

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P231946

Luminaire Tested: **FVS4M-4-LD4-40-1LO-P125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231946
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-13)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-40-1LO-P125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH P125 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

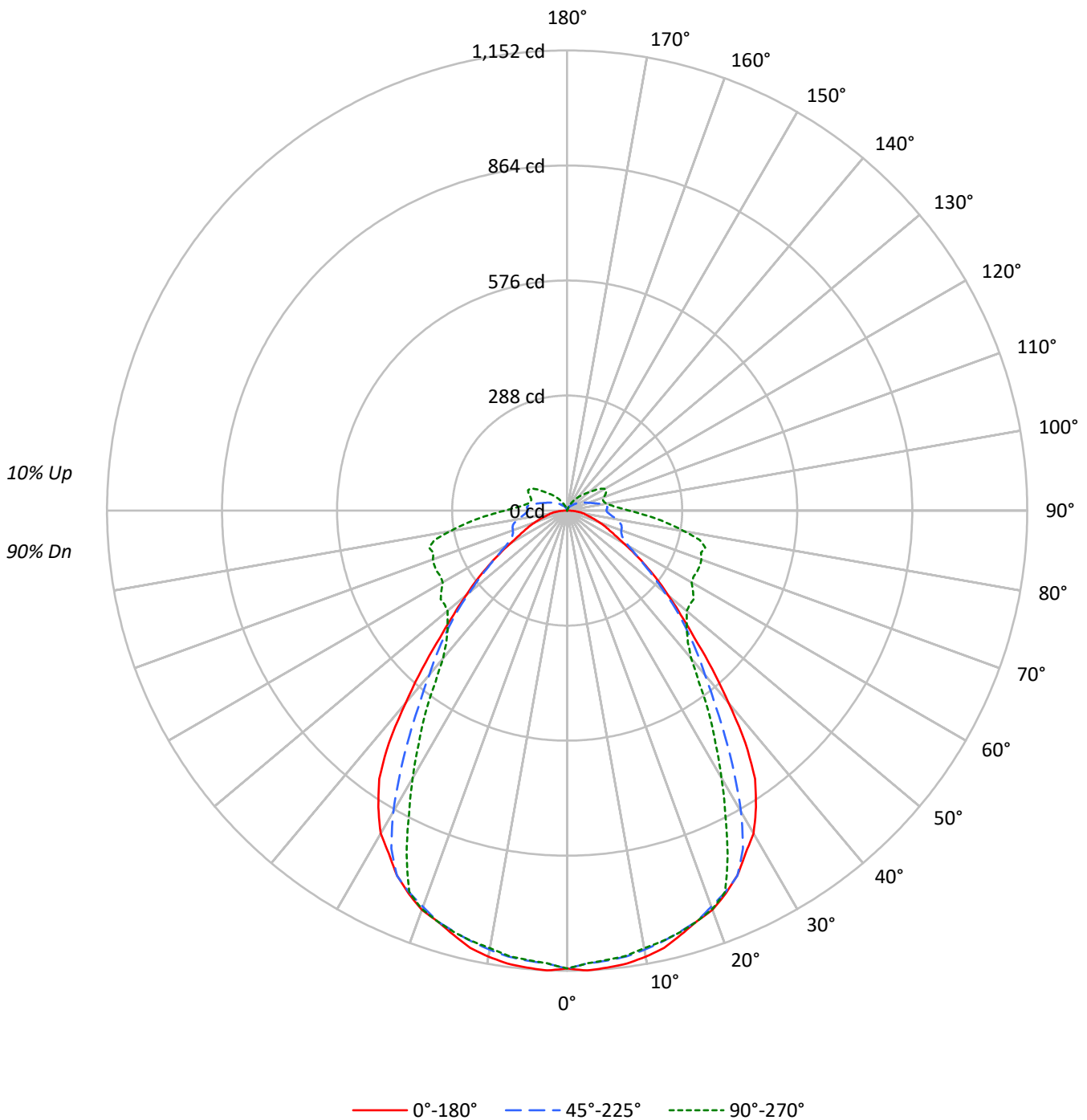
Lumens per Lamp: N/A
Luminaire Lumens: 2696.0 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.07 / 1.11
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





TEST NUMBER: P231946

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-P125-UNV-EDC1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 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 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 105 | 105 | 105 | 99 | 99 | 99 | 93 | 93 | 93 | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 106 | 101 | 96 | 92 | 102 | 97 | 93 | 90 | 91 | 88 | 85 | 86 | 83 | 81 | 80 | 78 | 76 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 97 | 89 | 82 | 76 | 93 | 86 | 80 | 74 | 81 | 76 | 71 | 76 | 72 | 68 | 71 | 68 | 65 | 62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 89 | 79 | 71 | 65 | 86 | 76 | 69 | 63 | 72 | 66 | 61 | 68 | 63 | 59 | 64 | 60 | 56 | 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 82 | 71 | 62 | 56 | 79 | 69 | 61 | 55 | 65 | 58 | 53 | 61 | 56 | 51 | 58 | 54 | 50 | 47 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 76 | 64 | 55 | 49 | 73 | 62 | 54 | 48 | 59 | 52 | 47 | 56 | 50 | 46 | 53 | 48 | 44 | 42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 71 | 58 | 50 | 44 | 68 | 57 | 49 | 43 | 54 | 47 | 42 | 51 | 45 | 41 | 49 | 44 | 40 | 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 66 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 50 | 43 | 38 | 47 | 41 | 37 | 45 | 40 | 36 | 34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 62 | 49 | 41 | 36 | 60 | 48 | 40 | 35 | 46 | 39 | 34 | 44 | 38 | 34 | 42 | 37 | 33 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 58 | 45 | 38 | 32 | 56 | 44 | 37 | 32 | 42 | 36 | 31 | 41 | 35 | 31 | 39 | 34 | 30 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 55 | 42 | 35 | 30 | 53 | 41 | 34 | 29 | 40 | 33 | 29 | 38 | 32 | 28 | 37 | 31 | 28 | 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10413 | 10413 | 10413 |
| 5° | 10430 | 9916 | 9784 |
| 10° | 10371 | 9528 | 9279 |
| 15° | 10205 | 9141 | 8855 |
| 20° | 10101 | 8740 | 8426 |
| 25° | 9875 | 8326 | 7448 |
| 30° | 9518 | 7220 | 6023 |
| 35° | 8787 | 5774 | 4828 |
| 40° | 7159 | 4597 | 3805 |
| 45° | 5504 | 3735 | 3401 |
| 50° | 4414 | 2921 | 3220 |
| 55° | 3546 | 2246 | 3297 |
| 60° | 2721 | 1793 | 3206 |
| 65° | 2276 | 1643 | 3382 |
| 70° | 2016 | 1696 | 3584 |
| 75° | 1707 | 1821 | 3879 |
| 80° | 1687 | 1823 | 3525 |
| 85° | 1498 | 1791 | 2930 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 108.0 | 4.0 |
| 10°-20° | 309.5 | 11.5 |
| 20°-30° | 451.9 | 16.8 |
| 30°-40° | 440.9 | 16.4 |
| 40°-50° | 337.4 | 12.5 |
| 50°-60° | 244.5 | 9.1 |
| 60°-70° | 197.2 | 7.3 |
| 70°-80° | 191.8 | 7.1 |
| 80°-90° | 138.3 | 5.1 |
| 90°-100° | 84.3 | 3.1 |
| 100°-110° | 63.8 | 2.4 |
| 110°-120° | 54.6 | 2.0 |
| 120°-130° | 37.8 | 1.4 |
| 130°-140° | 21.1 | 0.8 |
| 140°-150° | 10.6 | 0.4 |
| 150°-160° | 3.9 | 0.1 |
| 160°-170° | 0.5 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 869.4 | 32.2 |
| 0°-40° | 1310.3 | 48.6 |
| 0°-60° | 1892.2 | 70.2 |
| 0°-90° | 2419.4 | 89.7 |
| 90°-120° | 202.6 | 7.5 |
| 90°-150° | 272.1 | 10.1 |
| 90°-180° | 277.0 | 10.3 |
| 0°-180° | 2696.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1146 | 1146 | 1146 | 1146 | 1146 | |
| 5° | 1149 | 1140 | 1131 | 1134 | 1129 | 109 |
| 15° | 1100 | 1103 | 1092 | 1096 | 1093 | 311 |
| 25° | 1008 | 1010 | 1008 | 987 | 951 | 462 |
| 35° | 820 | 797 | 688 | 631 | 618 | 501 |
| 45° | 450 | 441 | 424 | 436 | 424 | 355 |
| 55° | 240 | 220 | 235 | 312 | 386 | 216 |
| 65° | 117 | 117 | 152 | 276 | 360 | 118 |
| 75° | 58 | 92 | 141 | 299 | 358 | 63 |
| 85° | 22 | 44 | 107 | 230 | 221 | 22 |
| 90° | 1 | 26 | 98 | 161 | 155 | 2 |
| 95° | 1 | 23 | 101 | 123 | 118 | 0 |
| 105° | 1 | 21 | 71 | 98 | 93 | 1 |
| 115° | 1 | 18 | 47 | 103 | 107 | 1 |
| 125° | 1 | 17 | 32 | 72 | 93 | 1 |
| 135° | 1 | 13 | 21 | 44 | 57 | 0 |
| 145° | 1 | 9 | 14 | 26 | 33 | 0 |
| 155° | 1 | 5 | 8 | 12 | 15 | 1 |
| 165° | 1 | 2 | 2 | 1 | 1 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P231946

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-P125-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1146.3 | 1146.3 | 1146.3 | 1146.3 | 1146.3 |
| 2.5° | 1152.3 | 1145.6 | 1135.3 | 1138.4 | 1134.7 |
| 5° | 1148.7 | 1140.2 | 1131.1 | 1133.5 | 1129.3 |
| 7.5° | 1143.8 | 1133.5 | 1126.2 | 1128.1 | 1124.4 |
| 10° | 1134.1 | 1126.2 | 1116.5 | 1118.3 | 1112.3 |
| 12.5° | 1121.4 | 1112.3 | 1105.0 | 1108.0 | 1103.8 |
| 15° | 1099.5 | 1103.2 | 1091.6 | 1095.9 | 1092.9 |
| 17.5° | 1078.3 | 1086.2 | 1078.3 | 1082.5 | 1078.3 |
| 20° | 1063.7 | 1061.3 | 1055.2 | 1068.6 | 1061.9 |
| 22.5° | 1037.6 | 1037.0 | 1034.0 | 1042.5 | 1033.4 |
| 25° | 1007.9 | 1009.7 | 1008.5 | 986.7 | 950.9 |
| 27.5° | 967.2 | 975.1 | 953.3 | 886.5 | 858.0 |
| 30° | 933.3 | 936.3 | 870.8 | 801.6 | 773.1 |
| 32.5° | 879.9 | 882.9 | 777.3 | 711.2 | 691.8 |
| 35° | 819.8 | 797.3 | 688.1 | 631.1 | 618.3 |
| 37.5° | 733.0 | 695.4 | 605.0 | 568.0 | 541.9 |
| 40° | 628.7 | 593.5 | 537.0 | 512.1 | 482.4 |
| 42.5° | 537.0 | 510.9 | 480.6 | 471.5 | 447.2 |
| 45° | 449.6 | 441.1 | 424.2 | 435.7 | 423.6 |
| 47.5° | 385.3 | 375.0 | 373.8 | 399.3 | 406.0 |
| 50° | 330.7 | 314.3 | 319.8 | 364.7 | 390.8 |
| 52.5° | 285.2 | 263.4 | 273.1 | 336.2 | 386.5 |
| 55° | 239.7 | 219.7 | 234.8 | 312.5 | 386.5 |
| 57.5° | 199.6 | 180.8 | 202.7 | 301.6 | 373.2 |
| 60° | 162.6 | 151.7 | 177.2 | 288.2 | 359.8 |
| 62.5° | 136.5 | 131.1 | 160.8 | 278.5 | 356.8 |
| 65° | 117.1 | 117.1 | 151.7 | 276.1 | 359.8 |
| 67.5° | 101.3 | 107.4 | 146.8 | 279.7 | 359.8 |
| 70° | 86.2 | 101.9 | 144.4 | 286.4 | 357.4 |
| 72.5° | 71.0 | 97.7 | 143.2 | 293.1 | 351.3 |
| 75° | 57.6 | 92.2 | 140.8 | 299.2 | 358.0 |
| 77.5° | 47.9 | 81.3 | 133.5 | 299.8 | 339.8 |
| 80° | 41.3 | 68.6 | 125.6 | 298.5 | 296.7 |
| 82.5° | 32.2 | 56.4 | 115.3 | 271.8 | 259.1 |
| 85° | 22.5 | 44.3 | 107.4 | 230.0 | 220.9 |
| 87.5° | 10.3 | 34.0 | 100.7 | 192.4 | 184.5 |
| 90° | 0.6 | 25.5 | 98.3 | 161.4 | 154.7 |
| 92.5° | 0.6 | 23.7 | 99.5 | 140.2 | 133.5 |
| 95° | 0.6 | 23.1 | 101.3 | 122.6 | 118.3 |
| 97.5° | 0.6 | 22.5 | 97.7 | 110.4 | 108.0 |
| 100° | 0.6 | 21.8 | 89.8 | 102.6 | 100.1 |
| 102.5° | 0.6 | 21.2 | 80.1 | 98.3 | 95.9 |
| 105° | 0.6 | 20.6 | 71.0 | 98.3 | 93.4 |
| 107.5° | 0.6 | 20.0 | 63.1 | 101.3 | 94.1 |
| 110° | 0.6 | 19.4 | 57.0 | 105.0 | 97.7 |



TEST NUMBER: P231946

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-P125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|-------|
| 112.5° | 0.6 | 18.8 | 51.6 | 106.2 | 103.2 |
| 115° | 0.6 | 18.2 | 46.7 | 103.2 | 107.4 |
| 117.5° | 0.6 | 18.2 | 43.1 | 95.9 | 110.4 |
| 120° | 0.6 | 17.6 | 39.4 | 88.6 | 108.6 |
| 122.5° | 0.6 | 17.6 | 35.8 | 80.7 | 101.9 |
| 125° | 0.6 | 17.0 | 32.2 | 71.6 | 92.8 |
| 127.5° | 0.6 | 16.4 | 29.1 | 64.3 | 81.3 |
| 130° | 0.6 | 15.8 | 26.1 | 57.0 | 72.2 |
| 132.5° | 0.6 | 14.6 | 23.7 | 50.4 | 63.7 |
| 135° | 0.6 | 13.3 | 20.6 | 44.3 | 57.0 |
| 137.5° | 0.6 | 12.1 | 18.8 | 38.8 | 50.4 |
| 140° | 0.6 | 11.5 | 17.0 | 34.0 | 44.3 |
| 142.5° | 0.6 | 10.3 | 15.2 | 30.3 | 38.8 |
| 145° | 0.6 | 9.1 | 14.0 | 26.1 | 33.4 |
| 147.5° | 0.6 | 8.5 | 13.3 | 22.5 | 27.9 |
| 150° | 0.6 | 7.3 | 12.1 | 18.2 | 23.1 |
| 152.5° | 1.2 | 6.1 | 10.3 | 14.6 | 18.8 |
| 155° | 1.2 | 4.9 | 8.5 | 11.5 | 15.2 |
| 157.5° | 1.2 | 3.6 | 7.3 | 7.9 | 10.9 |
| 160° | 1.2 | 3.0 | 5.5 | 4.9 | 7.3 |
| 162.5° | 1.2 | 1.8 | 3.6 | 2.4 | 4.2 |
| 165° | 1.2 | 1.8 | 1.8 | 1.2 | 1.2 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)