

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: P592616

Luminaire Tested: **HCC4W10D010MW-HM40525850-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592616
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: HCC4W10D010MW-HM40525850-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

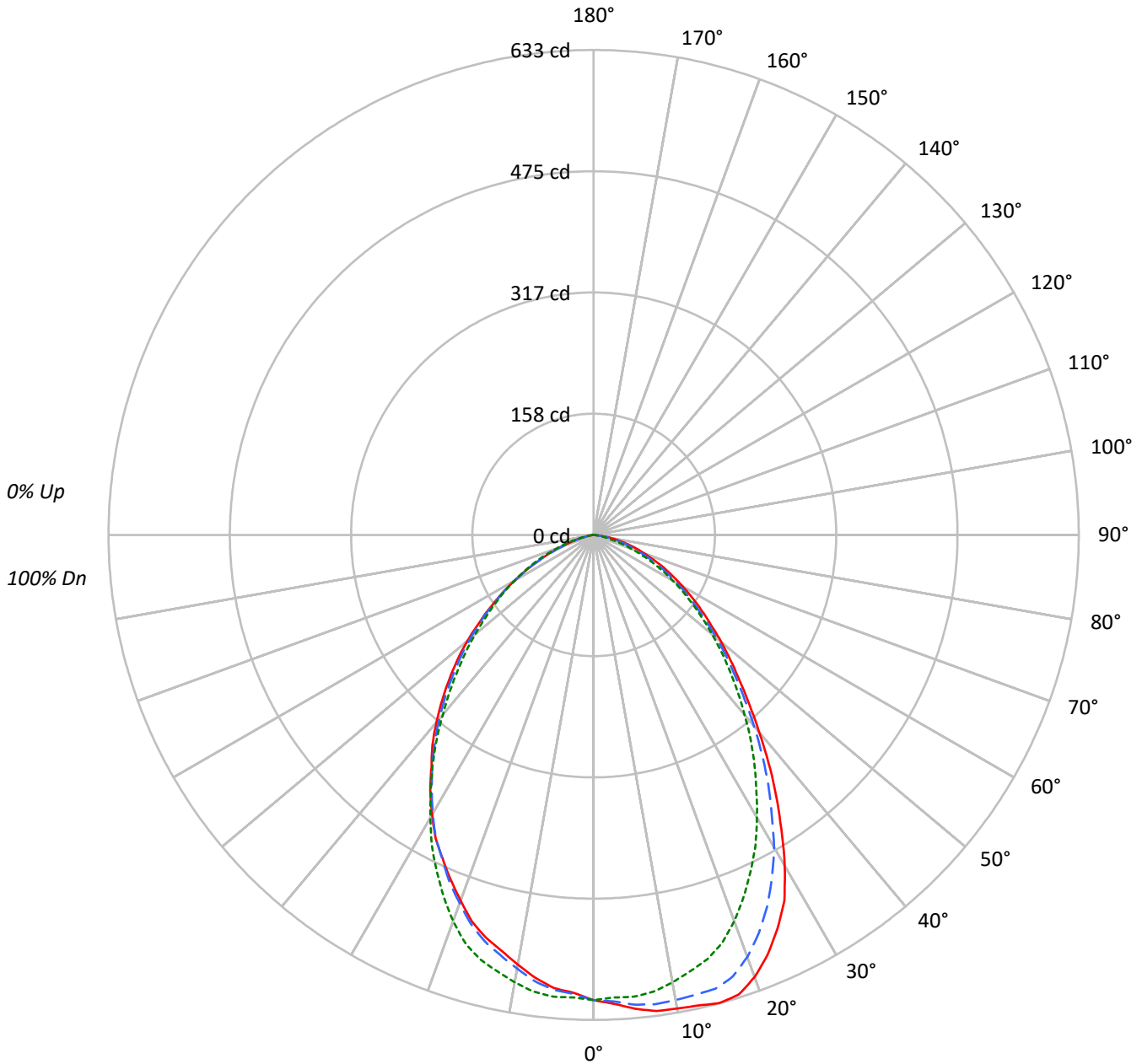
Lumens per Lamp: N/A
Luminaire Lumens: 1157.4 lumens
Efficiency: N/A
Efficacy: 116.9 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
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 | 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° | 74895 | 74895 | 74895 |
| 5° | 76865 | 74909 | 73510 |
| 10° | 78606 | 74260 | 71342 |
| 15° | 80807 | 73209 | 69454 |
| 20° | 80608 | 70396 | 66642 |
| 25° | 77208 | 65912 | 63448 |
| 30° | 71028 | 60702 | 60047 |
| 35° | 62474 | 55096 | 55533 |
| 40° | 54053 | 49303 | 51380 |
| 45° | 46976 | 43819 | 46453 |
| 50° | 41679 | 38647 | 41257 |
| 55° | 36988 | 33891 | 35354 |
| 60° | 32933 | 29381 | 29381 |
| 65° | 29303 | 24458 | 22882 |
| 70° | 25281 | 18501 | 16337 |
| 75° | 21207 | 12200 | 10103 |
| 80° | 16053 | 5896 | 5327 |
| 85° | 8491 | 2123 | 2123 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.5 | 5.0 |
| 10°-20° | 163.0 | 14.1 |
| 20°-30° | 229.9 | 19.9 |
| 30°-40° | 237.5 | 20.5 |
| 40°-50° | 201.4 | 17.4 |
| 50°-60° | 146.5 | 12.7 |
| 60°-70° | 85.6 | 7.4 |
| 70°-80° | 31.8 | 2.7 |
| 80°-90° | 4.2 | 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° | 450.5 | 38.9 |
| 0°-40° | 688.0 | 59.4 |
| 0°-60° | 1035.8 | 89.5 |
| 0°-90° | 1157.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1157.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 607 | 607 | 607 | 607 | 607 | |
| 5° | 621 | 616 | 605 | 596 | 594 | 59 |
| 15° | 633 | 613 | 573 | 549 | 544 | 178 |
| 25° | 567 | 536 | 484 | 467 | 466 | 259 |
| 35° | 415 | 397 | 366 | 367 | 369 | 259 |
| 45° | 269 | 262 | 251 | 260 | 266 | 210 |
| 55° | 172 | 164 | 158 | 163 | 164 | 155 |
| 65° | 100 | 92 | 84 | 78 | 78 | 100 |
| 75° | 44 | 37 | 26 | 20 | 21 | 48 |
| 85° | 6 | 4 | 2 | 2 | 2 | 8 |
| 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° | 607.2 | 607.2 | 607.2 | 607.2 | 607.2 | 607.2 | 607.2 | 607.2 | 607.2 |
| 2.5° | 612.6 | 611.0 | 609.5 | 607.2 | 604.3 | 602.0 | 599.7 | 598.2 | 598.2 |
| 5° | 620.8 | 618.6 | 615.5 | 610.3 | 605.0 | 600.4 | 596.0 | 593.7 | 593.7 |
| 7.5° | 626.8 | 623.9 | 617.8 | 610.3 | 601.2 | 594.4 | 587.7 | 584.6 | 583.1 |
| 10° | 627.6 | 624.6 | 616.3 | 605.0 | 592.9 | 582.3 | 574.8 | 570.3 | 569.6 |
| 12.5° | 629.1 | 625.3 | 614.7 | 598.9 | 583.1 | 570.3 | 561.9 | 557.5 | 555.9 |
| 15° | 632.8 | 627.6 | 613.3 | 592.9 | 573.3 | 558.2 | 549.2 | 545.4 | 543.9 |
| 17.5° | 629.1 | 621.6 | 604.3 | 580.0 | 558.2 | 541.6 | 532.6 | 528.8 | 528.8 |
| 20° | 614.1 | 606.4 | 586.2 | 559.8 | 536.3 | 520.5 | 511.4 | 509.1 | 507.7 |
| 22.5° | 592.9 | 584.6 | 562.7 | 534.9 | 511.4 | 497.1 | 491.0 | 488.1 | 487.3 |
| 25° | 567.3 | 559.0 | 535.5 | 506.9 | 484.3 | 472.3 | 466.9 | 466.9 | 466.2 |
| 27.5° | 538.6 | 528.0 | 503.9 | 479.0 | 457.1 | 448.0 | 445.9 | 445.9 | 446.6 |
| 30° | 498.7 | 491.0 | 470.7 | 446.6 | 426.2 | 420.1 | 420.1 | 421.6 | 421.6 |
| 32.5° | 455.7 | 450.3 | 432.2 | 411.2 | 395.2 | 391.5 | 393.1 | 396.0 | 396.8 |
| 35° | 414.9 | 408.9 | 396.8 | 377.9 | 365.9 | 364.4 | 366.7 | 368.8 | 368.8 |
| 37.5° | 374.9 | 368.8 | 360.6 | 345.5 | 336.4 | 337.2 | 340.3 | 343.2 | 345.5 |
| 40° | 335.7 | 331.2 | 325.1 | 313.1 | 306.2 | 309.3 | 313.1 | 316.0 | 319.1 |
| 42.5° | 301.0 | 296.4 | 291.9 | 282.9 | 278.4 | 282.1 | 286.7 | 289.6 | 292.7 |
| 45° | 269.3 | 266.3 | 261.7 | 254.2 | 251.2 | 255.0 | 260.3 | 263.2 | 266.3 |
| 47.5° | 242.2 | 240.7 | 234.7 | 227.8 | 226.3 | 230.1 | 234.7 | 238.4 | 240.7 |
| 50° | 217.2 | 215.0 | 209.7 | 202.9 | 201.4 | 207.5 | 210.4 | 212.7 | 215.0 |
| 52.5° | 193.1 | 190.8 | 184.8 | 178.8 | 178.8 | 183.3 | 185.6 | 186.3 | 188.6 |
| 55° | 172.0 | 169.7 | 163.6 | 159.2 | 157.6 | 161.5 | 163.0 | 163.0 | 164.4 |
| 57.5° | 152.4 | 150.1 | 144.1 | 138.8 | 138.0 | 140.3 | 140.3 | 140.3 | 141.1 |
| 60° | 133.5 | 131.2 | 125.2 | 120.7 | 119.1 | 119.9 | 119.1 | 118.5 | 119.1 |
| 62.5° | 116.2 | 113.9 | 107.9 | 102.6 | 101.1 | 101.1 | 98.8 | 98.1 | 98.8 |
| 65° | 100.4 | 96.5 | 92.1 | 86.7 | 83.8 | 81.5 | 78.4 | 78.4 | 78.4 |
| 67.5° | 84.4 | 81.5 | 76.1 | 70.9 | 67.1 | 63.4 | 58.8 | 60.3 | 61.1 |
| 70° | 70.1 | 67.9 | 61.9 | 56.6 | 51.3 | 46.8 | 43.0 | 44.5 | 45.3 |
| 72.5° | 57.4 | 54.3 | 49.0 | 43.0 | 38.5 | 32.4 | 30.2 | 31.6 | 31.6 |
| 75° | 44.5 | 41.5 | 37.0 | 31.0 | 25.6 | 20.4 | 20.4 | 21.2 | 21.2 |
| 77.5° | 33.2 | 30.2 | 25.6 | 20.4 | 15.8 | 12.1 | 12.9 | 12.9 | 12.9 |
| 80° | 22.6 | 20.4 | 16.6 | 12.1 | 8.3 | 6.8 | 6.8 | 6.8 | 7.5 |
| 82.5° | 12.9 | 11.3 | 9.1 | 6.0 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| 85° | 6.0 | 4.6 | 3.8 | 2.3 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 87.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 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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