

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: P412189

Luminaire Tested: **MRI-4ASR-4-500-L835-OPL**

Issue Date: 10/5/2020

Test Information

Test Method: LM-79-08
Report Number: P412189
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2006-829-8)
Test Lab: INNOVATION CENTER
Issue Date: 10/5/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MRI-4ASR-4-500-L835-OPL
Description: 4 FT, 4 INCH CHANNEL, OPAL LENS
Light Source: (336) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2006.0 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.37
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Direct

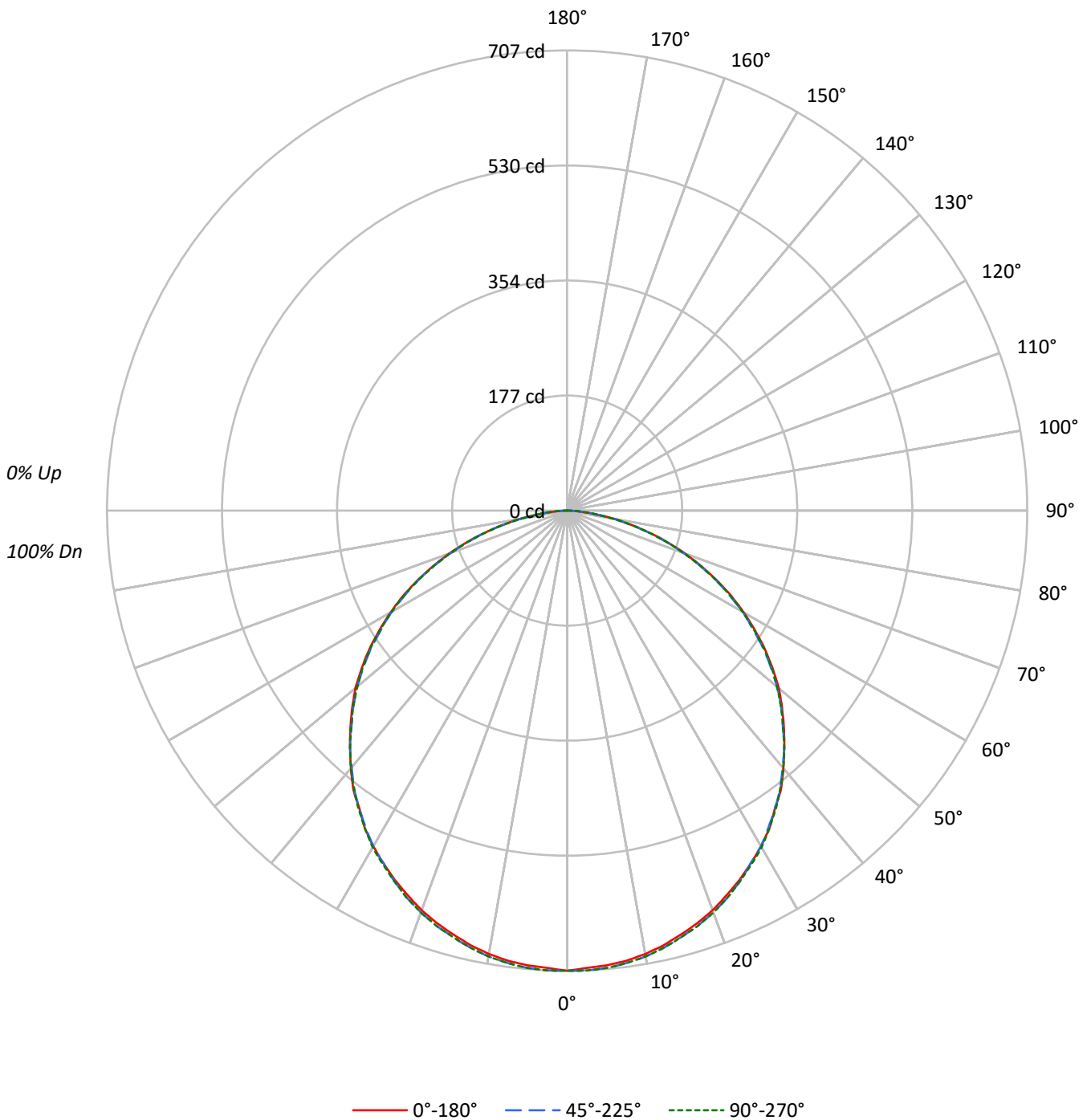
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 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 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 98 | 94 | 91 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 74 | 79 | 75 | 72 | 70 |
| 3 | 90 | 80 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 82 | 70 | 62 | 55 | 80 | 69 | 61 | 54 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 45 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5708 | 5708 | 5708 |
| 5° | 5683 | 5715 | 5715 |
| 10° | 5670 | 5702 | 5702 |
| 15° | 5636 | 5669 | 5669 |
| 20° | 5613 | 5645 | 5645 |
| 25° | 5580 | 5597 | 5597 |
| 30° | 5552 | 5552 | 5571 |
| 35° | 5491 | 5491 | 5510 |
| 40° | 5447 | 5426 | 5447 |
| 45° | 5375 | 5352 | 5352 |
| 50° | 5333 | 5285 | 5285 |
| 55° | 5219 | 5165 | 5192 |
| 60° | 5057 | 5026 | 5026 |
| 65° | 4844 | 4808 | 4808 |
| 70° | 4534 | 4489 | 4489 |
| 75° | 4077 | 4014 | 4014 |
| 80° | 3394 | 3305 | 3305 |
| 85° | 2140 | 2316 | 2492 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 67.0 | 3.3 |
| 10°-20° | 191.4 | 9.5 |
| 20°-30° | 289.4 | 14.4 |
| 30°-40° | 349.1 | 17.4 |
| 40°-50° | 362.6 | 18.1 |
| 50°-60° | 328.5 | 16.4 |
| 60°-70° | 248.9 | 12.4 |
| 70°-80° | 137.1 | 6.8 |
| 80°-90° | 32.0 | 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° | 547.7 | 27.3 |
| 0°-40° | 896.8 | 44.7 |
| 0°-60° | 1587.9 | 79.2 |
| 0°-90° | 2006.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2006.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 707 | 707 | 707 | 707 | 707 | |
| 5° | 701 | 703 | 705 | 707 | 705 | 67 |
| 15° | 674 | 676 | 678 | 680 | 678 | 190 |
| 25° | 626 | 626 | 628 | 628 | 628 | 289 |
| 35° | 557 | 557 | 557 | 557 | 559 | 350 |
| 45° | 471 | 469 | 469 | 471 | 469 | 364 |
| 55° | 371 | 367 | 367 | 367 | 369 | 331 |
| 65° | 254 | 252 | 252 | 252 | 252 | 251 |
| 75° | 131 | 131 | 129 | 129 | 129 | 138 |
| 85° | 23 | 25 | 25 | 27 | 27 | 30 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P412189

CATALOG NUMBER: MRI-4ASR-4-500-L835-OPL

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 707.1 | 707.1 | 707.1 | 707.1 | 707.1 |
| 2.5° | 703.2 | 705.2 | 707.1 | 709.0 | 707.1 |
| 5° | 701.3 | 703.2 | 705.2 | 707.1 | 705.2 |
| 7.5° | 697.5 | 699.4 | 701.3 | 703.2 | 701.3 |
| 10° | 691.7 | 693.6 | 695.6 | 697.5 | 695.6 |
| 12.5° | 684.0 | 686.0 | 687.9 | 687.9 | 687.9 |
| 15° | 674.4 | 676.3 | 678.3 | 680.2 | 678.3 |
| 17.5° | 664.8 | 666.7 | 668.7 | 668.7 | 668.7 |
| 20° | 653.3 | 655.2 | 657.1 | 657.1 | 657.1 |
| 22.5° | 639.8 | 641.8 | 643.7 | 643.7 | 643.7 |
| 25° | 626.4 | 626.4 | 628.3 | 628.3 | 628.3 |
| 27.5° | 611.0 | 611.0 | 611.0 | 612.9 | 612.9 |
| 30° | 595.6 | 595.6 | 595.6 | 595.6 | 597.6 |
| 32.5° | 578.4 | 578.4 | 576.4 | 578.4 | 578.4 |
| 35° | 557.2 | 557.2 | 557.2 | 557.2 | 559.1 |
| 37.5° | 539.9 | 536.1 | 538.0 | 538.0 | 538.0 |
| 40° | 516.9 | 516.9 | 514.9 | 516.9 | 516.9 |
| 42.5° | 493.8 | 493.8 | 493.8 | 493.8 | 493.8 |
| 45° | 470.8 | 468.8 | 468.8 | 470.8 | 468.8 |
| 47.5° | 447.7 | 445.8 | 445.8 | 445.8 | 445.8 |
| 50° | 424.6 | 420.8 | 420.8 | 420.8 | 420.8 |
| 52.5° | 397.7 | 393.9 | 393.9 | 393.9 | 395.8 |
| 55° | 370.8 | 367.0 | 367.0 | 367.0 | 368.9 |
| 57.5° | 342.0 | 340.1 | 338.2 | 340.1 | 340.1 |
| 60° | 313.2 | 311.3 | 311.3 | 311.3 | 311.3 |
| 62.5° | 284.4 | 282.5 | 280.5 | 280.5 | 282.5 |
| 65° | 253.6 | 251.7 | 251.7 | 251.7 | 251.7 |
| 67.5° | 222.9 | 221.0 | 221.0 | 221.0 | 221.0 |
| 70° | 192.1 | 190.2 | 190.2 | 192.1 | 190.2 |
| 72.5° | 161.4 | 159.5 | 159.5 | 159.5 | 159.5 |
| 75° | 130.7 | 130.7 | 128.7 | 128.7 | 128.7 |
| 77.5° | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 |
| 80° | 73.0 | 71.1 | 71.1 | 71.1 | 71.1 |
| 82.5° | 44.2 | 44.2 | 46.1 | 46.1 | 46.1 |
| 85° | 23.1 | 25.0 | 25.0 | 26.9 | 26.9 |
| 87.5° | 7.7 | 9.6 | 11.5 | 13.5 | 13.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)