

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: P412126

Luminaire Tested: **MRI-4ASR-2-500-L950-HEO**

Issue Date: 10/5/2020

Test Information

Test Method: LM-79-08
Report Number: P412126
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-2-500-L950-HEO
Description: 2 FT, 4 INCH CHANNEL, HIGH EFFICIENCY LENS
Light Source: (196) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

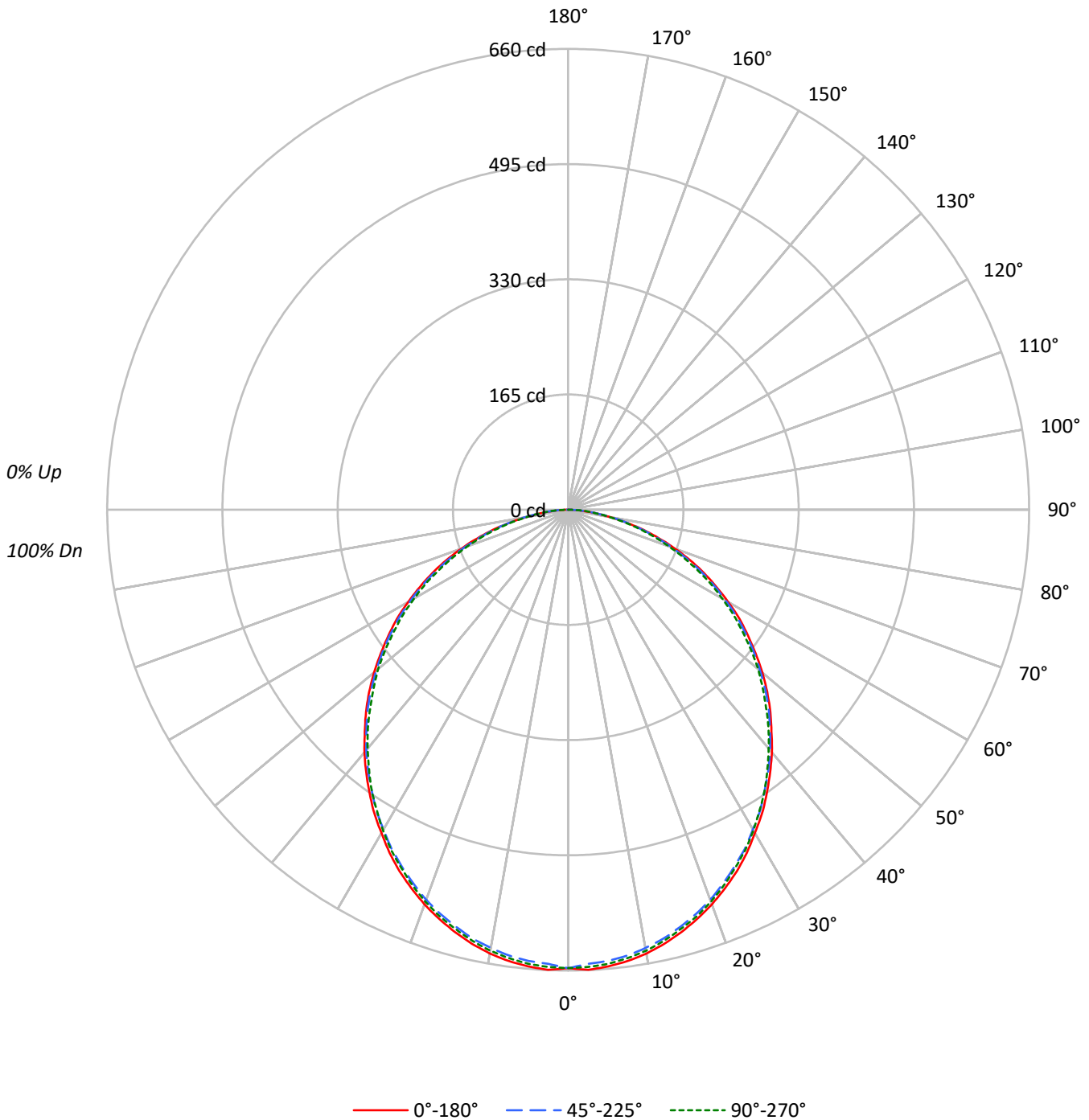
Lumens per Lamp: N/A
Luminaire Lumens: 1750.0 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.33' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 18.1
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 | 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° | 10600 | 10600 | 10600 |
| 5° | 10644 | 10514 | 10582 |
| 10° | 10581 | 10450 | 10516 |
| 15° | 10469 | 10344 | 10395 |
| 20° | 10335 | 10216 | 10266 |
| 25° | 10176 | 10044 | 10080 |
| 30° | 9967 | 9859 | 9889 |
| 35° | 9772 | 9668 | 9668 |
| 40° | 9569 | 9474 | 9413 |
| 45° | 9348 | 9273 | 9147 |
| 50° | 9116 | 9010 | 8920 |
| 55° | 8845 | 8743 | 8574 |
| 60° | 8535 | 8422 | 8221 |
| 65° | 8176 | 8023 | 7778 |
| 70° | 7657 | 7445 | 7246 |
| 75° | 6968 | 6800 | 6538 |
| 80° | 5709 | 5811 | 5560 |
| 85° | 4113 | 4631 | 4965 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 62.0 | 3.5 |
| 10°-20° | 175.6 | 10.0 |
| 20°-30° | 261.2 | 14.9 |
| 30°-40° | 308.0 | 17.6 |
| 40°-50° | 312.9 | 17.9 |
| 50°-60° | 277.7 | 15.9 |
| 60°-70° | 207.7 | 11.9 |
| 70°-80° | 115.1 | 6.6 |
| 80°-90° | 29.9 | 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° | 498.8 | 28.5 |
| 0°-40° | 806.7 | 46.1 |
| 0°-60° | 1397.3 | 79.8 |
| 0°-90° | 1750.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1750.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 656 | 656 | 656 | 656 | 656 | |
| 5° | 657 | 655 | 649 | 654 | 653 | 62 |
| 15° | 626 | 625 | 619 | 623 | 622 | 177 |
| 25° | 571 | 569 | 564 | 567 | 566 | 263 |
| 35° | 496 | 495 | 490 | 491 | 490 | 310 |
| 45° | 409 | 409 | 406 | 403 | 401 | 316 |
| 55° | 314 | 316 | 311 | 307 | 305 | 281 |
| 65° | 214 | 215 | 210 | 206 | 204 | 212 |
| 75° | 112 | 111 | 109 | 106 | 105 | 117 |
| 85° | 22 | 25 | 25 | 26 | 27 | 28 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: MRI-4ASR-2-500-L950-HEO

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 656.5 | 656.5 | 656.5 | 656.5 | 656.5 |
| 2.5° | 659.6 | 657.6 | 651.1 | 656.5 | 655.6 |
| 5° | 656.7 | 654.9 | 648.7 | 653.6 | 652.9 |
| 7.5° | 652.0 | 650.0 | 644.3 | 649.1 | 648.0 |
| 10° | 645.4 | 643.4 | 637.4 | 642.5 | 641.4 |
| 12.5° | 636.7 | 635.0 | 629.4 | 633.6 | 632.7 |
| 15° | 626.3 | 625.2 | 618.8 | 623.4 | 621.9 |
| 17.5° | 614.4 | 613.3 | 607.5 | 611.9 | 611.0 |
| 20° | 601.5 | 599.5 | 594.6 | 597.7 | 597.5 |
| 22.5° | 586.7 | 584.9 | 579.4 | 583.1 | 582.5 |
| 25° | 571.2 | 568.9 | 563.8 | 566.7 | 565.8 |
| 27.5° | 553.9 | 551.7 | 547.5 | 549.7 | 549.2 |
| 30° | 534.6 | 533.9 | 528.8 | 530.8 | 530.4 |
| 32.5° | 516.4 | 514.7 | 511.1 | 510.9 | 510.2 |
| 35° | 495.8 | 494.9 | 490.5 | 491.2 | 490.5 |
| 37.5° | 474.8 | 474.3 | 470.6 | 469.7 | 468.4 |
| 40° | 454.0 | 452.6 | 449.5 | 447.8 | 446.6 |
| 42.5° | 430.9 | 431.6 | 427.4 | 425.4 | 424.5 |
| 45° | 409.4 | 409.4 | 406.1 | 402.8 | 400.6 |
| 47.5° | 386.4 | 386.6 | 383.1 | 378.9 | 377.5 |
| 50° | 362.9 | 363.3 | 358.7 | 355.1 | 355.1 |
| 52.5° | 338.3 | 339.6 | 335.2 | 331.4 | 329.9 |
| 55° | 314.2 | 315.5 | 310.6 | 306.6 | 304.6 |
| 57.5° | 290.9 | 290.7 | 286.7 | 281.4 | 280.9 |
| 60° | 264.3 | 265.9 | 260.8 | 256.8 | 254.6 |
| 62.5° | 239.1 | 241.0 | 235.5 | 231.7 | 230.4 |
| 65° | 214.0 | 215.3 | 210.0 | 206.5 | 203.6 |
| 67.5° | 189.4 | 189.0 | 184.1 | 180.1 | 178.6 |
| 70° | 162.2 | 163.1 | 157.7 | 154.9 | 153.5 |
| 72.5° | 136.7 | 137.6 | 132.9 | 130.9 | 128.7 |
| 75° | 111.7 | 110.6 | 109.0 | 105.9 | 104.8 |
| 77.5° | 85.1 | 86.2 | 85.7 | 82.4 | 82.0 |
| 80° | 61.4 | 63.8 | 62.5 | 60.0 | 59.8 |
| 82.5° | 40.8 | 43.2 | 42.5 | 41.9 | 41.2 |
| 85° | 22.2 | 25.3 | 25.0 | 25.9 | 26.8 |
| 87.5° | 8.4 | 10.9 | 12.8 | 12.6 | 13.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)