

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: P432089

Luminaire Tested: **LAM4B108R109727DE010x1MMS**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P432089  
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: LAM4B108R109727DE010x1MMS  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 10 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 97CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 662.5 lumens  
Efficiency: N/A  
Efficacy: 58.1 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

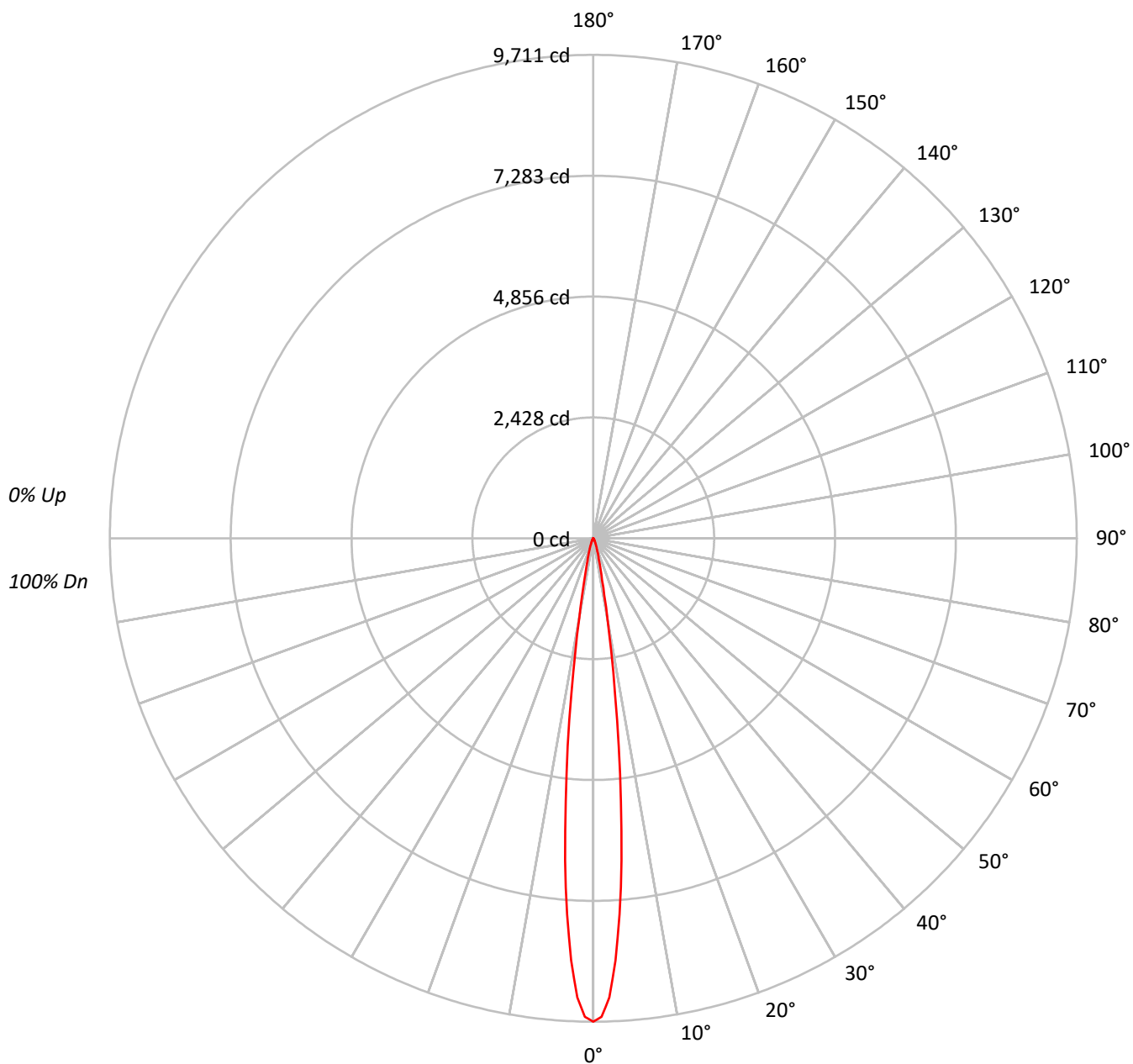
Input Watts (W): 11.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 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°  | 4791258 |
| 5°  | 3218326 |
| 10° | 821374  |
| 15° | 212639  |
| 20° | 95295   |
| 25° | 45347   |
| 30° | 24326   |
| 35° | 14154   |
| 40° | 11013   |
| 45° | 5931    |
| 50° | 4912    |
| 55° | 3699    |
| 60° | 4243    |
| 65° | 2452    |
| 70° | 3029    |
| 75° | 4003    |
| 80° | 0       |
| 85° | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 446.6  | 67.4      |
| 10°-20°   | 142.2  | 21.5      |
| 20°-30°   | 41.5   | 6.3       |
| 30°-40°   | 15.8   | 2.4       |
| 40°-50°   | 7.5    | 1.1       |
| 50°-60°   | 4.5    | 0.7       |
| 60°-70°   | 2.3    | 0.4       |
| 70°-80°   | 1.9    | 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°    | 630.3  | 95.1      |
| 0°-40°    | 646.1  | 97.5      |
| 0°-60°    | 658.2  | 99.4      |
| 0°-90°    | 662.5  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 662.5  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 9711 |      |
| 5°  | 6498 | 447  |
| 15° | 416  | 142  |
| 25° | 83   | 42   |
| 35° | 24   | 16   |
| 45° | 8    | 8    |
| 55° | 4    | 5    |
| 65° | 2    | 2    |
| 75° | 2    | 2    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 9711.1 |
| 1°    | 9617.1 |
| 2°    | 9228.6 |
| 3°    | 8487.9 |
| 4°    | 7572.0 |
| 5°    | 6498.2 |
| 6°    | 5311.3 |
| 7°    | 4216.2 |
| 8°    | 3148.8 |
| 9°    | 2294.9 |
| 10°   | 1639.5 |
| 11°   | 1161.3 |
| 12°   | 860.3  |
| 13°   | 653.2  |
| 14°   | 518.7  |
| 15°   | 416.3  |
| 17.5° | 271.1  |
| 20°   | 181.5  |
| 22.5° | 121.7  |
| 25°   | 83.3   |
| 27.5° | 57.6   |
| 30°   | 42.7   |
| 32.5° | 29.9   |
| 35°   | 23.5   |
| 37.5° | 19.2   |
| 40°   | 17.1   |
| 42.5° | 12.8   |
| 45°   | 8.5    |
| 47.5° | 6.4    |
| 50°   | 6.4    |
| 52.5° | 6.4    |
| 55°   | 4.3    |
| 57.5° | 4.3    |
| 60°   | 4.3    |
| 62.5° | 2.1    |
| 65°   | 2.1    |
| 67.5° | 2.1    |
| 70°   | 2.1    |
| 72.5° | 2.1    |
| 75°   | 2.1    |
| 77.5° | 2.1    |
| 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)