

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: P189192

Luminaire Tested: **MAE-G-2-LD4-UNV-EXAM-STD-40-WDDCPH**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P189192  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27478)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MAE-G-2-LD4-UNV-EXAM-STD-40-WDDCPH  
Description: FAILSAFE 2X2 LED MEDICAL EXAM LUMINAIRE  
Light Source: (84) 4000K NICHIA LEDS  
2UT119028A8404A  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1814.7 lumens  
Efficiency: N/A  
Efficacy: 52.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.04 / 1.21  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
CIE Type: Direct

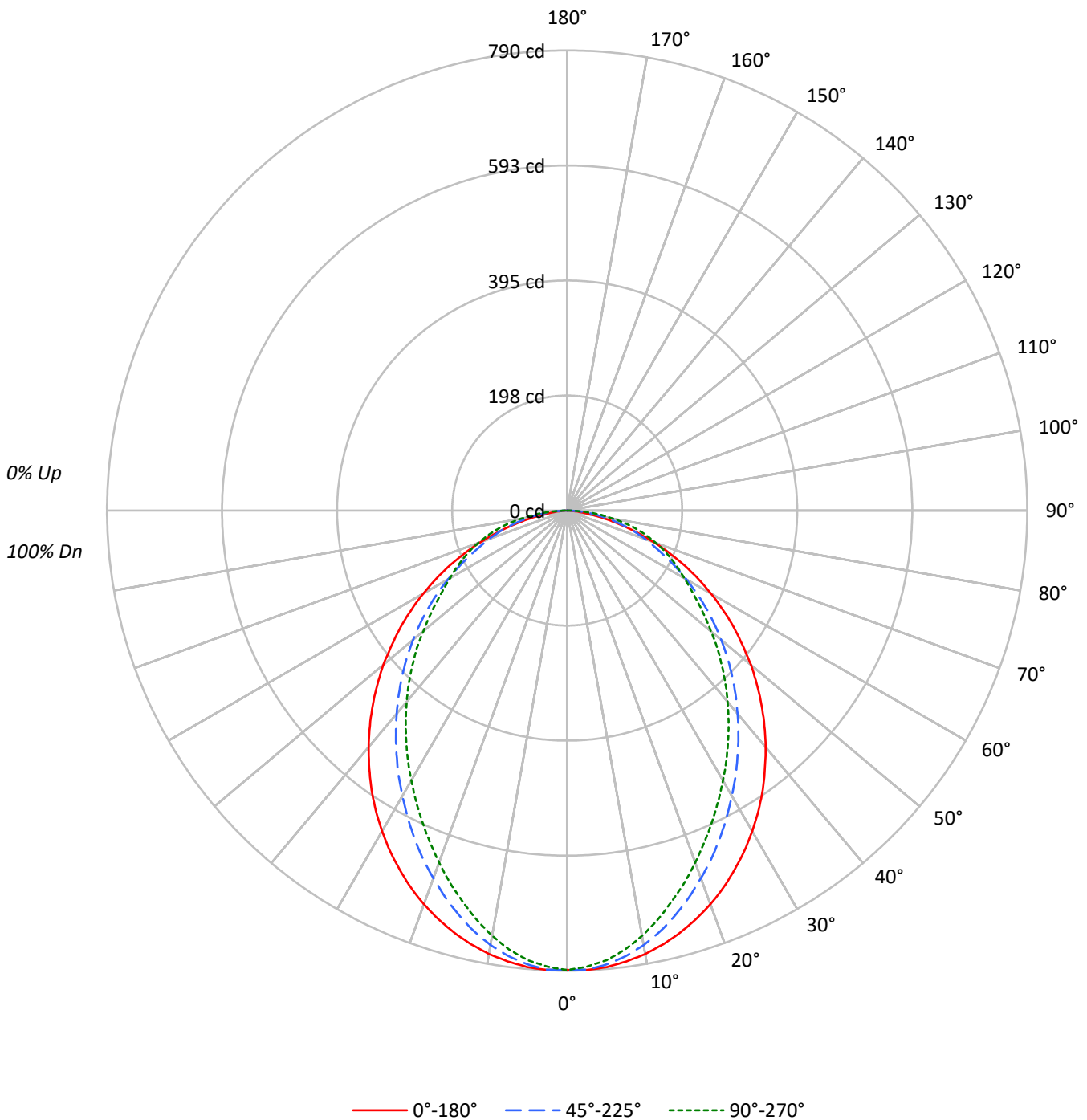
Input Watts (W): 34.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 77  | 74  | 71  |
| 3   | 91  | 81  | 73  | 67  | 89  | 80  | 72  | 66  | 77  | 70  | 65  | 74  | 69  | 64  | 71  | 67  | 63  | 61  |
| 4   | 84  | 72  | 64  | 57  | 82  | 71  | 63  | 57  | 68  | 62  | 56  | 66  | 60  | 55  | 64  | 59  | 55  | 52  |
| 5   | 77  | 65  | 56  | 50  | 75  | 64  | 56  | 49  | 62  | 54  | 49  | 60  | 53  | 48  | 58  | 52  | 48  | 46  |
| 6   | 72  | 59  | 50  | 44  | 70  | 58  | 50  | 44  | 56  | 49  | 43  | 54  | 48  | 43  | 53  | 47  | 42  | 40  |
| 7   | 67  | 53  | 45  | 39  | 65  | 53  | 45  | 39  | 51  | 44  | 39  | 50  | 43  | 38  | 48  | 42  | 38  | 36  |
| 8   | 62  | 49  | 41  | 35  | 61  | 48  | 40  | 35  | 47  | 40  | 35  | 46  | 39  | 34  | 45  | 39  | 34  | 32  |
| 9   | 58  | 45  | 37  | 32  | 57  | 44  | 37  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  | 29  |
| 10  | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 38  | 33  | 28  | 27  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8542 | 8542 | 8542 |
| 5°  | 8550 | 8501 | 8421 |
| 10° | 8499 | 8328 | 8152 |
| 15° | 8408 | 8059 | 7786 |
| 20° | 8288 | 7738 | 7410 |
| 25° | 8130 | 7414 | 7037 |
| 30° | 7947 | 7073 | 6690 |
| 35° | 7737 | 6750 | 6368 |
| 40° | 7495 | 6433 | 6061 |
| 45° | 7230 | 6126 | 5750 |
| 50° | 6937 | 5815 | 5430 |
| 55° | 6595 | 5483 | 5162 |
| 60° | 6185 | 5111 | 5025 |
| 65° | 5688 | 4740 | 5071 |
| 70° | 4990 | 4499 | 5142 |
| 75° | 4054 | 4272 | 5184 |
| 80° | 2881 | 3922 | 5032 |
| 85° | 1652 | 3404 | 4821 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.7   | 4.1       |
| 10°-20°   | 202.5  | 11.2      |
| 20°-30°   | 288.8  | 15.9      |
| 30°-40°   | 326.5  | 18.0      |
| 40°-50°   | 317.8  | 17.5      |
| 50°-60°   | 268.8  | 14.8      |
| 60°-70°   | 195.5  | 10.8      |
| 70°-80°   | 110.7  | 6.1       |
| 80°-90°   | 30.4   | 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°    | 565.0  | 31.1      |
| 0°-40°    | 891.5  | 49.1      |
| 0°-60°    | 1478.0 | 81.4      |
| 0°-90°    | 1814.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1814.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 789 | 789   | 789 | 789   | 789 |      |
| 5°  | 787 | 786   | 782 | 772   | 775 | 75   |
| 15° | 750 | 742   | 719 | 696   | 694 | 211  |
| 25° | 680 | 661   | 620 | 594   | 589 | 313  |
| 35° | 585 | 557   | 511 | 487   | 482 | 366  |
| 45° | 472 | 442   | 400 | 382   | 376 | 364  |
| 55° | 349 | 322   | 290 | 277   | 273 | 312  |
| 65° | 222 | 200   | 185 | 194   | 198 | 219  |
| 75° | 97  | 87    | 102 | 118   | 124 | 104  |
| 85° | 13  | 18    | 27  | 35    | 39  | 19   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 788.8 | 788.8 | 788.8 | 788.8 | 788.8 |
| 2.5°  | 789.5 | 790.7 | 788.8 | 781.0 | 783.6 |
| 5°    | 786.6 | 786.2 | 782.1 | 772.5 | 774.7 |
| 7.5°  | 780.7 | 778.8 | 771.4 | 759.2 | 760.3 |
| 10°   | 772.9 | 769.2 | 757.4 | 741.4 | 741.4 |
| 12.5° | 762.5 | 756.6 | 739.6 | 720.0 | 719.2 |
| 15°   | 750.0 | 741.8 | 718.9 | 695.9 | 694.5 |
| 17.5° | 735.5 | 724.8 | 695.9 | 670.8 | 669.7 |
| 20°   | 719.2 | 705.6 | 671.5 | 645.6 | 643.0 |
| 22.5° | 700.7 | 684.1 | 647.1 | 620.1 | 616.0 |
| 25°   | 680.4 | 660.8 | 620.5 | 593.5 | 589.0 |
| 27.5° | 658.9 | 636.7 | 593.1 | 566.4 | 562.0 |
| 30°   | 635.6 | 611.2 | 565.7 | 539.8 | 535.0 |
| 32.5° | 611.2 | 584.6 | 538.7 | 513.5 | 508.7 |
| 35°   | 585.3 | 556.8 | 510.6 | 486.9 | 481.7 |
| 37.5° | 557.9 | 529.4 | 482.8 | 460.6 | 455.1 |
| 40°   | 530.2 | 501.0 | 455.1 | 434.0 | 428.8 |
| 42.5° | 501.3 | 472.1 | 427.7 | 407.7 | 402.2 |
| 45°   | 472.1 | 442.1 | 400.0 | 381.5 | 375.5 |
| 47.5° | 441.8 | 412.9 | 372.9 | 355.2 | 350.0 |
| 50°   | 411.8 | 382.9 | 345.2 | 328.9 | 322.3 |
| 52.5° | 379.2 | 352.2 | 317.8 | 302.3 | 297.5 |
| 55°   | 349.3 | 321.9 | 290.4 | 276.7 | 273.4 |
| 57.5° | 317.4 | 291.9 | 263.4 | 253.4 | 251.6 |
| 60°   | 285.6 | 261.2 | 236.0 | 231.2 | 232.0 |
| 62.5° | 253.4 | 230.1 | 210.2 | 211.3 | 215.3 |
| 65°   | 222.0 | 199.8 | 185.0 | 193.9 | 197.9 |
| 67.5° | 189.4 | 170.2 | 162.4 | 176.1 | 180.6 |
| 70°   | 157.6 | 139.9 | 142.1 | 156.9 | 162.4 |
| 72.5° | 126.5 | 112.5 | 122.1 | 138.0 | 143.2 |
| 75°   | 96.9  | 86.9  | 102.1 | 118.0 | 123.9 |
| 77.5° | 69.9  | 64.7  | 82.1  | 97.3  | 103.6 |
| 80°   | 46.2  | 47.0  | 62.9  | 76.6  | 80.7  |
| 82.5° | 27.4  | 31.1  | 44.4  | 55.1  | 59.2  |
| 85°   | 13.3  | 17.8  | 27.4  | 35.1  | 38.8  |
| 87.5° | 4.4   | 7.4   | 11.8  | 13.3  | 12.9  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)