

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: P1212259

Luminaire Tested: **LDSQA4A25935D010TE LAR15SP 4LSQA1H-LSF-20**

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: P1212259  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26829)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA4A25935D010TE LAR15SP 4LSQA1H-LSF-20  
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT WITH SOLITE LENS  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

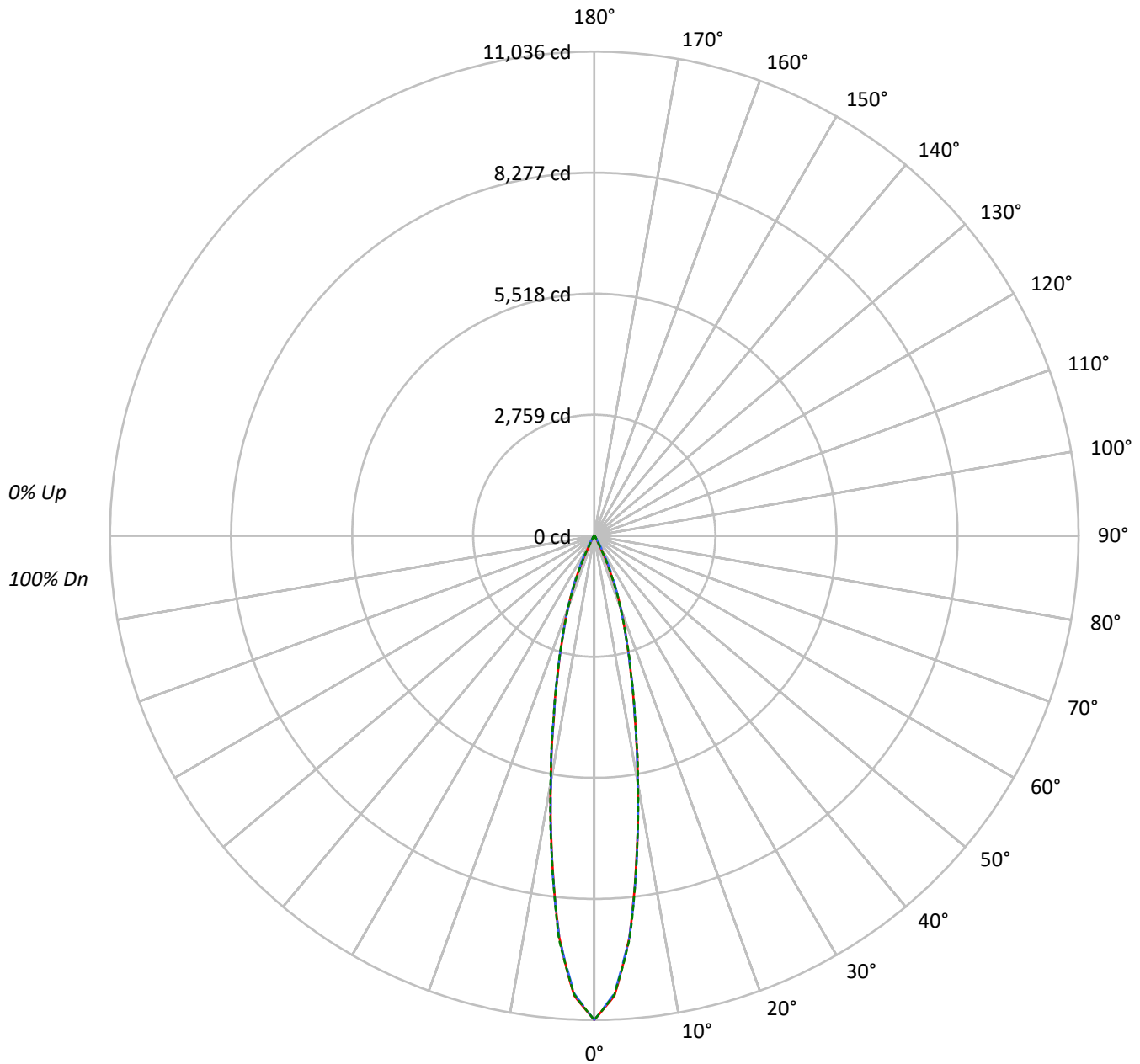
Lumens per Lamp: N/A  
Luminaire Lumens: 2092.8 lumens  
Efficiency: N/A  
Efficacy: 67.7 lumens/watt  
Spacing Criteria (0/90/45): 0.35 / 0.35 / 0.39  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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



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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  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 115 | 113 | 111 | 109 | 113 | 111 | 109 | 108 |  | 107 | 106 | 104 |  |  | 103 | 102 | 101 |  |  | 100 |
| 2   | 111 | 108 | 105 | 102 | 109 | 106 | 104 | 101 |  | 103 | 101 | 99  |  |  | 100 | 99  | 97  |  |  | 98  |
| 3   | 108 | 103 | 100 | 97  | 106 | 102 | 99  | 96  |  | 100 | 97  | 95  |  |  | 97  | 95  | 93  |  |  | 95  |
| 4   | 105 | 99  | 96  | 93  | 103 | 98  | 95  | 92  |  | 96  | 93  | 91  |  |  | 95  | 92  | 90  |  |  | 93  |
| 5   | 102 | 96  | 92  | 89  | 100 | 95  | 91  | 89  |  | 93  | 90  | 88  |  |  | 92  | 89  | 87  |  |  | 91  |
| 6   | 99  | 93  | 89  | 86  | 98  | 92  | 88  | 85  |  | 91  | 87  | 85  |  |  | 89  | 87  | 84  |  |  | 88  |
| 7   | 96  | 90  | 86  | 83  | 95  | 89  | 85  | 83  |  | 88  | 85  | 82  |  |  | 87  | 84  | 82  |  |  | 86  |
| 8   | 94  | 87  | 83  | 80  | 93  | 87  | 83  | 80  |  | 86  | 82  | 80  |  |  | 85  | 82  | 80  |  |  | 84  |
| 9   | 91  | 85  | 81  | 78  | 90  | 84  | 80  | 78  |  | 83  | 80  | 78  |  |  | 83  | 80  | 77  |  |  | 82  |
| 10  | 89  | 82  | 78  | 76  | 88  | 82  | 78  | 76  |  | 81  | 78  | 75  |  |  | 81  | 78  | 75  |  |  | 80  |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 1069069 | 1069069 | 1069069 |
| 5°  | 892607  | 892607  | 896837  |
| 10° | 559193  | 557944  | 563581  |
| 15° | 319122  | 320927  | 321459  |
| 20° | 180660  | 180124  | 179350  |
| 25° | 67822   | 87703   | 69297   |
| 30° | 13916   | 29364   | 14028   |
| 35° | 5535    | 9544    | 5416    |
| 40° | 2833    | 4161    | 2694    |
| 45° | 1891    | 2178    | 1603    |
| 50° | 1115    | 1115    | 799     |
| 55° | 540     | 726     | 355     |
| 60° | 407     | 407     | 213     |
| 65° | 252     | 252     | 252     |
| 70° | 312     | 312     | 312     |
| 75° | 0       | 0       | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 762.5  | 36.4      |
| 10°-20°   | 906.9  | 43.3      |
| 20°-30°   | 361.6  | 17.3      |
| 30°-40°   | 45.6   | 2.2       |
| 40°-50°   | 11.2   | 0.5       |
| 50°-60°   | 3.3    | 0.2       |
| 60°-70°   | 1.2    | 0.1       |
| 70°-80°   | 0.5    | 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°    | 2031.0 | 97.0      |
| 0°-40°    | 2076.7 | 99.2      |
| 0°-60°    | 2091.2 | 99.9      |
| 0°-90°    | 2092.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2092.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 11036 | 11036 | 11036 | 11036 | 11036 |      |
| 5°  | 9179  | 9263  | 9179  | 9187  | 9222  | 760  |
| 15° | 3182  | 3201  | 3200  | 3200  | 3205  | 904  |
| 25° | 634   | 779   | 820   | 747   | 648   | 326  |
| 35° | 47    | 56    | 81    | 54    | 46    | 34   |
| 45° | 14    | 14    | 16    | 13    | 12    | 11   |
| 55° | 3     | 3     | 4     | 3     | 2     | 4    |
| 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     | 0    |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 11035.5 | 11035.5 | 11035.5 | 11035.5 | 11035.5 |
| 2.5°  | 10493.5 | 10549.8 | 10441.4 | 10452.1 | 10465.9 |
| 5°    | 9178.9  | 9262.8  | 9178.9  | 9187.4  | 9222.4  |
| 7.5°  | 7386.0  | 7459.4  | 7411.5  | 7432.8  | 7394.5  |
| 10°   | 5684.6  | 5711.1  | 5671.9  | 5691.0  | 5729.2  |
| 12.5° | 4274.3  | 4304.1  | 4275.3  | 4276.4  | 4293.4  |
| 15°   | 3181.9  | 3201.0  | 3199.9  | 3199.9  | 3205.2  |
| 17.5° | 2376.3  | 2401.8  | 2374.2  | 2376.3  | 2382.7  |
| 20°   | 1752.4  | 1769.4  | 1747.2  | 1744.0  | 1739.7  |
| 22.5° | 1195.6  | 1231.7  | 1245.5  | 1227.5  | 1170.0  |
| 25°   | 634.5   | 779.0   | 820.5   | 747.0   | 648.3   |
| 27.5° | 255.0   | 387.9   | 479.3   | 379.5   | 277.4   |
| 30°   | 124.4   | 169.0   | 262.5   | 173.2   | 125.4   |
| 32.5° | 73.3    | 91.4    | 143.5   | 90.4    | 72.3    |
| 35°   | 46.8    | 56.3    | 80.7    | 54.2    | 45.8    |
| 37.5° | 30.8    | 37.2    | 49.9    | 36.1    | 29.7    |
| 40°   | 22.4    | 25.5    | 32.9    | 24.5    | 21.3    |
| 42.5° | 17.0    | 18.1    | 22.4    | 18.1    | 15.9    |
| 45°   | 13.8    | 13.8    | 15.9    | 12.7    | 11.7    |
| 47.5° | 10.7    | 10.7    | 10.7    | 9.6     | 7.4     |
| 50°   | 7.4     | 7.4     | 7.4     | 6.4     | 5.3     |
| 52.5° | 5.3     | 5.3     | 5.3     | 4.3     | 3.2     |
| 55°   | 3.2     | 3.2     | 4.3     | 3.2     | 2.1     |
| 57.5° | 3.2     | 2.1     | 3.2     | 2.1     | 2.1     |
| 60°   | 2.1     | 2.1     | 2.1     | 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     | 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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1121 Highway 74 South

Peachtree City, GA 30269



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

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