

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: P580236

Luminaire Tested: **HCC4S25D010MB-HM40525935-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580236
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: HCC4S25D010MB-HM40525935-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

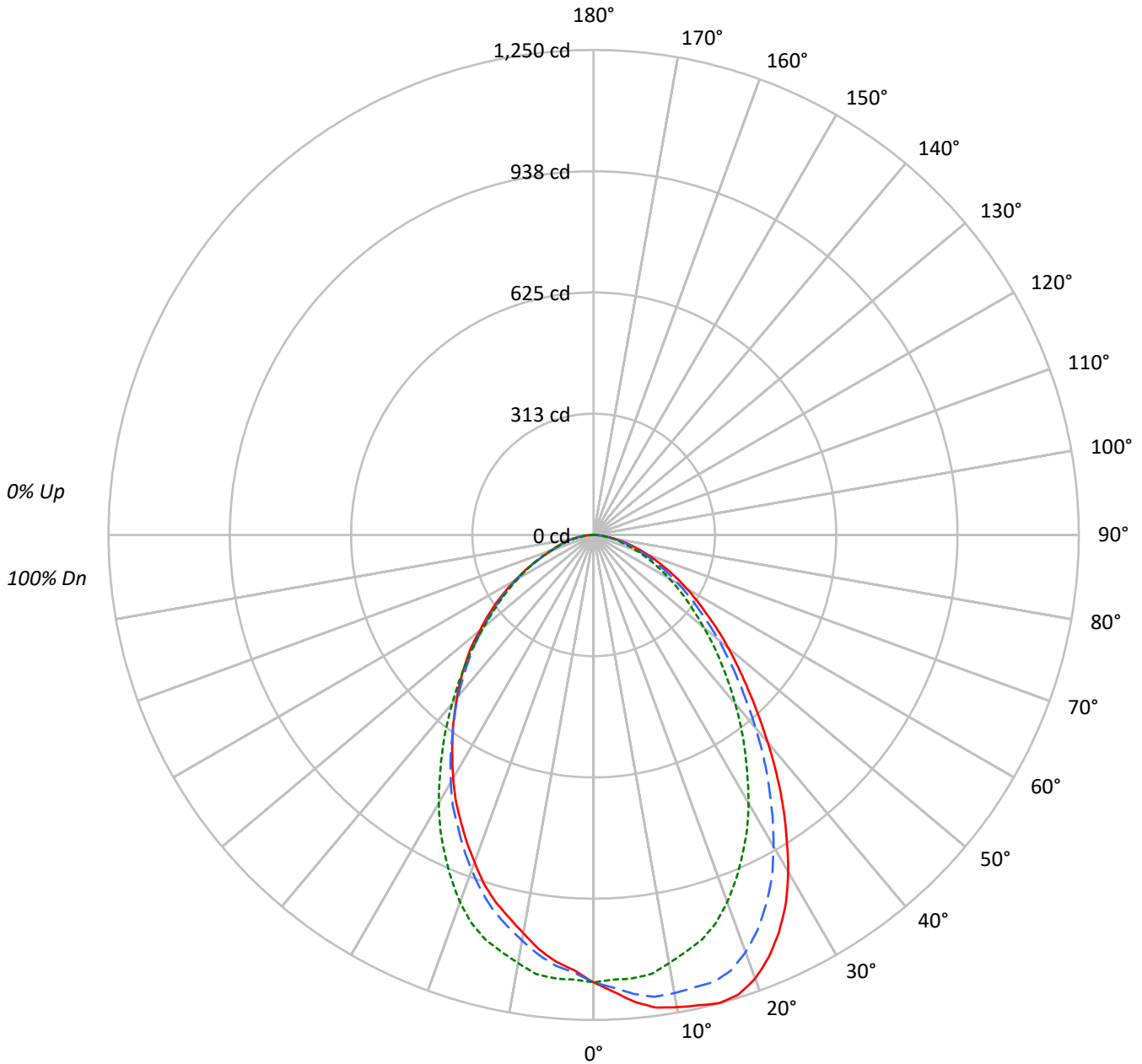
Lumens per Lamp: N/A
Luminaire Lumens: 2236.6 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 26.8
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 | 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 | 45 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 142255 | 142255 | 142255 |
| 5° | 149571 | 142067 | 136743 |
| 10° | 154820 | 140378 | 130546 |
| 15° | 159557 | 137810 | 124964 |
| 20° | 159732 | 132141 | 117768 |
| 25° | 153735 | 123508 | 110415 |
| 30° | 142755 | 113657 | 103103 |
| 35° | 127961 | 102317 | 95406 |
| 40° | 112277 | 91296 | 88205 |
| 45° | 98138 | 80817 | 81357 |
| 50° | 86639 | 70731 | 73283 |
| 55° | 76406 | 62708 | 65890 |
| 60° | 68284 | 55506 | 57701 |
| 65° | 60503 | 48828 | 48828 |
| 70° | 52834 | 41654 | 41654 |
| 75° | 45131 | 35314 | 39508 |
| 80° | 35800 | 31538 | 35800 |
| 85° | 23068 | 27172 | 33541 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 109.3 | 4.9 |
| 10°-20° | 307.7 | 13.8 |
| 20°-30° | 431.1 | 19.3 |
| 30°-40° | 444.1 | 19.9 |
| 40°-50° | 378.1 | 16.9 |
| 50°-60° | 280.2 | 12.5 |
| 60°-70° | 175.8 | 7.9 |
| 70°-80° | 87.4 | 3.9 |
| 80°-90° | 22.9 | 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° | 848.1 | 37.9 |
| 0°-40° | 1292.2 | 57.8 |
| 0°-60° | 1950.5 | 87.2 |
| 0°-90° | 2236.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2236.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1153 | 1153 | 1153 | 1153 | 1153 | |
| 5° | 1208 | 1187 | 1147 | 1115 | 1104 | 116 |
| 15° | 1250 | 1193 | 1079 | 1001 | 979 | 351 |
| 25° | 1130 | 1051 | 908 | 829 | 811 | 517 |
| 35° | 850 | 786 | 680 | 635 | 634 | 530 |
| 45° | 563 | 524 | 463 | 454 | 466 | 437 |
| 55° | 355 | 327 | 292 | 298 | 306 | 321 |
| 65° | 207 | 186 | 167 | 164 | 167 | 207 |
| 75° | 95 | 84 | 74 | 80 | 83 | 101 |
| 85° | 16 | 16 | 19 | 22 | 24 | 21 |
| 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° | 1153.3 | 1153.3 | 1153.3 | 1153.3 | 1153.3 | 1153.3 | 1153.3 | 1153.3 | 1153.3 |
| 2.5° | 1178.5 | 1174.0 | 1168.1 | 1157.7 | 1147.4 | 1138.5 | 1129.6 | 1125.2 | 1123.7 |
| 5° | 1208.0 | 1199.2 | 1187.4 | 1168.1 | 1147.4 | 1129.6 | 1114.8 | 1107.4 | 1104.4 |
| 7.5° | 1228.8 | 1219.9 | 1200.7 | 1171.0 | 1141.4 | 1114.8 | 1091.1 | 1080.8 | 1077.7 |
| 10° | 1236.1 | 1225.9 | 1199.2 | 1159.3 | 1120.8 | 1088.1 | 1061.5 | 1048.2 | 1042.3 |
| 12.5° | 1242.1 | 1228.8 | 1194.7 | 1147.4 | 1100.0 | 1060.0 | 1031.9 | 1014.1 | 1009.7 |
| 15° | 1249.5 | 1234.7 | 1193.2 | 1135.5 | 1079.2 | 1031.9 | 1000.7 | 984.5 | 978.6 |
| 17.5° | 1242.1 | 1225.9 | 1177.0 | 1111.8 | 1048.2 | 996.3 | 962.2 | 947.5 | 941.6 |
| 20° | 1216.9 | 1199.2 | 1144.4 | 1074.8 | 1006.7 | 953.4 | 919.3 | 904.6 | 897.2 |
| 22.5° | 1178.5 | 1159.3 | 1102.9 | 1029.0 | 959.3 | 907.5 | 875.0 | 860.2 | 855.7 |
| 25° | 1129.6 | 1110.4 | 1051.1 | 975.7 | 907.5 | 857.1 | 829.0 | 815.7 | 811.3 |
| 27.5° | 1071.9 | 1052.6 | 994.9 | 920.8 | 855.7 | 808.4 | 786.1 | 772.8 | 769.9 |
| 30° | 1002.3 | 983.0 | 926.8 | 858.7 | 798.0 | 753.6 | 735.8 | 725.4 | 723.9 |
| 32.5° | 925.3 | 909.0 | 857.1 | 795.0 | 737.2 | 700.2 | 686.9 | 679.5 | 678.1 |
| 35° | 849.8 | 832.1 | 786.1 | 729.9 | 679.5 | 646.9 | 635.1 | 633.6 | 633.6 |
| 37.5° | 772.8 | 755.1 | 718.0 | 666.2 | 623.3 | 593.6 | 589.2 | 590.7 | 590.7 |
| 40° | 697.3 | 681.0 | 648.5 | 605.5 | 567.0 | 544.9 | 543.3 | 546.3 | 547.8 |
| 42.5° | 626.3 | 612.9 | 583.4 | 546.3 | 513.7 | 496.0 | 497.4 | 503.3 | 507.8 |
| 45° | 562.6 | 550.7 | 524.1 | 491.6 | 463.3 | 450.0 | 454.5 | 461.9 | 466.4 |
| 47.5° | 504.9 | 494.5 | 469.3 | 439.7 | 416.0 | 407.1 | 413.1 | 421.9 | 427.9 |
| 50° | 451.5 | 442.7 | 419.0 | 387.9 | 368.6 | 362.7 | 370.1 | 379.0 | 381.9 |
| 52.5° | 404.2 | 395.3 | 370.1 | 343.4 | 328.7 | 325.7 | 333.1 | 340.5 | 344.9 |
| 55° | 355.3 | 348.0 | 327.2 | 303.5 | 291.6 | 290.2 | 297.6 | 303.5 | 306.4 |
| 57.5° | 315.3 | 308.0 | 288.7 | 267.9 | 257.6 | 256.2 | 263.5 | 267.9 | 269.5 |
| 60° | 276.8 | 269.5 | 251.7 | 232.5 | 225.0 | 225.0 | 229.5 | 232.5 | 233.9 |
| 62.5° | 241.3 | 233.9 | 217.7 | 201.3 | 195.4 | 195.4 | 195.4 | 196.9 | 201.3 |
| 65° | 207.3 | 201.3 | 186.5 | 171.7 | 167.3 | 164.4 | 164.4 | 164.4 | 167.3 |
| 67.5° | 176.1 | 170.3 | 158.4 | 145.1 | 140.7 | 136.2 | 134.7 | 137.7 | 137.7 |
| 70° | 146.5 | 142.1 | 130.3 | 119.9 | 115.5 | 111.0 | 109.5 | 115.5 | 115.5 |
| 72.5° | 119.9 | 115.5 | 108.0 | 97.7 | 93.3 | 91.8 | 94.7 | 97.7 | 99.2 |
| 75° | 94.7 | 90.3 | 84.3 | 78.5 | 74.1 | 75.5 | 79.9 | 81.4 | 82.9 |
| 77.5° | 71.0 | 69.5 | 63.7 | 59.3 | 59.3 | 60.7 | 63.7 | 66.6 | 68.1 |
| 80° | 50.4 | 48.9 | 46.0 | 42.9 | 44.4 | 47.4 | 48.9 | 51.8 | 50.4 |
| 82.5° | 31.0 | 31.0 | 29.6 | 29.6 | 31.0 | 34.1 | 35.6 | 37.0 | 38.5 |
| 85° | 16.3 | 16.3 | 16.3 | 17.7 | 19.2 | 20.8 | 22.2 | 23.7 | 23.7 |
| 87.5° | 4.4 | 5.9 | 5.9 | 7.5 | 8.9 | 8.9 | 10.4 | 10.4 | 10.4 |
| 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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Scaled Data Report



— 0°-180° - - 45°-225° - - - - 90°-270°

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