

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: P580379

Luminaire Tested: **HCC4W30D010MB-HM43040935-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580379
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-HM43040935-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

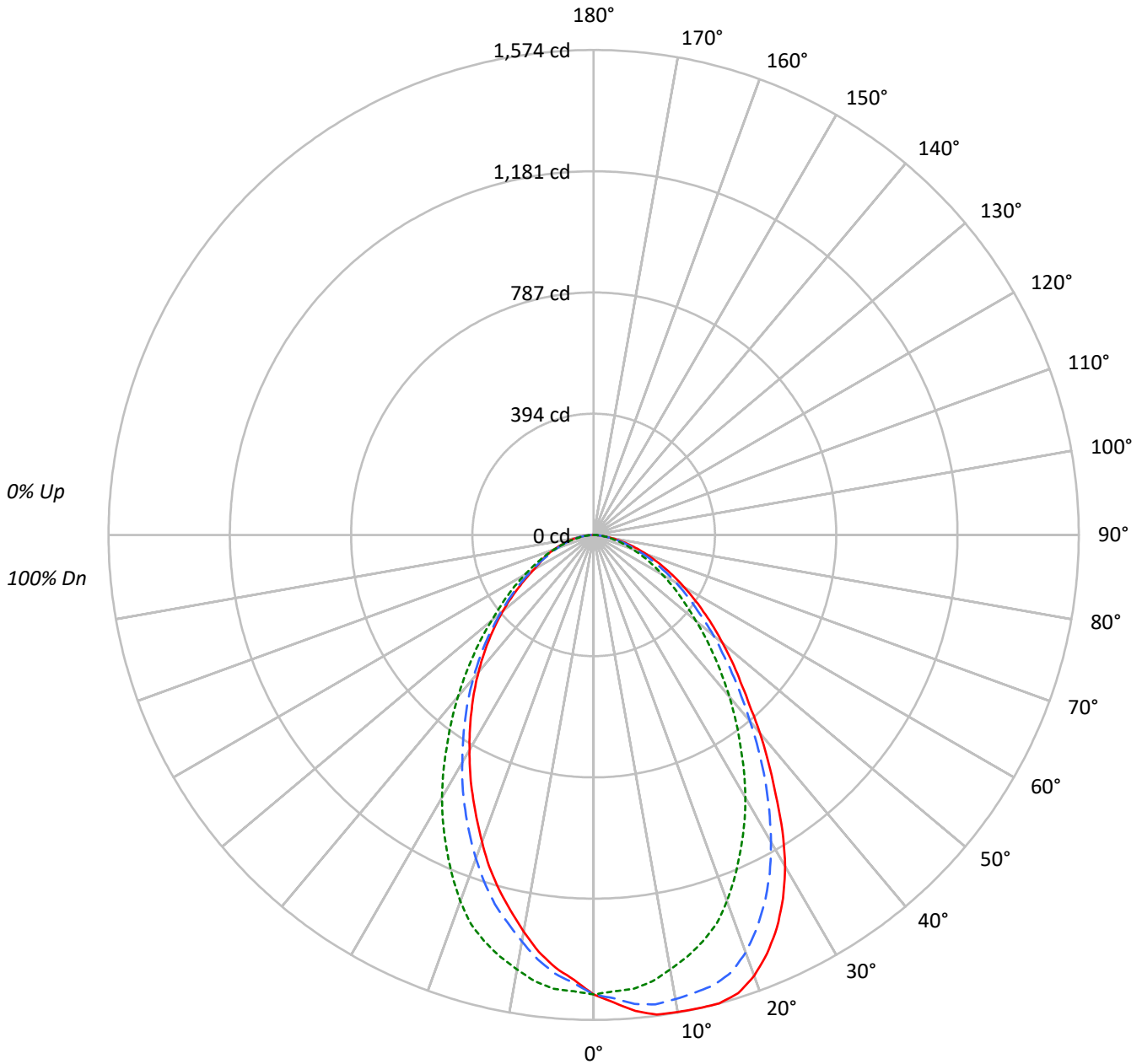
Lumens per Lamp: N/A
Luminaire Lumens: 2663.2 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28
Input Voltage (V): NR
Input Current (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° | 183945 | 183945 | 183945 |
| 5° | 192027 | 183125 | 174656 |
| 10° | 196891 | 179318 | 163700 |
| 15° | 200969 | 174523 | 151895 |
| 20° | 199898 | 166033 | 139085 |
| 25° | 191502 | 153531 | 126543 |
| 30° | 176923 | 140191 | 114697 |
| 35° | 155079 | 124693 | 103823 |
| 40° | 135044 | 110167 | 93502 |
| 45° | 117536 | 96097 | 83538 |
| 50° | 104696 | 82820 | 73725 |
| 55° | 93567 | 72815 | 63783 |
| 60° | 83530 | 63622 | 54963 |
| 65° | 74249 | 55804 | 52214 |
| 70° | 65167 | 48073 | 48722 |
| 75° | 55187 | 40985 | 45179 |
| 80° | 42406 | 34948 | 41127 |
| 85° | 24908 | 27314 | 34815 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 139.8 | 5.2 |
| 10°-20° | 385.6 | 14.5 |
| 20°-30° | 526.8 | 19.8 |
| 30°-40° | 529.0 | 19.9 |
| 40°-50° | 437.6 | 16.4 |
| 50°-60° | 317.1 | 11.9 |
| 60°-70° | 200.9 | 7.5 |
| 70°-80° | 101.6 | 3.8 |
| 80°-90° | 24.9 | 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° | 1052.2 | 39.5 |
| 0°-40° | 1581.1 | 59.4 |
| 0°-60° | 2335.9 | 87.7 |
| 0°-90° | 2663.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2663.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1491 | 1491 | 1491 | 1491 | 1491 | |
| 5° | 1551 | 1528 | 1479 | 1430 | 1411 | 149 |
| 15° | 1574 | 1512 | 1367 | 1240 | 1190 | 443 |
| 25° | 1407 | 1314 | 1128 | 986 | 930 | 643 |
| 35° | 1030 | 968 | 828 | 726 | 690 | 646 |
| 45° | 674 | 635 | 551 | 496 | 479 | 524 |
| 55° | 435 | 396 | 339 | 309 | 297 | 391 |
| 65° | 254 | 226 | 191 | 172 | 179 | 253 |
| 75° | 116 | 100 | 86 | 90 | 95 | 124 |
| 85° | 18 | 18 | 19 | 23 | 25 | 24 |
| 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° | 1491.3 | 1491.3 | 1491.3 | 1491.3 | 1491.3 | 1491.3 | 1491.3 | 1491.3 | 1491.3 |
| 2.5° | 1519.3 | 1514.1 | 1505.3 | 1494.8 | 1482.5 | 1468.4 | 1456.2 | 1449.1 | 1445.6 |
| 5° | 1550.9 | 1543.9 | 1528.1 | 1505.3 | 1479.0 | 1452.6 | 1429.9 | 1415.9 | 1410.6 |
| 7.5° | 1570.3 | 1559.7 | 1536.9 | 1501.8 | 1461.4 | 1422.9 | 1389.5 | 1370.2 | 1365.0 |
| 10° | 1572.0 | 1559.7 | 1529.9 | 1482.5 | 1431.7 | 1380.8 | 1340.4 | 1312.3 | 1307.0 |
| 12.5° | 1573.8 | 1558.0 | 1521.1 | 1464.9 | 1401.8 | 1338.6 | 1289.5 | 1256.1 | 1247.5 |
| 15° | 1573.8 | 1558.0 | 1512.3 | 1445.6 | 1366.7 | 1294.8 | 1240.3 | 1201.8 | 1189.5 |
| 17.5° | 1559.7 | 1542.2 | 1487.7 | 1410.6 | 1324.6 | 1244.0 | 1180.8 | 1140.4 | 1128.1 |
| 20° | 1522.9 | 1503.5 | 1442.1 | 1358.0 | 1264.9 | 1180.8 | 1117.6 | 1075.4 | 1059.6 |
| 22.5° | 1470.2 | 1447.4 | 1382.5 | 1291.2 | 1198.3 | 1112.3 | 1051.0 | 1007.1 | 993.0 |
| 25° | 1407.1 | 1384.3 | 1314.1 | 1224.6 | 1128.1 | 1047.5 | 986.0 | 945.6 | 929.8 |
| 27.5° | 1329.9 | 1305.3 | 1236.9 | 1147.4 | 1058.0 | 977.2 | 921.1 | 884.2 | 868.4 |
| 30° | 1242.2 | 1215.9 | 1150.9 | 1064.9 | 984.3 | 907.0 | 852.7 | 822.9 | 805.3 |
| 32.5° | 1140.4 | 1117.6 | 1059.6 | 982.5 | 907.0 | 833.4 | 787.8 | 761.4 | 747.4 |
| 35° | 1029.9 | 1017.6 | 968.5 | 901.8 | 828.1 | 766.7 | 726.3 | 701.7 | 689.5 |
| 37.5° | 931.6 | 919.3 | 877.2 | 821.1 | 756.2 | 700.0 | 666.6 | 645.7 | 635.1 |
| 40° | 838.7 | 828.1 | 787.8 | 740.4 | 684.2 | 635.1 | 607.1 | 591.3 | 580.7 |
| 42.5° | 747.4 | 742.1 | 708.8 | 665.0 | 615.8 | 573.7 | 550.9 | 538.6 | 529.8 |
| 45° | 673.8 | 666.6 | 635.1 | 593.0 | 550.9 | 515.8 | 496.5 | 487.7 | 478.9 |
| 47.5° | 608.8 | 600.0 | 566.7 | 529.8 | 491.2 | 459.7 | 442.2 | 433.4 | 429.9 |
| 50° | 545.6 | 536.8 | 507.0 | 470.2 | 431.6 | 408.8 | 394.8 | 386.0 | 384.2 |
| 52.5° | 489.4 | 480.8 | 447.4 | 412.3 | 382.5 | 363.2 | 350.9 | 342.1 | 338.6 |
| 55° | 435.1 | 424.6 | 396.5 | 363.2 | 338.6 | 321.0 | 308.7 | 300.0 | 296.6 |
| 57.5° | 386.0 | 375.4 | 350.9 | 319.3 | 296.6 | 280.8 | 270.2 | 261.4 | 257.9 |
| 60° | 338.6 | 329.8 | 307.0 | 277.1 | 257.9 | 243.9 | 233.4 | 226.3 | 222.8 |
| 62.5° | 294.7 | 287.8 | 265.0 | 238.6 | 222.8 | 210.5 | 201.8 | 194.7 | 198.3 |
| 65° | 254.4 | 247.4 | 226.3 | 203.5 | 191.2 | 178.9 | 171.9 | 171.9 | 178.9 |
| 67.5° | 215.8 | 208.8 | 191.2 | 171.9 | 161.4 | 152.6 | 147.4 | 152.6 | 157.9 |
| 70° | 180.7 | 173.7 | 157.9 | 142.1 | 133.3 | 126.3 | 126.3 | 131.6 | 135.1 |
| 72.5° | 147.4 | 140.3 | 128.0 | 115.8 | 108.7 | 103.6 | 108.7 | 112.2 | 115.8 |
| 75° | 115.8 | 110.5 | 100.1 | 91.3 | 86.0 | 84.3 | 89.5 | 92.9 | 94.8 |
| 77.5° | 86.0 | 82.5 | 75.5 | 68.5 | 64.9 | 66.7 | 72.0 | 73.7 | 75.5 |
| 80° | 59.7 | 57.9 | 52.7 | 49.2 | 49.2 | 50.9 | 54.4 | 56.2 | 57.9 |
| 82.5° | 36.9 | 36.9 | 33.4 | 31.6 | 33.4 | 36.9 | 38.6 | 40.4 | 40.4 |
| 85° | 17.6 | 19.3 | 17.6 | 17.6 | 19.3 | 22.8 | 22.8 | 24.6 | 24.6 |
| 87.5° | 5.3 | 5.3 | 7.0 | 7.0 | 8.8 | 8.8 | 8.8 | 8.8 | 10.5 |
| 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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