

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: P677544

Luminaire Tested: ML4DM10LSFL9FS1E-TL40R2GMW-3000K

Issue Date: 4/25/2023

Test Information

Test Method: LM-79-2019
Report Number: P677544
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2304-979-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 4/25/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML4DM10LSFL9FS1E-TL40R2GMW-3000K
Description: DIRECT MOUNT, CONICAL LENS TRIM
Light Source: (1) SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

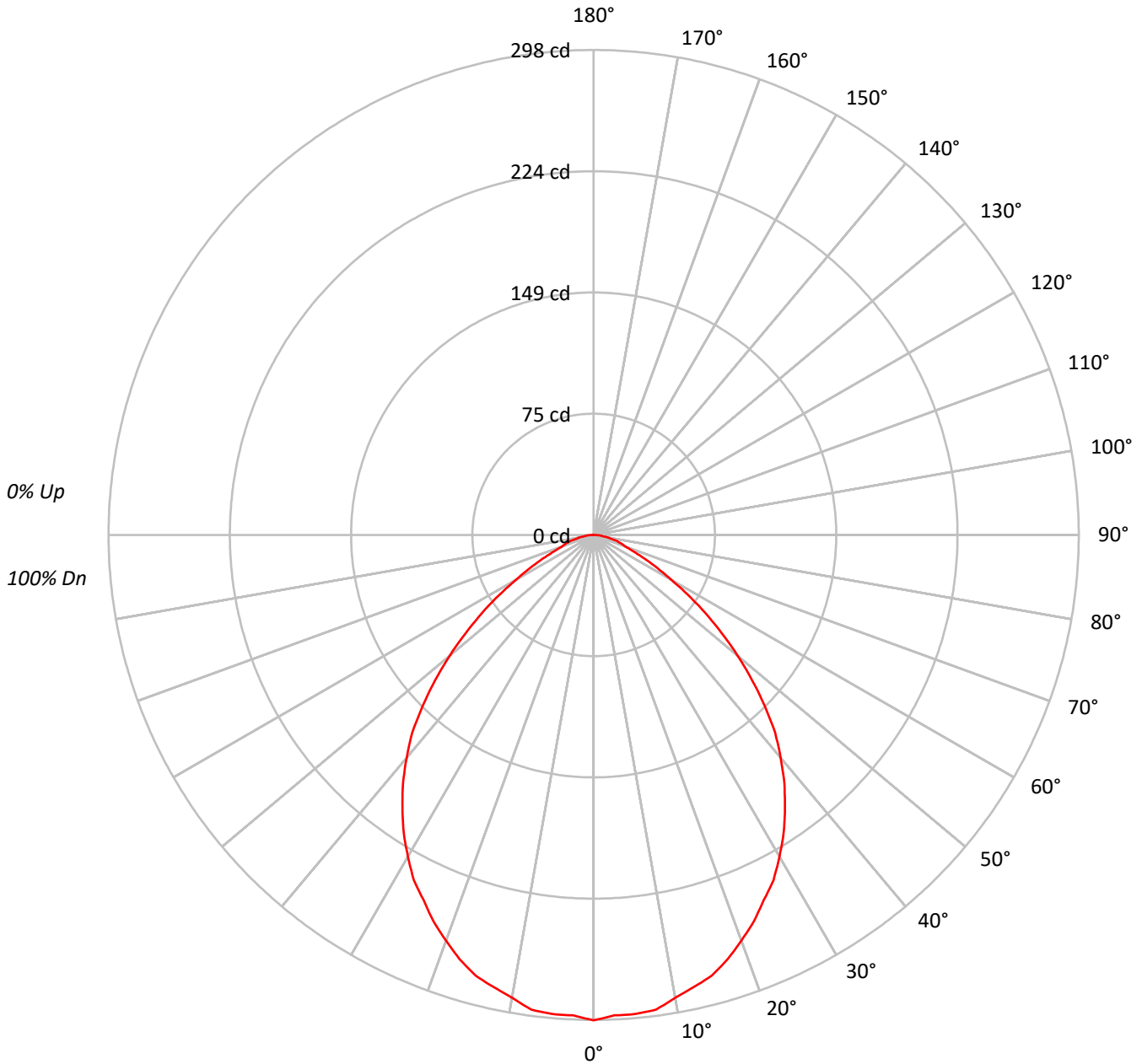
Lumens per Lamp: N/A
Luminaire Lumens: 592.4 lumens
Efficiency: N/A
Efficacy: 49.4 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.23
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12
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 | | | | 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 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | |
| 7 | 70 | 58 | 50 | 45 | 69 | 57 | 50 | 45 | 56 | 49 | 44 | 55 | 48 | 44 | 53 | 48 | 44 | 42 | | |
| 8 | 66 | 53 | 46 | 40 | 64 | 53 | 45 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 38 | | |
| 9 | 62 | 49 | 42 | 37 | 60 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 | | |
| 10 | 58 | 46 | 38 | 34 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 43 | 37 | 33 | 31 | | |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 36794 |
| 5° | 36588 |
| 10° | 36159 |
| 15° | 35806 |
| 20° | 34824 |
| 25° | 33670 |
| 30° | 32502 |
| 35° | 30838 |
| 40° | 28774 |
| 45° | 25904 |
| 50° | 22163 |
| 55° | 18042 |
| 60° | 13568 |
| 65° | 10040 |
| 70° | 7429 |
| 75° | 7196 |
| 80° | 5825 |
| 85° | 5802 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 25904 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 28.0 | 4.7 |
| 10°-20° | 78.7 | 13.3 |
| 20°-30° | 114.1 | 19.3 |
| 30°-40° | 127.8 | 21.6 |
| 40°-50° | 114.1 | 19.3 |
| 50°-60° | 75.0 | 12.7 |
| 60°-70° | 35.1 | 5.9 |
| 70°-80° | 15.4 | 2.6 |
| 80°-90° | 4.1 | 0.7 |
| 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° | 220.9 | 37.3 |
| 0°-40° | 348.7 | 58.9 |
| 0°-60° | 537.8 | 90.8 |
| 0°-90° | 592.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 592.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 298 | |
| 5° | 296 | 28 |
| 15° | 280 | 79 |
| 25° | 247 | 114 |
| 35° | 205 | 128 |
| 45° | 148 | 114 |
| 55° | 84 | 75 |
| 65° | 34 | 35 |
| 75° | 15 | 15 |
| 85° | 4 | 4 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 298.3 |
| 2.5° | 295.5 |
| 5° | 295.5 |
| 7.5° | 294.2 |
| 10° | 288.7 |
| 12.5° | 284.5 |
| 15° | 280.4 |
| 17.5° | 273.5 |
| 20° | 265.3 |
| 22.5° | 257.1 |
| 25° | 247.4 |
| 27.5° | 239.2 |
| 30° | 228.2 |
| 32.5° | 217.2 |
| 35° | 204.8 |
| 37.5° | 192.4 |
| 40° | 178.7 |
| 42.5° | 165.0 |
| 45° | 148.5 |
| 47.5° | 132.0 |
| 50° | 115.5 |
| 52.5° | 99.0 |
| 55° | 83.9 |
| 57.5° | 68.7 |
| 60° | 55.0 |
| 62.5° | 44.0 |
| 65° | 34.4 |
| 67.5° | 26.1 |
| 70° | 20.6 |
| 72.5° | 17.9 |
| 75° | 15.1 |
| 77.5° | 11.0 |
| 80° | 8.2 |
| 82.5° | 5.5 |
| 85° | 4.1 |
| 87.5° | 1.4 |
| 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

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— 0°-180°

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