

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: P579716

Luminaire Tested: **HCC4W10D010MB-HM40525830-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579716
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: HCC4W10D010MB-HM40525830-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

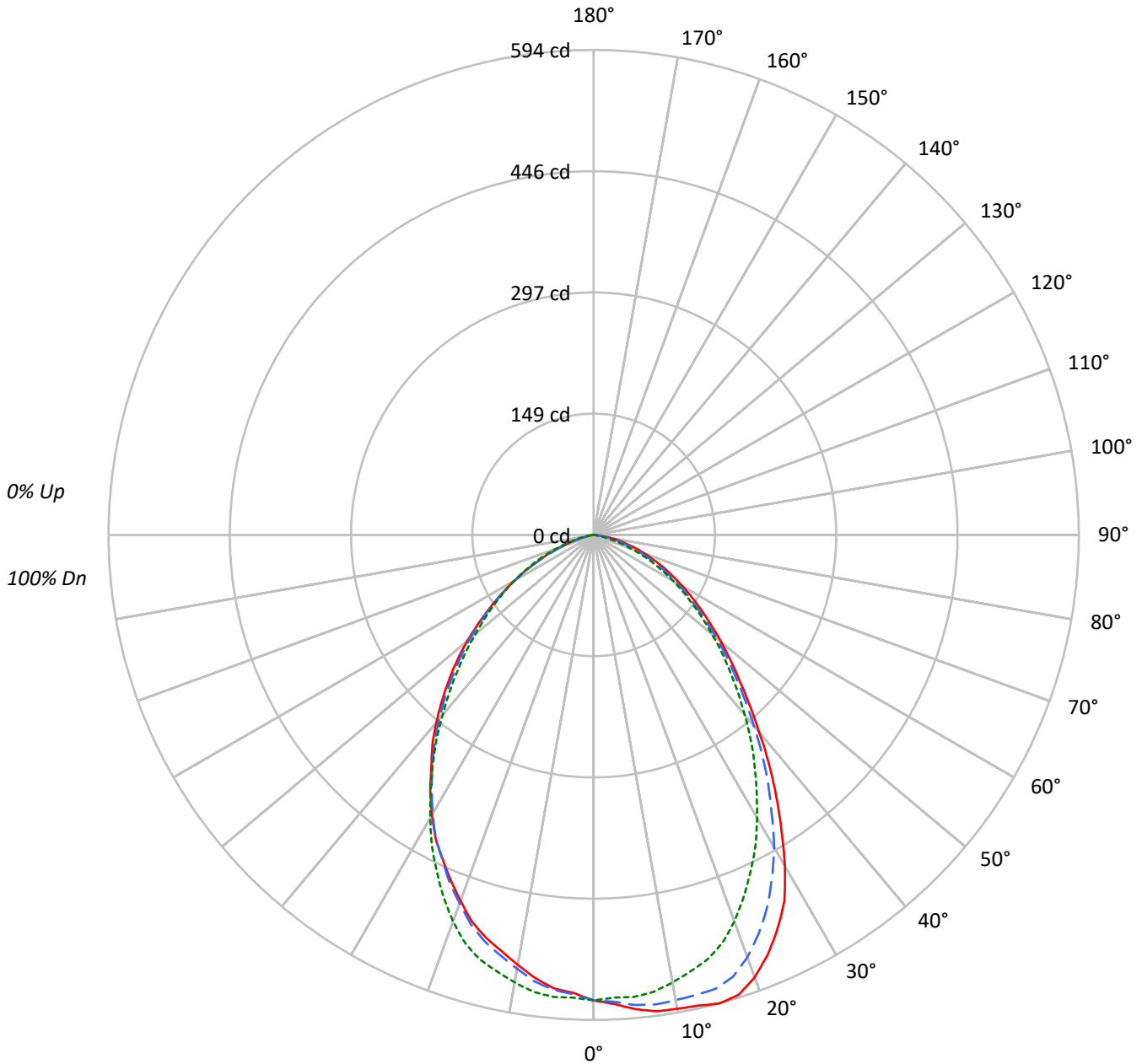
Lumens per Lamp: N/A
Luminaire Lumens: 1086.6 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{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 | | | | | | | | |
| 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° | 70319 | 70319 | 70319 |
| 5° | 72173 | 70328 | 69015 |
| 10° | 73809 | 69713 | 66958 |
| 15° | 75865 | 68739 | 65202 |
| 20° | 75672 | 66103 | 62559 |
| 25° | 72485 | 61870 | 59570 |
| 30° | 66684 | 56985 | 56387 |
| 35° | 58650 | 51708 | 52145 |
| 40° | 50736 | 46308 | 48224 |
| 45° | 44115 | 41132 | 43609 |
| 50° | 39127 | 36287 | 38743 |
| 55° | 34730 | 31848 | 33203 |
| 60° | 30935 | 27605 | 27605 |
| 65° | 27493 | 22940 | 21481 |
| 70° | 23766 | 17347 | 15291 |
| 75° | 19921 | 11485 | 9436 |
| 80° | 15130 | 5469 | 5043 |
| 85° | 8067 | 1981 | 1981 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 54.0 | 5.0 |
| 10°-20° | 153.1 | 14.1 |
| 20°-30° | 215.9 | 19.9 |
| 30°-40° | 223.0 | 20.5 |
| 40°-50° | 189.0 | 17.4 |
| 50°-60° | 137.5 | 12.7 |
| 60°-70° | 80.4 | 7.4 |
| 70°-80° | 29.9 | 2.7 |
| 80°-90° | 3.9 | 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° | 422.9 | 38.9 |
| 0°-40° | 645.9 | 59.4 |
| 0°-60° | 972.5 | 89.5 |
| 0°-90° | 1086.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1086.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 570 | 570 | 570 | 570 | 570 | |
| 5° | 583 | 578 | 568 | 559 | 557 | 56 |
| 15° | 594 | 576 | 538 | 516 | 511 | 167 |
| 25° | 533 | 503 | 455 | 438 | 438 | 244 |
| 35° | 390 | 372 | 343 | 344 | 346 | 243 |
| 45° | 253 | 246 | 236 | 244 | 250 | 197 |
| 55° | 162 | 154 | 148 | 153 | 154 | 145 |
| 65° | 94 | 86 | 79 | 74 | 74 | 93 |
| 75° | 42 | 35 | 24 | 19 | 20 | 45 |
| 85° | 6 | 4 | 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° | 570.1 | 570.1 | 570.1 | 570.1 | 570.1 | 570.1 | 570.1 | 570.1 | 570.1 |
| 2.5° | 575.0 | 573.7 | 572.2 | 570.1 | 567.3 | 565.1 | 563.0 | 561.6 | 561.6 |
| 5° | 582.9 | 580.7 | 577.9 | 573.0 | 568.0 | 563.8 | 559.4 | 557.4 | 557.4 |
| 7.5° | 588.5 | 585.7 | 580.0 | 573.0 | 564.4 | 558.1 | 551.7 | 548.9 | 547.5 |
| 10° | 589.3 | 586.4 | 578.6 | 568.0 | 556.6 | 546.7 | 539.6 | 535.4 | 534.6 |
| 12.5° | 590.6 | 587.1 | 577.2 | 562.3 | 547.5 | 535.4 | 527.6 | 523.4 | 521.9 |
| 15° | 594.1 | 589.3 | 575.7 | 556.6 | 538.3 | 524.0 | 515.5 | 512.0 | 510.6 |
| 17.5° | 590.6 | 583.6 | 567.3 | 544.6 | 524.0 | 508.5 | 500.0 | 496.4 | 496.4 |
| 20° | 576.5 | 569.3 | 550.2 | 525.5 | 503.6 | 488.7 | 480.1 | 478.1 | 476.6 |
| 22.5° | 556.6 | 548.9 | 528.3 | 502.1 | 480.1 | 466.7 | 461.0 | 458.2 | 457.5 |
| 25° | 532.6 | 524.7 | 502.8 | 475.9 | 454.6 | 443.4 | 438.4 | 438.4 | 437.7 |
| 27.5° | 505.6 | 495.7 | 473.1 | 449.7 | 429.1 | 420.7 | 418.6 | 418.6 | 419.2 |
| 30° | 468.2 | 461.0 | 441.9 | 419.2 | 400.1 | 394.4 | 394.4 | 395.9 | 395.9 |
| 32.5° | 427.8 | 422.8 | 405.8 | 386.0 | 371.1 | 367.6 | 368.9 | 371.8 | 372.5 |
| 35° | 389.5 | 383.8 | 372.5 | 354.8 | 343.4 | 342.1 | 344.1 | 346.3 | 346.3 |
| 37.5° | 352.0 | 346.3 | 338.6 | 324.3 | 315.9 | 316.6 | 319.4 | 322.3 | 324.3 |
| 40° | 315.1 | 310.9 | 305.2 | 293.9 | 287.6 | 290.4 | 293.9 | 296.8 | 299.5 |
| 42.5° | 282.6 | 278.4 | 274.0 | 265.6 | 261.3 | 264.8 | 269.1 | 272.0 | 274.8 |
| 45° | 252.9 | 250.0 | 245.7 | 238.6 | 235.8 | 239.3 | 244.3 | 247.2 | 250.0 |
| 47.5° | 227.4 | 225.9 | 220.2 | 213.8 | 212.5 | 216.0 | 220.2 | 223.8 | 225.9 |
| 50° | 203.9 | 201.9 | 196.9 | 190.5 | 189.1 | 194.7 | 197.6 | 199.7 | 201.9 |
| 52.5° | 181.3 | 179.1 | 173.5 | 167.9 | 167.9 | 172.1 | 174.2 | 174.9 | 177.1 |
| 55° | 161.5 | 159.3 | 153.6 | 149.4 | 148.1 | 151.6 | 152.9 | 152.9 | 154.4 |
| 57.5° | 143.0 | 140.9 | 135.3 | 130.3 | 129.6 | 131.8 | 131.8 | 131.8 | 132.5 |
| 60° | 125.4 | 123.2 | 117.6 | 113.3 | 111.9 | 112.5 | 111.9 | 111.2 | 111.9 |
| 62.5° | 109.0 | 107.0 | 101.3 | 96.3 | 94.9 | 94.9 | 92.7 | 92.1 | 92.7 |
| 65° | 94.2 | 90.7 | 86.4 | 81.5 | 78.6 | 76.5 | 73.6 | 73.6 | 73.6 |
| 67.5° | 79.3 | 76.5 | 71.6 | 66.6 | 63.0 | 59.5 | 55.2 | 56.7 | 57.4 |
| 70° | 65.9 | 63.7 | 58.0 | 53.1 | 48.1 | 43.9 | 40.4 | 41.8 | 42.4 |
| 72.5° | 53.8 | 51.0 | 46.1 | 40.4 | 36.1 | 30.5 | 28.3 | 29.7 | 29.7 |
| 75° | 41.8 | 38.9 | 34.7 | 29.0 | 24.1 | 19.1 | 19.1 | 19.8 | 19.8 |
| 77.5° | 31.2 | 28.3 | 24.1 | 19.1 | 14.9 | 11.4 | 12.1 | 12.1 | 12.1 |
| 80° | 21.3 | 19.1 | 15.6 | 11.4 | 7.7 | 6.4 | 6.4 | 6.4 | 7.1 |
| 82.5° | 12.1 | 10.6 | 8.5 | 5.7 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| 85° | 5.7 | 4.2 | 3.5 | 2.2 | 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



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

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