

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: P211514

Luminaire Tested: **LE_4B20D010 EC4B10209027 4LBS1B**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211514
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35319)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LE_4B20D010 EC4B10209027 4LBS1B
Description: PORTFOLIO 4 INCH CYLINDER
SHALLOW DISTRIBUTION WITH SPECULAR BLACK TRIM
WATTAGE D010TR-21.86W DE010-20.46W D5LT-21.24W DMX-20.89W DL2-22.5W
DL3-21.8 6W DLE-22.46W
Light Source: HIGH LUMEN LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1665.1 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.3
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

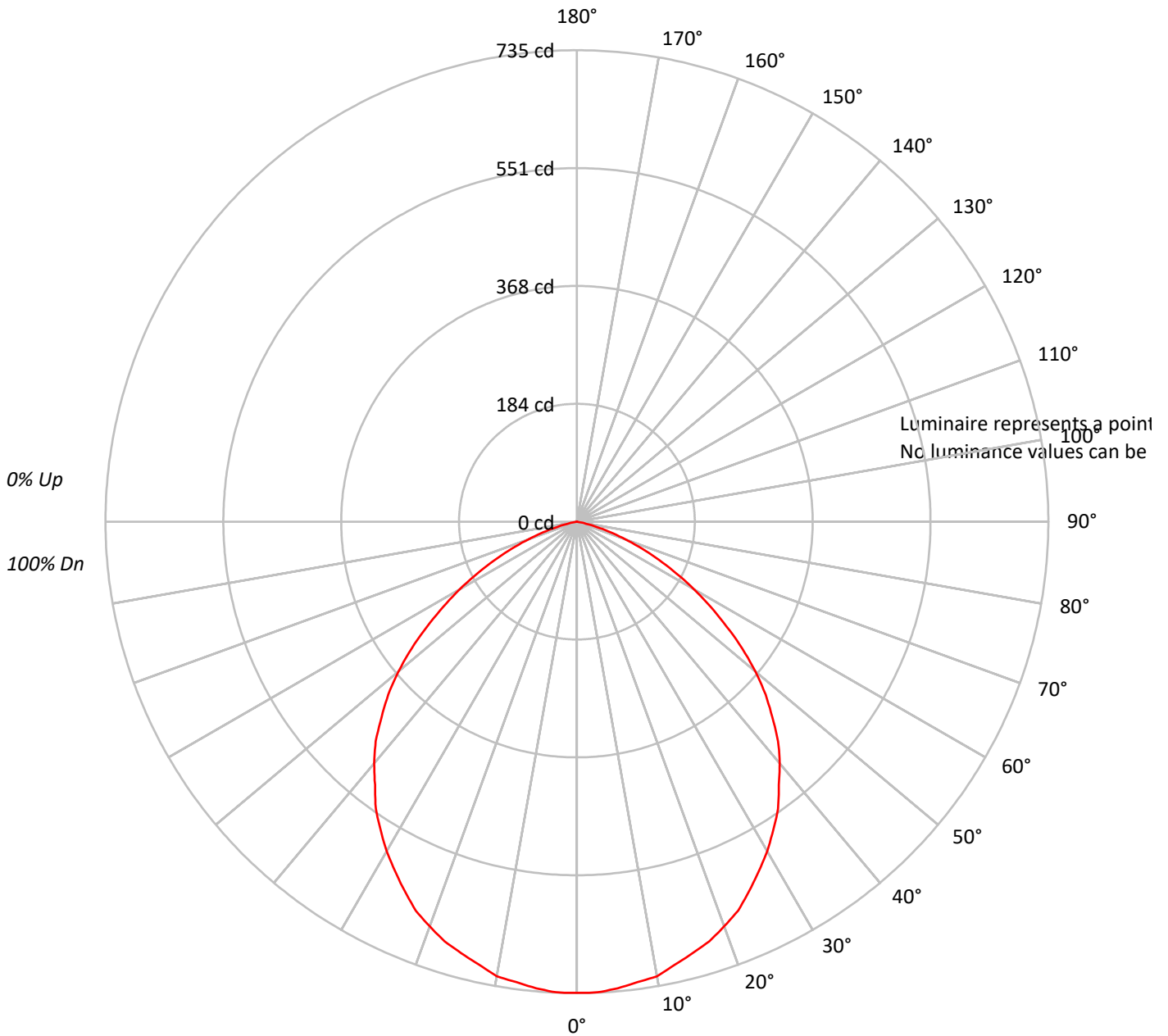
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 105 | 101 | 98 | 100 | 98 | 95 | 97 | 94 | 93 | 93 | 91 | 90 | 88 | 88 | 88 | 88 |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 86 | 83 | 79 | 84 | 80 | 78 | 76 | 76 | 76 | 76 |
| 3 | 94 | 84 | 77 | 72 | 91 | 83 | 76 | 71 | 80 | 74 | 70 | 77 | 73 | 68 | 75 | 71 | 67 | 65 | 65 | 65 | 65 |
| 4 | 86 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 57 | 57 | 57 | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 | 50 | 50 | 50 |
| 6 | 74 | 62 | 53 | 47 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 44 | 44 | 44 | 44 |
| 7 | 69 | 56 | 48 | 42 | 67 | 55 | 48 | 42 | 54 | 47 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | 39 | 39 | 39 | 39 |
| 8 | 64 | 51 | 43 | 38 | 63 | 51 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 | 35 | 35 | 35 |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 32 | 32 | 32 | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 40 | 35 | 31 | 29 | 29 | 29 | 29 |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 69.3 | 4.2 |
| 10°-20° | 196.7 | 11.8 |
| 20°-30° | 292.6 | 17.6 |
| 30°-40° | 340.5 | 20.4 |
| 40°-50° | 331.9 | 19.9 |
| 50°-60° | 255.3 | 15.3 |
| 60°-70° | 141.1 | 8.5 |
| 70°-80° | 37.4 | 2.2 |
| 80°-90° | 0.3 | 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° | 558.7 | 33.6 |
| 0°-40° | 899.2 | 54.0 |
| 0°-60° | 1486.3 | 89.3 |
| 0°-90° | 1665.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1665.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 735 | |
| 5° | 730 | 69 |
| 15° | 697 | 197 |
| 25° | 635 | 293 |
| 35° | 547 | 341 |
| 45° | 431 | 332 |
| 55° | 285 | 255 |
| 65° | 141 | 141 |
| 75° | 32 | 37 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 734.6 |
| 2.5° | 734.6 |
| 5° | 730.3 |
| 7.5° | 724.1 |
| 10° | 719.8 |
| 12.5° | 707.1 |
| 15° | 696.6 |
| 17.5° | 686.0 |
| 20° | 671.3 |
| 22.5° | 656.4 |
| 25° | 635.3 |
| 27.5° | 614.2 |
| 30° | 593.1 |
| 32.5° | 569.9 |
| 35° | 546.7 |
| 37.5° | 517.1 |
| 40° | 491.8 |
| 42.5° | 464.3 |
| 45° | 430.6 |
| 47.5° | 398.9 |
| 50° | 363.1 |
| 52.5° | 325.0 |
| 55° | 285.0 |
| 57.5° | 247.0 |
| 60° | 211.1 |
| 62.5° | 175.2 |
| 65° | 141.4 |
| 67.5° | 109.7 |
| 70° | 80.2 |
| 72.5° | 54.9 |
| 75° | 31.7 |
| 77.5° | 14.7 |
| 80° | 2.1 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)