

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: P211623

Luminaire Tested: **LSR4B20D010BZ EC4B10209730 4LBNB1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211623  
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: LSR4B20D010BZ EC4B10209730 4LBNB1  
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: 586.4 lumens  
Efficiency: N/A  
Efficacy: 28.2 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

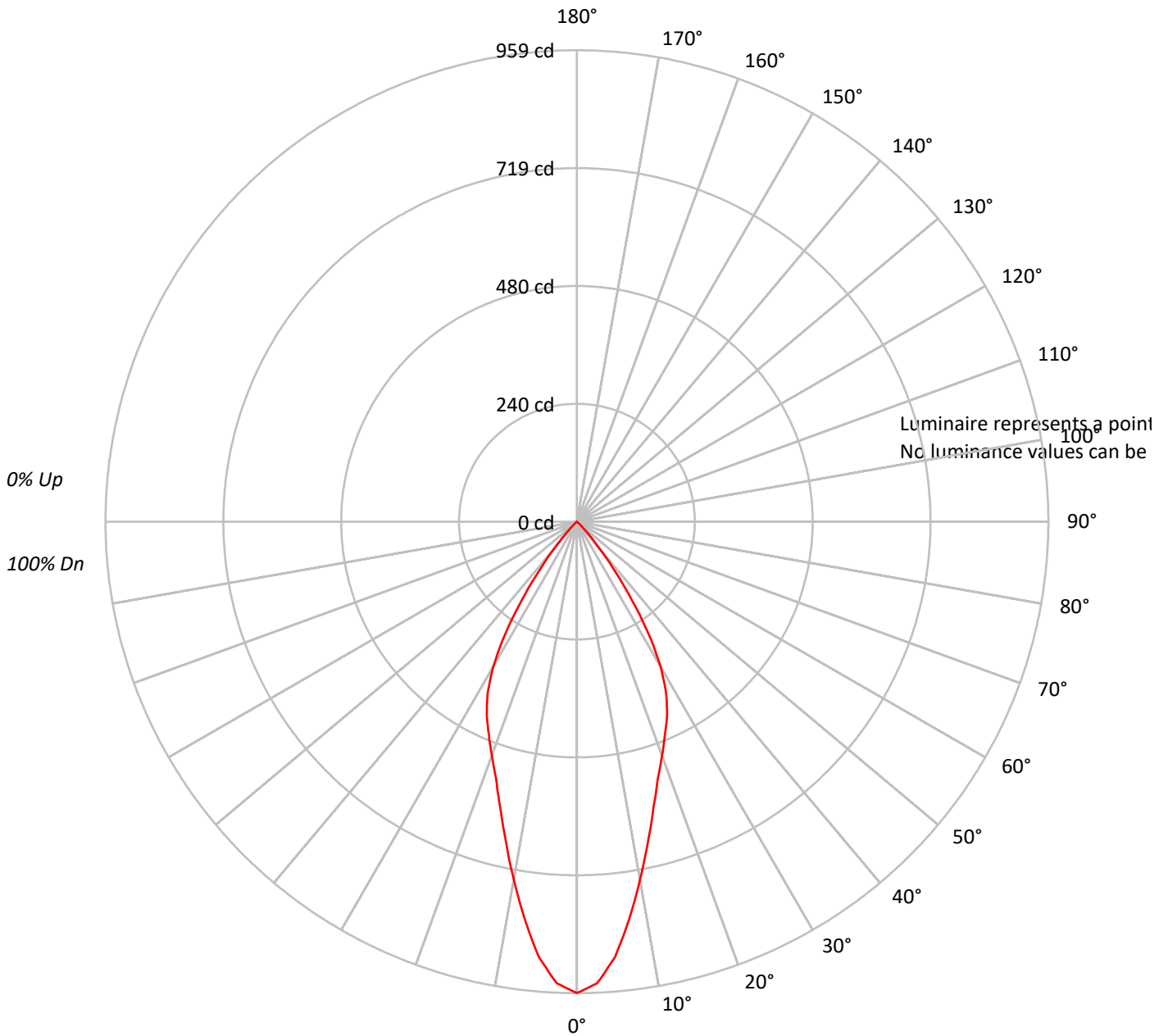
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |   |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 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°    | 79.9   | 13.6      |
| 10°-20°   | 169.4  | 28.9      |
| 20°-30°   | 196.6  | 33.5      |
| 30°-40°   | 123.1  | 21.0      |
| 40°-50°   | 17.3   | 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°    | 446.0  | 76.1      |
| 0°-40°    | 569.1  | 97.0      |
| 0°-60°    | 586.4  | 100.0     |
| 0°-90°    | 586.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 586.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 959 |      |
| 5°  | 888 | 80   |
| 15° | 602 | 169  |
| 25° | 434 | 197  |
| 35° | 197 | 123  |
| 45° | 15  | 17   |
| 55° | 0   | 0    |
| 65° | 0   | 0    |
| 75° | 0   | 0    |
| 85° | 0   | 0    |
| 90° | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |       |
|-------|-------|
| 0°    | 958.8 |
| 2.5°  | 940.0 |
| 5°    | 888.5 |
| 7.5°  | 814.8 |
| 10°   | 739.3 |
| 12.5° | 667.2 |
| 15°   | 602.1 |
| 17.5° | 547.2 |
| 20°   | 506.0 |
| 22.5° | 468.3 |
| 25°   | 434.0 |
| 27.5° | 392.8 |
| 30°   | 339.6 |
| 32.5° | 272.7 |
| 35°   | 197.3 |
| 37.5° | 128.6 |
| 40°   | 73.8  |
| 42.5° | 37.7  |
| 45°   | 15.4  |
| 47.5° | 3.4   |
| 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)