

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: P580289

Luminaire Tested: **HCC4W30D010MB-HM43040830-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580289
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: HCC4W30D010MB-HM43040830-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

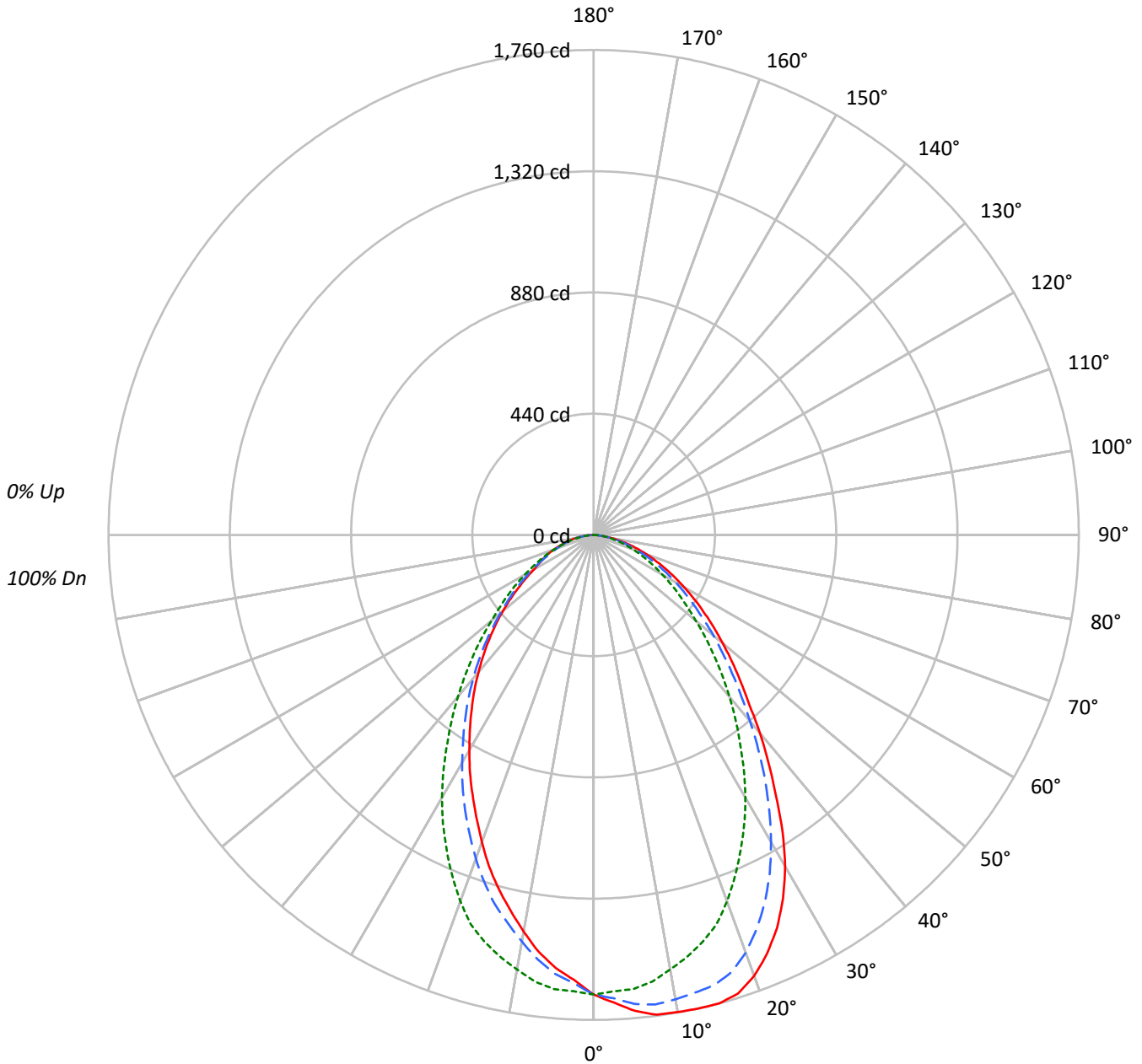
Lumens per Lamp: N/A
Luminaire Lumens: 2978.4 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): 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 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 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 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 59 | 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° | 205728 | 205728 | 205728 |
| 5° | 214773 | 204805 | 195333 |
| 10° | 220199 | 200548 | 183101 |
| 15° | 224759 | 195197 | 169888 |
| 20° | 223565 | 185696 | 155571 |
| 25° | 214176 | 171713 | 141541 |
| 30° | 197860 | 156784 | 128284 |
| 35° | 173435 | 139465 | 116110 |
| 40° | 151017 | 123210 | 104580 |
| 45° | 131438 | 107471 | 93446 |
| 50° | 117092 | 92626 | 82475 |
| 55° | 104642 | 81438 | 71309 |
| 60° | 93422 | 71146 | 61475 |
| 65° | 83034 | 62429 | 58401 |
| 70° | 72885 | 53771 | 54456 |
| 75° | 61716 | 45798 | 50469 |
| 80° | 47378 | 38997 | 45958 |
| 85° | 27739 | 30427 | 38919 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 156.3 | 5.2 |
| 10°-20° | 431.2 | 14.5 |
| 20°-30° | 589.2 | 19.8 |
| 30°-40° | 591.6 | 19.9 |
| 40°-50° | 489.4 | 16.4 |
| 50°-60° | 354.7 | 11.9 |
| 60°-70° | 224.6 | 7.5 |
| 70°-80° | 113.6 | 3.8 |
| 80°-90° | 27.8 | 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° | 1176.8 | 39.5 |
| 0°-40° | 1768.4 | 59.4 |
| 0°-60° | 2612.4 | 87.7 |
| 0°-90° | 2978.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2978.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1668 | 1668 | 1668 | 1668 | 1668 | |
| 5° | 1735 | 1709 | 1654 | 1599 | 1578 | 166 |
| 15° | 1760 | 1691 | 1529 | 1387 | 1330 | 495 |
| 25° | 1574 | 1470 | 1262 | 1103 | 1040 | 719 |
| 35° | 1152 | 1083 | 926 | 812 | 771 | 722 |
| 45° | 754 | 710 | 616 | 555 | 536 | 586 |
| 55° | 487 | 443 | 379 | 345 | 332 | 438 |
| 65° | 284 | 253 | 214 | 192 | 200 | 283 |
| 75° | 130 | 112 | 96 | 100 | 106 | 138 |
| 85° | 20 | 20 | 22 | 26 | 28 | 27 |
| 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° | 1667.9 | 1667.9 | 1667.9 | 1667.9 | 1667.9 | 1667.9 | 1667.9 | 1667.9 | 1667.9 |
| 2.5° | 1699.3 | 1693.4 | 1683.5 | 1671.8 | 1658.0 | 1642.4 | 1628.6 | 1620.8 | 1616.9 |
| 5° | 1734.6 | 1726.7 | 1709.0 | 1683.5 | 1654.1 | 1624.7 | 1599.2 | 1583.5 | 1577.6 |
| 7.5° | 1756.2 | 1744.5 | 1718.8 | 1679.7 | 1634.5 | 1591.4 | 1554.0 | 1532.5 | 1526.6 |
| 10° | 1758.1 | 1744.5 | 1711.1 | 1658.0 | 1601.2 | 1544.2 | 1499.1 | 1467.8 | 1461.9 |
| 12.5° | 1760.1 | 1742.4 | 1701.2 | 1638.4 | 1567.8 | 1497.2 | 1442.3 | 1404.9 | 1395.1 |
| 15° | 1760.1 | 1742.4 | 1691.4 | 1616.9 | 1528.6 | 1448.1 | 1387.3 | 1344.1 | 1330.4 |
| 17.5° | 1744.5 | 1724.8 | 1663.9 | 1577.6 | 1481.5 | 1391.2 | 1320.5 | 1275.4 | 1261.7 |
| 20° | 1703.2 | 1681.6 | 1612.9 | 1518.7 | 1414.7 | 1320.5 | 1249.9 | 1202.8 | 1185.2 |
| 22.5° | 1644.3 | 1618.8 | 1546.3 | 1444.2 | 1340.2 | 1244.1 | 1175.4 | 1126.3 | 1110.6 |
| 25° | 1573.7 | 1548.2 | 1469.7 | 1369.6 | 1261.7 | 1171.4 | 1102.7 | 1057.6 | 1040.0 |
| 27.5° | 1487.4 | 1459.9 | 1383.4 | 1283.3 | 1183.2 | 1092.9 | 1030.2 | 988.9 | 971.3 |
| 30° | 1389.2 | 1359.8 | 1287.2 | 1191.1 | 1100.8 | 1014.4 | 953.6 | 920.2 | 900.7 |
| 32.5° | 1275.4 | 1249.9 | 1185.2 | 1098.8 | 1014.4 | 932.1 | 881.1 | 851.6 | 835.8 |
| 35° | 1151.8 | 1138.0 | 1083.1 | 1008.5 | 926.2 | 857.5 | 812.4 | 784.9 | 771.1 |
| 37.5° | 1041.9 | 1028.2 | 981.1 | 918.3 | 845.7 | 782.9 | 745.6 | 722.1 | 710.3 |
| 40° | 937.9 | 926.2 | 881.1 | 828.1 | 765.2 | 710.3 | 678.9 | 661.2 | 649.5 |
| 42.5° | 835.8 | 830.0 | 792.8 | 743.7 | 688.8 | 641.6 | 616.1 | 602.4 | 592.5 |
| 45° | 753.5 | 745.6 | 710.3 | 663.3 | 616.1 | 576.9 | 555.3 | 545.5 | 535.7 |
| 47.5° | 680.9 | 671.0 | 633.8 | 592.5 | 549.4 | 514.1 | 494.5 | 484.7 | 480.8 |
| 50° | 610.2 | 600.4 | 567.0 | 525.9 | 482.7 | 457.2 | 441.5 | 431.7 | 429.8 |
| 52.5° | 547.4 | 537.6 | 500.4 | 461.1 | 427.7 | 406.2 | 392.4 | 382.6 | 378.7 |
| 55° | 486.6 | 474.9 | 443.4 | 406.2 | 378.7 | 359.0 | 345.4 | 335.6 | 331.6 |
| 57.5° | 431.7 | 420.0 | 392.4 | 357.1 | 331.6 | 313.9 | 302.2 | 292.4 | 288.4 |
| 60° | 378.7 | 368.9 | 343.4 | 310.0 | 288.4 | 272.8 | 261.0 | 253.1 | 249.2 |
| 62.5° | 329.6 | 321.8 | 296.3 | 266.9 | 249.2 | 235.4 | 225.6 | 217.8 | 221.8 |
| 65° | 284.5 | 276.7 | 253.1 | 227.6 | 213.9 | 200.1 | 192.3 | 192.3 | 200.1 |
| 67.5° | 241.4 | 233.5 | 213.9 | 192.3 | 180.5 | 170.7 | 164.8 | 170.7 | 176.6 |
| 70° | 202.1 | 194.2 | 176.6 | 158.9 | 149.1 | 141.2 | 141.2 | 147.2 | 151.0 |
| 72.5° | 164.8 | 157.0 | 143.3 | 129.5 | 121.7 | 115.7 | 121.7 | 125.5 | 129.5 |
| 75° | 129.5 | 123.6 | 111.9 | 102.1 | 96.1 | 94.2 | 100.1 | 104.0 | 105.9 |
| 77.5° | 96.1 | 92.3 | 84.4 | 76.5 | 72.6 | 74.6 | 80.4 | 82.5 | 84.4 |
| 80° | 66.7 | 64.7 | 58.9 | 54.9 | 54.9 | 56.9 | 60.8 | 62.8 | 64.7 |
| 82.5° | 41.2 | 41.2 | 37.3 | 35.3 | 37.3 | 41.2 | 43.2 | 45.1 | 45.1 |
| 85° | 19.6 | 21.5 | 19.6 | 19.6 | 21.5 | 25.5 | 25.5 | 27.5 | 27.5 |
| 87.5° | 5.9 | 5.9 | 7.9 | 7.9 | 9.8 | 9.8 | 9.8 | 9.8 | 11.7 |
| 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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— 0°-180° - - 45°-225° - - - - 90°-270°

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