

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: P580506

Luminaire Tested: **HCC4W35D010SL-HM43040930-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580506
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: HCC4W35D010SL-HM43040930-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

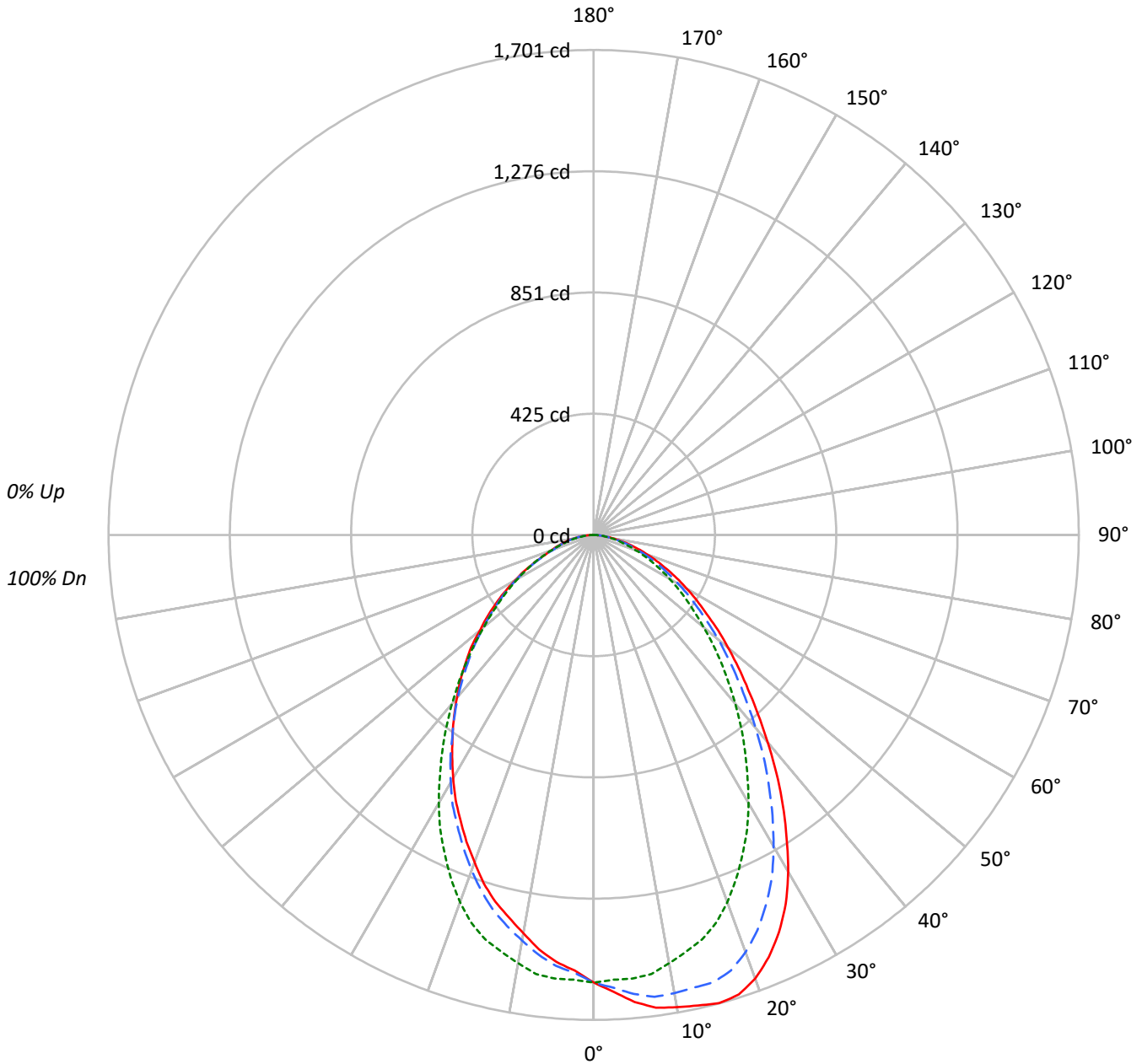
Lumens per Lamp: N/A
Luminaire Lumens: 3044.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
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° | 193616 | 193616 | 193616 |
| 5° | 203580 | 193352 | 186109 |
| 10° | 210718 | 191041 | 177665 |
| 15° | 217161 | 187561 | 170067 |
| 20° | 217396 | 179855 | 160271 |
| 25° | 209235 | 168107 | 150278 |
| 30° | 194285 | 154676 | 140334 |
| 35° | 174158 | 139254 | 129843 |
| 40° | 152804 | 124256 | 120038 |
| 45° | 133566 | 110017 | 110715 |
| 50° | 117937 | 96291 | 99745 |
| 55° | 103975 | 85352 | 89696 |
| 60° | 92953 | 75562 | 78522 |
| 65° | 82334 | 66457 | 66457 |
| 70° | 71947 | 56656 | 56656 |
| 75° | 61430 | 47991 | 53757 |
| 80° | 48657 | 42974 | 48657 |
| 85° | 31277 | 37079 | 45712 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 148.7 | 4.9 |
| 10°-20° | 418.8 | 13.8 |
| 20°-30° | 586.7 | 19.3 |
| 30°-40° | 604.5 | 19.9 |
| 40°-50° | 514.6 | 16.9 |
| 50°-60° | 381.3 | 12.5 |
| 60°-70° | 239.3 | 7.9 |
| 70°-80° | 118.9 | 3.9 |
| 80°-90° | 31.2 | 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° | 1154.2 | 37.9 |
| 0°-40° | 1758.7 | 57.8 |
| 0°-60° | 2654.7 | 87.2 |
| 0°-90° | 3044.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3044.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1570 | 1570 | 1570 | 1570 | 1570 | |
| 5° | 1644 | 1616 | 1562 | 1517 | 1503 | 158 |
| 15° | 1701 | 1624 | 1469 | 1362 | 1332 | 478 |
| 25° | 1537 | 1431 | 1235 | 1128 | 1104 | 703 |
| 35° | 1157 | 1070 | 925 | 864 | 862 | 721 |
| 45° | 766 | 713 | 631 | 618 | 635 | 594 |
| 55° | 484 | 445 | 397 | 405 | 417 | 437 |
| 65° | 282 | 254 | 228 | 224 | 228 | 281 |
| 75° | 129 | 115 | 101 | 109 | 113 | 138 |
| 85° | 22 | 22 | 26 | 30 | 32 | 28 |
| 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° | 1569.7 | 1569.7 | 1569.7 | 1569.7 | 1569.7 | 1569.7 | 1569.7 | 1569.7 | 1569.7 |
| 2.5° | 1603.8 | 1597.9 | 1589.8 | 1575.6 | 1561.6 | 1549.4 | 1537.4 | 1531.3 | 1529.3 |
| 5° | 1644.2 | 1632.0 | 1616.0 | 1589.8 | 1561.6 | 1537.4 | 1517.3 | 1507.2 | 1503.1 |
| 7.5° | 1672.4 | 1660.3 | 1634.1 | 1593.8 | 1553.5 | 1517.3 | 1485.0 | 1470.9 | 1466.8 |
| 10° | 1682.4 | 1668.4 | 1632.0 | 1577.6 | 1525.3 | 1481.0 | 1444.7 | 1426.6 | 1418.5 |
| 12.5° | 1690.5 | 1672.4 | 1626.1 | 1561.6 | 1497.1 | 1442.7 | 1404.4 | 1380.3 | 1374.2 |
| 15° | 1700.6 | 1680.5 | 1624.1 | 1545.4 | 1468.8 | 1404.4 | 1362.1 | 1339.9 | 1331.8 |
| 17.5° | 1690.5 | 1668.4 | 1601.8 | 1513.2 | 1426.6 | 1356.0 | 1309.7 | 1289.6 | 1281.5 |
| 20° | 1656.2 | 1632.0 | 1557.5 | 1462.9 | 1370.2 | 1297.7 | 1251.2 | 1231.1 | 1221.0 |
| 22.5° | 1603.8 | 1577.6 | 1501.1 | 1400.4 | 1305.6 | 1235.2 | 1190.8 | 1170.6 | 1164.6 |
| 25° | 1537.4 | 1511.2 | 1430.6 | 1327.8 | 1235.2 | 1166.6 | 1128.4 | 1110.2 | 1104.2 |
| 27.5° | 1458.8 | 1432.7 | 1354.0 | 1253.3 | 1164.6 | 1100.2 | 1069.9 | 1051.8 | 1047.8 |
| 30° | 1364.1 | 1337.9 | 1261.4 | 1168.6 | 1086.0 | 1025.6 | 1001.4 | 987.3 | 985.3 |
| 32.5° | 1259.3 | 1237.2 | 1166.6 | 1082.0 | 1003.4 | 953.0 | 934.9 | 924.8 | 922.8 |
| 35° | 1156.6 | 1132.4 | 1069.9 | 993.4 | 924.8 | 880.5 | 864.4 | 862.3 | 862.3 |
| 37.5° | 1051.8 | 1027.6 | 977.2 | 906.7 | 848.3 | 807.9 | 802.0 | 804.0 | 804.0 |
| 40° | 949.0 | 926.9 | 882.6 | 824.1 | 771.7 | 741.5 | 739.5 | 743.5 | 745.5 |
| 42.5° | 852.3 | 834.2 | 793.9 | 743.5 | 699.1 | 675.0 | 677.0 | 685.1 | 691.1 |
| 45° | 765.7 | 749.6 | 713.3 | 669.0 | 630.7 | 612.6 | 618.5 | 628.7 | 634.7 |
| 47.5° | 687.1 | 672.9 | 638.8 | 598.4 | 566.2 | 554.1 | 562.1 | 574.3 | 582.3 |
| 50° | 614.6 | 602.5 | 570.2 | 527.9 | 501.8 | 493.7 | 503.8 | 515.8 | 519.8 |
| 52.5° | 550.1 | 537.9 | 503.8 | 467.5 | 447.4 | 443.3 | 453.3 | 463.4 | 469.5 |
| 55° | 483.5 | 473.5 | 445.3 | 413.1 | 396.9 | 395.0 | 405.0 | 413.1 | 417.1 |
| 57.5° | 429.1 | 419.1 | 393.0 | 364.7 | 350.6 | 348.6 | 358.7 | 364.7 | 366.8 |
| 60° | 376.8 | 366.8 | 342.5 | 316.3 | 306.3 | 306.3 | 312.4 | 316.3 | 318.3 |
| 62.5° | 328.4 | 318.3 | 296.2 | 274.0 | 265.9 | 265.9 | 265.9 | 268.0 | 274.0 |
| 65° | 282.1 | 274.0 | 253.9 | 233.7 | 227.7 | 223.7 | 223.7 | 223.7 | 227.7 |
| 67.5° | 239.7 | 231.8 | 215.6 | 197.5 | 191.4 | 185.3 | 183.3 | 187.4 | 187.4 |
| 70° | 199.5 | 193.4 | 177.4 | 163.2 | 157.1 | 151.1 | 149.2 | 157.1 | 157.1 |
| 72.5° | 163.2 | 157.1 | 147.1 | 133.0 | 126.9 | 124.9 | 128.9 | 133.0 | 135.0 |
| 75° | 128.9 | 123.0 | 114.9 | 106.8 | 100.7 | 102.7 | 108.8 | 110.8 | 112.8 |
| 77.5° | 96.7 | 94.8 | 86.7 | 80.6 | 80.6 | 82.6 | 86.7 | 90.7 | 92.7 |
| 80° | 68.5 | 66.5 | 62.5 | 58.4 | 60.5 | 64.5 | 66.5 | 70.5 | 68.5 |
| 82.5° | 42.3 | 42.3 | 40.4 | 40.4 | 42.3 | 46.3 | 48.3 | 50.4 | 52.4 |
| 85° | 22.1 | 22.1 | 22.1 | 24.2 | 26.2 | 28.2 | 30.2 | 32.3 | 32.3 |
| 87.5° | 6.1 | 8.1 | 8.1 | 10.1 | 12.1 | 12.1 | 14.0 | 14.0 | 14.0 |
| 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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