

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: P430712

Luminaire Tested: **LAM4B412R309035DE01021MMS**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P430712  
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: LAM4B412R309035DE01021MMS  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 30 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6028.6 lumens  
Efficiency: N/A  
Efficacy: 111.4 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

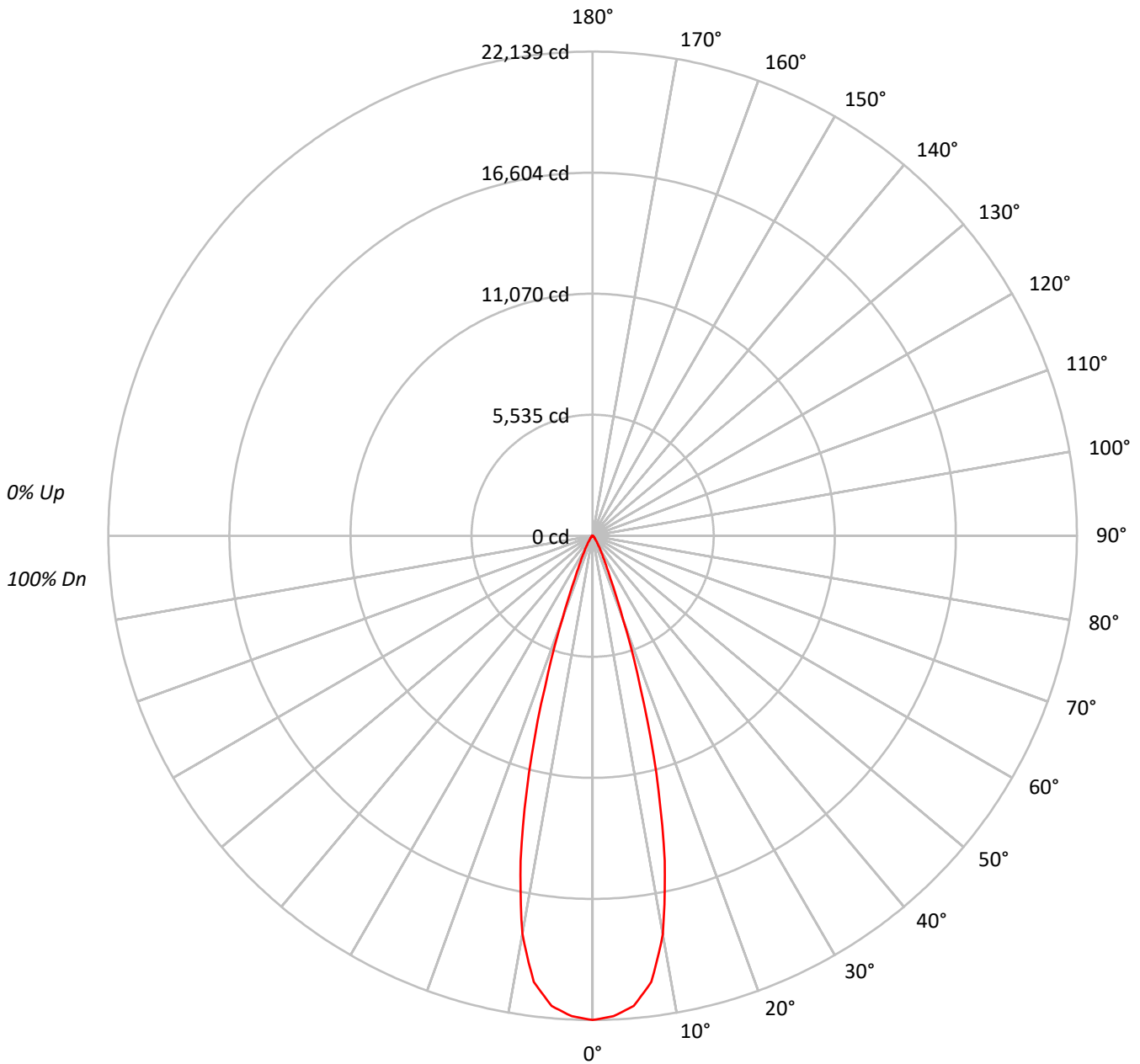
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 115 | 113 | 111 | 109 | 112 | 111 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 96  |    |    |
| 2   | 111 | 107 | 104 | 102 | 109 | 106 | 103 | 100 | 102 | 100 | 98  | 100 | 98  | 96  | 97  | 95  | 94  | 93  |    |    |
| 3   | 107 | 103 | 99  | 96  | 105 | 101 | 98  | 95  | 99  | 96  | 94  | 96  | 94  | 92  | 94  | 92  | 91  | 90  |    |    |
| 4   | 104 | 98  | 94  | 91  | 102 | 97  | 94  | 91  | 95  | 92  | 90  | 93  | 91  | 89  | 92  | 90  | 88  | 87  |    |    |
| 5   | 101 | 95  | 91  | 87  | 99  | 94  | 90  | 87  | 92  | 89  | 86  | 91  | 88  | 86  | 89  | 87  | 85  | 84  |    |    |
| 6   | 98  | 91  | 87  | 84  | 97  | 91  | 87  | 84  | 89  | 86  | 83  | 88  | 85  | 83  | 87  | 84  | 82  | 81  |    |    |
| 7   | 95  | 88  | 84  | 81  | 94  | 88  | 84  | 81  | 87  | 83  | 81  | 86  | 83  | 80  | 85  | 82  | 80  | 79  |    |    |
| 8   | 92  | 86  | 81  | 79  | 91  | 85  | 81  | 78  | 84  | 81  | 78  | 83  | 80  | 78  | 83  | 80  | 78  | 77  |    |    |
| 9   | 90  | 83  | 79  | 76  | 89  | 83  | 79  | 76  | 82  | 78  | 76  | 81  | 78  | 76  | 80  | 78  | 75  | 74  |    |    |
| 10  | 88  | 81  | 77  | 74  | 87  | 80  | 77  | 74  | 80  | 76  | 74  | 79  | 76  | 74  | 78  | 76  | 73  | 72  |    |    |

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

|     | 0°       |
|-----|----------|
| 0°  | 10922831 |
| 5°  | 10684235 |
| 10° | 9263819  |
| 15° | 5741724  |
| 20° | 2104427  |
| 25° | 703453   |
| 30° | 345299   |
| 35° | 172199   |
| 40° | 106785   |
| 45° | 67821    |
| 50° | 48280    |
| 55° | 39310    |
| 60° | 33846    |
| 65° | 26734    |
| 70° | 33034    |
| 75° | 32788    |
| 80° | 32390    |
| 85° | 32267    |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1966.1 | 32.6      |
| 10°-20°   | 2968.3 | 49.2      |
| 20°-30°   | 723.7  | 12.0      |
| 30°-40°   | 198.2  | 3.3       |
| 40°-50°   | 79.8   | 1.3       |
| 50°-60°   | 42.7   | 0.7       |
| 60°-70°   | 25.5   | 0.4       |
| 70°-80°   | 19.6   | 0.3       |
| 80°-90°   | 4.6    | 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°    | 5658.1 | 93.9      |
| 0°-40°    | 5856.3 | 97.1      |
| 0°-60°    | 5978.8 | 99.2      |
| 0°-90°    | 6028.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6028.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 22139 |      |
| 5°  | 21573 | ###  |
| 15° | 11241 | 2968 |
| 25° | 1292  | 724  |
| 35° | 286   | 198  |
| 45° | 97    | 80   |
| 55° | 46    | 43   |
| 65° | 23    | 25   |
| 75° | 17    | 20   |
| 85° | 6     | 5    |
| 90° | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      |
|-------|---------|
| 0°    | 22138.8 |
| 2.5°  | 21990.2 |
| 5°    | 21572.8 |
| 7.5°  | 20577.9 |
| 10°   | 18491.0 |
| 12.5° | 15220.5 |
| 15°   | 11241.0 |
| 17.5° | 7244.3  |
| 20°   | 4008.1  |
| 22.5° | 2138.4  |
| 25°   | 1292.2  |
| 27.5° | 874.8   |
| 30°   | 606.1   |
| 32.5° | 411.7   |
| 35°   | 285.9   |
| 37.5° | 211.6   |
| 40°   | 165.8   |
| 42.5° | 125.8   |
| 45°   | 97.2    |
| 47.5° | 80.0    |
| 50°   | 62.9    |
| 52.5° | 57.2    |
| 55°   | 45.7    |
| 57.5° | 40.0    |
| 60°   | 34.3    |
| 62.5° | 28.6    |
| 65°   | 22.9    |
| 67.5° | 22.9    |
| 70°   | 22.9    |
| 72.5° | 22.9    |
| 75°   | 17.2    |
| 77.5° | 17.2    |
| 80°   | 11.4    |
| 82.5° | 5.7     |
| 85°   | 5.7     |
| 87.5° | 0.0     |
| 90°   | 0.0     |



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— 0°-180°







(END OF REPORT)