

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: P708772

Luminaire Tested: **22APR-38L830-X-UNV**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708772  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22APR-38L830-X-UNV  
Description: ArcMed Patient Recessed 2x2 Fixture AMBIENT Light  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

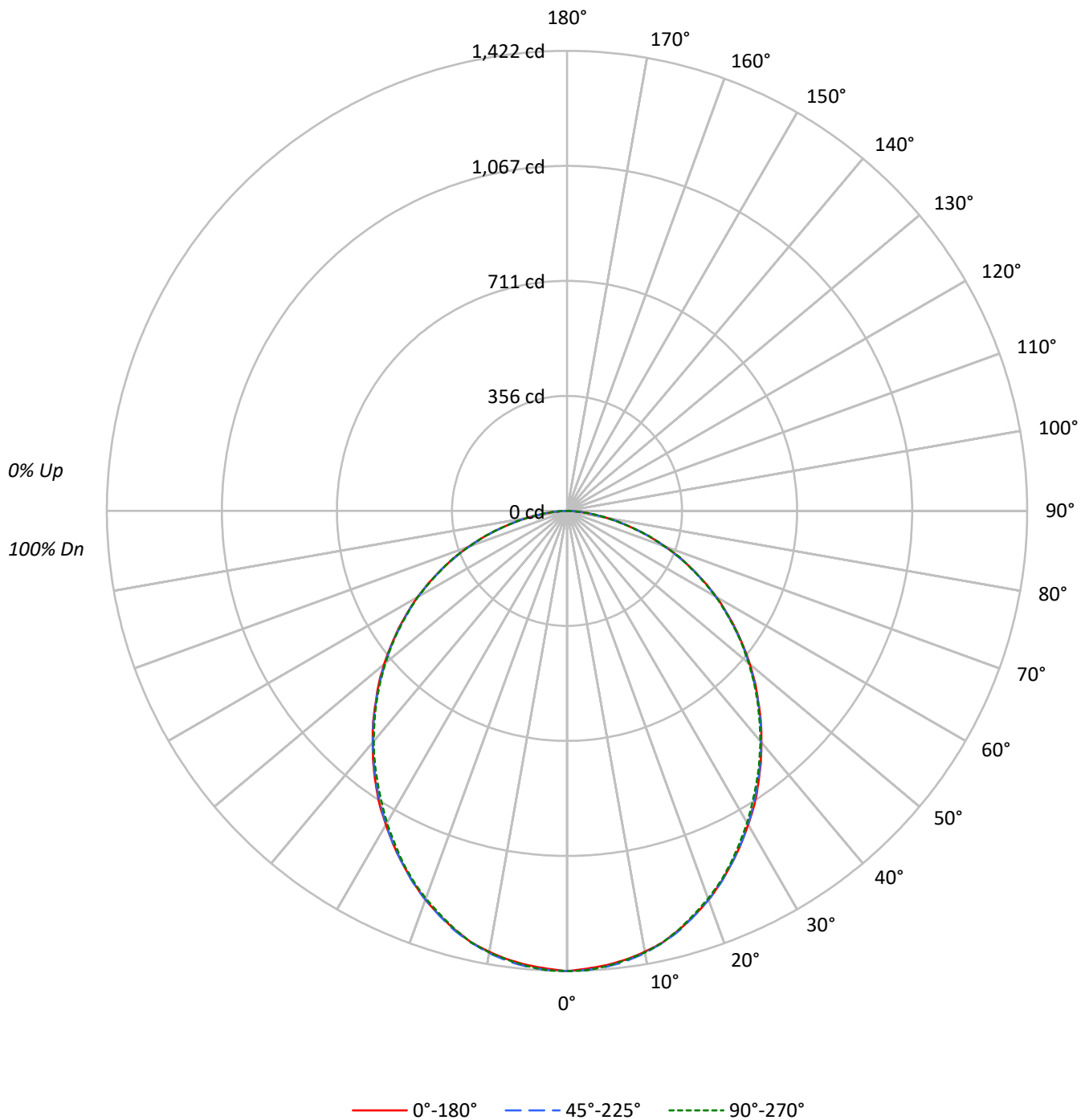
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3633.6 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.17 / 1.29  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 39  
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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  |  | 94  | 91  | 89  |  | 90  |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  |  | 83  | 78  | 74  |  | 80  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  |  | 73  | 68  | 63  |  | 71  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 68  | 61  | 55  |  | 65  | 59  | 54  |  | 63  |
| 5   | 77  | 64  | 55  | 49  | 75  | 63  | 54  | 48  | 61  | 53  | 48  |  | 59  | 52  | 47  |  | 57  |
| 6   | 71  | 58  | 49  | 43  | 69  | 57  | 48  | 42  | 55  | 47  | 42  |  | 53  | 47  | 42  |  | 52  |
| 7   | 66  | 52  | 44  | 38  | 64  | 52  | 43  | 38  | 50  | 43  | 37  |  | 49  | 42  | 37  |  | 47  |
| 8   | 61  | 48  | 39  | 34  | 60  | 47  | 39  | 34  | 46  | 39  | 33  |  | 45  | 38  | 33  |  | 43  |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  | 39  | 32  | 27  |  | 38  | 32  | 27  |  | 37  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3827 | 3827 | 3827 |
| 5°  | 3807 | 3821 | 3815 |
| 10° | 3781 | 3792 | 3787 |
| 15° | 3732 | 3741 | 3730 |
| 20° | 3665 | 3662 | 3651 |
| 25° | 3573 | 3573 | 3561 |
| 30° | 3479 | 3476 | 3458 |
| 35° | 3385 | 3375 | 3356 |
| 40° | 3281 | 3278 | 3264 |
| 45° | 3181 | 3177 | 3166 |
| 50° | 3088 | 3076 | 3067 |
| 55° | 2981 | 2967 | 2967 |
| 60° | 2870 | 2860 | 2865 |
| 65° | 2721 | 2727 | 2708 |
| 70° | 2542 | 2527 | 2527 |
| 75° | 2268 | 2277 | 2277 |
| 80° | 1918 | 1918 | 1932 |
| 85° | 1454 | 1454 | 1485 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 134.1  | 3.7       |
| 10°-20°   | 377.9  | 10.4      |
| 20°-30°   | 554.1  | 15.2      |
| 30°-40°   | 642.8  | 17.7      |
| 40°-50°   | 644.5  | 17.7      |
| 50°-60°   | 566.8  | 15.6      |
| 60°-70°   | 423.0  | 11.6      |
| 70°-80°   | 232.8  | 6.4       |
| 80°-90°   | 57.6   | 1.6       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 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°    | 1066.1 | 29.3      |
| 0°-40°    | 1708.9 | 47.0      |
| 0°-60°    | 2920.2 | 80.4      |
| 0°-90°    | 3633.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3633.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1422 | 1422  | 1422 | 1422  | 1422 |      |
| 5°  | 1410 | 1414  | 1414 | 1414  | 1412 | 134  |
| 15° | 1340 | 1346  | 1343 | 1341  | 1339 | 377  |
| 25° | 1203 | 1208  | 1203 | 1202  | 1199 | 554  |
| 35° | 1030 | 1031  | 1027 | 1024  | 1022 | 644  |
| 45° | 836  | 839   | 835  | 834   | 832  | 646  |
| 55° | 636  | 636   | 632  | 634   | 632  | 568  |
| 65° | 427  | 427   | 428  | 426   | 425  | 424  |
| 75° | 218  | 219   | 219  | 217   | 219  | 233  |
| 85° | 47   | 48    | 47   | 47    | 48   | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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CATALOG NUMBER: 22APR-38L830-X-UNV

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1422.3 | 1422.3 | 1422.3 | 1422.3 | 1422.3 |
| 2.5°  | 1416.4 | 1421.3 | 1420.3 | 1423.2 | 1421.3 |
| 5°    | 1409.5 | 1414.4 | 1414.4 | 1414.4 | 1412.4 |
| 7.5°  | 1398.7 | 1403.6 | 1403.6 | 1403.6 | 1399.7 |
| 10°   | 1383.9 | 1388.9 | 1387.9 | 1387.9 | 1385.9 |
| 12.5° | 1366.3 | 1369.2 | 1367.2 | 1367.2 | 1366.3 |
| 15°   | 1339.7 | 1345.6 | 1342.7 | 1340.7 | 1338.8 |
| 17.5° | 1310.3 | 1316.2 | 1311.3 | 1310.3 | 1307.3 |
| 20°   | 1279.8 | 1283.8 | 1278.8 | 1278.8 | 1274.9 |
| 22.5° | 1242.5 | 1246.4 | 1243.5 | 1241.5 | 1239.6 |
| 25°   | 1203.2 | 1208.1 | 1203.2 | 1202.2 | 1199.3 |
| 27.5° | 1162.9 | 1166.9 | 1162.0 | 1158.0 | 1156.1 |
| 30°   | 1119.7 | 1122.7 | 1118.7 | 1115.8 | 1112.9 |
| 32.5° | 1077.5 | 1077.5 | 1073.6 | 1070.6 | 1066.7 |
| 35°   | 1030.3 | 1031.3 | 1027.4 | 1024.5 | 1021.5 |
| 37.5° | 983.2  | 985.2  | 981.2  | 978.3  | 976.3  |
| 40°   | 934.1  | 936.1  | 933.1  | 930.2  | 929.2  |
| 42.5° | 886.9  | 886.9  | 885.0  | 882.0  | 880.1  |
| 45°   | 835.9  | 838.8  | 834.9  | 833.9  | 831.9  |
| 47.5° | 788.7  | 788.7  | 784.8  | 782.8  | 782.8  |
| 50°   | 737.6  | 739.6  | 734.7  | 733.7  | 732.7  |
| 52.5° | 686.6  | 685.6  | 684.6  | 683.6  | 682.6  |
| 55°   | 635.5  | 636.5  | 632.5  | 633.5  | 632.5  |
| 57.5° | 584.4  | 583.4  | 582.5  | 581.5  | 580.5  |
| 60°   | 533.3  | 532.4  | 531.4  | 530.4  | 532.4  |
| 62.5° | 480.3  | 481.3  | 478.3  | 481.3  | 477.4  |
| 65°   | 427.3  | 427.3  | 428.2  | 426.3  | 425.3  |
| 67.5° | 376.2  | 376.2  | 374.2  | 374.2  | 378.2  |
| 70°   | 323.1  | 324.1  | 321.2  | 325.1  | 321.2  |
| 72.5° | 271.1  | 272.1  | 271.1  | 270.1  | 272.1  |
| 75°   | 218.1  | 219.0  | 219.0  | 217.1  | 219.0  |
| 77.5° | 169.9  | 170.9  | 169.9  | 168.9  | 169.9  |
| 80°   | 123.8  | 124.7  | 123.8  | 122.8  | 124.7  |
| 82.5° | 82.5   | 83.5   | 82.5   | 82.5   | 83.5   |
| 85°   | 47.1   | 48.1   | 47.1   | 47.1   | 48.1   |
| 87.5° | 18.7   | 19.6   | 19.6   | 19.6   | 19.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)