

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2FL RB2BS xx xx

2" Adjustable Track Luminaire with flood optic and standard bezel

Test Number

SP-01571

Test Date

9/26/2023

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

Summary of Results

Power

| | |
|-------------|-------|
| Input Watts | 6.9 W |
|-------------|-------|

Lumen Output

| | |
|---------------|-------------|
| Output Lumens | 746 |
| Efficacy | 108.07 lm/W |

Luminous Dimensions

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

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 0.56 |
| Two luminaires, plane 90° | 0.55 |
| Four luminaires | 0.5 |

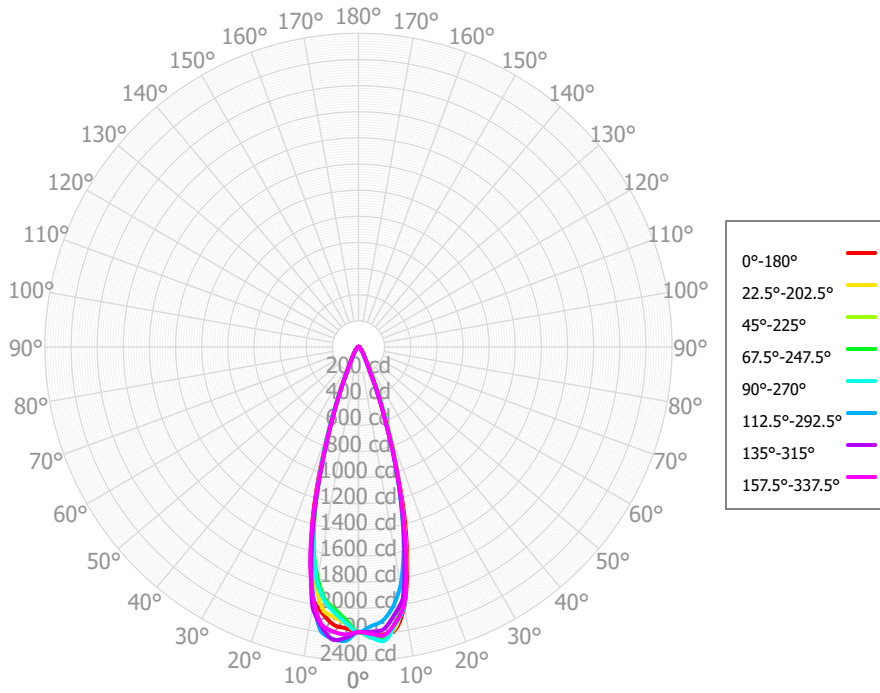
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 33° |
| 90° - 270° | 32° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01571 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 9/26/2023 |
| ISSUEDATE | 9/29/2023 |
| LUMCAT | STR2 835 07 xx xx RD2FL RB2BS xx xx |
| LUMINAIRE | 2" Adjustable Track Luminaire with flood optic and standard bezel |
| OTHER | Beam Angle: 33 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° | 202.18 | 27.11% | 90.00° - 100.00° | 0.80 | 0.11% |
| 10.00° - 20.00° | 343.06 | 46.00% | 100.00° - 110.00° | 0.80 | 0.11% |
| 20.00° - 30.00° | 118.24 | 15.86% | 100.00° - 120.00° | 1.53 | 0.20% |
| 30.00° - 40.00° | 40.78 | 5.47% | 120.00° - 130.00° | 0.68 | 0.09% |
| 40.00° - 50.00° | 21.52 | 2.89% | 130.00° - 140.00° | 0.63 | 0.08% |
| 50.00° - 60.00° | 10.17 | 1.36% | 140.00° - 150.00° | 0.57 | 0.08% |
| 60.00° - 70.00° | 2.94 | 0.39% | 150.00° - 160.00° | 0.44 | 0.06% |
| 70.00° - 80.00° | 0.95 | 0.13% | 160.00° - 170.00° | 0.29 | 0.04% |
| 80.00° - 90.00° | 0.84 | 0.11% | 170.00° - 180.00° | 0.09 | 0.01% |
| 0.00° - 90.00° | 740.67 | 99.33% | 0.00° - 180.00° | 745.70 | 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° | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 | 2182.62 |
| 2.50° | 2206.73 | 2217.74 | 2227.12 | 2222.89 | 2226.21 | 2250.81 | 2227.64 | 2202.55 | 2155.85 | 2121.09 | 2108.36 | 2094.83 | 2118.43 | 2140.49 | 2181.74 | 2198.43 | 2206.73 |
| 5.00° | 2210.91 | 2224.86 | 2232.54 | 2238.58 | 2257.64 | 2243.08 | 2248.89 | 2188.14 | 2137.10 | 2078.67 | 2048.64 | 2020.06 | 2046.04 | 2104.69 | 2170.78 | 2215.85 | 2210.91 |
| 7.50° | 2179.76 | 2166.85 | 2147.34 | 2139.33 | 2147.33 | 2196.66 | 2161.63 | 2145.28 | 2064.19 | 2039.11 | 1953.90 | 1951.81 | 1964.87 | 2009.19 | 2073.43 | 2136.35 | 2179.76 |
| 10.00° | 2021.32 | 1976.19 | 1958.36 | 1966.57 | 2018.46 | 1975.47 | 2024.25 | 1979.77 | 1970.99 | 1870.73 | 1848.41 | 1798.25 | 1831.45 | 1853.81 | 1955.20 | 2008.64 | 2021.32 |
| 12.50° | 1725.19 | 1706.00 | 1636.95 | 1656.03 | 1661.23 | 1681.15 | 1666.74 | 1708.29 | 1685.73 | 1683.94 | 1584.55 | 1586.47 | 1587.03 | 1598.47 | 1624.12 | 1693.86 | 1725.19 |
| 15.00° | 1368.96 | 1316.41 | 1296.54 | 1280.77 | 1293.69 | 1298.35 | 1299.84 | 1344.42 | 1350.77 | 1312.52 | 1289.47 | 1281.44 | 1299.26 | 1267.64 | 1287.46 | 1312.76 | 1368.96 |
| 17.50° | 963.03 | 960.71 | 937.84 | 947.42 | 949.98 | 889.95 | 905.14 | 919.83 | 969.36 | 931.63 | 939.11 | 929.41 | 943.80 | 935.67 | 921.44 | 949.09 | 963.03 |
| 20.00° | 648.71 | 643.75 | 645.55 | 628.24 | 618.79 | 603.75 | 568.94 | 606.00 | 580.70 | 624.42 | 582.77 | 631.41 | 632.78 | 603.04 | 589.55 | 589.54 | 648.71 |
| 22.50° | 391.08 | 408.95 | 402.00 | 419.87 | 411.15 | 340.41 | 355.42 | 345.78 | 375.18 | 333.33 | 378.94 | 353.23 | 374.45 | 380.72 | 374.06 | 384.93 | 391.08 |
| 25.00° | 245.76 | 245.94 | 254.33 | 236.18 | 226.04 | 229.51 | 201.49 | 215.27 | 183.39 | 220.64 | 185.91 | 219.46 | 209.26 | 204.10 | 203.58 | 202.32 | 245.76 |
| 27.50° | 152.17 | 156.65 | 158.91 | 163.97 | 160.09 | 133.79 | 140.87 | 130.15 | 137.29 | 121.35 | 137.07 | 121.29 | 128.57 | 131.65 | 141.39 | 148.45 | 152.17 |
| 30.00° | 111.30 | 115.69 | 114.27 | 106.29 | 104.54 | 106.48 | 99.54 | 98.10 | 93.29 | 98.15 | 91.95 | 90.79 | 85.14 | 89.61 | 95.22 | 102.78 | 111.30 |
| 32.50° | 87.52 | 89.23 | 89.96 | 85.16 | 83.93 | 81.12 | 80.82 | 78.40 | 77.55 | 76.80 | 76.82 | 70.47 | 67.08 | 70.60 | 77.07 | 83.38 | 87.52 |
| 35.00° | 69.72 | 69.88 | 71.99 | 65.91 | 65.52 | 66.14 | 65.02 | 63.79 | 62.31 | 62.02 | 62.22 | 58.35 | 54.34 | 55.83 | 62.13 | 64.59 | 69.72 |
| 37.50° | 53.22 | 55.98 | 55.76 | 53.81 | 52.31 | 51.84 | 51.82 | 49.89 | 50.12 | 49.11 | 50.06 | 46.77 | 44.26 | 47.08 | 51.36 | 52.47 | 53.22 |
| 40.00° | 44.88 | 43.99 | 45.56 | 42.19 | 41.36 | 42.72 | 42.06 | 41.86 | 39.38 | 40.75 | 39.31 | 38.15 | 36.28 | 38.92 | 42.39 | 41.31 | 44.88 |
| 42.50° | 37.52 | 36.39 | 36.42 | 35.47 | 34.28 | 34.29 | 34.60 | 34.17 | 34.18 | 32.98 | 32.93 | 29.77 | 29.07 | 31.34 | 35.20 | 35.57 | 37.52 |
| 45.00° | 29.83 | 29.84 | 29.71 | 28.90 | 27.81 | 28.89 | 28.21 | 28.04 | 28.51 | 26.24 | 26.65 | 24.40 | 23.32 | 23.96 | 27.88 | 29.70 | 29.83 |
| 47.50° | 22.22 | 24.28 | 23.21 | 23.05 | 22.14 | 23.77 | 22.37 | 22.11 | 21.56 | 20.78 | 20.59 | 19.35 | 17.94 | 20.45 | 20.47 | 23.36 | 22.22 |
| 50.00° | 18.14 | 18.86 | 18.83 | 17.90 | 17.78 | 19.49 | 18.14 | 18.30 | 16.31 | 17.06 | 15.94 | 16.22 | 15.12 | 17.00 | 16.89 | 17.84 | 18.14 |
| 52.50° | 14.18 | 15.51 | 14.56 | 15.12 | 14.74 | 15.47 | 14.51 | 14.59 | 14.31 | 13.95 | 13.57 | 13.27 | 12.69 | 14.00 | 15.47 | 14.32 | 14.18 |
| 55.00° | 11.37 | 12.28 | 11.71 | 12.09 | 11.72 | 11.99 | 11.32 | 11.51 | 11.72 | 11.47 | 10.82 | 11.01 | 9.98 | 11.00 | 12.22 | 11.08 | 11.37 |
| 57.50° | 8.63 | 8.61 | 8.86 | 8.49 | 8.71 | 8.85 | 8.24 | 8.58 | 8.30 | 8.69 | 7.63 | 8.70 | 7.25 | 8.02 | 8.22 | 8.31 | 8.63 |
| 60.00° | 6.23 | 5.16 | 6.03 | 5.57 | 6.35 | 6.23 | 5.88 | 6.19 | 5.71 | 5.70 | 5.37 | 6.30 | 5.35 | 5.41 | 5.76 | 5.93 | 6.23 |
| 62.50° | 4.11 | 4.11 | 3.54 | 3.83 | 4.34 | 4.20 | 3.62 | 4.10 | 4.02 | 3.77 | 3.98 | 4.32 | 3.50 | 3.86 | 3.76 | 4.05 | 4.11 |
| 65.00° | 2.88 | 3.08 | 2.44 | 2.51 | 2.92 | 2.88 | 2.63 | 2.74 | 2.82 | 2.47 | 2.84 | 3.13 | 2.42 | 2.52 | 2.66 | 2.64 | 2.88 |
| 67.50° | 1.79 | 2.24 | 1.54 | 1.72 | 1.72 | 1.94 | 1.73 | 1.67 | 2.03 | 1.65 | 1.88 | 2.14 | 1.47 | 1.62 | 1.74 | 1.71 | 1.79 |
| 70.00° | 1.04 | 1.49 | 1.22 | 1.28 | 1.15 | 1.34 | 1.19 | 1.10 | 1.42 | 1.02 | 1.33 | 1.44 | 1.24 | 0.98 | 1.32 | 1.22 | 1.04 |
| 72.50° | 0.62 | 1.06 | 0.99 | 1.16 | 0.76 | 0.96 | 0.70 | 0.80 | 0.92 | 0.83 | 0.99 | 0.98 | 1.04 | 0.73 | 0.95 | 1.05 | 0.62 |
| 75.00° | 0.73 | 0.77 | 0.92 | 1.01 | 0.77 | 0.74 | 0.76 | 0.87 | 0.89 | 0.77 | 0.92 | 0.77 | 0.92 | 0.67 | 0.81 | 1.07 | 0.73 |
| 77.50° | 0.73 | 0.78 | 0.91 | 0.83 | 0.86 | 0.65 | 0.78 | 0.81 | 1.05 | 0.75 | 0.95 | 0.70 | 0.82 | 0.82 | 0.68 | 1.21 | 0.73 |
| 80.00° | 0.59 | 0.80 | 0.98 | 0.79 | 0.81 | 0.64 | 0.61 | 0.62 | 0.94 | 0.74 | 0.88 | 0.75 | 0.74 | 0.92 | 0.66 | 1.09 | 0.59 |
| 82.50° | 0.56 | 0.86 | 0.97 | 0.83 | 0.75 | 0.64 | 0.52 | 0.60 | 0.73 | 0.82 | 0.78 | 0.73 | 0.74 | 0.96 | 0.65 | 0.86 | 0.56 |
| 85.00° | 0.66 | 0.95 | 0.85 | 0.83 | 0.75 | 0.66 | 0.70 | 0.70 | 0.71 | 0.91 | 0.70 | 0.69 | 0.86 | 0.89 | 0.71 | 0.87 | 0.66 |
| 87.50° | 0.67 | 1.08 | 0.81 | 0.81 | 0.76 | 0.66 | 0.80 | 0.74 | 0.73 | 0.72 | 0.62 | 0.84 | 0.83 | 0.75 | 0.76 | 0.94 | 0.67 |
| 90.00° | 0.63 | 1.02 | 0.82 | 0.84 | 0.69 | 0.65 | 0.67 | 0.73 | 0.76 | 0.53 | 0.74 | 1.08 | 0.59 | 0.66 | 0.77 | 0.82 | 0.63 |
| 92.50° | 0.61 | 0.77 | 0.75 | 0.88 | 0.65 | 0.82 | 0.62 | 0.67 | 0.79 | 0.66 | 0.87 | 0.91 | 0.49 | 0.59 | 0.75 | 0.65 | 0.61 |
| 95.00° | 0.61 | 0.66 | 0.64 | 0.85 | 0.82 | 1.01 | 0.73 | 0.57 | 0.82 | 0.77 | 0.81 | 0.61 | 0.54 | 0.64 | 0.66 | 0.85 | 0.61 |
| 97.50° | 0.68 | 0.66 | 0.69 | 0.82 | 0.94 | 0.85 | 0.72 | 0.53 | 0.85 | 0.75 | 0.74 | 0.75 | 0.63 | 0.74 | 0.61 | 1.09 | 0.68 |
| 100.00° | 0.79 | 0.66 | 0.82 | 0.77 | 0.85 | 0.67 | 0.56 | 0.50 | 0.74 | 0.72 | 0.68 | 1.00 | 0.75 | 0.85 | 0.67 | 0.84 | 0.79 |
| 102.50° | 0.86 | 0.65 | 0.83 | 0.73 | 0.79 | 0.73 | 0.60 | 0.61 | 0.65 | 0.65 | 0.64 | 1.11 | 0.78 | 0.97 | 0.74 | 0.59 | 0.86 |
| 105.00° | 0.92 | 0.60 | 0.81 | 0.84 | 0.79 | 0.78 | 0.87 | 0.76 | 0.70 | 0.61 | 0.67 | 1.22 | 0.74 | 0.93 | 0.82 | 0.75 | 0.92 |

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 | 887 | 887 | 887 | 887 | 865 | 865 | 865 | 865 | 826 | 826 | 826 | 790 | 790 | 790 | 756 | 756 | 741 |
| | 1 | 853 | 835 | 820 | 806 | 834 | 819 | 805 | 793 | 788 | 777 | 767 | 760 | 752 | 744 | 734 | 728 | 713 |
| | 2 | 821 | 791 | 766 | 746 | 805 | 778 | 756 | 737 | 754 | 736 | 720 | 731 | 717 | 704 | 711 | 699 | 686 |
| | 3 | 790 | 752 | 722 | 698 | 776 | 742 | 714 | 693 | 722 | 700 | 681 | 704 | 686 | 670 | 688 | 672 | 660 |
| | 4 | 762 | 717 | 685 | 660 | 750 | 709 | 679 | 656 | 693 | 668 | 648 | 679 | 657 | 640 | 665 | 647 | 635 |
| | 5 | 735 | 687 | 652 | 627 | 724 | 680 | 648 | 624 | 667 | 640 | 619 | 655 | 631 | 613 | 644 | 624 | 613 |
| | 6 | 711 | 659 | 624 | 599 | 701 | 653 | 621 | 597 | 643 | 614 | 593 | 633 | 608 | 589 | 623 | 602 | 591 |
| | 7 | 687 | 634 | 599 | 575 | 678 | 629 | 596 | 573 | 620 | 591 | 570 | 612 | 586 | 567 | 604 | 581 | 572 |
| | 8 | 665 | 611 | 576 | 553 | 657 | 607 | 574 | 551 | 599 | 570 | 549 | 592 | 566 | 547 | 585 | 562 | 553 |
| | 9 | 645 | 590 | 556 | 533 | 638 | 586 | 554 | 532 | 580 | 551 | 530 | 574 | 547 | 528 | 568 | 544 | 536 |
| | 10 | 626 | 570 | 537 | 515 | 619 | 567 | 535 | 514 | 562 | 533 | 513 | 556 | 530 | 511 | 551 | 527 | 520 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 72.2 fc | 3.3 ft |
| 6.5 ft | 51.7 fc | 3.8 ft |
| 7.5 ft | 38.8 fc | 4.4 ft |
| 8.0 ft | 34.1 fc | 4.7 ft |
| 10.0 ft | 21.8 fc | 5.9 ft |
| 12.0 ft | 15.2 fc | 7.1 ft |
| 14.0 ft | 11.1 fc | 8.3 ft |
| 16.0 ft | 8.5 fc | 9.5 ft |
| 20.0 ft | 5.5 fc | 11.8 ft |
| 24.0 ft | 3.8 fc | 14.2 ft |
| 28.0 ft | 2.8 fc | 16.6 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|--------|--------|--------|
| 0.00° | 678296 | 678296 | 678296 |
| 45.00° | 13110 | 13058 | 12224 |
| 55.00° | 6159 | 6344 | 6349 |
| 65.00° | 2116 | 1793 | 2144 |
| 75.00° | 875 | 1102 | 930 |
| 85.00° | 2336 | 3047 | 2684 |

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 | 8.3 | 9.2 | 8.7 | 9.5 | 9.9 | 8.4 | 9.4 | 8.8 | 9.7 | 10.0 |
| | 3H | 8.3 | 9.1 | 8.7 | 9.5 | 9.9 | 8.4 | 9.3 | 8.8 | 9.6 | 10.0 |
| | 4H | 8.3 | 9.0 | 8.7 | 9.4 | 9.8 | 8.4 | 9.2 | 8.8 | 9.5 | 9.9 |
| | 6H | 8.3 | 9.0 | 8.7 | 9.4 | 9.8 | 8.4 | 9.1 | 8.8 | 9.5 | 9.9 |
| | 8H | 8.3 | 8.9 | 8.7 | 9.3 | 9.8 | 8.4 | 9.1 | 8.9 | 9.5 | 9.9 |
| | 12H | 8.3 | 9.0 | 8.8 | 9.4 | 9.8 | 8.5 | 9.2 | 9.0 | 9.6 | 10.0 |
| 4H | 2H | 8.1 | 8.9 | 8.5 | 9.3 | 9.7 | 8.3 | 9.0 | 8.7 | 9.4 | 9.8 |
| | 3H | 8.2 | 8.8 | 8.6 | 9.3 | 9.7 | 8.3 | 9.0 | 8.8 | 9.4 | 9.8 |
| | 4H | 8.2 | 8.8 | 8.7 | 9.2 | 9.7 | 8.3 | 8.9 | 8.8 | 9.3 | 9.8 |
| | 6H | 8.3 | 8.8 | 8.8 | 9.3 | 9.7 | 8.4 | 8.9 | 8.9 | 9.3 | 9.8 |
| | 8H | 8.4 | 8.8 | 8.9 | 9.3 | 9.8 | 8.5 | 8.9 | 9.0 | 9.4 | 9.9 |
| | 12H | 8.5 | 8.9 | 9.1 | 9.4 | 9.9 | 8.7 | 9.1 | 9.2 | 9.6 | 10.1 |
| 8H | 4H | 8.1 | 8.5 | 8.6 | 9.0 | 9.5 | 8.2 | 8.7 | 8.7 | 9.1 | 9.6 |
| | 6H | 8.3 | 8.7 | 8.9 | 9.2 | 9.7 | 8.4 | 8.7 | 8.9 | 9.2 | 9.7 |
| | 8H | 8.5 | 8.8 | 9.1 | 9.4 | 9.9 | 8.5 | 8.8 | 9.1 | 9.4 | 9.9 |
| | 12H | 8.9 | 9.2 | 9.4 | 9.7 | 10.3 | 8.9 | 9.1 | 9.4 | 9.6 | 10.2 |
| 12H | 4H | 8.1 | 8.4 | 8.6 | 8.9 | 9.4 | 8.2 | 8.5 | 8.7 | 9.1 | 9.5 |
| | 6H | 8.3 | 8.6 | 8.9 | 9.1 | 9.7 | 8.3 | 8.6 | 8.9 | 9.1 | 9.7 |
| | 8H | 8.6 | 8.9 | 9.1 | 9.4 | 10.0 | 8.6 | 8.8 | 9.1 | 9.3 | 9.9 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0