

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: P236329

Luminaire Tested: **4SWLED-72HL-LN-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236329
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1709-316-29)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SWLED-72HL-LN-UNV-L840-CD1-U
Description: METALUX SWLED LINEAR LUMINAIRE
4FT FIXTURE WITH 2 ROW LED, NARROW LENS
Light Source: (224) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

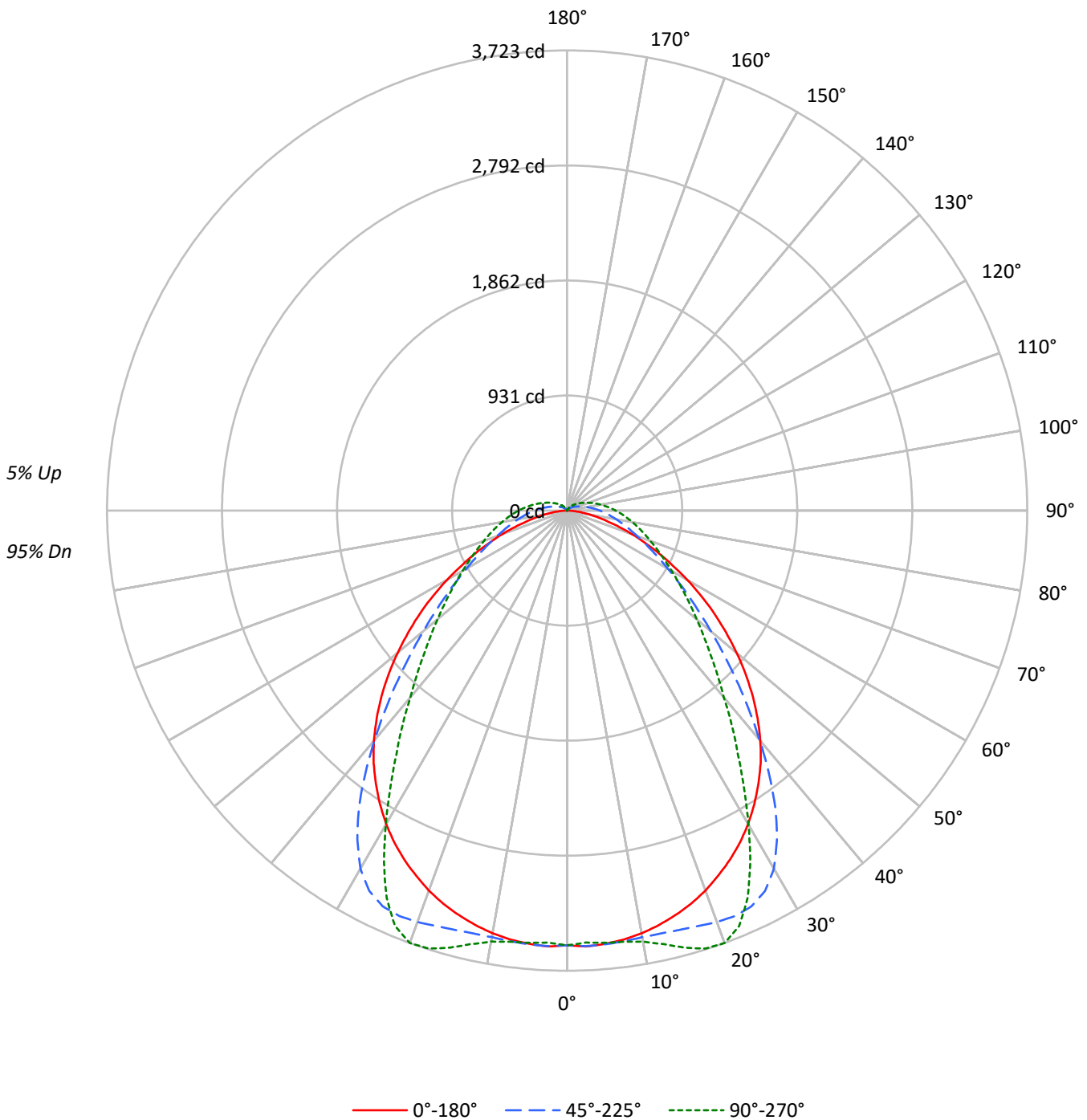
Lumens per Lamp: N/A
Luminaire Lumens: 9398.0 lumens
Efficiency: N/A
Efficacy: 131.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.21 / 1.28
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.15')
CIE Type: Direct

Input Watts (W): 71.5
Input Voltage (V): 120
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

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CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L840-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P236329

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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 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 114 | 114 | 114 | 114 | 108 | 108 | 108 | 103 | 103 | 103 | 97 | 97 | 97 | 95 | | | | 95 |
| 1 | 108 | 103 | 99 | 95 | 104 | 100 | 96 | 93 | 95 | 92 | 89 | 90 | 88 | 85 | 86 | 84 | 82 | 79 | | | | 79 |
| 2 | 98 | 90 | 84 | 78 | 95 | 88 | 82 | 77 | 84 | 79 | 74 | 80 | 76 | 72 | 76 | 73 | 70 | 67 | | | | 67 |
| 3 | 90 | 80 | 72 | 66 | 87 | 78 | 71 | 65 | 75 | 68 | 63 | 71 | 66 | 62 | 68 | 64 | 60 | 58 | | | | 58 |
| 4 | 83 | 72 | 63 | 57 | 80 | 70 | 62 | 56 | 67 | 60 | 55 | 64 | 58 | 54 | 61 | 56 | 52 | 50 | | | | 50 |
| 5 | 77 | 64 | 56 | 50 | 74 | 63 | 55 | 49 | 60 | 53 | 48 | 58 | 52 | 47 | 56 | 50 | 46 | 44 | | | | 44 |
| 6 | 71 | 58 | 50 | 44 | 69 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 51 | 45 | 41 | 39 | | | | 39 |
| 7 | 66 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 50 | 43 | 38 | 48 | 42 | 37 | 47 | 41 | 37 | 35 | | | | 35 |
| 8 | 62 | 49 | 41 | 35 | 60 | 48 | 40 | 35 | 46 | 39 | 34 | 44 | 38 | 34 | 43 | 37 | 33 | 31 | | | | 31 |
| 9 | 58 | 45 | 37 | 32 | 56 | 44 | 37 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 40 | 34 | 30 | 28 | | | | 28 |
| 10 | 54 | 41 | 34 | 29 | 53 | 41 | 33 | 29 | 39 | 33 | 28 | 38 | 32 | 28 | 37 | 32 | 28 | 26 | | | | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 25233 | 25233 | 25233 |
| 5° | 25269 | 24718 | 24453 |
| 10° | 25143 | 24252 | 24144 |
| 15° | 24925 | 24139 | 24627 |
| 20° | 24656 | 24382 | 24904 |
| 25° | 24268 | 24523 | 23161 |
| 30° | 23759 | 23622 | 19853 |
| 35° | 23040 | 21263 | 16584 |
| 40° | 22104 | 18116 | 13932 |
| 45° | 20793 | 15090 | 11959 |
| 50° | 19155 | 12467 | 10434 |
| 55° | 17307 | 10430 | 9270 |
| 60° | 15184 | 8869 | 8382 |
| 65° | 12929 | 7747 | 7710 |
| 70° | 10666 | 6927 | 7268 |
| 75° | 8351 | 6419 | 7002 |
| 80° | 6243 | 6140 | 6910 |
| 85° | 4103 | 6084 | 6971 |



TEST NUMBER: P236329

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L840-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 334.6 | 3.6 |
| 10°-20° | 994.4 | 10.6 |
| 20°-30° | 1549.2 | 16.5 |
| 30°-40° | 1708.3 | 18.2 |
| 40°-50° | 1512.8 | 16.1 |
| 50°-60° | 1158.1 | 12.3 |
| 60°-70° | 802.9 | 8.5 |
| 70°-80° | 524.1 | 5.6 |
| 80°-90° | 330.9 | 3.5 |
| 90°-100° | 206.9 | 2.2 |
| 100°-110° | 126.7 | 1.3 |
| 110°-120° | 74.8 | 0.8 |
| 120°-130° | 42.2 | 0.4 |
| 130°-140° | 21.3 | 0.2 |
| 140°-150° | 8.6 | 0.1 |
| 150°-160° | 2.1 | 0.0 |
| 160°-170° | 0.1 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 2878.2 | 30.6 |
| 0°-40° | 4586.5 | 48.8 |
| 0°-60° | 7257.4 | 77.2 |
| 0°-90° | 8915.2 | 94.9 |
| 90°-120° | 408.5 | 4.3 |
| 90°-150° | 480.5 | 5.1 |
| 90°-180° | 483.0 | 5.1 |
| 0°-180° | 9398.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 3516 | 3516 | 3516 | 3516 | 3516 | |
| 5° | 3519 | 3495 | 3522 | 3509 | 3510 | 334 |
| 15° | 3388 | 3390 | 3511 | 3612 | 3660 | 956 |
| 25° | 3117 | 3220 | 3532 | 3518 | 3456 | 1435 |
| 35° | 2697 | 2951 | 2938 | 2518 | 2409 | 1685 |
| 45° | 2124 | 2358 | 1934 | 1664 | 1637 | 1634 |
| 55° | 1455 | 1523 | 1192 | 1133 | 1152 | 1299 |
| 65° | 821 | 834 | 750 | 801 | 833 | 818 |
| 75° | 342 | 401 | 491 | 588 | 619 | 373 |
| 85° | 71 | 176 | 328 | 430 | 461 | 81 |
| 90° | 1 | 117 | 264 | 364 | 392 | 5 |
| 95° | 0 | 76 | 208 | 301 | 331 | 0 |
| 105° | 0 | 35 | 125 | 199 | 228 | 0 |
| 115° | 0 | 19 | 75 | 129 | 150 | 0 |
| 125° | 0 | 10 | 46 | 81 | 96 | 0 |
| 135° | 1 | 4 | 27 | 49 | 58 | 1 |
| 145° | 1 | 1 | 12 | 25 | 30 | 1 |
| 155° | 2 | 1 | 2 | 7 | 11 | 1 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P236329

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 3516.4 | 3516.4 | 3516.4 | 3516.4 | 3516.4 |
| 2.5° | 3529.8 | 3503.0 | 3527.2 | 3513.8 | 3498.6 |
| 5° | 3519.1 | 3495.0 | 3521.8 | 3509.3 | 3510.2 |
| 7.5° | 3500.4 | 3478.9 | 3514.6 | 3510.2 | 3518.2 |
| 10° | 3472.7 | 3453.9 | 3504.8 | 3526.3 | 3540.6 |
| 12.5° | 3434.2 | 3422.6 | 3503.9 | 3555.7 | 3592.4 |
| 15° | 3387.8 | 3390.5 | 3511.1 | 3612.0 | 3660.3 |
| 17.5° | 3334.2 | 3351.2 | 3524.5 | 3662.1 | 3715.7 |
| 20° | 3271.6 | 3311.8 | 3542.3 | 3683.5 | 3722.8 |
| 22.5° | 3195.7 | 3267.2 | 3549.5 | 3643.3 | 3637.9 |
| 25° | 3117.1 | 3219.8 | 3531.6 | 3518.2 | 3455.7 |
| 27.5° | 3027.7 | 3167.1 | 3468.2 | 3313.6 | 3209.1 |
| 30° | 2927.7 | 3107.3 | 3345.8 | 3057.2 | 2933.9 |
| 32.5° | 2817.8 | 3035.8 | 3159.1 | 2783.8 | 2662.3 |
| 35° | 2697.2 | 2950.9 | 2938.4 | 2518.5 | 2408.6 |
| 37.5° | 2572.1 | 2833.0 | 2682.9 | 2270.1 | 2187.9 |
| 40° | 2431.8 | 2699.9 | 2422.0 | 2044.1 | 1972.6 |
| 42.5° | 2280.9 | 2544.4 | 2171.0 | 1842.2 | 1797.5 |
| 45° | 2123.6 | 2357.7 | 1934.2 | 1664.4 | 1636.7 |
| 47.5° | 1958.3 | 2150.4 | 1714.4 | 1505.4 | 1494.7 |
| 50° | 1790.4 | 1942.3 | 1517.0 | 1366.0 | 1367.8 |
| 52.5° | 1619.7 | 1723.4 | 1343.7 | 1243.6 | 1254.3 |
| 55° | 1455.4 | 1523.3 | 1191.8 | 1132.8 | 1152.5 |
| 57.5° | 1285.6 | 1329.4 | 1058.7 | 1035.5 | 1060.5 |
| 60° | 1124.8 | 1148.9 | 939.9 | 948.8 | 977.4 |
| 62.5° | 962.2 | 981.8 | 839.8 | 870.2 | 900.5 |
| 65° | 821.0 | 833.5 | 750.5 | 801.4 | 832.7 |
| 67.5° | 683.5 | 704.9 | 671.8 | 739.7 | 771.9 |
| 70° | 559.3 | 588.8 | 603.0 | 685.2 | 716.5 |
| 72.5° | 442.2 | 486.9 | 544.1 | 635.2 | 666.5 |
| 75° | 342.2 | 401.1 | 491.4 | 587.9 | 619.1 |
| 77.5° | 259.1 | 327.9 | 444.0 | 545.9 | 576.2 |
| 80° | 182.3 | 267.1 | 402.0 | 505.7 | 536.0 |
| 82.5° | 118.8 | 218.0 | 362.7 | 466.4 | 495.8 |
| 85° | 70.6 | 176.0 | 327.9 | 429.7 | 461.0 |
| 87.5° | 32.2 | 142.9 | 294.8 | 396.7 | 426.2 |
| 90° | 0.9 | 117.0 | 264.4 | 363.6 | 392.2 |
| 92.5° | 0.0 | 94.7 | 235.9 | 332.3 | 360.9 |
| 95° | 0.0 | 75.9 | 208.2 | 301.1 | 330.6 |
| 97.5° | 0.0 | 61.6 | 183.1 | 273.4 | 302.0 |
| 100° | 0.0 | 50.9 | 161.7 | 247.5 | 276.1 |
| 102.5° | 0.0 | 42.0 | 142.1 | 223.4 | 251.0 |
| 105° | 0.0 | 34.8 | 125.1 | 199.2 | 227.8 |
| 107.5° | 0.0 | 29.5 | 109.9 | 178.7 | 205.5 |
| 110° | 0.0 | 25.0 | 96.5 | 159.9 | 184.9 |



TEST NUMBER: P236329

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|-------|
| 112.5° | 0.0 | 22.3 | 84.9 | 143.8 | 167.1 |
| 115° | 0.0 | 18.8 | 75.0 | 128.6 | 150.1 |
| 117.5° | 0.0 | 17.0 | 66.1 | 115.2 | 134.9 |
| 120° | 0.0 | 14.3 | 59.0 | 102.7 | 120.6 |
| 122.5° | 0.0 | 12.5 | 51.8 | 91.1 | 107.2 |
| 125° | 0.0 | 9.8 | 46.5 | 81.3 | 95.6 |
| 127.5° | 0.0 | 8.0 | 41.1 | 72.4 | 84.9 |
| 130° | 0.9 | 6.3 | 36.6 | 63.4 | 75.0 |
| 132.5° | 0.9 | 4.5 | 31.3 | 56.3 | 65.2 |
| 135° | 0.9 | 3.6 | 26.8 | 49.1 | 58.1 |
| 137.5° | 0.9 | 1.8 | 22.3 | 42.9 | 50.0 |
| 140° | 0.9 | 0.9 | 17.9 | 36.6 | 42.9 |
| 142.5° | 0.9 | 0.9 | 14.3 | 31.3 | 36.6 |
| 145° | 0.9 | 0.9 | 11.6 | 25.0 | 30.4 |
| 147.5° | 0.9 | 0.9 | 8.0 | 19.7 | 25.0 |
| 150° | 1.8 | 0.9 | 5.4 | 15.2 | 19.7 |
| 152.5° | 1.8 | 0.9 | 3.6 | 10.7 | 15.2 |
| 155° | 1.8 | 0.9 | 1.8 | 7.1 | 10.7 |
| 157.5° | 1.8 | 1.8 | 0.9 | 4.5 | 6.3 |
| 160° | 1.8 | 1.8 | 0.9 | 1.8 | 3.6 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)