

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: P433007

Luminaire Tested: **LAM4B408R109024DE01021MMS**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P433007  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2008-908-1)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAM4B408R109024DE01021MMS  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 10 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 2400K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2779.7 lumens  
Efficiency: N/A  
Efficacy: 67.5 lumens/watt  
Spacing Criteria (0/90/45): 0.22 / 0.22 / 0.22  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

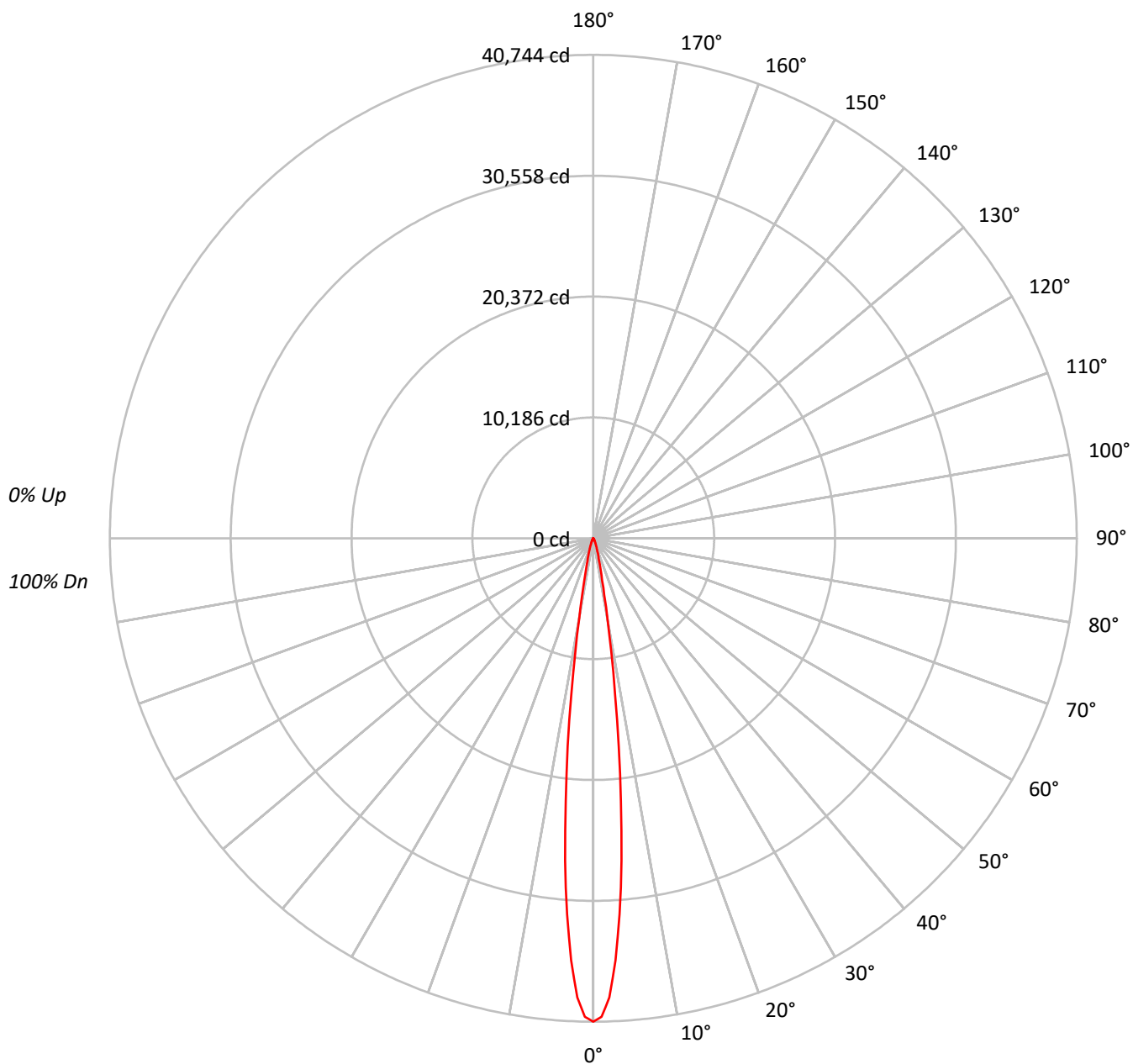
Input Watts (W): 41.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: LAM4B408R109024DE01021MMS

### Luminous Intensity Polar Plot





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CATALOG NUMBER: LAM4B408R109024DE01021MMS

**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   | 116 | 114 | 112 | 111 |  | 113 | 112 | 110 | 109 |  | 108 | 107 | 106 |  |  | 104 | 103 | 103 |  |  | 101 |
| 2   | 113 | 110 | 107 | 105 |  | 111 | 108 | 106 | 104 |  | 105 | 103 | 102 |  |  | 102 | 101 | 99  |  |  | 99  |
| 3   | 110 | 106 | 103 | 101 |  | 108 | 105 | 102 | 100 |  | 102 | 100 | 98  |  |  | 100 | 98  | 97  |  |  | 98  |
| 4   | 108 | 103 | 100 | 97  |  | 106 | 102 | 99  | 97  |  | 100 | 98  | 96  |  |  | 98  | 96  | 95  |  |  | 97  |
| 5   | 105 | 101 | 97  | 95  |  | 104 | 100 | 97  | 94  |  | 98  | 96  | 94  |  |  | 97  | 95  | 93  |  |  | 96  |
| 6   | 103 | 98  | 95  | 93  |  | 102 | 98  | 95  | 92  |  | 97  | 94  | 92  |  |  | 95  | 93  | 91  |  |  | 94  |
| 7   | 102 | 97  | 93  | 91  |  | 101 | 96  | 93  | 91  |  | 95  | 92  | 90  |  |  | 94  | 92  | 90  |  |  | 93  |
| 8   | 100 | 95  | 92  | 89  |  | 99  | 94  | 91  | 89  |  | 94  | 91  | 89  |  |  | 93  | 90  | 89  |  |  | 92  |
| 9   | 98  | 93  | 90  | 88  |  | 98  | 93  | 90  | 88  |  | 92  | 90  | 88  |  |  | 92  | 89  | 88  |  |  | 91  |
| 10  | 97  | 92  | 89  | 87  |  | 96  | 92  | 89  | 87  |  | 91  | 88  | 87  |  |  | 90  | 88  | 86  |  |  | 90  |

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

|     |          |
|-----|----------|
|     | 0°       |
| 0°  | 20102256 |
| 5°  | 13502982 |
| 10° | 3446165  |
| 15° | 892136   |
| 20° | 399716   |
| 25° | 190153   |
| 30° | 102034   |
| 35° | 59327    |
| 40° | 46179    |
| 45° | 24979    |
| 50° | 20647    |
| 55° | 15397    |
| 60° | 17663    |
| 65° | 10507    |
| 70° | 12983    |
| 75° | 17156    |
| 80° | 0        |
| 85° | 0        |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1873.7 | 67.4      |
| 10°-20°   | 596.6  | 21.5      |
| 20°-30°   | 174.2  | 6.3       |
| 30°-40°   | 66.3   | 2.4       |
| 40°-50°   | 31.6   | 1.1       |
| 50°-60°   | 19.0   | 0.7       |
| 60°-70°   | 10.0   | 0.4       |
| 70°-80°   | 8.3    | 0.3       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 2644.5 | 95.1      |
| 0°-40°    | 2710.8 | 97.5      |
| 0°-60°    | 2761.3 | 99.3      |
| 0°-90°    | 2779.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2779.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 40744 |      |
| 5°  | 27264 | ###  |
| 15° | 1747  | 597  |
| 25° | 349   | 174  |
| 35° | 98    | 66   |
| 45° | 36    | 32   |
| 55° | 18    | 19   |
| 65° | 9     | 10   |
| 75° | 9     | 8    |
| 85° | 0     | 0    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      |
|-------|---------|
| 0°    | 40744.0 |
| 1°    | 40349.9 |
| 2°    | 38719.8 |
| 3°    | 35611.8 |
| 4°    | 31769.4 |
| 5°    | 27264.2 |
| 6°    | 22284.3 |
| 7°    | 17689.5 |
| 8°    | 13211.1 |
| 9°    | 9628.4  |
| 10°   | 6878.7  |
| 11°   | 4872.4  |
| 12°   | 3609.5  |
| 13°   | 2740.7  |
| 14°   | 2176.5  |
| 15°   | 1746.6  |
| 17.5° | 1137.5  |
| 20°   | 761.3   |
| 22.5° | 510.5   |
| 25°   | 349.3   |
| 27.5° | 241.8   |
| 30°   | 179.1   |
| 32.5° | 125.4   |
| 35°   | 98.5    |
| 37.5° | 80.6    |
| 40°   | 71.7    |
| 42.5° | 53.7    |
| 45°   | 35.8    |
| 47.5° | 26.9    |
| 50°   | 26.9    |
| 52.5° | 26.9    |
| 55°   | 17.9    |
| 57.5° | 17.9    |
| 60°   | 17.9    |
| 62.5° | 9.0     |
| 65°   | 9.0     |
| 67.5° | 9.0     |
| 70°   | 9.0     |
| 72.5° | 9.0     |
| 75°   | 9.0     |
| 77.5° | 9.0     |
| 80°   | 0.0     |
| 82.5° | 0.0     |



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CANDELA DISTRIBUTION (continued):

0°  
90° | 0.0



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— 0°-180°







|       |     |
|-------|-----|
| 85°   | 0.0 |
| 87.5° | 0.0 |



(END OF REPORT)