

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: P210981

Luminaire Tested: **LSR4B10D010BZ EC4B10209040 4LBMH1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P210981  
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: LSR4B10D010BZ EC4B10209040 4LBMH1  
Description: PORTFOLIO 4 INCH CYLINDER  
MEDIUM DISTRIBUTION WITH SEMI-SPECULAR CLEAR TRIM  
WATTAGE D010TR-10.05W DE010-10.58W D5LT-10.2W DMX-10.6W DL2-11.8W  
DL3-11.1W DLE-11.39W  
Light Source: HIGH LUMEN LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 700.5 lumens  
Efficiency: N/A  
Efficacy: 70.8 lumens/watt  
Spacing Criteria (0/90/45): 0.95 / 0.95 / 0.93  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

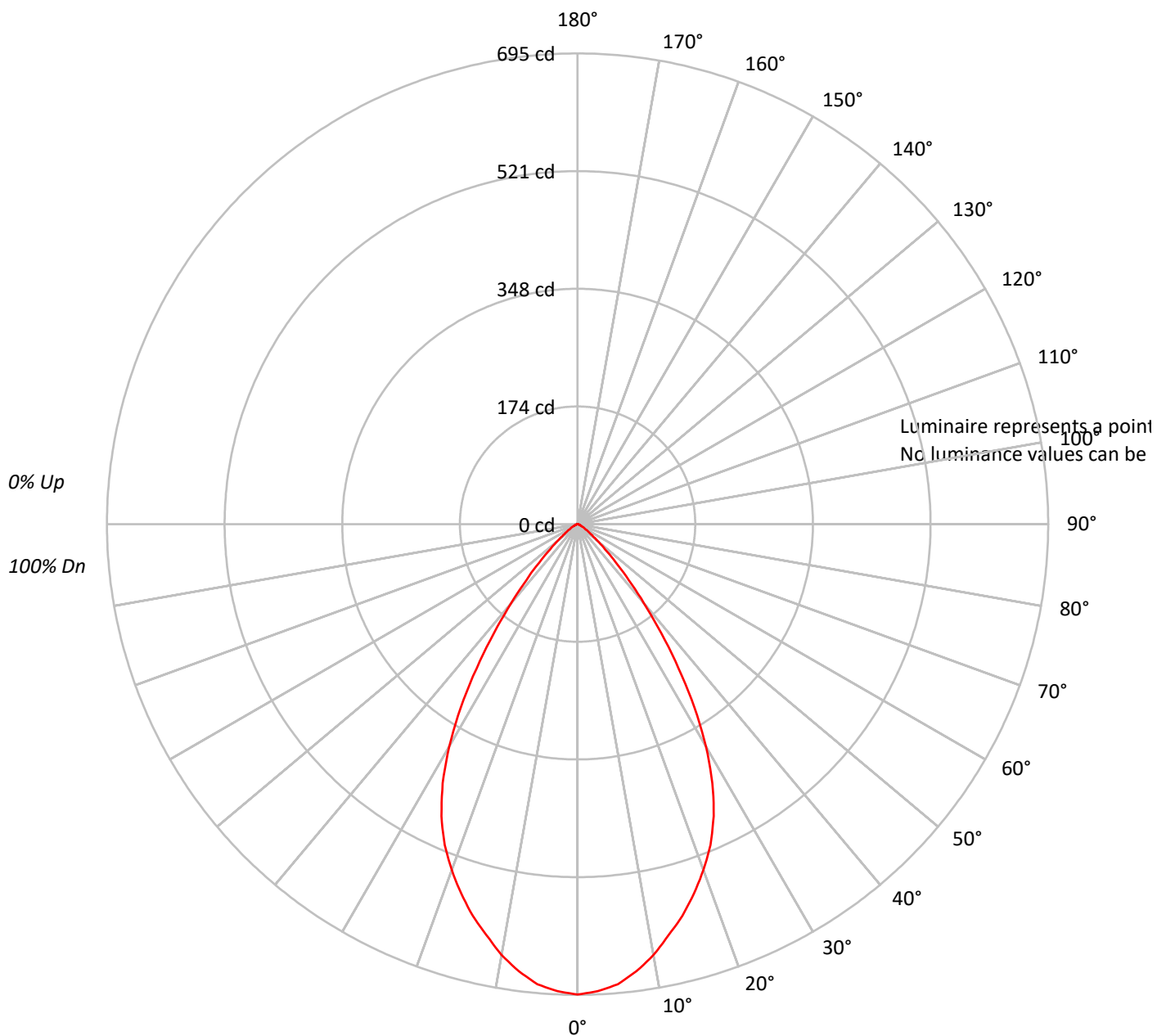
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 |  | 100 | 99  | 97  |  | 97  |
| 2   | 107 | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  |  | 94  | 91  | 89  |  | 91  |
| 3   | 101 | 94  | 89  | 85  | 99  | 93  | 88  | 84  | 90  | 86  | 83  |  | 88  | 84  | 82  |  | 86  |
| 4   | 96  | 88  | 82  | 77  | 94  | 86  | 81  | 77  | 84  | 80  | 76  |  | 82  | 78  | 75  |  | 80  |
| 5   | 90  | 82  | 75  | 71  | 89  | 81  | 75  | 70  | 79  | 74  | 70  |  | 77  | 73  | 69  |  | 75  |
| 6   | 86  | 76  | 70  | 65  | 84  | 75  | 69  | 65  | 74  | 68  | 64  |  | 72  | 68  | 64  |  | 71  |
| 7   | 81  | 71  | 65  | 60  | 80  | 70  | 64  | 60  | 69  | 64  | 60  |  | 68  | 63  | 59  |  | 67  |
| 8   | 77  | 67  | 60  | 56  | 75  | 66  | 60  | 56  | 65  | 59  | 56  |  | 64  | 59  | 55  |  | 63  |
| 9   | 73  | 63  | 56  | 52  | 72  | 62  | 56  | 52  | 61  | 56  | 52  |  | 60  | 55  | 52  |  | 59  |
| 10  | 69  | 59  | 53  | 49  | 68  | 59  | 53  | 49  | 58  | 52  | 49  |  | 57  | 52  | 48  |  | 56  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 63.9   | 9.1       |
| 10°-20°   | 167.7  | 23.9      |
| 20°-30°   | 215.5  | 30.8      |
| 30°-40°   | 162.1  | 23.1      |
| 40°-50°   | 65.1   | 9.3       |
| 50°-60°   | 18.5   | 2.6       |
| 60°-70°   | 5.9    | 0.8       |
| 70°-80°   | 1.7    | 0.2       |
| 80°-90°   | 0.1    | 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°    | 447.0  | 63.8      |
| 0°-40°    | 609.2  | 87.0      |
| 0°-60°    | 692.8  | 98.9      |
| 0°-90°    | 700.5  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 700.5  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 695 |      |
| 5°  | 682 | 64   |
| 15° | 598 | 168  |
| 25° | 476 | 215  |
| 35° | 260 | 162  |
| 45° | 80  | 65   |
| 55° | 19  | 18   |
| 65° | 5   | 6    |
| 75° | 1   | 2    |
| 85° | 0   | 0    |
| 90° | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    |
|-------|-------|
| 0°    | 694.6 |
| 2.5°  | 690.3 |
| 5°    | 681.9 |
| 7.5°  | 666.0 |
| 10°   | 645.9 |
| 12.5° | 621.6 |
| 15°   | 598.4 |
| 17.5° | 571.9 |
| 20°   | 543.4 |
| 22.5° | 512.7 |
| 25°   | 475.7 |
| 27.5° | 431.3 |
| 30°   | 379.5 |
| 32.5° | 321.4 |
| 35°   | 260.1 |
| 37.5° | 203.0 |
| 40°   | 152.2 |
| 42.5° | 112.1 |
| 45°   | 80.3  |
| 47.5° | 55.0  |
| 50°   | 38.1  |
| 52.5° | 26.4  |
| 55°   | 19.0  |
| 57.5° | 13.7  |
| 60°   | 10.6  |
| 62.5° | 7.4   |
| 65°   | 5.3   |
| 67.5° | 4.2   |
| 70°   | 3.2   |
| 72.5° | 2.1   |
| 75°   | 1.1   |
| 77.5° | 1.1   |
| 80°   | 1.1   |
| 82.5° | 0.0   |
| 85°   | 0.0   |
| 87.5° | 0.0   |
| 90°   | 0.0   |



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— 0°-180°







(END OF REPORT)