

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: P281274

Luminaire Tested: **LDA2B159030D010 EU2B15SP159030 2LBALD1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281274
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: LDA2B159030D010 EU2B15SP159030 2LBALD1LI
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
ADJ spun Refl w/lens Self-Flanged, H
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1161.2 lumens
Efficiency: N/A
Efficacy: 82.4 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

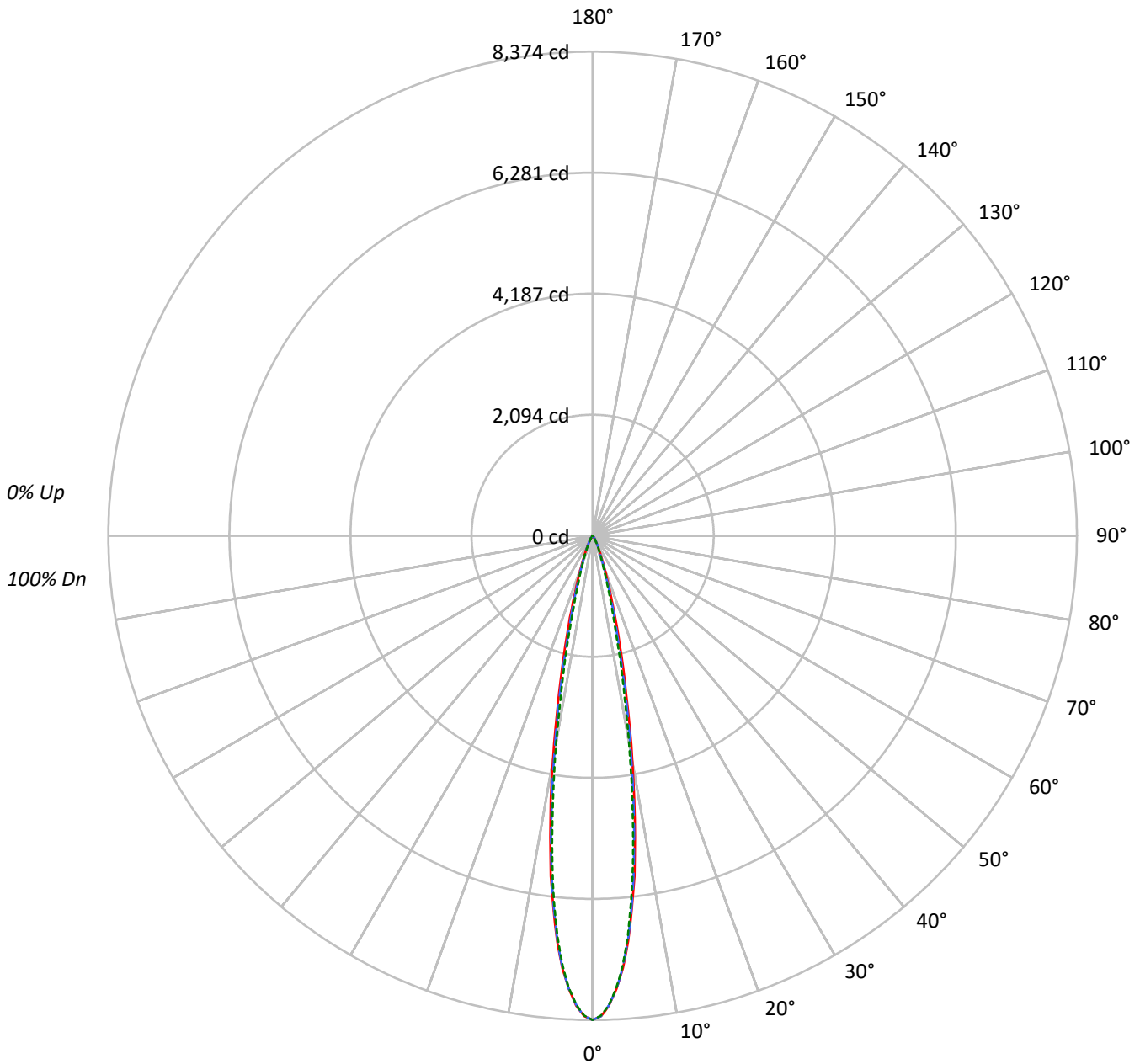
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P281274

CATALOG NUMBER: LDA2B159030D010 EU2B15SP159030 2LBALD1LI

Luminous Intensity Polar Plot





TEST NUMBER: P281274

CATALOG NUMBER: LDA2B159030D010 EU2B15SP159030 2LBALD1LI

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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 4131658 | 4131658 | 4131658 |
| 5° | 3490843 | 3472222 | 3446617 |
| 10° | 1986958 | 1899488 | 1802850 |
| 15° | 822792 | 728812 | 642032 |
| 20° | 313020 | 274115 | 250962 |
| 25° | 138269 | 132825 | 118073 |
| 30° | 63976 | 70698 | 56285 |
| 35° | 33668 | 39630 | 31499 |
| 40° | 14748 | 17067 | 9854 |
| 45° | 5721 | 4535 | 6559 |
| 50° | 2686 | 3147 | 4528 |
| 55° | 0 | 2064 | 0 |
| 60° | 0 | 0 | 1184 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 865 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 3409 | 0 | 0 |
| 85° | 33398 | 30002 | 13586 |



TEST NUMBER: P281274

CATALOG NUMBER: LDA2B159030D010 EU2B15SP159030 2LBALD1LI

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 559.9 | 48.2 |
| 10°-20° | 428.1 | 36.9 |
| 20°-30° | 119.0 | 10.3 |
| 30°-40° | 38.7 | 3.3 |
| 40°-50° | 8.5 | 0.7 |
| 50°-60° | 2.6 | 0.2 |
| 60°-70° | 1.5 | 0.1 |
| 70°-80° | 0.9 | 0.1 |
| 80°-90° | 1.9 | 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° | 1107.1 | 95.3 |
| 0°-40° | 1145.8 | 98.7 |
| 0°-60° | 1156.9 | 99.6 |
| 0°-90° | 1161.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1161.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 8374 | 8374 | 8374 | 8374 | 8374 | |
| 5° | 7049 | 6997 | 7011 | 6959 | 6959 | 570 |
| 15° | 1611 | 1555 | 1427 | 1317 | 1257 | 470 |
| 25° | 254 | 257 | 244 | 230 | 217 | 127 |
| 35° | 56 | 61 | 66 | 50 | 52 | 37 |
| 45° | 8 | 12 | 6 | 6 | 9 | 8 |
| 55° | 0 | 4 | 2 | 1 | 0 | 2 |
| 65° | 0 | 2 | 0 | 0 | 0 | 2 |
| 75° | 0 | 0 | 0 | 1 | 0 | 0 |
| 85° | 6 | 3 | 5 | 3 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281274

CATALOG NUMBER: LDA2B159030D010 EU2B15SP159030 2LBALD1LI

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 8374.5 | 8374.5 | 8374.5 | 8374.5 | 8374.5 |
| 1° | 8310.4 | 8279.3 | 8309.3 | 8291.6 | 8301.6 |
| 2° | 8129.9 | 8091.1 | 8122.3 | 8097.6 | 8118.2 |
| 3° | 7848.9 | 7818.9 | 7846.6 | 7815.4 | 7831.9 |
| 4° | 7496.7 | 7453.2 | 7480.9 | 7439.1 | 7449.1 |
| 5° | 7048.7 | 6997.0 | 7011.1 | 6958.8 | 6959.4 |
| 6° | 6484.3 | 6448.4 | 6456.7 | 6375.0 | 6369.1 |
| 7° | 5932.2 | 5847.6 | 5838.8 | 5745.3 | 5727.1 |
| 8° | 5262.0 | 5185.0 | 5159.7 | 5049.8 | 5011.0 |
| 9° | 4619.4 | 4523.6 | 4471.8 | 4344.2 | 4299.0 |
| 10° | 3966.2 | 3869.2 | 3791.6 | 3647.5 | 3598.7 |
| 11° | 3361.8 | 3274.2 | 3177.8 | 3023.7 | 2976.1 |
| 12° | 2800.9 | 2732.1 | 2626.3 | 2477.5 | 2427.6 |
| 13° | 2342.9 | 2263.5 | 2150.1 | 2011.9 | 1969.0 |
| 14° | 1946.1 | 1860.8 | 1747.3 | 1629.2 | 1545.7 |
| 15° | 1610.9 | 1555.1 | 1426.9 | 1317.0 | 1257.0 |
| 16° | 1316.4 | 1268.8 | 1158.2 | 1063.0 | 1020.7 |
| 17° | 1079.4 | 1041.2 | 947.2 | 872.5 | 837.2 |
| 18° | 890.7 | 843.1 | 769.0 | 720.2 | 692.6 |
| 19° | 722.6 | 685.5 | 631.4 | 593.8 | 566.2 |
| 20° | 596.2 | 565.6 | 522.1 | 488.6 | 478.0 |
| 22.5° | 385.1 | 379.8 | 351.6 | 333.4 | 324.5 |
| 25° | 254.0 | 256.9 | 244.0 | 229.9 | 216.9 |
| 26° | 216.9 | 218.7 | 207.0 | 198.7 | 182.3 |
| 27° | 185.8 | 186.4 | 186.4 | 171.1 | 155.2 |
| 28° | 151.7 | 158.2 | 152.3 | 145.2 | 129.9 |
| 29° | 129.9 | 138.2 | 135.2 | 128.2 | 113.5 |
| 30° | 112.3 | 118.2 | 124.1 | 112.9 | 98.8 |
| 32.5° | 78.8 | 84.1 | 90.5 | 84.7 | 72.9 |
| 35° | 55.9 | 60.6 | 65.8 | 50.0 | 52.3 |
| 37.5° | 38.2 | 46.4 | 44.7 | 40.6 | 34.7 |
| 40° | 22.9 | 24.1 | 26.5 | 28.2 | 15.3 |
| 42.5° | 16.5 | 19.4 | 17.6 | 20.0 | 7.1 |
| 45° | 8.2 | 11.8 | 6.5 | 6.5 | 9.4 |
| 47.5° | 5.9 | 10.0 | 3.5 | 3.5 | 1.2 |
| 50° | 3.5 | 7.6 | 4.1 | 1.8 | 5.9 |
| 52.5° | 5.9 | 7.1 | 4.7 | 5.3 | 1.2 |
| 55° | 0.0 | 3.5 | 2.4 | 1.2 | 0.0 |
| 57.5° | 2.4 | 4.1 | 2.4 | 1.2 | 2.4 |
| 60° | 0.0 | 0.0 | 0.0 | 0.6 | 1.2 |
| 62.5° | 0.0 | 1.2 | 0.0 | 1.8 | 2.4 |
| 65° | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 |
| 67.5° | 3.5 | 4.1 | 2.4 | 4.7 | 7.1 |



TEST NUMBER: P281274

CATALOG NUMBER: LDA2B159030D010 EU2B15SP159030 2LBALD1LI

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 |
| 77.5° | 0.0 | 5.9 | 1.8 | 1.8 | 2.4 |
| 80° | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 |
| 82.5° | 0.0 | 4.7 | 0.6 | 2.4 | 3.5 |
| 85° | 5.9 | 2.9 | 5.3 | 2.9 | 2.4 |
| 87.5° | 0.0 | 0.6 | 1.2 | 0.6 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093





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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 0.6 | 0.6 | 0.0 |
| 72.5° | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)