

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: P231955

Luminaire Tested: **FVS4M-4-LD4-50-1HI-P125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231955
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-LD4-50-1HI-P125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH P125 LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

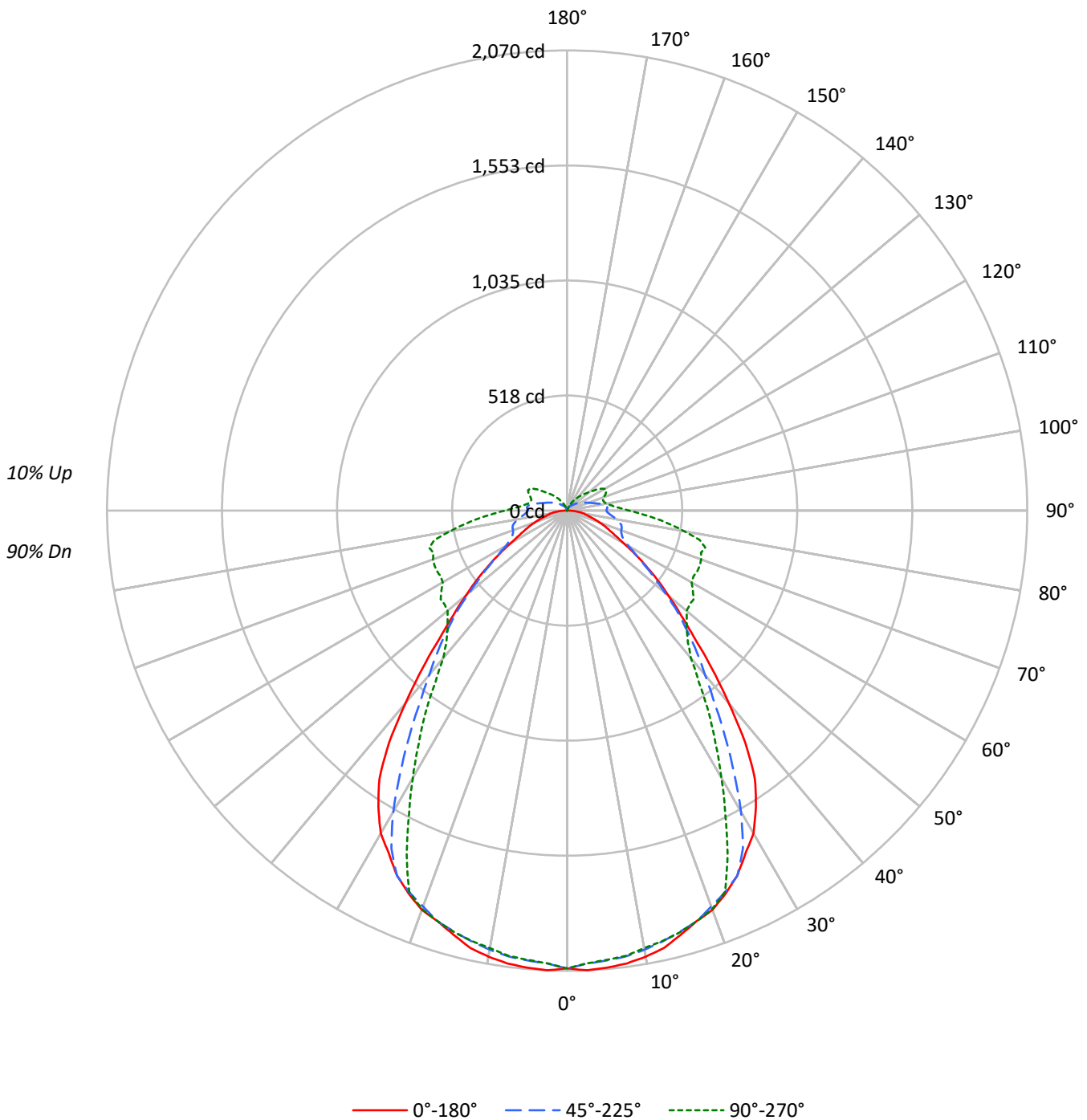
Lumens per Lamp: N/A
Luminaire Lumens: 4843.0 lumens
Efficiency: N/A
Efficacy: 108.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.07 / 1.11
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 44.5
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| RF | 20 | | | | 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 | 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° | 18705 | 18705 | 18705 |
| 5° | 18736 | 17812 | 17576 |
| 10° | 18630 | 17115 | 16668 |
| 15° | 18333 | 16422 | 15906 |
| 20° | 18146 | 15701 | 15136 |
| 25° | 17739 | 14957 | 13378 |
| 30° | 17098 | 12969 | 10819 |
| 35° | 15784 | 10373 | 8674 |
| 40° | 12858 | 8258 | 6835 |
| 45° | 9888 | 6708 | 6110 |
| 50° | 7929 | 5247 | 5785 |
| 55° | 6370 | 4034 | 5923 |
| 60° | 4888 | 3221 | 5759 |
| 65° | 4089 | 2951 | 6076 |
| 70° | 3620 | 3046 | 6438 |
| 75° | 3070 | 3271 | 6968 |
| 80° | 3027 | 3274 | 6333 |
| 85° | 2684 | 3217 | 5263 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 194.0 | 4.0 |
| 10°-20° | 556.0 | 11.5 |
| 20°-30° | 811.8 | 16.8 |
| 30°-40° | 792.0 | 16.4 |
| 40°-50° | 606.0 | 12.5 |
| 50°-60° | 439.2 | 9.1 |
| 60°-70° | 354.2 | 7.3 |
| 70°-80° | 344.5 | 7.1 |
| 80°-90° | 248.4 | 5.1 |
| 90°-100° | 151.4 | 3.1 |
| 100°-110° | 114.6 | 2.4 |
| 110°-120° | 98.0 | 2.0 |
| 120°-130° | 67.9 | 1.4 |
| 130°-140° | 37.9 | 0.8 |
| 140°-150° | 19.1 | 0.4 |
| 150°-160° | 7.1 | 0.1 |
| 160°-170° | 0.9 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1561.8 | 32.2 |
| 0°-40° | 2353.8 | 48.6 |
| 0°-60° | 3399.0 | 70.2 |
| 0°-90° | 4346.1 | 89.7 |
| 90°-120° | 364.0 | 7.5 |
| 90°-150° | 488.9 | 10.1 |
| 90°-180° | 497.0 | 10.3 |
| 0°-180° | 4843.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2059 | 2059 | 2059 | 2059 | 2059 | |
| 5° | 2064 | 2048 | 2032 | 2036 | 2029 | 196 |
| 15° | 1975 | 1982 | 1961 | 1969 | 1963 | 558 |
| 25° | 1811 | 1814 | 1812 | 1772 | 1708 | 831 |
| 35° | 1473 | 1432 | 1236 | 1134 | 1111 | 900 |
| 45° | 808 | 792 | 762 | 783 | 761 | 638 |
| 55° | 431 | 395 | 422 | 561 | 694 | 389 |
| 65° | 210 | 210 | 272 | 496 | 646 | 213 |
| 75° | 104 | 166 | 253 | 537 | 643 | 114 |
| 85° | 40 | 80 | 193 | 413 | 397 | 39 |
| 90° | 1 | 46 | 177 | 290 | 278 | 3 |
| 95° | 1 | 41 | 182 | 220 | 213 | 1 |
| 105° | 1 | 37 | 128 | 177 | 168 | 1 |
| 115° | 1 | 33 | 84 | 185 | 193 | 1 |
| 125° | 1 | 30 | 58 | 129 | 167 | 1 |
| 135° | 1 | 24 | 37 | 80 | 102 | 1 |
| 145° | 1 | 16 | 25 | 47 | 60 | 1 |
| 155° | 2 | 9 | 15 | 21 | 27 | 1 |
| 165° | 2 | 3 | 3 | 2 | 2 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P231955

CATALOG NUMBER: FVS4M-4-LD4-50-1HI-P125-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2059.1 | 2059.1 | 2059.1 | 2059.1 | 2059.1 |
| 2.5° | 2070.0 | 2058.0 | 2039.5 | 2044.9 | 2038.4 |
| 5° | 2063.5 | 2048.2 | 2031.8 | 2036.2 | 2028.6 |
| 7.5° | 2054.7 | 2036.2 | 2023.1 | 2026.4 | 2019.9 |
| 10° | 2037.3 | 2023.1 | 2005.7 | 2009.0 | 1998.1 |
| 12.5° | 2014.4 | 1998.1 | 1985.0 | 1990.4 | 1982.8 |
| 15° | 1975.2 | 1981.7 | 1961.0 | 1968.6 | 1963.2 |
| 17.5° | 1937.0 | 1951.2 | 1937.0 | 1944.6 | 1937.0 |
| 20° | 1910.8 | 1906.5 | 1895.6 | 1919.6 | 1907.6 |
| 22.5° | 1864.0 | 1862.9 | 1857.4 | 1872.7 | 1856.3 |
| 25° | 1810.6 | 1813.8 | 1811.7 | 1772.4 | 1708.1 |
| 27.5° | 1737.5 | 1751.7 | 1712.5 | 1592.6 | 1541.3 |
| 30° | 1676.5 | 1681.9 | 1564.2 | 1439.9 | 1388.7 |
| 32.5° | 1580.6 | 1586.0 | 1396.3 | 1277.5 | 1242.7 |
| 35° | 1472.6 | 1432.3 | 1236.1 | 1133.6 | 1110.8 |
| 37.5° | 1316.8 | 1249.2 | 1086.8 | 1020.3 | 973.4 |
| 40° | 1129.3 | 1066.1 | 964.7 | 920.0 | 866.6 |
| 42.5° | 964.7 | 917.8 | 863.3 | 847.0 | 803.4 |
| 45° | 807.7 | 792.5 | 761.9 | 782.7 | 760.9 |
| 47.5° | 692.2 | 673.6 | 671.5 | 717.2 | 729.2 |
| 50° | 594.1 | 564.6 | 574.5 | 655.1 | 702.0 |
| 52.5° | 512.3 | 473.1 | 490.5 | 603.9 | 694.4 |
| 55° | 430.6 | 394.6 | 421.8 | 561.4 | 694.4 |
| 57.5° | 358.6 | 324.8 | 364.1 | 541.8 | 670.4 |
| 60° | 292.1 | 272.5 | 318.3 | 517.8 | 646.4 |
| 62.5° | 245.3 | 235.4 | 288.9 | 500.3 | 640.9 |
| 65° | 210.4 | 210.4 | 272.5 | 496.0 | 646.4 |
| 67.5° | 182.0 | 192.9 | 263.8 | 502.5 | 646.4 |
| 70° | 154.8 | 183.1 | 259.4 | 514.5 | 642.0 |
| 72.5° | 127.5 | 175.5 | 257.3 | 526.5 | 631.1 |
| 75° | 103.6 | 165.7 | 252.9 | 537.4 | 643.1 |
| 77.5° | 86.1 | 146.1 | 239.8 | 538.5 | 610.4 |
| 80° | 74.1 | 123.2 | 225.6 | 536.3 | 533.0 |
| 82.5° | 57.8 | 101.4 | 207.1 | 488.3 | 465.4 |
| 85° | 40.3 | 79.6 | 192.9 | 413.1 | 396.8 |
| 87.5° | 18.5 | 61.0 | 180.9 | 345.5 | 331.4 |
| 90° | 1.1 | 45.8 | 176.6 | 290.0 | 278.0 |
| 92.5° | 1.1 | 42.5 | 178.8 | 251.8 | 239.8 |
| 95° | 1.1 | 41.4 | 182.0 | 220.2 | 212.6 |
| 97.5° | 1.1 | 40.3 | 175.5 | 198.4 | 194.0 |
| 100° | 1.1 | 39.2 | 161.3 | 184.2 | 179.9 |
| 102.5° | 1.1 | 38.2 | 143.9 | 176.6 | 172.2 |
| 105° | 1.1 | 37.1 | 127.5 | 176.6 | 167.9 |
| 107.5° | 1.1 | 36.0 | 113.4 | 182.0 | 169.0 |
| 110° | 1.1 | 34.9 | 102.5 | 188.6 | 175.5 |



TEST NUMBER: P231955

CATALOG NUMBER: FVS4M-4-LD4-50-1HI-P125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|-------|
| 112.5° | 1.1 | 33.8 | 92.7 | 190.8 | 185.3 |
| 115° | 1.1 | 32.7 | 83.9 | 185.3 | 192.9 |
| 117.5° | 1.1 | 32.7 | 77.4 | 172.2 | 198.4 |
| 120° | 1.1 | 31.6 | 70.9 | 159.1 | 195.1 |
| 122.5° | 1.1 | 31.6 | 64.3 | 145.0 | 183.1 |
| 125° | 1.1 | 30.5 | 57.8 | 128.6 | 166.8 |
| 127.5° | 1.1 | 29.4 | 52.3 | 115.5 | 146.1 |
| 130° | 1.1 | 28.3 | 46.9 | 102.5 | 129.7 |
| 132.5° | 1.1 | 26.2 | 42.5 | 90.5 | 114.5 |
| 135° | 1.1 | 24.0 | 37.1 | 79.6 | 102.5 |
| 137.5° | 1.1 | 21.8 | 33.8 | 69.8 | 90.5 |
| 140° | 1.1 | 20.7 | 30.5 | 61.0 | 79.6 |
| 142.5° | 1.1 | 18.5 | 27.3 | 54.5 | 69.8 |
| 145° | 1.1 | 16.4 | 25.1 | 46.9 | 60.0 |
| 147.5° | 1.1 | 15.3 | 24.0 | 40.3 | 50.1 |
| 150° | 1.1 | 13.1 | 21.8 | 32.7 | 41.4 |
| 152.5° | 2.2 | 10.9 | 18.5 | 26.2 | 33.8 |
| 155° | 2.2 | 8.7 | 15.3 | 20.7 | 27.3 |
| 157.5° | 2.2 | 6.5 | 13.1 | 14.2 | 19.6 |
| 160° | 2.2 | 5.5 | 9.8 | 8.7 | 13.1 |
| 162.5° | 2.2 | 3.3 | 6.5 | 4.4 | 7.6 |
| 165° | 2.2 | 3.3 | 3.3 | 2.2 | 2.2 |
| 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)