

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: P990610

Luminaire Tested: **ML2ALSFL9FS1E-TIR1D40FL-TL2RDSL-550LM-4000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P990610  
 Test Lab: Cooper Lighting Solutions  
 Issue Date: 5/13/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: ML2ALSFL9FS1E-TIR1D40FL-TL2RDSL-550LM-4000K  
 Description: 2IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM  
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
 Ballast/Driver: -

**Summary**

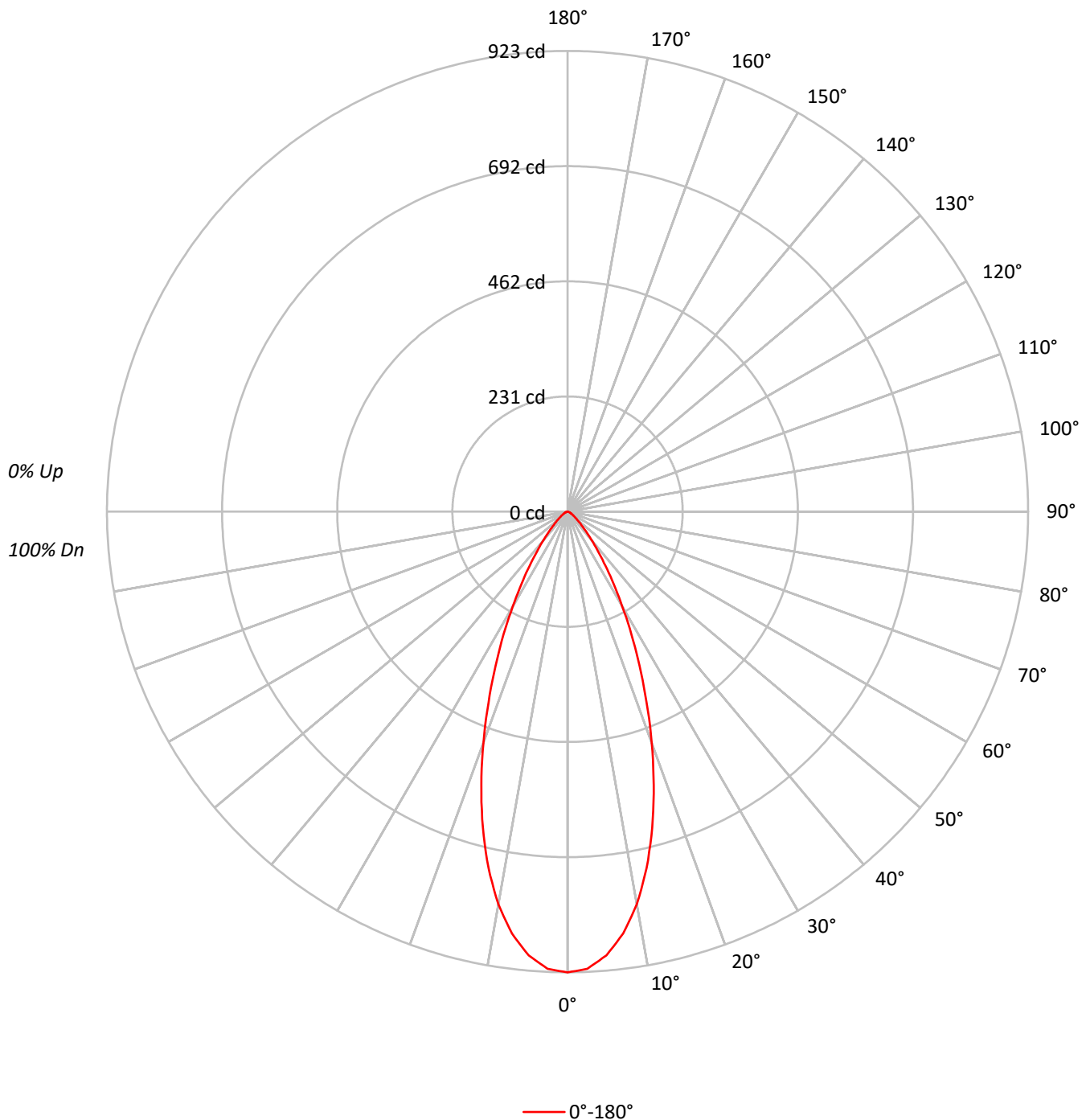
Lumens per Lamp: N/A  
 Luminaire Lumens: 563.3 lumens  
 Efficiency: N/A  
 Efficacy: 74.1 lumens/watt  
 Spacing Criteria (0/90/45): 0.67 / 0.67 / 0.69  
 Luminous Opening: Circular (Dia: 0.17' x H: 0')  
 CIE Type: Direct

Input Watts (W): 7.6  
 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

| 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   | 114 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 |  | 101 | 100 | 98  |  | 97  |
| 2   | 108 | 103 | 99  | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 93  |  | 95  | 93  | 91  |  | 93  |
| 3   | 103 | 96  | 92  | 88  | 101 | 95  | 91  | 87  | 92  | 89  | 86  |  | 90  | 87  | 84  |  | 88  |
| 4   | 98  | 90  | 85  | 81  | 96  | 89  | 84  | 80  | 87  | 83  | 79  |  | 85  | 82  | 79  |  | 83  |
| 5   | 93  | 85  | 79  | 75  | 92  | 84  | 79  | 75  | 82  | 78  | 74  |  | 81  | 77  | 74  |  | 79  |
| 6   | 89  | 80  | 74  | 70  | 87  | 79  | 74  | 70  | 78  | 73  | 70  |  | 77  | 72  | 69  |  | 75  |
| 7   | 85  | 76  | 70  | 66  | 83  | 75  | 70  | 66  | 74  | 69  | 65  |  | 73  | 68  | 65  |  | 72  |
| 8   | 81  | 72  | 66  | 62  | 80  | 71  | 66  | 62  | 70  | 65  | 62  |  | 69  | 65  | 61  |  | 68  |
| 9   | 77  | 68  | 63  | 59  | 76  | 68  | 62  | 59  | 67  | 62  | 58  |  | 66  | 61  | 58  |  | 65  |
| 10  | 74  | 65  | 59  | 56  | 73  | 65  | 59  | 56  | 64  | 59  | 55  |  | 63  | 58  | 55  |  | 62  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 455488 |
| 5°  | 441974 |
| 10° | 400191 |
| 15° | 334972 |
| 20° | 258846 |
| 25° | 185689 |
| 30° | 124766 |
| 35° | 79504  |
| 40° | 48884  |
| 45° | 29933  |
| 50° | 19419  |
| 55° | 13247  |
| 60° | 9769   |
| 65° | 7705   |
| 70° | 6347   |
| 75° | 4194   |
| 80° | 3125   |
| 85° | 0      |

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 82.2   | 14.6      |
| 10°-20°   | 180.3  | 32.0      |
| 20°-30°   | 156.9  | 27.9      |
| 30°-40°   | 84.8   | 15.1      |
| 40°-50°   | 35.0   | 6.2       |
| 50°-60°   | 14.4   | 2.6       |
| 60°-70°   | 6.9    | 1.2       |
| 70°-80°   | 2.5    | 0.4       |
| 80°-90°   | 0.1    | 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°    | 419.5  | 74.5      |
| 0°-40°    | 504.3  | 89.5      |
| 0°-60°    | 553.7  | 98.3      |
| 0°-90°    | 563.3  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 563.3  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 923 |      |
| 5°  | 892 | 82   |
| 15° | 656 | 180  |
| 25° | 341 | 157  |
| 35° | 132 | 85   |
| 45° | 43  | 35   |
| 55° | 15  | 14   |
| 65° | 7   | 7    |
| 75° | 2   | 2    |
| 85° | 0   | 0    |
| 90° | 0   |      |

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**CANDELA DISTRIBUTION (FULL):**

| 0°    |       |
|-------|-------|
| 0°    | 923.2 |
| 2.5°  | 916.6 |
| 5°    | 892.4 |
| 7.5°  | 852.8 |
| 10°   | 798.8 |
| 12.5° | 731.7 |
| 15°   | 655.8 |
| 17.5° | 574.4 |
| 20°   | 493.0 |
| 22.5° | 413.7 |
| 25°   | 341.1 |
| 27.5° | 277.3 |
| 30°   | 219.0 |
| 32.5° | 171.7 |
| 35°   | 132.0 |
| 37.5° | 100.1 |
| 40°   | 75.9  |
| 42.5° | 57.2  |
| 45°   | 42.9  |
| 47.5° | 33.0  |
| 50°   | 25.3  |
| 52.5° | 19.8  |
| 55°   | 15.4  |
| 57.5° | 12.1  |
| 60°   | 9.9   |
| 62.5° | 8.8   |
| 65°   | 6.6   |
| 67.5° | 5.5   |
| 70°   | 4.4   |
| 72.5° | 3.3   |
| 75°   | 2.2   |
| 77.5° | 1.1   |
| 80°   | 1.1   |
| 82.5° | 0.0   |
| 85°   | 0.0   |
| 87.5° | 0.0   |
| 90°   | 0.0   |

(END OF REPORT)