

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: **LDA2B208027D010 EU2B20SP158027 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: LDA2B208027D010 EU2B20SP158027 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: 1964.9 lumens
Efficiency: N/A
Efficacy: 95.4 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

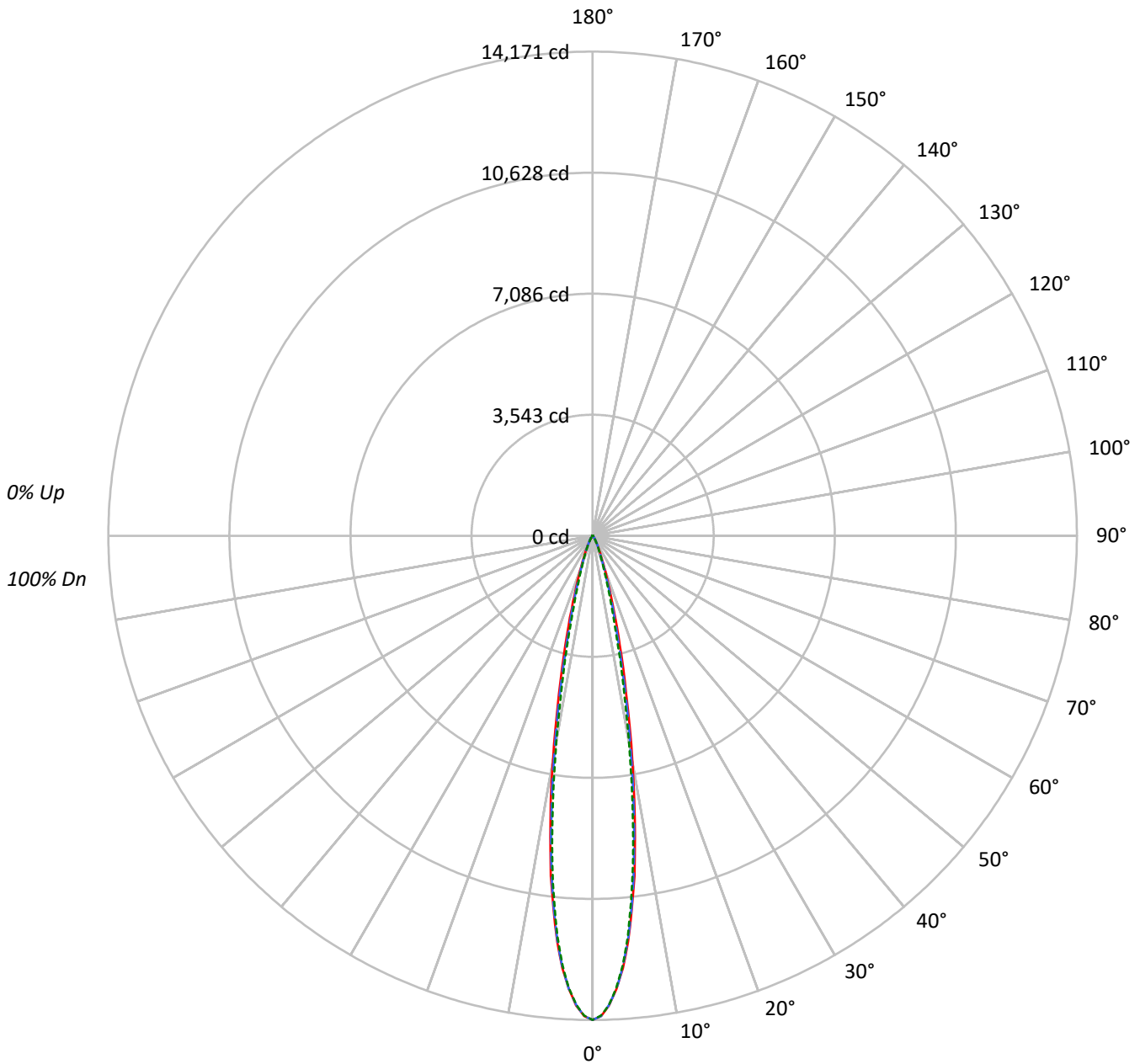
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|---|--|--|--|--|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | | | | | | |
| RC | 80 | | | | | 70 | | | | | 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 | 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 | 115 | 113 | 111 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 100 | 99 | 99 | 97 | | | | | | | | | | | | | |
| 2 | 112 | 108 | 106 | 103 | 110 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99 | 98 | 98 | 97 | 96 | 95 | | | | | | | | | | | | | |
| 3 | 109 | 104 | 101 | 98 | 107 | 103 | 100 | 98 | 101 | 98 | 96 | 98 | 96 | 95 | 96 | 95 | 93 | 92 | | | | | | | | | | | | | |
| 4 | 106 | 101 | 97 | 95 | 104 | 100 | 97 | 94 | 98 | 95 | 93 | 96 | 94 | 92 | 94 | 93 | 91 | 90 | | | | | | | | | | | | | |
| 5 | 103 | 98 | 94 | 91 | 102 | 97 | 93 | 91 | 95 | 92 | 90 | 94 | 91 | 89 | 93 | 90 | 89 | 88 | | | | | | | | | | | | | |
| 6 | 101 | 95 | 91 | 88 | 99 | 94 | 91 | 88 | 93 | 90 | 88 | 92 | 89 | 87 | 91 | 88 | 87 | 86 | | | | | | | | | | | | | |
| 7 | 98 | 92 | 89 | 86 | 97 | 92 | 88 | 86 | 91 | 88 | 85 | 90 | 87 | 85 | 89 | 87 | 85 | 84 | | | | | | | | | | | | | |
| 8 | 96 | 90 | 86 | 84 | 95 | 90 | 86 | 84 | 89 | 86 | 83 | 88 | 85 | 83 | 87 | 85 | 83 | 82 | | | | | | | | | | | | | |
| 9 | 94 | 88 | 84 | 82 | 93 | 88 | 84 | 82 | 87 | 84 | 82 | 86 | 83 | 81 | 86 | 83 | 81 | 80 | | | | | | | | | | | | | |
| 10 | 92 | 86 | 83 | 80 | 91 | 86 | 82 | 80 | 85 | 82 | 80 | 85 | 82 | 80 | 84 | 81 | 80 | 79 | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 6991381 | 6991381 | 6991381 |
| 5° | 5907051 | 5875504 | 5832170 |
| 10° | 3362228 | 3214191 | 3050723 |
| 15° | 1392296 | 1233244 | 1086399 |
| 20° | 529645 | 463807 | 424640 |
| 25° | 233968 | 224768 | 199836 |
| 30° | 108240 | 119577 | 95194 |
| 35° | 56916 | 67094 | 53302 |
| 40° | 24989 | 28853 | 16681 |
| 45° | 9698 | 7605 | 11094 |
| 50° | 4605 | 5373 | 7599 |
| 55° | 0 | 3441 | 0 |
| 60° | 0 | 0 | 1973 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 1442 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 5682 | 0 | 0 |
| 85° | 56041 | 50946 | 22643 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 947.5 | 48.2 |
| 10°-20° | 724.3 | 36.9 |
| 20°-30° | 201.4 | 10.3 |
| 30°-40° | 65.5 | 3.3 |
| 40°-50° | 14.4 | 0.7 |
| 50°-60° | 4.4 | 0.2 |
| 60°-70° | 2.6 | 0.1 |
| 70°-80° | 1.5 | 0.1 |
| 80°-90° | 3.2 | 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° | 1873.3 | 95.3 |
| 0°-40° | 1938.8 | 98.7 |
| 0°-60° | 1957.6 | 99.6 |
| 0°-90° | 1964.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1964.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 14171 | 14171 | 14171 | 14171 | 14171 | |
| 5° | 11928 | 11840 | 11864 | 11775 | 11776 | 964 |
| 15° | 2726 | 2631 | 2414 | 2228 | 2127 | 796 |
| 25° | 430 | 435 | 413 | 389 | 367 | 216 |
| 35° | 94 | 102 | 111 | 85 | 88 | 62 |
| 45° | 14 | 20 | 11 | 11 | 16 | 14 |
| 55° | 0 | 6 | 4 | 2 | 0 | 4 |
| 65° | 0 | 4 | 0 | 0 | 0 | 3 |
| 75° | 0 | 0 | 0 | 2 | 0 | 1 |
| 85° | 10 | 5 | 9 | 5 | 4 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281778

CATALOG NUMBER: LDA2B208027D010 EU2B20SP158027 2LBALSQC1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 14170.9 | 14170.9 | 14170.9 | 14170.9 | 14170.9 |
| 1° | 14062.5 | 14009.7 | 14060.5 | 14030.6 | 14047.5 |
| 2° | 13757.0 | 13691.4 | 13744.1 | 13702.3 | 13737.1 |
| 3° | 13281.5 | 13230.8 | 13277.5 | 13224.8 | 13252.6 |
| 4° | 12685.6 | 12612.0 | 12658.7 | 12588.1 | 12605.0 |
| 5° | 11927.5 | 11839.9 | 11863.8 | 11775.3 | 11776.3 |
| 6° | 10972.4 | 10911.7 | 10925.6 | 10787.4 | 10777.4 |
| 7° | 10038.2 | 9895.0 | 9880.0 | 9721.9 | 9691.0 |
| 8° | 8904.1 | 8773.7 | 8731.0 | 8544.9 | 8479.3 |
| 9° | 7816.7 | 7654.5 | 7567.0 | 7351.1 | 7274.5 |
| 10° | 6711.4 | 6547.2 | 6415.9 | 6172.2 | 6089.6 |
| 11° | 5688.7 | 5540.4 | 5377.3 | 5116.6 | 5036.0 |
| 12° | 4739.6 | 4623.2 | 4444.1 | 4192.4 | 4107.8 |
| 13° | 3964.6 | 3830.2 | 3638.2 | 3404.4 | 3331.8 |
| 14° | 3293.0 | 3148.8 | 2956.7 | 2756.8 | 2615.5 |
| 15° | 2725.9 | 2631.4 | 2414.5 | 2228.5 | 2127.0 |
| 16° | 2227.5 | 2146.9 | 1959.9 | 1798.7 | 1727.1 |
| 17° | 1826.6 | 1761.9 | 1602.7 | 1476.4 | 1416.7 |
| 18° | 1507.2 | 1426.6 | 1301.3 | 1218.7 | 1172.0 |
| 19° | 1222.7 | 1160.0 | 1068.5 | 1004.8 | 958.1 |
| 20° | 1008.8 | 957.1 | 883.4 | 826.7 | 808.8 |
| 22.5° | 651.6 | 642.7 | 594.9 | 564.1 | 549.2 |
| 25° | 429.8 | 434.8 | 412.9 | 389.0 | 367.1 |
| 26° | 367.1 | 370.1 | 350.2 | 336.3 | 308.4 |
| 27° | 314.4 | 315.4 | 315.4 | 289.5 | 262.6 |
| 28° | 256.7 | 267.6 | 257.7 | 245.7 | 219.9 |
| 29° | 219.9 | 233.8 | 228.8 | 216.9 | 192.0 |
| 30° | 190.0 | 200.0 | 209.9 | 191.0 | 167.1 |
| 32.5° | 133.3 | 142.3 | 153.2 | 143.3 | 123.4 |
| 35° | 94.5 | 102.5 | 111.4 | 84.6 | 88.5 |
| 37.5° | 64.7 | 78.6 | 75.6 | 68.6 | 58.7 |
| 40° | 38.8 | 40.8 | 44.8 | 47.8 | 25.9 |
| 42.5° | 27.9 | 32.8 | 29.8 | 33.8 | 11.9 |
| 45° | 13.9 | 19.9 | 10.9 | 10.9 | 15.9 |
| 47.5° | 9.9 | 16.9 | 6.0 | 6.0 | 2.0 |
| 50° | 6.0 | 12.9 | 7.0 | 3.0 | 9.9 |
| 52.5° | 9.9 | 11.9 | 8.0 | 9.0 | 2.0 |
| 55° | 0.0 | 6.0 | 4.0 | 2.0 | 0.0 |
| 57.5° | 4.0 | 7.0 | 4.0 | 2.0 | 4.0 |
| 60° | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 |
| 62.5° | 0.0 | 2.0 | 0.0 | 3.0 | 4.0 |
| 65° | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 6.0 | 7.0 | 4.0 | 8.0 | 11.9 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| 77.5° | 0.0 | 9.9 | 3.0 | 3.0 | 4.0 |
| 80° | 2.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| 82.5° | 0.0 | 8.0 | 1.0 | 4.0 | 6.0 |
| 85° | 9.9 | 5.0 | 9.0 | 5.0 | 4.0 |
| 87.5° | 0.0 | 1.0 | 2.0 | 1.0 | 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 | 1.0 | 1.0 | 0.0 |
| 72.5° | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)