

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: io LED

Report Number: P397372

Luminaire Tested: **VRVT4LED-LD5-12-PC-UNV-LR63-CD1-WL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P397372
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-367-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: VRVT4LED-LD5-12-PC-UNV-LR63-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

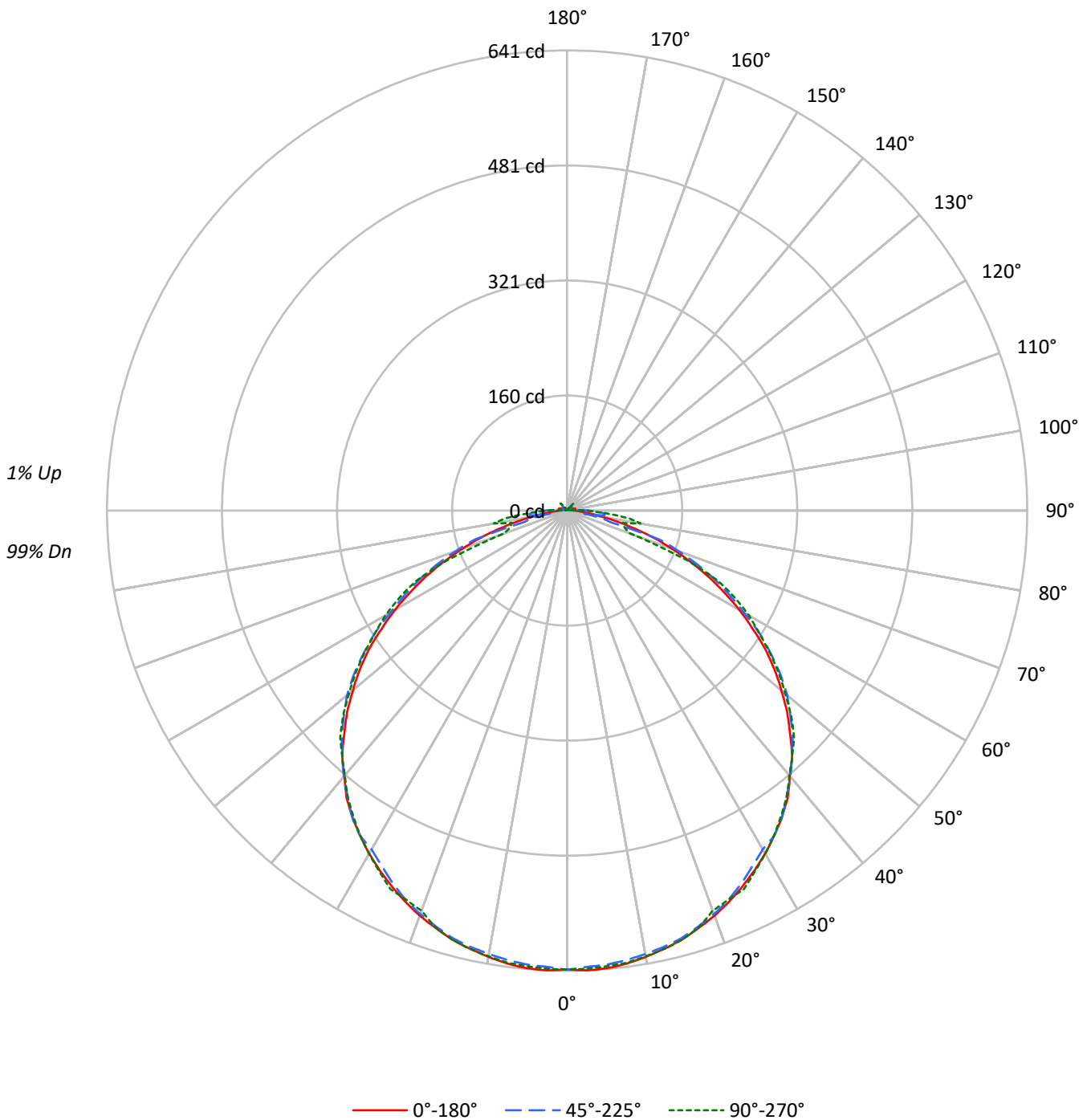
Lumens per Lamp: N/A
Luminaire Lumens: 1857.3 lumens
Efficiency: N/A
Efficacy: 7.7 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.04' x L: 4.12' x H: 0.25')
CIE Type: Direct

Input Watts (W): 239.7
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





TEST NUMBER: P397372

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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 99 |
| 1 | 108 | 104 | 99 | 96 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 62 | 69 | 65 | 61 | 58 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | 57 | 51 | 46 | 55 | 50 | 45 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 43 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 31 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 28 | 27 |
| 10 | 53 | 40 | 32 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1602 | 1602 | 1602 |
| 5° | 1601 | 1567 | 1569 |
| 10° | 1589 | 1538 | 1539 |
| 15° | 1579 | 1513 | 1508 |
| 20° | 1566 | 1480 | 1454 |
| 25° | 1553 | 1442 | 1447 |
| 30° | 1542 | 1404 | 1402 |
| 35° | 1530 | 1390 | 1360 |
| 40° | 1502 | 1343 | 1311 |
| 45° | 1467 | 1297 | 1277 |
| 50° | 1416 | 1244 | 1202 |
| 55° | 1355 | 1159 | 1119 |
| 60° | 1258 | 1041 | 1034 |
| 65° | 1135 | 922 | 911 |
| 70° | 972 | 762 | 413 |
| 75° | 770 | 338 | 416 |
| 80° | 538 | 156 | 633 |
| 85° | 360 | 442 | 484 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.6 | 3.3 |
| 10°-20° | 174.3 | 9.4 |
| 20°-30° | 265.9 | 14.3 |
| 30°-40° | 325.6 | 17.5 |
| 40°-50° | 341.1 | 18.4 |
| 50°-60° | 306.6 | 16.5 |
| 60°-70° | 219.1 | 11.8 |
| 70°-80° | 92.9 | 5.0 |
| 80°-90° | 47.3 | 2.5 |
| 90°-100° | 9.9 | 0.5 |
| 100°-110° | 4.3 | 0.2 |
| 110°-120° | 3.0 | 0.2 |
| 120°-130° | 2.1 | 0.1 |
| 130°-140° | 3.2 | 0.2 |
| 140°-150° | 1.1 | 0.1 |
| 150°-160° | 0.2 | 0.0 |
| 160°-170° | 0.1 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 500.7 | 27.0 |
| 0°-40° | 826.3 | 44.5 |
| 0°-60° | 1474.0 | 79.4 |
| 0°-90° | 1833.3 | 98.7 |
| 90°-120° | 17.2 | 0.9 |
| 90°-150° | 23.6 | 1.3 |
| 90°-180° | 24.0 | 1.3 |
| 0°-180° | 1857.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 639 | 639 | 639 | 639 | 639 | |
| 5° | 640 | 637 | 635 | 638 | 637 | 61 |
| 15° | 619 | 617 | 616 | 619 | 619 | 175 |
| 25° | 578 | 579 | 573 | 579 | 582 | 266 |
| 35° | 521 | 522 | 522 | 521 | 520 | 326 |
| 45° | 439 | 440 | 444 | 444 | 447 | 339 |
| 55° | 337 | 341 | 346 | 346 | 344 | 300 |
| 65° | 216 | 220 | 226 | 234 | 233 | 214 |
| 75° | 98 | 99 | 63 | 41 | 81 | 105 |
| 85° | 21 | 15 | 53 | 67 | 63 | 24 |
| 90° | 9 | 13 | 30 | 26 | 27 | 5 |
| 95° | 8 | 8 | 6 | 4 | 4 | 8 |
| 105° | 11 | 5 | 3 | 2 | 2 | 11 |
| 115° | 6 | 5 | 2 | 2 | 1 | 6 |
| 125° | 3 | 2 | 2 | 1 | 1 | 3 |
| 135° | 2 | 1 | 4 | 12 | 5 | 1 |
| 145° | 1 | 1 | 0 | 4 | 3 | 0 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 1 | 1 | 1 | 0 | 0 | 0 |
| 175° | 1 | 1 | 1 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P397372

CATALOG NUMBER: VRVT4LED-LD5-12-PC-UNV-LR63-CD1-WL-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 639.4 | 639.4 | 639.4 | 639.4 | 639.4 |
| 2.5° | 641.1 | 639.2 | 636.2 | 639.0 | 638.7 |
| 5° | 640.0 | 637.3 | 634.7 | 637.7 | 637.1 |
| 7.5° | 636.6 | 633.7 | 631.6 | 634.7 | 635.2 |
| 10° | 631.3 | 629.6 | 627.1 | 630.9 | 630.5 |
| 12.5° | 625.2 | 624.6 | 622.4 | 625.4 | 625.4 |
| 15° | 618.7 | 617.2 | 616.5 | 619.3 | 618.9 |
| 17.5° | 609.6 | 609.6 | 607.4 | 611.2 | 608.9 |
| 20° | 600.5 | 599.6 | 598.1 | 596.0 | 593.1 |
| 22.5° | 589.7 | 589.9 | 587.1 | 582.7 | 586.5 |
| 25° | 577.6 | 578.9 | 573.4 | 578.7 | 582.1 |
| 27.5° | 565.1 | 566.0 | 558.6 | 568.7 | 566.6 |
| 30° | 551.6 | 551.4 | 544.8 | 552.2 | 552.0 |
| 32.5° | 536.8 | 538.1 | 537.0 | 537.0 | 536.6 |
| 35° | 521.4 | 521.8 | 522.2 | 521.2 | 519.5 |
| 37.5° | 504.6 | 503.2 | 502.1 | 503.2 | 502.1 |
| 40° | 482.7 | 484.6 | 484.1 | 484.8 | 481.6 |
| 42.5° | 463.8 | 459.4 | 463.4 | 464.0 | 464.0 |
| 45° | 439.1 | 440.4 | 444.0 | 443.7 | 447.1 |
| 47.5° | 415.6 | 415.4 | 421.5 | 424.5 | 423.4 |
| 50° | 389.6 | 396.6 | 400.0 | 399.1 | 396.6 |
| 52.5° | 364.4 | 370.3 | 374.1 | 373.5 | 371.4 |
| 55° | 337.1 | 340.9 | 346.0 | 345.6 | 344.1 |
| 57.5° | 306.3 | 314.1 | 317.5 | 318.7 | 317.0 |
| 60° | 277.5 | 281.5 | 284.3 | 289.3 | 292.3 |
| 62.5° | 246.2 | 251.5 | 255.1 | 263.1 | 263.7 |
| 65° | 216.4 | 220.2 | 226.5 | 233.9 | 232.9 |
| 67.5° | 185.5 | 189.5 | 196.5 | 204.5 | 180.6 |
| 70° | 154.8 | 158.0 | 164.8 | 97.5 | 93.5 |
| 72.5° | 126.9 | 126.3 | 136.2 | 82.7 | 85.4 |
| 75° | 97.5 | 99.4 | 62.6 | 40.6 | 81.4 |
| 77.5° | 71.5 | 75.1 | 48.6 | 80.6 | 79.1 |
| 80° | 50.1 | 54.4 | 23.9 | 74.9 | 103.6 |
| 82.5° | 33.2 | 27.3 | 52.2 | 89.0 | 88.8 |
| 85° | 21.2 | 15.2 | 52.7 | 67.3 | 63.0 |
| 87.5° | 14.2 | 11.6 | 45.5 | 44.4 | 40.4 |
| 90° | 8.7 | 13.1 | 30.5 | 25.6 | 26.7 |
| 92.5° | 6.8 | 13.7 | 16.1 | 12.5 | 11.2 |
| 95° | 8.5 | 8.3 | 6.4 | 4.2 | 3.6 |
| 97.5° | 11.2 | 4.4 | 3.4 | 2.8 | 2.3 |
| 100° | 12.0 | 4.0 | 3.0 | 2.3 | 2.1 |
| 102.5° | 12.0 | 4.4 | 3.0 | 2.3 | 2.1 |
| 105° | 11.0 | 4.9 | 2.8 | 2.3 | 2.1 |
| 107.5° | 9.7 | 5.1 | 2.8 | 2.1 | 1.9 |
| 110° | 8.5 | 5.3 | 2.5 | 1.9 | 1.9 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|------|
| 112.5° | 7.2 | 5.1 | 2.3 | 1.7 | 1.5 |
| 115° | 6.1 | 4.7 | 2.3 | 1.5 | 1.3 |
| 117.5° | 5.1 | 4.2 | 2.1 | 1.3 | 1.3 |
| 120° | 4.2 | 3.8 | 2.1 | 1.3 | 1.1 |
| 122.5° | 3.6 | 3.4 | 2.1 | 1.1 | 1.1 |
| 125° | 3.0 | 2.5 | 2.3 | 1.1 | 1.1 |
| 127.5° | 2.5 | 1.9 | 3.8 | 1.3 | 1.1 |
| 130° | 2.1 | 1.5 | 8.5 | 1.7 | 1.3 |
| 132.5° | 1.7 | 1.3 | 7.4 | 3.4 | 1.9 |
| 135° | 1.5 | 1.1 | 3.6 | 12.5 | 5.1 |
| 137.5° | 1.1 | 0.8 | 2.1 | 8.9 | 13.5 |
| 140° | 0.8 | 0.6 | 2.3 | 5.1 | 8.0 |
| 142.5° | 0.8 | 0.6 | 1.3 | 2.3 | 3.4 |
| 145° | 0.6 | 0.6 | 0.4 | 3.8 | 2.8 |
| 147.5° | 0.6 | 0.4 | 0.4 | 2.8 | 4.7 |
| 150° | 0.4 | 0.4 | 0.4 | 0.8 | 2.1 |
| 152.5° | 0.4 | 0.4 | 0.4 | 0.2 | 0.4 |
| 155° | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 |
| 157.5° | 0.4 | 0.4 | 0.6 | 0.2 | 0.2 |
| 160° | 0.4 | 0.6 | 0.6 | 0.2 | 0.2 |
| 162.5° | 0.4 | 0.6 | 0.6 | 0.2 | 0.2 |
| 165° | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 |
| 167.5° | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 |
| 170° | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 |
| 172.5° | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 |
| 175° | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 |
| 177.5° | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 |
| 180° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |

(END OF REPORT)