

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: P592936

Luminaire Tested: **HC455D010-HM44560950-41NDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592936  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC455D010-HM44560950-41NDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" NARROW DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3950.0 lumens  
Efficiency: N/A  
Efficacy: 76.0 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.01  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

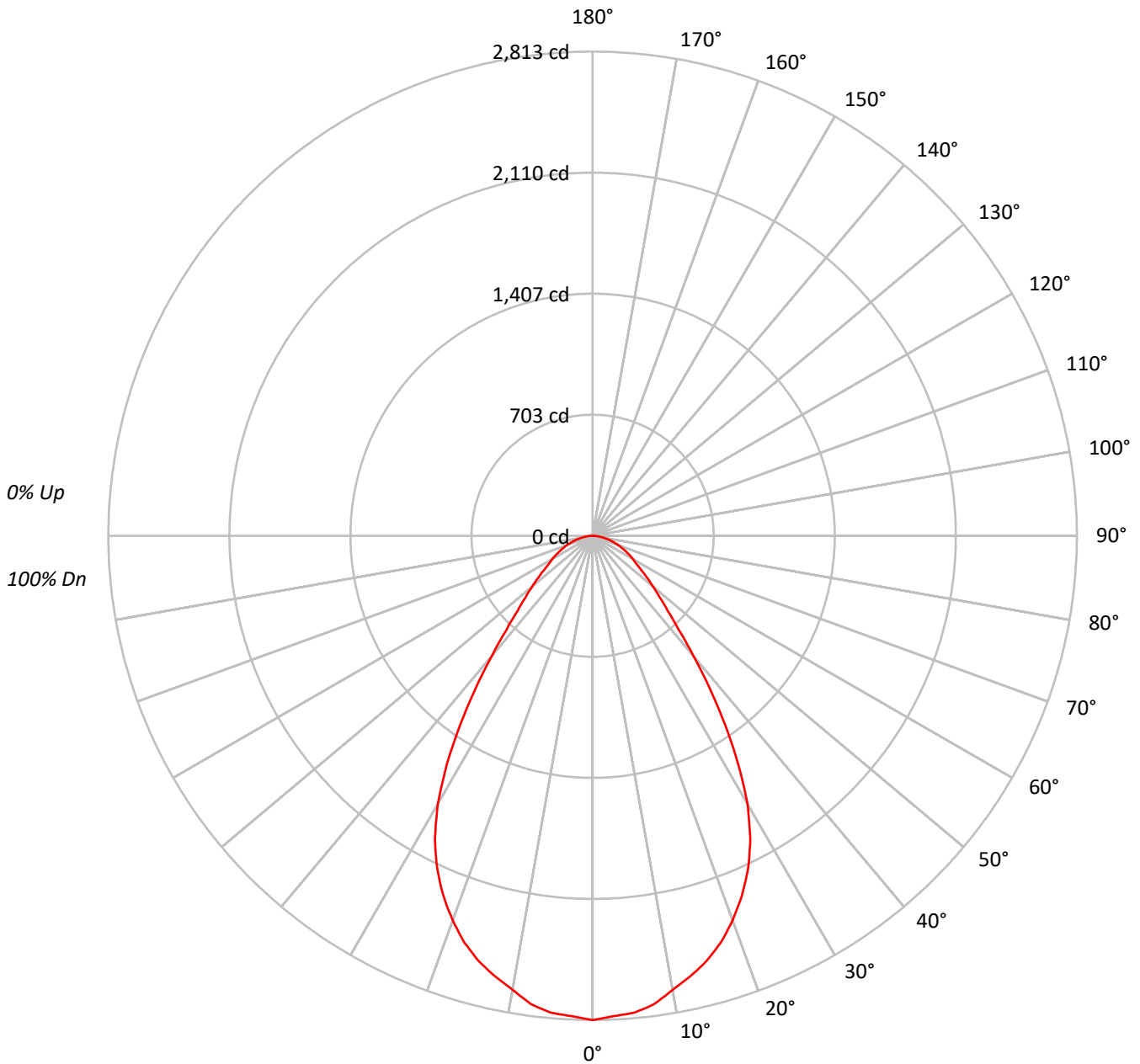
Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99  | 97  | 98  | 96  | 94  | 94  | 92  | 91  | 89  |    |    |   |
| 2   | 104 | 97  | 92  | 88  | 101 | 96  | 91  | 87  | 92  | 88  | 85  | 89  | 86  | 83  | 86  | 83  | 81  | 79  |    |    |   |
| 3   | 97  | 88  | 82  | 77  | 95  | 87  | 81  | 76  | 84  | 79  | 75  | 82  | 77  | 74  | 79  | 76  | 73  | 71  |    |    |   |
| 4   | 90  | 81  | 74  | 68  | 88  | 80  | 73  | 68  | 77  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 64  |    |    |   |
| 5   | 85  | 74  | 67  | 61  | 83  | 73  | 66  | 61  | 71  | 65  | 60  | 69  | 64  | 60  | 68  | 63  | 59  | 58  |    |    |   |
| 6   | 79  | 68  | 61  | 56  | 78  | 67  | 60  | 55  | 66  | 60  | 55  | 64  | 59  | 55  | 63  | 58  | 54  | 52  |    |    |   |
| 7   | 75  | 63  | 56  | 51  | 73  | 62  | 56  | 51  | 61  | 55  | 50  | 60  | 54  | 50  | 59  | 53  | 50  | 48  |    |    |   |
| 8   | 70  | 59  | 52  | 47  | 69  | 58  | 51  | 46  | 57  | 51  | 46  | 56  | 50  | 46  | 55  | 50  | 46  | 44  |    |    |   |
| 9   | 66  | 55  | 48  | 43  | 65  | 54  | 47  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 51  | 46  | 42  | 41  |    |    |   |
| 10  | 63  | 51  | 44  | 40  | 62  | 51  | 44  | 40  | 50  | 44  | 40  | 49  | 43  | 39  | 48  | 43  | 39  | 38  |    |    |   |

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

|     | 0°     |
|-----|--------|
| 0°  | 347021 |
| 5°  | 344434 |
| 10° | 335478 |
| 15° | 326636 |
| 20° | 312009 |
| 25° | 290689 |
| 30° | 255970 |
| 35° | 201879 |
| 40° | 146525 |
| 45° | 107663 |
| 50° | 87579  |
| 55° | 73481  |
| 60° | 66582  |
| 65° | 61174  |
| 70° | 56981  |
| 75° | 51994  |
| 80° | 46881  |
| 85° | 40617  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 262.3  | 6.6       |
| 10°-20°   | 717.5  | 18.2      |
| 20°-30°   | 972.6  | 24.6      |
| 30°-40°   | 834.6  | 21.1      |
| 40°-50°   | 492.8  | 12.5      |
| 50°-60°   | 312.3  | 7.9       |
| 60°-70°   | 209.8  | 5.3       |
| 70°-80°   | 115.9  | 2.9       |
| 80°-90°   | 32.4   | 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°    | 1952.3 | 49.4      |
| 0°-40°    | 2786.9 | 70.6      |
| 0°-60°    | 3591.9 | 90.9      |
| 0°-90°    | 3950.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3950.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2813 |      |
| 5°  | 2782 | 262  |
| 15° | 2558 | 717  |
| 25° | 2136 | 973  |
| 35° | 1341 | 835  |
| 45° | 617  | 493  |
| 55° | 342  | 312  |
| 65° | 210  | 210  |
| 75° | 109  | 116  |
| 85° | 29   | 32   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 2813.4 |
| 2.5°  | 2793.3 |
| 5°    | 2781.8 |
| 7.5°  | 2744.5 |
| 10°   | 2678.5 |
| 12.5° | 2621.0 |
| 15°   | 2557.9 |
| 17.5° | 2477.5 |
| 20°   | 2377.0 |
| 22.5° | 2265.1 |
| 25°   | 2135.9 |
| 27.5° | 1983.7 |
| 30°   | 1797.2 |
| 32.5° | 1576.1 |
| 35°   | 1340.7 |
| 37.5° | 1113.9 |
| 40°   | 910.0  |
| 42.5° | 740.7  |
| 45°   | 617.2  |
| 47.5° | 528.2  |
| 50°   | 456.4  |
| 52.5° | 396.2  |
| 55°   | 341.7  |
| 57.5° | 298.6  |
| 60°   | 269.9  |
| 62.5° | 241.2  |
| 65°   | 209.6  |
| 67.5° | 183.7  |
| 70°   | 158.0  |
| 72.5° | 132.1  |
| 75°   | 109.1  |
| 77.5° | 86.2   |
| 80°   | 66.0   |
| 82.5° | 45.9   |
| 85°   | 28.7   |
| 87.5° | 11.5   |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)