

Indoor Distribution Test Report

Spectrum Lighting Inc.

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

Luminaire

PRDDH16LEDLX 130L 35K xx PR16 TF3 xx
16" Diam. Prismatic Refractor with TF3 Lens

Test Number

SP-01476_2

Test Date

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

Summary of Results

Power

| | |
|-------------|------|
| Input Watts | 98 W |
|-------------|------|

Lumen Output

| | |
|---------------|-------------|
| Output Lumens | 11845 |
| Efficacy | 120.87 lm/W |

Luminous Dimensions

| | |
|-----------------|-------|
| 0° - 180° Size | -1.33 |
| 90° - 270° Size | -1.33 |
| Height | 0.92 |

Spacing Criterion

| | |
|---------------------------|------|
| Two luminaires, plane 0° | 0.87 |
| Two luminaires, plane 90° | 0.84 |
| Four luminaires | 0.87 |

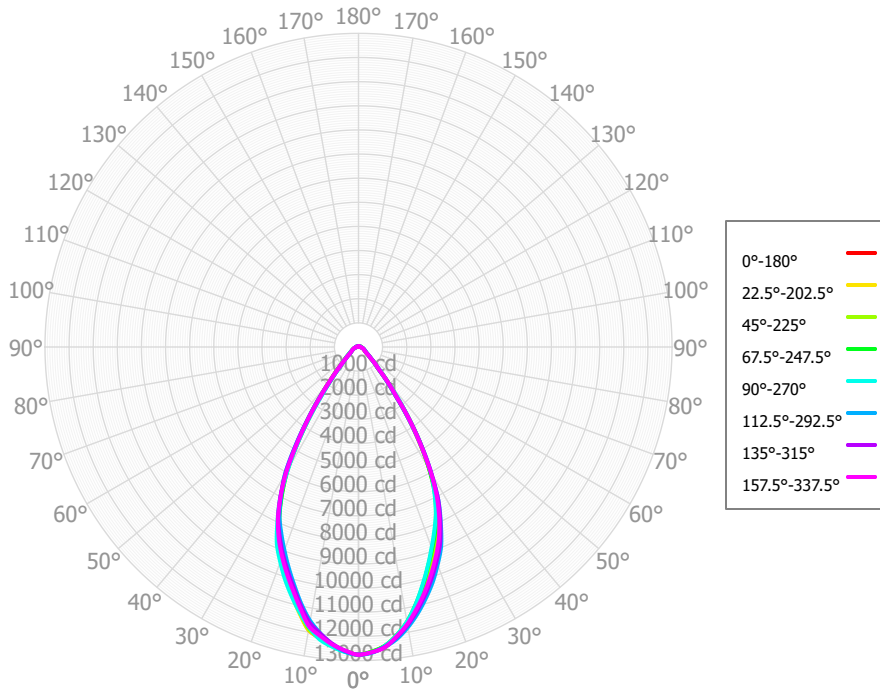
Full Beam Angle

| | |
|------------|-----|
| 0° - 180° | 58° |
| 90° - 270° | 58° |

IES File Header Contents

| Keyword | Value |
|-----------|--|
| TEST | SP-01476_2 |
| TESTLAB | Spectrum Lighting Photometric Lab, VLS-245-981 |
| MANUFAC | Spectrum Lighting |
| TEST DATE | 03/01/2023 |
| ISSUEDATE | 03/15/2023 |
| LUMCAT | PRDDH16LEDLX 130L 35K xx PR16 TF3 xx |
| LUMINAIRE | 16" Diam. Prismatic Refractor with TF3 Lens |
| LAMP | N/A |
| LAMPCAT | N/A |
| OTHER | Total Luminaire Watts is approximate |
| OTHER | This report is created by Spectrum Lighting |

Candela Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % Fixture | Zone | Lumens | % Fixture |
|-----------------|----------|-----------|-------------------|----------|-----------|
| 0.00° - 10.00° | 1180.22 | 9.96% | 90.00° - 100.00° | 71.74 | 0.61% |
| 10.00° - 20.00° | 2931.29 | 24.75% | 100.00° - 110.00° | 73.13 | 0.62% |
| 20.00° - 30.00° | 3536.54 | 29.86% | 100.00° - 120.00° | 102.07 | 0.86% |
| 30.00° - 40.00° | 2272.06 | 19.18% | 120.00° - 130.00° | 13.97 | 0.12% |
| 40.00° - 50.00° | 787.50 | 6.65% | 130.00° - 140.00° | 10.66 | 0.09% |
| 50.00° - 60.00° | 369.31 | 3.12% | 140.00° - 150.00° | 7.53 | 0.06% |
| 60.00° - 70.00° | 262.23 | 2.21% | 150.00° - 160.00° | 4.18 | 0.04% |
| 70.00° - 80.00° | 188.56 | 1.59% | 160.00° - 170.00° | 1.91 | 0.02% |
| 80.00° - 90.00° | 104.99 | 0.89% | 170.00° - 180.00° | 0.48 | 0.00% |
| 0.00° - 90.00° | 11632.69 | 98.21% | 0.00° - 180.00° | 11845.24 | 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° | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 | 12758.49 |
| 2.50° | 12664.63 | 12658.58 | 12644.43 | 12644.59 | 12695.91 | 12649.62 | 12610.42 | 12602.15 | 12622.49 | 12644.97 | 12635.70 | 12634.28 | 12662.78 | 12676.13 | 12676.44 | 12669.66 | 12664.63 |
| 5.00° | 12493.41 | 12465.10 | 12446.55 | 12443.35 | 12449.62 | 12378.25 | 12357.52 | 12388.38 | 12429.69 | 12457.55 | 12448.36 | 12441.39 | 12479.32 | 12485.84 | 12487.09 | 12504.41 | 12493.41 |
| 7.50° | 12106.48 | 12101.71 | 12068.88 | 12066.68 | 12065.26 | 11992.59 | 12004.59 | 12093.70 | 12174.78 | 12197.03 | 12172.04 | 12141.85 | 12241.57 | 12209.23 | 12141.63 | 12103.60 | 12106.48 |
| 10.00° | 11671.02 | 11653.39 | 11597.85 | 11573.82 | 11570.54 | 11531.31 | 11617.92 | 11770.54 | 11906.32 | 11918.26 | 11875.81 | 11815.32 | 11802.11 | 11801.50 | 11714.25 | 11665.74 | 11671.02 |
| 12.50° | 11126.38 | 11101.86 | 11003.62 | 10941.00 | 10939.15 | 10924.78 | 11005.32 | 11113.99 | 11259.37 | 11308.58 | 11226.92 | 11145.18 | 11274.47 | 11323.11 | 11205.09 | 11119.76 | 11126.38 |
| 15.00° | 10565.80 | 10523.82 | 10388.76 | 10269.21 | 10229.99 | 10250.94 | 10347.33 | 10466.58 | 10613.91 | 10654.50 | 10539.75 | 10427.97 | 10703.17 | 10786.35 | 10654.56 | 10552.82 | 10565.80 |
| 17.50° | 9980.23 | 9922.53 | 9754.57 | 9564.06 | 9539.85 | 9609.15 | 9748.00 | 9866.07 | 9980.37 | 9992.49 | 9879.71 | 9801.90 | 10119.36 | 10228.54 | 10074.75 | 9945.23 | 9980.23 |
| 20.00° | 9362.86 | 9299.77 | 9127.05 | 8913.38 | 8857.03 | 8977.21 | 9154.18 | 9258.22 | 9335.36 | 9326.74 | 9217.60 | 9175.98 | 9487.17 | 9598.77 | 9464.48 | 9324.54 | 9362.86 |
| 22.50° | 8710.25 | 8663.74 | 8503.97 | 8296.07 | 8221.68 | 8365.01 | 8530.00 | 8627.71 | 8643.18 | 8597.66 | 8521.30 | 8483.80 | 8847.26 | 8953.21 | 8839.23 | 8685.89 | 8710.25 |
| 25.00° | 7923.93 | 7871.91 | 7759.40 | 7596.79 | 7597.64 | 7756.30 | 7884.28 | 7909.42 | 7888.16 | 7843.92 | 7794.60 | 7763.53 | 7950.43 | 8078.80 | 8030.68 | 7927.87 | 7923.93 |
| 27.50° | 7032.29 | 7014.26 | 6958.36 | 6863.25 | 6821.16 | 6940.65 | 7004.88 | 7012.54 | 6969.12 | 6929.89 | 6900.56 | 6857.19 | 7031.04 | 7179.38 | 7161.70 | 7053.73 | 7032.29 |
| 30.00° | 5947.63 | 5910.88 | 5908.08 | 5883.73 | 6025.64 | 6104.35 | 6065.71 | 5976.61 | 5945.41 | 5958.09 | 5936.22 | 5878.48 | 5833.01 | 5983.54 | 6036.87 | 5987.40 | 5947.63 |
| 32.50° | 4754.82 | 4740.02 | 4782.40 | 4837.54 | 4857.27 | 4895.20 | 4825.91 | 4744.33 | 4734.43 | 4775.20 | 4743.39 | 4637.37 | 4637.01 | 4781.58 | 4862.24 | 4786.61 | 4754.82 |
| 35.00° | 3641.66 | 3609.28 | 3651.78 | 3722.85 | 3691.44 | 3706.93 | 3645.93 | 3617.33 | 3621.51 | 3654.47 | 3612.06 | 3476.99 | 3457.37 | 3565.98 | 3686.13 | 3662.78 | 3641.66 |
| 37.50° | 2558.56 | 2484.56 | 2520.31 | 2598.09 | 2724.66 | 2703.55 | 2644.51 | 2597.27 | 2631.61 | 2678.85 | 2613.42 | 2507.01 | 2380.62 | 2432.81 | 2511.77 | 2576.26 | 2558.56 |
| 40.00° | 1851.28 | 1822.52 | 1832.55 | 1890.66 | 1825.83 | 1797.61 | 1812.12 | 1850.98 | 1878.81 | 1882.07 | 1815.32 | 1738.45 | 1727.16 | 1755.69 | 1846.96 | 1848.36 | 1851.28 |
| 42.50° | 1231.58 | 1196.12 | 1182.26 | 1219.51 | 1342.30 | 1316.50 | 1319.15 | 1301.99 | 1337.43 | 1371.00 | 1315.77 | 1294.68 | 1191.73 | 1177.61 | 1216.11 | 1236.86 | 1231.58 |
| 45.00° | 940.00 | 933.41 | 921.80 | 945.88 | 921.58 | 912.10 | 945.74 | 970.32 | 991.86 | 999.79 | 965.55 | 975.37 | 958.90 | 922.67 | 949.96 | 930.54 | 940.00 |
| 47.50° | 687.93 | 685.53 | 674.03 | 689.08 | 720.86 | 717.11 | 739.15 | 749.26 | 771.39 | 788.52 | 772.72 | 799.68 | 765.99 | 708.26 | 705.34 | 682.34 | 687.93 |
| 50.00° | 550.04 | 548.83 | 539.45 | 551.82 | 550.43 | 554.40 | 580.62 | 599.75 | 613.64 | 623.78 | 621.82 | 658.89 | 643.38 | 580.12 | 565.62 | 543.56 | 550.04 |
| 52.50° | 419.84 | 427.75 | 419.90 | 431.42 | 448.32 | 451.75 | 470.34 | 474.38 | 483.39 | 496.86 | 502.77 | 546.72 | 539.21 | 476.39 | 445.47 | 414.14 | 419.84 |
| 55.00° | 363.83 | 368.12 | 366.22 | 376.36 | 371.87 | 377.30 | 399.13 | 411.35 | 413.13 | 416.14 | 421.87 | 463.88 | 457.86 | 409.09 | 382.39 | 359.39 | 363.83 |
| 57.50° | 312.50 | 318.40 | 321.35 | 329.24 | 335.18 | 339.52 | 355.76 | 361.14 | 359.76 | 361.79 | 361.20 | 398.20 | 396.25 | 358.74 | 331.57 | 307.58 | 312.50 |
| 60.00° | 288.91 | 293.22 | 300.64 | 301.53 | 306.14 | 310.26 | 325.23 | 329.62 | 326.92 | 324.52 | 323.34 | 349.67 | 352.01 | 326.29 | 304.86 | 284.85 | 288.91 |
| 62.50° | 266.87 | 269.52 | 279.65 | 276.94 | 285.59 | 288.87 | 301.07 | 299.84 | 297.38 | 293.95 | 293.56 | 307.95 | 314.35 | 297.11 | 280.39 | 262.84 | 266.87 |
| 65.00° | 250.14 | 248.36 | 258.12 | 257.63 | 265.38 | 265.68 | 273.64 | 272.75 | 271.91 | 267.99 | 266.65 | 274.64 | 280.85 | 270.41 | 258.97 | 244.26 | 250.14 |
| 67.50° | 232.02 | 228.50 | 236.37 | 237.50 | 245.45 | 241.29 | 245.13 | 246.20 | 246.74 | 243.18 | 240.36 | 243.41 | 251.74 | 245.12 | 237.77 | 225.04 | 232.02 |
| 70.00° | 210.83 | 210.20 | 214.33 | 216.40 | 226.37 | 220.35 | 222.10 | 225.78 | 223.07 | 222.84 | 215.50 | 218.41 | 224.54 | 220.57 | 216.78 | 204.01 | 210.83 |
| 72.50° | 191.43 | 192.42 | 195.21 | 198.19 | 207.75 | 200.99 | 200.15 | 205.63 | 199.99 | 203.09 | 190.78 | 194.22 | 201.55 | 198.90 | 197.74 | 185.48 | 191.43 |
| 75.00° | 174.79 | 175.08 | 178.81 | 182.47 | 188.60 | 183.49 | 182.26 | 186.86 | 181.56 | 183.06 | 172.32 | 173.12 | 179.73 | 178.27 | 180.07 | 171.84 | 174.79 |
| 77.50° | 154.85 | 156.68 | 160.77 | 163.40 | 169.25 | 166.54 | 164.73 | 167.07 | 162.56 | 162.78 | 153.58 | 151.87 | 153.33 | 154.75 | 158.29 | 154.77 | 154.85 |
| 80.00° | 131.31 | 137.64 | 141.66 | 142.30 | 147.59 | 142.97 | 143.20 | 144.23 | 141.21 | 138.13 | 130.17 | 125.93 | 126.21 | 130.59 | 134.48 | 133.04 | 131.31 |
| 82.50° | 109.16 | 115.80 | 119.77 | 121.19 | 125.39 | 118.26 | 121.67 | 121.69 | 120.07 | 114.23 | 107.20 | 101.32 | 103.19 | 106.24 | 111.72 | 111.10 | 109.16 |
| 85.00° | 88.12 | 92.77 | 96.62 | 100.08 | 105.06 | 98.11 | 100.18 | 99.77 | 99.47 | 95.04 | 86.73 | 85.36 | 80.78 | 81.86 | 89.29 | 88.96 | 88.12 |
| 87.50° | 73.10 | 76.64 | 81.00 | 83.41 | 84.96 | 78.54 | 80.93 | 81.88 | 81.81 | 77.87 | 69.58 | 71.76 | 69.89 | 70.16 | 72.77 | 73.22 | 73.10 |
| 90.00° | 61.41 | 62.36 | 67.62 | 67.91 | 75.60 | 72.50 | 72.71 | 69.69 | 69.30 | 67.80 | 63.01 | 66.80 | 60.21 | 59.47 | 57.36 | 61.92 | 61.41 |
| 92.50° | 57.54 | 60.75 | 64.78 | 65.49 | 67.13 | 67.13 | 66.86 | 65.00 | 62.45 | 60.97 | 58.86 | 64.34 | 59.63 | 59.99 | 58.76 | 57.72 | 57.54 |
| 95.00° | 56.57 | 61.00 | 63.77 | 64.93 | 68.77 | 67.54 | 67.99 | 67.82 | 62.64 | 61.59 | 59.74 | 67.70 | 60.51 | 61.29 | 61.58 | 56.94 | 56.57 |
| 97.50° | 61.86 | 67.60 | 70.54 | 70.81 | 71.28 | 70.39 | 70.89 | 71.53 | 66.16 | 64.18 | 64.11 | 71.84 | 67.29 | 66.91 | 63.85 | 62.09 | 61.86 |
| 100.00° | 68.61 | 74.04 | 77.77 | 76.91 | 78.95 | 83.95 | 77.29 | 75.86 | 72.68 | 69.90 | 73.60 | 77.24 | 72.77 | 71.96 | 66.16 | 69.14 | 68.61 |
| 102.50° | 70.96 | 68.88 | 82.14 | 81.24 | 84.06 | 92.05 | 80.17 | 72.66 | 75.08 | 68.47 | 78.12 | 78.24 | 74.88 | 75.20 | 68.86 | 70.52 | 70.96 |
| 105.00° | 72.80 | 61.96 | 85.24 | 84.60 | 80.52 | 85.44 | 78.21 | 65.66 | 74.90 | 58.95 | 77.46 | 74.21 | 71.05 | 76.86 | 71.11 | 70.85 | 72.80 |

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% | 10% |
| | pw | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% |
| | 0 | 14051 | 14051 | 14051 | 14051 | 13699 | 13699 | 13699 | 13699 | 13043 | 13043 | 13043 | 12443 | 12443 | 12443 | 11892 | 11892 | 11892 |
| | 1 | 13275 | 12896 | 12557 | 12251 | 12955 | 12617 | 12312 | 12035 | 12093 | 11849 | 11624 | 11613 | 11419 | 11239 | 11170 | 11018 | 10876 |
| | 2 | 12530 | 11878 | 11340 | 10888 | 12239 | 11652 | 11163 | 10747 | 11228 | 10825 | 10477 | 10837 | 10508 | 10219 | 10475 | 10210 | 9973 |
| | 3 | 11832 | 10987 | 10333 | 9812 | 11567 | 10802 | 10201 | 9717 | 10454 | 9948 | 9533 | 10131 | 9709 | 9355 | 9832 | 9482 | 9183 |
| | 4 | 11182 | 10201 | 9484 | 8935 | 10942 | 10048 | 9383 | 8869 | 9759 | 9190 | 8739 | 9491 | 9006 | 8613 | 9242 | 8830 | 8490 |
| | 5 | 10578 | 9505 | 8755 | 8202 | 10361 | 9377 | 8677 | 8154 | 9135 | 8526 | 8060 | 8909 | 8382 | 7968 | 8699 | 8243 | 7878 |
| | 6 | 10019 | 8884 | 8122 | 7575 | 9822 | 8776 | 8060 | 7540 | 8571 | 7940 | 7470 | 8380 | 7825 | 7401 | 8201 | 7714 | 7334 |
| | 7 | 9501 | 8327 | 7566 | 7032 | 9322 | 8235 | 7516 | 7005 | 8060 | 7419 | 6952 | 7896 | 7326 | 6900 | 7743 | 7236 | 6848 |
| | 8 | 9021 | 7825 | 7073 | 6556 | 8860 | 7746 | 7032 | 6535 | 7596 | 6953 | 6494 | 7455 | 6876 | 6453 | 7322 | 6802 | 6413 |
| | 9 | 8578 | 7373 | 6634 | 6135 | 8431 | 7304 | 6600 | 6119 | 7174 | 6534 | 6086 | 7051 | 6470 | 6054 | 6935 | 6408 | 6022 |
| | 10 | 8168 | 6963 | 6241 | 5760 | 8034 | 6903 | 6212 | 5747 | 6789 | 6157 | 5721 | 6681 | 6103 | 5694 | 6580 | 6051 | 5669 |

Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft | 421.8 fc | 6.1 ft |
| 6.5 ft | 302.0 fc | 7.2 ft |
| 7.5 ft | 226.8 fc | 8.3 ft |
| 8.0 ft | 199.4 fc | 8.9 ft |
| 10.0 ft | 127.6 fc | 11.1 ft |
| 12.0 ft | 88.6 fc | 13.3 ft |
| 14.0 ft | 65.1 fc | 15.5 ft |
| 16.0 ft | 49.8 fc | 17.7 ft |
| 20.0 ft | 31.9 fc | 22.1 ft |
| 24.0 ft | 22.2 fc | 26.6 ft |
| 28.0 ft | 16.3 fc | 31.0 ft |

Average Luminaire Luminance [cd/m²]

| | 0.00° | 45.00° | 90.00° |
|---------------|-------|--------|--------|
| 0.00° | 98850 | 98850 | 98850 |
| 45.00° | 5476 | 5370 | 5369 |
| 55.00° | 2177 | 2191 | 2225 |
| 65.00° | 1587 | 1638 | 1684 |
| 75.00° | 1220 | 1249 | 1317 |
| 85.00° | 708 | 776 | 844 |

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 | - | - | - | - | - | - | - | - | - | - |
| | 3H | - | - | - | - | - | - | - | - | - | - |
| | 4H | - | - | - | - | - | - | - | - | - | - |
| | 6H | - | - | - | - | - | - | - | - | - | - |
| | 8H | - | - | - | - | - | - | - | - | - | - |
| | 12H | - | - | - | - | - | - | - | - | - | - |
| 4H | 2H | - | - | - | - | - | - | - | - | - | - |
| | 3H | - | - | - | - | - | - | - | - | - | - |
| | 4H | - | - | - | - | - | - | - | - | - | - |
| | 6H | - | - | - | - | - | - | - | - | - | - |
| | 8H | - | - | - | - | - | - | - | - | - | - |
| | 12H | - | - | - | - | - | - | - | - | - | - |
| 8H | 4H | - | - | - | - | - | - | - | - | - | - |
| | 6H | - | - | - | - | - | - | - | - | - | - |
| | 8H | - | - | - | - | - | - | - | - | - | - |
| | 12H | - | - | - | - | - | - | - | - | - | - |
| 12H | 4H | - | - | - | - | - | - | - | - | - | - |
| | 6H | - | - | - | - | - | - | - | - | - | - |
| | 8H | - | - | - | - | - | - | - | - | - | - |

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0