

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: P412171

Luminaire Tested: **MRI-4ASR-4-1000-L935-OPL**

Issue Date: 10/5/2020

Test Information

Test Method: LM-79-08
Report Number: P412171
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-4-1000-L935-OPL
Description: 4 FT, 4 INCH CHANNEL, OPAL LENS
Light Source: (336) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

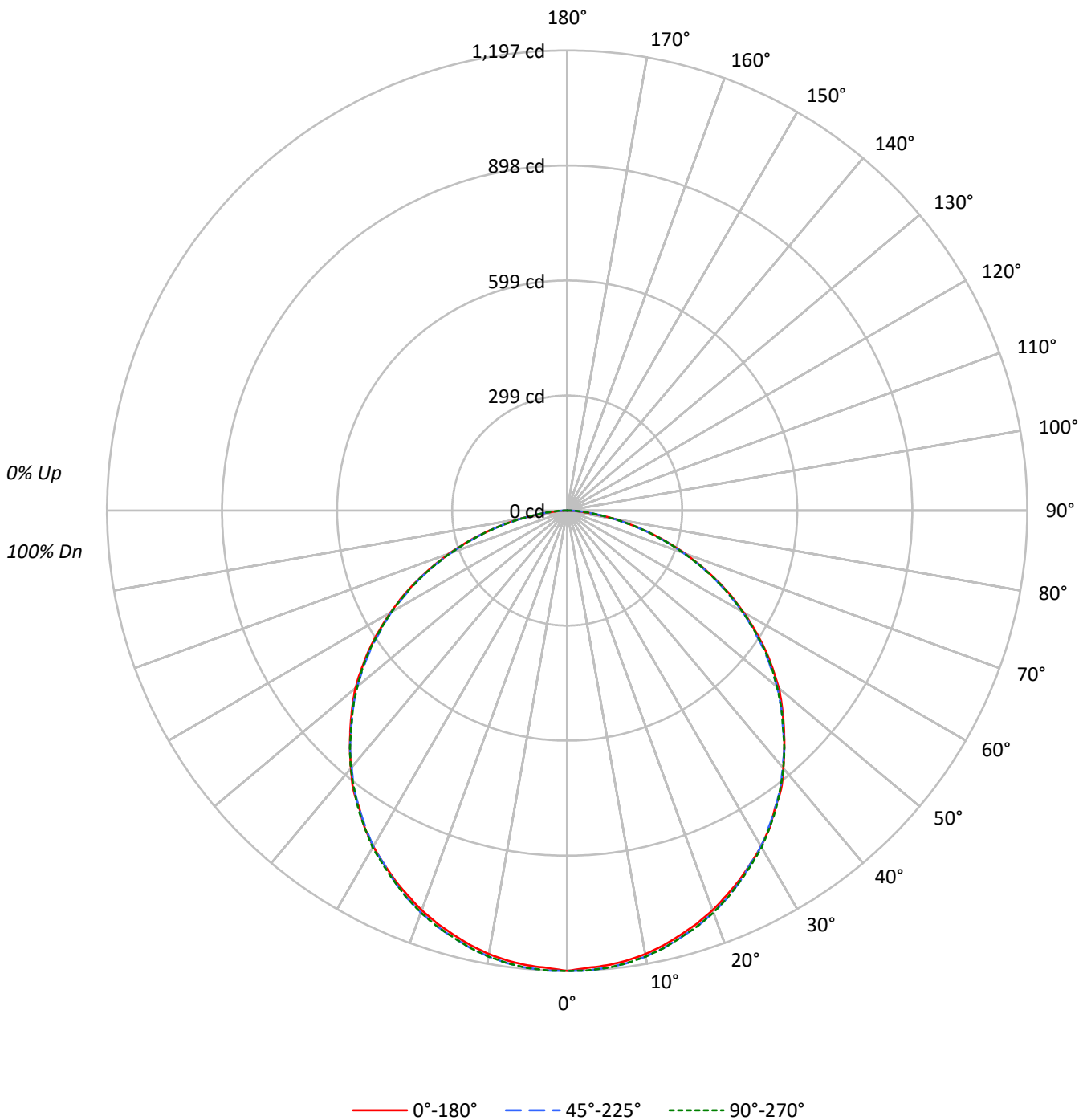
Lumens per Lamp: N/A
Luminaire Lumens: 3397.0 lumens
Efficiency: N/A
Efficacy: 50.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.37
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.7
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° | 9667 | 9667 | 9667 |
| 5° | 9624 | 9678 | 9678 |
| 10° | 9603 | 9656 | 9656 |
| 15° | 9545 | 9600 | 9600 |
| 20° | 9504 | 9560 | 9560 |
| 25° | 9448 | 9478 | 9478 |
| 30° | 9403 | 9403 | 9433 |
| 35° | 9299 | 9299 | 9332 |
| 40° | 9224 | 9190 | 9224 |
| 45° | 9102 | 9064 | 9064 |
| 50° | 9031 | 8950 | 8950 |
| 55° | 8839 | 8747 | 8792 |
| 60° | 8564 | 8510 | 8510 |
| 65° | 8204 | 8141 | 8141 |
| 70° | 7681 | 7603 | 7603 |
| 75° | 6903 | 6800 | 6800 |
| 80° | 5746 | 5597 | 5597 |
| 85° | 3612 | 3918 | 4224 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 113.4 | 3.3 |
| 10°-20° | 324.0 | 9.5 |
| 20°-30° | 490.1 | 14.4 |
| 30°-40° | 591.2 | 17.4 |
| 40°-50° | 614.1 | 18.1 |
| 50°-60° | 556.2 | 16.4 |
| 60°-70° | 421.5 | 12.4 |
| 70°-80° | 232.2 | 6.8 |
| 80°-90° | 54.3 | 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° | 927.5 | 27.3 |
| 0°-40° | 1518.7 | 44.7 |
| 0°-60° | 2689.0 | 79.2 |
| 0°-90° | 3397.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3397.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1197 | 1197 | 1197 | 1197 | 1197 | |
| 5° | 1188 | 1191 | 1194 | 1197 | 1194 | 113 |
| 15° | 1142 | 1145 | 1149 | 1152 | 1149 | 323 |
| 25° | 1061 | 1061 | 1064 | 1064 | 1064 | 489 |
| 35° | 944 | 944 | 944 | 944 | 947 | 592 |
| 45° | 797 | 794 | 794 | 797 | 794 | 616 |
| 55° | 628 | 622 | 622 | 622 | 625 | 560 |
| 65° | 430 | 426 | 426 | 426 | 426 | 425 |
| 75° | 221 | 221 | 218 | 218 | 218 | 234 |
| 85° | 39 | 42 | 42 | 46 | 46 | 51 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P412171

CATALOG NUMBER: MRI-4ASR-4-1000-L935-OPL

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1197.4 | 1197.4 | 1197.4 | 1197.4 | 1197.4 |
| 2.5° | 1190.9 | 1194.2 | 1197.4 | 1200.7 | 1197.4 |
| 5° | 1187.6 | 1190.9 | 1194.2 | 1197.4 | 1194.2 |
| 7.5° | 1181.1 | 1184.4 | 1187.6 | 1190.9 | 1187.6 |
| 10° | 1171.4 | 1174.6 | 1177.9 | 1181.1 | 1177.9 |
| 12.5° | 1158.4 | 1161.6 | 1164.9 | 1164.9 | 1164.9 |
| 15° | 1142.1 | 1145.3 | 1148.6 | 1151.9 | 1148.6 |
| 17.5° | 1125.8 | 1129.1 | 1132.3 | 1132.3 | 1132.3 |
| 20° | 1106.3 | 1109.6 | 1112.8 | 1112.8 | 1112.8 |
| 22.5° | 1083.5 | 1086.8 | 1090.0 | 1090.0 | 1090.0 |
| 25° | 1060.7 | 1060.7 | 1064.0 | 1064.0 | 1064.0 |
| 27.5° | 1034.7 | 1034.7 | 1034.7 | 1038.0 | 1038.0 |
| 30° | 1008.7 | 1008.7 | 1008.7 | 1008.7 | 1011.9 |
| 32.5° | 979.4 | 979.4 | 976.1 | 979.4 | 979.4 |
| 35° | 943.6 | 943.6 | 943.6 | 943.6 | 946.9 |
| 37.5° | 914.3 | 907.8 | 911.1 | 911.1 | 911.1 |
| 40° | 875.3 | 875.3 | 872.0 | 875.3 | 875.3 |
| 42.5° | 836.2 | 836.2 | 836.2 | 836.2 | 836.2 |
| 45° | 797.2 | 793.9 | 793.9 | 797.2 | 793.9 |
| 47.5° | 758.1 | 754.9 | 754.9 | 754.9 | 754.9 |
| 50° | 719.1 | 712.6 | 712.6 | 712.6 | 712.6 |
| 52.5° | 673.5 | 667.0 | 667.0 | 667.0 | 670.3 |
| 55° | 628.0 | 621.5 | 621.5 | 621.5 | 624.7 |
| 57.5° | 579.2 | 575.9 | 572.7 | 575.9 | 575.9 |
| 60° | 530.4 | 527.1 | 527.1 | 527.1 | 527.1 |
| 62.5° | 481.6 | 478.3 | 475.1 | 475.1 | 478.3 |
| 65° | 429.5 | 426.2 | 426.2 | 426.2 | 426.2 |
| 67.5° | 377.4 | 374.2 | 374.2 | 374.2 | 374.2 |
| 70° | 325.4 | 322.1 | 322.1 | 325.4 | 322.1 |
| 72.5° | 273.3 | 270.1 | 270.1 | 270.1 | 270.1 |
| 75° | 221.3 | 221.3 | 218.0 | 218.0 | 218.0 |
| 77.5° | 169.2 | 169.2 | 169.2 | 169.2 | 169.2 |
| 80° | 123.6 | 120.4 | 120.4 | 120.4 | 120.4 |
| 82.5° | 74.8 | 74.8 | 78.1 | 78.1 | 78.1 |
| 85° | 39.0 | 42.3 | 42.3 | 45.6 | 45.6 |
| 87.5° | 13.0 | 16.3 | 19.5 | 22.8 | 22.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)