

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: P430600

Luminaire Tested: **LAM4B312R659727DE01021MB**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P430600  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-908-22)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAM4B312R659727DE01021MB  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 65 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 97CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

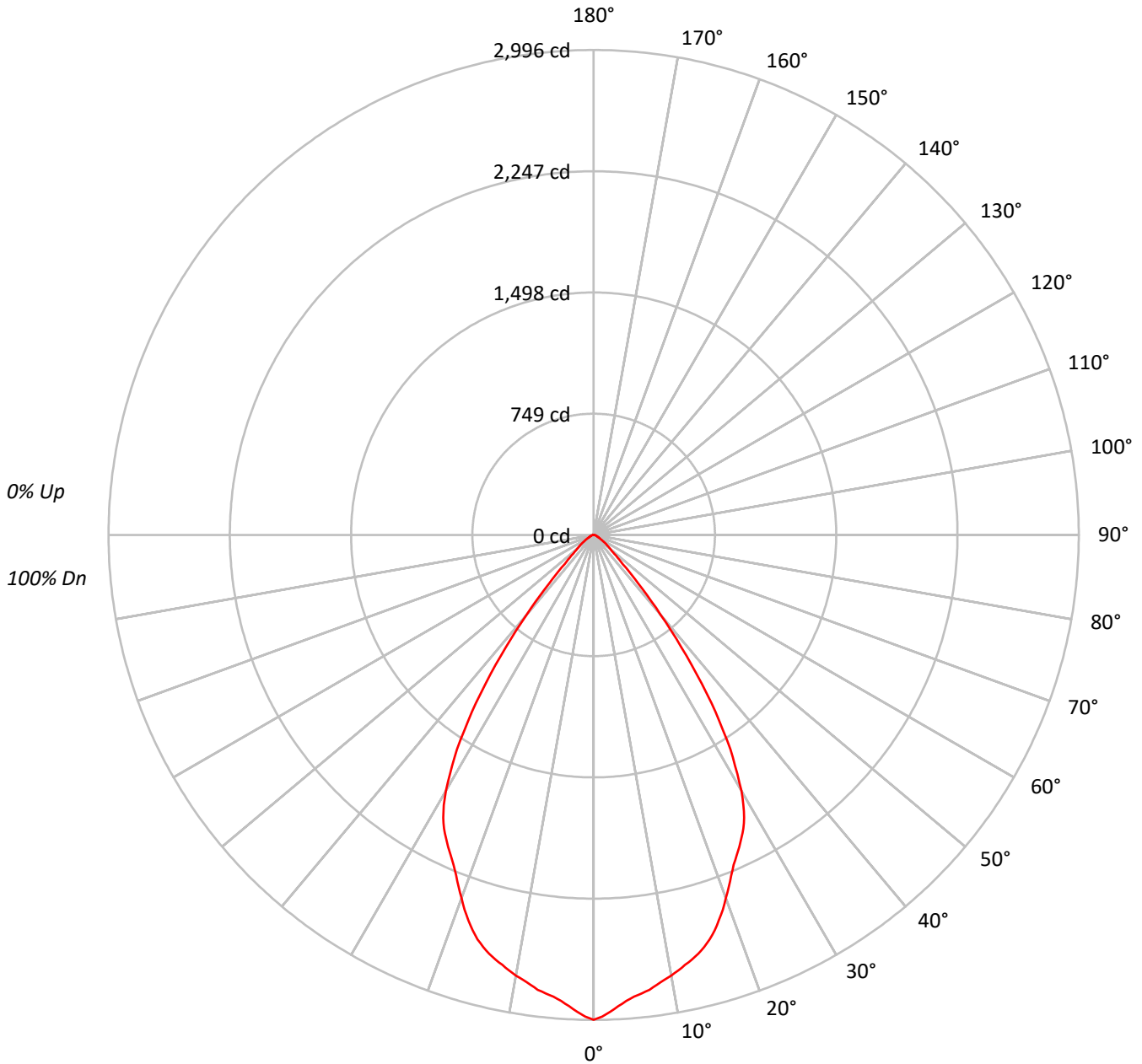
Lumens per Lamp: N/A  
Luminaire Lumens: 3103.4 lumens  
Efficiency: N/A  
Efficacy: 75.9 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 0.97  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 40.9  
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  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1   | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 103 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 94  | 93  | 93  | 93  | 93  |
| 2   | 107 | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85  | 85  | 85  | 85  |
| 3   | 101 | 94  | 89  | 85  | 99  | 93  | 88  | 84  | 90  | 86  | 83  | 88  | 84  | 81  | 86  | 83  | 80  | 79  | 79  | 79  | 79  |
| 4   | 96  | 88  | 82  | 77  | 94  | 86  | 81  | 77  | 84  | 80  | 76  | 82  | 78  | 75  | 80  | 77  | 74  | 72  | 72  | 72  | 72  |
| 5   | 90  | 82  | 75  | 71  | 89  | 81  | 75  | 70  | 79  | 74  | 70  | 77  | 73  | 69  | 75  | 72  | 68  | 67  | 67  | 67  | 67  |
| 6   | 85  | 76  | 70  | 65  | 84  | 75  | 69  | 65  | 74  | 68  | 64  | 72  | 68  | 64  | 71  | 67  | 64  | 62  | 62  | 62  | 62  |
| 7   | 81  | 71  | 65  | 60  | 80  | 70  | 64  | 60  | 69  | 64  | 60  | 68  | 63  | 59  | 67  | 62  | 59  | 58  | 58  | 58  | 58  |
| 8   | 77  | 67  | 60  | 56  | 75  | 66  | 60  | 56  | 65  | 59  | 56  | 64  | 59  | 55  | 63  | 58  | 55  | 54  | 54  | 54  | 54  |
| 9   | 73  | 63  | 56  | 52  | 72  | 62  | 56  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 59  | 55  | 51  | 50  | 50  | 50  | 50  |
| 10  | 69  | 59  | 53  | 49  | 68  | 58  | 53  | 49  | 58  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  | 47  | 47  | 47  | 47  |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 1477968 |
| 5°  | 1418288 |
| 10° | 1384688 |
| 15° | 1346018 |
| 20° | 1253541 |
| 25° | 1157796 |
| 30° | 1039371 |
| 35° | 763542  |
| 40° | 412392  |
| 45° | 177367  |
| 50° | 98785   |
| 55° | 69159   |
| 60° | 44404   |
| 65° | 33856   |
| 70° | 27841   |
| 75° | 24591   |
| 80° | 27560   |
| 85° | 18115   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 270.6  | 8.7       |
| 10°-20°   | 735.3  | 23.7      |
| 20°-30°   | 974.7  | 31.4      |
| 30°-40°   | 771.9  | 24.9      |
| 40°-50°   | 229.9  | 7.4       |
| 50°-60°   | 73.6   | 2.4       |
| 60°-70°   | 29.4   | 0.9       |
| 70°-80°   | 14.0   | 0.5       |
| 80°-90°   | 3.9    | 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°    | 1980.7 | 63.8      |
| 0°-40°    | 2752.6 | 88.7      |
| 0°-60°    | 3056.1 | 98.5      |
| 0°-90°    | 3103.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3103.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2996 |      |
| 5°  | 2864 | 271  |
| 15° | 2635 | 735  |
| 25° | 2127 | 975  |
| 35° | 1268 | 772  |
| 45° | 254  | 230  |
| 55° | 80   | 74   |
| 65° | 29   | 29   |
| 75° | 13   | 14   |
| 85° | 3    | 4    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 2995.6 |
| 1°    | 2976.3 |
| 2°    | 2947.3 |
| 3°    | 2915.1 |
| 4°    | 2886.2 |
| 5°    | 2863.7 |
| 6°    | 2847.6 |
| 7°    | 2831.5 |
| 8°    | 2805.8 |
| 9°    | 2783.2 |
| 10°   | 2763.9 |
| 11°   | 2741.4 |
| 12°   | 2715.7 |
| 13°   | 2693.1 |
| 14°   | 2667.4 |
| 15°   | 2635.2 |
| 16°   | 2599.8 |
| 17°   | 2554.8 |
| 18°   | 2503.3 |
| 19°   | 2448.6 |
| 20°   | 2387.5 |
| 21°   | 2329.5 |
| 22°   | 2268.4 |
| 23°   | 2213.7 |
| 24°   | 2168.7 |
| 25°   | 2126.8 |
| 26°   | 2081.8 |
| 27°   | 2036.7 |
| 28°   | 1978.8 |
| 29°   | 1908.0 |
| 30°   | 1824.4 |
| 32.5° | 1570.2 |
| 35°   | 1267.7 |
| 37.5° | 939.5  |
| 40°   | 640.3  |
| 42.5° | 405.4  |
| 45°   | 254.2  |
| 47.5° | 170.5  |
| 50°   | 128.7  |
| 52.5° | 103.0  |
| 55°   | 80.4   |
| 57.5° | 61.1   |
| 60°   | 45.0   |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°   |
|-------|------|
| 67.5° | 22.5 |
| 70°   | 19.3 |
| 72.5° | 16.1 |
| 75°   | 12.9 |
| 77.5° | 9.7  |
| 80°   | 9.7  |
| 82.5° | 6.4  |
| 85°   | 3.2  |
| 87.5° | 0.0  |
| 90°   | 0.0  |



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— 0°-180°







|       |  |      |
|-------|--|------|
| 62.5° |  | 35.4 |
| 65°   |  | 29.0 |



(END OF REPORT)