

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: P234523

Luminaire Tested: **4WSNLED-LD4-56HL-F-UNV-L850-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P234523  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-169-11)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4WSNLED-LD4-56HL-F-UNV-L850-CD1-U  
Description: 4FT WSNLED WRAPAROUND  
Light Source: (224) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

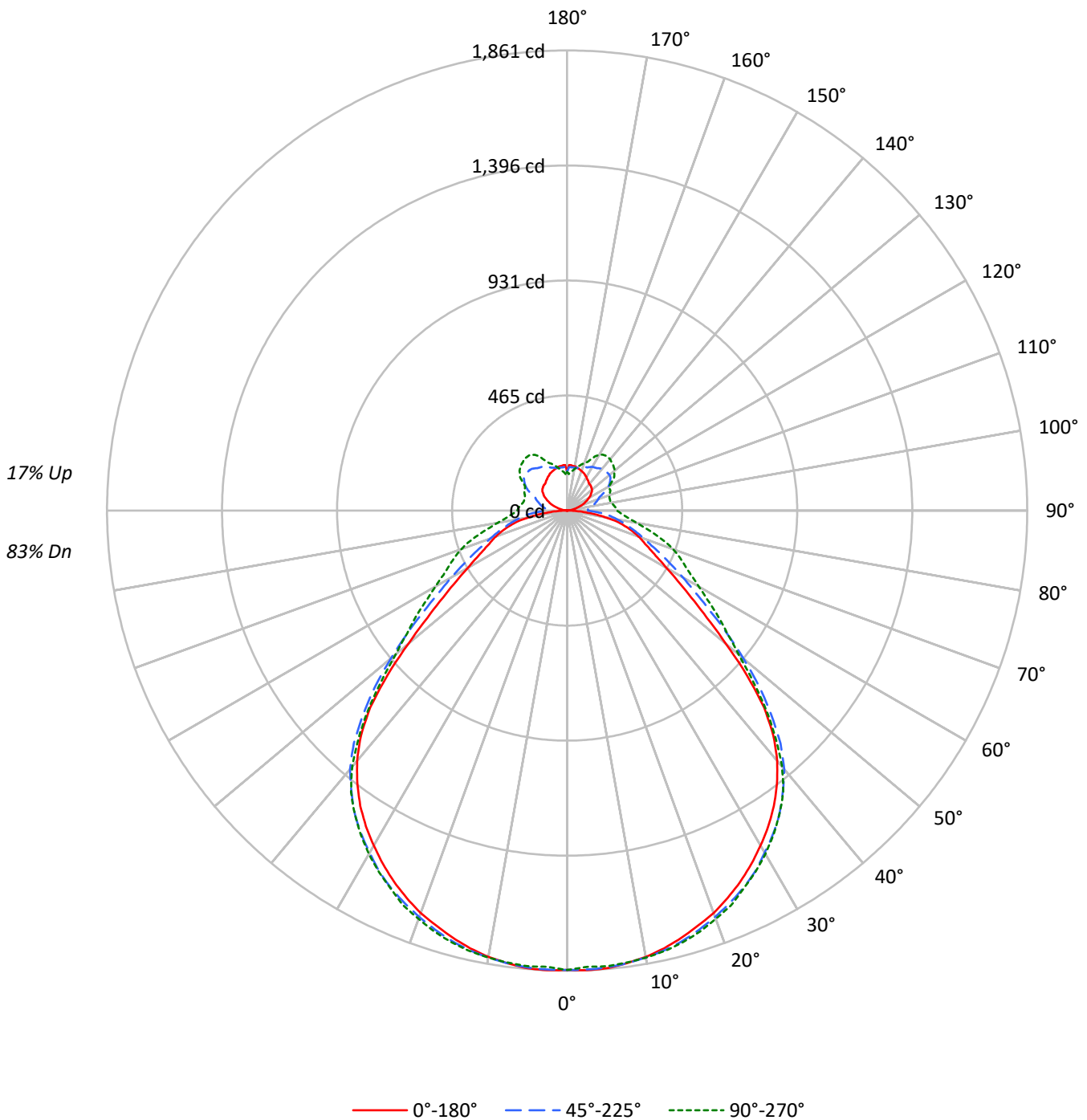
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5769.9 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.28 / 1.35  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 4' x H: 0.12')  
CIE Type: Semi-Direct  
  
Input Watts (W): 54.1  
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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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|
| RF  | 20  |     |     |     | 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   | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 110 | 101 | 101 | 101 | 93 | 93 | 93 | 86 | 86 | 86 | 86 | 86 | 86 | 83 |
| 1   | 105 | 100 | 96  | 92  | 100 | 96  | 93  | 89  | 89  | 86  | 83  | 82 | 80 | 78 | 76 | 74 | 72 | 76 | 74 | 72 | 69 |
| 2   | 96  | 88  | 82  | 76  | 92  | 85  | 79  | 74  | 78  | 74  | 70  | 73 | 69 | 65 | 67 | 64 | 62 | 67 | 64 | 62 | 59 |
| 3   | 88  | 78  | 70  | 64  | 84  | 75  | 68  | 62  | 70  | 64  | 59  | 65 | 60 | 56 | 60 | 56 | 53 | 60 | 56 | 53 | 50 |
| 4   | 81  | 69  | 61  | 55  | 77  | 67  | 59  | 53  | 62  | 56  | 51  | 58 | 53 | 48 | 54 | 50 | 46 | 54 | 50 | 46 | 43 |
| 5   | 74  | 62  | 54  | 47  | 71  | 60  | 52  | 46  | 56  | 49  | 44  | 52 | 47 | 42 | 49 | 44 | 40 | 49 | 44 | 40 | 38 |
| 6   | 69  | 56  | 48  | 42  | 66  | 54  | 46  | 41  | 51  | 44  | 39  | 48 | 42 | 37 | 44 | 40 | 36 | 44 | 40 | 36 | 33 |
| 7   | 64  | 51  | 43  | 37  | 61  | 49  | 42  | 36  | 46  | 40  | 35  | 43 | 38 | 33 | 41 | 36 | 32 | 41 | 36 | 32 | 30 |
| 8   | 59  | 47  | 38  | 33  | 57  | 45  | 38  | 32  | 42  | 36  | 31  | 40 | 34 | 30 | 38 | 32 | 29 | 38 | 32 | 29 | 27 |
| 9   | 56  | 43  | 35  | 30  | 53  | 41  | 34  | 29  | 39  | 33  | 28  | 37 | 31 | 27 | 35 | 30 | 26 | 35 | 30 | 26 | 24 |
| 10  | 52  | 39  | 32  | 27  | 50  | 38  | 31  | 26  | 36  | 30  | 25  | 34 | 29 | 25 | 32 | 27 | 24 | 32 | 27 | 24 | 22 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4999 | 4999 | 4999 |
| 5°  | 5005 | 4963 | 4942 |
| 10° | 4980 | 4920 | 4907 |
| 15° | 4940 | 4876 | 4873 |
| 20° | 4904 | 4815 | 4813 |
| 25° | 4848 | 4757 | 4734 |
| 30° | 4775 | 4668 | 4647 |
| 35° | 4688 | 4566 | 4523 |
| 40° | 4523 | 4392 | 4299 |
| 45° | 4155 | 4002 | 3847 |
| 50° | 3383 | 3441 | 3298 |
| 55° | 2748 | 2853 | 2969 |
| 60° | 2368 | 2436 | 2719 |
| 65° | 2201 | 2157 | 2637 |
| 70° | 2227 | 1990 | 2667 |
| 75° | 2264 | 1933 | 2595 |
| 80° | 2096 | 1969 | 2584 |
| 85° | 1524 | 2059 | 2948 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 176.2  | 3.1       |
| 10°-20°   | 507.6  | 8.8       |
| 20°-30°   | 772.2  | 13.4      |
| 30°-40°   | 926.0  | 16.0      |
| 40°-50°   | 881.5  | 15.3      |
| 50°-60°   | 627.7  | 10.9      |
| 60°-70°   | 426.8  | 7.4       |
| 70°-80°   | 287.9  | 5.0       |
| 80°-90°   | 165.1  | 2.9       |
| 90°-100°  | 106.6  | 1.8       |
| 100°-110° | 120.0  | 2.1       |
| 110°-120° | 149.1  | 2.6       |
| 120°-130° | 171.0  | 3.0       |
| 130°-140° | 162.6  | 2.8       |
| 140°-150° | 131.6  | 2.3       |
| 150°-160° | 90.6   | 1.6       |
| 160°-170° | 51.0   | 0.9       |
| 170°-180° | 16.4   | 0.3       |
| 0°-30°    | 1455.9 | 25.2      |
| 0°-40°    | 2381.9 | 41.3      |
| 0°-60°    | 3891.2 | 67.4      |
| 0°-90°    | 4770.9 | 82.7      |
| 90°-120°  | 375.7  | 6.5       |
| 90°-150°  | 840.9  | 14.6      |
| 90°-180°  | 999.0  | 17.3      |
| 0°-180°   | 5769.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1858 | 1858  | 1858 | 1858  | 1858 |      |
| 5°   | 1858 | 1847  | 1855 | 1852  | 1850 | 176  |
| 15°  | 1788 | 1785  | 1802 | 1810  | 1808 | 505  |
| 25°  | 1657 | 1660  | 1685 | 1690  | 1687 | 763  |
| 35°  | 1458 | 1467  | 1497 | 1497  | 1497 | 909  |
| 45°  | 1126 | 1154  | 1168 | 1168  | 1137 | 852  |
| 55°  | 612  | 673   | 704  | 710   | 746  | 559  |
| 65°  | 369  | 394   | 419  | 444   | 525  | 371  |
| 75°  | 243  | 204   | 263  | 313   | 366  | 253  |
| 85°  | 67   | 95    | 151  | 210   | 232  | 74   |
| 90°  | 0    | 42    | 84   | 159   | 201  | 5    |
| 95°  | 6    | 39    | 87   | 162   | 193  | 8    |
| 105° | 39   | 59    | 117  | 162   | 179  | 42   |
| 115° | 81   | 128   | 159  | 179   | 193  | 81   |
| 125° | 117  | 156   | 212  | 229   | 232  | 105  |
| 135° | 137  | 165   | 224  | 257   | 263  | 106  |
| 145° | 148  | 165   | 210  | 257   | 271  | 92   |
| 155° | 165  | 168   | 193  | 224   | 229  | 76   |
| 165° | 176  | 176   | 179  | 182   | 187  | 50   |
| 175° | 184  | 184   | 176  | 154   | 156  | 17   |
| 180° | 156  | 156   | 156  | 156   | 156  |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1857.8 | 1857.8 | 1857.8 | 1857.8 | 1857.8 |
| 2.5°   | 1860.6 | 1852.3 | 1857.8 | 1857.8 | 1846.7 |
| 5°     | 1857.8 | 1846.7 | 1855.0 | 1852.3 | 1849.5 |
| 7.5°   | 1846.7 | 1838.3 | 1846.7 | 1849.5 | 1843.9 |
| 10°    | 1832.7 | 1824.3 | 1835.5 | 1838.3 | 1835.5 |
| 12.5°  | 1813.1 | 1807.6 | 1821.5 | 1827.1 | 1824.3 |
| 15°    | 1788.0 | 1785.2 | 1802.0 | 1810.3 | 1807.6 |
| 17.5°  | 1760.1 | 1757.3 | 1776.8 | 1788.0 | 1785.2 |
| 20°    | 1732.1 | 1729.3 | 1748.9 | 1757.3 | 1757.3 |
| 22.5°  | 1695.8 | 1695.8 | 1718.2 | 1726.5 | 1729.3 |
| 25°    | 1656.7 | 1659.5 | 1684.6 | 1690.2 | 1687.4 |
| 27.5°  | 1612.0 | 1614.8 | 1645.5 | 1648.3 | 1648.3 |
| 30°    | 1564.5 | 1570.1 | 1598.0 | 1600.8 | 1603.6 |
| 32.5°  | 1514.2 | 1519.8 | 1550.5 | 1550.5 | 1553.3 |
| 35°    | 1458.3 | 1466.7 | 1497.4 | 1497.4 | 1497.4 |
| 37.5°  | 1394.1 | 1405.3 | 1433.2 | 1433.2 | 1436.0 |
| 40°    | 1321.4 | 1338.2 | 1366.1 | 1363.3 | 1352.2 |
| 42.5°  | 1234.8 | 1257.2 | 1276.7 | 1273.9 | 1248.8 |
| 45°    | 1125.9 | 1153.8 | 1167.8 | 1167.8 | 1137.1 |
| 47.5°  | 986.2  | 1028.1 | 1053.2 | 1042.1 | 1016.9 |
| 50°    | 838.1  | 899.6  | 930.3  | 924.7  | 905.2  |
| 52.5°  | 712.4  | 782.2  | 813.0  | 810.2  | 815.8  |
| 55°    | 611.8  | 673.3  | 704.0  | 709.6  | 745.9  |
| 57.5°  | 530.8  | 586.7  | 611.8  | 628.6  | 673.3  |
| 60°    | 463.8  | 514.0  | 539.2  | 556.0  | 614.6  |
| 62.5°  | 410.7  | 449.8  | 474.9  | 494.5  | 564.3  |
| 65°    | 368.8  | 393.9  | 419.1  | 444.2  | 525.2  |
| 67.5°  | 335.2  | 340.8  | 368.8  | 405.1  | 491.7  |
| 70°    | 307.3  | 287.8  | 329.7  | 371.6  | 455.4  |
| 72.5°  | 276.6  | 243.1  | 296.1  | 338.0  | 413.5  |
| 75°    | 243.1  | 203.9  | 262.6  | 312.9  | 366.0  |
| 77.5°  | 206.7  | 170.4  | 234.7  | 285.0  | 321.3  |
| 80°    | 159.2  | 145.3  | 206.7  | 259.8  | 285.0  |
| 82.5°  | 111.7  | 120.1  | 178.8  | 237.5  | 254.2  |
| 85°    | 67.0   | 95.0   | 150.9  | 209.5  | 231.9  |
| 87.5°  | 30.7   | 69.8   | 114.5  | 181.6  | 215.1  |
| 90°    | 0.0    | 41.9   | 83.8   | 159.2  | 201.1  |
| 92.5°  | 2.8    | 41.9   | 83.8   | 162.0  | 198.4  |
| 95°    | 5.6    | 39.1   | 86.6   | 162.0  | 192.8  |
| 97.5°  | 11.2   | 39.1   | 95.0   | 159.2  | 187.2  |
| 100°   | 19.6   | 41.9   | 103.4  | 159.2  | 181.6  |
| 102.5° | 27.9   | 44.7   | 111.7  | 162.0  | 178.8  |
| 105°   | 39.1   | 58.7   | 117.3  | 162.0  | 178.8  |
| 107.5° | 50.3   | 78.2   | 125.7  | 164.8  | 178.8  |
| 110°   | 61.5   | 100.6  | 134.1  | 167.6  | 181.6  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 72.6  | 117.3 | 139.7 | 176.0 | 187.2 |
| 115°   | 81.0  | 128.5 | 159.2 | 178.8 | 192.8 |
| 117.5° | 92.2  | 136.9 | 178.8 | 181.6 | 192.8 |
| 120°   | 100.6 | 145.3 | 192.8 | 192.8 | 195.6 |
| 122.5° | 111.7 | 150.9 | 203.9 | 215.1 | 212.3 |
| 125°   | 117.3 | 156.4 | 212.3 | 229.1 | 231.9 |
| 127.5° | 125.7 | 159.2 | 220.7 | 237.5 | 240.3 |
| 130°   | 131.3 | 162.0 | 223.5 | 245.8 | 251.4 |
| 132.5° | 134.1 | 162.0 | 223.5 | 251.4 | 257.0 |
| 135°   | 136.9 | 164.8 | 223.5 | 257.0 | 262.6 |
| 137.5° | 139.7 | 162.0 | 223.5 | 259.8 | 265.4 |
| 140°   | 139.7 | 162.0 | 220.7 | 259.8 | 271.0 |
| 142.5° | 142.5 | 162.0 | 215.1 | 259.8 | 271.0 |
| 145°   | 148.1 | 164.8 | 209.5 | 257.0 | 271.0 |
| 147.5° | 150.9 | 164.8 | 206.7 | 251.4 | 268.2 |
| 150°   | 156.4 | 164.8 | 203.9 | 243.1 | 259.8 |
| 152.5° | 159.2 | 164.8 | 198.4 | 234.7 | 248.6 |
| 155°   | 164.8 | 167.6 | 192.8 | 223.5 | 229.1 |
| 157.5° | 167.6 | 167.6 | 190.0 | 212.3 | 212.3 |
| 160°   | 170.4 | 170.4 | 184.4 | 201.1 | 203.9 |
| 162.5° | 173.2 | 173.2 | 181.6 | 190.0 | 195.6 |
| 165°   | 176.0 | 176.0 | 178.8 | 181.6 | 187.2 |
| 167.5° | 178.8 | 178.8 | 176.0 | 170.4 | 178.8 |
| 170°   | 181.6 | 181.6 | 176.0 | 162.0 | 170.4 |
| 172.5° | 181.6 | 184.4 | 176.0 | 156.4 | 162.0 |
| 175°   | 184.4 | 184.4 | 176.0 | 153.7 | 156.4 |
| 177.5° | 184.4 | 184.4 | 176.0 | 148.1 | 148.1 |
| 180°   | 156.4 | 156.4 | 156.4 | 156.4 | 156.4 |

(END OF REPORT)