

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: P434661

Luminaire Tested: **HCM3R25940ED010MW**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434661  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-933-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/24/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCM3R25940ED010MW  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 25 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3936.3 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): 0.39 / 0.39 / 0.39  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

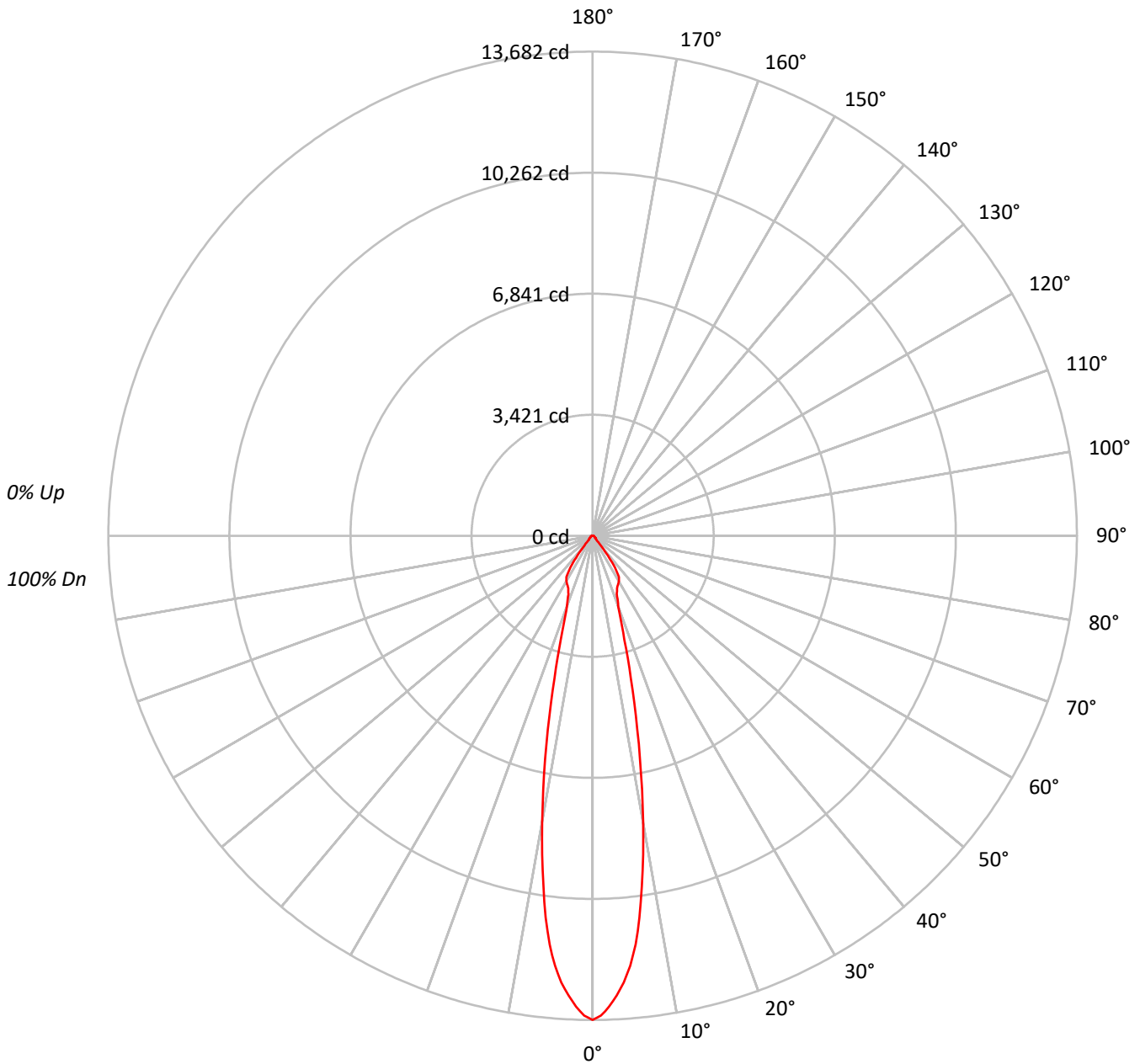
Input Watts (W): 40.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |   |
| 2   | 109 | 104 | 100 | 97  | 107 | 102 | 99  | 96  | 99  | 96  | 94  | 96  | 94  | 92  | 94  | 92  | 90  | 88  |    |    |   |
| 3   | 104 | 98  | 93  | 90  | 102 | 97  | 92  | 89  | 94  | 91  | 88  | 92  | 89  | 86  | 89  | 87  | 85  | 83  |    |    |   |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 89  | 85  | 82  | 88  | 84  | 81  | 86  | 83  | 80  | 79  |    |    |   |
| 5   | 95  | 88  | 83  | 79  | 94  | 87  | 82  | 78  | 85  | 81  | 78  | 84  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |   |
| 6   | 92  | 84  | 78  | 75  | 90  | 83  | 78  | 74  | 81  | 77  | 74  | 80  | 76  | 73  | 79  | 76  | 73  | 72  |    |    |   |
| 7   | 88  | 80  | 75  | 71  | 87  | 79  | 74  | 71  | 78  | 74  | 70  | 77  | 73  | 70  | 76  | 72  | 70  | 68  |    |    |   |
| 8   | 85  | 76  | 71  | 68  | 84  | 76  | 71  | 67  | 75  | 70  | 67  | 74  | 70  | 67  | 73  | 69  | 67  | 65  |    |    |   |
| 9   | 82  | 73  | 68  | 65  | 81  | 73  | 68  | 65  | 72  | 68  | 64  | 71  | 67  | 64  | 70  | 67  | 64  | 63  |    |    |   |
| 10  | 79  | 70  | 65  | 62  | 78  | 70  | 65  | 62  | 69  | 65  | 62  | 69  | 65  | 62  | 68  | 64  | 62  | 60  |    |    |   |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 6750567 |
| 5°  | 6041876 |
| 10° | 4113184 |
| 15° | 2125934 |
| 20° | 1108997 |
| 25° | 890122  |
| 30° | 844873  |
| 35° | 657958  |
| 40° | 227096  |
| 45° | 98870   |
| 50° | 84892   |
| 55° | 74320   |
| 60° | 64830   |
| 65° | 60590   |
| 70° | 64770   |
| 75° | 79110   |
| 80° | 98308   |
| 85° | 19813   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1033.1 | 26.2      |
| 10°-20°   | 1187.4 | 30.2      |
| 20°-30°   | 775.5  | 19.7      |
| 30°-40°   | 627.6  | 15.9      |
| 40°-50°   | 127.2  | 3.2       |
| 50°-60°   | 76.7   | 1.9       |
| 60°-70°   | 53.1   | 1.3       |
| 70°-80°   | 44.3   | 1.1       |
| 80°-90°   | 11.3   | 0.3       |
| 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°    | 2996.1 | 76.1      |
| 0°-40°    | 3623.7 | 92.1      |
| 0°-60°    | 3827.6 | 97.2      |
| 0°-90°    | 3936.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3936.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 13682 |      |
| 5°  | 12199 | ###  |
| 15° | 4162  | 1187 |
| 25° | 1635  | 775  |
| 35° | 1092  | 628  |
| 45° | 142   | 127  |
| 55° | 86    | 77   |
| 65° | 52    | 53   |
| 75° | 42    | 44   |
| 85° | 4     | 11   |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      |
|-------|---------|
| 0°    | 13682.3 |
| 1°    | 13561.3 |
| 2°    | 13315.9 |
| 3°    | 13008.2 |
| 4°    | 12652.2 |
| 5°    | 12199.3 |
| 6°    | 11611.6 |
| 7°    | 10868.4 |
| 8°    | 10000.7 |
| 9°    | 9115.8  |
| 10°   | 8210.1  |
| 11°   | 7307.8  |
| 12°   | 6443.6  |
| 13°   | 5617.4  |
| 14°   | 4860.4  |
| 15°   | 4162.1  |
| 16°   | 3595.2  |
| 17°   | 3073.2  |
| 18°   | 2665.3  |
| 19°   | 2347.2  |
| 20°   | 2112.2  |
| 22.5° | 1783.7  |
| 25°   | 1635.1  |
| 26°   | 1597.1  |
| 27°   | 1569.4  |
| 28°   | 1541.8  |
| 29°   | 1510.7  |
| 30°   | 1483.0  |
| 32.5° | 1379.3  |
| 35°   | 1092.4  |
| 37.5° | 701.7   |
| 40°   | 352.6   |
| 42.5° | 169.4   |
| 45°   | 141.7   |
| 47.5° | 124.4   |
| 50°   | 110.6   |
| 52.5° | 96.8    |
| 55°   | 86.4    |
| 57.5° | 72.6    |
| 60°   | 65.7    |
| 62.5° | 58.8    |
| 65°   | 51.9    |
| 67.5° | 48.4    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°   |
|-------|------|
| 75°   | 41.5 |
| 77.5° | 41.5 |
| 80°   | 34.6 |
| 82.5° | 20.7 |
| 85°   | 3.5  |
| 87.5° | 0.0  |
| 90°   | 0.0  |



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— 0°-180°







|       |  |      |
|-------|--|------|
| 70°   |  | 44.9 |
| 72.5° |  | 44.9 |



(END OF REPORT)