

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: P581097

Luminaire Tested: **HCC4W05D010MW-HM40525935-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581097
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W05D010MW-HM40525935-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

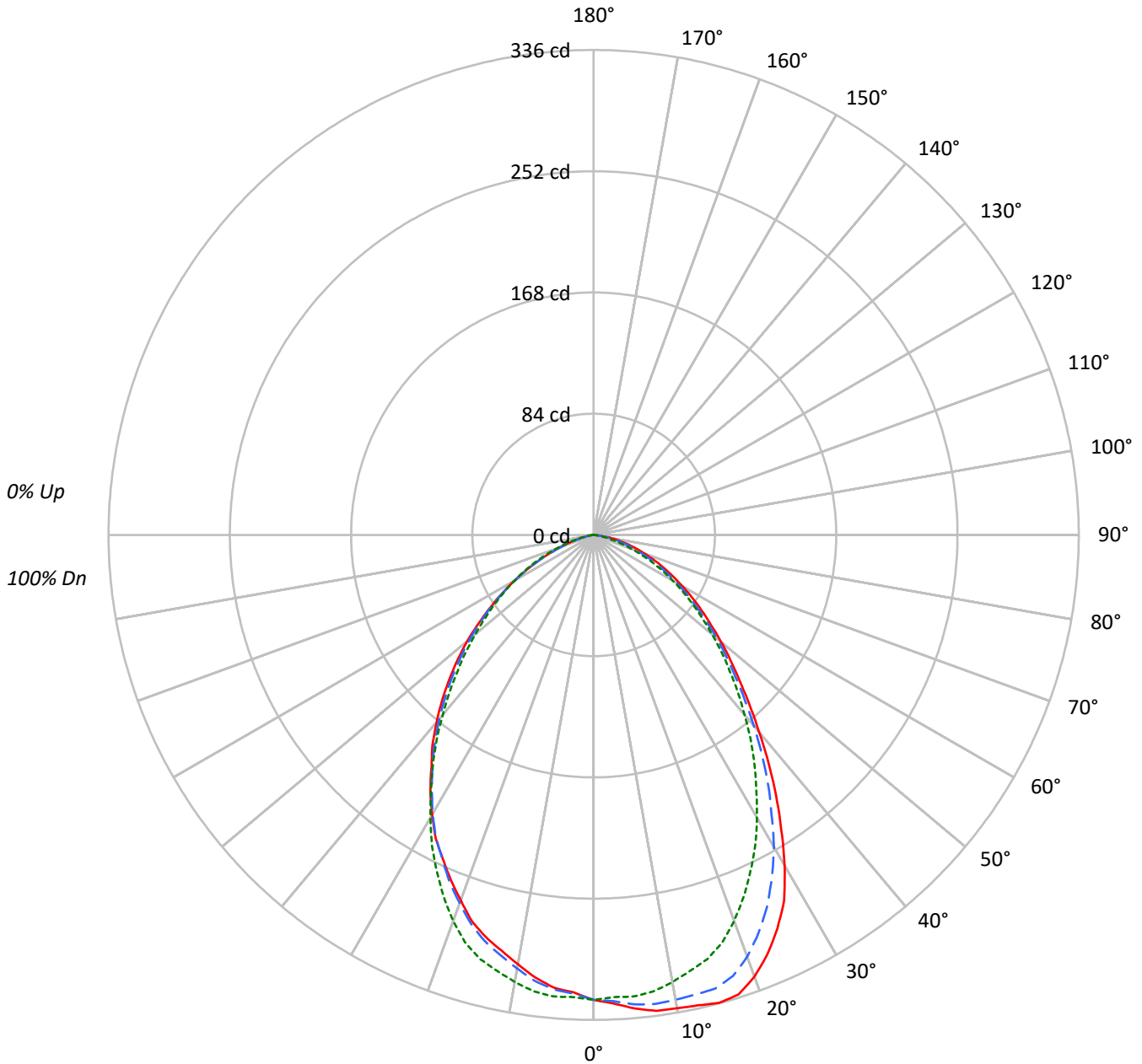
Lumens per Lamp: N/A
Luminaire Lumens: 614.1 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | | | | | | | | | | |
| 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 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | | | | | | |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 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 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 58 | 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° | 39730 | 39730 | 39730 |
| 5° | 40785 | 39745 | 39002 |
| 10° | 41708 | 39391 | 37838 |
| 15° | 42868 | 38845 | 36841 |
| 20° | 42752 | 37344 | 35349 |
| 25° | 40952 | 34977 | 33657 |
| 30° | 37686 | 32203 | 31861 |
| 35° | 33142 | 29227 | 29468 |
| 40° | 28677 | 26149 | 27244 |
| 45° | 24927 | 23235 | 24648 |
| 50° | 22106 | 20494 | 21895 |
| 55° | 19634 | 17978 | 18774 |
| 60° | 17466 | 15591 | 15591 |
| 65° | 15527 | 12959 | 12171 |
| 70° | 13416 | 9809 | 8691 |
| 75° | 11247 | 6481 | 5338 |
| 80° | 8524 | 3125 | 2841 |
| 85° | 4529 | 1132 | 1132 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 30.5 | 5.0 |
| 10°-20° | 86.5 | 14.1 |
| 20°-30° | 122.0 | 19.9 |
| 30°-40° | 126.0 | 20.5 |
| 40°-50° | 106.8 | 17.4 |
| 50°-60° | 77.7 | 12.7 |
| 60°-70° | 45.4 | 7.4 |
| 70°-80° | 16.9 | 2.7 |
| 80°-90° | 2.2 | 0.4 |
| 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° | 239.0 | 38.9 |
| 0°-40° | 365.0 | 59.4 |
| 0°-60° | 549.5 | 89.5 |
| 0°-90° | 614.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 614.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 322 | 322 | 322 | 322 | 322 | |
| 5° | 329 | 326 | 321 | 316 | 315 | 32 |
| 15° | 336 | 325 | 304 | 291 | 288 | 94 |
| 25° | 301 | 284 | 257 | 248 | 247 | 138 |
| 35° | 220 | 210 | 194 | 194 | 196 | 137 |
| 45° | 143 | 139 | 133 | 138 | 141 | 111 |
| 55° | 91 | 87 | 84 | 86 | 87 | 82 |
| 65° | 53 | 49 | 44 | 42 | 42 | 53 |
| 75° | 24 | 20 | 14 | 11 | 11 | 25 |
| 85° | 3 | 2 | 1 | 1 | 1 | 4 |
| 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° | 322.1 | 322.1 | 322.1 | 322.1 | 322.1 | 322.1 | 322.1 | 322.1 | 322.1 |
| 2.5° | 325.0 | 324.2 | 323.4 | 322.1 | 320.5 | 319.4 | 318.1 | 317.3 | 317.3 |
| 5° | 329.4 | 328.1 | 326.5 | 323.7 | 321.0 | 318.6 | 316.1 | 315.0 | 315.0 |
| 7.5° | 332.6 | 331.0 | 327.8 | 323.7 | 318.9 | 315.3 | 311.8 | 310.2 | 309.3 |
| 10° | 333.0 | 331.3 | 327.0 | 321.0 | 314.5 | 308.9 | 305.0 | 302.6 | 302.1 |
| 12.5° | 333.8 | 331.8 | 326.2 | 317.8 | 309.3 | 302.6 | 298.2 | 295.8 | 295.0 |
| 15° | 335.7 | 333.0 | 325.4 | 314.5 | 304.2 | 296.1 | 291.4 | 289.3 | 288.5 |
| 17.5° | 333.8 | 329.7 | 320.5 | 307.7 | 296.1 | 287.4 | 282.5 | 280.6 | 280.6 |
| 20° | 325.7 | 321.8 | 311.0 | 296.9 | 284.5 | 276.1 | 271.4 | 270.1 | 269.3 |
| 22.5° | 314.5 | 310.2 | 298.5 | 283.8 | 271.4 | 263.8 | 260.5 | 258.9 | 258.6 |
| 25° | 300.9 | 296.6 | 284.1 | 268.9 | 257.0 | 250.5 | 247.8 | 247.8 | 247.3 |
| 27.5° | 285.7 | 280.1 | 267.3 | 254.1 | 242.5 | 237.7 | 236.5 | 236.5 | 236.9 |
| 30° | 264.6 | 260.5 | 249.7 | 236.9 | 226.1 | 222.9 | 222.9 | 223.7 | 223.7 |
| 32.5° | 241.8 | 238.9 | 229.3 | 218.1 | 209.7 | 207.7 | 208.5 | 210.1 | 210.5 |
| 35° | 220.1 | 216.9 | 210.5 | 200.4 | 194.1 | 193.3 | 194.5 | 195.7 | 195.7 |
| 37.5° | 198.9 | 195.7 | 191.2 | 183.3 | 178.5 | 178.9 | 180.5 | 182.1 | 183.3 |
| 40° | 178.1 | 175.7 | 172.5 | 166.1 | 162.4 | 164.1 | 166.1 | 167.6 | 169.2 |
| 42.5° | 159.7 | 157.3 | 154.9 | 150.0 | 147.7 | 149.7 | 152.1 | 153.7 | 155.3 |
| 45° | 142.9 | 141.3 | 138.8 | 134.8 | 133.2 | 135.3 | 138.0 | 139.7 | 141.3 |
| 47.5° | 128.5 | 127.7 | 124.5 | 120.9 | 120.1 | 122.0 | 124.5 | 126.4 | 127.7 |
| 50° | 115.2 | 114.1 | 111.2 | 107.6 | 106.8 | 110.1 | 111.7 | 112.8 | 114.1 |
| 52.5° | 102.5 | 101.2 | 98.1 | 94.9 | 94.9 | 97.3 | 98.4 | 98.9 | 100.0 |
| 55° | 91.3 | 90.0 | 86.8 | 84.4 | 83.6 | 85.7 | 86.5 | 86.5 | 87.3 |
| 57.5° | 80.8 | 79.7 | 76.4 | 73.7 | 73.2 | 74.5 | 74.5 | 74.5 | 74.8 |
| 60° | 70.8 | 69.6 | 66.4 | 64.0 | 63.2 | 63.7 | 63.2 | 62.9 | 63.2 |
| 62.5° | 61.6 | 60.4 | 57.2 | 54.5 | 53.6 | 53.6 | 52.4 | 52.0 | 52.4 |
| 65° | 53.2 | 51.2 | 48.8 | 46.0 | 44.4 | 43.2 | 41.7 | 41.7 | 41.7 |
| 67.5° | 44.8 | 43.2 | 40.4 | 37.6 | 35.6 | 33.6 | 31.2 | 32.0 | 32.5 |
| 70° | 37.2 | 36.0 | 32.8 | 30.0 | 27.2 | 24.9 | 22.8 | 23.6 | 24.1 |
| 72.5° | 30.4 | 28.8 | 26.0 | 22.8 | 20.4 | 17.3 | 16.0 | 16.8 | 16.8 |
| 75° | 23.6 | 22.0 | 19.6 | 16.5 | 13.6 | 10.8 | 10.8 | 11.2 | 11.2 |
| 77.5° | 17.6 | 16.0 | 13.6 | 10.8 | 8.4 | 6.4 | 6.8 | 6.8 | 6.8 |
| 80° | 12.0 | 10.8 | 8.9 | 6.4 | 4.4 | 3.6 | 3.6 | 3.6 | 4.0 |
| 82.5° | 6.8 | 6.0 | 4.8 | 3.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 85° | 3.2 | 2.4 | 2.0 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 87.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 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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