

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: P211471

Luminaire Tested: **LE\_4B20D010 EC4B10208027 4LBCS1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211471  
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: LE\_4B20D010 EC4B10208027 4LBCS1MW  
Description: PORTFOLIO 4 INCH CYLINDER  
SHALLOW DISTRIBUTION WITH CAST MATTE WHITE 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: 2345.2 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.23 / 1.33  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

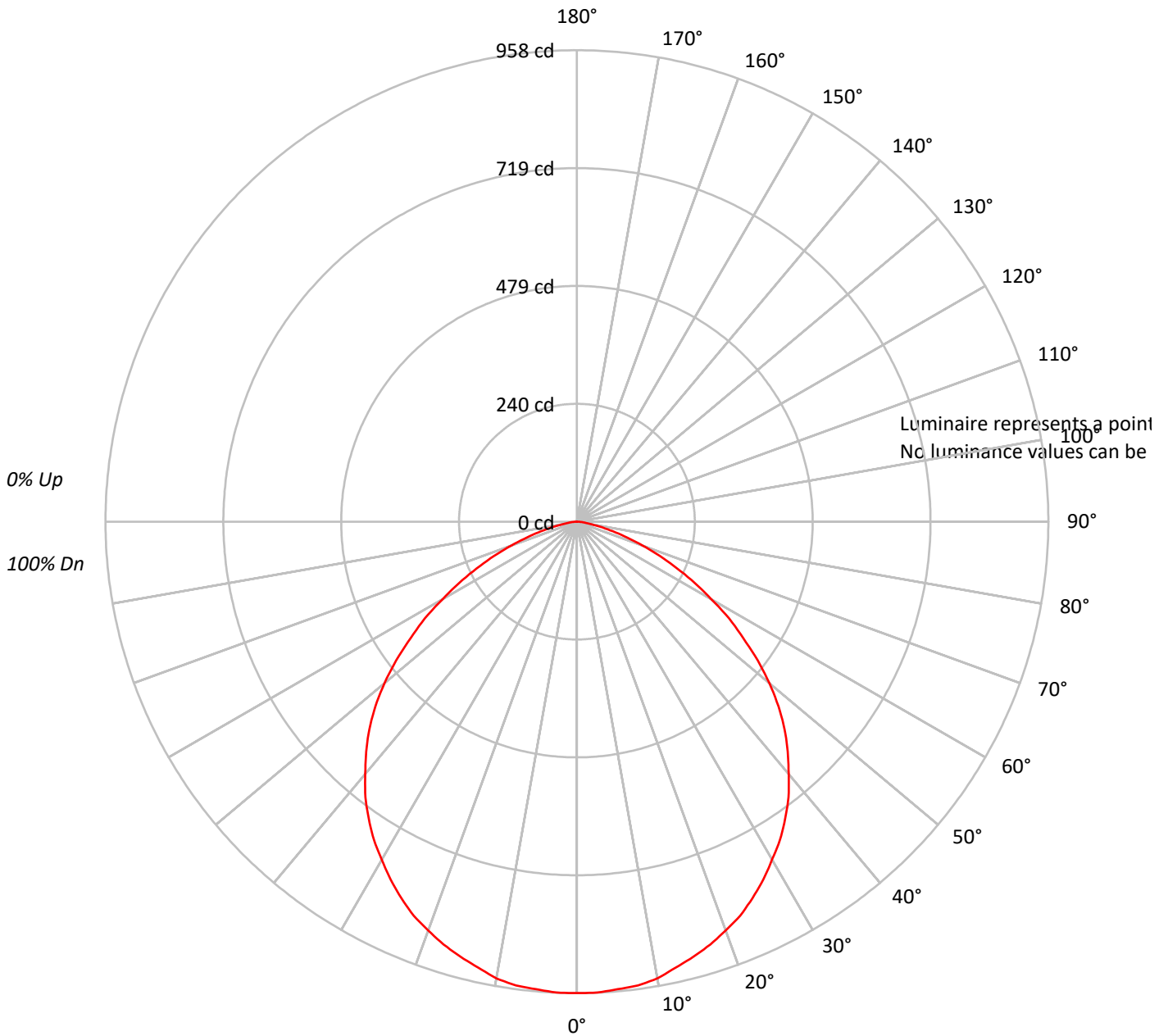
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |    |    | 100 |
| 1   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 89  | 87  |    |    | 87  |
| 2   | 101 | 94  | 87  | 82  | 99  | 92  | 86  | 81  | 88  | 84  | 79  | 85  | 81  | 78  | 82  | 79  | 76  | 74  |    |    | 74  |
| 3   | 93  | 83  | 75  | 70  | 90  | 81  | 74  | 69  | 79  | 73  | 68  | 76  | 71  | 67  | 73  | 69  | 65  | 63  |    |    | 63  |
| 4   | 85  | 74  | 66  | 60  | 83  | 73  | 65  | 59  | 70  | 64  | 58  | 68  | 62  | 58  | 66  | 61  | 57  | 55  |    |    | 55  |
| 5   | 79  | 66  | 58  | 52  | 77  | 65  | 57  | 51  | 63  | 56  | 51  | 61  | 55  | 50  | 60  | 54  | 50  | 48  |    |    | 48  |
| 6   | 73  | 60  | 52  | 45  | 71  | 59  | 51  | 45  | 57  | 50  | 45  | 56  | 49  | 44  | 54  | 49  | 44  | 42  |    |    | 42  |
| 7   | 68  | 55  | 46  | 40  | 66  | 54  | 46  | 40  | 52  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 37  |    |    | 37  |
| 8   | 63  | 50  | 42  | 36  | 61  | 49  | 41  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  | 33  |    |    | 33  |
| 9   | 59  | 46  | 38  | 33  | 57  | 45  | 38  | 32  | 44  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  |    |    | 30  |
| 10  | 55  | 42  | 35  | 30  | 54  | 42  | 34  | 30  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  |    |    | 27  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 90.8   | 3.9       |
| 10°-20°   | 258.4  | 11.0      |
| 20°-30°   | 388.7  | 16.6      |
| 30°-40°   | 460.6  | 19.6      |
| 40°-50°   | 458.4  | 19.5      |
| 50°-60°   | 369.5  | 15.8      |
| 60°-70°   | 223.6  | 9.5       |
| 70°-80°   | 83.0   | 3.5       |
| 80°-90°   | 12.4   | 0.5       |
| 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°    | 737.8  | 31.5      |
| 0°-40°    | 1198.4 | 51.1      |
| 0°-60°    | 2026.3 | 86.4      |
| 0°-90°    | 2345.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2345.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 958 |      |
| 5°  | 954 | 91   |
| 15° | 915 | 258  |
| 25° | 844 | 389  |
| 35° | 738 | 461  |
| 45° | 597 | 458  |
| 55° | 412 | 370  |
| 65° | 225 | 224  |
| 75° | 75  | 83   |
| 85° | 10  | 12   |
| 90° | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    |
|-------|-------|
| 0°    | 957.9 |
| 2.5°  | 957.9 |
| 5°    | 953.6 |
| 7.5°  | 950.7 |
| 10°   | 942.3 |
| 12.5° | 928.0 |
| 15°   | 915.2 |
| 17.5° | 901.0 |
| 20°   | 883.9 |
| 22.5° | 866.9 |
| 25°   | 844.1 |
| 27.5° | 820.0 |
| 30°   | 793.0 |
| 32.5° | 767.5 |
| 35°   | 737.6 |
| 37.5° | 706.3 |
| 40°   | 669.3 |
| 42.5° | 633.8 |
| 45°   | 596.9 |
| 47.5° | 555.6 |
| 50°   | 510.2 |
| 52.5° | 463.3 |
| 55°   | 412.1 |
| 57.5° | 366.7 |
| 60°   | 315.5 |
| 62.5° | 270.0 |
| 65°   | 224.6 |
| 67.5° | 181.9 |
| 70°   | 142.1 |
| 72.5° | 106.6 |
| 75°   | 75.3  |
| 77.5° | 48.4  |
| 80°   | 28.4  |
| 82.5° | 17.1  |
| 85°   | 10.0  |
| 87.5° | 4.3   |
| 90°   | 0.0   |



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— 0°-180°







(END OF REPORT)