

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: P412025

Luminaire Tested: **MRI-22ATR-20-L950-OPL**

Issue Date: 10/5/2020

Test Information

Test Method: LM-79-08
Report Number: P412025
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2008-915-2)
Test Lab: INNOVATION CENTER
Issue Date: 10/5/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MRI-22ATR-20-L950-OPL
Description: 2X2 TROFFER, 2000LM, OPAL LENS
Light Source: (588) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1828.0 lumens
Efficiency: N/A
Efficacy: 63.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

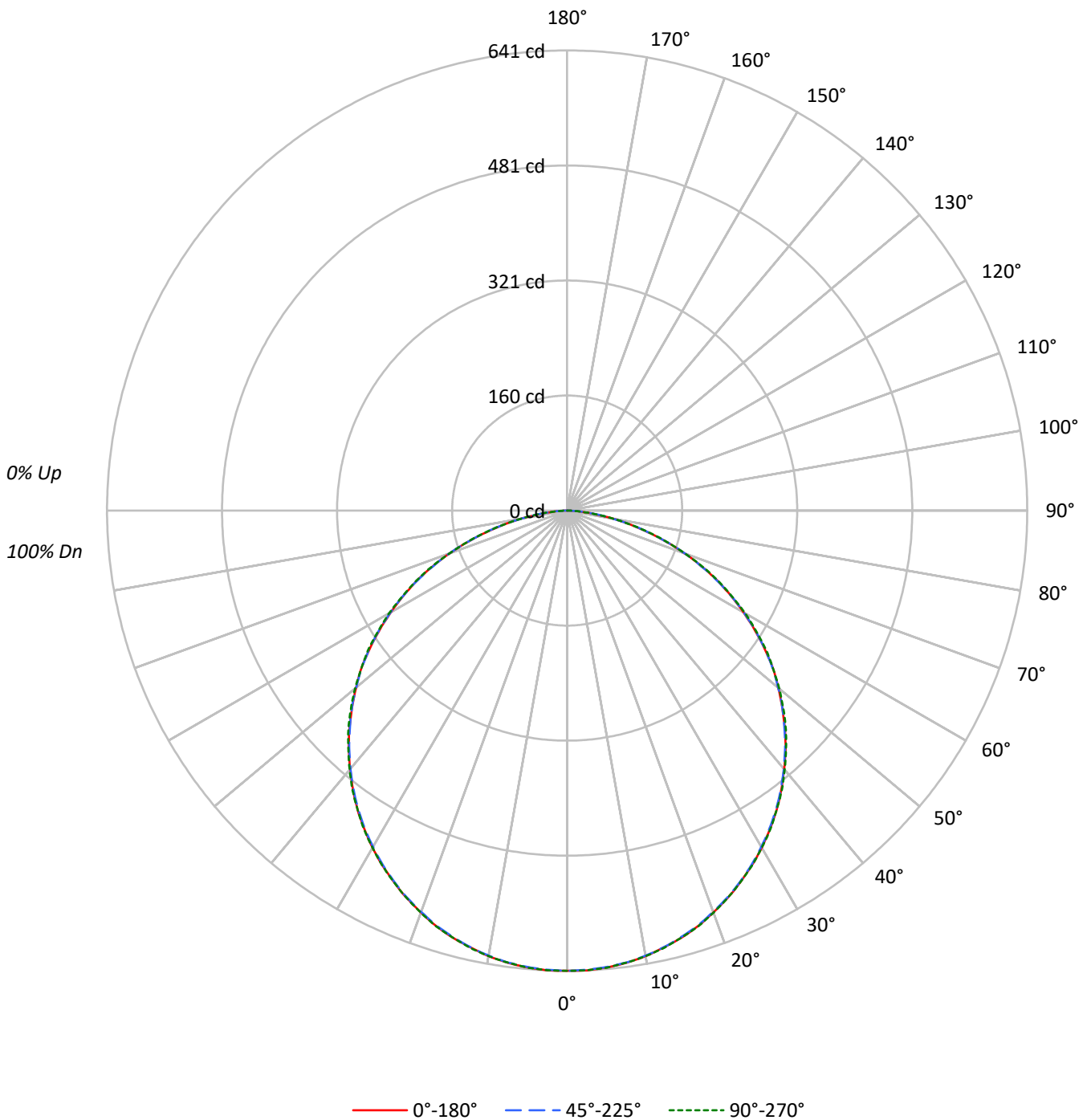
Input Watts (W): 28.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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 | 50 | 44 | 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 | 28 | 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° | 1725 | 1725 | 1725 |
| 5° | 1725 | 1724 | 1726 |
| 10° | 1722 | 1720 | 1722 |
| 15° | 1716 | 1713 | 1715 |
| 20° | 1706 | 1703 | 1707 |
| 25° | 1696 | 1693 | 1696 |
| 30° | 1685 | 1681 | 1685 |
| 35° | 1672 | 1668 | 1671 |
| 40° | 1652 | 1649 | 1656 |
| 45° | 1632 | 1628 | 1640 |
| 50° | 1608 | 1608 | 1615 |
| 55° | 1576 | 1579 | 1587 |
| 60° | 1527 | 1532 | 1542 |
| 65° | 1472 | 1466 | 1479 |
| 70° | 1372 | 1375 | 1375 |
| 75° | 1215 | 1219 | 1234 |
| 80° | 1000 | 1000 | 1018 |
| 85° | 655 | 692 | 645 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.7 | 3.3 |
| 10°-20° | 173.7 | 9.5 |
| 20°-30° | 263.1 | 14.4 |
| 30°-40° | 317.9 | 17.4 |
| 40°-50° | 331.0 | 18.1 |
| 50°-60° | 300.5 | 16.4 |
| 60°-70° | 227.9 | 12.5 |
| 70°-80° | 125.0 | 6.8 |
| 80°-90° | 28.4 | 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° | 497.4 | 27.2 |
| 0°-40° | 815.3 | 44.6 |
| 0°-60° | 1446.7 | 79.1 |
| 0°-90° | 1828.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1828.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 641 | 641 | 641 | 641 | 641 | |
| 5° | 639 | 638 | 638 | 638 | 639 | 61 |
| 15° | 616 | 615 | 615 | 615 | 616 | 174 |
| 25° | 571 | 570 | 570 | 572 | 571 | 263 |
| 35° | 509 | 508 | 508 | 508 | 509 | 318 |
| 45° | 429 | 428 | 428 | 430 | 431 | 331 |
| 55° | 336 | 336 | 336 | 338 | 338 | 300 |
| 65° | 231 | 230 | 230 | 231 | 232 | 228 |
| 75° | 117 | 118 | 117 | 118 | 119 | 124 |
| 85° | 21 | 22 | 22 | 22 | 21 | 28 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P412025

CATALOG NUMBER: MRI-22ATR-20-L950-OPL

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 641.1 | 641.1 | 641.1 | 641.1 | 641.1 |
| 2.5° | 641.1 | 640.5 | 640.2 | 640.5 | 640.8 |
| 5° | 638.7 | 638.4 | 638.1 | 638.4 | 639.0 |
| 7.5° | 635.4 | 635.1 | 634.8 | 634.8 | 635.1 |
| 10° | 630.2 | 629.9 | 629.6 | 629.9 | 630.2 |
| 12.5° | 623.3 | 623.3 | 623.0 | 623.0 | 623.9 |
| 15° | 616.0 | 615.4 | 614.8 | 615.1 | 615.7 |
| 17.5° | 606.9 | 606.0 | 606.0 | 606.3 | 607.2 |
| 20° | 595.7 | 595.7 | 594.8 | 595.4 | 596.0 |
| 22.5° | 584.2 | 583.6 | 583.3 | 583.9 | 584.2 |
| 25° | 571.2 | 570.3 | 570.3 | 571.5 | 571.2 |
| 27.5° | 557.3 | 556.3 | 556.3 | 556.6 | 557.6 |
| 30° | 542.4 | 541.8 | 540.9 | 541.8 | 542.4 |
| 32.5° | 525.8 | 524.8 | 524.8 | 525.8 | 526.7 |
| 35° | 509.1 | 507.9 | 507.6 | 508.2 | 508.8 |
| 37.5° | 490.0 | 489.1 | 489.1 | 490.6 | 491.2 |
| 40° | 470.3 | 470.3 | 469.4 | 470.9 | 471.5 |
| 42.5° | 450.6 | 450.0 | 449.4 | 451.3 | 451.3 |
| 45° | 428.8 | 428.5 | 427.9 | 430.1 | 431.0 |
| 47.5° | 406.4 | 407.3 | 406.7 | 408.2 | 408.6 |
| 50° | 384.0 | 383.7 | 384.0 | 384.9 | 385.8 |
| 52.5° | 361.6 | 360.1 | 360.7 | 361.0 | 361.6 |
| 55° | 335.9 | 335.6 | 336.5 | 338.0 | 338.3 |
| 57.5° | 310.1 | 310.1 | 310.7 | 312.5 | 312.2 |
| 60° | 283.8 | 284.1 | 284.7 | 285.9 | 286.5 |
| 62.5° | 257.1 | 257.4 | 257.7 | 259.5 | 258.9 |
| 65° | 231.1 | 229.6 | 230.2 | 230.8 | 232.3 |
| 67.5° | 202.6 | 201.7 | 201.7 | 203.2 | 204.4 |
| 70° | 174.4 | 173.8 | 174.7 | 175.1 | 174.7 |
| 72.5° | 145.1 | 145.7 | 146.0 | 146.6 | 146.3 |
| 75° | 116.9 | 117.5 | 117.2 | 118.4 | 118.7 |
| 77.5° | 89.9 | 90.6 | 91.2 | 91.2 | 90.6 |
| 80° | 64.5 | 64.5 | 64.5 | 64.8 | 65.7 |
| 82.5° | 40.3 | 41.2 | 42.4 | 40.9 | 41.5 |
| 85° | 21.2 | 21.8 | 22.4 | 21.8 | 20.9 |
| 87.5° | 8.8 | 9.1 | 8.8 | 9.1 | 8.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)