

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: P417728

Luminaire Tested: **VHB-1215-W-UNV-L735-CD-U-LEVEL1**

Issue Date: 11/17/2020

Test Information

Test Method: LM-79-08
Report Number: P417728
Test Lab: INNOVATION CENTER(G3)
Issue Date: 11/17/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB-1215-W-UNV-L735-CD-U-LEVEL1
Description: VHB LED HIGH BAY LUMINAIRE WITH WIDE DISTRIBUTION LENS
Light Source: 3500K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12983.4 lumens
Efficiency: N/A
Efficacy: 161.1 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

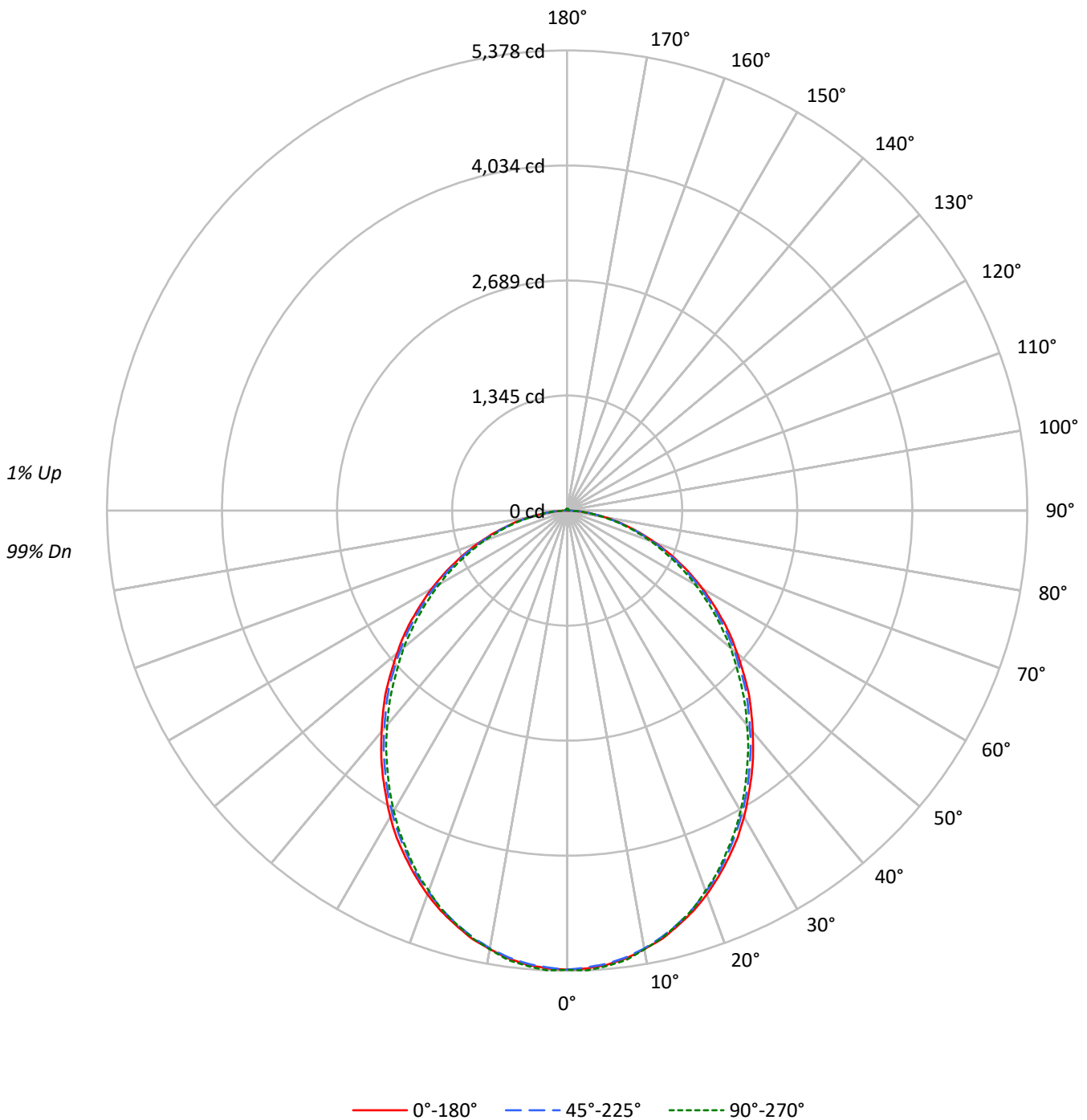
Input Watts (W): 80.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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CATALOG NUMBER: VHB-1215-W-UNV-L735-CD-U-LEVEL1

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 | 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° | 33002 | 33002 | 33002 |
| 5° | 32903 | 32819 | 32986 |
| 10° | 32507 | 32443 | 32515 |
| 15° | 31950 | 31843 | 31860 |
| 20° | 31254 | 31028 | 30945 |
| 25° | 30346 | 30076 | 29897 |
| 30° | 29363 | 29027 | 28791 |
| 35° | 28227 | 27862 | 27527 |
| 40° | 27086 | 26668 | 26256 |
| 45° | 26063 | 25652 | 25011 |
| 50° | 24798 | 24416 | 23848 |
| 55° | 23703 | 23189 | 22558 |
| 60° | 22477 | 21979 | 21265 |
| 65° | 21154 | 20643 | 19906 |
| 70° | 19602 | 19237 | 18570 |
| 75° | 17857 | 17617 | 17006 |
| 80° | 15964 | 15702 | 15153 |
| 85° | 13543 | 13543 | 13211 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 504.5 | 3.9 |
| 10°-20° | 1409.1 | 10.9 |
| 20°-30° | 2041.7 | 15.7 |
| 30°-40° | 2322.3 | 17.9 |
| 40°-50° | 2264.5 | 17.4 |
| 50°-60° | 1933.3 | 14.9 |
| 60°-70° | 1403.5 | 10.8 |
| 70°-80° | 783.7 | 6.0 |
| 80°-90° | 220.0 | 1.7 |
| 90°-100° | 15.6 | 0.1 |
| 100°-110° | 15.5 | 0.1 |
| 110°-120° | 15.2 | 0.1 |
| 120°-130° | 14.6 | 0.1 |
| 130°-140° | 13.8 | 0.1 |
| 140°-150° | 11.9 | 0.1 |
| 150°-160° | 8.3 | 0.1 |
| 160°-170° | 4.6 | 0.0 |
| 170°-180° | 1.4 | 0.0 |
| 0°-30° | 3955.4 | 30.5 |
| 0°-40° | 6277.7 | 48.4 |
| 0°-60° | 10475.5 | 80.7 |
| 0°-90° | 12882.7 | 99.2 |
| 90°-120° | 46.3 | 0.4 |
| 90°-150° | 86.5 | 0.7 |
| 90°-180° | 101.0 | 0.8 |
| 0°-180° | 12983.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 5366 | 5366 | 5366 | 5366 | 5366 | |
| 5° | 5329 | 5317 | 5316 | 5334 | 5342 | 505 |
| 15° | 5018 | 5009 | 5001 | 5000 | 5003 | 1414 |
| 25° | 4472 | 4456 | 4432 | 4415 | 4405 | 2059 |
| 35° | 3759 | 3747 | 3711 | 3676 | 3666 | 2351 |
| 45° | 2996 | 2968 | 2949 | 2894 | 2875 | 2306 |
| 55° | 2210 | 2201 | 2162 | 2117 | 2104 | 1977 |
| 65° | 1454 | 1443 | 1418 | 1385 | 1368 | 1441 |
| 75° | 751 | 756 | 741 | 723 | 716 | 803 |
| 85° | 192 | 196 | 192 | 186 | 187 | 210 |
| 90° | 14 | 15 | 18 | 21 | 20 | 16 |
| 95° | 6 | 10 | 15 | 18 | 18 | 6 |
| 105° | 12 | 12 | 14 | 18 | 19 | 12 |
| 115° | 14 | 14 | 15 | 17 | 18 | 13 |
| 125° | 14 | 16 | 16 | 18 | 18 | 13 |
| 135° | 16 | 18 | 18 | 18 | 18 | 13 |
| 145° | 16 | 18 | 20 | 21 | 21 | 10 |
| 155° | 15 | 16 | 19 | 20 | 20 | 7 |
| 165° | 12 | 14 | 16 | 18 | 18 | 4 |
| 175° | 14 | 14 | 14 | 15 | 16 | 1 |
| 180° | 14 | 14 | 14 | 14 | 14 | |



TEST NUMBER: P417728

CATALOG NUMBER: VHB-1215-W-UNV-L735-CD-U-LEVEL1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 5365.5 | 5365.5 | 5365.5 | 5365.5 | 5365.5 |
| 2.5° | 5354.7 | 5340.5 | 5343.2 | 5360.8 | 5378.3 |
| 5° | 5329.0 | 5316.8 | 5315.5 | 5333.7 | 5342.5 |
| 7.5° | 5279.0 | 5266.2 | 5265.5 | 5286.4 | 5296.6 |
| 10° | 5204.7 | 5201.3 | 5194.5 | 5208.7 | 5206.0 |
| 12.5° | 5126.9 | 5108.0 | 5104.6 | 5116.1 | 5116.8 |
| 15° | 5017.5 | 5008.7 | 5000.6 | 4999.9 | 5003.3 |
| 17.5° | 4905.3 | 4886.4 | 4881.6 | 4878.9 | 4885.7 |
| 20° | 4774.9 | 4753.9 | 4740.4 | 4737.7 | 4727.6 |
| 22.5° | 4626.9 | 4614.0 | 4601.2 | 4578.9 | 4580.9 |
| 25° | 4471.5 | 4455.9 | 4431.6 | 4415.4 | 4405.2 |
| 27.5° | 4312.7 | 4288.3 | 4262.7 | 4247.8 | 4239.0 |
| 30° | 4134.3 | 4119.4 | 4087.0 | 4059.3 | 4053.8 |
| 32.5° | 3945.1 | 3934.9 | 3902.5 | 3878.2 | 3861.9 |
| 35° | 3759.2 | 3747.1 | 3710.6 | 3676.1 | 3666.0 |
| 37.5° | 3570.0 | 3555.1 | 3524.1 | 3493.6 | 3476.8 |
| 40° | 3373.4 | 3362.6 | 3321.3 | 3284.8 | 3270.0 |
| 42.5° | 3183.5 | 3169.3 | 3132.1 | 3087.5 | 3078.7 |
| 45° | 2996.3 | 2967.9 | 2949.0 | 2894.3 | 2875.3 |
| 47.5° | 2788.8 | 2781.4 | 2740.9 | 2696.9 | 2676.0 |
| 50° | 2591.5 | 2586.8 | 2551.6 | 2502.3 | 2492.2 |
| 52.5° | 2410.4 | 2391.5 | 2359.1 | 2314.5 | 2291.5 |
| 55° | 2210.4 | 2200.9 | 2162.4 | 2117.1 | 2103.6 |
| 57.5° | 2014.4 | 2014.4 | 1973.2 | 1934.7 | 1911.7 |
| 60° | 1827.2 | 1815.8 | 1786.7 | 1749.5 | 1728.6 |
| 62.5° | 1638.7 | 1629.2 | 1604.2 | 1567.1 | 1548.2 |
| 65° | 1453.5 | 1442.7 | 1418.4 | 1385.3 | 1367.7 |
| 67.5° | 1276.5 | 1263.7 | 1248.1 | 1204.9 | 1193.4 |
| 70° | 1090.0 | 1087.3 | 1069.7 | 1040.0 | 1032.6 |
| 72.5° | 922.4 | 919.7 | 899.4 | 873.1 | 865.0 |
| 75° | 751.4 | 755.5 | 741.3 | 723.1 | 715.6 |
| 77.5° | 602.8 | 598.7 | 585.2 | 574.4 | 561.6 |
| 80° | 450.7 | 449.4 | 443.3 | 428.4 | 427.8 |
| 82.5° | 311.5 | 316.9 | 312.2 | 301.4 | 297.3 |
| 85° | 191.9 | 196.0 | 191.9 | 186.5 | 187.2 |
| 87.5° | 85.8 | 87.2 | 82.4 | 74.3 | 68.9 |
| 90° | 13.5 | 14.9 | 17.6 | 20.9 | 19.6 |
| 92.5° | 4.7 | 10.1 | 14.9 | 17.6 | 18.2 |
| 95° | 6.1 | 10.1 | 14.9 | 17.6 | 18.2 |
| 97.5° | 8.8 | 10.1 | 14.9 | 17.6 | 18.9 |
| 100° | 10.1 | 10.8 | 14.9 | 17.6 | 18.9 |
| 102.5° | 10.8 | 10.8 | 14.9 | 17.6 | 18.9 |
| 105° | 11.5 | 11.5 | 14.2 | 17.6 | 18.9 |
| 107.5° | 12.2 | 11.5 | 14.2 | 17.6 | 18.9 |
| 110° | 12.2 | 12.2 | 14.2 | 17.6 | 18.2 |



TEST NUMBER: P417728

CATALOG NUMBER: VHB-1215-W-UNV-L735-CD-U-LEVEL1

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 112.5° | 12.8 | 12.8 | 14.9 | 16.9 | 18.2 |
| 115° | 13.5 | 13.5 | 14.9 | 16.9 | 18.2 |
| 117.5° | 13.5 | 14.2 | 14.9 | 17.6 | 18.2 |
| 120° | 14.2 | 14.9 | 14.9 | 17.6 | 17.6 |
| 122.5° | 14.2 | 15.5 | 15.5 | 17.6 | 17.6 |
| 125° | 14.2 | 15.5 | 15.5 | 17.6 | 17.6 |
| 127.5° | 14.9 | 16.2 | 15.5 | 17.6 | 17.6 |
| 130° | 15.5 | 16.2 | 16.9 | 17.6 | 17.6 |
| 132.5° | 15.5 | 16.9 | 17.6 | 18.2 | 17.6 |
| 135° | 16.2 | 17.6 | 18.2 | 18.2 | 18.2 |
| 137.5° | 16.9 | 17.6 | 18.9 | 18.9 | 18.9 |
| 140° | 16.9 | 18.2 | 18.9 | 19.6 | 19.6 |
| 142.5° | 15.5 | 18.2 | 18.9 | 20.3 | 20.3 |
| 145° | 15.5 | 18.2 | 19.6 | 20.9 | 20.9 |
| 147.5° | 14.9 | 17.6 | 18.9 | 20.9 | 20.9 |
| 150° | 14.9 | 16.9 | 18.9 | 20.3 | 20.3 |
| 152.5° | 15.5 | 16.2 | 18.9 | 19.6 | 20.3 |
| 155° | 14.9 | 16.2 | 18.9 | 19.6 | 19.6 |
| 157.5° | 14.2 | 15.5 | 18.2 | 19.6 | 20.3 |
| 160° | 13.5 | 15.5 | 17.6 | 19.6 | 19.6 |
| 162.5° | 12.8 | 14.9 | 16.9 | 18.9 | 19.6 |
| 165° | 12.2 | 14.2 | 16.2 | 18.2 | 18.2 |
| 167.5° | 12.2 | 14.2 | 15.5 | 16.9 | 17.6 |
| 170° | 12.8 | 13.5 | 14.9 | 15.5 | 16.2 |
| 172.5° | 13.5 | 13.5 | 14.9 | 14.9 | 14.9 |
| 175° | 13.5 | 13.5 | 14.2 | 14.9 | 15.5 |
| 177.5° | 14.2 | 13.5 | 13.5 | 14.9 | 14.9 |
| 180° | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |

(END OF REPORT)