

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: P579880

Luminaire Tested: **HCC4S15D010MW-HM40525835-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579880
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: HCC4S15D010MW-HM40525835-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

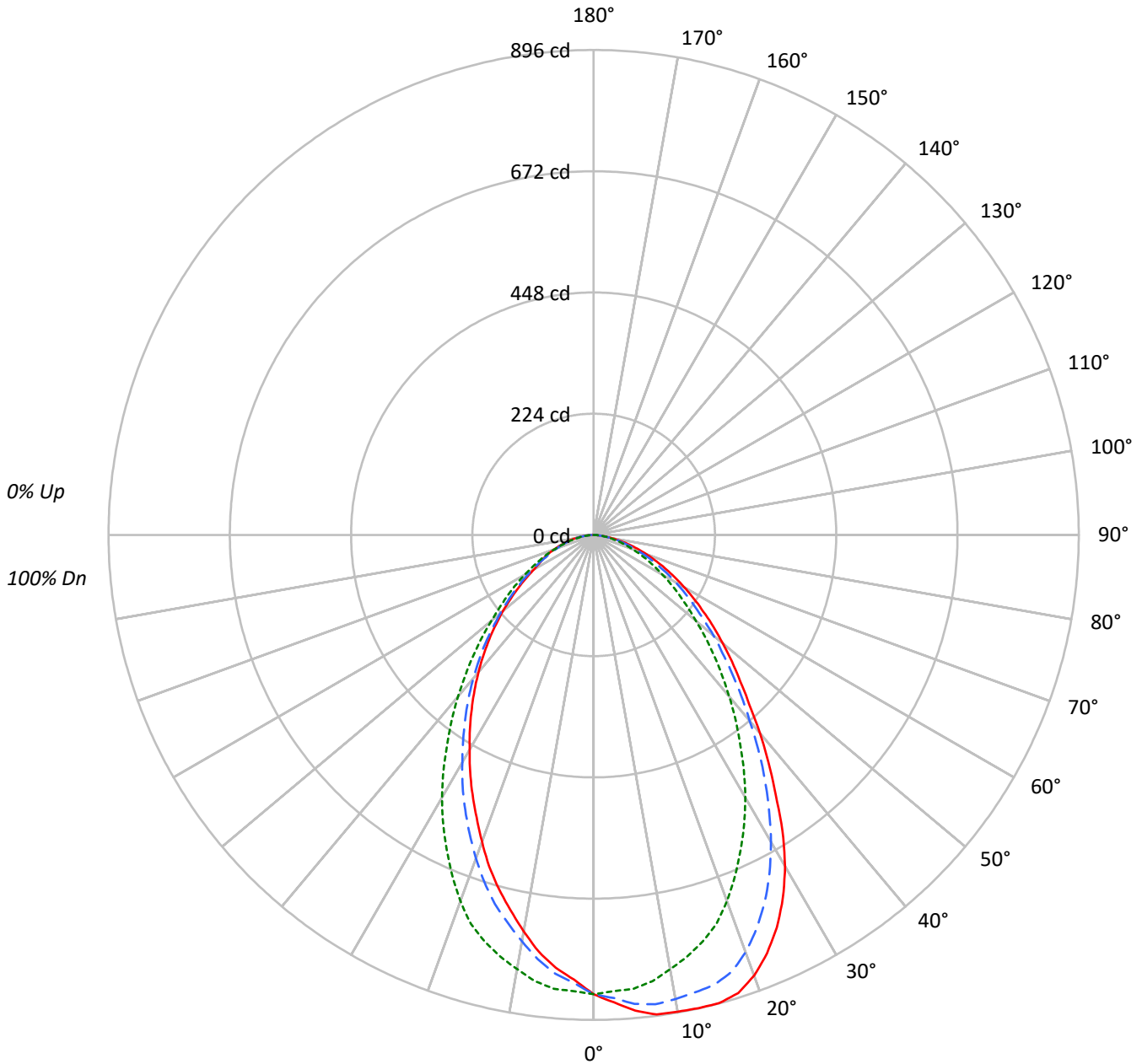
Lumens per Lamp: N/A
Luminaire Lumens: 1515.4 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | | | | | | | | | | |
| 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 | | | | | | | | |
| 1 | 111 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 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 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 59 | 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° | 104659 | 104659 | 104659 |
| 5° | 109268 | 104204 | 99388 |
| 10° | 112035 | 102040 | 93147 |
| 15° | 114352 | 99310 | 86438 |
| 20° | 113738 | 94482 | 79151 |
| 25° | 108973 | 87374 | 72022 |
| 30° | 100682 | 79774 | 65260 |
| 35° | 88238 | 70952 | 59086 |
| 40° | 76837 | 62684 | 53200 |
| 45° | 66879 | 54686 | 47534 |
| 50° | 59582 | 47129 | 41948 |
| 55° | 53246 | 41439 | 36278 |
| 60° | 47537 | 36214 | 31280 |
| 65° | 42232 | 31754 | 29741 |
| 70° | 37074 | 27336 | 27733 |
| 75° | 31406 | 23304 | 25687 |
| 80° | 24151 | 19889 | 23441 |
| 85° | 14152 | 15568 | 19813 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 79.5 | 5.2 |
| 10°-20° | 219.4 | 14.5 |
| 20°-30° | 299.8 | 19.8 |
| 30°-40° | 301.0 | 19.9 |
| 40°-50° | 249.0 | 16.4 |
| 50°-60° | 180.5 | 11.9 |
| 60°-70° | 114.3 | 7.5 |
| 70°-80° | 57.8 | 3.8 |
| 80°-90° | 14.2 | 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° | 598.7 | 39.5 |
| 0°-40° | 899.7 | 59.4 |
| 0°-60° | 1329.2 | 87.7 |
| 0°-90° | 1515.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1515.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 848 | 848 | 848 | 848 | 848 | |
| 5° | 882 | 870 | 842 | 814 | 803 | 85 |
| 15° | 896 | 861 | 778 | 706 | 677 | 252 |
| 25° | 801 | 748 | 642 | 561 | 529 | 366 |
| 35° | 586 | 551 | 471 | 413 | 392 | 367 |
| 45° | 383 | 362 | 314 | 282 | 272 | 298 |
| 55° | 248 | 226 | 193 | 176 | 169 | 223 |
| 65° | 145 | 129 | 109 | 98 | 102 | 144 |
| 75° | 66 | 57 | 49 | 51 | 54 | 70 |
| 85° | 10 | 10 | 11 | 13 | 14 | 14 |
| 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° | 848.5 | 848.5 | 848.5 | 848.5 | 848.5 | 848.5 | 848.5 | 848.5 | 848.5 |
| 2.5° | 864.6 | 861.6 | 856.6 | 850.6 | 843.7 | 835.6 | 828.6 | 824.7 | 822.6 |
| 5° | 882.5 | 878.6 | 869.6 | 856.6 | 841.6 | 826.6 | 813.6 | 805.7 | 802.7 |
| 7.5° | 893.6 | 887.5 | 874.6 | 854.6 | 831.6 | 809.7 | 790.7 | 779.8 | 776.7 |
| 10° | 894.5 | 887.5 | 870.6 | 843.7 | 814.7 | 785.7 | 762.7 | 746.8 | 743.7 |
| 12.5° | 895.5 | 886.5 | 865.6 | 833.6 | 797.7 | 761.8 | 733.8 | 714.8 | 709.8 |
| 15° | 895.5 | 886.5 | 860.6 | 822.6 | 777.7 | 736.8 | 705.8 | 683.9 | 676.9 |
| 17.5° | 887.5 | 877.5 | 846.6 | 802.7 | 753.7 | 707.8 | 671.9 | 648.9 | 642.0 |
| 20° | 866.5 | 855.6 | 820.7 | 772.7 | 719.8 | 671.9 | 635.9 | 611.9 | 603.0 |
| 22.5° | 836.6 | 823.6 | 786.7 | 734.7 | 681.9 | 633.0 | 598.1 | 573.0 | 565.1 |
| 25° | 800.7 | 787.7 | 747.8 | 696.9 | 642.0 | 596.0 | 561.1 | 538.1 | 529.2 |
| 27.5° | 756.8 | 742.8 | 703.8 | 652.9 | 602.0 | 556.1 | 524.2 | 503.1 | 494.1 |
| 30° | 706.9 | 691.9 | 654.9 | 606.0 | 560.1 | 516.2 | 485.2 | 468.2 | 458.2 |
| 32.5° | 648.9 | 635.9 | 603.0 | 559.1 | 516.2 | 474.2 | 448.2 | 433.3 | 425.4 |
| 35° | 586.0 | 579.1 | 551.1 | 513.1 | 471.2 | 436.3 | 413.3 | 399.3 | 392.4 |
| 37.5° | 530.1 | 523.1 | 499.1 | 467.2 | 430.2 | 398.3 | 379.4 | 367.4 | 361.5 |
| 40° | 477.2 | 471.2 | 448.2 | 421.3 | 389.3 | 361.5 | 345.4 | 336.4 | 330.4 |
| 42.5° | 425.4 | 422.3 | 403.3 | 378.4 | 350.4 | 326.4 | 313.5 | 306.5 | 301.5 |
| 45° | 383.4 | 379.4 | 361.5 | 337.5 | 313.5 | 293.5 | 282.5 | 277.5 | 272.5 |
| 47.5° | 346.4 | 341.4 | 322.5 | 301.5 | 279.6 | 261.5 | 251.6 | 246.6 | 244.6 |
| 50° | 310.5 | 305.5 | 288.6 | 267.5 | 245.6 | 232.6 | 224.7 | 219.7 | 218.6 |
| 52.5° | 278.6 | 273.6 | 254.6 | 234.6 | 217.6 | 206.7 | 199.7 | 194.7 | 192.7 |
| 55° | 247.6 | 241.6 | 225.6 | 206.7 | 192.7 | 182.7 | 175.7 | 170.7 | 168.7 |
| 57.5° | 219.7 | 213.6 | 199.7 | 181.7 | 168.7 | 159.7 | 153.7 | 148.7 | 146.8 |
| 60° | 192.7 | 187.7 | 174.8 | 157.7 | 146.8 | 138.7 | 132.8 | 128.8 | 126.8 |
| 62.5° | 167.7 | 163.7 | 150.8 | 135.8 | 126.8 | 119.8 | 114.8 | 110.9 | 112.8 |
| 65° | 144.7 | 140.8 | 128.8 | 115.9 | 108.8 | 101.9 | 97.8 | 97.8 | 101.9 |
| 67.5° | 122.8 | 118.8 | 108.8 | 97.8 | 91.9 | 86.9 | 83.9 | 86.9 | 89.8 |
| 70° | 102.8 | 98.8 | 89.8 | 80.8 | 75.8 | 71.9 | 71.9 | 74.9 | 76.9 |
| 72.5° | 83.9 | 79.8 | 72.9 | 65.9 | 61.9 | 58.9 | 61.9 | 63.9 | 65.9 |
| 75° | 65.9 | 62.9 | 56.8 | 52.0 | 48.9 | 47.9 | 50.9 | 52.9 | 53.9 |
| 77.5° | 48.9 | 47.0 | 43.0 | 38.9 | 37.0 | 38.0 | 40.9 | 42.0 | 43.0 |
| 80° | 34.0 | 33.0 | 29.9 | 28.0 | 28.0 | 29.0 | 30.9 | 31.9 | 33.0 |
| 82.5° | 20.9 | 20.9 | 19.0 | 18.0 | 19.0 | 20.9 | 21.9 | 23.0 | 23.0 |
| 85° | 10.0 | 11.0 | 10.0 | 10.0 | 11.0 | 13.0 | 13.0 | 14.0 | 14.0 |
| 87.5° | 3.0 | 3.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 6.0 |
| 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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