

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: P640554

Luminaire Tested: ML5612LSFL4097FS1E - 591WB - 900LM - 4000K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P640554
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-24)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSFL4097FS1E - 591WB - 900LM - 4000K
Description: ML56 RR, 40D TIR OPTIC, 5" DEADFRONT TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1413.9 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.69
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

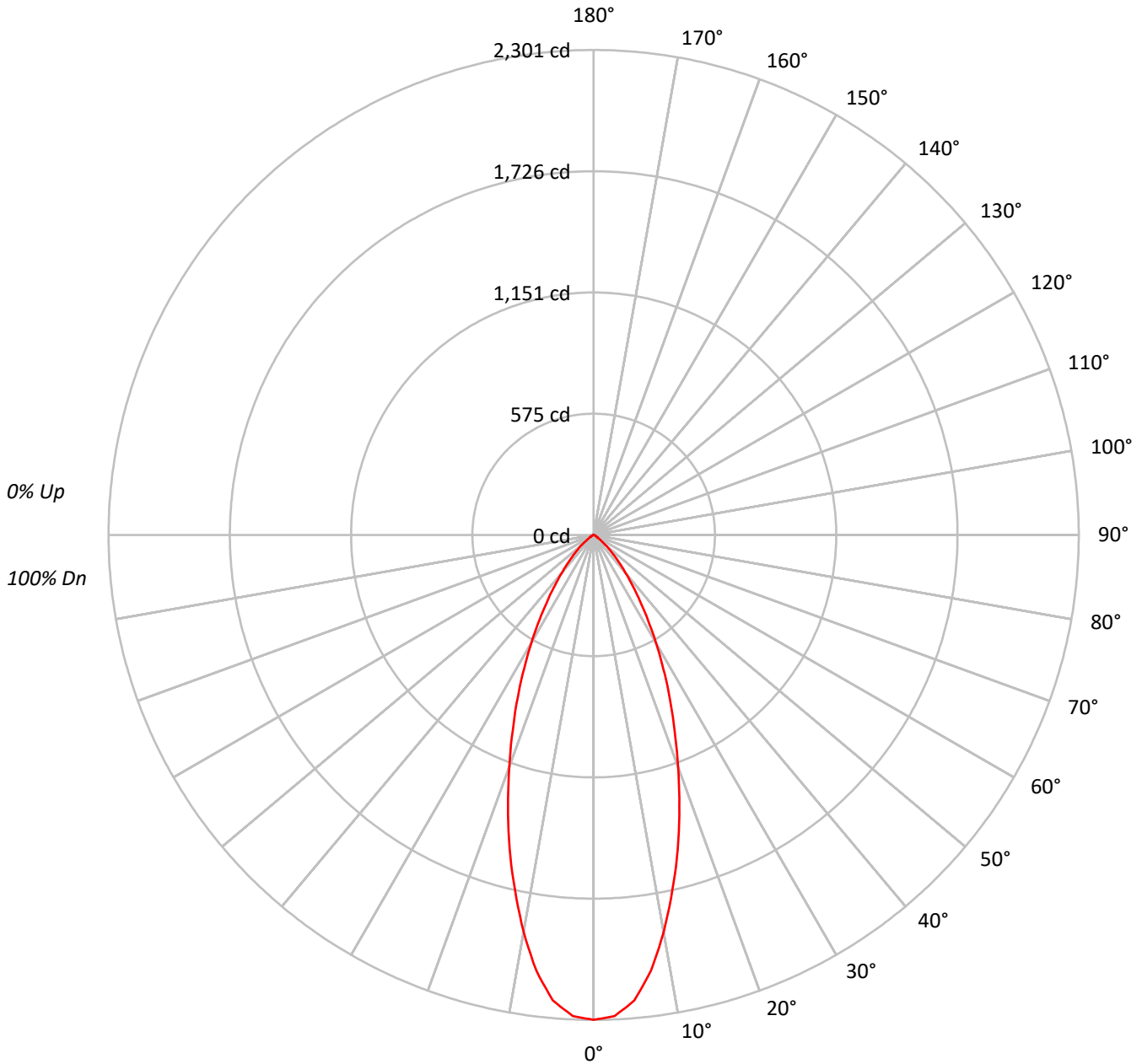
Input Watts (W): 13.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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 | | | | | | | | | 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 | 114 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 94 | | | | | | | | | | | | | | | | | | | |
| 2 | 108 | 103 | 99 | 96 | 106 | 101 | 98 | 95 | 98 | 95 | 93 | 95 | 93 | 91 | 93 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 3 | 103 | 96 | 91 | 88 | 101 | 95 | 90 | 87 | 92 | 89 | 85 | 90 | 87 | 84 | 88 | 85 | 83 | 81 | | | | | | | | | | | | | | | | | | | |
| 4 | 98 | 90 | 85 | 81 | 96 | 89 | 84 | 80 | 87 | 83 | 79 | 85 | 81 | 78 | 83 | 80 | 77 | 76 | | | | | | | | | | | | | | | | | | | |
| 5 | 93 | 85 | 79 | 75 | 91 | 84 | 78 | 74 | 82 | 77 | 74 | 80 | 76 | 73 | 79 | 75 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 6 | 88 | 80 | 74 | 70 | 87 | 79 | 73 | 69 | 77 | 73 | 69 | 76 | 72 | 69 | 75 | 71 | 68 | 67 | | | | | | | | | | | | | | | | | | | |
| 7 | 84 | 75 | 69 | 65 | 83 | 75 | 69 | 65 | 73 | 68 | 65 | 72 | 68 | 64 | 71 | 67 | 64 | 63 | | | | | | | | | | | | | | | | | | | |
| 8 | 80 | 71 | 65 | 61 | 79 | 71 | 65 | 61 | 70 | 65 | 61 | 69 | 64 | 61 | 68 | 63 | 60 | 59 | | | | | | | | | | | | | | | | | | | |
| 9 | 77 | 67 | 62 | 58 | 76 | 67 | 62 | 58 | 66 | 61 | 58 | 65 | 61 | 57 | 64 | 60 | 57 | 56 | | | | | | | | | | | | | | | | | | | |
| 10 | 74 | 64 | 59 | 55 | 73 | 64 | 58 | 55 | 63 | 58 | 55 | 62 | 58 | 54 | 61 | 57 | 54 | 53 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° |
|-----|--------|
| 0° | 181619 |
| 5° | 175728 |
| 10° | 153304 |
| 15° | 125996 |
| 20° | 98146 |
| 25° | 74324 |
| 30° | 53817 |
| 35° | 36929 |
| 40° | 24155 |
| 45° | 15228 |
| 50° | 8830 |
| 55° | 3757 |
| 60° | 2542 |
| 65° | 1625 |
| 70° | 854 |
| 75° | 763 |
| 80° | 1137 |
| 85° | 1087 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15228 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 201.6 | 14.3 |
| 10°-20° | 425.6 | 30.1 |
| 20°-30° | 391.3 | 27.7 |
| 30°-40° | 242.9 | 17.2 |
| 40°-50° | 108.9 | 7.7 |
| 50°-60° | 30.3 | 2.1 |
| 60°-70° | 9.2 | 0.6 |
| 70°-80° | 2.8 | 0.2 |
| 80°-90° | 1.3 | 0.1 |
| 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° | 1018.6 | 72.0 |
| 0°-40° | 1261.5 | 89.2 |
| 0°-60° | 1400.7 | 99.1 |
| 0°-90° | 1413.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1413.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 2301 | |
| 5° | 2218 | 202 |
| 15° | 1542 | 426 |
| 25° | 853 | 391 |
| 35° | 383 | 243 |
| 45° | 136 | 109 |
| 55° | 27 | 30 |
| 65° | 9 | 9 |
| 75° | 2 | 3 |
| 85° | 1 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 2300.7 |
| 2.5° | 2284.6 |
| 5° | 2217.6 |
| 7.5° | 2084.9 |
| 10° | 1912.5 |
| 12.5° | 1725.2 |
| 15° | 1541.7 |
| 17.5° | 1350.7 |
| 20° | 1168.3 |
| 22.5° | 1002.1 |
| 25° | 853.3 |
| 27.5° | 714.4 |
| 30° | 590.4 |
| 32.5° | 477.5 |
| 35° | 383.2 |
| 37.5° | 301.4 |
| 40° | 234.4 |
| 42.5° | 181.1 |
| 45° | 136.4 |
| 47.5° | 100.5 |
| 50° | 71.9 |
| 52.5° | 44.7 |
| 55° | 27.3 |
| 57.5° | 21.1 |
| 60° | 16.1 |
| 62.5° | 12.4 |
| 65° | 8.7 |
| 67.5° | 6.2 |
| 70° | 3.7 |
| 72.5° | 2.5 |
| 75° | 2.5 |
| 77.5° | 2.5 |
| 80° | 2.5 |
| 82.5° | 1.2 |
| 85° | 1.2 |
| 87.5° | 1.2 |
| 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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Scaled Data Report



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