

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: P838608

Luminaire Tested: HCSQ640D010-HM63040935-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838608
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: HCSQ640D010-HM63040935-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

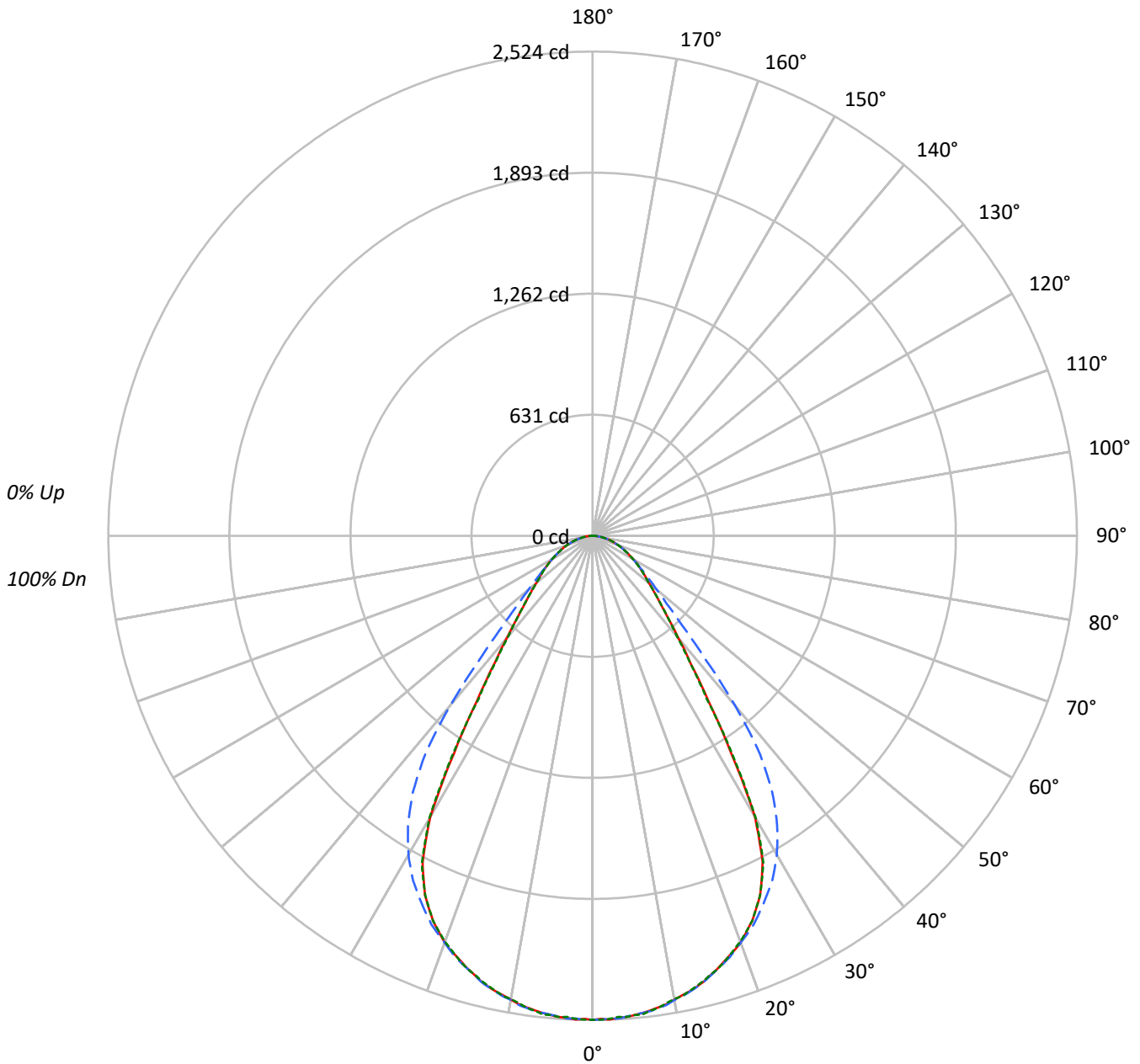
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3722.8 lumens
Efficiency: N/A
Efficacy: 90.8 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): 41
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|---|--|---|
| RF | 20 | | | | | 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 | | | | | 100 | | | |
| 1 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | 89 | | | |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | | 79 | | | |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | | 71 | | | |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 67 | 73 | 69 | 66 | 64 | | | | | 64 | | | |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 70 | 64 | 60 | 68 | 63 | 60 | 58 | | | | | 58 | | | |
| 6 | 80 | 69 | 61 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 55 | 63 | 58 | 54 | 53 | | | | | 53 | | | |
| 7 | 75 | 63 | 56 | 51 | 73 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 48 | | | | | 48 | | | |
| 8 | 70 | 59 | 52 | 47 | 69 | 58 | 51 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 | | | | | 44 | | | |
| 9 | 66 | 55 | 48 | 43 | 65 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 51 | 46 | 43 | 41 | | | | | 41 | | | |
| 10 | 63 | 51 | 45 | 40 | 62 | 51 | 44 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 48 | 43 | 40 | 38 | | | | | 38 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 108668 | 108668 | 108668 |
| 5° | 108396 | 108318 | 108396 |
| 10° | 107337 | 107411 | 107179 |
| 15° | 105740 | 105815 | 105584 |
| 20° | 103358 | 103436 | 103115 |
| 25° | 98201 | 100296 | 98116 |
| 30° | 84090 | 95490 | 84617 |
| 35° | 55252 | 85843 | 54417 |
| 40° | 39057 | 64731 | 38366 |
| 45° | 30287 | 39840 | 30500 |
| 50° | 25755 | 29064 | 25520 |
| 55° | 23165 | 23833 | 23165 |
| 60° | 20959 | 20959 | 20959 |
| 65° | 19224 | 19051 | 19051 |
| 70° | 17536 | 17536 | 17763 |
| 75° | 16436 | 15837 | 16136 |
| 80° | 14431 | 14431 | 14431 |
| 85° | 12202 | 12202 | 12202 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 39840 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 237.9 | 6.4 |
| 10°-20° | 668.2 | 17.9 |
| 20°-30° | 952.2 | 25.6 |
| 30°-40° | 811.9 | 21.8 |
| 40°-50° | 449.2 | 12.1 |
| 50°-60° | 282.9 | 7.6 |
| 60°-70° | 187.8 | 5.0 |
| 70°-80° | 103.2 | 2.8 |
| 80°-90° | 29.4 | 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° | 1858.3 | 49.9 |
| 0°-40° | 2670.2 | 71.7 |
| 0°-60° | 3402.3 | 91.4 |
| 0°-90° | 3722.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3722.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2524 | 2524 | 2524 | 2524 | 2524 | |
| 5° | 2508 | 2512 | 2506 | 2503 | 2508 | 238 |
| 15° | 2372 | 2372 | 2374 | 2372 | 2369 | 668 |
| 25° | 2067 | 2092 | 2111 | 2090 | 2065 | 934 |
| 35° | 1051 | 1240 | 1633 | 1242 | 1035 | 683 |
| 45° | 497 | 545 | 654 | 542 | 501 | 394 |
| 55° | 309 | 314 | 318 | 312 | 309 | 277 |
| 65° | 189 | 190 | 187 | 189 | 187 | 188 |
| 75° | 99 | 97 | 95 | 97 | 97 | 104 |
| 85° | 25 | 25 | 25 | 26 | 25 | 29 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P838608

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2523.9 | 2523.9 | 2523.9 | 2523.9 | 2523.9 |
| 1° | 2518.6 | 2522.1 | 2522.1 | 2520.3 | 2522.1 |
| 2° | 2523.9 | 2518.6 | 2518.6 | 2518.6 | 2520.3 |
| 3° | 2516.8 | 2520.3 | 2520.3 | 2515.0 | 2511.5 |
| 4° | 2515.0 | 2513.3 | 2513.3 | 2518.6 | 2515.0 |
| 5° | 2508.0 | 2511.5 | 2506.2 | 2502.7 | 2508.0 |
| 6° | 2500.9 | 2502.7 | 2500.9 | 2502.7 | 2508.0 |
| 7° | 2492.1 | 2497.4 | 2495.6 | 2493.9 | 2493.9 |
| 8° | 2481.5 | 2488.6 | 2485.1 | 2485.1 | 2483.3 |
| 9° | 2470.9 | 2472.7 | 2476.2 | 2476.2 | 2465.7 |
| 10° | 2455.1 | 2460.4 | 2456.8 | 2458.6 | 2451.5 |
| 11° | 2441.0 | 2448.0 | 2446.3 | 2442.7 | 2444.5 |
| 12° | 2428.6 | 2432.1 | 2430.4 | 2425.1 | 2426.9 |
| 13° | 2412.7 | 2416.3 | 2414.5 | 2414.5 | 2409.2 |
| 14° | 2395.1 | 2391.6 | 2396.9 | 2393.3 | 2391.6 |
| 15° | 2372.2 | 2372.2 | 2373.9 | 2372.2 | 2368.7 |
| 16° | 2351.0 | 2352.8 | 2352.8 | 2351.0 | 2352.8 |
| 17° | 2326.3 | 2333.4 | 2331.6 | 2328.1 | 2329.8 |
| 18° | 2303.4 | 2308.7 | 2310.4 | 2308.7 | 2303.4 |
| 19° | 2282.2 | 2285.8 | 2284.0 | 2276.9 | 2276.9 |
| 20° | 2255.8 | 2257.5 | 2257.5 | 2254.0 | 2250.5 |
| 22.5° | 2172.9 | 2185.2 | 2194.0 | 2187.0 | 2172.9 |
| 25° | 2067.1 | 2091.8 | 2111.2 | 2090.0 | 2065.3 |
| 27.5° | 1918.9 | 1968.3 | 2026.5 | 1973.6 | 1927.7 |
| 30° | 1691.4 | 1804.3 | 1920.7 | 1814.8 | 1702.0 |
| 32.5° | 1345.7 | 1567.9 | 1790.2 | 1589.1 | 1366.9 |
| 35° | 1051.2 | 1239.9 | 1633.2 | 1241.6 | 1035.3 |
| 37.5° | 839.5 | 973.6 | 1432.1 | 964.7 | 830.7 |
| 40° | 694.9 | 784.8 | 1151.7 | 781.3 | 682.6 |
| 42.5° | 580.3 | 649.0 | 862.5 | 642.0 | 580.3 |
| 45° | 497.4 | 545.0 | 654.3 | 541.5 | 500.9 |
| 47.5° | 435.6 | 465.6 | 523.8 | 463.9 | 435.6 |
| 50° | 384.5 | 402.1 | 433.9 | 400.4 | 381.0 |
| 52.5° | 343.9 | 354.5 | 366.8 | 351.0 | 340.4 |
| 55° | 308.6 | 313.9 | 317.5 | 312.2 | 308.6 |
| 57.5° | 275.1 | 278.7 | 276.9 | 275.1 | 273.4 |
| 60° | 243.4 | 245.2 | 243.4 | 245.2 | 243.4 |
| 62.5° | 215.2 | 216.9 | 213.4 | 215.2 | 213.4 |
| 65° | 188.7 | 190.5 | 187.0 | 188.7 | 187.0 |
| 67.5° | 164.0 | 164.0 | 164.0 | 164.0 | 162.3 |
| 70° | 139.3 | 141.1 | 139.3 | 141.1 | 141.1 |
| 72.5° | 118.2 | 118.2 | 116.4 | 118.2 | 118.2 |
| 75° | 98.8 | 97.0 | 95.2 | 97.0 | 97.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------------|-------|------|-------|------|
| 82.5° | <i>42.3</i> | 42.3 | 40.6 | 42.3 | 42.3 |
| 85° | <i>24.7</i> | 24.7 | 24.7 | 26.5 | 24.7 |
| 87.5° | <i>12.3</i> | 10.6 | 10.6 | 12.3 | 12.3 |
| 90° | <i>0.0</i> | 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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| | | | | | |
|-------|------|------|------|------|------|
| 77.5° | 77.6 | 77.6 | 75.8 | 77.6 | 77.6 |
| 80° | 58.2 | 60.0 | 58.2 | 60.0 | 58.2 |

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