

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P885830

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1RDSL-400LM-3500K

Issue Date: 7/18/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885830  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-119)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/18/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1RDSL-400LM-3500K  
Description: 1IN ROUND ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

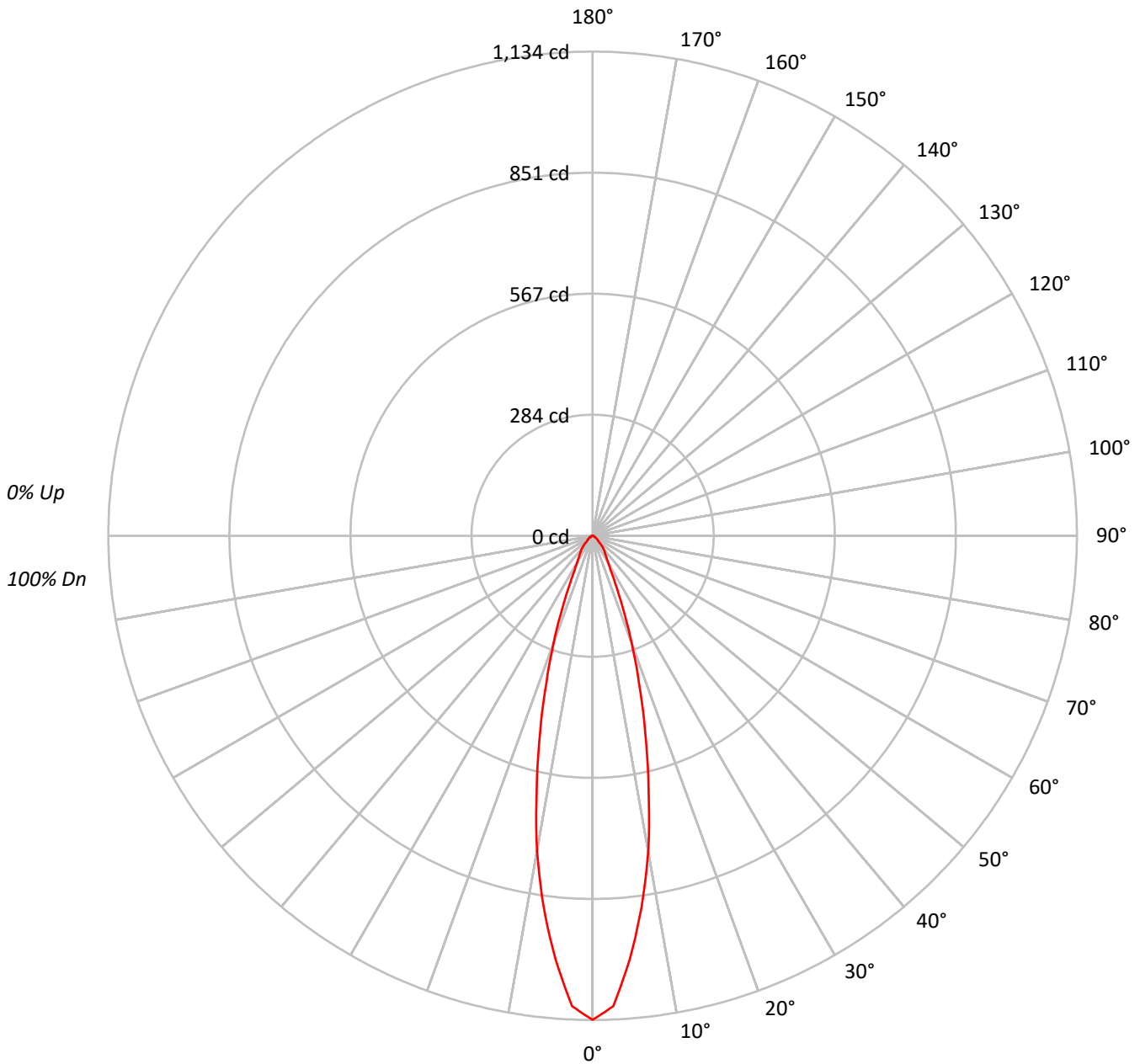
Lumens per Lamp: N/A  
Luminaire Lumens: 350.7 lumens  
Efficiency: N/A  
Efficacy: 58.5 lumens/watt  
Spacing Criteria (0/90/45): 0.44 / 0.44 / 0.47  
Luminous Opening: Circular (Dia: 0.08' x H: 0')  
CIE Type: Direct

Input Watts (W): 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: 24 FT



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CATALOG NUMBER: ML104LSFL9FS1E-TIR1D25NFL-TL1RD5L-400LM-3500K

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |    |    |    |    |    |    |    | 20 |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| RC  | 80  |     |     |     |     |     |     |     |     | 50  |     |     |     |     |     |     |     |     | 30 |    |    |    |    |    |    |    |    | 10 |    |   |  |  |  |  |  |  | 0 |  |  |  |  |  |  |  |  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 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   | 114 | 111 | 109 | 107 | 112 | 109 | 107 | 105 | 105 | 104 | 102 | 102 | 100 | 99  | 98  | 97  | 96  | 95  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  | 100 | 97  | 95  | 97  | 95  | 93  | 94  | 92  | 91  | 89  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 3   | 104 | 99  | 94  | 91  | 103 | 97  | 93  | 90  | 95  | 91  | 89  | 92  | 90  | 87  | 90  | 88  | 86  | 84  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 4   | 100 | 93  | 89  | 85  | 98  | 92  | 88  | 84  | 90  | 86  | 83  | 88  | 85  | 82  | 87  | 84  | 82  | 80  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 5   | 96  | 89  | 84  | 80  | 95  | 88  | 83  | 80  | 86  | 82  | 79  | 85  | 81  | 78  | 83  | 80  | 78  | 76  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 6   | 92  | 85  | 79  | 76  | 91  | 84  | 79  | 76  | 82  | 78  | 75  | 81  | 77  | 75  | 80  | 77  | 74  | 73  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 7   | 89  | 81  | 76  | 72  | 88  | 80  | 75  | 72  | 79  | 75  | 72  | 78  | 74  | 71  | 77  | 73  | 71  | 70  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 8   | 86  | 78  | 72  | 69  | 85  | 77  | 72  | 69  | 76  | 72  | 69  | 75  | 71  | 68  | 74  | 71  | 68  | 67  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 9   | 83  | 75  | 69  | 66  | 82  | 74  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 66  | 72  | 68  | 65  | 64  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
| 10  | 80  | 72  | 67  | 64  | 79  | 71  | 67  | 63  | 71  | 66  | 63  | 70  | 66  | 63  | 69  | 66  | 63  | 62  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 2237207 |
| 5°  | 1973354 |
| 10° | 1502790 |
| 15° | 968254  |
| 20° | 558863  |
| 25° | 280035  |
| 30° | 165445  |
| 35° | 124558  |
| 40° | 99187   |
| 45° | 64472   |
| 50° | 47282   |
| 55° | 37848   |
| 60° | 30393   |
| 65° | 20547   |
| 70° | 12695   |
| 75° | 8388    |
| 80° | 12502   |
| 85° | 0       |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 64472 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 87.4   | 24.9      |
| 10°-20°   | 131.0  | 37.3      |
| 20°-30°   | 64.2   | 18.3      |
| 30°-40°   | 33.0   | 9.4       |
| 40°-50°   | 19.0   | 5.4       |
| 50°-60°   | 9.9    | 2.8       |
| 60°-70°   | 4.5    | 1.3       |
| 70°-80°   | 1.6    | 0.5       |
| 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°    | 282.6  | 80.6      |
| 0°-40°    | 315.6  | 90.0      |
| 0°-60°    | 344.5  | 98.2      |
| 0°-90°    | 350.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 350.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1134 |      |
| 5°  | 996  | 87   |
| 15° | 474  | 131  |
| 25° | 129  | 64   |
| 35° | 52   | 33   |
| 45° | 23   | 19   |
| 55° | 11   | 10   |
| 65° | 4    | 4    |
| 75° | 1    | 2    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1133.6 |
| 2.5°  | 1102.8 |
| 5°    | 996.1  |
| 7.5°  | 877.4  |
| 10°   | 749.9  |
| 12.5° | 604.7  |
| 15°   | 473.9  |
| 17.5° | 360.6  |
| 20°   | 266.1  |
| 22.5° | 186.9  |
| 25°   | 128.6  |
| 27.5° | 92.4   |
| 30°   | 72.6   |
| 32.5° | 60.5   |
| 35°   | 51.7   |
| 37.5° | 45.1   |
| 40°   | 38.5   |
| 42.5° | 31.9   |
| 45°   | 23.1   |
| 47.5° | 17.6   |
| 50°   | 15.4   |
| 52.5° | 13.2   |
| 55°   | 11.0   |
| 57.5° | 8.8    |
| 60°   | 7.7    |
| 62.5° | 5.5    |
| 65°   | 4.4    |
| 67.5° | 3.3    |
| 70°   | 2.2    |
| 72.5° | 2.2    |
| 75°   | 1.1    |
| 77.5° | 1.1    |
| 80°   | 1.1    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
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Scaled Data Report





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Scaled Data Report



— 0°-180°

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