

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: P295969

Luminaire Tested: **24RLN-LD5-45-UNV-L93050-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P295969
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-085-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24RLN-LD5-45-UNV-L93050-W2A1-U-3500K
Description: RLN LED 2x4 TUNABLE WHITE TROFFER
WITH STANDARD LENS
Light Source: (504) 90 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3865.0 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.19 / 1.29
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

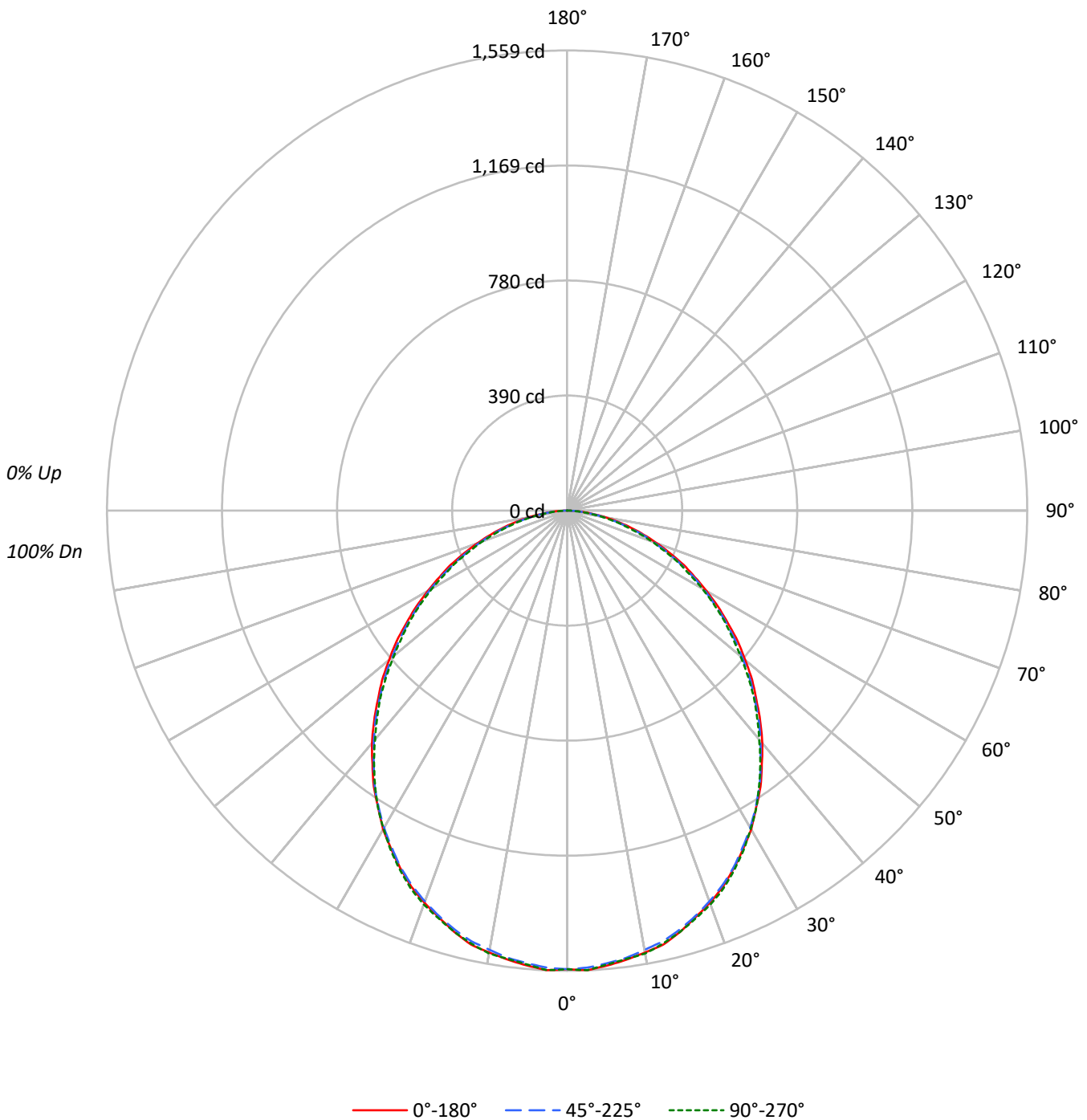
Input Watts (W): 32.085
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 80 | 97 | 90 | 84 | 79 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 74 | 72 |
| 3 | 91 | 81 | 73 | 67 | 89 | 80 | 72 | 66 | 77 | 70 | 65 | 74 | 69 | 64 | 71 | 67 | 63 | 61 |
| 4 | 84 | 72 | 64 | 57 | 82 | 71 | 63 | 57 | 68 | 62 | 56 | 66 | 60 | 55 | 64 | 59 | 55 | 52 |
| 5 | 77 | 65 | 56 | 50 | 75 | 64 | 55 | 49 | 62 | 54 | 49 | 60 | 53 | 48 | 58 | 52 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 49 | 43 | 56 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 42 | 40 |
| 7 | 66 | 53 | 45 | 39 | 65 | 52 | 44 | 39 | 51 | 44 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 |
| 8 | 62 | 49 | 40 | 35 | 60 | 48 | 40 | 35 | 47 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 |
| 9 | 58 | 45 | 37 | 31 | 57 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2090 | 2090 | 2090 |
| 5° | 2090 | 2080 | 2085 |
| 10° | 2077 | 2065 | 2082 |
| 15° | 2058 | 2048 | 2058 |
| 20° | 2025 | 2017 | 2033 |
| 25° | 1984 | 1981 | 1992 |
| 30° | 1937 | 1928 | 1933 |
| 35° | 1876 | 1868 | 1864 |
| 40° | 1807 | 1789 | 1778 |
| 45° | 1725 | 1708 | 1701 |
| 50° | 1647 | 1621 | 1603 |
| 55° | 1559 | 1536 | 1521 |
| 60° | 1466 | 1439 | 1423 |
| 65° | 1386 | 1334 | 1322 |
| 70° | 1270 | 1221 | 1197 |
| 75° | 1167 | 1095 | 1050 |
| 80° | 1024 | 956 | 899 |
| 85° | 827 | 770 | 655 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 146.6 | 3.8 |
| 10°-20° | 415.6 | 10.8 |
| 20°-30° | 614.7 | 15.9 |
| 30°-40° | 709.4 | 18.4 |
| 40°-50° | 692.9 | 17.9 |
| 50°-60° | 585.1 | 15.1 |
| 60°-70° | 416.8 | 10.8 |
| 70°-80° | 225.7 | 5.8 |
| 80°-90° | 58.2 | 1.5 |
| 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° | 1176.9 | 30.4 |
| 0°-40° | 1886.3 | 48.8 |
| 0°-60° | 3164.4 | 81.9 |
| 0°-90° | 3865.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3865.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1554 | 1554 | 1554 | 1554 | 1554 | |
| 5° | 1547 | 1547 | 1540 | 1544 | 1544 | 147 |
| 15° | 1478 | 1471 | 1470 | 1476 | 1478 | 416 |
| 25° | 1337 | 1329 | 1334 | 1339 | 1342 | 615 |
| 35° | 1142 | 1133 | 1137 | 1133 | 1135 | 713 |
| 45° | 906 | 899 | 898 | 894 | 894 | 701 |
| 55° | 665 | 656 | 655 | 648 | 648 | 596 |
| 65° | 435 | 426 | 419 | 414 | 415 | 429 |
| 75° | 224 | 217 | 211 | 206 | 202 | 238 |
| 85° | 54 | 52 | 50 | 44 | 42 | 63 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1553.6 | 1553.6 | 1553.6 | 1553.6 | 1553.6 |
| 2.5° | 1558.6 | 1552.4 | 1549.9 | 1551.1 | 1558.6 |
| 5° | 1547.4 | 1547.4 | 1539.9 | 1543.6 | 1543.6 |
| 7.5° | 1534.9 | 1536.2 | 1528.7 | 1534.9 | 1532.4 |
| 10° | 1520.0 | 1516.2 | 1511.2 | 1521.2 | 1523.7 |
| 12.5° | 1506.2 | 1497.5 | 1495.0 | 1501.3 | 1502.5 |
| 15° | 1477.6 | 1471.3 | 1470.1 | 1476.3 | 1477.6 |
| 17.5° | 1445.1 | 1446.4 | 1441.4 | 1450.1 | 1448.9 |
| 20° | 1414.0 | 1411.5 | 1409.0 | 1419.0 | 1420.2 |
| 22.5° | 1379.1 | 1371.6 | 1374.1 | 1382.8 | 1385.3 |
| 25° | 1336.7 | 1329.2 | 1334.2 | 1339.2 | 1341.6 |
| 27.5° | 1291.8 | 1288.0 | 1286.8 | 1293.0 | 1295.5 |
| 30° | 1246.9 | 1240.7 | 1240.7 | 1248.1 | 1244.4 |
| 32.5° | 1192.0 | 1187.0 | 1189.5 | 1192.0 | 1193.3 |
| 35° | 1142.1 | 1133.4 | 1137.2 | 1133.4 | 1134.7 |
| 37.5° | 1083.5 | 1077.3 | 1076.1 | 1074.8 | 1074.8 |
| 40° | 1028.7 | 1023.7 | 1018.7 | 1018.7 | 1012.5 |
| 42.5° | 968.8 | 962.6 | 960.1 | 956.4 | 952.6 |
| 45° | 906.5 | 899.0 | 897.8 | 894.0 | 894.0 |
| 47.5° | 850.4 | 839.2 | 837.9 | 830.4 | 830.4 |
| 50° | 786.8 | 779.3 | 774.3 | 769.3 | 765.6 |
| 52.5° | 729.4 | 721.9 | 714.5 | 709.5 | 705.7 |
| 55° | 664.6 | 655.9 | 654.6 | 648.4 | 648.4 |
| 57.5° | 606.0 | 598.5 | 593.5 | 586.0 | 587.3 |
| 60° | 544.9 | 537.4 | 534.9 | 528.7 | 528.7 |
| 62.5° | 487.5 | 481.3 | 477.6 | 471.3 | 466.3 |
| 65° | 435.2 | 426.4 | 419.0 | 414.0 | 415.2 |
| 67.5° | 377.8 | 367.8 | 364.1 | 359.1 | 355.4 |
| 70° | 322.9 | 316.7 | 310.5 | 304.2 | 304.2 |
| 72.5° | 271.8 | 265.6 | 261.8 | 254.4 | 251.9 |
| 75° | 224.4 | 217.0 | 210.7 | 205.7 | 202.0 |
| 77.5° | 177.1 | 169.6 | 165.8 | 159.6 | 159.6 |
| 80° | 132.2 | 127.2 | 123.4 | 120.9 | 116.0 |
| 82.5° | 91.0 | 88.5 | 84.8 | 81.0 | 77.3 |
| 85° | 53.6 | 52.4 | 49.9 | 43.6 | 42.4 |
| 87.5° | 21.2 | 21.2 | 18.7 | 17.5 | 16.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)