

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: P580321

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580321  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-9)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S30D010MB-HM43040840-41WDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

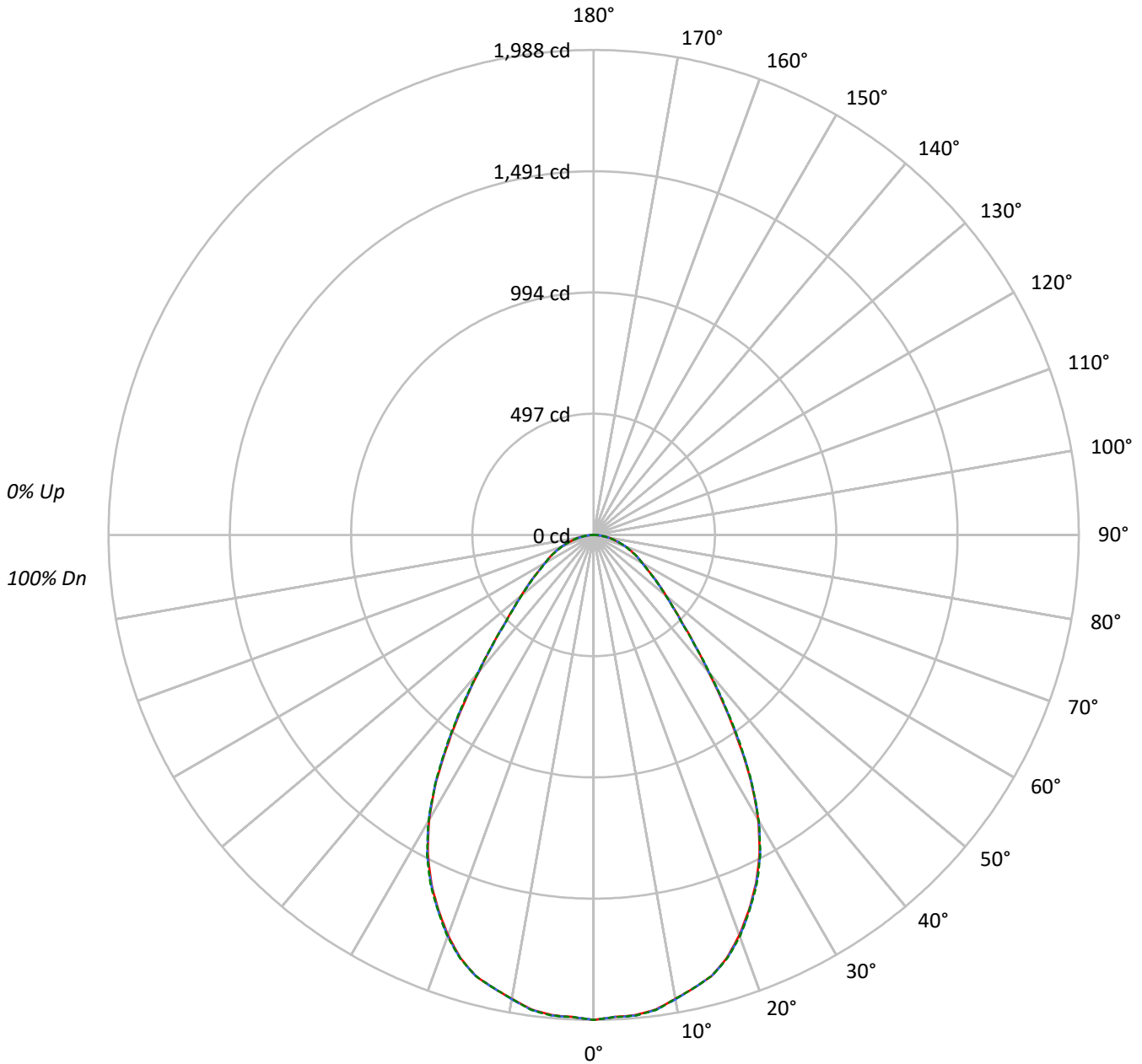
Lumens per Lamp: N/A  
Luminaire Lumens: 3067.7 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.04  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 94  | 92  | 90  | 89  |    |    |    |    | 89  |   |  |   |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 91  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 78  |    |    |    |    | 78  |   |  |   |
| 3   | 96  | 87  | 81  | 76  | 94  | 86  | 80  | 75  | 83  | 78  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |    |    | 69  |   |  |   |
| 4   | 90  | 80  | 72  | 67  | 87  | 78  | 72  | 66  | 76  | 70  | 66  | 74  | 69  | 65  | 72  | 68  | 64  | 62  |    |    |    |    | 62  |   |  |   |
| 5   | 84  | 73  | 65  | 60  | 82  | 72  | 65  | 59  | 70  | 64  | 59  | 68  | 63  | 58  | 66  | 62  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 6   | 78  | 67  | 59  | 54  | 77  | 66  | 59  | 54  | 64  | 58  | 53  | 63  | 57  | 53  | 61  | 56  | 53  | 51  |    |    |    |    | 51  |   |  |   |
| 7   | 73  | 62  | 54  | 49  | 72  | 61  | 54  | 49  | 60  | 53  | 49  | 58  | 53  | 48  | 57  | 52  | 48  | 46  |    |    |    |    | 46  |   |  |   |
| 8   | 69  | 57  | 50  | 45  | 68  | 57  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 44  | 53  | 48  | 44  | 42  |    |    |    |    | 42  |   |  |   |
| 9   | 65  | 53  | 46  | 41  | 64  | 53  | 46  | 41  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 39  |    |    |    |    | 39  |   |  |   |
| 10  | 61  | 50  | 43  | 38  | 60  | 49  | 43  | 38  | 48  | 42  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |    | 36  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 245236 | 245236 | 245236 |
| 5°  | 244650 | 244897 | 244897 |
| 10° | 241805 | 242068 | 241805 |
| 15° | 238908 | 238908 | 238908 |
| 20° | 229104 | 229642 | 229918 |
| 25° | 214298 | 214570 | 215128 |
| 30° | 192020 | 192590 | 192590 |
| 35° | 155893 | 157127 | 157428 |
| 40° | 117655 | 118315 | 118637 |
| 45° | 90114  | 89765  | 89765  |
| 50° | 74243  | 73859  | 73859  |
| 55° | 63740  | 63288  | 63288  |
| 60° | 56887  | 56344  | 56344  |
| 65° | 53469  | 53469  | 53469  |
| 70° | 49768  | 49768  | 49768  |
| 75° | 45084  | 46132  | 45084  |
| 80° | 42406  | 40914  | 42406  |
| 85° | 34956  | 34956  | 34956  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 187.3  | 6.1       |
| 10°-20°   | 524.2  | 17.1      |
| 20°-30°   | 720.4  | 23.5      |
| 30°-40°   | 647.7  | 21.1      |
| 40°-50°   | 409.3  | 13.3      |
| 50°-60°   | 267.2  | 8.7       |
| 60°-70°   | 181.0  | 5.9       |
| 70°-80°   | 101.9  | 3.3       |
| 80°-90°   | 28.6   | 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°    | 1431.9 | 46.7      |
| 0°-40°    | 2079.6 | 67.8      |
| 0°-60°    | 2756.1 | 89.8      |
| 0°-90°    | 3067.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3067.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1988 | 1988  | 1988 | 1988  | 1988 |      |
| 5°  | 1976 | 1976  | 1978 | 1978  | 1978 | 187  |
| 15° | 1871 | 1871  | 1871 | 1871  | 1871 | 524  |
| 25° | 1575 | 1577  | 1577 | 1581  | 1581 | 719  |
| 35° | 1035 | 1040  | 1044 | 1048  | 1046 | 645  |
| 45° | 517  | 515   | 515  | 515   | 515  | 410  |
| 55° | 296  | 296   | 294  | 296   | 294  | 268  |
| 65° | 183  | 183   | 183  | 183   | 183  | 182  |
| 75° | 95   | 97    | 97   | 97    | 95   | 101  |
| 85° | 25   | 25    | 25   | 25    | 25   | 29   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1988.2 | 1988.2 | 1988.2 | 1988.2 | 1988.2 |
| 2.5°  | 1977.9 | 1977.9 | 1977.9 | 1977.9 | 1977.9 |
| 5°    | 1975.9 | 1975.9 | 1977.9 | 1977.9 | 1977.9 |
| 7.5°  | 1961.5 | 1963.5 | 1963.5 | 1963.5 | 1963.5 |
| 10°   | 1930.6 | 1930.6 | 1932.7 | 1932.7 | 1930.6 |
| 12.5° | 1901.8 | 1901.8 | 1901.8 | 1903.8 | 1901.8 |
| 15°   | 1870.9 | 1870.9 | 1870.9 | 1870.9 | 1870.9 |
| 17.5° | 1817.4 | 1819.5 | 1819.5 | 1819.5 | 1819.5 |
| 20°   | 1745.4 | 1749.5 | 1749.5 | 1751.6 | 1751.6 |
| 22.5° | 1663.0 | 1665.2 | 1667.2 | 1669.2 | 1667.2 |
| 25°   | 1574.6 | 1576.6 | 1576.6 | 1580.7 | 1580.7 |
| 27.5° | 1471.6 | 1473.7 | 1477.8 | 1477.8 | 1477.8 |
| 30°   | 1348.2 | 1350.2 | 1352.2 | 1352.2 | 1352.2 |
| 32.5° | 1202.0 | 1202.0 | 1206.2 | 1208.2 | 1206.2 |
| 35°   | 1035.3 | 1039.5 | 1043.5 | 1047.7 | 1045.5 |
| 37.5° | 876.8  | 881.0  | 883.0  | 883.0  | 885.0  |
| 40°   | 730.7  | 734.8  | 734.8  | 739.0  | 736.8  |
| 42.5° | 615.4  | 613.4  | 613.4  | 617.5  | 615.4  |
| 45°   | 516.6  | 514.6  | 514.6  | 514.6  | 514.6  |
| 47.5° | 444.5  | 442.5  | 442.5  | 442.5  | 442.5  |
| 50°   | 386.9  | 384.9  | 384.9  | 384.9  | 384.9  |
| 52.5° | 339.6  | 337.5  | 337.5  | 337.5  | 335.5  |
| 55°   | 296.4  | 296.4  | 294.3  | 296.4  | 294.3  |
| 57.5° | 257.3  | 257.3  | 257.3  | 257.3  | 257.3  |
| 60°   | 230.6  | 228.4  | 228.4  | 228.4  | 228.4  |
| 62.5° | 205.9  | 205.9  | 205.9  | 205.9  | 205.9  |
| 65°   | 183.2  | 183.2  | 183.2  | 183.2  | 183.2  |
| 67.5° | 160.5  | 158.5  | 160.5  | 160.5  | 158.5  |
| 70°   | 138.0  | 135.8  | 138.0  | 138.0  | 138.0  |
| 72.5° | 115.3  | 115.3  | 115.3  | 117.3  | 115.3  |
| 75°   | 94.6   | 96.8   | 96.8   | 96.8   | 94.6   |
| 77.5° | 76.1   | 78.2   | 76.1   | 76.1   | 76.1   |
| 80°   | 59.7   | 57.6   | 57.6   | 57.6   | 59.7   |
| 82.5° | 41.2   | 41.2   | 41.2   | 41.2   | 41.2   |
| 85°   | 24.7   | 24.7   | 24.7   | 24.7   | 24.7   |
| 87.5° | 10.3   | 10.3   | 10.3   | 10.3   | 10.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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Scaled Data Report



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

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