

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: P431282

Luminaire Tested: **LAMR4B212R309027DE010x1MMS**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P431282  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2007-857-8)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAMR4B212R309027DE010x1MMS  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 30 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

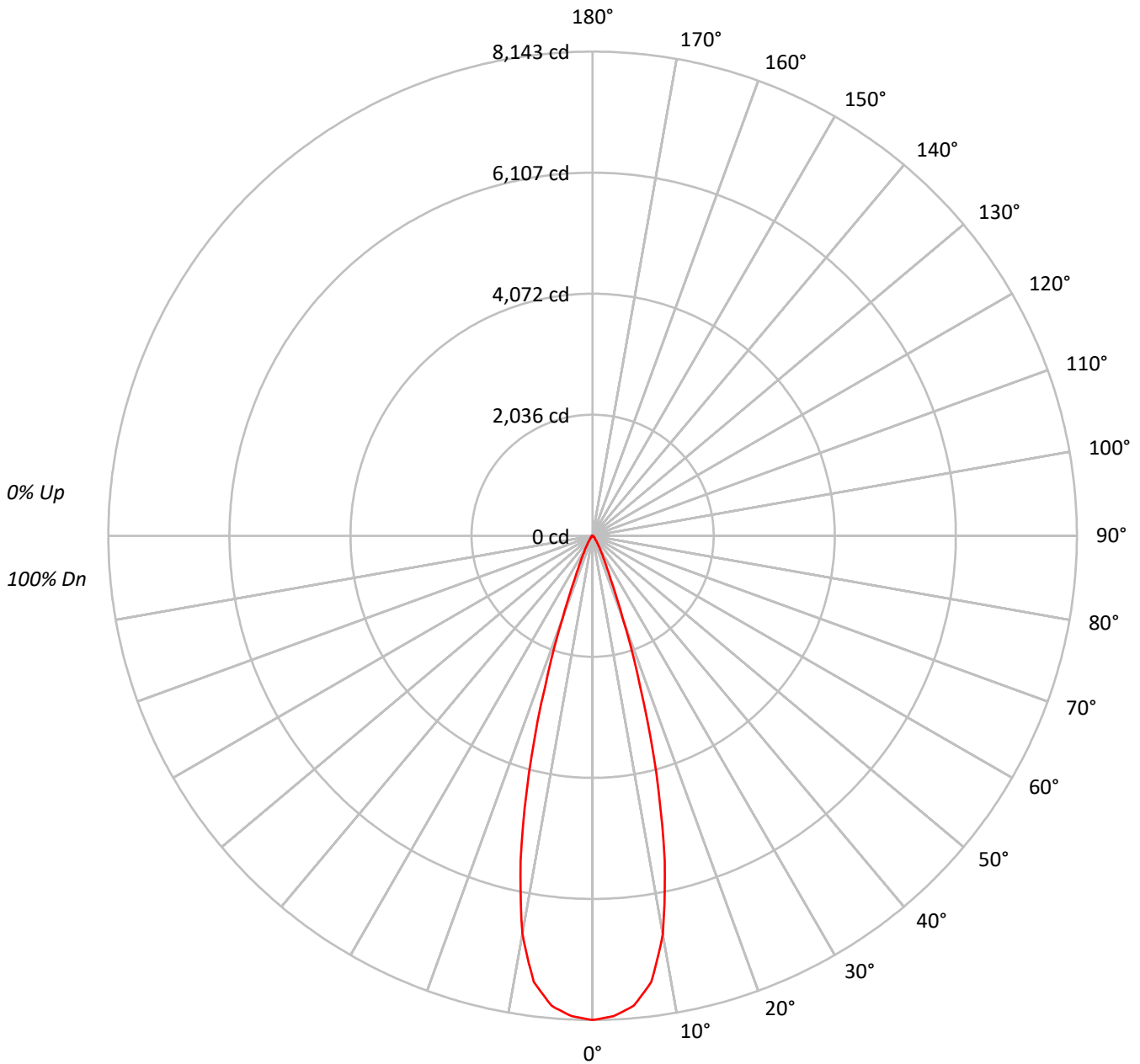
Lumens per Lamp: N/A  
Luminaire Lumens: 2217.3 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.51 / 0.46  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

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   | 115 | 113 | 111 | 109 | 112 | 111 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 96  | 96  | 96  | 96  |
| 2   | 111 | 107 | 104 | 102 | 109 | 106 | 103 | 100 | 102 | 100 | 98  | 100 | 98  | 96  | 97  | 95  | 94  | 93  | 93  | 93  | 93  |
| 3   | 107 | 103 | 99  | 96  | 105 | 101 | 98  | 95  | 99  | 96  | 94  | 96  | 94  | 92  | 94  | 92  | 91  | 90  | 90  | 90  | 90  |
| 4   | 104 | 98  | 94  | 91  | 102 | 97  | 94  | 91  | 95  | 92  | 90  | 93  | 91  | 89  | 92  | 90  | 88  | 87  | 87  | 87  | 87  |
| 5   | 101 | 95  | 91  | 87  | 99  | 94  | 90  | 87  | 92  | 89  | 86  | 91  | 88  | 86  | 89  | 87  | 85  | 84  | 84  | 84  | 84  |
| 6   | 98  | 91  | 87  | 84  | 97  | 91  | 87  | 84  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 84  | 82  | 81  | 81  | 81  | 81  |
| 7   | 95  | 88  | 84  | 81  | 94  | 88  | 84  | 81  | 87  | 83  | 81  | 86  | 83  | 80  | 85  | 82  | 80  | 79  | 79  | 79  | 79  |
| 8   | 92  | 86  | 81  | 79  | 91  | 85  | 81  | 78  | 84  | 81  | 78  | 83  | 80  | 78  | 83  | 80  | 78  | 77  | 77  | 77  | 77  |
| 9   | 90  | 83  | 79  | 76  | 89  | 83  | 79  | 76  | 82  | 78  | 76  | 81  | 78  | 76  | 80  | 78  | 75  | 74  | 74  | 74  | 74  |
| 10  | 88  | 81  | 77  | 74  | 87  | 80  | 77  | 74  | 80  | 76  | 74  | 79  | 76  | 74  | 78  | 76  | 73  | 72  | 72  | 72  | 72  |

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

|     | 0°      |
|-----|---------|
| 0°  | 4017540 |
| 5°  | 3929773 |
| 10° | 3407338 |
| 15° | 2111888 |
| 20° | 774019  |
| 25° | 258746  |
| 30° | 126987  |
| 35° | 63363   |
| 40° | 39288   |
| 45° | 24979   |
| 50° | 17731   |
| 55° | 14451   |
| 60° | 12433   |
| 65° | 9806    |
| 70° | 12117   |
| 75° | 12010   |
| 80° | 11933   |
| 85° | 11888   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 723.1  | 32.6      |
| 10°-20°   | 1091.8 | 49.2      |
| 20°-30°   | 266.2  | 12.0      |
| 30°-40°   | 72.9   | 3.3       |
| 40°-50°   | 29.3   | 1.3       |
| 50°-60°   | 15.7   | 0.7       |
| 60°-70°   | 9.4    | 0.4       |
| 70°-80°   | 7.2    | 0.3       |
| 80°-90°   | 1.7    | 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°    | 2081.1 | 93.9      |
| 0°-40°    | 2154.0 | 97.1      |
| 0°-60°    | 2199.0 | 99.2      |
| 0°-90°    | 2217.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2217.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 8143 |      |
| 5°  | 7935 | 723  |
| 15° | 4135 | 1092 |
| 25° | 475  | 266  |
| 35° | 105  | 73   |
| 45° | 36   | 29   |
| 55° | 17   | 16   |
| 65° | 8    | 9    |
| 75° | 6    | 7    |
| 85° | 2    | 2    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 8142.9 |
| 2.5°  | 8088.2 |
| 5°    | 7934.7 |
| 7.5°  | 7568.8 |
| 10°   | 6801.2 |
| 12.5° | 5598.3 |
| 15°   | 4134.6 |
| 17.5° | 2664.5 |
| 20°   | 1474.2 |
| 22.5° | 786.5  |
| 25°   | 475.3  |
| 27.5° | 321.8  |
| 30°   | 222.9  |
| 32.5° | 151.4  |
| 35°   | 105.2  |
| 37.5° | 77.8   |
| 40°   | 61.0   |
| 42.5° | 46.3   |
| 45°   | 35.8   |
| 47.5° | 29.4   |
| 50°   | 23.1   |
| 52.5° | 21.0   |
| 55°   | 16.8   |
| 57.5° | 14.7   |
| 60°   | 12.6   |
| 62.5° | 10.5   |
| 65°   | 8.4    |
| 67.5° | 8.4    |
| 70°   | 8.4    |
| 72.5° | 8.4    |
| 75°   | 6.3    |
| 77.5° | 6.3    |
| 80°   | 4.2    |
| 82.5° | 2.1    |
| 85°   | 2.1    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)