

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: P580341

Luminaire Tested: **HCC4W30D010BZ-HM43040927-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580341
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: HCC4W30D010BZ-HM43040927-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

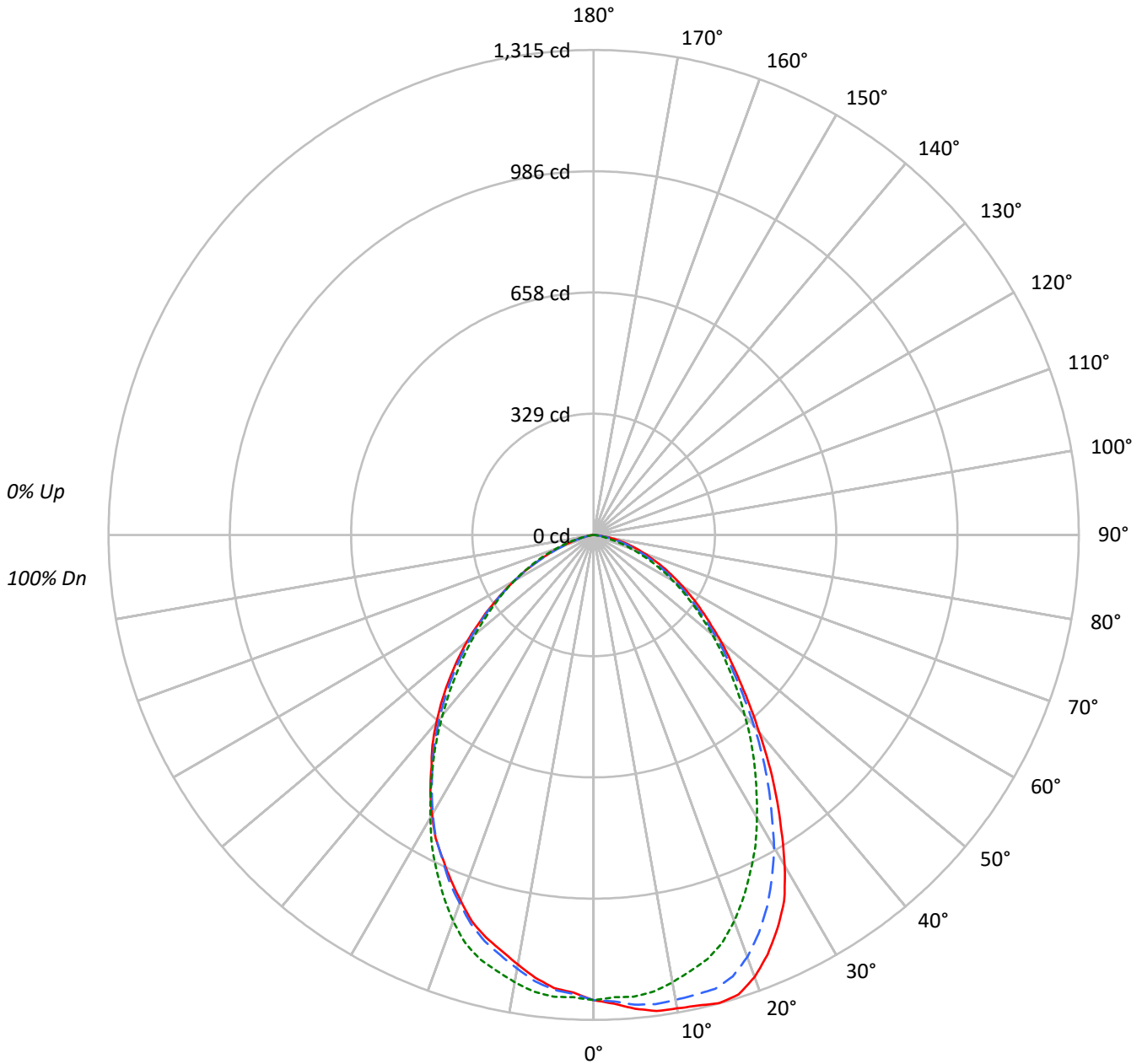
Lumens per Lamp: N/A
Luminaire Lumens: 2404.1 lumens
Efficiency: N/A
Efficacy: 85.9 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | 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° | 155576 | 155576 | 155576 |
| 5° | 159662 | 155588 | 152678 |
| 10° | 163274 | 154256 | 148156 |
| 15° | 167870 | 152061 | 144259 |
| 20° | 167411 | 146226 | 138415 |
| 25° | 160363 | 136913 | 131783 |
| 30° | 147512 | 126091 | 124752 |
| 35° | 129767 | 114424 | 115357 |
| 40° | 112261 | 102439 | 106722 |
| 45° | 97580 | 91021 | 96481 |
| 50° | 86582 | 80288 | 85699 |
| 55° | 76815 | 70428 | 73460 |
| 60° | 68432 | 61081 | 61081 |
| 65° | 60795 | 50755 | 47573 |
| 70° | 52545 | 38444 | 33900 |
| 75° | 44083 | 25354 | 20921 |
| 80° | 33385 | 12289 | 11152 |
| 85° | 17690 | 4529 | 4529 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 119.5 | 5.0 |
| 10°-20° | 338.6 | 14.1 |
| 20°-30° | 477.6 | 19.9 |
| 30°-40° | 493.4 | 20.5 |
| 40°-50° | 418.2 | 17.4 |
| 50°-60° | 304.3 | 12.7 |
| 60°-70° | 177.8 | 7.4 |
| 70°-80° | 66.1 | 2.7 |
| 80°-90° | 8.7 | 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° | 935.7 | 38.9 |
| 0°-40° | 1429.0 | 59.4 |
| 0°-60° | 2151.6 | 89.5 |
| 0°-90° | 2404.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2404.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1261 | 1261 | 1261 | 1261 | 1261 | |
| 5° | 1290 | 1279 | 1257 | 1238 | 1233 | 124 |
| 15° | 1315 | 1274 | 1191 | 1141 | 1130 | 370 |
| 25° | 1178 | 1112 | 1006 | 970 | 968 | 539 |
| 35° | 862 | 824 | 760 | 762 | 766 | 538 |
| 45° | 559 | 544 | 522 | 540 | 553 | 435 |
| 55° | 357 | 340 | 328 | 338 | 342 | 321 |
| 65° | 208 | 191 | 174 | 163 | 163 | 207 |
| 75° | 92 | 77 | 53 | 42 | 44 | 99 |
| 85° | 12 | 8 | 3 | 3 | 3 | 17 |
| 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° | 1261.3 | 1261.3 | 1261.3 | 1261.3 | 1261.3 | 1261.3 | 1261.3 | 1261.3 | 1261.3 |
| 2.5° | 1272.3 | 1269.1 | 1266.1 | 1261.3 | 1255.0 | 1250.4 | 1245.7 | 1242.5 | 1242.5 |
| 5° | 1289.5 | 1284.8 | 1278.6 | 1267.5 | 1256.6 | 1247.2 | 1237.8 | 1233.1 | 1233.1 |
| 7.5° | 1302.1 | 1295.7 | 1283.2 | 1267.5 | 1248.8 | 1234.7 | 1220.6 | 1214.3 | 1211.1 |
| 10° | 1303.6 | 1297.3 | 1280.2 | 1256.6 | 1231.6 | 1209.6 | 1194.0 | 1184.5 | 1182.9 |
| 12.5° | 1306.8 | 1298.9 | 1277.0 | 1244.1 | 1211.1 | 1184.5 | 1167.3 | 1157.9 | 1154.7 |
| 15° | 1314.6 | 1303.6 | 1273.9 | 1231.6 | 1190.8 | 1159.5 | 1140.6 | 1132.9 | 1129.7 |
| 17.5° | 1306.8 | 1291.1 | 1255.0 | 1204.9 | 1159.5 | 1125.0 | 1106.2 | 1098.3 | 1098.3 |
| 20° | 1275.4 | 1259.8 | 1217.5 | 1162.6 | 1114.0 | 1081.1 | 1062.4 | 1057.6 | 1054.5 |
| 22.5° | 1231.6 | 1214.3 | 1168.8 | 1110.9 | 1062.4 | 1032.6 | 1020.1 | 1013.7 | 1012.2 |
| 25° | 1178.3 | 1161.1 | 1112.4 | 1052.9 | 1006.0 | 980.8 | 969.9 | 969.9 | 968.3 |
| 27.5° | 1118.8 | 1096.8 | 1046.7 | 994.9 | 949.6 | 930.7 | 926.0 | 926.0 | 927.6 |
| 30° | 1035.7 | 1020.1 | 977.8 | 927.6 | 885.3 | 872.7 | 872.7 | 875.9 | 875.9 |
| 32.5° | 946.4 | 935.5 | 897.8 | 853.9 | 821.1 | 813.2 | 816.3 | 822.7 | 824.1 |
| 35° | 861.8 | 849.3 | 824.1 | 785.0 | 759.9 | 756.8 | 761.5 | 766.1 | 766.1 |
| 37.5° | 778.8 | 766.1 | 749.0 | 717.6 | 698.8 | 700.4 | 706.7 | 712.9 | 717.6 |
| 40° | 697.2 | 687.9 | 675.3 | 650.3 | 636.2 | 642.4 | 650.3 | 656.5 | 662.8 |
| 42.5° | 625.1 | 615.8 | 606.4 | 587.6 | 578.2 | 586.0 | 595.4 | 601.7 | 608.0 |
| 45° | 559.4 | 553.1 | 543.7 | 528.0 | 521.8 | 529.6 | 540.5 | 546.9 | 553.1 |
| 47.5° | 503.0 | 499.8 | 487.3 | 473.2 | 470.0 | 477.9 | 487.3 | 495.1 | 499.8 |
| 50° | 451.2 | 446.6 | 435.6 | 421.5 | 418.4 | 430.9 | 437.1 | 441.8 | 446.6 |
| 52.5° | 401.1 | 396.4 | 383.9 | 371.3 | 371.3 | 380.7 | 385.4 | 387.0 | 391.8 |
| 55° | 357.2 | 352.5 | 340.0 | 330.6 | 327.5 | 335.4 | 338.4 | 338.4 | 341.6 |
| 57.5° | 316.5 | 311.8 | 299.3 | 288.3 | 286.7 | 291.5 | 291.5 | 291.5 | 293.1 |
| 60° | 277.4 | 272.6 | 260.1 | 250.6 | 247.6 | 249.2 | 247.6 | 246.0 | 247.6 |
| 62.5° | 241.3 | 236.5 | 224.0 | 213.1 | 209.9 | 209.9 | 205.3 | 203.7 | 205.3 |
| 65° | 208.3 | 200.6 | 191.2 | 180.1 | 173.9 | 169.2 | 163.0 | 163.0 | 163.0 |
| 67.5° | 175.5 | 169.2 | 158.3 | 147.3 | 139.4 | 131.6 | 122.2 | 125.3 | 126.9 |
| 70° | 145.7 | 141.0 | 128.5 | 117.5 | 106.6 | 97.1 | 89.3 | 92.5 | 94.0 |
| 72.5° | 119.1 | 112.8 | 101.9 | 89.3 | 79.9 | 67.3 | 62.7 | 65.8 | 65.8 |
| 75° | 92.5 | 86.2 | 76.8 | 64.3 | 53.2 | 42.3 | 42.3 | 43.9 | 43.9 |
| 77.5° | 68.9 | 62.7 | 53.2 | 42.3 | 32.9 | 25.0 | 26.6 | 26.6 | 26.6 |
| 80° | 47.0 | 42.3 | 34.5 | 25.0 | 17.3 | 14.1 | 14.1 | 14.1 | 15.7 |
| 82.5° | 26.6 | 23.5 | 18.8 | 12.5 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 85° | 12.5 | 9.4 | 7.8 | 4.7 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| 87.5° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 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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