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## Indoor Distribution Test Report

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

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

John Andrews  
20 Audrey Pl.  
Fairfield, NJ 07004-3416

**Catalog Number**  
**LC14-4-2100-30K-HTA-S30-UNI-XXXX**

Order Number  
10657727  
Test Number  
883427

Test Date

2015-01-22

Prepared By

Dane Hernandez-Adams, 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:** Formed white enamel steel housing, white enamel steel reflector, frosted plastic lens enclosure  
**Lamp:** 120 white LEDs  
**Mounting:** Surface wall  
**Ballast/Driver:** One Osram OT30W/PRG1050C/UNV/DIM/L

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 3.75 in.  
Luminous Width: 45.00 in.  
Luminous Height: 3.75 in.

**Summary of Results**

Total Luminaire Output: 2095 Lumens  
Luminaire Efficacy: 99.9 lm/w  
Maximum Candela: 623.4 Candela

**Electrical Data**

Test Temperature: 24.7 °C  
Voltage: 120.0 VAC  
Current: 0.1756 A  
Power: 20.96 W  
Power Factor: 0.995  
Frequency: 60 Hz  
Current THD: 4.77 %

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 |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.7 °C     | 120.0 VAC | 0.1756 A | 20.96 W | 0.995        | 60 Hz     | 4.77 %      |

### Summary of Results

#### Spacing Criteria

0-180: 1.12

90-270: 1.19

#### Total Lumen Output:

2095 Lumens

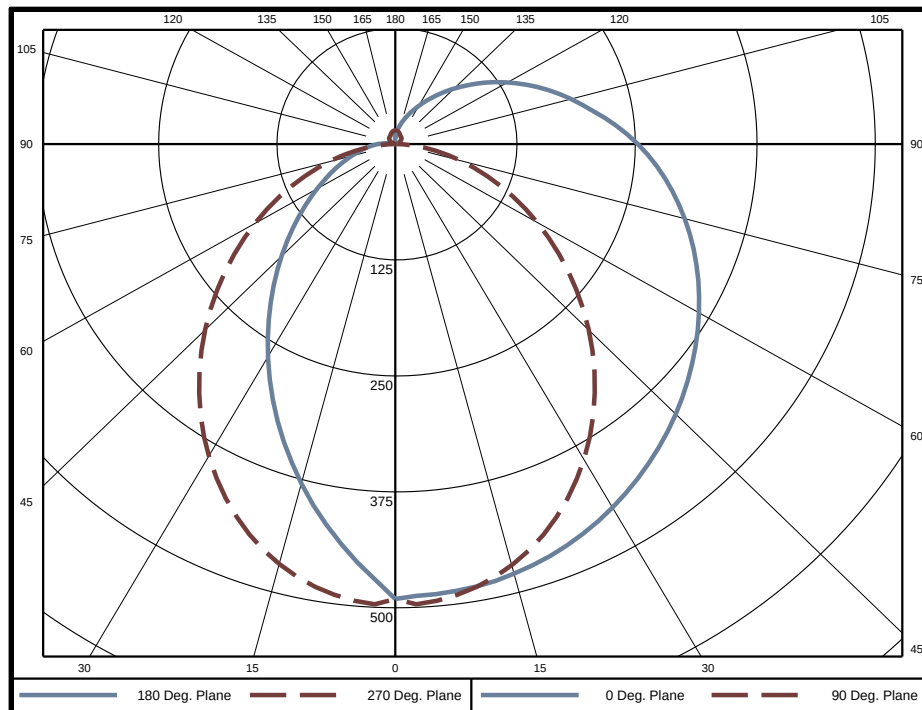
#### Luminaire Efficacy:

99.9 lm/w

#### Maximum Candela:

623 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 12.4   | 0.6%           | 60-65   | 116.6  | 5.6%           | 120-125 | 27.2   | 1.3%           |
| 5-10  | 34.5   | 1.6%           | 65-70   | 109.0  | 5.2%           | 125-130 | 22.5   | 1.1%           |
| 10-15 | 56.0   | 2.7%           | 70-75   | 100.4  | 4.8%           | 130-135 | 18.3   | 0.9%           |
| 15-20 | 75.5   | 3.6%           | 75-80   | 91.1   | 4.3%           | 135-140 | 14.4   | 0.7%           |
| 20-25 | 92.4   | 4.4%           | 80-85   | 81.7   | 3.9%           | 140-145 | 11.1   | 0.5%           |
| 25-30 | 106.2  | 5.1%           | 85-90   | 72.4   | 3.5%           | 145-150 | 8.1    | 0.4%           |
| 30-35 | 116.8  | 5.6%           | 90-95   | 63.9   | 3.0%           | 150-155 | 5.6    | 0.3%           |
| 35-40 | 124.0  | 5.9%           | 95-100  | 56.2   | 2.7%           | 155-160 | 3.9    | 0.2%           |
| 40-45 | 127.9  | 6.1%           | 100-105 | 49.6   | 2.4%           | 160-165 | 2.5    | 0.1%           |
| 45-50 | 128.8  | 6.1%           | 105-110 | 43.6   | 2.1%           | 165-170 | 1.5    | 0.1%           |
| 50-55 | 126.9  | 6.1%           | 110-115 | 37.8   | 1.8%           | 170-175 | 0.9    | 0.0%           |
| 55-60 | 122.7  | 5.9%           | 115-120 | 32.3   | 1.5%           | 175-180 | 0.3    | 0.0%           |



**Candela Tabulation**  
Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | 0   | 22.5 | 45  | 67.5 | 90  | 113 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 |
|--------------------------|-----|------|-----|------|-----|-----|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
|                          | 0   | 491  | 491 | 491  | 491 | 491 | 491 | 491   | 491 | 491   | 491 | 491   | 491 | 491   | 491 | 491   |
|                          | 5   | 487  | 521 | 510  | 501 | 494 | 475 | 462   | 458 | 453   | 458 | 462   | 475 | 494   | 501 | 521   |
|                          | 10  | 485  | 549 | 528  | 505 | 485 | 453 | 433   | 423 | 417   | 423 | 433   | 453 | 485   | 505 | 549   |
|                          | 15  | 479  | 573 | 540  | 504 | 469 | 428 | 400   | 388 | 380   | 388 | 400   | 428 | 469   | 504 | 573   |
|                          | 20  | 473  | 592 | 548  | 496 | 448 | 398 | 366   | 350 | 342   | 350 | 366   | 398 | 448   | 496 | 592   |
|                          | 25  | 464  | 606 | 550  | 482 | 421 | 364 | 329   | 313 | 305   | 313 | 329   | 364 | 421   | 482 | 606   |
|                          | 30  | 453  | 616 | 546  | 464 | 391 | 328 | 292   | 275 | 268   | 275 | 292   | 328 | 391   | 464 | 616   |
|                          | 35  | 441  | 622 | 538  | 440 | 357 | 290 | 255   | 239 | 232   | 239 | 255   | 290 | 357   | 440 | 622   |
|                          | 40  | 427  | 623 | 526  | 413 | 320 | 252 | 219   | 205 | 199   | 205 | 219   | 252 | 320   | 413 | 623   |
|                          | 45  | 413  | 620 | 511  | 383 | 282 | 215 | 185   | 173 | 168   | 173 | 185   | 215 | 282   | 383 | 620   |
|                          | 50  | 398  | 613 | 491  | 352 | 244 | 178 | 153   | 144 | 140   | 144 | 153   | 178 | 244   | 352 | 613   |
|                          | 55  | 382  | 601 | 469  | 320 | 206 | 143 | 124   | 118 | 116   | 118 | 124   | 143 | 206   | 320 | 601   |
|                          | 60  | 366  | 586 | 445  | 288 | 169 | 111 | 98    | 95  | 94    | 95  | 98    | 111 | 169   | 288 | 586   |
|                          | 65  | 349  | 567 | 418  | 256 | 134 | 82  | 75    | 76  | 75    | 76  | 82    | 134 | 256   | 418 | 567   |
|                          | 70  | 331  | 544 | 391  | 224 | 101 | 58  | 56    | 59  | 60    | 59  | 56    | 58  | 101   | 224 | 544   |
|                          | 75  | 313  | 519 | 362  | 194 | 71  | 37  | 40    | 45  | 46    | 45  | 40    | 37  | 71    | 194 | 519   |
|                          | 80  | 294  | 491 | 334  | 165 | 43  | 22  | 28    | 33  | 35    | 33  | 28    | 22  | 43    | 165 | 491   |
|                          | 85  | 274  | 460 | 305  | 139 | 19  | 11  | 18    | 24  | 26    | 24  | 18    | 11  | 19    | 139 | 460   |
|                          | 90  | 253  | 429 | 278  | 117 | 0   | 4   | 11    | 16  | 18    | 16  | 11    | 4   | 0     | 117 | 429   |
|                          | 95  | 231  | 396 | 252  | 98  | 0   | 0   | 4     | 8   | 9     | 8   | 4     | 0   | 0     | 98  | 396   |
|                          | 100 | 209  | 362 | 227  | 83  | 1   | 0   | 0     | 1   | 2     | 1   | 0     | 0   | 1     | 83  | 362   |
|                          | 105 | 189  | 329 | 204  | 73  | 2   | 0   | 0     | 1   | 1     | 1   | 0     | 0   | 2     | 73  | 329   |
|                          | 110 | 170  | 295 | 182  | 64  | 3   | 0   | 0     | 0   | 1     | 0   | 0     | 0   | 3     | 64  | 295   |
|                          | 115 | 151  | 263 | 162  | 58  | 5   | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 5     | 58  | 263   |
|                          | 120 | 133  | 231 | 143  | 53  | 6   | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 6     | 53  | 231   |
|                          | 125 | 116  | 201 | 126  | 49  | 7   | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 7     | 49  | 201   |
|                          | 130 | 99   | 173 | 110  | 46  | 8   | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 8     | 46  | 110   |
|                          | 135 | 84   | 147 | 96   | 42  | 9   | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 9     | 42  | 96    |
|                          | 140 | 70   | 123 | 82   | 37  | 10  | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 10    | 37  | 123   |
|                          | 145 | 57   | 102 | 69   | 32  | 10  | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 10    | 32  | 102   |
|                          | 150 | 46   | 84  | 53   | 27  | 10  | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 10    | 27  | 53    |
|                          | 155 | 37   | 68  | 39   | 23  | 11  | 1   | 0     | 0   | 0     | 0   | 0     | 1   | 11    | 23  | 39    |
|                          | 160 | 29   | 48  | 30   | 21  | 12  | 4   | 0     | 0   | 0     | 0   | 0     | 4   | 12    | 21  | 48    |
|                          | 165 | 23   | 31  | 25   | 20  | 13  | 6   | 1     | 0   | 0     | 0   | 1     | 6   | 13    | 20  | 31    |
|                          | 170 | 17   | 20  | 21   | 19  | 14  | 9   | 5     | 2   | 1     | 2   | 5     | 9   | 14    | 19  | 20    |
|                          | 175 | 13   | 13  | 17   | 17  | 15  | 12  | 9     | 7   | 4     | 7   | 9     | 12  | 15    | 17  | 13    |
|                          | 180 | 12   | 12  | 12   | 12  | 12  | 12  | 12    | 12  | 12    | 12  | 12    | 12  | 12    | 12  | 12    |



### 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                          | 2399                                                               | 2399 | 2399 | 2399 | 2297 | 2297 | 2297 | 2297 | 2106 | 2106 | 2106 | 1931 | 1931 | 1931 | 1771 | 1771 | 1771 | 1696 |
| 1                          | 2127                                                               | 2004 | 1893 | 1793 | 2027 | 1916 | 1816 | 1726 | 1752 | 1672 | 1598 | 1601 | 1537 | 1478 | 1462 | 1412 | 1365 | 1292 |
| 2                          | 1914                                                               | 1718 | 1555 | 1418 | 1819 | 1643 | 1495 | 1370 | 1502 | 1382 | 1278 | 1372 | 1275 | 1189 | 1252 | 1174 | 1105 | 1035 |
| 3                          | 1734                                                               | 1493 | 1307 | 1158 | 1646 | 1429 | 1259 | 1122 | 1308 | 1167 | 1051 | 1196 | 1080 | 982  | 1092 | 998  | 916  | 851  |
| 4                          | 1581                                                               | 1314 | 1118 | 968  | 1500 | 1258 | 1079 | 940  | 1154 | 1003 | 884  | 1057 | 931  | 829  | 967  | 863  | 776  | 715  |
| 5                          | 1449                                                               | 1167 | 970  | 825  | 1375 | 1120 | 938  | 802  | 1030 | 875  | 756  | 946  | 815  | 712  | 867  | 757  | 669  | 612  |
| 6                          | 1335                                                               | 1047 | 853  | 714  | 1268 | 1005 | 825  | 695  | 927  | 772  | 657  | 853  | 721  | 620  | 784  | 672  | 584  | 531  |
| 7                          | 1236                                                               | 945  | 757  | 625  | 1175 | 909  | 734  | 609  | 840  | 688  | 578  | 776  | 644  | 547  | 715  | 602  | 516  | 467  |
| 8                          | 1148                                                               | 860  | 678  | 554  | 1093 | 828  | 658  | 540  | 767  | 619  | 513  | 710  | 581  | 487  | 657  | 544  | 460  | 415  |
| 9                          | 1071                                                               | 787  | 613  | 495  | 1020 | 759  | 595  | 483  | 705  | 561  | 460  | 654  | 528  | 437  | 606  | 496  | 414  | 372  |
| 10                         | 1003                                                               | 724  | 557  | 446  | 956  | 699  | 541  | 436  | 651  | 511  | 415  | 606  | 482  | 395  | 563  | 454  | 376  | 336  |

### Cone of Light Tabulation

| Mounting Height | Footcandles at Nadir | Diameter (Feet) |
|-----------------|----------------------|-----------------|
| 4.00            | 30.7                 | 4.97            |
| 6.00            | 13.6                 | 7.46            |
| 8.00            | 7.67                 | 9.94            |
| 10.0            | 4.91                 | 12.4            |
| 12.0            | 3.41                 | 14.9            |
| 14.0            | 2.50                 | 17.4            |
| 16.0            | 1.92                 | 19.9            |

### Cone of Light Plot

