

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: METALUX

Report Number: P563275

Luminaire Tested: **VHB-18-N-UNV-L940-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563275
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P364424)
Test Lab: INNOVATION CENTER
Issue Date: 6/3/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB-18-N-UNV-L940-CD
Description: 18000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 90CRI, 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

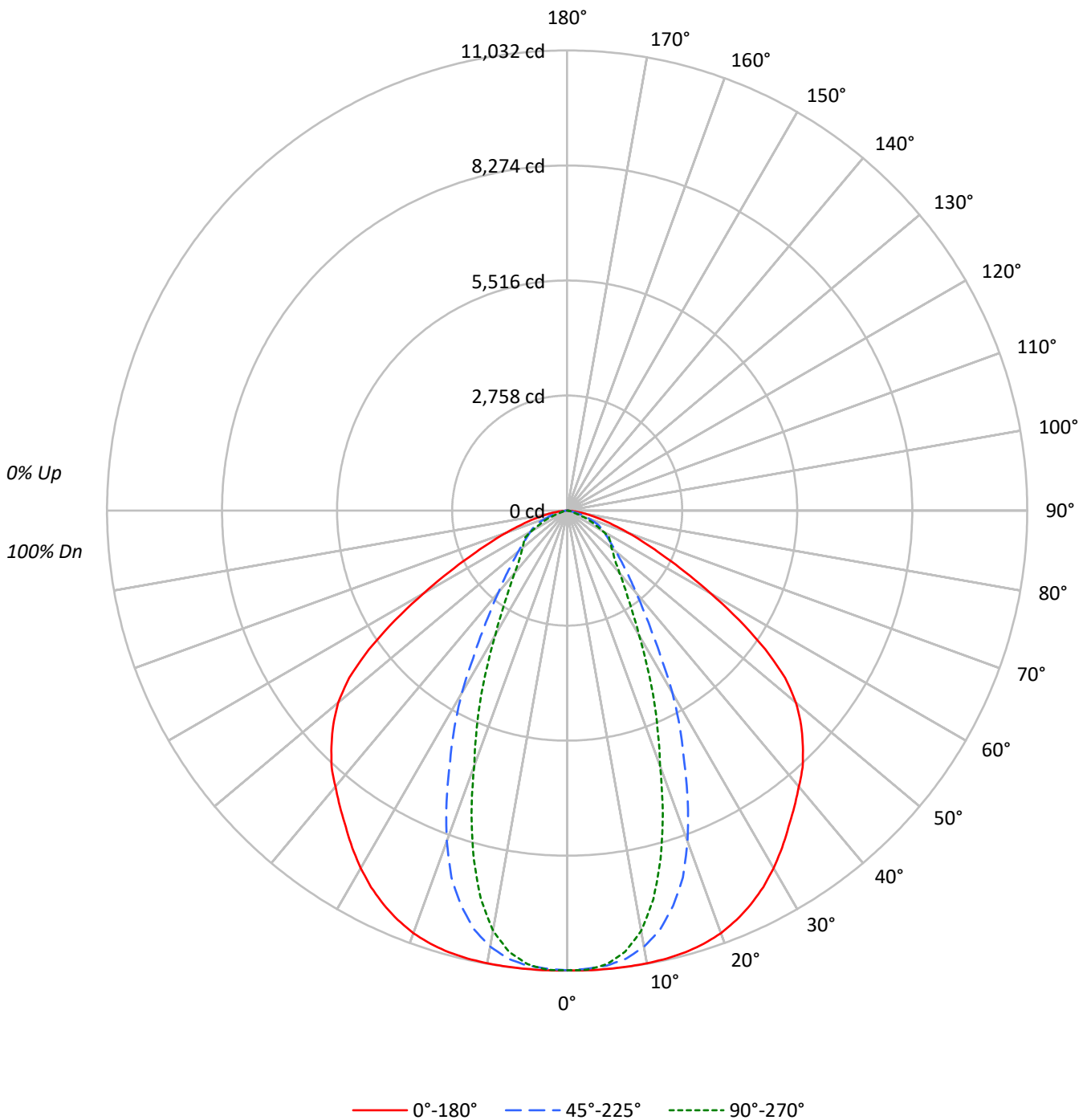
Lumens per Lamp: N/A
Luminaire Lumens: 15544.0 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.17' x L: 1.58' x H: 0')
CIE Type: Direct

Input Watts (W): 125
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: P563275

CATALOG NUMBER: VHB-18-N-UNV-L940-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563275

CATALOG NUMBER: VHB-18-N-UNV-L940-CD

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 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | 100 | | | |
| 1 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 96 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | | | | | 89 | | | |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | | | 78 | | | |
| 3 | 96 | 87 | 81 | 75 | 94 | 86 | 80 | 75 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | | | 69 | | | |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 66 | 76 | 70 | 65 | 74 | 68 | 64 | 71 | 67 | 64 | 62 | | | | | 62 | | | |
| 5 | 83 | 72 | 65 | 59 | 81 | 71 | 64 | 59 | 69 | 63 | 58 | 68 | 62 | 58 | 66 | 61 | 57 | 55 | | | | | 55 | | | |
| 6 | 78 | 66 | 59 | 53 | 76 | 66 | 58 | 53 | 64 | 57 | 53 | 62 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | 50 | | | |
| 7 | 73 | 61 | 54 | 48 | 71 | 61 | 53 | 48 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 51 | 47 | 46 | | | | | 46 | | | |
| 8 | 69 | 57 | 49 | 44 | 67 | 56 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 44 | 42 | | | | | 42 | | | |
| 9 | 65 | 53 | 46 | 41 | 63 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 44 | 40 | 49 | 44 | 40 | 39 | | | | | 39 | | | |
| 10 | 61 | 49 | 42 | 38 | 60 | 49 | 42 | 38 | 48 | 42 | 38 | 47 | 41 | 37 | 46 | 41 | 37 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 64227 | 64227 | 64227 |
| 5° | 64528 | 64039 | 63853 |
| 10° | 65206 | 62810 | 60517 |
| 15° | 66136 | 59179 | 52180 |
| 20° | 66849 | 52281 | 40399 |
| 25° | 66982 | 42691 | 31304 |
| 30° | 66607 | 33906 | 23169 |
| 35° | 65846 | 25126 | 18016 |
| 40° | 65743 | 19512 | 14869 |
| 45° | 65882 | 16057 | 13208 |
| 50° | 64947 | 13887 | 12597 |
| 55° | 58959 | 12379 | 12730 |
| 60° | 46354 | 11830 | 11598 |
| 65° | 34428 | 11466 | 8728 |
| 70° | 26405 | 9180 | 5329 |
| 75° | 20099 | 6547 | 2940 |
| 80° | 14759 | 3047 | 2373 |
| 85° | 9233 | 2614 | 2113 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1035.5 | 6.7 |
| 10°-20° | 2726.0 | 17.5 |
| 20°-30° | 3291.9 | 21.2 |
| 30°-40° | 2943.4 | 18.9 |
| 40°-50° | 2304.9 | 14.8 |
| 50°-60° | 1741.5 | 11.2 |
| 60°-70° | 1034.3 | 6.7 |
| 70°-80° | 397.5 | 2.6 |
| 80°-90° | 69.1 | 0.4 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 7053.4 | 45.4 |
| 0°-40° | 9996.7 | 64.3 |
| 0°-60° | 14043.1 | 90.3 |
| 0°-90° | 15544.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 15544.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 11022 | 11022 | 11022 | 11022 | 11022 | |
| 5° | 11032 | 10983 | 10948 | 10933 | 10916 | ### |
| 15° | 10963 | 10601 | 9810 | 8990 | 8649 | 3098 |
| 25° | 10418 | 9192 | 6640 | 5235 | 4869 | 4797 |
| 35° | 9256 | 6587 | 3532 | 2754 | 2533 | 5805 |
| 45° | 7994 | 3406 | 1948 | 1646 | 1603 | 6154 |
| 55° | 5803 | 1848 | 1218 | 1214 | 1253 | 5096 |
| 65° | 2497 | 1038 | 832 | 694 | 633 | 2573 |
| 75° | 893 | 499 | 291 | 144 | 131 | 977 |
| 85° | 138 | 48 | 39 | 34 | 32 | 184 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563275

CATALOG NUMBER: VHB-18-N-UNV-L940-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 11021.9 | 11021.9 | 11021.9 | 11021.9 | 11021.9 |
| 2.5° | 11032.3 | 10995.9 | 10993.0 | 11016.4 | 11019.9 |
| 5° | 11031.5 | 10983.4 | 10947.8 | 10933.3 | 10916.0 |
| 7.5° | 11028.1 | 10955.3 | 10835.0 | 10719.5 | 10666.0 |
| 10° | 11019.9 | 10890.7 | 10615.1 | 10352.6 | 10227.5 |
| 12.5° | 11002.0 | 10775.2 | 10288.6 | 9806.1 | 9543.6 |
| 15° | 10962.8 | 10601.3 | 9809.6 | 8989.6 | 8649.4 |
| 17.5° | 10892.0 | 10361.4 | 9222.6 | 8065.2 | 7627.4 |
| 20° | 10780.0 | 10056.3 | 8430.9 | 7011.0 | 6514.7 |
| 22.5° | 10619.1 | 9657.7 | 7558.7 | 6061.8 | 5665.3 |
| 25° | 10417.8 | 9192.4 | 6639.8 | 5235.0 | 4868.7 |
| 27.5° | 10178.7 | 8649.4 | 5848.0 | 4465.3 | 4104.4 |
| 30° | 9899.0 | 8015.0 | 5039.1 | 3738.1 | 3443.3 |
| 32.5° | 9586.2 | 7347.0 | 4194.5 | 3183.4 | 2940.9 |
| 35° | 9256.3 | 6586.9 | 3532.0 | 2753.9 | 2532.6 |
| 37.5° | 8945.6 | 5773.1 | 2991.1 | 2373.9 | 2218.5 |
| 40° | 8642.6 | 4918.2 | 2565.0 | 2073.5 | 1954.7 |
| 42.5° | 8356.7 | 4100.4 | 2239.2 | 1822.0 | 1744.3 |
| 45° | 7994.5 | 3406.2 | 1948.4 | 1646.1 | 1602.8 |
| 47.5° | 7610.2 | 2874.9 | 1717.5 | 1503.0 | 1487.9 |
| 50° | 7164.2 | 2448.8 | 1531.9 | 1378.7 | 1389.6 |
| 52.5° | 6585.5 | 2112.0 | 1356.0 | 1290.7 | 1323.1 |
| 55° | 5803.4 | 1848.2 | 1218.5 | 1213.7 | 1253.0 |
| 57.5° | 4887.3 | 1595.9 | 1109.9 | 1140.2 | 1184.2 |
| 60° | 3977.4 | 1393.1 | 1015.1 | 1059.1 | 995.2 |
| 62.5° | 3177.3 | 1206.9 | 925.1 | 844.6 | 789.7 |
| 65° | 2496.9 | 1037.7 | 831.6 | 693.5 | 633.0 |
| 67.5° | 1991.1 | 880.4 | 699.6 | 551.9 | 501.7 |
| 70° | 1549.8 | 740.2 | 538.8 | 414.4 | 312.8 |
| 72.5° | 1187.7 | 618.6 | 420.6 | 235.8 | 178.0 |
| 75° | 892.7 | 499.0 | 290.8 | 143.7 | 130.6 |
| 77.5° | 636.4 | 370.5 | 155.3 | 103.8 | 96.2 |
| 80° | 439.8 | 237.8 | 90.8 | 74.9 | 70.7 |
| 82.5° | 272.8 | 114.8 | 61.9 | 53.6 | 50.2 |
| 85° | 138.1 | 48.1 | 39.1 | 34.3 | 31.6 |
| 87.5° | 46.0 | 23.4 | 17.8 | 16.5 | 15.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)