

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: P579985

Luminaire Tested: **HCC4W20D010MB-HM40525827-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579985
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: HCC4W20D010MB-HM40525827-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

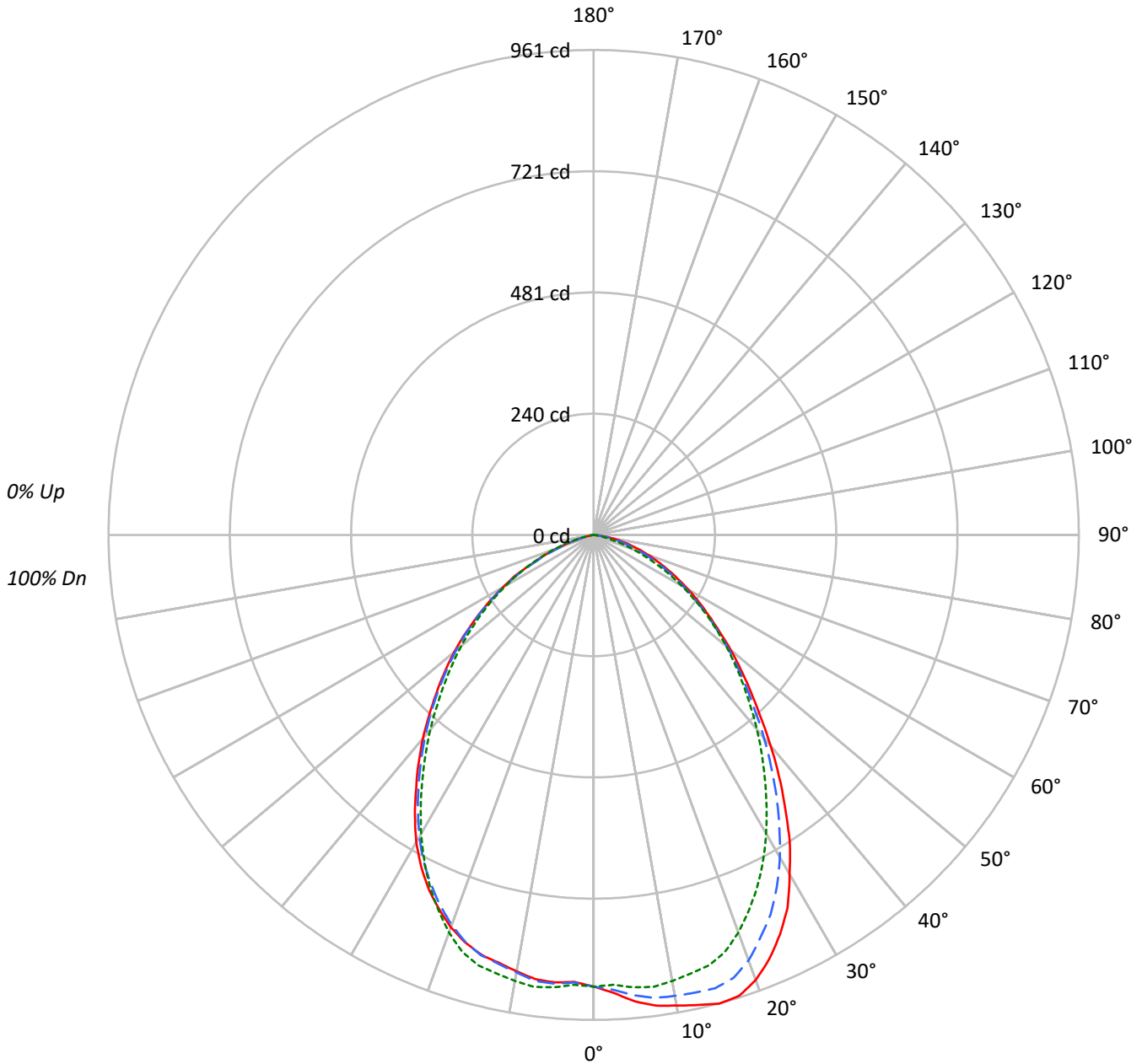
Lumens per Lamp: N/A
Luminaire Lumens: 1864.9 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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 | 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° | 110382 | 110382 | 110382 |
| 5° | 114852 | 111398 | 110209 |
| 10° | 118610 | 112385 | 109968 |
| 15° | 122768 | 112731 | 109960 |
| 20° | 123189 | 110010 | 108580 |
| 25° | 118840 | 104509 | 105339 |
| 30° | 110581 | 97321 | 100084 |
| 35° | 99607 | 89051 | 92334 |
| 40° | 87818 | 81007 | 84695 |
| 45° | 76787 | 72984 | 76578 |
| 50° | 67987 | 65685 | 69158 |
| 55° | 59804 | 57998 | 60342 |
| 60° | 53384 | 49511 | 51016 |
| 65° | 46931 | 40248 | 39547 |
| 70° | 41005 | 29644 | 27048 |
| 75° | 33980 | 17871 | 14440 |
| 80° | 25714 | 6819 | 4333 |
| 85° | 12029 | 1840 | 1840 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 86.3 | 4.6 |
| 10°-20° | 251.9 | 13.5 |
| 20°-30° | 364.8 | 19.6 |
| 30°-40° | 384.9 | 20.6 |
| 40°-50° | 333.1 | 17.9 |
| 50°-60° | 246.7 | 13.2 |
| 60°-70° | 142.3 | 7.6 |
| 70°-80° | 49.7 | 2.7 |
| 80°-90° | 5.2 | 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° | 703.0 | 37.7 |
| 0°-40° | 1087.9 | 58.3 |
| 0°-60° | 1667.8 | 89.4 |
| 0°-90° | 1864.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1864.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 895 | 895 | 895 | 895 | 895 | |
| 5° | 928 | 916 | 900 | 892 | 890 | 89 |
| 15° | 961 | 930 | 883 | 862 | 861 | 270 |
| 25° | 873 | 830 | 768 | 763 | 774 | 400 |
| 35° | 662 | 631 | 591 | 605 | 613 | 413 |
| 45° | 440 | 428 | 418 | 434 | 439 | 342 |
| 55° | 278 | 272 | 270 | 279 | 281 | 251 |
| 65° | 161 | 151 | 138 | 131 | 136 | 161 |
| 75° | 71 | 60 | 38 | 30 | 30 | 77 |
| 85° | 8 | 5 | 1 | 1 | 1 | 13 |
| 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° | 894.9 | 894.9 | 894.9 | 894.9 | 894.9 | 894.9 | 894.9 | 894.9 | 894.9 |
| 2.5° | 908.2 | 905.8 | 902.2 | 897.3 | 892.5 | 888.9 | 887.7 | 886.4 | 886.4 |
| 5° | 927.6 | 922.8 | 915.5 | 905.8 | 899.7 | 896.2 | 892.5 | 890.1 | 890.1 |
| 7.5° | 940.9 | 936.1 | 925.2 | 911.9 | 903.4 | 896.2 | 891.3 | 887.7 | 887.7 |
| 10° | 947.0 | 940.9 | 927.6 | 910.6 | 897.3 | 887.7 | 880.4 | 878.0 | 878.0 |
| 12.5° | 954.2 | 947.0 | 928.8 | 907.0 | 890.1 | 878.0 | 870.7 | 868.3 | 868.3 |
| 15° | 961.4 | 952.9 | 930.0 | 904.6 | 882.8 | 868.3 | 862.3 | 861.1 | 861.1 |
| 17.5° | 957.9 | 947.0 | 920.4 | 890.1 | 865.9 | 851.4 | 845.3 | 845.3 | 846.6 |
| 20° | 938.5 | 927.6 | 897.3 | 863.5 | 838.1 | 827.2 | 822.4 | 824.8 | 827.2 |
| 22.5° | 909.5 | 896.2 | 863.5 | 830.8 | 804.3 | 794.5 | 794.5 | 798.2 | 801.8 |
| 25° | 873.2 | 861.1 | 829.6 | 793.4 | 767.9 | 760.7 | 763.1 | 769.2 | 774.0 |
| 27.5° | 832.0 | 818.7 | 786.0 | 752.2 | 726.9 | 723.2 | 729.3 | 737.8 | 740.2 |
| 30° | 776.4 | 765.5 | 737.8 | 705.1 | 683.3 | 682.1 | 690.5 | 696.6 | 702.7 |
| 32.5° | 723.2 | 711.1 | 684.5 | 653.1 | 637.4 | 638.5 | 648.2 | 655.5 | 659.1 |
| 35° | 661.5 | 650.6 | 631.3 | 605.8 | 591.4 | 593.8 | 604.7 | 611.9 | 613.2 |
| 37.5° | 603.4 | 596.2 | 576.8 | 557.6 | 546.7 | 551.5 | 561.1 | 569.6 | 569.6 |
| 40° | 545.4 | 539.3 | 524.9 | 509.2 | 503.1 | 509.2 | 518.8 | 526.0 | 526.0 |
| 42.5° | 489.8 | 486.2 | 474.1 | 463.2 | 459.6 | 468.0 | 476.5 | 482.5 | 481.3 |
| 45° | 440.2 | 436.5 | 428.1 | 419.7 | 418.4 | 426.9 | 434.1 | 437.8 | 439.0 |
| 47.5° | 395.5 | 393.1 | 385.7 | 379.8 | 379.8 | 388.3 | 394.2 | 397.9 | 399.0 |
| 50° | 354.3 | 351.9 | 345.8 | 341.0 | 342.3 | 350.8 | 355.6 | 359.1 | 360.4 |
| 52.5° | 313.2 | 312.0 | 307.2 | 301.1 | 304.8 | 310.8 | 316.8 | 319.3 | 320.5 |
| 55° | 278.1 | 278.1 | 272.1 | 267.3 | 269.7 | 275.7 | 279.4 | 280.6 | 280.6 |
| 57.5° | 246.7 | 245.5 | 238.2 | 233.4 | 234.6 | 240.6 | 243.0 | 244.3 | 244.3 |
| 60° | 216.4 | 215.3 | 208.1 | 200.7 | 200.7 | 204.4 | 205.5 | 206.8 | 206.8 |
| 62.5° | 187.4 | 186.3 | 177.8 | 171.7 | 169.3 | 168.2 | 168.2 | 170.6 | 175.4 |
| 65° | 160.8 | 159.7 | 151.2 | 141.5 | 137.9 | 134.2 | 130.6 | 133.1 | 135.5 |
| 67.5° | 136.6 | 134.2 | 125.8 | 117.3 | 108.9 | 102.8 | 96.7 | 100.4 | 105.2 |
| 70° | 113.7 | 111.3 | 101.6 | 91.9 | 82.2 | 72.6 | 67.7 | 72.6 | 75.0 |
| 72.5° | 91.9 | 89.5 | 79.8 | 70.2 | 58.0 | 48.4 | 47.1 | 48.4 | 49.6 |
| 75° | 71.3 | 70.2 | 60.4 | 49.6 | 37.5 | 30.3 | 30.3 | 30.3 | 30.3 |
| 77.5° | 53.2 | 50.8 | 41.1 | 31.4 | 21.8 | 17.0 | 15.7 | 15.7 | 15.7 |
| 80° | 36.2 | 33.8 | 25.3 | 18.1 | 9.6 | 7.2 | 7.2 | 6.1 | 6.1 |
| 82.5° | 20.5 | 19.4 | 13.3 | 7.2 | 3.7 | 2.4 | 2.4 | 2.4 | 2.4 |
| 85° | 8.5 | 7.2 | 4.8 | 2.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| 87.5° | 1.3 | 1.3 | 1.3 | 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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— 0°-180° - - 45°-225° - - - - 90°-270°

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