

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: P580001

Luminaire Tested: **HC420D010-HM40525830-41PSMDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580001  
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: HC420D010-HM40525830-41PSMDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" PLASTIC TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1852.2 lumens  
Efficiency: N/A  
Efficacy: 92.6 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

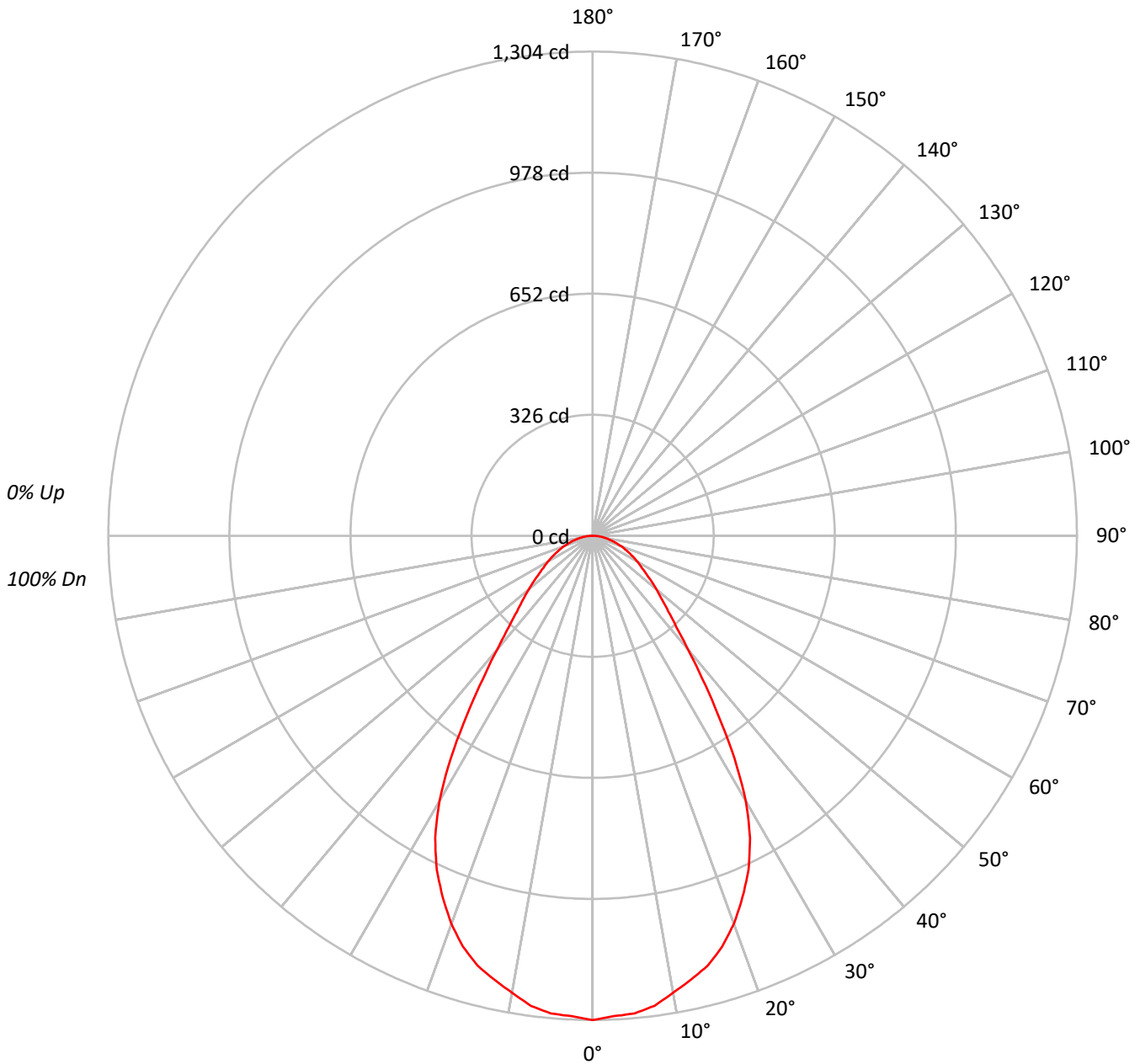
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 160892 |
| 5°  | 159885 |
| 10° | 156473 |
| 15° | 153019 |
| 20° | 145937 |
| 25° | 135090 |
| 30° | 117502 |
| 35° | 88735  |
| 40° | 64310  |
| 45° | 50255  |
| 50° | 42965  |
| 55° | 37182  |
| 60° | 34241  |
| 65° | 31346  |
| 70° | 29284  |
| 75° | 26831  |
| 80° | 25074  |
| 85° | 24059  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 122.0  | 6.6       |
| 10°-20°   | 335.6  | 18.1      |
| 20°-30°   | 451.3  | 24.4      |
| 30°-40°   | 371.1  | 20.0      |
| 40°-50°   | 227.9  | 12.3      |
| 50°-60°   | 157.7  | 8.5       |
| 60°-70°   | 107.5  | 5.8       |
| 70°-80°   | 59.9   | 3.2       |
| 80°-90°   | 19.1   | 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°    | 908.9  | 49.1      |
| 0°-40°    | 1280.1 | 69.1      |
| 0°-60°    | 1665.7 | 89.9      |
| 0°-90°    | 1852.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1852.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1304 |      |
| 5°  | 1291 | 122  |
| 15° | 1198 | 336  |
| 25° | 993  | 451  |
| 35° | 589  | 371  |
| 45° | 288  | 228  |
| 55° | 173  | 158  |
| 65° | 107  | 108  |
| 75° | 56   | 60   |
| 85° | 17   | 19   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1304.4 |
| 2.5°  | 1295.2 |
| 5°    | 1291.3 |
| 7.5°  | 1276.8 |
| 10°   | 1249.3 |
| 12.5° | 1224.4 |
| 15°   | 1198.3 |
| 17.5° | 1160.3 |
| 20°   | 1111.8 |
| 22.5° | 1054.2 |
| 25°   | 992.6  |
| 27.5° | 918.1  |
| 30°   | 825.0  |
| 32.5° | 711.1  |
| 35°   | 589.3  |
| 37.5° | 484.5  |
| 40°   | 399.4  |
| 42.5° | 333.9  |
| 45°   | 288.1  |
| 47.5° | 252.8  |
| 50°   | 223.9  |
| 52.5° | 197.7  |
| 55°   | 172.9  |
| 57.5° | 154.5  |
| 60°   | 138.8  |
| 62.5° | 123.1  |
| 65°   | 107.4  |
| 67.5° | 94.3   |
| 70°   | 81.2   |
| 72.5° | 68.1   |
| 75°   | 56.3   |
| 77.5° | 44.5   |
| 80°   | 35.3   |
| 82.5° | 26.2   |
| 85°   | 17.0   |
| 87.5° | 9.2    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)