

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: P886032

Luminaire Tested: ML104LSFLD2W1E-TIR1D40FL-TL1SDSL-200LM-3500K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886032  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-143)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFLD2W1E-TIR1D40FL-TL1SDSL-200LM-3500K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM  
Light Source: (1) D2W LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

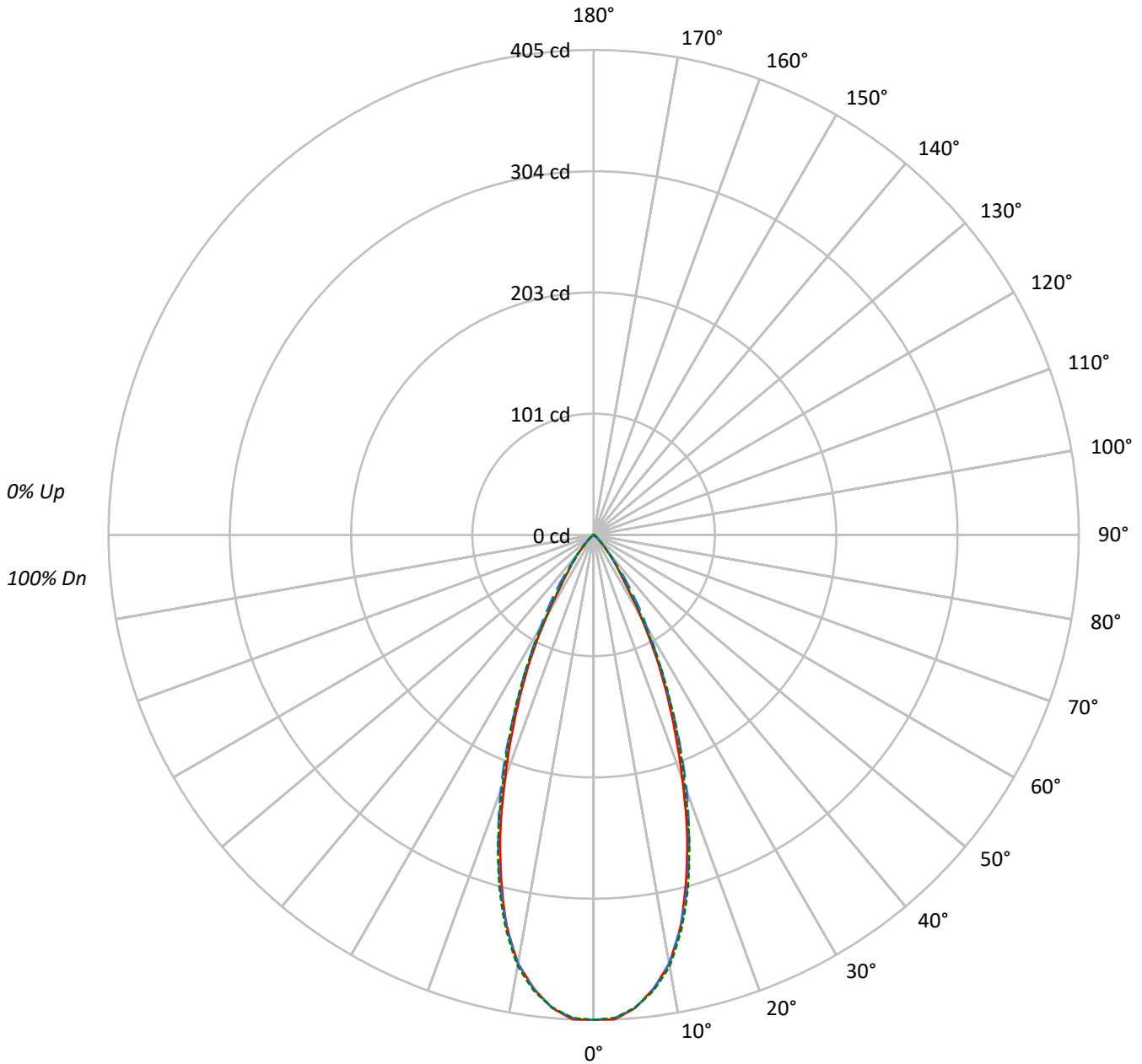
Lumens per Lamp: N/A  
Luminaire Lumens: 224.8 lumens  
Efficiency: N/A  
Efficacy: 70.2 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.69 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

Input Watts (W): 3.2  
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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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |   |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|---|--|---|
| RF  | 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  | 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 | 112 | 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  | 102 | 97  | 93  | 90  | 95  | 91  | 88  | 92  | 89  | 87  | 90  | 88  | 86  | 84  |    |    |    |    |    |   |  |   |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 84  | 90  | 86  | 83  | 88  | 85  | 82  | 86  | 83  | 81  | 80  |    |    |    |    |    |   |  |   |
| 5   | 96  | 88  | 83  | 79  | 94  | 87  | 82  | 79  | 85  | 81  | 78  | 84  | 80  | 77  | 82  | 79  | 77  | 75  |    |    |    |    |    |   |  |   |
| 6   | 92  | 84  | 78  | 74  | 90  | 83  | 78  | 74  | 81  | 77  | 74  | 80  | 76  | 73  | 79  | 75  | 73  | 71  |    |    |    |    |    |   |  |   |
| 7   | 88  | 79  | 74  | 70  | 86  | 79  | 74  | 70  | 78  | 73  | 70  | 76  | 72  | 69  | 75  | 72  | 69  | 68  |    |    |    |    |    |   |  |   |
| 8   | 84  | 76  | 70  | 67  | 83  | 75  | 70  | 67  | 74  | 70  | 66  | 73  | 69  | 66  | 72  | 69  | 66  | 65  |    |    |    |    |    |   |  |   |
| 9   | 81  | 72  | 67  | 63  | 80  | 72  | 67  | 63  | 71  | 66  | 63  | 70  | 66  | 63  | 69  | 65  | 63  | 61  |    |    |    |    |    |   |  |   |
| 10  | 78  | 69  | 64  | 60  | 77  | 69  | 64  | 60  | 68  | 63  | 60  | 67  | 63  | 60  | 66  | 63  | 60  | 59  |    |    |    |    |    |   |  |   |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 627602 | 627602 | 627602 |
| 5°  | 617085 | 617085 | 616151 |
| 10° | 571808 | 571808 | 575271 |
| 15° | 478841 | 485099 | 488630 |
| 20° | 355961 | 374270 | 366022 |
| 25° | 241830 | 252262 | 254315 |
| 30° | 139068 | 157861 | 145869 |
| 35° | 70391  | 91394  | 72472  |
| 40° | 38242  | 41480  | 38242  |
| 45° | 15783  | 20605  | 17098  |
| 50° | 9404   | 9404   | 9404   |
| 55° | 5945   | 4594   | 5945   |
| 60° | 3410   | 1860   | 3410   |
| 65° | 2201   | 2201   | 4034   |
| 70° | 2719   | 2719   | 2719   |
| 75° | 3593   | 0      | 3593   |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 20605 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 36.8   | 16.4      |
| 10°-20°   | 82.6   | 36.7      |
| 20°-30°   | 67.3   | 29.9      |
| 30°-40°   | 28.0   | 12.5      |
| 40°-50°   | 7.3    | 3.2       |
| 50°-60°   | 1.8    | 0.8       |
| 60°-70°   | 0.7    | 0.3       |
| 70°-80°   | 0.3    | 0.1       |
| 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°    | 186.7  | 83.1      |
| 0°-40°    | 214.7  | 95.5      |
| 0°-60°    | 223.8  | 99.6      |
| 0°-90°    | 224.8  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 224.8  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 405 | 405   | 405 | 405   | 405 |      |
| 5°  | 397 | 397   | 397 | 397   | 396 | 37   |
| 15° | 298 | 299   | 302 | 303   | 304 | 82   |
| 25° | 141 | 145   | 148 | 149   | 149 | 65   |
| 35° | 37  | 40    | 48  | 41    | 38  | 25   |
| 45° | 7   | 8     | 9   | 8     | 8   | 7    |
| 55° | 2   | 2     | 2   | 2     | 2   | 2    |
| 65° | 1   | 1     | 1   | 1     | 1   | 1    |
| 75° | 1   | 0     | 0   | 0     | 1   | 0    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 404.9 | 404.9 | 404.9 | 404.9 | 404.9 |
| 2.5°  | 404.9 | 404.9 | 403.8 | 404.4 | 403.8 |
| 5°    | 396.6 | 396.6 | 396.6 | 397.1 | 396.0 |
| 7.5°  | 382.2 | 383.3 | 382.7 | 382.7 | 383.8 |
| 10°   | 363.3 | 363.3 | 363.3 | 363.9 | 365.5 |
| 12.5° | 335.0 | 335.6 | 335.0 | 336.7 | 337.8 |
| 15°   | 298.4 | 299.0 | 302.3 | 303.4 | 304.5 |
| 17.5° | 259.0 | 260.7 | 265.1 | 265.7 | 265.1 |
| 20°   | 215.8 | 220.2 | 226.9 | 225.2 | 221.9 |
| 22.5° | 176.9 | 179.7 | 186.9 | 184.2 | 184.7 |
| 25°   | 141.4 | 145.3 | 147.5 | 149.2 | 148.7 |
| 27.5° | 108.7 | 113.7 | 115.4 | 117.0 | 114.8 |
| 30°   | 77.7  | 83.8  | 88.2  | 87.6  | 81.5  |
| 32.5° | 52.1  | 59.4  | 67.1  | 61.0  | 55.5  |
| 35°   | 37.2  | 40.5  | 48.3  | 41.0  | 38.3  |
| 37.5° | 27.2  | 28.3  | 31.6  | 28.3  | 27.2  |
| 40°   | 18.9  | 20.0  | 20.5  | 20.0  | 18.9  |
| 42.5° | 12.2  | 13.3  | 13.9  | 13.3  | 12.2  |
| 45°   | 7.2   | 8.3   | 9.4   | 8.3   | 7.8   |
| 47.5° | 5.0   | 4.4   | 6.1   | 5.0   | 5.5   |
| 50°   | 3.9   | 3.3   | 3.9   | 3.9   | 3.9   |
| 52.5° | 2.8   | 2.8   | 2.2   | 2.8   | 2.8   |
| 55°   | 2.2   | 1.7   | 1.7   | 1.7   | 2.2   |
| 57.5° | 1.7   | 1.1   | 1.1   | 1.7   | 1.7   |
| 60°   | 1.1   | 1.1   | 0.6   | 1.1   | 1.1   |
| 62.5° | 1.1   | 0.6   | 0.6   | 1.1   | 1.1   |
| 65°   | 0.6   | 0.6   | 0.6   | 0.6   | 1.1   |
| 67.5° | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   |
| 70°   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   |
| 72.5° | 0.6   | 0.6   | 0.0   | 0.6   | 0.6   |
| 75°   | 0.6   | 0.0   | 0.0   | 0.0   | 0.6   |
| 77.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.6   |
| 80°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 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

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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - 90°-270°

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