

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: P1212181

Luminaire Tested: **LDSQA4A20927D010TE LAR25NF 4LSQA1H**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14  
Report Number: P1212181  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26785)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A20927D010TE LAR25NF 4LSQA1H  
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 25° NARROW FLOOD  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

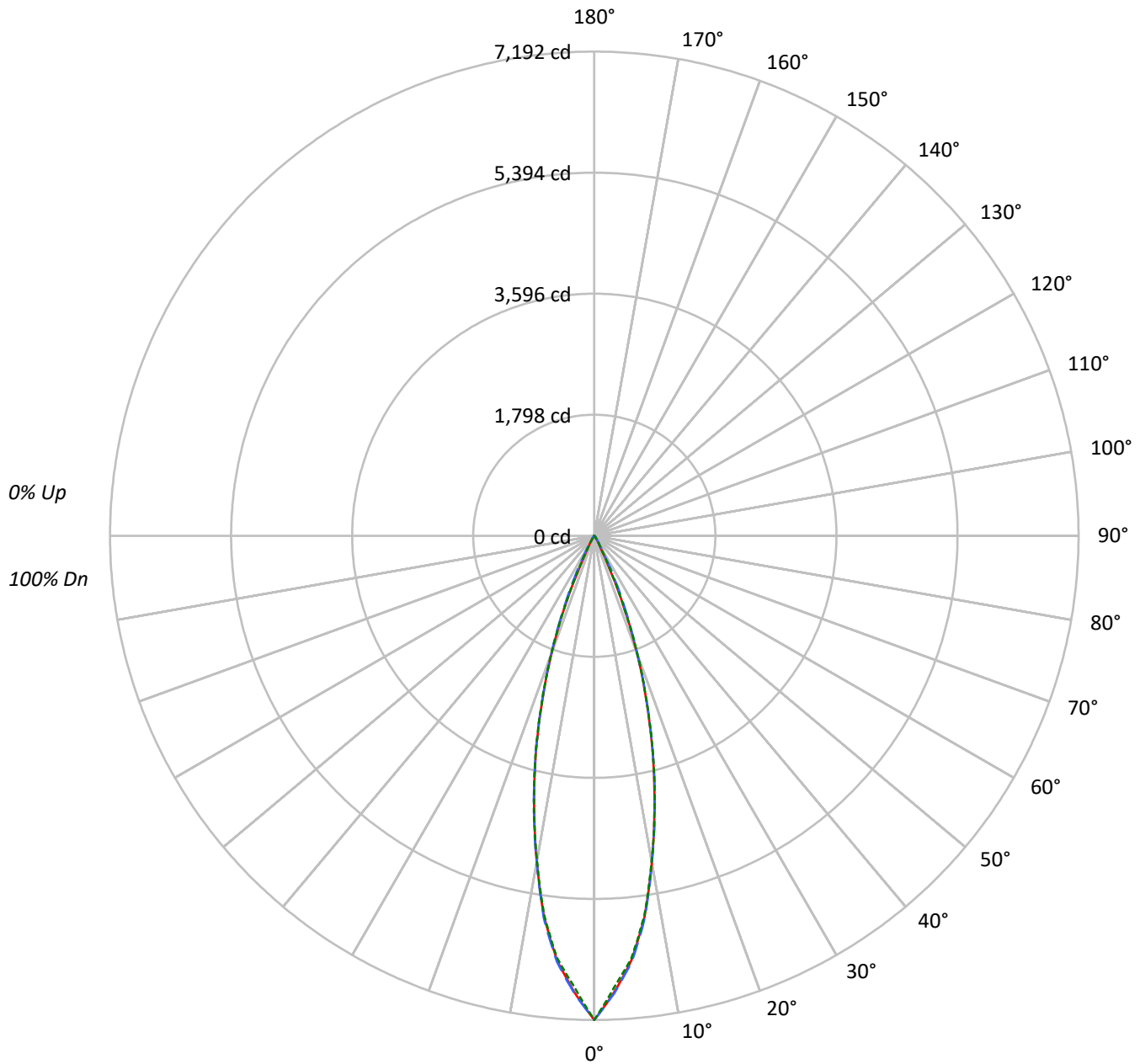
Lumens per Lamp: N/A  
Luminaire Lumens: 1864.7 lumens  
Efficiency: N/A  
Efficacy: 64.7 lumens/watt  
Spacing Criteria (0/90/45): 0.47 / 0.47 / 0.49  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 28.8  
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  |  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 100 |
| 1   | 115 | 113 | 111 | 109 | 113 | 111 | 109 | 107 | 107 | 105 | 104 |  | 103 | 102 | 101 |  | 97  |
| 2   | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 103 | 101 | 99  |  | 100 | 98  | 97  |  | 93  |
| 3   | 108 | 103 | 99  | 96  | 106 | 102 | 98  | 96  | 99  | 96  | 94  |  | 97  | 95  | 93  |  | 90  |
| 4   | 104 | 99  | 95  | 92  | 103 | 98  | 94  | 91  | 96  | 93  | 90  |  | 94  | 91  | 89  |  | 87  |
| 5   | 101 | 95  | 91  | 88  | 100 | 94  | 90  | 88  | 93  | 89  | 87  |  | 91  | 88  | 86  |  | 84  |
| 6   | 98  | 92  | 88  | 84  | 97  | 91  | 87  | 84  | 90  | 86  | 84  |  | 88  | 85  | 83  |  | 82  |
| 7   | 95  | 89  | 84  | 81  | 94  | 88  | 84  | 81  | 87  | 83  | 81  |  | 86  | 83  | 80  |  | 79  |
| 8   | 92  | 86  | 82  | 79  | 91  | 85  | 81  | 79  | 84  | 81  | 78  |  | 84  | 80  | 78  |  | 77  |
| 9   | 90  | 83  | 79  | 76  | 89  | 83  | 79  | 76  | 82  | 78  | 76  |  | 81  | 78  | 76  |  | 74  |
| 10  | 87  | 81  | 77  | 74  | 87  | 80  | 76  | 74  | 80  | 76  | 74  |  | 79  | 76  | 73  |  | 72  |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 696680 | 696680 | 696680 |
| 5°  | 615836 | 617937 | 612705 |
| 10° | 484029 | 484580 | 482534 |
| 15° | 336944 | 337907 | 338157 |
| 20° | 191144 | 192392 | 193051 |
| 25° | 51532  | 77966  | 57956  |
| 30° | 12763  | 17439  | 13121  |
| 35° | 3808   | 7983   | 4092   |
| 40° | 1530   | 2643   | 1530   |
| 45° | 767    | 1096   | 658    |
| 50° | 482    | 482    | 241    |
| 55° | 405    | 270    | 135    |
| 60° | 310    | 155    | 155    |
| 65° | 183    | 183    | 183    |
| 70° | 227    | 227    | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 564.2  | 30.3      |
| 10°-20°   | 917.5  | 49.2      |
| 20°-30°   | 341.0  | 18.3      |
| 30°-40°   | 33.9   | 1.8       |
| 40°-50°   | 5.7    | 0.3       |
| 50°-60°   | 1.5    | 0.1       |
| 60°-70°   | 0.8    | 0.0       |
| 70°-80°   | 0.1    | 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°    | 1822.7 | 97.7      |
| 0°-40°    | 1856.6 | 99.6      |
| 0°-60°    | 1863.8 | 99.9      |
| 0°-90°    | 1864.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1864.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 7192 | 7192  | 7192 | 7192  | 7192 |      |
| 5°  | 6333 | 6396  | 6354 | 6429  | 6301 | 561  |
| 15° | 3360 | 3397  | 3369 | 3425  | 3372 | 909  |
| 25° | 482  | 708   | 729  | 681   | 542  | 301  |
| 35° | 32   | 40    | 68   | 42    | 35   | 26   |
| 45° | 6    | 6     | 8    | 6     | 5    | 5    |
| 55° | 2    | 2     | 2    | 2     | 1    | 2    |
| 65° | 1    | 1     | 1    | 1     | 1    | 1    |
| 75° | 0    | 1     | 0    | 0     | 0    | 0    |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 7191.5 | 7191.5 | 7191.5 | 7191.5 | 7191.5 |
| 2.5°  | 6786.6 | 6822.8 | 6800.2 | 6860.6 | 6715.2 |
| 5°    | 6332.8 | 6396.2 | 6354.4 | 6429.2 | 6300.6 |
| 7.5°  | 5709.4 | 5775.2 | 5732.7 | 5805.0 | 5690.1 |
| 10°   | 4920.5 | 4969.4 | 4926.1 | 4995.9 | 4905.3 |
| 12.5° | 4131.6 | 4180.6 | 4148.5 | 4212.7 | 4140.5 |
| 15°   | 3359.6 | 3397.4 | 3369.2 | 3424.6 | 3371.7 |
| 17.5° | 2575.6 | 2611.7 | 2586.0 | 2631.0 | 2590.7 |
| 20°   | 1854.1 | 1885.4 | 1866.2 | 1903.9 | 1872.6 |
| 22.5° | 1151.2 | 1234.7 | 1248.4 | 1251.7 | 1160.9 |
| 25°   | 482.1  | 707.7  | 729.4  | 681.2  | 542.2  |
| 27.5° | 198.4  | 260.3  | 347.0  | 273.9  | 208.8  |
| 30°   | 114.1  | 132.6  | 155.9  | 136.6  | 117.3  |
| 32.5° | 57.0   | 73.9   | 102.0  | 77.9   | 60.2   |
| 35°   | 32.2   | 40.2   | 67.5   | 41.8   | 34.6   |
| 37.5° | 19.2   | 23.3   | 33.7   | 24.2   | 20.1   |
| 40°   | 12.1   | 14.5   | 20.9   | 15.3   | 12.1   |
| 42.5° | 8.0    | 9.7    | 12.9   | 9.7    | 8.0    |
| 45°   | 5.6    | 6.5    | 8.0    | 6.5    | 4.8    |
| 47.5° | 4.1    | 4.1    | 4.8    | 4.1    | 3.2    |
| 50°   | 3.2    | 3.2    | 3.2    | 2.4    | 1.6    |
| 52.5° | 2.4    | 2.4    | 2.4    | 1.6    | 1.6    |
| 55°   | 2.4    | 1.6    | 1.6    | 1.6    | 0.8    |
| 57.5° | 1.6    | 1.6    | 1.6    | 0.8    | 0.8    |
| 60°   | 1.6    | 1.6    | 0.8    | 0.8    | 0.8    |
| 62.5° | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 65°   | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 67.5° | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 70°   | 0.8    | 0.8    | 0.8    | 0.8    | 0.0    |
| 72.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 75°   | 0.0    | 0.8    | 0.0    | 0.0    | 0.0    |
| 77.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 80°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

Classified

Scaled Data Report

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— 0°-180°    - - 45°-225°    - - - 90°-270°

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