

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: P580554

Luminaire Tested: **HVSL4-3-LD4-2LO-50-UNV-O-EDD**

Issue Date: 12/16/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P580554  
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: HVSL4-3-LD4-2LO-50-UNV-O-EDD  
Description: 3 FOOT, 4INCH WIDE, HVSL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

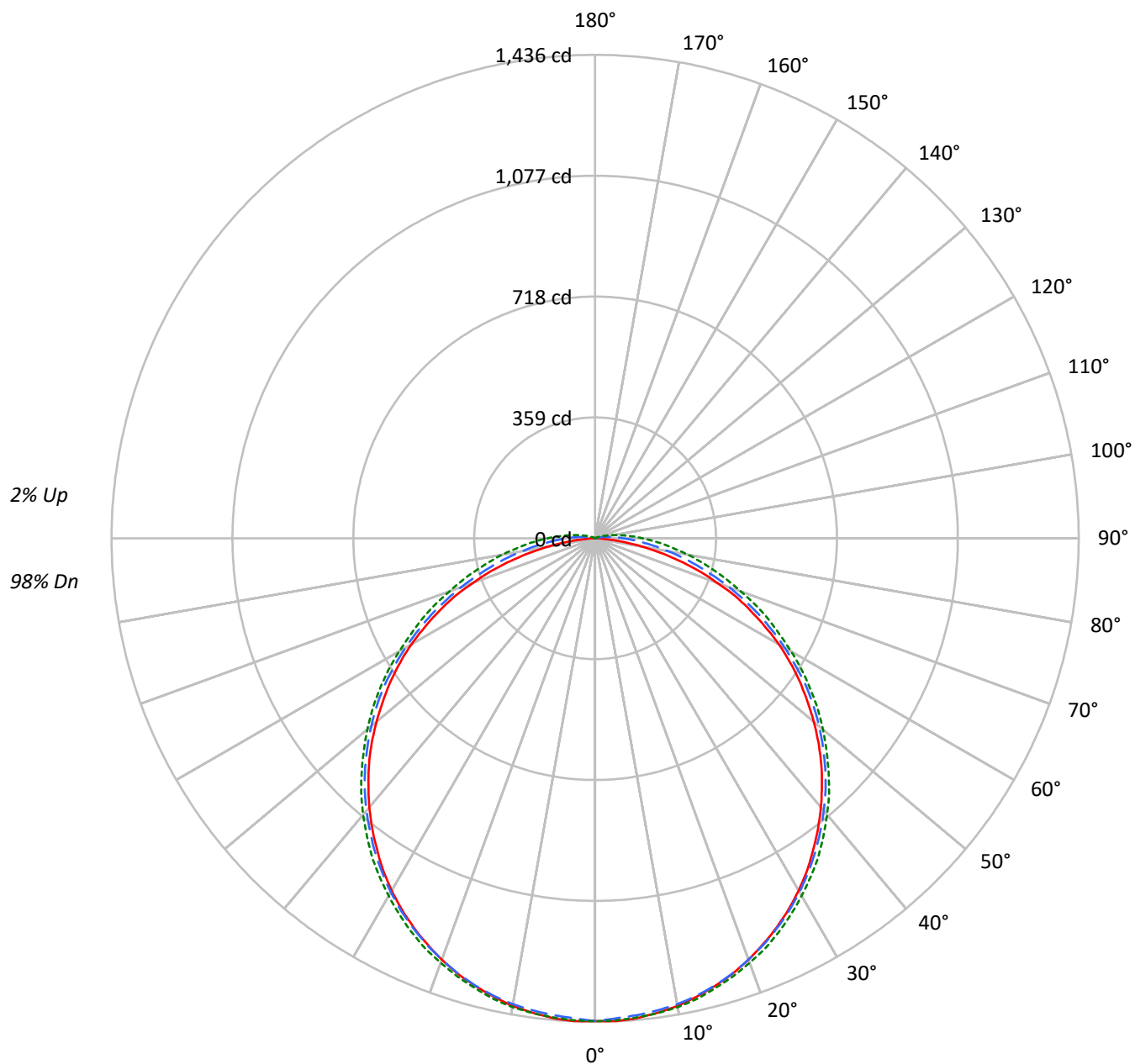
Lumens per Lamp: N/A  
Luminaire Lumens: 4336.0 lumens  
Efficiency: N/A  
Efficacy: 125.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 3' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 34.7  
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°  | 15437 | 15437 | 15437 |
| 5°  | 15387 | 14853 | 14790 |
| 10° | 15266 | 14366 | 14204 |
| 15° | 15115 | 13866 | 13588 |
| 20° | 14955 | 13346 | 13003 |
| 25° | 14766 | 12827 | 12430 |
| 30° | 14551 | 12296 | 11829 |
| 35° | 14281 | 11738 | 11243 |
| 40° | 14001 | 11164 | 10608 |
| 45° | 13700 | 10559 | 9949  |
| 50° | 13311 | 9894  | 9265  |
| 55° | 12890 | 9184  | 8542  |
| 60° | 12388 | 8332  | 7745  |
| 65° | 11595 | 7412  | 6960  |
| 70° | 10468 | 6380  | 6095  |
| 75° | 8883  | 5290  | 5287  |
| 80° | 6566  | 4232  | 4518  |
| 85° | 3369  | 3187  | 3749  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 135.7  | 3.1       |
| 10°-20°   | 389.3  | 9.0       |
| 20°-30°   | 590.7  | 13.6      |
| 30°-40°   | 714.2  | 16.5      |
| 40°-50°   | 745.2  | 17.2      |
| 50°-60°   | 681.3  | 15.7      |
| 60°-70°   | 531.2  | 12.2      |
| 70°-80°   | 332.3  | 7.7       |
| 80°-90°   | 150.9  | 3.5       |
| 90°-100°  | 50.6   | 1.2       |
| 100°-110° | 12.7   | 0.3       |
| 110°-120° | 2.0    | 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       |
| 0°-30°    | 1115.6 | 25.7      |
| 0°-40°    | 1829.8 | 42.2      |
| 0°-60°    | 3256.4 | 75.1      |
| 0°-90°    | 4270.7 | 98.5      |
| 90°-120°  | 65.3   | 1.5       |
| 90°-150°  | 65.3   | 1.5       |
| 90°-180°  | 65.0   | 1.5       |
| 0°-180°   | 4336.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1434 | 1434  | 1434 | 1434  | 1434 |      |
| 5°   | 1431 | 1428  | 1422 | 1429  | 1429 | 136  |
| 15°  | 1377 | 1379  | 1375 | 1383  | 1383 | 389  |
| 25°  | 1276 | 1276  | 1278 | 1289  | 1291 | 588  |
| 35°  | 1129 | 1134  | 1139 | 1150  | 1155 | 707  |
| 45°  | 950  | 958   | 966  | 976   | 980  | 732  |
| 55°  | 741  | 750   | 764  | 775   | 780  | 662  |
| 65°  | 510  | 518   | 536  | 558   | 566  | 504  |
| 75°  | 258  | 274   | 314  | 351   | 364  | 275  |
| 85°  | 45   | 82    | 142  | 187   | 204  | 56   |
| 90°  | 0    | 31    | 84   | 125   | 141  | 2    |
| 95°  | 0    | 8     | 43   | 78    | 91   | 0    |
| 105° | 1    | 1     | 7    | 21    | 28   | 1    |
| 115° | 1    | 1     | 1    | 4     | 5    | 1    |
| 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    |      |



TEST NUMBER: P580554

CATALOG NUMBER: HVSL4-3-LD4-2LO-50-UNV-O-EDD

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1434.1 | 1434.1 | 1434.1 | 1434.1 | 1434.1 |
| 2.5°   | 1435.8 | 1433.7 | 1427.3 | 1433.7 | 1433.4 |
| 5°     | 1431.0 | 1428.3 | 1421.9 | 1428.7 | 1428.7 |
| 7.5°   | 1421.6 | 1420.6 | 1414.8 | 1422.6 | 1422.6 |
| 10°    | 1410.4 | 1410.1 | 1405.4 | 1413.8 | 1414.1 |
| 12.5°  | 1394.9 | 1396.2 | 1391.8 | 1399.9 | 1401.0 |
| 15°    | 1376.6 | 1379.0 | 1375.3 | 1383.0 | 1382.7 |
| 17.5°  | 1356.7 | 1358.0 | 1355.3 | 1364.1 | 1363.8 |
| 20°    | 1332.0 | 1333.7 | 1331.7 | 1340.8 | 1341.8 |
| 22.5°  | 1304.6 | 1307.0 | 1306.6 | 1316.1 | 1318.8 |
| 25°    | 1275.5 | 1276.5 | 1277.9 | 1288.7 | 1290.7 |
| 27.5°  | 1243.4 | 1245.1 | 1247.5 | 1257.3 | 1259.3 |
| 30°    | 1208.3 | 1211.0 | 1213.7 | 1223.8 | 1226.5 |
| 32.5°  | 1171.1 | 1173.8 | 1177.2 | 1190.3 | 1191.7 |
| 35°    | 1129.1 | 1134.2 | 1139.0 | 1150.4 | 1155.2 |
| 37.5°  | 1087.2 | 1093.7 | 1098.0 | 1110.2 | 1113.9 |
| 40°    | 1042.9 | 1049.4 | 1056.5 | 1069.3 | 1071.7 |
| 42.5°  | 996.6  | 1004.1 | 1012.5 | 1024.0 | 1028.1 |
| 45°    | 950.0  | 958.4  | 966.2  | 975.7  | 980.4  |
| 47.5°  | 899.6  | 908.1  | 917.5  | 928.3  | 931.4  |
| 50°    | 847.5  | 857.3  | 867.5  | 877.6  | 883.0  |
| 52.5°  | 794.1  | 806.0  | 817.4  | 828.3  | 833.3  |
| 55°    | 741.4  | 750.2  | 764.0  | 775.2  | 780.3  |
| 57.5°  | 686.6  | 694.1  | 706.6  | 724.8  | 727.5  |
| 60°    | 630.8  | 637.6  | 650.4  | 665.3  | 671.4  |
| 62.5°  | 569.3  | 578.4  | 592.0  | 610.9  | 616.3  |
| 65°    | 509.5  | 518.3  | 536.2  | 557.5  | 566.3  |
| 67.5°  | 451.7  | 454.7  | 477.7  | 500.0  | 514.2  |
| 70°    | 383.4  | 394.9  | 421.6  | 449.0  | 459.8  |
| 72.5°  | 324.5  | 336.0  | 365.5  | 397.6  | 411.1  |
| 75°    | 257.9  | 273.8  | 313.7  | 351.3  | 364.4  |
| 77.5°  | 199.5  | 217.0  | 266.4  | 304.3  | 319.5  |
| 80°    | 139.3  | 166.7  | 220.4  | 263.0  | 279.6  |
| 82.5°  | 87.6   | 121.4  | 178.8  | 223.5  | 238.0  |
| 85°    | 44.6   | 82.5   | 141.7  | 187.3  | 203.9  |
| 87.5°  | 11.8   | 53.4   | 110.2  | 153.8  | 170.7  |
| 90°    | 0.3    | 30.8   | 83.5   | 125.4  | 140.6  |
| 92.5°  | 0.3    | 17.2   | 62.2   | 99.7   | 115.3  |
| 95°    | 0.3    | 8.1    | 43.3   | 78.4   | 90.6   |
| 97.5°  | 0.3    | 3.4    | 29.8   | 59.2   | 71.3   |
| 100°   | 0.3    | 1.7    | 18.9   | 42.9   | 53.4   |
| 102.5° | 0.7    | 1.0    | 11.8   | 30.8   | 39.2   |
| 105°   | 0.7    | 1.0    | 7.1    | 21.0   | 28.1   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 1.0 | 1.0   | 1.4 | 5.7   | 8.5 |
| 115°   | 1.0 | 1.0   | 1.4 | 3.7   | 5.4 |
| 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° | 0.7 | 1.0 | 4.1 | 14.2 | 19.3 |
| 110°   | 1.0 | 1.0 | 2.4 | 8.8  | 12.8 |



(END OF REPORT)