

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2SP RB2BSA1 xx xx
2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel

Test Number

SP-01586_1

Test Date

9/27/2023

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

Summary of Results

Power

| | |
|-------------|--------|
| Input Watts | 11.8 W |
|-------------|--------|

Lumen Output

| | |
|---------------|------------|
| Output Lumens | 953 |
| Efficacy | 80.77 lm/W |

Luminous Dimensions

| | |
|-----------------|-------|
| 0° - 180° Size | -0.21 |
| 90° - 270° Size | -0.21 |
| Height | 0 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 0.36 |
| Two luminaires, plane 90° | 0.36 |
| Four luminaires | 0.35 |

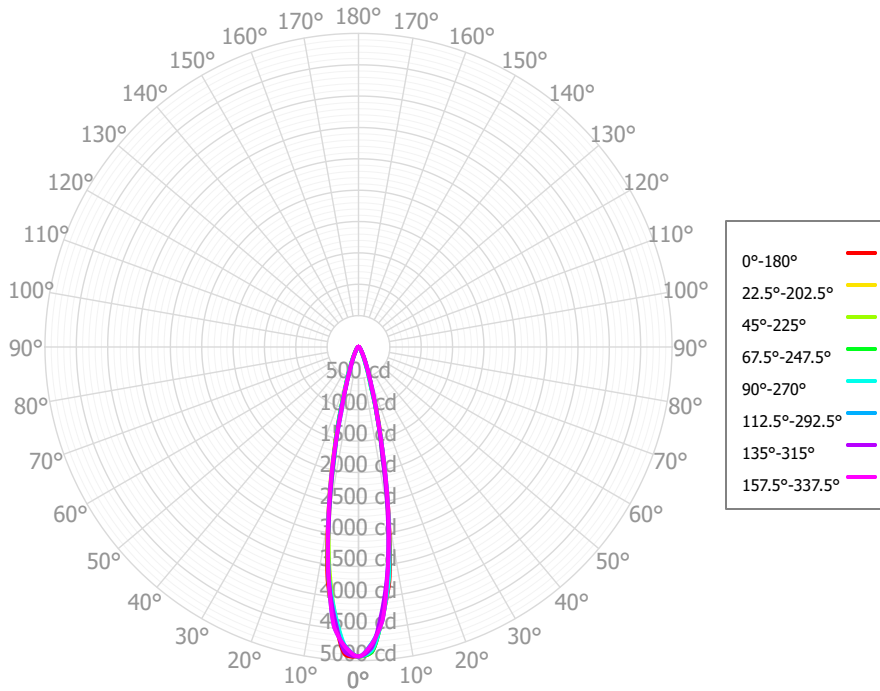
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 22° |
| 90° - 270° | 21° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01586_1 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 9/27/2023 |
| ISSUEDATE | 10/02/2023 |
| LUMCAT | STR2 835 10 xx xx RD2SP RB2BSA1 xx xx |
| LUMINAIRE | 2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel |
| OTHER | Beam Angle: 21 deg |
| OTHER | 80 CRI, 3500K tested |
| OTHER | CCT Output Multipliers: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0 |
| OTHER | CCT Output Multipliers: 927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87 |
| OTHER | Total luminaire wattages are approximate |
| OTHER | This report prepared by Spectrum Lighting |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|--------|-----------|-------------------|--------|-----------|
| 0.00° - 10.00° | 365.04 | 38.30% | 90.00° - 100.00° | 1.97 | 0.21% |
| 10.00° - 20.00° | 336.11 | 35.26% | 100.00° - 110.00° | 1.97 | 0.21% |
| 20.00° - 30.00° | 113.46 | 11.90% | 100.00° - 120.00° | 3.66 | 0.38% |
| 30.00° - 40.00° | 50.61 | 5.31% | 120.00° - 130.00° | 1.23 | 0.13% |
| 40.00° - 50.00° | 33.11 | 3.47% | 130.00° - 140.00° | 0.90 | 0.09% |
| 50.00° - 60.00° | 22.57 | 2.37% | 140.00° - 150.00° | 0.75 | 0.08% |
| 60.00° - 70.00° | 13.49 | 1.42% | 150.00° - 160.00° | 0.57 | 0.06% |
| 70.00° - 80.00° | 6.39 | 0.67% | 160.00° - 170.00° | 0.36 | 0.04% |
| 80.00° - 90.00° | 2.81 | 0.29% | 170.00° - 180.00° | 0.11 | 0.01% |
| 0.00° - 90.00° | 943.58 | 99.00% | 0.00° - 180.00° | 953.13 | 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° | 360.00° |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.00° | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 | 4934.76 |
| 2.50° | 4866.33 | 4774.69 | 4802.23 | 4869.88 | 4846.12 | 4778.59 | 4874.18 | 4789.64 | 4909.58 | 4788.92 | 4801.53 | 4821.74 | 4786.93 | 4738.34 | 4802.57 | 4750.36 | 4866.33 |
| 5.00° | 4326.33 | 4359.46 | 4362.73 | 4333.36 | 4352.02 | 4477.52 | 4352.93 | 4479.17 | 4352.50 | 4423.55 | 4293.38 | 4326.52 | 4272.84 | 4377.37 | 4246.56 | 4381.94 | 4326.33 |
| 7.50° | 3768.42 | 3608.77 | 3683.99 | 3672.92 | 3719.91 | 3642.39 | 3691.19 | 3658.90 | 3761.37 | 3688.17 | 3561.18 | 3700.60 | 3653.30 | 3569.29 | 3571.68 | 3581.14 | 3768.42 |
| 10.00° | 2774.19 | 2767.50 | 2697.38 | 2732.79 | 2735.76 | 2746.05 | 2686.55 | 2757.47 | 2772.52 | 2761.61 | 2687.49 | 2727.52 | 2734.41 | 2746.87 | 2675.40 | 2759.92 | 2774.19 |
| 12.50° | 1811.88 | 1819.45 | 1850.60 | 1739.85 | 1849.57 | 1881.03 | 1797.05 | 1896.54 | 1827.34 | 1938.95 | 1747.53 | 1858.38 | 1755.53 | 1872.85 | 1731.85 | 1878.13 | 1811.88 |
| 15.00° | 1234.98 | 1138.68 | 1158.83 | 1161.16 | 1169.41 | 1018.09 | 1139.93 | 1039.96 | 1215.13 | 1160.83 | 1160.17 | 1216.15 | 1202.14 | 1134.29 | 1190.43 | 1147.12 | 1234.98 |
| 17.50° | 703.05 | 729.49 | 702.39 | 637.99 | 657.34 | 697.43 | 648.89 | 708.21 | 668.14 | 756.82 | 711.24 | 725.07 | 710.25 | 784.99 | 711.92 | 780.51 | 703.05 |
| 20.00° | 510.12 | 465.54 | 467.65 | 446.10 | 444.99 | 393.97 | 442.68 | 409.76 | 482.27 | 486.29 | 484.63 | 508.87 | 512.59 | 499.19 | 509.67 | 491.04 | 510.12 |
| 22.50° | 334.36 | 327.01 | 315.64 | 283.46 | 286.59 | 295.48 | 290.80 | 309.78 | 316.98 | 344.58 | 328.72 | 341.80 | 342.48 | 365.02 | 337.52 | 355.88 | 334.36 |
| 25.00° | 250.33 | 232.30 | 229.80 | 214.46 | 209.11 | 199.92 | 217.43 | 214.51 | 237.37 | 240.48 | 241.50 | 250.98 | 258.01 | 254.35 | 254.43 | 247.62 | 250.33 |
| 27.50° | 174.78 | 170.14 | 168.24 | 149.42 | 149.24 | 153.61 | 159.43 | 165.96 | 167.39 | 179.20 | 171.51 | 179.92 | 177.92 | 190.17 | 176.79 | 185.09 | 174.78 |
| 30.00° | 134.34 | 126.85 | 123.35 | 117.84 | 111.74 | 109.77 | 120.25 | 118.94 | 128.86 | 127.67 | 131.18 | 134.78 | 135.85 | 138.01 | 137.59 | 135.76 | 134.34 |
| 32.50° | 99.10 | 95.42 | 93.55 | 87.03 | 84.10 | 89.88 | 92.65 | 96.37 | 96.02 | 101.30 | 96.65 | 100.94 | 94.95 | 106.07 | 99.65 | 105.64 | 99.10 |
| 35.00° | 80.76 | 75.98 | 72.62 | 73.12 | 67.23 | 71.35 | 77.29 | 75.04 | 78.49 | 79.17 | 79.15 | 79.86 | 77.91 | 81.38 | 83.55 | 82.91 | 80.76 |
| 37.50° | 65.65 | 62.86 | 59.98 | 59.66 | 56.21 | 61.92 | 65.64 | 65.53 | 63.91 | 67.43 | 64.12 | 65.17 | 61.65 | 66.97 | 67.89 | 69.29 | 65.65 |
| 40.00° | 59.11 | 54.89 | 51.42 | 51.97 | 50.69 | 53.27 | 57.36 | 56.48 | 55.83 | 56.94 | 56.76 | 56.59 | 55.74 | 56.03 | 58.92 | 58.80 | 59.11 |
| 42.50° | 52.35 | 49.21 | 44.76 | 44.48 | 45.18 | 48.40 | 50.13 | 50.33 | 48.49 | 49.62 | 50.13 | 49.40 | 49.85 | 49.27 | 50.21 | 51.58 | 52.35 |
| 45.00° | 45.13 | 43.19 | 38.88 | 38.54 | 39.69 | 43.41 | 43.71 | 44.00 | 42.55 | 42.53 | 43.42 | 43.35 | 44.09 | 43.18 | 43.88 | 44.48 | 45.13 |
| 47.50° | 38.54 | 37.04 | 33.99 | 33.03 | 34.58 | 37.95 | 38.67 | 36.86 | 37.43 | 37.27 | 36.71 | 37.87 | 38.34 | 37.79 | 37.80 | 37.48 | 38.54 |
| 50.00° | 33.14 | 31.75 | 29.43 | 29.87 | 29.73 | 33.08 | 34.54 | 30.80 | 33.63 | 32.08 | 32.61 | 32.77 | 32.67 | 32.89 | 33.29 | 31.93 | 33.14 |
| 52.50° | 28.70 | 26.71 | 25.99 | 26.98 | 26.86 | 30.03 | 30.28 | 28.68 | 29.81 | 28.75 | 28.52 | 28.79 | 27.55 | 28.44 | 28.94 | 27.48 | 28.70 |
| 55.00° | 25.74 | 23.86 | 22.84 | 25.28 | 25.13 | 26.86 | 25.94 | 26.12 | 25.97 | 25.46 | 24.06 | 25.47 | 24.85 | 25.64 | 25.29 | 24.05 | 25.74 |
| 57.50° | 22.22 | 21.52 | 20.20 | 23.04 | 23.00 | 23.42 | 22.34 | 22.20 | 22.31 | 22.89 | 19.75 | 22.48 | 22.18 | 24.10 | 21.82 | 21.28 | 22.22 |
| 60.00° | 17.96 | 18.42 | 17.67 | 19.02 | 20.67 | 19.93 | 19.09 | 18.69 | 18.86 | 20.17 | 17.45 | 19.67 | 19.66 | 21.45 | 18.98 | 18.61 | 17.96 |
| 62.50° | 14.76 | 15.19 | 16.16 | 15.36 | 16.66 | 16.36 | 15.82 | 16.18 | 15.74 | 15.95 | 15.08 | 16.76 | 17.02 | 18.08 | 16.24 | 16.01 | 14.76 |
| 65.00° | 12.74 | 13.24 | 14.81 | 12.65 | 11.97 | 13.20 | 12.55 | 13.98 | 12.93 | 12.10 | 12.23 | 13.81 | 14.05 | 15.04 | 13.78 | 13.72 | 12.74 |
| 67.50° | 11.22 | 11.46 | 11.76 | 10.17 | 10.07 | 10.76 | 10.47 | 12.44 | 10.89 | 10.66 | 9.61 | 11.90 | 11.36 | 12.18 | 11.29 | 11.57 | 11.22 |
| 70.00° | 10.16 | 8.91 | 8.52 | 8.23 | 9.09 | 8.77 | 8.77 | 10.46 | 9.49 | 9.19 | 8.35 | 10.35 | 9.34 | 9.70 | 8.75 | 9.10 | 10.16 |
| 72.50° | 8.24 | 6.30 | 7.49 | 6.67 | 7.37 | 7.45 | 7.52 | 7.72 | 7.74 | 7.58 | 7.08 | 8.75 | 7.55 | 7.40 | 6.66 | 6.50 | 8.24 |
| 75.00° | 5.58 | 4.90 | 6.59 | 5.85 | 5.45 | 6.05 | 6.38 | 5.85 | 5.74 | 6.06 | 5.81 | 7.14 | 6.20 | 5.73 | 5.48 | 5.38 | 5.58 |
| 77.50° | 4.21 | 3.54 | 4.90 | 4.94 | 4.14 | 4.53 | 4.77 | 5.22 | 4.56 | 4.91 | 4.51 | 5.32 | 4.90 | 4.30 | 4.46 | 4.70 | 4.21 |
| 80.00° | 3.76 | 3.17 | 3.22 | 3.88 | 2.95 | 3.36 | 3.06 | 4.32 | 3.86 | 3.81 | 3.10 | 3.47 | 3.67 | 3.98 | 3.68 | 4.34 | 3.76 |
| 82.50° | 3.22 | 2.80 | 2.72 | 3.03 | 2.80 | 2.56 | 2.58 | 3.07 | 3.15 | 2.88 | 2.02 | 2.87 | 2.81 | 3.99 | 3.04 | 4.06 | 3.22 |
| 85.00° | 2.64 | 2.51 | 2.22 | 2.44 | 2.81 | 2.21 | 2.28 | 2.29 | 2.43 | 2.16 | 1.87 | 2.47 | 2.47 | 3.10 | 2.58 | 3.22 | 2.64 |
| 87.50° | 2.08 | 2.22 | 1.99 | 1.94 | 2.16 | 2.28 | 2.18 | 2.00 | 2.07 | 1.97 | 1.82 | 2.31 | 2.22 | 1.99 | 2.18 | 2.28 | 2.08 |
| 90.00° | 1.54 | 1.82 | 1.79 | 1.52 | 1.44 | 2.22 | 2.09 | 2.05 | 1.86 | 1.81 | 1.99 | 2.17 | 2.09 | 1.82 | 1.84 | 2.32 | 1.54 |
| 92.50° | 1.35 | 1.50 | 1.90 | 1.35 | 1.47 | 2.05 | 1.82 | 2.41 | 1.97 | 1.74 | 2.03 | 2.03 | 1.91 | 1.82 | 1.58 | 2.49 | 1.35 |
| 95.00° | 1.30 | 1.70 | 1.98 | 1.44 | 1.54 | 1.93 | 1.55 | 2.22 | 2.20 | 1.65 | 1.86 | 1.88 | 1.69 | 1.63 | 1.42 | 2.44 | 1.30 |
| 97.50° | 1.66 | 1.84 | 1.88 | 1.53 | 1.90 | 1.84 | 1.75 | 1.61 | 1.99 | 1.54 | 1.75 | 1.89 | 1.66 | 1.42 | 1.45 | 2.37 | 1.66 |
| 100.00° | 2.16 | 1.69 | 1.83 | 1.63 | 2.25 | 1.77 | 1.96 | 1.40 | 1.65 | 1.59 | 1.74 | 1.92 | 1.79 | 1.73 | 1.65 | 2.15 | 2.16 |
| 102.50° | 1.81 | 1.60 | 2.01 | 1.57 | 2.13 | 1.71 | 1.94 | 1.45 | 1.80 | 1.88 | 1.82 | 2.14 | 1.98 | 2.09 | 1.86 | 1.93 | 1.81 |
| 105.00° | 1.22 | 1.74 | 2.15 | 1.41 | 2.03 | 1.71 | 1.92 | 1.72 | 2.06 | 1.97 | 2.04 | 2.34 | 2.21 | 1.74 | 2.07 | 1.68 | 1.22 |

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| RCR | ptc | 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% | 10% | 0% |
| | pw | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 30% |
| | 0 | 1132 | 1132 | 1132 | 1132 | 1105 | 1105 | 1105 | 1105 | 1054 | 1054 | 1054 | 1007 | 1007 | 1007 | 964 | 964 | 964 | 944 |
| | 1 | 1088 | 1065 | 1045 | 1027 | 1064 | 1044 | 1026 | 1009 | 1004 | 990 | 977 | 967 | 956 | 946 | 934 | 925 | 917 | 906 |
| | 2 | 1047 | 1008 | 976 | 949 | 1026 | 991 | 962 | 938 | 960 | 936 | 916 | 930 | 912 | 895 | 903 | 889 | 876 | 871 |
| | 3 | 1008 | 959 | 920 | 890 | 990 | 945 | 910 | 882 | 920 | 891 | 867 | 897 | 873 | 853 | 875 | 856 | 839 | 839 |
| | 4 | 973 | 916 | 875 | 843 | 957 | 906 | 867 | 838 | 885 | 853 | 827 | 866 | 839 | 817 | 848 | 826 | 807 | 810 |
| | 5 | 941 | 880 | 836 | 804 | 927 | 871 | 831 | 801 | 854 | 819 | 793 | 838 | 809 | 785 | 824 | 798 | 778 | 784 |
| | 6 | 912 | 847 | 803 | 772 | 899 | 840 | 799 | 769 | 826 | 790 | 764 | 813 | 782 | 758 | 801 | 774 | 753 | 760 |
| | 7 | 885 | 818 | 775 | 744 | 874 | 812 | 771 | 742 | 800 | 764 | 738 | 789 | 757 | 734 | 779 | 751 | 730 | 739 |
| | 8 | 860 | 792 | 749 | 720 | 850 | 787 | 746 | 718 | 777 | 741 | 715 | 768 | 735 | 712 | 759 | 730 | 709 | 719 |
| | 9 | 836 | 768 | 727 | 698 | 827 | 764 | 724 | 697 | 756 | 720 | 695 | 748 | 715 | 692 | 740 | 711 | 690 | 701 |
| | 10 | 815 | 747 | 706 | 679 | 807 | 743 | 704 | 678 | 736 | 701 | 676 | 729 | 697 | 674 | 723 | 693 | 672 | 684 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 163.1 fc | 2.1 ft |
| 6.5 ft | 116.8 fc | 2.5 ft |
| 7.5 ft | 87.7 fc | 2.9 ft |
| 8.0 ft | 77.1 fc | 3.1 ft |
| 10.0 ft | 49.3 fc | 3.8 ft |
| 12.0 ft | 34.3 fc | 4.6 ft |
| 14.0 ft | 25.2 fc | 5.3 ft |
| 16.0 ft | 19.3 fc | 6.1 ft |
| 20.0 ft | 12.3 fc | 7.6 ft |
| 24.0 ft | 8.6 fc | 9.2 ft |
| 28.0 ft | 6.3 fc | 10.7 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|---------|---------|---------|
| 0.00° | 1533585 | 1533585 | 1533585 |
| 45.00° | 19834 | 17088 | 17444 |
| 55.00° | 13947 | 12376 | 13617 |
| 65.00° | 9371 | 10892 | 8802 |
| 75.00° | 6700 | 7919 | 6545 |
| 85.00° | 9401 | 7933 | 10016 |

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 | 13.9 | 14.9 | 14.3 | 15.2 | 15.6 | 14.3 | 15.3 | 14.7 | 15.7 | 16.0 |
| | 3H | 15.1 | 15.9 | 15.5 | 16.3 | 16.7 | 15.3 | 16.2 | 15.7 | 16.5 | 16.9 |
| | 4H | 15.4 | 16.2 | 15.8 | 16.5 | 17.0 | 15.6 | 16.5 | 16.1 | 16.8 | 17.2 |
| | 6H | 15.6 | 16.3 | 16.0 | 16.7 | 17.1 | 15.8 | 16.6 | 16.3 | 17.0 | 17.4 |
| | 8H | 15.7 | 16.4 | 16.2 | 16.8 | 17.2 | 15.9 | 16.6 | 16.4 | 17.0 | 17.5 |
| | 12H | 15.9 | 16.5 | 16.3 | 16.9 | 17.4 | 16.0 | 16.7 | 16.5 | 17.1 | 17.6 |
| 4H | 2H | 14.3 | 15.1 | 14.7 | 15.5 | 15.9 | 14.5 | 15.3 | 14.9 | 15.7 | 16.1 |
| | 3H | 15.5 | 16.2 | 16.0 | 16.6 | 17.1 | 15.7 | 16.4 | 16.1 | 16.8 | 17.2 |
| | 4H | 15.9 | 16.5 | 16.4 | 16.9 | 17.4 | 16.2 | 16.8 | 16.6 | 17.2 | 17.7 |
| | 6H | 16.2 | 16.7 | 16.7 | 17.2 | 17.7 | 16.5 | 17.0 | 17.0 | 17.5 | 18.0 |
| | 8H | 16.4 | 16.9 | 16.9 | 17.4 | 17.9 | 16.6 | 17.1 | 17.1 | 17.5 | 18.0 |
| | 12H | 16.7 | 17.1 | 17.2 | 17.6 | 18.1 | 16.8 | 17.2 | 17.3 | 17.7 | 18.2 |
| 8H | 4H | 16.0 | 16.5 | 16.5 | 16.9 | 17.4 | 16.3 | 16.7 | 16.8 | 17.2 | 17.7 |
| | 6H | 16.4 | 16.8 | 17.0 | 17.3 | 17.9 | 16.7 | 17.0 | 17.2 | 17.6 | 18.1 |
| | 8H | 16.8 | 17.1 | 17.3 | 17.6 | 18.2 | 16.9 | 17.2 | 17.4 | 17.7 | 18.3 |
| | 12H | 17.2 | 17.5 | 17.7 | 18.0 | 18.6 | 17.2 | 17.4 | 17.7 | 18.0 | 18.6 |
| 12H | 4H | 16.0 | 16.4 | 16.5 | 16.9 | 17.4 | 16.2 | 16.7 | 16.8 | 17.2 | 17.7 |
| | 6H | 16.5 | 16.8 | 17.0 | 17.3 | 17.9 | 16.7 | 17.0 | 17.2 | 17.5 | 18.1 |
| | 8H | 16.9 | 17.1 | 17.4 | 17.7 | 18.3 | 16.9 | 17.2 | 17.4 | 17.7 | 18.3 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0