

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: P417708

Luminaire Tested: **VHB-1215-N-UNV-L840-CD-U-LEVEL1**

Issue Date: 11/17/2020

Test Information

Test Method: LM-79-08
Report Number: P417708
Test Lab: INNOVATION CENTER(G3)
Issue Date: 11/17/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB-1215-N-UNV-L840-CD-U-LEVEL1
Description: VHB LED HIGH BAY LUMINAIRE WITH NARROW DISTRIBUTION LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12011.0 lumens
Efficiency: N/A
Efficacy: 149.0 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.74 / 0.88
Luminous Opening: Rectangular (W 1.17' x L: 1.5' x H: 0')
CIE Type: Direct

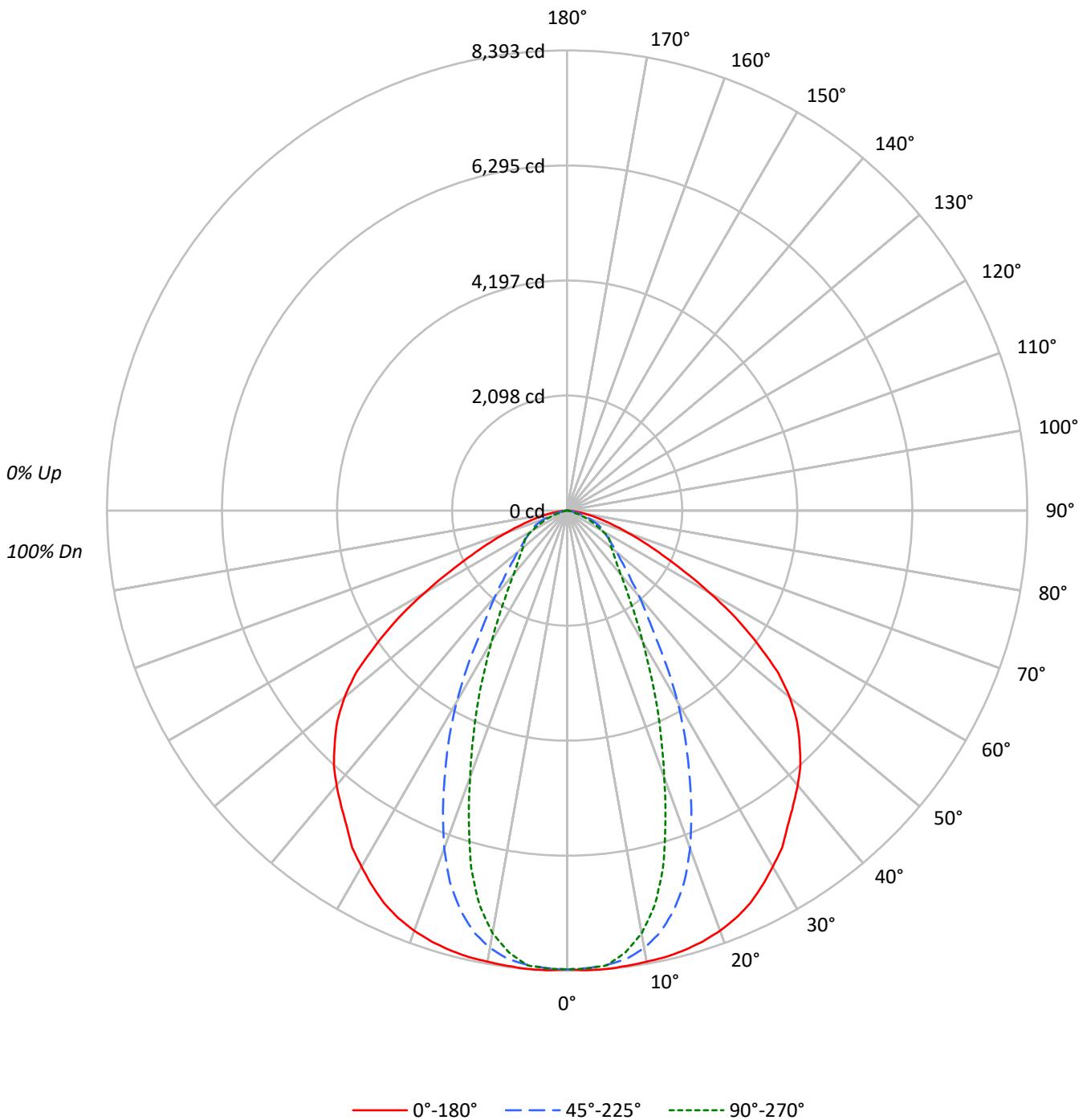
Input Watts (W): 80.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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 | 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 | 107 | 104 | 101 | 109 | 105 | 102 | 99 | 101 | 99 | 96 | 97 | 95 | 93 | 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 | 73 | 68 | 64 | 71 | 67 | 63 | 62 | | | | 62 |
| 5 | 83 | 72 | 65 | 59 | 81 | 71 | 64 | 59 | 69 | 63 | 58 | 67 | 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 | 56 | 51 | 47 | 46 | | | | 46 |
| 8 | 69 | 57 | 49 | 44 | 67 | 56 | 49 | 44 | 55 | 48 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 42 | | | | 42 |
| 9 | 65 | 53 | 46 | 41 | 63 | 52 | 45 | 41 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 38 | | | | 38 |
| 10 | 61 | 49 | 42 | 38 | 60 | 49 | 42 | 38 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 36 | | | | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 51469 | 51469 | 51469 |
| 5° | 51818 | 51357 | 51413 |
| 10° | 52186 | 50586 | 48893 |
| 15° | 52842 | 47978 | 43006 |
| 20° | 53377 | 42918 | 33850 |
| 25° | 53623 | 35715 | 26083 |
| 30° | 53263 | 28585 | 19526 |
| 35° | 52655 | 21029 | 14947 |
| 40° | 52526 | 16411 | 12157 |
| 45° | 52154 | 13204 | 10778 |
| 50° | 50742 | 11253 | 10052 |
| 55° | 45487 | 10122 | 10143 |
| 60° | 36963 | 9517 | 9124 |
| 65° | 27883 | 9224 | 7418 |
| 70° | 21149 | 7647 | 5073 |
| 75° | 16006 | 5746 | 2719 |
| 80° | 11558 | 2834 | 2235 |
| 85° | 7431 | 2435 | 1884 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 787.3 | 6.6 |
| 10°-20° | 2092.5 | 17.4 |
| 20°-30° | 2559.8 | 21.3 |
| 30°-40° | 2296.6 | 19.1 |
| 40°-50° | 1780.7 | 14.8 |
| 50°-60° | 1321.6 | 11.0 |
| 60°-70° | 797.1 | 6.6 |
| 70°-80° | 318.0 | 2.6 |
| 80°-90° | 57.4 | 0.5 |
| 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° | 5439.6 | 45.3 |
| 0°-40° | 7736.2 | 64.4 |
| 0°-60° | 10838.5 | 90.2 |
| 0°-90° | 12011.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 12011.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 8368 | 8368 | 8368 | 8368 | 8368 | |
| 5° | 8393 | 8340 | 8318 | 8294 | 8327 | 800 |
| 15° | 8298 | 8072 | 7534 | 6974 | 6754 | 2345 |
| 25° | 7901 | 7030 | 5262 | 4175 | 3843 | 3634 |
| 35° | 7012 | 5154 | 2801 | 2139 | 1991 | 4401 |
| 45° | 5996 | 2708 | 1518 | 1271 | 1239 | 4615 |
| 55° | 4242 | 1447 | 944 | 912 | 946 | 3769 |
| 65° | 1916 | 803 | 634 | 541 | 510 | 1954 |
| 75° | 674 | 391 | 242 | 127 | 114 | 738 |
| 85° | 105 | 44 | 34 | 29 | 27 | 138 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: VHB-1215-N-UNV-L840-CD-U-LEVEL1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 8367.9 | 8367.9 | 8367.9 | 8367.9 | 8367.9 |
| 2.5° | 8392.0 | 8341.9 | 8354.3 | 8354.3 | 8356.9 |
| 5° | 8392.6 | 8340.0 | 8317.9 | 8293.8 | 8327.0 |
| 7.5° | 8373.8 | 8312.7 | 8251.5 | 8149.5 | 8128.0 |
| 10° | 8355.6 | 8266.5 | 8099.4 | 7903.8 | 7828.3 |
| 12.5° | 8337.4 | 8201.5 | 7874.5 | 7504.6 | 7374.6 |
| 15° | 8298.4 | 8071.5 | 7534.5 | 6974.1 | 6753.7 |
| 17.5° | 8237.9 | 7888.2 | 7106.1 | 6299.3 | 5960.6 |
| 20° | 8154.7 | 7660.6 | 6556.8 | 5544.6 | 5171.4 |
| 22.5° | 8045.5 | 7390.2 | 5916.4 | 4823.0 | 4477.1 |
| 25° | 7901.2 | 7030.0 | 5262.5 | 4174.9 | 3843.3 |
| 27.5° | 7709.4 | 6627.0 | 4648.8 | 3570.3 | 3240.7 |
| 30° | 7499.4 | 6190.8 | 4024.7 | 2998.2 | 2749.2 |
| 32.5° | 7293.3 | 5715.6 | 3397.4 | 2517.1 | 2339.0 |
| 35° | 7012.5 | 5153.9 | 2800.6 | 2139.4 | 1990.6 |
| 37.5° | 6773.9 | 4548.7 | 2373.5 | 1842.3 | 1735.1 |
| 40° | 6541.8 | 3905.7 | 2043.9 | 1610.9 | 1514.1 |
| 42.5° | 6297.4 | 3269.3 | 1739.0 | 1413.9 | 1356.7 |
| 45° | 5995.7 | 2707.6 | 1518.0 | 1270.9 | 1239.1 |
| 47.5° | 5685.7 | 2292.9 | 1316.4 | 1163.0 | 1138.3 |
| 50° | 5302.8 | 1942.5 | 1176.0 | 1056.4 | 1050.5 |
| 52.5° | 4843.8 | 1668.1 | 1046.6 | 977.1 | 989.4 |
| 55° | 4241.8 | 1447.1 | 943.9 | 912.1 | 945.9 |
| 57.5° | 3652.8 | 1251.4 | 852.9 | 862.7 | 891.3 |
| 60° | 3004.7 | 1075.9 | 773.6 | 790.5 | 741.7 |
| 62.5° | 2408.6 | 934.2 | 704.7 | 656.6 | 616.3 |
| 65° | 1915.8 | 802.9 | 633.8 | 540.9 | 509.7 |
| 67.5° | 1507.6 | 684.5 | 535.0 | 442.7 | 403.7 |
| 70° | 1176.0 | 577.3 | 425.2 | 344.5 | 282.1 |
| 72.5° | 897.1 | 482.4 | 336.7 | 208.7 | 167.1 |
| 75° | 673.5 | 390.7 | 241.8 | 127.4 | 114.4 |
| 77.5° | 482.4 | 293.2 | 141.1 | 93.0 | 87.8 |
| 80° | 326.3 | 191.8 | 80.0 | 68.3 | 63.1 |
| 82.5° | 203.5 | 106.0 | 54.6 | 48.1 | 44.9 |
| 85° | 105.3 | 43.6 | 34.5 | 29.3 | 26.7 |
| 87.5° | 37.1 | 19.5 | 15.6 | 12.4 | 9.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)