

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: P580322

Luminaire Tested: **HCC4S30D010MB-HM43040840-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580322
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: HCC4S30D010MB-HM43040840-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

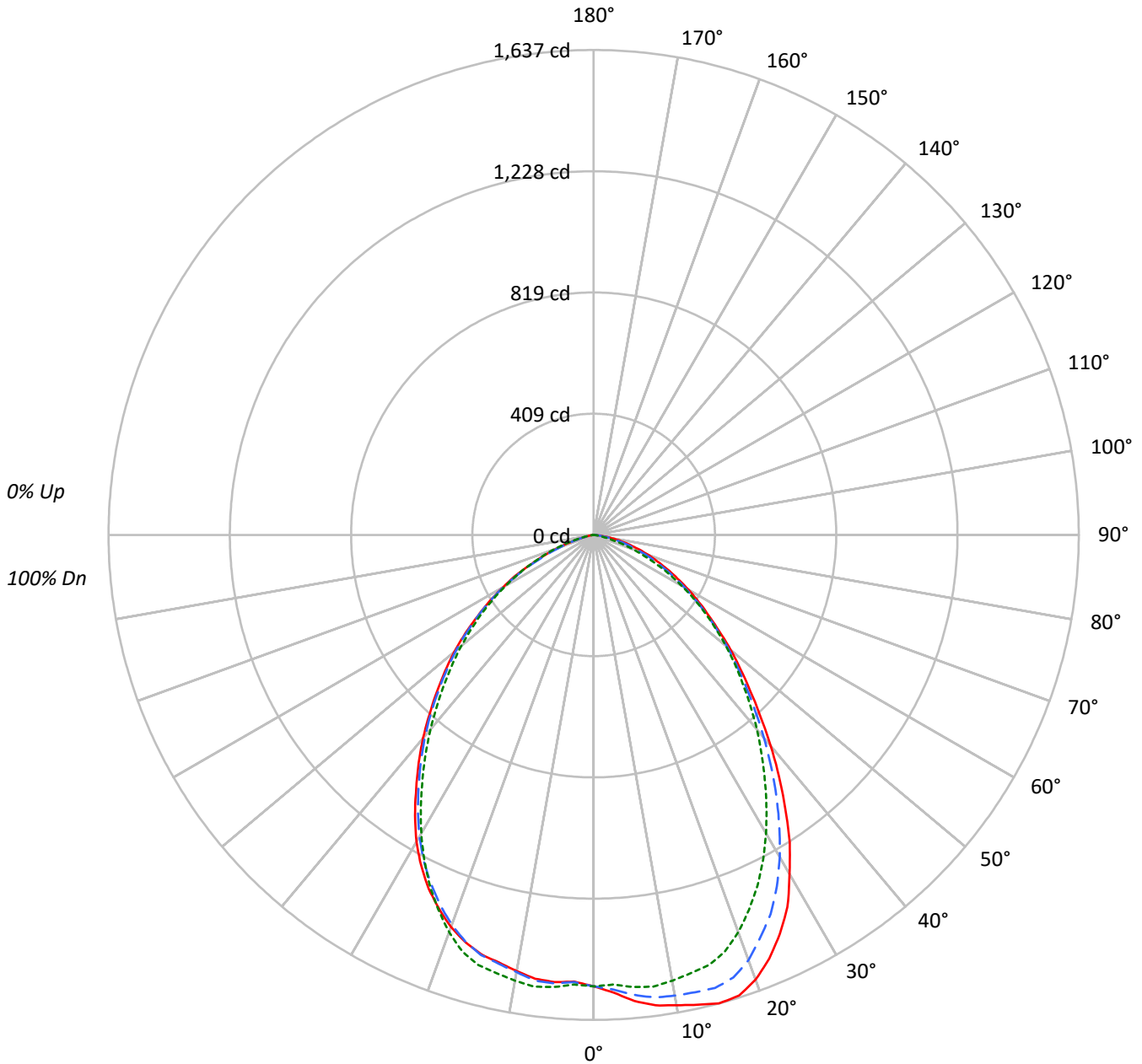
Lumens per Lamp: N/A
Luminaire Lumens: 3174.7 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28
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 | 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 | 61 | 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° | 187917 | 187917 | 187917 |
| 5° | 195519 | 189650 | 187607 |
| 10° | 201900 | 191342 | 187196 |
| 15° | 209001 | 191903 | 187178 |
| 20° | 209704 | 187271 | 184843 |
| 25° | 202294 | 177933 | 179321 |
| 30° | 188246 | 165671 | 170357 |
| 35° | 169565 | 151586 | 157157 |
| 40° | 149504 | 137910 | 144190 |
| 45° | 130706 | 124252 | 130357 |
| 50° | 115768 | 111796 | 117726 |
| 55° | 101825 | 98728 | 102706 |
| 60° | 90906 | 84319 | 86835 |
| 65° | 79911 | 68500 | 67303 |
| 70° | 69820 | 50489 | 46054 |
| 75° | 57903 | 30405 | 24496 |
| 80° | 43898 | 11720 | 7316 |
| 85° | 20379 | 2830 | 2830 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 146.9 | 4.6 |
| 10°-20° | 428.8 | 13.5 |
| 20°-30° | 621.0 | 19.6 |
| 30°-40° | 655.2 | 20.6 |
| 40°-50° | 567.1 | 17.9 |
| 50°-60° | 420.1 | 13.2 |
| 60°-70° | 242.1 | 7.6 |
| 70°-80° | 84.6 | 2.7 |
| 80°-90° | 8.9 | 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° | 1196.8 | 37.7 |
| 0°-40° | 1852.0 | 58.3 |
| 0°-60° | 2839.1 | 89.4 |
| 0°-90° | 3174.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3174.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1524 | 1524 | 1524 | 1524 | 1524 | |
| 5° | 1579 | 1558 | 1532 | 1519 | 1515 | 152 |
| 15° | 1637 | 1583 | 1503 | 1468 | 1466 | 460 |
| 25° | 1486 | 1412 | 1307 | 1299 | 1318 | 680 |
| 35° | 1126 | 1075 | 1007 | 1029 | 1044 | 703 |
| 45° | 749 | 729 | 712 | 739 | 747 | 582 |
| 55° | 474 | 463 | 459 | 476 | 478 | 427 |
| 65° | 274 | 257 | 235 | 222 | 231 | 273 |
| 75° | 122 | 103 | 64 | 51 | 51 | 131 |
| 85° | 14 | 8 | 2 | 2 | 2 | 22 |
| 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° | 1523.5 | 1523.5 | 1523.5 | 1523.5 | 1523.5 | 1523.5 | 1523.5 | 1523.5 | 1523.5 |
| 2.5° | 1546.1 | 1542.0 | 1535.9 | 1527.7 | 1519.3 | 1513.2 | 1511.1 | 1509.0 | 1509.0 |
| 5° | 1579.1 | 1570.9 | 1558.4 | 1542.0 | 1531.7 | 1525.5 | 1519.3 | 1515.2 | 1515.2 |
| 7.5° | 1601.8 | 1593.5 | 1574.9 | 1552.4 | 1537.9 | 1525.5 | 1517.3 | 1511.1 | 1511.1 |
| 10° | 1612.0 | 1601.8 | 1579.1 | 1550.2 | 1527.7 | 1511.1 | 1498.8 | 1494.6 | 1494.6 |
| 12.5° | 1624.3 | 1612.0 | 1581.1 | 1544.1 | 1515.2 | 1494.6 | 1482.3 | 1478.1 | 1478.1 |
| 15° | 1636.7 | 1622.3 | 1583.1 | 1539.9 | 1502.8 | 1478.1 | 1467.9 | 1465.8 | 1465.8 |
| 17.5° | 1630.5 | 1612.0 | 1566.7 | 1515.2 | 1474.1 | 1449.4 | 1439.1 | 1439.1 | 1441.1 |
| 20° | 1597.6 | 1579.1 | 1527.7 | 1469.9 | 1426.7 | 1408.2 | 1400.0 | 1404.0 | 1408.2 |
| 22.5° | 1548.2 | 1525.5 | 1469.9 | 1414.4 | 1369.1 | 1352.6 | 1352.6 | 1358.8 | 1365.0 |
| 25° | 1486.4 | 1465.8 | 1412.3 | 1350.6 | 1307.4 | 1294.9 | 1299.1 | 1309.4 | 1317.6 |
| 27.5° | 1416.4 | 1393.8 | 1338.1 | 1280.5 | 1237.3 | 1231.1 | 1241.5 | 1255.8 | 1260.0 |
| 30° | 1321.7 | 1303.2 | 1255.8 | 1200.3 | 1163.2 | 1161.2 | 1175.6 | 1185.9 | 1196.1 |
| 32.5° | 1231.1 | 1210.6 | 1165.2 | 1111.8 | 1084.9 | 1087.1 | 1103.5 | 1115.8 | 1122.0 |
| 35° | 1126.1 | 1107.6 | 1074.6 | 1031.4 | 1006.7 | 1010.8 | 1029.4 | 1041.7 | 1043.7 |
| 37.5° | 1027.3 | 1015.0 | 982.0 | 949.1 | 930.6 | 938.8 | 955.3 | 969.6 | 969.6 |
| 40° | 928.5 | 918.2 | 893.5 | 866.8 | 856.5 | 866.8 | 883.2 | 895.5 | 895.5 |
| 42.5° | 833.8 | 827.6 | 807.1 | 788.5 | 782.4 | 796.7 | 811.1 | 821.4 | 819.4 |
| 45° | 749.3 | 743.2 | 728.8 | 714.4 | 712.3 | 726.8 | 739.1 | 745.3 | 747.3 |
| 47.5° | 673.2 | 669.1 | 656.7 | 646.5 | 646.5 | 660.9 | 671.2 | 677.4 | 679.4 |
| 50° | 603.3 | 599.1 | 588.8 | 580.6 | 582.6 | 597.1 | 605.3 | 611.5 | 613.5 |
| 52.5° | 533.2 | 531.2 | 522.9 | 512.7 | 518.8 | 529.1 | 539.4 | 543.5 | 545.6 |
| 55° | 473.5 | 473.5 | 463.3 | 455.0 | 459.1 | 469.4 | 475.6 | 477.6 | 477.6 |
| 57.5° | 420.0 | 417.9 | 405.6 | 397.4 | 399.4 | 409.7 | 413.9 | 415.9 | 415.9 |
| 60° | 368.5 | 366.5 | 354.1 | 341.8 | 341.8 | 347.9 | 350.0 | 352.0 | 352.0 |
| 62.5° | 319.1 | 317.1 | 302.6 | 292.4 | 288.2 | 286.2 | 286.2 | 290.2 | 298.5 |
| 65° | 273.8 | 271.7 | 257.3 | 240.8 | 234.7 | 228.5 | 222.3 | 226.5 | 230.6 |
| 67.5° | 232.6 | 228.5 | 214.1 | 199.7 | 185.3 | 175.0 | 164.7 | 170.9 | 179.1 |
| 70° | 193.6 | 189.4 | 172.9 | 156.5 | 140.0 | 123.5 | 115.3 | 123.5 | 127.7 |
| 72.5° | 156.5 | 152.4 | 135.9 | 119.5 | 98.8 | 82.3 | 80.3 | 82.3 | 84.4 |
| 75° | 121.5 | 119.5 | 103.0 | 84.4 | 63.8 | 51.4 | 51.4 | 51.4 | 51.4 |
| 77.5° | 90.6 | 86.5 | 70.0 | 53.6 | 37.1 | 28.9 | 26.7 | 26.7 | 26.7 |
| 80° | 61.8 | 57.6 | 43.2 | 30.9 | 16.5 | 12.4 | 12.4 | 10.3 | 10.3 |
| 82.5° | 35.0 | 32.9 | 22.7 | 12.4 | 6.2 | 4.2 | 4.2 | 4.2 | 4.2 |
| 85° | 14.4 | 12.4 | 8.2 | 4.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 87.5° | 2.0 | 2.0 | 2.0 | 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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Scaled Data Report



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

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