

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: P580017

Luminaire Tested: **HCC4W20D010MB-HM40525835-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580017
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: HCC4W20D010MB-HM40525835-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

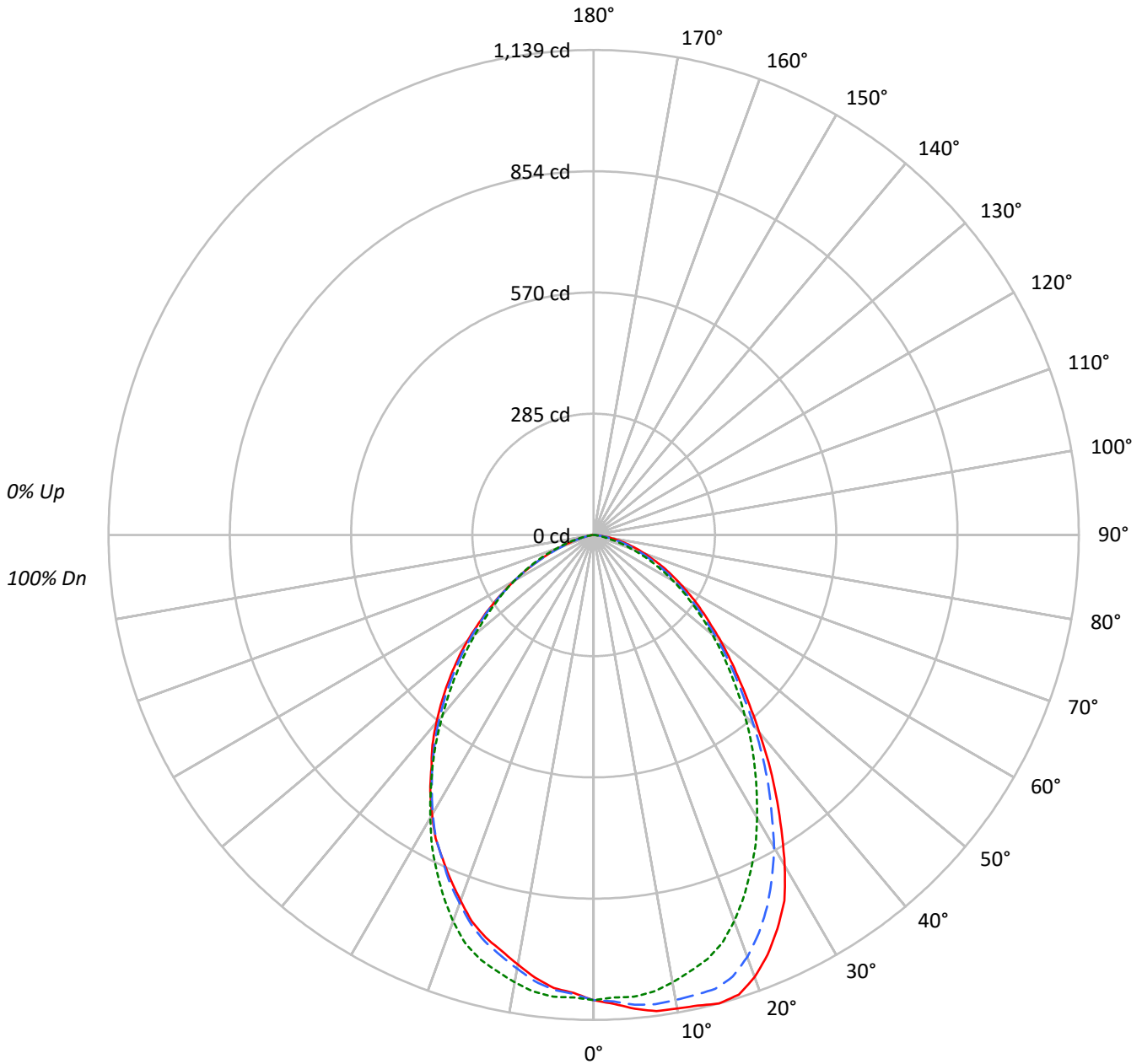
Lumens per Lamp: N/A
Luminaire Lumens: 2082.9 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): 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° | 134780 | 134780 | 134780 |
| 5° | 138328 | 134799 | 132273 |
| 10° | 141468 | 133628 | 128355 |
| 15° | 145447 | 131745 | 124977 |
| 20° | 145044 | 126694 | 119921 |
| 25° | 138928 | 118608 | 114172 |
| 30° | 127800 | 109242 | 108088 |
| 35° | 112421 | 99140 | 99953 |
| 40° | 97270 | 88736 | 92456 |
| 45° | 84532 | 78846 | 83590 |
| 50° | 75010 | 69561 | 74243 |
| 55° | 66557 | 61030 | 63632 |
| 60° | 59280 | 52915 | 52915 |
| 65° | 52681 | 43983 | 41211 |
| 70° | 45549 | 33287 | 29356 |
| 75° | 38173 | 21970 | 18110 |
| 80° | 28910 | 10584 | 9589 |
| 85° | 15426 | 3963 | 3963 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.5 | 5.0 |
| 10°-20° | 293.4 | 14.1 |
| 20°-30° | 413.8 | 19.9 |
| 30°-40° | 427.4 | 20.5 |
| 40°-50° | 362.3 | 17.4 |
| 50°-60° | 263.6 | 12.7 |
| 60°-70° | 154.0 | 7.4 |
| 70°-80° | 57.3 | 2.7 |
| 80°-90° | 7.5 | 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° | 810.6 | 38.9 |
| 0°-40° | 1238.1 | 59.4 |
| 0°-60° | 1864.0 | 89.5 |
| 0°-90° | 2082.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2082.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1093 | 1093 | 1093 | 1093 | 1093 | |
| 5° | 1117 | 1108 | 1089 | 1072 | 1068 | 107 |
| 15° | 1139 | 1104 | 1032 | 988 | 979 | 320 |
| 25° | 1021 | 964 | 872 | 840 | 839 | 467 |
| 35° | 747 | 714 | 658 | 660 | 664 | 466 |
| 45° | 485 | 471 | 452 | 468 | 479 | 377 |
| 55° | 310 | 294 | 284 | 293 | 296 | 278 |
| 65° | 180 | 166 | 151 | 141 | 141 | 179 |
| 75° | 80 | 66 | 46 | 37 | 38 | 86 |
| 85° | 11 | 7 | 3 | 3 | 3 | 15 |
| 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° | 1092.7 | 1092.7 | 1092.7 | 1092.7 | 1092.7 | 1092.7 | 1092.7 | 1092.7 | 1092.7 |
| 2.5° | 1102.3 | 1099.5 | 1096.9 | 1092.7 | 1087.4 | 1083.2 | 1079.2 | 1076.5 | 1076.5 |
| 5° | 1117.2 | 1113.2 | 1107.7 | 1098.3 | 1088.7 | 1080.6 | 1072.4 | 1068.3 | 1068.3 |
| 7.5° | 1128.1 | 1122.7 | 1111.8 | 1098.3 | 1081.9 | 1069.7 | 1057.4 | 1052.0 | 1049.3 |
| 10° | 1129.5 | 1123.9 | 1109.0 | 1088.7 | 1066.9 | 1048.0 | 1034.4 | 1026.2 | 1024.8 |
| 12.5° | 1132.1 | 1125.3 | 1106.4 | 1077.8 | 1049.3 | 1026.2 | 1011.3 | 1003.2 | 1000.4 |
| 15° | 1139.0 | 1129.5 | 1103.6 | 1066.9 | 1031.7 | 1004.5 | 988.3 | 981.5 | 978.7 |
| 17.5° | 1132.1 | 1118.6 | 1087.4 | 1043.9 | 1004.5 | 974.7 | 958.4 | 951.6 | 951.6 |
| 20° | 1105.0 | 1091.4 | 1054.8 | 1007.3 | 965.2 | 936.6 | 920.4 | 916.3 | 913.6 |
| 22.5° | 1066.9 | 1052.0 | 1012.7 | 962.4 | 920.4 | 894.5 | 883.8 | 878.3 | 876.9 |
| 25° | 1020.8 | 1005.9 | 963.8 | 912.2 | 871.5 | 849.8 | 840.3 | 840.3 | 838.9 |
| 27.5° | 969.2 | 950.2 | 906.8 | 862.0 | 822.6 | 806.3 | 802.2 | 802.2 | 803.6 |
| 30° | 897.3 | 883.8 | 847.1 | 803.6 | 767.0 | 756.1 | 756.1 | 758.9 | 758.9 |
| 32.5° | 819.9 | 810.4 | 777.8 | 739.8 | 711.4 | 704.5 | 707.2 | 712.6 | 714.0 |
| 35° | 746.6 | 735.8 | 714.0 | 680.1 | 658.4 | 655.6 | 659.8 | 663.8 | 663.8 |
| 37.5° | 674.7 | 663.8 | 648.9 | 621.7 | 605.4 | 606.8 | 612.3 | 617.7 | 621.7 |
| 40° | 604.1 | 596.0 | 585.1 | 563.4 | 551.1 | 556.5 | 563.4 | 568.8 | 574.2 |
| 42.5° | 541.6 | 533.5 | 525.3 | 509.0 | 500.9 | 507.7 | 515.8 | 521.3 | 526.7 |
| 45° | 484.6 | 479.2 | 471.1 | 457.4 | 452.0 | 458.8 | 468.3 | 473.7 | 479.2 |
| 47.5° | 435.7 | 433.0 | 422.2 | 409.9 | 407.2 | 414.1 | 422.2 | 429.0 | 433.0 |
| 50° | 390.9 | 386.9 | 377.4 | 365.2 | 362.5 | 373.3 | 378.7 | 382.8 | 386.9 |
| 52.5° | 347.5 | 343.4 | 332.6 | 321.7 | 321.7 | 329.9 | 333.9 | 335.3 | 339.4 |
| 55° | 309.5 | 305.4 | 294.5 | 286.4 | 283.8 | 290.5 | 293.2 | 293.2 | 295.9 |
| 57.5° | 274.2 | 270.1 | 259.2 | 249.8 | 248.4 | 252.5 | 252.5 | 252.5 | 253.8 |
| 60° | 240.3 | 236.2 | 225.4 | 217.2 | 214.5 | 215.9 | 214.5 | 213.1 | 214.5 |
| 62.5° | 209.1 | 205.0 | 194.1 | 184.7 | 181.9 | 181.9 | 177.8 | 176.5 | 177.8 |
| 65° | 180.5 | 173.8 | 165.6 | 156.1 | 150.7 | 146.6 | 141.2 | 141.2 | 141.2 |
| 67.5° | 152.1 | 146.6 | 137.1 | 127.5 | 120.8 | 114.0 | 105.9 | 108.6 | 110.0 |
| 70° | 126.3 | 122.2 | 111.3 | 101.9 | 92.3 | 84.2 | 77.4 | 80.1 | 81.4 |
| 72.5° | 103.1 | 97.7 | 88.2 | 77.4 | 69.3 | 58.4 | 54.3 | 57.0 | 57.0 |
| 75° | 80.1 | 74.7 | 66.5 | 55.6 | 46.1 | 36.7 | 36.7 | 38.0 | 38.0 |
| 77.5° | 59.8 | 54.3 | 46.1 | 36.7 | 28.6 | 21.7 | 23.1 | 23.1 | 23.1 |
| 80° | 40.7 | 36.7 | 29.8 | 21.7 | 14.9 | 12.3 | 12.3 | 12.3 | 13.5 |
| 82.5° | 23.1 | 20.4 | 16.3 | 10.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| 85° | 10.9 | 8.1 | 6.8 | 4.1 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| 87.5° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 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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