

Indoor Distribution Test Report

Spectrum Lighting Inc.

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

Luminaire

SGRTE8XT 20L 35K XW XX AR8466XT SG FG
N/A

Test Number

SP-01211_M-20L

Test Date

2/11/2021

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

Summary of Results

Power

| | |
|-------------|--------|
| Input Watts | 19.9 W |
|-------------|--------|

Lumen Output

| | |
|---------------|------------|
| Output Lumens | 1168 |
| Efficacy | 58.71 lm/W |

Luminous Dimensions

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

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 0.84 |
| Two luminaires, plane 90° | 0.83 |
| Four luminaires | 0.91 |

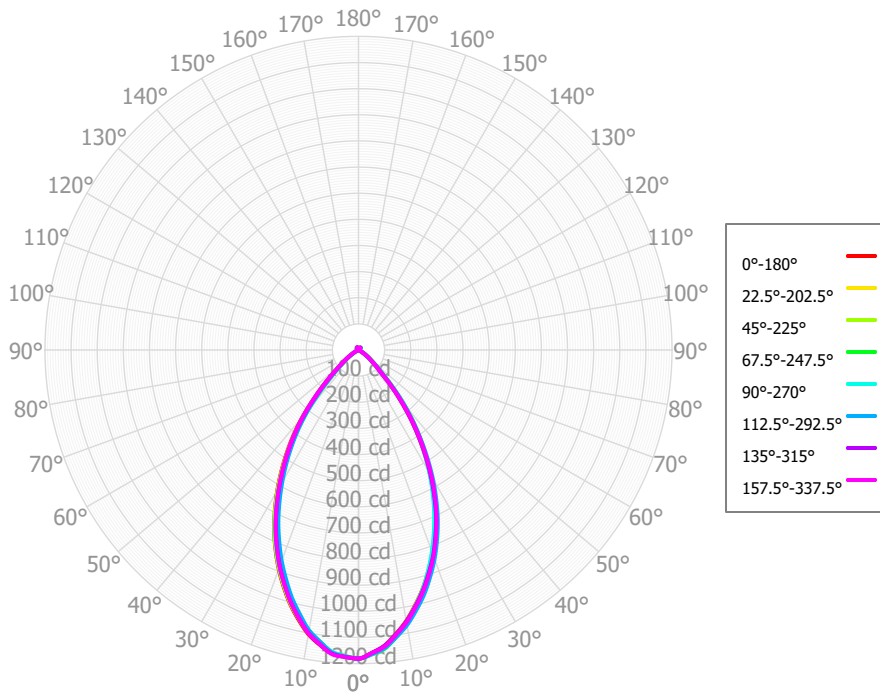
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 60° |
| 90° - 270° | 59° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01211_M-20L |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 2/11/2021 |
| ISSUEDATE | 3/1/2021 |
| LUMCAT | SGRTE8XT 20L 35K XW XX AR8466XT SG FG |
| LUMINAIRE | N/A |
| OTHER | Beam Angle: 59 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, scaled from 50L |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|---------|-----------|-------------------|---------|-----------|
| 0.00° - 10.00° | 108.95 | 9.32% | 90.00° - 100.00° | 0.66 | 0.06% |
| 10.00° - 20.00° | 271.89 | 23.27% | 100.00° - 110.00° | 0.66 | 0.06% |
| 20.00° - 30.00° | 329.93 | 28.24% | 100.00° - 120.00° | 1.83 | 0.16% |
| 30.00° - 40.00° | 267.67 | 22.91% | 120.00° - 130.00° | 3.03 | 0.26% |
| 40.00° - 50.00° | 123.49 | 10.57% | 130.00° - 140.00° | 4.86 | 0.42% |
| 50.00° - 60.00° | 37.09 | 3.17% | 140.00° - 150.00° | 5.88 | 0.50% |
| 60.00° - 70.00° | 6.10 | 0.52% | 150.00° - 160.00° | 3.93 | 0.34% |
| 70.00° - 80.00° | 0.69 | 0.06% | 160.00° - 170.00° | 1.61 | 0.14% |
| 80.00° - 90.00° | 0.68 | 0.06% | 170.00° - 180.00° | 0.14 | 0.01% |
| 0.00° - 90.00° | 1146.50 | 98.12% | 0.00° - 180.00° | 1168.43 | 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° | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 | 1181.25 |
| 2.50° | 1160.76 | 1163.48 | 1162.74 | 1166.18 | 1165.56 | 1174.02 | 1176.27 | 1175.63 | 1175.49 | 1175.64 | 1174.29 | 1172.40 | 1172.98 | 1165.32 | 1161.05 | 1161.64 | 1160.76 |
| 5.00° | 1136.62 | 1140.57 | 1141.78 | 1148.06 | 1145.07 | 1162.48 | 1166.46 | 1168.51 | 1165.90 | 1163.92 | 1164.59 | 1159.95 | 1160.07 | 1145.18 | 1137.11 | 1140.12 | 1136.62 |
| 7.50° | 1096.49 | 1102.03 | 1099.71 | 1107.76 | 1104.95 | 1126.59 | 1136.41 | 1135.30 | 1137.68 | 1133.33 | 1133.37 | 1126.58 | 1128.72 | 1108.26 | 1098.27 | 1100.20 | 1096.49 |
| 10.00° | 1053.32 | 1060.01 | 1057.04 | 1066.24 | 1061.30 | 1089.56 | 1100.88 | 1101.37 | 1104.58 | 1098.35 | 1100.69 | 1091.08 | 1093.54 | 1069.50 | 1055.96 | 1059.22 | 1053.32 |
| 12.50° | 1001.20 | 1009.58 | 1002.92 | 1010.95 | 1006.20 | 1036.33 | 1052.14 | 1051.08 | 1057.89 | 1051.35 | 1053.71 | 1044.12 | 1047.30 | 1020.31 | 1005.06 | 1008.58 | 1001.20 |
| 15.00° | 947.75 | 956.15 | 948.23 | 955.31 | 949.61 | 982.73 | 1000.20 | 1000.12 | 1008.12 | 1002.10 | 1005.38 | 995.35 | 998.25 | 969.46 | 952.62 | 956.98 | 947.75 |
| 17.50° | 888.97 | 896.67 | 886.86 | 893.58 | 886.04 | 921.25 | 941.57 | 941.38 | 951.21 | 944.59 | 948.01 | 938.74 | 942.46 | 911.09 | 894.71 | 898.97 | 888.97 |
| 20.00° | 829.65 | 835.01 | 824.85 | 831.55 | 821.83 | 859.47 | 880.61 | 881.90 | 892.15 | 885.94 | 889.77 | 880.33 | 884.34 | 851.15 | 836.10 | 839.71 | 829.65 |
| 22.50° | 762.95 | 769.59 | 757.94 | 764.11 | 753.74 | 792.98 | 815.55 | 816.85 | 828.90 | 822.03 | 827.15 | 815.72 | 821.39 | 785.53 | 769.60 | 774.28 | 762.95 |
| 25.00° | 695.82 | 701.70 | 690.28 | 696.25 | 685.46 | 726.06 | 748.42 | 750.87 | 763.07 | 757.64 | 762.77 | 749.13 | 755.06 | 717.86 | 702.39 | 707.18 | 695.82 |
| 27.50° | 621.64 | 630.07 | 618.50 | 624.10 | 614.39 | 655.00 | 678.16 | 679.49 | 692.97 | 686.36 | 691.19 | 676.94 | 682.77 | 644.19 | 627.14 | 633.66 | 621.64 |
| 30.00° | 547.27 | 556.64 | 546.36 | 552.07 | 543.32 | 584.00 | 607.31 | 607.98 | 621.58 | 614.70 | 618.64 | 603.27 | 608.64 | 569.16 | 551.51 | 559.20 | 547.27 |
| 32.50° | 471.61 | 480.86 | 472.60 | 480.81 | 473.04 | 513.34 | 535.65 | 535.91 | 548.33 | 540.41 | 542.91 | 526.00 | 531.74 | 490.76 | 473.95 | 481.74 | 471.61 |
| 35.00° | 396.00 | 407.08 | 399.56 | 409.88 | 402.89 | 443.07 | 464.82 | 464.34 | 475.93 | 466.10 | 467.71 | 449.48 | 455.10 | 413.32 | 396.45 | 404.93 | 396.00 |
| 37.50° | 321.24 | 335.54 | 329.09 | 340.68 | 334.92 | 374.77 | 394.92 | 394.51 | 404.62 | 392.56 | 393.92 | 374.47 | 378.80 | 337.89 | 321.20 | 329.89 | 321.24 |
| 40.00° | 247.17 | 262.21 | 258.60 | 271.21 | 266.90 | 305.55 | 323.01 | 322.92 | 330.28 | 318.75 | 318.32 | 298.24 | 300.88 | 263.06 | 246.48 | 255.91 | 247.17 |
| 42.50° | 181.01 | 187.13 | 188.08 | 200.59 | 198.51 | 232.68 | 249.11 | 246.14 | 252.69 | 240.31 | 238.53 | 219.88 | 221.09 | 189.32 | 180.18 | 184.31 | 181.01 |
| 45.00° | 119.27 | 132.29 | 128.12 | 137.84 | 134.39 | 166.18 | 184.73 | 177.34 | 186.24 | 164.99 | 169.37 | 155.06 | 157.99 | 130.93 | 117.62 | 125.92 | 119.27 |
| 47.50° | 90.78 | 94.70 | 94.16 | 101.06 | 100.31 | 120.02 | 128.67 | 128.21 | 130.41 | 121.87 | 120.89 | 110.84 | 111.31 | 95.88 | 90.37 | 93.24 | 90.78 |
| 50.00° | 64.04 | 68.04 | 65.65 | 69.55 | 68.89 | 80.91 | 90.53 | 88.11 | 92.23 | 81.76 | 82.82 | 77.31 | 78.94 | 68.41 | 64.57 | 66.36 | 64.04 |
| 52.50° | 46.83 | 49.38 | 48.39 | 52.32 | 51.23 | 60.97 | 65.88 | 66.66 | 68.56 | 62.66 | 61.96 | 57.75 | 59.03 | 51.12 | 48.27 | 49.04 | 46.83 |
| 55.00° | 30.93 | 34.42 | 33.67 | 37.06 | 35.43 | 43.15 | 46.56 | 47.36 | 48.65 | 44.32 | 43.54 | 40.57 | 42.07 | 36.06 | 32.91 | 34.08 | 30.93 |
| 57.50° | 20.82 | 21.84 | 23.38 | 26.37 | 27.13 | 30.13 | 30.69 | 31.91 | 31.40 | 29.89 | 28.67 | 26.05 | 27.32 | 23.57 | 22.34 | 22.44 | 20.82 |
| 60.00° | 11.72 | 13.46 | 14.49 | 16.82 | 18.78 | 19.42 | 21.17 | 19.80 | 20.60 | 17.00 | 17.38 | 15.49 | 17.28 | 14.03 | 12.70 | 13.05 | 11.72 |
| 62.50° | 6.16 | 7.41 | 7.75 | 9.49 | 10.30 | 13.13 | 15.25 | 12.83 | 13.83 | 10.50 | 10.58 | 8.87 | 10.26 | 7.43 | 6.73 | 6.46 | 6.16 |
| 65.00° | 1.86 | 3.84 | 3.20 | 4.09 | 3.62 | 7.58 | 8.95 | 7.11 | 7.83 | 4.94 | 5.49 | 4.37 | 5.46 | 3.29 | 2.02 | 2.47 | 1.86 |
| 67.50° | 1.18 | 1.42 | 1.55 | 1.94 | 1.89 | 3.28 | 2.46 | 3.01 | 2.24 | 2.51 | 2.24 | 1.71 | 1.89 | 1.33 | 1.31 | 1.27 | 1.18 |
| 70.00° | 0.72 | 0.77 | 0.66 | 0.66 | 0.67 | 0.72 | 0.67 | 0.74 | 0.49 | 0.72 | 0.64 | 0.66 | 0.71 | 0.55 | 0.77 | 0.69 | 0.72 |
| 72.50° | 0.78 | 0.82 | 0.64 | 0.67 | 0.61 | 0.67 | 0.78 | 0.62 | 0.46 | 0.70 | 0.59 | 0.80 | 0.66 | 0.66 | 0.66 | 0.70 | 0.78 |
| 75.00° | 0.83 | 0.69 | 0.64 | 0.63 | 0.58 | 0.64 | 0.83 | 0.60 | 0.51 | 0.65 | 0.58 | 0.83 | 0.66 | 0.62 | 0.60 | 0.65 | 0.83 |
| 77.50° | 0.84 | 0.49 | 0.67 | 0.52 | 0.59 | 0.61 | 0.86 | 0.69 | 0.60 | 0.52 | 0.60 | 0.77 | 0.67 | 0.48 | 0.66 | 0.55 | 0.84 |
| 80.00° | 0.83 | 0.49 | 0.66 | 0.51 | 0.61 | 0.58 | 0.85 | 0.66 | 0.61 | 0.48 | 0.57 | 0.68 | 0.62 | 0.55 | 0.71 | 0.57 | 0.83 |
| 82.50° | 0.78 | 0.54 | 0.61 | 0.60 | 0.64 | 0.55 | 0.84 | 0.53 | 0.60 | 0.60 | 0.50 | 0.57 | 0.54 | 0.74 | 0.74 | 0.69 | 0.78 |
| 85.00° | 0.69 | 0.57 | 0.62 | 0.62 | 0.64 | 0.56 | 0.72 | 0.54 | 0.57 | 0.69 | 0.52 | 0.54 | 0.54 | 0.74 | 0.74 | 0.69 | 0.69 |
| 87.50° | 0.56 | 0.59 | 0.69 | 0.58 | 0.60 | 0.62 | 0.58 | 0.66 | 0.53 | 0.74 | 0.59 | 0.53 | 0.57 | 0.63 | 0.69 | 0.62 | 0.56 |
| 90.00° | 0.51 | 0.55 | 0.69 | 0.53 | 0.58 | 0.59 | 0.67 | 0.73 | 0.53 | 0.78 | 0.57 | 0.51 | 0.65 | 0.56 | 0.64 | 0.59 | 0.51 |
| 92.50° | 0.57 | 0.50 | 0.65 | 0.47 | 0.58 | 0.48 | 0.81 | 0.77 | 0.54 | 0.82 | 0.50 | 0.48 | 0.72 | 0.49 | 0.58 | 0.59 | 0.57 |
| 95.00° | 0.62 | 0.55 | 0.65 | 0.45 | 0.62 | 0.46 | 0.68 | 0.77 | 0.54 | 0.82 | 0.51 | 0.46 | 0.65 | 0.55 | 0.57 | 0.64 | 0.62 |
| 97.50° | 0.66 | 0.62 | 0.66 | 0.47 | 0.70 | 0.51 | 0.52 | 0.74 | 0.55 | 0.78 | 0.55 | 0.45 | 0.55 | 0.65 | 0.61 | 0.72 | 0.66 |
| 100.00° | 0.60 | 0.62 | 0.64 | 0.45 | 0.74 | 0.54 | 0.55 | 0.66 | 0.57 | 0.73 | 0.63 | 0.48 | 0.54 | 0.64 | 0.60 | 0.71 | 0.60 |
| 102.50° | 0.45 | 0.62 | 0.60 | 0.41 | 0.72 | 0.56 | 0.59 | 0.56 | 0.59 | 0.66 | 0.72 | 0.52 | 0.53 | 0.60 | 0.55 | 0.66 | 0.45 |
| 105.00° | 0.53 | 0.68 | 0.64 | 0.48 | 0.72 | 0.62 | 0.49 | 0.51 | 0.63 | 0.63 | 0.68 | 0.61 | 0.54 | 0.57 | 0.61 | 0.67 | 0.53 |
| 107.50° | 0.81 | 0.75 | 0.72 | 0.61 | 0.74 | 0.68 | 0.38 | 0.49 | 0.66 | 0.65 | 0.60 | 0.70 | 0.55 | 0.55 | 0.79 | 0.70 | 0.81 |
| 110.00° | 0.95 | 0.75 | 0.75 | 0.67 | 0.75 | 0.72 | 0.61 | 0.58 | 0.68 | 0.68 | 0.55 | 0.76 | 0.53 | 0.66 | 0.80 | 0.72 | 0.95 |
| 112.50° | 0.99 | 0.74 | 0.77 | 0.71 | 0.75 | 0.75 | 0.84 | 0.70 | 0.69 | 0.72 | 0.50 | 0.81 | 0.51 | 0.81 | 0.68 | 0.74 | 0.99 |

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 | 1386 | 1386 | 1386 | 1386 | 1351 | 1351 | 1351 | 1351 | 1286 | 1286 | 1286 | 1227 | 1227 | 1227 | 1172 | 1172 | 1146 |
| | 1 | 1316 | 1282 | 1251 | 1223 | 1285 | 1254 | 1226 | 1201 | 1203 | 1181 | 1160 | 1155 | 1138 | 1122 | 1112 | 1098 | 1074 |
| | 2 | 1245 | 1184 | 1133 | 1091 | 1216 | 1161 | 1116 | 1077 | 1120 | 1082 | 1050 | 1081 | 1051 | 1024 | 1046 | 1021 | 999 |
| | 3 | 1175 | 1095 | 1032 | 983 | 1149 | 1076 | 1019 | 973 | 1042 | 994 | 955 | 1011 | 971 | 937 | 981 | 948 | 928 |
| | 4 | 1109 | 1015 | 945 | 892 | 1086 | 1000 | 935 | 886 | 971 | 916 | 873 | 945 | 898 | 860 | 920 | 881 | 863 |
| | 5 | 1047 | 943 | 870 | 816 | 1026 | 930 | 862 | 811 | 906 | 847 | 801 | 884 | 833 | 792 | 863 | 819 | 783 |
| | 6 | 990 | 878 | 803 | 750 | 970 | 868 | 797 | 746 | 847 | 785 | 739 | 828 | 774 | 732 | 811 | 763 | 748 |
| | 7 | 936 | 820 | 745 | 692 | 919 | 811 | 740 | 690 | 794 | 730 | 684 | 777 | 721 | 679 | 762 | 712 | 699 |
| | 8 | 887 | 768 | 693 | 642 | 871 | 760 | 689 | 640 | 745 | 681 | 636 | 731 | 674 | 632 | 718 | 666 | 655 |
| | 9 | 841 | 721 | 648 | 598 | 826 | 714 | 644 | 596 | 701 | 638 | 593 | 689 | 631 | 590 | 677 | 625 | 615 |
| | 10 | 799 | 679 | 607 | 559 | 785 | 673 | 604 | 557 | 661 | 598 | 555 | 651 | 593 | 552 | 640 | 588 | 578 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 39.0 fc | 6.0 ft |
| 6.5 ft | 28.0 fc | 7.0 ft |
| 7.5 ft | 21.0 fc | 8.1 ft |
| 8.0 ft | 18.5 fc | 8.7 ft |
| 10.0 ft | 11.8 fc | 10.8 ft |
| 12.0 ft | 8.2 fc | 13.0 ft |
| 14.0 ft | 6.0 fc | 15.2 ft |
| 16.0 ft | 4.6 fc | 17.3 ft |
| 20.0 ft | 3.0 fc | 21.7 ft |
| 24.0 ft | 2.1 fc | 26.0 ft |
| 28.0 ft | 1.5 fc | 30.3 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|-------|--------|--------|
| 0.00° | 40789 | 40789 | 40789 |
| 45.00° | 5824 | 6256 | 6563 |
| 55.00° | 1862 | 2027 | 2133 |
| 65.00° | 152 | 262 | 296 |
| 75.00° | 111 | 86 | 77 |
| 85.00° | 274 | 247 | 254 |

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 | 5.4 | 6.5 | 5.8 | 6.8 | 7.2 | 7.1 | 8.2 | 7.5 | 8.5 | 8.9 |
| | 3H | 5.2 | 6.2 | 5.7 | 6.5 | 6.9 | 7.0 | 7.9 | 7.4 | 8.3 | 8.7 |
| | 4H | 5.2 | 6.0 | 5.6 | 6.4 | 6.8 | 6.9 | 7.7 | 7.3 | 8.1 | 8.6 |
| | 6H | 5.1 | 5.8 | 5.5 | 6.3 | 6.7 | 6.8 | 7.6 | 7.2 | 8.0 | 8.4 |
| | 8H | 5.0 | 5.8 | 5.5 | 6.2 | 6.7 | 6.7 | 7.5 | 7.2 | 7.9 | 8.4 |
| | 12H | 5.0 | 5.7 | 5.5 | 6.1 | 6.6 | 6.7 | 7.4 | 7.2 | 7.8 | 8.3 |
| 4H | 2H | 5.2 | 6.0 | 5.6 | 6.4 | 6.8 | 7.0 | 7.8 | 7.4 | 8.2 | 8.7 |
| | 3H | 5.0 | 5.7 | 5.4 | 6.1 | 6.6 | 6.8 | 7.5 | 7.3 | 8.0 | 8.4 |
| | 4H | 4.9 | 5.5 | 5.4 | 6.0 | 6.5 | 6.7 | 7.3 | 7.2 | 7.8 | 8.3 |
| | 6H | 4.8 | 5.3 | 5.3 | 5.8 | 6.3 | 6.6 | 7.1 | 7.1 | 7.6 | 8.2 |
| | 8H | 4.8 | 5.3 | 5.3 | 5.8 | 6.3 | 6.6 | 7.1 | 7.1 | 7.5 | 8.1 |
| | 12H | 4.8 | 5.2 | 5.3 | 5.7 | 6.2 | 6.5 | 6.9 | 7.0 | 7.5 | 8.0 |
| 8H | 4H | 4.7 | 5.2 | 5.2 | 5.7 | 6.2 | 6.5 | 7.0 | 7.1 | 7.5 | 8.0 |
| | 6H | 4.6 | 5.0 | 5.2 | 5.6 | 6.1 | 6.4 | 6.8 | 7.0 | 7.4 | 7.9 |
| | 8H | 4.6 | 5.0 | 5.2 | 5.5 | 6.1 | 6.4 | 6.7 | 7.0 | 7.3 | 7.8 |
| | 12H | 4.6 | 4.9 | 5.2 | 5.5 | 6.1 | 6.4 | 6.7 | 6.9 | 7.2 | 7.8 |
| 12H | 4H | 4.7 | 5.1 | 5.2 | 5.6 | 6.1 | 6.5 | 6.9 | 7.0 | 7.4 | 8.0 |
| | 6H | 4.6 | 4.9 | 5.2 | 5.4 | 6.0 | 6.4 | 6.7 | 6.9 | 7.2 | 7.8 |
| | 8H | 4.6 | 4.9 | 5.1 | 5.4 | 6.0 | 6.3 | 6.7 | 6.9 | 7.2 | 7.8 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0