

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: P397461

Luminaire Tested: **VRVT4S-LD5-9-PC-LG52-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P397461
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1801-511-6)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: VRVT4S-LD5-9-PC-LG52-CD1-U
Description:
Light Source: -
Ballast/Driver: -

Summary

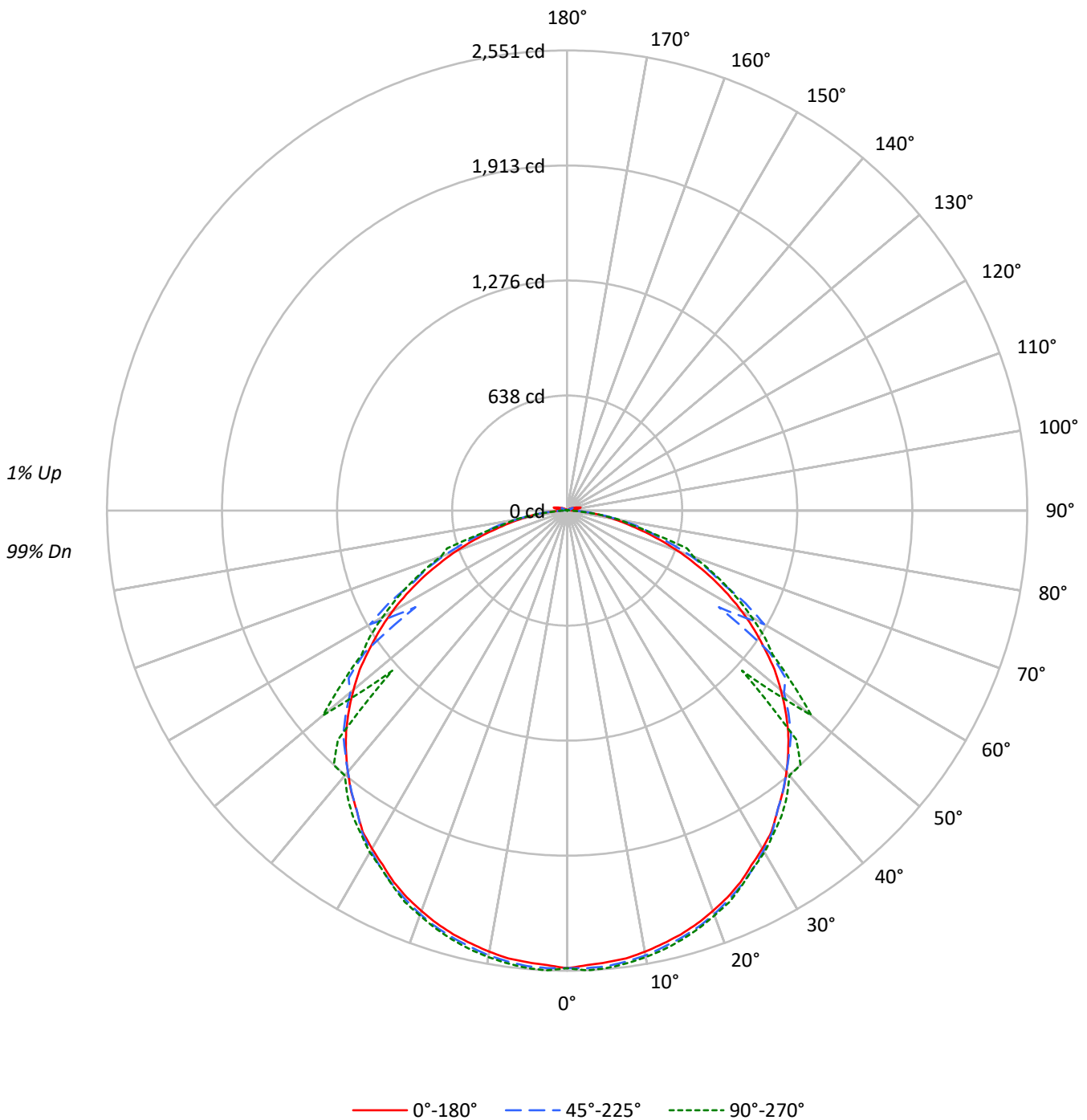
Lumens per Lamp: N/A
Luminaire Lumens: 7464.8 lumens
Efficiency: N/A
Efficacy: 51.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.28 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.08' x L: 2.08' x H: 0.25')
CIE Type: Direct

Input Watts (W): 146.4
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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CATALOG NUMBER: VRVT4S-LD5-9-PC-LG52-CD1-U

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | | 106 | 106 | 106 | | 101 | 101 | 101 | 99 |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | | 93 | 90 | 88 | | 89 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 78 | 96 | 88 | 82 | 77 | 85 | 79 | 75 | | 81 | 77 | 73 | | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | | 71 | 66 | 61 | | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | | 63 | 57 | 52 | | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 47 | 73 | 61 | 53 | 46 | 59 | 52 | 46 | | 57 | 50 | 45 | | 55 | 49 | 45 | 42 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | | 51 | 45 | 40 | | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | | 47 | 40 | 35 | | 45 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | | 43 | 36 | 31 | | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 33 | 28 | | 40 | 33 | 28 | | 38 | 32 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | | 37 | 30 | 26 | | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12104 | 12104 | 12104 |
| 5° | 11915 | 11885 | 11952 |
| 10° | 11783 | 11621 | 11701 |
| 15° | 11642 | 11353 | 11454 |
| 20° | 11489 | 11088 | 11188 |
| 25° | 11335 | 10800 | 10898 |
| 30° | 11149 | 10493 | 10636 |
| 35° | 10918 | 10081 | 10384 |
| 40° | 10704 | 9747 | 10005 |
| 45° | 10443 | 9487 | 9852 |
| 50° | 10041 | 8989 | 10287 |
| 55° | 9503 | 8415 | 8701 |
| 60° | 8845 | 8413 | 8053 |
| 65° | 7979 | 6929 | 7255 |
| 70° | 6852 | 5988 | 6344 |
| 75° | 5451 | 4608 | 4866 |
| 80° | 4167 | 3279 | 3465 |
| 85° | 2654 | 1676 | 1469 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 240.8 | 3.2 |
| 10°-20° | 691.8 | 9.3 |
| 20°-30° | 1053.6 | 14.1 |
| 30°-40° | 1281.9 | 17.2 |
| 40°-50° | 1335.2 | 17.9 |
| 50°-60° | 1220.3 | 16.3 |
| 60°-70° | 929.3 | 12.4 |
| 70°-80° | 504.4 | 6.8 |
| 80°-90° | 138.9 | 1.9 |
| 90°-100° | 17.8 | 0.2 |
| 100°-110° | 24.2 | 0.3 |
| 110°-120° | 16.1 | 0.2 |
| 120°-130° | 6.2 | 0.1 |
| 130°-140° | 2.5 | 0.0 |
| 140°-150° | 0.8 | 0.0 |
| 150°-160° | 0.5 | 0.0 |
| 160°-170° | 0.4 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 1986.2 | 26.6 |
| 0°-40° | 3268.1 | 43.8 |
| 0°-60° | 5823.6 | 78.0 |
| 0°-90° | 7396.2 | 99.1 |
| 90°-120° | 58.1 | 0.8 |
| 90°-150° | 67.6 | 0.9 |
| 90°-180° | 69.0 | 0.9 |
| 0°-180° | 7464.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2537 | 2537 | 2537 | 2537 | 2537 | |
| 5° | 2514 | 2524 | 2535 | 2545 | 2546 | 239 |
| 15° | 2433 | 2444 | 2451 | 2461 | 2462 | 687 |
| 25° | 2273 | 2285 | 2289 | 2293 | 2293 | 1047 |
| 35° | 2032 | 2046 | 2031 | 2056 | 2071 | 1274 |
| 45° | 1733 | 1737 | 1755 | 1838 | 1797 | 1334 |
| 55° | 1338 | 1342 | 1370 | 1462 | 1391 | 1197 |
| 65° | 889 | 915 | 940 | 960 | 961 | 877 |
| 75° | 428 | 476 | 481 | 491 | 491 | 461 |
| 85° | 115 | 125 | 117 | 98 | 98 | 124 |
| 90° | 23 | 33 | 31 | 28 | 27 | 16 |
| 95° | 18 | 15 | 16 | 9 | 8 | 27 |
| 105° | 66 | 86 | 8 | 9 | 8 | 68 |
| 115° | 34 | 21 | 34 | 4 | 4 | 34 |
| 125° | 15 | 11 | 4 | 1 | 2 | 14 |
| 135° | 6 | 5 | 2 | 1 | 1 | 5 |
| 145° | 2 | 1 | 1 | 1 | 0 | 1 |
| 155° | 1 | 1 | 1 | 1 | 1 | 0 |
| 165° | 2 | 2 | 2 | 2 | 2 | 0 |
| 175° | 2 | 2 | 2 | 2 | 2 | 0 |
| 180° | 2 | 2 | 2 | 2 | 2 | |



TEST NUMBER: P397461

CATALOG NUMBER: VRVT4S-LD5-9-PC-LG52-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2536.7 | 2536.7 | 2536.7 | 2536.7 | 2536.7 |
| 2.5° | 2522.2 | 2530.2 | 2538.7 | 2547.7 | 2551.1 |
| 5° | 2513.8 | 2524.2 | 2535.2 | 2544.6 | 2545.7 |
| 7.5° | 2503.4 | 2513.8 | 2521.3 | 2529.3 | 2531.8 |
| 10° | 2483.4 | 2498.4 | 2503.4 | 2508.8 | 2513.3 |
| 12.5° | 2459.0 | 2473.0 | 2477.4 | 2488.4 | 2490.9 |
| 15° | 2432.6 | 2444.2 | 2451.1 | 2460.6 | 2462.1 |
| 17.5° | 2400.3 | 2411.8 | 2419.8 | 2425.2 | 2428.7 |
| 20° | 2361.5 | 2371.0 | 2380.9 | 2384.9 | 2388.4 |
| 22.5° | 2321.2 | 2327.1 | 2336.6 | 2343.0 | 2349.0 |
| 25° | 2273.4 | 2284.8 | 2288.8 | 2292.8 | 2292.8 |
| 27.5° | 2214.6 | 2231.6 | 2234.6 | 2228.6 | 2233.6 |
| 30° | 2163.8 | 2175.3 | 2177.3 | 2170.3 | 2187.8 |
| 32.5° | 2110.1 | 2110.6 | 2116.6 | 2115.1 | 2126.6 |
| 35° | 2031.9 | 2046.4 | 2031.4 | 2056.3 | 2070.8 |
| 37.5° | 1965.3 | 1977.2 | 1964.7 | 2002.6 | 2000.1 |
| 40° | 1891.6 | 1903.0 | 1890.6 | 1923.0 | 1917.4 |
| 42.5° | 1814.4 | 1824.4 | 1821.4 | 1836.3 | 1914.5 |
| 45° | 1733.3 | 1737.3 | 1754.7 | 1837.8 | 1797.0 |
| 47.5° | 1641.7 | 1645.2 | 1663.6 | 1633.8 | 1314.2 |
| 50° | 1546.1 | 1549.6 | 1569.0 | 1234.5 | 1767.1 |
| 52.5° | 1449.5 | 1444.6 | 1526.2 | 1660.1 | 1571.5 |
| 55° | 1338.1 | 1342.0 | 1369.9 | 1462.5 | 1390.8 |
| 57.5° | 1231.0 | 1240.0 | 997.6 | 1286.8 | 1293.8 |
| 60° | 1119.5 | 1135.9 | 1260.4 | 1177.8 | 1181.3 |
| 62.5° | 1004.0 | 1031.9 | 1114.6 | 1069.3 | 1072.7 |
| 65° | 888.6 | 915.4 | 940.3 | 959.8 | 960.7 |
| 67.5° | 765.6 | 806.9 | 838.8 | 831.3 | 851.7 |
| 70° | 653.1 | 634.2 | 721.8 | 719.3 | 743.2 |
| 72.5° | 536.6 | 582.9 | 592.9 | 514.7 | 697.4 |
| 75° | 428.1 | 475.9 | 481.4 | 491.3 | 491.3 |
| 77.5° | 331.5 | 359.4 | 400.7 | 381.3 | 367.4 |
| 80° | 254.9 | 262.8 | 287.2 | 296.2 | 291.2 |
| 82.5° | 189.7 | 178.7 | 198.1 | 206.6 | 187.2 |
| 85° | 115.0 | 125.0 | 117.4 | 97.6 | 97.6 |
| 87.5° | 47.3 | 59.8 | 52.8 | 48.3 | 42.8 |
| 90° | 22.9 | 32.9 | 30.9 | 28.4 | 27.4 |
| 92.5° | 23.9 | 22.9 | 16.4 | 11.4 | 9.0 |
| 95° | 18.4 | 15.0 | 15.9 | 9.0 | 8.5 |
| 97.5° | 34.9 | 11.0 | 11.0 | 8.0 | 6.5 |
| 100° | 64.7 | 9.4 | 9.9 | 8.0 | 5.4 |
| 102.5° | 77.1 | 13.9 | 9.9 | 8.0 | 8.0 |
| 105° | 66.2 | 85.6 | 8.5 | 9.0 | 8.0 |
| 107.5° | 56.2 | 38.8 | 6.5 | 8.0 | 9.0 |
| 110° | 47.3 | 27.4 | 5.4 | 7.4 | 8.5 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|-----|
| 112.5° | 39.8 | 20.4 | 5.4 | 5.4 | 7.4 |
| 115° | 34.3 | 21.4 | 33.8 | 4.5 | 4.5 |
| 117.5° | 28.9 | 33.8 | 15.0 | 3.5 | 4.5 |
| 120° | 23.4 | 19.4 | 9.0 | 4.5 | 3.0 |
| 122.5° | 18.4 | 14.4 | 6.0 | 1.5 | 3.0 |
| 125° | 15.4 | 11.4 | 4.5 | 1.0 | 1.5 |
| 127.5° | 12.5 | 9.4 | 3.0 | 1.0 | 1.0 |
| 130° | 9.9 | 9.0 | 2.0 | 1.0 | 1.0 |
| 132.5° | 8.5 | 6.5 | 5.4 | 1.0 | 1.0 |
| 135° | 6.5 | 5.0 | 2.0 | 1.0 | 1.0 |
| 137.5° | 5.0 | 4.0 | 1.5 | 1.0 | 1.0 |
| 140° | 4.0 | 3.0 | 1.0 | 1.0 | 0.5 |
| 142.5° | 3.0 | 2.0 | 1.0 | 1.0 | 0.5 |
| 145° | 2.0 | 1.0 | 1.0 | 1.0 | 0.5 |
| 147.5° | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 |
| 150° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 152.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 155° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 157.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 160° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 162.5° | 1.5 | 1.5 | 1.5 | 1.5 | 1.0 |
| 165° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 167.5° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 170° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 172.5° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 175° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 177.5° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 180° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |

(END OF REPORT)