

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: P211593

Luminaire Tested: **LSR4B20D010BZ EC4B10209030 4LBMWH1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211593  
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 EC4B10209030 4LBMWH1  
Description: PORTFOLIO 4 INCH CYLINDER  
MEDIUM DISTRIBUTION WITH WHEAT 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: 1328.3 lumens  
Efficiency: N/A  
Efficacy: 63.9 lumens/watt  
Spacing Criteria (0/90/45): 0.88 / 0.88 / 0.87  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

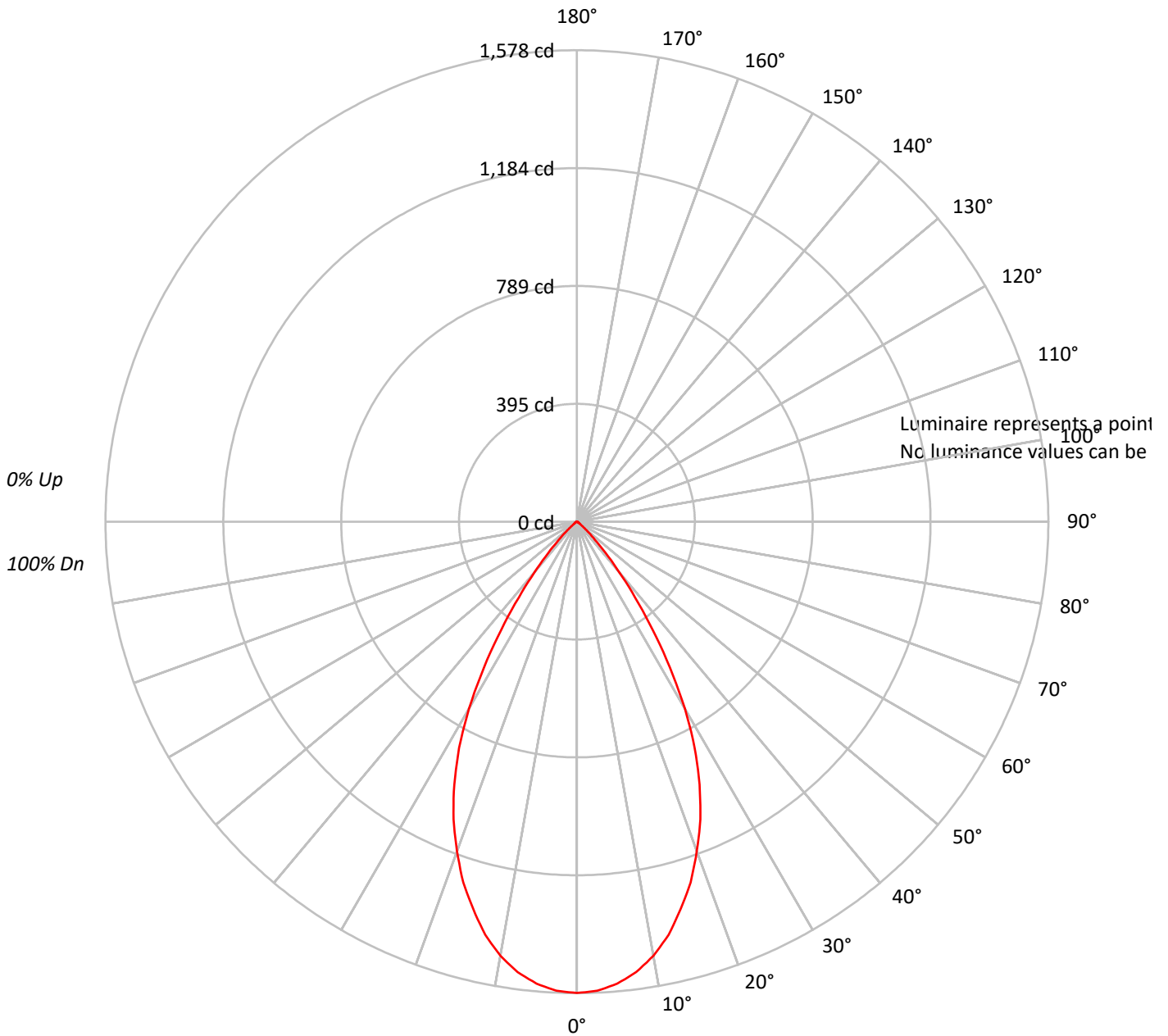
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 108 | 106 | 111 | 109 | 106 | 105 | 105 | 103 | 101 | 101 | 100 | 98  | 98  | 96  | 95  | 94  |    |    |   |
| 2   | 108 | 103 | 99  | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 93  | 95  | 93  | 91  | 93  | 91  | 89  | 87  |    |    |   |
| 3   | 103 | 96  | 91  | 88  | 101 | 95  | 90  | 87  | 92  | 89  | 85  | 90  | 87  | 84  | 88  | 85  | 83  | 81  |    |    |   |
| 4   | 98  | 90  | 85  | 81  | 96  | 89  | 84  | 80  | 87  | 83  | 79  | 85  | 81  | 78  | 83  | 80  | 77  | 76  |    |    |   |
| 5   | 93  | 84  | 79  | 74  | 91  | 84  | 78  | 74  | 82  | 77  | 73  | 80  | 76  | 73  | 79  | 75  | 72  | 71  |    |    |   |
| 6   | 88  | 79  | 73  | 69  | 87  | 79  | 73  | 69  | 77  | 72  | 68  | 76  | 71  | 68  | 74  | 71  | 68  | 66  |    |    |   |
| 7   | 84  | 75  | 69  | 65  | 82  | 74  | 68  | 64  | 73  | 68  | 64  | 72  | 67  | 64  | 70  | 66  | 63  | 62  |    |    |   |
| 8   | 80  | 70  | 64  | 60  | 79  | 70  | 64  | 60  | 69  | 64  | 60  | 68  | 63  | 60  | 67  | 63  | 59  | 58  |    |    |   |
| 9   | 76  | 66  | 61  | 57  | 75  | 66  | 60  | 57  | 65  | 60  | 56  | 64  | 60  | 56  | 63  | 59  | 56  | 55  |    |    |   |
| 10  | 73  | 63  | 57  | 53  | 72  | 62  | 57  | 53  | 62  | 57  | 53  | 61  | 56  | 53  | 60  | 56  | 53  | 52  |    |    |   |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 145.7  | 11.0      |
| 10°-20°   | 374.7  | 28.2      |
| 20°-30°   | 439.6  | 33.1      |
| 30°-40°   | 278.2  | 20.9      |
| 40°-50°   | 74.5   | 5.6       |
| 50°-60°   | 10.4   | 0.8       |
| 60°-70°   | 3.9    | 0.3       |
| 70°-80°   | 1.3    | 0.1       |
| 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°    | 960.0  | 72.3      |
| 0°-40°    | 1238.2 | 93.2      |
| 0°-60°    | 1323.1 | 99.6      |
| 0°-90°    | 1328.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1328.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1578 |      |
| 5°  | 1552 | 146  |
| 15° | 1342 | 375  |
| 25° | 971  | 440  |
| 35° | 442  | 278  |
| 45° | 84   | 75   |
| 55° | 10   | 10   |
| 65° | 4    | 4    |
| 75° | 2    | 1    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1577.5 |
| 2.5°  | 1571.6 |
| 5°    | 1552.0 |
| 7.5°  | 1520.6 |
| 10°   | 1475.5 |
| 12.5° | 1416.6 |
| 15°   | 1342.1 |
| 17.5° | 1265.6 |
| 20°   | 1173.3 |
| 22.5° | 1079.2 |
| 25°   | 971.2  |
| 27.5° | 853.5  |
| 30°   | 722.1  |
| 32.5° | 578.8  |
| 35°   | 441.5  |
| 37.5° | 319.8  |
| 40°   | 219.8  |
| 42.5° | 141.3  |
| 45°   | 84.4   |
| 47.5° | 47.1   |
| 50°   | 25.5   |
| 52.5° | 13.7   |
| 55°   | 9.8    |
| 57.5° | 7.8    |
| 60°   | 5.9    |
| 62.5° | 5.9    |
| 65°   | 3.9    |
| 67.5° | 2.0    |
| 70°   | 2.0    |
| 72.5° | 2.0    |
| 75°   | 2.0    |
| 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)