

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: P585122

Luminaire Tested: **HC860D010-HM86080927-81NDC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P585122  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC860D010-HM86080927-81NDC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" NARROW DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4509.5 lumens  
Efficiency: N/A  
Efficacy: 80.5 lumens/watt  
Spacing Criteria (0/90/45): 0.22 / 0.22 / 0.27  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

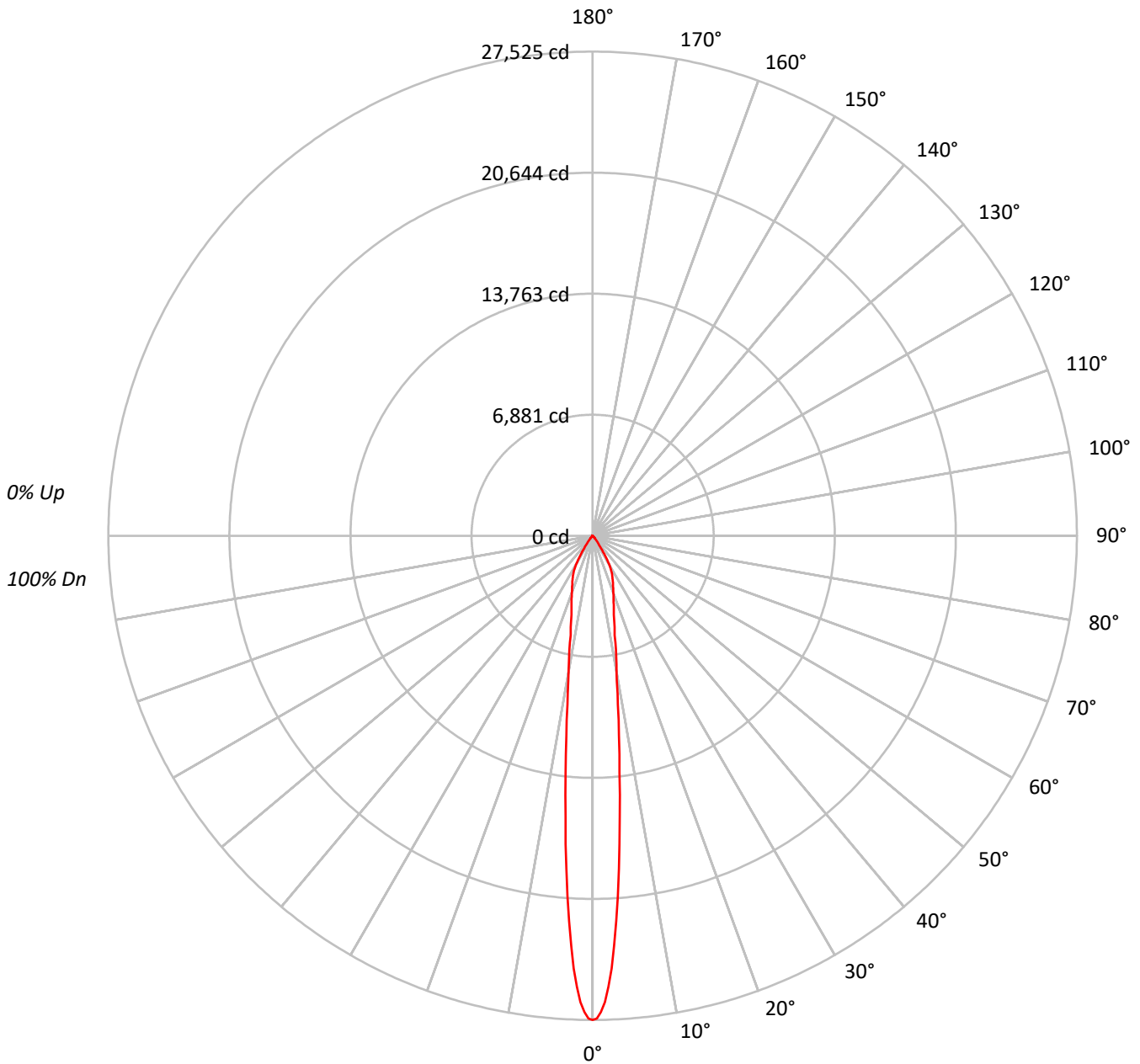
Input Watts (W): 56  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 100 | 100 |
| 1   | 115 | 112 | 110 | 108 | 112 | 110 | 108 | 107 | 106 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 96  | 96  | 96  |
| 2   | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 99  | 101 | 99  | 97  | 98  | 96  | 95  | 96  | 94  | 93  | 91  | 91  | 91  | 91  |
| 3   | 106 | 101 | 97  | 93  | 104 | 99  | 96  | 93  | 97  | 94  | 91  | 95  | 92  | 90  | 92  | 90  | 89  | 87  | 87  | 87  | 87  |
| 4   | 102 | 96  | 91  | 88  | 100 | 95  | 91  | 88  | 93  | 89  | 87  | 91  | 88  | 86  | 89  | 87  | 85  | 83  | 83  | 83  | 83  |
| 5   | 98  | 92  | 87  | 83  | 97  | 91  | 86  | 83  | 89  | 85  | 82  | 87  | 84  | 82  | 86  | 83  | 81  | 80  | 80  | 80  | 80  |
| 6   | 95  | 88  | 83  | 79  | 93  | 87  | 82  | 79  | 86  | 82  | 79  | 84  | 81  | 78  | 83  | 80  | 78  | 76  | 76  | 76  | 76  |
| 7   | 91  | 84  | 79  | 76  | 90  | 83  | 79  | 76  | 82  | 78  | 75  | 81  | 78  | 75  | 80  | 77  | 75  | 73  | 73  | 73  | 73  |
| 8   | 88  | 81  | 76  | 73  | 87  | 80  | 76  | 73  | 79  | 75  | 72  | 78  | 75  | 72  | 77  | 74  | 72  | 71  | 71  | 71  | 71  |
| 9   | 85  | 78  | 73  | 70  | 84  | 77  | 73  | 70  | 76  | 72  | 70  | 76  | 72  | 69  | 75  | 72  | 69  | 68  | 68  | 68  | 68  |
| 10  | 83  | 75  | 70  | 67  | 82  | 75  | 70  | 67  | 74  | 70  | 67  | 73  | 69  | 67  | 73  | 69  | 67  | 66  | 66  | 66  | 66  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 848782 |
| 5°  | 544427 |
| 10° | 245937 |
| 15° | 148393 |
| 20° | 113082 |
| 25° | 91321  |
| 30° | 66916  |
| 35° | 24232  |
| 40° | 9045   |
| 45° | 4104   |
| 50° | 1310   |
| 55° | 328    |
| 60° | 185    |
| 65° | 219    |
| 70° | 0      |
| 75° | 0      |
| 80° | 533    |
| 85° | 1061   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1341.4 | 29.7      |
| 10°-20°   | 1362.5 | 30.2      |
| 20°-30°   | 1219.7 | 27.0      |
| 30°-40°   | 491.3  | 10.9      |
| 40°-50°   | 80.6   | 1.8       |
| 50°-60°   | 7.3    | 0.2       |
| 60°-70°   | 2.6    | 0.1       |
| 70°-80°   | 2.0    | 0.0       |
| 80°-90°   | 2.9    | 0.1       |
| 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°    | 3923.6 | 87.0      |
| 0°-40°    | 4414.9 | 97.9      |
| 0°-60°    | 4502.8 | 99.9      |
| 0°-90°    | 4510.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4509.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 27525 |      |
| 5°  | 17588 | ###  |
| 15° | 4648  | 1363 |
| 25° | 2684  | 1220 |
| 35° | 644   | 491  |
| 45° | 94    | 81   |
| 55° | 6     | 7    |
| 65° | 3     | 3    |
| 75° | 0     | 2    |
| 85° | 3     | 3    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      |
|-------|---------|
| 0°    | 27525.4 |
| 0.5°  | 27440.4 |
| 1°    | 27085.2 |
| 1.5°  | 26514.5 |
| 2°    | 25649.2 |
| 2.5°  | 24626.0 |
| 3°    | 23344.7 |
| 3.5°  | 21939.1 |
| 4°    | 20548.5 |
| 4.5°  | 18991.0 |
| 5°    | 17588.2 |
| 5.5°  | 16061.1 |
| 6°    | 14822.3 |
| 6.5°  | 13532.0 |
| 7°    | 12518.0 |
| 7.5°  | 11446.2 |
| 8°    | 10583.9 |
| 8.5°  | 9718.7  |
| 9°    | 9068.8  |
| 9.5°  | 8352.3  |
| 10°   | 7854.4  |
| 12.5° | 5793.0  |
| 15°   | 4648.3  |
| 17.5° | 3971.3  |
| 20°   | 3446.0  |
| 22.5° | 3027.0  |
| 25°   | 2684.0  |
| 27.5° | 2340.8  |
| 30°   | 1879.3  |
| 32.5° | 1208.4  |
| 35°   | 643.7   |
| 37.5° | 355.2   |
| 40°   | 224.7   |
| 42.5° | 148.8   |
| 45°   | 94.1    |
| 47.5° | 57.7    |
| 50°   | 27.3    |
| 52.5° | 9.1     |
| 55°   | 6.1     |
| 57.5° | 3.0     |
| 60°   | 3.0     |
| 62.5° | 3.0     |
| 65°   | 3.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  |
|-------|-----|
| 72.5° | 0.0 |
| 75°   | 0.0 |
| 77.5° | 3.0 |
| 80°   | 3.0 |
| 82.5° | 3.0 |
| 85°   | 3.0 |
| 87.5° | 3.0 |
| 90°   | 0.0 |



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— 0°-180°







|       |  |     |
|-------|--|-----|
| 67.5° |  | 3.0 |
| 70°   |  | 0.0 |



(END OF REPORT)