

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: PORTFOLIO

Report Number: P433187

Luminaire Tested: **LAM4B408R459040DE01021MMS**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P433187  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-908-8)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAM4B408R459040DE01021MMS  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 45 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3549.5 lumens  
Efficiency: N/A  
Efficacy: 86.2 lumens/watt  
Spacing Criteria (0/90/45): 0.73 / 0.73 / 0.66  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

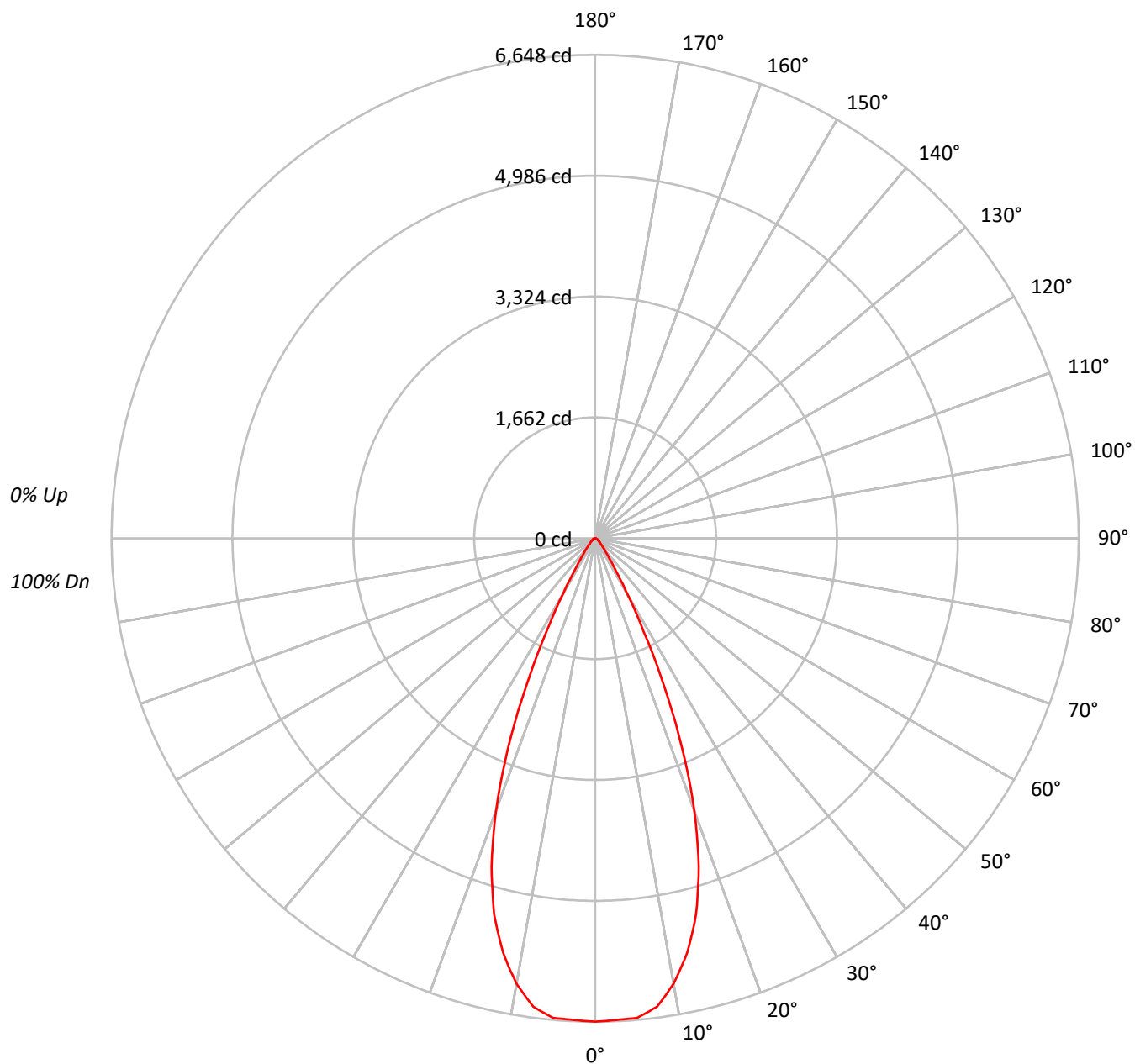
Input Watts (W): 41.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 114 | 112 | 109 | 107 | 112 | 109 | 107 | 105 | 105 | 104 | 102 |  | 102 | 100 | 99  |  | 98  |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  | 100 | 97  | 95  |  | 97  | 95  | 93  |  | 94  |
| 3   | 105 | 99  | 94  | 91  | 103 | 98  | 93  | 90  | 95  | 92  | 89  |  | 93  | 90  | 87  |  | 90  |
| 4   | 100 | 94  | 89  | 85  | 99  | 93  | 88  | 85  | 90  | 87  | 84  |  | 89  | 85  | 83  |  | 87  |
| 5   | 96  | 89  | 84  | 80  | 95  | 88  | 83  | 80  | 86  | 82  | 79  |  | 85  | 81  | 78  |  | 83  |
| 6   | 92  | 85  | 79  | 76  | 91  | 84  | 79  | 75  | 82  | 78  | 75  |  | 81  | 77  | 74  |  | 80  |
| 7   | 89  | 81  | 75  | 72  | 87  | 80  | 75  | 72  | 79  | 74  | 71  |  | 78  | 74  | 71  |  | 77  |
| 8   | 85  | 77  | 72  | 68  | 84  | 77  | 72  | 68  | 76  | 71  | 68  |  | 75  | 71  | 68  |  | 74  |
| 9   | 82  | 74  | 69  | 65  | 81  | 73  | 68  | 65  | 72  | 68  | 65  |  | 72  | 68  | 65  |  | 71  |
| 10  | 79  | 71  | 66  | 62  | 78  | 70  | 66  | 62  | 70  | 65  | 62  |  | 69  | 65  | 62  |  | 68  |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 3279987 |
| 5°  | 3278847 |
| 10° | 3116613 |
| 15° | 2737650 |
| 20° | 2094294 |
| 25° | 1222578 |
| 30° | 500429  |
| 35° | 211590  |
| 40° | 115351  |
| 45° | 74519   |
| 50° | 58181   |
| 55° | 50407   |
| 60° | 40753   |
| 65° | 32221   |
| 70° | 29861   |
| 75° | 26307   |
| 80° | 29265   |
| 85° | 19247   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 619.5  | 17.5      |
| 10°-20°   | 1459.2 | 41.1      |
| 20°-30°   | 1028.1 | 29.0      |
| 30°-40°   | 253.0  | 7.1       |
| 40°-50°   | 88.3   | 2.5       |
| 50°-60°   | 52.3   | 1.5       |
| 60°-70°   | 28.9   | 0.8       |
| 70°-80°   | 15.9   | 0.4       |
| 80°-90°   | 4.2    | 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°    | 3106.8 | 87.5      |
| 0°-40°    | 3359.8 | 94.7      |
| 0°-60°    | 3500.4 | 98.6      |
| 0°-90°    | 3549.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3549.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 6648 |      |
| 5°  | 6620 | 620  |
| 15° | 5360 | 1459 |
| 25° | 2246 | 1028 |
| 35° | 351  | 253  |
| 45° | 107  | 88   |
| 55° | 59   | 52   |
| 65° | 28   | 29   |
| 75° | 14   | 16   |
| 85° | 3    | 4    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 6648.0 |
| 2.5°  | 6630.8 |
| 5°    | 6620.4 |
| 7.5°  | 6499.9 |
| 10°   | 6220.9 |
| 12.5° | 5842.0 |
| 15°   | 5359.7 |
| 17.5° | 4736.3 |
| 20°   | 3988.8 |
| 22.5° | 3131.1 |
| 25°   | 2245.8 |
| 27.5° | 1450.2 |
| 30°   | 878.4  |
| 32.5° | 533.9  |
| 35°   | 351.3  |
| 37.5° | 248.0  |
| 40°   | 179.1  |
| 42.5° | 137.8  |
| 45°   | 106.8  |
| 47.5° | 89.6   |
| 50°   | 75.8   |
| 52.5° | 65.4   |
| 55°   | 58.6   |
| 57.5° | 51.7   |
| 60°   | 41.3   |
| 62.5° | 34.4   |
| 65°   | 27.6   |
| 67.5° | 24.1   |
| 70°   | 20.7   |
| 72.5° | 17.2   |
| 75°   | 13.8   |
| 77.5° | 13.8   |
| 80°   | 10.3   |
| 82.5° | 6.9    |
| 85°   | 3.4    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)