

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: P580548

Luminaire Tested: **HVSL4-3-LD4-2LO-30-UNV-O-EDD**

Issue Date: 12/16/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P580548  
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-30-UNV-O-EDD  
Description: 3 FOOT, 4INCH WIDE, HVSL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

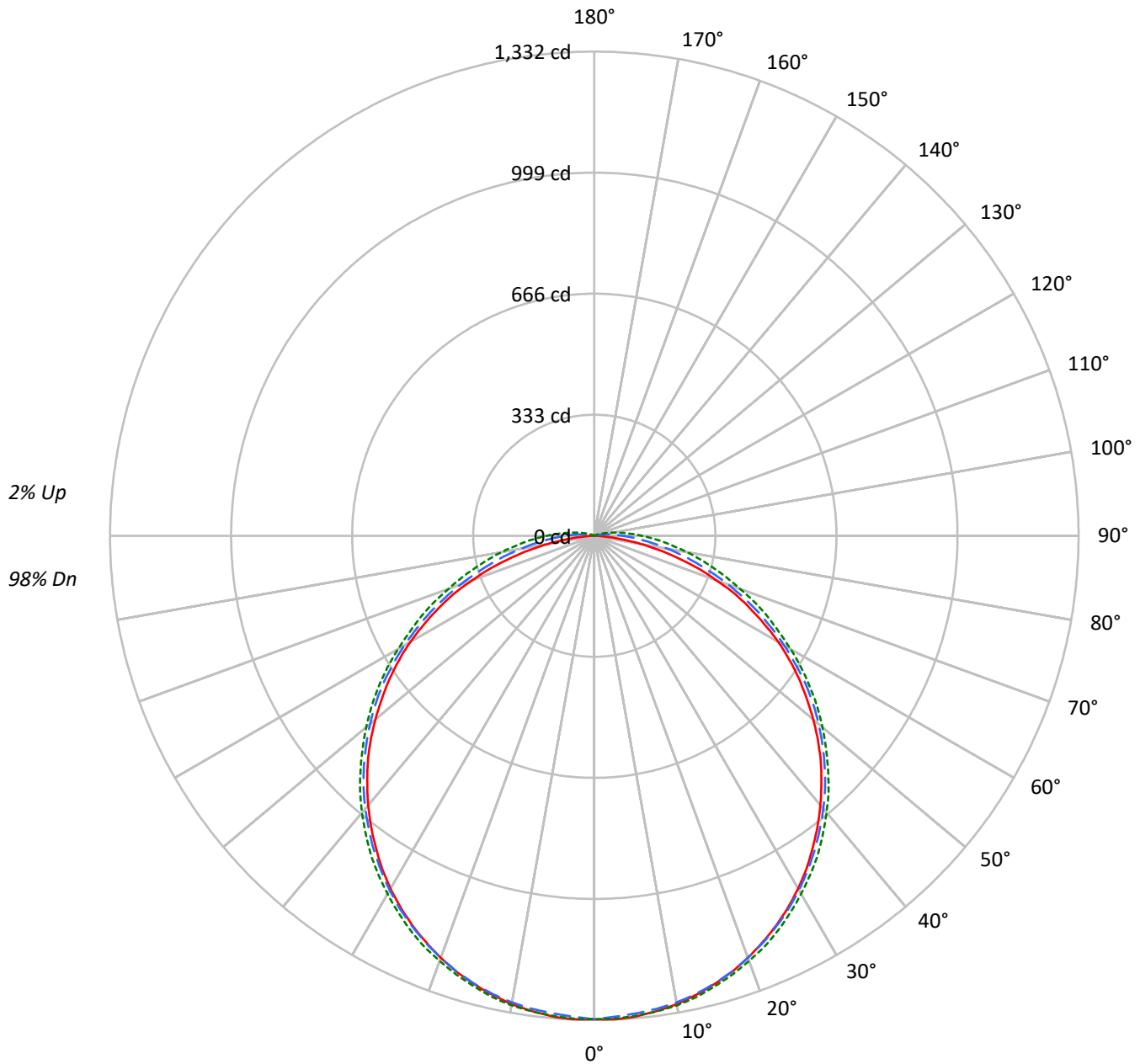
Lumens per Lamp: N/A  
Luminaire Lumens: 4022.0 lumens  
Efficiency: N/A  
Efficacy: 115.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 3' x H: 0.17')  
CIE Type: Direct

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°  | 14318 | 14318 | 14318 |
| 5°  | 14273 | 13777 | 13719 |
| 10° | 14161 | 13325 | 13175 |
| 15° | 14021 | 12862 | 12604 |
| 20° | 13872 | 12379 | 12061 |
| 25° | 13698 | 11899 | 11531 |
| 30° | 13498 | 11405 | 10972 |
| 35° | 13248 | 10887 | 10428 |
| 40° | 12988 | 10356 | 9839  |
| 45° | 12708 | 9794  | 9228  |
| 50° | 12348 | 9178  | 8594  |
| 55° | 11957 | 8519  | 7924  |
| 60° | 11492 | 7728  | 7184  |
| 65° | 10755 | 6874  | 6456  |
| 70° | 9709  | 5917  | 5654  |
| 75° | 8243  | 4907  | 4904  |
| 80° | 6090  | 3927  | 4190  |
| 85° | 3127  | 2955  | 3477  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 125.9  | 3.1       |
| 10°-20°   | 361.1  | 9.0       |
| 20°-30°   | 547.9  | 13.6      |
| 30°-40°   | 662.5  | 16.5      |
| 40°-50°   | 691.3  | 17.2      |
| 50°-60°   | 632.0  | 15.7      |
| 60°-70°   | 492.7  | 12.2      |
| 70°-80°   | 308.2  | 7.7       |
| 80°-90°   | 140.0  | 3.5       |
| 90°-100°  | 46.9   | 1.2       |
| 100°-110° | 11.8   | 0.3       |
| 110°-120° | 1.8    | 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°    | 1034.8 | 25.7      |
| 0°-40°    | 1697.3 | 42.2      |
| 0°-60°    | 3020.6 | 75.1      |
| 0°-90°    | 3961.5 | 98.5      |
| 90°-120°  | 60.5   | 1.5       |
| 90°-150°  | 60.5   | 1.5       |
| 90°-180°  | 61.0   | 1.5       |
| 0°-180°   | 4022.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1330 | 1330  | 1330 | 1330  | 1330 |      |
| 5°   | 1327 | 1325  | 1319 | 1325  | 1325 | 126  |
| 15°  | 1277 | 1279  | 1276 | 1283  | 1283 | 360  |
| 25°  | 1183 | 1184  | 1185 | 1195  | 1197 | 545  |
| 35°  | 1047 | 1052  | 1056 | 1067  | 1072 | 656  |
| 45°  | 881  | 889   | 896  | 905   | 909  | 679  |
| 55°  | 688  | 696   | 709  | 719   | 724  | 614  |
| 65°  | 473  | 481   | 497  | 517   | 525  | 468  |
| 75°  | 239  | 254   | 291  | 326   | 338  | 255  |
| 85°  | 41   | 76    | 131  | 174   | 189  | 52   |
| 90°  | 0    | 28    | 78   | 116   | 130  | 2    |
| 95°  | 0    | 8     | 40   | 73    | 84   | 0    |
| 105° | 1    | 1     | 7    | 19    | 26   | 1    |
| 115° | 1    | 1     | 1    | 3     | 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: P580548

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1330.2 | 1330.2 | 1330.2 | 1330.2 | 1330.2 |
| 2.5°   | 1331.8 | 1329.9 | 1324.0 | 1329.9 | 1329.6 |
| 5°     | 1327.4 | 1324.9 | 1318.9 | 1325.2 | 1325.2 |
| 7.5°   | 1318.6 | 1317.7 | 1312.4 | 1319.6 | 1319.6 |
| 10°    | 1308.3 | 1308.0 | 1303.6 | 1311.4 | 1311.7 |
| 12.5°  | 1293.9 | 1295.1 | 1291.0 | 1298.6 | 1299.5 |
| 15°    | 1276.9 | 1279.1 | 1275.7 | 1282.9 | 1282.6 |
| 17.5°  | 1258.4 | 1259.7 | 1257.2 | 1265.3 | 1265.0 |
| 20°    | 1235.5 | 1237.1 | 1235.2 | 1243.7 | 1244.6 |
| 22.5°  | 1210.1 | 1212.3 | 1212.0 | 1220.8 | 1223.3 |
| 25°    | 1183.2 | 1184.1 | 1185.4 | 1195.4 | 1197.3 |
| 27.5°  | 1153.4 | 1154.9 | 1157.1 | 1166.2 | 1168.1 |
| 30°    | 1120.8 | 1123.3 | 1125.8 | 1135.2 | 1137.7 |
| 32.5°  | 1086.3 | 1088.8 | 1091.9 | 1104.1 | 1105.4 |
| 35°    | 1047.4 | 1052.1 | 1056.5 | 1067.1 | 1071.5 |
| 37.5°  | 1008.5 | 1014.5 | 1018.5 | 1029.8 | 1033.3 |
| 40°    | 967.4  | 973.4  | 980.0  | 991.9  | 994.1  |
| 42.5°  | 924.5  | 931.4  | 939.2  | 949.9  | 953.6  |
| 45°    | 881.2  | 889.0  | 896.2  | 905.0  | 909.4  |
| 47.5°  | 834.5  | 842.3  | 851.1  | 861.1  | 863.9  |
| 50°    | 786.2  | 795.3  | 804.7  | 814.1  | 819.1  |
| 52.5°  | 736.6  | 747.6  | 758.3  | 768.3  | 773.0  |
| 55°    | 687.7  | 695.8  | 708.7  | 719.1  | 723.8  |
| 57.5°  | 636.9  | 643.8  | 655.4  | 672.3  | 674.8  |
| 60°    | 585.2  | 591.4  | 603.3  | 617.1  | 622.8  |
| 62.5°  | 528.1  | 536.5  | 549.1  | 566.7  | 571.7  |
| 65°    | 472.6  | 480.7  | 497.3  | 517.1  | 525.3  |
| 67.5°  | 419.0  | 421.8  | 443.1  | 463.8  | 477.0  |
| 70°    | 355.6  | 366.3  | 391.0  | 416.4  | 426.5  |
| 72.5°  | 301.0  | 311.7  | 339.0  | 368.8  | 381.3  |
| 75°    | 239.3  | 254.0  | 291.0  | 325.8  | 338.0  |
| 77.5°  | 185.0  | 201.3  | 247.1  | 282.2  | 296.3  |
| 80°    | 129.2  | 154.6  | 204.5  | 244.0  | 259.3  |
| 82.5°  | 81.2   | 112.6  | 165.9  | 207.3  | 220.8  |
| 85°    | 41.4   | 76.5   | 131.4  | 173.7  | 189.1  |
| 87.5°  | 11.0   | 49.5   | 102.2  | 142.7  | 158.4  |
| 90°    | 0.3    | 28.5   | 77.5   | 116.3  | 130.5  |
| 92.5°  | 0.3    | 16.0   | 57.7   | 92.5   | 106.9  |
| 95°    | 0.3    | 7.5    | 40.1   | 72.8   | 84.0   |
| 97.5°  | 0.3    | 3.1    | 27.6   | 54.9   | 66.2   |
| 100°   | 0.3    | 1.6    | 17.6   | 39.8   | 49.5   |
| 102.5° | 0.6    | 0.9    | 11.0   | 28.5   | 36.4   |
| 105°   | 0.6    | 0.9    | 6.6    | 19.4   | 26.0   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.9 | 0.9   | 1.3 | 5.3   | 7.8 |
| 115°   | 0.9 | 0.9   | 1.3 | 3.4   | 5.0 |
| 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° | 0.6 | 0.9 | 3.8 | 13.2 | 17.9 |
| 110°   | 0.9 | 0.9 | 2.2 | 8.2  | 11.9 |



(END OF REPORT)