

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: P563349

Luminaire Tested: **VHB-24-W-UNV-L735-CD**

Issue Date: 6/3/2022



Test Information

Test Method: LM-79-08
Report Number: P563349
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P364417)
Test Lab: INNOVATION CENTER
Issue Date: 6/3/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: VHB-24-W-UNV-L735-CD
Description: 24000 LUMEN, VHB LED LUMINAIRE WITH, WIDE LENS AND 70CRI, 3500K CCT
LEDS
Light Source: -
Ballast/Driver: -

Summary

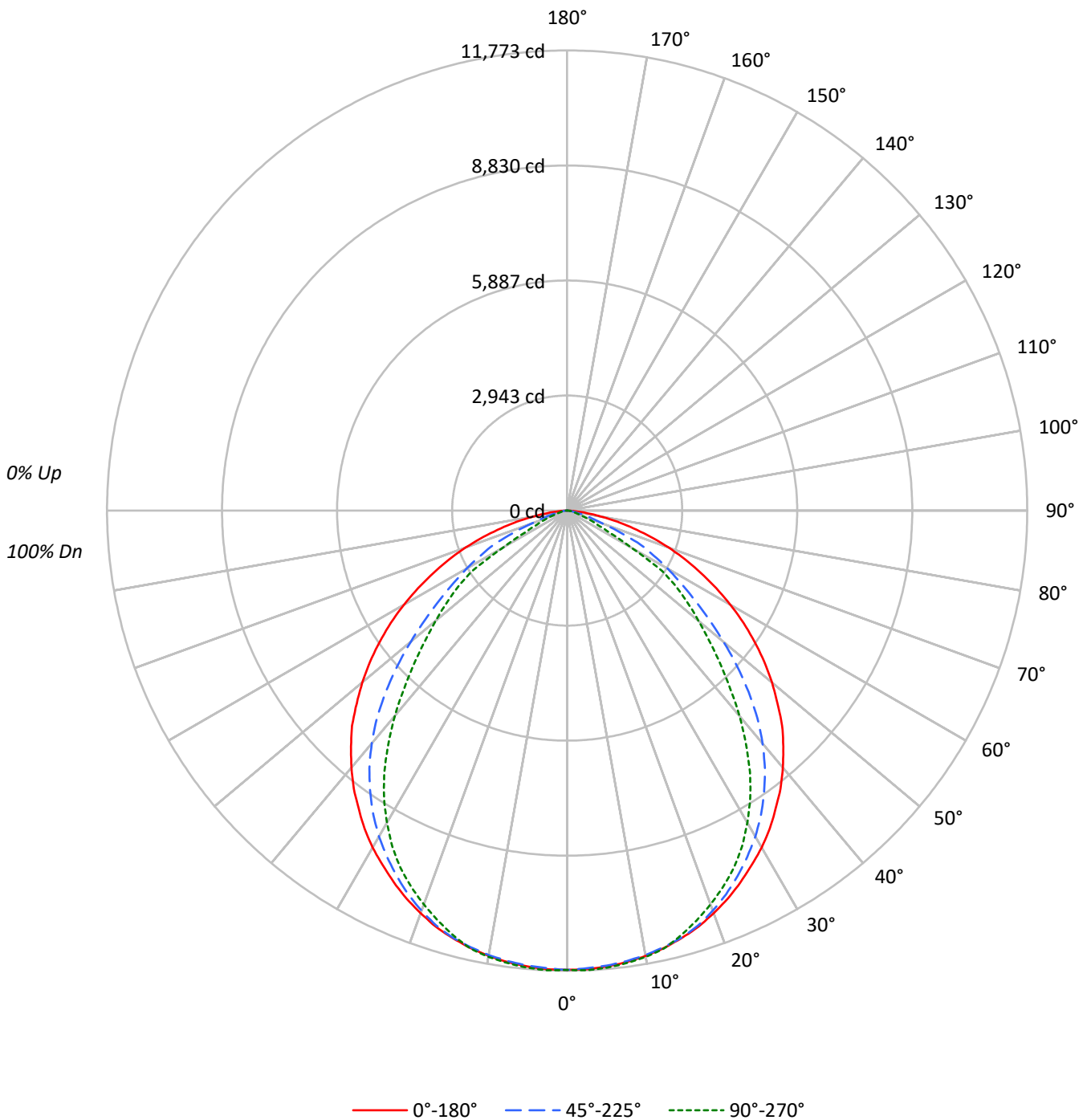
Lumens per Lamp: N/A
Luminaire Lumens: 26432.0 lumens
Efficiency: N/A
Efficacy: 160.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.17 / 1.28
Luminous Opening: Rectangular (W 1.17' x L: 1.58' x H: 0')
CIE Type: Direct

Input Watts (W): 165
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: P563349

CATALOG NUMBER: VHB-24-W-UNV-L735-CD

Luminous Intensity Polar Plot





TEST NUMBER: P563349

CATALOG NUMBER: VHB-24-W-UNV-L735-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 | 107 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | | | | | 87 | | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | | | | | 75 | | | | |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 70 | 77 | 72 | 68 | 75 | 71 | 67 | | | | | 65 | | | | |
| 4 | 86 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | | | | | 57 | | | | |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | | | | | 50 | | | | |
| 6 | 74 | 62 | 53 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | | | | | 44 | | | | |
| 7 | 69 | 56 | 48 | 42 | 67 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 46 | 41 | | | | | 39 | | | | |
| 8 | 64 | 52 | 44 | 38 | 63 | 51 | 43 | 38 | 50 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 37 | | | | | 36 | | | | |
| 9 | 60 | 48 | 40 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | | | | | 32 | | | | |
| 10 | 57 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | | | | | 29 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 68479 | 68479 | 68479 |
| 5° | 68489 | 68350 | 68664 |
| 10° | 68464 | 68316 | 68598 |
| 15° | 68302 | 68230 | 67879 |
| 20° | 67973 | 67552 | 66496 |
| 25° | 67469 | 66321 | 64866 |
| 30° | 66978 | 64792 | 62021 |
| 35° | 66180 | 62521 | 57991 |
| 40° | 65308 | 59161 | 52179 |
| 45° | 64120 | 54106 | 45592 |
| 50° | 62002 | 47370 | 39827 |
| 55° | 59471 | 40353 | 34766 |
| 60° | 56182 | 34610 | 22196 |
| 65° | 52058 | 28869 | 11767 |
| 70° | 46986 | 16405 | 7624 |
| 75° | 39475 | 10050 | 4744 |
| 80° | 29997 | 5074 | 4151 |
| 85° | 18226 | 4613 | 3744 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1112.6 | 4.2 |
| 10°-20° | 3183.1 | 12.0 |
| 20°-30° | 4744.9 | 18.0 |
| 30°-40° | 5464.6 | 20.7 |
| 40°-50° | 5085.6 | 19.2 |
| 50°-60° | 3869.8 | 14.6 |
| 60°-70° | 2077.2 | 7.9 |
| 70°-80° | 764.2 | 2.9 |
| 80°-90° | 129.9 | 0.5 |
| 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° | 9040.6 | 34.2 |
| 0°-40° | 14505.2 | 54.9 |
| 0°-60° | 23460.6 | 88.8 |
| 0°-90° | 26432.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 26432.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 11752 | 11752 | 11752 | 11752 | 11752 | |
| 5° | 11709 | 11675 | 11685 | 11725 | 11738 | ### |
| 15° | 11322 | 11304 | 11310 | 11288 | 11252 | 3196 |
| 25° | 10494 | 10485 | 10315 | 10168 | 10089 | 4837 |
| 35° | 9303 | 9190 | 8789 | 8347 | 8152 | 5824 |
| 45° | 7781 | 7406 | 6566 | 5786 | 5532 | 5979 |
| 55° | 5854 | 5192 | 3972 | 3536 | 3422 | 5229 |
| 65° | 3776 | 2773 | 2094 | 1037 | 853 | 3744 |
| 75° | 1753 | 1149 | 446 | 231 | 211 | 1879 |
| 85° | 273 | 88 | 69 | 60 | 56 | 363 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563349

CATALOG NUMBER: VHB-24-W-UNV-L735-CD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 11751.6 | 11751.6 | 11751.6 | 11751.6 | 11751.6 |
| 2.5° | 11743.2 | 11707.5 | 11719.5 | 11757.5 | 11773.0 |
| 5° | 11708.7 | 11675.3 | 11684.8 | 11725.4 | 11738.5 |
| 7.5° | 11651.6 | 11619.5 | 11626.6 | 11664.7 | 11677.8 |
| 10° | 11570.6 | 11537.4 | 11545.6 | 11582.5 | 11593.2 |
| 12.5° | 11461.1 | 11430.2 | 11437.4 | 11463.6 | 11475.4 |
| 15° | 11321.9 | 11304.0 | 11310.0 | 11288.5 | 11251.7 |
| 17.5° | 11166.0 | 11139.8 | 11132.6 | 11037.4 | 10998.1 |
| 20° | 10961.3 | 10951.8 | 10893.4 | 10775.6 | 10723.2 |
| 22.5° | 10745.8 | 10727.9 | 10626.7 | 10485.1 | 10422.0 |
| 25° | 10493.5 | 10485.1 | 10315.0 | 10168.5 | 10088.7 |
| 27.5° | 10222.1 | 10201.8 | 9982.8 | 9799.6 | 9691.1 |
| 30° | 9954.2 | 9904.3 | 9629.3 | 9372.2 | 9217.5 |
| 32.5° | 9650.7 | 9556.6 | 9228.2 | 8899.7 | 8721.2 |
| 35° | 9303.2 | 9190.1 | 8788.9 | 8347.3 | 8152.1 |
| 37.5° | 8966.3 | 8796.1 | 8312.8 | 7760.6 | 7510.6 |
| 40° | 8585.4 | 8341.4 | 7777.3 | 7135.7 | 6859.5 |
| 42.5° | 8184.3 | 7886.7 | 7207.1 | 6460.8 | 6177.4 |
| 45° | 7780.7 | 7405.9 | 6565.5 | 5785.9 | 5532.4 |
| 47.5° | 7301.1 | 6903.6 | 5899.1 | 5142.0 | 4924.1 |
| 50° | 6839.3 | 6375.1 | 5225.3 | 4542.1 | 4393.3 |
| 52.5° | 6356.1 | 5793.1 | 4570.7 | 4035.0 | 3891.0 |
| 55° | 5853.8 | 5191.9 | 3972.0 | 3536.3 | 3422.1 |
| 57.5° | 5349.0 | 4574.3 | 3441.1 | 3082.9 | 2878.1 |
| 60° | 4820.7 | 3961.2 | 2969.7 | 2505.5 | 1904.5 |
| 62.5° | 4300.4 | 3323.2 | 2499.6 | 1571.2 | 1211.6 |
| 65° | 3775.5 | 2773.3 | 2093.7 | 1036.7 | 853.4 |
| 67.5° | 3274.5 | 2241.3 | 1493.8 | 751.0 | 639.1 |
| 70° | 2757.8 | 1833.0 | 962.9 | 538.0 | 447.5 |
| 72.5° | 2240.1 | 1474.7 | 660.7 | 353.6 | 286.8 |
| 75° | 1753.3 | 1148.6 | 446.4 | 230.9 | 210.7 |
| 77.5° | 1314.0 | 792.7 | 248.7 | 171.3 | 160.7 |
| 80° | 893.9 | 475.0 | 151.2 | 130.9 | 123.7 |
| 82.5° | 535.7 | 227.3 | 109.5 | 96.4 | 92.8 |
| 85° | 272.6 | 88.0 | 69.0 | 59.5 | 56.0 |
| 87.5° | 81.0 | 44.0 | 30.9 | 23.9 | 22.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)