

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: P592636

Luminaire Tested: **HCC4W15D010MB-HM40525850-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592636
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: HCC4W15D010MB-HM40525850-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

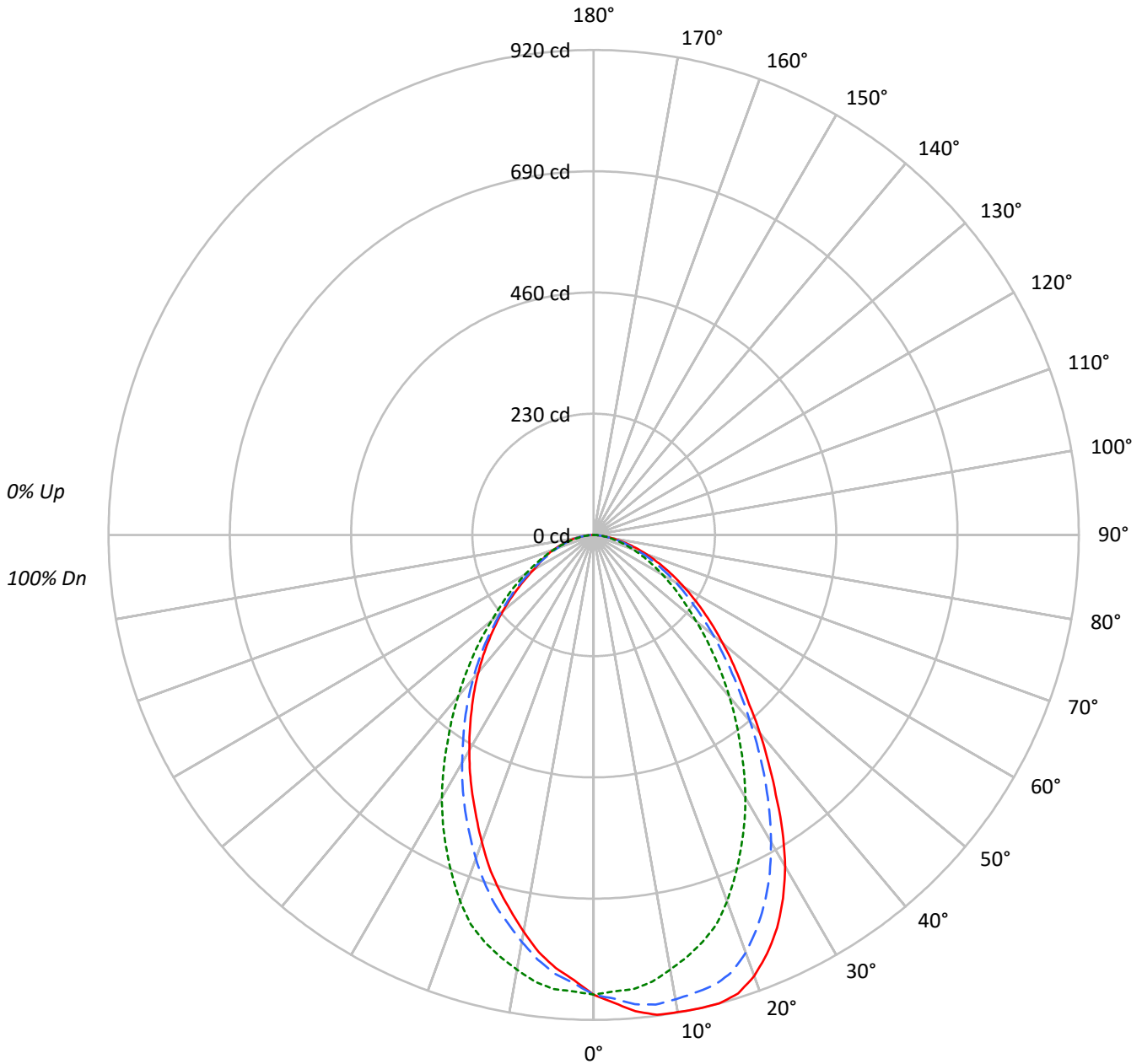
Lumens per Lamp: N/A
Luminaire Lumens: 1557.2 lumens
Efficiency: N/A
Efficacy: 111.2 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | | | | | 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° | 107570 | 107570 | 107570 |
| 5° | 112289 | 107077 | 102124 |
| 10° | 115141 | 104858 | 95727 |
| 15° | 117519 | 102055 | 88826 |
| 20° | 116889 | 97094 | 81343 |
| 25° | 111967 | 89783 | 73996 |
| 30° | 103445 | 81967 | 67069 |
| 35° | 90678 | 72909 | 60713 |
| 40° | 78962 | 64423 | 54681 |
| 45° | 68728 | 56186 | 48842 |
| 50° | 61213 | 48433 | 43118 |
| 55° | 54729 | 42579 | 37289 |
| 60° | 48845 | 37201 | 32144 |
| 65° | 43400 | 32659 | 30529 |
| 70° | 38083 | 28130 | 28490 |
| 75° | 32312 | 23972 | 26402 |
| 80° | 24790 | 20457 | 24080 |
| 85° | 14435 | 15992 | 20238 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 81.7 | 5.2 |
| 10°-20° | 225.5 | 14.5 |
| 20°-30° | 308.0 | 19.8 |
| 30°-40° | 309.3 | 19.9 |
| 40°-50° | 255.9 | 16.4 |
| 50°-60° | 185.4 | 11.9 |
| 60°-70° | 117.5 | 7.5 |
| 70°-80° | 59.4 | 3.8 |
| 80°-90° | 14.5 | 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° | 615.3 | 39.5 |
| 0°-40° | 924.6 | 59.4 |
| 0°-60° | 1365.9 | 87.7 |
| 0°-90° | 1557.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1557.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 872 | 872 | 872 | 872 | 872 | |
| 5° | 907 | 894 | 865 | 836 | 825 | 87 |
| 15° | 920 | 884 | 799 | 725 | 696 | 259 |
| 25° | 823 | 768 | 660 | 577 | 544 | 376 |
| 35° | 602 | 566 | 484 | 425 | 403 | 377 |
| 45° | 394 | 371 | 322 | 290 | 280 | 306 |
| 55° | 254 | 232 | 198 | 181 | 173 | 229 |
| 65° | 149 | 132 | 112 | 100 | 105 | 148 |
| 75° | 68 | 58 | 50 | 52 | 55 | 72 |
| 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° | 872.1 | 872.1 | 872.1 | 872.1 | 872.1 | 872.1 | 872.1 | 872.1 | 872.1 |
| 2.5° | 888.5 | 885.4 | 880.3 | 874.1 | 866.8 | 858.7 | 851.5 | 847.4 | 845.4 |
| 5° | 906.9 | 902.8 | 893.6 | 880.3 | 864.8 | 849.5 | 836.1 | 828.0 | 824.8 |
| 7.5° | 918.2 | 912.0 | 898.7 | 878.2 | 854.6 | 832.1 | 812.5 | 801.2 | 798.2 |
| 10° | 919.3 | 912.0 | 894.6 | 866.8 | 837.2 | 807.4 | 783.8 | 767.4 | 764.3 |
| 12.5° | 920.3 | 911.0 | 889.5 | 856.6 | 819.7 | 782.8 | 754.1 | 734.5 | 729.4 |
| 15° | 920.3 | 911.0 | 884.4 | 845.4 | 799.2 | 757.1 | 725.3 | 702.8 | 695.6 |
| 17.5° | 912.0 | 901.8 | 870.0 | 824.8 | 774.5 | 727.3 | 690.4 | 666.9 | 659.7 |
| 20° | 890.5 | 879.2 | 843.3 | 794.1 | 739.7 | 690.4 | 653.5 | 628.9 | 619.7 |
| 22.5° | 859.7 | 846.4 | 808.4 | 755.1 | 700.7 | 650.5 | 614.5 | 588.9 | 580.7 |
| 25° | 822.7 | 809.4 | 768.4 | 716.1 | 659.7 | 612.5 | 576.6 | 552.9 | 543.7 |
| 27.5° | 777.6 | 763.3 | 723.2 | 670.9 | 618.6 | 571.5 | 538.6 | 517.1 | 507.8 |
| 30° | 726.3 | 711.0 | 673.0 | 622.7 | 575.5 | 530.4 | 498.6 | 481.2 | 470.9 |
| 32.5° | 666.9 | 653.5 | 619.7 | 574.5 | 530.4 | 487.3 | 460.6 | 445.2 | 437.1 |
| 35° | 602.2 | 595.0 | 566.3 | 527.3 | 484.2 | 448.3 | 424.8 | 410.3 | 403.2 |
| 37.5° | 544.7 | 537.6 | 512.9 | 480.2 | 442.2 | 409.3 | 389.9 | 377.5 | 371.3 |
| 40° | 490.4 | 484.2 | 460.6 | 433.0 | 400.1 | 371.3 | 355.0 | 345.8 | 339.6 |
| 42.5° | 437.1 | 434.0 | 414.4 | 388.9 | 360.1 | 335.5 | 322.1 | 314.9 | 309.8 |
| 45° | 394.0 | 389.9 | 371.3 | 346.8 | 322.1 | 301.6 | 290.4 | 285.2 | 280.0 |
| 47.5° | 356.0 | 350.9 | 331.3 | 309.8 | 287.2 | 268.8 | 258.6 | 253.4 | 251.4 |
| 50° | 319.0 | 313.9 | 296.5 | 274.9 | 252.4 | 239.0 | 230.8 | 225.7 | 224.7 |
| 52.5° | 286.2 | 281.1 | 261.6 | 241.0 | 223.6 | 212.4 | 205.2 | 200.0 | 198.0 |
| 55° | 254.5 | 248.3 | 231.8 | 212.4 | 198.0 | 187.7 | 180.6 | 175.4 | 173.4 |
| 57.5° | 225.7 | 219.6 | 205.2 | 186.7 | 173.4 | 164.2 | 158.0 | 152.8 | 150.8 |
| 60° | 198.0 | 192.8 | 179.5 | 162.1 | 150.8 | 142.6 | 136.4 | 132.3 | 130.3 |
| 62.5° | 172.4 | 168.3 | 154.9 | 139.5 | 130.3 | 123.1 | 118.0 | 113.9 | 116.0 |
| 65° | 148.7 | 144.6 | 132.3 | 119.0 | 111.9 | 104.6 | 100.5 | 100.5 | 104.6 |
| 67.5° | 126.2 | 122.1 | 111.9 | 100.5 | 94.4 | 89.3 | 86.2 | 89.3 | 92.3 |
| 70° | 105.6 | 101.5 | 92.3 | 83.1 | 78.0 | 73.9 | 73.9 | 77.0 | 79.0 |
| 72.5° | 86.2 | 82.1 | 74.9 | 67.8 | 63.6 | 60.5 | 63.6 | 65.6 | 67.8 |
| 75° | 67.8 | 64.6 | 58.4 | 53.3 | 50.3 | 49.2 | 52.3 | 54.3 | 55.4 |
| 77.5° | 50.3 | 48.2 | 44.1 | 40.0 | 38.0 | 39.0 | 42.1 | 43.1 | 44.1 |
| 80° | 34.9 | 33.9 | 30.8 | 28.8 | 28.8 | 29.8 | 31.8 | 32.9 | 33.9 |
| 82.5° | 21.5 | 21.5 | 19.4 | 18.4 | 19.4 | 21.5 | 22.6 | 23.6 | 23.6 |
| 85° | 10.2 | 11.3 | 10.2 | 10.2 | 11.3 | 13.3 | 13.3 | 14.3 | 14.3 |
| 87.5° | 3.1 | 3.1 | 4.1 | 4.1 | 5.1 | 5.1 | 5.1 | 5.1 | 6.1 |
| 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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