

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: P580593

Luminaire Tested: **HCC4S40D010MB-HM43040835-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580593
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S40D010MB-HM43040835-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

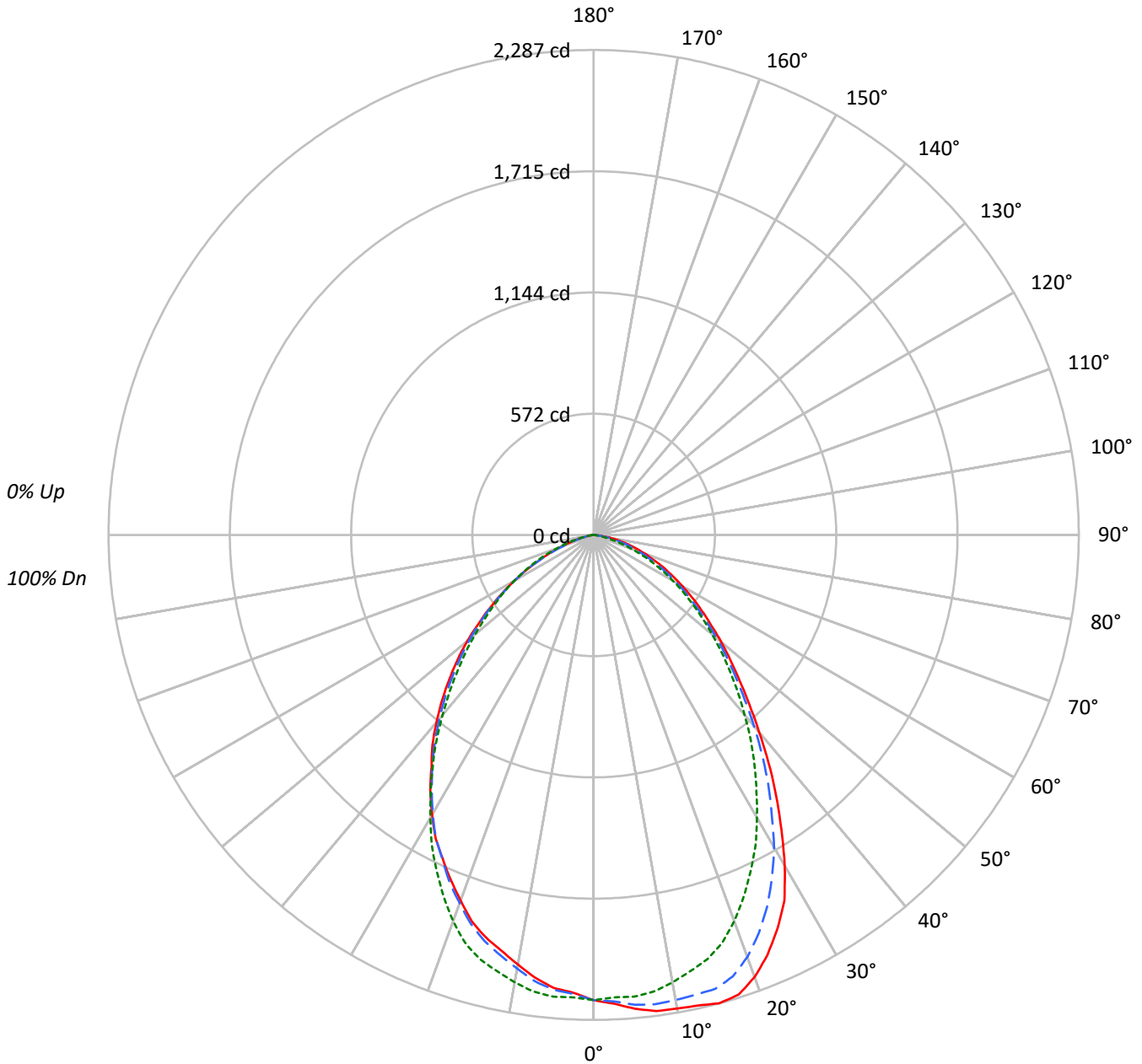
Lumens per Lamp: N/A
Luminaire Lumens: 4181.7 lumens
Efficiency: N/A
Efficacy: 102.0 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | | | | | | |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 58 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 270608 | 270608 | 270608 |
| 5° | 277721 | 270626 | 265575 |
| 10° | 284013 | 268295 | 257724 |
| 15° | 291991 | 264498 | 250924 |
| 20° | 291204 | 254359 | 240760 |
| 25° | 278930 | 238129 | 229228 |
| 30° | 256568 | 219309 | 217002 |
| 35° | 225715 | 199033 | 200689 |
| 40° | 195281 | 178165 | 185620 |
| 45° | 169710 | 158319 | 167808 |
| 50° | 150616 | 139620 | 149042 |
| 55° | 133630 | 122491 | 127759 |
| 60° | 119004 | 106225 | 106225 |
| 65° | 105799 | 88317 | 82713 |
| 70° | 91422 | 66826 | 59000 |
| 75° | 76633 | 44178 | 36362 |
| 80° | 58033 | 21239 | 19321 |
| 85° | 30711 | 7784 | 7784 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 207.8 | 5.0 |
| 10°-20° | 589.0 | 14.1 |
| 20°-30° | 830.7 | 19.9 |
| 30°-40° | 858.2 | 20.5 |
| 40°-50° | 727.5 | 17.4 |
| 50°-60° | 529.3 | 12.7 |
| 60°-70° | 309.3 | 7.4 |
| 70°-80° | 114.9 | 2.7 |
| 80°-90° | 15.1 | 0.4 |
| 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° | 1627.5 | 38.9 |
| 0°-40° | 2485.7 | 59.4 |
| 0°-60° | 3742.5 | 89.5 |
| 0°-90° | 4181.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4181.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2194 | 2194 | 2194 | 2194 | 2194 | |
| 5° | 2243 | 2224 | 2186 | 2153 | 2145 | 215 |
| 15° | 2287 | 2216 | 2071 | 1984 | 1965 | 643 |
| 25° | 2050 | 1935 | 1750 | 1687 | 1684 | 937 |
| 35° | 1499 | 1434 | 1322 | 1325 | 1333 | 936 |
| 45° | 973 | 946 | 908 | 940 | 962 | 757 |
| 55° | 621 | 591 | 570 | 589 | 594 | 559 |
| 65° | 362 | 332 | 303 | 283 | 283 | 360 |
| 75° | 161 | 134 | 93 | 74 | 76 | 173 |
| 85° | 22 | 14 | 6 | 6 | 6 | 30 |
| 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° | 2193.9 | 2193.9 | 2193.9 | 2193.9 | 2193.9 | 2193.9 | 2193.9 | 2193.9 | 2193.9 |
| 2.5° | 2213.1 | 2207.6 | 2202.1 | 2193.9 | 2183.0 | 2174.9 | 2166.7 | 2161.3 | 2161.3 |
| 5° | 2243.0 | 2234.8 | 2224.0 | 2204.9 | 2185.7 | 2169.5 | 2153.1 | 2144.9 | 2144.9 |
| 7.5° | 2264.8 | 2253.9 | 2232.1 | 2204.9 | 2172.2 | 2147.6 | 2123.1 | 2112.2 | 2106.7 |
| 10° | 2267.6 | 2256.6 | 2226.6 | 2185.7 | 2142.1 | 2104.0 | 2076.8 | 2060.4 | 2057.7 |
| 12.5° | 2272.9 | 2259.4 | 2221.1 | 2164.0 | 2106.7 | 2060.4 | 2030.5 | 2014.1 | 2008.6 |
| 15° | 2286.6 | 2267.6 | 2215.8 | 2142.1 | 2071.3 | 2016.8 | 1984.1 | 1970.5 | 1965.0 |
| 17.5° | 2272.9 | 2245.7 | 2183.0 | 2095.8 | 2016.8 | 1956.8 | 1924.1 | 1910.5 | 1910.5 |
| 20° | 2218.5 | 2191.2 | 2117.7 | 2022.3 | 1937.8 | 1880.5 | 1847.9 | 1839.7 | 1834.2 |
| 22.5° | 2142.1 | 2112.2 | 2033.2 | 1932.3 | 1847.9 | 1796.1 | 1774.2 | 1763.3 | 1760.6 |
| 25° | 2049.5 | 2019.5 | 1935.1 | 1831.5 | 1749.7 | 1706.0 | 1687.0 | 1687.0 | 1684.3 |
| 27.5° | 1945.9 | 1907.8 | 1820.6 | 1730.6 | 1651.6 | 1618.8 | 1610.8 | 1610.8 | 1613.5 |
| 30° | 1801.4 | 1774.2 | 1700.7 | 1613.5 | 1539.8 | 1518.1 | 1518.1 | 1523.6 | 1523.6 |
| 32.5° | 1646.2 | 1627.0 | 1561.7 | 1485.3 | 1428.2 | 1414.5 | 1420.0 | 1430.8 | 1433.5 |
| 35° | 1499.0 | 1477.1 | 1433.5 | 1365.4 | 1321.8 | 1316.4 | 1324.6 | 1332.8 | 1332.8 |
| 37.5° | 1354.5 | 1332.8 | 1302.7 | 1248.2 | 1215.5 | 1218.3 | 1229.2 | 1240.1 | 1248.2 |
| 40° | 1212.8 | 1196.4 | 1174.7 | 1131.1 | 1106.5 | 1117.4 | 1131.1 | 1142.0 | 1152.8 |
| 42.5° | 1087.5 | 1071.1 | 1054.7 | 1022.0 | 1005.6 | 1019.3 | 1035.7 | 1046.6 | 1057.4 |
| 45° | 972.9 | 962.0 | 945.7 | 918.4 | 907.6 | 921.2 | 940.3 | 951.2 | 962.0 |
| 47.5° | 874.8 | 869.4 | 847.6 | 823.0 | 817.7 | 831.2 | 847.6 | 861.3 | 869.4 |
| 50° | 784.9 | 776.7 | 757.7 | 733.1 | 727.6 | 749.5 | 760.4 | 768.6 | 776.7 |
| 52.5° | 697.7 | 689.5 | 667.7 | 645.9 | 645.9 | 662.3 | 670.5 | 673.2 | 681.3 |
| 55° | 621.4 | 613.2 | 591.4 | 575.1 | 569.6 | 583.3 | 588.6 | 588.6 | 594.1 |
| 57.5° | 550.5 | 542.3 | 520.6 | 501.4 | 498.7 | 506.9 | 506.9 | 506.9 | 509.6 |
| 60° | 482.4 | 474.2 | 452.4 | 436.1 | 430.6 | 433.4 | 430.6 | 427.9 | 430.6 |
| 62.5° | 419.7 | 411.5 | 389.8 | 370.6 | 365.2 | 365.2 | 357.0 | 354.3 | 357.0 |
| 65° | 362.5 | 348.9 | 332.5 | 313.4 | 302.6 | 294.4 | 283.4 | 283.4 | 283.4 |
| 67.5° | 305.2 | 294.4 | 275.3 | 256.1 | 242.6 | 228.9 | 212.5 | 218.0 | 220.7 |
| 70° | 253.5 | 245.3 | 223.5 | 204.4 | 185.3 | 168.9 | 155.4 | 160.8 | 163.6 |
| 72.5° | 207.2 | 196.2 | 177.1 | 155.4 | 139.0 | 117.1 | 109.0 | 114.5 | 114.5 |
| 75° | 160.8 | 149.9 | 133.5 | 111.8 | 92.7 | 73.5 | 73.5 | 76.3 | 76.3 |
| 77.5° | 119.9 | 109.0 | 92.7 | 73.5 | 57.3 | 43.6 | 46.3 | 46.3 | 46.3 |
| 80° | 81.7 | 73.5 | 60.0 | 43.6 | 29.9 | 24.5 | 24.5 | 24.5 | 27.2 |
| 82.5° | 46.3 | 40.9 | 32.7 | 21.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 |
| 85° | 21.7 | 16.4 | 13.7 | 8.2 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| 87.5° | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| 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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