

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: P640548

Luminaire Tested: ML5612LSFL4097FS1E - 591WB - 600LM - 3500K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640548  
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 - 600LM - 3500K  
Description: ML56 RR, 40D TIR OPTIC, 5" DEADFRONT TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1024.3 lumens  
Efficiency: N/A  
Efficacy: 99.4 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

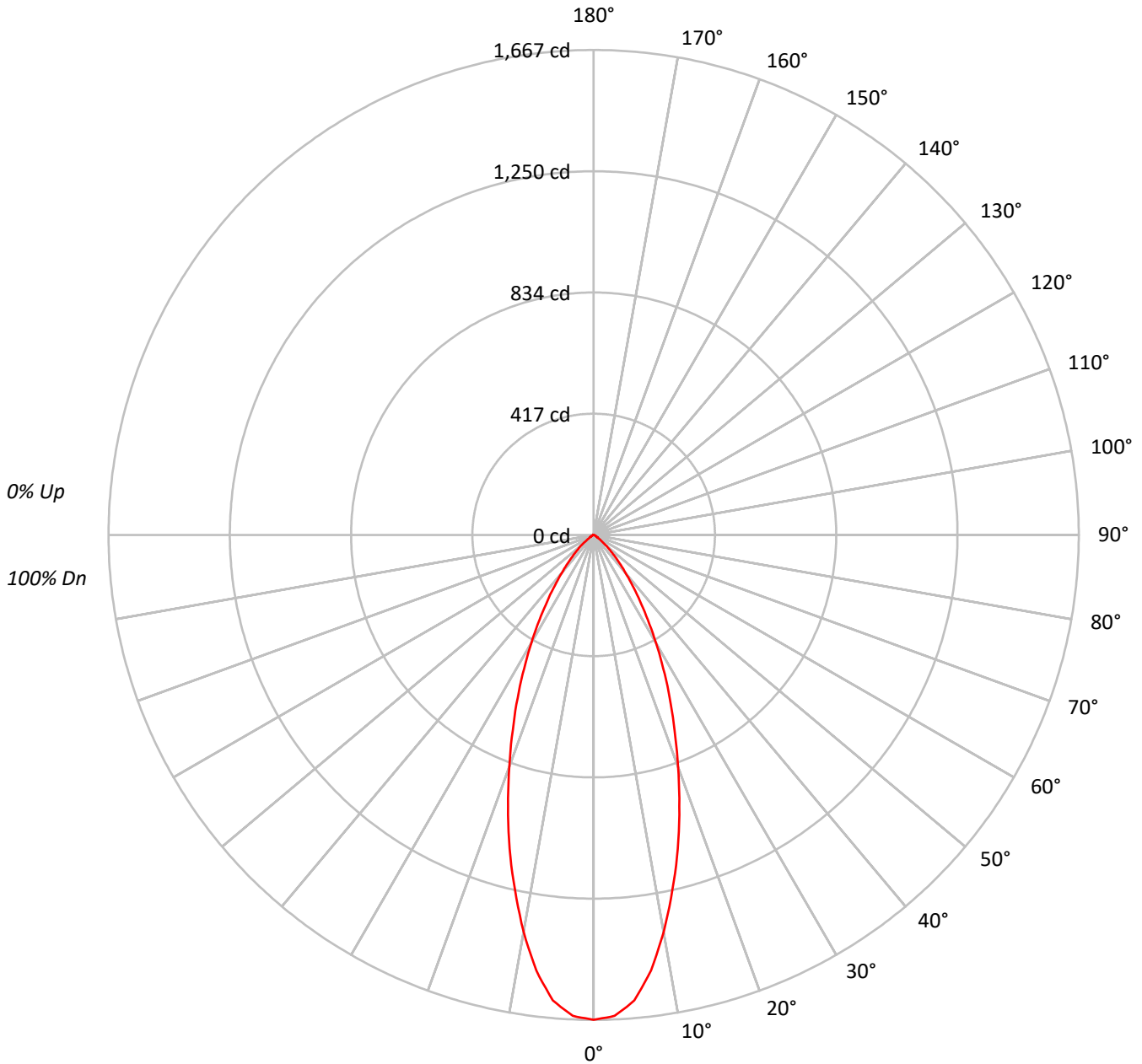
Input Watts (W): 10.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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 | 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°  | 131571 |
| 5°  | 127303 |
| 10° | 111060 |
| 15° | 91271  |
| 20° | 71104  |
| 25° | 53846  |
| 30° | 38986  |
| 35° | 26752  |
| 40° | 17498  |
| 45° | 11030  |
| 50° | 6398   |
| 55° | 2725   |
| 60° | 1847   |
| 65° | 1177   |
| 70° | 623    |
| 75° | 549    |
| 80° | 818    |
| 85° | 815    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11030 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 146.1  | 14.3      |
| 10°-20°   | 308.3  | 30.1      |
| 20°-30°   | 283.5  | 27.7      |
| 30°-40°   | 176.0  | 17.2      |
| 40°-50°   | 78.9   | 7.7       |
| 50°-60°   | 21.9   | 2.1       |
| 60°-70°   | 6.6    | 0.6       |
| 70°-80°   | 2.0    | 0.2       |
| 80°-90°   | 1.0    | 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°    | 737.9  | 72.0      |
| 0°-40°    | 913.9  | 89.2      |
| 0°-60°    | 1014.7 | 99.1      |
| 0°-90°    | 1024.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1024.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1667 |      |
| 5°  | 1606 | 146  |
| 15° | 1117 | 308  |
| 25° | 618  | 283  |
| 35° | 278  | 176  |
| 45° | 99   | 79   |
| 55° | 20   | 22   |
| 65° | 6    | 7    |
| 75° | 2    | 2    |
| 85° | 1    | 1    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1666.7 |
| 2.5°  | 1655.0 |
| 5°    | 1606.5 |
| 7.5°  | 1510.3 |
| 10°   | 1385.5 |
| 12.5° | 1249.8 |
| 15°   | 1116.8 |
| 17.5° | 978.4  |
| 20°   | 846.4  |
| 22.5° | 726.0  |
| 25°   | 618.2  |
| 27.5° | 517.5  |
| 30°   | 427.7  |
| 32.5° | 345.9  |
| 35°   | 277.6  |
| 37.5° | 218.3  |
| 40°   | 169.8  |
| 42.5° | 131.2  |
| 45°   | 98.8   |
| 47.5° | 72.8   |
| 50°   | 52.1   |
| 52.5° | 32.3   |
| 55°   | 19.8   |
| 57.5° | 15.3   |
| 60°   | 11.7   |
| 62.5° | 9.0    |
| 65°   | 6.3    |
| 67.5° | 4.5    |
| 70°   | 2.7    |
| 72.5° | 1.8    |
| 75°   | 1.8    |
| 77.5° | 1.8    |
| 80°   | 1.8    |
| 82.5° | 0.9    |
| 85°   | 0.9    |
| 87.5° | 0.9    |
| 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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Scaled Data Report



— 0°-180°

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Scaled Data Report



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