

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: P885842

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMB-400LM-5000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885842
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-138)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMB-400LM-5000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

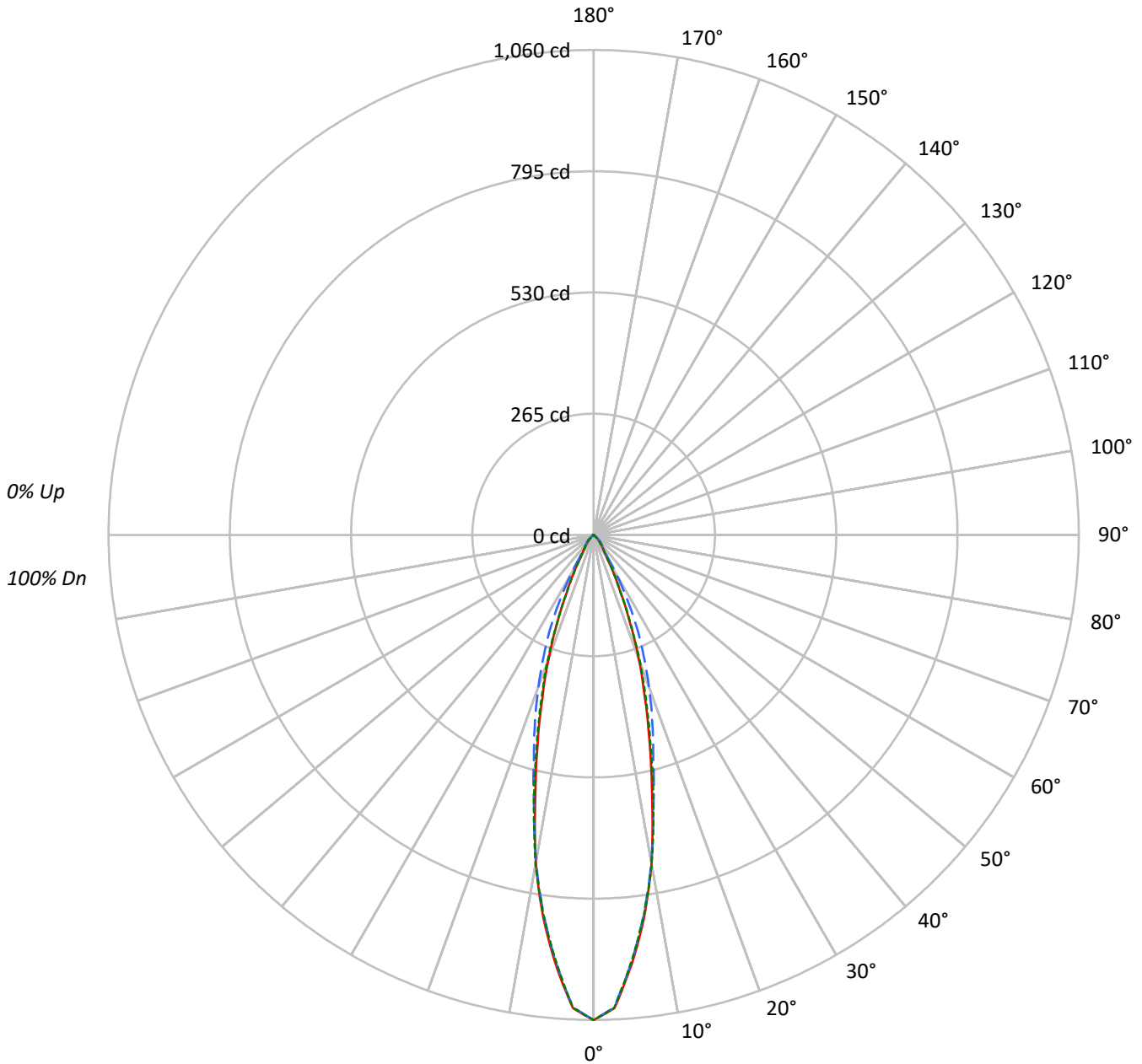
Lumens per Lamp: N/A
Luminaire Lumens: 339.5 lumens
Efficiency: N/A
Efficacy: 56.6 lumens/watt
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.54
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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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Luminous Intensity Polar Plot





TEST NUMBER: P885842

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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 | 0 | | | | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | | | | | | | | | | | | |
| 1 | 115 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | | | | | | | | | | | | | | | | | | | |
| 2 | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 99 | 101 | 99 | 97 | 98 | 96 | 95 | 96 | 94 | 93 | 91 | | | | | | | | | | | | | | | | | | | |
| 3 | 106 | 101 | 97 | 93 | 104 | 99 | 96 | 93 | 97 | 94 | 91 | 94 | 92 | 90 | 92 | 90 | 88 | 87 | | | | | | | | | | | | | | | | | | | |
| 4 | 102 | 96 | 91 | 88 | 100 | 95 | 91 | 87 | 93 | 89 | 86 | 91 | 88 | 85 | 89 | 87 | 84 | 83 | | | | | | | | | | | | | | | | | | | |
| 5 | 98 | 91 | 87 | 83 | 97 | 91 | 86 | 83 | 89 | 85 | 82 | 87 | 84 | 81 | 86 | 83 | 81 | 80 | | | | | | | | | | | | | | | | | | | |
| 6 | 95 | 87 | 83 | 79 | 93 | 87 | 82 | 79 | 85 | 81 | 78 | 84 | 81 | 78 | 83 | 80 | 77 | 76 | | | | | | | | | | | | | | | | | | | |
| 7 | 91 | 84 | 79 | 76 | 90 | 83 | 79 | 75 | 82 | 78 | 75 | 81 | 77 | 75 | 80 | 77 | 74 | 73 | | | | | | | | | | | | | | | | | | | |
| 8 | 88 | 80 | 76 | 72 | 87 | 80 | 75 | 72 | 79 | 75 | 72 | 78 | 74 | 72 | 77 | 74 | 71 | 70 | | | | | | | | | | | | | | | | | | | |
| 9 | 85 | 77 | 73 | 69 | 84 | 77 | 72 | 69 | 76 | 72 | 69 | 75 | 72 | 69 | 75 | 71 | 69 | 68 | | | | | | | | | | | | | | | | | | | |
| 10 | 82 | 75 | 70 | 67 | 81 | 74 | 70 | 67 | 73 | 69 | 67 | 73 | 69 | 66 | 72 | 69 | 66 | 65 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 1643637 | 1643637 | 1643637 |
| 5° | 1469738 | 1461647 | 1459624 |
| 10° | 1146764 | 1142671 | 1148810 |
| 15° | 757897 | 807964 | 772500 |
| 20° | 474229 | 581611 | 487260 |
| 25° | 240291 | 380531 | 240291 |
| 30° | 107209 | 174685 | 109536 |
| 35° | 63957 | 71337 | 63957 |
| 40° | 42087 | 52608 | 44717 |
| 45° | 19948 | 39895 | 22797 |
| 50° | 6270 | 25079 | 6270 |
| 55° | 3513 | 3513 | 3513 |
| 60° | 4030 | 0 | 4030 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 39895 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.2 | 24.5 |
| 10°-20° | 136.7 | 40.3 |
| 20°-30° | 81.7 | 24.1 |
| 30°-40° | 26.4 | 7.8 |
| 40°-50° | 10.2 | 3.0 |
| 50°-60° | 1.3 | 0.4 |
| 60°-70° | 0.0 | 0.0 |
| 70°-80° | 0.0 | 0.0 |
| 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° | 301.7 | 88.8 |
| 0°-40° | 328.0 | 96.6 |
| 0°-60° | 339.5 | 100.0 |
| 0°-90° | 339.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 339.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1060 | 1060 | 1060 | 1060 | 1060 | |
| 5° | 945 | 947 | 939 | 941 | 938 | 84 |
| 15° | 472 | 487 | 504 | 493 | 481 | 131 |
| 25° | 140 | 164 | 222 | 170 | 140 | 68 |
| 35° | 34 | 40 | 38 | 40 | 34 | 22 |
| 45° | 9 | 13 | 18 | 13 | 10 | 7 |
| 55° | 1 | 1 | 1 | 1 | 1 | 1 |
| 65° | 0 | 0 | 0 | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 | 0 | 0 | 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° | 1060.4 | 1060.4 | 1060.4 | 1060.4 | 1060.4 |
| 2.5° | 1035.7 | 1034.4 | 1033.1 | 1034.4 | 1034.4 |
| 5° | 944.6 | 947.2 | 939.4 | 940.7 | 938.1 |
| 7.5° | 844.4 | 841.8 | 836.6 | 840.5 | 839.2 |
| 10° | 728.6 | 720.8 | 726.0 | 726.0 | 729.9 |
| 12.5° | 589.4 | 601.1 | 603.7 | 602.4 | 602.4 |
| 15° | 472.3 | 486.6 | 503.5 | 493.1 | 481.4 |
| 17.5° | 372.1 | 395.5 | 425.5 | 402.0 | 381.2 |
| 20° | 287.5 | 311.0 | 352.6 | 314.9 | 295.4 |
| 22.5° | 208.2 | 236.8 | 284.9 | 239.4 | 210.8 |
| 25° | 140.5 | 163.9 | 222.5 | 170.4 | 140.5 |
| 27.5° | 95.0 | 111.9 | 156.1 | 113.2 | 93.7 |
| 30° | 59.9 | 80.7 | 97.6 | 79.4 | 61.2 |
| 32.5° | 42.9 | 57.2 | 54.6 | 57.2 | 44.2 |
| 35° | 33.8 | 40.3 | 37.7 | 40.3 | 33.8 |
| 37.5° | 26.0 | 29.9 | 31.2 | 29.9 | 27.3 |
| 40° | 20.8 | 22.1 | 26.0 | 23.4 | 22.1 |
| 42.5° | 15.6 | 18.2 | 22.1 | 18.2 | 16.9 |
| 45° | 9.1 | 13.0 | 18.2 | 13.0 | 10.4 |
| 47.5° | 2.6 | 6.5 | 15.6 | 6.5 | 2.6 |
| 50° | 2.6 | 1.3 | 10.4 | 1.3 | 2.6 |
| 52.5° | 1.3 | 1.3 | 3.9 | 1.3 | 1.3 |
| 55° | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| 57.5° | 1.3 | 0.0 | 0.0 | 1.3 | 1.3 |
| 60° | 1.3 | 0.0 | 0.0 | 0.0 | 1.3 |
| 62.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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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