

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: P592616

Luminaire Tested: **HCC4W10D010MW-HM40525950-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592616  
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: HCC4W10D010MW-HM40525950-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

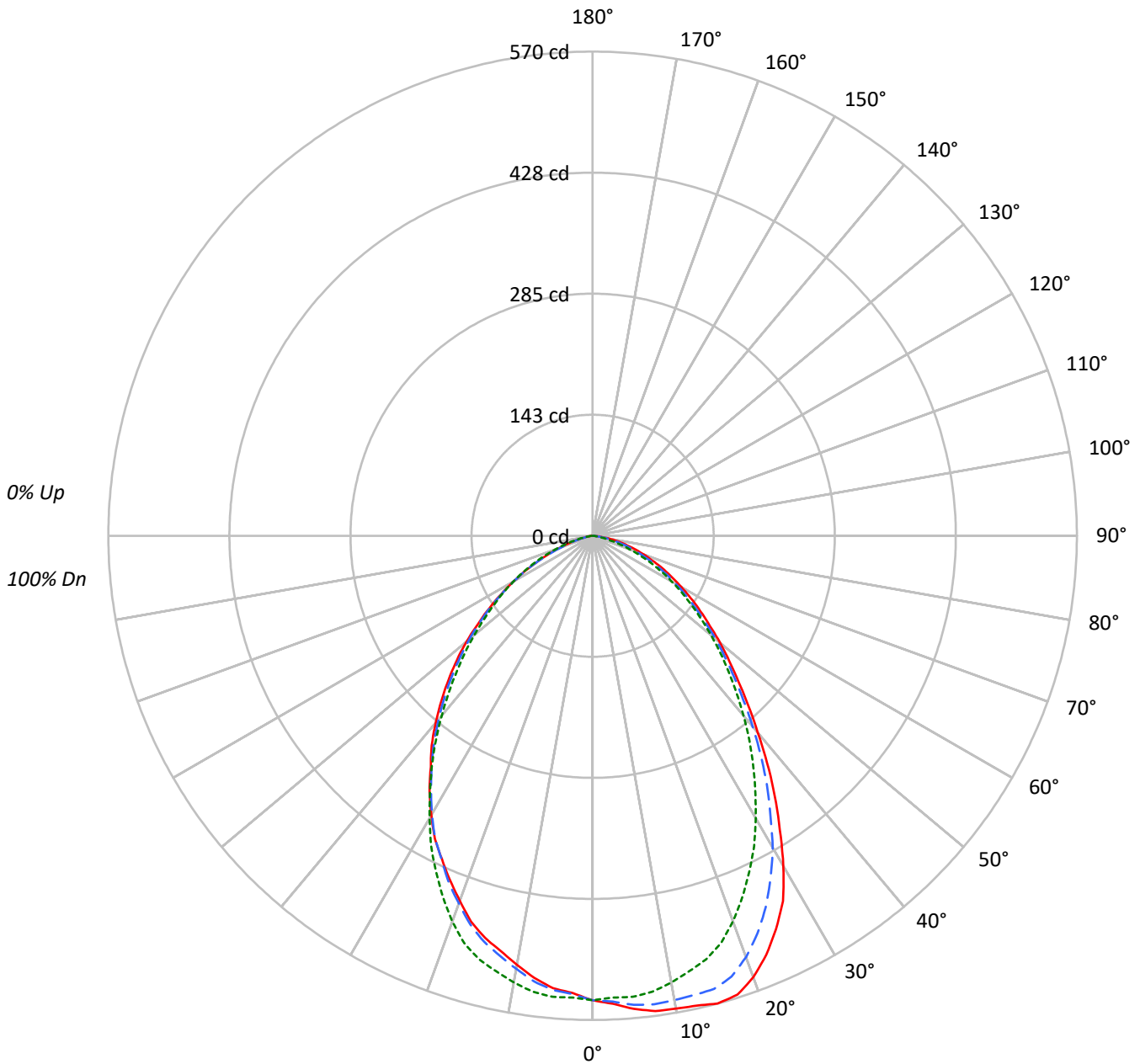
Lumens per Lamp: N/A  
Luminaire Lumens: 1042.3 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.9  
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 | 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 | 107 | 104 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 90  | 86  | 82  | 87  | 84  | 80  | 84  | 81  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |    | 67  |   |  |   |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |    | 59  |   |  |   |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 52  |    |    |    |    | 52  |   |  |   |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |    |    | 47  |   |  |   |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |    |    |    |    | 42  |   |  |   |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    | 38  |   |  |   |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |    |    |    |    | 35  |   |  |   |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |    |    |    |    | 32  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 67445 | 67445 | 67445 |
| 5°  | 69226 | 67455 | 66192 |
| 10° | 70778 | 66870 | 64240 |
| 15° | 72774 | 65930 | 62546 |
| 20° | 72588 | 63399 | 60000 |
| 25° | 69518 | 59352 | 57133 |
| 30° | 63964 | 54664 | 54094 |
| 35° | 56256 | 49615 | 50022 |
| 40° | 48675 | 44424 | 46260 |
| 45° | 42301 | 39458 | 41830 |
| 50° | 37534 | 34809 | 37150 |
| 55° | 33311 | 30537 | 31848 |
| 60° | 29677 | 26470 | 26470 |
| 65° | 26384 | 22006 | 20635 |
| 70° | 22792 | 16661 | 14678 |
| 75° | 19110 | 11009 | 9055  |
| 80° | 14491 | 5327  | 4830  |
| 85° | 7784  | 1981  | 1981  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 51.8   | 5.0       |
| 10°-20°   | 146.8  | 14.1      |
| 20°-30°   | 207.0  | 19.9      |
| 30°-40°   | 213.9  | 20.5      |
| 40°-50°   | 181.3  | 17.4      |
| 50°-60°   | 131.9  | 12.7      |
| 60°-70°   | 77.1   | 7.4       |
| 70°-80°   | 28.6   | 2.7       |
| 80°-90°   | 3.8    | 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°    | 405.7  | 38.9      |
| 0°-40°    | 619.5  | 59.4      |
| 0°-60°    | 932.8  | 89.5      |
| 0°-90°    | 1042.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1042.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 547 | 547 | 547 | 547  | 547  |      |
| 5°  | 559 | 554 | 545 | 537  | 535  | 54   |
| 15° | 570 | 552 | 516 | 495  | 490  | 160  |
| 25° | 511 | 482 | 436 | 420  | 420  | 234  |
| 35° | 374 | 357 | 330 | 330  | 332  | 233  |
| 45° | 242 | 236 | 226 | 234  | 240  | 189  |
| 55° | 155 | 147 | 142 | 147  | 148  | 139  |
| 65° | 90  | 83  | 75  | 71   | 71   | 90   |
| 75° | 40  | 33  | 23  | 18   | 19   | 43   |
| 85° | 6   | 3   | 1   | 1    | 1    | 8    |
| 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°    | 546.8 | 546.8 | 546.8 | 546.8 | 546.8 | 546.8  | 546.8 | 546.8  | 546.8 |
| 2.5°  | 551.6 | 550.2 | 548.9 | 546.8 | 544.1 | 542.0  | 540.1 | 538.7  | 538.7 |
| 5°    | 559.1 | 557.1 | 554.3 | 549.5 | 544.8 | 540.8  | 536.7 | 534.6  | 534.6 |
| 7.5°  | 564.4 | 561.8 | 556.4 | 549.5 | 541.3 | 535.3  | 529.2 | 526.4  | 525.1 |
| 10°   | 565.1 | 562.5 | 555.0 | 544.8 | 533.9 | 524.4  | 517.7 | 513.6  | 512.9 |
| 12.5° | 566.5 | 563.2 | 553.6 | 539.4 | 525.1 | 513.6  | 506.1 | 502.0  | 500.6 |
| 15°   | 569.9 | 565.1 | 552.3 | 533.9 | 516.3 | 502.7  | 494.6 | 491.2  | 489.8 |
| 17.5° | 566.5 | 559.8 | 544.1 | 522.3 | 502.7 | 487.7  | 479.6 | 476.1  | 476.1 |
| 20°   | 553.0 | 546.1 | 527.8 | 504.0 | 483.0 | 468.7  | 460.5 | 458.5  | 457.1 |
| 22.5° | 533.9 | 526.4 | 506.8 | 481.6 | 460.5 | 447.7  | 442.2 | 439.5  | 438.8 |
| 25°   | 510.8 | 503.3 | 482.3 | 456.5 | 436.1 | 425.3  | 420.5 | 420.5  | 419.8 |
| 27.5° | 485.0 | 475.5 | 453.7 | 431.3 | 411.6 | 403.5  | 401.5 | 401.5  | 402.2 |
| 30°   | 449.1 | 442.2 | 423.9 | 402.2 | 383.8 | 378.4  | 378.4 | 379.8  | 379.8 |
| 32.5° | 410.2 | 405.6 | 389.2 | 370.2 | 356.0 | 352.6  | 353.9 | 356.6  | 357.3 |
| 35°   | 373.6 | 368.1 | 357.3 | 340.4 | 329.5 | 328.1  | 330.1 | 332.2  | 332.2 |
| 37.5° | 337.6 | 332.2 | 324.7 | 311.1 | 302.9 | 303.6  | 306.3 | 309.1  | 311.1 |
| 40°   | 302.3 | 298.2 | 292.8 | 281.9 | 275.9 | 278.5  | 281.9 | 284.6  | 287.3 |
| 42.5° | 271.1 | 267.0 | 262.9 | 254.7 | 250.7 | 254.0  | 258.1 | 260.8  | 263.6 |
| 45°   | 242.5 | 239.8 | 235.7 | 229.0 | 226.2 | 229.6  | 234.3 | 237.0  | 239.8 |
| 47.5° | 218.0 | 216.7 | 211.2 | 205.2 | 203.8 | 207.2  | 211.2 | 214.6  | 216.7 |
| 50°   | 195.6 | 193.6 | 188.8 | 182.8 | 181.4 | 186.9  | 189.5 | 191.5  | 193.6 |
| 52.5° | 173.9 | 171.8 | 166.4 | 161.0 | 161.0 | 165.1  | 167.1 | 167.7  | 169.8 |
| 55°   | 154.9 | 152.8 | 147.4 | 143.4 | 142.0 | 145.3  | 146.7 | 146.7  | 148.1 |
| 57.5° | 137.2 | 135.2 | 129.7 | 125.0 | 124.3 | 126.3  | 126.3 | 126.3  | 127.0 |
| 60°   | 120.3 | 118.2 | 112.8 | 108.7 | 107.3 | 108.0  | 107.3 | 106.6  | 107.3 |
| 62.5° | 104.6 | 102.5 | 97.2  | 92.4  | 91.0  | 91.0   | 89.0  | 88.3   | 89.0  |
| 65°   | 90.4  | 86.9  | 82.8  | 78.1  | 75.4  | 73.4   | 70.7  | 70.7   | 70.7  |
| 67.5° | 76.1  | 73.4  | 68.6  | 63.8  | 60.4  | 57.0   | 53.0  | 54.4   | 55.1  |
| 70°   | 63.2  | 61.1  | 55.6  | 51.0  | 46.2  | 42.1   | 38.7  | 40.1   | 40.7  |
| 72.5° | 51.7  | 48.9  | 44.2  | 38.7  | 34.6  | 29.2   | 27.2  | 28.6   | 28.6  |
| 75°   | 40.1  | 37.3  | 33.2  | 27.9  | 23.1  | 18.3   | 18.3  | 19.0   | 19.0  |
| 77.5° | 29.9  | 27.2  | 23.1  | 18.3  | 14.2  | 10.9   | 11.5  | 11.5   | 11.5  |
| 80°   | 20.4  | 18.3  | 14.9  | 10.9  | 7.5   | 6.1    | 6.1   | 6.1    | 6.8   |
| 82.5° | 11.5  | 10.2  | 8.2   | 5.5   | 3.4   | 3.4    | 3.4   | 3.4    | 3.4   |
| 85°   | 5.5   | 4.1   | 3.4   | 2.0   | 1.4   | 1.4    | 1.4   | 1.4    | 1.4   |
| 87.5° | 0.7   | 0.7   | 0.7   | 0.7   | 0.7   | 0.7    | 0.7   | 0.7    | 0.7   |
| 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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report



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

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