

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: P#

Luminaire Tested: **4SNLED-LD5-90HL-SLN-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P#  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27402)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4SNLED-LD5-90HL-SLN-UNV-L935-CD1-U  
Description: 4FT LINEAR SNLED LED FIXTURE  
SQUARE NARROW LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

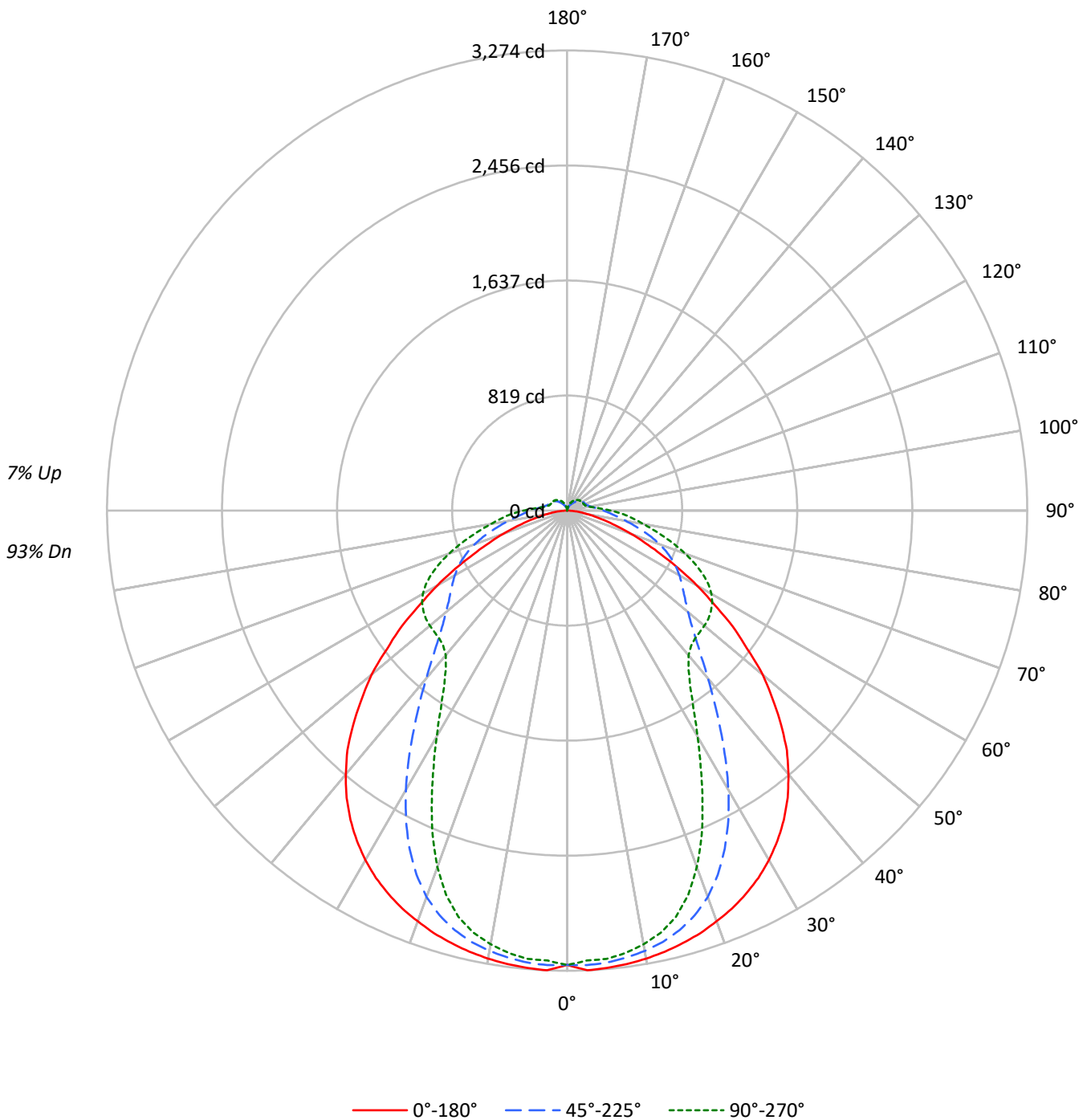
Lumens per Lamp: N/A  
Luminaire Lumens: 8130.0 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.31 / 0.96 / 1.11  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 79  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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 | 50 | 30 | 10 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   |
| 0   | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 93 |    |    |    |   |
| 1   | 107 | 102 | 97  | 93  | 103 | 99  | 94  | 91  | 93  | 90  | 87  | 88  | 85  | 83  | 83 | 81 | 79 | 76 |    |    |    |   |
| 2   | 97  | 89  | 82  | 76  | 94  | 86  | 80  | 75  | 81  | 76  | 72  | 77  | 73  | 69  | 73 | 70 | 66 | 64 |    |    |    |   |
| 3   | 89  | 78  | 70  | 64  | 86  | 76  | 69  | 63  | 72  | 66  | 61  | 68  | 63  | 59  | 65 | 61 | 57 | 54 |    |    |    |   |
| 4   | 82  | 70  | 61  | 55  | 79  | 68  | 60  | 54  | 65  | 58  | 52  | 61  | 55  | 51  | 58 | 53 | 49 | 47 |    |    |    |   |
| 5   | 75  | 63  | 54  | 47  | 73  | 61  | 53  | 47  | 58  | 51  | 46  | 55  | 49  | 44  | 53 | 48 | 43 | 41 |    |    |    |   |
| 6   | 70  | 57  | 48  | 42  | 67  | 55  | 47  | 41  | 53  | 46  | 40  | 51  | 44  | 39  | 48 | 43 | 39 | 36 |    |    |    |   |
| 7   | 65  | 52  | 43  | 37  | 63  | 51  | 42  | 37  | 48  | 41  | 36  | 46  | 40  | 35  | 44 | 39 | 35 | 32 |    |    |    |   |
| 8   | 61  | 47  | 39  | 33  | 59  | 46  | 39  | 33  | 44  | 37  | 32  | 43  | 36  | 32  | 41 | 35 | 31 | 29 |    |    |    |   |
| 9   | 57  | 44  | 36  | 30  | 55  | 43  | 35  | 30  | 41  | 34  | 29  | 40  | 33  | 29  | 38 | 33 | 28 | 27 |    |    |    |   |
| 10  | 53  | 40  | 33  | 28  | 52  | 40  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 35 | 30 | 26 | 24 |    |    |    |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 26124 | 26124 | 26124 |
| 5°  | 26425 | 25547 | 25148 |
| 10° | 26416 | 24841 | 24113 |
| 15° | 26425 | 24009 | 22738 |
| 20° | 26437 | 22772 | 20420 |
| 25° | 26448 | 20866 | 17292 |
| 30° | 26321 | 18361 | 14222 |
| 35° | 25947 | 15621 | 11919 |
| 40° | 25188 | 13230 | 10775 |
| 45° | 23853 | 11498 | 10693 |
| 50° | 22035 | 10511 | 11069 |
| 55° | 19404 | 10103 | 11456 |
| 60° | 16372 | 9959  | 11614 |
| 65° | 13168 | 9738  | 11251 |
| 70° | 10577 | 9236  | 10376 |
| 75° | 7975  | 8359  | 9208  |
| 80° | 5886  | 7506  | 8191  |
| 85° | 3935  | 7082  | 7534  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 305.9  | 3.8       |
| 10°-20°   | 864.5  | 10.6      |
| 20°-30°   | 1208.5 | 14.9      |
| 30°-40°   | 1253.5 | 15.4      |
| 40°-50°   | 1158.0 | 14.2      |
| 50°-60°   | 1033.9 | 12.7      |
| 60°-70°   | 837.9  | 10.3      |
| 70°-80°   | 557.3  | 6.9       |
| 80°-90°   | 319.1  | 3.9       |
| 90°-100°  | 176.5  | 2.2       |
| 100°-110° | 119.6  | 1.5       |
| 110°-120° | 99.6   | 1.2       |
| 120°-130° | 80.9   | 1.0       |
| 130°-140° | 58.4   | 0.7       |
| 140°-150° | 35.2   | 0.4       |
| 150°-160° | 16.9   | 0.2       |
| 160°-170° | 4.4    | 0.1       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 2378.8 | 29.3      |
| 0°-40°    | 3632.3 | 44.7      |
| 0°-60°    | 5824.2 | 71.6      |
| 0°-90°    | 7538.5 | 92.7      |
| 90°-120°  | 395.7  | 4.9       |
| 90°-150°  | 570.2  | 7.0       |
| 90°-180°  | 591.0  | 7.3       |
| 0°-180°   | 8130.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 3233 | 3233  | 3233 | 3233  | 3233 |      |
| 5°   | 3266 | 3212  | 3229 | 3206  | 3202 | 311  |
| 15°  | 3185 | 3118  | 3091 | 3021  | 2991 | 900  |
| 25°  | 3009 | 2876  | 2654 | 2376  | 2279 | 1387 |
| 35°  | 2688 | 2393  | 1902 | 1597  | 1526 | 1677 |
| 45°  | 2152 | 1706  | 1295 | 1249  | 1287 | 1655 |
| 55°  | 1439 | 1087  | 1012 | 1176  | 1249 | 1279 |
| 65°  | 735  | 658   | 823  | 1009  | 1062 | 743  |
| 75°  | 285  | 357   | 555  | 680   | 708  | 313  |
| 85°  | 58   | 166   | 327  | 419   | 430  | 66   |
| 90°  | 3    | 117   | 258  | 312   | 309  | 4    |
| 95°  | 3    | 98    | 205  | 219   | 212  | 2    |
| 105° | 1    | 86    | 148  | 143   | 136  | 1    |
| 115° | 1    | 77    | 131  | 129   | 125  | 1    |
| 125° | 1    | 66    | 115  | 121   | 118  | 2    |
| 135° | 3    | 49    | 91   | 107   | 107  | 2    |
| 145° | 3    | 31    | 63   | 83    | 88   | 2    |
| 155° | 3    | 20    | 39   | 52    | 63   | 1    |
| 165° | 3    | 11    | 20   | 25    | 34   | 1    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    | 0    |



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-90HL-SLN-UNV-L935-CD1-U

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 3232.8 | 3232.8 | 3232.8 | 3232.8 | 3232.8 |
| 2.5°   | 3273.6 | 3220.2 | 3237.0 | 3223.0 | 3204.7 |
| 5°     | 3266.5 | 3211.7 | 3228.6 | 3206.1 | 3201.9 |
| 7.5°   | 3253.9 | 3199.1 | 3208.9 | 3182.2 | 3175.2 |
| 10°    | 3237.0 | 3179.4 | 3180.8 | 3142.9 | 3133.1 |
| 12.5°  | 3214.5 | 3151.3 | 3142.9 | 3090.9 | 3076.9 |
| 15°    | 3185.0 | 3117.6 | 3090.9 | 3020.7 | 2991.2 |
| 17.5°  | 3152.7 | 3074.1 | 3019.3 | 2911.1 | 2864.7 |
| 20°    | 3109.2 | 3020.7 | 2925.1 | 2760.7 | 2698.9 |
| 22.5°  | 3065.6 | 2956.0 | 2802.9 | 2583.7 | 2500.8 |
| 25°    | 3009.4 | 2876.0 | 2654.0 | 2375.8 | 2278.8 |
| 27.5°  | 2946.2 | 2781.8 | 2482.6 | 2162.2 | 2058.3 |
| 30°    | 2871.7 | 2668.0 | 2294.3 | 1952.9 | 1854.5 |
| 32.5°  | 2784.6 | 2540.2 | 2096.2 | 1764.6 | 1673.3 |
| 35°    | 2687.7 | 2392.6 | 1902.3 | 1597.4 | 1525.8 |
| 37.5°  | 2576.7 | 2231.1 | 1722.5 | 1462.6 | 1416.2 |
| 40°    | 2450.3 | 2055.5 | 1556.7 | 1358.6 | 1343.1 |
| 42.5°  | 2314.0 | 1884.1 | 1414.8 | 1291.2 | 1305.2 |
| 45°    | 2152.4 | 1705.6 | 1295.4 | 1249.0 | 1286.9 |
| 47.5°  | 1982.4 | 1531.4 | 1198.4 | 1225.1 | 1279.9 |
| 50°    | 1818.0 | 1369.8 | 1122.6 | 1209.7 | 1274.3 |
| 52.5°  | 1614.3 | 1225.1 | 1062.1 | 1195.6 | 1265.9 |
| 55°    | 1438.7 | 1087.4 | 1011.6 | 1176.0 | 1249.0 |
| 57.5°  | 1236.4 | 963.8  | 966.6  | 1150.7 | 1223.7 |
| 60°    | 1067.8 | 851.4  | 923.1  | 1115.5 | 1185.8 |
| 62.5°  | 896.4  | 750.2  | 875.3  | 1069.2 | 1132.4 |
| 65°    | 734.8  | 657.5  | 823.3  | 1008.8 | 1062.1 |
| 67.5°  | 599.9  | 573.2  | 764.3  | 935.7  | 980.7  |
| 70°    | 486.1  | 496.0  | 699.7  | 854.2  | 892.1  |
| 72.5°  | 373.7  | 424.3  | 629.4  | 767.1  | 799.4  |
| 75°    | 285.2  | 356.9  | 555.0  | 680.0  | 708.1  |
| 77.5°  | 210.7  | 297.9  | 487.5  | 601.3  | 625.2  |
| 80°    | 148.9  | 245.9  | 424.3  | 532.5  | 550.7  |
| 82.5°  | 99.8   | 202.3  | 372.3  | 470.7  | 487.5  |
| 85°    | 57.6   | 165.8  | 327.4  | 418.7  | 429.9  |
| 87.5°  | 23.9   | 137.7  | 290.8  | 365.3  | 370.9  |
| 90°    | 2.8    | 116.6  | 258.5  | 311.9  | 309.1  |
| 92.5°  | 2.8    | 105.4  | 230.4  | 261.3  | 254.3  |
| 95°    | 2.8    | 98.3   | 205.1  | 219.2  | 212.1  |
| 97.5°  | 2.8    | 94.1   | 182.6  | 188.3  | 181.2  |
| 100°   | 1.4    | 91.3   | 167.2  | 167.2  | 160.2  |
| 102.5° | 1.4    | 88.5   | 156.0  | 151.7  | 146.1  |
| 105°   | 1.4    | 85.7   | 147.5  | 143.3  | 136.3  |
| 107.5° | 1.4    | 84.3   | 141.9  | 137.7  | 130.7  |
| 110°   | 1.4    | 81.5   | 137.7  | 133.5  | 127.9  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°   | 67.5° | 90°   |
|--------|-----|-------|-------|-------|-------|
| 112.5° | 1.4 | 80.1  | 134.9 | 132.1 | 125.0 |
| 115°   | 1.4 | 77.3  | 130.7 | 129.3 | 125.0 |
| 117.5° | 1.4 | 74.5  | 127.9 | 127.9 | 123.6 |
| 120°   | 1.4 | 71.7  | 123.6 | 126.4 | 122.2 |
| 122.5° | 1.4 | 68.8  | 119.4 | 123.6 | 119.4 |
| 125°   | 1.4 | 66.0  | 115.2 | 120.8 | 118.0 |
| 127.5° | 2.8 | 61.8  | 109.6 | 118.0 | 115.2 |
| 130°   | 1.4 | 57.6  | 104.0 | 115.2 | 113.8 |
| 132.5° | 2.8 | 53.4  | 98.3  | 111.0 | 111.0 |
| 135°   | 2.8 | 49.2  | 91.3  | 106.8 | 106.8 |
| 137.5° | 2.8 | 43.6  | 84.3  | 101.2 | 102.6 |
| 140°   | 2.8 | 39.3  | 77.3  | 95.5  | 98.3  |
| 142.5° | 2.8 | 35.1  | 70.2  | 89.9  | 94.1  |
| 145°   | 2.8 | 30.9  | 63.2  | 82.9  | 88.5  |
| 147.5° | 2.8 | 28.1  | 56.2  | 74.5  | 82.9  |
| 150°   | 2.8 | 23.9  | 50.6  | 67.4  | 75.9  |
| 152.5° | 2.8 | 21.1  | 45.0  | 60.4  | 70.2  |
| 155°   | 2.8 | 19.7  | 39.3  | 52.0  | 63.2  |
| 157.5° | 2.8 | 16.9  | 33.7  | 45.0  | 56.2  |
| 160°   | 2.8 | 14.0  | 28.1  | 39.3  | 47.8  |
| 162.5° | 2.8 | 12.6  | 23.9  | 32.3  | 42.1  |
| 165°   | 2.8 | 11.2  | 19.7  | 25.3  | 33.7  |
| 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)