

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: P580232

Luminaire Tested: **HCC4S25D010MW-HM40525935-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580232
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: HCC4S25D010MW-HM40525935-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

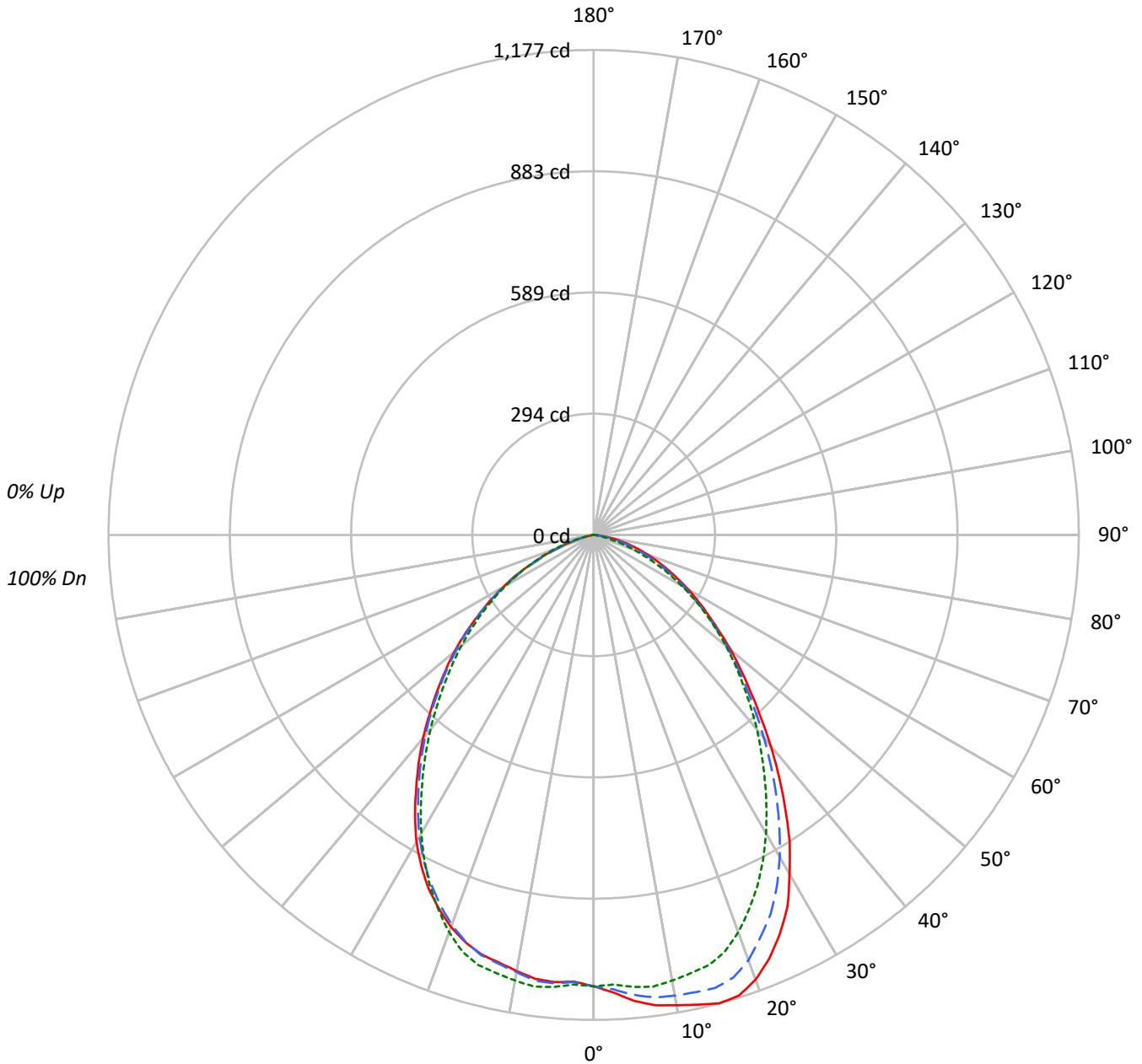
Lumens per Lamp: N/A
Luminaire Lumens: 2282.5 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | 100 | 100 | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | 88 | 88 | 88 |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | 76 | 76 | 76 |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | 67 | 67 | 67 |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | 58 | 58 | 58 |
| 5 | 81 | 70 | 61 | 56 | 79 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | 52 | 52 | 52 |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | 46 | 46 | 46 |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | 41 | 41 | 41 |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | 37 | 37 | 37 |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | 34 | 34 | 34 |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | 31 | 31 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 135113 | 135113 | 135113 |
| 5° | 140569 | 136347 | 134886 |
| 10° | 145150 | 137560 | 134592 |
| 15° | 150274 | 137989 | 134580 |
| 20° | 150767 | 134648 | 132902 |
| 25° | 145447 | 127917 | 128925 |
| 30° | 135349 | 119112 | 122487 |
| 35° | 121907 | 108988 | 112993 |
| 40° | 107494 | 99154 | 103678 |
| 45° | 93987 | 89329 | 93725 |
| 50° | 83204 | 80383 | 84643 |
| 55° | 73202 | 70987 | 73847 |
| 60° | 65373 | 60612 | 62438 |
| 65° | 57467 | 49266 | 48361 |
| 70° | 50165 | 36316 | 33107 |
| 75° | 41652 | 21827 | 17633 |
| 80° | 31538 | 8453 | 5327 |
| 85° | 14718 | 2123 | 2123 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.6 | 4.6 |
| 10°-20° | 308.3 | 13.5 |
| 20°-30° | 446.5 | 19.6 |
| 30°-40° | 471.1 | 20.6 |
| 40°-50° | 407.7 | 17.9 |
| 50°-60° | 302.0 | 13.2 |
| 60°-70° | 174.1 | 7.6 |
| 70°-80° | 60.8 | 2.7 |
| 80°-90° | 6.4 | 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° | 860.5 | 37.7 |
| 0°-40° | 1331.5 | 58.3 |
| 0°-60° | 2041.2 | 89.4 |
| 0°-90° | 2282.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2282.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1095 | 1095 | 1095 | 1095 | 1095 | |
| 5° | 1135 | 1120 | 1101 | 1092 | 1089 | 109 |
| 15° | 1177 | 1138 | 1081 | 1055 | 1054 | 331 |
| 25° | 1069 | 1015 | 940 | 934 | 947 | 489 |
| 35° | 810 | 773 | 724 | 740 | 750 | 506 |
| 45° | 539 | 524 | 512 | 531 | 537 | 418 |
| 55° | 340 | 333 | 330 | 342 | 343 | 307 |
| 65° | 197 | 185 | 169 | 160 | 166 | 197 |
| 75° | 87 | 74 | 46 | 37 | 37 | 94 |
| 85° | 10 | 6 | 2 | 2 | 2 | 16 |
| 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° | 1095.4 | 1095.4 | 1095.4 | 1095.4 | 1095.4 | 1095.4 | 1095.4 | 1095.4 | 1095.4 |
| 2.5° | 1111.6 | 1108.7 | 1104.2 | 1098.3 | 1092.3 | 1087.9 | 1086.4 | 1085.0 | 1085.0 |
| 5° | 1135.3 | 1129.3 | 1120.5 | 1108.7 | 1101.2 | 1096.8 | 1092.3 | 1089.4 | 1089.4 |
| 7.5° | 1151.6 | 1145.6 | 1132.3 | 1116.0 | 1105.6 | 1096.8 | 1090.8 | 1086.4 | 1086.4 |
| 10° | 1158.9 | 1151.6 | 1135.3 | 1114.5 | 1098.3 | 1086.4 | 1077.5 | 1074.6 | 1074.6 |
| 12.5° | 1167.8 | 1158.9 | 1136.8 | 1110.1 | 1089.4 | 1074.6 | 1065.8 | 1062.7 | 1062.7 |
| 15° | 1176.8 | 1166.4 | 1138.3 | 1107.2 | 1080.6 | 1062.7 | 1055.4 | 1053.9 | 1053.9 |
| 17.5° | 1172.2 | 1158.9 | 1126.4 | 1089.4 | 1059.8 | 1042.1 | 1034.6 | 1034.6 | 1036.1 |
| 20° | 1148.6 | 1135.3 | 1098.3 | 1056.9 | 1025.8 | 1012.5 | 1006.5 | 1009.4 | 1012.5 |
| 22.5° | 1113.1 | 1096.8 | 1056.9 | 1016.9 | 984.3 | 972.5 | 972.5 | 976.9 | 981.3 |
| 25° | 1068.7 | 1053.9 | 1015.4 | 970.9 | 939.9 | 931.0 | 934.0 | 941.4 | 947.3 |
| 27.5° | 1018.4 | 1002.1 | 962.1 | 920.7 | 889.5 | 885.1 | 892.6 | 902.9 | 905.9 |
| 30° | 950.3 | 937.0 | 902.9 | 862.9 | 836.3 | 834.8 | 845.2 | 852.6 | 860.0 |
| 32.5° | 885.1 | 870.3 | 837.8 | 799.3 | 780.0 | 781.5 | 793.3 | 802.3 | 806.7 |
| 35° | 809.6 | 796.3 | 772.7 | 741.5 | 723.8 | 726.7 | 740.1 | 749.0 | 750.4 |
| 37.5° | 738.6 | 729.7 | 706.1 | 682.4 | 669.0 | 674.9 | 686.8 | 697.2 | 697.2 |
| 40° | 667.6 | 660.1 | 642.4 | 623.1 | 615.8 | 623.1 | 634.9 | 643.9 | 643.9 |
| 42.5° | 599.5 | 595.0 | 580.2 | 566.9 | 562.5 | 572.9 | 583.2 | 590.6 | 589.1 |
| 45° | 538.8 | 534.4 | 524.0 | 513.6 | 512.1 | 522.5 | 531.4 | 535.8 | 537.3 |
| 47.5° | 484.0 | 481.1 | 472.1 | 464.8 | 464.8 | 475.1 | 482.5 | 486.9 | 488.4 |
| 50° | 433.6 | 430.7 | 423.4 | 417.4 | 418.9 | 429.2 | 435.1 | 439.6 | 441.1 |
| 52.5° | 383.4 | 381.8 | 376.0 | 368.5 | 373.0 | 380.4 | 387.8 | 390.7 | 392.2 |
| 55° | 340.4 | 340.4 | 333.1 | 327.1 | 330.1 | 337.5 | 342.0 | 343.4 | 343.4 |
| 57.5° | 302.0 | 300.4 | 291.6 | 285.6 | 287.1 | 294.6 | 297.5 | 299.0 | 299.0 |
| 60° | 265.0 | 263.5 | 254.6 | 245.7 | 245.7 | 250.2 | 251.7 | 253.1 | 253.1 |
| 62.5° | 229.4 | 227.9 | 217.6 | 210.2 | 207.2 | 205.7 | 205.7 | 208.8 | 214.6 |
| 65° | 196.9 | 195.4 | 185.0 | 173.2 | 168.8 | 164.3 | 159.9 | 162.8 | 165.7 |
| 67.5° | 167.2 | 164.3 | 153.9 | 143.6 | 133.2 | 125.8 | 118.4 | 122.8 | 128.8 |
| 70° | 139.1 | 136.2 | 124.3 | 112.4 | 100.7 | 88.9 | 82.9 | 88.9 | 91.8 |
| 72.5° | 112.4 | 109.5 | 97.7 | 85.8 | 71.0 | 59.2 | 57.7 | 59.2 | 60.7 |
| 75° | 87.4 | 85.8 | 74.1 | 60.7 | 45.8 | 37.0 | 37.0 | 37.0 | 37.0 |
| 77.5° | 65.1 | 62.2 | 50.4 | 38.5 | 26.6 | 20.8 | 19.2 | 19.2 | 19.2 |
| 80° | 44.4 | 41.4 | 31.0 | 22.2 | 11.9 | 8.9 | 8.9 | 7.5 | 7.5 |
| 82.5° | 25.2 | 23.7 | 16.3 | 8.9 | 4.4 | 2.9 | 2.9 | 2.9 | 2.9 |
| 85° | 10.4 | 8.9 | 5.9 | 2.9 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 87.5° | 1.5 | 1.5 | 1.5 | 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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Scaled Data Report



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

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