

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: P581496

Luminaire Tested: **HCC4S07D010MW-HM40525927-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581496
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: HCC4S07D010MW-HM40525927-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

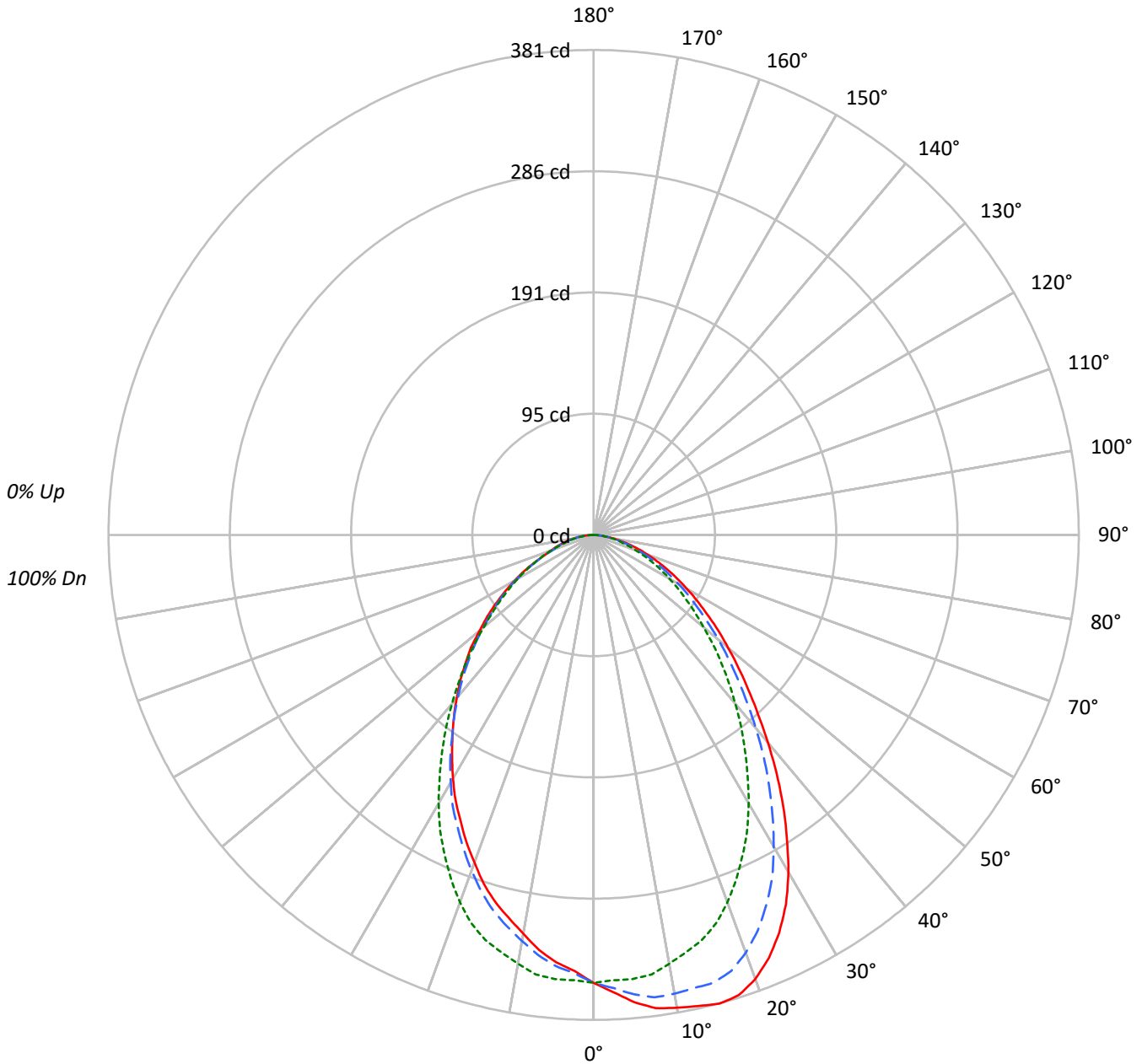
Lumens per Lamp: N/A
Luminaire Lumens: 682.5 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 8
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° | 43405 | 43405 | 43405 |
| 5° | 45639 | 43361 | 41726 |
| 10° | 47244 | 42835 | 39842 |
| 15° | 48691 | 42051 | 38130 |
| 20° | 48737 | 40310 | 35939 |
| 25° | 46913 | 37699 | 33684 |
| 30° | 43568 | 34681 | 31462 |
| 35° | 39060 | 31215 | 29107 |
| 40° | 34264 | 27856 | 26922 |
| 45° | 29951 | 24683 | 24805 |
| 50° | 26443 | 21569 | 22355 |
| 55° | 23333 | 19139 | 20107 |
| 60° | 20821 | 16923 | 17614 |
| 65° | 18475 | 14914 | 14914 |
| 70° | 16121 | 12731 | 12731 |
| 75° | 13773 | 10723 | 12057 |
| 80° | 10939 | 9589 | 10939 |
| 85° | 7076 | 8350 | 10331 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 33.3 | 4.9 |
| 10°-20° | 93.9 | 13.8 |
| 20°-30° | 131.6 | 19.3 |
| 30°-40° | 135.5 | 19.9 |
| 40°-50° | 115.4 | 16.9 |
| 50°-60° | 85.5 | 12.5 |
| 60°-70° | 53.7 | 7.9 |
| 70°-80° | 26.7 | 3.9 |
| 80°-90° | 7.0 | 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° | 258.8 | 37.9 |
| 0°-40° | 394.3 | 57.8 |
| 0°-60° | 595.2 | 87.2 |
| 0°-90° | 682.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 682.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 352 | 352 | 352 | 352 | 352 | |
| 5° | 369 | 362 | 350 | 340 | 337 | 35 |
| 15° | 381 | 364 | 329 | 305 | 299 | 107 |
| 25° | 345 | 321 | 277 | 253 | 248 | 158 |
| 35° | 259 | 240 | 207 | 194 | 193 | 162 |
| 45° | 172 | 160 | 142 | 139 | 142 | 133 |
| 55° | 108 | 100 | 89 | 91 | 94 | 98 |
| 65° | 63 | 57 | 51 | 50 | 51 | 63 |
| 75° | 29 | 26 | 22 | 24 | 25 | 31 |
| 85° | 5 | 5 | 6 | 7 | 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° | 351.9 | 351.9 | 351.9 | 351.9 | 351.9 | 351.9 | 351.9 | 351.9 | 351.9 |
| 2.5° | 359.6 | 358.2 | 356.4 | 353.2 | 350.2 | 347.4 | 344.7 | 343.3 | 342.9 |
| 5° | 368.6 | 366.0 | 362.3 | 356.4 | 350.2 | 344.7 | 340.1 | 337.9 | 337.0 |
| 7.5° | 375.0 | 372.2 | 366.4 | 357.3 | 348.3 | 340.1 | 333.0 | 329.8 | 328.9 |
| 10° | 377.2 | 374.1 | 366.0 | 353.7 | 342.0 | 332.1 | 323.9 | 319.9 | 318.1 |
| 12.5° | 379.1 | 375.0 | 364.6 | 350.2 | 335.7 | 323.4 | 314.9 | 309.4 | 308.1 |
| 15° | 381.3 | 376.8 | 364.2 | 346.5 | 329.3 | 314.9 | 305.4 | 300.4 | 298.6 |
| 17.5° | 379.1 | 374.1 | 359.2 | 339.2 | 319.9 | 304.1 | 293.6 | 289.2 | 287.3 |
| 20° | 371.3 | 366.0 | 349.3 | 328.0 | 307.1 | 291.0 | 280.5 | 276.1 | 273.8 |
| 22.5° | 359.6 | 353.7 | 336.6 | 314.0 | 292.7 | 277.0 | 267.0 | 262.4 | 261.2 |
| 25° | 344.7 | 338.8 | 320.8 | 297.7 | 277.0 | 261.6 | 253.0 | 248.9 | 247.5 |
| 27.5° | 327.1 | 321.3 | 303.6 | 281.0 | 261.2 | 246.7 | 239.9 | 235.8 | 234.9 |
| 30° | 305.9 | 300.0 | 282.8 | 262.0 | 243.5 | 230.0 | 224.5 | 221.3 | 220.9 |
| 32.5° | 282.3 | 277.3 | 261.6 | 242.6 | 225.0 | 213.7 | 209.6 | 207.3 | 206.9 |
| 35° | 259.4 | 253.9 | 239.9 | 222.7 | 207.3 | 197.4 | 193.8 | 193.3 | 193.3 |
| 37.5° | 235.8 | 230.4 | 219.1 | 203.2 | 190.2 | 181.2 | 179.8 | 180.3 | 180.3 |
| 40° | 212.8 | 207.8 | 197.9 | 184.8 | 173.0 | 166.3 | 165.8 | 166.7 | 167.2 |
| 42.5° | 191.1 | 187.1 | 178.0 | 166.7 | 156.8 | 151.4 | 151.8 | 153.6 | 155.0 |
| 45° | 171.7 | 168.1 | 159.9 | 150.0 | 141.5 | 137.4 | 138.7 | 141.0 | 142.2 |
| 47.5° | 154.1 | 150.9 | 143.2 | 134.2 | 127.0 | 124.3 | 126.1 | 128.7 | 130.5 |
| 50° | 137.8 | 135.1 | 127.8 | 118.4 | 112.4 | 110.7 | 112.9 | 115.6 | 116.5 |
| 52.5° | 123.4 | 120.6 | 112.9 | 104.8 | 100.3 | 99.3 | 101.6 | 103.9 | 105.3 |
| 55° | 108.5 | 106.2 | 99.8 | 92.6 | 89.0 | 88.5 | 90.8 | 92.6 | 93.5 |
| 57.5° | 96.3 | 94.0 | 88.1 | 81.8 | 78.6 | 78.2 | 80.5 | 81.8 | 82.3 |
| 60° | 84.4 | 82.3 | 76.8 | 70.9 | 68.6 | 68.6 | 70.0 | 70.9 | 71.4 |
| 62.5° | 73.6 | 71.4 | 66.5 | 61.5 | 59.6 | 59.6 | 59.6 | 60.1 | 61.5 |
| 65° | 63.3 | 61.5 | 56.9 | 52.3 | 51.1 | 50.2 | 50.2 | 50.2 | 51.1 |
| 67.5° | 53.7 | 52.0 | 48.4 | 44.3 | 42.9 | 41.5 | 41.1 | 42.0 | 42.0 |
| 70° | 44.7 | 43.4 | 39.7 | 36.6 | 35.3 | 33.9 | 33.5 | 35.3 | 35.3 |
| 72.5° | 36.6 | 35.3 | 33.0 | 29.8 | 28.4 | 28.0 | 28.9 | 29.8 | 30.3 |
| 75° | 28.9 | 27.5 | 25.7 | 23.9 | 22.5 | 23.0 | 24.4 | 24.8 | 25.3 |
| 77.5° | 21.7 | 21.3 | 19.5 | 18.1 | 18.1 | 18.5 | 19.5 | 20.4 | 20.8 |
| 80° | 15.4 | 14.9 | 14.0 | 13.1 | 13.5 | 14.5 | 14.9 | 15.8 | 15.4 |
| 82.5° | 9.4 | 9.4 | 9.0 | 9.0 | 9.4 | 10.4 | 10.8 | 11.3 | 11.7 |
| 85° | 5.0 | 5.0 | 5.0 | 5.5 | 5.9 | 6.4 | 6.8 | 7.3 | 7.3 |
| 87.5° | 1.4 | 1.8 | 1.8 | 2.3 | 2.7 | 2.7 | 3.2 | 3.2 | 3.2 |
| 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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