

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: P236330

Luminaire Tested: **4SWLED-72HL-LN-UNV-L850-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236330  
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-L850-CD1-U  
Description: METALUX SWLED LINEAR LUMINAIRE  
4FT FIXTURE WITH 2 ROW LED, NARROW LENS  
Light Source: (224) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

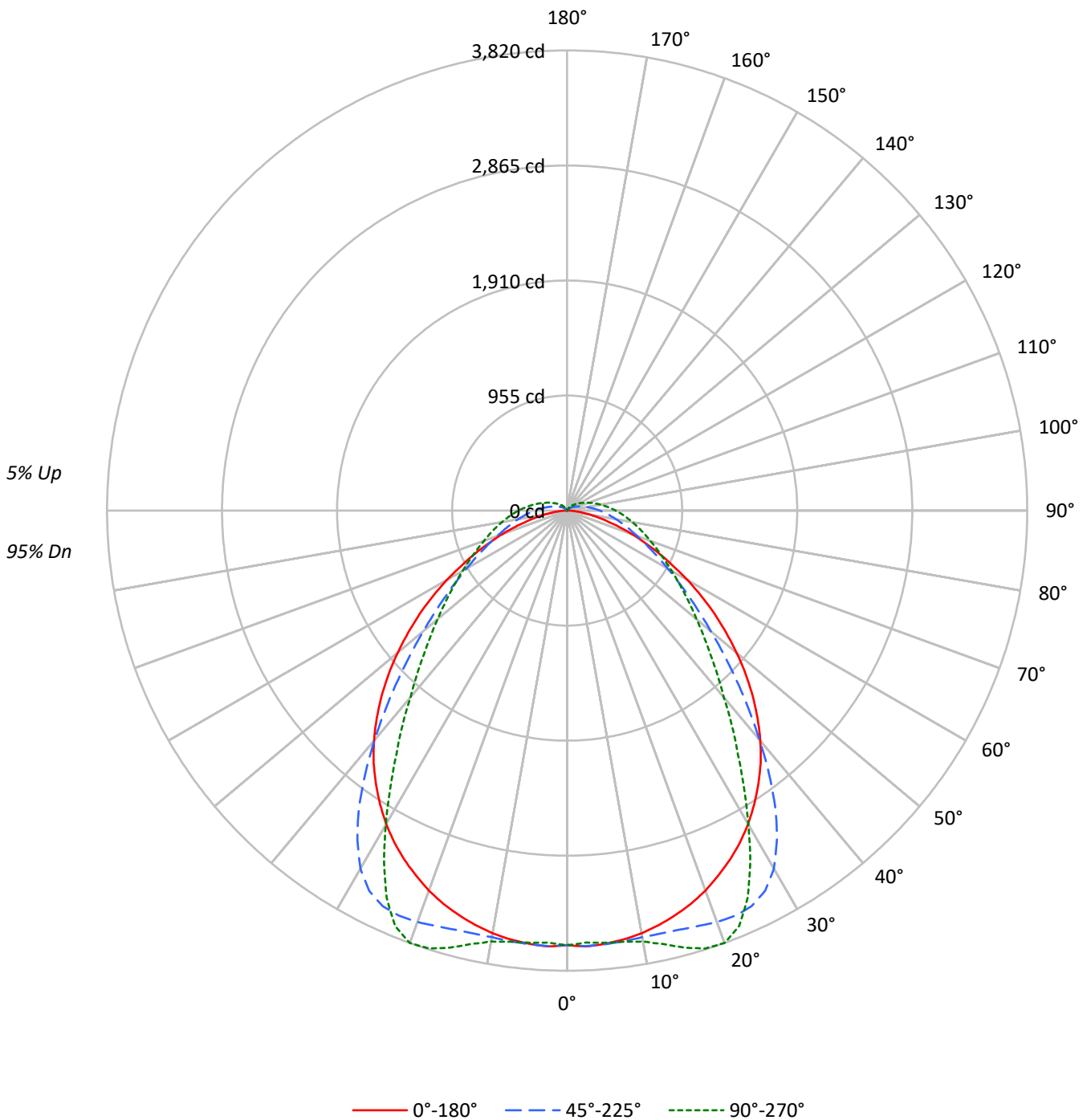
Lumens per Lamp: N/A  
Luminaire Lumens: 9642.0 lumens  
Efficiency: N/A  
Efficacy: 134.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.21 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.15')  
CIE Type: Direct

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

TEST NUMBER: P236330

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L850-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P236330

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L850-CD1-U

**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°  | 25889 | 25889 | 25889 |
| 5°  | 25925 | 25360 | 25088 |
| 10° | 25795 | 24882 | 24770 |
| 15° | 25571 | 24765 | 25266 |
| 20° | 25297 | 25015 | 25551 |
| 25° | 24898 | 25160 | 23763 |
| 30° | 24376 | 24235 | 20369 |
| 35° | 23638 | 21815 | 17014 |
| 40° | 22678 | 18587 | 14294 |
| 45° | 21333 | 15482 | 12270 |
| 50° | 19653 | 12791 | 10705 |
| 55° | 17755 | 10701 | 9511  |
| 60° | 15578 | 9099  | 8600  |
| 65° | 13266 | 7947  | 7909  |
| 70° | 10943 | 7108  | 7456  |
| 75° | 8569  | 6585  | 7184  |
| 80° | 6404  | 6300  | 7090  |
| 85° | 4208  | 6241  | 7152  |



TEST NUMBER: P236330

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L850-CD1-U

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 343.3  | 3.6       |
| 10°-20°   | 1020.2 | 10.6      |
| 20°-30°   | 1589.4 | 16.5      |
| 30°-40°   | 1752.6 | 18.2      |
| 40°-50°   | 1552.1 | 16.1      |
| 50°-60°   | 1188.2 | 12.3      |
| 60°-70°   | 823.7  | 8.5       |
| 70°-80°   | 537.7  | 5.6       |
| 80°-90°   | 339.5  | 3.5       |
| 90°-100°  | 212.3  | 2.2       |
| 100°-110° | 130.0  | 1.3       |
| 110°-120° | 76.8   | 0.8       |
| 120°-130° | 43.3   | 0.4       |
| 130°-140° | 21.9   | 0.2       |
| 140°-150° | 8.8    | 0.1       |
| 150°-160° | 2.2    | 0.0       |
| 160°-170° | 0.1    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 2952.9 | 30.6      |
| 0°-40°    | 4705.5 | 48.8      |
| 0°-60°    | 7445.8 | 77.2      |
| 0°-90°    | 9146.7 | 94.9      |
| 90°-120°  | 419.1  | 4.3       |
| 90°-150°  | 493.0  | 5.1       |
| 90°-180°  | 495.0  | 5.1       |
| 0°-180°   | 9642.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 3608 | 3608  | 3608 | 3608  | 3608 |      |
| 5°   | 3610 | 3586  | 3613 | 3600  | 3601 | 343  |
| 15°  | 3476 | 3478  | 3602 | 3706  | 3755 | 981  |
| 25°  | 3198 | 3303  | 3623 | 3610  | 3545 | 1472 |
| 35°  | 2767 | 3028  | 3015 | 2584  | 2471 | 1729 |
| 45°  | 2179 | 2419  | 1984 | 1708  | 1679 | 1676 |
| 55°  | 1493 | 1563  | 1223 | 1162  | 1182 | 1333 |
| 65°  | 842  | 855   | 770  | 822   | 854  | 839  |
| 75°  | 351  | 412   | 504  | 603   | 635  | 382  |
| 85°  | 72   | 181   | 336  | 441   | 473  | 83   |
| 90°  | 1    | 120   | 271  | 373   | 402  | 5    |
| 95°  | 0    | 78    | 214  | 309   | 339  | 0    |
| 105° | 0    | 36    | 128  | 204   | 234  | 0    |
| 115° | 0    | 19    | 77   | 132   | 154  | 0    |
| 125° | 0    | 10    | 48   | 83    | 98   | 0    |
| 135° | 1    | 4     | 28   | 50    | 60   | 1    |
| 145° | 1    | 1     | 12   | 26    | 31   | 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: P236330

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 3607.7 | 3607.7 | 3607.7 | 3607.7 | 3607.7 |
| 2.5°   | 3621.5 | 3594.0 | 3618.7 | 3605.0 | 3589.4 |
| 5°     | 3610.5 | 3585.7 | 3613.2 | 3600.4 | 3601.3 |
| 7.5°   | 3591.2 | 3569.2 | 3605.9 | 3601.3 | 3609.6 |
| 10°    | 3562.8 | 3543.6 | 3595.8 | 3617.8 | 3632.5 |
| 12.5°  | 3523.4 | 3511.5 | 3594.9 | 3648.1 | 3685.6 |
| 15°    | 3475.7 | 3478.5 | 3602.2 | 3705.8 | 3755.3 |
| 17.5°  | 3420.7 | 3438.2 | 3616.0 | 3757.1 | 3812.1 |
| 20°    | 3356.6 | 3397.8 | 3634.3 | 3779.1 | 3819.5 |
| 22.5°  | 3278.7 | 3352.0 | 3641.6 | 3737.9 | 3732.4 |
| 25°    | 3198.0 | 3303.4 | 3623.3 | 3609.6 | 3545.4 |
| 27.5°  | 3106.3 | 3249.3 | 3558.2 | 3399.7 | 3292.4 |
| 30°    | 3003.7 | 3187.9 | 3432.7 | 3136.6 | 3010.1 |
| 32.5°  | 2890.9 | 3114.6 | 3241.1 | 2856.1 | 2731.5 |
| 35°    | 2767.2 | 3027.5 | 3014.7 | 2583.9 | 2471.1 |
| 37.5°  | 2638.9 | 2906.5 | 2752.5 | 2329.1 | 2244.7 |
| 40°    | 2495.0 | 2770.0 | 2484.9 | 2097.2 | 2023.8 |
| 42.5°  | 2340.1 | 2610.5 | 2227.3 | 1890.0 | 1844.2 |
| 45°    | 2178.8 | 2418.9 | 1984.4 | 1707.6 | 1679.2 |
| 47.5°  | 2009.2 | 2206.3 | 1759.0 | 1544.5 | 1533.5 |
| 50°    | 1836.9 | 1992.7 | 1556.4 | 1401.5 | 1403.3 |
| 52.5°  | 1661.8 | 1768.1 | 1378.6 | 1275.9 | 1286.9 |
| 55°    | 1493.1 | 1562.8 | 1222.7 | 1162.2 | 1182.4 |
| 57.5°  | 1319.0 | 1363.9 | 1086.2 | 1062.3 | 1088.0 |
| 60°    | 1154.0 | 1178.7 | 964.3  | 973.4  | 1002.8 |
| 62.5°  | 987.2  | 1007.3 | 861.6  | 892.8  | 923.9  |
| 65°    | 842.4  | 855.2  | 769.9  | 822.2  | 854.3  |
| 67.5°  | 701.2  | 723.2  | 689.3  | 758.9  | 791.9  |
| 70°    | 573.8  | 604.0  | 618.7  | 703.0  | 735.1  |
| 72.5°  | 453.7  | 499.5  | 558.2  | 651.7  | 683.8  |
| 75°    | 351.1  | 411.6  | 504.1  | 603.1  | 635.2  |
| 77.5°  | 265.8  | 336.4  | 455.5  | 560.0  | 591.2  |
| 80°    | 187.0  | 274.1  | 412.5  | 518.8  | 550.0  |
| 82.5°  | 121.9  | 223.6  | 372.1  | 478.5  | 508.7  |
| 85°    | 72.4   | 180.6  | 336.4  | 440.9  | 473.0  |
| 87.5°  | 33.0   | 146.7  | 302.5  | 407.0  | 437.2  |
| 90°    | 0.9    | 120.1  | 271.3  | 373.1  | 402.4  |
| 92.5°  | 0.0    | 97.2   | 242.0  | 341.0  | 370.3  |
| 95°    | 0.0    | 77.9   | 213.6  | 308.9  | 339.1  |
| 97.5°  | 0.0    | 63.2   | 187.9  | 280.5  | 309.8  |
| 100°   | 0.0    | 52.2   | 165.9  | 253.9  | 283.2  |
| 102.5° | 0.0    | 43.1   | 145.7  | 229.1  | 257.6  |
| 105°   | 0.0    | 35.7   | 128.3  | 204.4  | 233.7  |
| 107.5° | 0.0    | 30.2   | 112.7  | 183.3  | 210.8  |
| 110°   | 0.0    | 25.7   | 99.0   | 164.1  | 189.7  |



TEST NUMBER: P236330

CATALOG NUMBER: 4SWLED-72HL-LN-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°   |
|--------|-----|-------|------|-------|-------|
| 112.5° | 0.0 | 22.9  | 87.1 | 147.6 | 171.4 |
| 115°   | 0.0 | 19.2  | 77.0 | 132.0 | 154.0 |
| 117.5° | 0.0 | 17.4  | 67.8 | 118.2 | 138.4 |
| 120°   | 0.0 | 14.7  | 60.5 | 105.4 | 123.7 |
| 122.5° | 0.0 | 12.8  | 53.2 | 93.5  | 110.0 |
| 125°   | 0.0 | 10.1  | 47.7 | 83.4  | 98.1  |
| 127.5° | 0.0 | 8.2   | 42.2 | 74.2  | 87.1  |
| 130°   | 0.9 | 6.4   | 37.6 | 65.1  | 77.0  |
| 132.5° | 0.9 | 4.6   | 32.1 | 57.7  | 66.9  |
| 135°   | 0.9 | 3.7   | 27.5 | 50.4  | 59.6  |
| 137.5° | 0.9 | 1.8   | 22.9 | 44.0  | 51.3  |
| 140°   | 0.9 | 0.9   | 18.3 | 37.6  | 44.0  |
| 142.5° | 0.9 | 0.9   | 14.7 | 32.1  | 37.6  |
| 145°   | 0.9 | 0.9   | 11.9 | 25.7  | 31.2  |
| 147.5° | 0.9 | 0.9   | 8.2  | 20.2  | 25.7  |
| 150°   | 1.8 | 0.9   | 5.5  | 15.6  | 20.2  |
| 152.5° | 1.8 | 0.9   | 3.7  | 11.0  | 15.6  |
| 155°   | 1.8 | 0.9   | 1.8  | 7.3   | 11.0  |
| 157.5° | 1.8 | 1.8   | 0.9  | 4.6   | 6.4   |
| 160°   | 1.8 | 1.8   | 0.9  | 1.8   | 3.7   |
| 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)