

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: P431484

Luminaire Tested: **LAMR4B212R709040DE010x1MW**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P431484  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2007-857-14)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAMR4B212R709040DE010x1MW  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 70 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2438.6 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.09  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

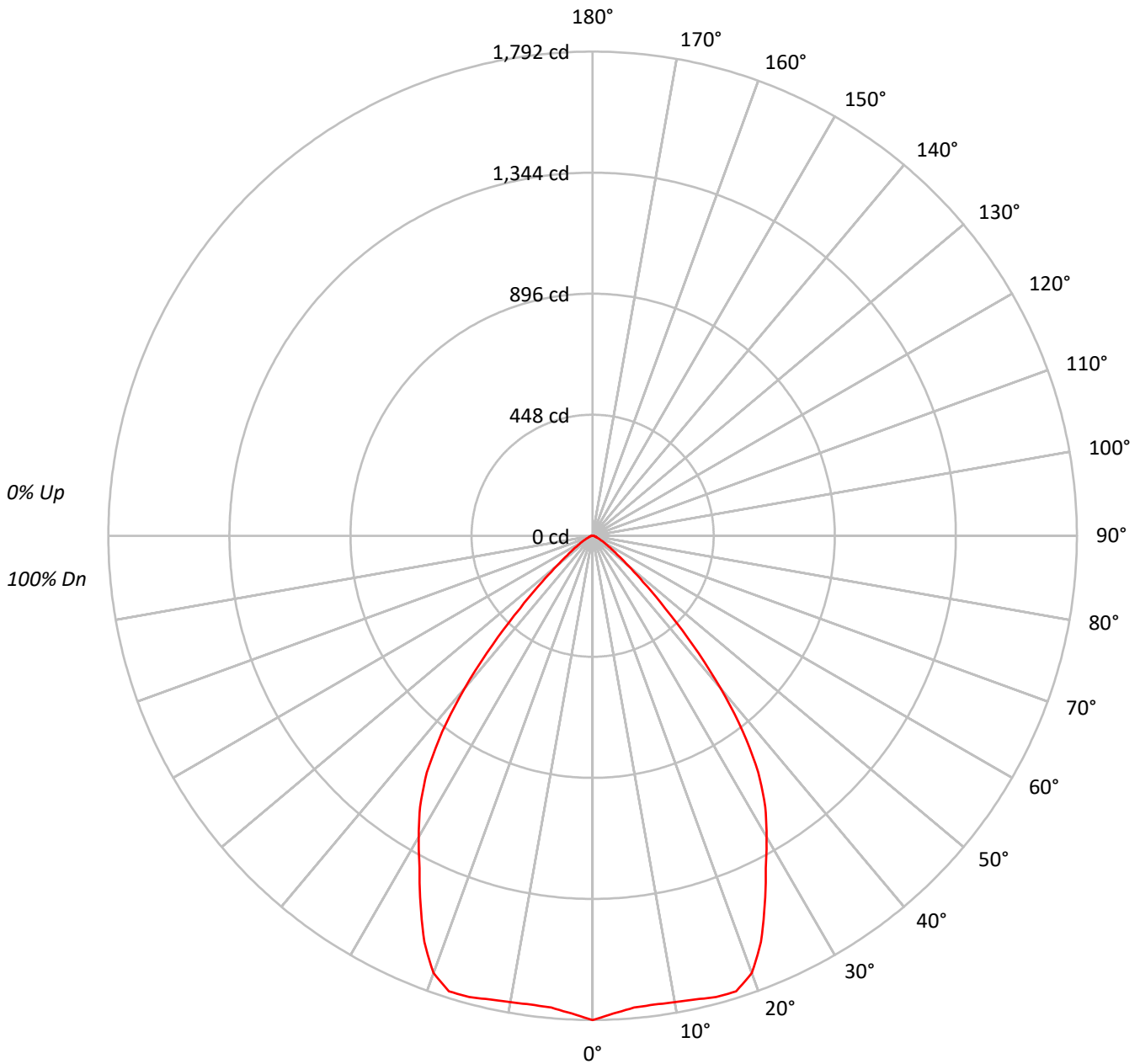
Input Watts (W): 28.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     | 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 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 100 | 100 | 98  | 97  | 96  | 95  | 94  | 92  | 92  | 92  | 92  |
| 2   | 106 | 101 | 96  | 92  | 104 | 99  | 95  | 91  | 96  | 92  | 89  | 93  | 90  | 87  | 90  | 88  | 86  | 84  | 84  | 84  | 84  |
| 3   | 100 | 93  | 87  | 83  | 98  | 91  | 86  | 82  | 89  | 84  | 81  | 86  | 82  | 79  | 84  | 81  | 78  | 76  | 76  | 76  | 76  |
| 4   | 94  | 85  | 79  | 74  | 92  | 84  | 78  | 74  | 82  | 77  | 73  | 80  | 76  | 72  | 78  | 74  | 71  | 70  | 70  | 70  | 70  |
| 5   | 88  | 79  | 72  | 68  | 87  | 78  | 72  | 67  | 76  | 71  | 67  | 74  | 70  | 66  | 73  | 69  | 65  | 64  | 64  | 64  | 64  |
| 6   | 83  | 73  | 66  | 62  | 82  | 72  | 66  | 61  | 71  | 65  | 61  | 69  | 64  | 60  | 68  | 64  | 60  | 58  | 58  | 58  | 58  |
| 7   | 78  | 68  | 61  | 56  | 77  | 67  | 61  | 56  | 66  | 60  | 56  | 65  | 59  | 56  | 63  | 59  | 55  | 54  | 54  | 54  | 54  |
| 8   | 74  | 63  | 57  | 52  | 73  | 63  | 56  | 52  | 62  | 56  | 52  | 60  | 55  | 51  | 59  | 55  | 51  | 50  | 50  | 50  | 50  |
| 9   | 70  | 59  | 53  | 48  | 69  | 59  | 52  | 48  | 58  | 52  | 48  | 57  | 51  | 48  | 56  | 51  | 47  | 46  | 46  | 46  | 46  |
| 10  | 66  | 55  | 49  | 45  | 65  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 48  | 44  | 43  | 43  | 43  | 43  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 884383 |
| 5°  | 867950 |
| 10° | 877986 |
| 15° | 902811 |
| 20° | 904335 |
| 25° | 820441 |
| 30° | 733097 |
| 35° | 643864 |
| 40° | 474029 |
| 45° | 265492 |
| 50° | 130639 |
| 55° | 73201  |
| 60° | 44503  |
| 65° | 29186  |
| 70° | 21638  |
| 75° | 19063  |
| 80° | 14206  |
| 85° | 14152  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 167.5  | 6.9       |
| 10°-20°   | 498.0  | 20.4      |
| 20°-30°   | 691.2  | 28.3      |
| 30°-40°   | 650.3  | 26.7      |
| 40°-50°   | 310.4  | 12.7      |
| 50°-60°   | 82.1   | 3.4       |
| 60°-70°   | 25.9   | 1.1       |
| 70°-80°   | 10.5   | 0.4       |
| 80°-90°   | 2.7    | 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°    | 1356.7 | 55.6      |
| 0°-40°    | 2007.0 | 82.3      |
| 0°-60°    | 2399.5 | 98.4      |
| 0°-90°    | 2438.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2438.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1792 |      |
| 5°  | 1752 | 168  |
| 15° | 1768 | 498  |
| 25° | 1507 | 691  |
| 35° | 1069 | 650  |
| 45° | 380  | 310  |
| 55° | 85   | 82   |
| 65° | 25   | 26   |
| 75° | 10   | 11   |
| 85° | 2    | 3    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1792.5 |
| 2.5°  | 1770.0 |
| 5°    | 1752.5 |
| 7.5°  | 1750.0 |
| 10°   | 1752.5 |
| 12.5° | 1757.5 |
| 15°   | 1767.5 |
| 17.5° | 1767.5 |
| 20°   | 1722.4 |
| 22.5° | 1627.3 |
| 25°   | 1507.1 |
| 27.5° | 1387.0 |
| 30°   | 1286.8 |
| 32.5° | 1189.2 |
| 35°   | 1069.0 |
| 37.5° | 913.8  |
| 40°   | 736.0  |
| 42.5° | 548.3  |
| 45°   | 380.5  |
| 47.5° | 252.9  |
| 50°   | 170.2  |
| 52.5° | 117.7  |
| 55°   | 85.1   |
| 57.5° | 60.1   |
| 60°   | 45.1   |
| 62.5° | 32.5   |
| 65°   | 25.0   |
| 67.5° | 17.5   |
| 70°   | 15.0   |
| 72.5° | 12.5   |
| 75°   | 10.0   |
| 77.5° | 7.5    |
| 80°   | 5.0    |
| 82.5° | 5.0    |
| 85°   | 2.5    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)