

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: P296209

Luminaire Tested: **24RLN-LD5-67-RDP-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P296209
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P36059-R2)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24RLN-LD5-67-RDP-UNV-L82765-W2A1-U-4000K
Description: RLN LED 2x4 TUNABLE WHITE TROFFER
WITH RDP LENS
Light Source: (504) 80 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5543.0 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

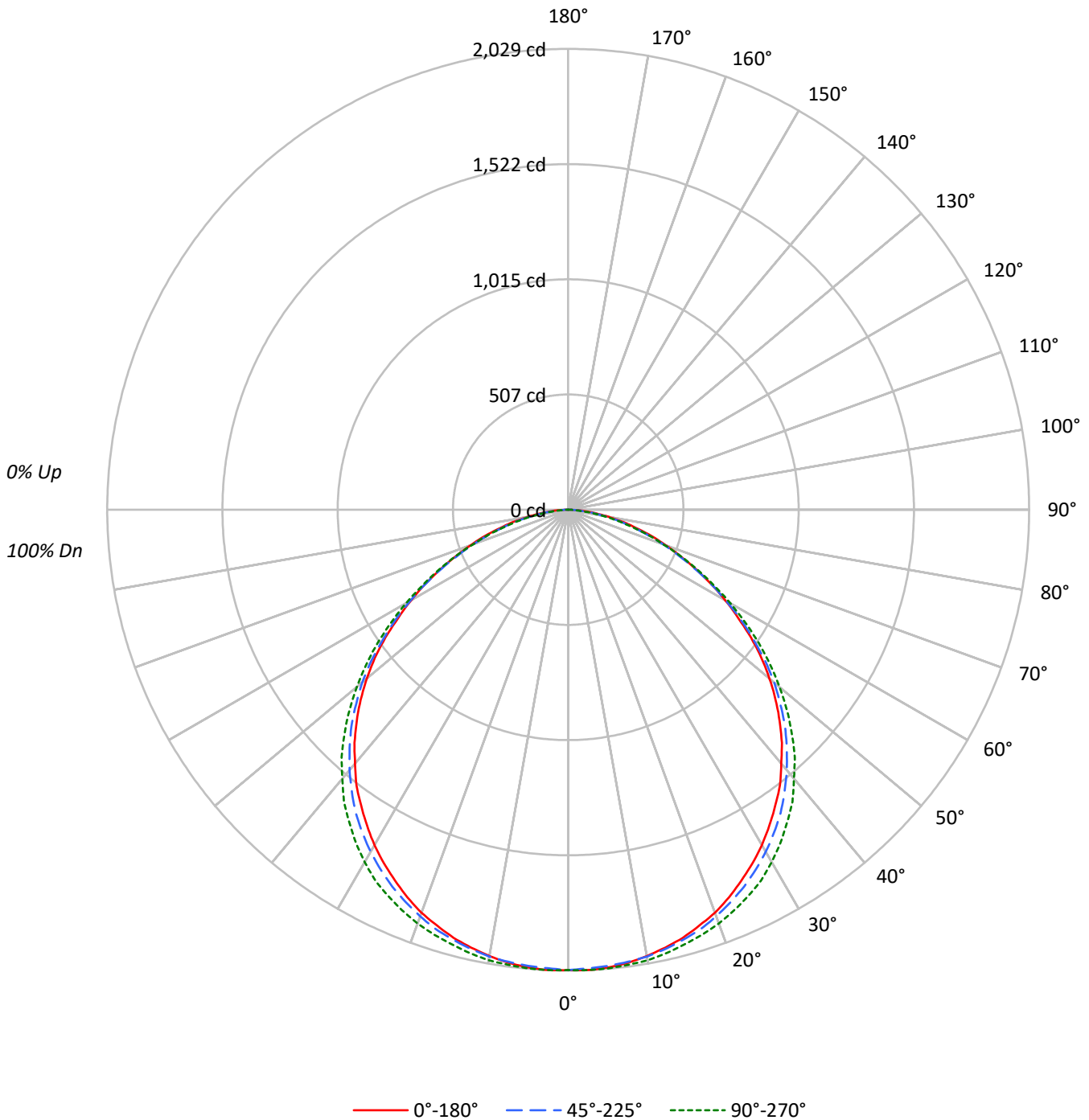
Input Watts (W): 49.197
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | 90 | 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 | 66 | 63 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 83 | 72 | 63 | 57 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 66 | 60 | 55 | 63 | 58 | 54 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 77 | 64 | 55 | 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 | 53 | 47 | 42 | 52 | 46 | 41 | 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 66 | 52 | 44 | 38 | 64 | 52 | 43 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 61 | 48 | 39 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 54 | 41 | 33 | 27 | 52 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2727 | 2727 | 2727 |
| 5° | 2732 | 2724 | 2738 |
| 10° | 2726 | 2729 | 2752 |
| 15° | 2718 | 2730 | 2759 |
| 20° | 2704 | 2728 | 2776 |
| 25° | 2675 | 2719 | 2785 |
| 30° | 2650 | 2702 | 2783 |
| 35° | 2611 | 2677 | 2760 |
| 40° | 2563 | 2630 | 2715 |
| 45° | 2505 | 2569 | 2649 |
| 50° | 2421 | 2478 | 2544 |
| 55° | 2304 | 2333 | 2402 |
| 60° | 2150 | 2162 | 2218 |
| 65° | 1975 | 1961 | 2008 |
| 70° | 1795 | 1745 | 1754 |
| 75° | 1596 | 1509 | 1498 |
| 80° | 1385 | 1238 | 1206 |
| 85° | 1136 | 877 | 682 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 192.2 | 3.5 |
| 10°-20° | 554.2 | 10.0 |
| 20°-30° | 846.0 | 15.3 |
| 30°-40° | 1019.9 | 18.4 |
| 40°-50° | 1040.0 | 18.8 |
| 50°-60° | 890.1 | 16.1 |
| 60°-70° | 613.1 | 11.1 |
| 70°-80° | 314.3 | 5.7 |
| 80°-90° | 73.1 | 1.3 |
| 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° | 1592.4 | 28.7 |
| 0°-40° | 2612.3 | 47.1 |
| 0°-60° | 4542.4 | 81.9 |
| 0°-90° | 5543.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5543.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2027 | 2027 | 2027 | 2027 | 2027 | |
| 5° | 2023 | 2019 | 2017 | 2023 | 2027 | 192 |
| 15° | 1951 | 1949 | 1960 | 1974 | 1981 | 550 |
| 25° | 1802 | 1808 | 1832 | 1863 | 1876 | 831 |
| 35° | 1590 | 1596 | 1630 | 1665 | 1680 | 995 |
| 45° | 1316 | 1318 | 1350 | 1384 | 1392 | 1014 |
| 55° | 982 | 976 | 995 | 1016 | 1024 | 876 |
| 65° | 620 | 606 | 616 | 620 | 631 | 616 |
| 75° | 307 | 294 | 290 | 290 | 288 | 331 |
| 85° | 74 | 65 | 57 | 50 | 44 | 85 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2027.1 | 2027.1 | 2027.1 | 2027.1 | 2027.1 |
| 2.5° | 2029.2 | 2025.0 | 2020.8 | 2025.0 | 2029.2 |
| 5° | 2022.9 | 2018.7 | 2016.6 | 2022.9 | 2027.1 |
| 7.5° | 2012.4 | 2008.2 | 2008.2 | 2016.6 | 2020.8 |
| 10° | 1995.6 | 1993.5 | 1997.7 | 2006.1 | 2014.5 |
| 12.5° | 1974.5 | 1974.5 | 1980.8 | 1991.3 | 1999.8 |
| 15° | 1951.4 | 1949.3 | 1959.8 | 1974.5 | 1980.8 |
| 17.5° | 1919.9 | 1922.0 | 1936.7 | 1953.5 | 1961.9 |
| 20° | 1888.3 | 1890.4 | 1905.1 | 1928.3 | 1938.8 |
| 22.5° | 1848.4 | 1852.6 | 1869.4 | 1898.8 | 1909.3 |
| 25° | 1802.1 | 1808.4 | 1831.5 | 1863.1 | 1875.7 |
| 27.5° | 1755.8 | 1762.1 | 1787.4 | 1823.1 | 1839.9 |
| 30° | 1705.4 | 1713.8 | 1739.0 | 1776.9 | 1791.6 |
| 32.5° | 1648.6 | 1654.9 | 1686.4 | 1724.3 | 1739.0 |
| 35° | 1589.7 | 1596.0 | 1629.7 | 1665.4 | 1680.1 |
| 37.5° | 1530.8 | 1530.8 | 1564.5 | 1606.5 | 1621.3 |
| 40° | 1459.3 | 1461.4 | 1497.2 | 1537.1 | 1545.6 |
| 42.5° | 1392.1 | 1392.1 | 1423.6 | 1461.4 | 1476.2 |
| 45° | 1316.4 | 1318.5 | 1350.0 | 1383.6 | 1392.1 |
| 47.5° | 1238.5 | 1238.5 | 1265.9 | 1297.4 | 1305.8 |
| 50° | 1156.5 | 1152.3 | 1183.9 | 1209.1 | 1215.4 |
| 52.5° | 1072.4 | 1066.1 | 1091.4 | 1112.4 | 1120.8 |
| 55° | 982.0 | 975.7 | 994.6 | 1015.7 | 1024.1 |
| 57.5° | 887.4 | 879.0 | 900.0 | 918.9 | 923.1 |
| 60° | 799.1 | 786.4 | 803.3 | 813.8 | 824.3 |
| 62.5° | 710.7 | 696.0 | 708.6 | 715.0 | 723.4 |
| 65° | 620.3 | 605.6 | 616.1 | 620.3 | 630.8 |
| 67.5° | 534.1 | 523.6 | 525.7 | 532.0 | 536.2 |
| 70° | 456.3 | 443.7 | 443.7 | 443.7 | 445.8 |
| 72.5° | 384.8 | 365.9 | 363.8 | 365.9 | 365.9 |
| 75° | 307.0 | 294.4 | 290.2 | 290.2 | 288.1 |
| 77.5° | 246.0 | 229.2 | 227.1 | 222.9 | 218.7 |
| 80° | 178.7 | 164.0 | 159.8 | 157.7 | 155.6 |
| 82.5° | 124.1 | 111.4 | 107.2 | 103.0 | 96.7 |
| 85° | 73.6 | 65.2 | 56.8 | 50.5 | 44.2 |
| 87.5° | 27.3 | 25.2 | 21.0 | 18.9 | 18.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)