

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: P886817

Luminaire Tested: ML310LSFLD2W1E-TIR4D55WFL-TL3SDMW-600LM-3000K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886817  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-19)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/8/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFLD2W1E-TIR4D55WFL-TL3SDMW-600LM-3000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

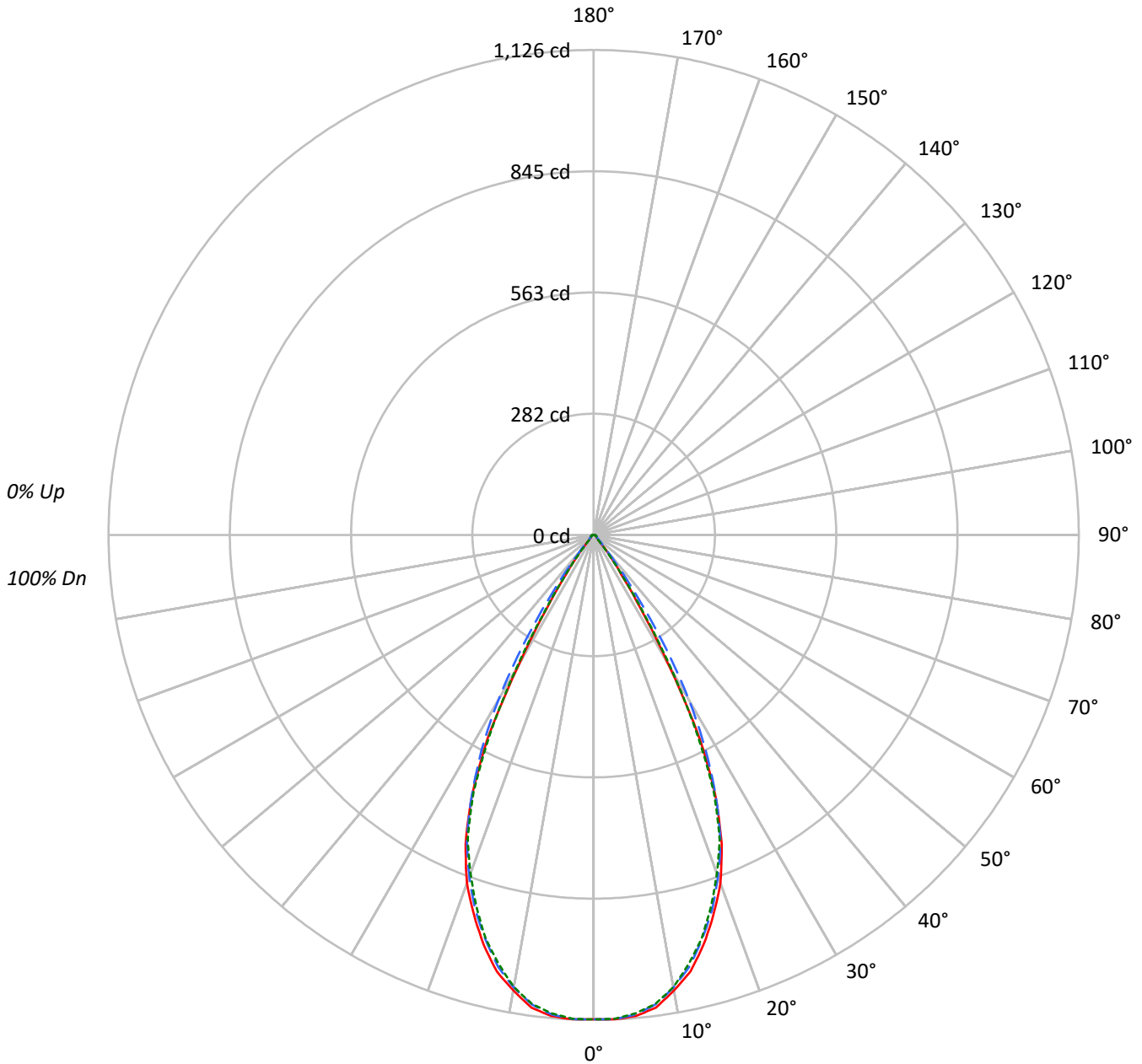
Lumens per Lamp: N/A  
Luminaire Lumens: 806.7 lumens  
Efficiency: N/A  
Efficacy: 84.9 lumens/watt  
Spacing Criteria (0/90/45): 0.87 / 0.86 / 0.82  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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  |     |     |    |    | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |    |    | 94  |   |  |   |
| 2   | 109 | 104 | 100 | 97  | 106 | 102 | 99  | 96  | 99  | 96  | 94  | 96  | 94  | 92  | 93  | 92  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 3   | 104 | 98  | 93  | 89  | 102 | 96  | 92  | 89  | 94  | 90  | 87  | 91  | 88  | 86  | 89  | 87  | 84  | 83  |    |    |    |    | 83  |   |  |   |
| 4   | 99  | 92  | 87  | 83  | 97  | 91  | 86  | 82  | 89  | 85  | 81  | 87  | 83  | 80  | 85  | 82  | 80  | 78  |    |    |    |    | 78  |   |  |   |
| 5   | 94  | 87  | 81  | 77  | 93  | 86  | 81  | 77  | 84  | 80  | 76  | 82  | 79  | 76  | 81  | 78  | 75  | 74  |    |    |    |    | 74  |   |  |   |
| 6   | 90  | 82  | 77  | 73  | 89  | 81  | 76  | 72  | 80  | 75  | 72  | 78  | 74  | 71  | 77  | 74  | 71  | 70  |    |    |    |    | 70  |   |  |   |
| 7   | 86  | 78  | 72  | 68  | 85  | 77  | 72  | 68  | 76  | 71  | 68  | 75  | 71  | 67  | 74  | 70  | 67  | 66  |    |    |    |    | 66  |   |  |   |
| 8   | 83  | 74  | 68  | 64  | 81  | 73  | 68  | 64  | 72  | 67  | 64  | 71  | 67  | 64  | 70  | 66  | 64  | 62  |    |    |    |    | 62  |   |  |   |
| 9   | 79  | 70  | 65  | 61  | 78  | 70  | 65  | 61  | 69  | 64  | 61  | 68  | 64  | 61  | 67  | 63  | 60  | 59  |    |    |    |    | 59  |   |  |   |
| 10  | 76  | 67  | 61  | 58  | 75  | 66  | 61  | 58  | 66  | 61  | 58  | 65  | 61  | 58  | 64  | 60  | 57  | 56  |    |    |    |    | 56  |   |  |   |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 193682 | 193682 | 193682 |
| 5°  | 193834 | 193246 | 192779 |
| 10° | 187803 | 186614 | 186387 |
| 15° | 175695 | 173270 | 172789 |
| 20° | 157672 | 154703 | 153218 |
| 25° | 127261 | 127527 | 125475 |
| 30° | 68410  | 88157  | 72168  |
| 35° | 23442  | 38937  | 24430  |
| 40° | 7149   | 10949  | 5935   |
| 45° | 2460   | 4774   | 2630   |
| 50° | 2358   | 2706   | 2358   |
| 55° | 2432   | 2642   | 2432   |
| 60° | 2549   | 2549   | 2549   |
| 65° | 2486   | 2486   | 2486   |
| 70° | 2367   | 2367   | 2719   |
| 75° | 2262   | 2728   | 2728   |
| 80° | 1984   | 2678   | 2678   |
| 85° | 2766   | 2766   | 2766   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4774 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 105.2  | 13.0      |
| 10°-20°   | 271.5  | 33.7      |
| 20°-30°   | 296.1  | 36.7      |
| 30°-40°   | 102.0  | 12.6      |
| 40°-50°   | 12.9   | 1.6       |
| 50°-60°   | 7.4    | 0.9       |
| 60°-70°   | 6.1    | 0.8       |
| 70°-80°   | 4.0    | 0.5       |
| 80°-90°   | 1.5    | 0.2       |
| 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°    | 672.8  | 83.4      |
| 0°-40°    | 774.8  | 96.0      |
| 0°-60°    | 795.1  | 98.6      |
| 0°-90°    | 806.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 806.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1125 | 1125  | 1125 | 1125  | 1125 |      |
| 5°  | 1121 | 1120  | 1118 | 1115  | 1115 | 106  |
| 15° | 985  | 983   | 972  | 972   | 969  | 274  |
| 25° | 670  | 675   | 671  | 667   | 660  | 292  |
| 35° | 112  | 122   | 185  | 125   | 116  | 85   |
| 45° | 10   | 12    | 20   | 12    | 11   | 10   |
| 55° | 8    | 8     | 9    | 8     | 8    | 7    |
| 65° | 6    | 6     | 6    | 7     | 6    | 6    |
| 75° | 3    | 3     | 4    | 4     | 4    | 4    |
| 85° | 1    | 1     | 1    | 1     | 1    | 1    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1124.6 | 1124.6 | 1124.6 | 1124.6 | 1124.6 |
| 2.5°  | 1125.9 | 1125.9 | 1125.3 | 1125.3 | 1124.6 |
| 5°    | 1121.2 | 1119.8 | 1117.8 | 1115.1 | 1115.1 |
| 7.5°  | 1107.0 | 1103.0 | 1099.6 | 1098.2 | 1098.2 |
| 10°   | 1073.9 | 1074.6 | 1067.1 | 1063.8 | 1065.8 |
| 12.5° | 1038.1 | 1032.7 | 1026.6 | 1023.2 | 1019.8 |
| 15°   | 985.4  | 983.3  | 971.8  | 971.8  | 969.1  |
| 17.5° | 924.5  | 923.9  | 913.0  | 909.7  | 904.9  |
| 20°   | 860.3  | 851.5  | 844.1  | 842.1  | 836.0  |
| 22.5° | 776.5  | 771.1  | 769.1  | 766.4  | 763.7  |
| 25°   | 669.7  | 675.2  | 671.1  | 667.0  | 660.3  |
| 27.5° | 533.2  | 554.2  | 563.0  | 552.2  | 519.7  |
| 30°   | 344.0  | 403.5  | 443.3  | 400.8  | 362.9  |
| 32.5° | 200.7  | 238.6  | 309.5  | 245.3  | 219.0  |
| 35°   | 111.5  | 121.6  | 185.2  | 125.0  | 116.2  |
| 37.5° | 62.2   | 66.9   | 94.6   | 63.5   | 59.5   |
| 40°   | 31.8   | 36.5   | 48.7   | 34.5   | 26.4   |
| 42.5° | 14.9   | 21.0   | 29.7   | 17.6   | 14.2   |
| 45°   | 10.1   | 12.2   | 19.6   | 11.5   | 10.8   |
| 47.5° | 9.5    | 10.1   | 13.5   | 10.1   | 9.5    |
| 50°   | 8.8    | 8.8    | 10.1   | 8.8    | 8.8    |
| 52.5° | 8.1    | 8.8    | 8.8    | 8.8    | 8.1    |
| 55°   | 8.1    | 8.1    | 8.8    | 8.1    | 8.1    |
| 57.5° | 7.4    | 8.1    | 8.1    | 8.1    | 7.4    |
| 60°   | 7.4    | 7.4    | 7.4    | 7.4    | 7.4    |
| 62.5° | 6.8    | 6.8    | 6.8    | 6.8    | 6.8    |
| 65°   | 6.1    | 6.1    | 6.1    | 6.8    | 6.1    |
| 67.5° | 5.4    | 5.4    | 5.4    | 6.1    | 5.4    |
| 70°   | 4.7    | 4.7    | 4.7    | 5.4    | 5.4    |
| 72.5° | 4.1    | 4.1    | 4.7    | 4.7    | 4.7    |
| 75°   | 3.4    | 3.4    | 4.1    | 4.1    | 4.1    |
| 77.5° | 2.7    | 2.7    | 3.4    | 3.4    | 3.4    |
| 80°   | 2.0    | 2.7    | 2.7    | 2.7    | 2.7    |
| 82.5° | 1.4    | 2.0    | 2.0    | 2.0    | 2.0    |
| 85°   | 1.4    | 1.4    | 1.4    | 1.4    | 1.4    |
| 87.5° | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    |
| 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



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Scaled Data Report







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

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Scaled Data Report



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