

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: P430368

Luminaire Tested: **LAM4B312R209024DE01021MW**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P430368  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2007-857-3)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAM4B312R209024DE01021MW  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 20 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 2400K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3133.2 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Spacing Criteria (0/90/45): 0.34 / 0.34 / 0.33  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

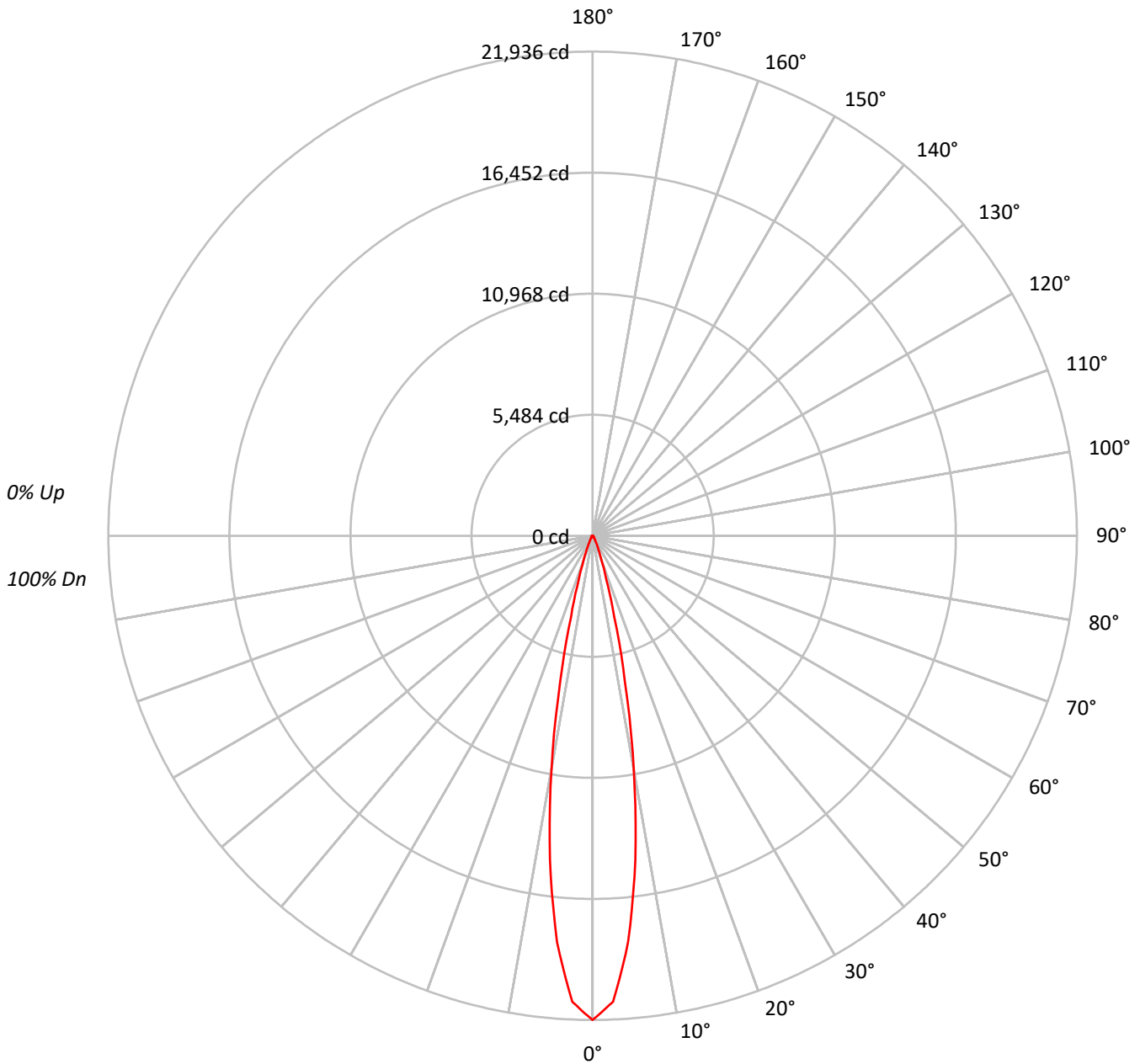
Input Watts (W): 40.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 115 | 113 | 111 | 110 | 113 | 111 | 109 | 108 | 107 | 106 | 105 | 103 | 102 | 101 | 100 | 99  | 99  | 97  | 97  | 97  | 97  |
| 2   | 112 | 108 | 105 | 103 | 110 | 106 | 104 | 102 | 103 | 101 | 100 | 101 | 99  | 97  | 98  | 97  | 95  | 94  | 94  | 94  | 94  |
| 3   | 108 | 104 | 100 | 98  | 107 | 103 | 100 | 97  | 100 | 98  | 95  | 98  | 96  | 94  | 96  | 94  | 93  | 91  | 91  | 91  | 91  |
| 4   | 105 | 100 | 97  | 94  | 104 | 99  | 96  | 93  | 97  | 94  | 92  | 95  | 93  | 91  | 94  | 92  | 90  | 89  | 89  | 89  | 89  |
| 5   | 103 | 97  | 93  | 90  | 101 | 96  | 93  | 90  | 95  | 92  | 89  | 93  | 91  | 89  | 92  | 90  | 88  | 87  | 87  | 87  | 87  |
| 6   | 100 | 94  | 90  | 88  | 99  | 94  | 90  | 87  | 92  | 89  | 87  | 91  | 88  | 86  | 90  | 88  | 86  | 85  | 85  | 85  | 85  |
| 7   | 98  | 92  | 88  | 85  | 97  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 86  | 84  | 88  | 86  | 84  | 83  | 83  | 83  | 83  |
| 8   | 96  | 90  | 86  | 83  | 95  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 85  | 82  | 87  | 84  | 82  | 81  | 81  | 81  | 81  |
| 9   | 94  | 88  | 84  | 81  | 93  | 87  | 84  | 81  | 86  | 83  | 81  | 86  | 83  | 81  | 85  | 82  | 81  | 80  | 80  | 80  | 80  |
| 10  | 92  | 86  | 82  | 80  | 91  | 85  | 82  | 80  | 85  | 82  | 79  | 84  | 81  | 79  | 83  | 81  | 79  | 78  | 78  | 78  | 78  |

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

|     |          |
|-----|----------|
|     | 0°       |
| 0°  | 10822872 |
| 5°  | 9148124  |
| 10° | 5373276  |
| 15° | 1923970  |
| 20° | 636615   |
| 25° | 253356   |
| 30° | 121119   |
| 35° | 69205    |
| 40° | 49979    |
| 45° | 42074    |
| 50° | 48510    |
| 55° | 39568    |
| 60° | 19834    |
| 65° | 16811    |
| 70° | 20773    |
| 75° | 21922    |
| 80° | 16195    |
| 85° | 16417    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1512.5 | 48.3      |
| 10°-20°   | 1179.5 | 37.6      |
| 20°-30°   | 244.8  | 7.8       |
| 30°-40°   | 77.2   | 2.5       |
| 40°-50°   | 49.6   | 1.6       |
| 50°-60°   | 39.9   | 1.3       |
| 60°-70°   | 15.7   | 0.5       |
| 70°-80°   | 11.7   | 0.4       |
| 80°-90°   | 2.4    | 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°    | 2936.8 | 93.7      |
| 0°-40°    | 3014.0 | 96.2      |
| 0°-60°    | 3103.4 | 99.1      |
| 0°-90°    | 3133.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3133.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 21936 |      |
| 5°  | 18471 | ###  |
| 15° | 3767  | 1179 |
| 25° | 465   | 245  |
| 35° | 115   | 77   |
| 45° | 60    | 50   |
| 55° | 46    | 40   |
| 65° | 14    | 16   |
| 75° | 12    | 12   |
| 85° | 3     | 2    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |         |
|-------|---------|
| 0°    | 21936.2 |
| 2.5°  | 21131.7 |
| 5°    | 18471.2 |
| 7.5°  | 14799.4 |
| 10°   | 10725.3 |
| 12.5° | 6766.2  |
| 15°   | 3766.7  |
| 17.5° | 2071.5  |
| 20°   | 1212.5  |
| 22.5° | 741.3   |
| 25°   | 465.4   |
| 27.5° | 307.4   |
| 30°   | 212.6   |
| 32.5° | 149.4   |
| 35°   | 114.9   |
| 37.5° | 91.9    |
| 40°   | 77.6    |
| 42.5° | 66.1    |
| 45°   | 60.3    |
| 47.5° | 60.3    |
| 50°   | 63.2    |
| 52.5° | 60.3    |
| 55°   | 46.0    |
| 57.5° | 31.6    |
| 60°   | 20.1    |
| 62.5° | 17.2    |
| 65°   | 14.4    |
| 67.5° | 14.4    |
| 70°   | 14.4    |
| 72.5° | 14.4    |
| 75°   | 11.5    |
| 77.5° | 8.6     |
| 80°   | 5.7     |
| 82.5° | 2.9     |
| 85°   | 2.9     |
| 87.5° | 0.0     |
| 90°   | 0.0     |



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— 0°-180°







(END OF REPORT)