

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire

SGRTE8XT 50L 35K ND XX AR8466XT SG GL
N/A

Test Number

SP-01207

Test Date

2/11/2021

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

Summary of Results

Power

| | |
|-------------|--------|
| Input Watts | 51.1 W |
|-------------|--------|

Lumen Output

| | |
|---------------|------------|
| Output Lumens | 4222 |
| Efficacy | 82.62 lm/W |

Luminous Dimensions

| | |
|-----------------|-------|
| 0° - 180° Size | -0.63 |
| 90° - 270° Size | -0.63 |
| Height | 0 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 0.39 |
| Two luminaires, plane 90° | 0.4 |
| Four luminaires | 0.43 |

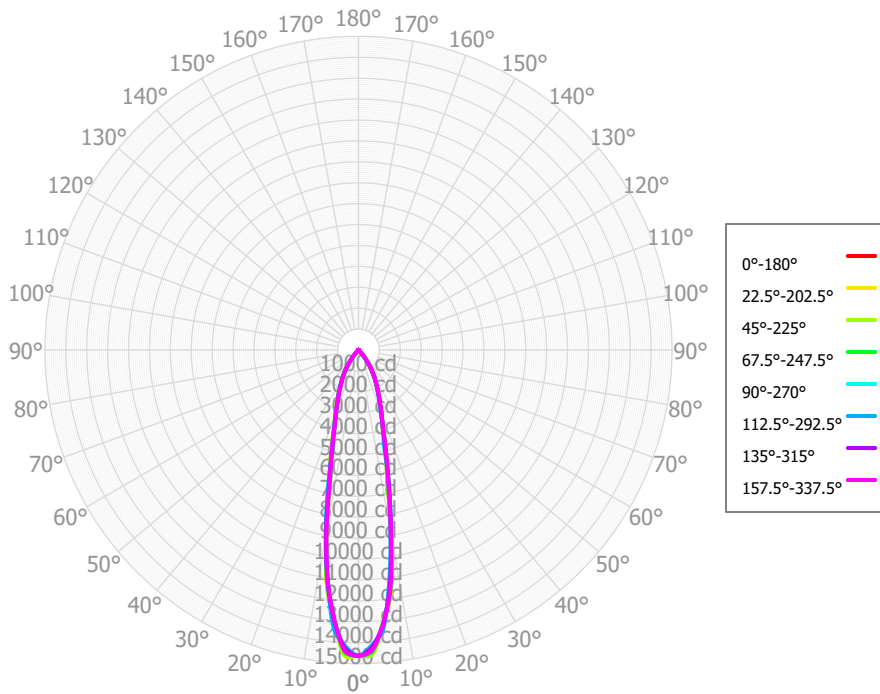
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 23° |
| 90° - 270° | 23° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01207 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 2/11/2021 |
| ISSUEDATE | 3/2/2021 |
| LUMCAT | SGRTE8XT 50L 35K ND XX AR8466XT SG GL |
| LUMINAIRE | N/A |
| OTHER | Beam Angle: 23 degrees |
| LAMPCAT | N/A |
| LAMP | 19mm LES |
| OTHER | LEDXT lumen output is the same for all available CCT's |
| OTHER | Total luminaire watts is approximate; includes 2 watts for thermal protector |
| OTHER | This report prepared by Spectrum Lighting |
| _CRI | 83 |
| _CCTMULT | Same for all available CCT's |
| _LAMPMULT | 10L x 0.19, 13L x 0.26, 20L x 0.4, 30L x 0.6, 40L x 0.8 |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|---------|-----------|-------------------|---------|-----------|
| 0.00° - 10.00° | 1131.67 | 26.81% | 90.00° - 100.00° | 1.28 | 0.03% |
| 10.00° - 20.00° | 1412.01 | 33.45% | 100.00° - 110.00° | 1.38 | 0.03% |
| 20.00° - 30.00° | 1013.12 | 24.00% | 100.00° - 120.00° | 2.69 | 0.06% |
| 30.00° - 40.00° | 566.00 | 13.41% | 120.00° - 130.00° | 1.21 | 0.03% |
| 40.00° - 50.00° | 78.28 | 1.85% | 130.00° - 140.00° | 1.58 | 0.04% |
| 50.00° - 60.00° | 5.59 | 0.13% | 140.00° - 150.00° | 1.98 | 0.05% |
| 60.00° - 70.00° | 1.45 | 0.03% | 150.00° - 160.00° | 1.26 | 0.03% |
| 70.00° - 80.00° | 1.39 | 0.03% | 160.00° - 170.00° | 0.66 | 0.02% |
| 80.00° - 90.00° | 1.46 | 0.03% | 170.00° - 180.00° | 0.20 | 0.00% |
| 0.00° - 90.00° | 4210.98 | 99.74% | 0.00° - 180.00° | 4221.83 | 100.00% |

Candela Distribution

| | 0.00° | 22.50° | 45.00° | 67.50° | 90.00° | 112.50° | 135.00° | 157.50° | 180.00° | 202.50° | 225.00° | 247.50° | 270.00° | 292.50° | 315.00° | 337.50° |
|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.00° | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 | 14629.03 |
| 2.50° | 14541.69 | 14543.25 | 14602.18 | 14476.33 | 14246.77 | 14203.24 | 14316.82 | 14456.28 | 14612.91 | 14655.88 | 14640.57 | 14489.89 | 14272.04 | 14163.80 | 14270.27 | 14409.66 |
| 5.00° | 13221.33 | 13249.36 | 13210.63 | 13189.80 | 13298.94 | 13424.80 | 13097.43 | 13036.57 | 13064.60 | 13094.57 | 13091.28 | 13022.94 | 13149.04 | 13451.41 | 13249.10 | 13247.25 |
| 7.50° | 11737.15 | 11766.48 | 11741.57 | 11642.73 | 11418.39 | 11236.64 | 11220.93 | 11246.69 | 11443.94 | 11428.57 | 11497.89 | 11374.86 | 11207.37 | 11239.41 | 11480.27 | 11633.24 |
| 10.00° | 8957.82 | 8980.97 | 8966.98 | 8912.04 | 8840.61 | 9026.76 | 8927.55 | 8839.09 | 8853.41 | 8865.55 | 8876.43 | 8843.33 | 8980.54 | 8883.08 | 8863.71 | 8926.03 |
| 12.50° | 6382.84 | 6423.86 | 6323.56 | 6461.53 | 6746.15 | 6721.12 | 6387.80 | 6281.71 | 6281.45 | 6275.98 | 6349.82 | 6231.60 | 6495.67 | 6786.76 | 6711.13 | 6601.29 |
| 15.00° | 5039.39 | 5063.38 | 5012.28 | 5040.18 | 4966.16 | 4728.74 | 4841.23 | 4912.26 | 5034.95 | 5043.42 | 5061.13 | 4964.72 | 4845.45 | 4705.34 | 5018.43 | 5080.52 |
| 17.50° | 3821.40 | 3842.65 | 3787.20 | 3814.38 | 3863.01 | 3856.37 | 3801.46 | 3771.70 | 3821.88 | 3832.14 | 3843.08 | 3768.07 | 3854.93 | 3885.40 | 3862.65 | 3865.91 |
| 20.00° | 3191.17 | 3203.01 | 3175.62 | 3182.92 | 3147.49 | 3083.37 | 3114.95 | 3140.18 | 3217.38 | 3223.55 | 3228.68 | 3183.11 | 3146.80 | 3095.17 | 3178.72 | 3205.23 |
| 22.50° | 2608.35 | 2615.28 | 2595.91 | 2611.74 | 2616.04 | 2605.10 | 2585.56 | 2583.37 | 2629.02 | 2628.59 | 2641.85 | 2610.55 | 2633.20 | 2637.28 | 2638.24 | 2639.57 |
| 25.00° | 2204.44 | 2207.50 | 2192.30 | 2197.45 | 2175.48 | 2164.75 | 2169.92 | 2179.06 | 2213.02 | 2221.38 | 2226.67 | 2208.46 | 2205.48 | 2184.75 | 2207.82 | 2222.81 |
| 27.50° | 1825.41 | 1826.86 | 1809.05 | 1818.16 | 1826.36 | 1820.91 | 1797.28 | 1791.31 | 1813.13 | 1826.32 | 1833.20 | 1811.87 | 1829.91 | 1851.36 | 1851.22 | 1851.39 |
| 30.00° | 1525.39 | 1524.48 | 1514.37 | 1516.36 | 1515.88 | 1493.39 | 1491.41 | 1501.95 | 1532.31 | 1543.38 | 1546.92 | 1525.44 | 1513.37 | 1520.65 | 1543.96 | 1542.67 |
| 32.50° | 1224.67 | 1220.92 | 1217.68 | 1215.00 | 1214.90 | 1201.28 | 1206.69 | 1219.36 | 1247.82 | 1257.29 | 1255.94 | 1237.24 | 1227.83 | 1222.26 | 1236.19 | 1236.18 |
| 35.00° | 922.07 | 914.44 | 913.91 | 914.49 | 917.38 | 908.10 | 905.84 | 916.49 | 942.39 | 950.30 | 946.37 | 929.09 | 926.59 | 923.56 | 928.11 | 932.38 |
| 37.50° | 633.51 | 624.82 | 622.72 | 627.91 | 629.06 | 612.93 | 600.78 | 613.08 | 636.61 | 641.30 | 634.96 | 622.67 | 618.28 | 622.39 | 638.98 | 645.41 |
| 40.00° | 376.69 | 370.27 | 368.50 | 364.55 | 343.53 | 360.81 | 356.64 | 347.47 | 329.34 | 322.11 | 317.61 | 330.08 | 358.19 | 340.28 | 359.47 | 376.20 |
| 42.50° | 180.04 | 178.83 | 167.58 | 176.41 | 189.45 | 179.09 | 125.30 | 90.25 | 81.28 | 60.35 | 75.96 | 75.44 | 116.59 | 175.11 | 190.36 | 194.31 |
| 45.00° | 101.97 | 102.22 | 98.69 | 97.23 | 68.19 | 62.89 | 64.29 | 55.08 | 47.57 | 35.82 | 43.70 | 45.01 | 42.71 | 36.33 | 69.32 | 94.09 |
| 47.50° | 46.05 | 49.54 | 46.51 | 44.83 | 35.93 | 39.82 | 31.81 | 21.59 | 19.89 | 15.36 | 18.19 | 18.48 | 23.86 | 23.02 | 27.93 | 40.49 |
| 50.00° | 27.78 | 34.55 | 30.27 | 26.24 | 21.87 | 22.04 | 18.06 | 11.89 | 10.62 | 8.63 | 8.51 | 9.93 | 13.16 | 11.47 | 16.51 | 24.99 |
| 52.50° | 13.96 | 20.85 | 16.74 | 13.03 | 11.92 | 10.84 | 6.64 | 3.12 | 3.58 | 3.36 | 2.08 | 2.96 | 4.67 | 6.80 | 10.09 | 14.12 |
| 55.00° | 6.71 | 8.93 | 8.21 | 5.83 | 2.63 | 4.14 | 4.19 | 2.82 | 2.27 | 2.15 | 2.16 | 2.06 | 2.21 | 3.17 | 5.26 | 6.54 |
| 57.50° | 2.33 | 2.20 | 2.67 | 1.90 | 1.34 | 2.40 | 2.49 | 2.49 | 1.34 | 1.32 | 1.98 | 1.38 | 1.07 | 2.89 | 3.33 | 3.40 |
| 60.00° | 1.69 | 1.70 | 1.93 | 1.17 | 0.96 | 1.63 | 1.93 | 1.93 | 1.24 | 1.38 | 1.32 | 1.42 | 0.90 | 2.63 | 2.15 | 3.06 |
| 62.50° | 1.33 | 1.51 | 1.50 | 0.96 | 1.04 | 1.79 | 1.42 | 1.54 | 1.20 | 1.32 | 1.00 | 1.35 | 0.89 | 2.45 | 1.89 | 2.30 |
| 65.00° | 1.28 | 1.65 | 1.51 | 1.21 | 1.16 | 1.72 | 1.69 | 2.06 | 1.30 | 1.02 | 1.19 | 1.01 | 0.72 | 2.31 | 1.82 | 1.32 |
| 67.50° | 1.30 | 1.54 | 1.25 | 1.43 | 1.39 | 1.47 | 1.96 | 2.32 | 1.41 | 0.86 | 1.35 | 0.79 | 0.53 | 2.27 | 1.67 | 1.28 |
| 70.00° | 1.39 | 1.19 | 0.64 | 1.62 | 1.62 | 1.37 | 1.85 | 1.52 | 1.53 | 0.95 | 1.47 | 0.85 | 0.52 | 2.12 | 1.51 | 1.69 |
| 72.50° | 1.30 | 0.96 | 0.50 | 1.62 | 1.29 | 1.39 | 1.77 | 1.02 | 1.59 | 0.95 | 1.44 | 0.85 | 0.53 | 1.79 | 1.66 | 1.79 |
| 75.00° | 1.05 | 0.84 | 0.88 | 1.47 | 0.97 | 1.27 | 2.37 | 1.53 | 1.58 | 0.79 | 1.25 | 0.74 | 1.04 | 1.46 | 1.84 | 1.75 |
| 77.50° | 1.03 | 0.93 | 0.98 | 1.43 | 0.98 | 1.08 | 2.88 | 1.89 | 1.51 | 0.72 | 1.12 | 0.69 | 1.57 | 1.15 | 1.92 | 1.46 |
| 80.00° | 1.19 | 1.16 | 0.82 | 1.44 | 1.00 | 1.17 | 2.46 | 1.80 | 1.36 | 0.78 | 1.03 | 0.76 | 1.55 | 0.97 | 2.00 | 1.09 |
| 82.50° | 1.19 | 1.15 | 1.03 | 1.11 | 1.40 | 1.42 | 2.06 | 1.76 | 1.46 | 0.90 | 1.11 | 0.89 | 1.50 | 0.99 | 2.46 | 1.08 |
| 85.00° | 1.09 | 0.97 | 1.54 | 0.62 | 1.71 | 1.54 | 1.79 | 1.82 | 1.83 | 1.08 | 1.34 | 1.13 | 0.98 | 1.12 | 2.94 | 1.18 |
| 87.50° | 0.98 | 0.97 | 1.67 | 0.52 | 1.27 | 1.60 | 1.58 | 1.68 | 1.78 | 1.28 | 1.29 | 1.15 | 0.49 | 1.41 | 2.35 | 1.55 |
| 90.00° | 0.86 | 1.05 | 1.53 | 0.60 | 0.87 | 1.50 | 1.80 | 1.12 | 1.30 | 1.52 | 1.01 | 0.90 | 0.49 | 1.42 | 1.76 | 1.99 |
| 92.50° | 0.73 | 0.90 | 1.20 | 0.88 | 0.80 | 1.33 | 1.88 | 0.88 | 1.07 | 1.49 | 1.03 | 0.87 | 0.53 | 1.10 | 1.52 | 2.14 |
| 95.00° | 0.61 | 0.63 | 0.73 | 1.24 | 0.79 | 1.58 | 1.34 | 1.21 | 1.05 | 1.20 | 1.25 | 1.10 | 1.11 | 0.88 | 1.29 | 2.24 |
| 97.50° | 0.88 | 0.60 | 0.70 | 1.14 | 1.07 | 1.99 | 0.94 | 1.34 | 1.01 | 1.02 | 1.21 | 1.27 | 1.59 | 0.75 | 1.30 | 2.26 |
| 100.00° | 1.32 | 0.65 | 0.92 | 0.90 | 1.26 | 2.19 | 1.01 | 1.17 | 0.96 | 0.93 | 1.02 | 1.37 | 1.35 | 0.92 | 1.34 | 2.26 |
| 102.50° | 1.29 | 0.72 | 0.99 | 0.89 | 1.04 | 2.33 | 1.12 | 1.33 | 0.90 | 0.80 | 0.93 | 1.43 | 1.13 | 1.34 | 1.78 | 2.12 |
| 105.00° | 1.10 | 0.79 | 0.98 | 0.94 | 0.86 | 2.16 | 1.36 | 1.95 | 0.84 | 0.64 | 0.91 | 1.44 | 1.05 | 1.74 | 2.09 | 1.97 |
| 107.50° | 1.27 | 0.93 | 1.41 | 1.00 | 0.79 | 1.92 | 1.48 | 2.02 | 1.13 | 0.72 | 1.34 | 1.42 | 1.00 | 2.11 | 1.51 | 1.76 |
| 110.00° | 1.56 | 1.09 | 2.00 | 1.07 | 0.79 | 1.89 | 1.27 | 1.46 | 1.62 | 0.95 | 1.96 | 1.38 | 1.07 | 1.81 | 1.06 | 1.54 |
| 112.50° | 1.49 | 1.41 | 1.57 | 0.95 | 1.01 | 1.90 | 1.25 | 1.28 | 1.69 | 0.95 | 1.70 | 1.27 | 1.10 | 1.04 | 1.32 | 1.78 |

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 | 5023 | 5023 | 5023 | 5023 | 4905 | 4905 | 4905 | 4905 | 4685 | 4685 | 4685 | 4483 | 4483 | 4483 | 4298 | 4298 | 4211 |
| | 1 | 4829 | 4729 | 4639 | 4558 | 4726 | 4637 | 4557 | 4485 | 4466 | 4403 | 4346 | 4309 | 4260 | 4215 | 4164 | 4127 | 4092 |
| | 2 | 4639 | 4466 | 4324 | 4204 | 4549 | 4395 | 4266 | 4156 | 4260 | 4155 | 4064 | 4135 | 4051 | 3977 | 4020 | 3953 | 3876 |
| | 3 | 4458 | 4233 | 4059 | 3920 | 4379 | 4176 | 4017 | 3888 | 4068 | 3935 | 3826 | 3968 | 3858 | 3766 | 3875 | 3785 | 3708 |
| | 4 | 4287 | 4024 | 3832 | 3685 | 4216 | 3977 | 3800 | 3663 | 3890 | 3739 | 3620 | 3808 | 3681 | 3578 | 3733 | 3625 | 3559 |
| | 5 | 4124 | 3835 | 3633 | 3484 | 4061 | 3797 | 3609 | 3469 | 3725 | 3563 | 3438 | 3658 | 3518 | 3408 | 3595 | 3475 | 3379 |
| | 6 | 3971 | 3664 | 3457 | 3310 | 3915 | 3632 | 3439 | 3298 | 3572 | 3403 | 3276 | 3517 | 3368 | 3254 | 3464 | 3335 | 3233 |
| | 7 | 3827 | 3507 | 3300 | 3155 | 3776 | 3481 | 3286 | 3147 | 3431 | 3257 | 3131 | 3384 | 3230 | 3115 | 3340 | 3203 | 3099 |
| | 8 | 3691 | 3364 | 3159 | 3017 | 3646 | 3342 | 3147 | 3011 | 3300 | 3124 | 2999 | 3260 | 3102 | 2987 | 3222 | 3081 | 2975 |
| | 9 | 3564 | 3233 | 3030 | 2893 | 3524 | 3214 | 3021 | 2889 | 3178 | 3002 | 2879 | 3143 | 2984 | 2870 | 3111 | 2967 | 2861 |
| | 10 | 3445 | 3113 | 2913 | 2781 | 3408 | 3096 | 2906 | 2777 | 3065 | 2890 | 2770 | 3035 | 2875 | 2763 | 3007 | 2861 | 2756 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 483.6 fc | 2.3 ft |
| 6.5 ft | 346.2 fc | 2.7 ft |
| 7.5 ft | 260.1 fc | 3.1 ft |
| 8.0 ft | 228.6 fc | 3.3 ft |
| 10.0 ft | 146.3 fc | 4.1 ft |
| 12.0 ft | 101.6 fc | 5.0 ft |
| 14.0 ft | 74.6 fc | 5.8 ft |
| 16.0 ft | 57.1 fc | 6.6 ft |
| 20.0 ft | 36.6 fc | 8.3 ft |
| 24.0 ft | 25.4 fc | 9.9 ft |
| 28.0 ft | 18.7 fc | 11.6 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|--------|--------|--------|
| 0.00° | 505143 | 505143 | 505143 |
| 45.00° | 4980 | 4819 | 3330 |
| 55.00° | 404 | 494 | 158 |
| 65.00° | 105 | 123 | 95 |
| 75.00° | 140 | 117 | 130 |
| 85.00° | 433 | 610 | 678 |

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 | -13.0 | -12.1 | -12.7 | -11.8 | -11.5 | -16.0 | -15.1 | -15.6 | -14.7 | -14.4 |
| | 3H | -11.8 | -11.1 | -11.5 | -10.7 | -10.3 | -14.2 | -13.4 | -13.8 | -13.1 | -12.7 |
| | 4H | -11.1 | -10.3 | -10.6 | -10.0 | -9.6 | -13.1 | -12.4 | -12.7 | -12.0 | -11.6 |
| | 6H | -10.0 | -9.3 | -9.6 | -9.0 | -8.5 | -11.2 | -10.5 | -10.7 | -10.1 | -9.7 |
| | 8H | -9.2 | -8.6 | -8.8 | -8.2 | -7.8 | -9.8 | -9.2 | -9.4 | -8.8 | -8.4 |
| | 12H | -8.3 | -7.7 | -7.9 | -7.3 | -6.9 | -8.3 | -7.7 | -7.8 | -7.3 | -6.8 |
| 4H | 2H | -12.8 | -12.1 | -12.4 | -11.7 | -11.3 | -15.4 | -14.6 | -15.0 | -14.3 | -13.9 |
| | 3H | -11.2 | -10.7 | -10.8 | -10.2 | -9.8 | -13.0 | -12.4 | -12.6 | -12.0 | -11.6 |
| | 4H | -10.1 | -9.6 | -9.7 | -9.1 | -8.7 | -11.8 | -11.3 | -11.4 | -10.8 | -10.4 |
| | 6H | -8.8 | -8.3 | -8.3 | -7.9 | -7.4 | -9.9 | -9.4 | -9.4 | -9.0 | -8.5 |
| | 8H | -7.9 | -7.5 | -7.4 | -7.0 | -6.5 | -8.4 | -8.0 | -7.9 | -7.5 | -7.0 |
| | 12H | -6.8 | -6.5 | -6.3 | -6.0 | -5.5 | -6.7 | -6.3 | -6.2 | -5.8 | -5.3 |
| 8H | 4H | -9.5 | -9.1 | -9.0 | -8.6 | -8.1 | -10.3 | -9.9 | -9.8 | -9.4 | -8.9 |
| | 6H | -7.8 | -7.5 | -7.3 | -7.0 | -6.5 | -8.3 | -7.9 | -7.8 | -7.4 | -6.9 |
| | 8H | -6.8 | -6.5 | -6.2 | -5.9 | -5.4 | -6.9 | -6.6 | -6.3 | -6.0 | -5.5 |
| | 12H | -5.5 | -5.3 | -5.0 | -4.8 | -4.2 | -5.1 | -4.8 | -4.5 | -4.3 | -3.7 |
| 12H | 4H | -9.3 | -9.0 | -8.8 | -8.5 | -8.0 | -10.0 | -9.6 | -9.5 | -9.1 | -8.6 |
| | 6H | -7.4 | -7.1 | -6.8 | -6.6 | -6.0 | -7.7 | -7.4 | -7.2 | -6.9 | -6.4 |
| | 8H | -6.1 | -5.8 | -5.5 | -5.3 | -4.7 | -6.2 | -5.9 | -5.7 | -5.4 | -4.9 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0