

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: P474214

Luminaire Tested: **24CZ2-45-RDP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474214
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45-RDP-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ RDP INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

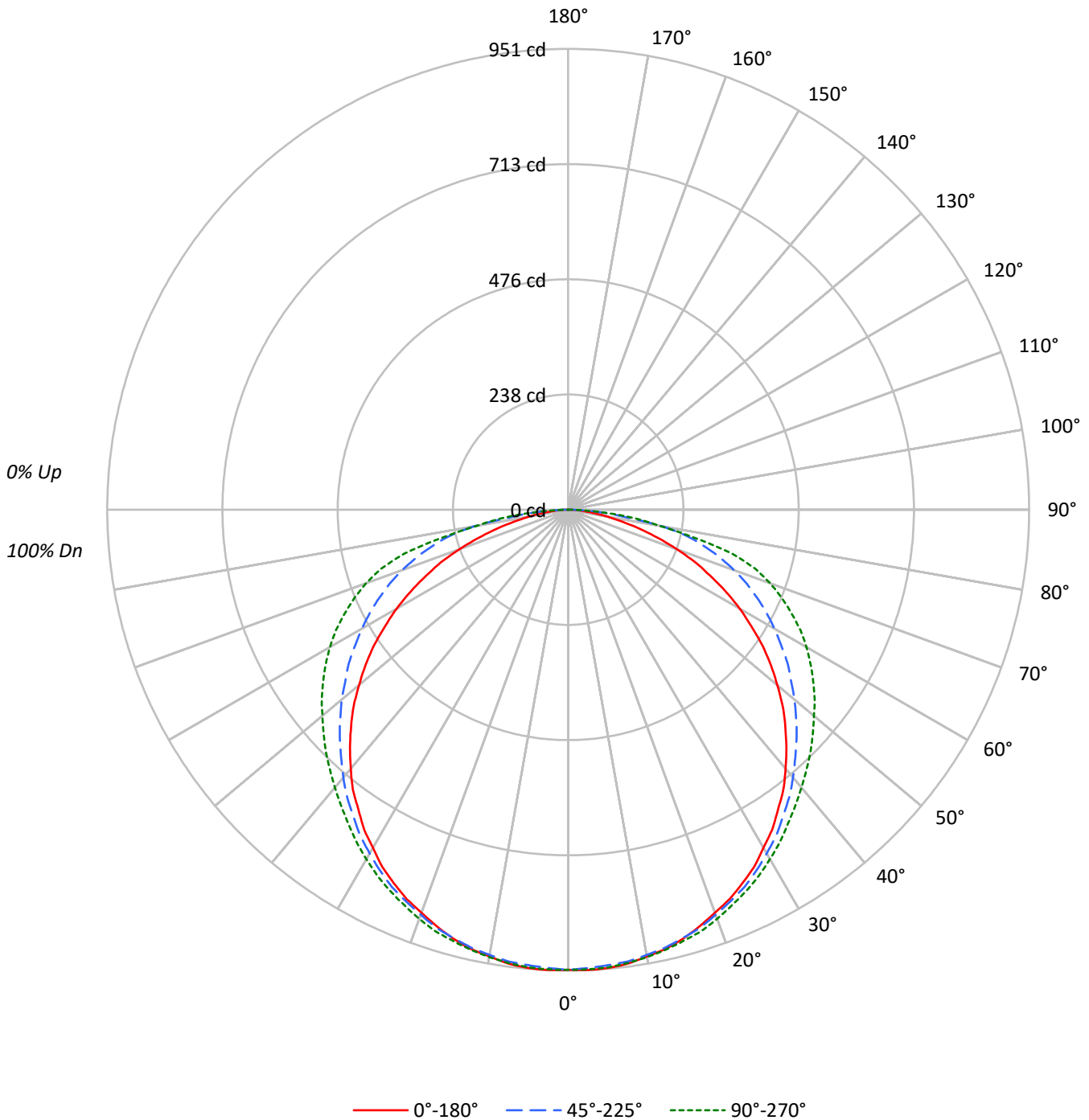
Lumens per Lamp: N/A
Luminaire Lumens: 3019.1 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34.9
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 | 108 | 103 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 88 | 86 | 84 | 82 |
| 2 | 97 | 89 | 81 | 75 | 95 | 87 | 80 | 74 | 83 | 77 | 72 | 80 | 75 | 71 | 77 | 73 | 69 | 67 |
| 3 | 88 | 77 | 68 | 62 | 86 | 76 | 67 | 61 | 72 | 66 | 60 | 70 | 64 | 59 | 67 | 62 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 78 | 67 | 58 | 51 | 64 | 57 | 51 | 62 | 55 | 50 | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 51 | 44 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 45 | 38 | 51 | 44 | 38 | 50 | 43 | 37 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 24 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 29 | 24 | 34 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1278 | 1278 | 1278 |
| 5° | 1282 | 1274 | 1280 |
| 10° | 1279 | 1275 | 1281 |
| 15° | 1277 | 1275 | 1283 |
| 20° | 1267 | 1274 | 1287 |
| 25° | 1263 | 1276 | 1289 |
| 30° | 1252 | 1273 | 1294 |
| 35° | 1240 | 1269 | 1299 |
| 40° | 1226 | 1268 | 1315 |
| 45° | 1205 | 1268 | 1345 |
| 50° | 1179 | 1276 | 1385 |
| 55° | 1148 | 1296 | 1447 |
| 60° | 1100 | 1322 | 1527 |
| 65° | 1030 | 1368 | 1621 |
| 70° | 937 | 1432 | 1744 |
| 75° | 794 | 1510 | 1822 |
| 80° | 627 | 1519 | 1473 |
| 85° | 463 | 1156 | 1295 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 90.1 | 3.0 |
| 10°-20° | 259.2 | 8.6 |
| 20°-30° | 396.4 | 13.1 |
| 30°-40° | 484.5 | 16.0 |
| 40°-50° | 516.4 | 17.1 |
| 50°-60° | 493.8 | 16.4 |
| 60°-70° | 418.3 | 13.9 |
| 70°-80° | 281.1 | 9.3 |
| 80°-90° | 79.3 | 2.6 |
| 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° | 745.6 | 24.7 |
| 0°-40° | 1230.1 | 40.7 |
| 0°-60° | 2240.3 | 74.2 |
| 0°-90° | 3019.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3019.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 950 | 950 | 950 | 950 | 950 | |
| 5° | 950 | 948 | 944 | 948 | 948 | 90 |
| 15° | 916 | 916 | 915 | 922 | 921 | 258 |
| 25° | 851 | 854 | 860 | 867 | 868 | 392 |
| 35° | 755 | 761 | 773 | 788 | 791 | 473 |
| 45° | 634 | 644 | 666 | 695 | 707 | 489 |
| 55° | 490 | 508 | 553 | 596 | 617 | 436 |
| 65° | 324 | 356 | 430 | 487 | 509 | 321 |
| 75° | 153 | 208 | 290 | 340 | 350 | 164 |
| 85° | 30 | 61 | 75 | 81 | 84 | 37 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474214

CATALOG NUMBER: 24CZ2-45-RDP-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 949.5 | 949.5 | 949.5 | 949.5 | 949.5 |
| 2.5° | 951.0 | 951.0 | 946.5 | 949.5 | 949.5 |
| 5° | 949.5 | 948.0 | 943.5 | 948.0 | 948.0 |
| 7.5° | 945.0 | 943.5 | 940.5 | 945.0 | 943.5 |
| 10° | 936.0 | 936.0 | 933.0 | 937.5 | 937.5 |
| 12.5° | 928.5 | 927.0 | 925.5 | 931.5 | 930.0 |
| 15° | 916.5 | 916.5 | 915.0 | 922.5 | 921.0 |
| 17.5° | 901.5 | 903.0 | 904.5 | 910.5 | 912.0 |
| 20° | 885.0 | 888.0 | 889.5 | 898.5 | 898.5 |
| 22.5° | 870.0 | 871.5 | 874.5 | 883.5 | 883.5 |
| 25° | 850.6 | 853.6 | 859.6 | 867.1 | 868.5 |
| 27.5° | 831.1 | 832.6 | 840.1 | 850.6 | 852.1 |
| 30° | 805.6 | 810.1 | 819.1 | 831.1 | 832.6 |
| 32.5° | 783.1 | 787.6 | 798.1 | 810.1 | 813.1 |
| 35° | 754.7 | 760.7 | 772.7 | 787.6 | 790.6 |
| 37.5° | 729.2 | 733.7 | 748.7 | 765.2 | 769.7 |
| 40° | 697.9 | 706.7 | 721.7 | 741.2 | 748.7 |
| 42.5° | 666.4 | 675.4 | 693.4 | 718.7 | 727.7 |
| 45° | 633.5 | 644.0 | 666.4 | 694.9 | 706.7 |
| 47.5° | 600.5 | 612.5 | 638.0 | 670.9 | 684.4 |
| 50° | 563.1 | 578.0 | 609.5 | 647.0 | 661.9 |
| 52.5° | 527.1 | 545.1 | 579.5 | 621.5 | 641.0 |
| 55° | 489.6 | 507.6 | 552.6 | 596.0 | 617.0 |
| 57.5° | 447.7 | 471.7 | 521.1 | 570.5 | 593.0 |
| 60° | 408.9 | 431.2 | 491.1 | 545.1 | 567.5 |
| 62.5° | 366.9 | 396.9 | 461.2 | 518.1 | 540.6 |
| 65° | 323.5 | 356.4 | 429.7 | 486.6 | 509.1 |
| 67.5° | 284.5 | 320.5 | 398.4 | 455.2 | 477.6 |
| 70° | 238.1 | 283.0 | 363.9 | 420.7 | 443.2 |
| 72.5° | 194.6 | 244.1 | 328.0 | 383.4 | 404.4 |
| 75° | 152.7 | 208.1 | 290.5 | 340.0 | 350.4 |
| 77.5° | 113.9 | 172.2 | 251.6 | 272.5 | 265.0 |
| 80° | 80.9 | 137.8 | 196.1 | 185.6 | 190.1 |
| 82.5° | 52.4 | 104.9 | 121.4 | 137.8 | 142.2 |
| 85° | 30.0 | 61.4 | 74.9 | 80.9 | 83.9 |
| 87.5° | 13.5 | 22.5 | 30.0 | 30.0 | 28.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)