

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: P296174

Luminaire Tested: **24RLN-LD5-45-RDP-UNV-L82765-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P296174
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-4500K
Description: RLN LED 2x4 TUNABLE WHITE TROFFER
WITH RDP LENS
Light Source: (504) 80 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3830.0 lumens
Efficiency: N/A
Efficacy: 119.4 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

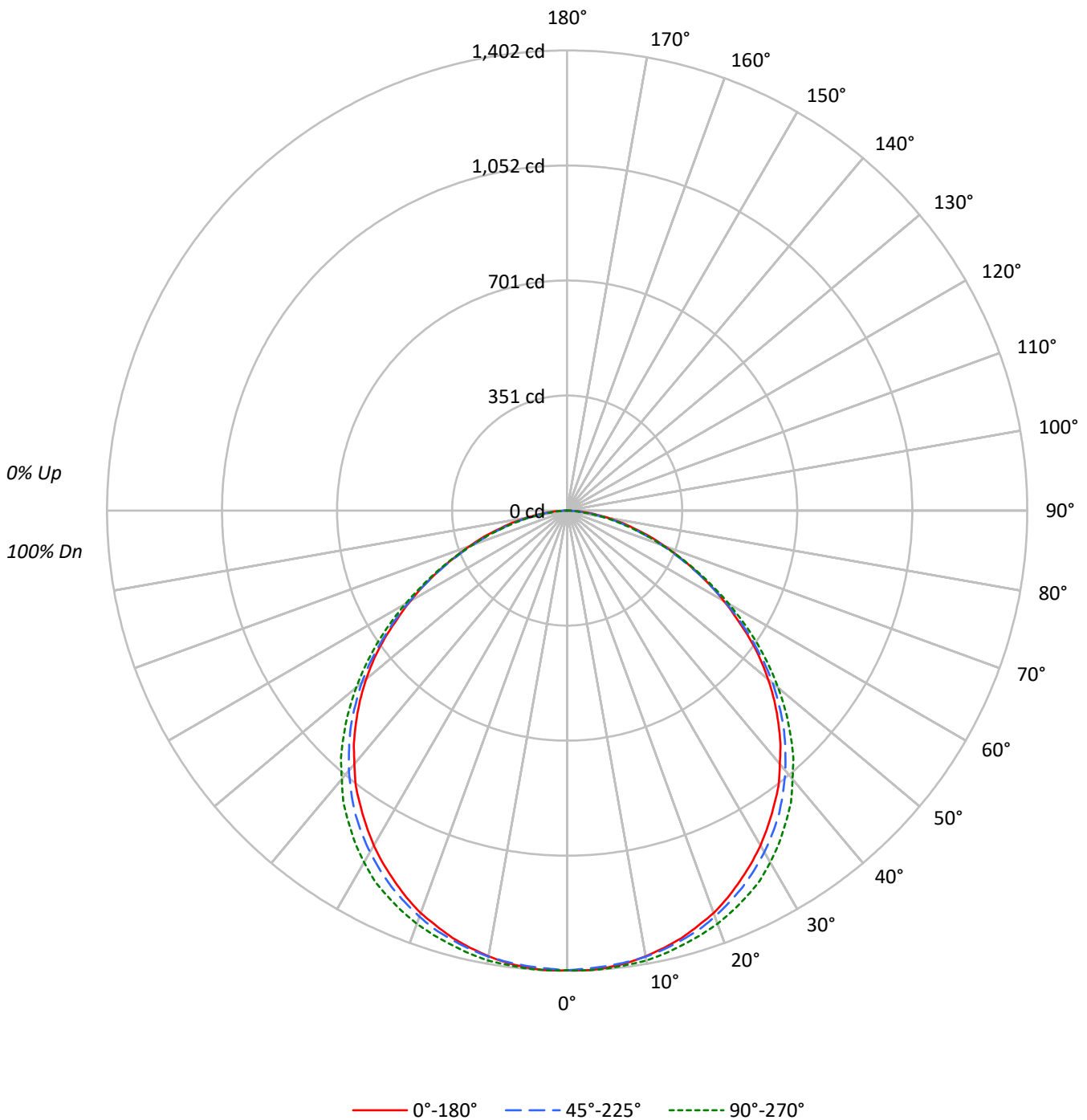
Input Watts (W): 32.085
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1884 | 1884 | 1884 |
| 5° | 1888 | 1882 | 1892 |
| 10° | 1884 | 1886 | 1902 |
| 15° | 1878 | 1886 | 1907 |
| 20° | 1868 | 1885 | 1918 |
| 25° | 1849 | 1879 | 1924 |
| 30° | 1831 | 1867 | 1923 |
| 35° | 1804 | 1849 | 1907 |
| 40° | 1771 | 1817 | 1876 |
| 45° | 1731 | 1775 | 1830 |
| 50° | 1673 | 1712 | 1758 |
| 55° | 1592 | 1612 | 1660 |
| 60° | 1486 | 1493 | 1533 |
| 65° | 1365 | 1355 | 1388 |
| 70° | 1240 | 1206 | 1212 |
| 75° | 1103 | 1042 | 1035 |
| 80° | 957 | 855 | 833 |
| 85° | 786 | 605 | 471 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 132.8 | 3.5 |
| 10°-20° | 382.9 | 10.0 |
| 20°-30° | 584.5 | 15.3 |
| 30°-40° | 704.7 | 18.4 |
| 40°-50° | 718.6 | 18.8 |
| 50°-60° | 615.0 | 16.1 |
| 60°-70° | 423.6 | 11.1 |
| 70°-80° | 217.2 | 5.7 |
| 80°-90° | 50.5 | 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° | 1100.3 | 28.7 |
| 0°-40° | 1805.0 | 47.1 |
| 0°-60° | 3138.6 | 81.9 |
| 0°-90° | 3830.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3830.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1401 | 1401 | 1401 | 1401 | 1401 | |
| 5° | 1398 | 1395 | 1393 | 1398 | 1401 | 133 |
| 15° | 1348 | 1347 | 1354 | 1364 | 1369 | 380 |
| 25° | 1245 | 1250 | 1266 | 1287 | 1296 | 574 |
| 35° | 1098 | 1103 | 1126 | 1151 | 1161 | 687 |
| 45° | 910 | 911 | 933 | 956 | 962 | 701 |
| 55° | 678 | 674 | 687 | 702 | 708 | 605 |
| 65° | 429 | 418 | 426 | 429 | 436 | 426 |
| 75° | 212 | 203 | 200 | 200 | 199 | 229 |
| 85° | 51 | 45 | 39 | 35 | 30 | 59 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1400.6 | 1400.6 | 1400.6 | 1400.6 | 1400.6 |
| 2.5° | 1402.1 | 1399.2 | 1396.3 | 1399.2 | 1402.1 |
| 5° | 1397.7 | 1394.8 | 1393.4 | 1397.7 | 1400.6 |
| 7.5° | 1390.5 | 1387.6 | 1387.6 | 1393.4 | 1396.3 |
| 10° | 1378.9 | 1377.4 | 1380.3 | 1386.1 | 1391.9 |
| 12.5° | 1364.3 | 1364.3 | 1368.7 | 1375.9 | 1381.8 |
| 15° | 1348.3 | 1346.9 | 1354.2 | 1364.3 | 1368.7 |
| 17.5° | 1326.5 | 1328.0 | 1338.2 | 1349.8 | 1355.6 |
| 20° | 1304.8 | 1306.2 | 1316.4 | 1332.4 | 1339.6 |
| 22.5° | 1277.1 | 1280.1 | 1291.7 | 1312.0 | 1319.3 |
| 25° | 1245.2 | 1249.5 | 1265.5 | 1287.3 | 1296.0 |
| 27.5° | 1213.2 | 1217.6 | 1235.0 | 1259.7 | 1271.3 |
| 30° | 1178.3 | 1184.2 | 1201.6 | 1227.7 | 1237.9 |
| 32.5° | 1139.1 | 1143.5 | 1165.3 | 1191.4 | 1201.6 |
| 35° | 1098.4 | 1102.8 | 1126.0 | 1150.7 | 1160.9 |
| 37.5° | 1057.7 | 1057.7 | 1081.0 | 1110.1 | 1120.2 |
| 40° | 1008.3 | 1009.8 | 1034.5 | 1062.1 | 1067.9 |
| 42.5° | 961.9 | 961.9 | 983.6 | 1009.8 | 1020.0 |
| 45° | 909.5 | 911.0 | 932.8 | 956.0 | 961.9 |
| 47.5° | 855.8 | 855.8 | 874.7 | 896.5 | 902.3 |
| 50° | 799.1 | 796.2 | 818.0 | 835.4 | 839.8 |
| 52.5° | 741.0 | 736.6 | 754.1 | 768.6 | 774.4 |
| 55° | 678.5 | 674.2 | 687.2 | 701.8 | 707.6 |
| 57.5° | 613.1 | 607.3 | 621.9 | 634.9 | 637.8 |
| 60° | 552.1 | 543.4 | 555.0 | 562.3 | 569.6 |
| 62.5° | 491.1 | 480.9 | 489.6 | 494.0 | 499.8 |
| 65° | 428.6 | 418.5 | 425.7 | 428.6 | 435.9 |
| 67.5° | 369.0 | 361.8 | 363.2 | 367.6 | 370.5 |
| 70° | 315.3 | 306.6 | 306.6 | 306.6 | 308.0 |
| 72.5° | 265.9 | 252.8 | 251.4 | 252.8 | 252.8 |
| 75° | 212.1 | 203.4 | 200.5 | 200.5 | 199.1 |
| 77.5° | 170.0 | 158.4 | 156.9 | 154.0 | 151.1 |
| 80° | 123.5 | 113.3 | 110.4 | 109.0 | 107.5 |
| 82.5° | 85.7 | 77.0 | 74.1 | 71.2 | 66.8 |
| 85° | 50.9 | 45.0 | 39.2 | 34.9 | 30.5 |
| 87.5° | 18.9 | 17.4 | 14.5 | 13.1 | 13.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)