

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: P563263

Luminaire Tested: **VHB-15-N-UNV-L840-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563263
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-15-N-UNV-L840-CD
Description: 15000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 80CRI, 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

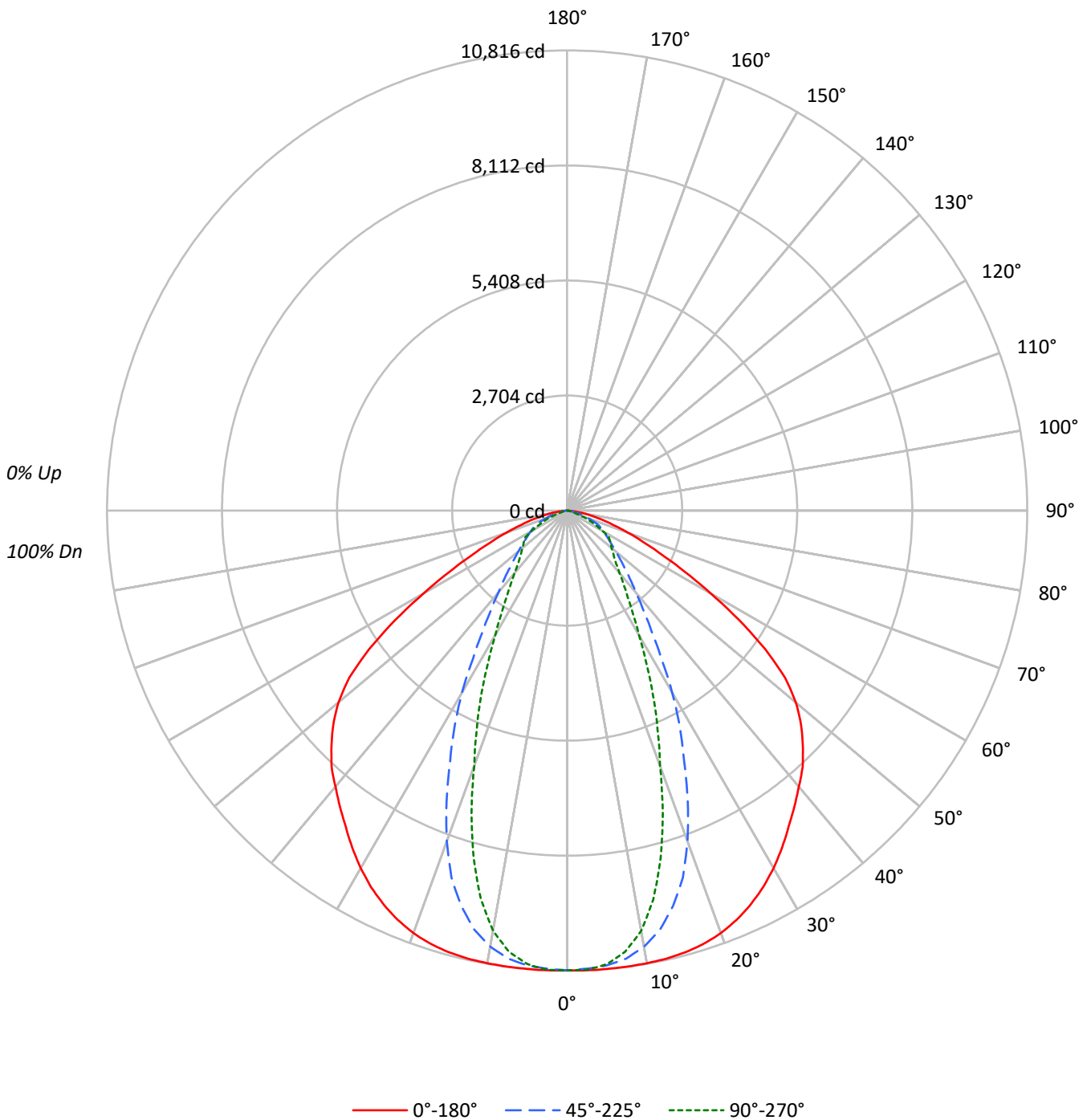
Lumens per Lamp: N/A
Luminaire Lumens: 15239.0 lumens
Efficiency: N/A
Efficacy: 146.5 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.17' x L: 1.58' x H: 0')
CIE Type: Direct

Input Watts (W): 104
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: P563263

CATALOG NUMBER: VHB-15-N-UNV-L840-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563263

CATALOG NUMBER: VHB-15-N-UNV-L840-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° | 62966 | 62966 | 62966 |
| 5° | 63262 | 62782 | 62600 |
| 10° | 63926 | 61578 | 59329 |
| 15° | 64838 | 58018 | 51156 |
| 20° | 65537 | 51256 | 39606 |
| 25° | 65668 | 41854 | 30689 |
| 30° | 65300 | 33242 | 22714 |
| 35° | 64555 | 24633 | 17663 |
| 40° | 64453 | 19128 | 14577 |
| 45° | 64589 | 15742 | 12949 |
| 50° | 63672 | 13615 | 12351 |
| 55° | 57802 | 12136 | 12480 |
| 60° | 45444 | 11598 | 11371 |
| 65° | 33754 | 11242 | 8557 |
| 70° | 25887 | 8999 | 5224 |
| 75° | 19705 | 6419 | 2882 |
| 80° | 14470 | 2987 | 2329 |
| 85° | 9053 | 2567 | 2073 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1015.2 | 6.7 |
| 10°-20° | 2672.5 | 17.5 |
| 20°-30° | 3227.3 | 21.2 |
| 30°-40° | 2885.6 | 18.9 |
| 40°-50° | 2259.6 | 14.8 |
| 50°-60° | 1707.3 | 11.2 |
| 60°-70° | 1014.0 | 6.7 |
| 70°-80° | 389.7 | 2.6 |
| 80°-90° | 67.7 | 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° | 6915.0 | 45.4 |
| 0°-40° | 9800.6 | 64.3 |
| 0°-60° | 13767.6 | 90.3 |
| 0°-90° | 15239.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 15239.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 10806 | 10806 | 10806 | 10806 | 10806 | |
| 5° | 10815 | 10768 | 10733 | 10719 | 10702 | ### |
| 15° | 10748 | 10393 | 9617 | 8813 | 8480 | 3037 |
| 25° | 10213 | 9012 | 6510 | 5132 | 4773 | 4703 |
| 35° | 9075 | 6458 | 3463 | 2700 | 2483 | 5691 |
| 45° | 7838 | 3339 | 1910 | 1614 | 1571 | 6033 |
| 55° | 5690 | 1812 | 1195 | 1190 | 1228 | 4996 |
| 65° | 2448 | 1017 | 815 | 680 | 621 | 2522 |
| 75° | 875 | 489 | 285 | 141 | 128 | 958 |
| 85° | 135 | 47 | 38 | 34 | 31 | 180 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563263

CATALOG NUMBER: VHB-15-N-UNV-L840-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 10805.6 | 10805.6 | 10805.6 | 10805.6 | 10805.6 |
| 2.5° | 10815.8 | 10780.1 | 10777.3 | 10800.3 | 10803.7 |
| 5° | 10815.1 | 10767.9 | 10732.9 | 10718.8 | 10701.8 |
| 7.5° | 10811.7 | 10740.3 | 10622.4 | 10509.2 | 10456.7 |
| 10° | 10803.7 | 10677.0 | 10406.8 | 10149.4 | 10026.8 |
| 12.5° | 10786.1 | 10563.8 | 10086.7 | 9613.7 | 9356.3 |
| 15° | 10747.7 | 10393.3 | 9617.1 | 8813.2 | 8479.7 |
| 17.5° | 10678.3 | 10158.1 | 9041.7 | 7907.0 | 7477.7 |
| 20° | 10568.5 | 9859.0 | 8265.5 | 6873.4 | 6386.9 |
| 22.5° | 10410.8 | 9468.2 | 7410.4 | 5942.9 | 5554.1 |
| 25° | 10213.4 | 9012.1 | 6509.6 | 5132.3 | 4773.1 |
| 27.5° | 9979.0 | 8479.7 | 5733.3 | 4377.7 | 4023.9 |
| 30° | 9704.7 | 7857.8 | 4940.3 | 3664.7 | 3375.7 |
| 32.5° | 9398.1 | 7202.9 | 4112.2 | 3121.0 | 2883.2 |
| 35° | 9074.7 | 6457.7 | 3462.7 | 2699.9 | 2482.9 |
| 37.5° | 8770.1 | 5659.8 | 2932.4 | 2327.3 | 2175.0 |
| 40° | 8473.0 | 4821.7 | 2514.6 | 2032.8 | 1916.3 |
| 42.5° | 8192.7 | 4019.9 | 2195.3 | 1786.3 | 1710.0 |
| 45° | 7837.6 | 3339.4 | 1910.2 | 1613.8 | 1571.3 |
| 47.5° | 7460.9 | 2818.4 | 1683.8 | 1473.5 | 1458.8 |
| 50° | 7023.6 | 2400.8 | 1501.8 | 1351.7 | 1362.4 |
| 52.5° | 6456.3 | 2070.6 | 1329.3 | 1265.3 | 1297.1 |
| 55° | 5689.5 | 1811.9 | 1194.6 | 1189.9 | 1228.4 |
| 57.5° | 4791.4 | 1564.6 | 1088.1 | 1117.8 | 1160.9 |
| 60° | 3899.3 | 1365.8 | 995.2 | 1038.3 | 975.7 |
| 62.5° | 3115.0 | 1183.2 | 907.0 | 828.1 | 774.3 |
| 65° | 2448.0 | 1017.4 | 815.3 | 679.9 | 620.6 |
| 67.5° | 1952.0 | 863.1 | 685.9 | 541.1 | 491.9 |
| 70° | 1519.4 | 725.7 | 528.2 | 406.3 | 306.6 |
| 72.5° | 1164.4 | 606.5 | 412.3 | 231.1 | 174.5 |
| 75° | 875.2 | 489.2 | 285.1 | 140.9 | 128.0 |
| 77.5° | 623.9 | 363.2 | 152.2 | 101.7 | 94.3 |
| 80° | 431.2 | 233.2 | 89.0 | 73.4 | 69.4 |
| 82.5° | 267.5 | 112.6 | 60.7 | 52.5 | 49.2 |
| 85° | 135.4 | 47.2 | 38.4 | 33.7 | 31.0 |
| 87.5° | 45.1 | 22.9 | 17.5 | 16.2 | 14.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)