

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: P642381

Luminaire Tested: ML5615LSFL409FS1E - 592H - 900LM - 2700K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P642381  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-26)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5615LSFL409FS1E - 592H - 900LM - 2700K  
Description: ML56 RR, 40D TIR OPTIC, 5" HAZE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1136.0 lumens  
Efficiency: N/A  
Efficacy: 108.2 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

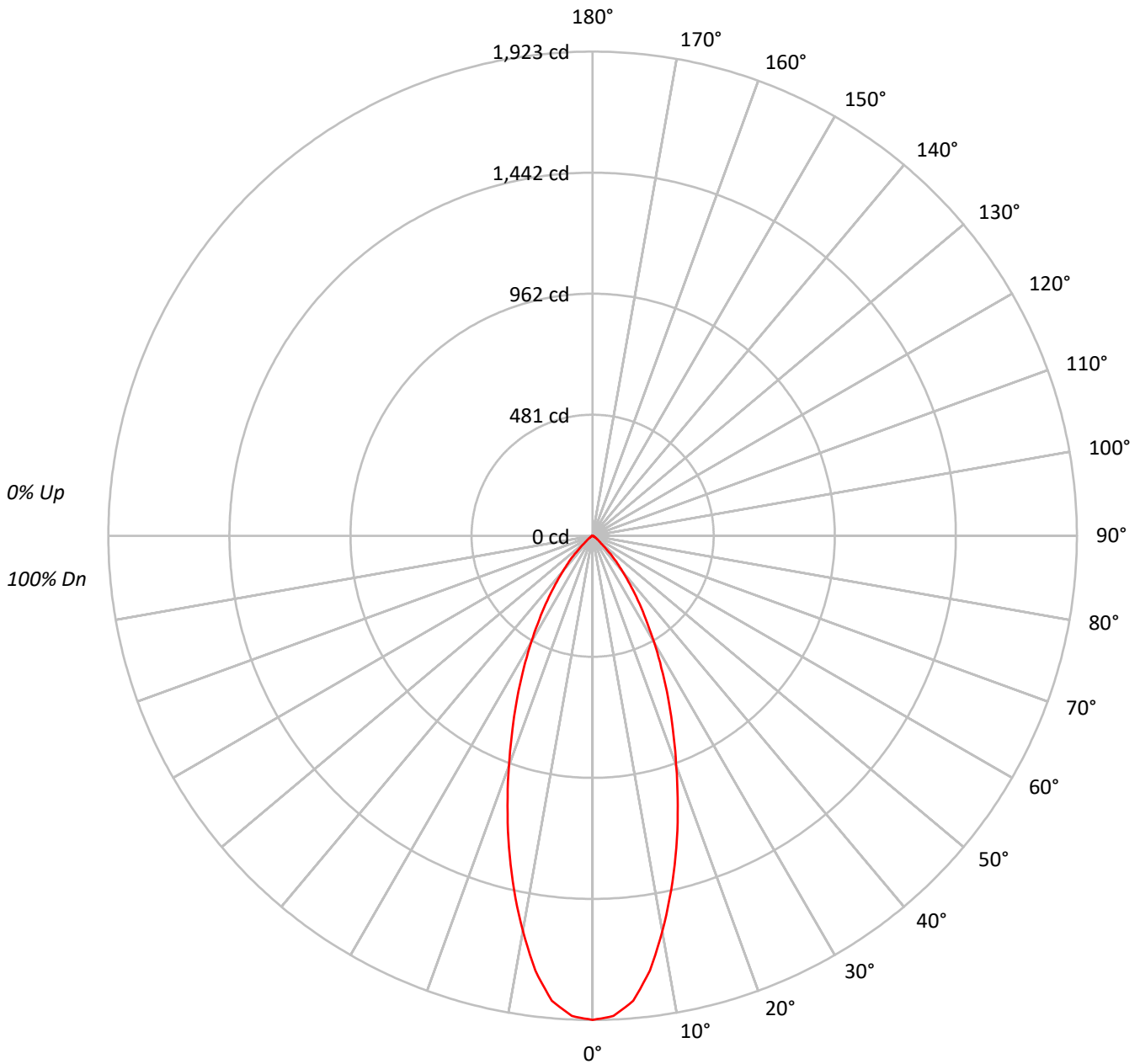
Input Watts (W): 10.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |   |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| 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 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 108 | 104 | 100 | 97  | 106 | 102 | 99  | 96  | 99  | 96  | 94  | 96  | 94  | 92  | 93  | 91  | 90  | 88  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 103 | 97  | 92  | 89  | 101 | 96  | 91  | 88  | 93  | 90  | 87  | 91  | 88  | 85  | 89  | 86  | 84  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 98  | 91  | 86  | 82  | 97  | 90  | 85  | 81  | 88  | 84  | 80  | 86  | 82  | 80  | 84  | 81  | 79  | 77  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 94  | 86  | 80  | 76  | 92  | 85  | 80  | 76  | 83  | 79  | 75  | 82  | 78  | 75  | 80  | 77  | 74  | 72  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 89  | 81  | 75  | 71  | 88  | 80  | 75  | 71  | 79  | 74  | 70  | 77  | 73  | 70  | 76  | 72  | 70  | 68  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 85  | 77  | 71  | 67  | 84  | 76  | 70  | 67  | 75  | 70  | 66  | 73  | 69  | 66  | 72  | 69  | 66  | 64  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 82  | 72  | 67  | 63  | 80  | 72  | 67  | 63  | 71  | 66  | 63  | 70  | 65  | 62  | 69  | 65  | 62  | 61  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 78  | 69  | 63  | 59  | 77  | 68  | 63  | 59  | 67  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 59  | 57  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 75  | 65  | 60  | 56  | 74  | 65  | 60  | 56  | 64  | 59  | 56  | 63  | 59  | 56  | 63  | 59  | 56  | 55  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 151803 |
| 5°  | 146916 |
| 10° | 127853 |
| 15° | 104854 |
| 20° | 81487  |
| 25° | 61581  |
| 30° | 44300  |
| 35° | 30164  |
| 40° | 18755  |
| 45° | 10271  |
| 50° | 3807   |
| 55° | 2202   |
| 60° | 1263   |
| 65° | 374    |
| 70° | 0      |
| 75° | 0      |
| 80° | 0      |
| 85° | 0      |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10271 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 168.4  | 14.8      |
| 10°-20°   | 354.5  | 31.2      |
| 20°-30°   | 324.1  | 28.5      |
| 30°-40°   | 197.8  | 17.4      |
| 40°-50°   | 73.1   | 6.4       |
| 50°-60°   | 15.4   | 1.4       |
| 60°-70°   | 2.7    | 0.2       |
| 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°    | 847.0  | 74.6      |
| 0°-40°    | 1044.8 | 92.0      |
| 0°-60°    | 1133.3 | 99.8      |
| 0°-90°    | 1136.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1136.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1923 |      |
| 5°  | 1854 | 168  |
| 15° | 1283 | 355  |
| 25° | 707  | 324  |
| 35° | 313  | 198  |
| 45° | 92   | 73   |
| 55° | 16   | 15   |
| 65° | 2    | 3    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°   |
|-------|------|
| 0°    | 1923 |
| 2.5°  | 1909 |
| 5°    | 1854 |
| 7.5°  | 1742 |
| 10°   | 1595 |
| 12.5° | 1441 |
| 15°   | 1283 |
| 17.5° | 1124 |
| 20°   | 970  |
| 22.5° | 831  |
| 25°   | 707  |
| 27.5° | 591  |
| 30°   | 486  |
| 32.5° | 393  |
| 35°   | 313  |
| 37.5° | 243  |
| 40°   | 182  |
| 42.5° | 138  |
| 45°   | 92   |
| 47.5° | 50   |
| 50°   | 31   |
| 52.5° | 23   |
| 55°   | 16   |
| 57.5° | 11   |
| 60°   | 8    |
| 62.5° | 5    |
| 65°   | 2    |
| 67.5° | 0    |
| 70°   | 0    |
| 72.5° | 0    |
| 75°   | 0    |
| 77.5° | 0    |
| 80°   | 0    |
| 82.5° | 0    |
| 85°   | 0    |
| 87.5° | 0    |
| 90°   | 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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