

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: P563302

Luminaire Tested: **VHB-36-N-UNV-L940-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563302
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-36-N-UNV-L940-CD
Description: 36000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 90CRI, 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

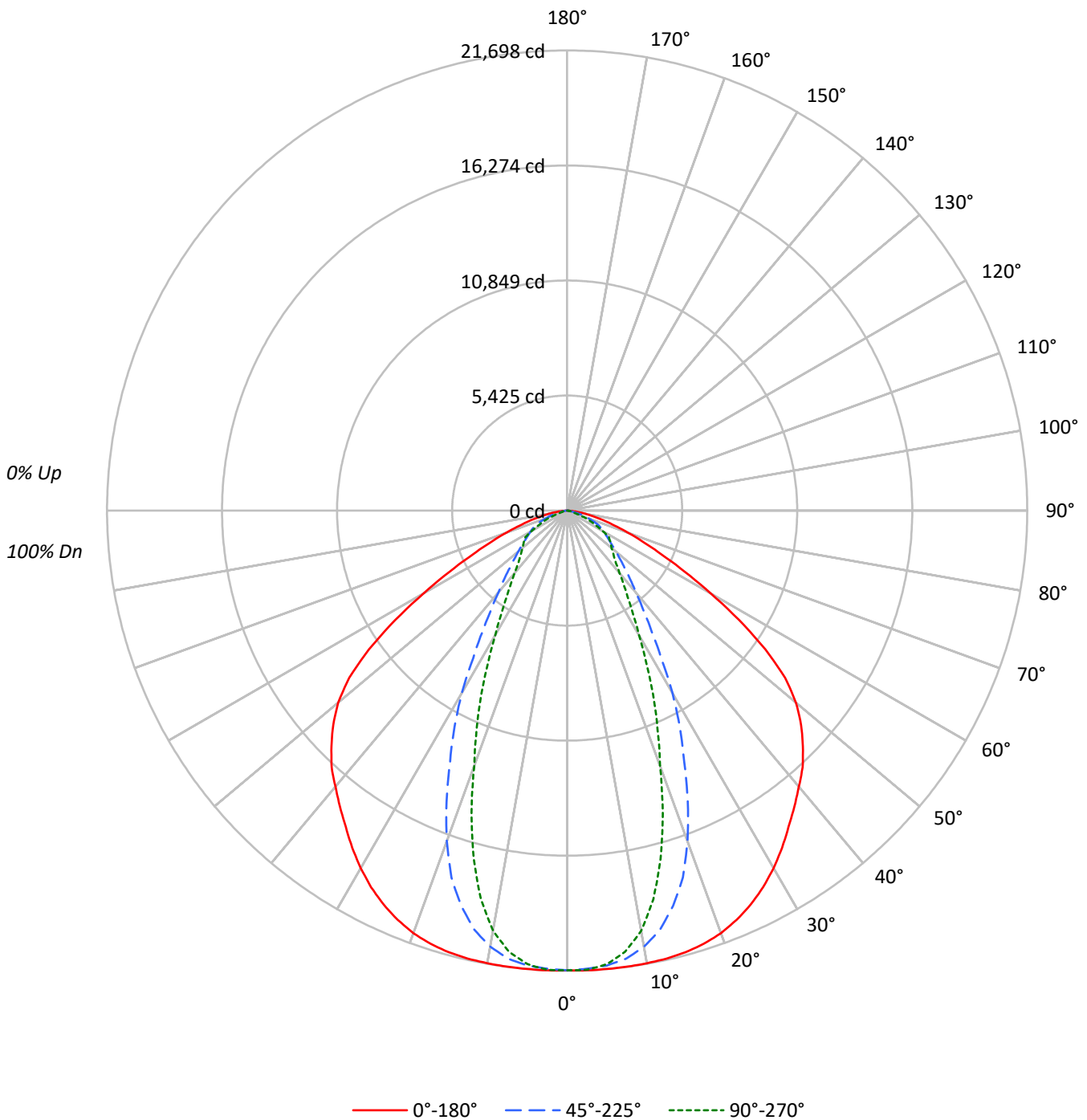
Lumens per Lamp: N/A
Luminaire Lumens: 30572.0 lumens
Efficiency: N/A
Efficacy: 124.3 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.75' x L: 1.58' x H: 0')
CIE Type: Direct

Input Watts (W): 246
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: P563302

CATALOG NUMBER: VHB-36-N-UNV-L940-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563302

CATALOG NUMBER: VHB-36-N-UNV-L940-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° | 84214 | 84214 | 84214 |
| 5° | 84610 | 83967 | 83724 |
| 10° | 85499 | 82357 | 79350 |
| 15° | 86718 | 77596 | 68418 |
| 20° | 87652 | 68552 | 52971 |
| 25° | 87828 | 55977 | 41045 |
| 30° | 87335 | 44459 | 30379 |
| 35° | 86338 | 32945 | 23623 |
| 40° | 86203 | 25583 | 19496 |
| 45° | 86385 | 21054 | 17319 |
| 50° | 85158 | 18209 | 16518 |
| 55° | 77308 | 16231 | 16691 |
| 60° | 60779 | 15512 | 15208 |
| 65° | 45143 | 15035 | 11445 |
| 70° | 34623 | 12035 | 6987 |
| 75° | 26354 | 8584 | 3854 |
| 80° | 19352 | 3993 | 3112 |
| 85° | 12106 | 3432 | 2772 |



TEST NUMBER: P563302

CATALOG NUMBER: VHB-36-N-UNV-L940-CD

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 2036.7 | 6.7 |
| 10°-20° | 5361.4 | 17.5 |
| 20°-30° | 6474.5 | 21.2 |
| 30°-40° | 5789.0 | 18.9 |
| 40°-50° | 4533.2 | 14.8 |
| 50°-60° | 3425.2 | 11.2 |
| 60°-70° | 2034.3 | 6.7 |
| 70°-80° | 781.8 | 2.6 |
| 80°-90° | 135.8 | 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° | 13872.6 | 45.4 |
| 0°-40° | 19661.7 | 64.3 |
| 0°-60° | 27620.0 | 90.3 |
| 0°-90° | 30572.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 30572.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|-------|
| 0° | 21678 | 21678 | 21678 | 21678 | 21678 | |
| 5° | 21697 | 21602 | 21532 | 21504 | 21470 | ### |
| 15° | 21562 | 20851 | 19294 | 17681 | 17012 | 6092 |
| 25° | 20490 | 18080 | 13059 | 10296 | 9576 | 9434 |
| 35° | 18205 | 12955 | 6947 | 5416 | 4981 | 11416 |
| 45° | 15724 | 6699 | 3832 | 3238 | 3152 | 12103 |
| 55° | 11414 | 3635 | 2396 | 2387 | 2464 | 10024 |
| 65° | 4911 | 2041 | 1636 | 1364 | 1245 | 5060 |
| 75° | 1756 | 981 | 572 | 283 | 257 | 1922 |
| 85° | 272 | 95 | 77 | 68 | 62 | 362 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563302

CATALOG NUMBER: VHB-36-N-UNV-L940-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 21677.9 | 21677.9 | 21677.9 | 21677.9 | 21677.9 |
| 2.5° | 21698.4 | 21626.7 | 21621.1 | 21667.1 | 21674.1 |
| 5° | 21696.8 | 21602.2 | 21532.1 | 21503.7 | 21469.7 |
| 7.5° | 21690.2 | 21546.9 | 21310.4 | 21083.2 | 20977.9 |
| 10° | 21674.1 | 21419.8 | 20877.8 | 20361.5 | 20115.4 |
| 12.5° | 21638.8 | 21192.7 | 20235.6 | 19286.7 | 18770.3 |
| 15° | 21561.8 | 20850.7 | 19293.6 | 17680.7 | 17011.7 |
| 17.5° | 21422.4 | 20378.8 | 18139.1 | 15862.7 | 15001.6 |
| 20° | 21202.2 | 19778.8 | 16582.0 | 13789.2 | 12813.2 |
| 22.5° | 20885.8 | 18994.9 | 14866.5 | 11922.4 | 11142.5 |
| 25° | 20489.8 | 18079.7 | 13059.3 | 10296.2 | 9575.7 |
| 27.5° | 20019.5 | 17011.7 | 11501.9 | 8782.3 | 8072.6 |
| 30° | 19469.3 | 15764.0 | 9911.0 | 7352.1 | 6772.2 |
| 32.5° | 18854.2 | 14450.1 | 8249.8 | 6261.2 | 5784.2 |
| 35° | 18205.3 | 12955.2 | 6946.7 | 5416.4 | 4981.1 |
| 37.5° | 17594.3 | 11354.6 | 5882.9 | 4669.0 | 4363.4 |
| 40° | 16998.4 | 9673.2 | 5044.8 | 4078.2 | 3844.5 |
| 42.5° | 16435.9 | 8064.6 | 4404.1 | 3583.6 | 3430.6 |
| 45° | 15723.6 | 6699.3 | 3832.2 | 3237.5 | 3152.3 |
| 47.5° | 14967.8 | 5654.3 | 3377.9 | 2956.2 | 2926.5 |
| 50° | 14090.5 | 4816.4 | 3012.9 | 2711.7 | 2733.1 |
| 52.5° | 12952.4 | 4153.9 | 2666.9 | 2538.5 | 2602.2 |
| 55° | 11414.2 | 3635.0 | 2396.5 | 2387.1 | 2464.3 |
| 57.5° | 9612.3 | 3138.8 | 2183.0 | 2242.6 | 2329.0 |
| 60° | 7822.7 | 2740.0 | 1996.5 | 2083.0 | 1957.4 |
| 62.5° | 6249.2 | 2373.8 | 1819.5 | 1661.2 | 1553.3 |
| 65° | 4911.0 | 2041.0 | 1635.6 | 1364.0 | 1245.1 |
| 67.5° | 3916.1 | 1731.6 | 1376.0 | 1085.5 | 986.8 |
| 70° | 3048.2 | 1455.8 | 1059.6 | 815.1 | 615.1 |
| 72.5° | 2335.9 | 1216.7 | 827.2 | 463.7 | 350.1 |
| 75° | 1755.8 | 981.4 | 571.9 | 282.6 | 256.8 |
| 77.5° | 1251.7 | 728.7 | 305.4 | 204.1 | 189.3 |
| 80° | 865.0 | 467.8 | 178.5 | 147.3 | 139.1 |
| 82.5° | 536.6 | 225.8 | 121.7 | 105.4 | 98.7 |
| 85° | 271.6 | 94.6 | 77.0 | 67.5 | 62.2 |
| 87.5° | 90.5 | 46.0 | 35.0 | 32.5 | 29.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)