

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



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: P642616

Luminaire Tested: ML5615LSFL409FS1E - 693SNB - 1500LM - 2700K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P642616  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-42)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5615LSFL409FS1E - 693SNB - 1500LM - 2700K  
Description: ML56 RR, 40D TIR OPTIC, 6" SATIN NICKLE BAFFLE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

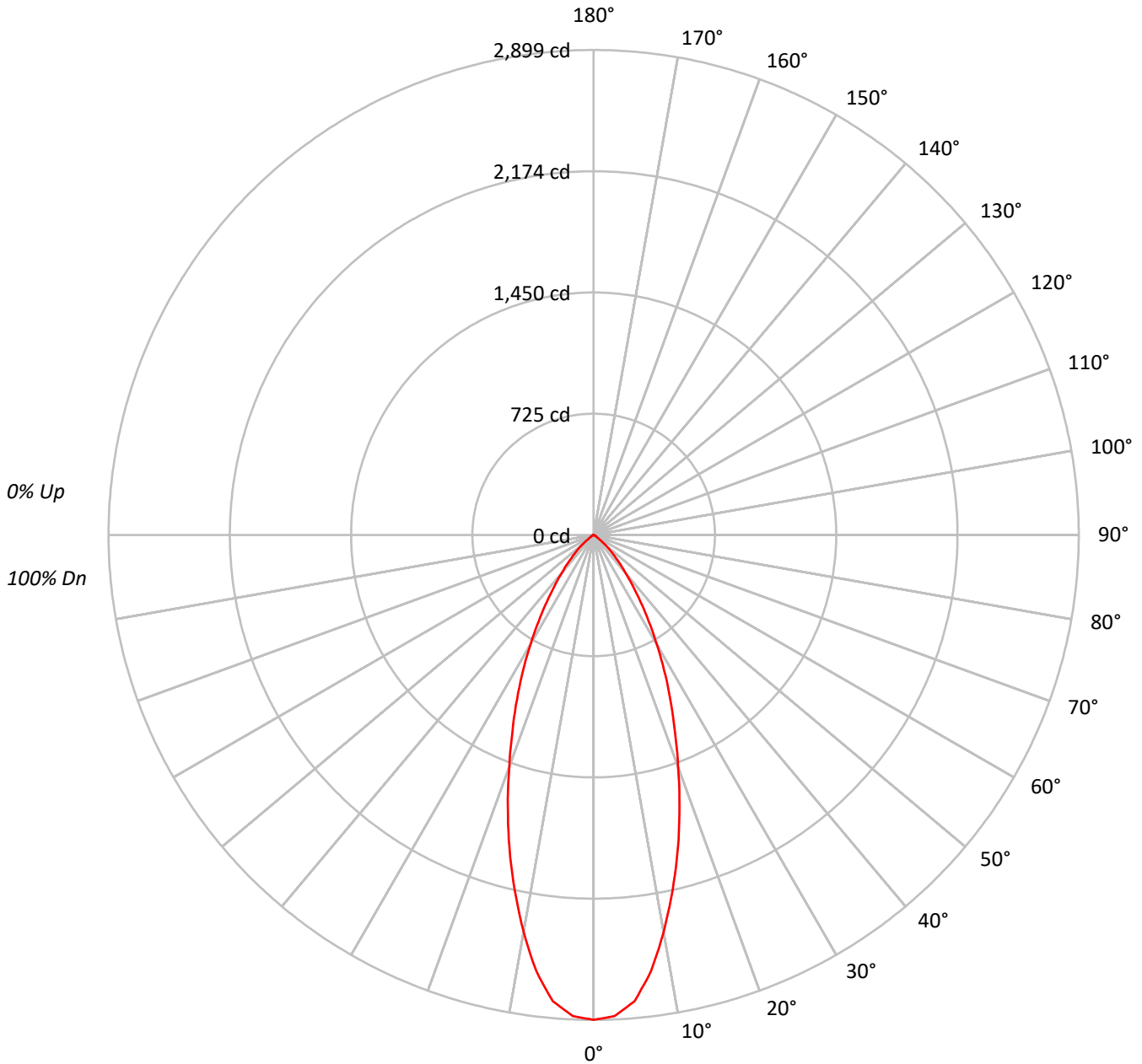
Lumens per Lamp: N/A  
Luminaire Lumens: 1769.5 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.7  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 17.1  
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 | 106 | 111 | 109 | 107 | 105 | 105 | 103 | 101 | 101 | 100 | 98  | 98  | 97  | 96  | 94  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 108 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 99  | 96  | 93  | 96  | 93  | 91  | 93  | 91  | 89  | 88  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 103 | 97  | 92  | 88  | 101 | 95  | 91  | 87  | 93  | 89  | 86  | 90  | 87  | 85  | 88  | 86  | 83  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 98  | 91  | 85  | 81  | 96  | 90  | 85  | 81  | 87  | 83  | 80  | 85  | 82  | 79  | 84  | 80  | 78  | 76  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 93  | 85  | 80  | 75  | 92  | 84  | 79  | 75  | 82  | 78  | 74  | 81  | 77  | 74  | 79  | 76  | 73  | 72  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 89  | 80  | 74  | 70  | 87  | 79  | 74  | 70  | 78  | 73  | 70  | 77  | 72  | 69  | 75  | 72  | 69  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 85  | 76  | 70  | 66  | 83  | 75  | 70  | 66  | 74  | 69  | 65  | 73  | 68  | 65  | 72  | 68  | 65  | 63  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 81  | 72  | 66  | 62  | 80  | 71  | 66  | 62  | 70  | 65  | 62  | 69  | 65  | 61  | 68  | 64  | 61  | 60  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 77  | 68  | 62  | 58  | 76  | 67  | 62  | 58  | 67  | 62  | 58  | 66  | 61  | 58  | 65  | 61  | 58  | 56  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 74  | 65  | 59  | 55  | 73  | 64  | 59  | 55  | 63  | 58  | 55  | 63  | 58  | 55  | 62  | 58  | 55  | 53  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 158918 |
| 5°  | 153962 |
| 10° | 134088 |
| 15° | 110301 |
| 20° | 86055  |
| 25° | 65508  |
| 30° | 47672  |
| 35° | 32699  |
| 40° | 21154  |
| 45° | 13032  |
| 50° | 7036   |
| 55° | 2676   |
| 60° | 1710   |
| 65° | 610    |
| 70° | 0      |
| 75° | 0      |
| 80° | 0      |
| 85° | 0      |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13032 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 254.2  | 14.4      |
| 10°-20°   | 536.9  | 30.3      |
| 20°-30°   | 496.6  | 28.1      |
| 30°-40°   | 309.6  | 17.5      |
| 40°-50°   | 135.3  | 7.6       |
| 50°-60°   | 31.1   | 1.8       |
| 60°-70°   | 5.7    | 0.3       |
| 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°    | 1287.8 | 72.8      |
| 0°-40°    | 1597.4 | 90.3      |
| 0°-60°    | 1763.8 | 99.7      |
| 0°-90°    | 1769.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1769.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2899 |      |
| 5°  | 2798 | 254  |
| 15° | 1944 | 537  |
| 25° | 1083 | 497  |
| 35° | 489  | 310  |
| 45° | 168  | 135  |
| 55° | 28   | 31   |
| 65° | 5    | 6    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 2898.9 |
| 2.5°  | 2878.7 |
| 5°    | 2797.8 |
| 7.5°  | 2629.7 |
| 10°   | 2408.8 |
| 12.5° | 2176.9 |
| 15°   | 1943.5 |
| 17.5° | 1705.4 |
| 20°   | 1475.1 |
| 22.5° | 1266.6 |
| 25°   | 1083.0 |
| 27.5° | 911.8  |
| 30°   | 753.1  |
| 32.5° | 611.5  |
| 35°   | 488.6  |
| 37.5° | 382.8  |
| 40°   | 295.6  |
| 42.5° | 228.7  |
| 45°   | 168.1  |
| 47.5° | 124.5  |
| 50°   | 82.5   |
| 52.5° | 42.0   |
| 55°   | 28.0   |
| 57.5° | 21.8   |
| 60°   | 15.6   |
| 62.5° | 9.3    |
| 65°   | 4.7    |
| 67.5° | 1.6    |
| 70°   | 0.0    |
| 72.5° | 0.0    |
| 75°   | 0.0    |
| 77.5° | 0.0    |
| 80°   | 0.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |

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Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180°

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