

IES INDOOR REPORT**PHOTOMETRIC FILENAME : SP8ES-20L35KDX-AR8ES-SGXF.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002

[TESTLAB] Photopia 2017.2.0 see: www.ltioptics.com/ies

[ISSUE DATE]

[TEST DATE] Thu 7/27/2017

[UPDATE] Mon 9/26/2017

[TEST] SP-00563_1

[MANUFAC] Spectrum Lighting

[LUMCAT] SP8ES-20L-35K-DX / AR8ES-SG-xF

[LUMINAIRE] Nom. 8" Aperture, LED Downlight

[OTHER] Semi-Diffuse clear anodized, open aperture

[OTHER] Any flange finish

[OTHER] 51.1 Deg. Beam Angle

[LAMP] N/A

[LAMPCAT] N/A, 3500K CCT

[OTHER] Fully regressed lensed, light emitting surface

[OTHER] Total Luminaire Watts is approximate

[OTHER] CCT Output Multipliers: 4000K X 1.03, 3000K X 0.985

[OTHER] This report prepared by Spectrum Lighting, Preliminary

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1732 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 89 |
| Total Luminaire Watts | 19.5 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 0.82 |
| Spacing Criterion (90-270) | 0.82 |
| Spacing Criterion (Diagonal) | 0.80 |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 0.63 ft (Diameter) |
| Luminous Width (90-270) | 0.63 ft (Diameter) |
| Luminous Height | 0.00 ft |

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LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2694 | 2663 | 2654 |
| 55 | 459 | 449 | 458 |
| 65 | 323 | 313 | 320 |
| 75 | 236 | 219 | 211 |
| 85 | 117 | 125 | 97 |

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CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> | <u>202.5</u> |
|----|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 |
| 5 | 2336.30 | 2344.22 | 2361.42 | 2344.69 | 2350.84 | 2344.69 | 2361.42 | 2344.22 | 2336.30 | 2344.22 |
| 10 | 2231.11 | 2246.68 | 2228.02 | 2232.76 | 2240.33 | 2232.76 | 2228.02 | 2246.68 | 2231.11 | 2246.68 |
| 15 | 2038.37 | 2032.68 | 2037.54 | 2023.42 | 2028.53 | 2023.42 | 2037.54 | 2032.68 | 2038.37 | 2032.68 |
| 20 | 1700.73 | 1709.21 | 1694.69 | 1707.40 | 1707.84 | 1707.40 | 1694.69 | 1709.21 | 1700.73 | 1709.21 |
| 25 | 1237.62 | 1235.26 | 1233.62 | 1230.44 | 1227.01 | 1230.44 | 1233.62 | 1235.26 | 1237.62 | 1235.26 |
| 30 | 811.52 | 811.17 | 812.56 | 809.04 | 811.49 | 809.04 | 812.56 | 811.17 | 811.52 | 811.17 |
| 35 | 473.20 | 473.73 | 473.68 | 472.64 | 471.93 | 472.64 | 473.68 | 473.73 | 473.20 | 473.73 |
| 40 | 225.74 | 226.43 | 226.52 | 227.13 | 227.96 | 227.13 | 226.52 | 226.43 | 225.74 | 226.43 |
| 45 | 54.34 | 52.90 | 53.72 | 54.31 | 53.54 | 54.31 | 53.72 | 52.90 | 54.34 | 52.90 |
| 50 | 10.61 | 11.14 | 11.09 | 11.23 | 11.28 | 11.23 | 11.09 | 11.14 | 10.61 | 11.14 |
| 55 | 7.51 | 7.56 | 7.34 | 7.70 | 7.50 | 7.70 | 7.34 | 7.56 | 7.51 | 7.56 |
| 60 | 5.69 | 5.43 | 5.23 | 5.18 | 4.99 | 5.18 | 5.23 | 5.43 | 5.69 | 5.43 |
| 65 | 3.90 | 3.69 | 3.77 | 3.76 | 3.86 | 3.76 | 3.77 | 3.69 | 3.90 | 3.69 |
| 70 | 2.76 | 2.35 | 2.57 | 2.63 | 2.36 | 2.63 | 2.57 | 2.35 | 2.76 | 2.35 |
| 75 | 1.74 | 1.56 | 1.62 | 1.64 | 1.56 | 1.64 | 1.62 | 1.56 | 1.74 | 1.56 |
| 80 | 0.87 | 0.79 | 0.82 | 0.90 | 0.86 | 0.90 | 0.82 | 0.79 | 0.87 | 0.79 |
| 85 | 0.29 | 0.28 | 0.31 | 0.21 | 0.24 | 0.21 | 0.31 | 0.28 | 0.29 | 0.28 |
| 90 | 0.05 | 0.05 | 0.06 | 0.05 | 0.00 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 |

Vert. Horizontal Angles

| | <u>225.0</u> | <u>247.5</u> | <u>270.0</u> | <u>292.5</u> | <u>315.0</u> | <u>337.5</u> | <u>360.0</u> |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 | 2380.91 |
| 5 | 2361.42 | 2344.69 | 2350.84 | 2344.69 | 2361.42 | 2344.22 | 2336.30 |
| 10 | 2228.02 | 2232.76 | 2240.33 | 2232.76 | 2228.02 | 2246.68 | 2231.11 |
| 15 | 2037.54 | 2023.42 | 2028.53 | 2023.42 | 2037.54 | 2032.68 | 2038.37 |
| 20 | 1694.69 | 1707.40 | 1707.84 | 1707.40 | 1694.69 | 1709.21 | 1700.73 |
| 25 | 1233.62 | 1230.44 | 1227.01 | 1230.44 | 1233.62 | 1235.26 | 1237.62 |
| 30 | 812.56 | 809.04 | 811.49 | 809.04 | 812.56 | 811.17 | 811.52 |
| 35 | 473.68 | 472.64 | 471.93 | 472.64 | 473.68 | 473.73 | 473.20 |
| 40 | 226.52 | 227.13 | 227.96 | 227.13 | 226.52 | 226.43 | 225.74 |
| 45 | 53.72 | 54.31 | 53.54 | 54.31 | 53.72 | 52.90 | 54.34 |
| 50 | 11.09 | 11.23 | 11.28 | 11.23 | 11.09 | 11.14 | 10.61 |
| 55 | 7.34 | 7.70 | 7.50 | 7.70 | 7.34 | 7.56 | 7.51 |
| 60 | 5.23 | 5.18 | 4.99 | 5.18 | 5.23 | 5.43 | 5.69 |
| 65 | 3.77 | 3.76 | 3.86 | 3.76 | 3.77 | 3.69 | 3.90 |
| 70 | 2.57 | 2.63 | 2.36 | 2.63 | 2.57 | 2.35 | 2.76 |
| 75 | 1.62 | 1.64 | 1.56 | 1.64 | 1.62 | 1.56 | 1.74 |
| 80 | 0.82 | 0.90 | 0.86 | 0.90 | 0.82 | 0.79 | 0.87 |
| 85 | 0.31 | 0.21 | 0.24 | 0.21 | 0.31 | 0.28 | 0.29 |
| 90 | 0.06 | 0.05 | 0.00 | 0.05 | 0.06 | 0.05 | 0.05 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 781.55 | N.A. | 45.10 |
| 0-30 | 1348.24 | N.A. | 77.80 |
| 0-40 | 1654.12 | N.A. | 95.50 |
| 0-60 | 1726.16 | N.A. | 99.70 |
| 0-80 | 1731.7 | N.A. | 100.00 |
| 0-90 | 1732.09 | N.A. | 100.00 |
| 10-90 | 1511.55 | N.A. | 87.30 |
| 20-40 | 872.57 | N.A. | 50.40 |
| 20-50 | 937.59 | N.A. | 54.10 |
| 40-70 | 75.84 | N.A. | 4.40 |
| 60-80 | 5.54 | N.A. | 0.30 |
| 70-80 | 1.74 | N.A. | 0.10 |
| 80-90 | 0.39 | N.A. | 0.00 |
| 90-110 | 0.00 | N.A. | 0.00 |
| 90-120 | 0.00 | N.A. | 0.00 |
| 90-130 | 0.00 | N.A. | 0.00 |
| 90-150 | 0.00 | N.A. | 0.00 |
| 90-180 | 0.00 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 1732.09 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 220.53 |
| 10-20 | 561.02 |
| 20-30 | 566.68 |
| 30-40 | 305.88 |
| 40-50 | 65.03 |
| 50-60 | 7.01 |
| 60-70 | 3.80 |
| 70-80 | 1.74 |
| 80-90 | 0.39 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

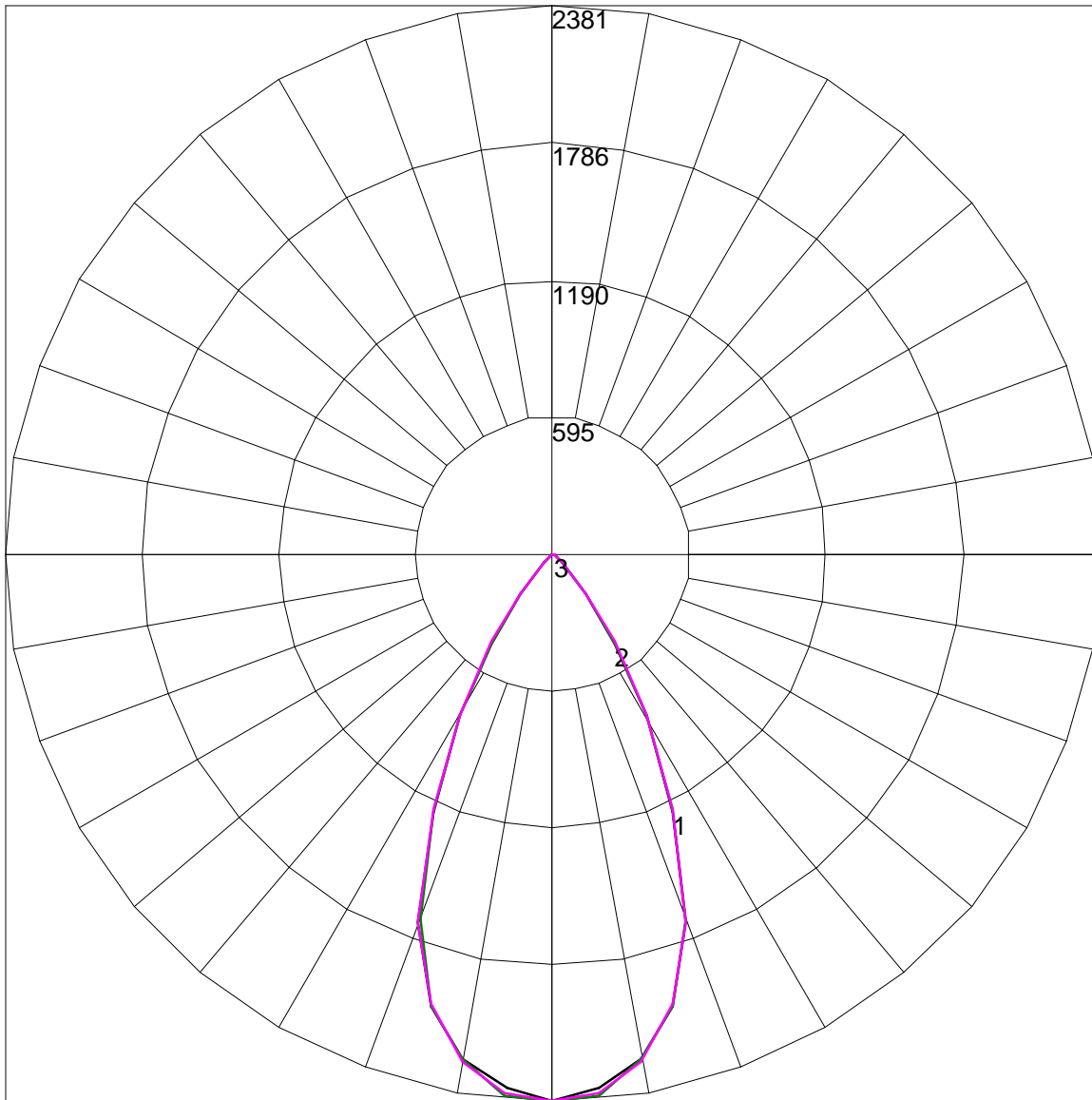
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | 94 |
| 2 | 109 | 104 | 100 | 97 | 106 | 102 | 99 | 96 | 99 | 96 | 94 | 96 | 94 | 92 | 93 | 92 | 90 | 88 |
| 3 | 104 | 97 | 93 | 89 | 102 | 96 | 92 | 88 | 94 | 90 | 87 | 91 | 88 | 86 | 89 | 86 | 84 | 83 |
| 4 | 99 | 92 | 86 | 82 | 97 | 90 | 86 | 82 | 88 | 84 | 81 | 86 | 83 | 80 | 85 | 82 | 79 | 78 |
| 5 | 94 | 86 | 81 | 77 | 93 | 85 | 80 | 76 | 84 | 79 | 76 | 82 | 78 | 75 | 80 | 77 | 74 | 73 |
| 6 | 90 | 81 | 76 | 72 | 88 | 81 | 75 | 71 | 79 | 74 | 71 | 78 | 74 | 71 | 76 | 73 | 70 | 69 |
| 7 | 86 | 77 | 71 | 67 | 84 | 76 | 71 | 67 | 75 | 70 | 67 | 74 | 70 | 66 | 73 | 69 | 66 | 65 |
| 8 | 82 | 73 | 67 | 63 | 81 | 72 | 67 | 63 | 71 | 66 | 63 | 70 | 66 | 63 | 69 | 65 | 62 | 61 |
| 9 | 78 | 69 | 64 | 60 | 77 | 69 | 63 | 60 | 68 | 63 | 59 | 67 | 62 | 59 | 66 | 62 | 59 | 58 |
| 10 | 75 | 66 | 60 | 57 | 74 | 65 | 60 | 56 | 64 | 60 | 56 | 64 | 59 | 56 | 63 | 59 | 56 | 55 |

POLAR GRAPH



Maximum Candela = 2380.91 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (0 - 180)

2 - Vertical Plane Through Horizontal Angles (45 - 225)

3 - Vertical Plane Through Horizontal Angles (90 - 270)