

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: P470172

Luminaire Tested: **VHB2-15-W-UNV-L750-CD-U**

Issue Date: 01/20/2021

Test Information

Test Method: LM-79-08
Report Number: P470172
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB2-15-W-UNV-L750-CD-U
Description: VHB2 LED HIGH BAY LUMINAIRE WITH WIDE DISTRIBUTION LENS
Light Source: 5000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17186.8 lumens
Efficiency: N/A
Efficacy: 155.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.14 / 1.25
Luminous Opening: Rectangular (W 1.17' x L: 1.5' x H: 0')
CIE Type: Direct

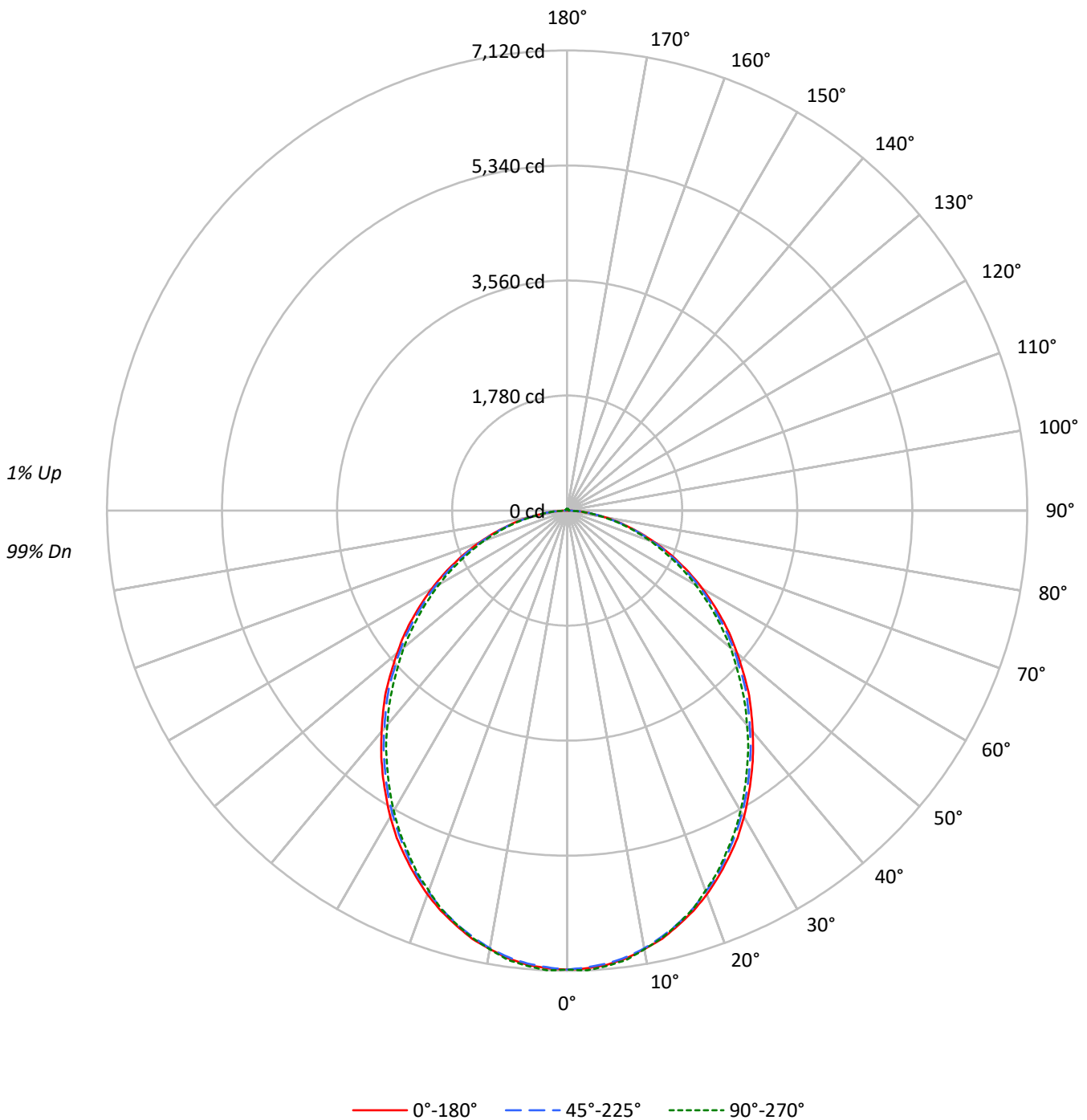
Input Watts (W): 110.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P470172

CATALOG NUMBER: VHB2-15-W-UNV-L750-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P470172

CATALOG NUMBER: VHB2-15-W-UNV-L750-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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 | 99 |
| 1 | 109 | 104 | 100 | 97 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 100 | 92 | 85 | 79 | 97 | 90 | 84 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 79 | 76 | 73 | 71 |
| 3 | 91 | 81 | 73 | 67 | 89 | 79 | 72 | 66 | 76 | 70 | 65 | 73 | 68 | 64 | 71 | 66 | 62 | 60 |
| 4 | 84 | 72 | 63 | 57 | 81 | 71 | 63 | 57 | 68 | 61 | 56 | 66 | 60 | 55 | 63 | 58 | 54 | 52 |
| 5 | 77 | 65 | 56 | 49 | 75 | 63 | 55 | 49 | 61 | 54 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 45 |
| 6 | 71 | 58 | 50 | 43 | 69 | 57 | 49 | 43 | 56 | 48 | 43 | 54 | 47 | 42 | 52 | 46 | 42 | 40 |
| 7 | 66 | 53 | 45 | 39 | 65 | 52 | 44 | 38 | 51 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 37 | 35 |
| 8 | 62 | 49 | 40 | 35 | 60 | 48 | 40 | 34 | 47 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 |
| 9 | 58 | 45 | 37 | 31 | 56 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 43686 | 43686 | 43686 |
| 5° | 43555 | 43444 | 43665 |
| 10° | 43030 | 42947 | 43041 |
| 15° | 42294 | 42151 | 42174 |
| 20° | 41372 | 41074 | 40963 |
| 25° | 40171 | 39813 | 39576 |
| 30° | 38869 | 38424 | 38113 |
| 35° | 37365 | 36881 | 36438 |
| 40° | 35855 | 35302 | 34756 |
| 45° | 34501 | 33956 | 33108 |
| 50° | 32826 | 32321 | 31568 |
| 55° | 31377 | 30696 | 29862 |
| 60° | 29755 | 29094 | 28148 |
| 65° | 28003 | 27327 | 26350 |
| 70° | 25949 | 25465 | 24580 |
| 75° | 23639 | 23320 | 22512 |
| 80° | 21132 | 20785 | 20055 |
| 85° | 17925 | 17925 | 17488 |



TEST NUMBER: P470172

CATALOG NUMBER: VHB2-15-W-UNV-L750-CD-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 667.8 | 3.9 |
| 10°-20° | 1865.4 | 10.9 |
| 20°-30° | 2702.7 | 15.7 |
| 30°-40° | 3074.1 | 17.9 |
| 40°-50° | 2997.7 | 17.4 |
| 50°-60° | 2559.2 | 14.9 |
| 60°-70° | 1857.9 | 10.8 |
| 70°-80° | 1037.4 | 6.0 |
| 80°-90° | 291.3 | 1.7 |
| 90°-100° | 20.7 | 0.1 |
| 100°-110° | 20.5 | 0.1 |
| 110°-120° | 20.1 | 0.1 |
| 120°-130° | 19.3 | 0.1 |
| 130°-140° | 18.3 | 0.1 |
| 140°-150° | 15.7 | 0.1 |
| 150°-160° | 11.0 | 0.1 |
| 160°-170° | 6.1 | 0.0 |
| 170°-180° | 1.8 | 0.0 |
| 0°-30° | 5235.9 | 30.5 |
| 0°-40° | 8310.0 | 48.4 |
| 0°-60° | 13866.8 | 80.7 |
| 0°-90° | 17053.4 | 99.2 |
| 90°-120° | 61.3 | 0.4 |
| 90°-150° | 114.5 | 0.7 |
| 90°-180° | 133.0 | 0.8 |
| 0°-180° | 17186.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 7102 | 7102 | 7102 | 7102 | 7102 | |
| 5° | 7054 | 7038 | 7036 | 7060 | 7072 | 668 |
| 15° | 6642 | 6630 | 6620 | 6619 | 6623 | 1872 |
| 25° | 5919 | 5898 | 5866 | 5845 | 5831 | 2725 |
| 35° | 4976 | 4960 | 4912 | 4866 | 4853 | 3112 |
| 45° | 3966 | 3929 | 3904 | 3831 | 3806 | 3052 |
| 55° | 2926 | 2914 | 2862 | 2802 | 2785 | 2617 |
| 65° | 1924 | 1910 | 1878 | 1834 | 1810 | 1908 |
| 75° | 995 | 1000 | 981 | 957 | 947 | 1063 |
| 85° | 254 | 259 | 254 | 247 | 248 | 278 |
| 90° | 18 | 20 | 23 | 28 | 26 | 21 |
| 95° | 8 | 13 | 20 | 23 | 24 | 8 |
| 105° | 15 | 15 | 19 | 23 | 25 | 16 |
| 115° | 18 | 18 | 20 | 22 | 24 | 17 |
| 125° | 19 | 21 | 21 | 23 | 23 | 17 |
| 135° | 22 | 23 | 24 | 24 | 24 | 17 |
| 145° | 21 | 24 | 26 | 28 | 28 | 13 |
| 155° | 20 | 22 | 25 | 26 | 26 | 9 |
| 165° | 16 | 19 | 22 | 24 | 24 | 5 |
| 175° | 18 | 18 | 19 | 20 | 21 | 2 |
| 180° | 18 | 18 | 18 | 18 | 18 | |



TEST NUMBER: P470172

CATALOG NUMBER: VHB2-15-W-UNV-L750-CD-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 7102.5 | 7102.5 | 7102.5 | 7102.5 | 7102.5 |
| 2.5° | 7088.2 | 7069.4 | 7073.0 | 7096.3 | 7119.5 |
| 5° | 7054.2 | 7038.1 | 7036.3 | 7060.5 | 7072.1 |
| 7.5° | 6988.0 | 6971.0 | 6970.1 | 6997.9 | 7011.3 |
| 10° | 6889.6 | 6885.2 | 6876.2 | 6895.0 | 6891.4 |
| 12.5° | 6786.8 | 6761.7 | 6757.2 | 6772.5 | 6773.3 |
| 15° | 6641.9 | 6630.2 | 6619.5 | 6618.6 | 6623.1 |
| 17.5° | 6493.4 | 6468.3 | 6462.1 | 6458.5 | 6467.4 |
| 20° | 6320.7 | 6293.0 | 6275.1 | 6271.5 | 6258.1 |
| 22.5° | 6124.8 | 6107.8 | 6090.8 | 6061.3 | 6064.0 |
| 25° | 5919.1 | 5898.5 | 5866.3 | 5844.8 | 5831.4 |
| 27.5° | 5708.9 | 5676.7 | 5642.7 | 5623.0 | 5611.4 |
| 30° | 5472.7 | 5453.0 | 5410.1 | 5373.4 | 5366.3 |
| 32.5° | 5222.2 | 5208.8 | 5165.9 | 5133.7 | 5112.2 |
| 35° | 4976.2 | 4960.1 | 4911.8 | 4866.2 | 4852.8 |
| 37.5° | 4725.8 | 4706.1 | 4664.9 | 4624.7 | 4602.3 |
| 40° | 4465.5 | 4451.2 | 4396.6 | 4348.3 | 4328.6 |
| 42.5° | 4214.1 | 4195.3 | 4146.1 | 4087.1 | 4075.5 |
| 45° | 3966.3 | 3928.8 | 3903.7 | 3831.3 | 3806.2 |
| 47.5° | 3691.7 | 3681.9 | 3628.2 | 3570.1 | 3542.3 |
| 50° | 3430.5 | 3424.2 | 3377.7 | 3312.4 | 3299.0 |
| 52.5° | 3190.8 | 3165.7 | 3122.8 | 3063.7 | 3033.3 |
| 55° | 2926.0 | 2913.5 | 2862.5 | 2802.5 | 2784.7 |
| 57.5° | 2666.6 | 2666.6 | 2612.0 | 2561.0 | 2530.6 |
| 60° | 2418.8 | 2403.6 | 2365.1 | 2315.9 | 2288.2 |
| 62.5° | 2169.2 | 2156.7 | 2123.6 | 2074.4 | 2049.4 |
| 65° | 1924.1 | 1909.8 | 1877.6 | 1833.8 | 1810.5 |
| 67.5° | 1689.8 | 1672.8 | 1652.2 | 1594.9 | 1579.7 |
| 70° | 1442.9 | 1439.3 | 1416.0 | 1376.7 | 1366.8 |
| 72.5° | 1221.0 | 1217.4 | 1190.6 | 1155.7 | 1145.0 |
| 75° | 994.7 | 1000.1 | 981.3 | 957.1 | 947.3 |
| 77.5° | 797.9 | 792.5 | 774.7 | 760.3 | 743.4 |
| 80° | 596.6 | 594.9 | 586.8 | 567.1 | 566.2 |
| 82.5° | 412.4 | 419.5 | 413.3 | 399.0 | 393.6 |
| 85° | 254.0 | 259.4 | 254.0 | 246.9 | 247.8 |
| 87.5° | 113.6 | 115.4 | 109.1 | 98.4 | 91.2 |
| 90° | 17.9 | 19.7 | 23.3 | 27.7 | 25.9 |
| 92.5° | 6.3 | 13.4 | 19.7 | 23.3 | 24.2 |
| 95° | 8.1 | 13.4 | 19.7 | 23.3 | 24.2 |
| 97.5° | 11.6 | 13.4 | 19.7 | 23.3 | 25.0 |
| 100° | 13.4 | 14.3 | 19.7 | 23.3 | 25.0 |
| 102.5° | 14.3 | 14.3 | 19.7 | 23.3 | 25.0 |
| 105° | 15.2 | 15.2 | 18.8 | 23.3 | 25.0 |
| 107.5° | 16.1 | 15.2 | 18.8 | 23.3 | 25.0 |
| 110° | 16.1 | 16.1 | 18.8 | 23.3 | 24.2 |



TEST NUMBER: P470172

CATALOG NUMBER: VHB2-15-W-UNV-L750-CD-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 112.5° | 17.0 | 17.0 | 19.7 | 22.4 | 24.2 |
| 115° | 17.9 | 17.9 | 19.7 | 22.4 | 24.2 |
| 117.5° | 17.9 | 18.8 | 19.7 | 23.3 | 24.2 |
| 120° | 18.8 | 19.7 | 19.7 | 23.3 | 23.3 |
| 122.5° | 18.8 | 20.6 | 20.6 | 23.3 | 23.3 |
| 125° | 18.8 | 20.6 | 20.6 | 23.3 | 23.3 |
| 127.5° | 19.7 | 21.5 | 20.6 | 23.3 | 23.3 |
| 130° | 20.6 | 21.5 | 22.4 | 23.3 | 23.3 |
| 132.5° | 20.6 | 22.4 | 23.3 | 24.2 | 23.3 |
| 135° | 21.5 | 23.3 | 24.2 | 24.2 | 24.2 |
| 137.5° | 22.4 | 23.3 | 25.0 | 25.0 | 25.0 |
| 140° | 22.4 | 24.2 | 25.0 | 25.9 | 25.9 |
| 142.5° | 20.6 | 24.2 | 25.0 | 26.8 | 26.8 |
| 145° | 20.6 | 24.2 | 25.9 | 27.7 | 27.7 |
| 147.5° | 19.7 | 23.3 | 25.0 | 27.7 | 27.7 |
| 150° | 19.7 | 22.4 | 25.0 | 26.8 | 26.8 |
| 152.5° | 20.6 | 21.5 | 25.0 | 25.9 | 26.8 |
| 155° | 19.7 | 21.5 | 25.0 | 25.9 | 25.9 |
| 157.5° | 18.8 | 20.6 | 24.2 | 25.9 | 26.8 |
| 160° | 17.9 | 20.6 | 23.3 | 25.9 | 25.9 |
| 162.5° | 17.0 | 19.7 | 22.4 | 25.0 | 25.9 |
| 165° | 16.1 | 18.8 | 21.5 | 24.2 | 24.2 |
| 167.5° | 16.1 | 18.8 | 20.6 | 22.4 | 23.3 |
| 170° | 17.0 | 17.9 | 19.7 | 20.6 | 21.5 |
| 172.5° | 17.9 | 17.9 | 19.7 | 19.7 | 19.7 |
| 175° | 17.9 | 17.9 | 18.8 | 19.7 | 20.6 |
| 177.5° | 18.8 | 17.9 | 17.9 | 19.7 | 19.7 |
| 180° | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 |

(END OF REPORT)