

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: P837327

Luminaire Tested: HCSQ415D010-HM40525835-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837327
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ415D010-HM40525835-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

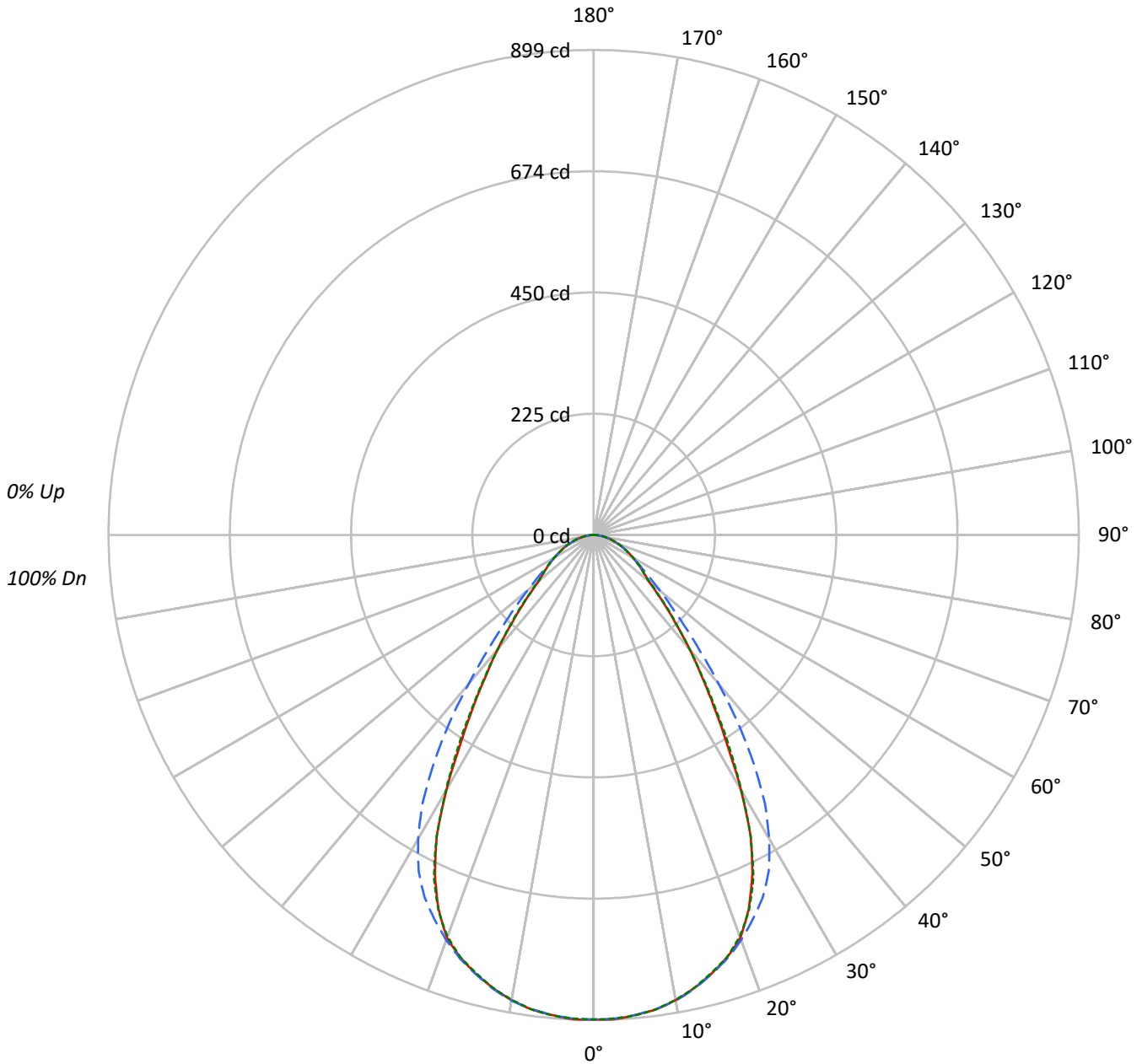
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1303.5 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 14
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





TEST NUMBER: P837327

CATALOG NUMBER: HCSQ415D010-HM40525835-41SQMW

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 | 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 | 76 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | | | | | | | | | | | | | | | | |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 66 | 73 | 69 | 66 | 64 | | | | | | | | | | | | | | | | | | | |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 70 | 64 | 60 | 68 | 63 | 60 | 58 | | | | | | | | | | | | | | | | | | | |
| 6 | 79 | 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 | 50 | 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° | 87014 | 87014 | 87014 |
| 5° | 86869 | 86869 | 86937 |
| 10° | 86162 | 86231 | 86093 |
| 15° | 84487 | 84557 | 84346 |
| 20° | 81948 | 82381 | 81660 |
| 25° | 74374 | 79227 | 74898 |
| 30° | 61054 | 72766 | 61289 |
| 35° | 45886 | 61083 | 46548 |
| 40° | 34954 | 45539 | 34866 |
| 45° | 26099 | 32319 | 26578 |
| 50° | 19879 | 24084 | 20301 |
| 55° | 17920 | 18866 | 17920 |
| 60° | 16353 | 16236 | 16236 |
| 65° | 14877 | 14877 | 14877 |
| 70° | 13851 | 13652 | 13652 |
| 75° | 12801 | 12539 | 12801 |
| 80° | 11660 | 11269 | 11660 |
| 85° | 10115 | 10115 | 10115 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 32319 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 84.7 | 6.5 |
| 10°-20° | 237.1 | 18.2 |
| 20°-30° | 326.2 | 25.0 |
| 30°-40° | 277.7 | 21.3 |
| 40°-50° | 167.7 | 12.9 |
| 50°-60° | 98.8 | 7.6 |
| 60°-70° | 64.8 | 5.0 |
| 70°-80° | 35.9 | 2.8 |
| 80°-90° | 10.5 | 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° | 648.0 | 49.7 |
| 0°-40° | 925.7 | 71.0 |
| 0°-60° | 1192.2 | 91.5 |
| 0°-90° | 1303.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1303.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 898 | 898 | 898 | 898 | 898 | |
| 5° | 893 | 894 | 893 | 893 | 894 | 85 |
| 15° | 842 | 844 | 843 | 842 | 841 | 237 |
| 25° | 696 | 718 | 741 | 719 | 701 | 314 |
| 35° | 388 | 427 | 516 | 439 | 394 | 246 |
| 45° | 190 | 211 | 236 | 213 | 194 | 150 |
| 55° | 106 | 108 | 112 | 108 | 106 | 95 |
| 65° | 65 | 66 | 65 | 65 | 65 | 65 |
| 75° | 34 | 34 | 34 | 34 | 34 | 36 |
| 85° | 9 | 9 | 9 | 9 | 9 | 10 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 898.2 | 898.2 | 898.2 | 898.2 | 898.2 |
| 2.5° | 898.9 | 896.8 | 897.5 | 896.8 | 897.5 |
| 5° | 893.3 | 894.0 | 893.3 | 892.6 | 894.0 |
| 7.5° | 887.1 | 886.4 | 886.4 | 885.7 | 887.1 |
| 10° | 875.9 | 874.5 | 876.6 | 875.2 | 875.2 |
| 12.5° | 860.5 | 862.6 | 861.9 | 861.9 | 860.5 |
| 15° | 842.4 | 844.5 | 843.1 | 842.4 | 841.0 |
| 17.5° | 821.5 | 822.8 | 823.5 | 820.8 | 820.8 |
| 20° | 794.9 | 797.7 | 799.1 | 794.2 | 792.1 |
| 22.5° | 751.0 | 763.5 | 771.2 | 762.8 | 752.4 |
| 25° | 695.8 | 717.5 | 741.2 | 718.9 | 700.7 |
| 27.5° | 629.5 | 660.2 | 702.8 | 665.1 | 629.5 |
| 30° | 545.8 | 591.1 | 650.5 | 596.0 | 547.9 |
| 32.5° | 459.2 | 507.4 | 590.4 | 515.8 | 469.0 |
| 35° | 388.0 | 427.1 | 516.5 | 439.0 | 393.6 |
| 37.5° | 326.6 | 360.1 | 439.0 | 367.8 | 330.1 |
| 40° | 276.4 | 302.9 | 360.1 | 306.4 | 275.7 |
| 42.5° | 228.2 | 253.3 | 291.7 | 256.8 | 231.0 |
| 45° | 190.5 | 210.8 | 235.9 | 212.9 | 194.0 |
| 47.5° | 158.4 | 175.2 | 193.3 | 175.2 | 160.5 |
| 50° | 131.9 | 145.2 | 159.8 | 145.2 | 134.7 |
| 52.5° | 117.9 | 122.1 | 131.9 | 122.8 | 117.9 |
| 55° | 106.1 | 108.2 | 111.7 | 108.2 | 106.1 |
| 57.5° | 94.9 | 96.3 | 95.6 | 95.6 | 94.9 |
| 60° | 84.4 | 85.1 | 83.8 | 84.4 | 83.8 |
| 62.5° | 74.7 | 74.7 | 73.3 | 74.7 | 74.0 |
| 65° | 64.9 | 65.6 | 64.9 | 64.9 | 64.9 |
| 67.5° | 56.5 | 56.5 | 55.8 | 56.5 | 56.5 |
| 70° | 48.9 | 48.9 | 48.2 | 48.9 | 48.2 |
| 72.5° | 41.2 | 41.2 | 40.5 | 40.5 | 40.5 |
| 75° | 34.2 | 34.2 | 33.5 | 33.5 | 34.2 |
| 77.5° | 27.2 | 27.2 | 26.5 | 27.2 | 27.2 |
| 80° | 20.9 | 20.9 | 20.2 | 20.9 | 20.9 |
| 82.5° | 14.7 | 14.7 | 14.7 | 15.4 | 15.4 |
| 85° | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 87.5° | 4.2 | 4.2 | 4.2 | 4.2 | 4.9 |
| 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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