

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: P601403

Luminaire Tested: **ML4DM08LSFL95FS1E - TIR4D40FL - TL43R2G_ TL44S2G_ 3000K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601403
 Test Lab: COOPER LIGHTING SOLUTIONS
 Issue Date: 7/29/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4DM08LSFL95FS1E - TIR4D40FL - TL43R2G_ TL44S2G_ 3000K
 Description: DIRECT MOUNT, 40D OPTIC, DIFFUSE CLEAR LENS TRIM
 Light Source: (1) SELECTABLE LUMEN LED 95CRI / 3000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 945.0 lumens
 Efficiency: N/A
 Efficacy: 91.7 lumens/watt
 Spacing Criteria (0/90/45): 0.67 / 0.67 / 0.63
 Luminous Opening: Circular (Dia: 0.21' x H: 0')
 CIE Type: Direct

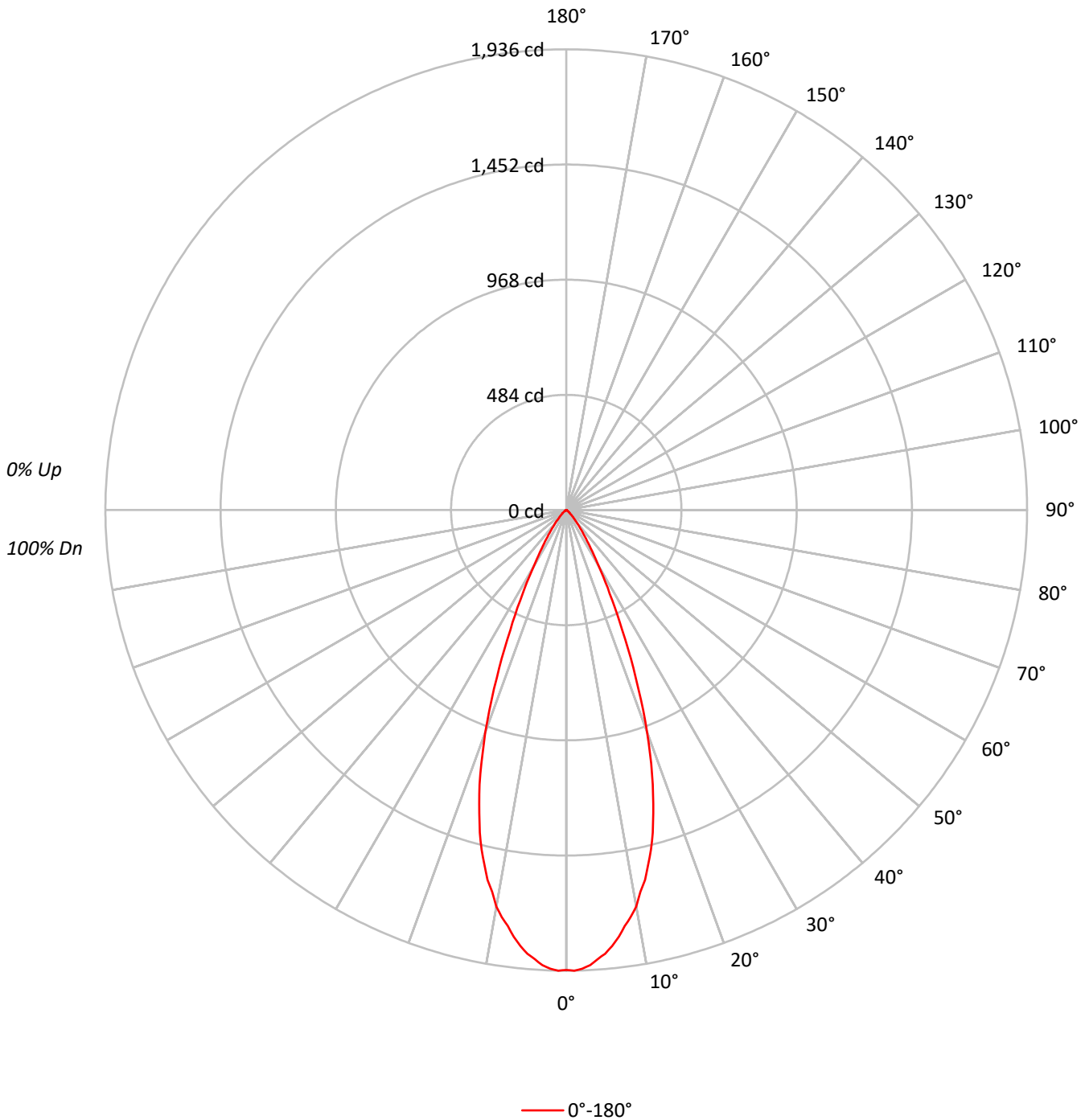
Input Watts (W): 10.3
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



| Meas | | Calibration Due Date | |
|------------------|-----------------------|----------------------|------------|
| Instrument | Identificatio | | |
| Photometer | GONIO 1 11111111 | 4/22/2021 | 10/22/2021 |
| Power Meter | XITRON 2801 IN0197 | 12/1/2020 | 12/1/2021 |
| AC Power Source | CHROMA 61505 IN0196 | 12/1/2020 | 12/1/2021 |
| DC Power Supply | AGILENT E3634A IN0198 | 11/30/2020 | 11/30/2021 |
| Room Thermometer | ONSET IN0143 | 12/1/2020 | 12/1/2021 |

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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 |
| 2 | 109 | 105 | 102 | 99 | 107 | 104 | 100 | 98 | 100 | 98 | 95 | 97 | 95 | 93 | 95 | 93 | 92 | 90 |
| 3 | 105 | 99 | 95 | 92 | 103 | 98 | 94 | 91 | 95 | 92 | 89 | 93 | 90 | 88 | 91 | 89 | 87 | 85 |
| 4 | 101 | 94 | 89 | 86 | 99 | 93 | 89 | 85 | 91 | 87 | 84 | 89 | 86 | 83 | 87 | 85 | 82 | 81 |
| 5 | 97 | 89 | 84 | 81 | 95 | 88 | 84 | 80 | 87 | 83 | 80 | 85 | 82 | 79 | 84 | 81 | 78 | 77 |
| 6 | 93 | 85 | 80 | 76 | 91 | 84 | 79 | 76 | 83 | 79 | 75 | 82 | 78 | 75 | 80 | 77 | 75 | 73 |
| 7 | 89 | 81 | 76 | 72 | 88 | 80 | 76 | 72 | 79 | 75 | 72 | 78 | 74 | 71 | 77 | 74 | 71 | 70 |
| 8 | 86 | 77 | 72 | 69 | 85 | 77 | 72 | 69 | 76 | 72 | 68 | 75 | 71 | 68 | 74 | 71 | 68 | 67 |
| 9 | 82 | 74 | 69 | 66 | 81 | 74 | 69 | 66 | 73 | 68 | 65 | 72 | 68 | 65 | 71 | 68 | 65 | 64 |
| 10 | 79 | 71 | 66 | 63 | 78 | 71 | 66 | 63 | 70 | 66 | 63 | 69 | 65 | 62 | 69 | 65 | 62 | 61 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 610343 |
| 5° | 593339 |
| 10° | 542324 |
| 15° | 458777 |
| 20° | 334182 |
| 25° | 193645 |
| 30° | 99357 |
| 35° | 52078 |
| 40° | 28071 |
| 45° | 14960 |
| 50° | 8793 |
| 55° | 4624 |
| 60° | 2274 |
| 65° | 1793 |
| 70° | 1108 |
| 75° | 0 |
| 80° | 0 |
| 85° | 0 |

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 172.6 | 18.3 |
| 10°-20° | 380.7 | 40.3 |
| 20°-30° | 261.8 | 27.7 |
| 30°-40° | 90.8 | 9.6 |
| 40°-50° | 28.2 | 3.0 |
| 50°-60° | 8.5 | 0.9 |
| 60°-70° | 2.1 | 0.2 |
| 70°-80° | 0.5 | 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° | 815.1 | 86.2 |
| 0°-40° | 905.9 | 95.9 |
| 0°-60° | 942.5 | 99.7 |
| 0°-90° | 945.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 945.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1933 | |
| 5° | 1872 | 173 |
| 15° | 1403 | 381 |
| 25° | 556 | 262 |
| 35° | 135 | 91 |
| 45° | 34 | 28 |
| 55° | 8 | 8 |
| 65° | 2 | 2 |
| 75° | 0 | 0 |
| 85° | 0 | 0 |
| 90° | 0 | |

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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 1932.9 |
| 1° | 1936.5 |
| 2° | 1929.3 |
| 3° | 1915.0 |
| 4° | 1892.3 |
| 5° | 1871.9 |
| 6° | 1842.1 |
| 7° | 1807.4 |
| 8° | 1765.6 |
| 9° | 1732.1 |
| 10° | 1691.4 |
| 11° | 1634.1 |
| 12° | 1589.8 |
| 13° | 1530.1 |
| 14° | 1470.3 |
| 15° | 1403.4 |
| 17.5° | 1209.7 |
| 20° | 994.5 |
| 22.5° | 763.8 |
| 25° | 555.8 |
| 27.5° | 394.5 |
| 30° | 272.5 |
| 32.5° | 191.3 |
| 35° | 135.1 |
| 37.5° | 96.8 |
| 40° | 68.1 |
| 42.5° | 47.8 |
| 45° | 33.5 |
| 47.5° | 23.9 |
| 50° | 17.9 |
| 52.5° | 13.1 |
| 55° | 8.4 |
| 57.5° | 6.0 |
| 60° | 3.6 |
| 62.5° | 2.4 |
| 65° | 2.4 |
| 67.5° | 1.2 |
| 70° | 1.2 |
| 72.5° | 1.2 |
| 75° | 0.0 |
| 77.5° | 0.0 |
| 80° | 0.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |

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


NVLAP Lab Code: 200050-0



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CANDELA DISTRIBUTION (continued):



(END OF REPORT)