

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: P210930

Luminaire Tested: **LSR4B10D010BZ EC4B10209035 4LBNI1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P210930  
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 EC4B10209035 4LBNI1  
Description: PORTFOLIO 4 INCH CYLINDER  
NARROW DISTRIBUTION WITH 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: 685.1 lumens  
Efficiency: N/A  
Efficacy: 69.2 lumens/watt  
Spacing Criteria (0/90/45): 0.48 / 0.48 / 0.54  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

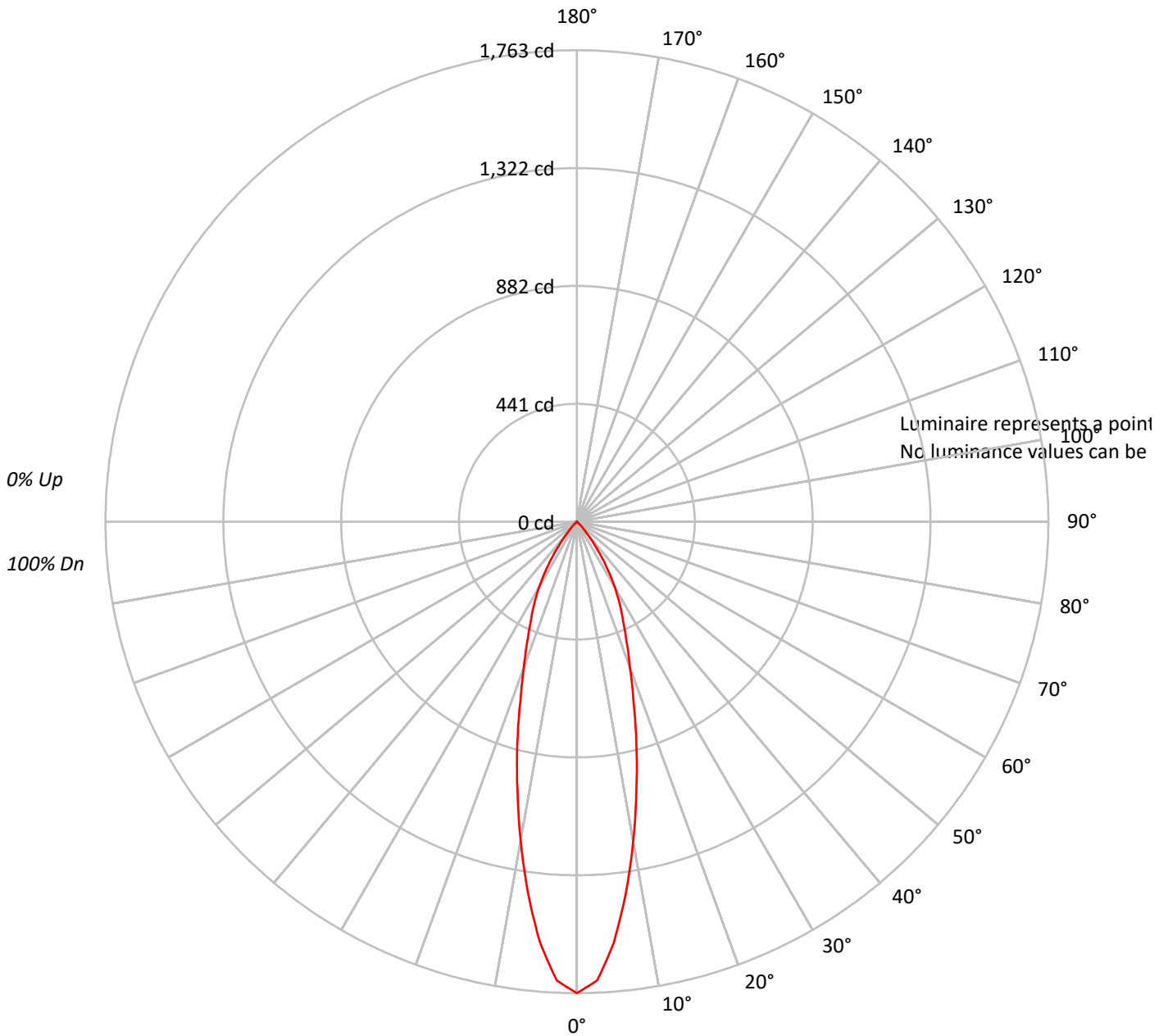
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |    |    | 100 |
| 1   | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 95  |    |    | 95  |
| 2   | 109 | 105 | 102 | 99  | 107 | 103 | 100 | 98  | 100 | 98  | 95  | 97  | 95  | 93  | 95  | 93  | 92  | 90  |    |    | 90  |
| 3   | 105 | 99  | 95  | 92  | 103 | 98  | 94  | 91  | 95  | 92  | 89  | 93  | 90  | 88  | 91  | 89  | 87  | 85  |    |    | 85  |
| 4   | 101 | 94  | 89  | 86  | 99  | 93  | 88  | 85  | 91  | 87  | 84  | 89  | 86  | 83  | 87  | 84  | 82  | 81  |    |    | 81  |
| 5   | 96  | 89  | 84  | 80  | 95  | 88  | 84  | 80  | 87  | 82  | 79  | 85  | 81  | 79  | 83  | 80  | 78  | 77  |    |    | 77  |
| 6   | 92  | 85  | 80  | 76  | 91  | 84  | 79  | 76  | 83  | 78  | 75  | 81  | 78  | 75  | 80  | 77  | 74  | 73  |    |    | 73  |
| 7   | 89  | 81  | 76  | 72  | 88  | 80  | 75  | 72  | 79  | 75  | 71  | 78  | 74  | 71  | 77  | 73  | 71  | 69  |    |    | 69  |
| 8   | 85  | 77  | 72  | 68  | 84  | 77  | 72  | 68  | 76  | 71  | 68  | 75  | 71  | 68  | 74  | 70  | 67  | 66  |    |    | 66  |
| 9   | 82  | 74  | 69  | 65  | 81  | 73  | 68  | 65  | 72  | 68  | 65  | 72  | 68  | 65  | 71  | 67  | 64  | 63  |    |    | 63  |
| 10  | 79  | 71  | 66  | 62  | 78  | 70  | 65  | 62  | 69  | 65  | 62  | 69  | 65  | 62  | 68  | 64  | 62  | 61  |    |    | 61  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 138.9  | 20.3      |
| 10°-20°   | 237.9  | 34.7      |
| 20°-30°   | 189.0  | 27.6      |
| 30°-40°   | 100.1  | 14.6      |
| 40°-50°   | 17.2   | 2.5       |
| 50°-60°   | 1.3    | 0.2       |
| 60°-70°   | 0.7    | 0.1       |
| 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°    | 565.8  | 82.6      |
| 0°-40°    | 665.9  | 97.2      |
| 0°-60°    | 684.5  | 99.9      |
| 0°-90°    | 685.1  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 685.1  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1763 |      |
| 5°  | 1580 | 139  |
| 15° | 860  | 238  |
| 25° | 407  | 189  |
| 35° | 158  | 100  |
| 45° | 18   | 17   |
| 55° | 1    | 1    |
| 65° | 1    | 1    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1763.0 |
| 2.5°  | 1717.7 |
| 5°    | 1580.5 |
| 7.5°  | 1401.1 |
| 10°   | 1211.2 |
| 12.5° | 1027.7 |
| 15°   | 859.9  |
| 17.5° | 703.7  |
| 20°   | 579.2  |
| 22.5° | 484.3  |
| 25°   | 407.3  |
| 27.5° | 345.0  |
| 30°   | 282.8  |
| 32.5° | 219.5  |
| 35°   | 158.3  |
| 37.5° | 104.5  |
| 40°   | 62.2   |
| 42.5° | 35.9   |
| 45°   | 17.9   |
| 47.5° | 6.3    |
| 50°   | 2.1    |
| 52.5° | 2.1    |
| 55°   | 1.1    |
| 57.5° | 1.1    |
| 60°   | 1.1    |
| 62.5° | 1.1    |
| 65°   | 1.1    |
| 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)