

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: P434742

Luminaire Tested: **HCMR1R40935ED010MW**

Issue Date: 11/24/2020

Test Information

Test Method: LM-41-14
Report Number: P434742
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-933-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 11/24/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCMR1R40935ED010MW
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 40 DEG REFLECTOR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1254.6 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 0.72 / 0.72 / 0.76
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

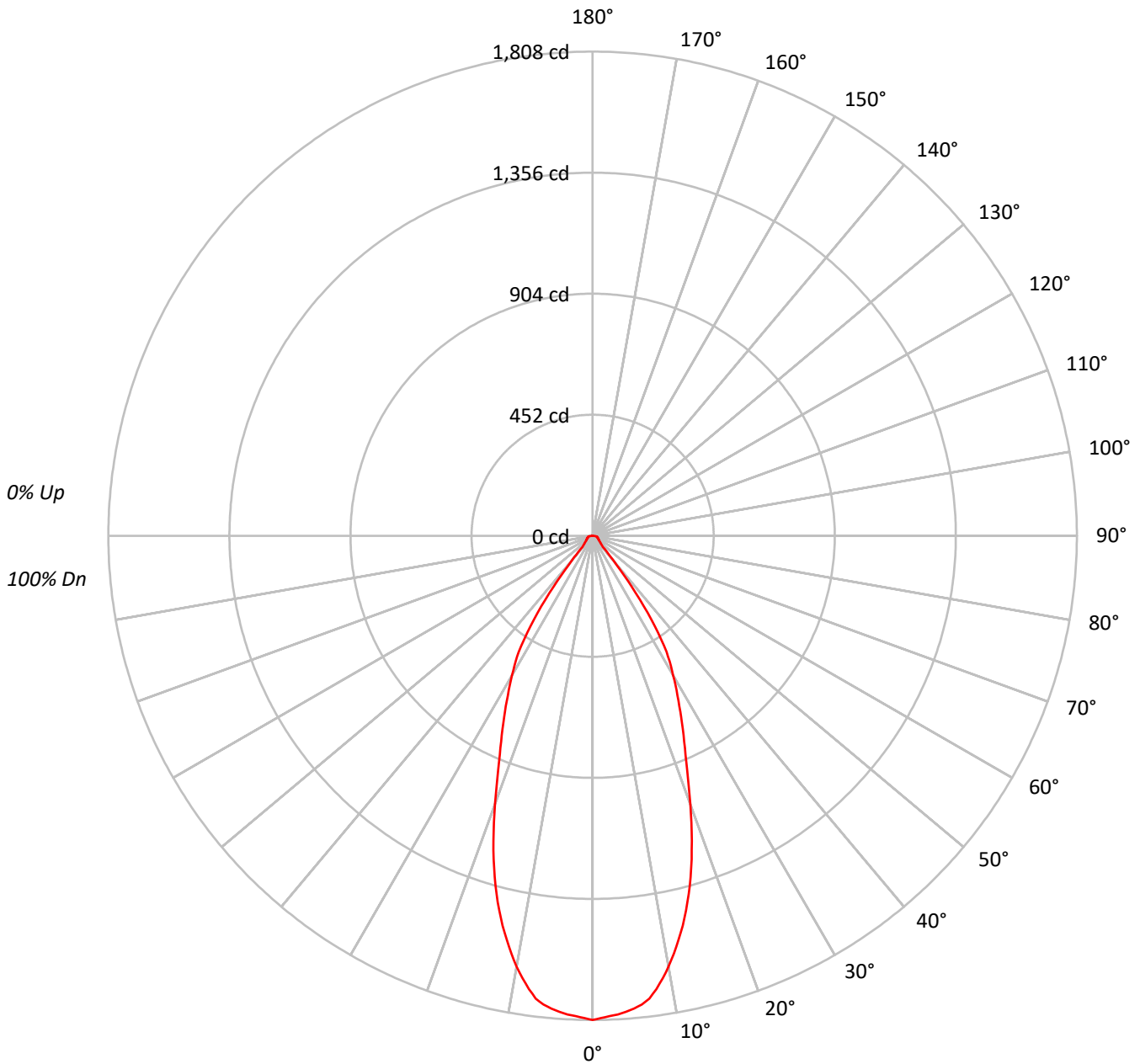
Input Watts (W): 14.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99 | 97 | 97 | 96 | 95 | 93 |
| 2 | 107 | 102 | 98 | 95 | 105 | 101 | 97 | 94 | 97 | 94 | 92 | 94 | 92 | 90 | 92 | 90 | 88 | 86 |
| 3 | 102 | 95 | 90 | 86 | 100 | 94 | 89 | 86 | 91 | 88 | 84 | 89 | 86 | 83 | 87 | 84 | 82 | 80 |
| 4 | 97 | 89 | 84 | 80 | 95 | 88 | 83 | 79 | 86 | 82 | 78 | 84 | 80 | 77 | 82 | 79 | 76 | 75 |
| 5 | 92 | 84 | 78 | 74 | 91 | 83 | 78 | 73 | 81 | 76 | 73 | 80 | 75 | 72 | 78 | 74 | 72 | 70 |
| 6 | 88 | 79 | 73 | 69 | 86 | 78 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 68 | 74 | 70 | 67 | 66 |
| 7 | 84 | 75 | 69 | 65 | 82 | 74 | 68 | 64 | 73 | 68 | 64 | 72 | 67 | 64 | 70 | 66 | 63 | 62 |
| 8 | 80 | 71 | 65 | 61 | 79 | 70 | 64 | 61 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 60 | 58 |
| 9 | 76 | 67 | 61 | 57 | 75 | 66 | 61 | 57 | 66 | 61 | 57 | 65 | 60 | 57 | 64 | 60 | 57 | 55 |
| 10 | 73 | 64 | 58 | 54 | 72 | 63 | 58 | 54 | 62 | 57 | 54 | 62 | 57 | 54 | 61 | 57 | 54 | 52 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 892080 |
| 5° | 877757 |
| 10° | 818318 |
| 15° | 707845 |
| 20° | 559381 |
| 25° | 433003 |
| 30° | 342735 |
| 35° | 230743 |
| 40° | 75742 |
| 45° | 32026 |
| 50° | 27479 |
| 55° | 25031 |
| 60° | 24274 |
| 65° | 26151 |
| 70° | 27408 |
| 75° | 34122 |
| 80° | 41482 |
| 85° | 6227 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 165.0 | 13.2 |
| 10°-20° | 380.4 | 30.3 |
| 20°-30° | 367.4 | 29.3 |
| 30°-40° | 228.6 | 18.2 |
| 40°-50° | 41.7 | 3.3 |
| 50°-60° | 26.3 | 2.1 |
| 60°-70° | 21.8 | 1.7 |
| 70°-80° | 18.6 | 1.5 |
| 80°-90° | 4.7 | 0.4 |
| 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° | 912.8 | 72.8 |
| 0°-40° | 1141.4 | 91.0 |
| 0°-60° | 1209.4 | 96.4 |
| 0°-90° | 1254.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1254.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1808 | |
| 5° | 1772 | 165 |
| 15° | 1386 | 380 |
| 25° | 795 | 367 |
| 35° | 383 | 229 |
| 45° | 46 | 42 |
| 55° | 29 | 26 |
| 65° | 22 | 22 |
| 75° | 18 | 19 |
| 85° | 1 | 5 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1808.1 |
| 1° | 1801.4 |
| 2° | 1794.7 |
| 3° | 1790.2 |
| 4° | 1782.4 |
| 5° | 1772.3 |
| 6° | 1759.9 |
| 7° | 1740.9 |
| 8° | 1709.5 |
| 9° | 1672.6 |
| 10° | 1633.4 |
| 11° | 1589.7 |
| 12° | 1542.6 |
| 13° | 1494.4 |
| 14° | 1441.8 |
| 15° | 1385.8 |
| 16° | 1326.4 |
| 17° | 1263.7 |
| 18° | 1198.7 |
| 19° | 1132.6 |
| 20° | 1065.4 |
| 21° | 1001.5 |
| 22° | 941.0 |
| 23° | 887.3 |
| 24° | 840.2 |
| 25° | 795.4 |
| 26° | 753.9 |
| 27° | 713.6 |
| 28° | 674.4 |
| 29° | 637.4 |
| 30° | 601.6 |
| 32.5° | 514.2 |
| 35° | 383.1 |
| 37.5° | 238.6 |
| 40° | 117.6 |
| 42.5° | 56.0 |
| 45° | 45.9 |
| 47.5° | 40.3 |
| 50° | 35.8 |
| 52.5° | 31.4 |
| 55° | 29.1 |
| 57.5° | 26.9 |
| 60° | 24.6 |



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CANDELA DISTRIBUTION (continued):

| | 0° |
|-------|------|
| 67.5° | 20.2 |
| 70° | 19.0 |
| 72.5° | 19.0 |
| 75° | 17.9 |
| 77.5° | 16.8 |
| 80° | 14.6 |
| 82.5° | 9.0 |
| 85° | 1.1 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







| | | |
|-------|--|------|
| 62.5° | | 23.5 |
| 65° | | 22.4 |



(END OF REPORT)