

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: P1219604

Luminaire Tested: **LDSQA6A25950D010TE LARL15SP 6LSQA1H**

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: P1219604  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29053)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQA6A25950D010TE LARL15SP 6LSQA1H  
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,  
SELF-FLANGED, 15° SPOT  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

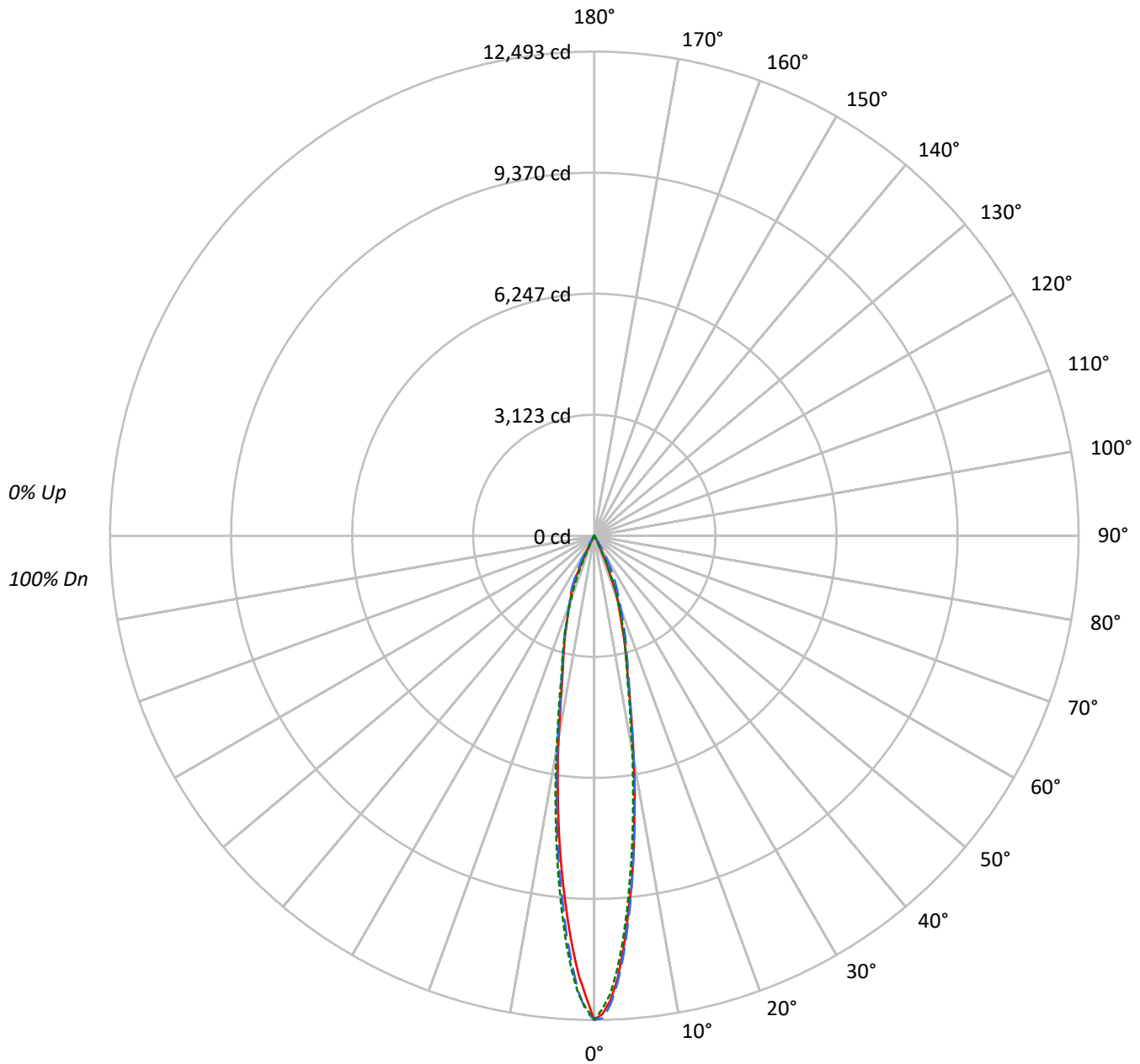
Lumens per Lamp: N/A  
Luminaire Lumens: 2112.8 lumens  
Efficiency: N/A  
Efficacy: 67.7 lumens/watt  
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.36  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 31.2  
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   | 115 | 113 | 111 | 110 | 113 | 111 | 109 | 108 | 107 | 106 | 105 | 103 | 102 | 101 | 100 | 99  | 99  | 97  |    |    |
| 2   | 112 | 108 | 105 | 103 | 109 | 106 | 104 | 102 | 103 | 101 | 99  | 100 | 99  | 97  | 98  | 96  | 95  | 94  |    |    |
| 3   | 108 | 104 | 100 | 97  | 106 | 102 | 99  | 97  | 100 | 97  | 95  | 98  | 95  | 94  | 96  | 94  | 92  | 91  |    |    |
| 4   | 105 | 100 | 96  | 93  | 103 | 99  | 95  | 93  | 97  | 94  | 91  | 95  | 92  | 90  | 93  | 91  | 90  | 88  |    |    |
| 5   | 102 | 96  | 92  | 89  | 101 | 95  | 92  | 89  | 94  | 91  | 88  | 92  | 90  | 88  | 91  | 89  | 87  | 86  |    |    |
| 6   | 99  | 93  | 89  | 86  | 98  | 92  | 89  | 86  | 91  | 88  | 85  | 90  | 87  | 85  | 89  | 86  | 84  | 83  |    |    |
| 7   | 97  | 90  | 86  | 83  | 95  | 90  | 86  | 83  | 89  | 85  | 83  | 88  | 85  | 82  | 87  | 84  | 82  | 81  |    |    |
| 8   | 94  | 88  | 84  | 81  | 93  | 87  | 83  | 81  | 86  | 83  | 80  | 85  | 82  | 80  | 85  | 82  | 80  | 79  |    |    |
| 9   | 92  | 85  | 81  | 79  | 91  | 85  | 81  | 79  | 84  | 81  | 78  | 83  | 80  | 78  | 83  | 80  | 78  | 77  |    |    |
| 10  | 89  | 83  | 79  | 77  | 89  | 83  | 79  | 76  | 82  | 79  | 76  | 81  | 78  | 76  | 81  | 78  | 76  | 75  |    |    |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 537890 | 537890 | 537890 |
| 5°  | 427607 | 418488 | 393688 |
| 10° | 254769 | 245391 | 230867 |
| 15° | 139206 | 139438 | 135065 |
| 20° | 79752  | 81965  | 84252  |
| 25° | 21064  | 21886  | 39326  |
| 30° | 2874   | 2655   | 2570   |
| 35° | 1146   | 1104   | 1062   |
| 40° | 444    | 444    | 444    |
| 45° | 207    | 158    | 207    |
| 50° | 121    | 54     | 174    |
| 55° | 60     | 0      | 135    |
| 60° | 69     | 0      | 0      |
| 65° | 82     | 0      | 0      |
| 70° | 101    | 0      | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 793.4  | 37.6      |
| 10°-20°   | 892.8  | 42.3      |
| 20°-30°   | 397.6  | 18.8      |
| 30°-40°   | 24.2   | 1.1       |
| 40°-50°   | 3.9    | 0.2       |
| 50°-60°   | 0.7    | 0.0       |
| 60°-70°   | 0.2    | 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°    | 2083.7 | 98.6      |
| 0°-40°    | 2108.0 | 99.8      |
| 0°-60°    | 2112.5 | 100.0     |
| 0°-90°    | 2112.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2112.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 45°   | 90°   | 135°  | 180°  | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 12493 | 12493 | 12493 | 12493 | 12493 |      |
| 5°  | 9894  | 10009 | 9683  | 9456  | 9109  | 813  |
| 15° | 3123  | 3259  | 3128  | 3106  | 3030  | 880  |
| 25° | 443   | 1184  | 461   | 1144  | 828   | 261  |
| 35° | 22    | 35    | 21    | 36    | 20    | 16   |
| 45° | 3     | 6     | 3     | 6     | 3     | 3    |
| 55° | 1     | 1     | 0     | 1     | 2     | 1    |
| 65° | 1     | 0     | 0     | 0     | 0     | 1    |
| 75° | 0     | 0     | 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°     | 112.5°  | 135°    | 157.5°  | 180°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 12492.9 | 12492.9 | 12492.9 | 12492.9 | 12492.9 | 12492.9 | 12492.9 | 12492.9 | 12492.9 |
| 1°    | 12339.7 | 12452.6 | 12452.6 | 12425.6 | 12200.3 | 12367.8 | 12273.1 | 12171.4 | 11906.9 |
| 2°    | 11984.9 | 12099.7 | 12088.2 | 11984.9 | 11821.9 | 11891.0 | 11761.5 | 11635.3 | 11357.6 |
| 3°    | 11437.4 | 11561.0 | 11538.1 | 11430.3 | 11213.1 | 11255.1 | 11069.4 | 10973.9 | 10655.1 |
| 4°    | 10701.5 | 10858.2 | 10831.2 | 10712.1 | 10493.9 | 10491.3 | 10296.8 | 10196.0 | 9900.8  |
| 5°    | 9893.7  | 10057.6 | 10009.4 | 9911.3  | 9682.7  | 9641.4  | 9455.8  | 9383.9  | 9108.9  |
| 6°    | 9117.7  | 9220.1  | 9170.2  | 9088.8  | 8841.7  | 8816.3  | 8640.1  | 8578.9  | 8324.8  |
| 7°    | 8290.7  | 8361.6  | 8312.6  | 8249.6  | 7999.9  | 7966.5  | 7822.8  | 7774.7  | 7526.8  |
| 8°    | 7419.0  | 7520.6  | 7450.6  | 7411.1  | 7175.5  | 7130.0  | 6985.5  | 6953.0  | 6754.2  |
| 9°    | 6674.5  | 6708.6  | 6634.1  | 6515.8  | 6379.2  | 6332.9  | 6179.5  | 6148.0  | 6008.6  |
| 10°   | 5827.3  | 5933.4  | 5875.6  | 5773.9  | 5612.8  | 5647.7  | 5425.2  | 5399.0  | 5280.6  |
| 11°   | 5090.6  | 5201.8  | 5140.5  | 5049.4  | 4904.0  | 4924.2  | 4741.9  | 4631.5  | 4613.1  |
| 12°   | 4482.7  | 4533.5  | 4515.1  | 4441.4  | 4324.0  | 4330.2  | 4168.1  | 4079.6  | 4061.2  |
| 13°   | 3890.4  | 3981.5  | 3990.3  | 3929.8  | 3788.8  | 3853.6  | 3732.7  | 3660.9  | 3632.0  |
| 14°   | 3489.3  | 3558.5  | 3586.5  | 3584.7  | 3432.3  | 3489.3  | 3393.7  | 3335.9  | 3307.0  |
| 15°   | 3123.0  | 3213.3  | 3258.8  | 3256.2  | 3128.2  | 3186.0  | 3106.4  | 3060.9  | 3030.1  |
| 16°   | 2779.7  | 2903.2  | 2977.6  | 2965.4  | 2846.2  | 2905.9  | 2827.0  | 2782.3  | 2748.1  |
| 17°   | 2434.4  | 2604.5  | 2714.0  | 2690.4  | 2565.9  | 2641.2  | 2565.9  | 2527.4  | 2491.4  |
| 18°   | 2169.0  | 2308.3  | 2462.5  | 2411.8  | 2273.3  | 2390.8  | 2325.9  | 2295.2  | 2261.9  |
| 19°   | 1930.8  | 2026.2  | 2226.8  | 2136.7  | 2011.4  | 2144.5  | 2096.3  | 2071.8  | 2040.3  |
| 20°   | 1740.6  | 1823.0  | 2001.8  | 1894.9  | 1788.9  | 1897.5  | 1884.4  | 1865.1  | 1838.8  |
| 21°   | 1497.2  | 1653.9  | 1797.6  | 1698.5  | 1559.3  | 1712.7  | 1729.3  | 1718.8  | 1699.6  |
| 22°   | 1185.3  | 1467.3  | 1649.6  | 1469.1  | 1286.9  | 1577.7  | 1611.8  | 1604.0  | 1590.0  |
| 23°   | 922.5   | 1247.5  | 1513.0  | 1258.0  | 1002.1  | 1427.9  | 1478.8  | 1473.5  | 1427.1  |
| 24°   | 672.8   | 1021.5  | 1341.2  | 1010.0  | 720.9   | 1223.9  | 1321.1  | 1312.3  | 1144.0  |
| 25°   | 443.4   | 795.5   | 1184.5  | 757.7   | 460.7   | 990.0   | 1144.0  | 1129.2  | 827.8   |
| 26°   | 284.6   | 581.7   | 1043.3  | 517.7   | 245.2   | 739.3   | 956.6   | 914.6   | 513.3   |
| 27°   | 136.7   | 405.6   | 870.7   | 304.8   | 119.1   | 493.3   | 767.4   | 673.6   | 247.8   |
| 28°   | 85.9    | 212.9   | 692.0   | 151.6   | 80.6    | 274.1   | 587.8   | 427.5   | 97.2    |
| 29°   | 70.1    | 105.1   | 512.5   | 85.9    | 65.7    | 126.2   | 421.3   | 208.4   | 67.5    |
| 30°   | 57.8    | 70.1    | 349.5   | 65.7    | 53.4    | 70.1    | 276.7   | 81.4    | 51.7    |
| 32.5° | 36.8    | 43.9    | 80.6    | 41.2    | 34.9    | 40.2    | 65.7    | 39.4    | 32.3    |
| 35°   | 21.8    | 28.1    | 34.9    | 27.1    | 21.0    | 26.3    | 36.0    | 25.5    | 20.2    |
| 37.5° | 13.1    | 16.6    | 22.8    | 16.6    | 13.1    | 16.6    | 22.8    | 16.6    | 12.3    |
| 40°   | 7.9     | 10.5    | 15.8    | 10.5    | 7.9     | 10.5    | 15.8    | 10.5    | 7.9     |
| 42.5° | 5.3     | 6.1     | 10.5    | 6.1     | 4.5     | 6.1     | 10.5    | 7.1     | 5.3     |
| 45°   | 3.4     | 4.5     | 6.1     | 3.4     | 2.6     | 3.4     | 6.1     | 4.5     | 3.4     |
| 47.5° | 2.6     | 2.6     | 3.4     | 1.8     | 1.8     | 2.6     | 4.5     | 3.4     | 2.6     |
| 50°   | 1.8     | 1.8     | 2.6     | 0.8     | 0.8     | 0.8     | 2.6     | 2.6     | 2.6     |
| 52.5° | 0.8     | 0.8     | 0.8     | 0.0     | 0.0     | 0.0     | 1.8     | 1.8     | 1.8     |
| 55°   | 0.8     | 0.8     | 0.8     | 0.0     | 0.0     | 0.0     | 0.8     | 1.8     | 1.8     |
| 57.5° | 0.8     | 0.8     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.8     | 1.8     |
| 60°   | 0.8     | 0.8     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.8     | 0.0     |

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Scaled Data Report

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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|
| 67.5° | 0.8 | 0.8   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 70°   | 0.8 | 0.8   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 72.5° | 0.8 | 0.8   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 75°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 77.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 80°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 82.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 85°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  |

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Scaled Data Report





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

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|       |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 62.5° | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65°   | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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