

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: P274364

Luminaire Tested: **LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274364
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1808-906-3)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB
Description: PORTFOLIO 4" W2N SQ DOWNLIGHT, CAST SHALLOW WITH MATTE BLACK FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 712.0 lumens
Efficiency: N/A
Efficacy: 50.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.24 / 1.35
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

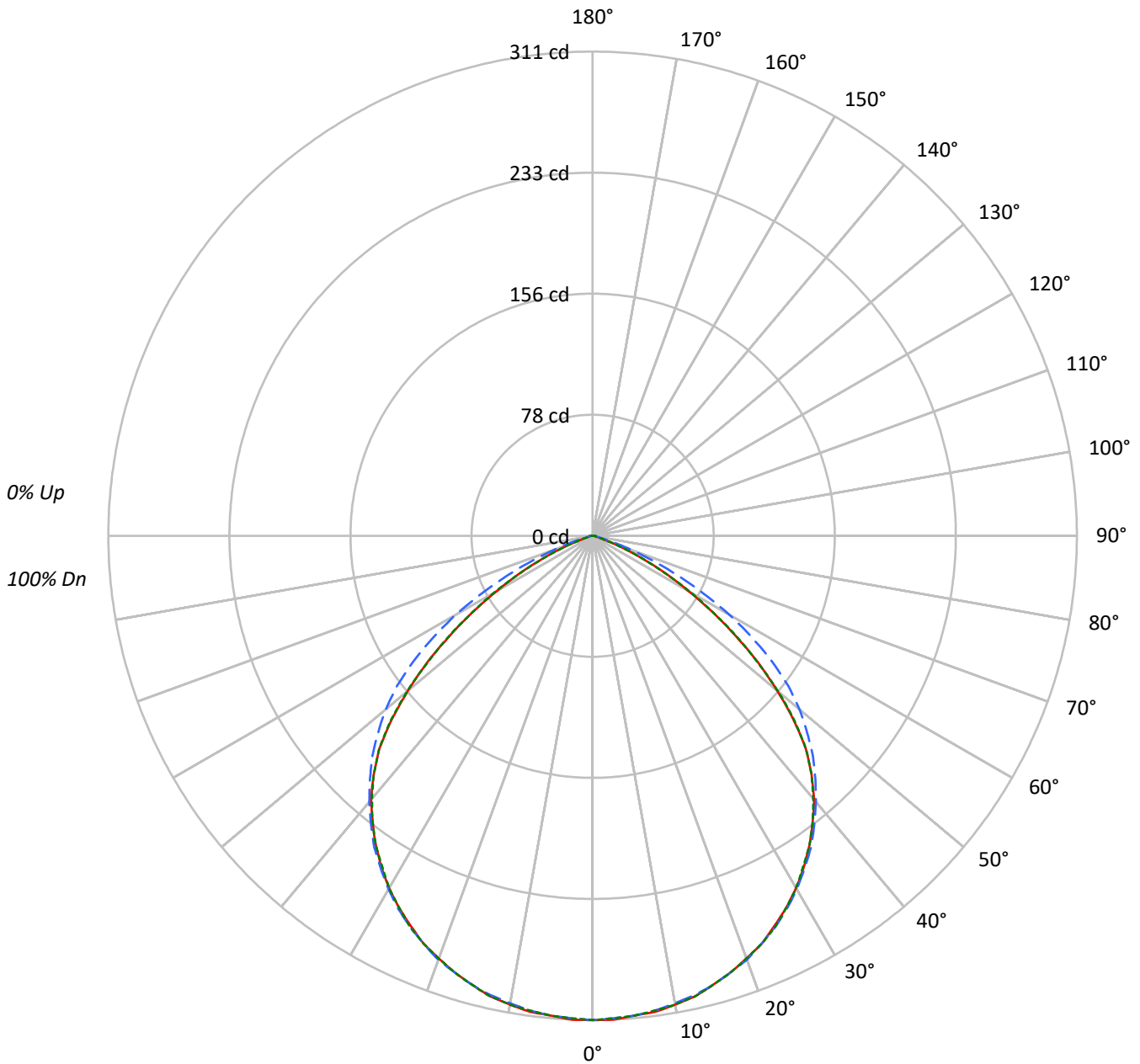
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P274364

CATALOG NUMBER: LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB

Luminous Intensity Polar Plot





TEST NUMBER: P274364

CATALOG NUMBER: LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB

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 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | 77 | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | 67 | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 75 | 68 | 62 | 73 | 67 | 62 | 71 | 65 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 | | | | | 51 | | | |
| 6 | 75 | 62 | 54 | 48 | 73 | 61 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 | | | | | 45 | | | |
| 7 | 69 | 57 | 49 | 43 | 68 | 56 | 48 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 40 | | | | | 40 | | | |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 | | | | | 36 | | | |
| 9 | 60 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 33 | | | | | 33 | | | |
| 10 | 57 | 44 | 37 | 32 | 55 | 44 | 36 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 30 | | | | | 30 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 23813 | 23813 | 23813 |
| 5° | 23765 | 23765 | 23765 |
| 10° | 23768 | 23698 | 23768 |
| 15° | 23670 | 23670 | 23670 |
| 20° | 23533 | 23606 | 23533 |
| 25° | 23344 | 23420 | 23420 |
| 30° | 23095 | 23174 | 23095 |
| 35° | 22678 | 22837 | 22678 |
| 40° | 22112 | 22292 | 22022 |
| 45° | 20979 | 21650 | 20979 |
| 50° | 18422 | 20637 | 18529 |
| 55° | 14946 | 18736 | 15066 |
| 60° | 10884 | 15508 | 11160 |
| 65° | 6756 | 10939 | 6756 |
| 70° | 2775 | 5975 | 2775 |
| 75° | 532 | 1834 | 532 |
| 80° | 793 | 793 | 793 |
| 85° | 1581 | 1581 | 1581 |



TEST NUMBER: P274364

CATALOG NUMBER: LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 29.4 | 4.1 |
| 10°-20° | 84.3 | 11.8 |
| 20°-30° | 127.5 | 17.9 |
| 30°-40° | 151.9 | 21.3 |
| 40°-50° | 150.7 | 21.2 |
| 50°-60° | 111.6 | 15.7 |
| 60°-70° | 48.5 | 6.8 |
| 70°-80° | 6.4 | 0.9 |
| 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° | 241.2 | 33.9 |
| 0°-40° | 393.1 | 55.2 |
| 0°-60° | 655.4 | 92.0 |
| 0°-90° | 712.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 712.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 311 | 311 | 311 | 311 | 311 | |
| 5° | 309 | 310 | 309 | 309 | 309 | 29 |
| 15° | 299 | 299 | 299 | 298 | 299 | 84 |
| 25° | 276 | 276 | 277 | 277 | 277 | 127 |
| 35° | 243 | 244 | 244 | 244 | 243 | 152 |
| 45° | 194 | 197 | 200 | 196 | 194 | 147 |
| 55° | 112 | 124 | 140 | 125 | 113 | 100 |
| 65° | 37 | 46 | 60 | 47 | 37 | 38 |
| 75° | 2 | 3 | 6 | 3 | 2 | 4 |
| 85° | 2 | 2 | 2 | 2 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P274364

CATALOG NUMBER: LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBCSSQ1MB

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 311.1 | 311.1 | 311.1 | 311.1 | 311.1 |
| 2.5° | 311.1 | 310.2 | 310.2 | 310.2 | 310.2 |
| 5° | 309.3 | 310.2 | 309.3 | 309.3 | 309.3 |
| 7.5° | 308.4 | 308.4 | 307.6 | 307.6 | 307.6 |
| 10° | 305.8 | 305.8 | 304.9 | 304.9 | 305.8 |
| 12.5° | 303.1 | 302.2 | 302.2 | 302.2 | 303.1 |
| 15° | 298.7 | 298.7 | 298.7 | 297.8 | 298.7 |
| 17.5° | 294.2 | 294.2 | 294.2 | 294.2 | 294.2 |
| 20° | 288.9 | 288.9 | 289.8 | 288.9 | 288.9 |
| 22.5° | 283.6 | 283.6 | 283.6 | 283.6 | 283.6 |
| 25° | 276.4 | 276.4 | 277.3 | 277.3 | 277.3 |
| 27.5° | 269.3 | 269.3 | 270.2 | 269.3 | 269.3 |
| 30° | 261.3 | 261.3 | 262.2 | 261.3 | 261.3 |
| 32.5° | 252.4 | 252.4 | 253.3 | 251.6 | 251.6 |
| 35° | 242.7 | 243.6 | 244.4 | 243.6 | 242.7 |
| 37.5° | 232.0 | 232.9 | 233.8 | 232.0 | 232.0 |
| 40° | 221.3 | 222.2 | 223.1 | 221.3 | 220.4 |
| 42.5° | 208.0 | 210.7 | 211.6 | 209.8 | 208.0 |
| 45° | 193.8 | 197.3 | 200.0 | 196.4 | 193.8 |
| 47.5° | 175.1 | 181.3 | 186.7 | 182.2 | 176.0 |
| 50° | 154.7 | 164.4 | 173.3 | 164.4 | 155.6 |
| 52.5° | 134.2 | 144.0 | 158.2 | 144.9 | 133.3 |
| 55° | 112.0 | 124.4 | 140.4 | 125.3 | 112.9 |
| 57.5° | 91.6 | 103.1 | 120.9 | 104.0 | 91.6 |
| 60° | 71.1 | 83.6 | 101.3 | 84.4 | 72.9 |
| 62.5° | 54.2 | 64.0 | 80.0 | 64.0 | 53.3 |
| 65° | 37.3 | 46.2 | 60.4 | 47.1 | 37.3 |
| 67.5° | 23.1 | 31.1 | 41.8 | 31.1 | 24.0 |
| 70° | 12.4 | 17.8 | 26.7 | 18.7 | 12.4 |
| 72.5° | 4.4 | 8.0 | 14.2 | 8.0 | 4.4 |
| 75° | 1.8 | 2.7 | 6.2 | 2.7 | 1.8 |
| 77.5° | 1.8 | 1.8 | 2.7 | 1.8 | 1.8 |
| 80° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 82.5° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 85° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 87.5° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093





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







(END OF REPORT)