

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: P283525

Luminaire Tested: **LDA2B059050D010 EU2B05FL409050 2LBALPINSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P283525
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1809-951-15)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B059050D010 EU2B05FL409050 2LBALPINSQ1MMS
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH FLOOD OPTIC AND 2in Adj SQ Pinhole w-lens, MMS

Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 568.4 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 0.55 / 0.55
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

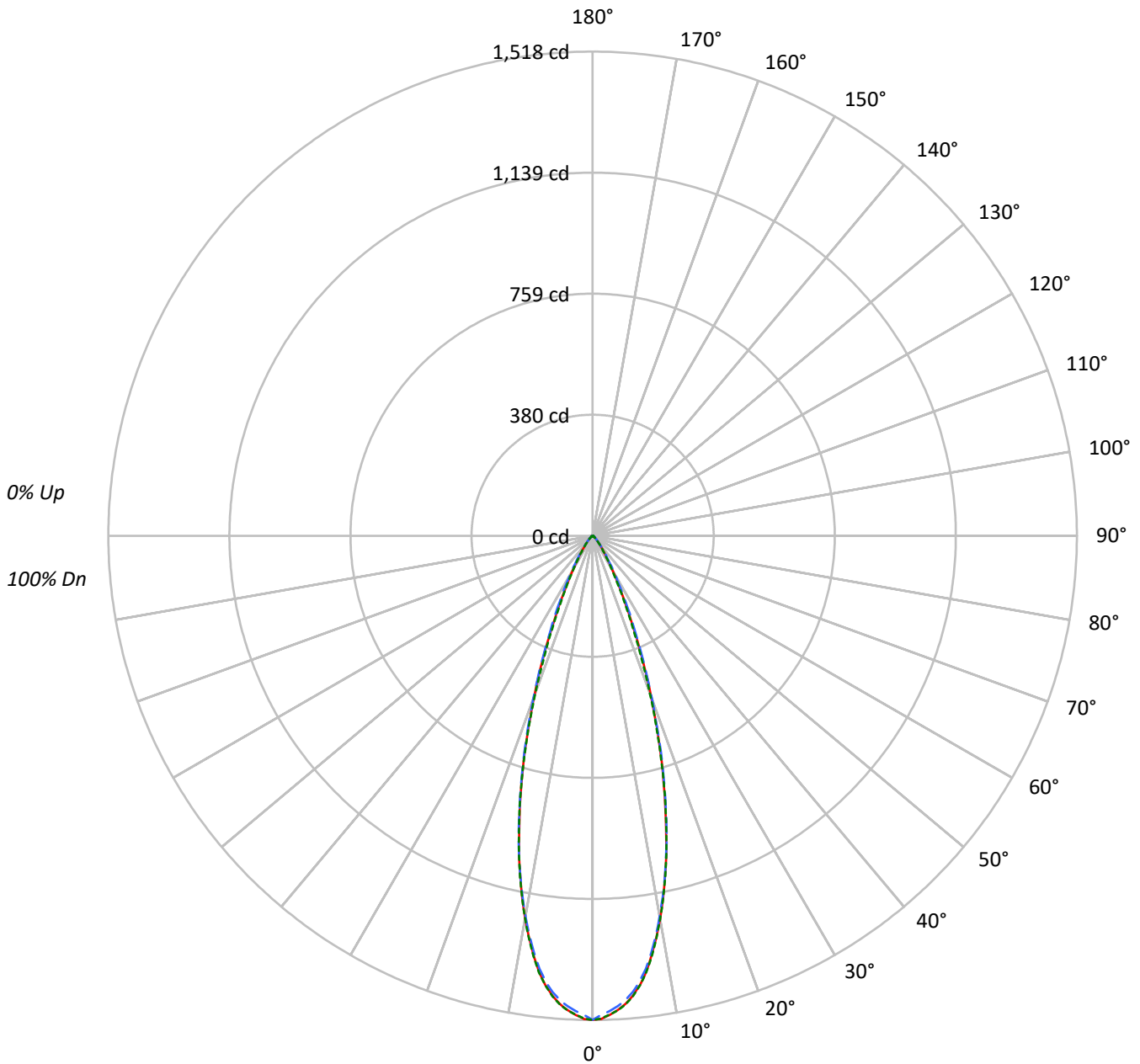
Input Watts (W): 7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | | | | | | | | | | | |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 | | | | | | | | | | | | | | | | | | | |
| 2 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 98 | 101 | 98 | 96 | 98 | 96 | 94 | 95 | 93 | 92 | 90 | | | | | | | | | | | | | | | | | | | |
| 3 | 105 | 100 | 96 | 92 | 104 | 99 | 95 | 92 | 96 | 93 | 90 | 94 | 91 | 89 | 92 | 89 | 88 | 86 | | | | | | | | | | | | | | | | | | | |
| 4 | 101 | 95 | 90 | 87 | 100 | 94 | 90 | 86 | 92 | 88 | 85 | 90 | 87 | 84 | 88 | 86 | 83 | 82 | | | | | | | | | | | | | | | | | | | |
| 5 | 98 | 91 | 86 | 82 | 96 | 90 | 85 | 82 | 88 | 84 | 81 | 86 | 83 | 80 | 85 | 82 | 80 | 79 | | | | | | | | | | | | | | | | | | | |
| 6 | 94 | 87 | 82 | 78 | 93 | 86 | 81 | 78 | 84 | 80 | 77 | 83 | 80 | 77 | 82 | 79 | 76 | 75 | | | | | | | | | | | | | | | | | | | |
| 7 | 91 | 83 | 78 | 75 | 89 | 82 | 78 | 74 | 81 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 73 | 72 | | | | | | | | | | | | | | | | | | | |
| 8 | 87 | 80 | 75 | 71 | 86 | 79 | 74 | 71 | 78 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 70 | 69 | | | | | | | | | | | | | | | | | | | |
| 9 | 84 | 77 | 72 | 69 | 83 | 76 | 72 | 68 | 75 | 71 | 68 | 74 | 71 | 68 | 74 | 70 | 68 | 67 | | | | | | | | | | | | | | | | | | | |
| 10 | 82 | 74 | 69 | 66 | 81 | 73 | 69 | 66 | 73 | 69 | 66 | 72 | 68 | 65 | 71 | 68 | 65 | 64 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 748874 | 748874 | 748874 |
| 5° | 716671 | 711322 | 717761 |
| 10° | 610586 | 606728 | 611237 |
| 15° | 450036 | 452947 | 451517 |
| 20° | 280941 | 286138 | 274745 |
| 25° | 145128 | 155688 | 137833 |
| 30° | 69559 | 79756 | 66311 |
| 35° | 35896 | 39751 | 33607 |
| 40° | 20158 | 21124 | 19128 |
| 45° | 12210 | 12210 | 11791 |
| 50° | 6371 | 7829 | 6371 |
| 55° | 3269 | 5247 | 3527 |
| 60° | 3750 | 3750 | 3750 |
| 65° | 4086 | 4086 | 4086 |
| 70° | 5049 | 4616 | 5049 |
| 75° | 4956 | 4956 | 4956 |
| 80° | 4546 | 4546 | 4546 |
| 85° | 3396 | 3396 | 3396 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 130.6 | 23.0 |
| 10°-20° | 239.8 | 42.2 |
| 20°-30° | 130.0 | 22.9 |
| 30°-40° | 41.7 | 7.3 |
| 40°-50° | 14.2 | 2.5 |
| 50°-60° | 5.0 | 0.9 |
| 60°-70° | 3.6 | 0.6 |
| 70°-80° | 2.7 | 0.5 |
| 80°-90° | 0.8 | 0.1 |
| 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° | 500.4 | 88.0 |
| 0°-40° | 542.1 | 95.4 |
| 0°-60° | 561.3 | 98.8 |
| 0°-90° | 568.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 568.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1518 | 1518 | 1518 | 1518 | 1518 | |
| 5° | 1447 | 1438 | 1436 | 1451 | 1449 | 131 |
| 15° | 881 | 888 | 887 | 891 | 884 | 239 |
| 25° | 267 | 279 | 286 | 266 | 253 | 128 |
| 35° | 60 | 62 | 66 | 60 | 56 | 40 |
| 45° | 18 | 18 | 18 | 18 | 17 | 14 |
| 55° | 4 | 5 | 6 | 5 | 4 | 4 |
| 65° | 4 | 4 | 4 | 4 | 4 | 4 |
| 75° | 3 | 3 | 3 | 3 | 3 | 3 |
| 85° | 1 | 1 | 1 | 1 | 1 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1517.9 | 1517.9 | 1517.9 | 1517.9 | 1517.9 |
| 1° | 1515.4 | 1504.5 | 1502.9 | 1516.9 | 1513.8 |
| 2° | 1503.2 | 1493.0 | 1491.4 | 1505.5 | 1502.6 |
| 3° | 1489.8 | 1480.6 | 1477.4 | 1492.1 | 1490.2 |
| 4° | 1472.0 | 1463.4 | 1460.5 | 1475.2 | 1473.6 |
| 5° | 1447.1 | 1438.2 | 1436.3 | 1450.6 | 1449.3 |
| 6° | 1416.5 | 1409.2 | 1405.7 | 1420.0 | 1417.5 |
| 7° | 1378.2 | 1371.5 | 1367.7 | 1378.2 | 1379.5 |
| 8° | 1328.5 | 1325.3 | 1320.8 | 1331.4 | 1331.4 |
| 9° | 1275.5 | 1272.7 | 1267.9 | 1277.5 | 1277.5 |
| 10° | 1218.8 | 1216.9 | 1211.1 | 1220.1 | 1220.1 |
| 11° | 1156.6 | 1155.6 | 1151.5 | 1158.8 | 1158.8 |
| 12° | 1091.2 | 1093.5 | 1089.6 | 1096.0 | 1093.8 |
| 13° | 1025.9 | 1024.9 | 1025.2 | 1030.0 | 1026.5 |
| 14° | 951.9 | 957.6 | 958.6 | 961.4 | 956.0 |
| 15° | 881.1 | 888.4 | 886.8 | 891.0 | 884.0 |
| 16° | 808.7 | 817.0 | 816.7 | 817.6 | 810.9 |
| 17° | 741.1 | 745.9 | 746.2 | 745.2 | 736.9 |
| 18° | 669.0 | 675.7 | 675.7 | 674.1 | 664.2 |
| 19° | 598.6 | 603.7 | 607.2 | 603.7 | 592.2 |
| 20° | 535.1 | 538.6 | 545.0 | 536.0 | 523.3 |
| 21° | 474.2 | 477.4 | 482.8 | 472.3 | 458.2 |
| 22° | 415.8 | 420.0 | 425.1 | 413.0 | 398.3 |
| 23° | 361.3 | 370.9 | 372.8 | 356.2 | 343.8 |
| 24° | 311.2 | 322.1 | 325.3 | 308.4 | 295.3 |
| 25° | 266.6 | 278.7 | 286.0 | 266.3 | 253.2 |
| 26° | 228.0 | 239.8 | 248.7 | 229.0 | 216.5 |
| 27° | 194.2 | 206.6 | 215.9 | 197.4 | 185.6 |
| 28° | 165.2 | 177.3 | 186.9 | 169.6 | 158.5 |
| 29° | 143.5 | 150.5 | 160.1 | 145.7 | 135.5 |
| 30° | 122.1 | 129.8 | 140.0 | 125.3 | 116.4 |
| 32.5° | 83.9 | 88.0 | 96.0 | 87.1 | 80.0 |
| 35° | 59.6 | 62.2 | 66.0 | 60.0 | 55.8 |
| 37.5° | 42.4 | 43.7 | 45.9 | 42.4 | 40.2 |
| 40° | 31.3 | 31.9 | 32.8 | 30.9 | 29.7 |
| 42.5° | 23.3 | 23.6 | 23.6 | 23.0 | 22.3 |
| 45° | 17.5 | 17.9 | 17.5 | 17.5 | 16.9 |
| 47.5° | 12.8 | 13.7 | 13.4 | 13.4 | 12.4 |
| 50° | 8.3 | 10.2 | 10.2 | 9.9 | 8.3 |
| 52.5° | 5.1 | 7.0 | 8.0 | 7.0 | 5.4 |
| 55° | 3.8 | 4.8 | 6.1 | 4.8 | 4.1 |
| 57.5° | 3.8 | 3.8 | 4.5 | 3.8 | 3.8 |
| 60° | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| 70° | 3.5 | 3.5 | 3.2 | 3.5 | 3.5 |
| 72.5° | 3.2 | 3.2 | 2.9 | 3.2 | 2.9 |
| 75° | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| 77.5° | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 80° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 82.5° | 1.0 | 1.0 | 1.0 | 1.3 | 1.0 |
| 85° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 87.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| 65° | 3.5 | 3.8 | 3.5 | 3.8 | 3.5 |



(END OF REPORT)