

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: P397401

Luminaire Tested: **VRVT4LED-LD5-30-DR-UNV-LG52-CD3-WL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P397401
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-367-14)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: VRVT4LED-LD5-30-DR-UNV-LG52-CD3-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

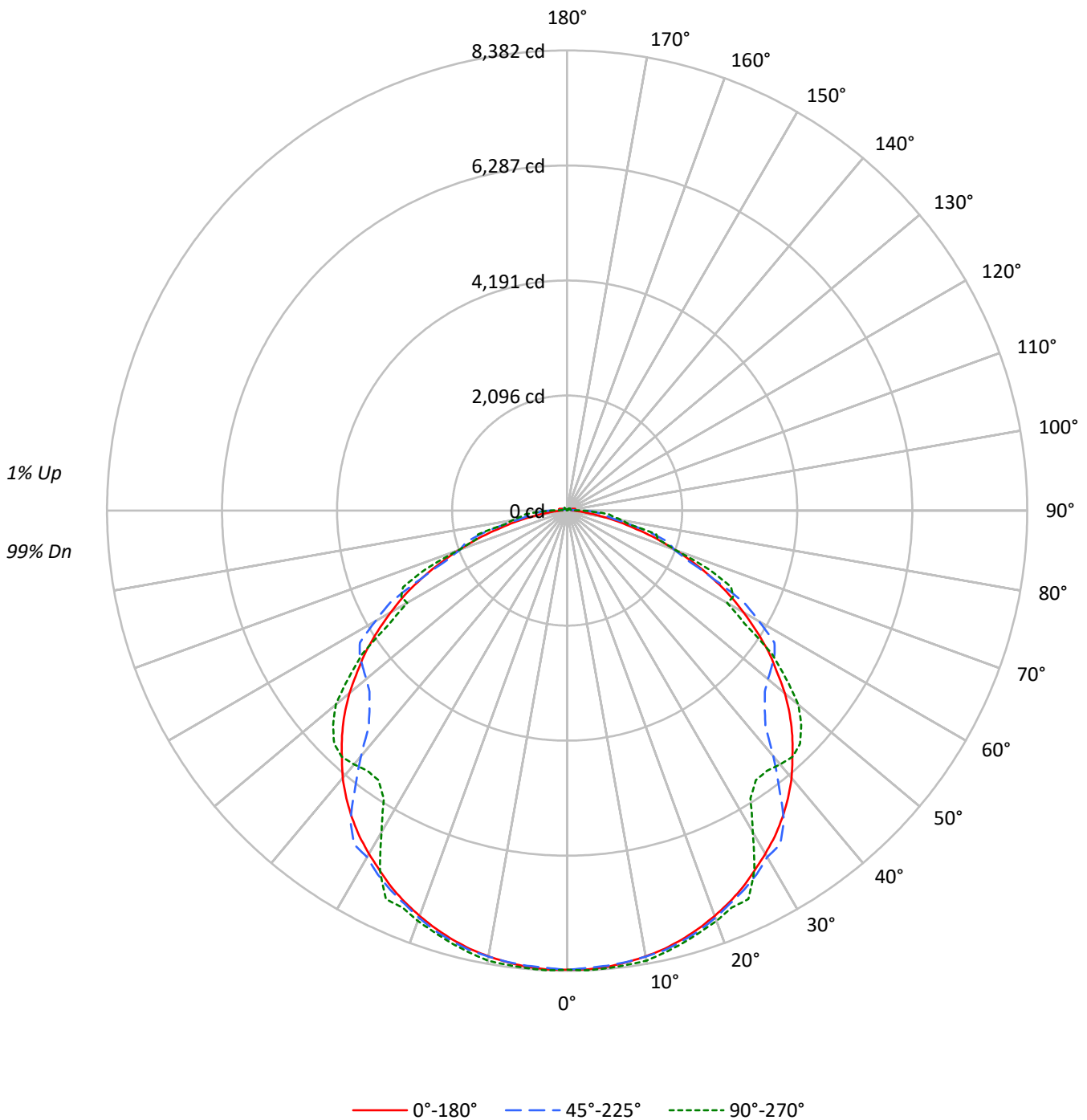
Lumens per Lamp: N/A
Luminaire Lumens: 24438.4 lumens
Efficiency: N/A
Efficacy: 44.2 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.19 / 1.32
Luminous Opening: Rectangular w/ Sides (W: 1.04' x L: 4.12' x H: 0.25')
CIE Type: Direct

Input Watts (W): 553.1
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

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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 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 99 |
| 1 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 94 | 97 | 93 | 90 | 92 | 90 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 90 | 83 | 78 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 76 | 73 | 78 | 74 | 71 | 68 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 55 | 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 | 35 | 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 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 20951 | 20951 | 20951 |
| 5° | 20868 | 20546 | 20608 |
| 10° | 20751 | 20223 | 20314 |
| 15° | 20637 | 19918 | 19872 |
| 20° | 20493 | 19534 | 19496 |
| 25° | 20354 | 19167 | 19410 |
| 30° | 20176 | 18779 | 17176 |
| 35° | 20043 | 18327 | 15696 |
| 40° | 19792 | 16214 | 16430 |
| 45° | 19371 | 14870 | 17147 |
| 50° | 18810 | 14849 | 16663 |
| 55° | 17992 | 15447 | 14811 |
| 60° | 16817 | 14780 | 11905 |
| 65° | 15343 | 11932 | 12899 |
| 70° | 13155 | 9573 | 9191 |
| 75° | 10356 | 8597 | 8602 |
| 80° | 7404 | 5594 | 6139 |
| 85° | 4714 | 5049 | 5842 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 794.2 | 3.2 |
| 10°-20° | 2293.6 | 9.4 |
| 20°-30° | 3508.7 | 14.4 |
| 30°-40° | 4104.4 | 16.8 |
| 40°-50° | 4360.5 | 17.8 |
| 50°-60° | 4017.3 | 16.4 |
| 60°-70° | 2872.2 | 11.8 |
| 70°-80° | 1556.6 | 6.4 |
| 80°-90° | 585.5 | 2.4 |
| 90°-100° | 135.8 | 0.6 |
| 100°-110° | 81.1 | 0.3 |
| 110°-120° | 53.3 | 0.2 |
| 120°-130° | 40.2 | 0.2 |
| 130°-140° | 23.3 | 0.1 |
| 140°-150° | 7.1 | 0.0 |
| 150°-160° | 2.5 | 0.0 |
| 160°-170° | 1.7 | 0.0 |
| 170°-180° | 0.6 | 0.0 |
| 0°-30° | 6596.5 | 27.0 |
| 0°-40° | 10700.9 | 43.8 |
| 0°-60° | 19078.7 | 78.1 |
| 0°-90° | 24092.9 | 98.6 |
| 90°-120° | 270.1 | 1.1 |
| 90°-150° | 340.7 | 1.4 |
| 90°-180° | 346.0 | 1.4 |
| 0°-180° | 24438.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 8363 | 8363 | 8363 | 8363 | 8363 | |
| 5° | 8342 | 8344 | 8322 | 8351 | 8367 | 793 |
| 15° | 8086 | 8105 | 8118 | 8151 | 8155 | 2283 |
| 25° | 7572 | 7594 | 7622 | 7704 | 7808 | 3488 |
| 35° | 6832 | 6841 | 6885 | 5978 | 5995 | 4272 |
| 45° | 5799 | 5826 | 5090 | 5751 | 6002 | 4468 |
| 55° | 4476 | 4326 | 4610 | 4729 | 4554 | 3986 |
| 65° | 2925 | 2649 | 2930 | 3088 | 3296 | 2883 |
| 75° | 1312 | 1368 | 1593 | 1524 | 1685 | 1420 |
| 85° | 278 | 378 | 602 | 670 | 761 | 312 |
| 90° | 90 | 222 | 319 | 282 | 292 | 58 |
| 95° | 110 | 105 | 84 | 90 | 90 | 100 |
| 105° | 123 | 94 | 66 | 62 | 60 | 128 |
| 115° | 59 | 59 | 51 | 46 | 46 | 60 |
| 125° | 28 | 25 | 53 | 56 | 46 | 26 |
| 135° | 14 | 11 | 31 | 33 | 71 | 11 |
| 145° | 7 | 6 | 6 | 13 | 14 | 5 |
| 155° | 6 | 6 | 6 | 4 | 2 | 3 |
| 165° | 6 | 6 | 7 | 6 | 3 | 2 |
| 175° | 7 | 7 | 7 | 6 | 5 | 1 |
| 180° | 6 | 6 | 6 | 6 | 6 | |



TEST NUMBER: P397401

CATALOG NUMBER: VRVT4LED-LD5-30-DR-UNV-LG52-CD3-WL-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 8363.3 | 8363.3 | 8363.3 | 8363.3 | 8363.3 |
| 2.5° | 8364.9 | 8365.7 | 8338.5 | 8364.9 | 8381.8 |
| 5° | 8342.5 | 8344.1 | 8322.5 | 8351.3 | 8367.3 |
| 7.5° | 8300.9 | 8312.1 | 8292.1 | 8331.3 | 8346.5 |
| 10° | 8244.9 | 8253.7 | 8248.1 | 8307.3 | 8324.1 |
| 12.5° | 8176.9 | 8183.3 | 8203.3 | 8231.3 | 8243.3 |
| 15° | 8086.5 | 8104.9 | 8117.7 | 8151.3 | 8155.3 |
| 17.5° | 7979.3 | 8008.1 | 8018.5 | 8040.1 | 8052.1 |
| 20° | 7856.9 | 7890.5 | 7894.5 | 7933.7 | 7952.1 |
| 22.5° | 7721.7 | 7750.5 | 7752.1 | 7807.3 | 7828.9 |
| 25° | 7572.1 | 7593.7 | 7621.7 | 7704.1 | 7808.1 |
| 27.5° | 7389.7 | 7420.9 | 7472.9 | 7548.1 | 7388.1 |
| 30° | 7219.3 | 7248.9 | 7288.9 | 7032.9 | 6760.9 |
| 32.5° | 7038.5 | 7049.7 | 7216.1 | 6505.7 | 6212.9 |
| 35° | 6832.1 | 6840.9 | 6884.9 | 5978.5 | 5995.3 |
| 37.5° | 6608.1 | 6596.9 | 6335.3 | 5798.5 | 5973.7 |
| 40° | 6360.1 | 6366.5 | 5842.5 | 5740.9 | 6036.1 |
| 42.5° | 6074.5 | 6103.3 | 5343.3 | 5793.7 | 6081.7 |
| 45° | 5799.3 | 5826.5 | 5089.7 | 5751.3 | 6001.7 |
| 47.5° | 5500.9 | 5560.1 | 4881.7 | 5768.1 | 5782.5 |
| 50° | 5175.3 | 5312.1 | 4775.3 | 5468.9 | 5498.5 |
| 52.5° | 4813.7 | 4890.5 | 4691.3 | 5132.9 | 5024.9 |
| 55° | 4476.1 | 4325.7 | 4610.5 | 4728.9 | 4553.7 |
| 57.5° | 4094.5 | 3795.3 | 4476.9 | 4185.7 | 3834.5 |
| 60° | 3708.9 | 3342.5 | 4036.1 | 3500.1 | 3364.1 |
| 62.5° | 3334.5 | 2974.5 | 3632.1 | 3028.1 | 3407.3 |
| 65° | 2924.9 | 2648.8 | 2930.5 | 3088.1 | 3296.1 |
| 67.5° | 2499.2 | 2318.4 | 2378.4 | 2919.3 | 2788.0 |
| 70° | 2095.2 | 1972.0 | 2070.4 | 2256.8 | 2082.4 |
| 72.5° | 1703.2 | 1678.4 | 1932.8 | 1835.2 | 1732.0 |
| 75° | 1312.0 | 1368.0 | 1592.8 | 1524.0 | 1684.8 |
| 77.5° | 982.4 | 1060.0 | 1167.2 | 1306.4 | 1155.2 |
| 80° | 689.6 | 798.4 | 855.2 | 843.2 | 1004.8 |
| 82.5° | 437.6 | 527.2 | 702.4 | 773.6 | 851.2 |
| 85° | 277.6 | 378.4 | 602.4 | 670.4 | 760.8 |
| 87.5° | 171.2 | 308.8 | 478.4 | 501.6 | 449.6 |
| 90° | 89.6 | 222.4 | 319.2 | 281.6 | 292.0 |
| 92.5° | 76.0 | 166.4 | 166.4 | 141.6 | 130.4 |
| 95° | 110.4 | 104.8 | 84.0 | 90.4 | 90.4 |
| 97.5° | 146.4 | 81.6 | 74.4 | 84.8 | 88.8 |
| 100° | 148.8 | 81.6 | 69.6 | 70.4 | 71.2 |
| 102.5° | 140.0 | 93.6 | 65.6 | 63.2 | 60.8 |
| 105° | 123.2 | 93.6 | 65.6 | 61.6 | 60.0 |
| 107.5° | 104.0 | 85.6 | 61.6 | 62.4 | 62.4 |
| 110° | 86.4 | 75.2 | 60.0 | 56.0 | 56.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 112.5° | 71.2 | 66.4 | 56.8 | 51.2 | 52.0 |
| 115° | 59.2 | 59.2 | 51.2 | 46.4 | 46.4 |
| 117.5° | 48.8 | 52.0 | 52.8 | 41.6 | 41.6 |
| 120° | 40.0 | 42.4 | 56.0 | 38.4 | 39.2 |
| 122.5° | 33.6 | 32.8 | 68.0 | 51.2 | 37.6 |
| 125° | 28.0 | 24.8 | 52.8 | 56.0 | 45.6 |
| 127.5° | 23.2 | 19.2 | 65.6 | 69.6 | 64.0 |
| 130° | 19.2 | 16.0 | 35.2 | 52.8 | 62.4 |
| 132.5° | 16.0 | 12.8 | 34.4 | 80.8 | 53.6 |
| 135° | 13.6 | 11.2 | 31.2 | 32.8 | 71.2 |
| 137.5° | 11.2 | 8.8 | 15.2 | 35.2 | 28.0 |
| 140° | 9.6 | 8.0 | 11.2 | 44.0 | 44.0 |
| 142.5° | 8.0 | 7.2 | 8.0 | 16.0 | 27.2 |
| 145° | 7.2 | 6.4 | 6.4 | 12.8 | 13.6 |
| 147.5° | 6.4 | 5.6 | 5.6 | 12.0 | 12.0 |
| 150° | 5.6 | 5.6 | 5.6 | 8.0 | 10.4 |
| 152.5° | 5.6 | 5.6 | 5.6 | 4.8 | 4.8 |
| 155° | 5.6 | 5.6 | 5.6 | 4.0 | 2.4 |
| 157.5° | 5.6 | 5.6 | 6.4 | 4.8 | 2.4 |
| 160° | 6.4 | 6.4 | 6.4 | 4.8 | 3.2 |
| 162.5° | 6.4 | 6.4 | 6.4 | 4.8 | 3.2 |
| 165° | 6.4 | 6.4 | 7.2 | 5.6 | 3.2 |
| 167.5° | 6.4 | 7.2 | 7.2 | 5.6 | 4.0 |
| 170° | 6.4 | 7.2 | 7.2 | 5.6 | 4.0 |
| 172.5° | 6.4 | 7.2 | 7.2 | 5.6 | 4.0 |
| 175° | 7.2 | 7.2 | 7.2 | 6.4 | 4.8 |
| 177.5° | 7.2 | 7.2 | 7.2 | 6.4 | 4.8 |
| 180° | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

(END OF REPORT)