

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: CORELITE

Report Number: P183600

Luminaire Tested: **VB-WS-5L40-1D-UNV-4-STD-DM5**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P183600
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26966)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: CORELITE
Catalog Number: VB-WS-5L40-1D-UNV-4-STD-DM5
Description: CORELITE VERTECHS SUSPENDED DIRECT-INDIRECT LED LUMINAIRE, 4 FOOT.
WaveStream WITH FROSTED LENS. 50% UP / 50% DOWN.
Light Source: (336)4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7014.7 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.37 / 1.41
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.58' x H: 0.21')
CIE Type: General Diffuse

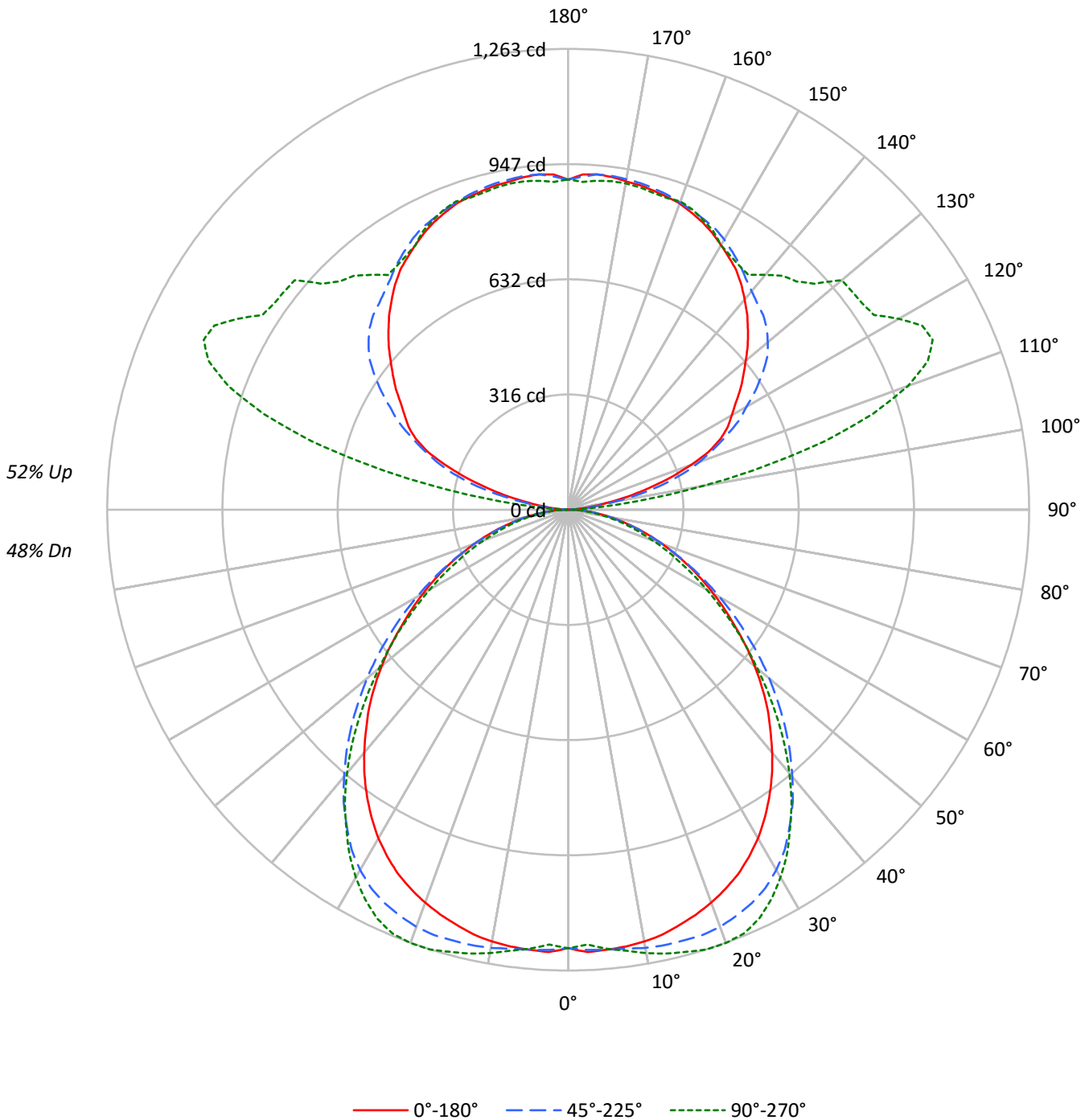
Input Watts (W): 79.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 107 | 107 | 107 | 107 | 98 | 98 | 98 | 98 | 82 | 82 | 82 | 68 | 68 | 68 | 55 | 55 | 55 | 48 |
| 1 | 98 | 93 | 89 | 86 | 90 | 86 | 83 | 80 | 72 | 70 | 68 | 60 | 58 | 57 | 49 | 47 | 46 | 41 |
| 2 | 89 | 82 | 75 | 70 | 82 | 75 | 70 | 66 | 64 | 60 | 56 | 53 | 50 | 48 | 43 | 41 | 39 | 35 |
| 3 | 81 | 72 | 64 | 59 | 74 | 66 | 60 | 55 | 56 | 51 | 48 | 47 | 43 | 40 | 38 | 36 | 33 | 29 |
| 4 | 74 | 64 | 56 | 50 | 68 | 59 | 52 | 47 | 50 | 45 | 41 | 42 | 38 | 35 | 34 | 31 | 29 | 25 |
| 5 | 68 | 57 | 49 | 43 | 63 | 52 | 45 | 40 | 45 | 39 | 35 | 37 | 33 | 30 | 31 | 28 | 25 | 22 |
| 6 | 63 | 51 | 43 | 37 | 58 | 47 | 40 | 35 | 40 | 35 | 30 | 34 | 30 | 26 | 28 | 25 | 22 | 19 |
| 7 | 58 | 46 | 38 | 32 | 53 | 43 | 36 | 30 | 36 | 31 | 27 | 31 | 26 | 23 | 25 | 22 | 20 | 17 |
| 8 | 54 | 42 | 34 | 29 | 49 | 39 | 32 | 27 | 33 | 28 | 24 | 28 | 24 | 21 | 23 | 20 | 18 | 15 |
| 9 | 50 | 38 | 30 | 25 | 46 | 35 | 29 | 24 | 30 | 25 | 21 | 26 | 22 | 19 | 21 | 18 | 16 | 14 |
| 10 | 47 | 35 | 28 | 23 | 43 | 32 | 26 | 22 | 28 | 23 | 19 | 24 | 20 | 17 | 20 | 17 | 14 | 12 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 9626 | 9626 | 9626 |
| 5° | 9684 | 9378 | 9260 |
| 10° | 9675 | 9213 | 9142 |
| 15° | 9621 | 9081 | 9056 |
| 20° | 9566 | 8955 | 8959 |
| 25° | 9481 | 8747 | 8684 |
| 30° | 9308 | 8432 | 8149 |
| 35° | 9028 | 7933 | 7468 |
| 40° | 8671 | 7320 | 6727 |
| 45° | 8273 | 6639 | 5906 |
| 50° | 7774 | 5913 | 5067 |
| 55° | 7198 | 5143 | 4302 |
| 60° | 6671 | 4380 | 3575 |
| 65° | 6140 | 3635 | 2897 |
| 70° | 5517 | 2919 | 2288 |
| 75° | 4858 | 2221 | 1716 |
| 80° | 4076 | 1528 | 1143 |
| 85° | 3081 | 816 | 552 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 115.4 | 1.6 |
| 10°-20° | 344.3 | 4.9 |
| 20°-30° | 540.6 | 7.7 |
| 30°-40° | 642.8 | 9.2 |
| 40°-50° | 626.9 | 8.9 |
| 50°-60° | 516.5 | 7.4 |
| 60°-70° | 359.2 | 5.1 |
| 70°-80° | 197.5 | 2.8 |
| 80°-90° | 58.9 | 0.8 |
| 90°-100° | 79.3 | 1.1 |
| 100°-110° | 406.4 | 5.8 |
| 110°-120° | 623.8 | 8.9 |
| 120°-130° | 651.3 | 9.3 |
| 130°-140° | 596.0 | 8.5 |
| 140°-150° | 509.2 | 7.3 |
| 150°-160° | 403.1 | 5.7 |
| 160°-170° | 256.2 | 3.7 |
| 170°-180° | 87.3 | 1.2 |
| 0°-30° | 1000.4 | 14.3 |
| 0°-40° | 1643.2 | 23.4 |
| 0°-60° | 2786.6 | 39.7 |
| 0°-90° | 3402.1 | 48.5 |
| 90°-120° | 1109.5 | 15.8 |
| 90°-150° | 2866.0 | 40.9 |
| 90°-180° | 3613.0 | 51.5 |
| 0°-180° | 7014.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1202 | 1202 | 1202 | 1202 | 1202 | |
| 5° | 1210 | 1199 | 1210 | 1208 | 1208 | 115 |
| 15° | 1178 | 1181 | 1222 | 1249 | 1255 | 333 |
| 25° | 1102 | 1119 | 1190 | 1225 | 1237 | 507 |
| 35° | 961 | 984 | 1058 | 1064 | 1061 | 600 |
| 45° | 773 | 802 | 840 | 823 | 811 | 594 |
| 55° | 558 | 585 | 596 | 570 | 552 | 501 |
| 65° | 364 | 376 | 370 | 350 | 335 | 361 |
| 75° | 191 | 197 | 188 | 176 | 170 | 203 |
| 85° | 56 | 59 | 53 | 47 | 44 | 58 |
| 90° | 0 | 3 | 3 | 3 | 3 | 5 |
| 95° | 29 | 32 | 38 | 82 | 91 | 42 |
| 105° | 229 | 229 | 270 | 594 | 729 | 243 |
| 115° | 461 | 455 | 476 | 834 | 1102 | 448 |
| 125° | 576 | 611 | 649 | 870 | 984 | 515 |
| 135° | 696 | 708 | 755 | 826 | 884 | 537 |
| 145° | 802 | 805 | 820 | 811 | 817 | 501 |
| 155° | 870 | 867 | 878 | 878 | 876 | 401 |
| 165° | 905 | 905 | 911 | 902 | 899 | 256 |
| 175° | 923 | 914 | 923 | 917 | 905 | 88 |
| 180° | 905 | 905 | 905 | 905 | 905 | |



TEST NUMBER: P183600

CATALOG NUMBER: VB-WS-5L40-1D-UNV-4-STD-DM5

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1201.7 | 1201.7 | 1201.7 | 1201.7 | 1201.7 |
| 2.5° | 1213.5 | 1198.8 | 1207.6 | 1204.6 | 1192.9 |
| 5° | 1210.5 | 1198.8 | 1210.5 | 1207.6 | 1207.6 |
| 7.5° | 1207.6 | 1195.8 | 1213.5 | 1219.3 | 1219.3 |
| 10° | 1201.7 | 1192.9 | 1219.3 | 1228.1 | 1234.0 |
| 12.5° | 1192.9 | 1187.0 | 1222.3 | 1239.9 | 1245.8 |
| 15° | 1178.2 | 1181.1 | 1222.3 | 1248.7 | 1254.6 |
| 17.5° | 1163.5 | 1172.3 | 1222.3 | 1251.6 | 1263.4 |
| 20° | 1145.9 | 1157.6 | 1216.4 | 1251.6 | 1263.4 |
| 22.5° | 1125.3 | 1140.0 | 1204.6 | 1242.8 | 1257.5 |
| 25° | 1101.8 | 1119.4 | 1189.9 | 1225.2 | 1237.0 |
| 27.5° | 1072.4 | 1093.0 | 1169.4 | 1198.8 | 1204.6 |
| 30° | 1040.1 | 1060.7 | 1140.0 | 1160.6 | 1163.5 |
| 32.5° | 1001.9 | 1028.3 | 1104.7 | 1116.5 | 1116.5 |
| 35° | 960.8 | 984.3 | 1057.7 | 1063.6 | 1060.7 |
| 37.5° | 916.7 | 943.1 | 1010.7 | 1007.8 | 1004.8 |
| 40° | 869.7 | 896.1 | 954.9 | 949.0 | 943.1 |
| 42.5° | 819.7 | 849.1 | 899.1 | 887.3 | 878.5 |
| 45° | 772.7 | 802.1 | 840.3 | 822.7 | 810.9 |
| 47.5° | 719.8 | 749.2 | 778.6 | 761.0 | 743.3 |
| 50° | 667.0 | 693.4 | 719.8 | 690.5 | 675.8 |
| 52.5° | 614.1 | 640.5 | 658.1 | 631.7 | 614.1 |
| 55° | 558.2 | 584.7 | 596.4 | 570.0 | 552.4 |
| 57.5° | 508.3 | 528.9 | 537.7 | 511.2 | 493.6 |
| 60° | 458.3 | 476.0 | 478.9 | 455.4 | 437.8 |
| 62.5° | 411.3 | 426.0 | 423.1 | 399.6 | 384.9 |
| 65° | 364.3 | 376.1 | 370.2 | 349.6 | 334.9 |
| 67.5° | 317.3 | 326.1 | 320.3 | 302.6 | 290.9 |
| 70° | 273.2 | 282.1 | 273.2 | 255.6 | 246.8 |
| 72.5° | 232.1 | 238.0 | 229.2 | 214.5 | 205.7 |
| 75° | 191.0 | 196.9 | 188.0 | 176.3 | 170.4 |
| 77.5° | 152.8 | 155.7 | 149.8 | 141.0 | 135.2 |
| 80° | 117.5 | 120.5 | 114.6 | 108.7 | 102.8 |
| 82.5° | 85.2 | 88.1 | 82.3 | 79.3 | 73.5 |
| 85° | 55.8 | 58.8 | 52.9 | 47.0 | 44.1 |
| 87.5° | 26.4 | 29.4 | 23.5 | 20.6 | 17.6 |
| 90° | 0.0 | 2.9 | 2.9 | 2.9 | 2.9 |
| 92.5° | 8.8 | 11.8 | 11.8 | 17.6 | 17.6 |
| 95° | 29.4 | 32.3 | 38.2 | 82.3 | 91.1 |
| 97.5° | 64.6 | 67.6 | 82.3 | 193.9 | 214.5 |
| 100° | 108.7 | 114.6 | 138.1 | 329.1 | 373.1 |
| 102.5° | 167.5 | 170.4 | 205.7 | 470.1 | 552.4 |
| 105° | 229.2 | 229.2 | 270.3 | 593.5 | 728.7 |
| 107.5° | 293.8 | 285.0 | 332.0 | 693.4 | 875.6 |
| 110° | 358.5 | 346.7 | 382.0 | 761.0 | 990.2 |



TEST NUMBER: P183600

CATALOG NUMBER: VB-WS-5L40-1D-UNV-4-STD-DM5

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|--------|
| 112.5° | 417.2 | 402.5 | 429.0 | 802.1 | 1066.5 |
| 115° | 461.3 | 455.4 | 476.0 | 834.4 | 1101.8 |
| 117.5° | 493.6 | 502.4 | 525.9 | 857.9 | 1093.0 |
| 120° | 517.1 | 546.5 | 564.1 | 878.5 | 1046.0 |
| 122.5° | 543.6 | 584.7 | 608.2 | 872.6 | 993.1 |
| 125° | 575.9 | 611.1 | 649.3 | 869.7 | 984.3 |
| 127.5° | 605.3 | 628.8 | 687.5 | 872.6 | 981.3 |
| 130° | 634.6 | 655.2 | 714.0 | 852.1 | 978.4 |
| 132.5° | 667.0 | 681.6 | 737.5 | 822.7 | 916.7 |
| 135° | 696.3 | 708.1 | 755.1 | 825.6 | 884.4 |
| 137.5° | 725.7 | 731.6 | 766.9 | 828.6 | 869.7 |
| 140° | 752.2 | 755.1 | 781.5 | 808.0 | 840.3 |
| 142.5° | 778.6 | 781.5 | 799.2 | 802.1 | 810.9 |
| 145° | 802.1 | 805.0 | 819.7 | 810.9 | 816.8 |
| 147.5° | 819.7 | 822.7 | 837.4 | 825.6 | 825.6 |
| 150° | 837.4 | 837.4 | 855.0 | 843.2 | 837.4 |
| 152.5° | 855.0 | 852.1 | 869.7 | 860.9 | 860.9 |
| 155° | 869.7 | 866.8 | 878.5 | 878.5 | 875.6 |
| 157.5° | 881.4 | 878.5 | 887.3 | 893.2 | 890.3 |
| 160° | 893.2 | 890.3 | 896.1 | 896.1 | 899.1 |
| 162.5° | 899.1 | 899.1 | 904.9 | 896.1 | 896.1 |
| 165° | 904.9 | 904.9 | 910.8 | 902.0 | 899.1 |
| 167.5° | 910.8 | 910.8 | 916.7 | 907.9 | 904.9 |
| 170° | 913.8 | 913.8 | 919.6 | 910.8 | 907.9 |
| 172.5° | 919.6 | 916.7 | 922.6 | 913.8 | 907.9 |
| 175° | 922.6 | 913.8 | 922.6 | 916.7 | 904.9 |
| 177.5° | 919.6 | 910.8 | 913.8 | 904.9 | 899.1 |
| 180° | 904.9 | 904.9 | 904.9 | 904.9 | 904.9 |

(END OF REPORT)