

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

SGE10LEDOS 10L 35K XX AR1023OS MW SO  
Nom 10 inch diam, AR1023 trim, MW interior finish, Solite lens

### Test Number

SP-00690\_4\_M-10L

### Test Date

11/5/2020

The results contained in this report pertain only to this IES file.

### Summary of Results

#### Power

|             |       |
|-------------|-------|
| Input Watts | 8.7 W |
|-------------|-------|

#### Lumen Output

|               |             |
|---------------|-------------|
| Output Lumens | 992         |
| Efficacy      | 114.01 lm/W |

#### Luminous Dimensions

|                 |       |
|-----------------|-------|
| 0° - 180° Size  | -0.83 |
| 90° - 270° Size | -0.83 |
| Height          | 0     |

#### Spacing Criterion

|                           |      |
|---------------------------|------|
| Two luminaires, plane 0°  | 1.25 |
| Two luminaires, plane 90° | 1.24 |
| Four luminaires           | 1.26 |

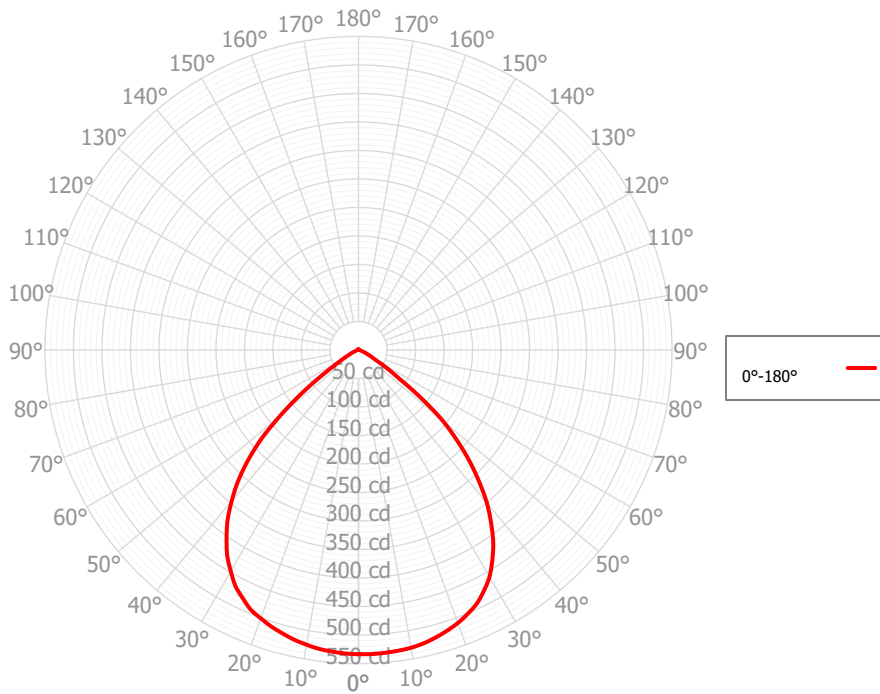
#### Full Beam Angle

|            |      |
|------------|------|
| 0° - 180°  | 91°  |
| 90° - 270° | N/A° |

### IES File Header Contents

| Keyword   | Value  |
|-----------|--|
| TEST      | SP-00690_4_M-10L   |
| TESTLAB   | Spectrum Lighting Photometric Lab, VLS-245-981                 |
| MANUFAC   | Spectrum Lighting  |
| TESTDATE  | 11/5/2020  |
| ISSUEDATE | 12/28/2020   |
| LUMCAT    | SGE10LEDOS 10L 35K XX AR1023OS MW SO                           |
| LUMINAIRE | Nom 10 inch diam, AR1023 trim, MW interior finish, Solite lens |
| OTHER     | Beam angle: 91 deg   |
| LAMPCAT   | N/A  |
| LAMP      | N/A, G4  |
| OTHER     | CCT Output Multiplier: 27K x 0.96, 30K x 0.99, 40K x 1.03      |
| OTHER     | Total luminaire wattage is approximate                         |
| OTHER     | This report prepared by Spectrum Lighting                      |

**Candela Polar Plot**



**Zonal Lumen Summary**

| Zone            | Lumens | % Fixture | Zone              | Lumens | % Fixture |
|-----------------|--------|-----------|-------------------|--------|-----------|
| 0.00° - 10.00°  | 51.43  | 5.19%     | 90.00° - 100.00°  | 0.37   | 0.04%     |
| 10.00° - 20.00° | 146.38 | 14.76%    | 100.00° - 110.00° | 0.39   | 0.04%     |
| 20.00° - 30.00° | 222.94 | 22.48%    | 100.00° - 120.00° | 0.73   | 0.07%     |
| 30.00° - 40.00° | 253.04 | 25.51%    | 120.00° - 130.00° | 0.31   | 0.03%     |
| 40.00° - 50.00° | 208.51 | 21.02%    | 130.00° - 140.00° | 0.32   | 0.03%     |
| 50.00° - 60.00° | 83.32  | 8.40%     | 140.00° - 150.00° | 0.29   | 0.03%     |
| 60.00° - 70.00° | 17.38  | 1.75%     | 150.00° - 160.00° | 0.26   | 0.03%     |
| 70.00° - 80.00° | 4.91   | 0.50%     | 160.00° - 170.00° | 0.16   | 0.02%     |
| 80.00° - 90.00° | 1.45   | 0.15%     | 170.00° - 180.00° | 0.06   | 0.01%     |
| 0.00° - 90.00°  | 989.37 | 99.75%    | 0.00° - 180.00°   | 991.88 | 100.00%   |

### Candela Distribution

|         | 0.00°  | 180.00° |
|---------|--------|---------|
| 0.00°   | 533.71 | 533.71  |
| 2.50°   | 533.97 | 532.90  |
| 5.00°   | 533.26 | 531.10  |
| 7.50°   | 532.13 | 528.87  |
| 10.00°  | 530.42 | 524.99  |
| 12.50°  | 527.15 | 520.63  |
| 15.00°  | 522.27 | 514.79  |
| 17.50°  | 516.38 | 508.66  |
| 20.00°  | 509.68 | 501.06  |
| 22.50°  | 500.95 | 493.29  |
| 25.00°  | 490.97 | 480.44  |
| 27.50°  | 476.39 | 467.21  |
| 30.00°  | 459.65 | 448.15  |
| 32.50°  | 436.95 | 428.52  |
| 35.00°  | 412.20 | 403.54  |
| 37.50°  | 381.96 | 377.53  |
| 40.00°  | 350.46 | 346.22  |
| 42.50°  | 313.11 | 313.23  |
| 45.00°  | 274.94 | 274.61  |
| 47.50°  | 233.92 | 231.79  |
| 50.00°  | 192.62 | 178.73  |
| 52.50°  | 138.32 | 127.93  |
| 55.00°  | 85.86  | 81.18   |
| 57.50°  | 58.44  | 47.52   |
| 60.00°  | 33.59  | 31.52   |
| 62.50°  | 25.11  | 20.50   |
| 65.00°  | 17.43  | 14.74   |
| 67.50°  | 12.91  | 10.35   |
| 70.00°  | 8.88   | 7.05    |
| 72.50°  | 6.25   | 5.14    |
| 75.00°  | 4.26   | 4.07    |
| 77.50°  | 3.56   | 3.33    |
| 80.00°  | 2.82   | 2.75    |
| 82.50°  | 2.01   | 1.95    |
| 85.00°  | 1.28   | 1.08    |
| 87.50°  | 0.64   | 0.64    |
| 90.00°  | 0.32   | 0.29    |
| 92.50°  | 0.28   | 0.25    |
| 95.00°  | 0.35   | 0.24    |
| 97.50°  | 0.48   | 0.36    |
| 100.00° | 0.46   | 0.48    |
| 102.50° | 0.35   | 0.44    |
| 105.00° | 0.31   | 0.41    |
| 107.50° | 0.29   | 0.36    |
| 110.00° | 0.33   | 0.32    |
| 112.50° | 0.39   | 0.30    |

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

|            |            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
|------------|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| <b>RCR</b> | <b>pfc</b> | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 0%  |
|            | <b>pcc</b> | 80%  | 80%  | 80%  | 80%  | 70%  | 70%  | 70%  | 70%  | 50%  | 50%  | 50%  | 30%  | 30%  | 30%  | 10%  | 10%  | 0%  |
|            | <b>pw</b>  | 70%  | 50%  | 30%  | 10%  | 70%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 30% |
|            | <b>0</b>   | 1180 | 1180 | 1180 | 1180 | 1152 | 1152 | 1152 | 1152 | 1101 | 1101 | 1101 | 1053 | 1053 | 1053 | 1010 | 1010 | 989 |
|            | <b>1</b>   | 1111 | 1077 | 1047 | 1020 | 1085 | 1055 | 1028 | 1003 | 1014 | 992  | 971  | 976  | 958  | 942  | 941  | 927  | 914 |
|            | <b>2</b>   | 1037 | 977  | 927  | 885  | 1014 | 959  | 913  | 875  | 925  | 887  | 855  | 894  | 863  | 836  | 866  | 840  | 817 |
|            | <b>3</b>   | 967  | 887  | 825  | 775  | 945  | 872  | 815  | 769  | 844  | 795  | 755  | 818  | 777  | 743  | 794  | 760  | 731 |
|            | <b>4</b>   | 900  | 806  | 737  | 685  | 880  | 794  | 730  | 680  | 771  | 715  | 671  | 749  | 701  | 663  | 729  | 688  | 654 |
|            | <b>5</b>   | 839  | 735  | 663  | 609  | 821  | 725  | 657  | 606  | 705  | 646  | 600  | 687  | 635  | 594  | 670  | 625  | 588 |
|            | <b>6</b>   | 783  | 673  | 599  | 546  | 766  | 664  | 594  | 544  | 647  | 585  | 539  | 632  | 577  | 535  | 617  | 569  | 531 |
|            | <b>7</b>   | 732  | 618  | 544  | 492  | 716  | 610  | 540  | 490  | 596  | 533  | 487  | 583  | 526  | 484  | 570  | 519  | 481 |
|            | <b>8</b>   | 685  | 569  | 496  | 446  | 671  | 563  | 493  | 445  | 550  | 487  | 442  | 539  | 482  | 440  | 528  | 476  | 438 |
|            | <b>9</b>   | 643  | 526  | 455  | 407  | 630  | 521  | 452  | 406  | 510  | 448  | 404  | 500  | 443  | 402  | 491  | 438  | 400 |
|            | <b>10</b>  | 605  | 488  | 419  | 372  | 593  | 484  | 417  | 372  | 474  | 413  | 370  | 466  | 409  | 369  | 457  | 405  | 367 |

### Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft     | 17.6 fc     | 5.6 ft        |
| 6.5 ft     | 12.6 fc     | 6.6 ft        |
| 7.5 ft     | 9.5 fc      | 7.6 ft        |
| 8.0 ft     | 8.3 fc      | 8.1 ft        |
| 10.0 ft    | 5.3 fc      | 10.2 ft       |
| 12.0 ft    | 3.7 fc      | 12.2 ft       |
| 14.0 ft    | 2.7 fc      | 14.2 ft       |
| 16.0 ft    | 2.1 fc      | 16.3 ft       |
| 20.0 ft    | 1.3 fc      | 20.3 ft       |
| 24.0 ft    | 0.9 fc      | 24.4 ft       |
| 28.0 ft    | 0.7 fc      | 28.5 ft       |

### Average Luminaire Luminance [cd/m²]

|        | 0.00° | 45.00° | 90.00° |
|--------|-------|--------|--------|
| 0.00°  | 10618 | 10618  | 10618  |
| 45.00° | 7735  | 7733   | 7731   |
| 55.00° | 2978  | 2937   | 2897   |
| 65.00° | 821   | 789    | 757    |
| 75.00° | 327   | 323    | 320    |
| 85.00° | 291   | 280    | 269    |

### UGR CIE 190:2010

| Ceiling reflectance |     | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5  | 0.5  | 0.3  |
|---------------------|-----|------------------|------|------|------|------|----------------|------|------|------|------|
| Wall reflectance    |     | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5  | 0.3  | 0.3  |
| Plane reflectance   |     | 0.2              | 0.2  | 0.2  | 0.2  | 0.2  | 0.2            | 0.2  | 0.2  | 0.2  | 0.2  |
| Room dimensions     |     | Viewed crosswise |      |      |      |      | Viewed endwise |      |      |      |      |
| 2H                  | 2H  | 10.5             | 11.8 | 10.9 | 12.2 | 12.5 | 9.9            | 11.2 | 10.2 | 11.5 | 11.8 |
|                     | 3H  | 10.6             | 11.8 | 11.0 | 12.1 | 12.5 | 10.0           | 11.1 | 10.4 | 11.4 | 11.8 |
|                     | 4H  | 10.6             | 11.7 | 11.0 | 12.0 | 12.4 | 10.0           | 11.0 | 10.4 | 11.4 | 11.8 |
|                     | 6H  | 10.6             | 11.6 | 11.0 | 11.9 | 12.3 | 9.9            | 10.9 | 10.3 | 11.3 | 11.7 |
|                     | 8H  | 10.6             | 11.5 | 11.0 | 11.9 | 12.3 | 9.9            | 10.8 | 10.3 | 11.2 | 11.6 |
|                     | 12H | 10.5             | 11.4 | 11.0 | 11.8 | 12.2 | 9.9            | 10.8 | 10.3 | 11.1 | 11.6 |
| 4H                  | 2H  | 10.5             | 11.5 | 10.9 | 11.9 | 12.3 | 9.8            | 10.9 | 10.2 | 11.2 | 11.6 |
|                     | 3H  | 10.6             | 11.5 | 11.1 | 11.9 | 12.3 | 10.0           | 10.8 | 10.4 | 11.2 | 11.6 |
|                     | 4H  | 10.6             | 11.4 | 11.1 | 11.8 | 12.3 | 10.0           | 10.7 | 10.4 | 11.1 | 11.6 |
|                     | 6H  | 10.6             | 11.3 | 11.1 | 11.7 | 12.2 | 10.0           | 10.6 | 10.4 | 11.1 | 11.5 |
|                     | 8H  | 10.6             | 11.2 | 11.1 | 11.7 | 12.1 | 9.9            | 10.6 | 10.4 | 11.0 | 11.5 |
|                     | 12H | 10.6             | 11.1 | 11.1 | 11.6 | 12.1 | 9.9            | 10.5 | 10.4 | 11.0 | 11.4 |
| 8H                  | 4H  | 10.5             | 11.1 | 11.0 | 11.6 | 12.1 | 9.9            | 10.5 | 10.3 | 10.9 | 11.4 |
|                     | 6H  | 10.5             | 11.0 | 11.0 | 11.5 | 12.0 | 9.9            | 10.4 | 10.4 | 10.9 | 11.4 |
|                     | 8H  | 10.5             | 11.0 | 11.0 | 11.5 | 12.0 | 9.9            | 10.3 | 10.4 | 10.8 | 11.3 |
|                     | 12H | 10.5             | 10.9 | 11.0 | 11.4 | 12.0 | 9.9            | 10.3 | 10.4 | 10.8 | 11.4 |
| 12H                 | 4H  | 10.5             | 11.0 | 11.0 | 11.5 | 12.0 | 9.8            | 10.4 | 10.3 | 10.8 | 11.3 |
|                     | 6H  | 10.5             | 10.9 | 11.0 | 11.4 | 12.0 | 9.8            | 10.3 | 10.4 | 10.8 | 11.3 |
|                     | 8H  | 10.5             | 10.9 | 11.0 | 11.4 | 12.0 | 9.8            | 10.3 | 10.4 | 10.8 | 11.3 |

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0