

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: P563257

Luminaire Tested: **VHB-12-N-UNV-L940-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563257
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-12-N-UNV-L940-CD
Description: 12000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 90CRI, 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

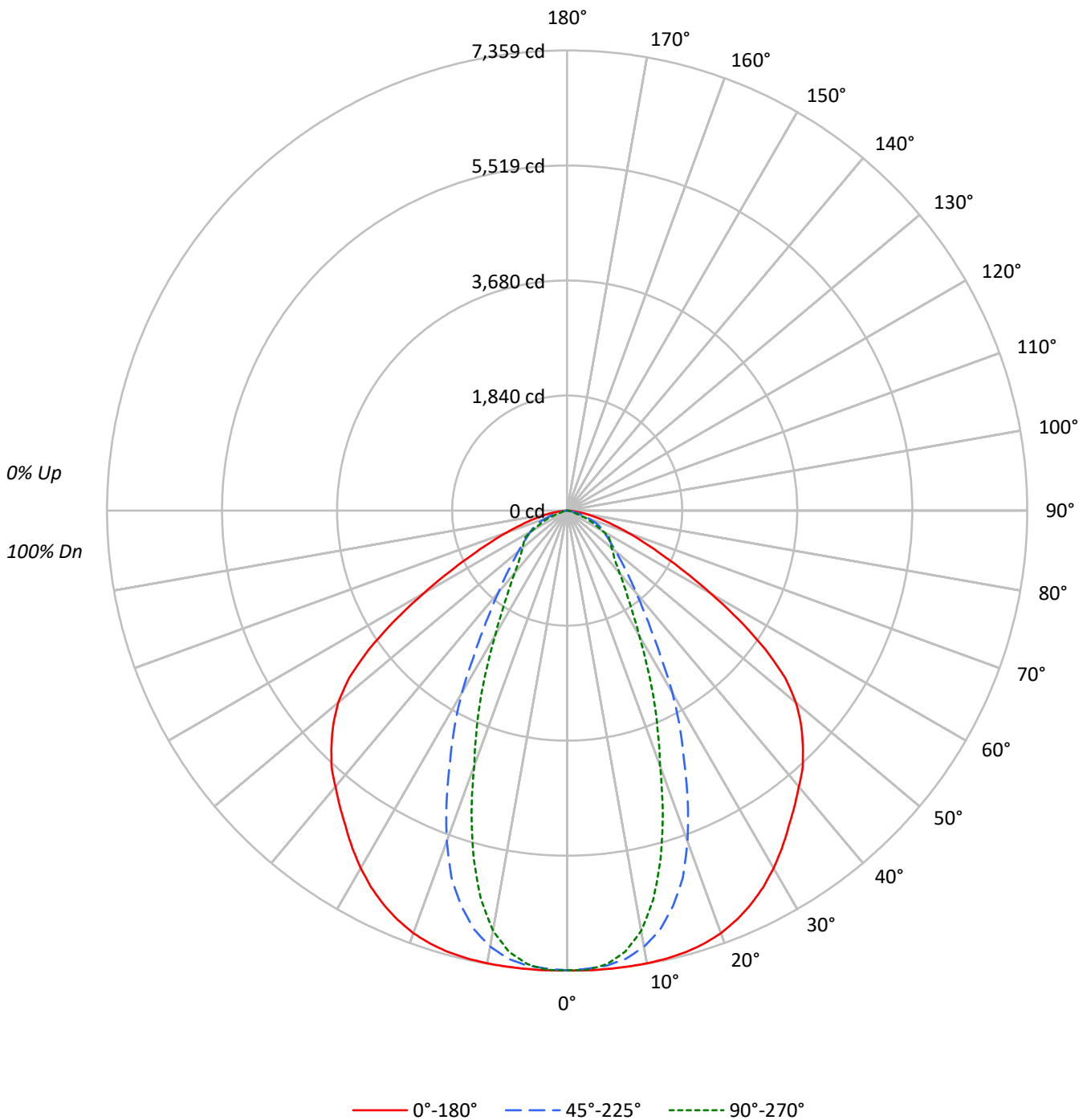
Lumens per Lamp: N/A
Luminaire Lumens: 10369.0 lumens
Efficiency: N/A
Efficacy: 129.6 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.17' x L: 1.58' x H: 0')
CIE Type: Direct

Input Watts (W): 80
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: P563257

CATALOG NUMBER: VHB-12-N-UNV-L940-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563257

CATALOG NUMBER: VHB-12-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° | 42844 | 42844 | 42844 |
| 5° | 43045 | 42719 | 42595 |
| 10° | 43497 | 41899 | 40369 |
| 15° | 44117 | 39477 | 34808 |
| 20° | 44593 | 34875 | 26949 |
| 25° | 44682 | 28479 | 20882 |
| 30° | 44431 | 22618 | 15455 |
| 35° | 43924 | 16761 | 12018 |
| 40° | 43856 | 13015 | 9919 |
| 45° | 43948 | 10711 | 8811 |
| 50° | 43324 | 9264 | 8404 |
| 55° | 39330 | 8258 | 8491 |
| 60° | 30921 | 7892 | 7737 |
| 65° | 22966 | 7650 | 5823 |
| 70° | 17615 | 6123 | 3554 |
| 75° | 13407 | 4368 | 1961 |
| 80° | 9846 | 2034 | 1584 |
| 85° | 6158 | 1745 | 1411 |



TEST NUMBER: P563257

CATALOG NUMBER: VHB-12-N-UNV-L940-CD

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 690.8 | 6.7 |
| 10°-20° | 1818.4 | 17.5 |
| 20°-30° | 2195.9 | 21.2 |
| 30°-40° | 1963.4 | 18.9 |
| 40°-50° | 1537.5 | 14.8 |
| 50°-60° | 1161.7 | 11.2 |
| 60°-70° | 690.0 | 6.7 |
| 70°-80° | 265.2 | 2.6 |
| 80°-90° | 46.1 | 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° | 4705.1 | 45.4 |
| 0°-40° | 6668.6 | 64.3 |
| 0°-60° | 9367.8 | 90.3 |
| 0°-90° | 10369.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 10369.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 7352 | 7352 | 7352 | 7352 | 7352 | |
| 5° | 7359 | 7327 | 7303 | 7293 | 7282 | 702 |
| 15° | 7313 | 7072 | 6544 | 5997 | 5770 | 2066 |
| 25° | 6950 | 6132 | 4429 | 3492 | 3248 | 3200 |
| 35° | 6175 | 4394 | 2356 | 1837 | 1689 | 3872 |
| 45° | 5333 | 2272 | 1300 | 1098 | 1069 | 4105 |
| 55° | 3871 | 1233 | 813 | 810 | 836 | 3400 |
| 65° | 1666 | 692 | 555 | 463 | 422 | 1716 |
| 75° | 596 | 333 | 194 | 96 | 87 | 652 |
| 85° | 92 | 32 | 26 | 23 | 21 | 123 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563257

CATALOG NUMBER: VHB-12-N-UNV-L940-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 7352.4 | 7352.4 | 7352.4 | 7352.4 | 7352.4 |
| 2.5° | 7359.4 | 7335.1 | 7333.2 | 7348.8 | 7351.1 |
| 5° | 7358.8 | 7326.7 | 7303.0 | 7293.3 | 7281.8 |
| 7.5° | 7356.6 | 7308.0 | 7227.8 | 7150.7 | 7115.0 |
| 10° | 7351.1 | 7264.9 | 7081.1 | 6905.9 | 6822.5 |
| 12.5° | 7339.1 | 7187.9 | 6863.2 | 6541.4 | 6366.3 |
| 15° | 7313.0 | 7071.9 | 6543.8 | 5996.7 | 5769.8 |
| 17.5° | 7265.8 | 6911.8 | 6152.2 | 5380.1 | 5088.0 |
| 20° | 7191.1 | 6708.3 | 5624.0 | 4676.8 | 4345.8 |
| 22.5° | 7083.8 | 6442.4 | 5042.2 | 4043.7 | 3779.2 |
| 25° | 6949.5 | 6132.0 | 4429.3 | 3492.1 | 3247.8 |
| 27.5° | 6789.9 | 5769.8 | 3901.1 | 2978.7 | 2737.9 |
| 30° | 6603.3 | 5346.6 | 3361.5 | 2493.6 | 2296.9 |
| 32.5° | 6394.7 | 4901.0 | 2798.1 | 2123.6 | 1961.8 |
| 35° | 6174.6 | 4394.0 | 2356.1 | 1837.1 | 1689.4 |
| 37.5° | 5967.4 | 3851.1 | 1995.3 | 1583.6 | 1479.9 |
| 40° | 5765.3 | 3280.8 | 1711.0 | 1383.2 | 1303.9 |
| 42.5° | 5574.5 | 2735.3 | 1493.7 | 1215.4 | 1163.6 |
| 45° | 5332.9 | 2272.2 | 1299.7 | 1098.1 | 1069.2 |
| 47.5° | 5076.6 | 1917.7 | 1145.7 | 1002.6 | 992.6 |
| 50° | 4779.0 | 1633.6 | 1021.9 | 919.7 | 927.0 |
| 52.5° | 4393.0 | 1408.9 | 904.5 | 861.0 | 882.6 |
| 55° | 3871.3 | 1232.9 | 812.8 | 809.6 | 835.8 |
| 57.5° | 3260.2 | 1064.6 | 740.4 | 760.6 | 789.9 |
| 60° | 2653.2 | 929.3 | 677.2 | 706.5 | 663.9 |
| 62.5° | 2119.5 | 805.1 | 617.1 | 563.4 | 526.8 |
| 65° | 1665.6 | 692.2 | 554.8 | 462.6 | 422.3 |
| 67.5° | 1328.2 | 587.3 | 466.7 | 368.2 | 334.7 |
| 70° | 1033.9 | 493.8 | 359.4 | 276.5 | 208.6 |
| 72.5° | 792.3 | 412.7 | 280.5 | 157.3 | 118.8 |
| 75° | 595.5 | 332.9 | 194.0 | 95.9 | 87.1 |
| 77.5° | 424.5 | 247.1 | 103.6 | 69.2 | 64.2 |
| 80° | 293.4 | 158.7 | 60.6 | 50.0 | 47.2 |
| 82.5° | 182.0 | 76.6 | 41.3 | 35.7 | 33.5 |
| 85° | 92.1 | 32.1 | 26.1 | 22.9 | 21.1 |
| 87.5° | 30.7 | 15.6 | 11.9 | 11.0 | 10.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)