

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: P281607

Luminaire Tested: **LDA2B20D2WD010 EU2B20SP15D2W 2LBASQC1MW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P281607  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-6)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA2B20D2WD010 EU2B20SP15D2W 2LBASQC1MW  
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim, MW  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1498.3 lumens  
Efficiency: N/A  
Efficacy: 72.7 lumens/watt  
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.29  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

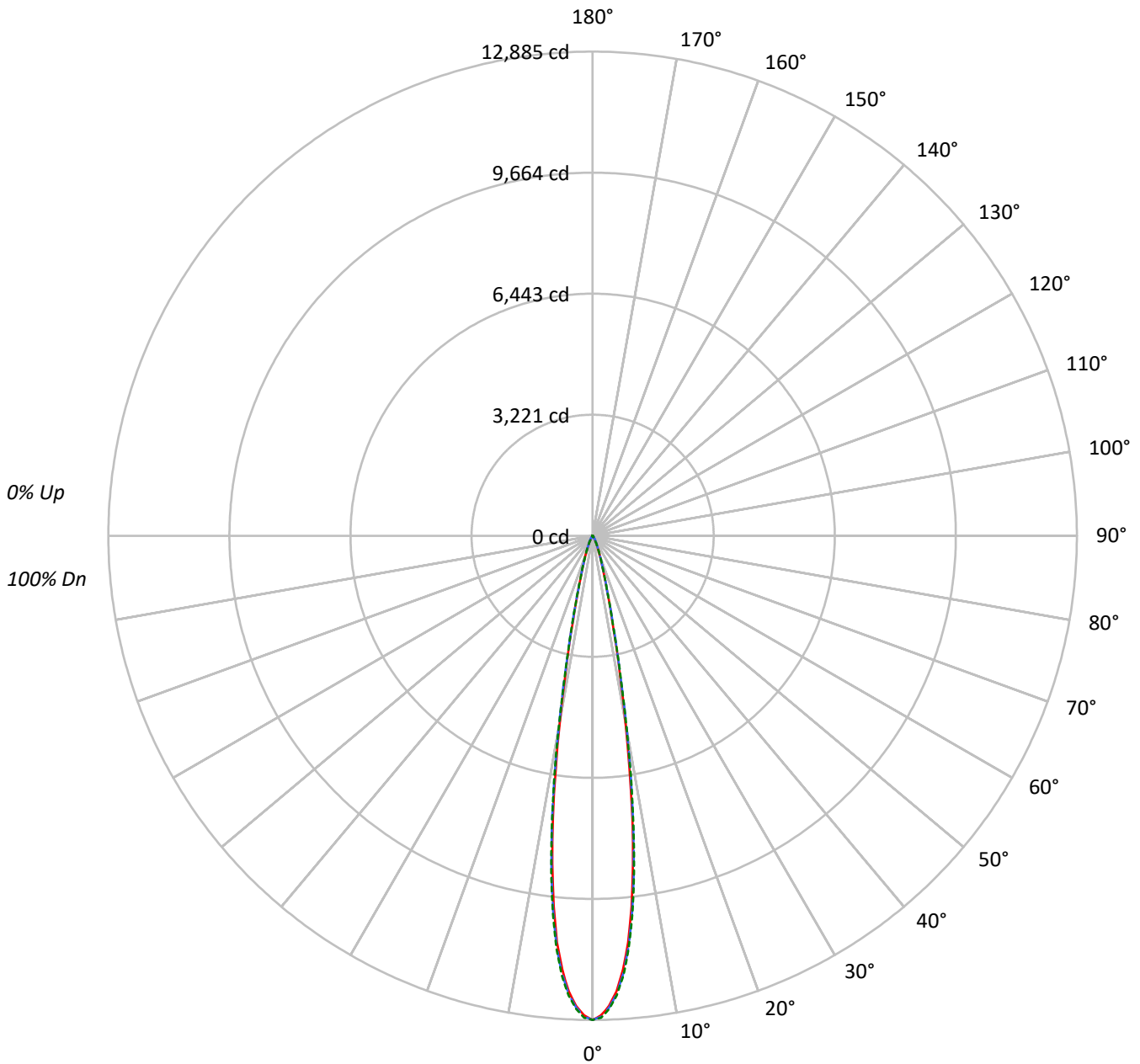
Input Watts (W): 20.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |    |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 50  |     |     |     |     |     |     |     |     | 30 |    |    |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 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 | 102 | 102 | 102 | 100 |    |    |    |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 97 | 96 | 98 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 113 | 109 | 107 | 105 | 111 | 108 | 105 | 103 | 105 | 103 | 101 | 102 | 100 | 99  | 99  | 98  | 97  | 96  | 95 | 94 | 96 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 110 | 106 | 103 | 100 | 108 | 104 | 102 | 99  | 102 | 100 | 98  | 100 | 98  | 96  | 98  | 96  | 95  | 94  | 93 | 92 | 94 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 107 | 103 | 99  | 97  | 106 | 102 | 99  | 96  | 100 | 97  | 95  | 98  | 96  | 94  | 96  | 95  | 93  | 92  | 91 | 90 | 92 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 105 | 100 | 96  | 94  | 103 | 99  | 96  | 93  | 98  | 95  | 93  | 96  | 94  | 92  | 95  | 93  | 91  | 90  | 89 | 87 | 89 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 103 | 97  | 94  | 91  | 101 | 97  | 94  | 91  | 96  | 93  | 91  | 94  | 92  | 90  | 93  | 91  | 90  | 89  | 88 | 87 | 89 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 100 | 95  | 92  | 89  | 100 | 95  | 91  | 89  | 94  | 91  | 89  | 93  | 90  | 88  | 92  | 90  | 88  | 87  | 86 | 85 | 87 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 99  | 93  | 90  | 88  | 98  | 93  | 90  | 87  | 92  | 89  | 87  | 91  | 89  | 87  | 90  | 88  | 87  | 86  | 85 | 84 | 86 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 97  | 91  | 88  | 86  | 96  | 91  | 88  | 86  | 90  | 88  | 86  | 90  | 87  | 85  | 89  | 87  | 85  | 84  | 83 | 82 | 84 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 95  | 90  | 87  | 84  | 94  | 89  | 86  | 84  | 89  | 86  | 84  | 88  | 86  | 84  | 88  | 85  | 84  | 83  | 82 | 81 | 83 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 6356917 | 6356917 | 6356917 |
| 5°  | 5380356 | 5436616 | 5460289 |
| 10° | 2515935 | 2611270 | 2616380 |
| 15° | 736933  | 747608  | 747250  |
| 20° | 295904  | 296324  | 296691  |
| 25° | 131954  | 145345  | 135111  |
| 30° | 56057   | 77078   | 51101   |
| 35° | 25718   | 35715   | 23971   |
| 40° | 8372    | 13976   | 7471    |
| 45° | 0       | 5024    | 0       |
| 50° | 0       | 0       | 0       |
| 55° | 2494    | 1204    | 0       |
| 60° | 0       | 0       | 0       |
| 65° | 0       | 0       | 0       |
| 70° | 0       | 0       | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 3978    | 0       | 0       |
| 85° | 7925    | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 851.5  | 56.8      |
| 10°-20°   | 482.6  | 32.2      |
| 20°-30°   | 126.0  | 8.4       |
| 30°-40°   | 32.5   | 2.2       |
| 40°-50°   | 3.2    | 0.2       |
| 50°-60°   | 1.0    | 0.1       |
| 60°-70°   | 0.2    | 0.0       |
| 70°-80°   | 1.1    | 0.1       |
| 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°    | 1460.2 | 97.5      |
| 0°-40°    | 1492.7 | 99.6      |
| 0°-60°    | 1496.9 | 99.9      |
| 0°-90°    | 1498.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1498.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0°  | 12885 | 12885 | 12885 | 12885 | 12885 |      |
| 5°  | 10864 | 10961 | 10978 | 10908 | 11025 | 841  |
| 15° | 1443  | 1462  | 1464  | 1447  | 1463  | 474  |
| 25° | 242   | 263   | 267   | 255   | 248   | 120  |
| 35° | 43    | 46    | 59    | 40    | 40    | 29   |
| 45° | 0     | 3     | 7     | 1     | 0     | 2    |
| 55° | 3     | 4     | 1     | 1     | 0     | 2    |
| 65° | 0     | 0     | 0     | 0     | 0     | 1    |
| 75° | 0     | 1     | 0     | 0     | 0     | 3    |
| 85° | 1     | 0     | 0     | 0     | 0     | 1    |
| 90° | 0     | 0     | 0     | 0     | 0     |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 12884.9 | 12884.9 | 12884.9 | 12884.9 | 12884.9 |
| 1°    | 12764.1 | 12814.7 | 12799.5 | 12781.4 | 12832.1 |
| 2°    | 12518.1 | 12567.3 | 12562.9 | 12539.0 | 12598.4 |
| 3°    | 12138.9 | 12207.7 | 12207.7 | 12172.2 | 12246.0 |
| 4°    | 11573.8 | 11678.8 | 11688.9 | 11639.0 | 11730.8 |
| 5°    | 10864.0 | 10961.0 | 10977.6 | 10908.2 | 11025.4 |
| 6°    | 9902.4  | 10034.9 | 10072.5 | 9992.2  | 10112.3 |
| 7°    | 8797.6  | 8936.5  | 8993.7  | 8904.0  | 9038.5  |
| 8°    | 7605.9  | 7705.8  | 7774.5  | 7671.8  | 7808.5  |
| 9°    | 6272.4  | 6416.4  | 6479.4  | 6379.5  | 6512.6  |
| 10°   | 5022.1  | 5154.5  | 5212.4  | 5188.5  | 5222.6  |
| 11°   | 3900.6  | 4017.8  | 4056.9  | 4024.4  | 4040.3  |
| 12°   | 3054.1  | 3101.1  | 3126.4  | 3104.7  | 3115.6  |
| 13°   | 2319.0  | 2381.9  | 2393.5  | 2384.1  | 2389.1  |
| 14°   | 1811.0  | 1841.4  | 1854.4  | 1850.1  | 1852.3  |
| 15°   | 1442.8  | 1462.3  | 1463.7  | 1447.1  | 1463.0  |
| 16°   | 1162.0  | 1177.2  | 1183.7  | 1166.4  | 1187.3  |
| 17°   | 952.2   | 964.5   | 971.7   | 954.4   | 963.0   |
| 18°   | 783.6   | 793.0   | 803.1   | 787.9   | 801.0   |
| 19°   | 657.7   | 663.5   | 664.2   | 659.9   | 663.5   |
| 20°   | 563.6   | 560.7   | 564.4   | 556.4   | 565.1   |
| 22.5° | 371.2   | 378.4   | 387.1   | 377.7   | 381.3   |
| 25°   | 242.4   | 262.6   | 267.0   | 254.7   | 248.2   |
| 26°   | 199.7   | 225.7   | 237.3   | 217.8   | 196.8   |
| 27°   | 165.7   | 184.5   | 199.7   | 173.7   | 157.0   |
| 28°   | 145.4   | 161.4   | 176.5   | 151.9   | 132.4   |
| 29°   | 121.6   | 137.5   | 163.5   | 135.3   | 123.0   |
| 30°   | 98.4    | 110.0   | 135.3   | 102.7   | 89.7    |
| 32.5° | 55.7    | 65.1    | 87.5    | 60.8    | 49.9    |
| 35°   | 42.7    | 45.6    | 59.3    | 40.5    | 39.8    |
| 37.5° | 36.9    | 33.3    | 46.3    | 33.3    | 26.8    |
| 40°   | 13.0    | 19.5    | 21.7    | 14.5    | 11.6    |
| 42.5° | 5.8     | 5.8     | 9.4     | 2.9     | 2.9     |
| 45°   | 0.0     | 2.9     | 7.2     | 0.7     | 0.0     |
| 47.5° | 0.0     | 0.0     | 1.4     | 0.0     | 0.0     |
| 50°   | 0.0     | 1.4     | 0.0     | 0.0     | 0.0     |
| 52.5° | 1.4     | 0.0     | 0.0     | 0.0     | 0.0     |
| 55°   | 2.9     | 3.6     | 1.4     | 0.7     | 0.0     |
| 57.5° | 4.3     | 3.6     | 1.4     | 1.4     | 1.4     |
| 60°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 62.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 65°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 67.5° | 1.4     | 0.7     | 0.0     | 0.0     | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.7   | 0.0 | 0.0   | 0.0 |
| 77.5° | 7.2 | 1.4   | 2.2 | 1.4   | 2.9 |
| 80°   | 1.4 | 0.0   | 0.0 | 0.0   | 0.0 |
| 82.5° | 2.9 | 0.0   | 0.0 | 0.0   | 0.0 |
| 85°   | 1.4 | 0.0   | 0.0 | 0.0   | 0.0 |
| 87.5° | 0.0 | 0.7   | 0.0 | 0.7   | 0.0 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



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







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2.9 | 2.2 | 0.0 | 0.0 | 2.9 |



(END OF REPORT)