

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: P474321

Luminaire Tested: **24CZ2-40HE-RDP-UNV-L850-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474321
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40HE-RDP-UNV-L850-CD1-U
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS W/ RDP INSERT
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2829.3 lumens
Efficiency: N/A
Efficacy: 92.2 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

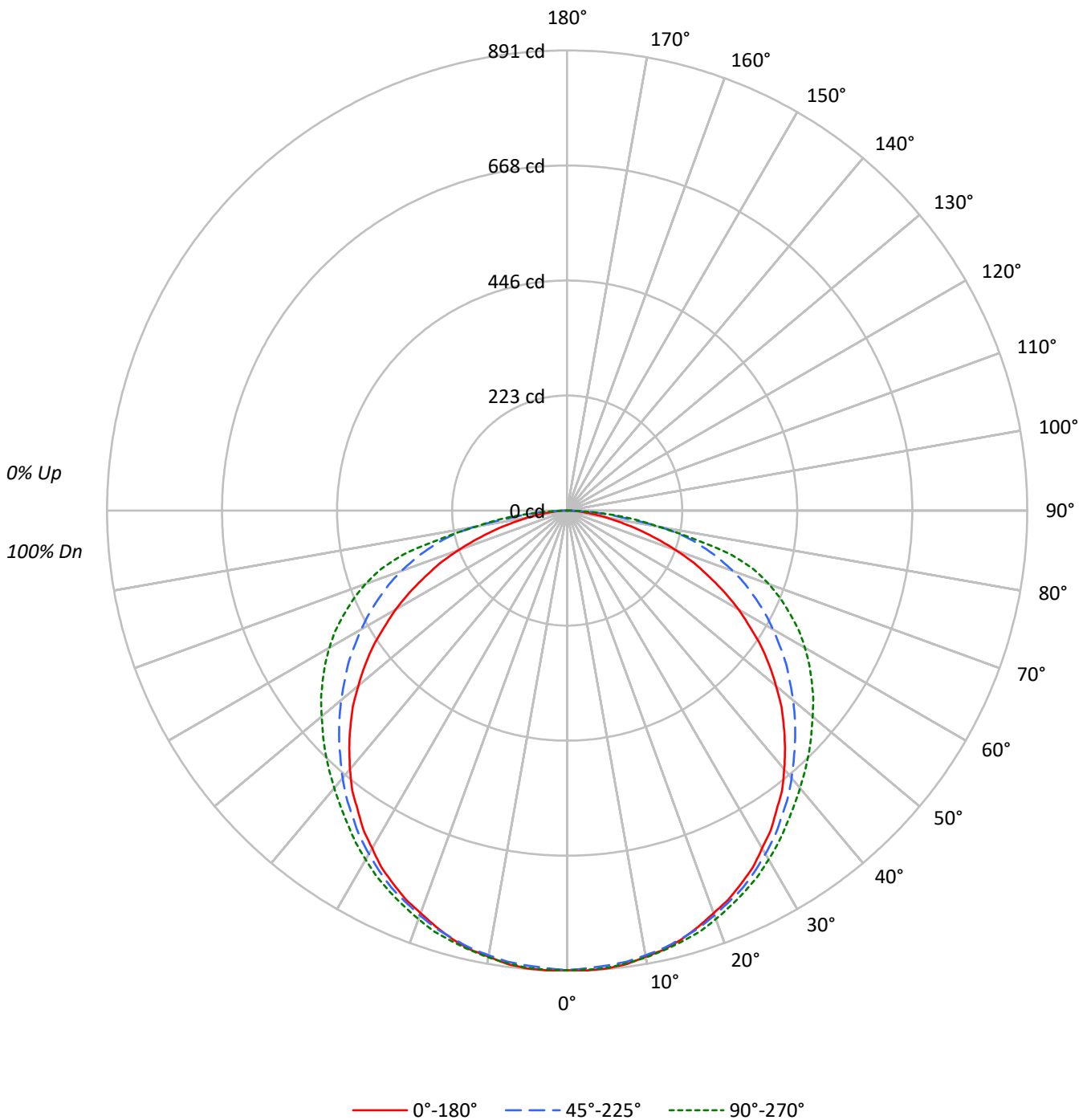
Input Watts (W): 30.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1197 | 1197 | 1197 |
| 5° | 1202 | 1194 | 1200 |
| 10° | 1198 | 1195 | 1200 |
| 15° | 1196 | 1194 | 1202 |
| 20° | 1188 | 1194 | 1206 |
| 25° | 1183 | 1196 | 1208 |
| 30° | 1173 | 1193 | 1212 |
| 35° | 1162 | 1189 | 1217 |
| 40° | 1149 | 1188 | 1232 |
| 45° | 1130 | 1188 | 1260 |
| 50° | 1105 | 1196 | 1298 |
| 55° | 1076 | 1215 | 1356 |
| 60° | 1031 | 1239 | 1431 |
| 65° | 965 | 1282 | 1519 |
| 70° | 878 | 1342 | 1634 |
| 75° | 744 | 1416 | 1707 |
| 80° | 587 | 1424 | 1381 |
| 85° | 434 | 1084 | 1213 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 84.4 | 3.0 |
| 10°-20° | 242.9 | 8.6 |
| 20°-30° | 371.4 | 13.1 |
| 30°-40° | 454.1 | 16.0 |
| 40°-50° | 484.0 | 17.1 |
| 50°-60° | 462.7 | 16.4 |
| 60°-70° | 392.0 | 13.9 |
| 70°-80° | 263.4 | 9.3 |
| 80°-90° | 74.3 | 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° | 698.8 | 24.7 |
| 0°-40° | 1152.8 | 40.7 |
| 0°-60° | 2099.5 | 74.2 |
| 0°-90° | 2829.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2829.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 890 | 890 | 890 | 890 | 890 | |
| 5° | 890 | 888 | 884 | 888 | 888 | 85 |
| 15° | 859 | 859 | 858 | 864 | 863 | 242 |
| 25° | 797 | 800 | 806 | 812 | 814 | 367 |
| 35° | 707 | 713 | 724 | 738 | 741 | 443 |
| 45° | 594 | 604 | 624 | 651 | 662 | 458 |
| 55° | 459 | 476 | 518 | 558 | 578 | 409 |
| 65° | 303 | 334 | 403 | 456 | 477 | 301 |
| 75° | 143 | 195 | 272 | 319 | 328 | 153 |
| 85° | 28 | 58 | 70 | 76 | 79 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474321

CATALOG NUMBER: 24CZ2-40HE-RDP-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 889.8 | 889.8 | 889.8 | 889.8 | 889.8 |
| 2.5° | 891.2 | 891.2 | 887.0 | 889.8 | 889.8 |
| 5° | 889.8 | 888.4 | 884.2 | 888.4 | 888.4 |
| 7.5° | 885.6 | 884.2 | 881.3 | 885.6 | 884.2 |
| 10° | 877.1 | 877.1 | 874.3 | 878.5 | 878.5 |
| 12.5° | 870.1 | 868.7 | 867.3 | 872.9 | 871.5 |
| 15° | 858.9 | 858.9 | 857.5 | 864.5 | 863.1 |
| 17.5° | 844.8 | 846.2 | 847.6 | 853.3 | 854.7 |
| 20° | 829.4 | 832.2 | 833.6 | 842.0 | 842.0 |
| 22.5° | 815.4 | 816.8 | 819.6 | 828.0 | 828.0 |
| 25° | 797.1 | 799.9 | 805.5 | 812.5 | 813.9 |
| 27.5° | 778.8 | 780.3 | 787.3 | 797.1 | 798.5 |
| 30° | 755.0 | 759.2 | 767.6 | 778.8 | 780.3 |
| 32.5° | 733.9 | 738.1 | 748.0 | 759.2 | 762.0 |
| 35° | 707.2 | 712.9 | 724.1 | 738.1 | 740.9 |
| 37.5° | 683.4 | 687.6 | 701.6 | 717.1 | 721.3 |
| 40° | 654.0 | 662.3 | 676.3 | 694.6 | 701.6 |
| 42.5° | 624.5 | 633.0 | 649.8 | 673.5 | 682.0 |
| 45° | 593.6 | 603.5 | 624.5 | 651.2 | 662.3 |
| 47.5° | 562.8 | 574.0 | 597.9 | 628.7 | 641.4 |
| 50° | 527.7 | 541.7 | 571.2 | 606.3 | 620.3 |
| 52.5° | 494.0 | 510.8 | 543.1 | 582.4 | 600.7 |
| 55° | 458.9 | 475.7 | 517.8 | 558.5 | 578.2 |
| 57.5° | 419.5 | 442.0 | 488.3 | 534.7 | 555.7 |
| 60° | 383.2 | 404.1 | 460.3 | 510.8 | 531.9 |
| 62.5° | 343.9 | 371.9 | 432.2 | 485.5 | 506.6 |
| 65° | 303.1 | 334.0 | 402.7 | 456.0 | 477.1 |
| 67.5° | 266.6 | 300.3 | 373.3 | 426.6 | 447.6 |
| 70° | 223.1 | 265.2 | 341.1 | 394.3 | 415.3 |
| 72.5° | 182.4 | 228.7 | 307.4 | 359.3 | 379.0 |
| 75° | 143.1 | 195.0 | 272.3 | 318.6 | 328.4 |
| 77.5° | 106.7 | 161.3 | 235.7 | 255.4 | 248.4 |
| 80° | 75.8 | 129.2 | 183.8 | 174.0 | 178.2 |
| 82.5° | 49.1 | 98.3 | 113.7 | 129.2 | 133.2 |
| 85° | 28.1 | 57.6 | 70.2 | 75.8 | 78.6 |
| 87.5° | 12.6 | 21.1 | 28.1 | 28.1 | 26.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)