

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



Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P580595

Luminaire Tested: **HCC4S40D010SL-HM43040835-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580595
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S40D010SL-HM43040835-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

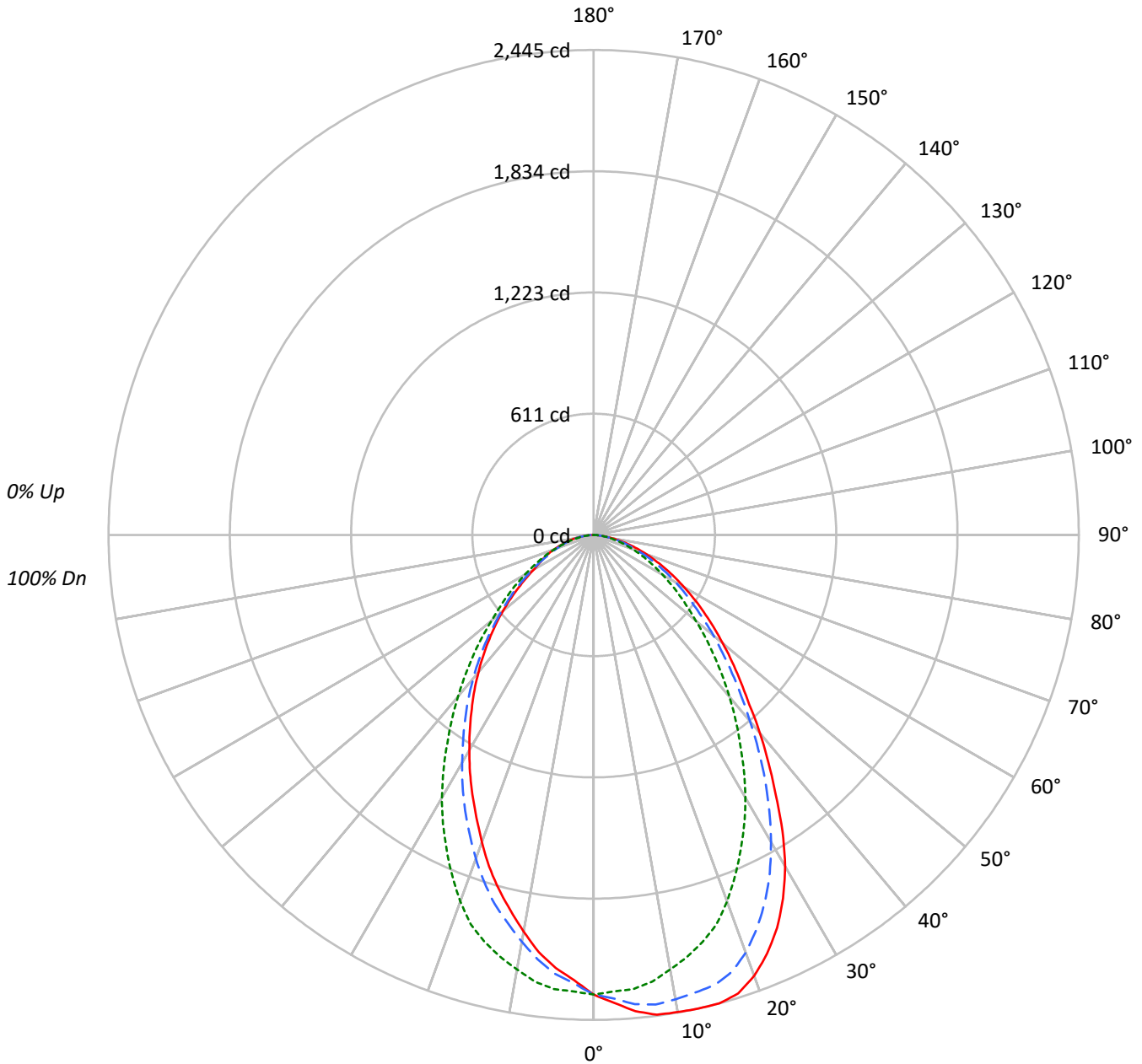
Lumens per Lamp: N/A
Luminaire Lumens: 4138.1 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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: 25 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 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | 87 | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | 76 | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | 66 | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | 47 | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 44 | 42 | | | | | 42 | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | 38 | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | 35 | | | |
| 10 | 59 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | 32 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 285816 | 285816 | 285816 |
| 5° | 298386 | 284556 | 271382 |
| 10° | 305944 | 278615 | 254380 |
| 15° | 312257 | 271177 | 236022 |
| 20° | 310605 | 258008 | 216135 |
| 25° | 297562 | 238564 | 196646 |
| 30° | 274899 | 217828 | 178219 |
| 35° | 240954 | 193748 | 161313 |
| 40° | 209820 | 171193 | 145301 |
| 45° | 182601 | 149318 | 129816 |
| 50° | 162686 | 128683 | 114559 |
| 55° | 145393 | 113157 | 99072 |
| 60° | 129809 | 98874 | 85405 |
| 65° | 115373 | 86741 | 81166 |
| 70° | 101267 | 74724 | 75734 |
| 75° | 85735 | 63670 | 70151 |
| 80° | 65847 | 54197 | 63929 |
| 85° | 38494 | 42457 | 53920 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 217.2 | 5.2 |
| 10°-20° | 599.1 | 14.5 |
| 20°-30° | 818.6 | 19.8 |
| 30°-40° | 821.9 | 19.9 |
| 40°-50° | 680.0 | 16.4 |
| 50°-60° | 492.8 | 11.9 |
| 60°-70° | 312.1 | 7.5 |
| 70°-80° | 157.8 | 3.8 |
| 80°-90° | 38.6 | 0.9 |
| 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° | 1634.9 | 39.5 |
| 0°-40° | 2456.8 | 59.4 |
| 0°-60° | 3629.5 | 87.7 |
| 0°-90° | 4138.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4138.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2317 | 2317 | 2317 | 2317 | 2317 | |
| 5° | 2410 | 2374 | 2298 | 2222 | 2192 | 231 |
| 15° | 2445 | 2350 | 2124 | 1927 | 1848 | 688 |
| 25° | 2186 | 2042 | 1753 | 1532 | 1445 | 999 |
| 35° | 1600 | 1505 | 1287 | 1129 | 1071 | 1003 |
| 45° | 1047 | 987 | 856 | 772 | 744 | 814 |
| 55° | 676 | 616 | 526 | 480 | 461 | 608 |
| 65° | 395 | 352 | 297 | 267 | 278 | 394 |
| 75° | 180 | 155 | 134 | 139 | 147 | 192 |
| 85° | 27 | 27 | 30 | 35 | 38 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2317.2 | 2317.2 | 2317.2 | 2317.2 | 2317.2 | 2317.2 | 2317.2 | 2317.2 | 2317.2 |
| 2.5° | 2360.8 | 2352.6 | 2339.1 | 2322.7 | 2303.5 | 2281.8 | 2262.7 | 2251.8 | 2246.4 |
| 5° | 2409.9 | 2399.1 | 2374.5 | 2339.1 | 2298.2 | 2257.2 | 2221.8 | 2200.0 | 2191.8 |
| 7.5° | 2439.9 | 2423.5 | 2388.1 | 2333.6 | 2270.9 | 2210.9 | 2159.2 | 2129.1 | 2120.9 |
| 10° | 2442.7 | 2423.5 | 2377.2 | 2303.5 | 2224.5 | 2145.5 | 2082.8 | 2039.1 | 2031.0 |
| 12.5° | 2445.3 | 2420.8 | 2363.5 | 2276.3 | 2178.2 | 2080.0 | 2003.7 | 1951.9 | 1938.3 |
| 15° | 2445.3 | 2420.8 | 2350.0 | 2246.4 | 2123.6 | 2011.9 | 1927.3 | 1867.4 | 1848.3 |
| 17.5° | 2423.5 | 2396.2 | 2311.7 | 2191.8 | 2058.3 | 1932.8 | 1834.7 | 1772.0 | 1752.9 |
| 20° | 2366.3 | 2336.3 | 2240.9 | 2110.1 | 1965.6 | 1834.7 | 1736.5 | 1671.1 | 1646.6 |
| 22.5° | 2284.5 | 2249.1 | 2148.2 | 2006.5 | 1862.0 | 1728.4 | 1633.0 | 1564.8 | 1542.9 |
| 25° | 2186.4 | 2151.0 | 2041.9 | 1902.9 | 1752.9 | 1627.5 | 1532.1 | 1469.4 | 1444.9 |
| 27.5° | 2066.5 | 2028.2 | 1922.0 | 1783.0 | 1643.8 | 1518.5 | 1431.2 | 1374.0 | 1349.5 |
| 30° | 1930.1 | 1889.2 | 1788.3 | 1654.8 | 1529.4 | 1409.4 | 1324.9 | 1278.6 | 1251.3 |
| 32.5° | 1772.0 | 1736.5 | 1646.6 | 1526.7 | 1409.4 | 1294.9 | 1224.0 | 1183.1 | 1161.4 |
| 35° | 1600.2 | 1581.2 | 1504.8 | 1401.2 | 1286.7 | 1191.3 | 1128.6 | 1090.5 | 1071.3 |
| 37.5° | 1447.5 | 1428.5 | 1363.0 | 1275.8 | 1174.9 | 1087.7 | 1035.9 | 1003.2 | 986.8 |
| 40° | 1303.1 | 1286.7 | 1224.0 | 1150.5 | 1063.2 | 986.8 | 943.2 | 918.7 | 902.4 |
| 42.5° | 1161.4 | 1153.2 | 1101.4 | 1033.2 | 956.9 | 891.4 | 856.0 | 836.9 | 823.3 |
| 45° | 1046.8 | 1035.9 | 986.8 | 921.5 | 856.0 | 801.5 | 771.5 | 757.9 | 744.2 |
| 47.5° | 946.0 | 932.3 | 880.5 | 823.3 | 763.3 | 714.3 | 686.9 | 673.4 | 667.9 |
| 50° | 847.8 | 834.2 | 787.8 | 730.6 | 670.6 | 635.2 | 613.4 | 599.7 | 597.0 |
| 52.5° | 760.6 | 746.9 | 695.1 | 640.7 | 594.4 | 564.3 | 545.3 | 531.6 | 526.2 |
| 55° | 676.1 | 659.7 | 616.1 | 564.3 | 526.2 | 498.8 | 479.8 | 466.2 | 460.7 |
| 57.5° | 599.7 | 583.4 | 545.3 | 496.2 | 460.7 | 436.2 | 419.8 | 406.3 | 400.8 |
| 60° | 526.2 | 512.5 | 477.1 | 430.7 | 400.8 | 378.9 | 362.5 | 351.7 | 346.2 |
| 62.5° | 458.0 | 447.1 | 411.6 | 370.7 | 346.2 | 327.1 | 313.5 | 302.6 | 308.1 |
| 65° | 395.3 | 384.4 | 351.7 | 316.2 | 297.2 | 278.1 | 267.1 | 267.1 | 278.1 |
| 67.5° | 335.3 | 324.4 | 297.2 | 267.1 | 250.8 | 237.2 | 229.0 | 237.2 | 245.4 |
| 70° | 280.8 | 269.9 | 245.4 | 220.8 | 207.2 | 196.3 | 196.3 | 204.5 | 210.0 |
| 72.5° | 229.0 | 218.1 | 199.0 | 179.9 | 169.0 | 160.9 | 169.0 | 174.4 | 179.9 |
| 75° | 179.9 | 171.7 | 155.4 | 141.8 | 133.6 | 130.8 | 139.0 | 144.5 | 147.2 |
| 77.5° | 133.6 | 128.1 | 117.3 | 106.3 | 100.9 | 103.6 | 111.8 | 114.5 | 117.3 |
| 80° | 92.7 | 90.0 | 81.8 | 76.3 | 76.3 | 79.0 | 84.5 | 87.2 | 90.0 |
| 82.5° | 57.3 | 57.3 | 51.8 | 49.1 | 51.8 | 57.3 | 60.0 | 62.7 | 62.7 |
| 85° | 27.2 | 30.0 | 27.2 | 27.2 | 30.0 | 35.4 | 35.4 | 38.1 | 38.1 |
| 87.5° | 8.2 | 8.2 | 10.9 | 10.9 | 13.7 | 13.7 | 13.7 | 13.7 | 16.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report



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Scaled Data Report



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

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