

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: P563299

Luminaire Tested: **VHB-36-N-UNV-L840-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563299
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-L840-CD
Description: 36000 LUMEN, VHB LED LUMINAIRE WITH, NARROW LENS AND 80CRI, 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

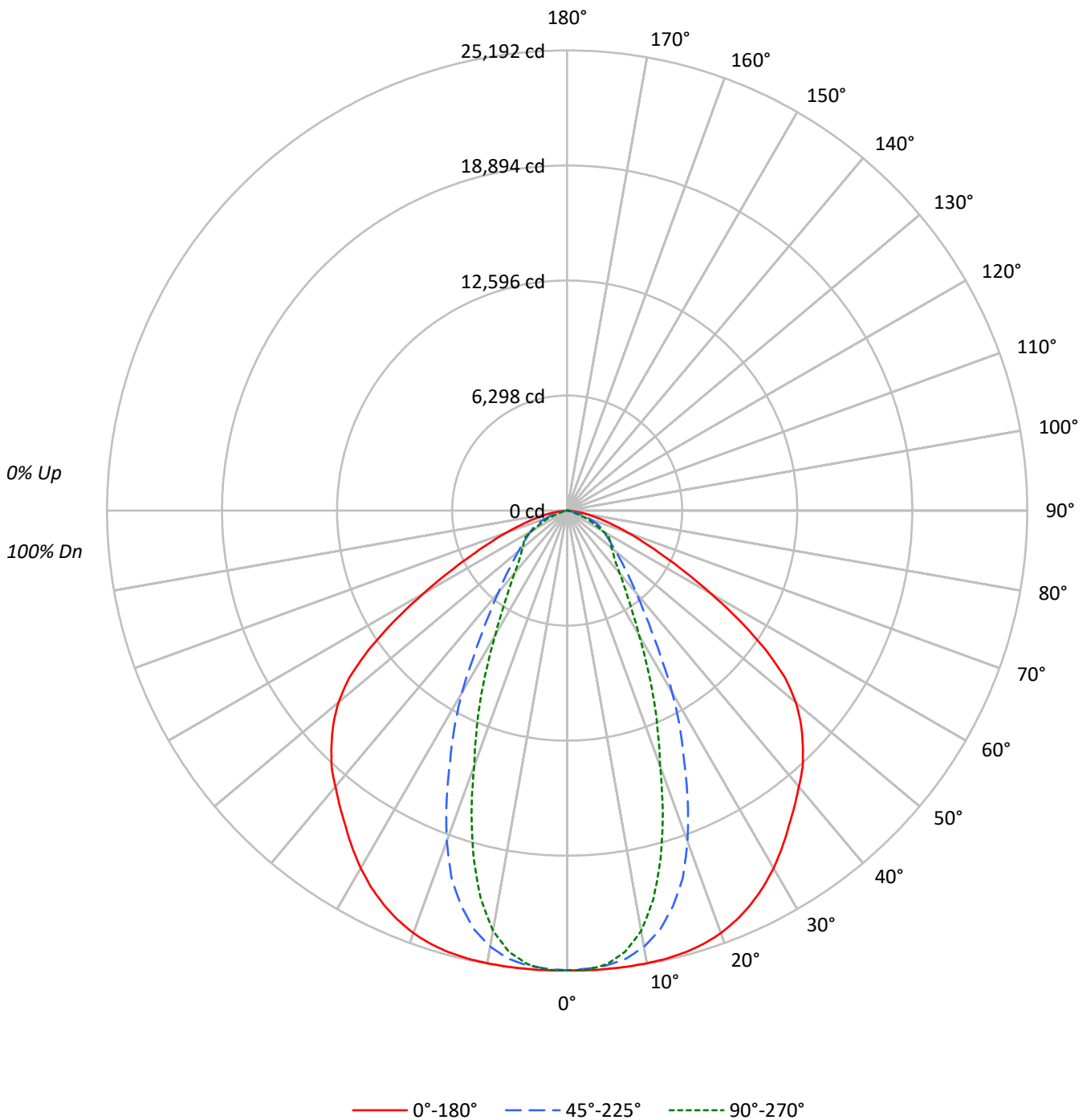
Lumens per Lamp: N/A
Luminaire Lumens: 35494.0 lumens
Efficiency: N/A
Efficacy: 144.3 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 0.72 / 0.86
Luminous Opening: Rectangular (W 1.75' x L: 1.58' x H: 0')
CIE Type: Direct

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: P563299

CATALOG NUMBER: VHB-36-N-UNV-L840-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563299

CATALOG NUMBER: VHB-36-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° | 97773 | 97773 | 97773 |
| 5° | 98232 | 97486 | 97204 |
| 10° | 99263 | 95617 | 92125 |
| 15° | 100680 | 90089 | 79433 |
| 20° | 101764 | 79588 | 61500 |
| 25° | 101968 | 64990 | 47654 |
| 30° | 101396 | 51617 | 35269 |
| 35° | 100238 | 38248 | 27426 |
| 40° | 100081 | 29702 | 22635 |
| 45° | 100292 | 24443 | 20107 |
| 50° | 98869 | 21141 | 19178 |
| 55° | 89754 | 18845 | 19378 |
| 60° | 70564 | 18010 | 17656 |
| 65° | 52411 | 17456 | 13287 |
| 70° | 40197 | 13973 | 8112 |
| 75° | 30597 | 9966 | 4474 |
| 80° | 22468 | 4638 | 3613 |
| 85° | 14058 | 3985 | 3218 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 2364.6 | 6.7 |
| 10°-20° | 6224.6 | 17.5 |
| 20°-30° | 7516.9 | 21.2 |
| 30°-40° | 6721.0 | 18.9 |
| 40°-50° | 5263.0 | 14.8 |
| 50°-60° | 3976.6 | 11.2 |
| 60°-70° | 2361.8 | 6.7 |
| 70°-80° | 907.7 | 2.6 |
| 80°-90° | 157.7 | 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° | 16106.1 | 45.4 |
| 0°-40° | 22827.1 | 64.3 |
| 0°-60° | 32066.8 | 90.3 |
| 0°-90° | 35494.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 35494.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|-------|
| 0° | 25168 | 25168 | 25168 | 25168 | 25168 | |
| 5° | 25190 | 25080 | 24999 | 24966 | 24926 | ### |
| 15° | 25033 | 24208 | 22400 | 20527 | 19750 | 7073 |
| 25° | 23789 | 20990 | 15162 | 11954 | 11117 | 10953 |
| 35° | 21136 | 15041 | 8065 | 6288 | 5783 | 13255 |
| 45° | 18255 | 7778 | 4449 | 3759 | 3660 | 14052 |
| 55° | 13252 | 4220 | 2782 | 2771 | 2861 | 11637 |
| 65° | 5702 | 2370 | 1899 | 1584 | 1446 | 5875 |
| 75° | 2038 | 1139 | 664 | 328 | 298 | 2232 |
| 85° | 315 | 110 | 89 | 78 | 72 | 420 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563299

CATALOG NUMBER: VHB-36-N-UNV-L840-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 25168.0 | 25168.0 | 25168.0 | 25168.0 | 25168.0 |
| 2.5° | 25191.7 | 25108.6 | 25102.0 | 25155.5 | 25163.5 |
| 5° | 25189.9 | 25080.1 | 24998.7 | 24965.7 | 24926.3 |
| 7.5° | 25182.2 | 25015.9 | 24741.3 | 24477.6 | 24355.2 |
| 10° | 25163.5 | 24868.3 | 24239.1 | 23639.6 | 23353.9 |
| 12.5° | 25122.5 | 24604.7 | 23493.5 | 22391.8 | 21792.3 |
| 15° | 25033.2 | 24207.6 | 22399.8 | 20527.3 | 19750.5 |
| 17.5° | 24871.3 | 23659.8 | 21059.4 | 18416.6 | 17416.8 |
| 20° | 24615.6 | 22963.1 | 19251.6 | 16009.3 | 14876.1 |
| 22.5° | 24248.3 | 22053.0 | 17260.0 | 13841.8 | 12936.5 |
| 25° | 23788.7 | 20990.5 | 15161.8 | 11953.9 | 11117.4 |
| 27.5° | 23242.6 | 19750.5 | 13353.7 | 10196.2 | 9372.2 |
| 30° | 22603.8 | 18302.0 | 11506.7 | 8535.7 | 7862.5 |
| 32.5° | 21889.7 | 16776.6 | 9578.0 | 7269.2 | 6715.4 |
| 35° | 21136.3 | 15040.9 | 8065.1 | 6288.4 | 5783.0 |
| 37.5° | 20426.9 | 13182.6 | 6830.1 | 5420.8 | 5065.9 |
| 40° | 19735.0 | 11230.5 | 5857.0 | 4734.8 | 4463.4 |
| 42.5° | 19082.1 | 9363.0 | 5113.1 | 4160.5 | 3982.9 |
| 45° | 18255.1 | 7777.9 | 4449.1 | 3758.7 | 3659.9 |
| 47.5° | 17377.6 | 6564.6 | 3921.8 | 3432.1 | 3397.7 |
| 50° | 16359.1 | 5591.8 | 3498.0 | 3148.2 | 3173.2 |
| 52.5° | 15037.6 | 4822.7 | 3096.3 | 2947.2 | 3021.1 |
| 55° | 13251.8 | 4220.2 | 2782.4 | 2771.4 | 2861.1 |
| 57.5° | 11159.8 | 3644.1 | 2534.4 | 2603.6 | 2704.0 |
| 60° | 9082.1 | 3181.2 | 2318.0 | 2418.3 | 2272.5 |
| 62.5° | 7255.3 | 2756.0 | 2112.5 | 1928.7 | 1803.4 |
| 65° | 5701.7 | 2369.6 | 1899.0 | 1583.6 | 1445.5 |
| 67.5° | 4546.5 | 2010.3 | 1597.6 | 1260.2 | 1145.6 |
| 70° | 3539.0 | 1690.2 | 1230.2 | 946.4 | 714.2 |
| 72.5° | 2712.0 | 1412.6 | 960.3 | 538.4 | 406.5 |
| 75° | 2038.5 | 1139.4 | 664.0 | 328.1 | 298.1 |
| 77.5° | 1453.3 | 846.0 | 354.6 | 237.0 | 219.7 |
| 80° | 1004.3 | 543.1 | 207.3 | 171.0 | 161.5 |
| 82.5° | 623.0 | 262.2 | 141.3 | 122.3 | 114.6 |
| 85° | 315.4 | 109.9 | 89.4 | 78.4 | 72.2 |
| 87.5° | 105.1 | 53.5 | 40.7 | 37.7 | 34.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)