

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: P296154

Luminaire Tested: **24RLN-LD5-36-RDP-UNV-L82765-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P296154
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-LD5-36-RDP-UNV-L82765-W2A1-U-3500K
Description: RLN LED 2x4 TUNABLE WHITE TROFFER
WITH RDP LENS
Light Source: (504) 80 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2975.0 lumens
Efficiency: N/A
Efficacy: 117.6 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

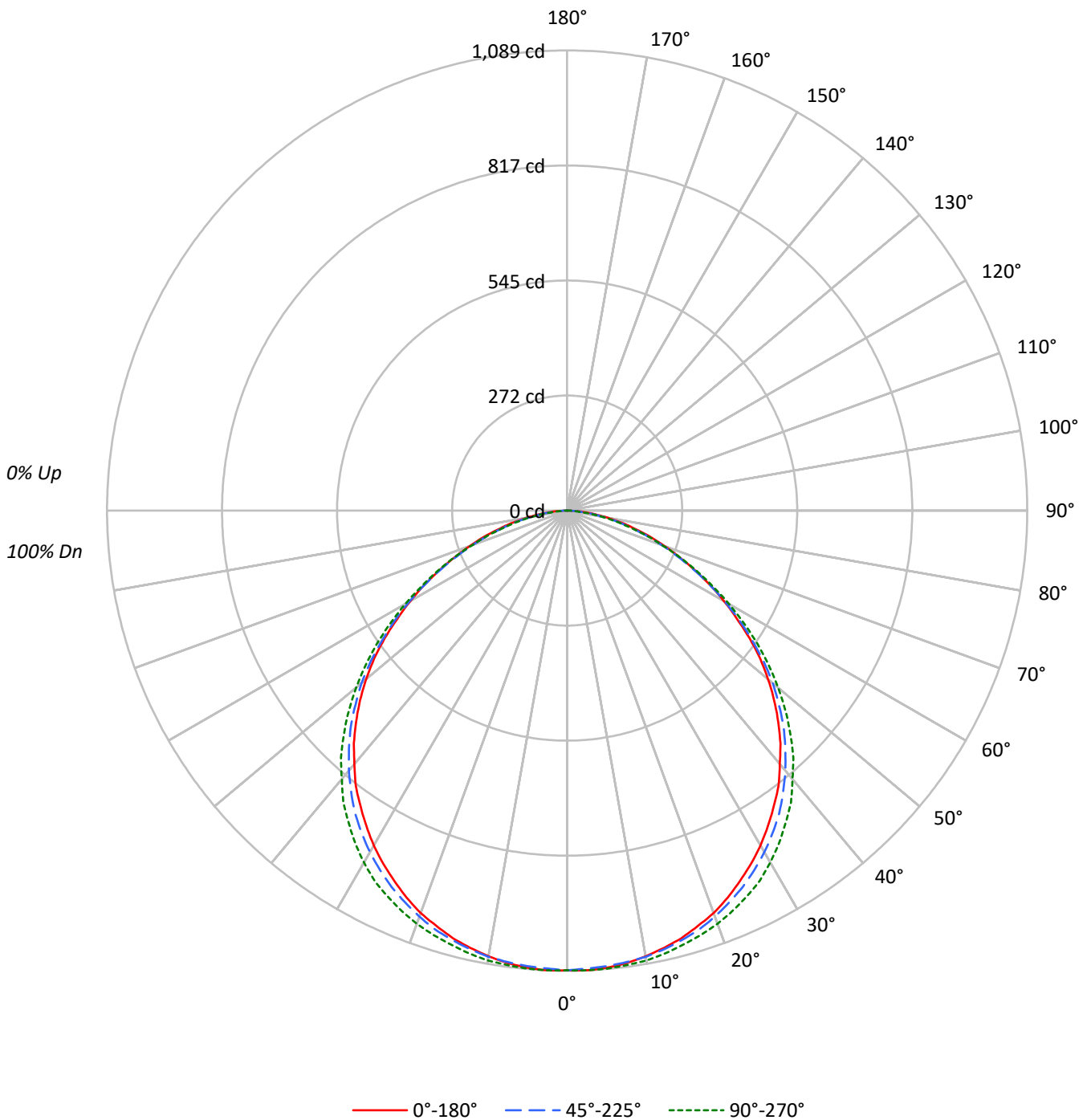
Input Watts (W): 25.296
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1464 | 1464 | 1464 |
| 5° | 1466 | 1462 | 1469 |
| 10° | 1463 | 1465 | 1477 |
| 15° | 1459 | 1465 | 1481 |
| 20° | 1451 | 1464 | 1490 |
| 25° | 1436 | 1459 | 1495 |
| 30° | 1422 | 1450 | 1494 |
| 35° | 1401 | 1437 | 1481 |
| 40° | 1376 | 1411 | 1457 |
| 45° | 1344 | 1379 | 1422 |
| 50° | 1299 | 1330 | 1365 |
| 55° | 1236 | 1252 | 1289 |
| 60° | 1154 | 1160 | 1190 |
| 65° | 1060 | 1053 | 1078 |
| 70° | 963 | 937 | 941 |
| 75° | 857 | 809 | 804 |
| 80° | 743 | 665 | 647 |
| 85° | 610 | 471 | 366 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.2 | 3.5 |
| 10°-20° | 297.5 | 10.0 |
| 20°-30° | 454.0 | 15.3 |
| 30°-40° | 547.4 | 18.4 |
| 40°-50° | 558.2 | 18.8 |
| 50°-60° | 477.7 | 16.1 |
| 60°-70° | 329.1 | 11.1 |
| 70°-80° | 168.7 | 5.7 |
| 80°-90° | 39.3 | 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° | 854.7 | 28.7 |
| 0°-40° | 1402.1 | 47.1 |
| 0°-60° | 2438.0 | 81.9 |
| 0°-90° | 2975.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2975.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1088 | 1088 | 1088 | 1088 | 1088 | |
| 5° | 1086 | 1084 | 1082 | 1086 | 1088 | 103 |
| 15° | 1047 | 1046 | 1052 | 1060 | 1063 | 295 |
| 25° | 967 | 971 | 983 | 1000 | 1007 | 446 |
| 35° | 853 | 857 | 875 | 894 | 902 | 534 |
| 45° | 706 | 708 | 725 | 743 | 747 | 544 |
| 55° | 527 | 524 | 534 | 545 | 550 | 470 |
| 65° | 333 | 325 | 331 | 333 | 339 | 331 |
| 75° | 165 | 158 | 156 | 156 | 155 | 178 |
| 85° | 40 | 35 | 30 | 27 | 24 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1088.0 | 1088.0 | 1088.0 | 1088.0 | 1088.0 |
| 2.5° | 1089.1 | 1086.8 | 1084.6 | 1086.8 | 1089.1 |
| 5° | 1085.7 | 1083.5 | 1082.3 | 1085.7 | 1088.0 |
| 7.5° | 1080.1 | 1077.8 | 1077.8 | 1082.3 | 1084.6 |
| 10° | 1071.0 | 1069.9 | 1072.2 | 1076.7 | 1081.2 |
| 12.5° | 1059.8 | 1059.8 | 1063.1 | 1068.8 | 1073.3 |
| 15° | 1047.3 | 1046.2 | 1051.9 | 1059.8 | 1063.1 |
| 17.5° | 1030.4 | 1031.5 | 1039.4 | 1048.5 | 1053.0 |
| 20° | 1013.5 | 1014.6 | 1022.5 | 1034.9 | 1040.6 |
| 22.5° | 992.0 | 994.3 | 1003.3 | 1019.1 | 1024.8 |
| 25° | 967.2 | 970.6 | 983.0 | 999.9 | 1006.7 |
| 27.5° | 942.4 | 945.8 | 959.3 | 978.5 | 987.5 |
| 30° | 915.3 | 919.8 | 933.4 | 953.7 | 961.6 |
| 32.5° | 884.8 | 888.2 | 905.1 | 925.5 | 933.4 |
| 35° | 853.2 | 856.6 | 874.7 | 893.8 | 901.8 |
| 37.5° | 821.6 | 821.6 | 839.7 | 862.2 | 870.1 |
| 40° | 783.2 | 784.4 | 803.6 | 825.0 | 829.5 |
| 42.5° | 747.1 | 747.1 | 764.1 | 784.4 | 792.3 |
| 45° | 706.5 | 707.6 | 724.6 | 742.6 | 747.1 |
| 47.5° | 664.7 | 664.7 | 679.4 | 696.3 | 700.9 |
| 50° | 620.7 | 618.5 | 635.4 | 648.9 | 652.3 |
| 52.5° | 575.6 | 572.2 | 585.7 | 597.0 | 601.5 |
| 55° | 527.1 | 523.7 | 533.8 | 545.1 | 549.6 |
| 57.5° | 476.3 | 471.8 | 483.0 | 493.2 | 495.5 |
| 60° | 428.9 | 422.1 | 431.1 | 436.8 | 442.4 |
| 62.5° | 381.5 | 373.6 | 380.3 | 383.7 | 388.2 |
| 65° | 332.9 | 325.0 | 330.7 | 332.9 | 338.6 |
| 67.5° | 286.7 | 281.0 | 282.1 | 285.5 | 287.8 |
| 70° | 244.9 | 238.1 | 238.1 | 238.1 | 239.3 |
| 72.5° | 206.5 | 196.4 | 195.2 | 196.4 | 196.4 |
| 75° | 164.8 | 158.0 | 155.7 | 155.7 | 154.6 |
| 77.5° | 132.0 | 123.0 | 121.9 | 119.6 | 117.4 |
| 80° | 95.9 | 88.0 | 85.8 | 84.6 | 83.5 |
| 82.5° | 66.6 | 59.8 | 57.6 | 55.3 | 51.9 |
| 85° | 39.5 | 35.0 | 30.5 | 27.1 | 23.7 |
| 87.5° | 14.7 | 13.5 | 11.3 | 10.2 | 10.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)