

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: P579971

Luminaire Tested: **HCC4S15D010SL-HM40525940-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579971
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: HCC4S15D010SL-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

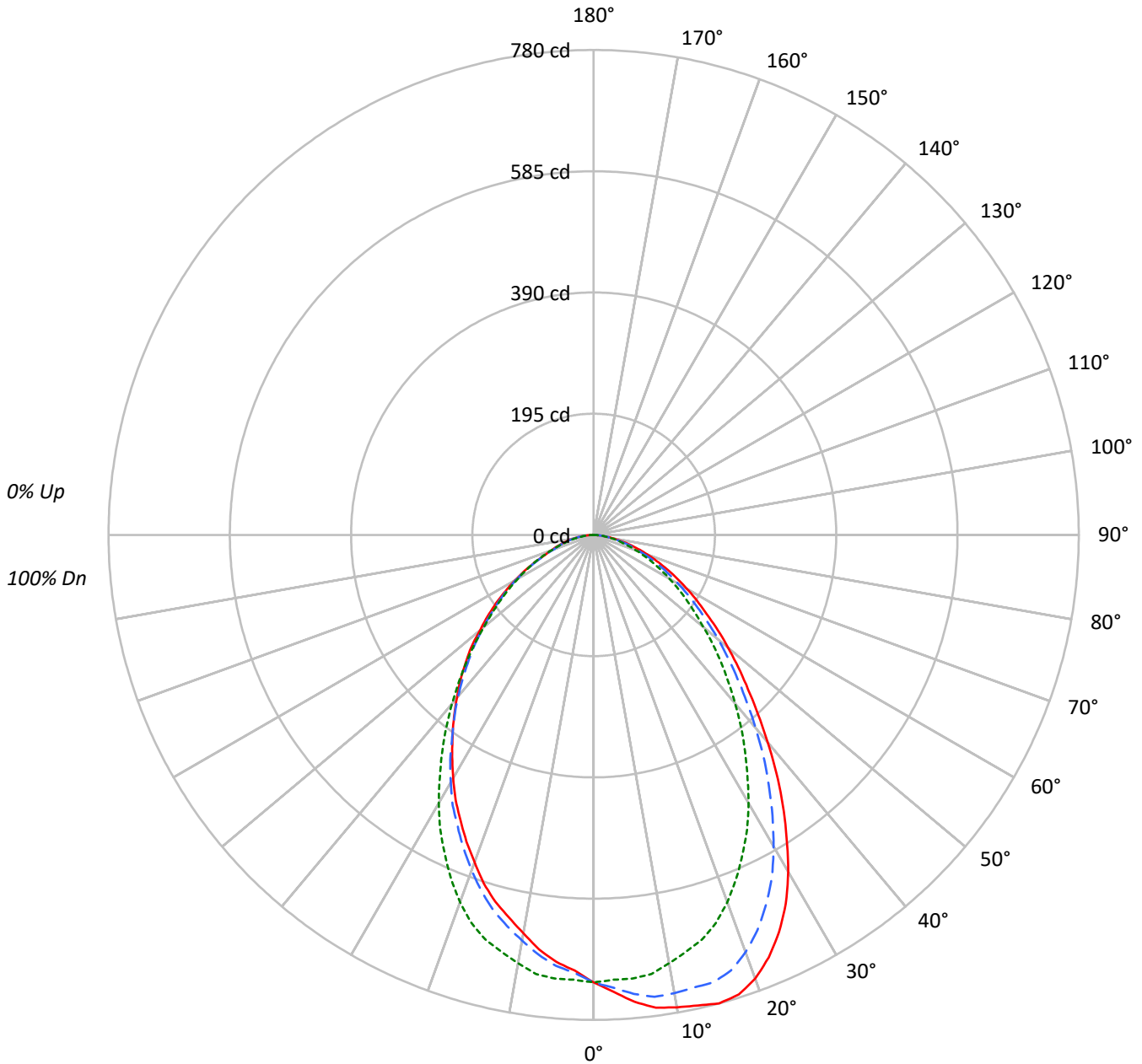
Lumens per Lamp: N/A
Luminaire Lumens: 1395.9 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 14
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 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | | 87 | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | 75 | | | |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | 66 | | | |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 60 | 58 | | | | | 58 | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 | | | | | 51 | | | |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 46 | | | | | 46 | | | |
| 7 | 70 | 58 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 41 | | | | | 41 | | | |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | 37 | | | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | 34 | | | |
| 10 | 58 | 45 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | 31 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 88772 | 88772 | 88772 |
| 5° | 93345 | 88665 | 85335 |
| 10° | 96629 | 87611 | 81474 |
| 15° | 99591 | 86017 | 77984 |
| 20° | 99693 | 82472 | 73507 |
| 25° | 95935 | 77072 | 68906 |
| 30° | 89102 | 70929 | 64349 |
| 35° | 79851 | 63860 | 59538 |
| 40° | 70058 | 56968 | 55051 |
| 45° | 61245 | 50465 | 50779 |
| 50° | 54094 | 44135 | 45747 |
| 55° | 47676 | 39138 | 41117 |
| 60° | 42628 | 34635 | 36017 |
| 65° | 37767 | 30470 | 30470 |
| 70° | 32998 | 26002 | 26002 |
| 75° | 28165 | 22018 | 24639 |
| 80° | 22304 | 19676 | 22304 |
| 85° | 14294 | 17124 | 20945 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 68.2 | 4.9 |
| 10°-20° | 192.0 | 13.8 |
| 20°-30° | 269.0 | 19.3 |
| 30°-40° | 277.2 | 19.9 |
| 40°-50° | 236.0 | 16.9 |
| 50°-60° | 174.9 | 12.5 |
| 60°-70° | 109.7 | 7.9 |
| 70°-80° | 54.5 | 3.9 |
| 80°-90° | 14.3 | 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° | 529.3 | 37.9 |
| 0°-40° | 806.5 | 57.8 |
| 0°-60° | 1217.3 | 87.2 |
| 0°-90° | 1395.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1395.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 720 | 720 | 720 | 720 | 720 | |
| 5° | 754 | 741 | 716 | 696 | 689 | 72 |
| 15° | 780 | 745 | 674 | 625 | 611 | 219 |
| 25° | 705 | 656 | 566 | 517 | 506 | 322 |
| 35° | 530 | 491 | 424 | 396 | 395 | 331 |
| 45° | 351 | 327 | 289 | 284 | 291 | 272 |
| 55° | 222 | 204 | 182 | 186 | 191 | 200 |
| 65° | 129 | 116 | 104 | 103 | 104 | 129 |
| 75° | 59 | 53 | 46 | 50 | 52 | 63 |
| 85° | 10 | 10 | 12 | 14 | 15 | 13 |
| 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° | 719.7 | 719.7 | 719.7 | 719.7 | 719.7 | 719.7 | 719.7 | 719.7 | 719.7 |
| 2.5° | 735.5 | 732.7 | 729.0 | 722.6 | 716.1 | 710.5 | 704.9 | 702.2 | 701.3 |
| 5° | 753.9 | 748.4 | 741.0 | 729.0 | 716.1 | 704.9 | 695.7 | 691.1 | 689.2 |
| 7.5° | 766.9 | 761.3 | 749.3 | 730.9 | 712.3 | 695.7 | 680.9 | 674.5 | 672.6 |
| 10° | 771.5 | 765.1 | 748.4 | 723.5 | 699.5 | 679.1 | 662.5 | 654.1 | 650.5 |
| 12.5° | 775.2 | 766.9 | 745.6 | 716.1 | 686.5 | 661.5 | 644.0 | 633.0 | 630.1 |
| 15° | 779.9 | 770.5 | 744.7 | 708.7 | 673.6 | 644.0 | 624.6 | 614.4 | 610.7 |
| 17.5° | 775.2 | 765.1 | 734.5 | 693.9 | 654.1 | 621.8 | 600.6 | 591.4 | 587.6 |
| 20° | 759.5 | 748.4 | 714.3 | 670.8 | 628.3 | 595.0 | 573.7 | 564.5 | 560.0 |
| 22.5° | 735.5 | 723.5 | 688.3 | 642.2 | 598.7 | 566.3 | 546.1 | 536.8 | 534.0 |
| 25° | 704.9 | 693.0 | 656.0 | 608.9 | 566.3 | 535.0 | 517.4 | 509.1 | 506.3 |
| 27.5° | 668.9 | 657.0 | 620.9 | 574.8 | 534.0 | 504.5 | 490.6 | 482.3 | 480.5 |
| 30° | 625.6 | 613.5 | 578.4 | 535.9 | 498.0 | 470.3 | 459.2 | 452.8 | 451.8 |
| 32.5° | 577.5 | 567.4 | 535.0 | 496.2 | 460.1 | 437.1 | 428.8 | 424.1 | 423.2 |
| 35° | 530.3 | 519.3 | 490.6 | 455.5 | 424.1 | 403.7 | 396.4 | 395.4 | 395.4 |
| 37.5° | 482.3 | 471.2 | 448.1 | 415.8 | 389.0 | 370.5 | 367.7 | 368.6 | 368.6 |
| 40° | 435.1 | 425.0 | 404.7 | 377.9 | 353.8 | 340.0 | 339.1 | 341.0 | 341.9 |
| 42.5° | 390.8 | 382.5 | 364.1 | 341.0 | 320.6 | 309.5 | 310.4 | 314.2 | 316.9 |
| 45° | 351.1 | 343.7 | 327.1 | 306.8 | 289.3 | 280.8 | 283.7 | 288.2 | 291.1 |
| 47.5° | 315.1 | 308.6 | 292.9 | 274.5 | 259.6 | 254.1 | 257.8 | 263.3 | 267.1 |
| 50° | 281.9 | 276.3 | 261.5 | 242.1 | 230.0 | 226.4 | 231.0 | 236.5 | 238.4 |
| 52.5° | 252.2 | 246.7 | 231.0 | 214.3 | 205.1 | 203.3 | 207.8 | 212.5 | 215.2 |
| 55° | 221.7 | 217.2 | 204.2 | 189.4 | 182.0 | 181.1 | 185.7 | 189.4 | 191.2 |
| 57.5° | 196.8 | 192.2 | 180.2 | 167.3 | 160.8 | 159.9 | 164.4 | 167.3 | 168.2 |
| 60° | 172.8 | 168.2 | 157.0 | 145.1 | 140.4 | 140.4 | 143.3 | 145.1 | 146.0 |
| 62.5° | 150.7 | 146.0 | 135.9 | 125.6 | 122.0 | 122.0 | 122.0 | 122.9 | 125.6 |
| 65° | 129.4 | 125.6 | 116.4 | 107.2 | 104.4 | 102.6 | 102.6 | 102.6 | 104.4 |
| 67.5° | 109.9 | 106.3 | 98.9 | 90.5 | 87.8 | 85.0 | 84.0 | 86.0 | 86.0 |
| 70° | 91.5 | 88.7 | 81.3 | 74.8 | 72.1 | 69.2 | 68.3 | 72.1 | 72.1 |
| 72.5° | 74.8 | 72.1 | 67.4 | 60.9 | 58.2 | 57.3 | 59.1 | 60.9 | 61.9 |
| 75° | 59.1 | 56.4 | 52.6 | 49.0 | 46.2 | 47.1 | 49.9 | 50.8 | 51.7 |
| 77.5° | 44.3 | 43.4 | 39.7 | 37.0 | 37.0 | 37.9 | 39.7 | 41.6 | 42.5 |
| 80° | 31.4 | 30.5 | 28.7 | 26.8 | 27.7 | 29.6 | 30.5 | 32.3 | 31.4 |
| 82.5° | 19.4 | 19.4 | 18.5 | 18.5 | 19.4 | 21.3 | 22.2 | 23.1 | 24.0 |
| 85° | 10.1 | 10.1 | 10.1 | 11.1 | 12.1 | 13.0 | 13.9 | 14.8 | 14.8 |
| 87.5° | 2.7 | 3.8 | 3.8 | 4.7 | 5.6 | 5.6 | 6.5 | 6.5 | 6.5 |
| 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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