

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: P281027

Luminaire Tested: **LDA2B058050D010 EU2B05SP158050 2LBALD1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281027
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: LDA2B058050D010 EU2B05SP158050 2LBALD1H
Description: PORTFOLIO 2IN ADJ 500 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in
ADJ spun Refl w/lens Self-Flanged, LI
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 832.7 lumens
Efficiency: N/A
Efficacy: 119.0 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

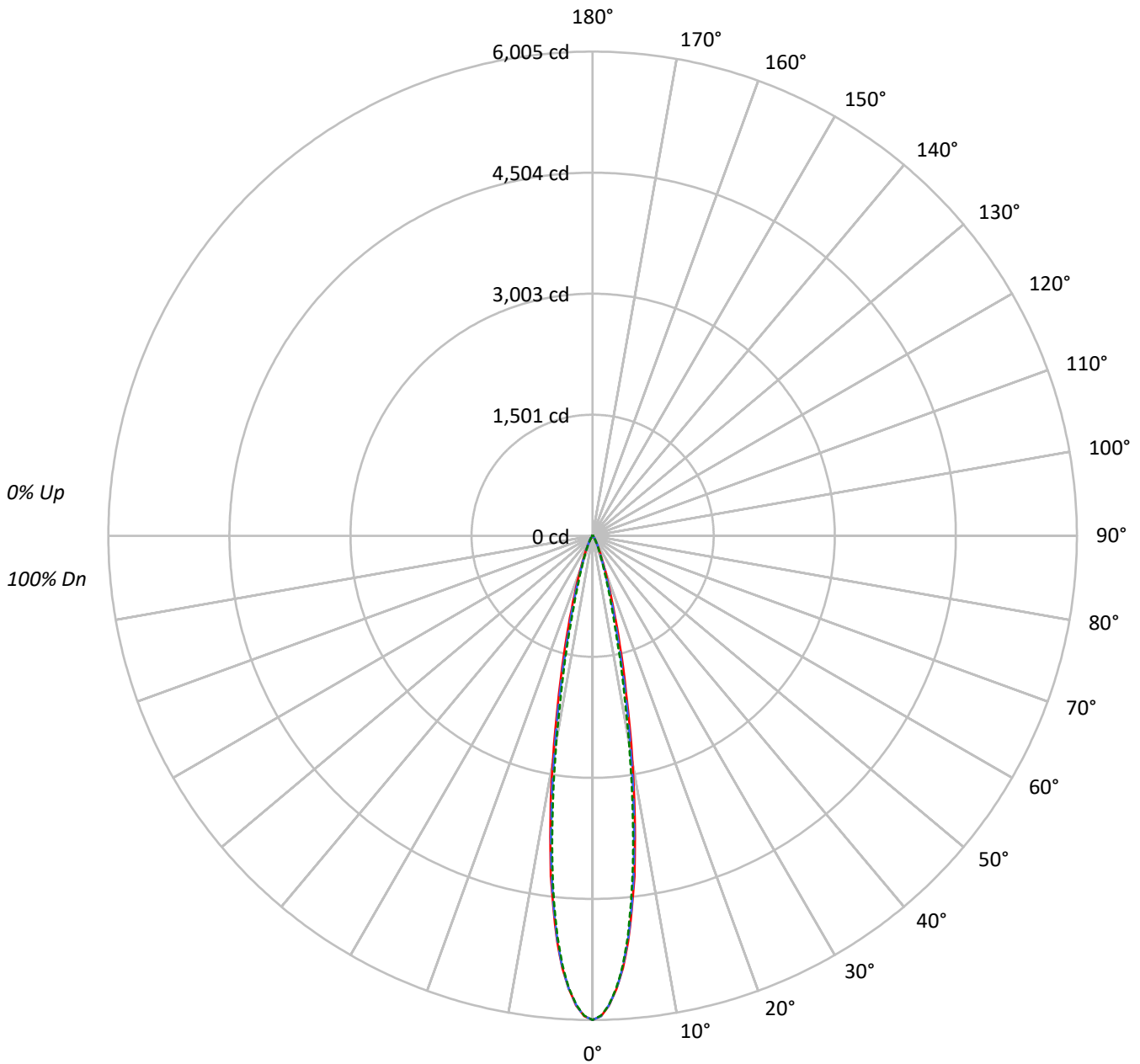
Input Watts (W): 7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P281027

CATALOG NUMBER: LDA2B058050D010 EU2B05SP158050 2LBALD1H

Luminous Intensity Polar Plot





TEST NUMBER: P281027

CATALOG NUMBER: LDA2B058050D010 EU2B05SP158050 2LBALD1H

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° | 2962786 | 2962786 | 2962786 |
| 5° | 2503272 | 2489901 | 2471527 |
| 10° | 1424816 | 1362095 | 1292810 |
| 15° | 590037 | 522615 | 460404 |
| 20° | 224448 | 196569 | 179978 |
| 25° | 99129 | 95264 | 84703 |
| 30° | 45860 | 50702 | 40334 |
| 35° | 24152 | 28428 | 22586 |
| 40° | 10562 | 12237 | 7084 |
| 45° | 4117 | 3210 | 4675 |
| 50° | 1919 | 2303 | 3224 |
| 55° | 0 | 1462 | 0 |
| 60° | 0 | 0 | 789 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 577 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 2273 | 0 | 0 |
| 85° | 23775 | 21511 | 9623 |



TEST NUMBER: P281027

CATALOG NUMBER: LDA2B058050D010 EU2B05SP158050 2LBALD1H

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 401.5 | 48.2 |
| 10°-20° | 307.0 | 36.9 |
| 20°-30° | 85.4 | 10.3 |
| 30°-40° | 27.7 | 3.3 |
| 40°-50° | 6.1 | 0.7 |
| 50°-60° | 1.9 | 0.2 |
| 60°-70° | 1.1 | 0.1 |
| 70°-80° | 0.6 | 0.1 |
| 80°-90° | 1.3 | 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° | 793.9 | 95.3 |
| 0°-40° | 821.6 | 98.7 |
| 0°-60° | 829.6 | 99.6 |
| 0°-90° | 832.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 832.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6005 | 6005 | 6005 | 6005 | 6005 | |
| 5° | 5055 | 5018 | 5028 | 4990 | 4990 | 409 |
| 15° | 1155 | 1115 | 1023 | 944 | 901 | 337 |
| 25° | 182 | 184 | 175 | 165 | 156 | 91 |
| 35° | 40 | 43 | 47 | 36 | 38 | 26 |
| 45° | 6 | 8 | 5 | 5 | 7 | 6 |
| 55° | 0 | 2 | 2 | 1 | 0 | 2 |
| 65° | 0 | 2 | 0 | 0 | 0 | 1 |
| 75° | 0 | 0 | 0 | 1 | 0 | 0 |
| 85° | 4 | 2 | 4 | 2 | 2 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281027

CATALOG NUMBER: LDA2B058050D010 EU2B05SP158050 2LBALD1H

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6005.3 | 6005.3 | 6005.3 | 6005.3 | 6005.3 |
| 1° | 5959.3 | 5937.0 | 5958.5 | 5945.8 | 5953.0 |
| 2° | 5829.9 | 5802.1 | 5824.4 | 5806.7 | 5821.5 |
| 3° | 5628.4 | 5606.9 | 5626.7 | 5604.3 | 5616.2 |
| 4° | 5375.8 | 5344.6 | 5364.5 | 5334.5 | 5341.7 |
| 5° | 5054.6 | 5017.5 | 5027.6 | 4990.1 | 4990.5 |
| 6° | 4649.8 | 4624.1 | 4630.0 | 4571.4 | 4567.2 |
| 7° | 4254.0 | 4193.2 | 4186.9 | 4119.9 | 4106.8 |
| 8° | 3773.3 | 3718.1 | 3700.0 | 3621.1 | 3593.3 |
| 9° | 3312.5 | 3243.8 | 3206.7 | 3115.2 | 3082.7 |
| 10° | 2844.1 | 2774.6 | 2718.9 | 2615.6 | 2580.6 |
| 11° | 2410.7 | 2347.9 | 2278.8 | 2168.3 | 2134.1 |
| 12° | 2008.5 | 1959.2 | 1883.3 | 1776.6 | 1740.8 |
| 13° | 1680.1 | 1623.2 | 1541.8 | 1442.7 | 1411.9 |
| 14° | 1395.5 | 1334.4 | 1253.0 | 1168.3 | 1108.4 |
| 15° | 1155.2 | 1115.1 | 1023.2 | 944.4 | 901.4 |
| 16° | 944.0 | 909.8 | 830.6 | 762.3 | 731.9 |
| 17° | 774.1 | 746.7 | 679.2 | 625.7 | 600.4 |
| 18° | 638.7 | 604.6 | 551.5 | 516.5 | 496.6 |
| 19° | 518.1 | 491.6 | 452.8 | 425.8 | 406.0 |
| 20° | 427.5 | 405.6 | 374.4 | 350.4 | 342.8 |
| 22.5° | 276.1 | 272.4 | 252.1 | 239.0 | 232.7 |
| 25° | 182.1 | 184.2 | 175.0 | 164.8 | 155.6 |
| 26° | 155.6 | 156.8 | 148.4 | 142.5 | 130.7 |
| 27° | 133.2 | 133.6 | 133.6 | 122.7 | 111.3 |
| 28° | 108.8 | 113.4 | 109.2 | 104.1 | 93.2 |
| 29° | 93.2 | 99.1 | 97.0 | 91.9 | 81.4 |
| 30° | 80.5 | 84.7 | 89.0 | 80.9 | 70.8 |
| 32.5° | 56.5 | 60.3 | 64.9 | 60.7 | 52.3 |
| 35° | 40.1 | 43.4 | 47.2 | 35.8 | 37.5 |
| 37.5° | 27.4 | 33.3 | 32.0 | 29.1 | 24.9 |
| 40° | 16.4 | 17.3 | 19.0 | 20.2 | 11.0 |
| 42.5° | 11.8 | 13.9 | 12.6 | 14.3 | 5.1 |
| 45° | 5.9 | 8.4 | 4.6 | 4.6 | 6.7 |
| 47.5° | 4.2 | 7.2 | 2.5 | 2.5 | 0.8 |
| 50° | 2.5 | 5.5 | 3.0 | 1.3 | 4.2 |
| 52.5° | 4.2 | 5.1 | 3.4 | 3.8 | 0.8 |
| 55° | 0.0 | 2.5 | 1.7 | 0.8 | 0.0 |
| 57.5° | 1.7 | 3.0 | 1.7 | 0.8 | 1.7 |
| 60° | 0.0 | 0.0 | 0.0 | 0.4 | 0.8 |
| 62.5° | 0.0 | 0.8 | 0.0 | 1.3 | 1.7 |
| 65° | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2.5 | 3.0 | 1.7 | 3.4 | 5.1 |



TEST NUMBER: P281027

CATALOG NUMBER: LDA2B058050D010 EU2B05SP158050 2LBALD1H

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 |
| 77.5° | 0.0 | 4.2 | 1.3 | 1.3 | 1.7 |
| 80° | 0.8 | 0.0 | 0.0 | 0.4 | 0.0 |
| 82.5° | 0.0 | 3.4 | 0.4 | 1.7 | 2.5 |
| 85° | 4.2 | 2.1 | 3.8 | 2.1 | 1.7 |
| 87.5° | 0.0 | 0.4 | 0.8 | 0.4 | 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 | 0.4 | 0.4 | 0.0 |
| 72.5° | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)