

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: P225199

Luminaire Tested: **LD2B20D010 EU2B20FL409027 2LBDSQC*MB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P225199
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14838)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD2B20D010 EU2B20FL409027 2LBDSQC*MB
Description: 2000 Lumen, 2inch Portfolio LED Downlight
FLOOD OPTIC
SQUARE CAST TRIM WITH MATTE BLACK FINISH
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1361.5 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 0.6 / 0.61 / 0.59
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

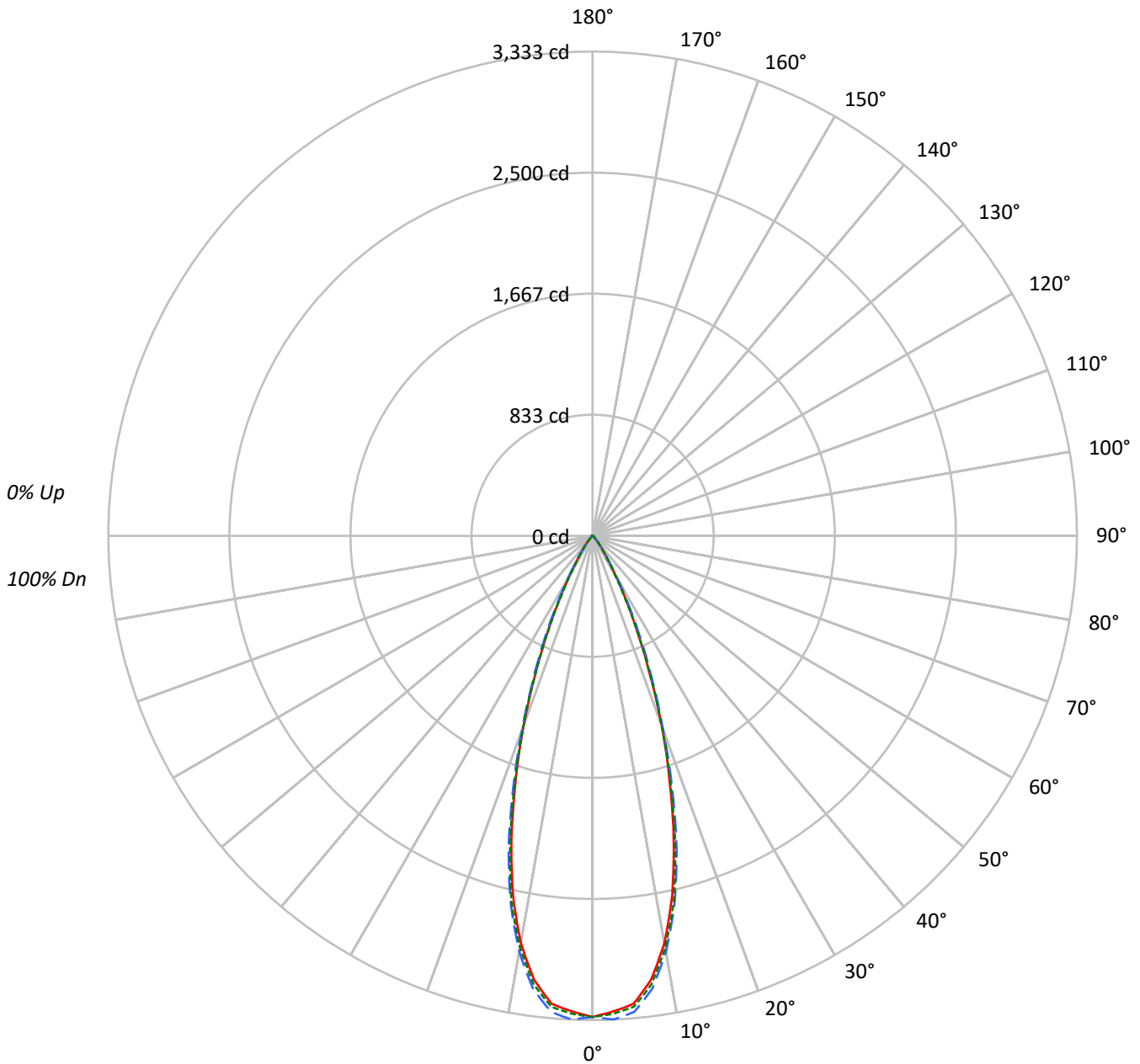
Input Watts (W): 20.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 115 | 112 | 110 | 108 | 112 | 110 | 108 | 107 | 106 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | | | | | | | | | | | | | | | | | | | |
| 2 | 110 | 106 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 99 | 97 | 98 | 97 | 95 | 96 | 94 | 93 | 91 | | | | | | | | | | | | | | | | | | | |
| 3 | 106 | 101 | 97 | 94 | 104 | 99 | 96 | 93 | 97 | 94 | 91 | 95 | 92 | 90 | 92 | 90 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 4 | 102 | 96 | 92 | 88 | 100 | 95 | 91 | 88 | 93 | 89 | 87 | 91 | 88 | 86 | 89 | 87 | 85 | 83 | | | | | | | | | | | | | | | | | | | |
| 5 | 98 | 92 | 87 | 84 | 97 | 91 | 86 | 83 | 89 | 85 | 82 | 88 | 84 | 82 | 86 | 83 | 81 | 80 | | | | | | | | | | | | | | | | | | | |
| 6 | 95 | 88 | 83 | 79 | 93 | 87 | 82 | 79 | 86 | 82 | 79 | 84 | 81 | 78 | 83 | 80 | 78 | 77 | | | | | | | | | | | | | | | | | | | |
| 7 | 91 | 84 | 79 | 76 | 90 | 83 | 79 | 76 | 82 | 78 | 75 | 81 | 78 | 75 | 80 | 77 | 75 | 73 | | | | | | | | | | | | | | | | | | | |
| 8 | 88 | 81 | 76 | 73 | 87 | 80 | 76 | 73 | 79 | 75 | 72 | 78 | 75 | 72 | 77 | 74 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 9 | 85 | 78 | 73 | 70 | 84 | 77 | 73 | 70 | 76 | 72 | 69 | 75 | 72 | 69 | 75 | 71 | 69 | 68 | | | | | | | | | | | | | | | | | | | |
| 10 | 82 | 75 | 70 | 67 | 82 | 74 | 70 | 67 | 74 | 70 | 67 | 73 | 69 | 67 | 72 | 69 | 66 | 65 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 1283045 | 1283045 | 1283045 |
| 5° | 1257695 | 1279314 | 1265627 |
| 10° | 1119196 | 1143267 | 1131586 |
| 15° | 864738 | 895937 | 880337 |
| 20° | 570450 | 582652 | 573501 |
| 25° | 311182 | 332551 | 312763 |
| 30° | 140040 | 154934 | 134225 |
| 35° | 60432 | 62181 | 55183 |
| 40° | 25282 | 26243 | 23411 |
| 45° | 10134 | 11175 | 11175 |
| 50° | 4459 | 5604 | 5604 |
| 55° | 2499 | 2499 | 3782 |
| 60° | 1472 | 1472 | 1472 |
| 65° | 0 | 0 | 0 |
| 70° | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 299.4 | 22.0 |
| 10°-20° | 596.0 | 43.8 |
| 20°-30° | 352.0 | 25.9 |
| 30°-40° | 91.7 | 6.7 |
| 40°-50° | 18.1 | 1.3 |
| 50°-60° | 4.0 | 0.3 |
| 60°-70° | 0.3 | 0.0 |
| 70°-80° | 0.0 | 0.0 |
| 80°-90° | 0.0 | 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° | 1247.4 | 91.6 |
| 0°-40° | 1339.1 | 98.4 |
| 0°-60° | 1361.2 | 100.0 |
| 0°-90° | 1361.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1361.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3312 | 3312 | 3312 | 3312 | 3312 | |
| 5° | 3235 | 3260 | 3290 | 3268 | 3255 | 296 |
| 15° | 2156 | 2205 | 2234 | 2201 | 2195 | 585 |
| 25° | 728 | 752 | 778 | 748 | 732 | 343 |
| 35° | 128 | 133 | 132 | 130 | 117 | 89 |
| 45° | 18 | 22 | 20 | 20 | 20 | 17 |
| 55° | 4 | 4 | 4 | 4 | 6 | 4 |
| 65° | 0 | 0 | 0 | 0 | 0 | 1 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3312.4 | 3312.4 | 3312.4 | 3312.4 | 3312.4 |
| 2.5° | 3277.2 | 3310.5 | 3332.8 | 3314.2 | 3293.9 |
| 5° | 3234.6 | 3260.5 | 3290.2 | 3267.9 | 3255.0 |
| 7.5° | 3082.7 | 3121.6 | 3143.8 | 3132.7 | 3112.3 |
| 10° | 2845.5 | 2875.2 | 2906.7 | 2895.6 | 2877.0 |
| 12.5° | 2532.5 | 2573.2 | 2602.9 | 2576.9 | 2580.6 |
| 15° | 2156.4 | 2204.6 | 2234.2 | 2200.9 | 2195.3 |
| 17.5° | 1758.1 | 1795.1 | 1815.5 | 1795.1 | 1780.3 |
| 20° | 1383.9 | 1406.1 | 1413.5 | 1404.2 | 1391.3 |
| 22.5° | 1022.6 | 1046.7 | 1068.9 | 1046.7 | 1030.0 |
| 25° | 728.1 | 752.1 | 778.1 | 748.4 | 731.8 |
| 27.5° | 490.9 | 505.8 | 528.0 | 500.2 | 476.1 |
| 30° | 313.1 | 329.8 | 346.4 | 326.1 | 300.1 |
| 32.5° | 198.2 | 209.3 | 211.2 | 207.5 | 185.3 |
| 35° | 127.8 | 133.4 | 131.5 | 129.7 | 116.7 |
| 37.5° | 81.5 | 81.5 | 83.4 | 81.5 | 74.1 |
| 40° | 50.0 | 53.7 | 51.9 | 50.0 | 46.3 |
| 42.5° | 29.6 | 33.3 | 31.5 | 31.5 | 29.6 |
| 45° | 18.5 | 22.2 | 20.4 | 20.4 | 20.4 |
| 47.5° | 13.0 | 14.8 | 13.0 | 13.0 | 14.8 |
| 50° | 7.4 | 9.3 | 9.3 | 9.3 | 9.3 |
| 52.5° | 5.6 | 5.6 | 5.6 | 5.6 | 7.4 |
| 55° | 3.7 | 3.7 | 3.7 | 3.7 | 5.6 |
| 57.5° | 3.7 | 3.7 | 1.9 | 1.9 | 3.7 |
| 60° | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 62.5° | 1.9 | 0.0 | 0.0 | 0.0 | 1.9 |
| 65° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







(END OF REPORT)