

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: P592633

Luminaire Tested: **HCC4S15D010MB-HM40525850-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592633
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S15D010MB-HM40525850-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

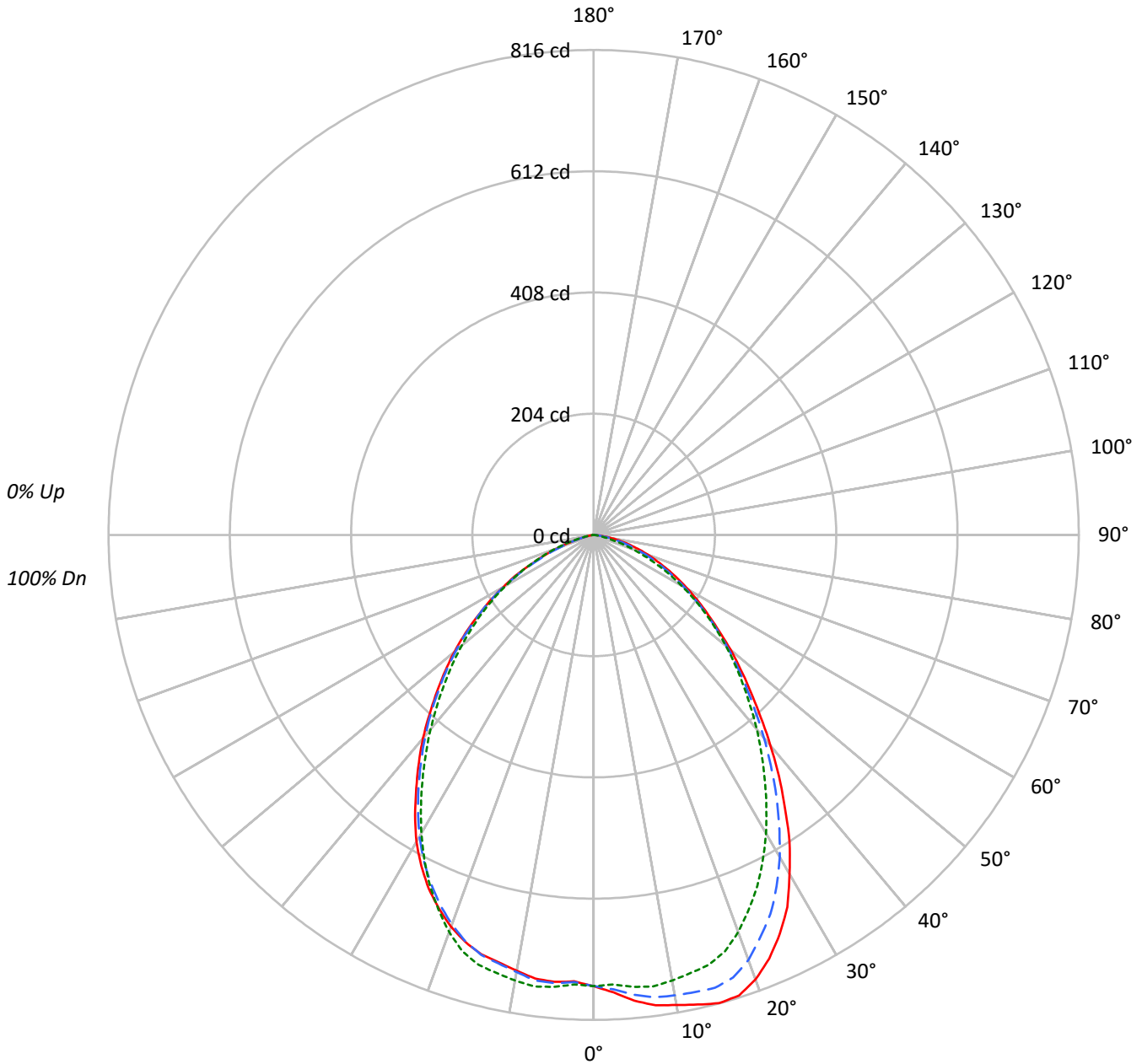
Lumens per Lamp: N/A
Luminaire Lumens: 1581.9 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | 76 | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | 67 | | | |
| 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 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | | 46 | | | |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | | | | | 41 | | | |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | 37 | | | |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | 34 | | | |
| 10 | 58 | 46 | 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° | 93632 | 93632 | 93632 |
| 5° | 97419 | 94509 | 93482 |
| 10° | 100600 | 95339 | 93273 |
| 15° | 104150 | 95619 | 93270 |
| 20° | 104484 | 93314 | 92093 |
| 25° | 100793 | 88653 | 89348 |
| 30° | 93803 | 82551 | 84887 |
| 35° | 84489 | 75530 | 78315 |
| 40° | 74486 | 68706 | 71862 |
| 45° | 65135 | 61925 | 64960 |
| 50° | 57683 | 55706 | 58661 |
| 55° | 50729 | 49203 | 51181 |
| 60° | 45293 | 42012 | 43270 |
| 65° | 39810 | 34148 | 33506 |
| 70° | 34766 | 25173 | 22937 |
| 75° | 28833 | 15155 | 12248 |
| 80° | 21878 | 5825 | 3623 |
| 85° | 10190 | 1415 | 1415 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 73.2 | 4.6 |
| 10°-20° | 213.7 | 13.5 |
| 20°-30° | 309.4 | 19.6 |
| 30°-40° | 326.5 | 20.6 |
| 40°-50° | 282.5 | 17.9 |
| 50°-60° | 209.3 | 13.2 |
| 60°-70° | 120.6 | 7.6 |
| 70°-80° | 42.1 | 2.7 |
| 80°-90° | 4.4 | 0.3 |
| 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° | 596.3 | 37.7 |
| 0°-40° | 922.8 | 58.3 |
| 0°-60° | 1414.7 | 89.4 |
| 0°-90° | 1581.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1581.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 759 | 759 | 759 | 759 | 759 | |
| 5° | 787 | 777 | 763 | 757 | 755 | 76 |
| 15° | 816 | 789 | 749 | 731 | 730 | 229 |
| 25° | 741 | 704 | 651 | 647 | 656 | 339 |
| 35° | 561 | 536 | 502 | 513 | 520 | 350 |
| 45° | 373 | 363 | 355 | 368 | 372 | 290 |
| 55° | 236 | 231 | 229 | 237 | 238 | 213 |
| 65° | 136 | 128 | 117 | 111 | 115 | 136 |
| 75° | 60 | 51 | 32 | 26 | 26 | 65 |
| 85° | 7 | 4 | 1 | 1 | 1 | 11 |
| 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° | 759.1 | 759.1 | 759.1 | 759.1 | 759.1 | 759.1 | 759.1 | 759.1 | 759.1 |
| 2.5° | 770.4 | 768.4 | 765.3 | 761.2 | 757.0 | 753.9 | 752.9 | 751.9 | 751.9 |
| 5° | 786.8 | 782.7 | 776.6 | 768.4 | 763.3 | 760.1 | 757.0 | 755.0 | 755.0 |
| 7.5° | 798.1 | 794.0 | 784.8 | 773.5 | 766.3 | 760.1 | 756.0 | 752.9 | 752.9 |
| 10° | 803.2 | 798.1 | 786.8 | 772.5 | 761.2 | 752.9 | 746.8 | 744.7 | 744.7 |
| 12.5° | 809.4 | 803.2 | 787.8 | 769.4 | 755.0 | 744.7 | 738.6 | 736.5 | 736.5 |
| 15° | 815.6 | 808.4 | 788.9 | 767.4 | 748.8 | 736.5 | 731.4 | 730.4 | 730.4 |
| 17.5° | 812.5 | 803.2 | 780.7 | 755.0 | 734.5 | 722.2 | 717.1 | 717.1 | 718.1 |
| 20° | 796.0 | 786.8 | 761.2 | 732.5 | 710.9 | 701.6 | 697.5 | 699.6 | 701.6 |
| 22.5° | 771.5 | 760.1 | 732.5 | 704.7 | 682.2 | 674.0 | 674.0 | 677.1 | 680.2 |
| 25° | 740.6 | 730.4 | 703.7 | 673.0 | 651.4 | 645.2 | 647.3 | 652.4 | 656.5 |
| 27.5° | 705.7 | 694.5 | 666.7 | 638.1 | 616.5 | 613.4 | 618.5 | 625.8 | 627.9 |
| 30° | 658.6 | 649.3 | 625.8 | 598.1 | 579.6 | 578.6 | 585.8 | 590.9 | 596.0 |
| 32.5° | 613.4 | 603.2 | 580.7 | 553.9 | 540.6 | 541.7 | 549.9 | 556.0 | 559.1 |
| 35° | 561.1 | 551.9 | 535.5 | 513.9 | 501.6 | 503.7 | 512.9 | 519.0 | 520.1 |
| 37.5° | 511.9 | 505.7 | 489.4 | 472.9 | 463.7 | 467.8 | 475.9 | 483.1 | 483.1 |
| 40° | 462.6 | 457.5 | 445.2 | 431.8 | 426.7 | 431.8 | 440.1 | 446.3 | 446.3 |
| 42.5° | 415.5 | 412.4 | 402.2 | 392.9 | 389.8 | 397.0 | 404.2 | 409.3 | 408.3 |
| 45° | 373.4 | 370.3 | 363.2 | 356.0 | 355.0 | 362.1 | 368.3 | 371.3 | 372.4 |
| 47.5° | 335.4 | 333.4 | 327.2 | 322.1 | 322.1 | 329.3 | 334.4 | 337.5 | 338.5 |
| 50° | 300.6 | 298.5 | 293.3 | 289.3 | 290.3 | 297.4 | 301.6 | 304.7 | 305.7 |
| 52.5° | 265.7 | 264.7 | 260.6 | 255.5 | 258.6 | 263.7 | 268.8 | 270.8 | 271.9 |
| 55° | 235.9 | 235.9 | 230.8 | 226.7 | 228.8 | 233.9 | 237.0 | 238.0 | 238.0 |
| 57.5° | 209.3 | 208.3 | 202.0 | 198.0 | 199.0 | 204.1 | 206.1 | 207.2 | 207.2 |
| 60° | 183.6 | 182.6 | 176.5 | 170.3 | 170.3 | 173.4 | 174.4 | 175.4 | 175.4 |
| 62.5° | 159.0 | 157.9 | 150.8 | 145.6 | 143.6 | 142.6 | 142.6 | 144.6 | 148.7 |
| 65° | 136.4 | 135.4 | 128.3 | 120.1 | 117.0 | 113.8 | 110.7 | 112.8 | 114.8 |
| 67.5° | 116.0 | 113.8 | 106.7 | 99.5 | 92.3 | 87.2 | 82.1 | 85.2 | 89.3 |
| 70° | 96.4 | 94.4 | 86.2 | 78.0 | 69.8 | 61.5 | 57.4 | 61.5 | 63.6 |
| 72.5° | 78.0 | 76.0 | 67.7 | 59.5 | 49.2 | 41.0 | 40.0 | 41.0 | 42.1 |
| 75° | 60.5 | 59.5 | 51.3 | 42.1 | 31.8 | 25.7 | 25.7 | 25.7 | 25.7 |
| 77.5° | 45.1 | 43.1 | 34.9 | 26.7 | 18.4 | 14.3 | 13.3 | 13.3 | 13.3 |
| 80° | 30.8 | 28.8 | 21.5 | 15.3 | 8.2 | 6.1 | 6.1 | 5.1 | 5.1 |
| 82.5° | 17.4 | 16.4 | 11.3 | 6.1 | 3.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| 85° | 7.2 | 6.1 | 4.1 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 87.5° | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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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