

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: P708776

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

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708776  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22APR-22L830-X-UNV  
Description: ArcMed Patient Recessed 2x2 Fixture AMBIENT Light  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

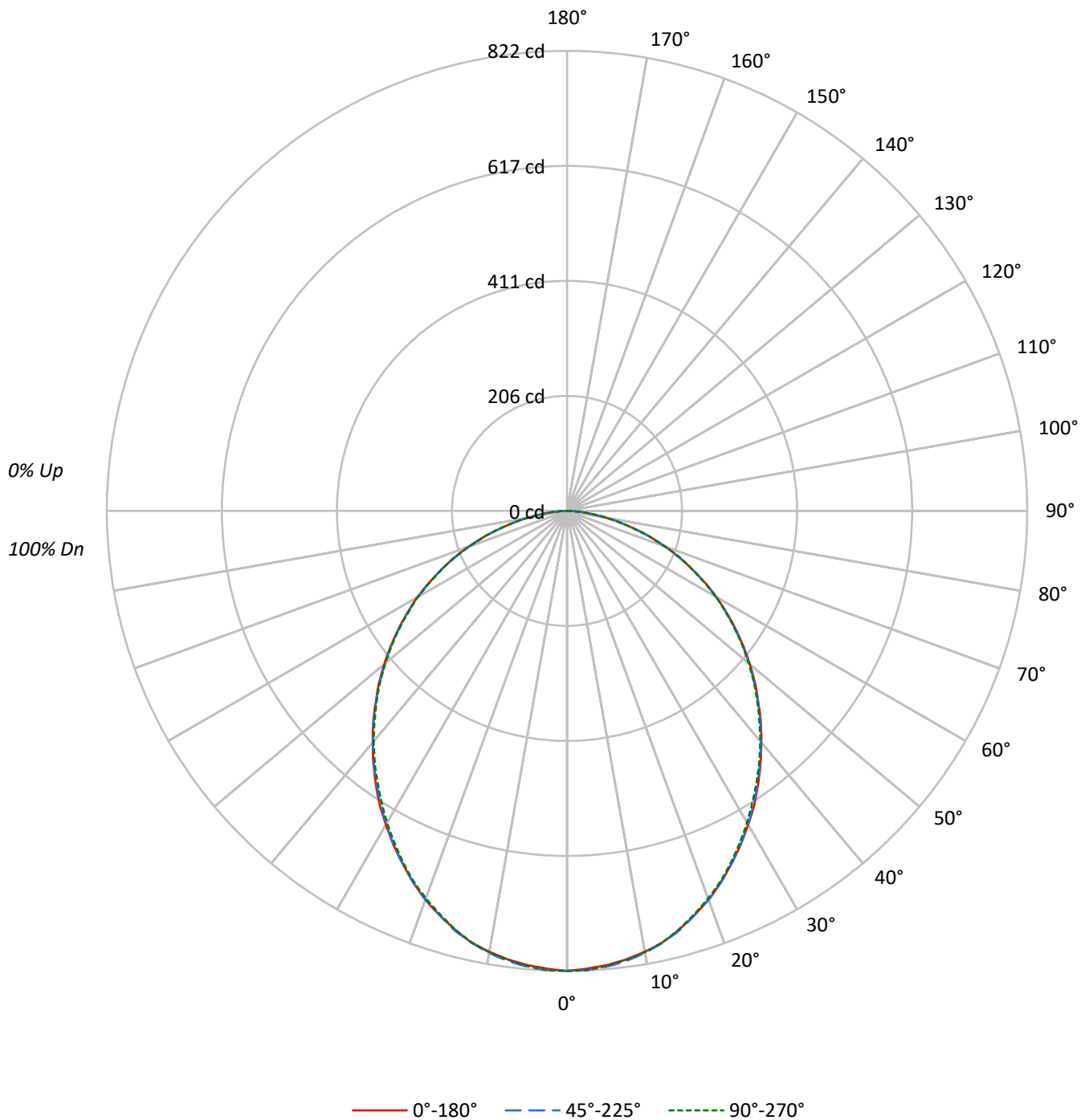
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2100.1 lumens  
Efficiency: N/A  
Efficacy: 98.6 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): 21.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°  | 2212 | 2212 | 2212 |
| 5°  | 2200 | 2208 | 2205 |
| 10° | 2186 | 2192 | 2189 |
| 15° | 2157 | 2162 | 2155 |
| 20° | 2118 | 2117 | 2110 |
| 25° | 2065 | 2065 | 2058 |
| 30° | 2011 | 2009 | 1999 |
| 35° | 1956 | 1951 | 1940 |
| 40° | 1897 | 1894 | 1886 |
| 45° | 1838 | 1836 | 1830 |
| 50° | 1785 | 1778 | 1773 |
| 55° | 1723 | 1715 | 1715 |
| 60° | 1659 | 1653 | 1656 |
| 65° | 1572 | 1576 | 1565 |
| 70° | 1470 | 1460 | 1460 |
| 75° | 1310 | 1316 | 1316 |
| 80° | 1108 | 1108 | 1117 |
| 85° | 840  | 840  | 858  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 77.5   | 3.7       |
| 10°-20°   | 218.4  | 10.4      |
| 20°-30°   | 320.2  | 15.2      |
| 30°-40°   | 371.5  | 17.7      |
| 40°-50°   | 372.5  | 17.7      |
| 50°-60°   | 327.6  | 15.6      |
| 60°-70°   | 244.5  | 11.6      |
| 70°-80°   | 134.5  | 6.4       |
| 80°-90°   | 33.3   | 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°    | 616.2  | 29.3      |
| 0°-40°    | 987.7  | 47.0      |
| 0°-60°    | 1687.8 | 80.4      |
| 0°-90°    | 2100.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2100.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 822 | 822   | 822 | 822   | 822 |      |
| 5°  | 815 | 818   | 818 | 818   | 816 | 77   |
| 15° | 774 | 778   | 776 | 775   | 774 | 218  |
| 25° | 695 | 698   | 695 | 695   | 693 | 320  |
| 35° | 596 | 596   | 594 | 592   | 590 | 372  |
| 45° | 483 | 485   | 482 | 482   | 481 | 373  |
| 55° | 367 | 368   | 366 | 366   | 366 | 329  |
| 65° | 247 | 247   | 248 | 246   | 246 | 245  |
| 75° | 126 | 127   | 127 | 126   | 127 | 134  |
| 85° | 27  | 28    | 27  | 27    | 28  | 33   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P708776

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

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 822.0 | 822.0 | 822.0 | 822.0 | 822.0 |
| 2.5°  | 818.6 | 821.4 | 820.9 | 822.6 | 821.4 |
| 5°    | 814.6 | 817.5 | 817.5 | 817.5 | 816.3 |
| 7.5°  | 808.4 | 811.2 | 811.2 | 811.2 | 808.9 |
| 10°   | 799.9 | 802.7 | 802.1 | 802.1 | 801.0 |
| 12.5° | 789.6 | 791.3 | 790.2 | 790.2 | 789.6 |
| 15°   | 774.3 | 777.7 | 776.0 | 774.9 | 773.7 |
| 17.5° | 757.3 | 760.7 | 757.8 | 757.3 | 755.6 |
| 20°   | 739.7 | 742.0 | 739.1 | 739.1 | 736.8 |
| 22.5° | 718.1 | 720.4 | 718.7 | 717.5 | 716.4 |
| 25°   | 695.4 | 698.2 | 695.4 | 694.8 | 693.1 |
| 27.5° | 672.1 | 674.4 | 671.6 | 669.3 | 668.2 |
| 30°   | 647.2 | 648.9 | 646.6 | 644.9 | 643.2 |
| 32.5° | 622.7 | 622.7 | 620.5 | 618.8 | 616.5 |
| 35°   | 595.5 | 596.1 | 593.8 | 592.1 | 590.4 |
| 37.5° | 568.2 | 569.4 | 567.1 | 565.4 | 564.3 |
| 40°   | 539.9 | 541.0 | 539.3 | 537.6 | 537.0 |
| 42.5° | 512.6 | 512.6 | 511.5 | 509.8 | 508.6 |
| 45°   | 483.1 | 484.8 | 482.5 | 482.0 | 480.8 |
| 47.5° | 455.8 | 455.8 | 453.6 | 452.4 | 452.4 |
| 50°   | 426.3 | 427.5 | 424.6 | 424.1 | 423.5 |
| 52.5° | 396.8 | 396.2 | 395.7 | 395.1 | 394.5 |
| 55°   | 367.3 | 367.9 | 365.6 | 366.2 | 365.6 |
| 57.5° | 337.8 | 337.2 | 336.6 | 336.1 | 335.5 |
| 60°   | 308.2 | 307.7 | 307.1 | 306.5 | 307.7 |
| 62.5° | 277.6 | 278.2 | 276.5 | 278.2 | 275.9 |
| 65°   | 246.9 | 246.9 | 247.5 | 246.4 | 245.8 |
| 67.5° | 217.4 | 217.4 | 216.3 | 216.3 | 218.6 |
| 70°   | 186.8 | 187.3 | 185.6 | 187.9 | 185.6 |
| 72.5° | 156.7 | 157.2 | 156.7 | 156.1 | 157.2 |
| 75°   | 126.0 | 126.6 | 126.6 | 125.5 | 126.6 |
| 77.5° | 98.2  | 98.8  | 98.2  | 97.6  | 98.2  |
| 80°   | 71.5  | 72.1  | 71.5  | 71.0  | 72.1  |
| 82.5° | 47.7  | 48.3  | 47.7  | 47.7  | 48.3  |
| 85°   | 27.2  | 27.8  | 27.2  | 27.2  | 27.8  |
| 87.5° | 10.8  | 11.4  | 11.4  | 11.4  | 11.4  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)