

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: P211636

Luminaire Tested: **LSR4B20D010BZ EC4B10209730 4LBSWMH1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P211636
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 EC4B10209730 4LBSWMH1
Description: PORTFOLIO 4 INCH CYLINDER
SHALLOW DISTRIBUTION WITH WARM 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: 1505.2 lumens
Efficiency: N/A
Efficacy: 72.4 lumens/watt
Spacing Criteria (0/90/45): 0.99 / 0.99 / 1.08
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

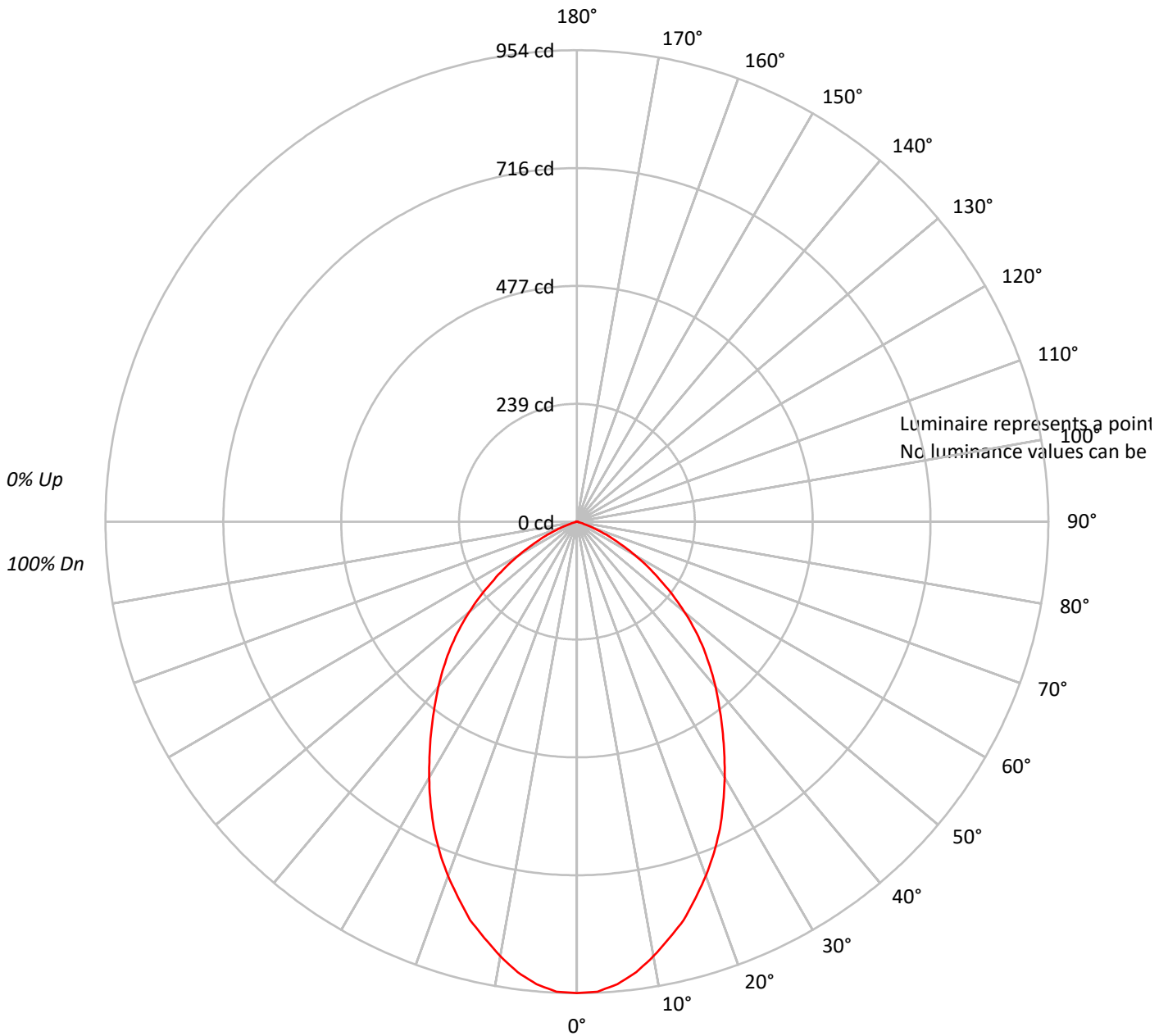
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | | | | | | | | | | | |
| 1 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 97 | 98 | 96 | 94 | 95 | 93 | 92 | 90 | | | | | | | | | | | | | | | | | | | |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | | | | | | | | | | | | | | | | |
| 3 | 96 | 88 | 82 | 76 | 94 | 87 | 81 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 70 | | | | | | | | | | | | | | | | | | | |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 | | | | | | | | | | | | | | | | | | | |
| 5 | 83 | 73 | 65 | 59 | 82 | 72 | 64 | 59 | 70 | 63 | 59 | 68 | 62 | 58 | 66 | 61 | 57 | 56 | | | | | | | | | | | | | | | | | | | |
| 6 | 78 | 66 | 59 | 53 | 76 | 65 | 58 | 53 | 64 | 57 | 53 | 62 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | | | | | | | | | | | | | | | |
| 7 | 73 | 61 | 53 | 48 | 71 | 60 | 53 | 48 | 59 | 52 | 48 | 57 | 52 | 47 | 56 | 51 | 47 | 45 | | | | | | | | | | | | | | | | | | | |
| 8 | 68 | 56 | 49 | 44 | 67 | 56 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 41 | | | | | | | | | | | | | | | | | | | |
| 9 | 64 | 52 | 45 | 40 | 63 | 52 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 39 | 49 | 43 | 39 | 38 | | | | | | | | | | | | | | | | | | | |
| 10 | 60 | 48 | 41 | 37 | 59 | 48 | 41 | 37 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 35 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 88.2 | 5.9 |
| 10°-20° | 233.7 | 15.5 |
| 20°-30° | 313.8 | 20.8 |
| 30°-40° | 321.2 | 21.3 |
| 40°-50° | 278.1 | 18.5 |
| 50°-60° | 184.9 | 12.3 |
| 60°-70° | 76.0 | 5.0 |
| 70°-80° | 9.0 | 0.6 |
| 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° | 635.6 | 42.2 |
| 0°-40° | 956.9 | 63.6 |
| 0°-60° | 1419.9 | 94.3 |
| 0°-90° | 1505.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1505.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 954 | |
| 5° | 939 | 88 |
| 15° | 835 | 234 |
| 25° | 685 | 314 |
| 35° | 513 | 321 |
| 45° | 362 | 278 |
| 55° | 205 | 185 |
| 65° | 75 | 76 |
| 75° | 4 | 9 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 954.0 |
| 2.5° | 952.0 |
| 5° | 939.2 |
| 7.5° | 919.5 |
| 10° | 892.8 |
| 12.5° | 863.2 |
| 15° | 834.6 |
| 17.5° | 798.1 |
| 20° | 762.6 |
| 22.5° | 725.1 |
| 25° | 684.7 |
| 27.5° | 641.3 |
| 30° | 597.9 |
| 32.5° | 554.4 |
| 35° | 513.0 |
| 37.5° | 473.5 |
| 40° | 436.1 |
| 42.5° | 398.6 |
| 45° | 362.1 |
| 47.5° | 323.6 |
| 50° | 284.1 |
| 52.5° | 244.7 |
| 55° | 205.2 |
| 57.5° | 170.7 |
| 60° | 135.2 |
| 62.5° | 102.6 |
| 65° | 75.0 |
| 67.5° | 49.3 |
| 70° | 28.6 |
| 72.5° | 13.8 |
| 75° | 3.9 |
| 77.5° | 2.0 |
| 80° | 1.0 |
| 82.5° | 1.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)