

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: P434739

Luminaire Tested: **HCMR1R40930ED010MW**

Issue Date: 11/24/2020

Test Information

Test Method: LM-41-14
Report Number: P434739
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: HCMR1R40930ED010MW
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 40 DEG REFLECTOR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1193.2 lumens
Efficiency: N/A
Efficacy: 83.4 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

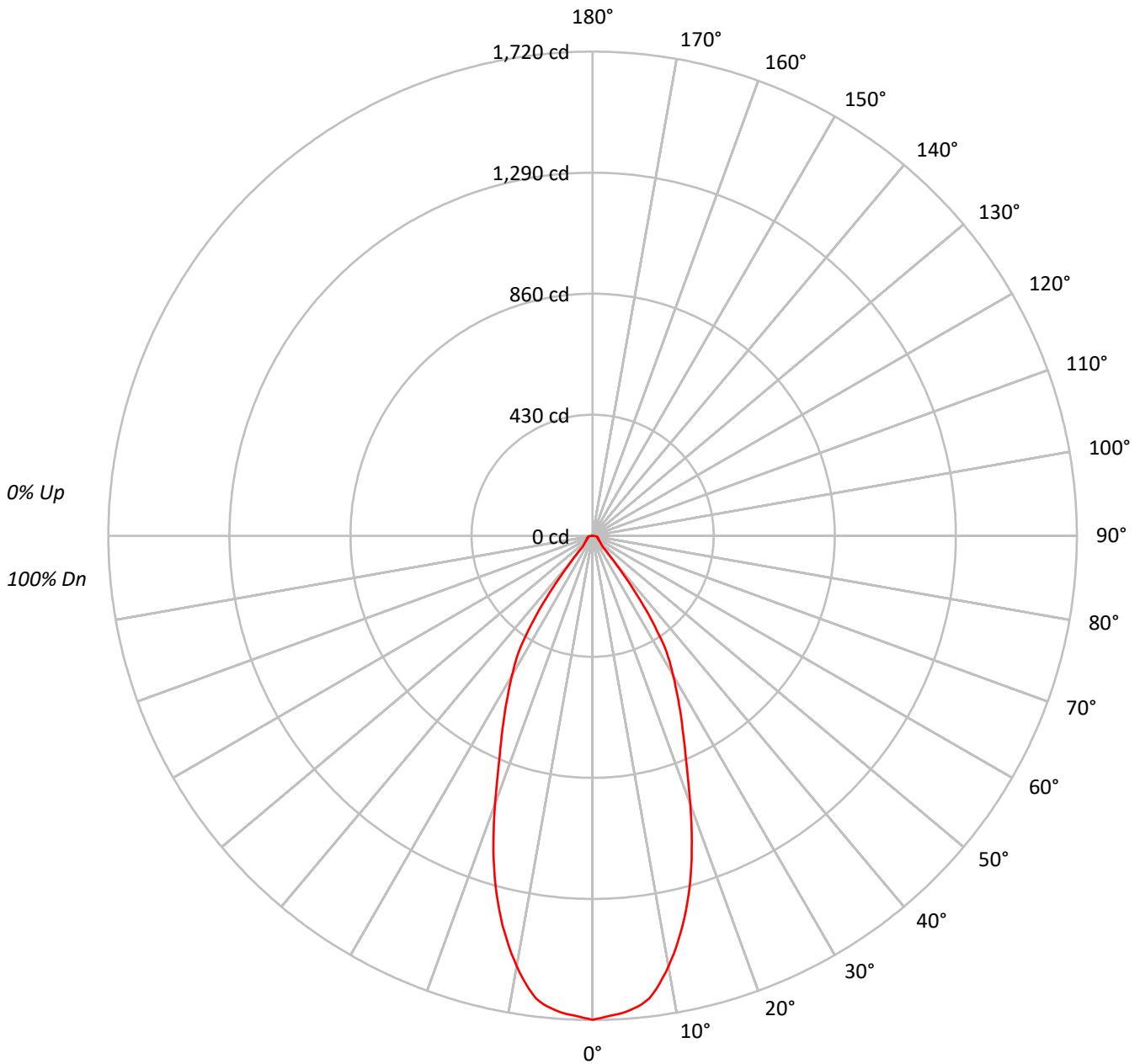
Input Watts (W): 14.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 848366 |
| 5° | 834718 |
| 10° | 778189 |
| 15° | 673162 |
| 20° | 531974 |
| 25° | 411772 |
| 30° | 325929 |
| 35° | 219480 |
| 40° | 72070 |
| 45° | 30491 |
| 50° | 26174 |
| 55° | 23827 |
| 60° | 23090 |
| 65° | 24866 |
| 70° | 26110 |
| 75° | 32407 |
| 80° | 39494 |
| 85° | 6227 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 156.9 | 13.2 |
| 10°-20° | 361.7 | 30.3 |
| 20°-30° | 349.4 | 29.3 |
| 30°-40° | 217.4 | 18.2 |
| 40°-50° | 39.7 | 3.3 |
| 50°-60° | 25.0 | 2.1 |
| 60°-70° | 20.7 | 1.7 |
| 70°-80° | 17.7 | 1.5 |
| 80°-90° | 4.5 | 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° | 868.1 | 72.8 |
| 0°-40° | 1085.5 | 91.0 |
| 0°-60° | 1150.3 | 96.4 |
| 0°-90° | 1193.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1193.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1720 | |
| 5° | 1685 | 157 |
| 15° | 1318 | 362 |
| 25° | 756 | 349 |
| 35° | 364 | 217 |
| 45° | 44 | 40 |
| 55° | 28 | 25 |
| 65° | 21 | 21 |
| 75° | 17 | 18 |
| 85° | 1 | 4 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1719.5 |
| 1° | 1713.1 |
| 2° | 1706.8 |
| 3° | 1702.5 |
| 4° | 1695.0 |
| 5° | 1685.4 |
| 6° | 1673.7 |
| 7° | 1655.6 |
| 8° | 1625.8 |
| 9° | 1590.6 |
| 10° | 1553.3 |
| 11° | 1511.8 |
| 12° | 1467.0 |
| 13° | 1421.2 |
| 14° | 1371.2 |
| 15° | 1317.9 |
| 16° | 1261.4 |
| 17° | 1201.8 |
| 18° | 1140.0 |
| 19° | 1077.1 |
| 20° | 1013.2 |
| 21° | 952.5 |
| 22° | 894.9 |
| 23° | 843.8 |
| 24° | 799.0 |
| 25° | 756.4 |
| 26° | 717.0 |
| 27° | 678.7 |
| 28° | 641.4 |
| 29° | 606.2 |
| 30° | 572.1 |
| 32.5° | 489.0 |
| 35° | 364.4 |
| 37.5° | 226.9 |
| 40° | 111.9 |
| 42.5° | 53.3 |
| 45° | 43.7 |
| 47.5° | 38.4 |
| 50° | 34.1 |
| 52.5° | 29.8 |
| 55° | 27.7 |
| 57.5° | 25.6 |
| 60° | 23.4 |



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CANDELA DISTRIBUTION (continued):

| | 0° |
|-------|------|
| 67.5° | 19.2 |
| 70° | 18.1 |
| 72.5° | 18.1 |
| 75° | 17.0 |
| 77.5° | 16.0 |
| 80° | 13.9 |
| 82.5° | 8.5 |
| 85° | 1.1 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







| | |
|-------|------|
| 62.5° | 22.4 |
| 65° | 21.3 |



(END OF REPORT)