------------|---------------|
| CIE Type:                  | Direct        |
| Center Beam Intensity:     | 2567 Candela  |
| Central Cone Intensity:    | 2570 Candela  |
| Beam Flux:                 | 5021.2 Lumens |
| Beam Angle (0-180):        | 99.1 Degrees  |
| Beam Angle (90-270):       | 121.0 Degrees |
| Field Angle (0-180):       | 158.4 Degrees |
| Field Angle (90-270):      | 171.7 Degrees |

| Cone of Light Tabulation |  |                      |                 |
|--------------------------|--|----------------------|-----------------|
| Mounting Height (Feet)   |  | Footcandles at Nadir | Diameter (Feet) |
| 4.00                     |  | 160                  | 4.88            |
| 6.00                     |  | 71.3                 | 7.31            |
| 8.00                     |  | 40.1                 | 9.75            |
| 10.0                     |  | 25.7                 | 12.2            |
| 12.0                     |  | 17.8                 | 14.6            |
| 14.0                     |  | 13.1                 | 17.1            |
| 16.0                     |  | 10.0                 | 19.5            |



## 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