

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: P281574

Luminaire Tested: **LDA2B208035D010 EU2B20SP158035 2LBASQC1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281574
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-908-6)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2025.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 0.31 / 0.31 / 0.29
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

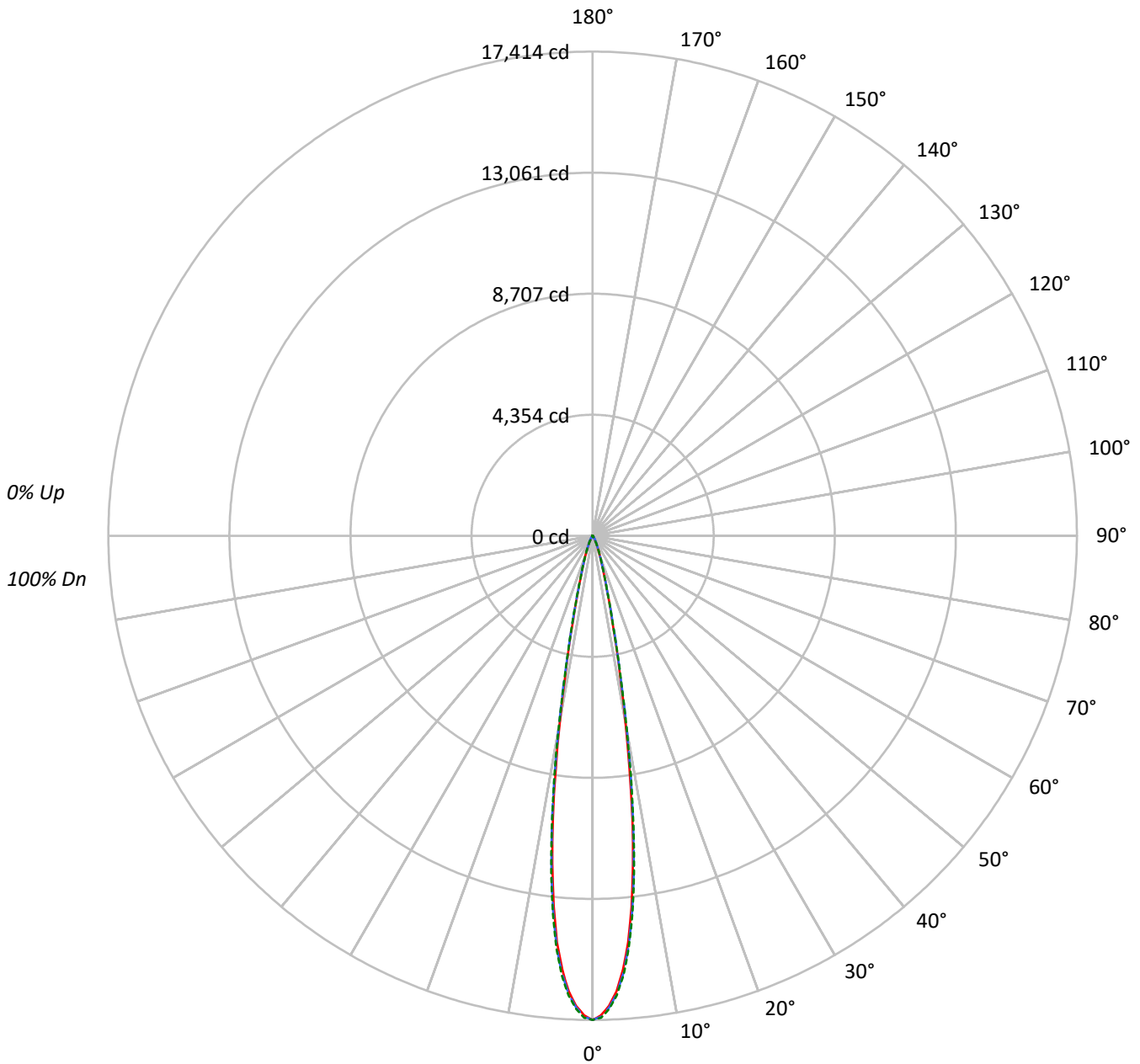
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P281574

CATALOG NUMBER: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW

Luminous Intensity Polar Plot





TEST NUMBER: P281574

CATALOG NUMBER: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW

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 | 116 | 114 | 112 | 111 | 113 | 112 | 110 | 109 | 108 | 107 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 98 | 98 | 98 | | | | | | | | | | | | | | | | |
| 2 | 113 | 109 | 107 | 105 | 111 | 108 | 105 | 103 | 105 | 103 | 101 | 102 | 100 | 99 | 99 | 98 | 97 | 96 | 96 | 96 | 96 | | | | | | | | | | | | | | | | |
| 3 | 110 | 106 | 103 | 100 | 108 | 104 | 102 | 99 | 102 | 100 | 98 | 100 | 98 | 96 | 98 | 96 | 95 | 94 | 94 | 94 | 94 | | | | | | | | | | | | | | | | |
| 4 | 107 | 103 | 99 | 97 | 106 | 102 | 99 | 96 | 100 | 97 | 95 | 98 | 96 | 94 | 96 | 95 | 93 | 92 | 92 | 92 | 92 | | | | | | | | | | | | | | | | |
| 5 | 105 | 100 | 96 | 94 | 103 | 99 | 96 | 93 | 97 | 95 | 93 | 96 | 94 | 92 | 95 | 93 | 91 | 90 | 90 | 90 | 90 | | | | | | | | | | | | | | | | |
| 6 | 103 | 97 | 94 | 91 | 101 | 97 | 94 | 91 | 96 | 93 | 91 | 94 | 92 | 90 | 93 | 91 | 90 | 89 | 89 | 89 | 89 | | | | | | | | | | | | | | | | |
| 7 | 100 | 95 | 92 | 89 | 100 | 95 | 91 | 89 | 94 | 91 | 89 | 93 | 90 | 88 | 92 | 90 | 88 | 87 | 87 | 87 | 87 | | | | | | | | | | | | | | | | |
| 8 | 99 | 93 | 90 | 88 | 98 | 93 | 90 | 87 | 92 | 89 | 87 | 91 | 89 | 87 | 90 | 88 | 86 | 86 | 86 | 86 | 86 | | | | | | | | | | | | | | | | |
| 9 | 97 | 91 | 88 | 86 | 96 | 91 | 88 | 86 | 90 | 88 | 86 | 90 | 87 | 85 | 89 | 87 | 85 | 84 | 84 | 84 | 84 | | | | | | | | | | | | | | | | |
| 10 | 95 | 90 | 87 | 84 | 94 | 89 | 86 | 84 | 89 | 86 | 84 | 88 | 86 | 84 | 88 | 85 | 84 | 83 | 83 | 83 | 83 | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 8591254 | 8591254 | 8591254 |
| 5° | 7271504 | 7347524 | 7379468 |
| 10° | 3400252 | 3529102 | 3535965 |
| 15° | 995942 | 1010397 | 1009886 |
| 20° | 399964 | 400436 | 400961 |
| 25° | 178334 | 196407 | 182580 |
| 30° | 75768 | 104195 | 69103 |
| 35° | 34752 | 48303 | 32403 |
| 40° | 11335 | 18870 | 10047 |
| 45° | 0 | 6838 | 0 |
| 50° | 0 | 0 | 0 |
| 55° | 3355 | 1720 | 0 |
| 60° | 0 | 0 | 0 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 5682 | 0 | 0 |
| 85° | 11321 | 0 | 0 |



TEST NUMBER: P281574

CATALOG NUMBER: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 1150.8 | 56.8 |
| 10°-20° | 652.2 | 32.2 |
| 20°-30° | 170.3 | 8.4 |
| 30°-40° | 43.9 | 2.2 |
| 40°-50° | 4.3 | 0.2 |
| 50°-60° | 1.4 | 0.1 |
| 60°-70° | 0.2 | 0.0 |
| 70°-80° | 1.5 | 0.1 |
| 80°-90° | 0.4 | 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° | 1973.4 | 97.5 |
| 0°-40° | 2017.3 | 99.6 |
| 0°-60° | 2023.1 | 99.9 |
| 0°-90° | 2025.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2025.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 17414 | 17414 | 17414 | 17414 | 17414 | |
| 5° | 14683 | 14814 | 14836 | 14742 | 14901 | 1136 |
| 15° | 1950 | 1976 | 1978 | 1956 | 1977 | 640 |
| 25° | 328 | 355 | 361 | 344 | 335 | 163 |
| 35° | 58 | 62 | 80 | 55 | 54 | 39 |
| 45° | 0 | 4 | 10 | 1 | 0 | 3 |
| 55° | 4 | 5 | 2 | 1 | 0 | 3 |
| 65° | 0 | 0 | 0 | 0 | 0 | 1 |
| 75° | 0 | 1 | 0 | 0 | 0 | 4 |
| 85° | 2 | 0 | 0 | 0 | 0 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281574

CATALOG NUMBER: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 17413.7 | 17413.7 | 17413.7 | 17413.7 | 17413.7 |
| 1° | 17250.4 | 17318.9 | 17298.4 | 17273.9 | 17342.4 |
| 2° | 16918.0 | 16984.5 | 16978.6 | 16946.3 | 17026.5 |
| 3° | 16405.6 | 16498.5 | 16498.5 | 16450.5 | 16550.3 |
| 4° | 15641.9 | 15783.6 | 15797.3 | 15729.9 | 15854.1 |
| 5° | 14682.6 | 14813.6 | 14836.1 | 14742.2 | 14900.6 |
| 6° | 13383.0 | 13561.9 | 13612.8 | 13504.3 | 13666.6 |
| 7° | 11889.8 | 12077.6 | 12154.8 | 12033.6 | 12215.4 |
| 8° | 10279.3 | 10414.2 | 10507.1 | 10368.3 | 10553.1 |
| 9° | 8477.1 | 8671.7 | 8756.7 | 8621.8 | 8801.7 |
| 10° | 6787.3 | 6966.3 | 7044.5 | 7012.2 | 7058.2 |
| 11° | 5271.6 | 5430.1 | 5482.9 | 5438.9 | 5460.4 |
| 12° | 4127.5 | 4191.1 | 4225.3 | 4196.0 | 4210.7 |
| 13° | 3134.0 | 3219.1 | 3234.8 | 3222.1 | 3228.9 |
| 14° | 2447.6 | 2488.7 | 2506.3 | 2500.4 | 2503.3 |
| 15° | 1949.9 | 1976.3 | 1978.2 | 1955.7 | 1977.2 |
| 16° | 1570.4 | 1591.0 | 1599.8 | 1576.3 | 1604.7 |
| 17° | 1286.9 | 1303.5 | 1313.3 | 1289.8 | 1301.5 |
| 18° | 1059.0 | 1071.7 | 1085.4 | 1064.9 | 1082.5 |
| 19° | 888.9 | 896.7 | 897.7 | 891.8 | 896.7 |
| 20° | 761.8 | 757.8 | 762.7 | 752.0 | 763.7 |
| 22.5° | 501.6 | 511.4 | 523.2 | 510.4 | 515.3 |
| 25° | 327.6 | 355.0 | 360.8 | 344.2 | 335.4 |
| 26° | 269.9 | 305.1 | 320.7 | 294.3 | 266.0 |
| 27° | 223.9 | 249.4 | 269.9 | 234.7 | 212.2 |
| 28° | 196.5 | 218.1 | 238.6 | 205.4 | 178.9 |
| 29° | 164.3 | 185.8 | 221.0 | 182.9 | 166.2 |
| 30° | 133.0 | 148.6 | 182.9 | 138.9 | 121.3 |
| 32.5° | 75.3 | 88.0 | 118.3 | 82.1 | 67.5 |
| 35° | 57.7 | 61.6 | 80.2 | 54.8 | 53.8 |
| 37.5° | 49.9 | 45.0 | 62.6 | 45.0 | 36.2 |
| 40° | 17.6 | 26.4 | 29.3 | 19.6 | 15.6 |
| 42.5° | 7.8 | 7.8 | 12.7 | 3.9 | 3.9 |
| 45° | 0.0 | 3.9 | 9.8 | 1.0 | 0.0 |
| 47.5° | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| 50° | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 3.9 | 4.9 | 2.0 | 1.0 | 0.0 |
| 57.5° | 5.9 | 4.9 | 2.0 | 2.0 | 2.0 |
| 60° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2.0 | 1.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P281574

CATALOG NUMBER: LDA2B208035D010 EU2B20SP158035 2LBASQC1MW

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 9.8 | 2.0 | 2.9 | 2.0 | 3.9 |
| 80° | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093





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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 3.9 | 2.9 | 0.0 | 0.0 | 3.9 |



(END OF REPORT)