



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**  
20 Audrey PL  
Fairfield, NJ 07004-3416  
United States

Catalog Number  
**MLS1.5-G-48-625-35K-HTA-1%-U**  
Order Number  
11654729  
Test Number  
11654729.01

Test Date

2017-03-28

Prepared By

Javier Caban, Technician

Approved By

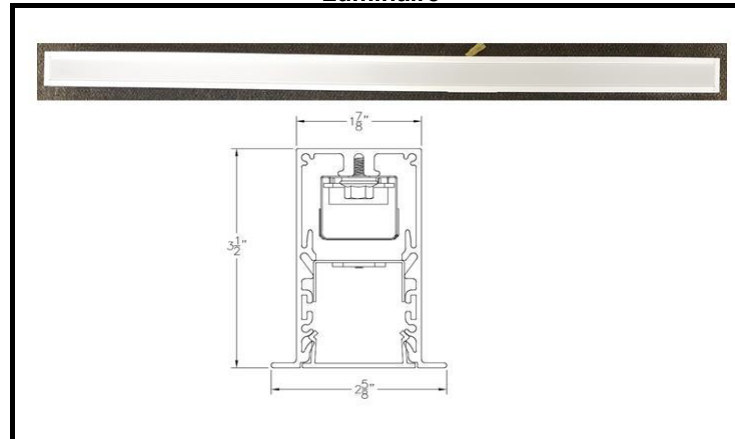
Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Formed white aluminum housing, frosted plastic lens enclosure  
**Lamp:** 96 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** Philips Advanced XI040C110V054BST1

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 48.00 in.  
Luminous Width: 1.750 in.

**Summary of Results**

Total Luminaire Output: 2515 Lumens  
Luminaire Efficacy: 91.4 lm/w  
Maximum Candela: 1298 Candela

**Test Conditions**

Test Temperature: 25.4 °C  
Voltage: 120.0 VAC  
Current: 0.2306 A  
Power: 27.53 W  
Power Factor: 0.995  
Frequency: 60 Hz  
Current THD: 8.02 %

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 |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.4 °C     | 120.0 VAC | 0.2306 A | 27.53 W | 0.995        | 60 Hz     | 8.02 %      |

### Summary of Results

#### Spacing Criteria

0-180: 1.19

90-270: 1.19

Total Lumen Output:

2515 Lumens

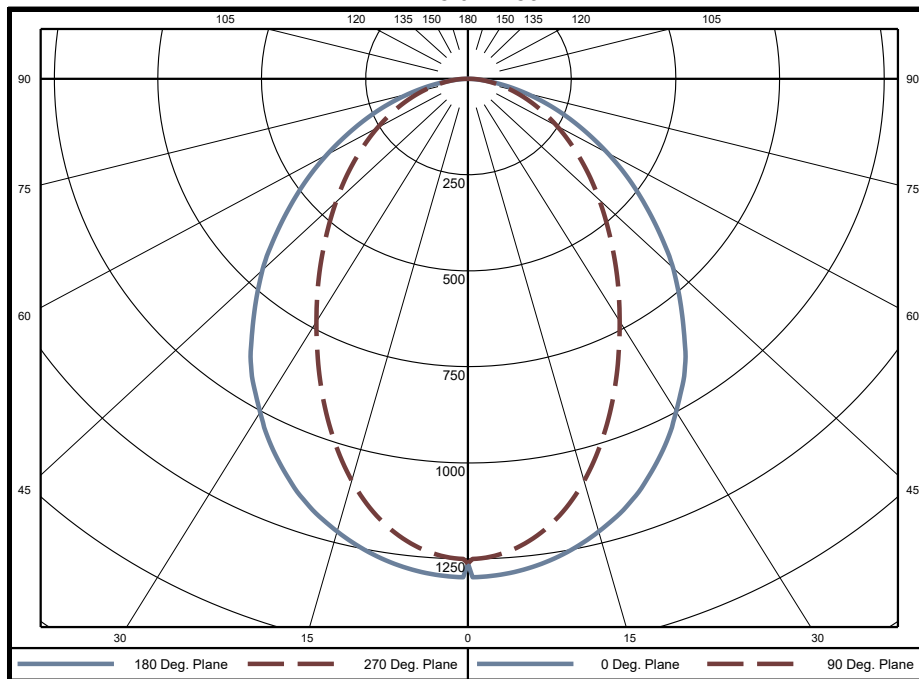
Luminaire Efficacy:

91.4 lm/w

Maximum Candela:

1298 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 30.0   | 1.2%           | 60-65   | 132.7  | 5.3%           | 120-125 | 0      | 0.0%           |
| 5-10  | 87.8   | 3.5%           | 65-70   | 105.1  | 4.2%           | 125-130 | 0      | 0.0%           |
| 10-15 | 139.2  | 5.5%           | 70-75   | 77.2   | 3.1%           | 130-135 | 0      | 0.0%           |
| 15-20 | 180.8  | 7.2%           | 75-80   | 50.3   | 2.0%           | 135-140 | 0      | 0.0%           |
| 20-25 | 210.8  | 8.4%           | 80-85   | 26.6   | 1.1%           | 140-145 | 0      | 0.0%           |
| 25-30 | 228.5  | 9.1%           | 85-90   | 9.0    | 0.4%           | 145-150 | 0      | 0.0%           |
| 30-35 | 235.1  | 9.3%           | 90-95   | 0      | 0.0%           | 150-155 | 0      | 0.0%           |
| 35-40 | 232.5  | 9.2%           | 95-100  | 0      | 0.0%           | 155-160 | 0      | 0.0%           |
| 40-45 | 221.5  | 8.8%           | 100-105 | 0      | 0.0%           | 160-165 | 0      | 0.0%           |
| 45-50 | 204.9  | 8.1%           | 105-110 | 0      | 0.0%           | 165-170 | 0      | 0.0%           |
| 50-55 | 183.7  | 7.3%           | 110-115 | 0      | 0.0%           | 170-175 | 0      | 0.0%           |
| 55-60 | 159.3  | 6.3%           | 115-120 | 0      | 0.0%           | 175-180 | 0      | 0.0%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 1345   | 53.5%          |
| 0-60   | 2114   | 84.1%          |
| 0-90   | 2515   | 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   | 1262 | 1262 | 1262 | 1262 | 1262  | 1262 | 1262  | 1262 | 1262  | 1262 | 1262  | 1262 | 1262  | 1262 | 1262  |
|                          | 5   | 1289 | 1258 | 1239 | 1235 | 1231  | 1235 | 1239  | 1258 | 1289  | 1258 | 1239  | 1235 | 1231  | 1235 | 1239  |
|                          | 10  | 1263 | 1227 | 1198 | 1182 | 1174  | 1182 | 1198  | 1227 | 1263  | 1227 | 1198  | 1182 | 1174  | 1182 | 1198  |
|                          | 15  | 1220 | 1178 | 1131 | 1099 | 1084  | 1099 | 1131  | 1178 | 1220  | 1178 | 1131  | 1099 | 1084  | 1099 | 1131  |
|                          | 20  | 1165 | 1114 | 1044 | 994  | 971   | 994  | 1044  | 1114 | 1165  | 1114 | 1044  | 994  | 971   | 994  | 1044  |
|                          | 25  | 1091 | 1032 | 946  | 877  | 850   | 877  | 946   | 1032 | 1091  | 1032 | 946   | 877  | 850   | 877  | 946   |
|                          | 30  | 1004 | 938  | 837  | 762  | 733   | 762  | 837   | 938  | 1004  | 938  | 837   | 762  | 733   | 762  | 837   |
|                          | 35  | 914  | 839  | 729  | 655  | 629   | 655  | 729   | 839  | 914   | 839  | 729   | 655  | 629   | 655  | 729   |
|                          | 40  | 805  | 734  | 627  | 558  | 533   | 558  | 627   | 734  | 805   | 734  | 627   | 558  | 533   | 558  | 627   |
|                          | 45  | 702  | 629  | 532  | 471  | 451   | 471  | 532   | 629  | 702   | 629  | 532   | 471  | 451   | 471  | 532   |
|                          | 50  | 592  | 530  | 446  | 395  | 377   | 395  | 446   | 530  | 592   | 530  | 446   | 395  | 377   | 395  | 446   |
|                          | 55  | 490  | 438  | 368  | 325  | 310   | 325  | 368   | 438  | 490   | 438  | 368   | 325  | 310   | 325  | 368   |
|                          | 60  | 393  | 352  | 297  | 263  | 251   | 263  | 297   | 352  | 393   | 352  | 297   | 263  | 251   | 263  | 297   |
|                          | 65  | 301  | 273  | 230  | 205  | 197   | 205  | 230   | 273  | 301   | 273  | 230   | 205  | 197   | 205  | 230   |
|                          | 70  | 220  | 201  | 170  | 154  | 148   | 154  | 170   | 201  | 220   | 201  | 170   | 154  | 148   | 154  | 170   |
|                          | 75  | 144  | 134  | 115  | 106  | 103   | 106  | 115   | 134  | 144   | 134  | 115   | 106  | 103   | 106  | 115   |
|                          | 80  | 79   | 75   | 68   | 65   | 64    | 65   | 68    | 75   | 79    | 75   | 68    | 65   | 64    | 65   | 68    |
|                          | 85  | 28   | 29   | 30   | 32   | 32    | 32   | 30    | 29   | 28    | 29   | 30    | 32   | 32    | 32   | 30    |
|                          | 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>)**

| Vertical Angle<br>(Degrees) | Horizontal Angle (Degrees) |       |       |       |
|-----------------------------|----------------------------|-------|-------|-------|
|                             | 0                          | 45    | 90    |       |
|                             | 0                          | 23280 | 23280 | 23280 |
|                             | 45                         | 18330 | 13880 | 11760 |
|                             | 55                         | 15760 | 11850 | 9984  |
|                             | 65                         | 13160 | 10040 | 8598  |
|                             | 75                         | 10280 | 8218  | 7375  |
|                             | 85                         | 5939  | 6396  | 6871  |



### 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                                      | 2994                                                               | 2994 | 2994 | 2994 | 2925 | 2925 | 2925 | 2925 | 2795 | 2795 | 2795 | 2676 | 2676 | 2676 | 2566 | 2566 | 2566 | 2515 |
| 1                                      | 2761                                                               | 2651 | 2553 | 2465 | 2694 | 2595 | 2506 | 2425 | 2489 | 2416 | 2349 | 2391 | 2332 | 2277 | 2302 | 2254 | 2210 | 2159 |
| 2                                      | 2534                                                               | 2343 | 2186 | 2053 | 2470 | 2297 | 2152 | 2029 | 2209 | 2087 | 1983 | 2128 | 2027 | 1938 | 2053 | 1970 | 1895 | 1843 |
| 3                                      | 2329                                                               | 2084 | 1894 | 1743 | 2269 | 2045 | 1869 | 1728 | 1972 | 1821 | 1698 | 1904 | 1776 | 1669 | 1841 | 1733 | 1641 | 1589 |
| 4                                      | 2148                                                               | 1867 | 1662 | 1505 | 2092 | 1835 | 1643 | 1495 | 1773 | 1606 | 1474 | 1716 | 1572 | 1455 | 1663 | 1539 | 1436 | 1384 |
| 5                                      | 1988                                                               | 1685 | 1473 | 1317 | 1937 | 1657 | 1459 | 1310 | 1606 | 1431 | 1296 | 1557 | 1404 | 1283 | 1512 | 1378 | 1270 | 1219 |
| 6                                      | 1846                                                               | 1530 | 1319 | 1167 | 1799 | 1507 | 1307 | 1162 | 1463 | 1285 | 1152 | 1422 | 1264 | 1143 | 1383 | 1243 | 1133 | 1084 |
| 7                                      | 1720                                                               | 1398 | 1190 | 1045 | 1678 | 1379 | 1181 | 1041 | 1341 | 1163 | 1034 | 1306 | 1146 | 1027 | 1272 | 1129 | 1019 | 972  |
| 8                                      | 1608                                                               | 1285 | 1082 | 943  | 1570 | 1268 | 1075 | 940  | 1236 | 1060 | 935  | 1205 | 1046 | 929  | 1177 | 1032 | 924  | 878  |
| 9                                      | 1508                                                               | 1187 | 990  | 858  | 1473 | 1172 | 984  | 856  | 1144 | 972  | 851  | 1118 | 960  | 847  | 1093 | 949  | 843  | 799  |
| 10                                     | 1418                                                               | 1101 | 911  | 785  | 1387 | 1088 | 906  | 784  | 1064 | 896  | 780  | 1041 | 886  | 777  | 1020 | 877  | 774  | 732  |

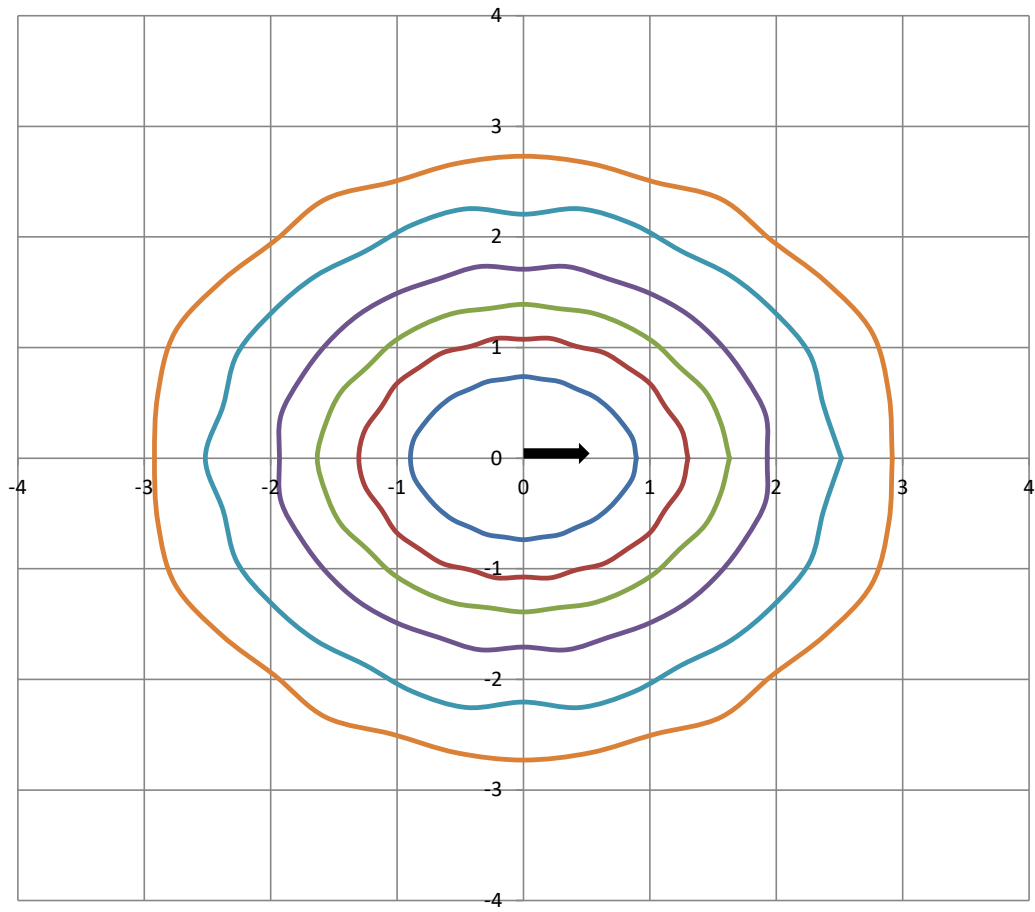
| Beam and Field Information |               |
|----------------------------|---------------|
| CIE Type:                  | Direct        |
| Center Beam Intensity:     | 1262 Candela  |
| Central Cone Intensity:    | 1257 Candela  |
| Beam Flux:                 | 1397.0 Lumens |
| Beam Angle (0-180):        | 96.5 Degrees  |
| Beam Angle (90-270):       | 69.8 Degrees  |
| Field Angle (0-180):       | 152.6 Degrees |
| Field Angle (90-270):      | 144.7 Degrees |

| Cone of Light Tabulation |  |                      |                 |
|--------------------------|--|----------------------|-----------------|
| Mounting Height (Feet)   |  | Footcandles at Nadir | Diameter (Feet) |
| 4.00                     |  | 78.9                 | 4.17            |
| 6.00                     |  | 35.0                 | 6.25            |
| 8.00                     |  | 19.7                 | 8.33            |
| 10.0                     |  | 12.6                 | 10.4            |
| 12.0                     |  | 8.76                 | 12.5            |
| 14.0                     |  | 6.44                 | 14.6            |
| 16.0                     |  | 4.93                 | 16.7            |



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

