

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: P592759

Luminaire Tested: **HCC4W30D010BZ-HM43040950-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592759
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: HCC4W30D010BZ-HM43040950-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

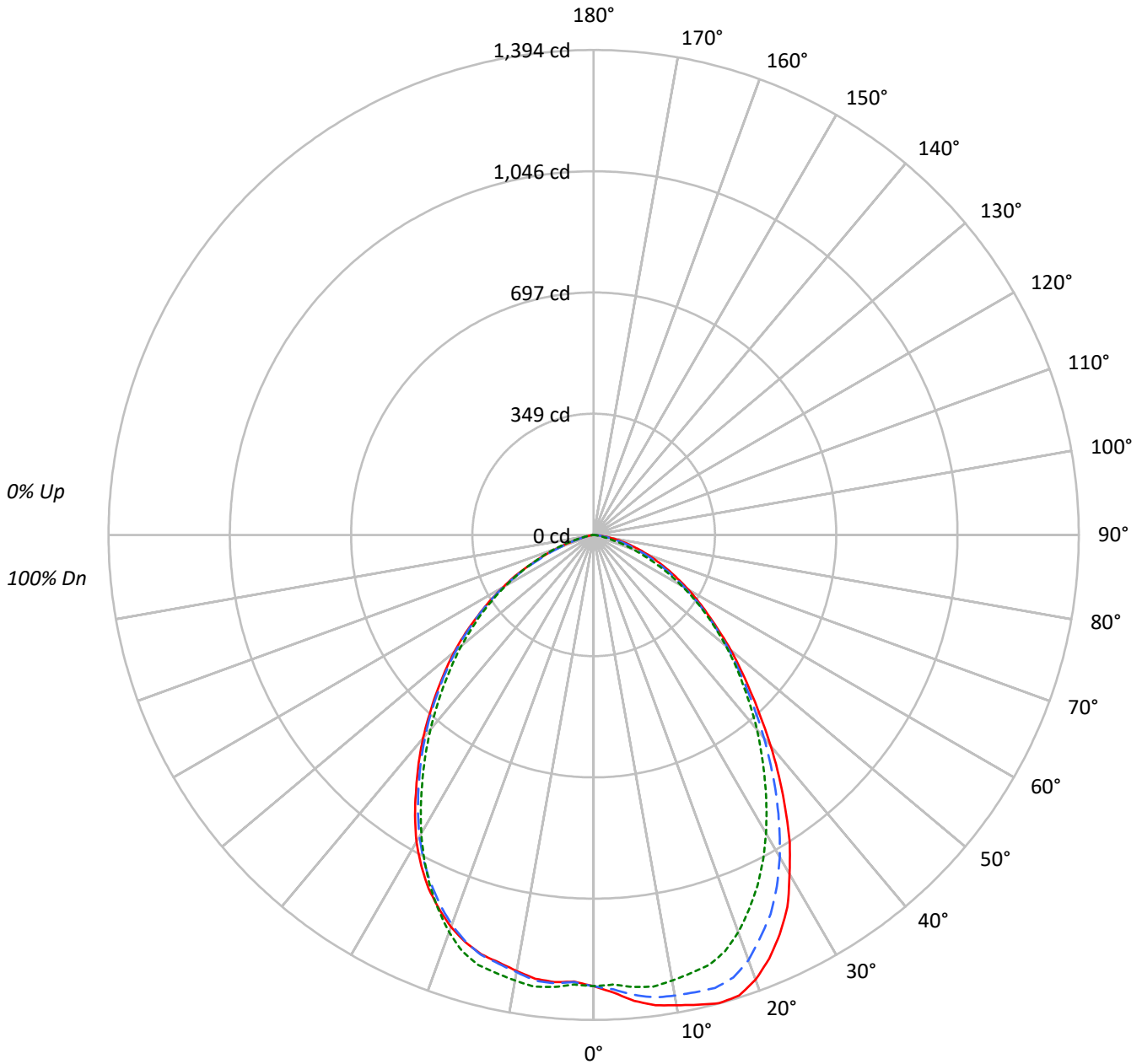
Lumens per Lamp: N/A
Luminaire Lumens: 2703.3 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | | | | | | | | | | |
| 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 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | | | | |
| 5 | 81 | 70 | 61 | 56 | 79 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | | | | | | | | |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | | | | |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | | | | |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 160016 | 160016 | 160016 |
| 5° | 166484 | 161494 | 159748 |
| 10° | 171929 | 162923 | 159404 |
| 15° | 177958 | 163414 | 159378 |
| 20° | 178568 | 159470 | 157396 |
| 25° | 172258 | 151503 | 152687 |
| 30° | 160302 | 141074 | 145062 |
| 35° | 144388 | 129090 | 133833 |
| 40° | 127299 | 117429 | 122775 |
| 45° | 111308 | 105796 | 110994 |
| 50° | 98575 | 95197 | 100244 |
| 55° | 86685 | 84083 | 87481 |
| 60° | 77412 | 71787 | 73958 |
| 65° | 68062 | 58343 | 57321 |
| 70° | 59433 | 42988 | 39201 |
| 75° | 49277 | 25925 | 20921 |
| 80° | 37363 | 9944 | 6251 |
| 85° | 17407 | 2547 | 2547 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 125.1 | 4.6 |
| 10°-20° | 365.1 | 13.5 |
| 20°-30° | 528.8 | 19.6 |
| 30°-40° | 557.9 | 20.6 |
| 40°-50° | 482.8 | 17.9 |
| 50°-60° | 357.7 | 13.2 |
| 60°-70° | 206.2 | 7.6 |
| 70°-80° | 72.0 | 2.7 |
| 80°-90° | 7.6 | 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° | 1019.1 | 37.7 |
| 0°-40° | 1577.0 | 58.3 |
| 0°-60° | 2417.5 | 89.4 |
| 0°-90° | 2703.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2703.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1297 | 1297 | 1297 | 1297 | 1297 | |
| 5° | 1345 | 1327 | 1304 | 1294 | 1290 | 129 |
| 15° | 1394 | 1348 | 1280 | 1250 | 1248 | 392 |
| 25° | 1266 | 1203 | 1113 | 1106 | 1122 | 579 |
| 35° | 959 | 915 | 857 | 877 | 889 | 599 |
| 45° | 638 | 621 | 606 | 629 | 636 | 495 |
| 55° | 403 | 394 | 391 | 405 | 407 | 364 |
| 65° | 233 | 219 | 200 | 189 | 196 | 233 |
| 75° | 103 | 88 | 54 | 44 | 44 | 111 |
| 85° | 12 | 7 | 2 | 2 | 2 | 19 |
| 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° | 1297.3 | 1297.3 | 1297.3 | 1297.3 | 1297.3 | 1297.3 | 1297.3 | 1297.3 | 1297.3 |
| 2.5° | 1316.6 | 1313.0 | 1307.8 | 1300.8 | 1293.7 | 1288.5 | 1286.7 | 1285.0 | 1285.0 |
| 5° | 1344.6 | 1337.6 | 1327.1 | 1313.0 | 1304.3 | 1299.0 | 1293.7 | 1290.2 | 1290.2 |
| 7.5° | 1363.9 | 1356.9 | 1341.1 | 1321.8 | 1309.5 | 1299.0 | 1292.0 | 1286.7 | 1286.7 |
| 10° | 1372.7 | 1363.9 | 1344.6 | 1320.1 | 1300.8 | 1286.7 | 1276.2 | 1272.7 | 1272.7 |
| 12.5° | 1383.2 | 1372.7 | 1346.4 | 1314.8 | 1290.2 | 1272.7 | 1262.2 | 1258.7 | 1258.7 |
| 15° | 1393.6 | 1381.5 | 1348.1 | 1311.3 | 1279.7 | 1258.7 | 1249.9 | 1248.1 | 1248.1 |
| 17.5° | 1388.5 | 1372.7 | 1334.1 | 1290.2 | 1255.2 | 1234.1 | 1225.3 | 1225.3 | 1227.2 |
| 20° | 1360.4 | 1344.6 | 1300.8 | 1251.6 | 1214.9 | 1199.1 | 1192.1 | 1195.6 | 1199.1 |
| 22.5° | 1318.3 | 1299.0 | 1251.6 | 1204.4 | 1165.8 | 1151.8 | 1151.8 | 1157.0 | 1162.3 |
| 25° | 1265.7 | 1248.1 | 1202.6 | 1150.0 | 1113.2 | 1102.6 | 1106.2 | 1114.9 | 1121.9 |
| 27.5° | 1206.1 | 1186.8 | 1139.5 | 1090.4 | 1053.6 | 1048.4 | 1057.0 | 1069.3 | 1072.8 |
| 30° | 1125.5 | 1109.7 | 1069.3 | 1022.1 | 990.5 | 988.7 | 1001.0 | 1009.8 | 1018.5 |
| 32.5° | 1048.4 | 1030.8 | 992.2 | 946.6 | 923.8 | 925.6 | 939.6 | 950.1 | 955.4 |
| 35° | 958.9 | 943.1 | 915.1 | 878.3 | 857.3 | 860.8 | 876.6 | 887.1 | 888.8 |
| 37.5° | 874.8 | 864.3 | 836.2 | 808.2 | 792.4 | 799.4 | 813.4 | 825.7 | 825.7 |
| 40° | 790.6 | 781.8 | 760.8 | 738.1 | 729.3 | 738.1 | 752.0 | 762.5 | 762.5 |
| 42.5° | 710.0 | 704.8 | 687.2 | 671.4 | 666.2 | 678.4 | 690.7 | 699.5 | 697.7 |
| 45° | 638.1 | 632.8 | 620.6 | 608.3 | 606.5 | 618.8 | 629.3 | 634.6 | 636.3 |
| 47.5° | 573.2 | 569.8 | 559.3 | 550.5 | 550.5 | 562.8 | 571.4 | 576.7 | 578.6 |
| 50° | 513.7 | 510.2 | 501.4 | 494.4 | 496.1 | 508.4 | 515.4 | 520.7 | 522.4 |
| 52.5° | 454.0 | 452.3 | 445.2 | 436.5 | 441.7 | 450.5 | 459.3 | 462.8 | 464.5 |
| 55° | 403.1 | 403.1 | 394.5 | 387.5 | 391.0 | 399.7 | 405.0 | 406.8 | 406.8 |
| 57.5° | 357.6 | 355.9 | 345.4 | 338.3 | 340.1 | 348.9 | 352.4 | 354.1 | 354.1 |
| 60° | 313.8 | 312.0 | 301.5 | 291.0 | 291.0 | 296.2 | 298.0 | 299.8 | 299.8 |
| 62.5° | 271.7 | 269.9 | 257.7 | 248.9 | 245.5 | 243.6 | 243.6 | 247.1 | 254.1 |
| 65° | 233.2 | 231.4 | 219.2 | 205.1 | 199.9 | 194.6 | 189.3 | 192.9 | 196.4 |
| 67.5° | 198.1 | 194.6 | 182.3 | 170.1 | 157.8 | 149.0 | 140.2 | 145.5 | 152.5 |
| 70° | 164.8 | 161.3 | 147.2 | 133.2 | 119.2 | 105.1 | 98.1 | 105.1 | 108.7 |
| 72.5° | 133.2 | 129.7 | 115.7 | 101.6 | 84.1 | 70.2 | 68.4 | 70.2 | 71.9 |
| 75° | 103.4 | 101.6 | 87.6 | 71.9 | 54.4 | 43.9 | 43.9 | 43.9 | 43.9 |
| 77.5° | 77.2 | 73.7 | 59.6 | 45.6 | 31.6 | 24.6 | 22.8 | 22.8 | 22.8 |
| 80° | 52.6 | 49.1 | 36.8 | 26.3 | 14.0 | 10.5 | 10.5 | 8.8 | 8.8 |
| 82.5° | 29.8 | 28.1 | 19.3 | 10.5 | 5.3 | 3.5 | 3.5 | 3.5 | 3.5 |
| 85° | 12.3 | 10.5 | 7.0 | 3.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 87.5° | 1.8 | 1.8 | 1.8 | 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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Scaled Data Report



— 0°-180° - - 45°-225° - - - - 90°-270°

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