

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: P579862

Luminaire Tested: **HCC4S15D010SL-HM40525830-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579862
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: HCC4S15D010SL-HM40525830-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

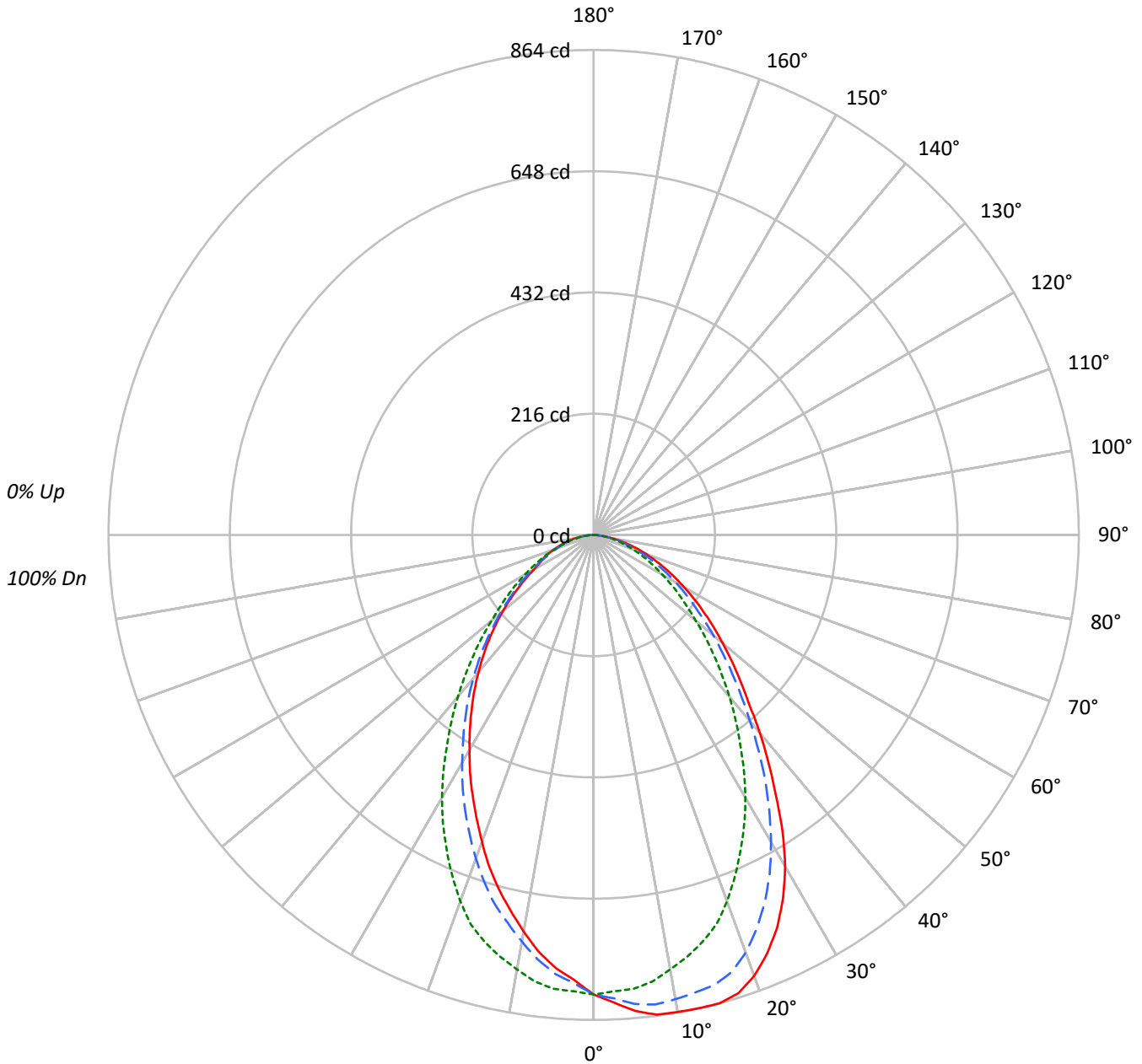
Lumens per Lamp: N/A
Luminaire Lumens: 1462.0 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | | | | | 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° | 100971 | 100971 | 100971 |
| 5° | 105418 | 100527 | 95884 |
| 10° | 108089 | 98433 | 89878 |
| 15° | 110317 | 95811 | 83386 |
| 20° | 109735 | 91161 | 76355 |
| 25° | 105135 | 84285 | 69477 |
| 30° | 97121 | 76953 | 62967 |
| 35° | 85121 | 68452 | 56993 |
| 40° | 74132 | 60494 | 51332 |
| 45° | 64524 | 52750 | 45877 |
| 50° | 57472 | 45478 | 40470 |
| 55° | 51375 | 39977 | 35010 |
| 60° | 45860 | 34931 | 30170 |
| 65° | 40744 | 30616 | 28661 |
| 70° | 35811 | 26399 | 26723 |
| 75° | 30310 | 22494 | 24782 |
| 80° | 23227 | 19108 | 22588 |
| 85° | 13728 | 15001 | 19106 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 76.7 | 5.2 |
| 10°-20° | 211.7 | 14.5 |
| 20°-30° | 289.2 | 19.8 |
| 30°-40° | 290.4 | 19.9 |
| 40°-50° | 240.2 | 16.4 |
| 50°-60° | 174.1 | 11.9 |
| 60°-70° | 110.3 | 7.5 |
| 70°-80° | 55.7 | 3.8 |
| 80°-90° | 13.6 | 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° | 577.6 | 39.5 |
| 0°-40° | 868.0 | 59.4 |
| 0°-60° | 1282.3 | 87.7 |
| 0°-90° | 1462.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1462.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 819 | 819 | 819 | 819 | 819 | |
| 5° | 851 | 839 | 812 | 785 | 774 | 82 |
| 15° | 864 | 830 | 750 | 681 | 653 | 243 |
| 25° | 772 | 721 | 619 | 541 | 510 | 353 |
| 35° | 565 | 532 | 455 | 399 | 378 | 354 |
| 45° | 370 | 349 | 302 | 272 | 263 | 288 |
| 55° | 239 | 218 | 186 | 170 | 163 | 215 |
| 65° | 140 | 124 | 105 | 94 | 98 | 139 |
| 75° | 64 | 55 | 47 | 49 | 52 | 68 |
| 85° | 10 | 10 | 11 | 12 | 14 | 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° | 818.6 | 818.6 | 818.6 | 818.6 | 818.6 | 818.6 | 818.6 | 818.6 | 818.6 |
| 2.5° | 834.1 | 831.1 | 826.4 | 820.6 | 813.9 | 806.1 | 799.4 | 795.6 | 793.6 |
| 5° | 851.4 | 847.5 | 838.9 | 826.4 | 811.9 | 797.5 | 785.0 | 777.3 | 774.4 |
| 7.5° | 862.1 | 856.3 | 843.8 | 824.4 | 802.3 | 781.1 | 762.8 | 752.2 | 749.3 |
| 10° | 863.0 | 856.3 | 839.9 | 813.9 | 785.9 | 758.0 | 735.9 | 720.4 | 717.6 |
| 12.5° | 863.9 | 855.3 | 835.0 | 804.2 | 769.5 | 734.8 | 707.9 | 689.6 | 684.8 |
| 15° | 863.9 | 855.3 | 830.2 | 793.6 | 750.3 | 710.9 | 680.9 | 659.8 | 653.0 |
| 17.5° | 856.3 | 846.6 | 816.7 | 774.4 | 727.2 | 682.9 | 648.2 | 626.0 | 619.3 |
| 20° | 836.0 | 825.5 | 791.7 | 745.5 | 694.5 | 648.2 | 613.5 | 590.4 | 581.7 |
| 22.5° | 807.2 | 794.6 | 758.9 | 708.9 | 657.9 | 610.7 | 576.9 | 552.8 | 545.2 |
| 25° | 772.5 | 760.0 | 721.4 | 672.3 | 619.3 | 575.0 | 541.3 | 519.2 | 510.5 |
| 27.5° | 730.1 | 716.5 | 679.0 | 629.9 | 580.8 | 536.4 | 505.6 | 485.4 | 476.7 |
| 30° | 681.9 | 667.4 | 631.8 | 584.6 | 540.3 | 498.0 | 468.1 | 451.7 | 442.1 |
| 32.5° | 626.0 | 613.5 | 581.7 | 539.4 | 498.0 | 457.5 | 432.4 | 418.0 | 410.3 |
| 35° | 565.3 | 558.6 | 531.7 | 495.0 | 454.6 | 420.9 | 398.7 | 385.2 | 378.5 |
| 37.5° | 511.4 | 504.7 | 481.5 | 450.7 | 415.1 | 384.3 | 366.0 | 354.4 | 348.6 |
| 40° | 460.4 | 454.6 | 432.4 | 406.5 | 375.7 | 348.6 | 333.3 | 324.6 | 318.8 |
| 42.5° | 410.3 | 407.4 | 389.1 | 365.1 | 338.0 | 314.9 | 302.4 | 295.7 | 290.8 |
| 45° | 369.9 | 366.0 | 348.6 | 325.5 | 302.4 | 283.1 | 272.5 | 267.8 | 263.0 |
| 47.5° | 334.2 | 329.4 | 311.1 | 290.8 | 269.7 | 252.3 | 242.7 | 237.9 | 235.9 |
| 50° | 299.5 | 294.7 | 278.3 | 258.1 | 237.0 | 224.4 | 216.7 | 211.9 | 210.9 |
| 52.5° | 268.7 | 263.9 | 245.6 | 226.4 | 210.0 | 199.3 | 192.6 | 187.8 | 185.9 |
| 55° | 238.9 | 233.1 | 217.6 | 199.3 | 185.9 | 176.2 | 169.5 | 164.8 | 162.8 |
| 57.5° | 211.9 | 206.1 | 192.6 | 175.3 | 162.8 | 154.1 | 148.4 | 143.5 | 141.6 |
| 60° | 185.9 | 181.1 | 168.5 | 152.1 | 141.6 | 133.8 | 128.1 | 124.3 | 122.3 |
| 62.5° | 161.8 | 157.9 | 145.4 | 131.0 | 122.3 | 115.6 | 110.7 | 106.9 | 108.8 |
| 65° | 139.6 | 135.8 | 124.3 | 111.8 | 104.9 | 98.2 | 94.4 | 94.4 | 98.2 |
| 67.5° | 118.5 | 114.6 | 104.9 | 94.4 | 88.6 | 83.8 | 81.0 | 83.8 | 86.6 |
| 70° | 99.3 | 95.4 | 86.6 | 78.0 | 73.2 | 69.4 | 69.4 | 72.2 | 74.1 |
| 72.5° | 81.0 | 77.1 | 70.3 | 63.6 | 59.7 | 56.8 | 59.7 | 61.6 | 63.6 |
| 75° | 63.6 | 60.7 | 54.9 | 50.0 | 47.2 | 46.3 | 49.1 | 51.1 | 52.0 |
| 77.5° | 47.2 | 45.3 | 41.4 | 37.5 | 35.6 | 36.6 | 39.5 | 40.5 | 41.4 |
| 80° | 32.7 | 31.8 | 28.9 | 26.9 | 26.9 | 28.0 | 29.9 | 30.8 | 31.8 |
| 82.5° | 20.2 | 20.2 | 18.3 | 17.3 | 18.3 | 20.2 | 21.1 | 22.2 | 22.2 |
| 85° | 9.7 | 10.6 | 9.7 | 9.7 | 10.6 | 12.5 | 12.5 | 13.5 | 13.5 |
| 87.5° | 2.8 | 2.8 | 3.9 | 3.9 | 4.8 | 4.8 | 4.8 | 4.8 | 5.8 |
| 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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