

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P990995

Luminaire Tested: **ML4ALSFLD2W1E-TIR4D55WFL-TL4RDSL-600LM-3000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P990995  
 Test Lab: Cooper Lighting Solutions  
 Issue Date: 5/13/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: ML4ALSFLD2W1E-TIR4D55WFL-TL4RDSL-600LM-3000K  
 Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
 Light Source: (1) D2W LED 90CRI / 3000K CCT  
 Ballast/Driver: -

**Summary**

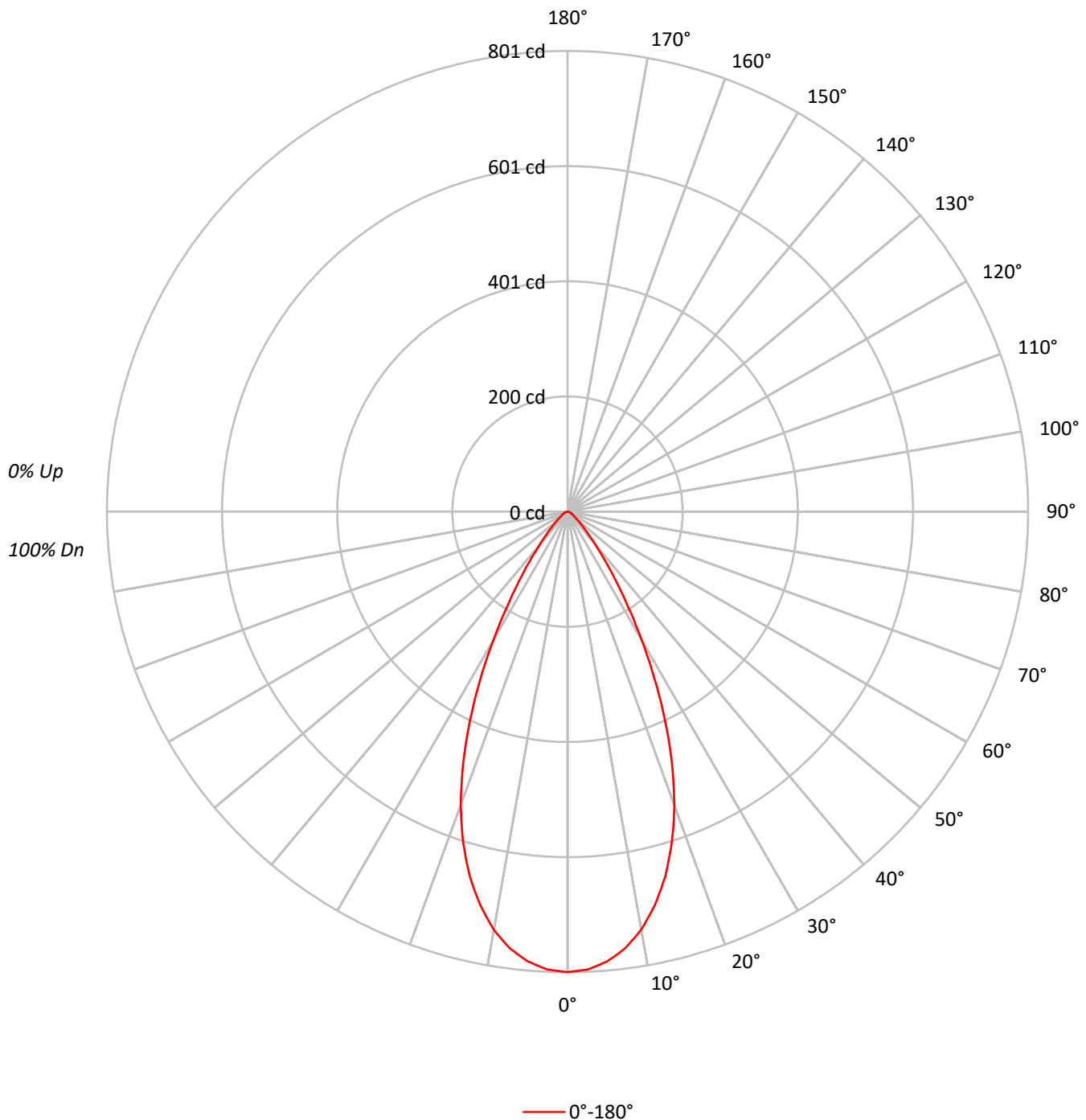
Lumens per Lamp: N/A  
 Luminaire Lumens: 587.7 lumens  
 Efficiency: N/A  
 Efficacy: 70.8 lumens/watt  
 Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.77  
 Luminous Opening: Circular (Dia: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 8.3  
 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

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | GONIO 1 IN0055        | 4/22/2021        | 10/22/2021           |
| Power Meter                    | XITRON 2801 IN0197    | 12/1/2020        | 12/1/2021            |
| AC Power Source                | CHROMA 61505 IN0196   | 12/1/2020        | 12/1/2021            |
| DC Power Supply                | AGILENT E3634A IN0198 | 11/30/2020       | 11/30/2021           |
| Room Thermometer               | ONSET IN0143          | 12/1/2020        | 12/1/2021            |

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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 113 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 |  | 101 | 99  | 98  |  | 97  |
| 2   | 108 | 103 | 99  | 96  | 106 | 101 | 98  | 95  | 98  | 95  | 92  |  | 95  | 93  | 91  |  | 92  |
| 3   | 103 | 96  | 91  | 87  | 101 | 95  | 90  | 87  | 92  | 88  | 85  |  | 90  | 87  | 84  |  | 87  |
| 4   | 97  | 90  | 85  | 80  | 96  | 89  | 84  | 80  | 87  | 82  | 79  |  | 85  | 81  | 78  |  | 83  |
| 5   | 93  | 85  | 79  | 75  | 91  | 84  | 78  | 74  | 82  | 77  | 74  |  | 80  | 76  | 73  |  | 79  |
| 6   | 88  | 80  | 74  | 69  | 87  | 79  | 73  | 69  | 77  | 72  | 69  |  | 76  | 72  | 68  |  | 75  |
| 7   | 84  | 75  | 69  | 65  | 83  | 74  | 69  | 65  | 73  | 68  | 64  |  | 72  | 67  | 64  |  | 71  |
| 8   | 80  | 71  | 65  | 61  | 79  | 70  | 65  | 61  | 69  | 64  | 61  |  | 68  | 64  | 60  |  | 67  |
| 9   | 77  | 67  | 61  | 58  | 76  | 67  | 61  | 57  | 66  | 61  | 57  |  | 65  | 60  | 57  |  | 64  |
| 10  | 73  | 64  | 58  | 54  | 72  | 63  | 58  | 54  | 63  | 58  | 54  |  | 62  | 57  | 54  |  | 61  |

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

|     |       |
|-----|-------|
|     | 0°    |
| 0°  | 98763 |
| 5°  | 97221 |
| 10° | 92458 |
| 15° | 83833 |
| 20° | 71314 |
| 25° | 54656 |
| 30° | 36661 |
| 35° | 21804 |
| 40° | 12350 |
| 45° | 7117  |
| 50° | 4394  |
| 55° | 3054  |
| 60° | 2442  |
| 65° | 2160  |
| 70° | 1803  |
| 75° | 1191  |
| 80° | 0     |
| 85° | 0     |

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.5   | 12.5      |
| 10°-20°   | 181.6  | 30.9      |
| 20°-30°   | 181.8  | 30.9      |
| 30°-40°   | 94.0   | 16.0      |
| 40°-50°   | 33.6   | 5.7       |
| 50°-60°   | 13.3   | 2.3       |
| 60°-70°   | 7.4    | 1.3       |
| 70°-80°   | 2.6    | 0.4       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 436.8  | 74.3      |
| 0°-40°    | 530.8  | 90.3      |
| 0°-60°    | 577.7  | 98.3      |
| 0°-90°    | 587.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 587.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 801 |      |
| 5°  | 785 | 73   |
| 15° | 656 | 182  |
| 25° | 402 | 182  |
| 35° | 145 | 94   |
| 45° | 41  | 34   |
| 55° | 14  | 13   |
| 65° | 7   | 7    |
| 75° | 2   | 3    |
| 85° | 0   | 0    |
| 90° | 0   |      |

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**CANDELA DISTRIBUTION (FULL):**

| 0°    |       |
|-------|-------|
| 0°    | 800.7 |
| 2.5°  | 797.0 |
| 5°    | 785.2 |
| 7.5°  | 766.1 |
| 10°   | 738.2 |
| 12.5° | 701.1 |
| 15°   | 656.5 |
| 17.5° | 603.3 |
| 20°   | 543.3 |
| 22.5° | 474.6 |
| 25°   | 401.6 |
| 27.5° | 328.0 |
| 30°   | 257.4 |
| 32.5° | 194.9 |
| 35°   | 144.8 |
| 37.5° | 105.8 |
| 40°   | 76.7  |
| 42.5° | 55.7  |
| 45°   | 40.8  |
| 47.5° | 30.3  |
| 50°   | 22.9  |
| 52.5° | 17.3  |
| 55°   | 14.2  |
| 57.5° | 11.8  |
| 60°   | 9.9   |
| 62.5° | 8.7   |
| 65°   | 7.4   |
| 67.5° | 6.2   |
| 70°   | 5.0   |
| 72.5° | 3.7   |
| 75°   | 2.5   |
| 77.5° | 1.2   |
| 80°   | 0.0   |
| 82.5° | 0.0   |
| 85°   | 0.0   |
| 87.5° | 0.0   |
| 90°   | 0.0   |

(END OF REPORT)