

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: P211793

Luminaire Tested: **LSR4B20D010BZ EC4B10209050 4LBMH1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211793  
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 EC4B10209050 4LBMH1  
Description: PORTFOLIO 4 INCH CYLINDER  
MEDIUM DISTRIBUTION WITH SEMI-SPECULAR CLEAR 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: 1327.1 lumens  
Efficiency: N/A  
Efficacy: 63.8 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

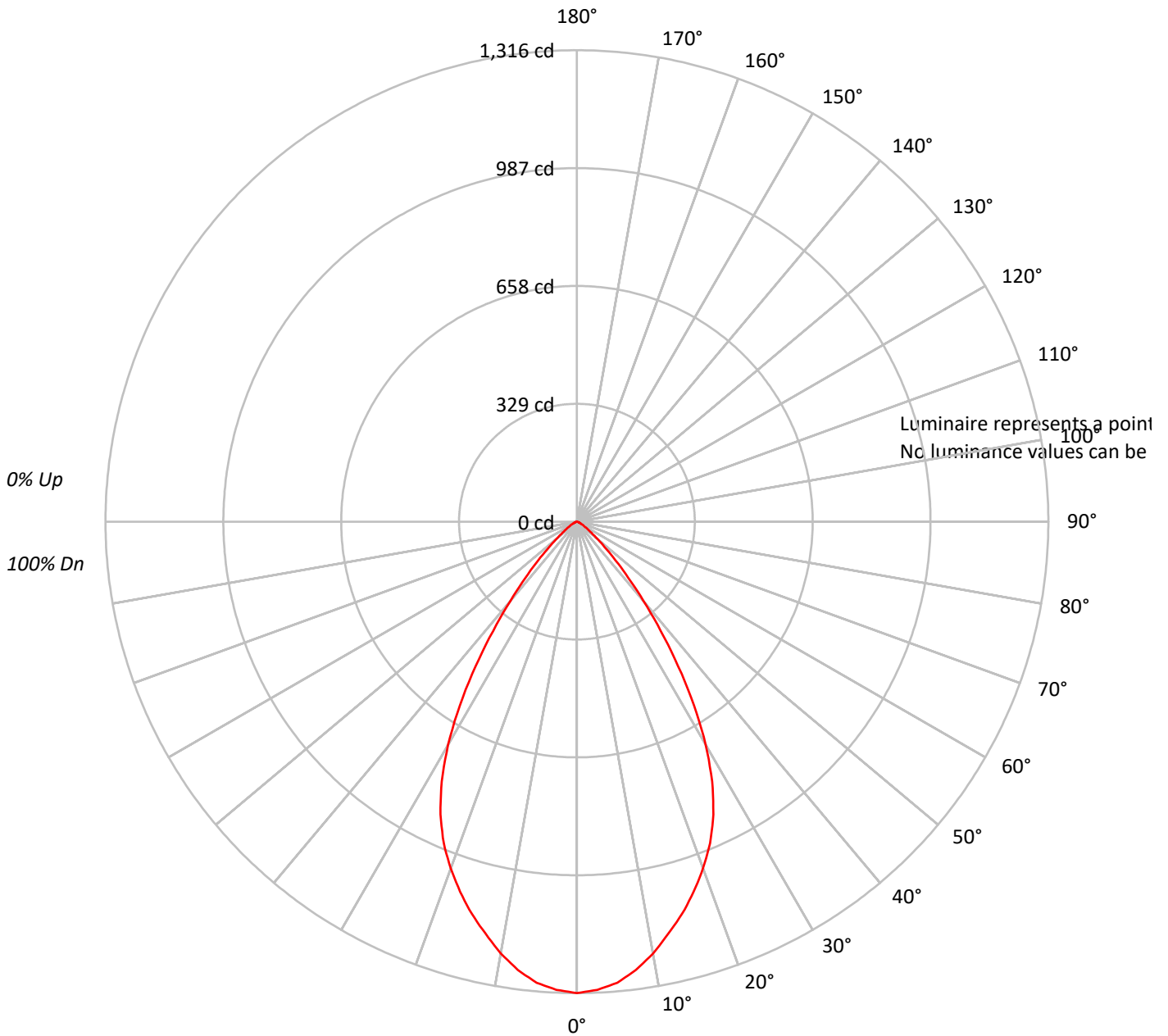
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     | 0   |    |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 |    |
| 1   | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 95  | 93  | 93  |    |
| 2   | 107 | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85  | 85  |    |
| 3   | 101 | 94  | 89  | 85  | 99  | 93  | 88  | 84  | 90  | 86  | 83  | 88  | 84  | 82  | 86  | 83  | 80  | 79  | 79  |    |
| 4   | 96  | 88  | 82  | 77  | 94  | 86  | 81  | 77  | 84  | 80  | 76  | 82  | 78  | 75  | 80  | 77  | 74  | 73  | 73  |    |
| 5   | 90  | 82  | 75  | 71  | 89  | 81  | 75  | 70  | 79  | 74  | 70  | 77  | 73  | 69  | 75  | 72  | 69  | 67  | 67  |    |
| 6   | 86  | 76  | 70  | 65  | 84  | 75  | 69  | 65  | 74  | 68  | 64  | 72  | 68  | 64  | 71  | 67  | 64  | 62  | 62  |    |
| 7   | 81  | 71  | 65  | 60  | 80  | 70  | 64  | 60  | 69  | 64  | 60  | 68  | 63  | 59  | 67  | 62  | 59  | 58  | 58  |    |
| 8   | 77  | 67  | 60  | 56  | 75  | 66  | 60  | 56  | 65  | 59  | 56  | 64  | 59  | 55  | 63  | 58  | 55  | 54  | 54  |    |
| 9   | 73  | 63  | 56  | 52  | 72  | 62  | 56  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 59  | 55  | 52  | 50  | 50  |    |
| 10  | 69  | 59  | 53  | 49  | 68  | 59  | 53  | 49  | 58  | 52  | 49  | 57  | 52  | 48  | 56  | 52  | 48  | 47  | 47  |    |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 121.1  | 9.1       |
| 10°-20°   | 317.7  | 23.9      |
| 20°-30°   | 408.3  | 30.8      |
| 30°-40°   | 307.2  | 23.1      |
| 40°-50°   | 123.4  | 9.3       |
| 50°-60°   | 35.1   | 2.6       |
| 60°-70°   | 11.1   | 0.8       |
| 70°-80°   | 3.2    | 0.2       |
| 80°-90°   | 0.3    | 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°    | 847.0  | 63.8      |
| 0°-40°    | 1154.2 | 87.0      |
| 0°-60°    | 1312.6 | 98.9      |
| 0°-90°    | 1327.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1327.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1316 |      |
| 5°  | 1292 | 121  |
| 15° | 1134 | 318  |
| 25° | 901  | 408  |
| 35° | 493  | 307  |
| 45° | 152  | 123  |
| 55° | 36   | 35   |
| 65° | 10   | 11   |
| 75° | 2    | 3    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1316.0 |
| 2.5°  | 1308.0 |
| 5°    | 1292.0 |
| 7.5°  | 1261.9 |
| 10°   | 1223.8 |
| 12.5° | 1177.8 |
| 15°   | 1133.7 |
| 17.5° | 1083.6 |
| 20°   | 1029.6 |
| 22.5° | 971.5  |
| 25°   | 901.4  |
| 27.5° | 817.2  |
| 30°   | 719.1  |
| 32.5° | 608.9  |
| 35°   | 492.7  |
| 37.5° | 384.6  |
| 40°   | 288.4  |
| 42.5° | 212.3  |
| 45°   | 152.2  |
| 47.5° | 104.2  |
| 50°   | 72.1   |
| 52.5° | 50.1   |
| 55°   | 36.1   |
| 57.5° | 26.0   |
| 60°   | 20.0   |
| 62.5° | 14.0   |
| 65°   | 10.0   |
| 67.5° | 8.0    |
| 70°   | 6.0    |
| 72.5° | 4.0    |
| 75°   | 2.0    |
| 77.5° | 2.0    |
| 80°   | 2.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)