

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SLO3IND2 11L 35K LA xx xx MW

Specline Linear Pendant, 1.8" aperture x 2' Long, Matte White Refl

Test Number

SP-01429_1

Test Date

6/3/2022

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

Summary of Results

Power

| | |
|-------------|------|
| Input Watts | 17 W |
|-------------|------|

Lumen Output

| | |
|---------------|-------------|
| Output Lumens | 1713 |
| Efficacy | 100.78 lm/W |

Luminous Dimensions

| | |
|-----------------|------|
| 0° - 180° Size | 0.15 |
| 90° - 270° Size | 2 |
| Height | 0 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 1.24 |
| Two luminaires, plane 90° | 1.18 |
| Four luminaires | 1.18 |

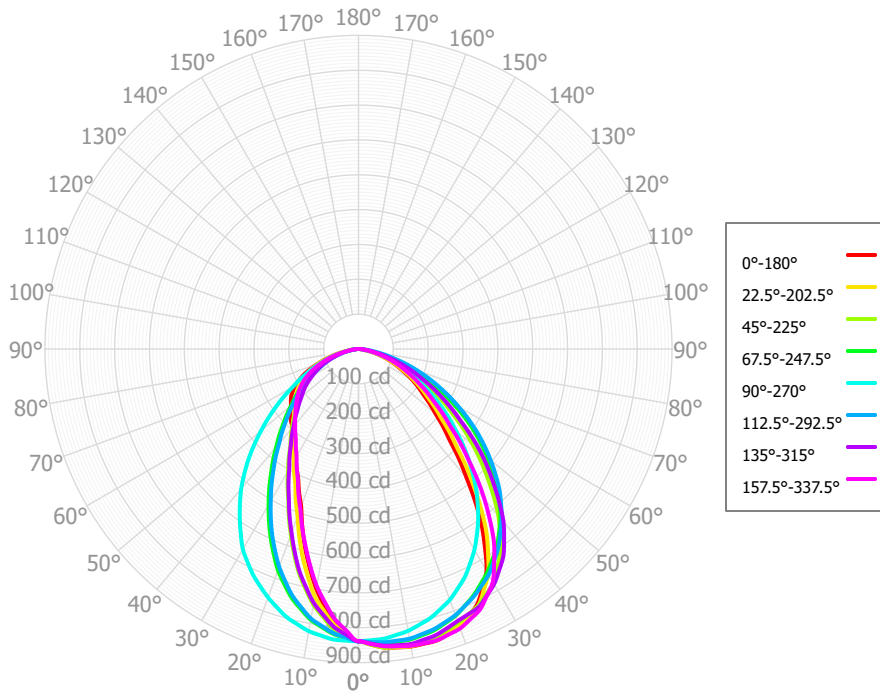
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 66° |
| 90° - 270° | 92° |

IES File Header Contents

| Keyword | Value |
|-----------|---|
| TEST | SP-01429_1 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TESTDATE | 6/3/2022 |
| ISSUEDATE | 11/11/2022 |
| LUMCAT | SLO3IND2 11L 35K LA xx xx MW |
| LUMINAIRE | Specline Linear Pendant, 1.8" aperture x 2' Long, Matte White Refl |
| OTHER | Extruded Acrylic Lens, Asymmetric Distribution |
| OTHER | Data for 2' IND fixture, or 2' module for continuous ROW |
| OTHER | 66 deg x 96 deg Beam Angle |
| LAMP | N/A, Min. 80 CRI |
| LAMPCAT | N/A |
| OTHER | Reference project SL473 |
| OTHER | 11L designation for Spectrum linear product indicates 868 Source Lm/Ft. |
| OTHER | CCT Output Multipliers: 40K x 1.02, 30K x 0.97 |
| OTHER | Total Luminaire Watts is approximate |
| OTHER | This report prepared by Spectrum Lighting |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|---------|-----------|-------------------|---------|-----------|
| 0.00° - 10.00° | 79.31 | 4.63% | 90.00° - 100.00° | 0.00 | 0.00% |
| 10.00° - 20.00° | 212.98 | 12.43% | 100.00° - 110.00° | 0.00 | 0.00% |
| 20.00° - 30.00° | 300.28 | 17.53% | 100.00° - 120.00° | 0.00 | 0.00% |
| 30.00° - 40.00° | 329.48 | 19.23% | 120.00° - 130.00° | 0.00 | 0.00% |
| 40.00° - 50.00° | 300.23 | 17.52% | 130.00° - 140.00° | 0.00 | 0.00% |
| 50.00° - 60.00° | 238.90 | 13.94% | 140.00° - 150.00° | 0.00 | 0.00% |
| 60.00° - 70.00° | 160.87 | 9.39% | 150.00° - 160.00° | 0.00 | 0.00% |
| 70.00° - 80.00° | 75.84 | 4.43% | 160.00° - 170.00° | 0.00 | 0.00% |
| 80.00° - 90.00° | 15.30 | 0.89% | 170.00° - 180.00° | 0.00 | 0.00% |
| 0.00° - 90.00° | 1713.19 | 100.00% | 0.00° - 180.00° | 1713.19 | 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° | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 | 839.10 |
| 2.50° | 849.78 | 849.79 | 849.48 | 843.18 | 836.97 | 828.99 | 820.33 | 808.74 | 815.36 | 816.98 | 823.29 | 830.18 | 837.99 | 842.09 | 847.05 | 847.89 | 849.78 |
| 5.00° | 860.45 | 860.48 | 859.86 | 847.26 | 834.84 | 818.87 | 801.56 | 778.38 | 791.61 | 794.87 | 807.47 | 821.25 | 836.88 | 845.08 | 855.00 | 856.67 | 860.45 |
| 7.50° | 863.86 | 863.59 | 860.47 | 847.11 | 828.17 | 802.33 | 770.86 | 734.56 | 745.15 | 758.31 | 776.40 | 805.36 | 829.58 | 844.74 | 857.56 | 860.91 | 863.86 |
| 10.00° | 867.26 | 866.70 | 861.07 | 846.97 | 821.50 | 785.78 | 740.15 | 690.75 | 698.69 | 721.75 | 745.33 | 789.46 | 822.28 | 844.40 | 860.13 | 865.15 | 867.26 |
| 12.50° | 866.81 | 864.43 | 858.30 | 841.62 | 810.38 | 759.44 | 699.01 | 638.79 | 645.07 | 670.27 | 704.26 | 764.71 | 809.59 | 838.72 | 855.71 | 865.50 | 866.81 |
| 15.00° | 866.37 | 862.16 | 855.52 | 836.27 | 799.27 | 733.10 | 657.87 | 586.83 | 591.46 | 618.79 | 663.18 | 739.95 | 796.89 | 833.04 | 851.30 | 865.86 | 866.37 |
| 17.50° | 858.14 | 854.30 | 845.70 | 825.50 | 782.79 | 699.35 | 609.83 | 537.48 | 536.37 | 565.11 | 615.43 | 707.94 | 777.99 | 823.04 | 841.31 | 859.68 | 858.14 |
| 20.00° | 849.91 | 846.45 | 835.87 | 814.73 | 766.30 | 665.60 | 561.78 | 488.14 | 481.29 | 511.42 | 567.68 | 675.92 | 759.10 | 813.04 | 831.32 | 853.49 | 849.91 |
| 22.50° | 828.82 | 830.17 | 824.34 | 797.79 | 744.26 | 626.21 | 517.44 | 450.09 | 445.67 | 469.99 | 522.19 | 636.36 | 737.37 | 798.29 | 824.18 | 839.38 | 828.82 |
| 25.00° | 807.72 | 813.89 | 812.82 | 780.85 | 722.21 | 586.82 | 473.10 | 412.04 | 410.06 | 428.56 | 476.71 | 596.80 | 715.63 | 783.53 | 817.05 | 825.27 | 807.72 |
| 27.50° | 771.42 | 779.35 | 793.84 | 760.25 | 693.91 | 545.30 | 435.43 | 383.74 | 385.49 | 400.20 | 440.58 | 556.37 | 689.81 | 765.63 | 797.92 | 798.34 | 771.42 |
| 30.00° | 735.12 | 744.80 | 774.87 | 739.64 | 665.62 | 503.78 | 397.77 | 355.43 | 360.93 | 371.84 | 404.45 | 515.93 | 663.99 | 747.73 | 778.79 | 771.41 | 735.12 |
| 32.50° | 675.57 | 692.17 | 742.32 | 715.88 | 632.36 | 465.07 | 368.38 | 334.66 | 339.79 | 349.53 | 372.87 | 476.85 | 629.00 | 723.20 | 751.97 | 724.84 | 675.57 |
| 35.00° | 616.03 | 639.54 | 709.77 | 692.11 | 599.10 | 426.36 | 338.99 | 313.89 | 318.65 | 327.21 | 341.28 | 437.76 | 594.02 | 698.66 | 725.15 | 678.26 | 616.03 |
| 37.50° | 549.23 | 577.47 | 667.23 | 663.18 | 562.17 | 390.58 | 314.49 | 298.43 | 306.53 | 310.09 | 319.23 | 402.61 | 558.92 | 669.14 | 686.40 | 620.14 | 549.23 |
| 40.00° | 482.44 | 515.41 | 624.70 | 634.25 | 525.25 | 354.80 | 290.00 | 282.98 | 294.40 | 292.97 | 297.18 | 367.47 | 523.81 | 639.62 | 647.66 | 562.02 | 482.44 |
| 42.50° | 426.21 | 457.63 | 574.53 | 598.86 | 485.89 | 325.36 | 269.08 | 269.37 | 285.61 | 276.99 | 276.51 | 336.84 | 484.91 | 605.97 | 598.47 | 502.76 | 426.21 |
| 45.00° | 369.98 | 399.84 | 524.36 | 563.47 | 446.53 | 295.92 | 248.15 | 255.76 | 276.81 | 261.00 | 255.84 | 306.22 | 446.00 | 572.32 | 549.29 | 443.50 | 369.98 |
| 47.50° | 329.12 | 355.68 | 476.69 | 523.18 | 406.16 | 270.34 | 230.90 | 243.90 | 265.01 | 249.15 | 239.41 | 279.25 | 405.45 | 533.48 | 502.33 | 393.65 | 329.12 |
| 50.00° | 288.26 | 311.52 | 429.02 | 482.89 | 365.79 | 244.75 | 213.65 | 232.05 | 253.21 | 237.30 | 222.98 | 252.28 | 364.89 | 494.63 | 455.36 | 343.80 | 288.26 |
| 52.50° | 257.60 | 277.68 | 382.56 | 441.86 | 329.01 | 222.06 | 199.36 | 220.20 | 244.51 | 227.14 | 204.91 | 229.73 | 326.90 | 454.84 | 405.82 | 305.03 | 257.60 |
| 55.00° | 226.94 | 243.82 | 336.09 | 400.83 | 292.23 | 199.37 | 185.06 | 208.35 | 235.82 | 216.97 | 186.85 | 207.17 | 288.91 | 415.06 | 356.28 | 266.26 | 226.94 |
| 57.50° | 203.37 | 216.36 | 295.76 | 357.88 | 256.54 | 178.14 | 168.65 | 194.72 | 222.52 | 204.06 | 173.36 | 185.86 | 253.26 | 373.60 | 315.56 | 235.37 | 203.37 |
| 60.00° | 179.80 | 188.89 | 255.44 | 314.93 | 220.84 | 156.91 | 152.25 | 181.09 | 209.23 | 191.14 | 159.87 | 164.54 | 217.62 | 332.15 | 274.84 | 204.47 | 179.80 |
| 62.50° | 155.65 | 163.24 | 221.35 | 273.35 | 191.29 | 137.15 | 136.96 | 164.31 | 190.66 | 176.16 | 142.71 | 145.84 | 190.22 | 292.51 | 237.69 | 178.34 | 155.65 |
| 65.00° | 131.49 | 137.60 | 187.27 | 231.76 | 161.73 | 117.38 | 121.67 | 147.54 | 172.10 | 161.17 | 125.55 | 127.13 | 162.81 | 252.87 | 200.54 | 152.20 | 131.49 |
| 67.50° | 111.83 | 115.48 | 156.16 | 195.35 | 136.41 | 101.98 | 104.03 | 128.36 | 148.33 | 141.81 | 111.14 | 110.46 | 138.15 | 215.54 | 169.21 | 129.60 | 111.83 |
| 70.00° | 92.17 | 93.36 | 125.06 | 158.93 | 111.10 | 86.57 | 86.38 | 109.17 | 124.56 | 122.46 | 96.74 | 93.79 | 113.49 | 178.20 | 137.87 | 107.00 | 92.17 |
| 72.50° | 72.96 | 74.77 | 98.48 | 125.49 | 87.91 | 70.34 | 70.82 | 89.00 | 102.87 | 101.68 | 78.73 | 77.41 | 93.54 | 143.25 | 110.05 | 86.22 | 72.96 |
| 75.00° | 53.75 | 56.18 | 71.90 | 92.05 | 64.71 | 54.11 | 55.24 | 68.83 | 81.19 | 80.90 | 60.73 | 61.04 | 73.58 | 108.29 | 82.23 | 65.43 | 53.75 |
| 77.50° | 36.47 | 40.42 | 50.98 | 64.91 | 47.04 | 38.65 | 41.68 | 50.20 | 58.07 | 60.76 | 45.55 | 46.37 | 51.30 | 81.09 | 61.08 | 48.01 | 36.47 |
| 80.00° | 19.20 | 24.65 | 30.06 | 37.76 | 29.37 | 23.19 | 28.12 | 31.58 | 34.95 | 40.62 | 30.38 | 31.70 | 29.01 | 53.87 | 39.93 | 30.59 | 19.20 |
| 82.50° | 12.85 | 16.02 | 19.31 | 24.12 | 20.38 | 15.48 | 17.98 | 20.57 | 22.49 | 27.25 | 19.72 | 21.65 | 19.56 | 36.34 | 25.57 | 20.45 | 12.85 |
| 85.00° | 6.50 | 7.40 | 8.55 | 10.48 | 11.38 | 7.77 | 7.84 | 9.55 | 10.04 | 13.87 | 9.05 | 11.59 | 10.10 | 18.80 | 11.21 | 10.30 | 6.50 |
| 87.50° | 4.69 | 5.23 | 5.70 | 6.97 | 7.32 | 5.74 | 5.75 | 6.40 | 6.21 | 9.24 | 6.39 | 7.85 | 6.45 | 11.99 | 7.47 | 7.10 | 4.69 |
| 90.00° | 2.88 | 3.07 | 2.85 | 3.47 | 3.26 | 3.71 | 3.66 | 3.25 | 2.38 | 4.60 | 3.72 | 4.12 | 2.80 | 5.18 | 3.74 | 3.90 | 2.88 |

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% | 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 | 2040 | 2040 | 2040 | 2040 | 1992 | 1992 | 1992 | 1992 | 1904 | 1904 | 1904 | 1823 | 1823 | 1823 | 1748 | 1748 | 1748 | 1713 |
| | 1 | 1886 | 1813 | 1748 | 1690 | 1840 | 1775 | 1716 | 1662 | 1703 | 1654 | 1610 | 1637 | 1598 | 1561 | 1576 | 1544 | 1515 | 1512 |
| | 2 | 1732 | 1604 | 1499 | 1411 | 1688 | 1573 | 1476 | 1394 | 1513 | 1432 | 1362 | 1458 | 1391 | 1331 | 1407 | 1352 | 1302 | 1323 |
| | 3 | 1592 | 1427 | 1300 | 1198 | 1551 | 1401 | 1283 | 1188 | 1351 | 1250 | 1167 | 1305 | 1219 | 1147 | 1262 | 1190 | 1128 | 1164 |
| | 4 | 1468 | 1278 | 1140 | 1034 | 1430 | 1256 | 1127 | 1027 | 1214 | 1102 | 1013 | 1176 | 1078 | 1000 | 1140 | 1056 | 987 | 1033 |
| | 5 | 1358 | 1153 | 1010 | 904 | 1323 | 1134 | 1000 | 899 | 1099 | 981 | 890 | 1066 | 962 | 881 | 1035 | 945 | 872 | 925 |
| | 6 | 1260 | 1047 | 903 | 800 | 1229 | 1031 | 895 | 797 | 1001 | 880 | 790 | 973 | 865 | 783 | 947 | 851 | 777 | 834 |
| | 7 | 1174 | 956 | 814 | 715 | 1145 | 942 | 808 | 713 | 917 | 796 | 708 | 893 | 784 | 703 | 870 | 773 | 698 | 758 |
| | 8 | 1097 | 878 | 740 | 645 | 1071 | 866 | 734 | 643 | 844 | 724 | 639 | 823 | 715 | 636 | 804 | 706 | 632 | 693 |
| | 9 | 1028 | 810 | 676 | 586 | 1005 | 800 | 672 | 584 | 781 | 664 | 581 | 763 | 656 | 579 | 746 | 648 | 576 | 636 |
| | 10 | 967 | 751 | 622 | 535 | 946 | 742 | 618 | 534 | 726 | 611 | 532 | 710 | 605 | 530 | 695 | 598 | 528 | 588 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 27.7 fc | 7.4 ft |
| 6.5 ft | 19.9 fc | 8.7 ft |
| 7.5 ft | 14.9 fc | 10.0 ft |
| 8.0 ft | 13.1 fc | 10.7 ft |
| 10.0 ft | 8.4 fc | 13.4 ft |
| 12.0 ft | 5.8 fc | 16.0 ft |
| 14.0 ft | 4.3 fc | 18.7 ft |
| 16.0 ft | 3.3 fc | 21.4 ft |
| 20.0 ft | 2.1 fc | 26.7 ft |
| 24.0 ft | 1.5 fc | 32.1 ft |
| 28.0 ft | 1.1 fc | 37.4 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|-------|--------|--------|
| 0.00° | 30107 | 30107 | 30107 |
| 45.00° | 18773 | 26607 | 22657 |
| 55.00° | 14196 | 21024 | 18281 |
| 65.00° | 11163 | 15899 | 13731 |
| 75.00° | 7451 | 9968 | 8971 |
| 85.00° | 2675 | 3519 | 4683 |

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 | 20.8 | 22.3 | 21.2 | 22.7 | 23.0 | 19.9 | 21.5 | 20.3 | 21.8 | 22.1 |
| | 3H | 22.0 | 23.4 | 22.4 | 23.7 | 24.1 | 21.5 | 22.9 | 21.9 | 23.2 | 23.6 |
| | 4H | 22.4 | 23.6 | 22.8 | 24.0 | 24.4 | 22.1 | 23.3 | 22.5 | 23.7 | 24.1 |
| | 6H | 22.5 | 23.7 | 22.9 | 24.0 | 24.4 | 22.3 | 23.5 | 22.7 | 23.9 | 24.3 |
| | 8H | 22.5 | 23.6 | 22.9 | 24.0 | 24.4 | 22.4 | 23.5 | 22.8 | 23.9 | 24.3 |
| | 12H | 22.5 | 23.6 | 22.9 | 23.9 | 24.4 | 22.4 | 23.5 | 22.8 | 23.9 | 24.3 |
| 4H | 2H | 21.7 | 23.0 | 22.1 | 23.4 | 23.7 | 20.4 | 21.6 | 20.8 | 22.0 | 22.4 |
| | 3H | 23.1 | 24.1 | 23.5 | 24.5 | 24.9 | 22.1 | 23.2 | 22.5 | 23.6 | 24.0 |
| | 4H | 23.5 | 24.4 | 23.9 | 24.8 | 25.3 | 22.7 | 23.7 | 23.2 | 24.1 | 24.5 |
| | 6H | 23.7 | 24.5 | 24.1 | 24.9 | 25.4 | 23.1 | 23.9 | 23.5 | 24.4 | 24.8 |
| | 8H | 23.7 | 24.4 | 24.1 | 24.9 | 25.4 | 23.2 | 23.9 | 23.6 | 24.4 | 24.8 |
| | 12H | 23.7 | 24.4 | 24.1 | 24.8 | 25.3 | 23.2 | 23.9 | 23.7 | 24.4 | 24.8 |
| 8H | 4H | 23.8 | 24.6 | 24.3 | 25.0 | 25.5 | 22.9 | 23.7 | 23.4 | 24.2 | 24.6 |
| | 6H | 24.0 | 24.7 | 24.5 | 25.2 | 25.6 | 23.3 | 24.0 | 23.8 | 24.5 | 24.9 |
| | 8H | 24.1 | 24.6 | 24.6 | 25.2 | 25.6 | 23.4 | 24.0 | 24.0 | 24.5 | 25.0 |
| | 12H | 24.1 | 24.6 | 24.6 | 25.1 | 25.7 | 23.5 | 24.0 | 24.0 | 24.5 | 25.1 |
| 12H | 4H | 23.8 | 24.5 | 24.3 | 25.0 | 25.4 | 22.9 | 23.6 | 23.4 | 24.1 | 24.6 |
| | 6H | 24.1 | 24.6 | 24.6 | 25.1 | 25.6 | 23.4 | 23.9 | 23.9 | 24.4 | 24.9 |
| | 8H | 24.1 | 24.6 | 24.6 | 25.1 | 25.7 | 23.5 | 24.0 | 24.0 | 24.5 | 25.1 |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0