

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 COMMERCIAL

Report Number: P838508

Luminaire Tested: HCSQ630D010-HM63040835-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838508
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ630D010-HM63040835-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

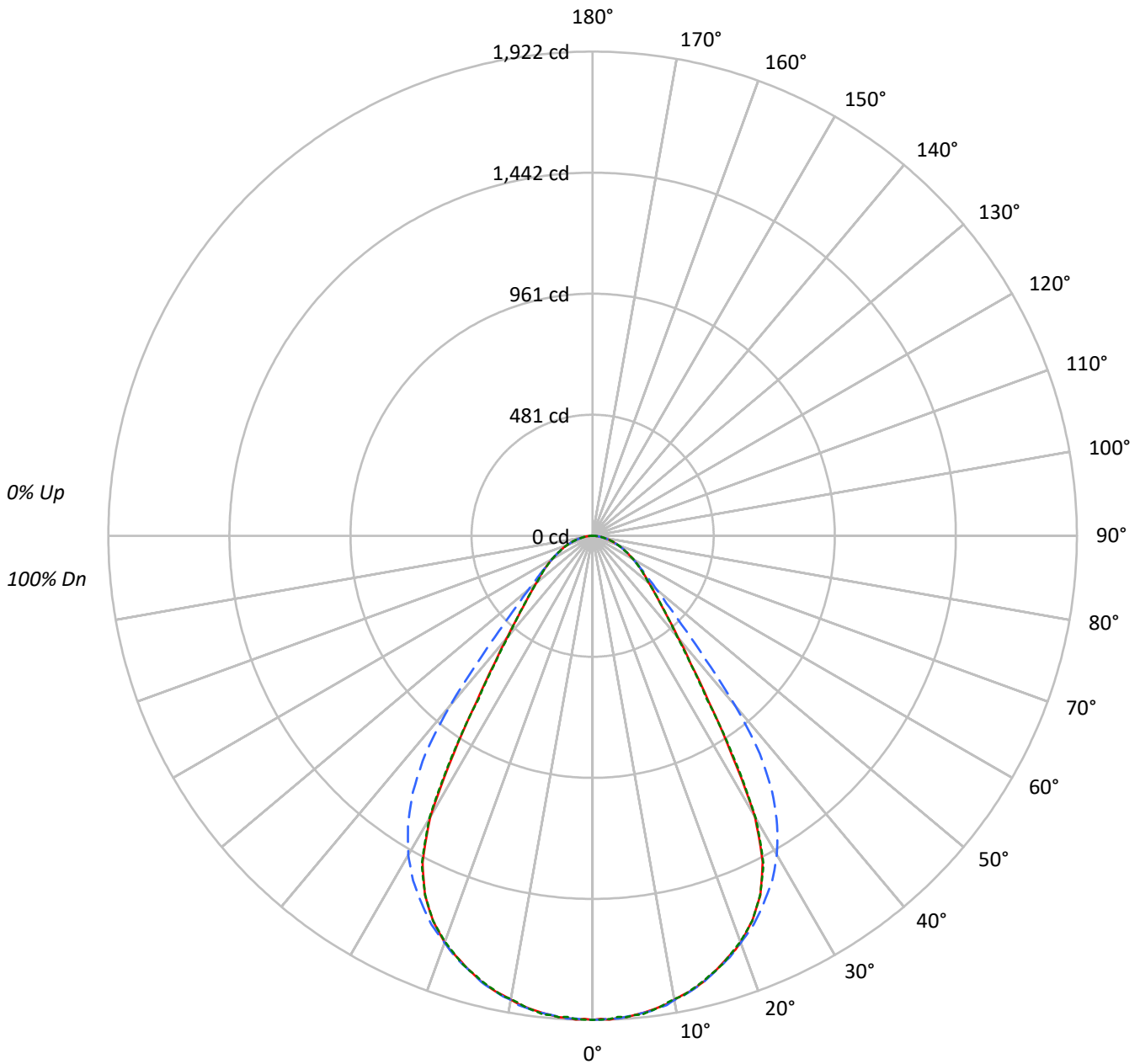
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2835.1 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
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: P838508

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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 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | | | | |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | | | | | |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | | | | | |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 67 | 73 | 69 | 66 | 64 | | | | | | | | |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 70 | 64 | 60 | 68 | 63 | 60 | 58 | | | | | | | | |
| 6 | 80 | 69 | 61 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 55 | 63 | 58 | 54 | 53 | | | | | | | | |
| 7 | 75 | 63 | 56 | 51 | 73 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 48 | | | | | | | | |
| 8 | 70 | 59 | 52 | 47 | 69 | 58 | 51 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 | | | | | | | | |
| 9 | 66 | 55 | 48 | 43 | 65 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 51 | 46 | 43 | 41 | | | | | | | | |
| 10 | 63 | 51 | 45 | 40 | 62 | 51 | 44 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 48 | 43 | 40 | 38 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 82753 | 82753 | 82753 |
| 5° | 82546 | 82490 | 82546 |
| 10° | 81743 | 81800 | 81625 |
| 15° | 80524 | 80586 | 80403 |
| 20° | 78712 | 78772 | 78524 |
| 25° | 74785 | 76376 | 74718 |
| 30° | 64040 | 72720 | 64437 |
| 35° | 42075 | 65370 | 41439 |
| 40° | 29744 | 49298 | 29215 |
| 45° | 23065 | 30341 | 23229 |
| 50° | 19613 | 22131 | 19432 |
| 55° | 17640 | 18151 | 17640 |
| 60° | 15965 | 15965 | 15965 |
| 65° | 14640 | 14507 | 14507 |
| 70° | 13357 | 13357 | 13533 |
| 75° | 12510 | 12061 | 12294 |
| 80° | 10984 | 10984 | 10984 |
| 85° | 9287 | 9287 | 9287 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 30341 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 181.2 | 6.4 |
| 10°-20° | 508.9 | 17.9 |
| 20°-30° | 725.1 | 25.6 |
| 30°-40° | 618.3 | 21.8 |
| 40°-50° | 342.1 | 12.1 |
| 50°-60° | 215.5 | 7.6 |
| 60°-70° | 143.1 | 5.0 |
| 70°-80° | 78.6 | 2.8 |
| 80°-90° | 22.4 | 0.8 |
| 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° | 1415.2 | 49.9 |
| 0°-40° | 2033.5 | 71.7 |
| 0°-60° | 2591.0 | 91.4 |
| 0°-90° | 2835.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2835.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1922 | 1922 | 1922 | 1922 | 1922 | |
| 5° | 1910 | 1913 | 1909 | 1906 | 1910 | 181 |
| 15° | 1806 | 1806 | 1808 | 1806 | 1804 | 509 |
| 25° | 1574 | 1593 | 1608 | 1592 | 1573 | 711 |
| 35° | 800 | 944 | 1244 | 946 | 788 | 520 |
| 45° | 379 | 415 | 498 | 412 | 382 | 300 |
| 55° | 235 | 239 | 242 | 238 | 235 | 211 |
| 65° | 144 | 145 | 142 | 144 | 142 | 143 |
| 75° | 75 | 74 | 72 | 74 | 74 | 79 |
| 85° | 19 | 19 | 19 | 20 | 19 | 22 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P838508

CATALOG NUMBER: HCSQ630D010-HM63040835-61SQMW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1922.0 | 1922.0 | 1922.0 | 1922.0 | 1922.0 |
| 1° | 1918.0 | 1920.7 | 1920.7 | 1919.3 | 1920.7 |
| 2° | 1922.0 | 1918.0 | 1918.0 | 1918.0 | 1919.3 |
| 3° | 1916.7 | 1919.3 | 1919.3 | 1915.3 | 1912.6 |
| 4° | 1915.3 | 1914.0 | 1914.0 | 1918.0 | 1915.3 |
| 5° | 1909.9 | 1912.6 | 1908.6 | 1905.9 | 1909.9 |
| 6° | 1904.6 | 1905.9 | 1904.6 | 1905.9 | 1909.9 |
| 7° | 1897.9 | 1901.9 | 1900.5 | 1899.2 | 1899.2 |
| 8° | 1889.8 | 1895.2 | 1892.5 | 1892.5 | 1891.1 |
| 9° | 1881.7 | 1883.1 | 1885.8 | 1885.8 | 1877.7 |
| 10° | 1869.7 | 1873.7 | 1871.0 | 1872.3 | 1867.0 |
| 11° | 1858.9 | 1864.3 | 1862.9 | 1860.2 | 1861.6 |
| 12° | 1849.5 | 1852.2 | 1850.8 | 1846.8 | 1848.2 |
| 13° | 1837.4 | 1840.1 | 1838.8 | 1838.8 | 1834.7 |
| 14° | 1824.0 | 1821.3 | 1825.3 | 1822.6 | 1821.3 |
| 15° | 1806.5 | 1806.5 | 1807.9 | 1806.5 | 1803.8 |
| 16° | 1790.4 | 1791.7 | 1791.7 | 1790.4 | 1791.7 |
| 17° | 1771.6 | 1777.0 | 1775.6 | 1772.9 | 1774.3 |
| 18° | 1754.1 | 1758.2 | 1759.5 | 1758.2 | 1754.1 |
| 19° | 1738.0 | 1740.7 | 1739.4 | 1734.0 | 1734.0 |
| 20° | 1717.9 | 1719.2 | 1719.2 | 1716.5 | 1713.8 |
| 22.5° | 1654.7 | 1664.2 | 1670.9 | 1665.5 | 1654.7 |
| 25° | 1574.2 | 1593.0 | 1607.7 | 1591.6 | 1572.8 |
| 27.5° | 1461.3 | 1498.9 | 1543.3 | 1503.0 | 1468.1 |
| 30° | 1288.1 | 1374.0 | 1462.7 | 1382.1 | 1296.1 |
| 32.5° | 1024.8 | 1194.1 | 1363.3 | 1210.2 | 1040.9 |
| 35° | 800.5 | 944.2 | 1243.7 | 945.6 | 788.4 |
| 37.5° | 639.3 | 741.4 | 1090.6 | 734.7 | 632.6 |
| 40° | 529.2 | 597.7 | 877.1 | 595.0 | 519.8 |
| 42.5° | 441.9 | 494.3 | 656.8 | 488.9 | 441.9 |
| 45° | 378.8 | 415.0 | 498.3 | 412.3 | 381.5 |
| 47.5° | 331.8 | 354.6 | 398.9 | 353.2 | 331.8 |
| 50° | 292.8 | 306.2 | 330.4 | 304.9 | 290.1 |
| 52.5° | 261.9 | 270.0 | 279.4 | 267.3 | 259.2 |
| 55° | 235.0 | 239.1 | 241.8 | 237.7 | 235.0 |
| 57.5° | 209.5 | 212.2 | 210.9 | 209.5 | 208.2 |
| 60° | 185.4 | 186.7 | 185.4 | 186.7 | 185.4 |
| 62.5° | 163.9 | 165.2 | 162.5 | 163.9 | 162.5 |
| 65° | 143.7 | 145.1 | 142.4 | 143.7 | 142.4 |
| 67.5° | 124.9 | 124.9 | 124.9 | 124.9 | 123.6 |
| 70° | 106.1 | 107.5 | 106.1 | 107.5 | 107.5 |
| 72.5° | 90.0 | 90.0 | 88.6 | 90.0 | 90.0 |
| 75° | 75.2 | 73.9 | 72.5 | 73.9 | 73.9 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|------|-------|------|
| 82.5° | 32.2 | 32.2 | 30.9 | 32.2 | 32.2 |
| 85° | 18.8 | 18.8 | 18.8 | 20.1 | 18.8 |
| 87.5° | 9.4 | 8.1 | 8.1 | 9.4 | 9.4 |
| 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

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

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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Scaled Data Report



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Scaled Data Report





| | | | | | |
|-------|------|------|------|------|------|
| 77.5° | 59.1 | 59.1 | 57.8 | 59.1 | 59.1 |
| 80° | 44.3 | 45.7 | 44.3 | 45.7 | 44.3 |

Signify Classified - Internal
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Scaled Data Report



(END OF REPORT)