

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: P585173

Luminaire Tested: **HC860D010-HM86080940-81NDC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P585173  
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-HM86080940-81NDC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" NARROW DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5658.1 lumens  
Efficiency: N/A  
Efficacy: 101.0 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

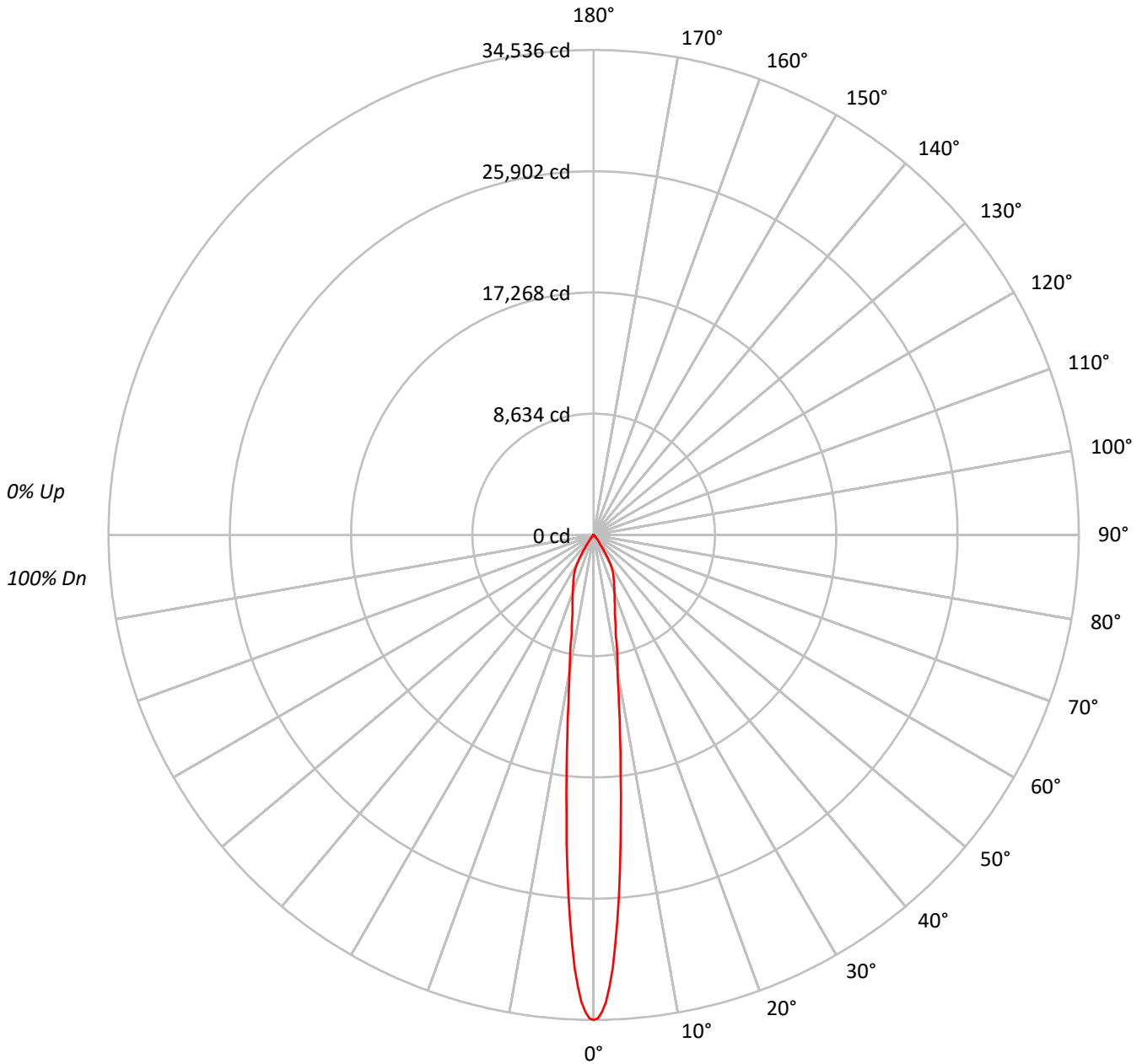
Input Watts (W): 56  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1064975 |
| 5°  | 683095  |
| 10° | 308580  |
| 15° | 186191  |
| 20° | 141887  |
| 25° | 114580  |
| 30° | 83961   |
| 35° | 30401   |
| 40° | 11348   |
| 45° | 5150    |
| 50° | 1645    |
| 55° | 409     |
| 60° | 234     |
| 65° | 277     |
| 70° | 0       |
| 75° | 0       |
| 80° | 675     |
| 85° | 1344    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1683.1 | 29.7      |
| 10°-20°   | 1709.5 | 30.2      |
| 20°-30°   | 1530.3 | 27.0      |
| 30°-40°   | 616.4  | 10.9      |
| 40°-50°   | 101.1  | 1.8       |
| 50°-60°   | 9.2    | 0.2       |
| 60°-70°   | 3.3    | 0.1       |
| 70°-80°   | 2.5    | 0.0       |
| 80°-90°   | 3.6    | 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°    | 4923.0 | 87.0      |
| 0°-40°    | 5539.4 | 97.9      |
| 0°-60°    | 5649.6 | 99.9      |
| 0°-90°    | 5659.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5658.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 34536 |      |
| 5°  | 22068 | ###  |
| 15° | 5832  | 1710 |
| 25° | 3368  | 1530 |
| 35° | 808   | 616  |
| 45° | 118   | 101  |
| 55° | 8     | 9    |
| 65° | 4     | 3    |
| 75° | 0     | 3    |
| 85° | 4     | 4    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |         |
|-------|---------|
| 0°    | 34536.4 |
| 0.5°  | 34429.7 |
| 1°    | 33984.0 |
| 1.5°  | 33267.7 |
| 2°    | 32182.1 |
| 2.5°  | 30898.3 |
| 3°    | 29290.7 |
| 3.5°  | 27526.9 |
| 4°    | 25782.3 |
| 4.5°  | 23828.0 |
| 5°    | 22068.0 |
| 5.5°  | 20151.9 |
| 6°    | 18597.7 |
| 6.5°  | 16978.6 |
| 7°    | 15706.3 |
| 7.5°  | 14361.6 |
| 8°    | 13279.7 |
| 8.5°  | 12194.0 |
| 9°    | 11378.8 |
| 9.5°  | 10479.8 |
| 10°   | 9855.0  |
| 12.5° | 7268.4  |
| 15°   | 5832.3  |
| 17.5° | 4982.7  |
| 20°   | 4323.8  |
| 22.5° | 3798.0  |
| 25°   | 3367.6  |
| 27.5° | 2937.0  |
| 30°   | 2358.0  |
| 32.5° | 1516.1  |
| 35°   | 807.6   |
| 37.5° | 445.7   |
| 40°   | 281.9   |
| 42.5° | 186.6   |
| 45°   | 118.1   |
| 47.5° | 72.4    |
| 50°   | 34.3    |
| 52.5° | 11.4    |
| 55°   | 7.6     |
| 57.5° | 3.8     |
| 60°   | 3.8     |
| 62.5° | 3.8     |
| 65°   | 3.8     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  |
|-------|-----|
| 72.5° | 0.0 |
| 75°   | 0.0 |
| 77.5° | 3.8 |
| 80°   | 3.8 |
| 82.5° | 3.8 |
| 85°   | 3.8 |
| 87.5° | 3.8 |
| 90°   | 0.0 |



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— 0°-180°







|       |  |     |
|-------|--|-----|
| 67.5° |  | 3.8 |
| 70°   |  | 0.0 |



(END OF REPORT)