

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: P581010

Luminaire Tested: **HCC4S05D010MW-HM40525830-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581010
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: HCC4S05D010MW-HM40525830-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

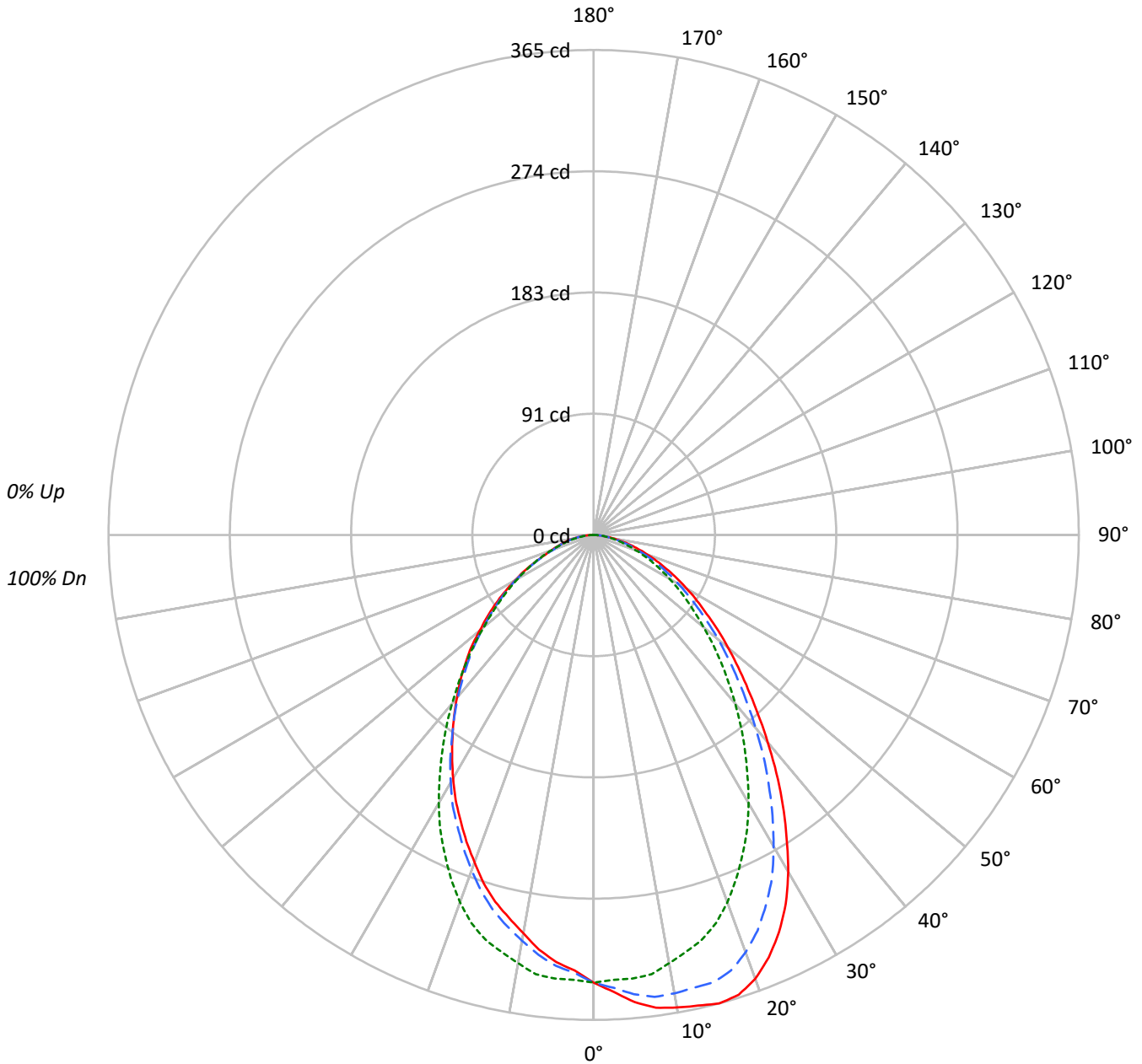
Lumens per Lamp: N/A
Luminaire Lumens: 653.4 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 6
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 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | | | | |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | | | | |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 60 | 58 | | | | | | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 46 | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 41 | | | | | | | | |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | | | | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | | | | |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 41555 | 41555 | 41555 |
| 5° | 43695 | 41503 | 39956 |
| 10° | 45240 | 40994 | 38126 |
| 15° | 46609 | 40263 | 36509 |
| 20° | 46664 | 38604 | 34404 |
| 25° | 44898 | 36079 | 32255 |
| 30° | 41703 | 33200 | 30123 |
| 35° | 37373 | 29890 | 27872 |
| 40° | 32799 | 26664 | 25763 |
| 45° | 28660 | 23619 | 23758 |
| 50° | 25311 | 20667 | 21415 |
| 55° | 22300 | 18322 | 19268 |
| 60° | 19957 | 16208 | 16849 |
| 65° | 17658 | 14272 | 14272 |
| 70° | 15435 | 12154 | 12154 |
| 75° | 13201 | 10342 | 11533 |
| 80° | 10513 | 9163 | 10513 |
| 85° | 6793 | 8067 | 9765 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 31.9 | 4.9 |
| 10°-20° | 89.9 | 13.8 |
| 20°-30° | 125.9 | 19.3 |
| 30°-40° | 129.7 | 19.9 |
| 40°-50° | 110.5 | 16.9 |
| 50°-60° | 81.8 | 12.5 |
| 60°-70° | 51.4 | 7.9 |
| 70°-80° | 25.5 | 3.9 |
| 80°-90° | 6.7 | 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° | 247.7 | 37.9 |
| 0°-40° | 377.5 | 57.8 |
| 0°-60° | 569.8 | 87.2 |
| 0°-90° | 653.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 653.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 337 | 337 | 337 | 337 | 337 | |
| 5° | 353 | 347 | 335 | 326 | 323 | 34 |
| 15° | 365 | 349 | 315 | 292 | 286 | 103 |
| 25° | 330 | 307 | 265 | 242 | 237 | 151 |
| 35° | 248 | 230 | 198 | 186 | 185 | 155 |
| 45° | 164 | 153 | 135 | 133 | 136 | 128 |
| 55° | 104 | 96 | 85 | 87 | 90 | 94 |
| 65° | 60 | 54 | 49 | 48 | 49 | 60 |
| 75° | 28 | 25 | 22 | 23 | 24 | 30 |
| 85° | 5 | 5 | 6 | 6 | 7 | 6 |
| 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° | 336.9 | 336.9 | 336.9 | 336.9 | 336.9 | 336.9 | 336.9 | 336.9 | 336.9 |
| 2.5° | 344.2 | 343.0 | 341.2 | 338.2 | 335.2 | 332.6 | 329.9 | 328.7 | 328.2 |
| 5° | 352.9 | 350.3 | 346.9 | 341.2 | 335.2 | 329.9 | 325.6 | 323.5 | 322.7 |
| 7.5° | 359.0 | 356.4 | 350.7 | 342.1 | 333.5 | 325.6 | 318.7 | 315.8 | 314.8 |
| 10° | 361.2 | 358.1 | 350.3 | 338.7 | 327.3 | 317.9 | 310.1 | 306.2 | 304.4 |
| 12.5° | 362.9 | 359.0 | 349.0 | 335.2 | 321.3 | 309.6 | 301.5 | 296.2 | 295.0 |
| 15° | 365.0 | 360.7 | 348.6 | 331.8 | 315.3 | 301.5 | 292.4 | 287.6 | 285.9 |
| 17.5° | 362.9 | 358.1 | 343.8 | 324.8 | 306.2 | 291.0 | 281.1 | 276.8 | 275.0 |
| 20° | 355.5 | 350.3 | 334.3 | 313.9 | 294.1 | 278.5 | 268.5 | 264.2 | 262.1 |
| 22.5° | 344.2 | 338.7 | 322.2 | 300.5 | 280.2 | 265.1 | 255.6 | 251.3 | 249.9 |
| 25° | 329.9 | 324.4 | 307.0 | 285.0 | 265.1 | 250.4 | 242.2 | 238.4 | 237.0 |
| 27.5° | 313.1 | 307.5 | 290.7 | 269.0 | 249.9 | 236.1 | 229.6 | 225.8 | 224.8 |
| 30° | 292.8 | 287.2 | 270.7 | 250.8 | 233.1 | 220.1 | 215.0 | 211.9 | 211.5 |
| 32.5° | 270.2 | 265.6 | 250.4 | 232.2 | 215.4 | 204.5 | 200.7 | 198.5 | 198.1 |
| 35° | 248.2 | 243.0 | 229.6 | 213.3 | 198.5 | 189.0 | 185.6 | 185.1 | 185.1 |
| 37.5° | 225.8 | 220.5 | 209.7 | 194.7 | 182.1 | 173.4 | 172.2 | 172.5 | 172.5 |
| 40° | 203.7 | 199.0 | 189.4 | 176.8 | 165.6 | 159.1 | 158.7 | 159.6 | 160.0 |
| 42.5° | 183.0 | 179.0 | 170.4 | 159.6 | 150.0 | 144.8 | 145.3 | 147.1 | 148.3 |
| 45° | 164.3 | 160.8 | 153.1 | 143.6 | 135.4 | 131.4 | 132.8 | 135.0 | 136.2 |
| 47.5° | 147.4 | 144.5 | 137.1 | 128.5 | 121.6 | 118.9 | 120.7 | 123.3 | 125.0 |
| 50° | 131.9 | 129.3 | 122.4 | 113.3 | 107.7 | 106.0 | 108.2 | 110.7 | 111.6 |
| 52.5° | 118.0 | 115.4 | 108.2 | 100.3 | 96.0 | 95.1 | 97.3 | 99.4 | 100.8 |
| 55° | 103.7 | 101.6 | 95.6 | 88.6 | 85.2 | 84.8 | 86.9 | 88.6 | 89.6 |
| 57.5° | 92.2 | 90.0 | 84.3 | 78.3 | 75.3 | 74.8 | 77.0 | 78.3 | 78.7 |
| 60° | 80.9 | 78.7 | 73.5 | 67.9 | 65.7 | 65.7 | 67.1 | 67.9 | 68.3 |
| 62.5° | 70.5 | 68.3 | 63.6 | 58.8 | 57.1 | 57.1 | 57.1 | 57.5 | 58.8 |
| 65° | 60.5 | 58.8 | 54.5 | 50.2 | 48.9 | 48.0 | 48.0 | 48.0 | 48.9 |
| 67.5° | 51.4 | 49.7 | 46.3 | 42.3 | 41.1 | 39.8 | 39.4 | 40.2 | 40.2 |
| 70° | 42.8 | 41.5 | 38.0 | 35.1 | 33.7 | 32.5 | 32.0 | 33.7 | 33.7 |
| 72.5° | 35.1 | 33.7 | 31.6 | 28.5 | 27.2 | 26.8 | 27.7 | 28.5 | 28.9 |
| 75° | 27.7 | 26.3 | 24.6 | 22.9 | 21.7 | 22.0 | 23.4 | 23.8 | 24.2 |
| 77.5° | 20.8 | 20.3 | 18.6 | 17.3 | 17.3 | 17.7 | 18.6 | 19.4 | 19.9 |
| 80° | 14.8 | 14.3 | 13.4 | 12.6 | 12.9 | 13.8 | 14.3 | 15.1 | 14.8 |
| 82.5° | 9.1 | 9.1 | 8.6 | 8.6 | 9.1 | 10.0 | 10.3 | 10.8 | 11.2 |
| 85° | 4.8 | 4.8 | 4.8 | 5.2 | 5.7 | 6.0 | 6.5 | 6.9 | 6.9 |
| 87.5° | 1.2 | 1.7 | 1.7 | 2.2 | 2.6 | 2.6 | 3.1 | 3.1 | 3.1 |
| 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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