

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: P231911

Luminaire Tested: **FVS4M-2-LD4-50-2LO-P125-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231911  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-8)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-2-LD4-50-2LO-P125-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH P125 LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

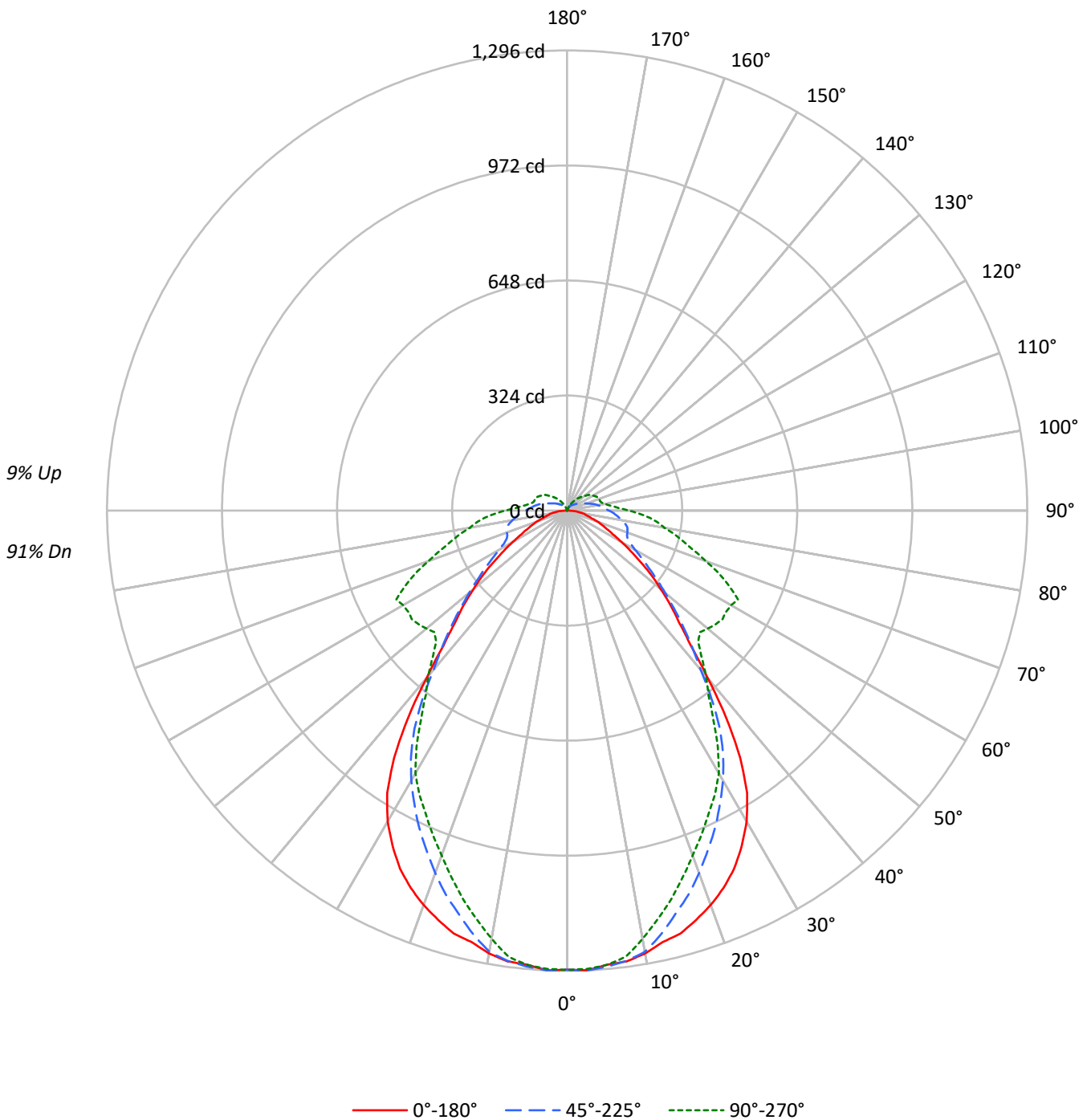
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2962.0 lumens  
Efficiency: N/A  
Efficacy: 122.9 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.01 / 1.1  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Direct  
  
Input Watts (W): 24.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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 | 106 | 106 | 106 | 99 | 99 | 99 | 93 | 93 | 93 | 91 |
| 1   | 106 | 101 | 96  | 92  | 102 | 97  | 93  | 90  | 91  | 88  | 85  | 86 | 83 | 81 | 81 | 79 | 77 | 74 |
| 2   | 97  | 88  | 81  | 76  | 93  | 86  | 79  | 74  | 81  | 75  | 71  | 76 | 72 | 68 | 72 | 68 | 65 | 62 |
| 3   | 89  | 78  | 70  | 64  | 85  | 76  | 69  | 63  | 72  | 66  | 60  | 68 | 63 | 58 | 64 | 60 | 56 | 54 |
| 4   | 82  | 70  | 62  | 55  | 79  | 68  | 60  | 54  | 64  | 58  | 52  | 61 | 55 | 51 | 58 | 53 | 49 | 47 |
| 5   | 76  | 63  | 55  | 48  | 73  | 62  | 54  | 48  | 58  | 51  | 46  | 55 | 50 | 45 | 53 | 48 | 44 | 41 |
| 6   | 70  | 57  | 49  | 43  | 68  | 56  | 48  | 42  | 53  | 46  | 41  | 51 | 45 | 40 | 48 | 43 | 39 | 37 |
| 7   | 65  | 53  | 44  | 38  | 63  | 51  | 43  | 38  | 49  | 42  | 37  | 47 | 41 | 36 | 45 | 39 | 35 | 33 |
| 8   | 61  | 48  | 40  | 35  | 59  | 47  | 40  | 34  | 45  | 38  | 33  | 43 | 37 | 33 | 41 | 36 | 32 | 30 |
| 9   | 57  | 45  | 37  | 31  | 56  | 44  | 36  | 31  | 42  | 35  | 31  | 40 | 34 | 30 | 39 | 33 | 29 | 27 |
| 10  | 54  | 41  | 34  | 29  | 52  | 41  | 33  | 29  | 39  | 32  | 28  | 37 | 32 | 27 | 36 | 31 | 27 | 25 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 23242 | 23242 | 23242 |
| 5°  | 22965 | 22296 | 22018 |
| 10° | 22721 | 21184 | 20207 |
| 15° | 22358 | 19341 | 18160 |
| 20° | 21835 | 17610 | 16221 |
| 25° | 21105 | 15894 | 14594 |
| 30° | 19852 | 14177 | 13168 |
| 35° | 17446 | 12232 | 11083 |
| 40° | 13337 | 9697  | 9496  |
| 45° | 10330 | 7867  | 8287  |
| 50° | 8631  | 6327  | 8428  |
| 55° | 6961  | 5144  | 9005  |
| 60° | 5422  | 4271  | 9396  |
| 65° | 4369  | 3878  | 9380  |
| 70° | 3764  | 4024  | 8243  |
| 75° | 3093  | 4276  | 7275  |
| 80° | 2889  | 4259  | 6532  |
| 85° | 2404  | 4273  | 6135  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 121.9  | 4.1       |
| 10°-20°   | 332.1  | 11.2      |
| 20°-30°   | 461.0  | 15.6      |
| 30°-40°   | 473.6  | 16.0      |
| 40°-50°   | 375.7  | 12.7      |
| 50°-60°   | 296.1  | 10.0      |
| 60°-70°   | 260.0  | 8.8       |
| 70°-80°   | 215.9  | 7.3       |
| 80°-90°   | 146.9  | 5.0       |
| 90°-100°  | 91.2   | 3.1       |
| 100°-110° | 66.1   | 2.2       |
| 110°-120° | 50.0   | 1.7       |
| 120°-130° | 35.5   | 1.2       |
| 130°-140° | 20.8   | 0.7       |
| 140°-150° | 11.0   | 0.4       |
| 150°-160° | 4.0    | 0.1       |
| 160°-170° | 0.4    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 914.9  | 30.9      |
| 0°-40°    | 1388.5 | 46.9      |
| 0°-60°    | 2060.2 | 69.6      |
| 0°-90°    | 2683.1 | 90.6      |
| 90°-120°  | 207.3  | 7.0       |
| 90°-150°  | 274.6  | 9.3       |
| 90°-180°  | 279.0  | 9.4       |
| 0°-180°   | 2962.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1293 | 1293  | 1293 | 1293  | 1293 |      |
| 5°   | 1284 | 1286  | 1289 | 1285  | 1285 | 122  |
| 15°  | 1233 | 1228  | 1177 | 1140  | 1133 | 347  |
| 25°  | 1113 | 1047  | 986  | 953   | 942  | 510  |
| 35°  | 850  | 800   | 750  | 720   | 717  | 520  |
| 45°  | 446  | 456   | 462  | 528   | 522  | 353  |
| 55°  | 253  | 222   | 280  | 415   | 534  | 228  |
| 65°  | 124  | 124   | 188  | 424   | 504  | 126  |
| 75°  | 61   | 98    | 175  | 347   | 339  | 67   |
| 85°  | 25   | 49    | 138  | 220   | 234  | 23   |
| 90°  | 0    | 30    | 118  | 177   | 174  | 1    |
| 95°  | 0    | 27    | 102  | 136   | 132  | 0    |
| 105° | 0    | 24    | 73   | 103   | 97   | 0    |
| 115° | 0    | 21    | 47   | 85    | 92   | 0    |
| 125° | 0    | 18    | 33   | 68    | 78   | 0    |
| 135° | 0    | 14    | 23   | 43    | 53   | 0    |
| 145° | 0    | 10    | 17   | 26    | 32   | 0    |
| 155° | 1    | 4     | 10   | 12    | 14   | 0    |
| 165° | 1    | 1     | 1    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    | 0    |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1293.3 | 1293.3 | 1293.3 | 1293.3 | 1293.3 |
| 2.5°   | 1296.0 | 1295.3 | 1296.0 | 1292.6 | 1291.9 |
| 5°     | 1283.9 | 1285.9 | 1289.3 | 1285.3 | 1284.6 |
| 7.5°   | 1280.6 | 1281.3 | 1279.3 | 1271.9 | 1267.2 |
| 10°    | 1266.6 | 1267.9 | 1261.9 | 1235.8 | 1224.5 |
| 12.5°  | 1244.5 | 1246.5 | 1222.5 | 1193.1 | 1178.4 |
| 15°    | 1233.2 | 1228.5 | 1177.0 | 1139.6 | 1133.0 |
| 17.5°  | 1208.4 | 1192.4 | 1135.0 | 1092.9 | 1082.9 |
| 20°    | 1182.4 | 1149.0 | 1086.2 | 1048.8 | 1033.4 |
| 22.5°  | 1150.3 | 1094.9 | 1035.4 | 1004.7 | 988.7  |
| 25°    | 1112.9 | 1046.8 | 986.0  | 953.3  | 941.9  |
| 27.5°  | 1064.8 | 992.7  | 931.9  | 904.5  | 901.2  |
| 30°    | 1010.7 | 936.6  | 877.8  | 855.1  | 854.4  |
| 32.5°  | 943.2  | 870.4  | 818.3  | 800.3  | 789.6  |
| 35°    | 849.7  | 800.3  | 750.2  | 720.1  | 717.4  |
| 37.5°  | 736.8  | 714.1  | 668.0  | 655.3  | 653.3  |
| 40°    | 615.2  | 623.9  | 584.5  | 605.2  | 608.6  |
| 42.5°  | 514.4  | 533.1  | 519.7  | 567.8  | 560.5  |
| 45°    | 446.2  | 456.3  | 462.3  | 528.4  | 521.7  |
| 47.5°  | 395.5  | 382.1  | 407.5  | 483.0  | 507.0  |
| 50°    | 344.7  | 324.0  | 359.4  | 451.6  | 517.0  |
| 52.5°  | 299.9  | 267.9  | 317.3  | 430.9  | 526.4  |
| 55°    | 253.2  | 222.4  | 279.9  | 414.8  | 533.7  |
| 57.5°  | 211.1  | 185.7  | 248.5  | 402.8  | 530.4  |
| 60°    | 176.4  | 158.3  | 220.4  | 398.8  | 533.1  |
| 62.5°  | 145.6  | 137.6  | 200.4  | 403.5  | 542.4  |
| 65°    | 124.3  | 124.3  | 187.7  | 424.2  | 504.4  |
| 67.5°  | 106.2  | 115.6  | 182.4  | 432.9  | 462.3  |
| 70°    | 90.9   | 110.2  | 180.4  | 412.2  | 415.5  |
| 72.5°  | 73.5   | 106.2  | 178.4  | 374.8  | 374.8  |
| 75°    | 60.8   | 98.2   | 175.0  | 346.7  | 339.4  |
| 77.5°  | 52.1   | 86.2   | 166.3  | 317.3  | 310.0  |
| 80°    | 43.4   | 74.1   | 156.3  | 283.2  | 277.9  |
| 82.5°  | 33.4   | 61.5   | 146.3  | 251.2  | 257.2  |
| 85°    | 24.7   | 49.4   | 137.6  | 220.4  | 233.8  |
| 87.5°  | 10.0   | 38.7   | 128.3  | 198.4  | 203.1  |
| 90°    | 0.0    | 30.1   | 117.6  | 177.0  | 173.7  |
| 92.5°  | 0.0    | 27.4   | 108.2  | 153.6  | 147.6  |
| 95°    | 0.0    | 26.7   | 101.5  | 135.6  | 131.6  |
| 97.5°  | 0.0    | 26.1   | 94.9   | 120.2  | 117.6  |
| 100°   | 0.0    | 25.4   | 87.5   | 110.9  | 108.9  |
| 102.5° | 0.0    | 24.7   | 81.5   | 106.2  | 100.9  |
| 105°   | 0.0    | 24.0   | 72.8   | 102.9  | 96.9   |
| 107.5° | 0.0    | 23.4   | 64.8   | 100.2  | 96.2   |
| 110°   | 0.0    | 22.7   | 58.1   | 94.9   | 96.2   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°  |
|--------|-----|-------|------|-------|------|
| 112.5° | 0.0 | 21.4  | 52.8 | 89.5  | 94.9 |
| 115°   | 0.0 | 20.7  | 47.4 | 84.8  | 92.2 |
| 117.5° | 0.0 | 20.0  | 43.4 | 83.5  | 88.2 |
| 120°   | 0.0 | 19.4  | 40.1 | 81.5  | 84.2 |
| 122.5° | 0.0 | 18.7  | 36.7 | 75.5  | 80.8 |
| 125°   | 0.0 | 18.0  | 33.4 | 68.1  | 77.5 |
| 127.5° | 0.0 | 17.4  | 30.1 | 61.5  | 70.8 |
| 130°   | 0.0 | 16.7  | 27.4 | 54.1  | 63.5 |
| 132.5° | 0.0 | 15.4  | 24.7 | 48.1  | 58.1 |
| 135°   | 0.0 | 14.0  | 22.7 | 42.8  | 53.4 |
| 137.5° | 0.0 | 13.4  | 21.4 | 37.4  | 48.1 |
| 140°   | 0.0 | 12.0  | 19.4 | 33.4  | 42.8 |
| 142.5° | 0.0 | 10.7  | 18.7 | 29.4  | 37.4 |
| 145°   | 0.0 | 10.0  | 17.4 | 26.1  | 32.1 |
| 147.5° | 0.7 | 8.7   | 16.0 | 22.7  | 27.4 |
| 150°   | 0.7 | 7.3   | 14.0 | 18.7  | 22.7 |
| 152.5° | 0.7 | 6.0   | 12.0 | 15.4  | 18.7 |
| 155°   | 0.7 | 4.0   | 10.0 | 12.0  | 14.0 |
| 157.5° | 0.7 | 2.7   | 7.3  | 8.7   | 9.4  |
| 160°   | 0.7 | 1.3   | 5.3  | 5.3   | 5.3  |
| 162.5° | 0.7 | 0.7   | 3.3  | 2.7   | 2.7  |
| 165°   | 0.7 | 0.7   | 1.3  | 0.0   | 0.0  |
| 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)