

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SN32 MED xx TW FCI A19 Opal
32" x 11" Spin Pendant Medium Base E26 MWI

Test Number

SP-01617_1

Test Date

12/18/2023

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

Summary of Results

Power

| | |
|-------------|--------|
| Input Watts | 10.8 W |
|-------------|--------|

Lumen Output

| | |
|---------------|-------------|
| Output Lumens | 1097 |
| Efficacy | 101.59 lm/W |

Luminous Dimensions

| | |
|-----------------|-------|
| 0° - 180° Size | -2.67 |
| 90° - 270° Size | -2.67 |
| Height | 0 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 1.36 |
| Two luminaires, plane 90° | 1.34 |
| Four luminaires | 1.49 |

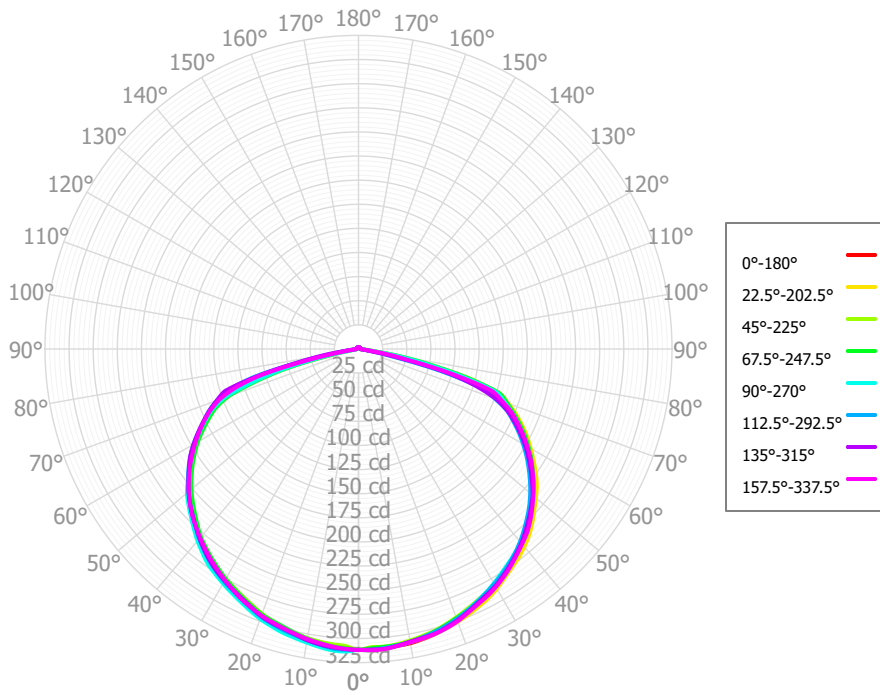
Full Beam Angle

| | |
|------------|------|
| 0° - 180° | 140° |
| 90° - 270° | 140° |

IES File Header Contents

| Keyword | Value |
|-----------|---------------------------------------------------------|
| TEST | SP-01617_1 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 12/18/2023 |
| ISSUEDATE | 12/20/2023 |
| LUMCAT | SN32 MED xx TW FCI A19 Opal |
| LUMINAIRE | 32" x 11" Spin Pendant Medium Base E26 MWI |
| OTHER | Beam Angle: 140 deg |
| OTHER | Tested Bulb: SATCO LED 11W A19 3000K Part Number S29811 |
| 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° | 29.99 | 2.73% | 90.00° - 100.00° | 2.02 | 0.18% |
| 10.00° - 20.00° | 85.48 | 7.79% | 100.00° - 110.00° | 1.99 | 0.18% |
| 20.00° - 30.00° | 133.22 | 12.14% | 100.00° - 120.00° | 3.88 | 0.35% |
| 30.00° - 40.00° | 169.51 | 15.45% | 120.00° - 130.00° | 1.71 | 0.16% |
| 40.00° - 50.00° | 190.50 | 17.36% | 130.00° - 140.00° | 1.48 | 0.13% |
| 50.00° - 60.00° | 193.25 | 17.61% | 140.00° - 150.00° | 1.22 | 0.11% |
| 60.00° - 70.00° | 176.49 | 16.09% | 150.00° - 160.00° | 0.88 | 0.08% |
| 70.00° - 80.00° | 100.00 | 9.11% | 160.00° - 170.00° | 0.54 | 0.05% |
| 80.00° - 90.00° | 6.82 | 0.62% | 170.00° - 180.00° | 0.19 | 0.02% |
| 0.00° - 90.00° | 1085.24 | 98.91% | 0.00° - 180.00° | 1097.16 | 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° | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 | 311.95 |
| 2.50° | 311.93 | 312.67 | 309.42 | 310.42 | 312.55 | 312.22 | 311.27 | 311.24 | 311.31 | 311.63 | 308.26 | 310.48 | 313.91 | 312.03 | 311.88 | 312.62 | 311.93 |
| 5.00° | 311.06 | 312.04 | 309.77 | 309.83 | 311.26 | 311.56 | 310.45 | 309.61 | 310.14 | 310.20 | 307.35 | 309.40 | 313.48 | 311.28 | 311.93 | 312.19 | 311.06 |
| 7.50° | 310.35 | 310.21 | 308.64 | 309.47 | 310.04 | 309.12 | 308.79 | 307.55 | 308.53 | 308.30 | 306.08 | 307.29 | 311.50 | 310.01 | 310.26 | 310.44 | 310.35 |
| 10.00° | 309.69 | 308.61 | 306.91 | 308.50 | 308.54 | 306.36 | 306.54 | 305.36 | 306.40 | 306.21 | 304.35 | 304.90 | 309.04 | 308.48 | 308.08 | 308.82 | 309.69 |
| 12.50° | 307.95 | 307.39 | 304.84 | 306.27 | 306.55 | 304.01 | 303.16 | 302.65 | 303.41 | 303.14 | 301.95 | 301.74 | 306.68 | 306.20 | 306.77 | 307.45 | 307.95 |
| 15.00° | 305.89 | 305.71 | 302.66 | 303.63 | 304.28 | 301.70 | 300.20 | 299.81 | 300.30 | 299.76 | 299.24 | 298.42 | 304.35 | 303.76 | 305.66 | 305.74 | 305.89 |
| 17.50° | 302.75 | 303.47 | 299.52 | 300.27 | 301.58 | 298.65 | 297.91 | 296.94 | 297.03 | 296.19 | 296.15 | 295.58 | 301.18 | 300.94 | 302.69 | 303.49 | 302.75 |
| 20.00° | 299.36 | 300.88 | 296.12 | 296.93 | 298.16 | 295.55 | 294.61 | 294.07 | 293.66 | 292.56 | 292.32 | 292.81 | 297.85 | 297.81 | 299.38 | 300.40 | 299.36 |
| 22.50° | 296.17 | 297.90 | 292.48 | 293.60 | 293.81 | 291.00 | 289.93 | 290.34 | 290.14 | 289.22 | 287.69 | 288.61 | 293.55 | 294.05 | 295.31 | 296.15 | 296.17 |
| 25.00° | 293.03 | 294.70 | 288.79 | 289.93 | 289.48 | 286.40 | 285.53 | 286.50 | 286.05 | 285.94 | 283.36 | 284.24 | 289.11 | 290.05 | 291.14 | 292.30 | 293.03 |
| 27.50° | 288.85 | 291.31 | 285.47 | 285.82 | 285.19 | 282.50 | 281.44 | 281.64 | 281.37 | 281.58 | 279.29 | 279.71 | 284.90 | 285.66 | 287.41 | 288.91 | 288.85 |
| 30.00° | 284.55 | 286.88 | 282.21 | 281.61 | 280.57 | 278.56 | 277.33 | 276.69 | 276.91 | 277.06 | 275.17 | 275.16 | 280.72 | 281.23 | 283.71 | 284.85 | 284.55 |
| 32.50° | 280.21 | 281.63 | 277.80 | 277.29 | 275.64 | 273.85 | 273.18 | 271.64 | 272.64 | 271.90 | 271.00 | 270.09 | 276.43 | 276.73 | 278.76 | 280.12 | 280.21 |
| 35.00° | 275.87 | 276.94 | 273.27 | 272.72 | 270.98 | 269.03 | 268.23 | 266.58 | 267.33 | 266.66 | 266.12 | 265.00 | 272.12 | 271.87 | 273.76 | 274.92 | 275.87 |
| 37.50° | 270.74 | 272.65 | 268.01 | 267.92 | 266.55 | 262.99 | 262.57 | 261.00 | 261.26 | 260.86 | 260.75 | 259.63 | 265.89 | 266.58 | 268.25 | 269.32 | 270.74 |
| 40.00° | 265.58 | 267.48 | 262.71 | 262.26 | 261.20 | 256.86 | 256.34 | 255.41 | 255.26 | 255.02 | 254.89 | 254.16 | 259.63 | 260.64 | 262.69 | 263.86 | 265.58 |
| 42.50° | 259.19 | 261.80 | 256.18 | 255.93 | 255.22 | 250.00 | 249.67 | 249.67 | 249.30 | 249.15 | 248.75 | 247.14 | 252.64 | 254.01 | 256.08 | 258.49 | 259.19 |
| 45.00° | 252.77 | 254.82 | 249.63 | 249.53 | 248.58 | 243.23 | 243.27 | 243.83 | 242.83 | 243.23 | 241.82 | 240.14 | 245.68 | 247.18 | 249.46 | 251.79 | 252.77 |
| 47.50° | 245.55 | 247.21 | 243.10 | 243.08 | 241.54 | 236.89 | 237.04 | 236.87 | 236.10 | 235.34 | 234.49 | 233.29 | 239.04 | 240.17 | 242.64 | 244.26 | 245.55 |
| 50.00° | 238.24 | 240.04 | 236.46 | 235.90 | 234.18 | 230.31 | 229.85 | 229.77 | 228.61 | 227.43 | 226.74 | 226.28 | 232.12 | 232.38 | 235.58 | 236.56 | 238.24 |
| 52.50° | 229.92 | 233.03 | 228.16 | 228.30 | 226.64 | 222.78 | 222.14 | 221.61 | 220.79 | 219.24 | 218.81 | 218.26 | 222.84 | 224.00 | 226.76 | 228.77 | 229.92 |
| 55.00° | 221.48 | 224.37 | 219.81 | 220.48 | 218.13 | 215.03 | 214.47 | 213.35 | 211.98 | 211.00 | 210.42 | 210.12 | 213.63 | 215.31 | 217.90 | 220.29 | 221.48 |
| 57.50° | 212.14 | 215.14 | 210.98 | 212.55 | 209.21 | 206.56 | 206.81 | 204.43 | 202.81 | 202.23 | 201.88 | 201.36 | 204.76 | 206.43 | 208.83 | 211.51 | 212.14 |
| 60.00° | 202.78 | 206.08 | 202.11 | 203.78 | 200.44 | 197.54 | 197.42 | 195.42 | 194.14 | 193.31 | 192.88 | 192.27 | 195.67 | 197.00 | 199.49 | 202.10 | 202.78 |
| 62.50° | 193.27 | 197.07 | 192.96 | 194.65 | 191.73 | 187.11 | 187.39 | 186.07 | 185.62 | 183.48 | 183.75 | 181.91 | 185.61 | 187.28 | 189.05 | 192.48 | 193.27 |
| 65.00° | 183.70 | 187.05 | 183.61 | 184.66 | 181.85 | 177.05 | 177.34 | 176.51 | 176.13 | 173.63 | 173.77 | 171.44 | 175.36 | 176.97 | 178.39 | 182.20 | 183.70 |
| 67.50° | 173.88 | 176.82 | 173.33 | 174.38 | 171.63 | 167.80 | 167.29 | 166.27 | 166.41 | 163.72 | 163.60 | 160.61 | 164.47 | 166.38 | 166.98 | 171.74 | 173.88 |
| 70.00° | 161.78 | 165.26 | 161.91 | 164.05 | 161.12 | 156.41 | 156.33 | 153.57 | 152.95 | 149.75 | 147.11 | 143.66 | 148.37 | 150.41 | 152.08 | 158.87 | 161.78 |
| 72.50° | 142.12 | 153.48 | 146.19 | 153.70 | 150.55 | 141.10 | 145.15 | 134.09 | 138.81 | 120.92 | 129.64 | 111.44 | 117.46 | 132.40 | 127.81 | 145.45 | 142.12 |
| 75.00° | 113.57 | 114.74 | 121.38 | 118.75 | 113.15 | 112.14 | 107.17 | 105.21 | 93.95 | 87.89 | 81.63 | 76.10 | 82.66 | 88.14 | 95.70 | 101.51 | 113.57 |
| 77.50° | 61.03 | 73.07 | 69.38 | 78.77 | 71.20 | 62.04 | 64.24 | 54.98 | 45.09 | 42.45 | 30.35 | 34.24 | 38.75 | 35.69 | 46.15 | 52.11 | 61.03 |
| 80.00° | 21.35 | 39.33 | 28.23 | 43.57 | 38.63 | 26.91 | 34.78 | 18.75 | 23.70 | 9.15 | 16.01 | 6.62 | 8.48 | 16.45 | 11.84 | 27.30 | 21.35 |
| 82.50° | 10.52 | 6.10 | 13.68 | 9.10 | 7.16 | 11.61 | 7.10 | 9.26 | 4.59 | 5.41 | 3.98 | 3.96 | 5.01 | 5.53 | 6.16 | 5.65 | 10.52 |
| 85.00° | 3.19 | 3.86 | 3.60 | 4.26 | 3.68 | 3.16 | 3.66 | 3.12 | 3.00 | 2.69 | 2.91 | 2.22 | 2.64 | 3.02 | 2.49 | 3.14 | 3.19 |
| 87.50° | 2.45 | 2.31 | 2.66 | 2.46 | 2.24 | 2.45 | 2.28 | 2.37 | 2.12 | 2.04 | 2.08 | 1.86 | 2.09 | 2.12 | 2.04 | 2.17 | 2.45 |
| 90.00° | 1.97 | 2.11 | 2.07 | 2.06 | 1.95 | 2.01 | 2.06 | 1.93 | 2.08 | 1.69 | 1.91 | 1.67 | 1.79 | 2.05 | 1.74 | 1.97 | 1.97 |
| 92.50° | 1.91 | 1.92 | 2.09 | 1.73 | 1.70 | 1.83 | 1.89 | 1.92 | 2.04 | 1.86 | 1.75 | 1.72 | 1.85 | 2.10 | 1.66 | 1.81 | 1.91 |
| 95.00° | 1.87 | 1.94 | 2.05 | 1.79 | 1.56 | 1.76 | 1.91 | 1.93 | 1.92 | 1.94 | 1.74 | 1.73 | 1.82 | 2.11 | 1.65 | 1.78 | 1.87 |
| 97.50° | 1.85 | 1.96 | 1.96 | 1.84 | 1.44 | 1.79 | 1.91 | 1.96 | 1.82 | 1.89 | 1.75 | 1.67 | 1.69 | 2.12 | 1.73 | 1.75 | 1.85 |
| 100.00° | 1.88 | 2.06 | 1.91 | 1.76 | 1.66 | 1.79 | 1.78 | 1.96 | 1.90 | 1.88 | 1.90 | 1.71 | 1.67 | 2.07 | 1.82 | 1.75 | 1.88 |
| 102.50° | 1.97 | 2.12 | 1.94 | 1.69 | 1.87 | 1.78 | 1.67 | 1.93 | 1.97 | 1.91 | 2.03 | 1.82 | 1.74 | 2.03 | 1.91 | 1.76 | 1.97 |
| 105.00° | 2.00 | 1.95 | 1.96 | 1.69 | 1.88 | 1.77 | 1.81 | 1.97 | 1.89 | 1.93 | 1.98 | 1.86 | 1.84 | 2.10 | 1.88 | 1.73 | 2.00 |

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% | 0% |
| | pw | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 30% |
| | 0 | 1303 | 1303 | 1303 | 1303 | 1272 | 1272 | 1272 | 1272 | 1212 | 1212 | 1212 | 1158 | 1158 | 1158 | 1109 | 1109 | 1085 |
| | 1 | 1185 | 1131 | 1082 | 1038 | 1154 | 1105 | 1060 | 1020 | 1055 | 1019 | 985 | 1010 | 980 | 953 | 969 | 945 | 923 |
| | 2 | 1068 | 972 | 893 | 826 | 1037 | 950 | 877 | 815 | 908 | 847 | 794 | 870 | 819 | 774 | 835 | 792 | 774 |
| | 3 | 966 | 843 | 748 | 672 | 937 | 824 | 736 | 665 | 789 | 714 | 652 | 757 | 693 | 639 | 727 | 672 | 656 |
| | 4 | 879 | 739 | 637 | 559 | 851 | 724 | 628 | 555 | 694 | 611 | 545 | 666 | 594 | 536 | 640 | 579 | 565 |
| | 5 | 804 | 655 | 551 | 474 | 779 | 642 | 544 | 471 | 616 | 530 | 464 | 593 | 517 | 458 | 571 | 505 | 493 |
| | 6 | 739 | 586 | 483 | 409 | 717 | 574 | 477 | 406 | 553 | 466 | 402 | 533 | 456 | 397 | 514 | 446 | 435 |
| | 7 | 683 | 528 | 428 | 357 | 663 | 519 | 423 | 355 | 500 | 414 | 352 | 483 | 406 | 348 | 467 | 397 | 389 |
| | 8 | 634 | 480 | 383 | 316 | 616 | 472 | 379 | 314 | 456 | 372 | 312 | 441 | 365 | 309 | 427 | 358 | 350 |
| | 9 | 592 | 439 | 345 | 282 | 575 | 432 | 342 | 281 | 418 | 336 | 279 | 405 | 330 | 276 | 393 | 324 | 318 |
| | 10 | 554 | 404 | 314 | 254 | 539 | 397 | 311 | 253 | 386 | 306 | 251 | 374 | 301 | 250 | 364 | 296 | 291 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 10.3 fc | 30.2 ft |
| 6.5 ft | 7.4 fc | 35.6 ft |
| 7.5 ft | 5.5 fc | 41.1 ft |
| 8.0 ft | 4.9 fc | 43.9 ft |
| 10.0 ft | 3.1 fc | 54.8 ft |
| 12.0 ft | 2.2 fc | 65.8 ft |
| 14.0 ft | 1.6 fc | 76.7 ft |
| 16.0 ft | 1.2 fc | 87.7 ft |
| 20.0 ft | 0.8 fc | 109.6 ft |
| 24.0 ft | 0.5 fc | 131.6 ft |
| 28.0 ft | 0.4 fc | 153.5 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|-------|--------|--------|
| 0.00° | 600 | 600 | 600 |
| 45.00° | 687 | 679 | 676 |
| 55.00° | 742 | 737 | 731 |
| 65.00° | 836 | 835 | 827 |
| 75.00° | 844 | 902 | 840 |
| 85.00° | 70 | 79 | 81 |

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 | 10.8 | 12.5 | 11.2 | 12.9 | 13.2 | 10.5 | 12.2 | 10.9 | 12.6 | 12.9 |
| | 3H | 13.5 | 15.0 | 13.9 | 15.4 | 15.7 | 13.1 | 14.7 | 13.5 | 15.0 | 15.4 |
| | 4H | 14.4 | 15.9 | 14.8 | 16.2 | 16.6 | 14.0 | 15.4 | 14.4 | 15.8 | 16.2 |
| | 6H | 14.6 | 16.0 | 15.0 | 16.3 | 16.8 | 14.2 | 15.5 | 14.6 | 15.9 | 16.3 |
| | 8H | 14.6 | 15.9 | 15.0 | 16.3 | 16.7 | 14.2 | 15.4 | 14.6 | 15.9 | 16.3 |
| | 12H | 14.6 | 15.8 | 15.0 | 16.2 | 16.7 | 14.1 | 15.4 | 14.6 | 15.8 | 16.2 |
| 4H | 2H | 11.7 | 13.1 | 12.1 | 13.5 | 13.9 | 11.4 | 12.9 | 11.8 | 13.2 | 13.6 |
| | 3H | 14.5 | 15.8 | 15.0 | 16.2 | 16.6 | 14.2 | 15.4 | 14.6 | 15.8 | 16.3 |
| | 4H | 15.6 | 16.7 | 16.0 | 17.1 | 17.6 | 15.1 | 16.2 | 15.5 | 16.6 | 17.1 |
| | 6H | 15.8 | 16.8 | 16.3 | 17.2 | 17.7 | 15.3 | 16.3 | 15.8 | 16.7 | 17.2 |
| | 8H | 15.8 | 16.7 | 16.3 | 17.2 | 17.7 | 15.3 | 16.2 | 15.8 | 16.7 | 17.1 |
| | 12H | 15.8 | 16.6 | 16.3 | 17.1 | 17.6 | 15.3 | 16.1 | 15.8 | 16.6 | 17.1 |
| 8H | 4H | 15.8 | 16.7 | 16.3 | 17.2 | 17.7 | 15.3 | 16.2 | 15.8 | 16.7 | 17.2 |
| | 6H | 16.1 | 16.9 | 16.6 | 17.4 | 17.9 | 15.6 | 16.3 | 16.1 | 16.8 | 17.3 |
| | 8H | 16.1 | 16.8 | 16.6 | 17.3 | 17.8 | 15.6 | 16.2 | 16.1 | 16.8 | 17.3 |
| | 12H | 16.1 | 16.7 | 16.6 | 17.2 | 17.8 | 15.6 | 16.1 | 16.1 | 16.6 | 17.2 |
| 12H | 4H | 15.8 | 16.7 | 16.3 | 17.1 | 17.6 | 15.3 | 16.2 | 15.8 | 16.6 | 17.1 |
| | 6H | 16.1 | 16.8 | 16.6 | 17.3 | 17.8 | 15.6 | 16.2 | 16.1 | 16.7 | 17.3 |
| | 8H | 16.1 | 16.7 | 16.6 | 17.2 | 17.8 | 15.6 | 16.1 | 16.1 | 16.7 | 17.2 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0