

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: P886762

Luminaire Tested: ML310LSFL9FS1E-TIR4D55WFL-TL3SDMW-1000LM-2700K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-19)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/8/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL9FS1E-TIR4D55WFL-TL3SDMW-1000LM-2700K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

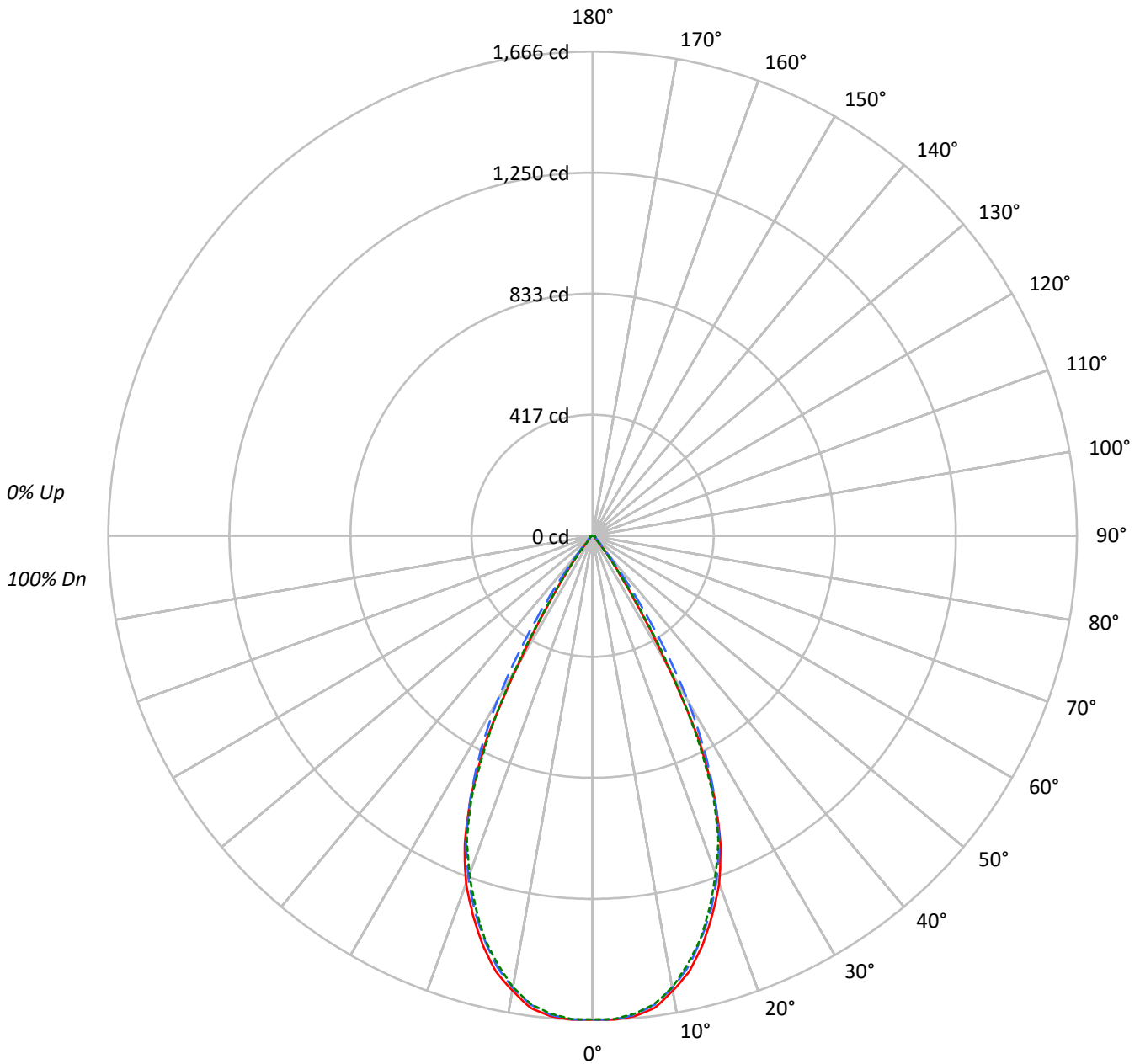
Lumens per Lamp: N/A
Luminaire Lumens: 1194.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.86 / 0.82
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V): NR
Input Current (A_{in}): 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





TEST NUMBER: P886762

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|---|--|---|
| RF | 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 | 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 | 109 | 104 | 100 | 97 | 106 | 102 | 99 | 96 | 99 | 96 | 94 | 96 | 94 | 92 | 93 | 92 | 90 | 88 | | | | | | | | |
| 3 | 104 | 98 | 93 | 89 | 102 | 96 | 92 | 89 | 94 | 90 | 87 | 91 | 88 | 86 | 89 | 87 | 84 | 83 | | | | | | | | |
| 4 | 99 | 92 | 87 | 83 | 97 | 91 | 86 | 82 | 89 | 85 | 81 | 87 | 83 | 80 | 85 | 82 | 80 | 78 | | | | | | | | |
| 5 | 94 | 87 | 81 | 77 | 93 | 86 | 81 | 77 | 84 | 80 | 76 | 82 | 79 | 76 | 81 | 78 | 75 | 74 | | | | | | | | |
| 6 | 90 | 82 | 77 | 73 | 89 | 81 | 76 | 72 | 80 | 75 | 72 | 78 | 74 | 71 | 77 | 74 | 71 | 70 | | | | | | | | |
| 7 | 86 | 78 | 72 | 68 | 85 | 77 | 72 | 68 | 76 | 71 | 68 | 75 | 71 | 67 | 74 | 70 | 67 | 66 | | | | | | | | |
| 8 | 83 | 74 | 68 | 64 | 81 | 73 | 68 | 64 | 72 | 67 | 64 | 71 | 67 | 64 | 70 | 66 | 64 | 62 | | | | | | | | |
| 9 | 79 | 70 | 65 | 61 | 78 | 70 | 65 | 61 | 69 | 64 | 61 | 68 | 64 | 61 | 67 | 63 | 60 | 59 | | | | | | | | |
| 10 | 76 | 67 | 61 | 58 | 75 | 66 | 61 | 58 | 66 | 61 | 58 | 65 | 61 | 58 | 64 | 60 | 57 | 56 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 286665 | 286665 | 286665 |
| 5° | 286895 | 286031 | 285339 |
| 10° | 277953 | 276205 | 275855 |
| 15° | 260030 | 256464 | 255751 |
| 20° | 233383 | 228966 | 226767 |
| 25° | 188373 | 188753 | 185713 |
| 30° | 101242 | 130496 | 106831 |
| 35° | 34690 | 57628 | 36162 |
| 40° | 10567 | 16187 | 8768 |
| 45° | 3653 | 7063 | 3897 |
| 50° | 3483 | 4019 | 3483 |
| 55° | 3603 | 3903 | 3603 |
| 60° | 3789 | 3789 | 3789 |
| 65° | 3668 | 3668 | 3668 |
| 70° | 3525 | 3525 | 4028 |
| 75° | 3327 | 3993 | 3993 |
| 80° | 2975 | 3967 | 3967 |
| 85° | 3952 | 3952 | 3952 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7063 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 155.7 | 13.0 |
| 10°-20° | 401.9 | 33.7 |
| 20°-30° | 438.3 | 36.7 |
| 30°-40° | 150.9 | 12.6 |
| 40°-50° | 19.1 | 1.6 |
| 50°-60° | 11.0 | 0.9 |
| 60°-70° | 9.1 | 0.8 |
| 70°-80° | 5.9 | 0.5 |
| 80°-90° | 2.1 | 0.2 |
| 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° | 995.9 | 83.4 |
| 0°-40° | 1146.8 | 96.0 |
| 0°-60° | 1176.8 | 98.6 |
| 0°-90° | 1194.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1194.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1664 | 1664 | 1664 | 1664 | 1664 | |
| 5° | 1660 | 1658 | 1654 | 1650 | 1650 | 156 |
| 15° | 1458 | 1455 | 1438 | 1438 | 1434 | 406 |
| 25° | 991 | 999 | 993 | 987 | 977 | 432 |
| 35° | 165 | 180 | 274 | 185 | 172 | 125 |
| 45° | 15 | 18 | 29 | 17 | 16 | 15 |
| 55° | 12 | 12 | 13 | 12 | 12 | 11 |
| 65° | 9 | 9 | 9 | 10 | 9 | 9 |
| 75° | 5 | 5 | 6 | 6 | 6 | 5 |
| 85° | 2 | 2 | 2 | 2 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1664.5 | 1664.5 | 1664.5 | 1664.5 | 1664.5 |
| 2.5° | 1666.5 | 1666.5 | 1665.5 | 1665.5 | 1664.5 |
| 5° | 1659.5 | 1657.5 | 1654.5 | 1650.5 | 1650.5 |
| 7.5° | 1638.5 | 1632.5 | 1627.5 | 1625.5 | 1625.5 |
| 10° | 1589.4 | 1590.4 | 1579.4 | 1574.4 | 1577.4 |
| 12.5° | 1536.4 | 1528.4 | 1519.4 | 1514.4 | 1509.4 |
| 15° | 1458.4 | 1455.4 | 1438.4 | 1438.4 | 1434.4 |
| 17.5° | 1368.4 | 1367.4 | 1351.4 | 1346.4 | 1339.4 |
| 20° | 1273.4 | 1260.4 | 1249.3 | 1246.3 | 1237.3 |
| 22.5° | 1149.3 | 1141.3 | 1138.3 | 1134.3 | 1130.3 |
| 25° | 991.3 | 999.3 | 993.3 | 987.3 | 977.3 |
| 27.5° | 789.2 | 820.2 | 833.2 | 817.2 | 769.2 |
| 30° | 509.1 | 597.2 | 656.2 | 593.2 | 537.2 |
| 32.5° | 297.1 | 353.1 | 458.1 | 363.1 | 324.1 |
| 35° | 165.0 | 180.1 | 274.1 | 185.1 | 172.0 |
| 37.5° | 92.0 | 99.0 | 140.0 | 94.0 | 88.0 |
| 40° | 47.0 | 54.0 | 72.0 | 51.0 | 39.0 |
| 42.5° | 22.0 | 31.0 | 44.0 | 26.0 | 21.0 |
| 45° | 15.0 | 18.0 | 29.0 | 17.0 | 16.0 |
| 47.5° | 14.0 | 15.0 | 20.0 | 15.0 | 14.0 |
| 50° | 13.0 | 13.0 | 15.0 | 13.0 | 13.0 |
| 52.5° | 12.0 | 13.0 | 13.0 | 13.0 | 12.0 |
| 55° | 12.0 | 12.0 | 13.0 | 12.0 | 12.0 |
| 57.5° | 11.0 | 12.0 | 12.0 | 12.0 | 11.0 |
| 60° | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| 62.5° | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 65° | 9.0 | 9.0 | 9.0 | 10.0 | 9.0 |
| 67.5° | 8.0 | 8.0 | 8.0 | 9.0 | 8.0 |
| 70° | 7.0 | 7.0 | 7.0 | 8.0 | 8.0 |
| 72.5° | 6.0 | 6.0 | 7.0 | 7.0 | 7.0 |
| 75° | 5.0 | 5.0 | 6.0 | 6.0 | 6.0 |
| 77.5° | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 |
| 80° | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 82.5° | 2.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 85° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 87.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 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° - - 45°-225° - - - - 90°-270°

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