

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: P296170

Luminaire Tested: **24RLN-LD5-45-RDP-UNV-L82765-W2A1-U-2700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P296170
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-LD5-45-RDP-UNV-L82765-W2A1-U-2700K
Description: RLN LED 2x4 TUNABLE WHITE TROFFER
WITH RDP LENS
Light Source: (504) 80 CRI LEDS TUNED TO 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3460.0 lumens
Efficiency: N/A
Efficacy: 109.7 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

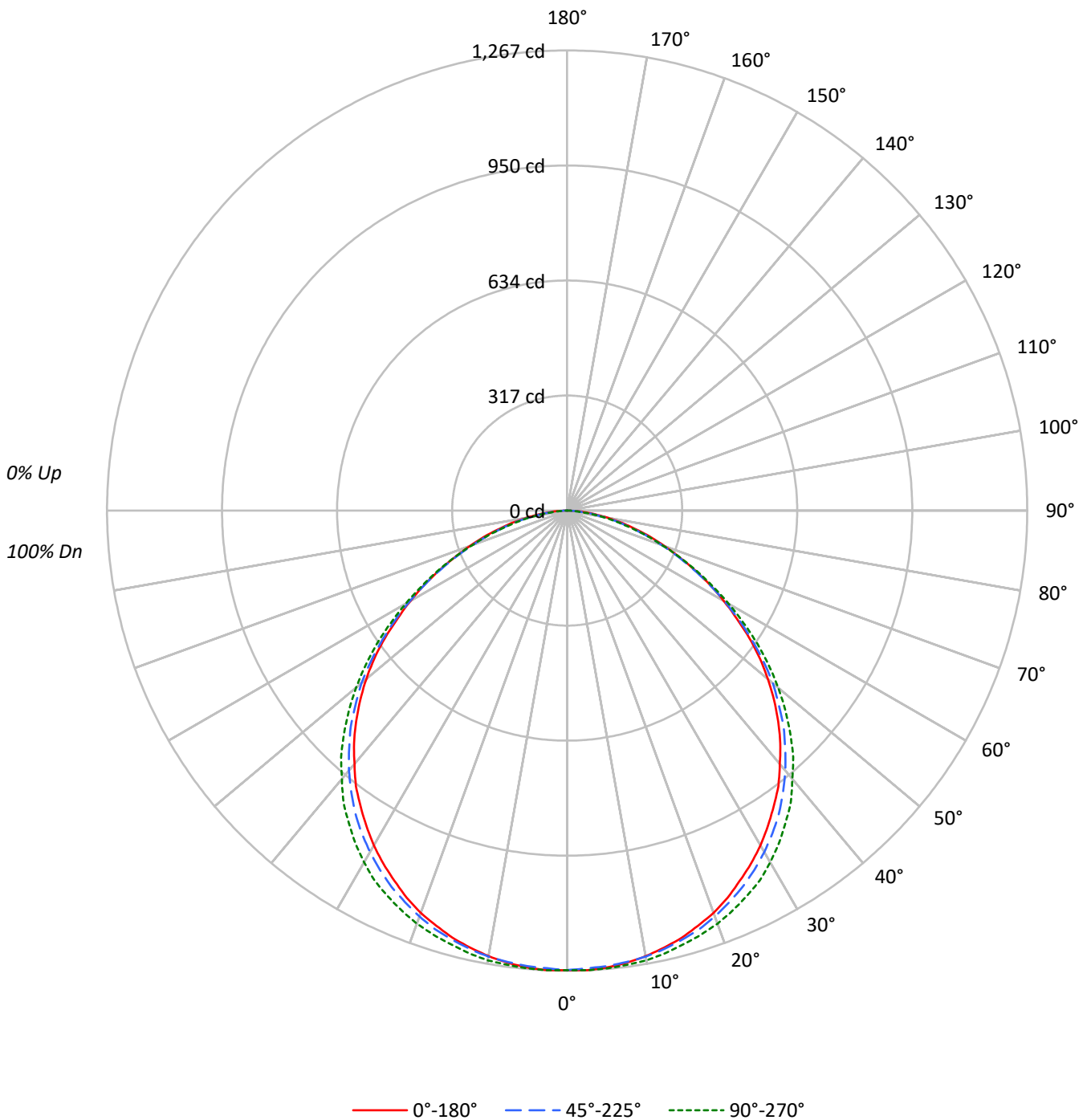
Input Watts (W): 31.527
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 1702 | 1702 | 1702 |
| 5° | 1705 | 1700 | 1709 |
| 10° | 1702 | 1704 | 1718 |
| 15° | 1697 | 1704 | 1722 |
| 20° | 1688 | 1703 | 1733 |
| 25° | 1670 | 1697 | 1738 |
| 30° | 1654 | 1686 | 1737 |
| 35° | 1630 | 1671 | 1723 |
| 40° | 1600 | 1642 | 1695 |
| 45° | 1564 | 1603 | 1653 |
| 50° | 1511 | 1547 | 1588 |
| 55° | 1438 | 1457 | 1499 |
| 60° | 1342 | 1349 | 1385 |
| 65° | 1233 | 1224 | 1254 |
| 70° | 1120 | 1090 | 1095 |
| 75° | 996 | 941 | 935 |
| 80° | 865 | 773 | 752 |
| 85° | 709 | 546 | 426 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 120.0 | 3.5 |
| 10°-20° | 345.9 | 10.0 |
| 20°-30° | 528.1 | 15.3 |
| 30°-40° | 636.6 | 18.4 |
| 40°-50° | 649.2 | 18.8 |
| 50°-60° | 555.6 | 16.1 |
| 60°-70° | 382.7 | 11.1 |
| 70°-80° | 196.2 | 5.7 |
| 80°-90° | 45.7 | 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° | 994.0 | 28.7 |
| 0°-40° | 1630.6 | 47.1 |
| 0°-60° | 2835.4 | 81.9 |
| 0°-90° | 3460.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3460.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1265 | 1265 | 1265 | 1265 | 1265 | |
| 5° | 1263 | 1260 | 1259 | 1263 | 1265 | 120 |
| 15° | 1218 | 1217 | 1223 | 1232 | 1236 | 344 |
| 25° | 1125 | 1129 | 1143 | 1163 | 1171 | 519 |
| 35° | 992 | 996 | 1017 | 1040 | 1049 | 621 |
| 45° | 822 | 823 | 843 | 864 | 869 | 633 |
| 55° | 613 | 609 | 621 | 634 | 639 | 547 |
| 65° | 387 | 378 | 385 | 387 | 394 | 385 |
| 75° | 192 | 184 | 181 | 181 | 180 | 207 |
| 85° | 46 | 41 | 35 | 32 | 28 | 53 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1265.3 | 1265.3 | 1265.3 | 1265.3 | 1265.3 |
| 2.5° | 1266.6 | 1264.0 | 1261.4 | 1264.0 | 1266.6 |
| 5° | 1262.7 | 1260.1 | 1258.8 | 1262.7 | 1265.3 |
| 7.5° | 1256.1 | 1253.5 | 1253.5 | 1258.8 | 1261.4 |
| 10° | 1245.6 | 1244.3 | 1247.0 | 1252.2 | 1257.5 |
| 12.5° | 1232.5 | 1232.5 | 1236.5 | 1243.0 | 1248.3 |
| 15° | 1218.1 | 1216.8 | 1223.3 | 1232.5 | 1236.5 |
| 17.5° | 1198.4 | 1199.7 | 1208.9 | 1219.4 | 1224.6 |
| 20° | 1178.7 | 1180.0 | 1189.2 | 1203.6 | 1210.2 |
| 22.5° | 1153.8 | 1156.4 | 1166.9 | 1185.3 | 1191.8 |
| 25° | 1124.9 | 1128.8 | 1143.3 | 1163.0 | 1170.8 |
| 27.5° | 1096.0 | 1099.9 | 1115.7 | 1138.0 | 1148.5 |
| 30° | 1064.5 | 1069.8 | 1085.5 | 1109.1 | 1118.3 |
| 32.5° | 1029.1 | 1033.0 | 1052.7 | 1076.3 | 1085.5 |
| 35° | 992.3 | 996.3 | 1017.3 | 1039.6 | 1048.8 |
| 37.5° | 955.6 | 955.6 | 976.6 | 1002.8 | 1012.0 |
| 40° | 910.9 | 912.2 | 934.6 | 959.5 | 964.8 |
| 42.5° | 868.9 | 868.9 | 888.6 | 912.2 | 921.4 |
| 45° | 821.7 | 823.0 | 842.7 | 863.7 | 868.9 |
| 47.5° | 773.1 | 773.1 | 790.2 | 809.9 | 815.1 |
| 50° | 721.9 | 719.3 | 739.0 | 754.7 | 758.7 |
| 52.5° | 669.4 | 665.5 | 681.2 | 694.4 | 699.6 |
| 55° | 613.0 | 609.0 | 620.9 | 634.0 | 639.2 |
| 57.5° | 553.9 | 548.7 | 561.8 | 573.6 | 576.2 |
| 60° | 498.8 | 490.9 | 501.4 | 508.0 | 514.5 |
| 62.5° | 443.7 | 434.5 | 442.3 | 446.3 | 451.5 |
| 65° | 387.2 | 378.0 | 384.6 | 387.2 | 393.8 |
| 67.5° | 333.4 | 326.8 | 328.1 | 332.1 | 334.7 |
| 70° | 284.8 | 277.0 | 277.0 | 277.0 | 278.3 |
| 72.5° | 240.2 | 228.4 | 227.1 | 228.4 | 228.4 |
| 75° | 191.6 | 183.8 | 181.1 | 181.1 | 179.8 |
| 77.5° | 153.6 | 143.1 | 141.8 | 139.1 | 136.5 |
| 80° | 111.6 | 102.4 | 99.8 | 98.4 | 97.1 |
| 82.5° | 77.4 | 69.6 | 66.9 | 64.3 | 60.4 |
| 85° | 45.9 | 40.7 | 35.4 | 31.5 | 27.6 |
| 87.5° | 17.1 | 15.8 | 13.1 | 11.8 | 11.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)