

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: P283549

Luminaire Tested: **LDA2B108027D010 EU2B10FL408027 2LBALPINSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P283549
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: LDA2B108027D010 EU2B10FL408027 2LBALPINSQ1MMS
Description: PORTFOLIO 2IN ADJ 1000 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: 862.3 lumens
Efficiency: N/A
Efficacy: 86.2 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

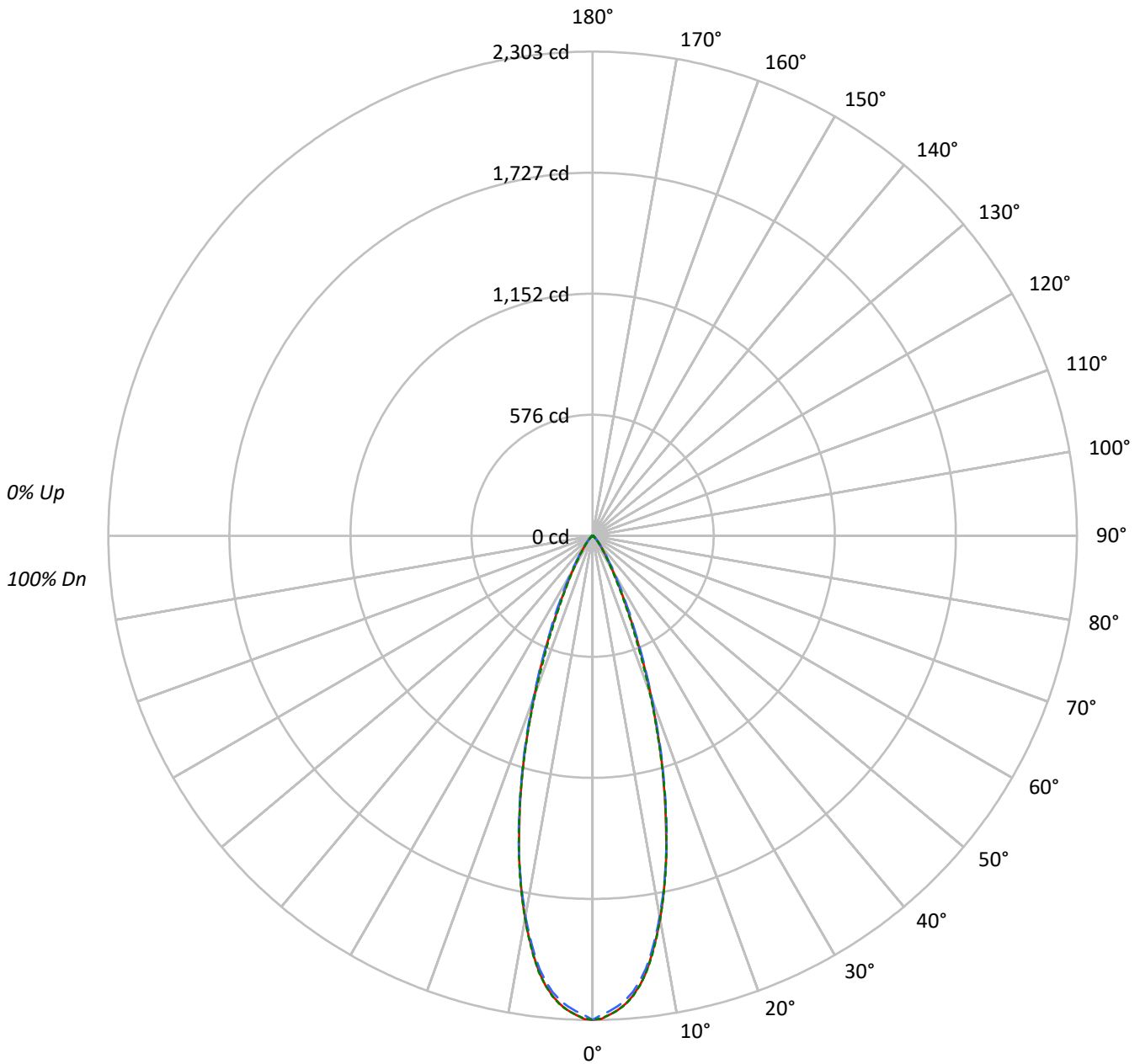
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| 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° | 1136064 | 1136064 | 1136064 |
| 5° | 1087214 | 1079092 | 1088898 |
| 10° | 926299 | 920437 | 927250 |
| 15° | 682689 | 687184 | 684937 |
| 20° | 426215 | 434090 | 416817 |
| 25° | 220141 | 236200 | 209090 |
| 30° | 105563 | 121001 | 100606 |
| 35° | 54507 | 60289 | 51013 |
| 40° | 30527 | 32073 | 28982 |
| 45° | 18559 | 18559 | 17862 |
| 50° | 9671 | 11897 | 9671 |
| 55° | 4989 | 7913 | 5419 |
| 60° | 5723 | 5723 | 5723 |
| 65° | 6187 | 6187 | 6187 |
| 70° | 7645 | 6924 | 7645 |
| 75° | 7434 | 7434 | 7434 |
| 80° | 6819 | 6819 | 6819 |
| 85° | 5661 | 5661 | 5661 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 198.1 | 23.0 |
| 10°-20° | 363.8 | 42.2 |
| 20°-30° | 197.2 | 22.9 |
| 30°-40° | 63.3 | 7.3 |
| 40°-50° | 21.6 | 2.5 |
| 50°-60° | 7.6 | 0.9 |
| 60°-70° | 5.5 | 0.6 |
| 70°-80° | 4.0 | 0.5 |
| 80°-90° | 1.2 | 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° | 759.1 | 88.0 |
| 0°-40° | 822.4 | 95.4 |
| 0°-60° | 851.6 | 98.8 |
| 0°-90° | 862.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 862.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2303 | 2303 | 2303 | 2303 | 2303 | |
| 5° | 2195 | 2182 | 2179 | 2201 | 2199 | 199 |
| 15° | 1337 | 1348 | 1345 | 1352 | 1341 | 362 |
| 25° | 404 | 423 | 434 | 404 | 384 | 194 |
| 35° | 90 | 94 | 100 | 91 | 85 | 61 |
| 45° | 27 | 27 | 27 | 27 | 26 | 21 |
| 55° | 6 | 7 | 9 | 7 | 6 | 6 |
| 65° | 5 | 6 | 5 | 6 | 5 | 5 |
| 75° | 4 | 4 | 4 | 4 | 4 | 4 |
| 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° | 2302.7 | 2302.7 | 2302.7 | 2302.7 | 2302.7 |
| 1° | 2298.9 | 2282.4 | 2280.0 | 2301.3 | 2296.4 |
| 2° | 2280.5 | 2265.0 | 2262.6 | 2283.9 | 2279.5 |
| 3° | 2260.2 | 2246.1 | 2241.3 | 2263.5 | 2260.6 |
| 4° | 2233.1 | 2220.0 | 2215.6 | 2237.9 | 2235.5 |
| 5° | 2195.3 | 2181.8 | 2178.9 | 2200.6 | 2198.7 |
| 6° | 2148.9 | 2137.8 | 2132.4 | 2154.2 | 2150.3 |
| 7° | 2090.8 | 2080.7 | 2074.9 | 2090.8 | 2092.8 |
| 8° | 2015.4 | 2010.5 | 2003.8 | 2019.7 | 2019.7 |
| 9° | 1935.1 | 1930.7 | 1923.5 | 1938.0 | 1938.0 |
| 10° | 1849.0 | 1846.0 | 1837.3 | 1850.9 | 1850.9 |
| 11° | 1754.6 | 1753.2 | 1746.9 | 1758.0 | 1758.0 |
| 12° | 1655.4 | 1658.8 | 1653.0 | 1662.7 | 1659.3 |
| 13° | 1556.3 | 1554.8 | 1555.3 | 1562.6 | 1557.2 |
| 14° | 1444.0 | 1452.7 | 1454.2 | 1458.6 | 1450.3 |
| 15° | 1336.6 | 1347.8 | 1345.4 | 1351.6 | 1341.0 |
| 16° | 1226.8 | 1239.4 | 1238.9 | 1240.4 | 1230.2 |
| 17° | 1124.3 | 1131.5 | 1132.0 | 1130.6 | 1118.0 |
| 18° | 1014.9 | 1025.1 | 1025.1 | 1022.7 | 1007.7 |
| 19° | 908.0 | 915.8 | 921.1 | 915.8 | 898.4 |
| 20° | 811.8 | 817.1 | 826.8 | 813.2 | 793.9 |
| 21° | 719.4 | 724.2 | 732.4 | 716.5 | 695.2 |
| 22° | 630.8 | 637.1 | 644.9 | 626.5 | 604.2 |
| 23° | 548.1 | 562.6 | 565.5 | 540.4 | 521.5 |
| 24° | 472.2 | 488.6 | 493.4 | 467.8 | 448.0 |
| 25° | 404.4 | 422.8 | 433.9 | 403.9 | 384.1 |
| 26° | 345.9 | 363.8 | 377.3 | 347.3 | 328.5 |
| 27° | 294.6 | 313.5 | 327.5 | 299.5 | 281.6 |
| 28° | 250.6 | 269.0 | 283.5 | 257.4 | 240.4 |
| 29° | 217.7 | 228.3 | 242.9 | 221.1 | 205.6 |
| 30° | 185.3 | 196.9 | 212.4 | 190.1 | 176.6 |
| 32.5° | 127.2 | 133.5 | 145.6 | 132.1 | 121.4 |
| 35° | 90.5 | 94.3 | 100.1 | 90.9 | 84.7 |
| 37.5° | 64.3 | 66.3 | 69.7 | 64.3 | 61.0 |
| 40° | 47.4 | 48.4 | 49.8 | 46.9 | 45.0 |
| 42.5° | 35.3 | 35.8 | 35.8 | 34.8 | 33.9 |
| 45° | 26.6 | 27.1 | 26.6 | 26.6 | 25.6 |
| 47.5° | 19.4 | 20.8 | 20.3 | 20.3 | 18.9 |
| 50° | 12.6 | 15.5 | 15.5 | 15.0 | 12.6 |
| 52.5° | 7.7 | 10.6 | 12.1 | 10.6 | 8.2 |
| 55° | 5.8 | 7.3 | 9.2 | 7.3 | 6.3 |
| 57.5° | 5.8 | 5.8 | 6.8 | 5.8 | 5.8 |
| 60° | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| 70° | 5.3 | 5.3 | 4.8 | 5.3 | 5.3 |
| 72.5° | 4.8 | 4.8 | 4.4 | 4.8 | 4.4 |
| 75° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 77.5° | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| 80° | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| 82.5° | 1.5 | 1.5 | 1.5 | 1.9 | 1.5 |
| 85° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 87.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |
| 65° | 5.3 | 5.8 | 5.3 | 5.8 | 5.3 |



(END OF REPORT)