

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: P281778

Luminaire Tested: **LDA2B208050D010 EU2B20SP158050 2LBALSQC1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281778
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-5)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B208050D010 EU2B20SP158050 2LBALSQC1MW
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim w/lens, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2094.1 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 0.33 / 0.31 / 0.32
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

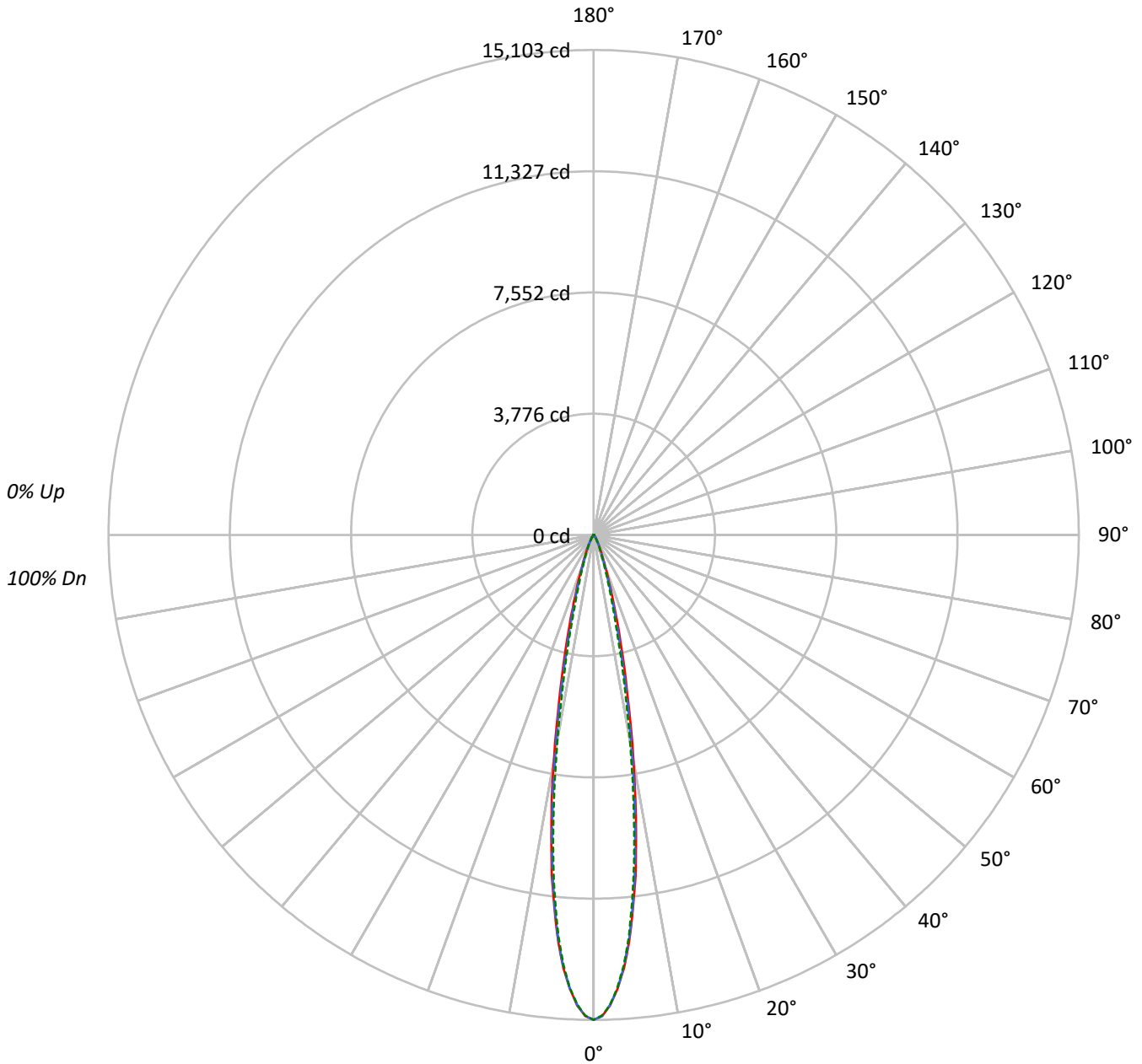
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 50 | 30 | 10 | 0 | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | 100 | | | | | | | | | | | | | |
| 1 | 115 | 113 | 111 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 99 | 99 | 97 | | | | | | 97 | | | | | | | | | | | | | |
| 2 | 112 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99 | 98 | 98 | 97 | 96 | 95 | | | | | | 95 | | | | | | | | | | | | | |
| 3 | 109 | 104 | 101 | 98 | 107 | 103 | 100 | 98 | 101 | 98 | 96 | 98 | 96 | 95 | 96 | 95 | 93 | 92 | | | | | | 92 | | | | | | | | | | | | | |
| 4 | 106 | 101 | 97 | 95 | 104 | 100 | 97 | 94 | 98 | 95 | 93 | 96 | 94 | 92 | 94 | 93 | 91 | 90 | | | | | | 90 | | | | | | | | | | | | | |
| 5 | 103 | 98 | 94 | 91 | 102 | 97 | 93 | 91 | 95 | 92 | 90 | 94 | 91 | 89 | 93 | 90 | 89 | 88 | | | | | | 88 | | | | | | | | | | | | | |
| 6 | 101 | 95 | 91 | 88 | 99 | 94 | 91 | 88 | 93 | 90 | 88 | 92 | 89 | 87 | 91 | 88 | 87 | 86 | | | | | | 86 | | | | | | | | | | | | | |
| 7 | 98 | 92 | 89 | 86 | 97 | 92 | 88 | 86 | 91 | 88 | 85 | 90 | 87 | 85 | 89 | 87 | 85 | 84 | | | | | | 84 | | | | | | | | | | | | | |
| 8 | 96 | 90 | 86 | 84 | 95 | 90 | 86 | 84 | 89 | 86 | 83 | 88 | 85 | 83 | 87 | 85 | 83 | 82 | | | | | | 82 | | | | | | | | | | | | | |
| 9 | 94 | 88 | 84 | 82 | 93 | 88 | 84 | 82 | 87 | 84 | 82 | 86 | 83 | 81 | 86 | 83 | 81 | 80 | | | | | | 80 | | | | | | | | | | | | | |
| 10 | 92 | 86 | 83 | 80 | 91 | 86 | 82 | 80 | 85 | 82 | 80 | 85 | 82 | 80 | 84 | 81 | 80 | 79 | | | | | | 79 | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 7451046 | 7451046 | 7451046 |
| 5° | 6295423 | 6261796 | 6215589 |
| 10° | 3583307 | 3425501 | 3251313 |
| 15° | 1483877 | 1314353 | 1157855 |
| 20° | 564454 | 494311 | 452571 |
| 25° | 249319 | 239520 | 212955 |
| 30° | 115361 | 127439 | 101461 |
| 35° | 60650 | 71551 | 56856 |
| 40° | 26663 | 30721 | 17775 |
| 45° | 10326 | 8163 | 11861 |
| 50° | 4912 | 5680 | 8136 |
| 55° | 0 | 3613 | 0 |
| 60° | 0 | 0 | 2072 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 1587 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 5966 | 0 | 0 |
| 85° | 60003 | 53777 | 23775 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 1009.8 | 48.2 |
| 10°-20° | 772.0 | 36.9 |
| 20°-30° | 214.7 | 10.3 |
| 30°-40° | 69.8 | 3.3 |
| 40°-50° | 15.4 | 0.7 |
| 50°-60° | 4.7 | 0.2 |
| 60°-70° | 2.7 | 0.1 |
| 70°-80° | 1.6 | 0.1 |
| 80°-90° | 3.4 | 0.2 |
| 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° | 1996.4 | 95.3 |
| 0°-40° | 2066.2 | 98.7 |
| 0°-60° | 2086.3 | 99.6 |
| 0°-90° | 2094.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2094.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 15103 | 15103 | 15103 | 15103 | 15103 | |
| 5° | 12712 | 12618 | 12644 | 12550 | 12550 | 1028 |
| 15° | 2905 | 2804 | 2573 | 2375 | 2267 | 848 |
| 25° | 458 | 463 | 440 | 415 | 391 | 230 |
| 35° | 101 | 109 | 119 | 90 | 94 | 66 |
| 45° | 15 | 21 | 12 | 12 | 17 | 15 |
| 55° | 0 | 6 | 4 | 2 | 0 | 4 |
| 65° | 0 | 4 | 0 | 0 | 0 | 3 |
| 75° | 0 | 0 | 0 | 2 | 0 | 1 |
| 85° | 11 | 5 | 10 | 5 | 4 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 15102.6 | 15102.6 | 15102.6 | 15102.6 | 15102.6 |
| 1° | 14987.1 | 14930.9 | 14984.9 | 14953.1 | 14971.2 |
| 2° | 14661.6 | 14591.6 | 14647.8 | 14603.2 | 14640.3 |
| 3° | 14154.7 | 14100.7 | 14150.5 | 14094.3 | 14124.0 |
| 4° | 13519.6 | 13441.2 | 13491.0 | 13415.7 | 13433.7 |
| 5° | 12711.7 | 12618.4 | 12643.8 | 12549.5 | 12550.5 |
| 6° | 11693.8 | 11629.2 | 11644.0 | 11496.6 | 11486.0 |
| 7° | 10698.2 | 10545.5 | 10529.6 | 10361.1 | 10328.2 |
| 8° | 9489.5 | 9350.6 | 9305.0 | 9106.7 | 9036.8 |
| 9° | 8330.6 | 8157.8 | 8064.5 | 7834.4 | 7752.8 |
| 10° | 7152.7 | 6977.7 | 6837.7 | 6578.0 | 6490.0 |
| 11° | 6062.7 | 5904.7 | 5730.8 | 5453.0 | 5367.1 |
| 12° | 5051.2 | 4927.1 | 4736.3 | 4468.0 | 4377.9 |
| 13° | 4225.2 | 4082.1 | 3877.4 | 3628.3 | 3550.9 |
| 14° | 3509.5 | 3355.8 | 3151.2 | 2938.0 | 2787.5 |
| 15° | 2905.2 | 2804.4 | 2573.3 | 2375.0 | 2266.9 |
| 16° | 2374.0 | 2288.1 | 2088.8 | 1917.0 | 1840.6 |
| 17° | 1946.7 | 1877.8 | 1708.1 | 1573.5 | 1509.8 |
| 18° | 1606.3 | 1520.4 | 1386.8 | 1298.8 | 1249.0 |
| 19° | 1303.1 | 1236.3 | 1138.7 | 1070.9 | 1021.0 |
| 20° | 1075.1 | 1020.0 | 941.5 | 881.1 | 862.0 |
| 22.5° | 694.5 | 684.9 | 634.0 | 601.2 | 585.3 |
| 25° | 458.0 | 463.3 | 440.0 | 414.6 | 391.2 |
| 26° | 391.2 | 394.4 | 373.2 | 358.4 | 328.7 |
| 27° | 335.0 | 336.1 | 336.1 | 308.5 | 279.9 |
| 28° | 273.6 | 285.2 | 274.6 | 261.9 | 234.3 |
| 29° | 234.3 | 249.2 | 243.9 | 231.1 | 204.6 |
| 30° | 202.5 | 213.1 | 223.7 | 203.6 | 178.1 |
| 32.5° | 142.1 | 151.6 | 163.3 | 152.7 | 131.5 |
| 35° | 100.7 | 109.2 | 118.8 | 90.1 | 94.4 |
| 37.5° | 68.9 | 83.8 | 80.6 | 73.2 | 62.6 |
| 40° | 41.4 | 43.5 | 47.7 | 50.9 | 27.6 |
| 42.5° | 29.7 | 35.0 | 31.8 | 36.0 | 12.7 |
| 45° | 14.8 | 21.2 | 11.7 | 11.7 | 17.0 |
| 47.5° | 10.6 | 18.0 | 6.4 | 6.4 | 2.1 |
| 50° | 6.4 | 13.8 | 7.4 | 3.2 | 10.6 |
| 52.5° | 10.6 | 12.7 | 8.5 | 9.5 | 2.1 |
| 55° | 0.0 | 6.4 | 4.2 | 2.1 | 0.0 |
| 57.5° | 4.2 | 7.4 | 4.2 | 2.1 | 4.2 |
| 60° | 0.0 | 0.0 | 0.0 | 1.1 | 2.1 |
| 62.5° | 0.0 | 2.1 | 0.0 | 3.2 | 4.2 |
| 65° | 0.0 | 4.2 | 0.0 | 0.0 | 0.0 |
| 67.5° | 6.4 | 7.4 | 4.2 | 8.5 | 12.7 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 |
| 77.5° | 0.0 | 10.6 | 3.2 | 3.2 | 4.2 |
| 80° | 2.1 | 0.0 | 0.0 | 1.1 | 0.0 |
| 82.5° | 0.0 | 8.5 | 1.1 | 4.2 | 6.4 |
| 85° | 10.6 | 5.3 | 9.5 | 5.3 | 4.2 |
| 87.5° | 0.0 | 1.1 | 2.1 | 1.1 | 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 | 1.1 | 1.1 | 0.0 |
| 72.5° | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)