

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: P709015

Luminaire Tested: **24APR-76-181L840-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709015
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24APR-76-181L840-UNV
Description: ArcMed Patient Recessed 2x4 Fixture Ambient and Exam Light
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

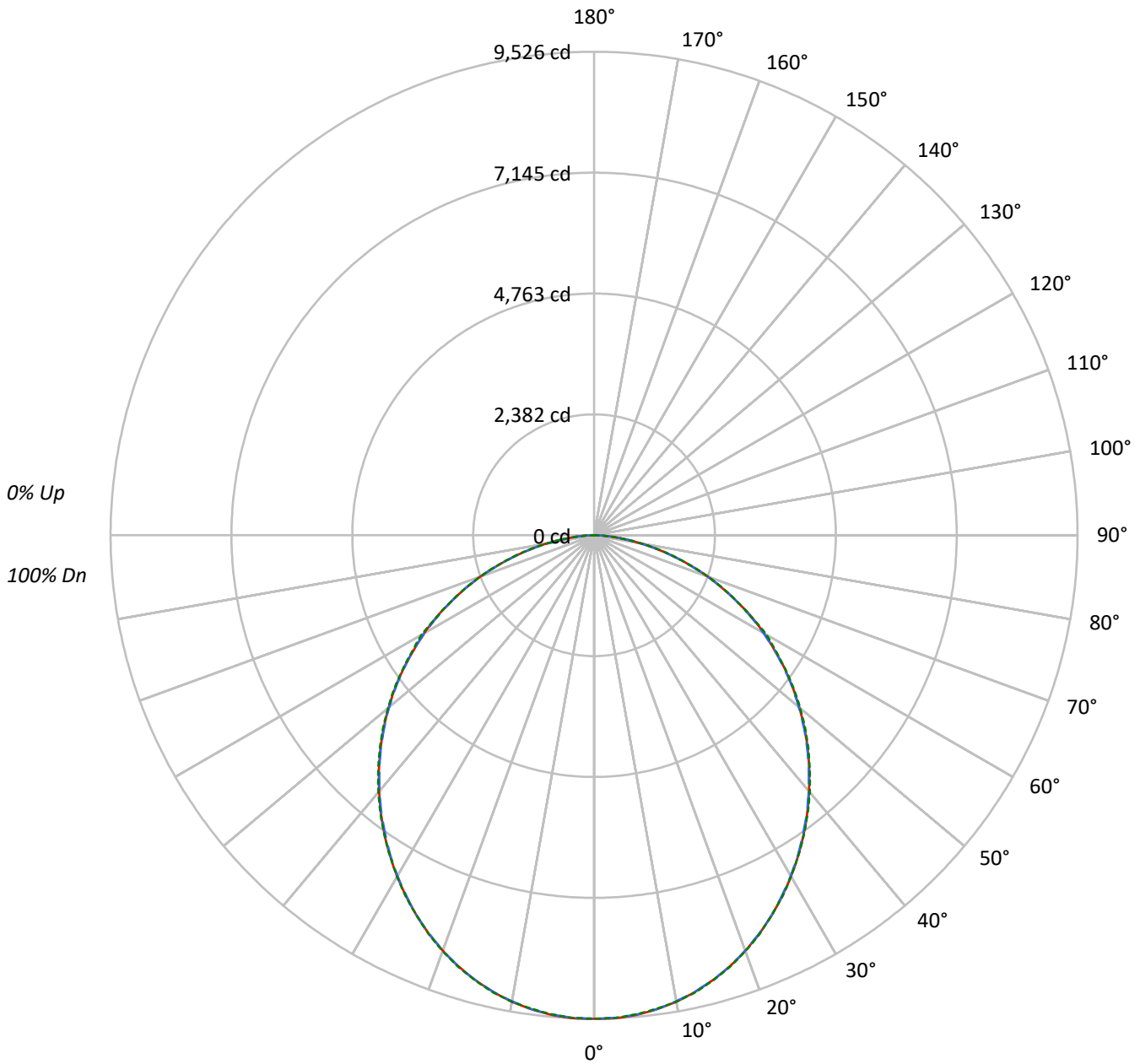
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25708.4 lumens
Efficiency: N/A
Efficacy: 123.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 208.5
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



— 0°-180° - - 45°-225° - - - 90°-270°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 98 | 94 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 | 84 | 84 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 83 | 77 | 85 | 80 | 76 | 82 | 78 | 74 | 79 | 75 | 72 | 70 | 70 | 70 | 70 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 65 | 75 | 69 | 63 | 73 | 67 | 62 | 70 | 65 | 61 | 59 | 59 | 59 | 59 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 65 | 58 | 53 | 62 | 57 | 53 | 51 | 51 | 51 | 51 |
| 5 | 76 | 63 | 54 | 48 | 74 | 62 | 54 | 47 | 60 | 53 | 47 | 58 | 52 | 46 | 56 | 51 | 46 | 44 | 44 | 44 | 44 |
| 6 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 42 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 38 | 38 | 38 | 38 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 41 | 36 | 34 | 34 | 34 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 | 30 | 30 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 | 27 | 27 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 | 25 | 25 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12818 | 12818 | 12818 |
| 5° | 12818 | 12806 | 12799 |
| 10° | 12752 | 12740 | 12750 |
| 15° | 12631 | 12631 | 12645 |
| 20° | 12476 | 12468 | 12486 |
| 25° | 12280 | 12275 | 12275 |
| 30° | 12059 | 12040 | 12060 |
| 35° | 11823 | 11791 | 11838 |
| 40° | 11572 | 11550 | 11611 |
| 45° | 11325 | 11302 | 11363 |
| 50° | 11054 | 11026 | 11097 |
| 55° | 10753 | 10725 | 10789 |
| 60° | 10397 | 10373 | 10555 |
| 65° | 9924 | 9927 | 9954 |
| 70° | 9380 | 9329 | 9391 |
| 75° | 8557 | 8490 | 8547 |
| 80° | 7387 | 7295 | 7345 |
| 85° | 5763 | 5706 | 5692 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 900.3 | 3.5 |
| 10°-20° | 2557.0 | 9.9 |
| 20°-30° | 3808.1 | 14.8 |
| 30°-40° | 4499.0 | 17.5 |
| 40°-50° | 4589.7 | 17.9 |
| 50°-60° | 4095.3 | 15.9 |
| 60°-70° | 3087.5 | 12.0 |
| 70°-80° | 1731.1 | 6.7 |
| 80°-90° | 440.5 | 1.7 |
| 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° | 7265.4 | 28.3 |
| 0°-40° | 11764.4 | 45.8 |
| 0°-60° | 20449.4 | 79.5 |
| 0°-90° | 25708.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 25708.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 9526 | 9526 | 9526 | 9526 | 9526 | |
| 5° | 9491 | 9486 | 9482 | 9483 | 9476 | 901 |
| 15° | 9068 | 9062 | 9068 | 9074 | 9078 | 2557 |
| 25° | 8272 | 8262 | 8268 | 8276 | 8268 | 3810 |
| 35° | 7198 | 7188 | 7179 | 7200 | 7207 | 4502 |
| 45° | 5952 | 5948 | 5940 | 5957 | 5972 | 4590 |
| 55° | 4584 | 4574 | 4572 | 4586 | 4599 | 4094 |
| 65° | 3117 | 3102 | 3118 | 3127 | 3126 | 3093 |
| 75° | 1646 | 1618 | 1633 | 1624 | 1644 | 1742 |
| 85° | 373 | 360 | 370 | 369 | 369 | 446 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P709015

CATALOG NUMBER: 24APR-76-181L840-UNV

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 9526.4 | 9526.4 | 9526.4 | 9526.4 | 9526.4 |
| 2.5° | 9526.4 | 9521.8 | 9518.2 | 9517.2 | 9519.1 |
| 5° | 9490.7 | 9486.1 | 9481.6 | 9483.4 | 9476.1 |
| 7.5° | 9422.1 | 9423.0 | 9419.3 | 9420.3 | 9412.0 |
| 10° | 9333.3 | 9328.8 | 9325.1 | 9333.3 | 9332.4 |
| 12.5° | 9213.5 | 9205.2 | 9208.9 | 9221.7 | 9222.6 |
| 15° | 9068.0 | 9062.5 | 9068.0 | 9074.4 | 9078.1 |
| 17.5° | 8902.4 | 8897.8 | 8904.2 | 8905.1 | 8912.5 |
| 20° | 8713.0 | 8707.5 | 8707.5 | 8716.7 | 8720.3 |
| 22.5° | 8503.5 | 8495.3 | 8497.1 | 8503.5 | 8508.1 |
| 25° | 8272.0 | 8261.9 | 8268.3 | 8275.7 | 8268.3 |
| 27.5° | 8022.2 | 8016.7 | 8010.3 | 8019.5 | 8031.4 |
| 30° | 7761.5 | 7750.5 | 7749.6 | 7756.0 | 7762.4 |
| 32.5° | 7486.1 | 7473.3 | 7473.3 | 7481.5 | 7487.0 |
| 35° | 7197.9 | 7187.8 | 7178.6 | 7199.7 | 7207.0 |
| 37.5° | 6900.5 | 6888.6 | 6887.7 | 6900.5 | 6912.4 |
| 40° | 6588.5 | 6578.4 | 6575.7 | 6597.7 | 6610.5 |
| 42.5° | 6273.8 | 6267.4 | 6261.0 | 6282.9 | 6293.0 |
| 45° | 5951.7 | 5948.0 | 5939.8 | 5957.2 | 5971.8 |
| 47.5° | 5620.5 | 5608.6 | 5605.9 | 5626.0 | 5640.6 |
| 50° | 5281.1 | 5276.5 | 5267.3 | 5285.6 | 5301.2 |
| 52.5° | 4937.0 | 4931.5 | 4925.1 | 4941.6 | 4958.1 |
| 55° | 4583.9 | 4573.8 | 4572.0 | 4585.7 | 4599.4 |
| 57.5° | 4216.1 | 4207.8 | 4220.6 | 4233.4 | 4244.4 |
| 60° | 3863.8 | 3844.6 | 3854.7 | 3869.3 | 3922.4 |
| 62.5° | 3509.7 | 3475.9 | 3483.2 | 3523.4 | 3500.6 |
| 65° | 3117.2 | 3101.7 | 3118.1 | 3127.3 | 3126.4 |
| 67.5° | 2749.4 | 2731.1 | 2755.8 | 2748.5 | 2759.5 |
| 70° | 2384.3 | 2352.3 | 2371.5 | 2374.3 | 2387.1 |
| 72.5° | 2007.4 | 1979.9 | 1996.4 | 2004.6 | 2012.9 |
| 75° | 1646.0 | 1617.6 | 1633.2 | 1624.0 | 1644.2 |
| 77.5° | 1286.4 | 1269.0 | 1279.1 | 1285.5 | 1301.0 |
| 80° | 953.4 | 934.2 | 941.5 | 942.4 | 947.9 |
| 82.5° | 646.0 | 631.3 | 633.1 | 649.6 | 643.2 |
| 85° | 373.3 | 359.6 | 369.6 | 368.7 | 368.7 |
| 87.5° | 145.5 | 134.5 | 144.6 | 143.6 | 141.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)