

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: P282638

Luminaire Tested: **LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P282638
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: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH NARROW FLOOD OPTIC
AND 2in Adj SQ Pinhole w-lens, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 520.7 lumens
Efficiency: N/A
Efficacy: 74.4 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

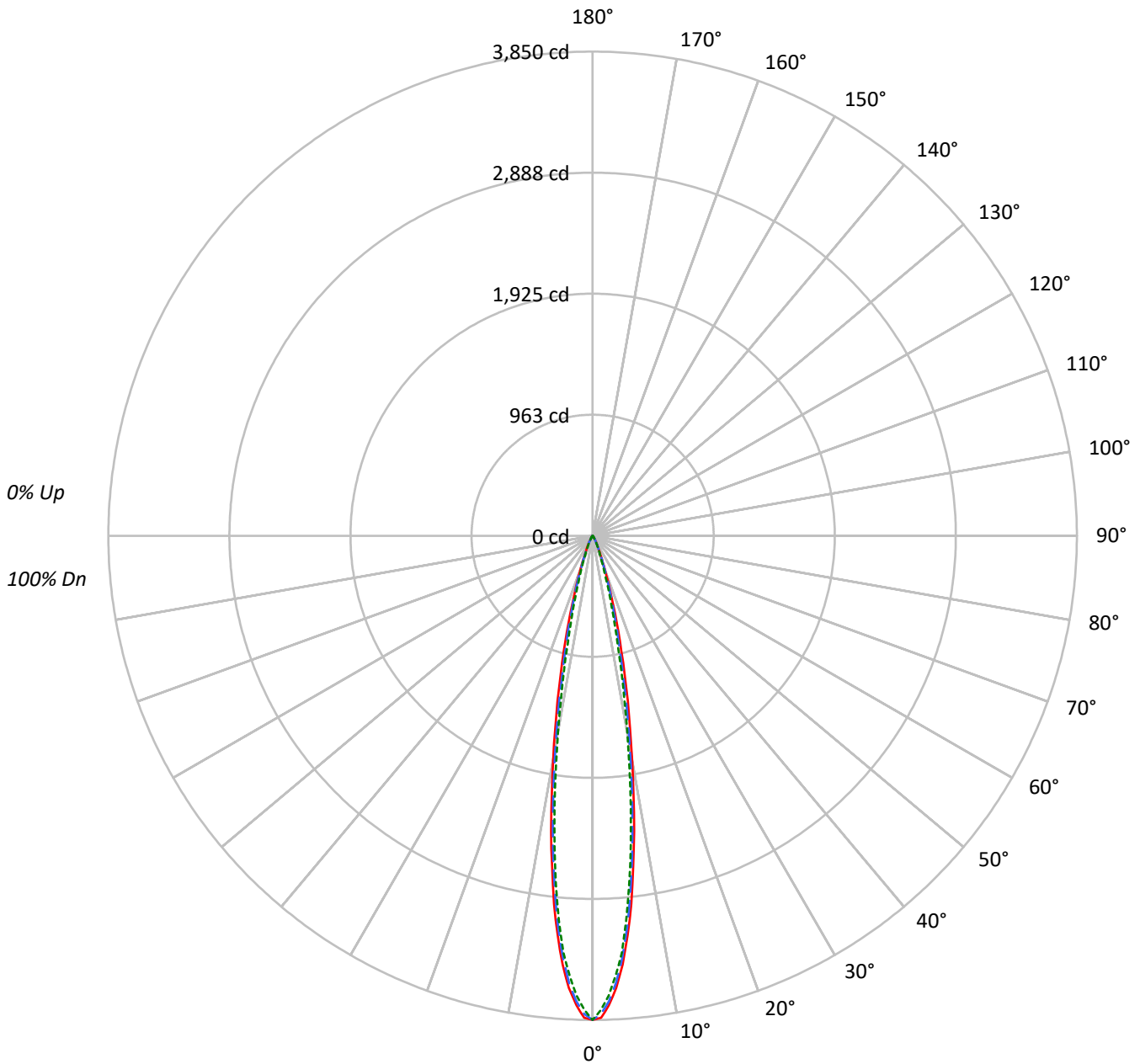
Input Watts (W): 7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P282638

CATALOG NUMBER: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW

Luminous Intensity Polar Plot





TEST NUMBER: P282638

CATALOG NUMBER: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW

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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 1899492 | 1899492 | 1899492 |
| 5° | 1580579 | 1551607 | 1520258 |
| 10° | 905358 | 849549 | 792889 |
| 15° | 402688 | 357638 | 299666 |
| 20° | 146062 | 137346 | 108838 |
| 25° | 56070 | 52368 | 45073 |
| 30° | 24212 | 22503 | 19939 |
| 35° | 11443 | 11443 | 9456 |
| 40° | 5732 | 5925 | 4766 |
| 45° | 3349 | 3140 | 2930 |
| 50° | 2303 | 2072 | 2072 |
| 55° | 1806 | 1290 | 1548 |
| 60° | 1480 | 888 | 1184 |
| 65° | 1051 | 700 | 1051 |
| 70° | 865 | 433 | 865 |
| 75° | 572 | 572 | 572 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



TEST NUMBER: P282638

CATALOG NUMBER: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 250.4 | 48.1 |
| 10°-20° | 202.6 | 38.9 |
| 20°-30° | 48.9 | 9.4 |
| 30°-40° | 12.5 | 2.4 |
| 40°-50° | 3.7 | 0.7 |
| 50°-60° | 1.6 | 0.3 |
| 60°-70° | 0.8 | 0.1 |
| 70°-80° | 0.3 | 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° | 501.9 | 96.4 |
| 0°-40° | 514.4 | 98.8 |
| 0°-60° | 519.7 | 99.8 |
| 0°-90° | 520.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 520.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3850 | 3850 | 3850 | 3850 | 3850 | |
| 5° | 3192 | 3162 | 3133 | 3106 | 3070 | 258 |
| 15° | 788 | 770 | 700 | 631 | 587 | 225 |
| 25° | 103 | 104 | 96 | 87 | 83 | 53 |
| 35° | 19 | 19 | 19 | 17 | 16 | 13 |
| 45° | 5 | 5 | 4 | 4 | 4 | 4 |
| 55° | 2 | 2 | 2 | 2 | 2 | 2 |
| 65° | 1 | 1 | 1 | 1 | 1 | 1 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P282638

CATALOG NUMBER: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3850.1 | 3850.1 | 3850.1 | 3850.1 | 3850.1 |
| 1° | 3832.8 | 3806.1 | 3802.9 | 3819.5 | 3770.5 |
| 2° | 3734.9 | 3715.9 | 3704.9 | 3714.7 | 3659.1 |
| 3° | 3600.3 | 3581.9 | 3562.0 | 3562.3 | 3500.3 |
| 4° | 3417.1 | 3402.6 | 3369.0 | 3358.9 | 3323.0 |
| 5° | 3191.5 | 3162.1 | 3133.0 | 3105.7 | 3069.7 |
| 6° | 2942.0 | 2904.0 | 2862.5 | 2821.8 | 2785.0 |
| 7° | 2648.7 | 2623.4 | 2568.5 | 2513.0 | 2481.8 |
| 8° | 2372.8 | 2332.1 | 2268.0 | 2198.5 | 2172.1 |
| 9° | 2076.2 | 2047.1 | 1973.4 | 1892.7 | 1866.2 |
| 10° | 1807.2 | 1776.9 | 1695.8 | 1605.8 | 1582.7 |
| 11° | 1554.8 | 1526.2 | 1441.9 | 1347.5 | 1322.8 |
| 12° | 1341.3 | 1300.9 | 1204.1 | 1122.1 | 1098.1 |
| 13° | 1128.7 | 1101.0 | 1009.3 | 928.2 | 881.6 |
| 14° | 947.8 | 925.0 | 841.8 | 770.5 | 721.3 |
| 15° | 788.4 | 769.7 | 700.2 | 630.7 | 586.7 |
| 16° | 646.7 | 635.1 | 580.2 | 513.1 | 477.2 |
| 17° | 524.7 | 514.0 | 479.0 | 417.2 | 386.9 |
| 18° | 423.7 | 422.2 | 393.1 | 339.7 | 312.7 |
| 19° | 348.6 | 348.0 | 321.3 | 276.4 | 254.2 |
| 20° | 278.2 | 282.1 | 261.6 | 222.4 | 207.3 |
| 21° | 226.9 | 228.9 | 212.6 | 182.9 | 169.3 |
| 22° | 184.7 | 186.2 | 175.5 | 151.1 | 143.7 |
| 23° | 151.4 | 152.3 | 143.4 | 125.3 | 118.8 |
| 24° | 124.7 | 125.3 | 117.3 | 104.5 | 98.9 |
| 25° | 103.0 | 103.6 | 96.2 | 87.3 | 82.8 |
| 26° | 85.5 | 86.1 | 79.6 | 73.3 | 68.9 |
| 27° | 71.0 | 72.2 | 65.6 | 61.8 | 57.0 |
| 28° | 60.6 | 60.9 | 54.9 | 52.6 | 48.1 |
| 29° | 49.6 | 51.4 | 46.3 | 44.2 | 41.0 |
| 30° | 42.5 | 43.4 | 39.5 | 38.0 | 35.0 |
| 32.5° | 28.2 | 28.8 | 27.0 | 25.8 | 23.5 |
| 35° | 19.0 | 19.3 | 19.0 | 17.2 | 15.7 |
| 37.5° | 13.1 | 13.1 | 13.4 | 11.3 | 10.7 |
| 40° | 8.9 | 8.9 | 9.2 | 7.7 | 7.4 |
| 42.5° | 6.5 | 6.5 | 6.2 | 5.3 | 5.3 |
| 45° | 4.8 | 4.8 | 4.5 | 4.2 | 4.2 |
| 47.5° | 3.9 | 3.6 | 3.3 | 3.3 | 3.3 |
| 50° | 3.0 | 3.0 | 2.7 | 2.4 | 2.7 |
| 52.5° | 2.4 | 2.4 | 2.1 | 2.1 | 2.1 |
| 55° | 2.1 | 1.8 | 1.5 | 1.5 | 1.8 |
| 57.5° | 1.5 | 1.5 | 1.2 | 1.2 | 1.5 |
| 60° | 1.5 | 1.2 | 0.9 | 1.2 | 1.2 |



TEST NUMBER: P282638

CATALOG NUMBER: LDA2B059027D010 EU2B05NFL259027 2LBALPINSQ1MW

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 67.5° | 0.9 | 0.6 | 0.6 | 0.6 | 0.6 |
| 70° | 0.6 | 0.6 | 0.3 | 0.3 | 0.6 |
| 72.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 75° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 77.5° | 0.3 | 0.3 | 0.0 | 0.0 | 0.3 |
| 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 |



Report Generated By E9808895 / USPTCWHP6082093





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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 62.5° | 1.2 | 0.9 | 0.9 | 0.9 | 0.9 |
| 65° | 0.9 | 0.9 | 0.6 | 0.6 | 0.9 |



(END OF REPORT)