

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: P580649

Luminaire Tested: **HVSL4-8-LD4-2LO-50-UNV-O-EDD-90**

Issue Date: 12/16/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P580649  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/16/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HVSL4-8-LD4-2LO-50-UNV-O-EDD-90  
Description: 8 FOOT, 4INCH WIDE, HVSL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

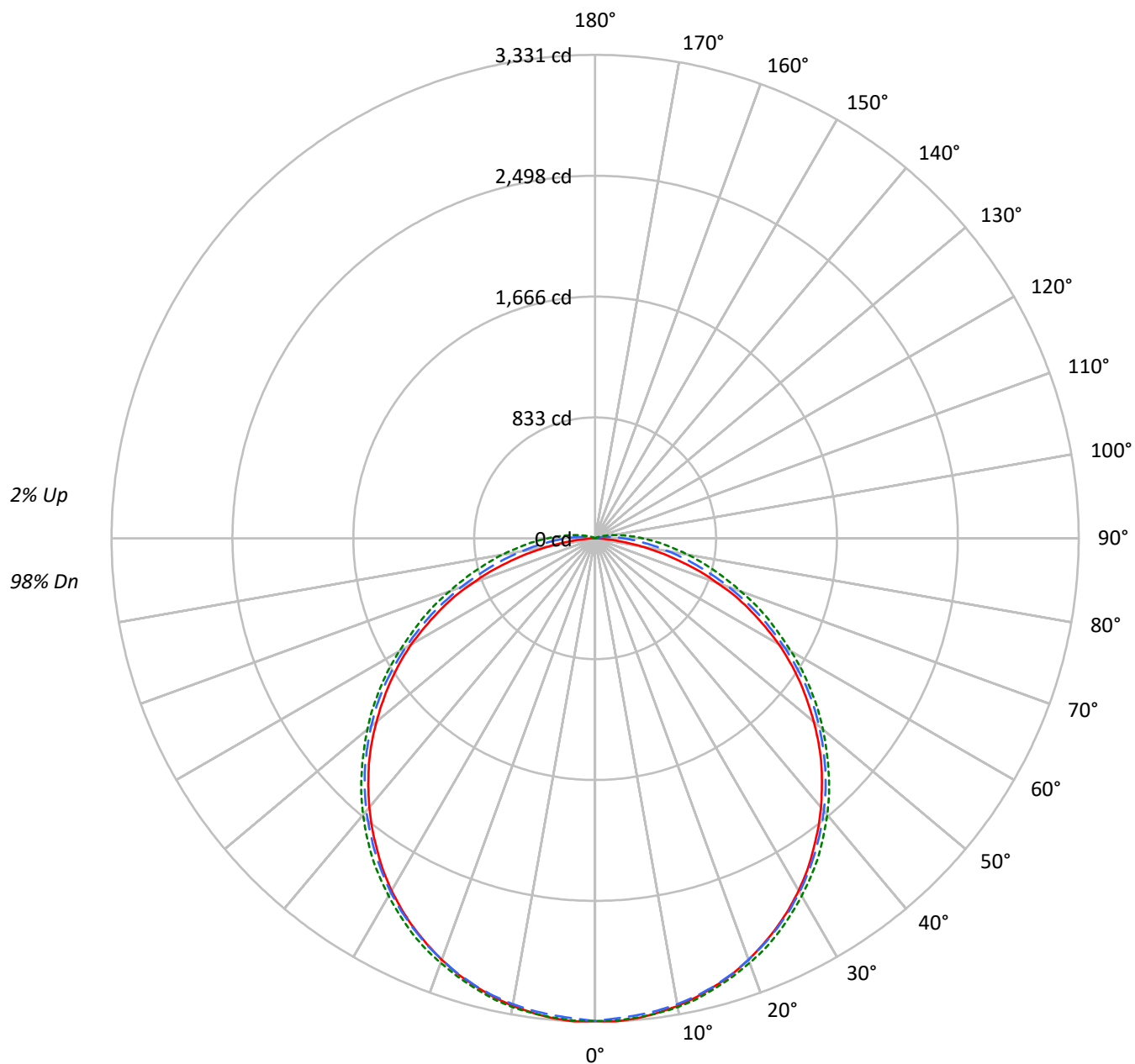
Lumens per Lamp: N/A  
Luminaire Lumens: 10060.0 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 8' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 92.4  
Input Voltage (V): NR  
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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 |    |    | 98 |
| 1   | 108 | 102 | 98  | 94  | 105 | 100 | 96  | 92  | 95  | 92  | 89  | 91  | 88  | 86  | 87  | 85  | 83  |    |    | 81 |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 80  | 75  | 83  | 77  | 73  | 79  | 75  | 71  | 76  | 72  | 69  |    |    | 67 |
| 3   | 89  | 78  | 69  | 63  | 86  | 76  | 68  | 62  | 73  | 66  | 61  | 70  | 64  | 59  | 67  | 62  | 58  |    |    | 56 |
| 4   | 81  | 69  | 60  | 53  | 79  | 67  | 59  | 52  | 65  | 57  | 52  | 62  | 56  | 51  | 60  | 54  | 50  |    |    | 47 |
| 5   | 75  | 61  | 52  | 45  | 72  | 60  | 52  | 45  | 58  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 43  |    |    | 41 |
| 6   | 69  | 55  | 46  | 40  | 67  | 54  | 46  | 39  | 52  | 45  | 39  | 50  | 44  | 38  | 49  | 43  | 38  |    |    | 36 |
| 7   | 64  | 50  | 41  | 35  | 62  | 49  | 41  | 35  | 47  | 40  | 34  | 46  | 39  | 34  | 44  | 38  | 34  |    |    | 32 |
| 8   | 59  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 43  | 36  | 31  | 42  | 35  | 30  | 41  | 35  | 30  |    |    | 28 |
| 9   | 55  | 42  | 34  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 27  | 38  | 32  | 27  |    |    | 25 |
| 10  | 52  | 39  | 31  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 25  | 35  | 29  | 25  |    |    | 23 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13430 | 13430 | 13430 |
| 5°  | 13429 | 12950 | 12868 |
| 10° | 13363 | 12549 | 12358 |
| 15° | 13273 | 12136 | 11822 |
| 20° | 13175 | 11702 | 11313 |
| 25° | 13054 | 11269 | 10815 |
| 30° | 12911 | 10823 | 10292 |
| 35° | 12724 | 10351 | 9781  |
| 40° | 12531 | 9866  | 9229  |
| 45° | 12325 | 9352  | 8656  |
| 50° | 12049 | 8783  | 8061  |
| 55° | 11755 | 8174  | 7432  |
| 60° | 11404 | 7438  | 6738  |
| 65° | 10806 | 6638  | 6055  |
| 70° | 9929  | 5737  | 5303  |
| 75° | 8661  | 4780  | 4600  |
| 80° | 6719  | 3848  | 3931  |
| 85° | 3871  | 2921  | 3262  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 314.9   | 3.1       |
| 10°-20°   | 903.2   | 9.0       |
| 20°-30°   | 1370.4  | 13.6      |
| 30°-40°   | 1657.0  | 16.5      |
| 40°-50°   | 1729.0  | 17.2      |
| 50°-60°   | 1580.8  | 15.7      |
| 60°-70°   | 1232.3  | 12.2      |
| 70°-80°   | 770.9   | 7.7       |
| 80°-90°   | 350.1   | 3.5       |
| 90°-100°  | 117.3   | 1.2       |
| 100°-110° | 29.5    | 0.3       |
| 110°-120° | 4.6     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| <hr/>     |         |           |
| 0°-30°    | 2588.4  | 25.7      |
| 0°-40°    | 4245.4  | 42.2      |
| 0°-60°    | 7555.2  | 75.1      |
| 0°-90°    | 9908.6  | 98.5      |
| 90°-120°  | 151.5   | 1.5       |
| 90°-150°  | 151.5   | 1.5       |
| 90°-180°  | 151.0   | 1.5       |
| 0°-180°   | 10060.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 3327 | 3327  | 3327 | 3327  | 3327 |      |
| 5°   | 3320 | 3314  | 3299 | 3315  | 3315 | 315  |
| 15°  | 3194 | 3199  | 3191 | 3209  | 3208 | 902  |
| 25°  | 2959 | 2962  | 2965 | 2990  | 2995 | 1364 |
| 35°  | 2620 | 2632  | 2642 | 2669  | 2680 | 1640 |
| 45°  | 2204 | 2224  | 2242 | 2264  | 2275 | 1698 |
| 55°  | 1720 | 1740  | 1773 | 1798  | 1810 | 1537 |
| 65°  | 1182 | 1202  | 1244 | 1293  | 1314 | 1170 |
| 75°  | 598  | 635   | 728  | 815   | 846  | 638  |
| 85°  | 104  | 191   | 329  | 434   | 473  | 131  |
| 90°  | 1    | 71    | 194  | 291   | 326  | 4    |
| 95°  | 1    | 19    | 100  | 182   | 210  | 1    |
| 105° | 2    | 2     | 16   | 49    | 65   | 2    |
| 115° | 2    | 2     | 3    | 9     | 12   | 2    |
| 125° | 0    | 0     | 0    | 0     | 0    | 0    |
| 135° | 0    | 0     | 0    | 0     | 0    | 0    |
| 145° | 0    | 0     | 0    | 0     | 0    | 0    |
| 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 3327.2 | 3327.2 | 3327.2 | 3327.2 | 3327.2 |
| 2.5°   | 3331.2 | 3326.5 | 3311.6 | 3326.5 | 3325.7 |
| 5°     | 3320.2 | 3313.9 | 3299.0 | 3314.7 | 3314.7 |
| 7.5°   | 3298.2 | 3295.9 | 3282.5 | 3300.6 | 3300.6 |
| 10°    | 3272.3 | 3271.6 | 3260.6 | 3280.2 | 3281.0 |
| 12.5°  | 3236.3 | 3239.4 | 3229.2 | 3248.0 | 3250.4 |
| 15°    | 3193.9 | 3199.4 | 3190.8 | 3208.8 | 3208.0 |
| 17.5°  | 3147.6 | 3150.8 | 3144.5 | 3164.9 | 3164.1 |
| 20°    | 3090.4 | 3094.3 | 3089.6 | 3110.8 | 3113.1 |
| 22.5°  | 3026.8 | 3032.3 | 3031.5 | 3053.5 | 3059.8 |
| 25°    | 2959.4 | 2961.7 | 2964.9 | 2990.0 | 2994.7 |
| 27.5°  | 2884.9 | 2888.8 | 2894.3 | 2917.0 | 2921.7 |
| 30°    | 2803.3 | 2809.6 | 2815.8 | 2839.4 | 2845.6 |
| 32.5°  | 2717.0 | 2723.3 | 2731.1 | 2761.7 | 2764.9 |
| 35°    | 2619.8 | 2631.5 | 2642.5 | 2669.2 | 2680.1 |
| 37.5°  | 2522.5 | 2537.4 | 2547.6 | 2575.8 | 2584.5 |
| 40°    | 2419.7 | 2434.6 | 2451.1 | 2480.9 | 2486.4 |
| 42.5°  | 2312.3 | 2329.5 | 2349.1 | 2375.8 | 2385.2 |
| 45°    | 2204.0 | 2223.7 | 2241.7 | 2263.7 | 2274.6 |
| 47.5°  | 2087.2 | 2106.8 | 2128.7 | 2153.8 | 2160.9 |
| 50°    | 1966.4 | 1989.1 | 2012.7 | 2036.2 | 2048.7 |
| 52.5°  | 1842.5 | 1869.9 | 1896.6 | 1921.7 | 1933.4 |
| 55°    | 1720.1 | 1740.5 | 1772.6 | 1798.5 | 1810.3 |
| 57.5°  | 1593.0 | 1610.3 | 1639.3 | 1681.7 | 1687.9 |
| 60°    | 1463.6 | 1479.3 | 1509.1 | 1543.6 | 1557.7 |
| 62.5°  | 1320.9 | 1342.0 | 1373.4 | 1417.3 | 1429.9 |
| 65°    | 1182.0 | 1202.4 | 1244.0 | 1293.4 | 1313.8 |
| 67.5°  | 1047.9 | 1055.0 | 1108.3 | 1160.1 | 1193.0 |
| 70°    | 889.5  | 916.1  | 978.1  | 1041.6 | 1066.7 |
| 72.5°  | 753.0  | 779.7  | 847.9  | 922.4  | 953.8  |
| 75°    | 598.5  | 635.3  | 727.9  | 814.9  | 845.5  |
| 77.5°  | 462.8  | 503.6  | 618.1  | 705.9  | 741.2  |
| 80°    | 323.2  | 386.7  | 511.4  | 610.2  | 648.7  |
| 82.5°  | 203.1  | 281.6  | 414.9  | 518.5  | 552.2  |
| 85°    | 103.5  | 191.4  | 328.6  | 434.5  | 473.0  |
| 87.5°  | 27.5   | 123.9  | 255.7  | 356.9  | 396.1  |
| 90°    | 0.8    | 71.4   | 193.7  | 291.0  | 326.3  |
| 92.5°  | 0.8    | 40.0   | 144.3  | 231.4  | 267.5  |
| 95°    | 0.8    | 18.8   | 100.4  | 182.0  | 210.2  |
| 97.5°  | 0.8    | 7.8    | 69.0   | 137.3  | 165.5  |
| 100°   | 0.8    | 3.9    | 43.9   | 99.6   | 123.9  |
| 102.5° | 1.6    | 2.4    | 27.5   | 71.4   | 91.0   |
| 105°   | 1.6    | 2.4    | 16.5   | 48.6   | 65.1   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90°  |
|--------|-----|-------|-----|-------|------|
| 112.5° | 2.4 | 2.4   | 3.1 | 13.3  | 19.6 |
| 115°   | 2.4 | 2.4   | 3.1 | 8.6   | 12.5 |
| 117.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 120°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 122.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 125°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 127.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 130°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 132.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 135°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 137.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 140°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 142.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 145°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 147.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 150°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 152.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 155°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 157.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 160°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 162.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0  |
| 165°   | 0.0 | 0.0   | 0.0 | 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  |



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180°    - - 45°-225°    - - - 90°-270°







|        |     |     |     |      |      |
|--------|-----|-----|-----|------|------|
| 107.5° | 1.6 | 2.4 | 9.4 | 32.9 | 44.7 |
| 110°   | 2.4 | 2.4 | 5.5 | 20.4 | 29.8 |



(END OF REPORT)