

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: P643920

Luminaire Tested: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P643920  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-59)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K  
Description: ML56 RR, 55D TIR OPTIC, 6" DEADFRONT TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1626.7 lumens  
Efficiency: N/A  
Efficacy: 121.4 lumens/watt  
Spacing Criteria (0/90/45): 0.86 / 0.86 / 0.89  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

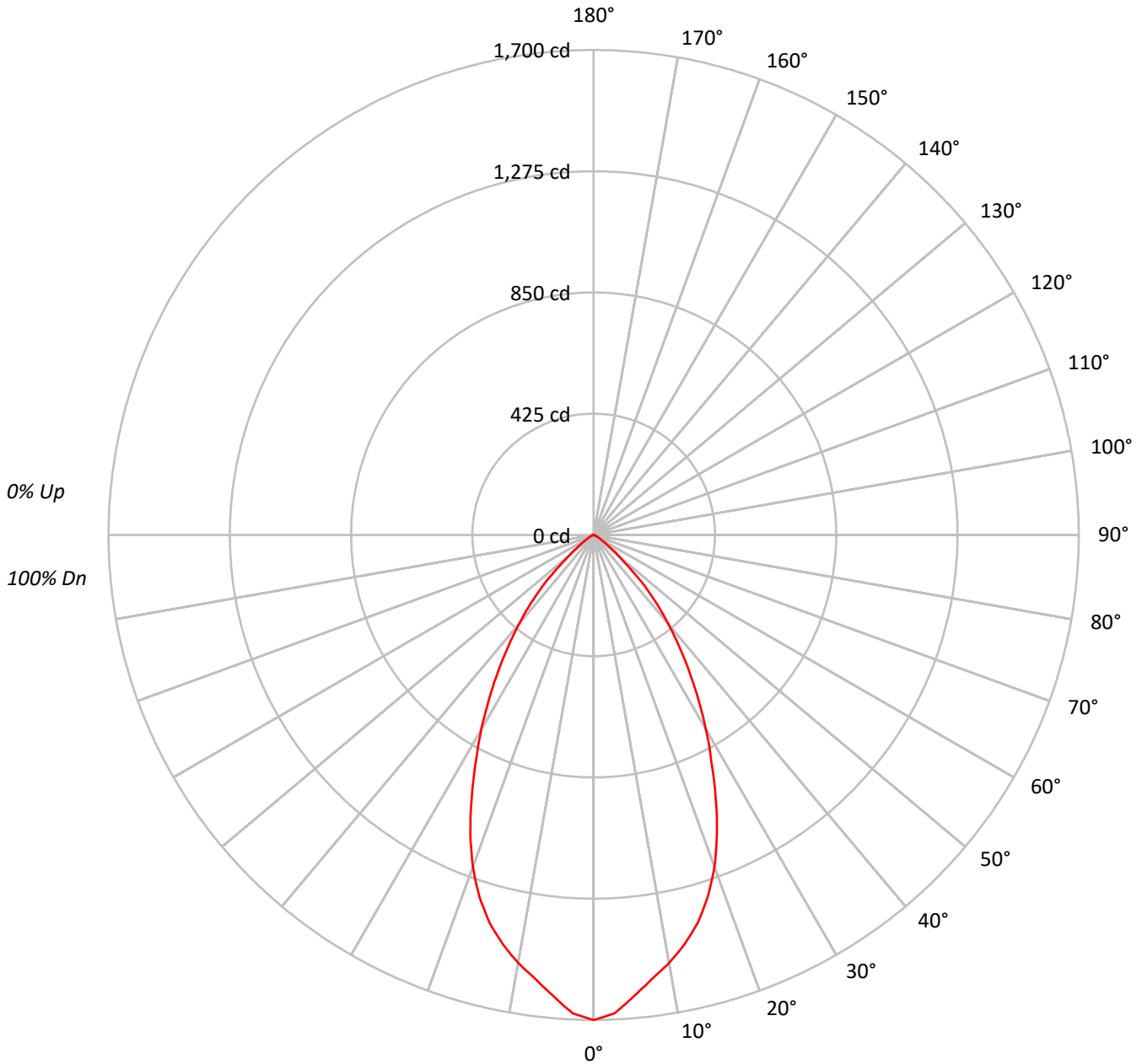
Input Watts (W): 13.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P643920

CATALOG NUMBER: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P643920

CATALOG NUMBER: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K

**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 |    |    | 100 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 103 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 94  | 93  |    |    | 93  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 107 | 102 | 97  | 94  | 105 | 100 | 96  | 93  | 97  | 93  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85  |    |    | 85  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 101 | 94  | 89  | 84  | 99  | 93  | 88  | 84  | 90  | 86  | 82  | 88  | 84  | 81  | 85  | 82  | 80  | 78  |    |    | 78  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 95  | 87  | 81  | 77  | 93  | 86  | 81  | 76  | 84  | 79  | 75  | 82  | 78  | 74  | 80  | 76  | 74  | 72  |    |    | 72  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 90  | 81  | 75  | 70  | 88  | 80  | 74  | 70  | 78  | 73  | 69  | 77  | 72  | 69  | 75  | 71  | 68  | 66  |    |    | 66  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 85  | 76  | 69  | 65  | 84  | 75  | 69  | 64  | 73  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 63  | 61  |    |    | 61  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 81  | 71  | 64  | 60  | 79  | 70  | 64  | 59  | 69  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 58  | 57  |    |    | 57  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 76  | 66  | 60  | 55  | 75  | 66  | 59  | 55  | 64  | 59  | 55  | 63  | 58  | 55  | 62  | 58  | 54  | 53  |    |    | 53  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 72  | 62  | 56  | 52  | 71  | 62  | 56  | 51  | 61  | 55  | 51  | 60  | 55  | 51  | 59  | 54  | 51  | 49  |    |    | 49  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 69  | 58  | 52  | 48  | 68  | 58  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  | 56  | 51  | 48  | 46  |    |    | 46  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     |       |
|-----|-------|
|     | 0°    |
| 0°  | 93205 |
| 5°  | 89291 |
| 10° | 84796 |
| 15° | 79921 |
| 20° | 72252 |
| 25° | 61165 |
| 30° | 49805 |
| 35° | 38989 |
| 40° | 29026 |
| 45° | 19514 |
| 50° | 9450  |
| 55° | 4674  |
| 60° | 2368  |
| 65° | 1492  |
| 70° | 689   |
| 75° | 614   |
| 80° | 442   |
| 85° | 881   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19514 cd/sqm



TEST NUMBER: P643920

CATALOG NUMBER: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 151.8  | 9.3       |
| 10°-20°   | 392.1  | 24.1      |
| 20°-30°   | 462.0  | 28.4      |
| 30°-40°   | 364.6  | 22.4      |
| 40°-50°   | 191.3  | 11.8      |
| 50°-60°   | 48.9   | 3.0       |
| 60°-70°   | 11.7   | 0.7       |
| 70°-80°   | 3.0    | 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°    | 1005.9 | 61.8      |
| 0°-40°    | 1370.4 | 84.2      |
| 0°-60°    | 1610.7 | 99.0      |
| 0°-90°    | 1626.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1626.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1700 |      |
| 5°  | 1623 | 152  |
| 15° | 1408 | 392  |
| 25° | 1011 | 462  |
| 35° | 583  | 365  |
| 45° | 252  | 191  |
| 55° | 49   | 49   |
| 65° | 12   | 12   |
| 75° | 3    | 3    |
| 85° | 1    | 1    |
| 90° | 0    |      |



TEST NUMBER: P643920

CATALOG NUMBER: ML5615LSWFL559FS1E - 691WB - 1200LM - 5000K

**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1700.2 |
| 2.5°  | 1678.7 |
| 5°    | 1622.6 |
| 7.5°  | 1569.3 |
| 10°   | 1523.3 |
| 12.5° | 1470.1 |
| 15°   | 1408.2 |
| 17.5° | 1330.6 |
| 20°   | 1238.5 |
| 22.5° | 1129.2 |
| 25°   | 1011.2 |
| 27.5° | 893.3  |
| 30°   | 786.8  |
| 32.5° | 681.8  |
| 35°   | 582.6  |
| 37.5° | 490.5  |
| 40°   | 405.6  |
| 42.5° | 326.5  |
| 45°   | 251.7  |
| 47.5° | 168.3  |
| 50°   | 110.8  |
| 52.5° | 74.8   |
| 55°   | 48.9   |
| 57.5° | 31.6   |
| 60°   | 21.6   |
| 62.5° | 15.8   |
| 65°   | 11.5   |
| 67.5° | 7.2    |
| 70°   | 4.3    |
| 72.5° | 2.9    |
| 75°   | 2.9    |
| 77.5° | 2.9    |
| 80°   | 1.4    |
| 82.5° | 1.4    |
| 85°   | 1.4    |
| 87.5° | 1.4    |
| 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

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

Scaled Data Report





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

Scaled Data Report



— 0°-180°

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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



(END OF REPORT)