

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: P592891

Luminaire Tested: **HC450D010-HM44560950-41WDWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592891  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-10)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560950-41WDWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4419.9 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.14 / 1.07  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

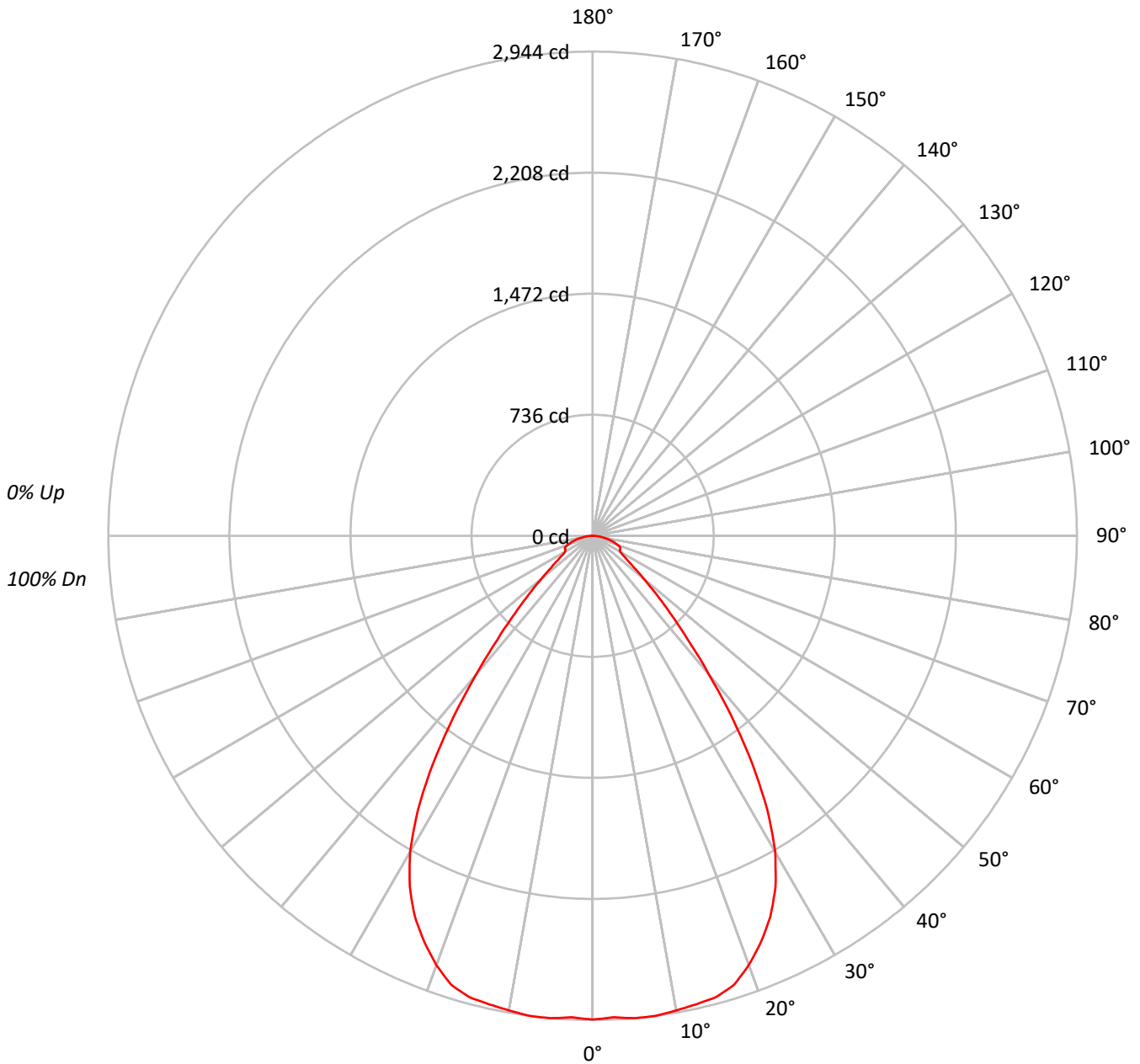
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |    |    |   |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 92  | 90  |    |    |   |
| 2   | 104 | 98  | 93  | 89  | 102 | 96  | 92  | 88  | 93  | 89  | 86  | 90  | 87  | 84  | 87  | 84  | 82  | 80  |    |    |   |
| 3   | 98  | 89  | 83  | 78  | 95  | 88  | 82  | 78  | 85  | 80  | 76  | 83  | 78  | 75  | 80  | 77  | 74  | 72  |    |    |   |
| 4   | 91  | 82  | 75  | 70  | 89  | 81  | 74  | 69  | 78  | 73  | 69  | 76  | 72  | 68  | 74  | 70  | 67  | 65  |    |    |   |
| 5   | 86  | 75  | 68  | 63  | 84  | 74  | 68  | 63  | 72  | 67  | 62  | 71  | 65  | 61  | 69  | 64  | 61  | 59  |    |    |   |
| 6   | 80  | 70  | 62  | 57  | 79  | 69  | 62  | 57  | 67  | 61  | 57  | 66  | 60  | 56  | 64  | 59  | 56  | 54  |    |    |   |
| 7   | 76  | 64  | 57  | 52  | 74  | 64  | 57  | 52  | 62  | 56  | 52  | 61  | 56  | 51  | 60  | 55  | 51  | 49  |    |    |   |
| 8   | 71  | 60  | 53  | 48  | 70  | 59  | 53  | 48  | 58  | 52  | 48  | 57  | 51  | 47  | 56  | 51  | 47  | 46  |    |    |   |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 42  |    |    |   |
| 10  | 64  | 52  | 46  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 49  | 44  | 41  | 39  |    |    |   |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 362846 |
| 5°  | 364579 |
| 10° | 367078 |
| 15° | 370755 |
| 20° | 364579 |
| 25° | 347809 |
| 30° | 315989 |
| 35° | 254882 |
| 40° | 176860 |
| 45° | 116105 |
| 50° | 77793  |
| 55° | 55374  |
| 60° | 47291  |
| 65° | 54374  |
| 70° | 58279  |
| 75° | 56140  |
| 80° | 50575  |
| 85° | 46561  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 280.6  | 6.3       |
| 10°-20°   | 815.6  | 18.5      |
| 20°-30°   | 1165.3 | 26.4      |
| 30°-40°   | 1041.0 | 23.6      |
| 40°-50°   | 533.9  | 12.1      |
| 50°-60°   | 242.7  | 5.5       |
| 60°-70°   | 181.0  | 4.1       |
| 70°-80°   | 123.2  | 2.8       |
| 80°-90°   | 36.5   | 0.8       |
| 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°    | 2261.6 | 51.2      |
| 0°-40°    | 3302.6 | 74.7      |
| 0°-60°    | 4079.2 | 92.3      |
| 0°-90°    | 4419.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4419.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2942 |      |
| 5°  | 2944 | 281  |
| 15° | 2903 | 816  |
| 25° | 2556 | 1165 |
| 35° | 1693 | 1041 |
| 45° | 666  | 534  |
| 55° | 258  | 243  |
| 65° | 186  | 181  |
| 75° | 118  | 123  |
| 85° | 33   | 37   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 2941.7 |
| 2.5°  | 2930.8 |
| 5°    | 2944.5 |
| 7.5°  | 2944.5 |
| 10°   | 2930.8 |
| 12.5° | 2917.2 |
| 15°   | 2903.4 |
| 17.5° | 2862.4 |
| 20°   | 2777.5 |
| 22.5° | 2673.4 |
| 25°   | 2555.6 |
| 27.5° | 2407.6 |
| 30°   | 2218.6 |
| 32.5° | 1977.7 |
| 35°   | 1692.7 |
| 37.5° | 1388.7 |
| 40°   | 1098.4 |
| 42.5° | 857.4  |
| 45°   | 665.6  |
| 47.5° | 520.4  |
| 50°   | 405.4  |
| 52.5° | 317.7  |
| 55°   | 257.5  |
| 57.5° | 216.4  |
| 60°   | 191.7  |
| 62.5° | 186.3  |
| 65°   | 186.3  |
| 67.5° | 180.8  |
| 70°   | 161.6  |
| 72.5° | 139.7  |
| 75°   | 117.8  |
| 77.5° | 93.1   |
| 80°   | 71.2   |
| 82.5° | 52.0   |
| 85°   | 32.9   |
| 87.5° | 13.7   |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)