

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: P579827

Luminaire Tested: **HCC4W10D010SL-HM40525940-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579827
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W10D010SL-HM40525940-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

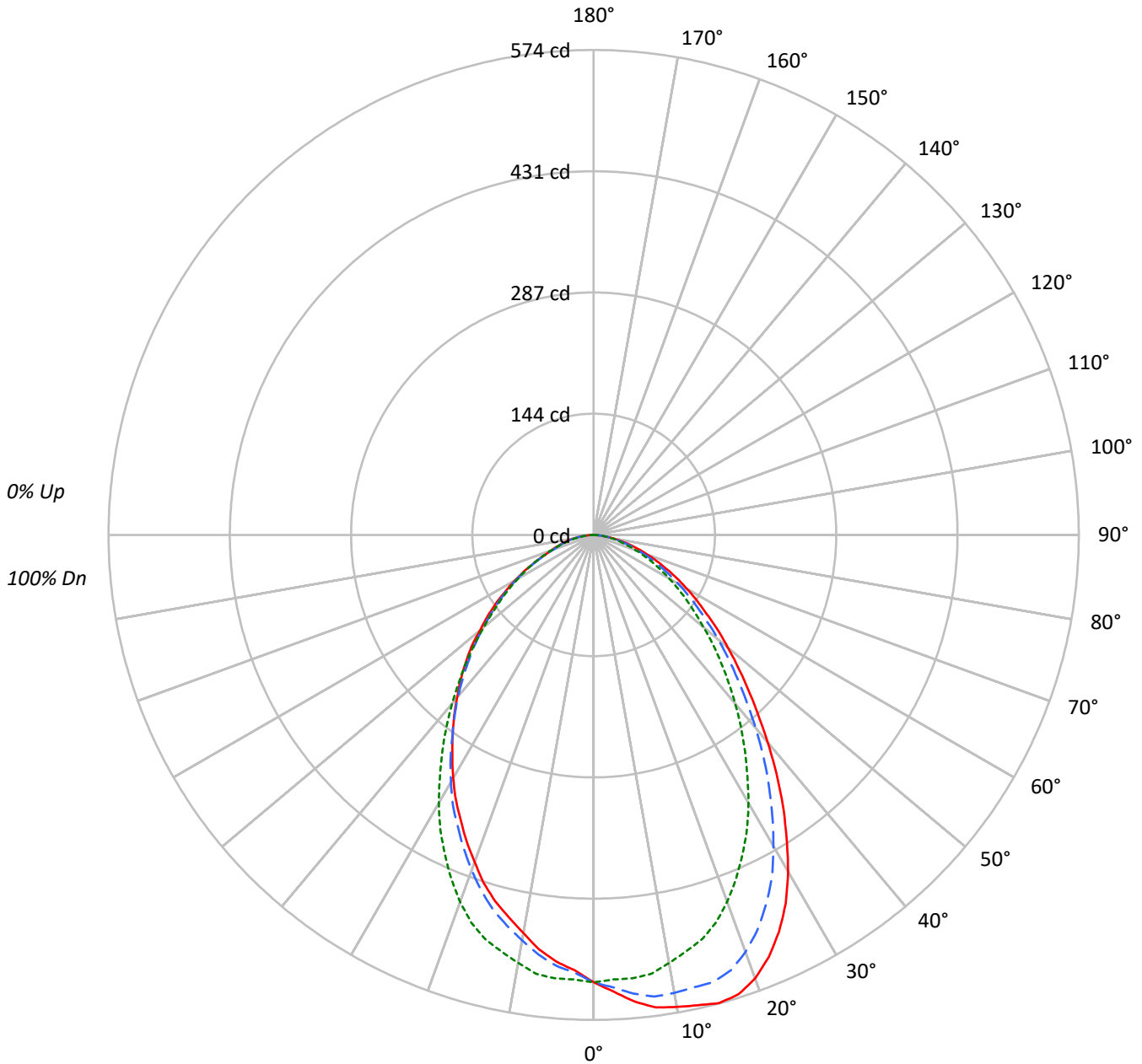
Lumens per Lamp: N/A
Luminaire Lumens: 1026.6 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | | | | | | | | | | |
| 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 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | | | | |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | | | | |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 60 | 58 | | | | | | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 46 | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 41 | | | | | | | | |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | | | | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 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° | 65299 | 65299 | 65299 |
| 5° | 68656 | 65214 | 62775 |
| 10° | 71066 | 64428 | 59919 |
| 15° | 73247 | 63261 | 57361 |
| 20° | 73323 | 60656 | 54054 |
| 25° | 70566 | 56698 | 50682 |
| 30° | 65531 | 52171 | 47329 |
| 35° | 58740 | 46965 | 43803 |
| 40° | 51541 | 41913 | 40479 |
| 45° | 45040 | 37103 | 37347 |
| 50° | 39760 | 32468 | 33658 |
| 55° | 35074 | 28773 | 30257 |
| 60° | 31354 | 25483 | 26495 |
| 65° | 27756 | 22415 | 22415 |
| 70° | 24271 | 19114 | 19114 |
| 75° | 20731 | 16203 | 18110 |
| 80° | 16408 | 14491 | 16408 |
| 85° | 10614 | 12596 | 15426 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 50.2 | 4.9 |
| 10°-20° | 141.2 | 13.8 |
| 20°-30° | 197.9 | 19.3 |
| 30°-40° | 203.9 | 19.9 |
| 40°-50° | 173.6 | 16.9 |
| 50°-60° | 128.6 | 12.5 |
| 60°-70° | 80.7 | 7.9 |
| 70°-80° | 40.1 | 3.9 |
| 80°-90° | 10.5 | 1.0 |
| 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° | 389.3 | 37.9 |
| 0°-40° | 593.2 | 57.8 |
| 0°-60° | 895.3 | 87.2 |
| 0°-90° | 1026.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1026.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 529 | 529 | 529 | 529 | 529 | |
| 5° | 554 | 545 | 527 | 512 | 507 | 53 |
| 15° | 574 | 548 | 495 | 459 | 449 | 161 |
| 25° | 518 | 482 | 417 | 380 | 372 | 237 |
| 35° | 390 | 361 | 312 | 292 | 291 | 243 |
| 45° | 258 | 241 | 213 | 209 | 214 | 200 |
| 55° | 163 | 150 | 134 | 137 | 141 | 147 |
| 65° | 95 | 86 | 77 | 75 | 77 | 95 |
| 75° | 44 | 39 | 34 | 37 | 38 | 47 |
| 85° | 8 | 8 | 9 | 10 | 11 | 10 |
| 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° | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 |
| 2.5° | 540.9 | 538.8 | 536.2 | 531.4 | 526.7 | 522.6 | 518.5 | 516.4 | 515.7 |
| 5° | 554.5 | 550.5 | 545.0 | 536.2 | 526.7 | 518.5 | 511.8 | 508.3 | 507.0 |
| 7.5° | 564.0 | 560.0 | 551.1 | 537.6 | 523.9 | 511.8 | 500.8 | 496.1 | 494.7 |
| 10° | 567.4 | 562.6 | 550.5 | 532.1 | 514.4 | 499.5 | 487.3 | 481.1 | 478.4 |
| 12.5° | 570.1 | 564.0 | 548.4 | 526.7 | 504.9 | 486.6 | 473.6 | 465.6 | 463.5 |
| 15° | 573.6 | 566.7 | 547.7 | 521.2 | 495.4 | 473.6 | 459.4 | 451.9 | 449.2 |
| 17.5° | 570.1 | 562.6 | 540.2 | 510.4 | 481.1 | 457.4 | 441.8 | 434.9 | 432.2 |
| 20° | 558.6 | 550.5 | 525.3 | 493.3 | 462.1 | 437.7 | 422.0 | 415.3 | 411.8 |
| 22.5° | 540.9 | 532.1 | 506.3 | 472.3 | 440.4 | 416.6 | 401.6 | 394.8 | 392.8 |
| 25° | 518.5 | 509.7 | 482.5 | 447.8 | 416.6 | 393.5 | 380.5 | 374.4 | 372.4 |
| 27.5° | 492.0 | 483.2 | 456.7 | 422.7 | 392.8 | 371.0 | 360.9 | 354.7 | 353.3 |
| 30° | 460.1 | 451.2 | 425.4 | 394.2 | 366.3 | 346.0 | 337.8 | 333.0 | 332.3 |
| 32.5° | 424.7 | 417.3 | 393.5 | 365.0 | 338.4 | 321.5 | 315.3 | 311.9 | 311.2 |
| 35° | 390.1 | 381.9 | 360.9 | 335.0 | 311.9 | 297.0 | 291.6 | 290.9 | 290.9 |
| 37.5° | 354.7 | 346.6 | 329.6 | 305.8 | 286.1 | 272.6 | 270.5 | 271.2 | 271.2 |
| 40° | 320.1 | 312.6 | 297.7 | 277.9 | 260.3 | 250.1 | 249.4 | 250.8 | 251.4 |
| 42.5° | 287.5 | 281.3 | 267.8 | 250.8 | 235.8 | 227.6 | 228.3 | 231.0 | 233.1 |
| 45° | 258.2 | 252.7 | 240.6 | 225.7 | 212.7 | 206.5 | 208.6 | 212.0 | 214.1 |
| 47.5° | 231.7 | 227.0 | 215.4 | 201.9 | 191.0 | 186.9 | 189.6 | 193.7 | 196.4 |
| 50° | 207.2 | 203.2 | 192.3 | 178.1 | 169.2 | 166.5 | 169.9 | 174.0 | 175.4 |
| 52.5° | 185.5 | 181.4 | 169.9 | 157.6 | 150.9 | 149.5 | 152.9 | 156.2 | 158.3 |
| 55° | 163.1 | 159.7 | 150.2 | 139.3 | 133.8 | 133.1 | 136.6 | 139.3 | 140.7 |
| 57.5° | 144.8 | 141.3 | 132.5 | 123.0 | 118.2 | 117.6 | 121.0 | 123.0 | 123.7 |
| 60° | 127.1 | 123.7 | 115.5 | 106.7 | 103.3 | 103.3 | 105.4 | 106.7 | 107.4 |
| 62.5° | 110.7 | 107.4 | 99.9 | 92.4 | 89.7 | 89.7 | 89.7 | 90.4 | 92.4 |
| 65° | 95.1 | 92.4 | 85.6 | 78.9 | 76.8 | 75.4 | 75.4 | 75.4 | 76.8 |
| 67.5° | 80.9 | 78.2 | 72.7 | 66.6 | 64.5 | 62.5 | 61.8 | 63.2 | 63.2 |
| 70° | 67.3 | 65.2 | 59.7 | 55.1 | 53.0 | 51.0 | 50.3 | 53.0 | 53.0 |
| 72.5° | 55.1 | 53.0 | 49.6 | 44.8 | 42.8 | 42.1 | 43.5 | 44.8 | 45.5 |
| 75° | 43.5 | 41.4 | 38.7 | 36.0 | 34.0 | 34.7 | 36.6 | 37.3 | 38.0 |
| 77.5° | 32.7 | 32.0 | 29.2 | 27.2 | 27.2 | 27.9 | 29.2 | 30.6 | 31.3 |
| 80° | 23.1 | 22.4 | 21.1 | 19.7 | 20.4 | 21.7 | 22.4 | 23.8 | 23.1 |
| 82.5° | 14.2 | 14.2 | 13.5 | 13.5 | 14.2 | 15.6 | 16.3 | 17.0 | 17.6 |
| 85° | 7.5 | 7.5 | 7.5 | 8.2 | 8.9 | 9.6 | 10.2 | 10.9 | 10.9 |
| 87.5° | 2.0 | 2.7 | 2.7 | 3.4 | 4.1 | 4.1 | 4.8 | 4.8 | 4.8 |
| 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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