

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: P580198

Luminaire Tested: **HCC4W25D010BZ-HM40525927-41WWBB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580198
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W25D010BZ-HM40525927-41WWBB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

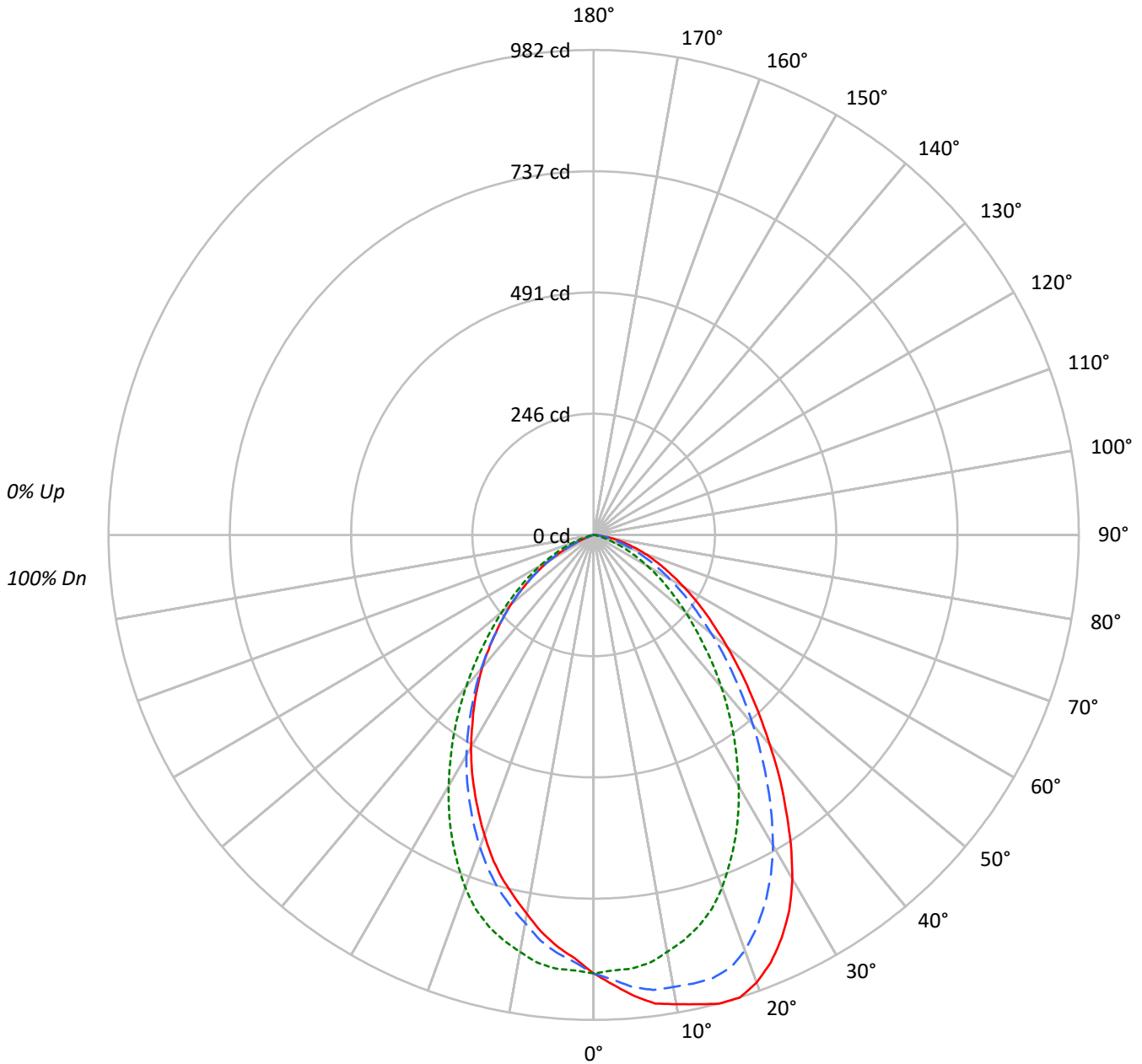
Lumens per Lamp: N/A
Luminaire Lumens: 1533.3 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 26.8
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | 100 |
| 1 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 97 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | | | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 92 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | 78 |
| 3 | 96 | 87 | 80 | 75 | 94 | 86 | 79 | 74 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | 69 |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 65 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 63 | 61 | | | 61 |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 64 | 58 | 69 | 62 | 58 | 67 | 61 | 57 | 65 | 60 | 56 | 55 | | | 55 |
| 6 | 77 | 66 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 49 | | | 49 |
| 7 | 72 | 60 | 53 | 47 | 71 | 59 | 52 | 47 | 58 | 51 | 47 | 57 | 51 | 46 | 55 | 50 | 46 | 44 | | | 44 |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 43 | 53 | 47 | 42 | 51 | 46 | 42 | 40 | | | 40 |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | | | 37 |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 41 | 36 | 46 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 36 | 34 | | | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 109494 | 109494 | 109494 |
| 5° | 116016 | 109132 | 103659 |
| 10° | 120827 | 107388 | 97581 |
| 15° | 125462 | 104814 | 91750 |
| 20° | 126628 | 99785 | 84874 |
| 25° | 122542 | 92287 | 77670 |
| 30° | 114568 | 83633 | 70687 |
| 35° | 102106 | 74340 | 63513 |
| 40° | 89251 | 64664 | 56517 |
| 45° | 77747 | 54843 | 48895 |
| 50° | 67853 | 46515 | 41928 |
| 55° | 59460 | 38558 | 33934 |
| 60° | 52027 | 31132 | 24916 |
| 65° | 45355 | 23232 | 14009 |
| 70° | 39634 | 15039 | 4544 |
| 75° | 32502 | 7816 | 1191 |
| 80° | 24222 | 3623 | 852 |
| 85° | 14152 | 1698 | 1698 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.8 | 5.5 |
| 10°-20° | 234.5 | 15.3 |
| 20°-30° | 324.2 | 21.1 |
| 30°-40° | 326.0 | 21.3 |
| 40°-50° | 263.0 | 17.2 |
| 50°-60° | 177.9 | 11.6 |
| 60°-70° | 90.5 | 5.9 |
| 70°-80° | 29.0 | 1.9 |
| 80°-90° | 4.4 | 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° | 642.5 | 41.9 |
| 0°-40° | 968.5 | 63.2 |
| 0°-60° | 1409.4 | 91.9 |
| 0°-90° | 1533.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1533.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 888 | 888 | 888 | 888 | 888 | |
| 5° | 937 | 919 | 881 | 850 | 837 | 90 |
| 15° | 982 | 929 | 821 | 742 | 718 | 277 |
| 25° | 900 | 822 | 678 | 595 | 571 | 412 |
| 35° | 678 | 612 | 494 | 432 | 422 | 424 |
| 45° | 446 | 399 | 314 | 280 | 280 | 345 |
| 55° | 276 | 239 | 179 | 157 | 158 | 248 |
| 65° | 155 | 126 | 80 | 52 | 48 | 156 |
| 75° | 68 | 48 | 16 | 4 | 2 | 74 |
| 85° | 10 | 5 | 1 | 1 | 1 | 14 |
| 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° | 887.7 | 887.7 | 887.7 | 887.7 | 887.7 | 887.7 | 887.7 | 887.7 | 887.7 |
| 2.5° | 911.7 | 906.7 | 901.6 | 892.8 | 882.7 | 872.6 | 866.3 | 861.2 | 858.7 |
| 5° | 937.0 | 930.6 | 919.2 | 900.4 | 881.4 | 863.7 | 849.8 | 841.0 | 837.2 |
| 7.5° | 957.2 | 948.4 | 929.4 | 902.9 | 873.8 | 846.1 | 828.3 | 815.7 | 810.7 |
| 10° | 964.7 | 954.7 | 929.4 | 894.1 | 857.4 | 823.3 | 798.1 | 785.4 | 779.1 |
| 12.5° | 973.5 | 962.2 | 930.6 | 886.5 | 841.0 | 800.6 | 771.6 | 755.1 | 748.8 |
| 15° | 982.5 | 967.2 | 929.4 | 875.1 | 820.8 | 774.0 | 742.5 | 726.1 | 718.5 |
| 17.5° | 982.5 | 964.7 | 919.2 | 856.1 | 794.3 | 745.0 | 709.7 | 690.7 | 684.4 |
| 20° | 964.7 | 944.5 | 895.3 | 825.9 | 760.2 | 707.1 | 673.0 | 654.1 | 646.6 |
| 22.5° | 937.0 | 914.3 | 861.2 | 789.2 | 719.7 | 668.0 | 633.9 | 616.2 | 608.6 |
| 25° | 900.4 | 877.6 | 822.0 | 747.5 | 678.1 | 626.4 | 594.8 | 578.4 | 570.7 |
| 27.5° | 857.4 | 832.2 | 776.6 | 702.1 | 633.9 | 584.6 | 555.6 | 540.5 | 534.1 |
| 30° | 804.4 | 780.4 | 726.1 | 652.8 | 587.2 | 541.7 | 515.2 | 501.3 | 496.3 |
| 32.5° | 742.5 | 722.3 | 669.3 | 601.1 | 539.2 | 497.6 | 473.5 | 462.2 | 457.1 |
| 35° | 678.1 | 659.1 | 612.5 | 549.3 | 493.7 | 454.5 | 431.8 | 424.3 | 421.8 |
| 37.5° | 617.5 | 601.1 | 555.6 | 497.6 | 447.0 | 412.9 | 392.7 | 387.7 | 385.1 |
| 40° | 554.3 | 542.9 | 501.3 | 448.3 | 401.6 | 371.2 | 354.8 | 351.0 | 351.0 |
| 42.5° | 497.6 | 484.9 | 448.3 | 400.3 | 358.6 | 328.3 | 316.9 | 313.2 | 314.4 |
| 45° | 445.7 | 433.1 | 399.0 | 354.8 | 314.4 | 289.1 | 280.3 | 280.3 | 280.3 |
| 47.5° | 397.7 | 386.3 | 354.8 | 309.3 | 276.5 | 256.3 | 247.5 | 247.5 | 248.7 |
| 50° | 353.6 | 346.0 | 310.6 | 271.5 | 242.4 | 223.5 | 217.2 | 216.0 | 218.5 |
| 52.5° | 311.9 | 303.0 | 271.5 | 236.2 | 208.3 | 193.2 | 186.8 | 185.6 | 186.8 |
| 55° | 276.5 | 266.4 | 238.7 | 204.6 | 179.3 | 164.2 | 156.6 | 155.4 | 157.8 |
| 57.5° | 242.4 | 234.8 | 205.8 | 175.6 | 151.5 | 136.4 | 130.1 | 127.6 | 128.8 |
| 60° | 210.9 | 203.3 | 176.8 | 147.8 | 126.2 | 111.1 | 102.3 | 99.8 | 101.0 |
| 62.5° | 181.9 | 175.6 | 150.3 | 122.5 | 101.0 | 87.2 | 78.2 | 72.0 | 74.5 |
| 65° | 155.4 | 149.0 | 126.2 | 98.4 | 79.6 | 64.4 | 51.8 | 46.7 | 48.0 |
| 67.5° | 132.5 | 125.0 | 103.5 | 78.2 | 59.4 | 42.9 | 29.0 | 26.5 | 26.5 |
| 70° | 109.9 | 102.3 | 83.3 | 60.6 | 41.7 | 22.7 | 12.6 | 12.6 | 12.6 |
| 72.5° | 88.4 | 82.1 | 64.4 | 45.5 | 26.5 | 10.0 | 5.1 | 5.1 | 5.1 |
| 75° | 68.2 | 63.1 | 48.0 | 31.6 | 16.4 | 5.1 | 3.8 | 2.5 | 2.5 |
| 77.5° | 50.5 | 45.5 | 34.1 | 21.5 | 10.0 | 2.5 | 2.5 | 2.5 | 2.5 |
| 80° | 34.1 | 30.3 | 22.7 | 12.6 | 5.1 | 1.2 | 1.2 | 1.2 | 1.2 |
| 82.5° | 20.2 | 17.7 | 12.6 | 6.3 | 2.5 | 1.2 | 1.2 | 1.2 | 1.2 |
| 85° | 10.0 | 7.6 | 5.1 | 2.5 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 87.5° | 2.5 | 1.2 | 1.2 | 1.2 | 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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