

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: P434818

Luminaire Tested: **HCMR4R15927ED010MB**

Issue Date: 11/24/2020

Test Information

Test Method: LM-41-14
Report Number: P434818
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-933-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 11/24/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCMR4R15927ED010MB
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 15 DEG REFLECTOR OPTIC
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4476.1 lumens
Efficiency: N/A
Efficacy: 82.7 lumens/watt
Spacing Criteria (0/90/45): 0.25 / 0.25 / 0.25
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

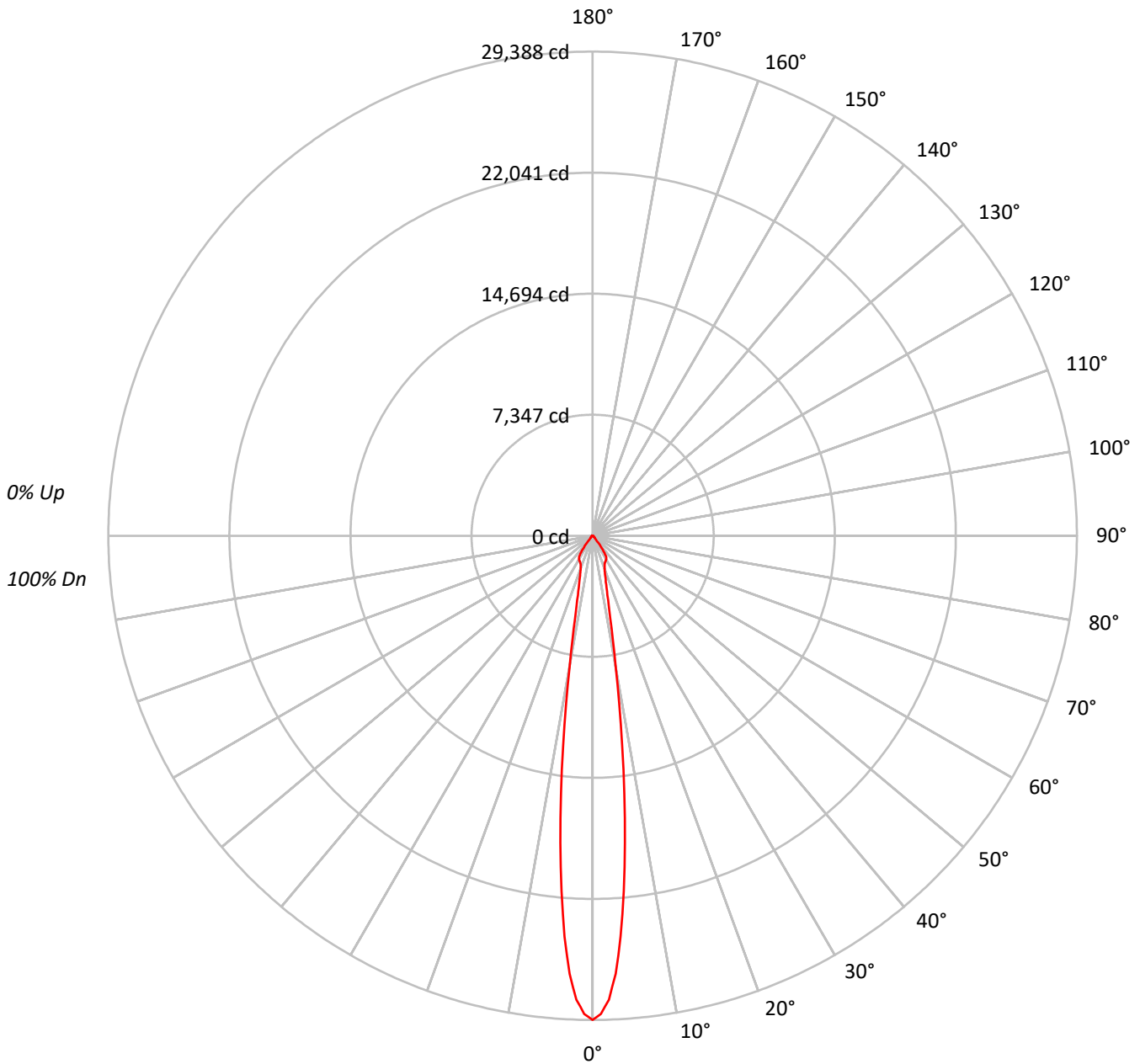
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P434818

CATALOG NUMBER: HCMR4R15927ED010MB

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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 | 112 | 109 | 107 | 105 | 105 | 104 | 102 | 102 | 100 | 99 | 98 | 97 | 96 | 95 | | | | | | | | | | | | | | | | | | | |
| 2 | 109 | 105 | 101 | 98 | 107 | 103 | 100 | 97 | 100 | 97 | 95 | 97 | 95 | 93 | 94 | 93 | 91 | 89 | | | | | | | | | | | | | | | | | | | |
| 3 | 105 | 99 | 95 | 91 | 103 | 98 | 94 | 90 | 95 | 92 | 89 | 93 | 90 | 88 | 91 | 88 | 86 | 85 | | | | | | | | | | | | | | | | | | | |
| 4 | 101 | 94 | 89 | 86 | 99 | 93 | 88 | 85 | 91 | 87 | 84 | 89 | 86 | 83 | 87 | 84 | 82 | 81 | | | | | | | | | | | | | | | | | | | |
| 5 | 97 | 90 | 85 | 81 | 95 | 89 | 84 | 81 | 87 | 83 | 80 | 85 | 82 | 79 | 84 | 81 | 79 | 77 | | | | | | | | | | | | | | | | | | | |
| 6 | 93 | 86 | 81 | 77 | 92 | 85 | 80 | 77 | 83 | 79 | 76 | 82 | 79 | 76 | 81 | 78 | 75 | 74 | | | | | | | | | | | | | | | | | | | |
| 7 | 90 | 82 | 77 | 74 | 89 | 82 | 77 | 73 | 80 | 76 | 73 | 79 | 75 | 73 | 78 | 75 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 8 | 87 | 79 | 74 | 71 | 86 | 78 | 74 | 70 | 77 | 73 | 70 | 77 | 73 | 70 | 76 | 72 | 70 | 68 | | | | | | | | | | | | | | | | | | | |
| 9 | 84 | 76 | 71 | 68 | 83 | 76 | 71 | 68 | 75 | 71 | 68 | 74 | 70 | 67 | 73 | 70 | 67 | 66 | | | | | | | | | | | | | | | | | | | |
| 10 | 81 | 74 | 69 | 66 | 81 | 73 | 69 | 66 | 72 | 68 | 65 | 72 | 68 | 65 | 71 | 68 | 65 | 64 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° |
|-----|----------|
| 0° | 14499290 |
| 5° | 10727224 |
| 10° | 4045550 |
| 15° | 1663011 |
| 20° | 1115718 |
| 25° | 970038 |
| 30° | 939615 |
| 35° | 732704 |
| 40° | 246096 |
| 45° | 119733 |
| 50° | 104772 |
| 55° | 73804 |
| 60° | 65422 |
| 65° | 63742 |
| 70° | 67511 |
| 75° | 89214 |
| 80° | 110809 |
| 85° | 22077 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 1595.3 | 35.6 |
| 10°-20° | 1003.3 | 22.4 |
| 20°-30° | 835.5 | 18.7 |
| 30°-40° | 697.5 | 15.6 |
| 40°-50° | 148.1 | 3.3 |
| 50°-60° | 81.6 | 1.8 |
| 60°-70° | 54.6 | 1.2 |
| 70°-80° | 47.4 | 1.1 |
| 80°-90° | 12.7 | 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° | 3434.1 | 76.7 |
| 0°-40° | 4131.6 | 92.3 |
| 0°-60° | 4361.4 | 97.4 |
| 0°-90° | 4476.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4476.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-------|------|
| 0° | 29388 | |
| 5° | 21660 | ### |
| 15° | 3256 | 1003 |
| 25° | 1782 | 835 |
| 35° | 1216 | 698 |
| 45° | 172 | 148 |
| 55° | 86 | 82 |
| 65° | 55 | 55 |
| 75° | 47 | 47 |
| 85° | 4 | 13 |
| 90° | 0 | |



TEST NUMBER: P434818

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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|---------|
| 0° | 29387.7 |
| 1° | 29032.9 |
| 2° | 28171.2 |
| 3° | 26631.0 |
| 4° | 24389.0 |
| 5° | 21659.6 |
| 6° | 18739.2 |
| 7° | 15768.1 |
| 8° | 12863.2 |
| 9° | 10293.7 |
| 10° | 8075.1 |
| 11° | 6367.3 |
| 12° | 5158.5 |
| 13° | 4312.4 |
| 14° | 3708.1 |
| 15° | 3255.8 |
| 16° | 2908.7 |
| 17° | 2639.7 |
| 18° | 2429.2 |
| 19° | 2265.4 |
| 20° | 2125.0 |
| 22.5° | 1887.2 |
| 25° | 1781.9 |
| 26° | 1750.7 |
| 27° | 1727.3 |
| 28° | 1703.9 |
| 29° | 1676.6 |
| 30° | 1649.3 |
| 32.5° | 1540.2 |
| 35° | 1216.5 |
| 37.5° | 775.9 |
| 40° | 382.1 |
| 42.5° | 183.3 |
| 45° | 171.6 |
| 47.5° | 159.9 |
| 50° | 136.5 |
| 52.5° | 105.3 |
| 55° | 85.8 |
| 57.5° | 74.1 |
| 60° | 66.3 |
| 62.5° | 58.5 |
| 65° | 54.6 |
| 67.5° | 50.7 |



TEST NUMBER: P434818

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CANDELA DISTRIBUTION (continued):

| | 0° |
|-------|------|
| 75° | 46.8 |
| 77.5° | 42.9 |
| 80° | 39.0 |
| 82.5° | 23.4 |
| 85° | 3.9 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







| | |
|-------|------|
| 70° | 46.8 |
| 72.5° | 46.8 |



(END OF REPORT)