

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: P192430

Luminaire Tested: **4WSL-LD2-70-UNV-L835-CD1-U**

Issue Date: 3/3/2020



**Test Information**

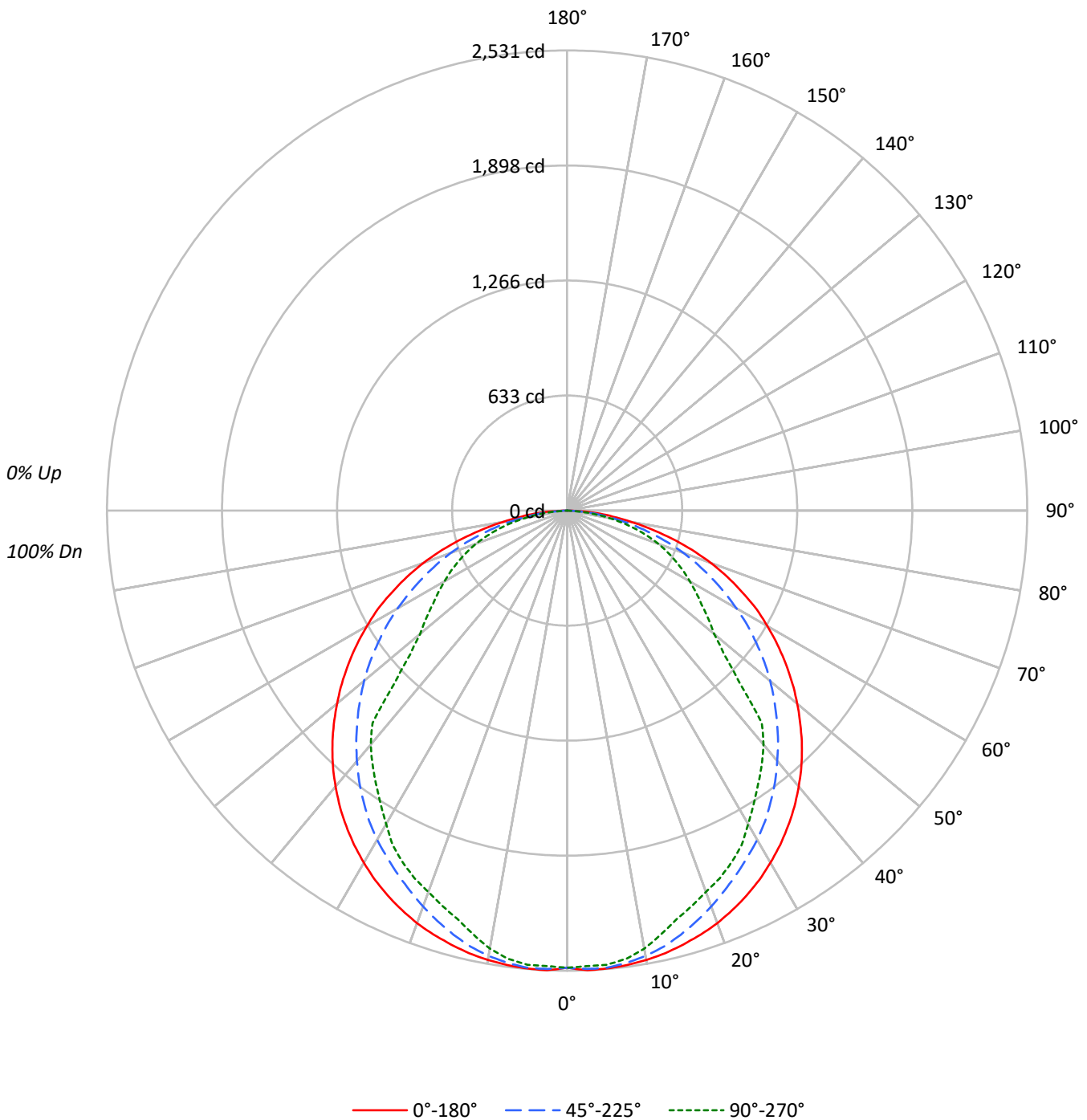
Test Method: LM-79-08  
Report Number: P192430  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28104)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4WSL-LD2-70-UNV-L835-CD1-U  
Description: 4FT Linear Wavestream System, L835  
Light Source: (238) 3500K CCT, 80 CRI LEDS  
EL236N0119D835  
Ballast/Driver: OSRAM  
OT85W1202772A0DIML

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7005.0 lumens  
Efficiency: N/A  
Efficacy: 102.0 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.18 / 1.35  
Luminous Opening: Rectangular (W 0.5' x L: 3.8' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 68.7  
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

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### Luminous Intensity Polar Plot





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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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 94  | 97  | 94  | 91  | 93  | 91  | 88  | 90  | 88  | 86  | 84  |
| 2   | 99  | 90  | 84  | 78  | 96  | 89  | 82  | 77  | 85  | 80  | 75  | 82  | 77  | 73  | 79  | 75  | 72  | 70  |
| 3   | 90  | 79  | 71  | 65  | 88  | 78  | 70  | 64  | 75  | 68  | 63  | 72  | 67  | 62  | 70  | 65  | 61  | 59  |
| 4   | 82  | 70  | 62  | 55  | 80  | 69  | 61  | 54  | 67  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 52  | 50  |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 60  | 52  | 46  | 58  | 51  | 46  | 56  | 50  | 45  | 43  |
| 6   | 70  | 57  | 48  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 38  |
| 7   | 65  | 51  | 43  | 36  | 63  | 51  | 42  | 36  | 49  | 42  | 36  | 48  | 41  | 36  | 46  | 40  | 35  | 33  |
| 8   | 60  | 47  | 38  | 33  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 32  | 42  | 36  | 32  | 30  |
| 9   | 57  | 43  | 35  | 29  | 55  | 42  | 35  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14245 | 14245 | 14245 |
| 5°  | 14378 | 14352 | 14260 |
| 10° | 14438 | 14304 | 14078 |
| 15° | 14489 | 14163 | 13646 |
| 20° | 14558 | 13972 | 13454 |
| 25° | 14602 | 13791 | 13356 |
| 30° | 14629 | 13674 | 13022 |
| 35° | 14649 | 13511 | 12678 |
| 40° | 14653 | 13299 | 12426 |
| 45° | 14631 | 13071 | 10750 |
| 50° | 14563 | 12847 | 9314  |
| 55° | 14490 | 12544 | 8927  |
| 60° | 14416 | 12184 | 8823  |
| 65° | 14228 | 11743 | 8823  |
| 70° | 13934 | 11285 | 8829  |
| 75° | 13037 | 10399 | 8574  |
| 80° | 11644 | 8998  | 7637  |
| 85° | 10693 | 6929  | 5571  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 238.9  | 3.4       |
| 10°-20°   | 677.9  | 9.7       |
| 20°-30°   | 1021.9 | 14.6      |
| 30°-40°   | 1226.9 | 17.5      |
| 40°-50°   | 1249.6 | 17.8      |
| 50°-60°   | 1096.7 | 15.7      |
| 60°-70°   | 853.1  | 12.2      |
| 70°-80°   | 507.4  | 7.2       |
| 80°-90°   | 132.8  | 1.9       |
| 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°    | 1938.6 | 27.7      |
| 0°-40°    | 3165.6 | 45.2      |
| 0°-60°    | 5511.8 | 78.7      |
| 0°-90°    | 7005.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7005.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2514 | 2514  | 2514 | 2514  | 2514 |      |
| 5°  | 2528 | 2505  | 2524 | 2514  | 2508 | 241  |
| 15° | 2470 | 2436  | 2415 | 2354  | 2327 | 698  |
| 25° | 2336 | 2283  | 2206 | 2148  | 2137 | 1077 |
| 35° | 2118 | 2051  | 1954 | 1861  | 1833 | 1326 |
| 45° | 1826 | 1766  | 1632 | 1506  | 1342 | 1408 |
| 55° | 1467 | 1423  | 1270 | 1017  | 904  | 1312 |
| 65° | 1061 | 1020  | 876  | 691   | 658  | 1051 |
| 75° | 596  | 566   | 475  | 385   | 392  | 630  |
| 85° | 164  | 146   | 107  | 86    | 86   | 180  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2514.4 | 2514.4 | 2514.4 | 2514.4 | 2514.4 |
| 2.5°  | 2530.7 | 2505.2 | 2523.7 | 2519.1 | 2507.5 |
| 5°    | 2528.3 | 2505.2 | 2523.7 | 2514.4 | 2507.5 |
| 7.5°  | 2521.4 | 2498.2 | 2509.8 | 2495.9 | 2486.6 |
| 10°   | 2509.8 | 2484.3 | 2486.6 | 2463.5 | 2447.2 |
| 12.5° | 2493.6 | 2463.5 | 2456.5 | 2410.2 | 2387.0 |
| 15°   | 2470.4 | 2435.6 | 2414.8 | 2354.5 | 2326.7 |
| 17.5° | 2444.9 | 2405.5 | 2368.4 | 2301.2 | 2280.4 |
| 20°   | 2414.8 | 2368.4 | 2317.5 | 2247.9 | 2231.7 |
| 22.5° | 2377.7 | 2329.0 | 2261.8 | 2199.3 | 2190.0 |
| 25°   | 2336.0 | 2282.7 | 2206.2 | 2148.3 | 2136.7 |
| 27.5° | 2289.6 | 2227.1 | 2148.3 | 2090.3 | 2076.4 |
| 30°   | 2236.3 | 2171.5 | 2090.3 | 2023.1 | 1990.7 |
| 32.5° | 2180.7 | 2113.5 | 2025.5 | 1939.7 | 1909.6 |
| 35°   | 2118.2 | 2051.0 | 1953.6 | 1860.9 | 1833.1 |
| 37.5° | 2053.3 | 1983.7 | 1879.5 | 1782.1 | 1759.0 |
| 40°   | 1981.4 | 1914.2 | 1798.3 | 1703.3 | 1680.2 |
| 42.5° | 1907.3 | 1842.4 | 1717.2 | 1622.2 | 1585.1 |
| 45°   | 1826.2 | 1765.9 | 1631.5 | 1506.3 | 1341.8 |
| 47.5° | 1740.4 | 1684.8 | 1545.7 | 1360.3 | 1170.3 |
| 50°   | 1652.3 | 1601.4 | 1457.7 | 1230.6 | 1056.8 |
| 52.5° | 1562.0 | 1515.6 | 1367.3 | 1117.0 | 978.0  |
| 55°   | 1467.0 | 1422.9 | 1270.0 | 1017.4 | 903.8  |
| 57.5° | 1371.9 | 1327.9 | 1177.3 | 927.0  | 841.2  |
| 60°   | 1272.3 | 1230.6 | 1075.3 | 843.6  | 778.7  |
| 62.5° | 1175.0 | 1128.6 | 975.7  | 767.1  | 720.7  |
| 65°   | 1061.4 | 1019.7 | 876.0  | 690.6  | 658.2  |
| 67.5° | 954.8  | 910.8  | 778.7  | 616.4  | 597.9  |
| 70°   | 841.2  | 797.2  | 681.3  | 540.0  | 533.0  |
| 72.5° | 720.7  | 686.0  | 579.4  | 465.8  | 461.2  |
| 75°   | 595.6  | 565.5  | 475.1  | 384.7  | 391.7  |
| 77.5° | 472.8  | 454.2  | 375.4  | 308.2  | 312.9  |
| 80°   | 356.9  | 343.0  | 275.8  | 229.4  | 234.1  |
| 82.5° | 254.9  | 243.3  | 187.7  | 153.0  | 153.0  |
| 85°   | 164.5  | 146.0  | 106.6  | 85.7   | 85.7   |
| 87.5° | 64.9   | 53.3   | 32.4   | 9.3    | 4.6    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)