

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: P364429

Luminaire Tested: **VHB-15-N-UNV-L850-CD-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P364429
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1909-491-2)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB-15-N-UNV-L850-CD-U
Description: VHB LED HIGH BAY LUMINAIRE WITH NARROW DISTRIBUTION LENS AND 5000K, 80CRI LEDS

Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15533.0 lumens
Efficiency: N/A
Efficacy: 139.2 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.17' x L: 1.5' x H: 0')
CIE Type: Direct

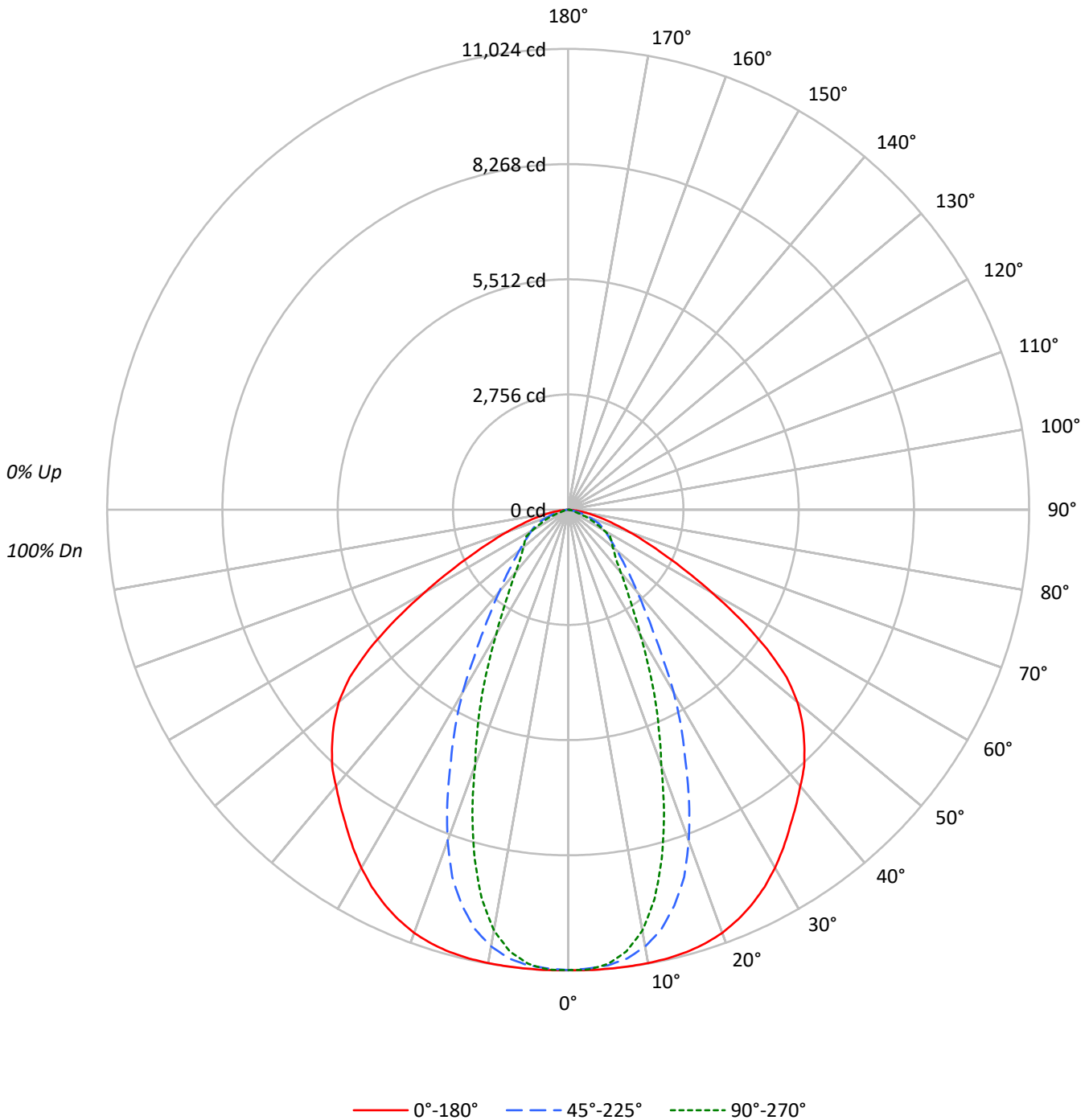
Input Watts (W): 111.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P364429

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Luminous Intensity Polar Plot





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CATALOG NUMBER: VHB-15-N-UNV-L850-CD-U

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° | 67745 | 67745 | 67745 |
| 5° | 68064 | 67547 | 67352 |
| 10° | 68778 | 66252 | 63832 |
| 15° | 69760 | 62421 | 55039 |
| 20° | 70511 | 55145 | 42612 |
| 25° | 70652 | 45030 | 33019 |
| 30° | 70255 | 35764 | 24438 |
| 35° | 69454 | 26501 | 19003 |
| 40° | 69345 | 20580 | 15683 |
| 45° | 69491 | 16937 | 13932 |
| 50° | 68506 | 14649 | 13288 |
| 55° | 62189 | 13058 | 13426 |
| 60° | 48893 | 12479 | 12234 |
| 65° | 36314 | 12094 | 9205 |
| 70° | 27851 | 9682 | 5620 |
| 75° | 21201 | 6904 | 3101 |
| 80° | 15568 | 3213 | 2504 |
| 85° | 9739 | 2759 | 2230 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1034.8 | 6.7 |
| 10°-20° | 2724.0 | 17.5 |
| 20°-30° | 3289.6 | 21.2 |
| 30°-40° | 2941.3 | 18.9 |
| 40°-50° | 2303.2 | 14.8 |
| 50°-60° | 1740.3 | 11.2 |
| 60°-70° | 1033.6 | 6.7 |
| 70°-80° | 397.2 | 2.6 |
| 80°-90° | 69.0 | 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° | 7048.4 | 45.4 |
| 0°-40° | 9989.7 | 64.3 |
| 0°-60° | 14033.2 | 90.3 |
| 0°-90° | 15533.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 15533.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 11014 | 11014 | 11014 | 11014 | 11014 | |
| 5° | 11024 | 10976 | 10940 | 10926 | 10908 | ### |
| 15° | 10955 | 10594 | 9803 | 8983 | 8643 | 3095 |
| 25° | 10410 | 9186 | 6635 | 5231 | 4865 | 4793 |
| 35° | 9250 | 6582 | 3529 | 2752 | 2531 | 5800 |
| 45° | 7989 | 3404 | 1947 | 1645 | 1602 | 6149 |
| 55° | 5799 | 1847 | 1218 | 1213 | 1252 | 5093 |
| 65° | 2495 | 1037 | 831 | 693 | 632 | 2571 |
| 75° | 892 | 499 | 290 | 144 | 130 | 977 |
| 85° | 138 | 48 | 39 | 34 | 32 | 184 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P364429

CATALOG NUMBER: VHB-15-N-UNV-L850-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 11014.1 | 11014.1 | 11014.1 | 11014.1 | 11014.1 |
| 2.5° | 11024.4 | 10988.0 | 10985.3 | 11008.6 | 11012.1 |
| 5° | 11023.8 | 10975.7 | 10940.0 | 10925.5 | 10908.4 |
| 7.5° | 11020.3 | 10947.5 | 10827.3 | 10712.0 | 10658.4 |
| 10° | 11012.1 | 10883.0 | 10607.6 | 10345.2 | 10220.2 |
| 12.5° | 10994.2 | 10767.6 | 10281.3 | 9799.2 | 9536.8 |
| 15° | 10955.1 | 10593.8 | 9802.6 | 8983.3 | 8643.3 |
| 17.5° | 10884.3 | 10354.1 | 9216.1 | 8059.5 | 7622.1 |
| 20° | 10772.4 | 10049.2 | 8424.9 | 7006.0 | 6510.1 |
| 22.5° | 10611.7 | 9650.9 | 7553.4 | 6057.5 | 5661.3 |
| 25° | 10410.4 | 9185.9 | 6635.1 | 5231.3 | 4865.3 |
| 27.5° | 10171.4 | 8643.3 | 5843.9 | 4462.1 | 4101.5 |
| 30° | 9891.9 | 8009.4 | 5035.6 | 3735.5 | 3440.8 |
| 32.5° | 9579.4 | 7341.8 | 4191.5 | 3181.2 | 2938.8 |
| 35° | 9249.8 | 6582.3 | 3529.4 | 2752.0 | 2530.8 |
| 37.5° | 8939.3 | 5769.1 | 2988.9 | 2372.2 | 2217.0 |
| 40° | 8636.5 | 4914.7 | 2563.1 | 2072.1 | 1953.2 |
| 42.5° | 8350.7 | 4097.4 | 2237.6 | 1820.7 | 1743.1 |
| 45° | 7988.8 | 3403.8 | 1947.1 | 1644.9 | 1601.6 |
| 47.5° | 7604.9 | 2872.9 | 1716.3 | 1502.0 | 1486.9 |
| 50° | 7159.2 | 2447.1 | 1530.9 | 1377.7 | 1388.7 |
| 52.5° | 6580.9 | 2110.5 | 1355.0 | 1289.8 | 1322.1 |
| 55° | 5799.3 | 1846.8 | 1217.7 | 1212.9 | 1252.0 |
| 57.5° | 4883.8 | 1594.7 | 1109.2 | 1139.4 | 1183.3 |
| 60° | 3974.5 | 1392.1 | 1014.4 | 1058.4 | 994.5 |
| 62.5° | 3175.1 | 1206.0 | 924.4 | 844.1 | 789.1 |
| 65° | 2495.1 | 1037.1 | 831.0 | 693.0 | 632.5 |
| 67.5° | 1989.6 | 879.8 | 699.2 | 551.5 | 501.4 |
| 70° | 1548.7 | 739.7 | 538.4 | 414.1 | 312.5 |
| 72.5° | 1186.8 | 618.1 | 420.3 | 235.6 | 177.9 |
| 75° | 892.1 | 498.6 | 290.5 | 143.5 | 130.5 |
| 77.5° | 636.0 | 370.2 | 155.2 | 103.7 | 96.2 |
| 80° | 439.5 | 237.6 | 90.7 | 74.9 | 70.7 |
| 82.5° | 272.7 | 114.7 | 61.8 | 53.6 | 50.1 |
| 85° | 138.0 | 48.1 | 39.1 | 34.3 | 31.6 |
| 87.5° | 46.0 | 23.4 | 17.9 | 16.5 | 15.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)