

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: P211688

Luminaire Tested: **LE\_4B20D010 EC4B10209035 4LBS1B**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P211688  
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 EC4B10209035 4LBS1B  
Description: PORTFOLIO 4 INCH CYLINDER  
SHALLOW DISTRIBUTION WITH SPECULAR BLACK 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: 1756.9 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.3  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

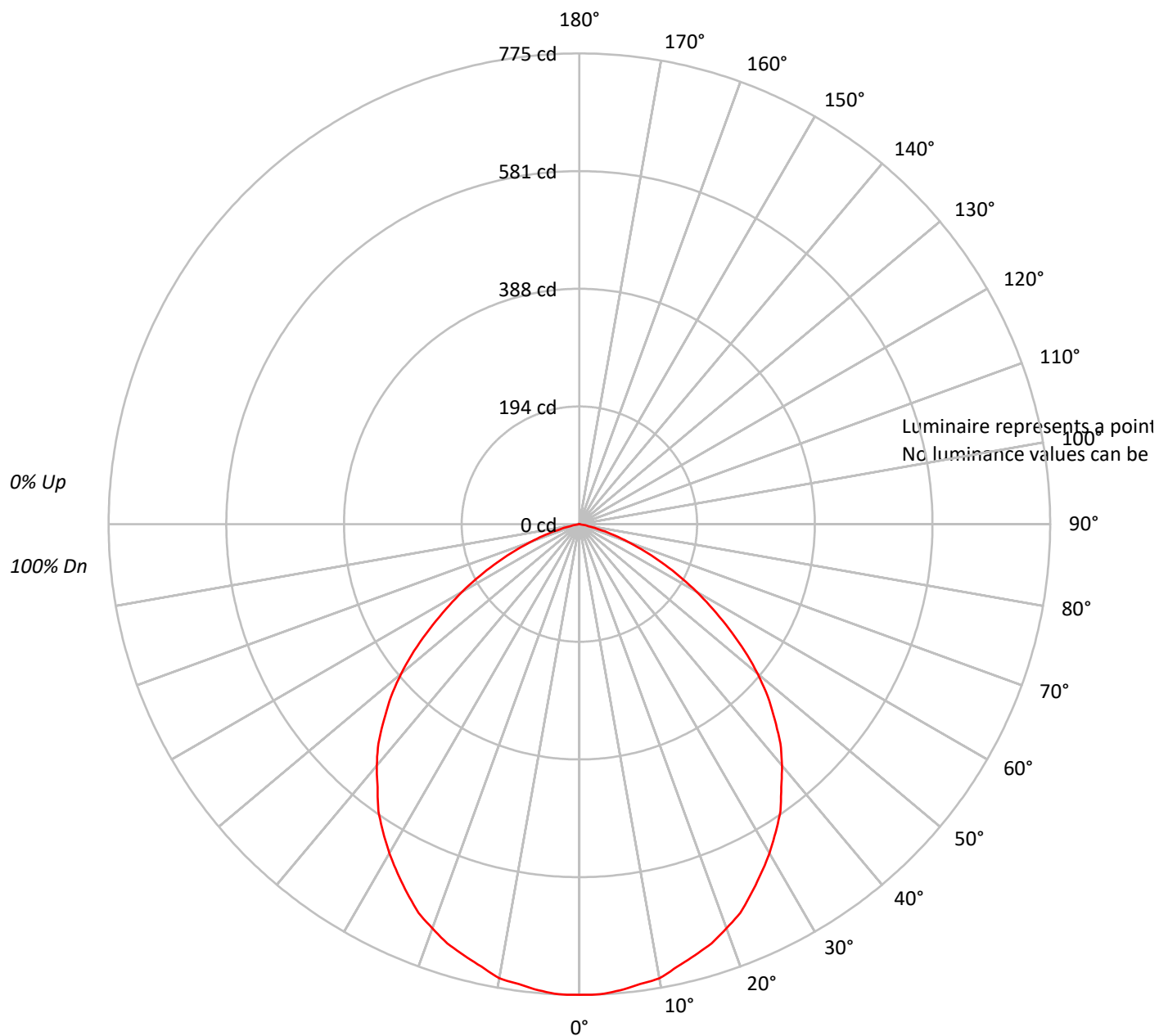
Input Watts (W): 20.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





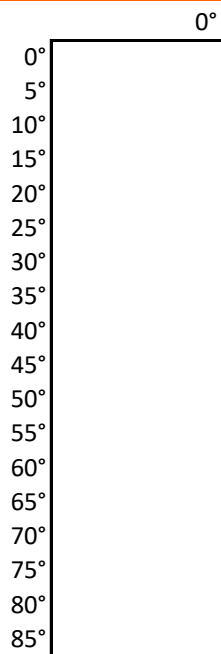
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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |    | 10 |
| 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 |    |    |
| 1   | 111 | 107 | 103 | 100 | 108 | 105 | 101 | 98  | 100 | 98  | 95  | 97  | 94  | 93  | 93  | 91  | 90  | 88  |    |    |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  | 86  | 83  | 79  | 84  | 80  | 78  | 76  |    |    |
| 3   | 94  | 84  | 77  | 72  | 91  | 83  | 76  | 71  | 80  | 74  | 70  | 77  | 73  | 68  | 75  | 71  | 67  | 65  |    |    |
| 4   | 86  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 60  | 68  | 63  | 59  | 57  |    |    |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 59  | 53  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 52  | 50  |    |    |
| 6   | 74  | 62  | 53  | 47  | 72  | 61  | 53  | 47  | 59  | 52  | 47  | 57  | 51  | 46  | 56  | 50  | 46  | 44  |    |    |
| 7   | 69  | 56  | 48  | 42  | 67  | 55  | 48  | 42  | 54  | 47  | 42  | 52  | 46  | 41  | 51  | 45  | 41  | 39  |    |    |
| 8   | 64  | 51  | 43  | 38  | 63  | 51  | 43  | 38  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 35  |    |    |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 32  |    |    |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  | 40  | 35  | 31  | 29  |    |    |

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





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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.2   | 4.2       |
| 10°-20°   | 207.6  | 11.8      |
| 20°-30°   | 308.7  | 17.6      |
| 30°-40°   | 359.3  | 20.5      |
| 40°-50°   | 350.2  | 19.9      |
| 50°-60°   | 269.3  | 15.3      |
| 60°-70°   | 148.9  | 8.5       |
| 70°-80°   | 39.4   | 2.2       |
| 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°    | 589.5  | 33.6      |
| 0°-40°    | 948.8  | 54.0      |
| 0°-60°    | 1568.3 | 89.3      |
| 0°-90°    | 1756.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1756.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | Flux |
|-----|-----|------|
| 0°  | 775 |      |
| 5°  | 771 | 73   |
| 15° | 735 | 208  |
| 25° | 670 | 309  |
| 35° | 577 | 359  |
| 45° | 454 | 350  |
| 55° | 301 | 269  |
| 65° | 149 | 149  |
| 75° | 33  | 39   |
| 85° | 0   | 0    |
| 90° | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    |
|-------|-------|
| 0°    | 775.0 |
| 2.5°  | 775.0 |
| 5°    | 770.6 |
| 7.5°  | 763.9 |
| 10°   | 759.5 |
| 12.5° | 746.1 |
| 15°   | 735.0 |
| 17.5° | 723.8 |
| 20°   | 708.2 |
| 22.5° | 692.6 |
| 25°   | 670.4 |
| 27.5° | 648.1 |
| 30°   | 625.8 |
| 32.5° | 601.3 |
| 35°   | 576.9 |
| 37.5° | 545.7 |
| 40°   | 518.9 |
| 42.5° | 490.0 |
| 45°   | 454.4 |
| 47.5° | 421.0 |
| 50°   | 383.0 |
| 52.5° | 343.0 |
| 55°   | 300.7 |
| 57.5° | 260.5 |
| 60°   | 222.7 |
| 62.5° | 184.9 |
| 65°   | 149.2 |
| 67.5° | 115.8 |
| 70°   | 84.7  |
| 72.5° | 57.9  |
| 75°   | 33.4  |
| 77.5° | 15.5  |
| 80°   | 2.2   |
| 82.5° | 0.0   |
| 85°   | 0.0   |
| 87.5° | 0.0   |
| 90°   | 0.0   |



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— 0°-180°







(END OF REPORT)