

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: P229752

Luminaire Tested: **24RLN-LD5-60-UNV-L930-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P229752
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P36038)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24RLN-LD5-60-UNV-L930-CD1-U
Description: METALUX 2X4 RLN LED TROFFER
Light Source: (252)3000K CCT, 90 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4979.0 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.31
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')
CIE Type: Direct

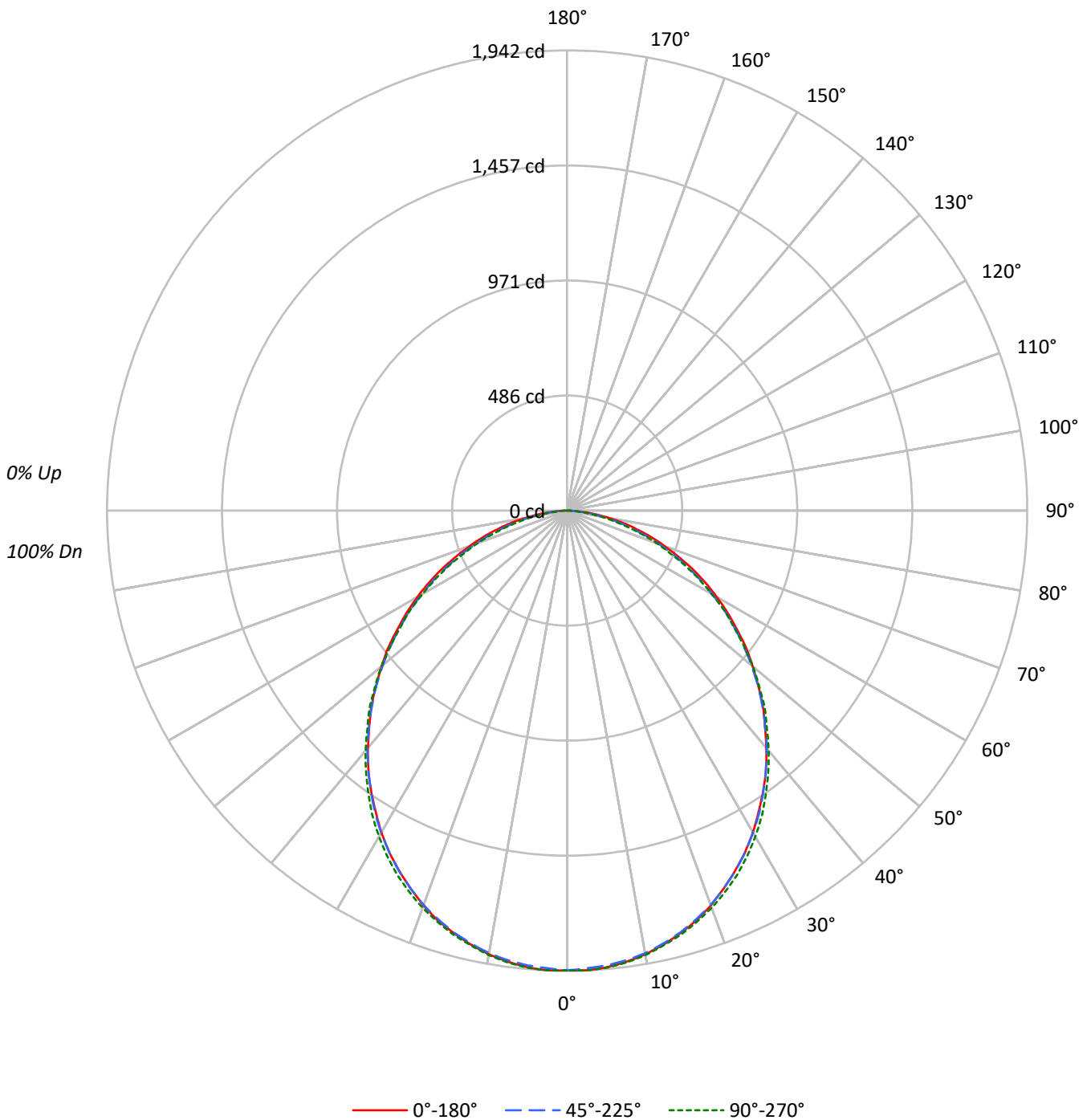
Input Watts (W): 47.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| 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 | 105 | 101 | 97 | 107 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 80 | 97 | 90 | 84 | 79 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 73 | 71 |
| 3 | 91 | 81 | 73 | 67 | 89 | 79 | 72 | 66 | 76 | 70 | 65 | 74 | 68 | 64 | 71 | 67 | 63 | 60 |
| 4 | 84 | 72 | 63 | 57 | 81 | 71 | 63 | 56 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 58 | 54 | 52 |
| 5 | 77 | 64 | 56 | 49 | 75 | 63 | 55 | 49 | 61 | 54 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 43 | 55 | 48 | 42 | 54 | 47 | 42 | 52 | 46 | 42 | 40 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 35 |
| 8 | 62 | 48 | 40 | 34 | 60 | 48 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 32 |
| 9 | 58 | 44 | 36 | 31 | 56 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2973 | 2973 | 2973 |
| 5° | 2974 | 2962 | 2977 |
| 10° | 2957 | 2950 | 2962 |
| 15° | 2928 | 2923 | 2938 |
| 20° | 2890 | 2887 | 2908 |
| 25° | 2835 | 2838 | 2867 |
| 30° | 2773 | 2776 | 2809 |
| 35° | 2697 | 2700 | 2733 |
| 40° | 2615 | 2621 | 2646 |
| 45° | 2531 | 2524 | 2555 |
| 50° | 2433 | 2419 | 2437 |
| 55° | 2334 | 2305 | 2296 |
| 60° | 2236 | 2169 | 2159 |
| 65° | 2112 | 2021 | 1993 |
| 70° | 1957 | 1838 | 1803 |
| 75° | 1798 | 1622 | 1539 |
| 80° | 1575 | 1354 | 1230 |
| 85° | 1293 | 937 | 743 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 183.4 | 3.7 |
| 10°-20° | 520.9 | 10.5 |
| 20°-30° | 775.0 | 15.6 |
| 30°-40° | 905.5 | 18.2 |
| 40°-50° | 900.2 | 18.1 |
| 50°-60° | 773.4 | 15.5 |
| 60°-70° | 555.4 | 11.2 |
| 70°-80° | 295.8 | 5.9 |
| 80°-90° | 69.3 | 1.4 |
| 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° | 1479.3 | 29.7 |
| 0°-40° | 2384.8 | 47.9 |
| 0°-60° | 4058.4 | 81.5 |
| 0°-90° | 4979.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4979.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1941 | 1941 | 1941 | 1941 | 1941 | |
| 5° | 1934 | 1931 | 1927 | 1933 | 1936 | 184 |
| 15° | 1847 | 1847 | 1844 | 1850 | 1853 | 521 |
| 25° | 1678 | 1678 | 1679 | 1692 | 1696 | 773 |
| 35° | 1443 | 1439 | 1444 | 1460 | 1461 | 902 |
| 45° | 1168 | 1159 | 1165 | 1172 | 1179 | 900 |
| 55° | 874 | 863 | 863 | 863 | 860 | 784 |
| 65° | 583 | 565 | 558 | 551 | 550 | 576 |
| 75° | 304 | 287 | 274 | 266 | 260 | 324 |
| 85° | 74 | 63 | 53 | 44 | 42 | 86 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P229752

CATALOG NUMBER: 24RLN-LD5-60-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1940.7 | 1940.7 | 1940.7 | 1940.7 | 1940.7 |
| 2.5° | 1942.2 | 1939.1 | 1932.8 | 1940.7 | 1942.2 |
| 5° | 1934.4 | 1931.3 | 1926.6 | 1932.8 | 1936.0 |
| 7.5° | 1920.3 | 1917.2 | 1914.0 | 1920.3 | 1923.4 |
| 10° | 1901.5 | 1899.9 | 1896.8 | 1904.6 | 1904.6 |
| 12.5° | 1876.4 | 1874.9 | 1871.7 | 1879.6 | 1879.6 |
| 15° | 1846.7 | 1846.7 | 1843.5 | 1849.8 | 1852.9 |
| 17.5° | 1813.8 | 1812.2 | 1809.1 | 1816.9 | 1820.0 |
| 20° | 1773.1 | 1773.1 | 1771.5 | 1780.9 | 1784.0 |
| 22.5° | 1726.1 | 1726.1 | 1726.1 | 1738.6 | 1741.7 |
| 25° | 1677.5 | 1677.5 | 1679.1 | 1691.6 | 1696.3 |
| 27.5° | 1625.8 | 1624.3 | 1625.8 | 1639.9 | 1644.6 |
| 30° | 1567.9 | 1564.7 | 1569.4 | 1583.5 | 1588.2 |
| 32.5° | 1505.2 | 1502.1 | 1509.9 | 1522.4 | 1528.7 |
| 35° | 1442.6 | 1439.4 | 1444.1 | 1459.8 | 1461.4 |
| 37.5° | 1378.3 | 1370.5 | 1378.3 | 1392.4 | 1394.0 |
| 40° | 1307.9 | 1301.6 | 1311.0 | 1317.3 | 1323.5 |
| 42.5° | 1235.8 | 1232.7 | 1237.4 | 1248.3 | 1248.3 |
| 45° | 1168.5 | 1159.1 | 1165.3 | 1171.6 | 1179.4 |
| 47.5° | 1093.3 | 1088.6 | 1091.7 | 1096.4 | 1099.5 |
| 50° | 1021.2 | 1013.4 | 1015.0 | 1019.7 | 1022.8 |
| 52.5° | 953.9 | 938.2 | 938.2 | 941.3 | 941.3 |
| 55° | 874.0 | 863.0 | 863.0 | 863.0 | 859.9 |
| 57.5° | 803.5 | 789.4 | 787.9 | 787.9 | 787.9 |
| 60° | 729.9 | 712.7 | 708.0 | 708.0 | 704.8 |
| 62.5° | 656.3 | 640.6 | 634.4 | 628.1 | 628.1 |
| 65° | 582.7 | 565.4 | 557.6 | 551.3 | 549.8 |
| 67.5° | 507.5 | 495.0 | 485.6 | 477.7 | 469.9 |
| 70° | 437.0 | 422.9 | 410.4 | 402.5 | 402.5 |
| 72.5° | 371.2 | 355.6 | 343.0 | 333.6 | 328.9 |
| 75° | 303.9 | 286.6 | 274.1 | 266.3 | 260.0 |
| 77.5° | 244.3 | 225.5 | 213.0 | 202.1 | 195.8 |
| 80° | 178.6 | 164.5 | 153.5 | 142.5 | 139.4 |
| 82.5° | 123.7 | 112.8 | 100.2 | 92.4 | 89.3 |
| 85° | 73.6 | 62.7 | 53.3 | 43.9 | 42.3 |
| 87.5° | 29.8 | 21.9 | 17.2 | 17.2 | 17.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)