

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: io LED

Report Number: P211710

Luminaire Tested: **LE\_4B20D010 EC4B10208040 4LBN1B**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211710  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35319)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LE\_4B20D010 EC4B10208040 4LBN1B  
Description: PORTFOLIO 4 INCH CYLINDER  
NARROW DISTRIBUTION WITH SPECULAR BLACK TRIM  
WATTAGE D010TR-21.86W DE010-20.46W D5LT-21.24W DMX-20.89W DL2-22.5W  
DL3-21.8 6W DLE-22.46W  
Light Source: HIGH LUMEN LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 943.9 lumens  
Efficiency: N/A  
Efficacy: 45.4 lumens/watt  
Spacing Criteria (0/90/45): 0.62 / 0.62 / 0.79  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

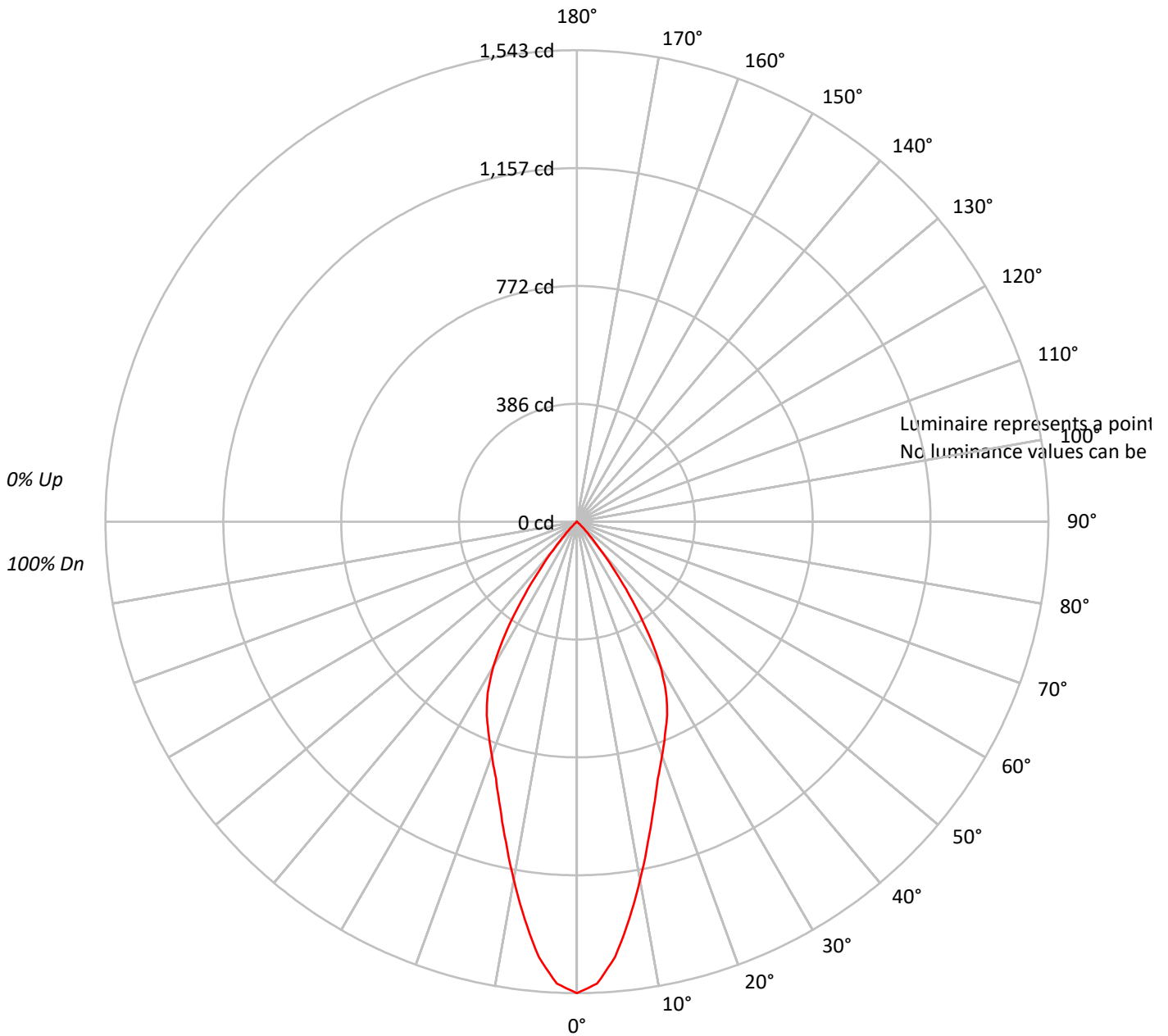
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |    |    |   |
| 1   | 114 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 96  | 94  |    |    |   |
| 2   | 109 | 104 | 100 | 97  | 106 | 102 | 99  | 96  | 99  | 96  | 94  | 96  | 94  | 92  | 93  | 92  | 90  | 88  |    |    |   |
| 3   | 104 | 98  | 93  | 89  | 102 | 96  | 92  | 88  | 94  | 90  | 87  | 91  | 88  | 86  | 89  | 86  | 84  | 83  |    |    |   |
| 4   | 99  | 92  | 86  | 82  | 97  | 90  | 86  | 82  | 88  | 84  | 81  | 86  | 83  | 80  | 85  | 82  | 79  | 78  |    |    |   |
| 5   | 94  | 86  | 81  | 77  | 92  | 85  | 80  | 76  | 84  | 79  | 76  | 82  | 78  | 75  | 80  | 77  | 74  | 73  |    |    |   |
| 6   | 90  | 81  | 76  | 72  | 88  | 81  | 75  | 71  | 79  | 74  | 71  | 78  | 74  | 70  | 76  | 73  | 70  | 69  |    |    |   |
| 7   | 86  | 77  | 71  | 67  | 84  | 76  | 71  | 67  | 75  | 70  | 67  | 74  | 69  | 66  | 73  | 69  | 66  | 65  |    |    |   |
| 8   | 82  | 73  | 67  | 63  | 80  | 72  | 67  | 63  | 71  | 66  | 63  | 70  | 66  | 62  | 69  | 65  | 62  | 61  |    |    |   |
| 9   | 78  | 69  | 63  | 60  | 77  | 68  | 63  | 59  | 67  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 59  | 58  |    |    |   |
| 10  | 75  | 65  | 60  | 56  | 74  | 65  | 60  | 56  | 64  | 59  | 56  | 63  | 59  | 56  | 63  | 59  | 56  | 54  |    |    |   |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.6  | 13.6      |
| 10°-20°   | 272.7  | 28.9      |
| 20°-30°   | 316.5  | 33.5      |
| 30°-40°   | 198.2  | 21.0      |
| 40°-50°   | 27.9   | 3.0       |
| 50°-60°   | 0.0    | 0.0       |
| 60°-70°   | 0.0    | 0.0       |
| 70°-80°   | 0.0    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 717.8  | 76.0      |
| 0°-40°    | 916.0  | 97.0      |
| 0°-60°    | 943.9  | 100.0     |
| 0°-90°    | 943.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 943.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1543 |      |
| 5°  | 1430 | 129  |
| 15° | 969  | 273  |
| 25° | 699  | 316  |
| 35° | 318  | 198  |
| 45° | 25   | 28   |
| 55° | 0    | 0    |
| 65° | 0    | 0    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1543.4 |
| 2.5°  | 1513.0 |
| 5°    | 1430.2 |
| 7.5°  | 1311.4 |
| 10°   | 1189.9 |
| 12.5° | 1074.0 |
| 15°   | 969.1  |
| 17.5° | 880.7  |
| 20°   | 814.4  |
| 22.5° | 753.8  |
| 25°   | 698.6  |
| 27.5° | 632.2  |
| 30°   | 546.7  |
| 32.5° | 438.9  |
| 35°   | 317.5  |
| 37.5° | 207.1  |
| 40°   | 118.7  |
| 42.5° | 60.8   |
| 45°   | 24.8   |
| 47.5° | 5.6    |
| 50°   | 0.0    |
| 52.5° | 0.0    |
| 55°   | 0.0    |
| 57.5° | 0.0    |
| 60°   | 0.0    |
| 62.5° | 0.0    |
| 65°   | 0.0    |
| 67.5° | 0.0    |
| 70°   | 0.0    |
| 72.5° | 0.0    |
| 75°   | 0.0    |
| 77.5° | 0.0    |
| 80°   | 0.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)