

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: P580574

Luminaire Tested: **HCC4S40D010MW-HM43040830-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580574
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S40D010MW-HM43040830-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

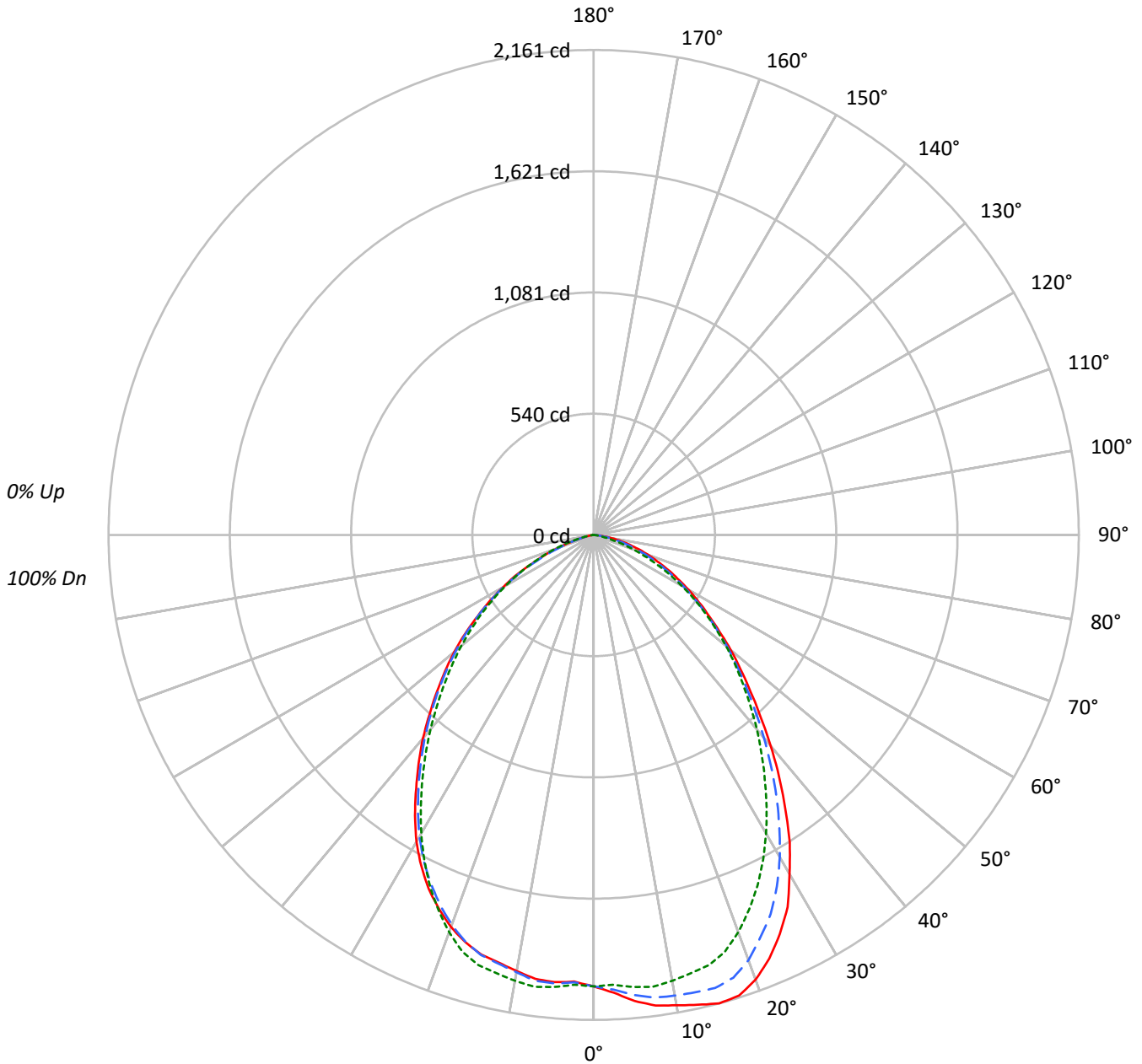
Lumens per Lamp: N/A
Luminaire Lumens: 4191.5 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | 76 | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | 67 | | | |
| 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 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | | 46 | | | |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | | | | | 41 | | | |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | 37 | | | |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | 34 | | | |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | 31 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 248097 | 248097 | 248097 |
| 5° | 258133 | 250395 | 247695 |
| 10° | 266566 | 252614 | 247165 |
| 15° | 275953 | 253389 | 247132 |
| 20° | 276870 | 247258 | 244042 |
| 25° | 267090 | 234903 | 236754 |
| 30° | 248550 | 218740 | 224935 |
| 35° | 223878 | 200147 | 207495 |
| 40° | 197390 | 182077 | 190386 |
| 45° | 172588 | 164058 | 172117 |
| 50° | 152842 | 147603 | 155432 |
| 55° | 134447 | 130340 | 135608 |
| 60° | 120015 | 111307 | 114662 |
| 65° | 105508 | 90418 | 88872 |
| 70° | 92143 | 66682 | 60768 |
| 75° | 76442 | 40175 | 32359 |
| 80° | 57891 | 15414 | 9660 |
| 85° | 27031 | 3821 | 3821 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 194.0 | 4.6 |
| 10°-20° | 566.2 | 13.5 |
| 20°-30° | 819.9 | 19.6 |
| 30°-40° | 865.1 | 20.6 |
| 40°-50° | 748.7 | 17.9 |
| 50°-60° | 554.6 | 13.2 |
| 60°-70° | 319.7 | 7.6 |
| 70°-80° | 111.6 | 2.7 |
| 80°-90° | 11.7 | 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° | 1580.1 | 37.7 |
| 0°-40° | 2445.2 | 58.3 |
| 0°-60° | 3748.4 | 89.4 |
| 0°-90° | 4191.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4191.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2011 | 2011 | 2011 | 2011 | 2011 | |
| 5° | 2085 | 2058 | 2022 | 2006 | 2000 | 200 |
| 15° | 2161 | 2090 | 1984 | 1938 | 1935 | 608 |
| 25° | 1962 | 1865 | 1726 | 1715 | 1740 | 898 |
| 35° | 1487 | 1419 | 1329 | 1359 | 1378 | 929 |
| 45° | 989 | 962 | 940 | 976 | 987 | 768 |
| 55° | 625 | 612 | 606 | 628 | 631 | 564 |
| 65° | 362 | 340 | 310 | 294 | 304 | 361 |
| 75° | 160 | 136 | 84 | 68 | 68 | 173 |
| 85° | 19 | 11 | 3 | 3 | 3 | 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° | 2011.4 | 2011.4 | 2011.4 | 2011.4 | 2011.4 | 2011.4 | 2011.4 | 2011.4 | 2011.4 |
| 2.5° | 2041.3 | 2035.8 | 2027.8 | 2016.9 | 2006.0 | 1997.8 | 1995.2 | 1992.4 | 1992.4 |
| 5° | 2084.8 | 2074.0 | 2057.6 | 2035.8 | 2022.3 | 2014.1 | 2006.0 | 2000.5 | 2000.5 |
| 7.5° | 2114.8 | 2103.9 | 2079.3 | 2049.5 | 2030.5 | 2014.1 | 2003.2 | 1995.2 | 1995.2 |
| 10° | 2128.3 | 2114.8 | 2084.8 | 2046.7 | 2016.9 | 1995.2 | 1978.8 | 1973.4 | 1973.4 |
| 12.5° | 2144.6 | 2128.3 | 2087.5 | 2038.7 | 2000.5 | 1973.4 | 1957.0 | 1951.7 | 1951.7 |
| 15° | 2161.0 | 2141.9 | 2090.2 | 2033.2 | 1984.3 | 1951.7 | 1938.0 | 1935.3 | 1935.3 |
| 17.5° | 2152.8 | 2128.3 | 2068.5 | 2000.5 | 1946.2 | 1913.5 | 1900.0 | 1900.0 | 1902.7 |
| 20° | 2109.3 | 2084.8 | 2016.9 | 1940.8 | 1883.7 | 1859.2 | 1848.3 | 1853.8 | 1859.2 |
| 22.5° | 2044.0 | 2014.1 | 1940.8 | 1867.4 | 1807.6 | 1785.9 | 1785.9 | 1793.9 | 1802.1 |
| 25° | 1962.5 | 1935.3 | 1864.7 | 1783.1 | 1726.0 | 1709.7 | 1715.1 | 1728.7 | 1739.6 |
| 27.5° | 1870.1 | 1840.2 | 1766.8 | 1690.7 | 1633.6 | 1625.4 | 1639.0 | 1658.1 | 1663.5 |
| 30° | 1745.1 | 1720.6 | 1658.1 | 1584.6 | 1535.8 | 1533.1 | 1552.0 | 1565.7 | 1579.3 |
| 32.5° | 1625.4 | 1598.3 | 1538.5 | 1467.8 | 1432.4 | 1435.2 | 1457.0 | 1473.2 | 1481.4 |
| 35° | 1486.8 | 1462.3 | 1418.8 | 1361.8 | 1329.2 | 1334.7 | 1359.1 | 1375.4 | 1378.0 |
| 37.5° | 1356.3 | 1340.0 | 1296.5 | 1253.1 | 1228.6 | 1239.5 | 1261.2 | 1280.3 | 1280.3 |
| 40° | 1225.9 | 1212.2 | 1179.6 | 1144.3 | 1130.8 | 1144.3 | 1166.1 | 1182.4 | 1182.4 |
| 42.5° | 1100.8 | 1092.6 | 1065.5 | 1041.1 | 1032.9 | 1051.9 | 1071.0 | 1084.6 | 1081.8 |
| 45° | 989.4 | 981.2 | 962.3 | 943.2 | 940.5 | 959.5 | 975.8 | 984.0 | 986.7 |
| 47.5° | 888.8 | 883.3 | 867.1 | 853.5 | 853.5 | 872.5 | 886.2 | 894.2 | 897.0 |
| 50° | 796.5 | 791.0 | 777.4 | 766.5 | 769.2 | 788.3 | 799.2 | 807.3 | 810.0 |
| 52.5° | 704.0 | 701.3 | 690.4 | 676.9 | 684.9 | 698.6 | 712.2 | 717.6 | 720.4 |
| 55° | 625.2 | 625.2 | 611.6 | 600.7 | 606.1 | 619.7 | 627.9 | 630.6 | 630.6 |
| 57.5° | 554.4 | 551.8 | 535.5 | 524.6 | 527.3 | 540.9 | 546.4 | 549.1 | 549.1 |
| 60° | 486.5 | 483.8 | 467.6 | 451.2 | 451.2 | 459.4 | 462.1 | 464.8 | 464.8 |
| 62.5° | 421.3 | 418.6 | 399.5 | 386.0 | 380.6 | 377.8 | 377.8 | 383.3 | 394.1 |
| 65° | 361.5 | 358.8 | 339.8 | 318.0 | 309.8 | 301.7 | 293.6 | 299.0 | 304.5 |
| 67.5° | 307.2 | 301.7 | 282.7 | 263.7 | 244.6 | 231.0 | 217.5 | 225.7 | 236.5 |
| 70° | 255.5 | 250.1 | 228.3 | 206.6 | 184.9 | 163.1 | 152.2 | 163.1 | 168.5 |
| 72.5° | 206.6 | 201.1 | 179.4 | 157.6 | 130.5 | 108.7 | 106.0 | 108.7 | 111.4 |
| 75° | 160.4 | 157.6 | 135.9 | 111.4 | 84.3 | 67.9 | 67.9 | 67.9 | 67.9 |
| 77.5° | 119.6 | 114.1 | 92.4 | 70.6 | 48.9 | 38.0 | 35.3 | 35.3 | 35.3 |
| 80° | 81.5 | 76.1 | 57.1 | 40.8 | 21.7 | 16.3 | 16.3 | 13.6 | 13.6 |
| 82.5° | 46.2 | 43.5 | 29.9 | 16.3 | 8.2 | 5.4 | 5.4 | 5.4 | 5.4 |
| 85° | 19.1 | 16.3 | 10.9 | 5.4 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| 87.5° | 2.7 | 2.7 | 2.7 | 0.0 | 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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— 0°-180° - - 45°-225° - - - - 90°-270°

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