

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: P211609

Luminaire Tested: **LSR4B20D010BZ EC4B10209030 4LBWGPH1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211609
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: LSR4B20D010BZ EC4B10209030 4LBWGPH1
Description: PORTFOLIO 4 INCH CYLINDER
WIDE DISTRIBUTIONWITH GRAPHITE HAZE 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: 1132.1 lumens
Efficiency: N/A
Efficacy: 54.4 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.08
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

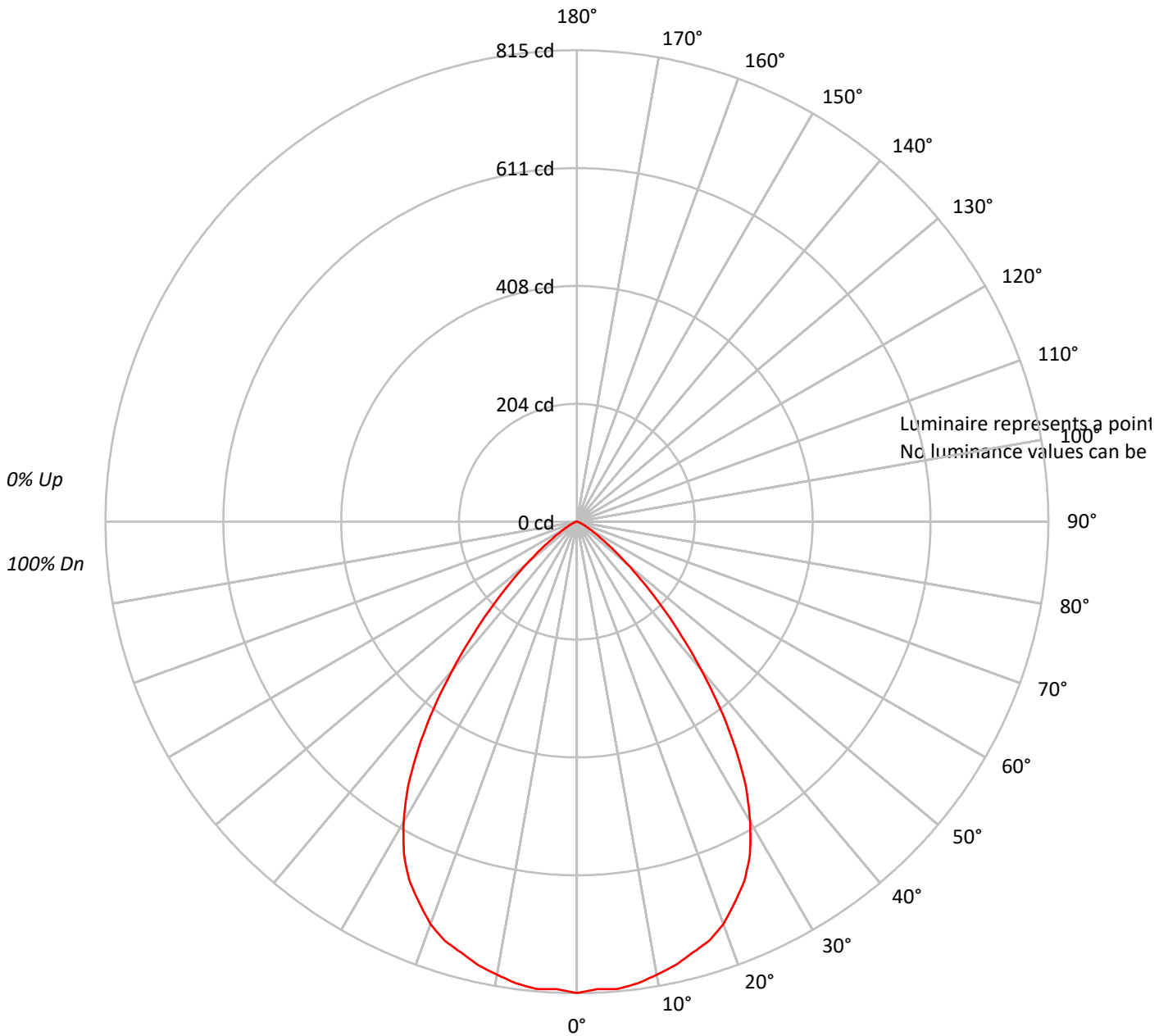
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | | | | | | | | | | | |
| 1 | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 99 | 100 | 98 | 96 | 96 | 95 | 94 | 92 | | | | | | | | | | | | | | | | | | | |
| 2 | 106 | 100 | 96 | 92 | 104 | 99 | 95 | 91 | 95 | 92 | 89 | 92 | 90 | 87 | 90 | 87 | 85 | 83 | | | | | | | | | | | | | | | | | | | |
| 3 | 100 | 92 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 76 | | | | | | | | | | | | | | | | | | | |
| 4 | 94 | 85 | 78 | 74 | 92 | 84 | 78 | 73 | 81 | 76 | 72 | 79 | 75 | 71 | 77 | 74 | 71 | 69 | | | | | | | | | | | | | | | | | | | |
| 5 | 88 | 78 | 72 | 67 | 86 | 77 | 71 | 66 | 75 | 70 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 63 | | | | | | | | | | | | | | | | | | | |
| 6 | 83 | 72 | 65 | 61 | 81 | 71 | 65 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 67 | 63 | 59 | 57 | | | | | | | | | | | | | | | | | | | |
| 7 | 78 | 67 | 60 | 55 | 76 | 66 | 60 | 55 | 65 | 59 | 55 | 64 | 58 | 55 | 63 | 58 | 54 | 53 | | | | | | | | | | | | | | | | | | | |
| 8 | 73 | 62 | 56 | 51 | 72 | 62 | 55 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | 58 | 54 | 50 | 48 | | | | | | | | | | | | | | | | | | | |
| 9 | 69 | 58 | 51 | 47 | 68 | 58 | 51 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 55 | 50 | 46 | 45 | | | | | | | | | | | | | | | | | | | |
| 10 | 65 | 54 | 48 | 43 | 64 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 51 | 46 | 43 | 41 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 76.9 | 6.8 |
| 10°-20° | 217.8 | 19.2 |
| 20°-30° | 312.4 | 27.6 |
| 30°-40° | 294.1 | 26.0 |
| 40°-50° | 162.4 | 14.3 |
| 50°-60° | 52.1 | 4.6 |
| 60°-70° | 13.1 | 1.2 |
| 70°-80° | 3.1 | 0.3 |
| 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° | 607.0 | 53.6 |
| 0°-40° | 901.1 | 79.6 |
| 0°-60° | 1115.7 | 98.5 |
| 0°-90° | 1132.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1132.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 815 | |
| 5° | 811 | 77 |
| 15° | 772 | 218 |
| 25° | 685 | 312 |
| 35° | 477 | 294 |
| 45° | 206 | 162 |
| 55° | 53 | 52 |
| 65° | 12 | 13 |
| 75° | 2 | 3 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 814.8 |
| 2.5° | 808.9 |
| 5° | 810.9 |
| 7.5° | 805.0 |
| 10° | 795.2 |
| 12.5° | 785.4 |
| 15° | 771.6 |
| 17.5° | 759.8 |
| 20° | 740.2 |
| 22.5° | 712.7 |
| 25° | 685.2 |
| 27.5° | 647.9 |
| 30° | 598.8 |
| 32.5° | 543.9 |
| 35° | 477.1 |
| 37.5° | 406.4 |
| 40° | 333.8 |
| 42.5° | 267.0 |
| 45° | 206.2 |
| 47.5° | 155.1 |
| 50° | 111.9 |
| 52.5° | 78.5 |
| 55° | 53.0 |
| 57.5° | 35.3 |
| 60° | 25.5 |
| 62.5° | 17.7 |
| 65° | 11.8 |
| 67.5° | 7.9 |
| 70° | 5.9 |
| 72.5° | 3.9 |
| 75° | 2.0 |
| 77.5° | 2.0 |
| 80° | 2.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)