

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: P592744

Luminaire Tested: **HCC4S30D010BZ-HM43040850-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592744
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S30D010BZ-HM43040850-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

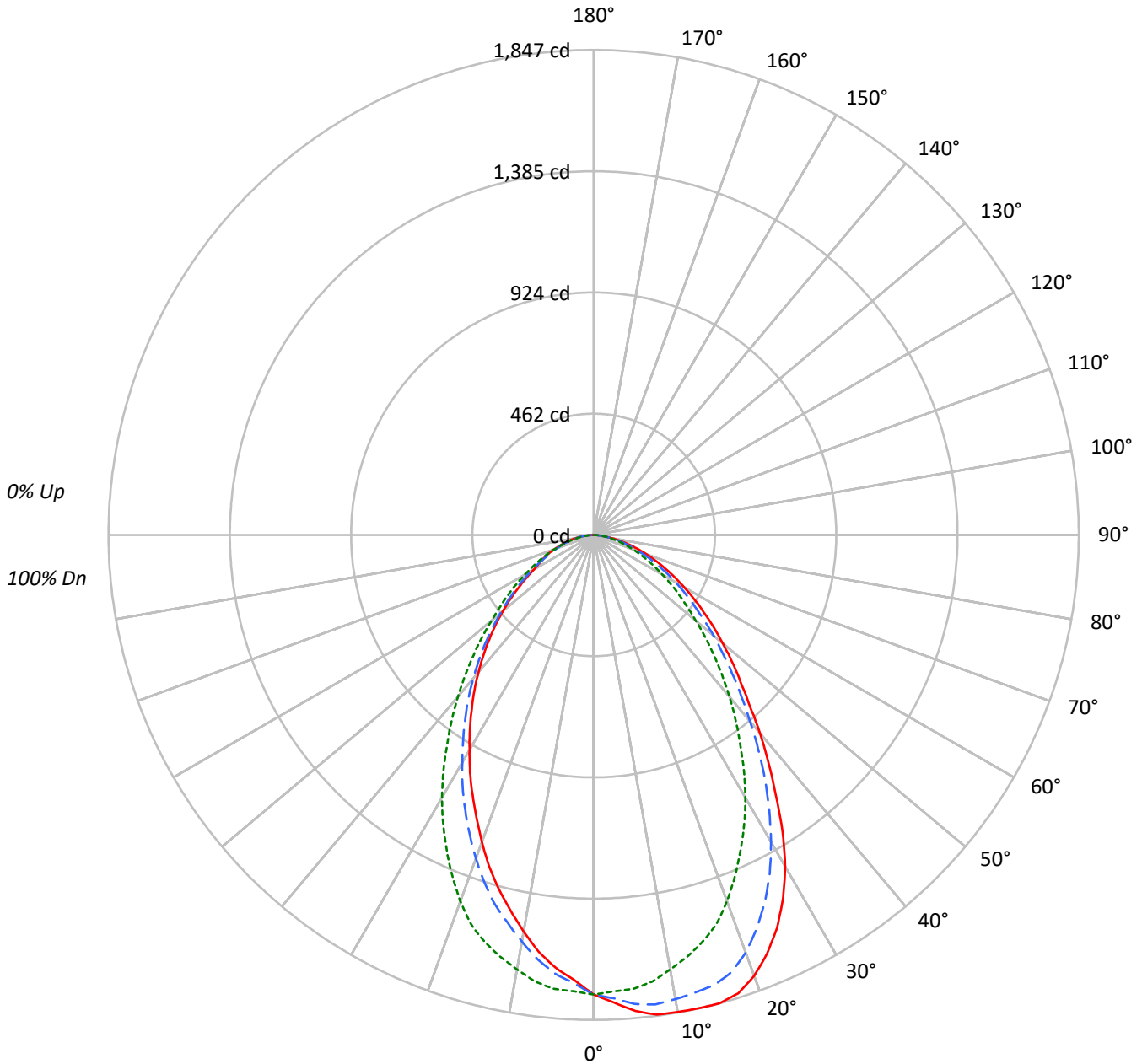
Lumens per Lamp: N/A
Luminaire Lumens: 3125.3 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28
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 | 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 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | 87 | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | 76 | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | 66 | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | 47 | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 44 | 42 | | | | | 42 | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | 38 | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | 35 | | | |
| 10 | 59 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | 32 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 215867 | 215867 | 215867 |
| 5° | 225359 | 214909 | 204954 |
| 10° | 231058 | 210417 | 192119 |
| 15° | 235843 | 204813 | 178252 |
| 20° | 234578 | 194845 | 163237 |
| 25° | 224737 | 180179 | 148509 |
| 30° | 207616 | 164518 | 134594 |
| 35° | 181973 | 146331 | 121832 |
| 40° | 158472 | 129296 | 109733 |
| 45° | 137910 | 112774 | 98051 |
| 50° | 122887 | 97193 | 86524 |
| 55° | 109803 | 85459 | 74836 |
| 60° | 98035 | 74649 | 64510 |
| 65° | 87150 | 65523 | 61291 |
| 70° | 76491 | 56440 | 57161 |
| 75° | 64766 | 48038 | 52995 |
| 80° | 49722 | 40914 | 48231 |
| 85° | 29154 | 32126 | 40900 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 164.0 | 5.2 |
| 10°-20° | 452.5 | 14.5 |
| 20°-30° | 618.2 | 19.8 |
| 30°-40° | 620.8 | 19.9 |
| 40°-50° | 513.5 | 16.4 |
| 50°-60° | 372.2 | 11.9 |
| 60°-70° | 235.7 | 7.5 |
| 70°-80° | 119.1 | 3.8 |
| 80°-90° | 29.2 | 0.9 |
| 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° | 1234.7 | 39.5 |
| 0°-40° | 1855.5 | 59.4 |
| 0°-60° | 2741.2 | 87.7 |
| 0°-90° | 3125.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3125.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1750 | 1750 | 1750 | 1750 | 1750 | |
| 5° | 1820 | 1793 | 1736 | 1678 | 1655 | 174 |
| 15° | 1847 | 1775 | 1604 | 1456 | 1396 | 519 |
| 25° | 1651 | 1542 | 1324 | 1157 | 1091 | 755 |
| 35° | 1208 | 1137 | 972 | 852 | 809 | 758 |
| 45° | 791 | 745 | 646 | 583 | 562 | 615 |
| 55° | 511 | 465 | 397 | 362 | 348 | 459 |
| 65° | 299 | 266 | 224 | 202 | 210 | 297 |
| 75° | 136 | 117 | 101 | 105 | 111 | 145 |
| 85° | 21 | 21 | 23 | 27 | 29 | 29 |
| 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° | 1750.1 | 1750.1 | 1750.1 | 1750.1 | 1750.1 | 1750.1 | 1750.1 | 1750.1 | 1750.1 |
| 2.5° | 1783.0 | 1776.8 | 1766.6 | 1754.2 | 1739.8 | 1723.4 | 1708.9 | 1700.7 | 1696.5 |
| 5° | 1820.1 | 1811.8 | 1793.3 | 1766.6 | 1735.7 | 1704.7 | 1678.0 | 1661.5 | 1655.3 |
| 7.5° | 1842.7 | 1830.4 | 1803.6 | 1762.4 | 1715.1 | 1669.8 | 1630.6 | 1608.0 | 1601.9 |
| 10° | 1844.8 | 1830.4 | 1795.3 | 1739.8 | 1680.0 | 1620.4 | 1573.0 | 1540.1 | 1533.9 |
| 12.5° | 1846.9 | 1828.4 | 1785.1 | 1719.2 | 1645.1 | 1571.0 | 1513.3 | 1474.2 | 1463.9 |
| 15° | 1846.9 | 1828.4 | 1774.8 | 1696.5 | 1603.9 | 1519.5 | 1455.7 | 1410.3 | 1395.9 |
| 17.5° | 1830.4 | 1809.8 | 1745.9 | 1655.3 | 1554.5 | 1459.7 | 1385.6 | 1338.3 | 1323.9 |
| 20° | 1787.1 | 1764.5 | 1692.5 | 1593.6 | 1484.4 | 1385.6 | 1311.5 | 1262.1 | 1243.6 |
| 22.5° | 1725.4 | 1698.7 | 1622.4 | 1515.4 | 1406.3 | 1305.3 | 1233.2 | 1181.8 | 1165.3 |
| 25° | 1651.3 | 1624.4 | 1542.1 | 1437.1 | 1323.9 | 1229.2 | 1157.1 | 1109.7 | 1091.2 |
| 27.5° | 1560.7 | 1531.8 | 1451.5 | 1346.5 | 1241.5 | 1146.8 | 1081.0 | 1037.6 | 1019.1 |
| 30° | 1457.7 | 1426.8 | 1350.7 | 1249.7 | 1155.1 | 1064.5 | 1000.6 | 965.7 | 945.0 |
| 32.5° | 1338.3 | 1311.5 | 1243.6 | 1153.0 | 1064.5 | 978.0 | 924.5 | 893.6 | 877.1 |
| 35° | 1208.5 | 1194.2 | 1136.6 | 1058.3 | 971.8 | 899.7 | 852.4 | 823.6 | 809.1 |
| 37.5° | 1093.3 | 1078.8 | 1029.4 | 963.5 | 887.4 | 821.5 | 782.4 | 757.7 | 745.4 |
| 40° | 984.2 | 971.8 | 924.5 | 868.9 | 803.0 | 745.4 | 712.3 | 693.8 | 681.5 |
| 42.5° | 877.1 | 870.9 | 831.8 | 780.4 | 722.7 | 673.3 | 646.5 | 632.1 | 621.8 |
| 45° | 790.6 | 782.4 | 745.4 | 695.9 | 646.5 | 605.3 | 582.7 | 572.3 | 562.1 |
| 47.5° | 714.5 | 704.1 | 665.1 | 621.8 | 576.5 | 539.4 | 518.9 | 508.5 | 504.4 |
| 50° | 640.4 | 630.0 | 595.0 | 551.8 | 506.5 | 479.7 | 463.3 | 453.0 | 450.9 |
| 52.5° | 574.5 | 564.1 | 525.0 | 483.8 | 448.8 | 426.2 | 411.8 | 401.5 | 397.4 |
| 55° | 510.6 | 498.2 | 465.3 | 426.2 | 397.4 | 376.8 | 362.3 | 352.0 | 348.0 |
| 57.5° | 453.0 | 440.6 | 411.8 | 374.7 | 348.0 | 329.4 | 317.1 | 306.8 | 302.6 |
| 60° | 397.4 | 387.1 | 360.3 | 325.3 | 302.6 | 286.2 | 273.9 | 265.6 | 261.5 |
| 62.5° | 345.8 | 337.6 | 310.9 | 280.0 | 261.5 | 247.0 | 236.8 | 228.5 | 232.7 |
| 65° | 298.6 | 290.3 | 265.6 | 238.8 | 224.5 | 210.0 | 201.8 | 201.8 | 210.0 |
| 67.5° | 253.2 | 245.0 | 224.5 | 201.8 | 189.4 | 179.1 | 172.9 | 179.1 | 185.3 |
| 70° | 212.1 | 203.8 | 185.3 | 166.7 | 156.5 | 148.2 | 148.2 | 154.4 | 158.5 |
| 72.5° | 172.9 | 164.7 | 150.2 | 135.9 | 127.7 | 121.5 | 127.7 | 131.8 | 135.9 |
| 75° | 135.9 | 129.7 | 117.3 | 107.0 | 100.8 | 98.8 | 105.0 | 109.1 | 111.2 |
| 77.5° | 100.8 | 96.8 | 88.5 | 80.3 | 76.1 | 78.3 | 84.4 | 86.5 | 88.5 |
| 80° | 70.0 | 67.9 | 61.8 | 57.6 | 57.6 | 59.7 | 63.8 | 65.9 | 67.9 |
| 82.5° | 43.2 | 43.2 | 39.1 | 37.1 | 39.1 | 43.2 | 45.3 | 47.4 | 47.4 |
| 85° | 20.6 | 22.7 | 20.6 | 20.6 | 22.7 | 26.7 | 26.7 | 28.9 | 28.9 |
| 87.5° | 6.2 | 6.2 | 8.2 | 8.2 | 10.3 | 10.3 | 10.3 | 10.3 | 12.4 |
| 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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