

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: P397399

Luminaire Tested: **VRVT4LED-LD5-24-PC-UNV-LR63-CD2-WL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P397399
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-367-13)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: VRVT4LED-LD5-24-PC-UNV-LR63-CD2-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

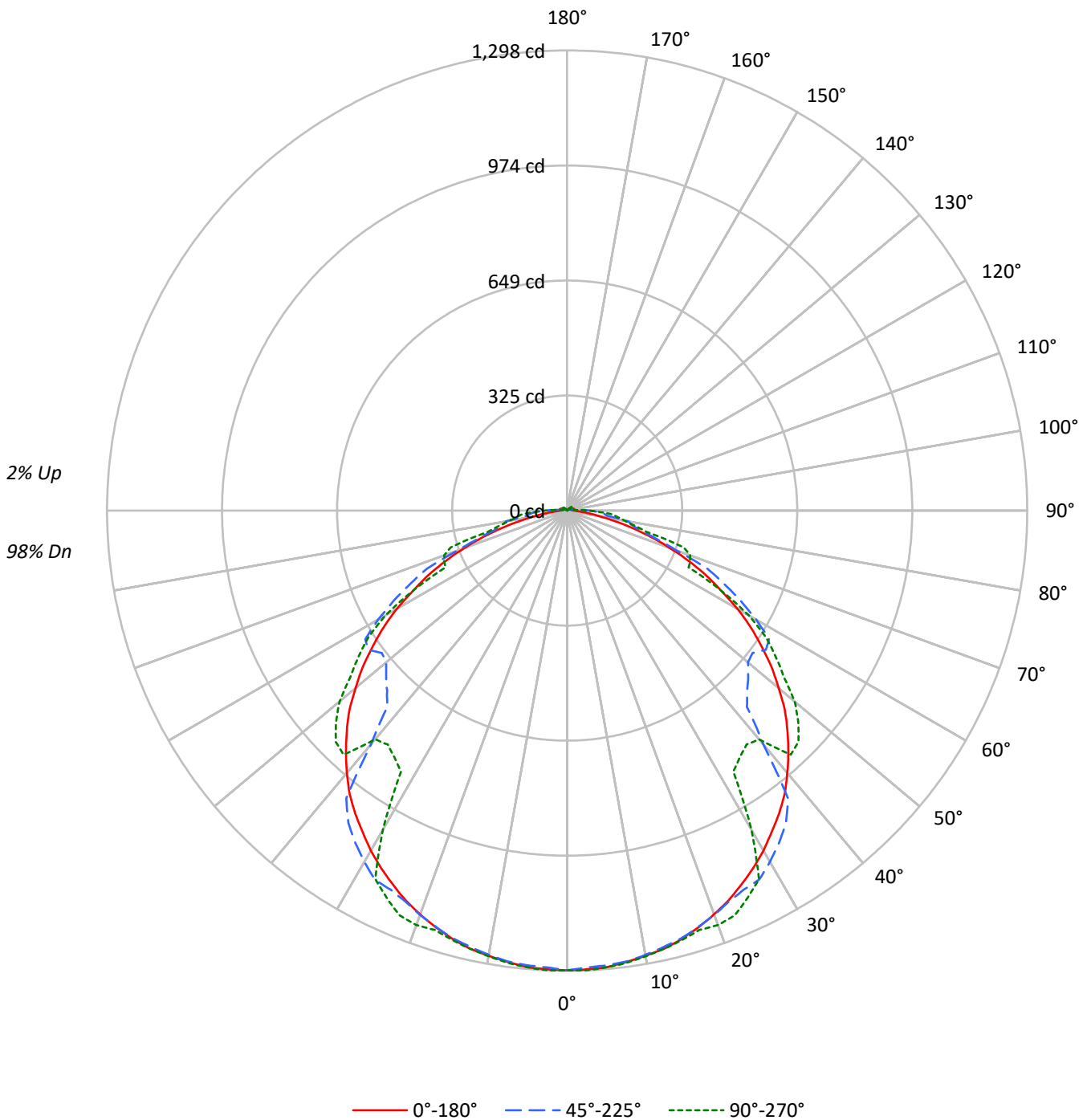
Lumens per Lamp: N/A
Luminaire Lumens: 3733.4 lumens
Efficiency: N/A
Efficacy: 8.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.17 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 1.04' x L: 4.12' x H: 0.25')
CIE Type: Direct

Input Watts (W): 463.1
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

TEST NUMBER: P397399

CATALOG NUMBER: VRVT4LED-LD5-24-PC-UNV-LR63-CD2-WL-U

Luminous Intensity Polar Plot





TEST NUMBER: P397399

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| RF | 20 | | | | 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 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 98 | | | |
| 1 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 93 | 96 | 93 | 90 | 92 | 89 | 87 | 88 | 86 | 84 | 82 | | | |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 77 | 74 | 70 | 68 | | | |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 71 | 66 | 61 | 68 | 64 | 60 | 57 | | | |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 | | | |
| 5 | 75 | 63 | 54 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 | | | |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 53 | 46 | 40 | 51 | 45 | 40 | 50 | 44 | 39 | 37 | | | |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 35 | 45 | 39 | 35 | 33 | | | |
| 8 | 60 | 47 | 38 | 32 | 58 | 46 | 38 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 29 | | | |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 28 | 38 | 33 | 28 | 26 | | | |
| 10 | 53 | 39 | 32 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3249 | 3249 | 3249 |
| 5° | 3233 | 3178 | 3185 |
| 10° | 3209 | 3120 | 3115 |
| 15° | 3192 | 3064 | 3055 |
| 20° | 3161 | 3003 | 3051 |
| 25° | 3128 | 2966 | 2995 |
| 30° | 3095 | 2948 | 2643 |
| 35° | 3058 | 2864 | 2223 |
| 40° | 3007 | 2388 | 2292 |
| 45° | 2936 | 2099 | 2637 |
| 50° | 2831 | 2070 | 2540 |
| 55° | 2693 | 2293 | 2337 |
| 60° | 2516 | 2253 | 2095 |
| 65° | 2273 | 1984 | 1480 |
| 70° | 1929 | 1516 | 1629 |
| 75° | 1517 | 1143 | 1187 |
| 80° | 1002 | 1147 | 1004 |
| 85° | 676 | 882 | 1005 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 122.7 | 3.3 |
| 10°-20° | 353.3 | 9.5 |
| 20°-30° | 545.0 | 14.6 |
| 30°-40° | 619.7 | 16.6 |
| 40°-50° | 650.6 | 17.4 |
| 50°-60° | 611.8 | 16.4 |
| 60°-70° | 424.9 | 11.4 |
| 70°-80° | 238.8 | 6.4 |
| 80°-90° | 104.6 | 2.8 |
| 90°-100° | 27.1 | 0.7 |
| 100°-110° | 12.5 | 0.3 |
| 110°-120° | 8.8 | 0.2 |
| 120°-130° | 7.9 | 0.2 |
| 130°-140° | 4.0 | 0.1 |
| 140°-150° | 1.0 | 0.0 |
| 150°-160° | 0.4 | 0.0 |
| 160°-170° | 0.3 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 1021.0 | 27.3 |
| 0°-40° | 1640.7 | 43.9 |
| 0°-60° | 2903.1 | 77.8 |
| 0°-90° | 3671.5 | 98.3 |
| 90°-120° | 48.4 | 1.3 |
| 90°-150° | 61.2 | 1.6 |
| 90°-180° | 62.0 | 1.7 |
| 0°-180° | 3733.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1297 | 1297 | 1297 | 1297 | 1297 | |
| 5° | 1292 | 1289 | 1288 | 1292 | 1293 | 123 |
| 15° | 1251 | 1251 | 1249 | 1252 | 1254 | 353 |
| 25° | 1164 | 1168 | 1180 | 1204 | 1205 | 537 |
| 35° | 1042 | 1050 | 1076 | 845 | 849 | 652 |
| 45° | 879 | 905 | 718 | 875 | 923 | 677 |
| 55° | 670 | 687 | 684 | 721 | 718 | 599 |
| 65° | 433 | 365 | 487 | 420 | 378 | 427 |
| 75° | 192 | 188 | 212 | 256 | 232 | 205 |
| 85° | 40 | 66 | 105 | 135 | 131 | 44 |
| 90° | 17 | 44 | 63 | 64 | 63 | 10 |
| 95° | 17 | 22 | 20 | 19 | 17 | 15 |
| 105° | 18 | 14 | 11 | 9 | 9 | 19 |
| 115° | 9 | 10 | 9 | 6 | 6 | 10 |
| 125° | 5 | 4 | 11 | 10 | 11 | 4 |
| 135° | 2 | 2 | 5 | 6 | 5 | 2 |
| 145° | 1 | 1 | 1 | 1 | 2 | 1 |
| 155° | 1 | 1 | 1 | 1 | 0 | 0 |
| 165° | 1 | 1 | 1 | 1 | 0 | 0 |
| 175° | 1 | 1 | 1 | 1 | 1 | 0 |
| 180° | 1 | 1 | 1 | 1 | 1 | |



TEST NUMBER: P397399

CATALOG NUMBER: VRVT4LED-LD5-24-PC-UNV-LR63-CD2-WL-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1296.9 | 1296.9 | 1296.9 | 1296.9 | 1296.9 |
| 2.5° | 1295.2 | 1293.7 | 1289.7 | 1294.1 | 1298.1 |
| 5° | 1292.5 | 1289.3 | 1287.5 | 1292.5 | 1293.1 |
| 7.5° | 1284.0 | 1284.8 | 1282.7 | 1284.1 | 1286.7 |
| 10° | 1275.2 | 1277.1 | 1272.6 | 1276.0 | 1276.5 |
| 12.5° | 1265.6 | 1265.6 | 1260.5 | 1264.1 | 1265.9 |
| 15° | 1250.9 | 1251.3 | 1248.6 | 1252.1 | 1253.7 |
| 17.5° | 1232.5 | 1232.8 | 1231.0 | 1236.0 | 1240.5 |
| 20° | 1212.0 | 1212.8 | 1213.6 | 1227.3 | 1244.3 |
| 22.5° | 1190.1 | 1190.5 | 1193.4 | 1231.8 | 1235.8 |
| 25° | 1163.7 | 1168.0 | 1179.5 | 1203.7 | 1204.9 |
| 27.5° | 1136.5 | 1141.1 | 1173.7 | 1177.6 | 1172.0 |
| 30° | 1107.5 | 1111.0 | 1144.1 | 1139.5 | 1040.5 |
| 32.5° | 1074.1 | 1082.2 | 1111.7 | 962.5 | 872.5 |
| 35° | 1042.5 | 1050.5 | 1075.8 | 845.1 | 849.1 |
| 37.5° | 1008.1 | 1021.4 | 1023.5 | 821.4 | 831.7 |
| 40° | 966.2 | 994.9 | 860.6 | 800.9 | 842.2 |
| 42.5° | 923.7 | 953.1 | 750.7 | 805.3 | 933.7 |
| 45° | 878.9 | 905.4 | 718.4 | 875.2 | 923.0 |
| 47.5° | 833.1 | 857.9 | 692.8 | 877.4 | 884.3 |
| 50° | 779.0 | 805.4 | 665.7 | 833.7 | 838.1 |
| 52.5° | 727.7 | 750.4 | 659.3 | 782.7 | 770.1 |
| 55° | 669.9 | 686.9 | 684.5 | 720.8 | 718.4 |
| 57.5° | 614.7 | 555.0 | 675.0 | 666.4 | 664.5 |
| 60° | 555.0 | 452.0 | 615.3 | 605.6 | 592.0 |
| 62.5° | 490.1 | 406.2 | 551.7 | 537.0 | 492.3 |
| 65° | 433.4 | 364.6 | 487.2 | 419.5 | 378.2 |
| 67.5° | 370.4 | 316.3 | 428.0 | 340.6 | 375.2 |
| 70° | 307.2 | 263.7 | 327.8 | 333.0 | 369.1 |
| 72.5° | 248.5 | 221.6 | 262.7 | 329.4 | 344.2 |
| 75° | 192.2 | 188.0 | 211.7 | 255.8 | 232.5 |
| 77.5° | 137.6 | 171.0 | 185.6 | 196.6 | 192.5 |
| 80° | 93.3 | 120.0 | 175.4 | 166.4 | 164.3 |
| 82.5° | 62.9 | 89.6 | 113.8 | 142.6 | 144.2 |
| 85° | 39.8 | 65.9 | 105.3 | 135.2 | 130.9 |
| 87.5° | 26.2 | 51.4 | 88.6 | 94.7 | 92.2 |
| 90° | 17.1 | 43.5 | 62.6 | 63.7 | 62.9 |
| 92.5° | 14.4 | 31.5 | 38.9 | 35.4 | 32.3 |
| 95° | 17.4 | 21.8 | 20.3 | 18.6 | 17.1 |
| 97.5° | 20.6 | 14.6 | 13.6 | 13.6 | 14.1 |
| 100° | 21.3 | 13.9 | 11.0 | 9.9 | 9.4 |
| 102.5° | 20.3 | 14.7 | 10.4 | 9.8 | 9.3 |
| 105° | 18.4 | 14.2 | 10.6 | 9.1 | 8.8 |
| 107.5° | 16.0 | 13.1 | 10.7 | 9.1 | 8.2 |
| 110° | 13.6 | 12.0 | 9.4 | 10.2 | 10.1 |



TEST NUMBER: P397399

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 112.5° | 11.4 | 10.9 | 8.3 | 7.7 | 8.5 |
| 115° | 9.4 | 9.6 | 9.3 | 5.9 | 6.1 |
| 117.5° | 8.0 | 8.3 | 12.2 | 5.9 | 5.3 |
| 120° | 6.7 | 6.6 | 10.6 | 12.0 | 6.9 |
| 122.5° | 5.6 | 5.1 | 12.6 | 13.1 | 14.2 |
| 125° | 4.6 | 3.8 | 11.2 | 10.4 | 11.4 |
| 127.5° | 3.8 | 3.0 | 6.4 | 16.2 | 10.6 |
| 130° | 3.2 | 2.4 | 5.9 | 12.2 | 16.3 |
| 132.5° | 2.6 | 2.1 | 8.5 | 6.4 | 10.1 |
| 135° | 2.1 | 1.6 | 4.6 | 6.2 | 4.8 |
| 137.5° | 1.8 | 1.4 | 2.2 | 11.4 | 8.6 |
| 140° | 1.4 | 1.1 | 1.3 | 6.4 | 9.8 |
| 142.5° | 1.3 | 1.0 | 1.0 | 2.4 | 5.1 |
| 145° | 1.1 | 1.0 | 0.8 | 1.3 | 1.6 |
| 147.5° | 1.0 | 0.8 | 0.8 | 1.0 | 0.8 |
| 150° | 1.0 | 0.8 | 0.8 | 0.6 | 0.5 |
| 152.5° | 1.0 | 1.0 | 0.8 | 0.5 | 0.3 |
| 155° | 1.0 | 1.0 | 1.0 | 0.6 | 0.2 |
| 157.5° | 1.0 | 1.0 | 1.0 | 0.6 | 0.3 |
| 160° | 1.0 | 1.0 | 1.0 | 0.6 | 0.3 |
| 162.5° | 1.0 | 1.0 | 1.0 | 0.6 | 0.3 |
| 165° | 1.1 | 1.1 | 1.1 | 0.8 | 0.5 |
| 167.5° | 1.1 | 1.1 | 1.1 | 0.8 | 0.5 |
| 170° | 1.1 | 1.1 | 1.1 | 0.8 | 0.5 |
| 172.5° | 1.1 | 1.1 | 1.1 | 1.0 | 0.6 |
| 175° | 1.1 | 1.1 | 1.1 | 1.0 | 0.6 |
| 177.5° | 1.1 | 1.1 | 1.1 | 1.0 | 0.6 |
| 180° | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |

(END OF REPORT)