

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: P580594

Luminaire Tested: **HCC4S40D010MW-HM43040835-41WWBB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580594
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S40D010MW-HM43040835-41WWBB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

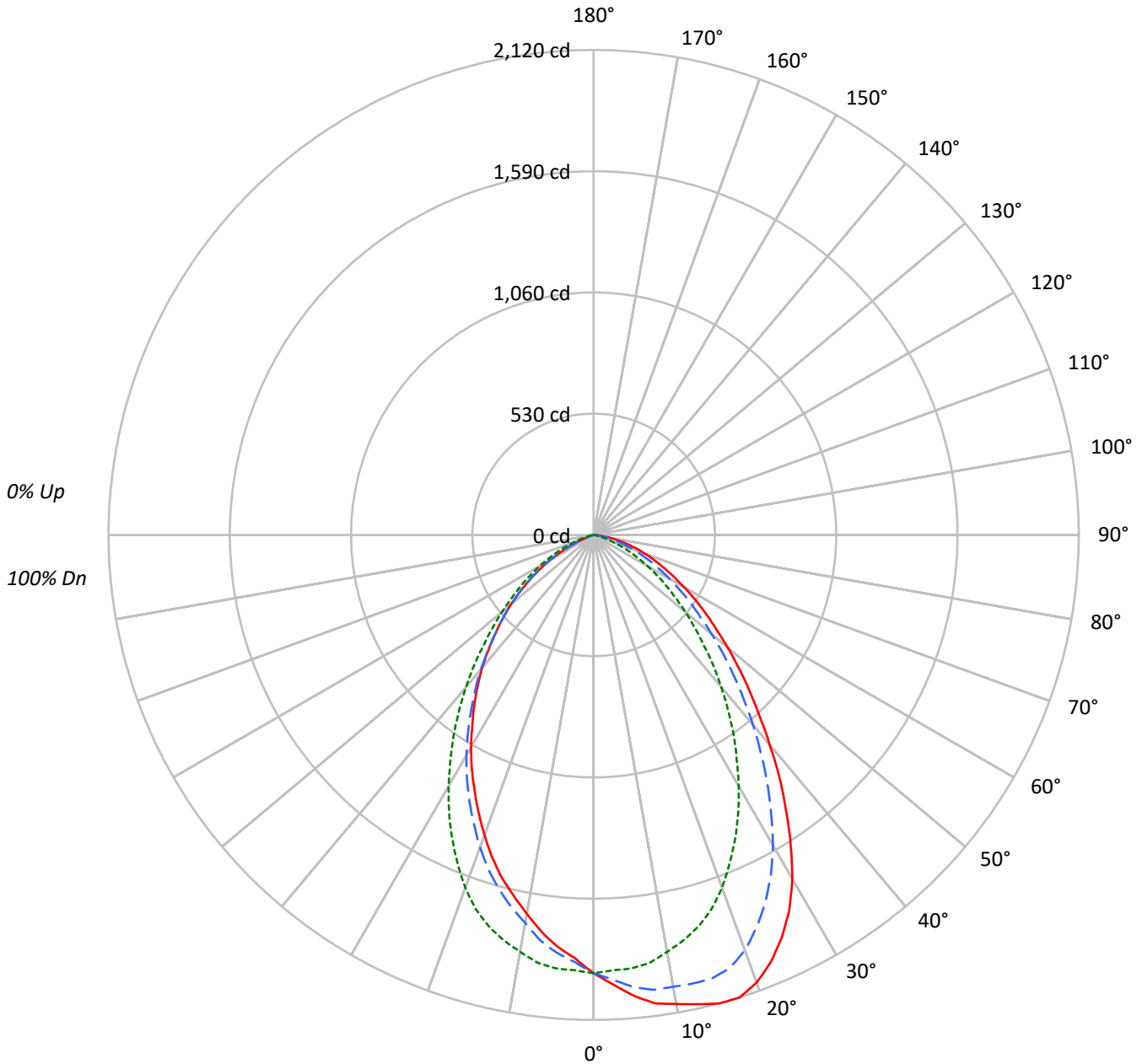
Lumens per Lamp: N/A
Luminaire Lumens: 3309.4 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 97 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | | | | | | | | |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 92 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | | | | | | |
| 3 | 96 | 87 | 80 | 75 | 94 | 86 | 79 | 74 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | | | | | | |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 65 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 63 | 61 | | | | | | | | |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 64 | 58 | 69 | 62 | 58 | 67 | 61 | 57 | 65 | 60 | 56 | 55 | | | | | | | | |
| 6 | 77 | 66 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | | | | |
| 7 | 72 | 60 | 53 | 47 | 71 | 59 | 52 | 47 | 58 | 51 | 47 | 57 | 51 | 46 | 55 | 50 | 46 | 44 | | | | | | | | |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 51 | 46 | 42 | 40 | | | | | | | | |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | | | | | | | | |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 41 | 36 | 46 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 36 | 34 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 236318 | 236318 | 236318 |
| 5° | 250382 | 235537 | 223725 |
| 10° | 260780 | 231772 | 210605 |
| 15° | 270756 | 226215 | 198019 |
| 20° | 273300 | 215361 | 183163 |
| 25° | 264450 | 199178 | 167658 |
| 30° | 247268 | 180498 | 152540 |
| 35° | 220370 | 160455 | 137070 |
| 40° | 192640 | 139537 | 122002 |
| 45° | 167808 | 118390 | 105534 |
| 50° | 146433 | 100417 | 90477 |
| 55° | 128340 | 83223 | 73266 |
| 60° | 112269 | 67223 | 53779 |
| 65° | 97832 | 50112 | 30237 |
| 70° | 85507 | 32421 | 9809 |
| 75° | 70151 | 16871 | 2621 |
| 80° | 52208 | 7742 | 1918 |
| 85° | 30711 | 3821 | 3821 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 180.8 | 5.5 |
| 10°-20° | 506.1 | 15.3 |
| 20°-30° | 699.7 | 21.1 |
| 30°-40° | 703.6 | 21.3 |
| 40°-50° | 567.8 | 17.2 |
| 50°-60° | 383.9 | 11.6 |
| 60°-70° | 195.4 | 5.9 |
| 70°-80° | 62.6 | 1.9 |
| 80°-90° | 9.6 | 0.3 |
| 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° | 1386.6 | 41.9 |
| 0°-40° | 2090.2 | 63.2 |
| 0°-60° | 3041.9 | 91.9 |
| 0°-90° | 3309.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3309.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1916 | 1916 | 1916 | 1916 | 1916 | |
| 5° | 2022 | 1984 | 1902 | 1834 | 1807 | 195 |
| 15° | 2120 | 2006 | 1772 | 1602 | 1551 | 597 |
| 25° | 1943 | 1774 | 1464 | 1284 | 1232 | 889 |
| 35° | 1464 | 1322 | 1066 | 932 | 910 | 914 |
| 45° | 962 | 861 | 679 | 605 | 605 | 745 |
| 55° | 597 | 515 | 387 | 338 | 341 | 536 |
| 65° | 335 | 272 | 172 | 112 | 104 | 336 |
| 75° | 147 | 104 | 35 | 8 | 6 | 159 |
| 85° | 22 | 11 | 3 | 3 | 3 | 29 |
| 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° | 1915.9 | 1915.9 | 1915.9 | 1915.9 | 1915.9 | 1915.9 | 1915.9 | 1915.9 | 1915.9 |
| 2.5° | 1967.7 | 1956.8 | 1945.9 | 1926.8 | 1905.0 | 1883.2 | 1869.6 | 1858.7 | 1853.2 |
| 5° | 2022.2 | 2008.6 | 1984.1 | 1943.1 | 1902.3 | 1864.1 | 1834.2 | 1815.1 | 1806.9 |
| 7.5° | 2065.8 | 2046.7 | 2005.8 | 1948.6 | 1886.0 | 1826.0 | 1787.8 | 1760.5 | 1749.7 |
| 10° | 2082.1 | 2060.4 | 2005.8 | 1929.6 | 1850.5 | 1776.9 | 1722.4 | 1695.2 | 1681.5 |
| 12.5° | 2101.2 | 2076.7 | 2008.6 | 1913.2 | 1815.1 | 1727.9 | 1665.1 | 1629.7 | 1616.1 |
| 15° | 2120.3 | 2087.6 | 2005.8 | 1888.7 | 1771.5 | 1670.6 | 1602.5 | 1567.0 | 1550.7 |
| 17.5° | 2120.3 | 2082.1 | 1984.1 | 1847.7 | 1714.2 | 1608.0 | 1531.6 | 1490.7 | 1477.1 |
| 20° | 2082.1 | 2038.5 | 1932.3 | 1782.4 | 1640.7 | 1526.2 | 1452.6 | 1411.7 | 1395.4 |
| 22.5° | 2022.2 | 1973.2 | 1858.7 | 1703.4 | 1553.5 | 1441.7 | 1368.1 | 1330.0 | 1313.6 |
| 25° | 1943.1 | 1894.2 | 1774.2 | 1613.5 | 1463.5 | 1351.8 | 1283.7 | 1248.2 | 1231.9 |
| 27.5° | 1850.5 | 1796.0 | 1676.1 | 1515.3 | 1368.1 | 1261.8 | 1199.1 | 1166.4 | 1152.8 |
| 30° | 1736.1 | 1684.3 | 1567.0 | 1409.0 | 1267.3 | 1169.2 | 1111.9 | 1082.0 | 1071.0 |
| 32.5° | 1602.5 | 1558.9 | 1444.4 | 1297.2 | 1163.7 | 1073.8 | 1022.0 | 997.5 | 986.6 |
| 35° | 1463.5 | 1422.7 | 1321.8 | 1185.6 | 1065.6 | 981.1 | 932.1 | 915.7 | 910.3 |
| 37.5° | 1332.6 | 1297.2 | 1199.1 | 1073.8 | 964.7 | 891.2 | 847.6 | 836.7 | 831.2 |
| 40° | 1196.4 | 1171.9 | 1082.0 | 967.5 | 866.6 | 801.3 | 765.9 | 757.7 | 757.7 |
| 42.5° | 1073.8 | 1046.6 | 967.5 | 864.0 | 774.1 | 708.6 | 684.0 | 675.9 | 678.7 |
| 45° | 962.0 | 934.8 | 861.2 | 765.9 | 678.7 | 624.1 | 605.0 | 605.0 | 605.0 |
| 47.5° | 858.5 | 833.9 | 765.9 | 667.7 | 596.8 | 553.2 | 534.2 | 534.2 | 536.8 |
| 50° | 763.1 | 746.7 | 670.5 | 585.9 | 523.3 | 482.4 | 468.8 | 466.0 | 471.5 |
| 52.5° | 673.2 | 654.1 | 585.9 | 509.6 | 449.6 | 417.0 | 403.3 | 400.6 | 403.3 |
| 55° | 596.8 | 575.1 | 515.1 | 441.4 | 387.0 | 354.3 | 338.0 | 335.2 | 340.7 |
| 57.5° | 523.3 | 506.9 | 444.3 | 378.8 | 327.0 | 294.4 | 280.7 | 275.2 | 278.0 |
| 60° | 455.1 | 438.8 | 381.6 | 318.8 | 272.5 | 239.8 | 220.7 | 215.3 | 218.0 |
| 62.5° | 392.5 | 378.8 | 324.3 | 264.3 | 218.0 | 188.1 | 168.9 | 155.4 | 160.8 |
| 65° | 335.2 | 321.6 | 272.5 | 212.5 | 171.7 | 139.0 | 111.8 | 100.9 | 103.6 |
| 67.5° | 286.2 | 269.8 | 223.5 | 168.9 | 128.1 | 92.7 | 62.7 | 57.3 | 57.3 |
| 70° | 237.1 | 220.7 | 179.9 | 130.8 | 89.9 | 49.1 | 27.2 | 27.2 | 27.2 |
| 72.5° | 190.8 | 177.1 | 139.0 | 98.1 | 57.3 | 21.7 | 10.9 | 10.9 | 10.9 |
| 75° | 147.2 | 136.3 | 103.6 | 68.2 | 35.4 | 10.9 | 8.2 | 5.5 | 5.5 |
| 77.5° | 109.0 | 98.1 | 73.5 | 46.3 | 21.7 | 5.5 | 5.5 | 5.5 | 5.5 |
| 80° | 73.5 | 65.4 | 49.1 | 27.2 | 10.9 | 2.7 | 2.7 | 2.7 | 2.7 |
| 82.5° | 43.6 | 38.1 | 27.2 | 13.7 | 5.5 | 2.7 | 2.7 | 2.7 | 2.7 |
| 85° | 21.7 | 16.4 | 10.9 | 5.5 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| 87.5° | 5.5 | 2.7 | 2.7 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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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