

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: P1212239

Luminaire Tested: **LDSQA4A25927D010TE LAR25NF 4LSQAL1H**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P1212239  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26797)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A25927D010TE LAR25NF 4LSQAL1H  
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 25° NARROW FLOOD  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

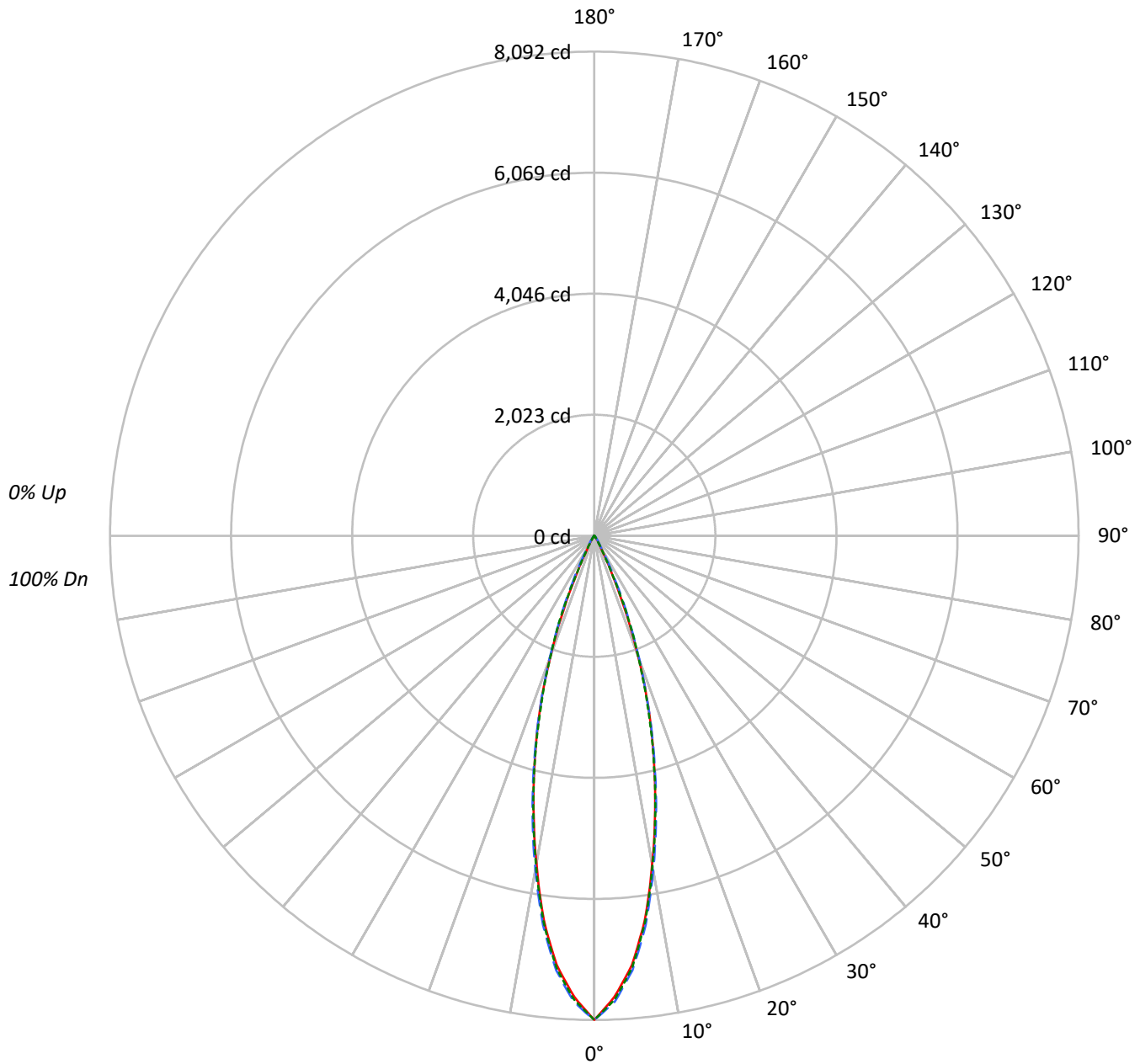
Lumens per Lamp: N/A  
Luminaire Lumens: 2158.4 lumens  
Efficiency: N/A  
Efficacy: 69.9 lumens/watt  
Spacing Criteria (0/90/45): 0.48 / 0.48 / 0.5  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.9  
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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 |  | 96  |
| 2   | 111 | 107 | 104 | 102 | 109 | 106 | 103 | 101 | 103 | 100 | 99  |  | 100 | 98  | 96  |  | 93  |
| 3   | 107 | 103 | 99  | 96  | 106 | 101 | 98  | 95  | 99  | 96  | 94  |  | 97  | 94  | 92  |  | 90  |
| 4   | 104 | 99  | 95  | 91  | 102 | 97  | 94  | 91  | 95  | 92  | 90  |  | 94  | 91  | 89  |  | 87  |
| 5   | 101 | 95  | 91  | 87  | 99  | 94  | 90  | 87  | 92  | 89  | 86  |  | 91  | 88  | 86  |  | 84  |
| 6   | 98  | 91  | 87  | 84  | 96  | 91  | 87  | 84  | 89  | 86  | 83  |  | 88  | 85  | 83  |  | 81  |
| 7   | 95  | 88  | 84  | 81  | 94  | 88  | 84  | 81  | 87  | 83  | 80  |  | 85  | 82  | 80  |  | 79  |
| 8   | 92  | 85  | 81  | 78  | 91  | 85  | 81  | 78  | 84  | 80  | 78  |  | 83  | 80  | 77  |  | 76  |
| 9   | 89  | 83  | 78  | 76  | 89  | 82  | 78  | 76  | 81  | 78  | 75  |  | 81  | 77  | 75  |  | 74  |
| 10  | 87  | 80  | 76  | 73  | 86  | 80  | 76  | 73  | 79  | 76  | 73  |  | 78  | 75  | 73  |  | 72  |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 783906 | 783906 | 783906 |
| 5°  | 700099 | 708900 | 704495 |
| 10° | 548028 | 557826 | 550989 |
| 15° | 384834 | 387672 | 382717 |
| 20° | 220876 | 225433 | 220670 |
| 25° | 69928  | 91968  | 72172  |
| 30° | 18569  | 23077  | 17898  |
| 35° | 6303   | 11424  | 6422   |
| 40° | 2807   | 4591   | 2807   |
| 45° | 1507   | 2069   | 1233   |
| 50° | 904    | 1055   | 603    |
| 55° | 524    | 524    | 338    |
| 60° | 388    | 388    | 213    |
| 65° | 252    | 252    | 252    |
| 70° | 312    | 312    | 312    |
| 75° | 0      | 412    | 412    |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 641.8  | 29.7      |
| 10°-20°   | 1046.5 | 48.5      |
| 20°-30°   | 405.3  | 18.8      |
| 30°-40°   | 49.7   | 2.3       |
| 40°-50°   | 10.4   | 0.5       |
| 50°-60°   | 2.8    | 0.1       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.6    | 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°    | 2093.7 | 97.0      |
| 0°-40°    | 2143.4 | 99.3      |
| 0°-60°    | 2156.6 | 99.9      |
| 0°-90°    | 2158.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2158.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 8092 | 8092  | 8092 | 8092  | 8092 |      |
| 5°  | 7199 | 7304  | 7290 | 7246  | 7244 | 636  |
| 15° | 3837 | 3888  | 3865 | 3837  | 3816 | 1041 |
| 25° | 654  | 819   | 860  | 845   | 675  | 367  |
| 35° | 53   | 64    | 97   | 63    | 54   | 41   |
| 45° | 11   | 12    | 15   | 11    | 9    | 9    |
| 55° | 3    | 3     | 3    | 2     | 2    | 3    |
| 65° | 1    | 1     | 1    | 1     | 1    | 1    |
| 75° | 0    | 1     | 1    | 1     | 1    | 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°    | 8091.9 | 8091.9 | 8091.9 | 8091.9 | 8091.9 |
| 2.5°  | 7713.6 | 7821.2 | 7796.0 | 7745.7 | 7758.8 |
| 5°    | 7199.3 | 7303.9 | 7289.8 | 7245.6 | 7244.5 |
| 7.5°  | 6473.7 | 6576.4 | 6564.3 | 6510.9 | 6505.9 |
| 10°   | 5571.1 | 5664.6 | 5670.7 | 5593.2 | 5601.2 |
| 12.5° | 4689.5 | 4766.0 | 4769.0 | 4715.6 | 4704.6 |
| 15°   | 3837.1 | 3888.5 | 3865.4 | 3837.1 | 3816.0 |
| 17.5° | 2996.9 | 3007.9 | 3002.9 | 2961.7 | 2946.5 |
| 20°   | 2142.5 | 2190.8 | 2186.7 | 2151.5 | 2140.5 |
| 22.5° | 1334.4 | 1421.9 | 1462.2 | 1430.1 | 1447.1 |
| 25°   | 654.2  | 819.2  | 860.4  | 845.3  | 675.2  |
| 27.5° | 265.7  | 347.2  | 432.7  | 342.1  | 256.5  |
| 30°   | 166.0  | 181.2  | 206.3  | 174.1  | 160.0  |
| 32.5° | 87.6   | 109.6  | 139.9  | 106.7  | 87.6   |
| 35°   | 53.3   | 64.4   | 96.6   | 63.4   | 54.3   |
| 37.5° | 34.2   | 40.3   | 56.4   | 40.3   | 35.2   |
| 40°   | 22.2   | 26.2   | 36.3   | 26.2   | 22.2   |
| 42.5° | 15.1   | 17.1   | 23.1   | 17.1   | 14.1   |
| 45°   | 11.0   | 12.1   | 15.1   | 11.0   | 9.0    |
| 47.5° | 8.1    | 9.0    | 10.1   | 7.0    | 6.0    |
| 50°   | 6.0    | 6.0    | 7.0    | 5.0    | 4.0    |
| 52.5° | 4.0    | 5.0    | 5.0    | 3.1    | 3.1    |
| 55°   | 3.1    | 3.1    | 3.1    | 2.0    | 2.0    |
| 57.5° | 3.1    | 2.0    | 2.0    | 2.0    | 2.0    |
| 60°   | 2.0    | 2.0    | 2.0    | 1.1    | 1.1    |
| 62.5° | 1.1    | 1.1    | 1.1    | 1.1    | 1.1    |
| 65°   | 1.1    | 1.1    | 1.1    | 1.1    | 1.1    |
| 67.5° | 1.1    | 1.1    | 1.1    | 1.1    | 1.1    |
| 70°   | 1.1    | 1.1    | 1.1    | 1.1    | 1.1    |
| 72.5° | 1.1    | 1.1    | 1.1    | 1.1    | 0.0    |
| 75°   | 0.0    | 1.1    | 1.1    | 1.1    | 1.1    |
| 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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