

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: P579754

Luminaire Tested: **HCC4S10D010BZ-HM40525840-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579754
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S10D010BZ-HM40525840-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

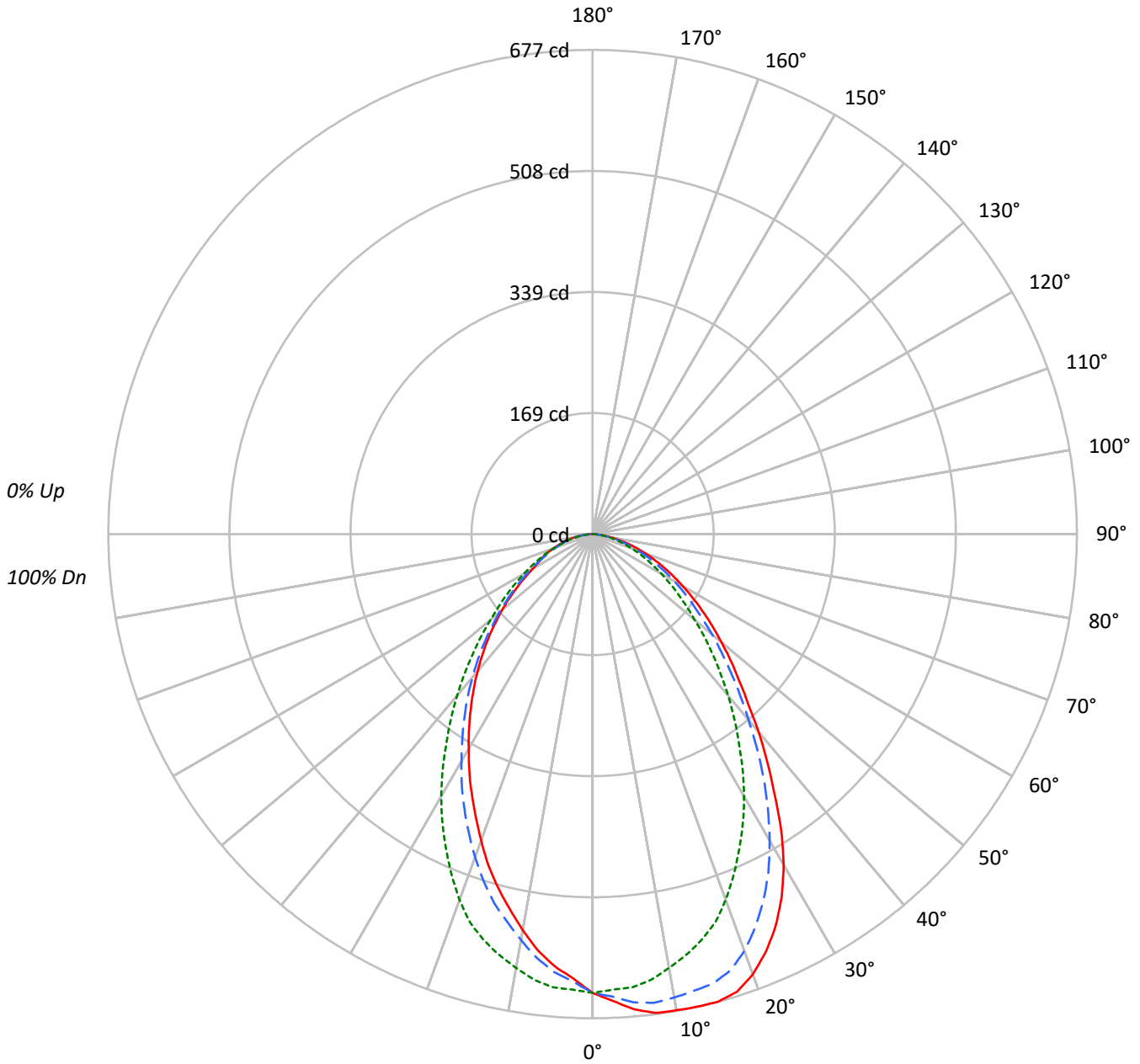
Lumens per Lamp: N/A
Luminaire Lumens: 1145.4 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 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 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | 87 | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | 76 | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | 66 | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | 47 | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 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 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | 35 | | | |
| 10 | 59 | 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° | 79114 | 79114 | 79114 |
| 5° | 82586 | 78760 | 75120 |
| 10° | 84680 | 77128 | 70415 |
| 15° | 86438 | 75060 | 65317 |
| 20° | 85963 | 71419 | 59829 |
| 25° | 82366 | 66021 | 54425 |
| 30° | 76085 | 60289 | 49323 |
| 35° | 66691 | 53636 | 44661 |
| 40° | 58062 | 47387 | 40222 |
| 45° | 50534 | 41324 | 35934 |
| 50° | 45037 | 35615 | 31701 |
| 55° | 40235 | 31332 | 27440 |
| 60° | 35943 | 27383 | 23633 |
| 65° | 31930 | 24020 | 22444 |
| 70° | 28022 | 20701 | 20989 |
| 75° | 23733 | 17633 | 19396 |
| 80° | 18184 | 15059 | 17687 |
| 85° | 10614 | 11746 | 15001 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.1 | 5.2 |
| 10°-20° | 165.8 | 14.5 |
| 20°-30° | 226.6 | 19.8 |
| 30°-40° | 227.5 | 19.9 |
| 40°-50° | 188.2 | 16.4 |
| 50°-60° | 136.4 | 11.9 |
| 60°-70° | 86.4 | 7.5 |
| 70°-80° | 43.7 | 3.8 |
| 80°-90° | 10.7 | 0.9 |
| 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° | 452.5 | 39.5 |
| 0°-40° | 680.0 | 59.4 |
| 0°-60° | 1004.6 | 87.7 |
| 0°-90° | 1145.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1145.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 641 | 641 | 641 | 641 | 641 | |
| 5° | 667 | 657 | 636 | 615 | 607 | 64 |
| 15° | 677 | 650 | 588 | 534 | 512 | 190 |
| 25° | 605 | 565 | 485 | 424 | 400 | 277 |
| 35° | 443 | 416 | 356 | 312 | 297 | 278 |
| 45° | 290 | 273 | 237 | 214 | 206 | 225 |
| 55° | 187 | 170 | 146 | 133 | 128 | 168 |
| 65° | 109 | 97 | 82 | 74 | 77 | 109 |
| 75° | 50 | 43 | 37 | 38 | 41 | 53 |
| 85° | 8 | 8 | 8 | 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° | 641.4 | 641.4 | 641.4 | 641.4 | 641.4 | 641.4 | 641.4 | 641.4 | 641.4 |
| 2.5° | 653.4 | 651.2 | 647.4 | 642.9 | 637.6 | 631.6 | 626.2 | 623.3 | 621.8 |
| 5° | 667.0 | 664.0 | 657.2 | 647.4 | 636.1 | 624.8 | 615.0 | 608.9 | 606.7 |
| 7.5° | 675.3 | 670.9 | 661.0 | 645.9 | 628.5 | 611.9 | 597.6 | 589.3 | 587.1 |
| 10° | 676.1 | 670.9 | 658.0 | 637.6 | 615.8 | 593.8 | 576.5 | 564.4 | 562.2 |
| 12.5° | 676.9 | 670.1 | 654.2 | 630.0 | 602.9 | 575.7 | 554.5 | 540.2 | 536.5 |
| 15° | 676.9 | 670.1 | 650.5 | 621.8 | 587.8 | 556.8 | 533.5 | 516.9 | 511.5 |
| 17.5° | 670.9 | 663.2 | 639.9 | 606.7 | 569.7 | 535.0 | 507.8 | 490.5 | 485.1 |
| 20° | 654.9 | 646.6 | 620.2 | 584.0 | 544.1 | 507.8 | 480.7 | 462.6 | 455.8 |
| 22.5° | 632.3 | 622.5 | 594.6 | 555.3 | 515.4 | 478.4 | 452.0 | 433.1 | 427.1 |
| 25° | 605.2 | 595.3 | 565.1 | 526.7 | 485.1 | 450.4 | 424.0 | 406.7 | 399.9 |
| 27.5° | 572.0 | 561.4 | 532.0 | 493.4 | 455.0 | 420.3 | 396.1 | 380.3 | 373.5 |
| 30° | 534.2 | 522.9 | 495.0 | 458.0 | 423.3 | 390.1 | 366.7 | 353.9 | 346.3 |
| 32.5° | 490.5 | 480.7 | 455.8 | 422.5 | 390.1 | 358.4 | 338.8 | 327.5 | 321.5 |
| 35° | 442.9 | 437.7 | 416.5 | 387.8 | 356.2 | 329.8 | 312.4 | 301.8 | 296.6 |
| 37.5° | 400.7 | 395.3 | 377.2 | 353.1 | 325.2 | 301.1 | 286.8 | 277.7 | 273.1 |
| 40° | 360.6 | 356.2 | 338.8 | 318.4 | 294.3 | 273.1 | 261.1 | 254.2 | 249.8 |
| 42.5° | 321.5 | 319.2 | 304.9 | 286.0 | 264.8 | 246.7 | 236.9 | 231.7 | 227.8 |
| 45° | 289.7 | 286.8 | 273.1 | 255.0 | 236.9 | 221.8 | 213.5 | 209.7 | 206.0 |
| 47.5° | 261.9 | 258.1 | 243.8 | 227.8 | 211.3 | 197.7 | 190.2 | 186.4 | 184.8 |
| 50° | 234.7 | 230.9 | 218.0 | 202.2 | 185.6 | 175.8 | 169.8 | 166.0 | 165.2 |
| 52.5° | 210.5 | 206.8 | 192.4 | 177.3 | 164.4 | 156.2 | 150.9 | 147.1 | 145.7 |
| 55° | 187.1 | 182.6 | 170.5 | 156.2 | 145.7 | 138.0 | 132.8 | 129.0 | 127.6 |
| 57.5° | 166.0 | 161.5 | 150.9 | 137.4 | 127.6 | 120.7 | 116.2 | 112.4 | 111.0 |
| 60° | 145.7 | 141.9 | 132.0 | 119.3 | 111.0 | 104.9 | 100.4 | 97.3 | 95.8 |
| 62.5° | 126.8 | 123.7 | 113.9 | 102.6 | 95.8 | 90.6 | 86.8 | 83.8 | 85.2 |
| 65° | 109.4 | 106.4 | 97.3 | 87.5 | 82.3 | 76.9 | 74.0 | 74.0 | 76.9 |
| 67.5° | 92.9 | 89.8 | 82.3 | 74.0 | 69.4 | 65.7 | 63.4 | 65.7 | 67.9 |
| 70° | 77.7 | 74.7 | 67.9 | 61.1 | 57.4 | 54.3 | 54.3 | 56.6 | 58.2 |
| 72.5° | 63.4 | 60.3 | 55.1 | 49.8 | 46.8 | 44.5 | 46.8 | 48.3 | 49.8 |
| 75° | 49.8 | 47.6 | 43.0 | 39.3 | 37.0 | 36.2 | 38.5 | 39.9 | 40.7 |
| 77.5° | 37.0 | 35.5 | 32.4 | 29.5 | 27.9 | 28.7 | 31.0 | 31.6 | 32.4 |
| 80° | 25.6 | 24.9 | 22.6 | 21.2 | 21.2 | 21.8 | 23.4 | 24.1 | 24.9 |
| 82.5° | 15.8 | 15.8 | 14.3 | 13.5 | 14.3 | 15.8 | 16.6 | 17.4 | 17.4 |
| 85° | 7.5 | 8.3 | 7.5 | 7.5 | 8.3 | 9.8 | 9.8 | 10.6 | 10.6 |
| 87.5° | 2.3 | 2.3 | 3.1 | 3.1 | 3.8 | 3.8 | 3.8 | 3.8 | 4.6 |
| 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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