

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: P281260

Luminaire Tested: **LDA2B159024D010 EU2B15SP159024 2LBALD1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281260
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: LDA2B159024D010 EU2B15SP159024 2LBALD1MW
Description: PORTFOLIO 2IN ADJ 1500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
ADJ spun Refl w/lens Self-Flanged, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1032.9 lumens
Efficiency: N/A
Efficacy: 73.3 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

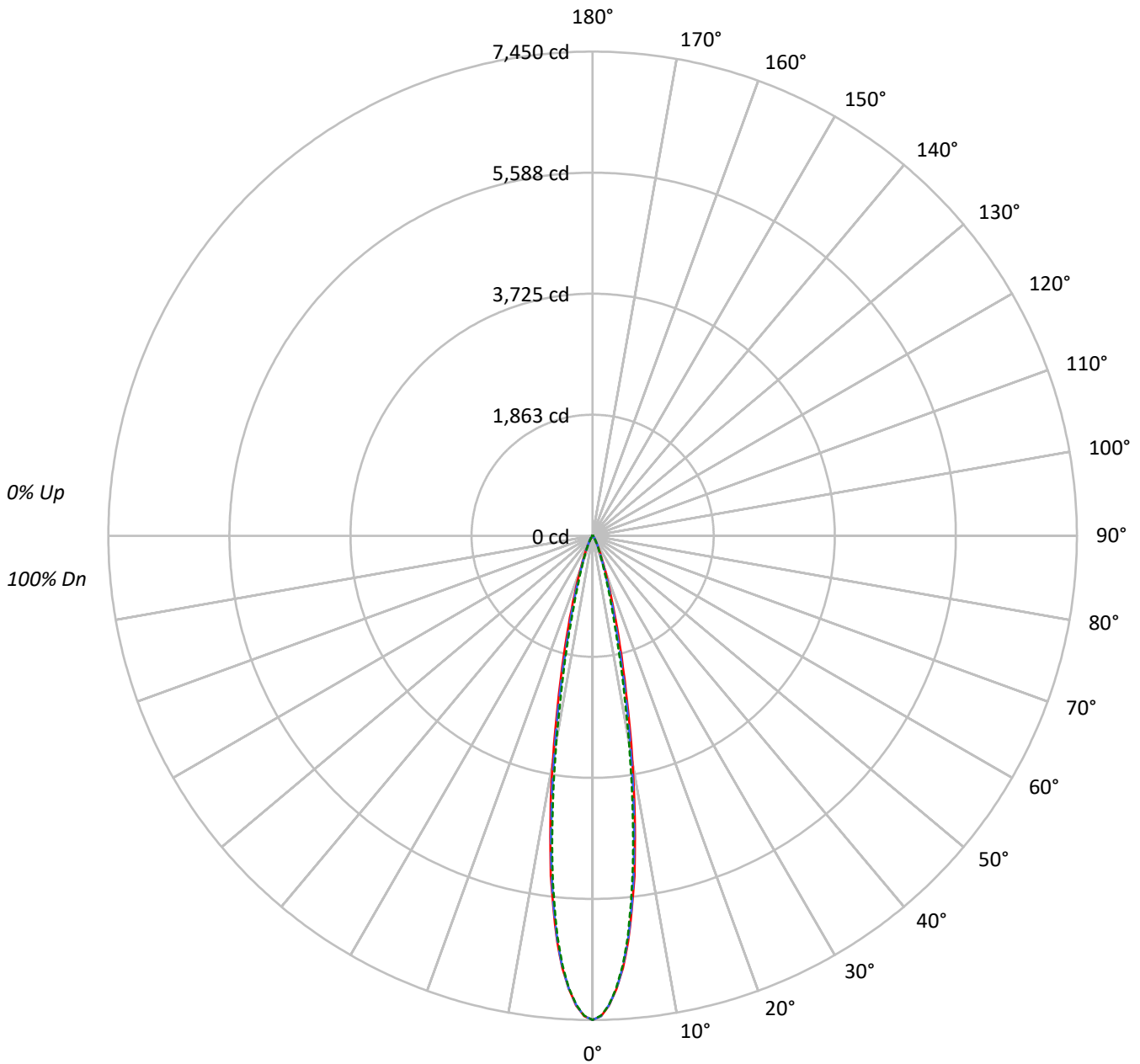
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P281260

CATALOG NUMBER: LDA2B159024D010 EU2B15SP159024 2LBALD1MW

Luminous Intensity Polar Plot





TEST NUMBER: P281260

CATALOG NUMBER: LDA2B159024D010 EU2B15SP159024 2LBALD1MW

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 | | | | 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 | 89 | 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° | 3675397 | 3675397 | 3675397 |
| 5° | 3105343 | 3088752 | 3065971 |
| 10° | 1767532 | 1689731 | 1603764 |
| 15° | 731927 | 648315 | 571138 |
| 20° | 278421 | 243821 | 223240 |
| 25° | 122972 | 118127 | 105062 |
| 30° | 56912 | 62893 | 50075 |
| 35° | 29933 | 35294 | 28006 |
| 40° | 13138 | 15135 | 8759 |
| 45° | 5093 | 4047 | 5861 |
| 50° | 2379 | 2840 | 3991 |
| 55° | 0 | 1806 | 0 |
| 60° | 0 | 0 | 987 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 721 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2841 | 0 | 0 |
| 85° | 29436 | 26605 | 11887 |



TEST NUMBER: P281260

CATALOG NUMBER: LDA2B159024D010 EU2B15SP159024 2LBALD1MW

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 498.1 | 48.2 |
| 10°-20° | 380.8 | 36.9 |
| 20°-30° | 105.9 | 10.3 |
| 30°-40° | 34.4 | 3.3 |
| 40°-50° | 7.6 | 0.7 |
| 50°-60° | 2.3 | 0.2 |
| 60°-70° | 1.3 | 0.1 |
| 70°-80° | 0.8 | 0.1 |
| 80°-90° | 1.7 | 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° | 984.8 | 95.3 |
| 0°-40° | 1019.2 | 98.7 |
| 0°-60° | 1029.1 | 99.6 |
| 0°-90° | 1032.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1032.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 7450 | 7450 | 7450 | 7450 | 7450 | |
| 5° | 6270 | 6224 | 6237 | 6190 | 6191 | 507 |
| 15° | 1433 | 1383 | 1269 | 1172 | 1118 | 418 |
| 25° | 226 | 229 | 217 | 204 | 193 | 113 |
| 35° | 50 | 54 | 59 | 44 | 46 | 33 |
| 45° | 7 | 10 | 6 | 6 | 8 | 7 |
| 55° | 0 | 3 | 2 | 1 | 0 | 2 |
| 65° | 0 | 2 | 0 | 0 | 0 | 2 |
| 75° | 0 | 0 | 0 | 1 | 0 | 0 |
| 85° | 5 | 3 | 5 | 3 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281260

CATALOG NUMBER: LDA2B159024D010 EU2B15SP159024 2LBALD1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 7449.7 | 7449.7 | 7449.7 | 7449.7 | 7449.7 |
| 1° | 7392.7 | 7365.0 | 7391.6 | 7375.9 | 7384.8 |
| 2° | 7232.1 | 7197.6 | 7225.3 | 7203.4 | 7221.7 |
| 3° | 6982.1 | 6955.4 | 6980.0 | 6952.3 | 6967.0 |
| 4° | 6668.8 | 6630.1 | 6654.7 | 6617.6 | 6626.5 |
| 5° | 6270.3 | 6224.3 | 6236.8 | 6190.3 | 6190.8 |
| 6° | 5768.2 | 5736.3 | 5743.6 | 5670.9 | 5665.7 |
| 7° | 5277.1 | 5201.8 | 5194.0 | 5110.8 | 5094.6 |
| 8° | 4680.9 | 4612.4 | 4589.9 | 4492.1 | 4457.6 |
| 9° | 4109.3 | 4024.0 | 3978.0 | 3864.5 | 3824.2 |
| 10° | 3528.2 | 3441.9 | 3372.9 | 3244.7 | 3201.3 |
| 11° | 2990.5 | 2912.6 | 2826.8 | 2689.8 | 2647.5 |
| 12° | 2491.6 | 2430.4 | 2336.3 | 2203.9 | 2159.5 |
| 13° | 2084.2 | 2013.6 | 1912.6 | 1789.7 | 1751.5 |
| 14° | 1731.1 | 1655.3 | 1554.4 | 1449.2 | 1375.0 |
| 15° | 1433.0 | 1383.3 | 1269.3 | 1171.5 | 1118.2 |
| 16° | 1171.0 | 1128.6 | 1030.3 | 945.6 | 907.9 |
| 17° | 960.2 | 926.2 | 842.6 | 776.1 | 744.8 |
| 18° | 792.4 | 750.0 | 684.1 | 640.7 | 616.1 |
| 19° | 642.8 | 609.8 | 561.7 | 528.2 | 503.7 |
| 20° | 530.3 | 503.1 | 464.4 | 434.6 | 425.2 |
| 22.5° | 342.6 | 337.9 | 312.8 | 296.5 | 288.7 |
| 25° | 225.9 | 228.6 | 217.0 | 204.5 | 193.0 |
| 26° | 193.0 | 194.6 | 184.1 | 176.8 | 162.1 |
| 27° | 165.3 | 165.8 | 165.8 | 152.2 | 138.1 |
| 28° | 134.9 | 140.7 | 135.5 | 129.2 | 115.6 |
| 29° | 115.6 | 122.9 | 120.3 | 114.0 | 100.9 |
| 30° | 99.9 | 105.1 | 110.4 | 100.4 | 87.9 |
| 32.5° | 70.1 | 74.8 | 80.5 | 75.3 | 64.9 |
| 35° | 49.7 | 53.9 | 58.6 | 44.5 | 46.5 |
| 37.5° | 34.0 | 41.3 | 39.7 | 36.1 | 30.9 |
| 40° | 20.4 | 21.4 | 23.5 | 25.1 | 13.6 |
| 42.5° | 14.6 | 17.3 | 15.7 | 17.8 | 6.3 |
| 45° | 7.3 | 10.5 | 5.8 | 5.8 | 8.4 |
| 47.5° | 5.2 | 8.9 | 3.1 | 3.1 | 1.0 |
| 50° | 3.1 | 6.8 | 3.7 | 1.6 | 5.2 |
| 52.5° | 5.2 | 6.3 | 4.2 | 4.7 | 1.0 |
| 55° | 0.0 | 3.1 | 2.1 | 1.0 | 0.0 |
| 57.5° | 2.1 | 3.7 | 2.1 | 1.0 | 2.1 |
| 60° | 0.0 | 0.0 | 0.0 | 0.5 | 1.0 |
| 62.5° | 0.0 | 1.0 | 0.0 | 1.6 | 2.1 |
| 65° | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 |
| 67.5° | 3.1 | 3.7 | 2.1 | 4.2 | 6.3 |



TEST NUMBER: P281260

CATALOG NUMBER: LDA2B159024D010 EU2B15SP159024 2LBALD1MW

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| 77.5° | 0.0 | 5.2 | 1.6 | 1.6 | 2.1 |
| 80° | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| 82.5° | 0.0 | 4.2 | 0.5 | 2.1 | 3.1 |
| 85° | 5.2 | 2.6 | 4.7 | 2.6 | 2.1 |
| 87.5° | 0.0 | 0.5 | 1.0 | 0.5 | 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 | 0.5 | 0.5 | 0.0 |
| 72.5° | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)