

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: **HCC4W25D010MW-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: HCC4W25D010MW-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**

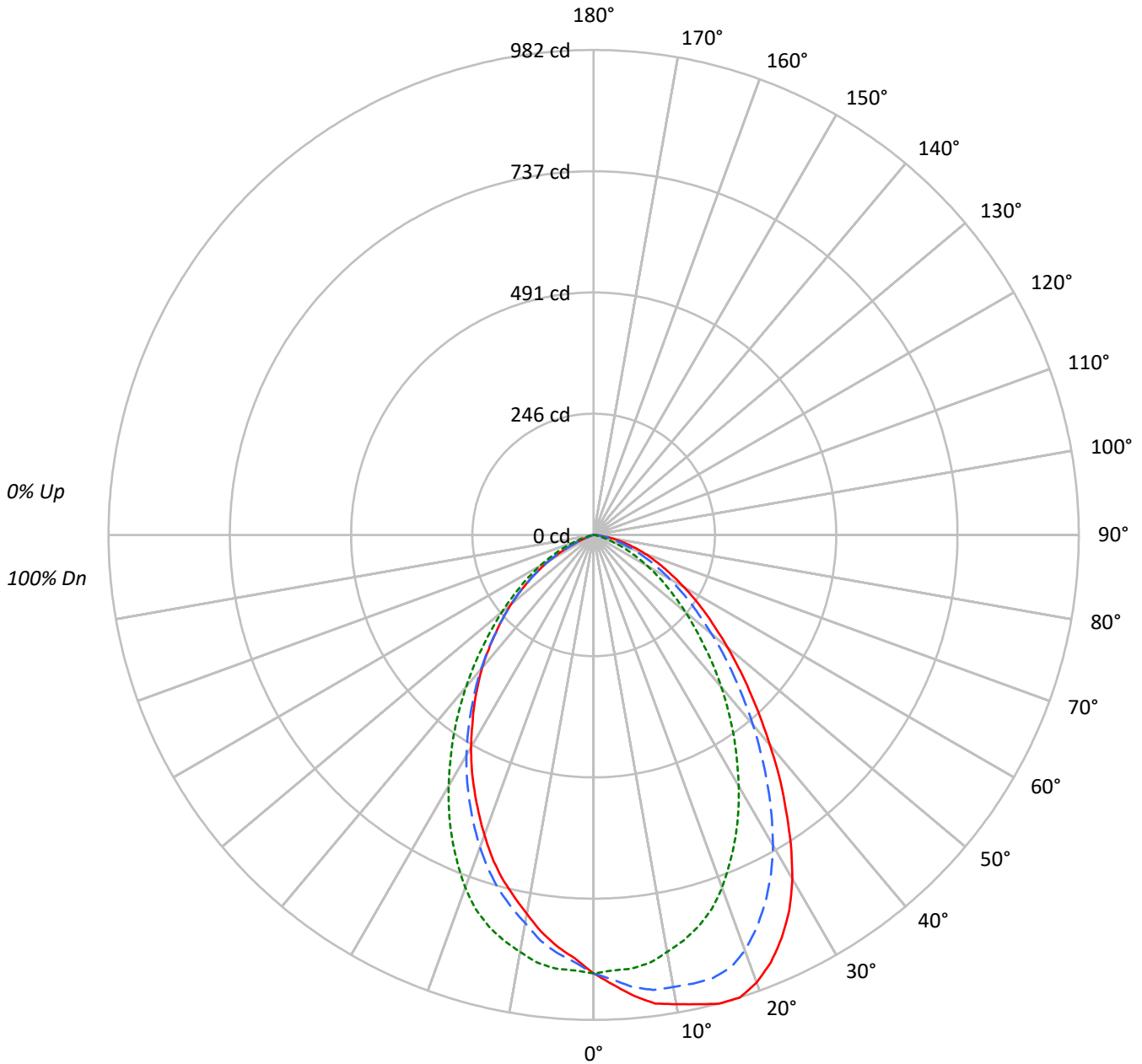
Lumens per Lamp: N/A  
Luminaire Lumens: 1533.3 lumens  
Efficiency: N/A  
Efficacy: 57.2 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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





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Scaled Data Report



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

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