

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: P231985

Luminaire Tested: **FVS4M-4-LD4-35-2STD-P125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231985
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-18)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-35-2STD-P125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH P125 LENS
Light Source: (168) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

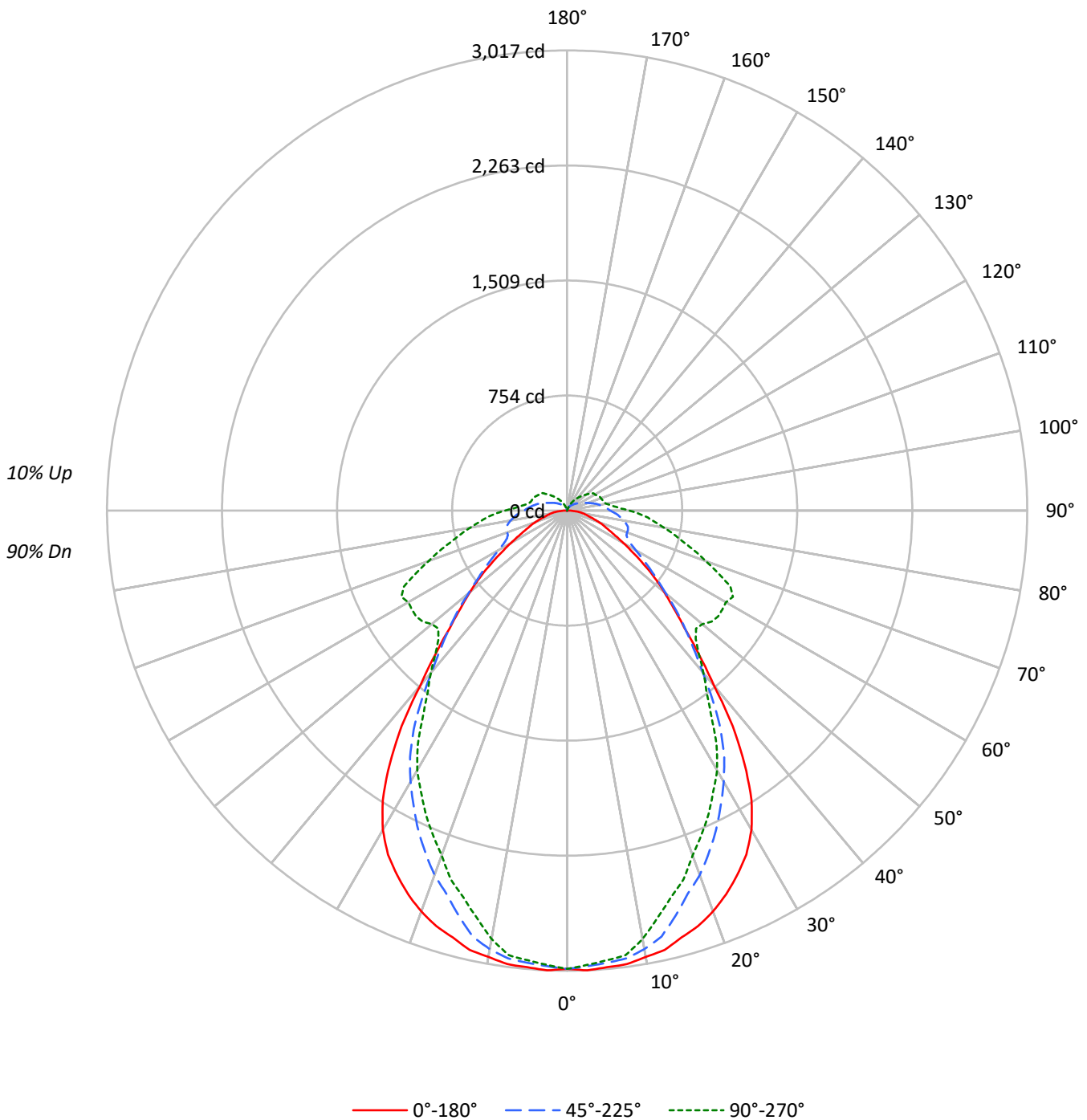
Lumens per Lamp: N/A
Luminaire Lumens: 6984.0 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.01 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

Input Watts (W): 67.5
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 | 106 | 106 | 106 | 99 | 99 | 99 | 93 | 93 | 93 | 90 |
| 1 | 106 | 101 | 96 | 92 | 102 | 97 | 93 | 90 | 91 | 88 | 85 | 86 | 83 | 81 | 81 | 78 | 76 | 74 |
| 2 | 96 | 88 | 81 | 76 | 93 | 85 | 79 | 74 | 80 | 75 | 71 | 76 | 71 | 68 | 71 | 68 | 65 | 62 |
| 3 | 89 | 78 | 70 | 64 | 85 | 76 | 69 | 63 | 72 | 65 | 60 | 67 | 62 | 58 | 64 | 59 | 56 | 53 |
| 4 | 82 | 70 | 62 | 55 | 79 | 68 | 60 | 54 | 64 | 58 | 52 | 61 | 55 | 51 | 58 | 53 | 49 | 46 |
| 5 | 75 | 63 | 55 | 48 | 73 | 61 | 53 | 47 | 58 | 51 | 46 | 55 | 49 | 45 | 53 | 47 | 43 | 41 |
| 6 | 70 | 57 | 49 | 43 | 68 | 56 | 48 | 42 | 53 | 46 | 41 | 51 | 45 | 40 | 48 | 43 | 39 | 37 |
| 7 | 65 | 52 | 44 | 38 | 63 | 51 | 43 | 38 | 49 | 42 | 37 | 47 | 40 | 36 | 44 | 39 | 35 | 33 |
| 8 | 61 | 48 | 40 | 35 | 59 | 47 | 39 | 34 | 45 | 38 | 33 | 43 | 37 | 33 | 41 | 36 | 32 | 30 |
| 9 | 57 | 45 | 37 | 31 | 55 | 44 | 36 | 31 | 42 | 35 | 30 | 40 | 34 | 30 | 38 | 33 | 29 | 27 |
| 10 | 54 | 41 | 34 | 29 | 52 | 40 | 33 | 28 | 39 | 32 | 28 | 37 | 31 | 27 | 36 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 27293 | 27293 | 27293 |
| 5° | 27286 | 26098 | 25646 |
| 10° | 27172 | 24915 | 23791 |
| 15° | 26890 | 23019 | 21279 |
| 20° | 26563 | 21059 | 19086 |
| 25° | 25842 | 19079 | 17185 |
| 30° | 24647 | 17023 | 15317 |
| 35° | 21748 | 14726 | 12867 |
| 40° | 17053 | 11828 | 10974 |
| 45° | 13321 | 9617 | 9573 |
| 50° | 11071 | 7694 | 9539 |
| 55° | 9062 | 6315 | 10314 |
| 60° | 7136 | 5237 | 10708 |
| 65° | 5875 | 4723 | 11101 |
| 70° | 5184 | 4913 | 9685 |
| 75° | 4442 | 5338 | 8490 |
| 80° | 4380 | 5464 | 7653 |
| 85° | 4135 | 5566 | 7046 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 283.0 | 4.1 |
| 10°-20° | 777.1 | 11.1 |
| 20°-30° | 1082.9 | 15.5 |
| 30°-40° | 1116.1 | 16.0 |
| 40°-50° | 887.9 | 12.7 |
| 50°-60° | 690.9 | 9.9 |
| 60°-70° | 604.0 | 8.6 |
| 70°-80° | 509.3 | 7.3 |
| 80°-90° | 345.1 | 4.9 |
| 90°-100° | 218.4 | 3.1 |
| 100°-110° | 162.0 | 2.3 |
| 110°-120° | 124.4 | 1.8 |
| 120°-130° | 89.8 | 1.3 |
| 130°-140° | 52.7 | 0.8 |
| 140°-150° | 27.7 | 0.4 |
| 150°-160° | 10.8 | 0.2 |
| 160°-170° | 1.7 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 2143.1 | 30.7 |
| 0°-40° | 3259.2 | 46.7 |
| 0°-60° | 4838.1 | 69.3 |
| 0°-90° | 6296.5 | 90.2 |
| 90°-120° | 504.8 | 7.2 |
| 90°-150° | 675.1 | 9.7 |
| 90°-180° | 688.0 | 9.9 |
| 0°-180° | 6984.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 3004 | 3004 | 3004 | 3004 | 3004 | |
| 5° | 3005 | 2999 | 2977 | 2974 | 2960 | 286 |
| 15° | 2897 | 2880 | 2749 | 2658 | 2626 | 819 |
| 25° | 2638 | 2481 | 2311 | 2230 | 2194 | 1211 |
| 35° | 2029 | 1914 | 1755 | 1676 | 1648 | 1248 |
| 45° | 1088 | 1116 | 1092 | 1208 | 1192 | 860 |
| 55° | 613 | 547 | 660 | 945 | 1209 | 551 |
| 65° | 302 | 297 | 436 | 958 | 1181 | 307 |
| 75° | 150 | 238 | 413 | 816 | 784 | 164 |
| 85° | 62 | 121 | 334 | 512 | 531 | 58 |
| 90° | 2 | 72 | 283 | 402 | 406 | 5 |
| 95° | 2 | 65 | 248 | 319 | 310 | 2 |
| 105° | 2 | 59 | 180 | 249 | 243 | 2 |
| 115° | 2 | 50 | 119 | 214 | 225 | 2 |
| 125° | 2 | 45 | 84 | 172 | 200 | 2 |
| 135° | 3 | 36 | 57 | 108 | 135 | 2 |
| 145° | 3 | 25 | 40 | 66 | 83 | 2 |
| 155° | 3 | 14 | 25 | 30 | 40 | 1 |
| 165° | 4 | 5 | 9 | 3 | 6 | 1 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P231985

CATALOG NUMBER: FVS4M-4-LD4-35-2STD-P125-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 3004.4 | 3004.4 | 3004.4 | 3004.4 | 3004.4 |
| 2.5° | 3017.2 | 3010.0 | 2989.8 | 2993.1 | 2981.8 |
| 5° | 3005.2 | 2998.7 | 2976.9 | 2973.7 | 2960.0 |
| 7.5° | 2999.5 | 2985.8 | 2961.6 | 2951.1 | 2939.9 |
| 10° | 2971.3 | 2956.0 | 2919.7 | 2876.2 | 2852.0 |
| 12.5° | 2951.1 | 2929.4 | 2860.1 | 2771.4 | 2735.1 |
| 15° | 2897.1 | 2880.2 | 2748.8 | 2658.5 | 2626.3 |
| 17.5° | 2856.0 | 2806.1 | 2632.7 | 2567.4 | 2536.0 |
| 20° | 2797.2 | 2713.3 | 2542.5 | 2457.0 | 2405.4 |
| 22.5° | 2723.8 | 2591.6 | 2428.8 | 2345.8 | 2301.4 |
| 25° | 2637.6 | 2481.2 | 2311.1 | 2229.7 | 2194.2 |
| 27.5° | 2543.3 | 2349.0 | 2181.3 | 2108.8 | 2075.7 |
| 30° | 2416.7 | 2225.7 | 2053.1 | 1988.7 | 1966.1 |
| 32.5° | 2250.6 | 2074.1 | 1916.1 | 1853.2 | 1823.4 |
| 35° | 2029.0 | 1914.5 | 1754.9 | 1675.9 | 1647.7 |
| 37.5° | 1782.3 | 1735.5 | 1567.9 | 1532.4 | 1500.2 |
| 40° | 1497.7 | 1520.3 | 1381.7 | 1394.6 | 1391.3 |
| 42.5° | 1277.7 | 1309.1 | 1225.3 | 1308.3 | 1276.9 |
| 45° | 1088.2 | 1115.6 | 1092.3 | 1208.4 | 1192.2 |
| 47.5° | 946.4 | 948.0 | 969.7 | 1115.6 | 1145.5 |
| 50° | 829.5 | 794.0 | 842.4 | 1034.2 | 1157.6 |
| 52.5° | 723.9 | 657.0 | 741.6 | 982.6 | 1194.6 |
| 55° | 612.6 | 547.3 | 660.2 | 944.8 | 1209.2 |
| 57.5° | 507.8 | 452.2 | 581.2 | 922.2 | 1206.7 |
| 60° | 426.4 | 381.3 | 517.5 | 914.1 | 1201.9 |
| 62.5° | 356.3 | 335.3 | 468.3 | 932.7 | 1225.3 |
| 65° | 302.3 | 296.6 | 436.1 | 958.5 | 1180.9 |
| 67.5° | 260.4 | 273.3 | 420.8 | 991.5 | 1071.3 |
| 70° | 221.7 | 260.4 | 418.4 | 968.1 | 965.7 |
| 72.5° | 181.4 | 251.5 | 418.4 | 894.8 | 877.0 |
| 75° | 149.9 | 237.8 | 412.7 | 815.8 | 783.5 |
| 77.5° | 125.8 | 212.0 | 395.8 | 740.0 | 714.2 |
| 80° | 107.2 | 180.6 | 376.5 | 661.0 | 644.1 |
| 82.5° | 83.8 | 149.9 | 353.9 | 581.2 | 581.2 |
| 85° | 62.1 | 120.9 | 333.7 | 511.9 | 531.2 |
| 87.5° | 30.6 | 95.1 | 307.9 | 452.2 | 470.0 |
| 90° | 2.4 | 72.5 | 282.9 | 402.2 | 406.3 |
| 92.5° | 1.6 | 66.9 | 265.2 | 357.9 | 347.4 |
| 95° | 2.4 | 65.3 | 247.5 | 319.2 | 310.4 |
| 97.5° | 2.4 | 63.7 | 231.4 | 291.0 | 282.1 |
| 100° | 1.6 | 62.1 | 214.4 | 272.5 | 259.6 |
| 102.5° | 2.4 | 60.5 | 199.1 | 260.4 | 248.3 |
| 105° | 2.4 | 58.8 | 179.8 | 249.1 | 243.4 |
| 107.5° | 2.4 | 56.4 | 161.2 | 240.2 | 239.4 |
| 110° | 2.4 | 54.0 | 145.9 | 228.9 | 236.2 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-------|-------|-------|
| 112.5° | 2.4 | 52.4 | 130.6 | 218.5 | 233.0 |
| 115° | 2.4 | 50.0 | 119.3 | 214.4 | 224.9 |
| 117.5° | 2.4 | 48.4 | 110.4 | 213.6 | 217.6 |
| 120° | 2.4 | 47.6 | 100.8 | 204.8 | 210.4 |
| 122.5° | 2.4 | 46.8 | 91.9 | 190.2 | 208.0 |
| 125° | 2.4 | 45.1 | 83.8 | 171.7 | 199.9 |
| 127.5° | 2.4 | 43.5 | 76.6 | 154.8 | 180.6 |
| 130° | 2.4 | 40.3 | 69.3 | 137.8 | 162.8 |
| 132.5° | 2.4 | 37.9 | 62.9 | 120.1 | 148.3 |
| 135° | 3.2 | 35.5 | 57.2 | 108.0 | 135.4 |
| 137.5° | 3.2 | 33.1 | 50.8 | 95.9 | 122.5 |
| 140° | 3.2 | 29.8 | 46.8 | 85.4 | 108.0 |
| 142.5° | 3.2 | 27.4 | 42.7 | 75.8 | 96.7 |
| 145° | 3.2 | 25.0 | 39.5 | 66.1 | 83.0 |
| 147.5° | 3.2 | 22.6 | 37.1 | 58.0 | 70.9 |
| 150° | 3.2 | 19.3 | 33.1 | 48.4 | 59.7 |
| 152.5° | 3.2 | 16.1 | 29.8 | 38.7 | 48.4 |
| 155° | 3.2 | 13.7 | 25.0 | 29.8 | 39.5 |
| 157.5° | 3.2 | 11.3 | 21.0 | 21.8 | 29.0 |
| 160° | 3.2 | 8.1 | 16.9 | 14.5 | 20.2 |
| 162.5° | 4.0 | 6.4 | 12.9 | 8.1 | 12.1 |
| 165° | 4.0 | 4.8 | 8.9 | 3.2 | 5.6 |
| 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)