

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: P211505

Luminaire Tested: **LE\_4B20D010 EC4B10209027 4LBM1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211505  
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 EC4B10209027 4LBM1MW  
Description: PORTFOLIO 4 INCH CYLINDER  
MEDIUM DISTRIBUTION WITH 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**

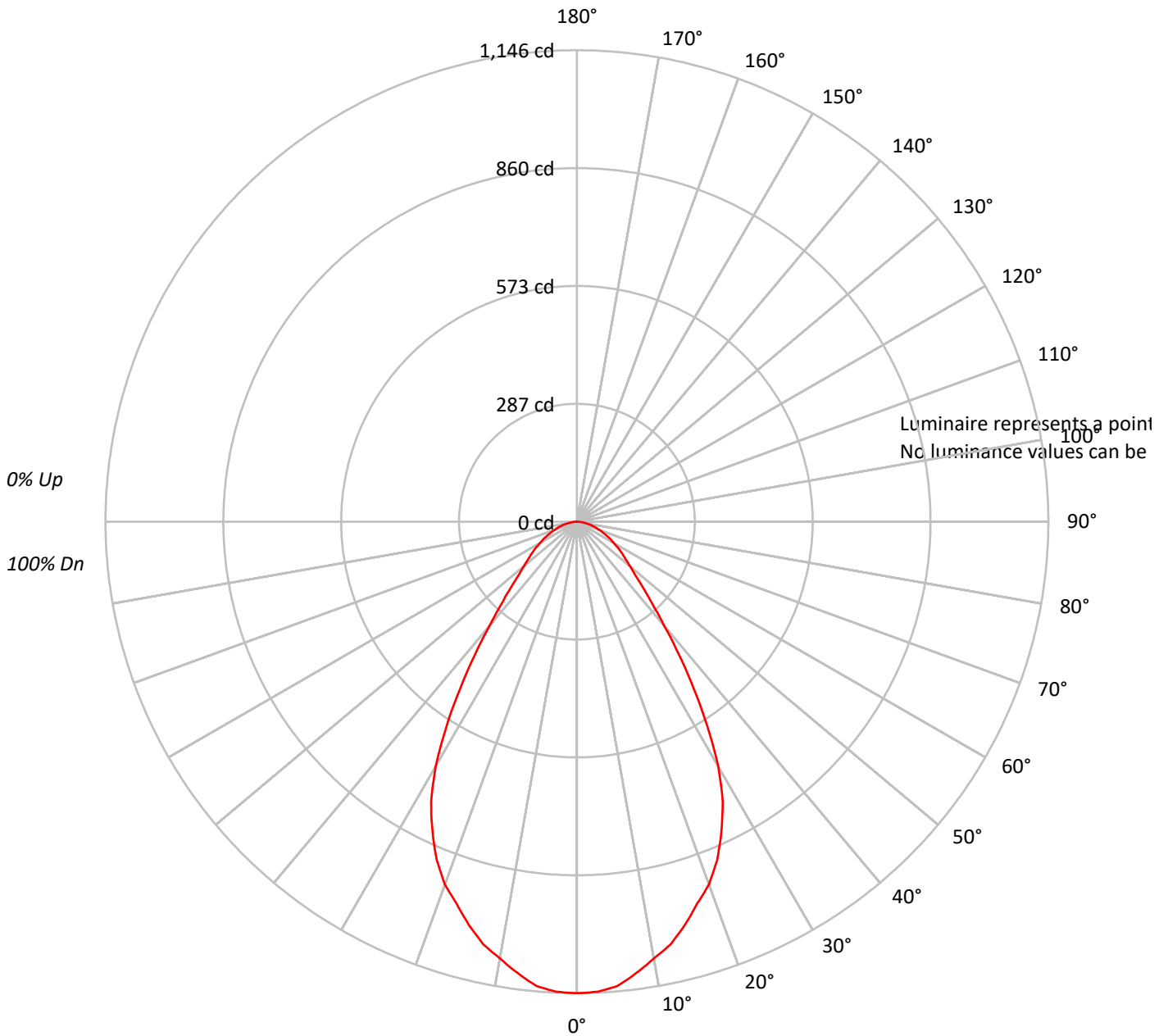
Lumens per Lamp: N/A  
Luminaire Lumens: 1509.6 lumens  
Efficiency: N/A  
Efficacy: 72.6 lumens/watt  
Spacing Criteria (0/90/45): 0.99 / 0.99 / 0.97  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

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   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 91  | 89  |    |    |   |
| 2   | 104 | 98  | 92  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 89  | 86  | 83  | 87  | 84  | 81  | 80  |    |    |   |
| 3   | 97  | 89  | 83  | 77  | 95  | 87  | 82  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 80  | 76  | 73  | 71  |    |    |   |
| 4   | 91  | 81  | 74  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 69  | 66  | 64  |    |    |   |
| 5   | 85  | 75  | 67  | 62  | 83  | 74  | 67  | 62  | 72  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  | 58  |    |    |   |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 59  | 55  | 63  | 59  | 55  | 53  |    |    |   |
| 7   | 75  | 64  | 57  | 52  | 74  | 63  | 56  | 51  | 62  | 56  | 51  | 60  | 55  | 51  | 59  | 54  | 50  | 49  |    |    |   |
| 8   | 71  | 59  | 52  | 47  | 69  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |    |    |   |
| 9   | 67  | 55  | 48  | 44  | 66  | 55  | 48  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 52  | 47  | 43  | 42  |    |    |   |
| 10  | 63  | 52  | 45  | 41  | 62  | 51  | 45  | 41  | 51  | 45  | 40  | 50  | 44  | 40  | 49  | 44  | 40  | 39  |    |    |   |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 106.2  | 7.0       |
| 10°-20°   | 284.8  | 18.9      |
| 20°-30°   | 378.7  | 25.1      |
| 30°-40°   | 309.7  | 20.5      |
| 40°-50°   | 180.4  | 11.9      |
| 50°-60°   | 119.6  | 7.9       |
| 60°-70°   | 78.7   | 5.2       |
| 70°-80°   | 41.5   | 2.7       |
| 80°-90°   | 10.1   | 0.7       |
| 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°    | 769.7  | 51.0      |
| 0°-40°    | 1079.4 | 71.5      |
| 0°-60°    | 1379.4 | 91.4      |
| 0°-90°    | 1509.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1509.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1146 |      |
| 5°  | 1133 | 106  |
| 15° | 1015 | 285  |
| 25° | 831  | 379  |
| 35° | 494  | 310  |
| 45° | 228  | 180  |
| 55° | 133  | 120  |
| 65° | 79   | 79   |
| 75° | 39   | 41   |
| 85° | 9    | 10   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1146.1 |
| 2.5°  | 1143.9 |
| 5°    | 1133.0 |
| 7.5°  | 1106.6 |
| 10°   | 1078.2 |
| 12.5° | 1052.0 |
| 15°   | 1014.8 |
| 17.5° | 973.2  |
| 20°   | 938.3  |
| 22.5° | 890.2  |
| 25°   | 831.1  |
| 27.5° | 767.7  |
| 30°   | 686.7  |
| 32.5° | 590.6  |
| 35°   | 494.3  |
| 37.5° | 406.8  |
| 40°   | 330.3  |
| 42.5° | 271.2  |
| 45°   | 227.5  |
| 47.5° | 192.4  |
| 50°   | 168.4  |
| 52.5° | 148.7  |
| 55°   | 133.4  |
| 57.5° | 118.1  |
| 60°   | 102.8  |
| 62.5° | 91.9   |
| 65°   | 78.8   |
| 67.5° | 67.7   |
| 70°   | 56.8   |
| 72.5° | 48.1   |
| 75°   | 39.3   |
| 77.5° | 30.6   |
| 80°   | 21.9   |
| 82.5° | 15.3   |
| 85°   | 8.7    |
| 87.5° | 2.2    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)