

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: P412192

Luminaire Tested: **MRI-4ASR-4-500-L850-HEO**

Issue Date: 10/5/2020

Test Information

Test Method: LM-79-08
Report Number: P412192
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2006-829-2)
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-L850-HEO
Description: 4 FT, 4 INCH CHANNEL, HIGH EFFICIENCY LENS
Light Source: (336) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4243.0 lumens
Efficiency: N/A
Efficacy: 137.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Direct

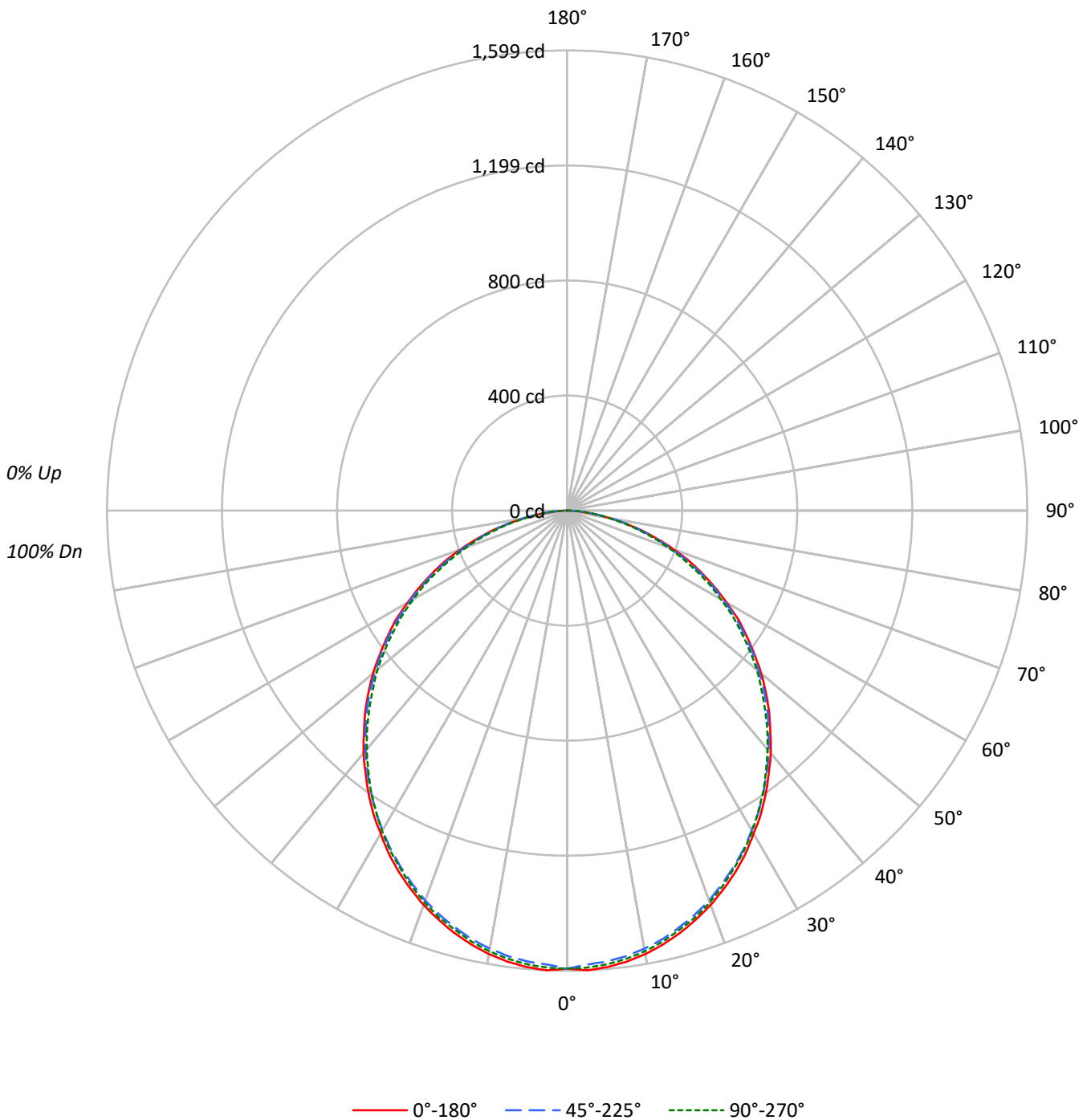
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P412192

CATALOG NUMBER: MRI-4ASR-4-500-L850-HEO

Luminous Intensity Polar Plot





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CATALOG NUMBER: MRI-4ASR-4-500-L850-HEO

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 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 80 | 76 | 82 | 78 | 74 | 79 | 76 | 72 | 70 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 70 | 65 | 62 | 59 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 61 | 55 | 67 | 60 | 54 | 65 | 59 | 54 | 63 | 57 | 53 | 51 |
| 5 | 76 | 63 | 55 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 56 | 51 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12849 | 12849 | 12849 |
| 5° | 12903 | 12746 | 12828 |
| 10° | 12827 | 12668 | 12748 |
| 15° | 12692 | 12539 | 12602 |
| 20° | 12529 | 12387 | 12446 |
| 25° | 12335 | 12177 | 12220 |
| 30° | 12083 | 11952 | 11988 |
| 35° | 11848 | 11721 | 11721 |
| 40° | 11600 | 11486 | 11412 |
| 45° | 11334 | 11241 | 11088 |
| 50° | 11051 | 10923 | 10815 |
| 55° | 10721 | 10600 | 10396 |
| 60° | 10346 | 10207 | 9965 |
| 65° | 9912 | 9727 | 9431 |
| 70° | 9281 | 9028 | 8788 |
| 75° | 8444 | 8244 | 7926 |
| 80° | 6918 | 7043 | 6741 |
| 85° | 4974 | 5622 | 6021 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 150.3 | 3.5 |
| 10°-20° | 425.8 | 10.0 |
| 20°-30° | 633.2 | 14.9 |
| 30°-40° | 746.7 | 17.6 |
| 40°-50° | 758.6 | 17.9 |
| 50°-60° | 673.2 | 15.9 |
| 60°-70° | 503.7 | 11.9 |
| 70°-80° | 279.0 | 6.6 |
| 80°-90° | 72.5 | 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° | 1209.3 | 28.5 |
| 0°-40° | 1956.0 | 46.1 |
| 0°-60° | 3387.8 | 79.8 |
| 0°-90° | 4243.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4243.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1592 | 1592 | 1592 | 1592 | 1592 | |
| 5° | 1592 | 1588 | 1573 | 1585 | 1583 | 151 |
| 15° | 1519 | 1516 | 1500 | 1512 | 1508 | 428 |
| 25° | 1385 | 1379 | 1367 | 1374 | 1372 | 637 |
| 35° | 1202 | 1200 | 1189 | 1191 | 1189 | 752 |
| 45° | 993 | 993 | 985 | 977 | 971 | 765 |
| 55° | 762 | 765 | 753 | 743 | 739 | 682 |
| 65° | 519 | 522 | 509 | 501 | 494 | 513 |
| 75° | 271 | 268 | 264 | 257 | 254 | 285 |
| 85° | 54 | 61 | 61 | 63 | 65 | 67 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P412192

CATALOG NUMBER: MRI-4ASR-4-500-L850-HEO

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1591.6 | 1591.6 | 1591.6 | 1591.6 | 1591.6 |
| 2.5° | 1599.1 | 1594.3 | 1578.7 | 1591.6 | 1589.5 |
| 5° | 1592.2 | 1587.9 | 1572.8 | 1584.6 | 1583.0 |
| 7.5° | 1580.9 | 1576.0 | 1562.1 | 1573.9 | 1571.2 |
| 10° | 1564.8 | 1559.9 | 1545.4 | 1557.8 | 1555.1 |
| 12.5° | 1543.8 | 1539.5 | 1526.1 | 1536.3 | 1534.1 |
| 15° | 1518.6 | 1515.9 | 1500.3 | 1511.6 | 1507.8 |
| 17.5° | 1489.6 | 1486.9 | 1472.9 | 1483.6 | 1481.5 |
| 20° | 1458.4 | 1453.6 | 1441.8 | 1449.3 | 1448.7 |
| 22.5° | 1422.4 | 1418.1 | 1404.7 | 1413.8 | 1412.2 |
| 25° | 1384.8 | 1379.4 | 1367.1 | 1374.1 | 1371.9 |
| 27.5° | 1342.9 | 1337.5 | 1327.3 | 1332.7 | 1331.6 |
| 30° | 1296.2 | 1294.6 | 1282.2 | 1287.0 | 1286.0 |
| 32.5° | 1252.1 | 1247.8 | 1239.2 | 1238.7 | 1237.1 |
| 35° | 1202.2 | 1200.0 | 1189.3 | 1190.9 | 1189.3 |
| 37.5° | 1151.1 | 1150.1 | 1140.9 | 1138.8 | 1135.6 |
| 40° | 1100.7 | 1097.4 | 1089.9 | 1085.6 | 1082.9 |
| 42.5° | 1044.8 | 1046.4 | 1036.2 | 1031.4 | 1029.2 |
| 45° | 992.7 | 992.7 | 984.6 | 976.6 | 971.2 |
| 47.5° | 936.8 | 937.4 | 928.8 | 918.6 | 915.3 |
| 50° | 879.9 | 881.0 | 869.7 | 861.1 | 861.1 |
| 52.5° | 820.3 | 823.5 | 812.7 | 803.6 | 799.8 |
| 55° | 761.7 | 764.9 | 753.1 | 743.4 | 738.6 |
| 57.5° | 705.3 | 704.8 | 695.1 | 682.2 | 681.1 |
| 60° | 640.8 | 644.6 | 632.2 | 622.6 | 617.2 |
| 62.5° | 579.6 | 584.4 | 571.0 | 561.9 | 558.7 |
| 65° | 518.9 | 522.1 | 509.2 | 500.6 | 493.7 |
| 67.5° | 459.3 | 458.2 | 446.4 | 436.7 | 433.0 |
| 70° | 393.2 | 395.4 | 382.5 | 375.5 | 372.3 |
| 72.5° | 331.4 | 333.6 | 322.3 | 317.5 | 312.1 |
| 75° | 270.7 | 268.0 | 264.3 | 256.8 | 254.1 |
| 77.5° | 206.3 | 209.0 | 207.9 | 199.8 | 198.8 |
| 80° | 148.8 | 154.7 | 151.5 | 145.6 | 145.0 |
| 82.5° | 98.8 | 104.7 | 103.1 | 101.5 | 99.9 |
| 85° | 53.7 | 61.2 | 60.7 | 62.8 | 65.0 |
| 87.5° | 20.4 | 26.3 | 31.2 | 30.6 | 32.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)