

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: P282369

Luminaire Tested: **LDA2B208027D010 EU2B20NFL258027 2LBAPINSQ1MB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P282369
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-26)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B208027D010 EU2B20NFL258027 2LBAPINSQ1MB
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH NARROW FLOOD OPTIC AND 2in Adj SQ PinHole, MB
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1782.6 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 0.33 / 0.3 / 0.32
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

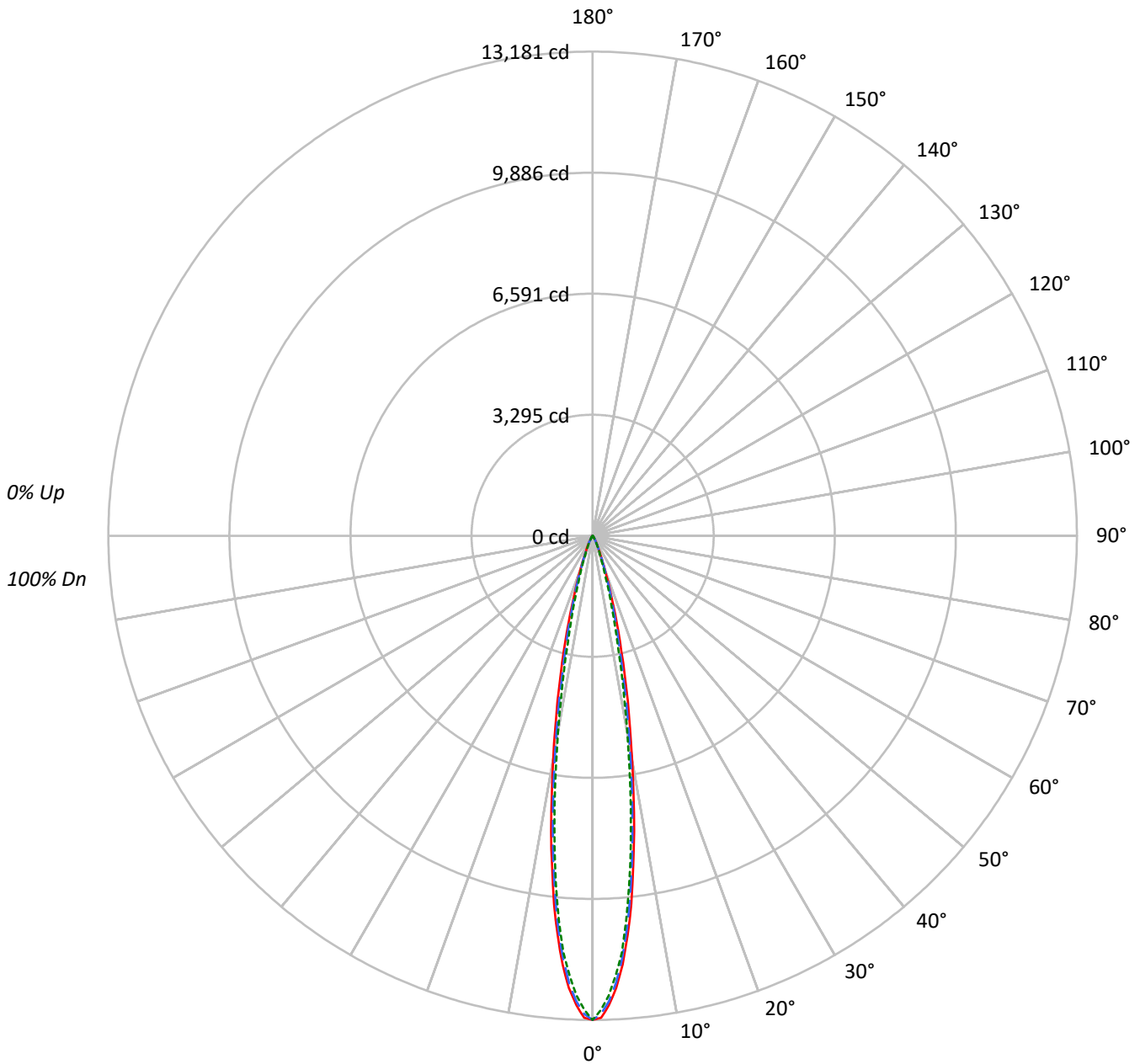
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 6503051 | 6503051 | 6503051 |
| 5° | 5411210 | 5312012 | 5204792 |
| 10° | 3099468 | 2908497 | 2714470 |
| 15° | 1378557 | 1224356 | 1026026 |
| 20° | 500086 | 470212 | 372557 |
| 25° | 192052 | 179314 | 154382 |
| 30° | 82832 | 77021 | 68362 |
| 35° | 39209 | 39209 | 32463 |
| 40° | 19643 | 20287 | 16359 |
| 45° | 11373 | 10605 | 9908 |
| 50° | 7829 | 6985 | 6985 |
| 55° | 6107 | 4387 | 5247 |
| 60° | 5032 | 2960 | 4046 |
| 65° | 3502 | 2335 | 3502 |
| 70° | 2885 | 1442 | 2885 |
| 75° | 1906 | 1906 | 1906 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 857.3 | 48.1 |
| 10°-20° | 693.8 | 38.9 |
| 20°-30° | 167.3 | 9.4 |
| 30°-40° | 42.6 | 2.4 |
| 40°-50° | 12.7 | 0.7 |
| 50°-60° | 5.4 | 0.3 |
| 60°-70° | 2.6 | 0.1 |
| 70°-80° | 0.9 | 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° | 1718.3 | 96.4 |
| 0°-40° | 1761.0 | 98.8 |
| 0°-60° | 1779.1 | 99.8 |
| 0°-90° | 1782.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1782.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 13181 | 13181 | 13181 | 13181 | 13181 | |
| 5° | 10926 | 10826 | 10726 | 10632 | 10510 | 884 |
| 15° | 2699 | 2635 | 2397 | 2159 | 2009 | 770 |
| 25° | 353 | 355 | 329 | 299 | 284 | 182 |
| 35° | 65 | 66 | 65 | 59 | 54 | 45 |
| 45° | 16 | 16 | 15 | 14 | 14 | 14 |
| 55° | 7 | 6 | 5 | 5 | 6 | 6 |
| 65° | 3 | 3 | 2 | 2 | 3 | 3 |
| 75° | 1 | 1 | 1 | 1 | 1 | 1 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P282369

CATALOG NUMBER: LDA2B208027D010 EU2B20NFL258027 2LBAPINSQ1MB

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 13181.1 | 13181.1 | 13181.1 | 13181.1 | 13181.1 |
| 1° | 13122.1 | 13030.6 | 13019.4 | 13076.3 | 12908.6 |
| 2° | 12786.6 | 12721.6 | 12683.9 | 12717.5 | 12527.4 |
| 3° | 12326.1 | 12263.1 | 12195.0 | 12196.0 | 11983.5 |
| 4° | 11698.9 | 11649.1 | 11534.2 | 11499.6 | 11376.6 |
| 5° | 10926.3 | 10825.6 | 10726.0 | 10632.5 | 10509.5 |
| 6° | 10072.3 | 9942.2 | 9799.9 | 9660.6 | 9534.6 |
| 7° | 9067.9 | 8981.5 | 8793.5 | 8603.4 | 8496.6 |
| 8° | 8123.5 | 7984.3 | 7764.7 | 7526.8 | 7436.3 |
| 9° | 7108.0 | 7008.3 | 6756.2 | 6479.7 | 6389.2 |
| 10° | 6186.9 | 6083.3 | 5805.7 | 5497.7 | 5418.4 |
| 11° | 5322.8 | 5225.3 | 4936.5 | 4613.3 | 4528.9 |
| 12° | 4591.9 | 4453.7 | 4122.3 | 3841.7 | 3759.3 |
| 13° | 3864.0 | 3769.5 | 3455.4 | 3177.8 | 3018.2 |
| 14° | 3244.9 | 3166.7 | 2882.0 | 2638.0 | 2469.3 |
| 15° | 2699.0 | 2635.0 | 2397.1 | 2159.2 | 2008.8 |
| 16° | 2214.1 | 2174.5 | 1986.4 | 1756.7 | 1633.7 |
| 17° | 1796.3 | 1759.7 | 1639.8 | 1428.3 | 1324.6 |
| 18° | 1450.7 | 1445.6 | 1346.0 | 1163.0 | 1070.5 |
| 19° | 1193.5 | 1191.4 | 1099.9 | 946.4 | 870.2 |
| 20° | 952.5 | 965.8 | 895.6 | 761.4 | 709.6 |
| 21° | 776.7 | 783.8 | 727.9 | 626.2 | 579.5 |
| 22° | 632.3 | 637.4 | 600.8 | 517.4 | 492.0 |
| 23° | 518.5 | 521.5 | 491.0 | 429.0 | 406.6 |
| 24° | 427.0 | 429.0 | 401.6 | 357.8 | 338.5 |
| 25° | 352.8 | 354.8 | 329.4 | 298.9 | 283.6 |
| 26° | 292.8 | 294.8 | 272.4 | 251.1 | 235.8 |
| 27° | 243.0 | 247.0 | 224.7 | 211.4 | 195.2 |
| 28° | 207.4 | 208.4 | 188.1 | 179.9 | 164.7 |
| 29° | 169.8 | 175.9 | 158.6 | 151.5 | 140.3 |
| 30° | 145.4 | 148.4 | 135.2 | 130.1 | 120.0 |
| 32.5° | 96.6 | 98.6 | 92.5 | 88.4 | 80.3 |
| 35° | 65.1 | 66.1 | 65.1 | 59.0 | 53.9 |
| 37.5° | 44.7 | 44.7 | 45.7 | 38.6 | 36.6 |
| 40° | 30.5 | 30.5 | 31.5 | 26.4 | 25.4 |
| 42.5° | 22.4 | 22.4 | 21.3 | 18.3 | 18.3 |
| 45° | 16.3 | 16.3 | 15.2 | 14.2 | 14.2 |
| 47.5° | 13.2 | 12.2 | 11.2 | 11.2 | 11.2 |
| 50° | 10.2 | 10.2 | 9.1 | 8.1 | 9.1 |
| 52.5° | 8.1 | 8.1 | 7.1 | 7.1 | 7.1 |
| 55° | 7.1 | 6.1 | 5.1 | 5.1 | 6.1 |
| 57.5° | 5.1 | 5.1 | 4.1 | 4.1 | 5.1 |
| 60° | 5.1 | 4.1 | 3.0 | 4.1 | 4.1 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 3.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 70° | 2.0 | 2.0 | 1.0 | 1.0 | 2.0 |
| 72.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 75° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 77.5° | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 |
| 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 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 4.1 | 3.0 | 3.0 | 3.0 | 3.0 |
| 65° | 3.0 | 3.0 | 2.0 | 2.0 | 3.0 |



(END OF REPORT)