

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: P886933

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4RDSL-1020LM-4000K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886933  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-43)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL95FS1E-TIR4D55WFL-TL4RDSL-1020LM-4000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

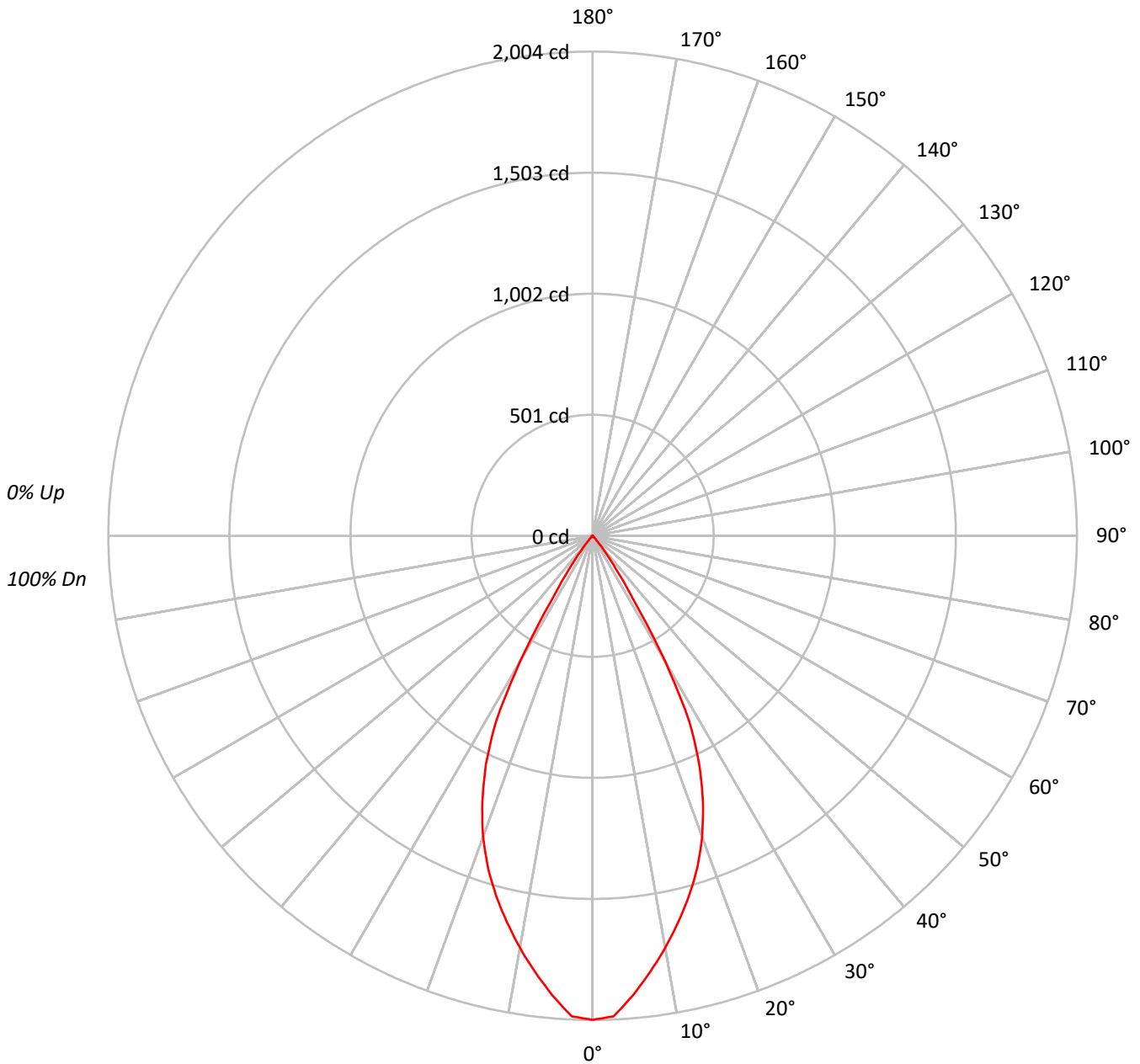
Lumens per Lamp: N/A  
Luminaire Lumens: 1214.9 lumens  
Efficiency: N/A  
Efficacy: 69.0 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.77  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 17.6  
Input Voltage (V): NR  
Input Current (Ain): 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 | 112 | 109 | 107 | 112 | 109 | 107 | 106 | 105 | 104 | 102 | 102 | 101 | 99  | 98  | 97  | 96  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  | 100 | 97  | 95  | 97  | 95  | 93  | 94  | 93  | 91  | 90  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 105 | 99  | 94  | 91  | 103 | 98  | 93  | 90  | 95  | 92  | 89  | 93  | 90  | 87  | 90  | 88  | 86  | 85  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 100 | 93  | 89  | 85  | 98  | 92  | 88  | 84  | 90  | 86  | 83  | 88  | 85  | 82  | 87  | 84  | 81  | 80  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 96  | 88  | 83  | 80  | 94  | 88  | 83  | 79  | 86  | 82  | 79  | 84  | 81  | 78  | 83  | 80  | 77  | 76  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 92  | 84  | 79  | 75  | 90  | 83  | 78  | 75  | 82  | 77  | 74  | 80  | 77  | 74  | 79  | 76  | 73  | 72  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 88  | 80  | 74  | 71  | 87  | 79  | 74  | 71  | 78  | 73  | 70  | 77  | 73  | 70  | 76  | 72  | 69  | 68  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 84  | 76  | 71  | 67  | 83  | 75  | 70  | 67  | 74  | 70  | 67  | 73  | 69  | 66  | 72  | 69  | 66  | 65  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 81  | 72  | 67  | 64  | 80  | 72  | 67  | 63  | 71  | 66  | 63  | 70  | 66  | 63  | 69  | 66  | 63  | 62  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 78  | 69  | 64  | 60  | 77  | 69  | 64  | 60  | 68  | 63  | 60  | 67  | 63  | 60  | 67  | 63  | 60  | 59  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 247148 |
| 5°  | 236403 |
| 10° | 216918 |
| 15° | 196960 |
| 20° | 173935 |
| 25° | 142180 |
| 30° | 85186  |
| 35° | 25146  |
| 40° | 5442   |
| 45° | 1361   |
| 50° | 998    |
| 55° | 753    |
| 60° | 641    |
| 65° | 496    |
| 70° | 325    |
| 75° | 429    |
| 80° | 639    |
| 85° | 0      |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1361 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 176.7  | 14.5      |
| 10°-20°   | 429.9  | 35.4      |
| 20°-30°   | 461.1  | 38.0      |
| 30°-40°   | 132.4  | 10.9      |
| 40°-50°   | 8.4    | 0.7       |
| 50°-60°   | 3.4    | 0.3       |
| 60°-70°   | 1.9    | 0.2       |
| 70°-80°   | 1.0    | 0.1       |
| 80°-90°   | 0.1    | 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°    | 1067.7 | 87.9      |
| 0°-40°    | 1200.1 | 98.8      |
| 0°-60°    | 1211.9 | 99.8      |
| 0°-90°    | 1214.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1214.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2004 |      |
| 5°  | 1909 | 177  |
| 15° | 1542 | 430  |
| 25° | 1045 | 461  |
| 35° | 167  | 132  |
| 45° | 8    | 8    |
| 55° | 4    | 3    |
| 65° | 2    | 2    |
| 75° | 1    | 1    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 2003.7 |
| 2.5°  | 1990.7 |
| 5°    | 1909.3 |
| 7.5°  | 1821.1 |
| 10°   | 1731.9 |
| 12.5° | 1637.6 |
| 15°   | 1542.4 |
| 17.5° | 1440.2 |
| 20°   | 1325.1 |
| 22.5° | 1193.5 |
| 25°   | 1044.7 |
| 27.5° | 866.4  |
| 30°   | 598.1  |
| 32.5° | 318.5  |
| 35°   | 167.0  |
| 37.5° | 83.1   |
| 40°   | 33.8   |
| 42.5° | 11.3   |
| 45°   | 7.8    |
| 47.5° | 6.1    |
| 50°   | 5.2    |
| 52.5° | 4.3    |
| 55°   | 3.5    |
| 57.5° | 3.5    |
| 60°   | 2.6    |
| 62.5° | 2.6    |
| 65°   | 1.7    |
| 67.5° | 1.7    |
| 70°   | 0.9    |
| 72.5° | 0.9    |
| 75°   | 0.9    |
| 77.5° | 0.9    |
| 80°   | 0.9    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 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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