

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: P211657

Luminaire Tested: **LE\_4B20D010 EC4B10208035 4LBN1WH**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211657  
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 EC4B10208035 4LBN1WH  
Description: PORTFOLIO 4 INCH CYLINDER  
NARROW 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: 1581.1 lumens  
Efficiency: N/A  
Efficacy: 76.0 lumens/watt  
Spacing Criteria (0/90/45): 0.53 / 0.53 / 0.62  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

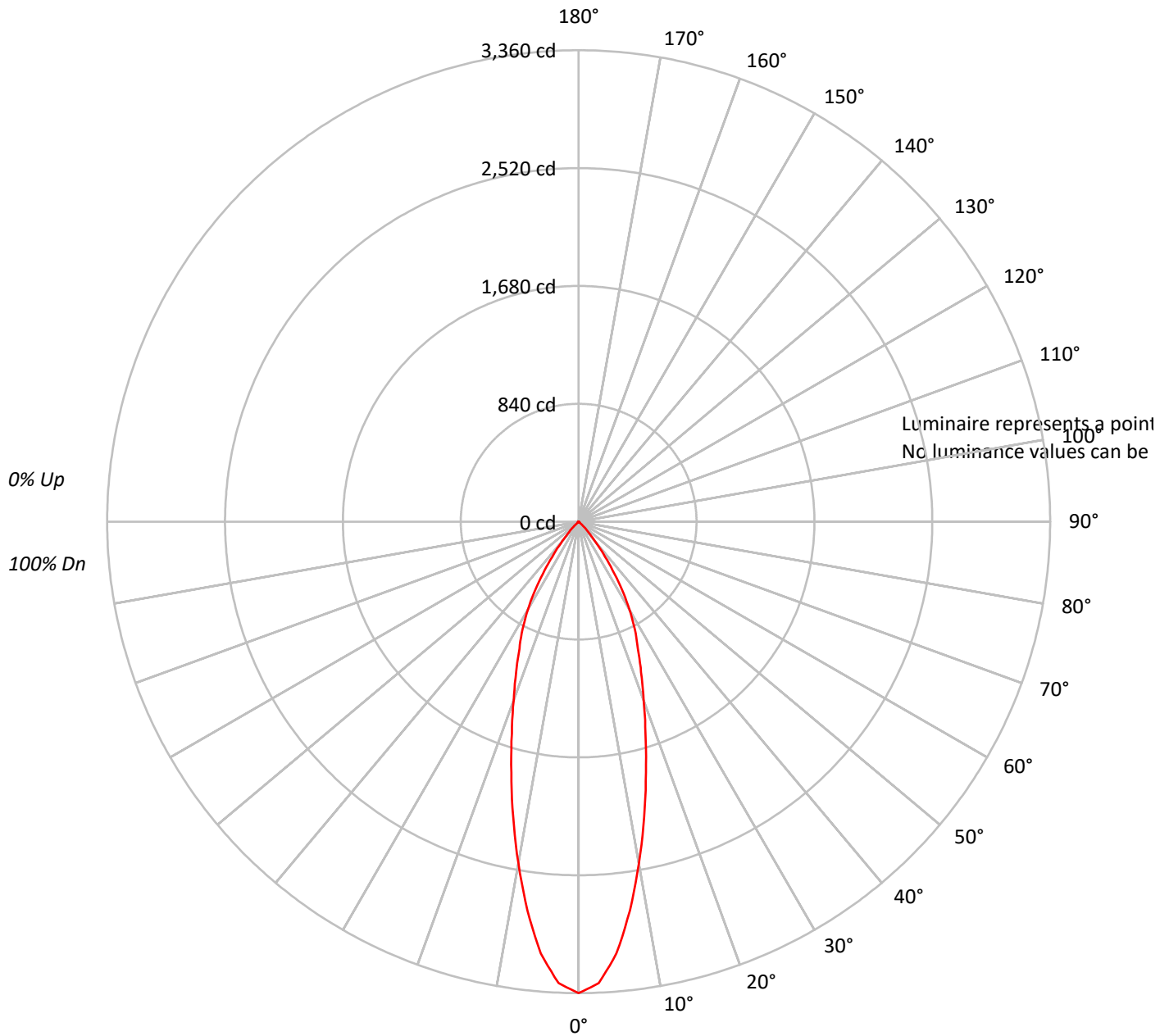
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     |  |  | 0   |
| RW  | 70  | 50  | 30  | 10  |  | 70  | 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 |  |  | 100 |
| 1   | 114 | 111 | 109 | 107 |  | 112 | 109 | 107 | 105 |  | 105 | 104 | 102 |  |  | 102 | 100 | 99  |  |  | 95  |
| 2   | 109 | 105 | 101 | 98  |  | 107 | 103 | 100 | 97  |  | 100 | 97  | 95  |  |  | 97  | 95  | 93  |  |  | 89  |
| 3   | 104 | 98  | 94  | 90  |  | 102 | 97  | 93  | 90  |  | 94  | 91  | 88  |  |  | 92  | 89  | 87  |  |  | 84  |
| 4   | 100 | 93  | 88  | 84  |  | 98  | 92  | 87  | 83  |  | 90  | 86  | 82  |  |  | 88  | 84  | 82  |  |  | 79  |
| 5   | 95  | 88  | 82  | 78  |  | 94  | 87  | 82  | 78  |  | 85  | 81  | 77  |  |  | 83  | 80  | 77  |  |  | 75  |
| 6   | 91  | 83  | 78  | 74  |  | 90  | 82  | 77  | 74  |  | 81  | 76  | 73  |  |  | 79  | 76  | 73  |  |  | 71  |
| 7   | 87  | 79  | 73  | 70  |  | 86  | 78  | 73  | 69  |  | 77  | 72  | 69  |  |  | 76  | 72  | 69  |  |  | 67  |
| 8   | 84  | 75  | 70  | 66  |  | 82  | 74  | 69  | 66  |  | 73  | 69  | 65  |  |  | 72  | 68  | 65  |  |  | 64  |
| 9   | 80  | 71  | 66  | 62  |  | 79  | 71  | 66  | 62  |  | 70  | 65  | 62  |  |  | 69  | 65  | 62  |  |  | 61  |
| 10  | 77  | 68  | 63  | 59  |  | 76  | 68  | 63  | 59  |  | 67  | 62  | 59  |  |  | 66  | 62  | 59  |  |  | 58  |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 274.7  | 17.4      |
| 10°-20°   | 515.4  | 32.6      |
| 20°-30°   | 462.4  | 29.2      |
| 30°-40°   | 265.4  | 16.8      |
| 40°-50°   | 53.0   | 3.3       |
| 50°-60°   | 6.7    | 0.4       |
| 60°-70°   | 3.1    | 0.2       |
| 70°-80°   | 0.4    | 0.0       |
| 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°    | 1252.6 | 79.2      |
| 0°-40°    | 1518.0 | 96.0      |
| 0°-60°    | 1577.6 | 99.8      |
| 0°-90°    | 1581.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1581.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 3360 |      |
| 5°  | 3090 | 275  |
| 15° | 1850 | 515  |
| 25° | 999  | 462  |
| 35° | 420  | 265  |
| 45° | 57   | 53   |
| 55° | 8    | 7    |
| 65° | 3    | 3    |
| 75° | 0    | 0    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 3359.9 |
| 2.5°  | 3291.7 |
| 5°    | 3089.7 |
| 7.5°  | 2794.9 |
| 10°   | 2472.9 |
| 12.5° | 2156.2 |
| 15°   | 1850.5 |
| 17.5° | 1583.1 |
| 20°   | 1353.8 |
| 22.5° | 1162.8 |
| 25°   | 999.0  |
| 27.5° | 867.9  |
| 30°   | 723.3  |
| 32.5° | 575.9  |
| 35°   | 420.4  |
| 37.5° | 286.6  |
| 40°   | 177.4  |
| 42.5° | 106.5  |
| 45°   | 57.3   |
| 47.5° | 24.6   |
| 50°   | 10.9   |
| 52.5° | 8.2    |
| 55°   | 8.2    |
| 57.5° | 5.5    |
| 60°   | 5.5    |
| 62.5° | 2.8    |
| 65°   | 2.8    |
| 67.5° | 2.8    |
| 70°   | 2.8    |
| 72.5° | 0.0    |
| 75°   | 0.0    |
| 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)