

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE12LEDOS 45L 35K XX AR1223OS MW SO
Nom 12 inch diam, AR1223 trim, MW interior finish, Solite lens

Test Number

SP-01197_2

Test Date

11/5/2020

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

Summary of Results

Power

| | |
|-------------|------|
| Input Watts | 40 W |
|-------------|------|

Lumen Output

| | |
|---------------|-------------|
| Output Lumens | 4518 |
| Efficacy | 112.96 lm/W |

Luminous Dimensions

| | |
|-----------------|----|
| 0° - 180° Size | -1 |
| 90° - 270° Size | -1 |
| Height | 0 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 1.23 |
| Two luminaires, plane 90° | 1.23 |
| Four luminaires | 1.24 |

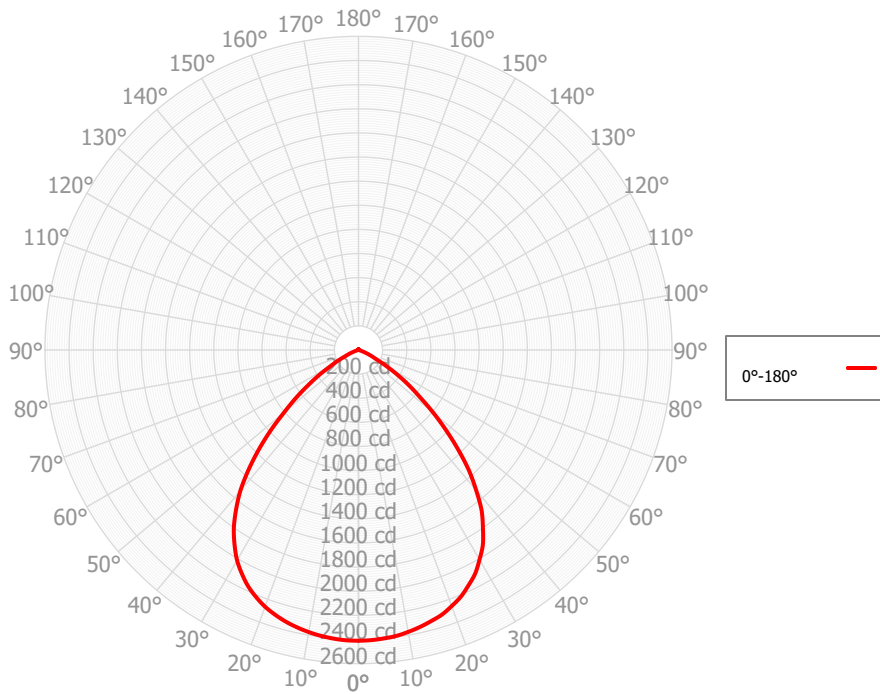
Full Beam Angle

| | |
|------------|------|
| 0° - 180° | 89° |
| 90° - 270° | N/A° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01197_2 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 11/5/2020 |
| ISSUEDATE | 12/28/2020 |
| LUMCAT | SGE12LEDOS 45L 35K XX AR1223OS MW SO |
| LUMINAIRE | Nom 12 inch diam, AR1223 trim, MW interior finish, Solite lens |
| OTHER | Beam angle: 89 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 |
| _CRI | 80+ |
| _CCTMULT | 27K x 0.96, 30K x 0.99, 40K x 1.03 |
| _LAMPMULT | 10L x 0.23, 15L x 0.32, 20L x 0.42, 30L x 0.6 |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|---------|-----------|-------------------|---------|-----------|
| 0.00° - 10.00° | 231.90 | 5.13% | 90.00° - 100.00° | 1.87 | 0.04% |
| 10.00° - 20.00° | 657.31 | 14.55% | 100.00° - 110.00° | 1.84 | 0.04% |
| 20.00° - 30.00° | 991.68 | 21.95% | 100.00° - 120.00° | 3.52 | 0.08% |
| 30.00° - 40.00° | 1116.40 | 24.71% | 120.00° - 130.00° | 1.70 | 0.04% |
| 40.00° - 50.00° | 895.79 | 19.83% | 130.00° - 140.00° | 1.64 | 0.04% |
| 50.00° - 60.00° | 461.45 | 10.21% | 140.00° - 150.00° | 1.42 | 0.03% |
| 60.00° - 70.00° | 130.46 | 2.89% | 150.00° - 160.00° | 1.22 | 0.03% |
| 70.00° - 80.00° | 17.29 | 0.38% | 160.00° - 170.00° | 0.74 | 0.02% |
| 80.00° - 90.00° | 3.67 | 0.08% | 170.00° - 180.00° | 0.25 | 0.01% |
| 0.00° - 90.00° | 4505.94 | 99.73% | 0.00° - 180.00° | 4518.29 | 100.00% |

Candela Distribution

| | 0.00° | 180.00° |
|---------|---------|---------|
| 0.00° | 2411.16 | 2411.16 |
| 2.50° | 2408.52 | 2409.77 |
| 5.00° | 2401.42 | 2402.17 |
| 7.50° | 2391.99 | 2391.09 |
| 10.00° | 2374.19 | 2375.57 |
| 12.50° | 2352.94 | 2355.94 |
| 15.00° | 2327.65 | 2332.04 |
| 17.50° | 2301.03 | 2301.58 |
| 20.00° | 2260.09 | 2265.57 |
| 22.50° | 2215.68 | 2218.51 |
| 25.00° | 2155.83 | 2163.61 |
| 27.50° | 2093.38 | 2093.36 |
| 30.00° | 2007.51 | 2014.35 |
| 32.50° | 1919.05 | 1913.49 |
| 35.00° | 1799.12 | 1802.70 |
| 37.50° | 1677.46 | 1667.93 |
| 40.00° | 1517.85 | 1524.36 |
| 42.50° | 1356.94 | 1351.81 |
| 45.00° | 1170.01 | 1171.25 |
| 47.50° | 984.27 | 987.98 |
| 50.00° | 809.35 | 804.17 |
| 52.50° | 641.17 | 655.05 |
| 55.00° | 511.17 | 510.72 |
| 57.50° | 383.64 | 388.80 |
| 60.00° | 266.43 | 268.56 |
| 62.50° | 166.34 | 192.25 |
| 65.00° | 118.86 | 117.78 |
| 67.50° | 75.62 | 81.89 |
| 70.00° | 42.41 | 47.20 |
| 72.50° | 18.54 | 26.84 |
| 75.00° | 12.39 | 8.87 |
| 77.50° | 7.84 | 7.16 |
| 80.00° | 5.75 | 5.55 |
| 82.50° | 4.06 | 4.42 |
| 85.00° | 2.86 | 3.36 |
| 87.50° | 2.16 | 2.53 |
| 90.00° | 1.97 | 1.91 |
| 92.50° | 1.79 | 1.82 |
| 95.00° | 1.61 | 1.73 |
| 97.50° | 1.57 | 1.64 |
| 100.00° | 1.63 | 1.57 |
| 102.50° | 1.73 | 1.54 |
| 105.00° | 1.85 | 1.56 |
| 107.50° | 2.03 | 1.65 |
| 110.00° | 2.23 | 1.63 |
| 112.50° | 2.17 | 1.47 |

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

| | | | | | | | | | | | | | | | | | | |
|------------|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RCR | pfc | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 0% |
| | pcc | 80% | 80% | 80% | 80% | 70% | 70% | 70% | 70% | 50% | 50% | 50% | 30% | 30% | 30% | 10% | 10% | 0% |
| | pw | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 30% |
| | 0 | 5376 | 5376 | 5376 | 5376 | 5250 | 5250 | 5250 | 5250 | 5013 | 5013 | 5013 | 4797 | 4797 | 4797 | 4599 | 4599 | 4506 |
| | 1 | 5054 | 4898 | 4759 | 4633 | 4937 | 4797 | 4672 | 4557 | 4609 | 4507 | 4414 | 4436 | 4354 | 4279 | 4277 | 4212 | 4125 |
| | 2 | 4712 | 4432 | 4201 | 4006 | 4604 | 4350 | 4139 | 3959 | 4196 | 4020 | 3868 | 4055 | 3909 | 3782 | 3923 | 3805 | 3699 |
| | 3 | 4384 | 4012 | 3725 | 3496 | 4283 | 3945 | 3679 | 3465 | 3817 | 3592 | 3406 | 3699 | 3509 | 3349 | 3590 | 3430 | 3293 |
| | 4 | 4077 | 3641 | 3322 | 3078 | 3984 | 3584 | 3287 | 3057 | 3478 | 3221 | 3017 | 3379 | 3157 | 2978 | 3287 | 3097 | 2940 |
| | 5 | 3795 | 3315 | 2979 | 2732 | 3710 | 3267 | 2953 | 2717 | 3177 | 2901 | 2690 | 3094 | 2852 | 2662 | 3015 | 2805 | 2636 |
| | 6 | 3538 | 3030 | 2688 | 2443 | 3460 | 2989 | 2667 | 2433 | 2913 | 2626 | 2413 | 2841 | 2587 | 2393 | 2774 | 2550 | 2374 |
| | 7 | 3305 | 2779 | 2438 | 2199 | 3234 | 2745 | 2422 | 2192 | 2680 | 2389 | 2177 | 2618 | 2358 | 2163 | 2561 | 2327 | 2149 |
| | 8 | 3095 | 2560 | 2224 | 1993 | 3030 | 2530 | 2210 | 1987 | 2474 | 2183 | 1976 | 2421 | 2158 | 1965 | 2371 | 2133 | 1955 |
| | 9 | 2904 | 2367 | 2038 | 1815 | 2845 | 2341 | 2027 | 1811 | 2292 | 2005 | 1803 | 2246 | 1983 | 1795 | 2203 | 1963 | 1786 |
| | 10 | 2731 | 2196 | 1876 | 1663 | 2678 | 2174 | 1867 | 1660 | 2131 | 1848 | 1653 | 2091 | 1831 | 1646 | 2053 | 1813 | 1640 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 79.7 fc | 5.4 ft |
| 6.5 ft | 57.1 fc | 6.4 ft |
| 7.5 ft | 42.9 fc | 7.4 ft |
| 8.0 ft | 37.7 fc | 7.9 ft |
| 10.0 ft | 24.1 fc | 9.8 ft |
| 12.0 ft | 16.7 fc | 11.8 ft |
| 14.0 ft | 12.3 fc | 13.8 ft |
| 16.0 ft | 9.4 fc | 15.7 ft |
| 20.0 ft | 6.0 fc | 19.7 ft |
| 24.0 ft | 4.2 fc | 23.6 ft |
| 28.0 ft | 3.1 fc | 27.5 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|-------|--------|--------|
| 0.00° | 33045 | 33045 | 33045 |
| 45.00° | 22677 | 22683 | 22689 |
| 55.00° | 12214 | 12211 | 12208 |
| 65.00° | 3854 | 3846 | 3837 |
| 75.00° | 656 | 610 | 563 |
| 85.00° | 449 | 469 | 489 |

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 | 17.2 | 18.5 | 17.6 | 18.9 | 19.2 | 17.3 | 18.6 | 17.6 | 18.9 | 19.2 |
| | 3H | 17.3 | 18.4 | 17.6 | 18.8 | 19.1 | 17.3 | 18.5 | 17.7 | 18.8 | 19.2 |
| | 4H | 17.2 | 18.3 | 17.6 | 18.6 | 19.0 | 17.2 | 18.3 | 17.7 | 18.7 | 19.1 |
| | 6H | 17.1 | 18.1 | 17.5 | 18.5 | 18.9 | 17.2 | 18.2 | 17.6 | 18.5 | 18.9 |
| | 8H | 17.1 | 18.0 | 17.5 | 18.4 | 18.8 | 17.1 | 18.1 | 17.6 | 18.5 | 18.9 |
| | 12H | 17.0 | 17.9 | 17.5 | 18.3 | 18.8 | 17.1 | 18.0 | 17.5 | 18.4 | 18.8 |
| 4H | 2H | 17.2 | 18.3 | 17.6 | 18.6 | 19.0 | 17.2 | 18.3 | 17.6 | 18.7 | 19.1 |
| | 3H | 17.2 | 18.1 | 17.7 | 18.5 | 18.9 | 17.3 | 18.2 | 17.7 | 18.6 | 19.0 |
| | 4H | 17.2 | 17.9 | 17.6 | 18.4 | 18.8 | 17.2 | 18.0 | 17.7 | 18.4 | 18.9 |
| | 6H | 17.1 | 17.8 | 17.6 | 18.2 | 18.7 | 17.1 | 17.8 | 17.6 | 18.3 | 18.7 |
| | 8H | 17.0 | 17.7 | 17.5 | 18.1 | 18.6 | 17.1 | 17.7 | 17.6 | 18.2 | 18.6 |
| | 12H | 17.0 | 17.5 | 17.5 | 18.0 | 18.5 | 17.0 | 17.6 | 17.5 | 18.1 | 18.6 |
| 8H | 4H | 17.0 | 17.7 | 17.5 | 18.1 | 18.6 | 17.1 | 17.7 | 17.6 | 18.2 | 18.6 |
| | 6H | 16.9 | 17.4 | 17.4 | 17.9 | 18.4 | 17.0 | 17.5 | 17.5 | 18.0 | 18.5 |
| | 8H | 16.9 | 17.3 | 17.4 | 17.9 | 18.4 | 16.9 | 17.4 | 17.5 | 17.9 | 18.4 |
| | 12H | 16.8 | 17.2 | 17.4 | 17.7 | 18.3 | 16.9 | 17.3 | 17.4 | 17.8 | 18.4 |
| 12H | 4H | 17.0 | 17.5 | 17.5 | 18.0 | 18.5 | 17.0 | 17.6 | 17.5 | 18.1 | 18.6 |
| | 6H | 16.9 | 17.3 | 17.4 | 17.8 | 18.4 | 16.9 | 17.4 | 17.5 | 17.9 | 18.4 |
| | 8H | 16.8 | 17.2 | 17.3 | 17.7 | 18.3 | 16.9 | 17.3 | 17.4 | 17.8 | 18.4 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0