

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: P281778

Luminaire Tested: **LDA2B208030D010 EU2B20SP158030 2LBALSQC1MW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P281778
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: LDA2B208030D010 EU2B20SP158030 2LBALSQC1MW
Description: PORTFOLIO 2IN ADJ 2000 LUMEN LED LUMINAIRE WITH SPOT OPTIC AND 2in Adj SQ Cast Trim w/lens, MW
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2002.8 lumens
Efficiency: N/A
Efficacy: 97.2 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

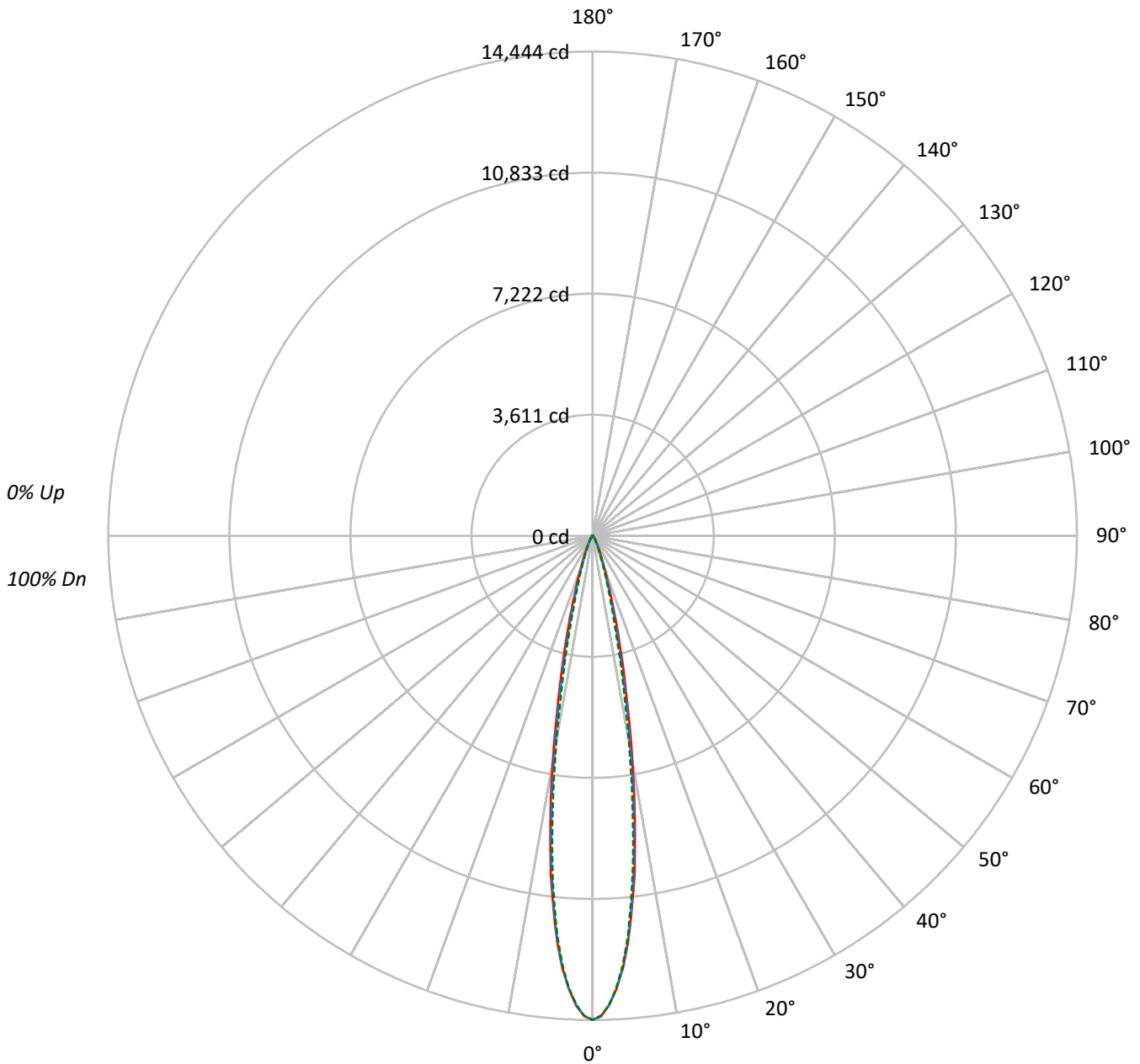
Input Watts (W): 20.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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 | 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° | 7126167 | 7126167 | 7126167 |
| 5° | 6020908 | 5988766 | 5944591 |
| 10° | 3427054 | 3276161 | 3109537 |
| 15° | 1419163 | 1257045 | 1107340 |
| 20° | 539830 | 472785 | 432830 |
| 25° | 238486 | 229069 | 203701 |
| 30° | 110348 | 121913 | 97074 |
| 35° | 58000 | 68419 | 54386 |
| 40° | 25440 | 29368 | 17003 |
| 45° | 9908 | 7814 | 11303 |
| 50° | 4682 | 5449 | 7752 |
| 55° | 0 | 3527 | 0 |
| 60° | 0 | 0 | 1973 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 1442 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 5682 | 0 | 0 |
| 85° | 57173 | 51512 | 23209 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 965.8 | 48.2 |
| 10°-20° | 738.3 | 36.9 |
| 20°-30° | 205.3 | 10.3 |
| 30°-40° | 66.7 | 3.3 |
| 40°-50° | 14.7 | 0.7 |
| 50°-60° | 4.5 | 0.2 |
| 60°-70° | 2.6 | 0.1 |
| 70°-80° | 1.5 | 0.1 |
| 80°-90° | 3.2 | 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° | 1909.4 | 95.3 |
| 0°-40° | 1976.2 | 98.7 |
| 0°-60° | 1995.4 | 99.6 |
| 0°-90° | 2002.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2002.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 14444 | 14444 | 14444 | 14444 | 14444 | |
| 5° | 12157 | 12068 | 12092 | 12002 | 12003 | 983 |
| 15° | 2778 | 2682 | 2461 | 2272 | 2168 | 811 |
| 25° | 438 | 443 | 421 | 396 | 374 | 220 |
| 35° | 96 | 104 | 114 | 86 | 90 | 63 |
| 45° | 14 | 20 | 11 | 11 | 16 | 14 |
| 55° | 0 | 6 | 4 | 2 | 0 | 4 |
| 65° | 0 | 4 | 0 | 0 | 0 | 3 |
| 75° | 0 | 0 | 0 | 2 | 0 | 1 |
| 85° | 10 | 5 | 9 | 5 | 4 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P281778

CATALOG NUMBER: LDA2B208030D010 EU2B20SP158030 2LBALSQC1MW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 14444.1 | 14444.1 | 14444.1 | 14444.1 | 14444.1 |
| 1° | 14333.6 | 14279.9 | 14331.6 | 14301.2 | 14318.4 |
| 2° | 14022.3 | 13955.4 | 14009.1 | 13966.5 | 14002.0 |
| 3° | 13537.6 | 13485.9 | 13533.5 | 13479.8 | 13508.2 |
| 4° | 12930.2 | 12855.1 | 12902.8 | 12830.8 | 12848.0 |
| 5° | 12157.4 | 12068.2 | 12092.5 | 12002.3 | 12003.3 |
| 6° | 11184.0 | 11122.1 | 11136.3 | 10995.3 | 10985.2 |
| 7° | 10231.8 | 10085.7 | 10070.5 | 9909.3 | 9877.9 |
| 8° | 9075.7 | 8942.9 | 8899.3 | 8709.7 | 8642.8 |
| 9° | 7967.4 | 7802.1 | 7712.9 | 7492.8 | 7414.7 |
| 10° | 6840.8 | 6673.5 | 6539.6 | 6291.2 | 6207.0 |
| 11° | 5798.3 | 5647.2 | 5480.9 | 5215.3 | 5133.1 |
| 12° | 4830.9 | 4712.3 | 4529.8 | 4273.2 | 4187.0 |
| 13° | 4041.0 | 3904.1 | 3708.4 | 3470.1 | 3396.1 |
| 14° | 3356.5 | 3209.5 | 3013.8 | 2809.9 | 2665.9 |
| 15° | 2778.5 | 2682.2 | 2461.1 | 2271.5 | 2168.0 |
| 16° | 2270.5 | 2188.3 | 1997.7 | 1833.4 | 1760.4 |
| 17° | 1861.8 | 1795.9 | 1633.6 | 1504.9 | 1444.0 |
| 18° | 1536.3 | 1454.1 | 1326.4 | 1242.2 | 1194.6 |
| 19° | 1246.3 | 1182.4 | 1089.1 | 1024.2 | 976.5 |
| 20° | 1028.2 | 975.5 | 900.5 | 842.7 | 824.4 |
| 22.5° | 664.2 | 655.1 | 606.4 | 575.0 | 559.8 |
| 25° | 438.1 | 443.1 | 420.8 | 396.5 | 374.2 |
| 26° | 374.2 | 377.2 | 356.9 | 342.7 | 314.4 |
| 27° | 320.4 | 321.5 | 321.5 | 295.1 | 267.7 |
| 28° | 261.6 | 272.8 | 262.6 | 250.5 | 224.1 |
| 29° | 224.1 | 238.3 | 233.2 | 221.1 | 195.7 |
| 30° | 193.7 | 203.8 | 214.0 | 194.7 | 170.4 |
| 32.5° | 135.9 | 145.0 | 156.2 | 146.0 | 125.7 |
| 35° | 96.3 | 104.4 | 113.6 | 86.2 | 90.3 |
| 37.5° | 65.9 | 80.1 | 77.1 | 70.0 | 59.8 |
| 40° | 39.5 | 41.6 | 45.6 | 48.7 | 26.4 |
| 42.5° | 28.4 | 33.5 | 30.4 | 34.5 | 12.2 |
| 45° | 14.2 | 20.3 | 11.2 | 11.2 | 16.2 |
| 47.5° | 10.1 | 17.2 | 6.1 | 6.1 | 2.0 |
| 50° | 6.1 | 13.2 | 7.1 | 3.0 | 10.1 |
| 52.5° | 10.1 | 12.2 | 8.1 | 9.1 | 2.0 |
| 55° | 0.0 | 6.1 | 4.1 | 2.0 | 0.0 |
| 57.5° | 4.1 | 7.1 | 4.1 | 2.0 | 4.1 |
| 60° | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 |
| 62.5° | 0.0 | 2.0 | 0.0 | 3.0 | 4.1 |
| 65° | 0.0 | 4.1 | 0.0 | 0.0 | 0.0 |
| 67.5° | 6.1 | 7.1 | 4.1 | 8.1 | 12.2 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| 77.5° | 0.0 | 10.1 | 3.0 | 3.0 | 4.1 |
| 80° | 2.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| 82.5° | 0.0 | 8.1 | 1.0 | 4.1 | 6.1 |
| 85° | 10.1 | 5.1 | 9.1 | 5.1 | 4.1 |
| 87.5° | 0.0 | 1.0 | 2.0 | 1.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| 72.5° | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)