

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: P563310

Luminaire Tested: **VHB-48-N-UNV-L935-CD**

Issue Date: 6/3/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P563310  
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-48-N-UNV-L935-CD  
Description: 48000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 90CRI, 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

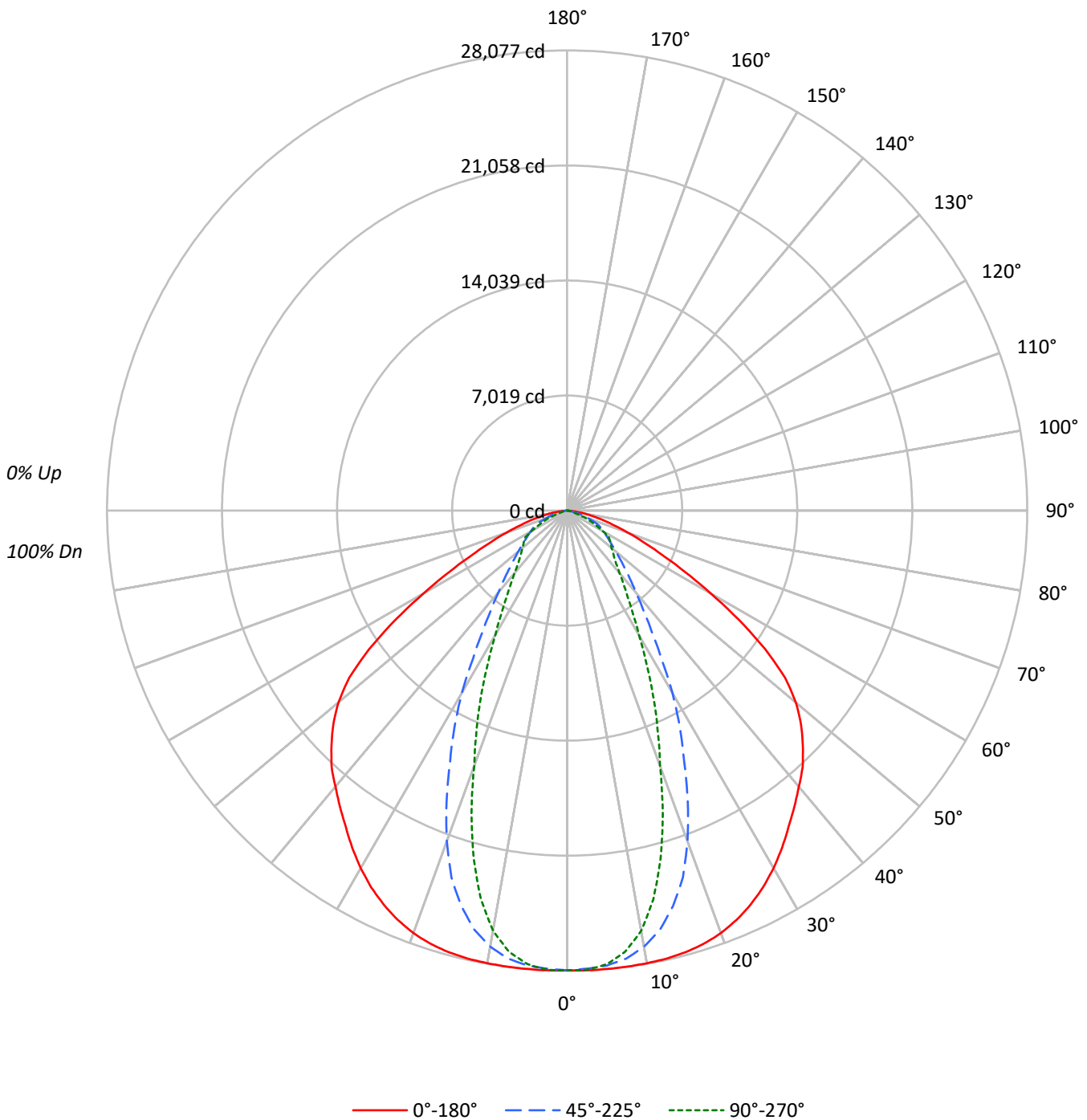
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 39559.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86  
Luminous Opening: Rectangular (W 1.75' x L: 1.58' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 324  
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: P563310

CATALOG NUMBER: VHB-48-N-UNV-L935-CD

### Luminous Intensity Polar Plot





TEST NUMBER: P563310

CATALOG NUMBER: VHB-48-N-UNV-L935-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°  | 108970 | 108970 | 108970 |
| 5°  | 109482 | 108651 | 108336 |
| 10° | 110632 | 106567 | 102676 |
| 15° | 112210 | 100406 | 88530  |
| 20° | 113419 | 88703  | 68543  |
| 25° | 113646 | 72433  | 53111  |
| 30° | 113009 | 57528  | 39309  |
| 35° | 111718 | 42629  | 30567  |
| 40° | 111543 | 33104  | 25227  |
| 45° | 111778 | 27243  | 22410  |
| 50° | 110192 | 23562  | 21374  |
| 55° | 100033 | 21003  | 21597  |
| 60° | 78646  | 20072  | 19679  |
| 65° | 58414  | 19455  | 14810  |
| 70° | 44801  | 15574  | 9040   |
| 75° | 34102  | 11107  | 4988   |
| 80° | 25041  | 5168   | 4027   |
| 85° | 15667  | 4439   | 3584   |



TEST NUMBER: P563310

CATALOG NUMBER: VHB-48-N-UNV-L935-CD

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 2635.4  | 6.7       |
| 10°-20°   | 6937.5  | 17.5      |
| 20°-30°   | 8377.8  | 21.2      |
| 30°-40°   | 7490.8  | 18.9      |
| 40°-50°   | 5865.8  | 14.8      |
| 50°-60°   | 4432.0  | 11.2      |
| 60°-70°   | 2632.3  | 6.7       |
| 70°-80°   | 1011.6  | 2.6       |
| 80°-90°   | 175.8   | 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°    | 17950.7 | 45.4      |
| 0°-40°    | 25441.4 | 64.3      |
| 0°-60°    | 35739.3 | 90.3      |
| 0°-90°    | 39559.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 39559.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 28050 | 28050 | 28050 | 28050 | 28050 |       |
| 5°  | 28075 | 27952 | 27862 | 27825 | 27781 | ###   |
| 15° | 27900 | 26980 | 24965 | 22878 | 22012 | 7883  |
| 25° | 26513 | 23394 | 16898 | 13323 | 12391 | 12207 |
| 35° | 23557 | 16764 | 8989  | 7009  | 6445  | 14773 |
| 45° | 20346 | 8669  | 4959  | 4189  | 4079  | 15661 |
| 55° | 14770 | 4704  | 3101  | 3089  | 3189  | 12970 |
| 65° | 6355  | 2641  | 2116  | 1765  | 1611  | 6548  |
| 75° | 2272  | 1270  | 740   | 366   | 332   | 2487  |
| 85° | 352   | 122   | 100   | 87    | 80    | 468   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



TEST NUMBER: P563310

CATALOG NUMBER: VHB-48-N-UNV-L935-CD

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 28050.4 | 28050.4 | 28050.4 | 28050.4 | 28050.4 |
| 2.5°  | 28076.8 | 27984.2 | 27976.9 | 28036.5 | 28045.4 |
| 5°    | 28074.9 | 27952.4 | 27861.7 | 27825.0 | 27781.0 |
| 7.5°  | 28066.2 | 27880.9 | 27574.8 | 27280.9 | 27144.5 |
| 10°   | 28045.4 | 27716.4 | 27015.1 | 26346.9 | 26028.6 |
| 12.5° | 27999.7 | 27422.5 | 26184.1 | 24956.3 | 24288.1 |
| 15°   | 27900.1 | 26980.1 | 24965.2 | 22878.2 | 22012.4 |
| 17.5° | 27719.7 | 26369.4 | 23471.3 | 20525.8 | 19411.5 |
| 20°   | 27434.8 | 25593.0 | 21456.4 | 17842.7 | 16579.8 |
| 22.5° | 27025.4 | 24578.7 | 19236.7 | 15427.1 | 14418.0 |
| 25°   | 26513.1 | 23394.5 | 16898.2 | 13322.9 | 12390.6 |
| 27.5° | 25904.5 | 22012.4 | 14883.0 | 11364.0 | 10445.6 |
| 30°   | 25192.6 | 20398.0 | 12824.5 | 9513.3  | 8763.0  |
| 32.5° | 24396.6 | 18697.9 | 10674.9 | 8101.8  | 7484.5  |
| 35°   | 23557.0 | 16763.5 | 8988.7  | 7008.6  | 6445.3  |
| 37.5° | 22766.3 | 14692.4 | 7612.3  | 6041.6  | 5646.1  |
| 40°   | 21995.2 | 12516.7 | 6527.7  | 5277.1  | 4974.6  |
| 42.5° | 21267.5 | 10435.3 | 5698.7  | 4637.0  | 4439.1  |
| 45°   | 20345.7 | 8668.7  | 4958.7  | 4189.2  | 4079.0  |
| 47.5° | 19367.8 | 7316.4  | 4370.9  | 3825.2  | 3786.8  |
| 50°   | 18232.6 | 6232.2  | 3898.6  | 3508.8  | 3536.6  |
| 52.5° | 16759.9 | 5375.0  | 3450.9  | 3284.7  | 3367.1  |
| 55°   | 14769.5 | 4703.5  | 3101.0  | 3088.8  | 3188.7  |
| 57.5° | 12437.9 | 4061.5  | 2824.7  | 2901.8  | 3013.7  |
| 60°   | 10122.2 | 3545.5  | 2583.4  | 2695.3  | 2532.8  |
| 62.5° | 8086.2  | 3071.6  | 2354.4  | 2149.5  | 2009.9  |
| 65°   | 6354.7  | 2641.0  | 2116.5  | 1765.0  | 1611.1  |
| 67.5° | 5067.2  | 2240.6  | 1780.5  | 1404.6  | 1276.8  |
| 70°   | 3944.3  | 1883.8  | 1371.1  | 1054.8  | 795.9   |
| 72.5° | 3022.6  | 1574.3  | 1070.3  | 600.0   | 453.1   |
| 75°   | 2272.0  | 1269.9  | 740.0   | 365.7   | 332.3   |
| 77.5° | 1619.7  | 942.9   | 395.2   | 264.1   | 244.9   |
| 80°   | 1119.3  | 605.3   | 231.0   | 190.6   | 180.0   |
| 82.5° | 694.3   | 292.2   | 157.5   | 136.4   | 127.7   |
| 85°   | 351.5   | 122.5   | 99.6    | 87.4    | 80.4    |
| 87.5° | 117.2   | 59.6    | 45.3    | 42.0    | 38.4    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

(END OF REPORT)