

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: P433189

Luminaire Tested: **LAM4B408R459050DE01021MB**

Issue Date: 11/23/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P433189  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-908-8)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 11/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LAM4B408R459050DE01021MB  
Description: PORTFOLIO 4INCH ADJUSTABLE MULTIPLE, 45 DEG TIR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3722.4 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 0.73 / 0.73 / 0.66  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

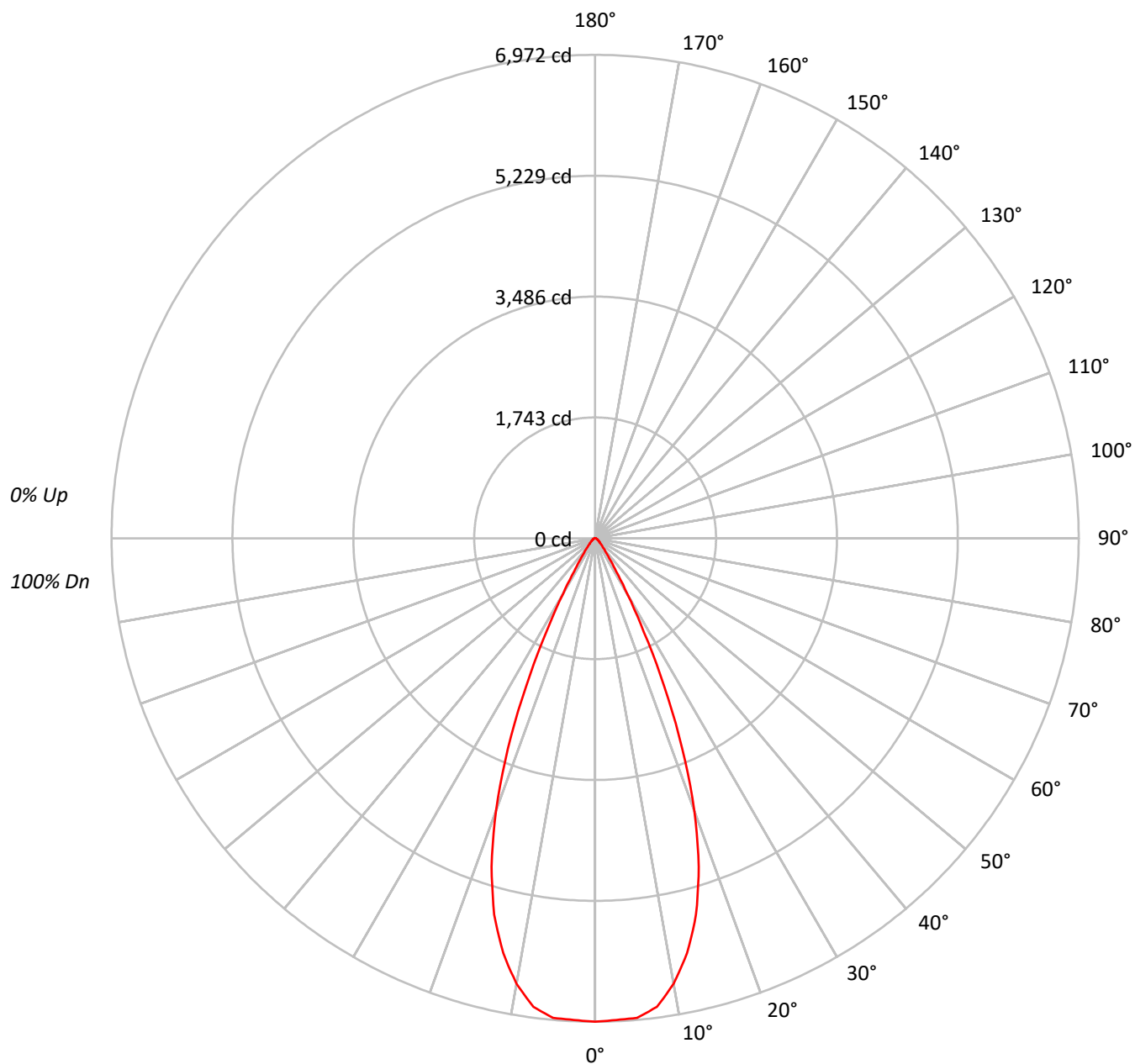
Input Watts (W): 41.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  |  | 50  | 30  | 10  |  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 114 | 112 | 109 | 107 | 112 | 109 | 107 | 105 |  | 105 | 104 | 102 |  |  | 102 | 100 | 99  |  |  | 98  |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  |  | 100 | 97  | 95  |  |  | 97  | 95  | 93  |  |  | 94  |
| 3   | 105 | 99  | 94  | 91  | 103 | 98  | 93  | 90  |  | 95  | 92  | 89  |  |  | 93  | 90  | 87  |  |  | 90  |
| 4   | 100 | 94  | 89  | 85  | 99  | 93  | 88  | 85  |  | 90  | 87  | 84  |  |  | 89  | 85  | 83  |  |  | 87  |
| 5   | 96  | 89  | 84  | 80  | 95  | 88  | 83  | 80  |  | 86  | 82  | 79  |  |  | 85  | 81  | 78  |  |  | 83  |
| 6   | 92  | 85  | 79  | 76  | 91  | 84  | 79  | 75  |  | 82  | 78  | 75  |  |  | 81  | 77  | 74  |  |  | 80  |
| 7   | 89  | 81  | 75  | 72  | 87  | 80  | 75  | 72  |  | 79  | 74  | 71  |  |  | 78  | 74  | 71  |  |  | 77  |
| 8   | 85  | 77  | 72  | 68  | 84  | 77  | 72  | 68  |  | 76  | 71  | 68  |  |  | 75  | 71  | 68  |  |  | 74  |
| 9   | 82  | 74  | 69  | 65  | 81  | 73  | 68  | 65  |  | 72  | 68  | 65  |  |  | 72  | 68  | 65  |  |  | 71  |
| 10  | 79  | 71  | 66  | 62  | 78  | 70  | 66  | 62  |  | 70  | 65  | 62  |  |  | 69  | 65  | 62  |  |  | 68  |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 3439842 |
| 5°  | 3438669 |
| 10° | 3268463 |
| 15° | 2871066 |
| 20° | 2196362 |
| 25° | 1282188 |
| 30° | 524813  |
| 35° | 221949  |
| 40° | 120955  |
| 45° | 78147   |
| 50° | 61021   |
| 55° | 52815   |
| 60° | 42727   |
| 65° | 33739   |
| 70° | 31303   |
| 75° | 27450   |
| 80° | 30686   |
| 85° | 20379   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 649.7  | 17.5      |
| 10°-20°   | 1530.3 | 41.1      |
| 20°-30°   | 1078.2 | 29.0      |
| 30°-40°   | 265.4  | 7.1       |
| 40°-50°   | 92.6   | 2.5       |
| 50°-60°   | 54.8   | 1.5       |
| 60°-70°   | 30.3   | 0.8       |
| 70°-80°   | 16.7   | 0.4       |
| 80°-90°   | 4.4    | 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°    | 3258.2 | 87.5      |
| 0°-40°    | 3523.6 | 94.7      |
| 0°-60°    | 3671.0 | 98.6      |
| 0°-90°    | 3722.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3722.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 6972 |      |
| 5°  | 6943 | 650  |
| 15° | 5621 | 1530 |
| 25° | 2355 | 1078 |
| 35° | 368  | 265  |
| 45° | 112  | 93   |
| 55° | 61   | 55   |
| 65° | 29   | 30   |
| 75° | 14   | 17   |
| 85° | 4    | 4    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 6972.0 |
| 2.5°  | 6953.9 |
| 5°    | 6943.1 |
| 7.5°  | 6816.6 |
| 10°   | 6524.0 |
| 12.5° | 6126.7 |
| 15°   | 5620.9 |
| 17.5° | 4967.1 |
| 20°   | 4183.2 |
| 22.5° | 3283.7 |
| 25°   | 2355.3 |
| 27.5° | 1520.8 |
| 30°   | 921.2  |
| 32.5° | 559.9  |
| 35°   | 368.5  |
| 37.5° | 260.1  |
| 40°   | 187.8  |
| 42.5° | 144.5  |
| 45°   | 112.0  |
| 47.5° | 93.9   |
| 50°   | 79.5   |
| 52.5° | 68.6   |
| 55°   | 61.4   |
| 57.5° | 54.2   |
| 60°   | 43.3   |
| 62.5° | 36.1   |
| 65°   | 28.9   |
| 67.5° | 25.3   |
| 70°   | 21.7   |
| 72.5° | 18.1   |
| 75°   | 14.4   |
| 77.5° | 14.4   |
| 80°   | 10.8   |
| 82.5° | 7.2    |
| 85°   | 3.6    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)