

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: P211462

Luminaire Tested: **LE\_4B20D010 EC4B10209024 4LBS1WMH**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211462  
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 EC4B10209024 4LBS1WMH  
Description: PORTFOLIO 4 INCH CYLINDER  
SHALLOW DISTRIBUTION WITH WARM HAZE 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: 1689.9 lumens  
Efficiency: N/A  
Efficacy: 81.2 lumens/watt  
Spacing Criteria (0/90/45): 0.99 / 0.99 / 1.08  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

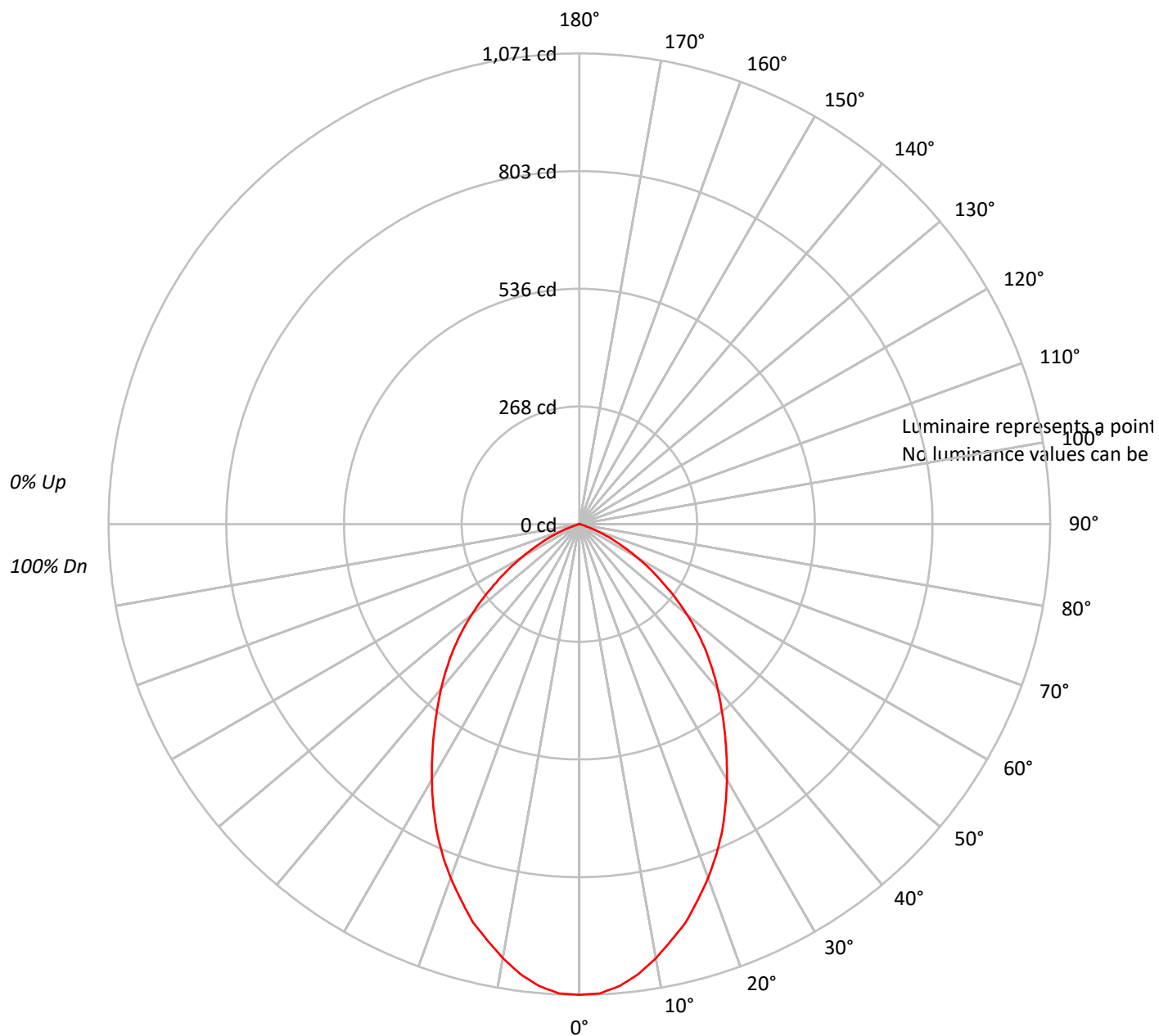
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P211462

CATALOG NUMBER: LE\_4B20D010 EC4B10209024 4LBS1WMH

### Luminous Intensity Polar Plot





TEST NUMBER: P211462

CATALOG NUMBER: LE\_4B20D010 EC4B10209024 4LBS1WMH

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

|     |     |     |     |     |  |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     |  | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     |  | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 10  |
| RW  | 70  | 50  | 30  | 10  |  | 70  | 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 |
| 1   | 112 | 108 | 105 | 102 |  | 109 | 106 | 103 | 101 |  | 102 | 100 | 97  |  | 98  | 96  | 94  |  | 95  | 93  | 92  |
| 2   | 104 | 98  | 92  | 88  |  | 102 | 96  | 91  | 87  |  | 92  | 88  | 85  |  | 89  | 86  | 83  |  | 86  | 84  | 81  |
| 3   | 96  | 88  | 82  | 76  |  | 94  | 87  | 81  | 76  |  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 79  | 75  | 72  |
| 4   | 90  | 80  | 73  | 67  |  | 88  | 79  | 72  | 67  |  | 76  | 70  | 66  |  | 74  | 69  | 65  |  | 72  | 68  | 64  |
| 5   | 83  | 73  | 65  | 59  |  | 82  | 72  | 64  | 59  |  | 70  | 63  | 59  |  | 68  | 62  | 58  |  | 66  | 61  | 57  |
| 6   | 78  | 66  | 59  | 53  |  | 76  | 65  | 58  | 53  |  | 64  | 57  | 53  |  | 62  | 57  | 52  |  | 61  | 56  | 52  |
| 7   | 73  | 61  | 53  | 48  |  | 71  | 60  | 53  | 48  |  | 59  | 52  | 48  |  | 57  | 52  | 47  |  | 56  | 51  | 47  |
| 8   | 68  | 56  | 49  | 44  |  | 67  | 56  | 48  | 43  |  | 54  | 48  | 43  |  | 53  | 47  | 43  |  | 52  | 47  | 43  |
| 9   | 64  | 52  | 45  | 40  |  | 63  | 52  | 45  | 40  |  | 50  | 44  | 40  |  | 49  | 44  | 39  |  | 49  | 43  | 39  |
| 10  | 60  | 48  | 41  | 37  |  | 59  | 48  | 41  | 37  |  | 47  | 41  | 36  |  | 46  | 40  | 36  |  | 45  | 40  | 36  |

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





TEST NUMBER: P211462

CATALOG NUMBER: LE\_4B20D010 EC4B10209024 4LBS1WMH

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 99.0   | 5.9       |
| 10°-20°   | 262.3  | 15.5      |
| 20°-30°   | 352.3  | 20.8      |
| 30°-40°   | 360.6  | 21.3      |
| 40°-50°   | 312.2  | 18.5      |
| 50°-60°   | 207.6  | 12.3      |
| 60°-70°   | 85.3   | 5.0       |
| 70°-80°   | 10.1   | 0.6       |
| 80°-90°   | 0.5    | 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°    | 713.7  | 42.2      |
| 0°-40°    | 1074.3 | 63.6      |
| 0°-60°    | 1594.1 | 94.3      |
| 0°-90°    | 1689.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1689.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1071 |      |
| 5°  | 1054 | 99   |
| 15° | 937  | 262  |
| 25° | 769  | 352  |
| 35° | 576  | 361  |
| 45° | 406  | 312  |
| 55° | 230  | 208  |
| 65° | 84   | 85   |
| 75° | 4    | 10   |
| 85° | 0    | 0    |
| 90° | 0    |      |



TEST NUMBER: P211462

CATALOG NUMBER: LE\_4B20D010 EC4B10209024 4LBS1WMH

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1071.1 |
| 2.5°  | 1068.8 |
| 5°    | 1054.4 |
| 7.5°  | 1032.3 |
| 10°   | 1002.5 |
| 12.5° | 969.2  |
| 15°   | 937.0  |
| 17.5° | 896.1  |
| 20°   | 856.2  |
| 22.5° | 814.1  |
| 25°   | 768.7  |
| 27.5° | 720.0  |
| 30°   | 671.2  |
| 32.5° | 622.5  |
| 35°   | 575.9  |
| 37.5° | 531.6  |
| 40°   | 489.5  |
| 42.5° | 447.5  |
| 45°   | 406.5  |
| 47.5° | 363.3  |
| 50°   | 319.0  |
| 52.5° | 274.7  |
| 55°   | 230.4  |
| 57.5° | 191.6  |
| 60°   | 151.7  |
| 62.5° | 115.2  |
| 65°   | 84.2   |
| 67.5° | 55.3   |
| 70°   | 32.1   |
| 72.5° | 15.5   |
| 75°   | 4.4    |
| 77.5° | 2.2    |
| 80°   | 1.2    |
| 82.5° | 1.2    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180°







(END OF REPORT)