

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: P580104

Luminaire Tested: **HCC4S20D010SL-HM40525940-41PSMDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580104  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-12)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S20D010SL-HM40525940-41PSMDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" PLASTIC TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

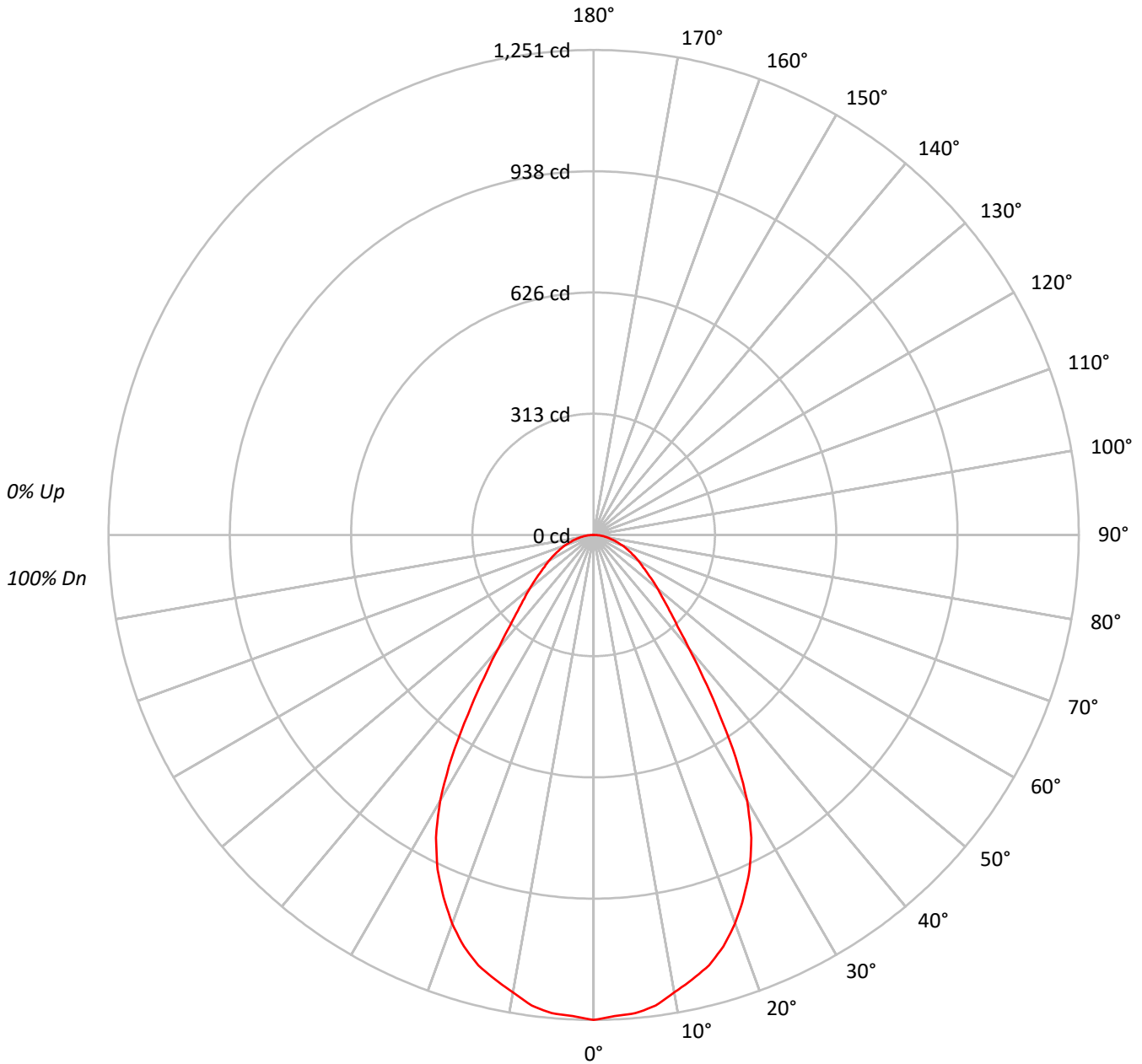
Lumens per Lamp: N/A  
Luminaire Lumens: 1776.7 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 0.99  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 20  
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 | 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 | 101 | 109 | 105 | 102 | 99  | 101 | 99  | 96  | 97  | 95  | 93  | 94  | 92  | 91  | 89  |    |    |   |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 92  | 88  | 84  | 89  | 85  | 82  | 86  | 83  | 80  | 78  |    |    |   |
| 3   | 96  | 88  | 81  | 76  | 94  | 86  | 80  | 75  | 84  | 78  | 74  | 81  | 77  | 73  | 79  | 75  | 72  | 70  |    |    |   |
| 4   | 90  | 80  | 73  | 68  | 88  | 79  | 72  | 67  | 77  | 71  | 66  | 74  | 69  | 65  | 72  | 68  | 65  | 63  |    |    |   |
| 5   | 84  | 74  | 66  | 61  | 82  | 72  | 66  | 60  | 71  | 64  | 60  | 69  | 63  | 59  | 67  | 62  | 59  | 57  |    |    |   |
| 6   | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 53  | 52  |    |    |   |
| 7   | 74  | 63  | 55  | 50  | 73  | 62  | 55  | 50  | 61  | 54  | 50  | 59  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |   |
| 8   | 70  | 58  | 51  | 46  | 68  | 58  | 51  | 46  | 56  | 50  | 46  | 55  | 50  | 45  | 54  | 49  | 45  | 44  |    |    |   |
| 9   | 66  | 54  | 47  | 42  | 65  | 54  | 47  | 42  | 53  | 47  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 40  |    |    |   |
| 10  | 62  | 51  | 44  | 39  | 61  | 50  | 44  | 39  | 49  | 43  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |   |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 154318 |
| 5°  | 153347 |
| 10° | 150098 |
| 15° | 146775 |
| 20° | 139991 |
| 25° | 129578 |
| 30° | 112703 |
| 35° | 85106  |
| 40° | 61685  |
| 45° | 48197  |
| 50° | 41218  |
| 55° | 35676  |
| 60° | 32859  |
| 65° | 30062  |
| 70° | 28094  |
| 75° | 25735  |
| 80° | 24151  |
| 85° | 23068  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.0  | 6.6       |
| 10°-20°   | 322.0  | 18.1      |
| 20°-30°   | 432.9  | 24.4      |
| 30°-40°   | 356.0  | 20.0      |
| 40°-50°   | 218.6  | 12.3      |
| 50°-60°   | 151.3  | 8.5       |
| 60°-70°   | 103.1  | 5.8       |
| 70°-80°   | 57.5   | 3.2       |
| 80°-90°   | 18.3   | 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°    | 871.9  | 49.1      |
| 0°-40°    | 1227.8 | 69.1      |
| 0°-60°    | 1597.8 | 89.9      |
| 0°-90°    | 1776.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1776.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1251 |      |
| 5°  | 1238 | 117  |
| 15° | 1149 | 322  |
| 25° | 952  | 433  |
| 35° | 565  | 356  |
| 45° | 276  | 219  |
| 55° | 166  | 151  |
| 65° | 103  | 103  |
| 75° | 54   | 57   |
| 85° | 16   | 18   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1251.1 |
| 2.5°  | 1242.3 |
| 5°    | 1238.5 |
| 7.5°  | 1224.8 |
| 10°   | 1198.4 |
| 12.5° | 1174.5 |
| 15°   | 1149.4 |
| 17.5° | 1112.9 |
| 20°   | 1066.5 |
| 22.5° | 1011.2 |
| 25°   | 952.1  |
| 27.5° | 880.6  |
| 30°   | 791.3  |
| 32.5° | 682.1  |
| 35°   | 565.2  |
| 37.5° | 464.8  |
| 40°   | 383.1  |
| 42.5° | 320.4  |
| 45°   | 276.3  |
| 47.5° | 242.5  |
| 50°   | 214.8  |
| 52.5° | 189.7  |
| 55°   | 165.9  |
| 57.5° | 148.2  |
| 60°   | 133.2  |
| 62.5° | 118.0  |
| 65°   | 103.0  |
| 67.5° | 90.5   |
| 70°   | 77.9   |
| 72.5° | 65.3   |
| 75°   | 54.0   |
| 77.5° | 42.7   |
| 80°   | 34.0   |
| 82.5° | 25.1   |
| 85°   | 16.3   |
| 87.5° | 8.8    |
| 90°   | 0.0    |

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— 0°-180°

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