

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: P474162

Luminaire Tested: **24CZ2-35-RDP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474162
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-35-RDP-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ RDP INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2299.8 lumens
Efficiency: N/A
Efficacy: 83.3 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

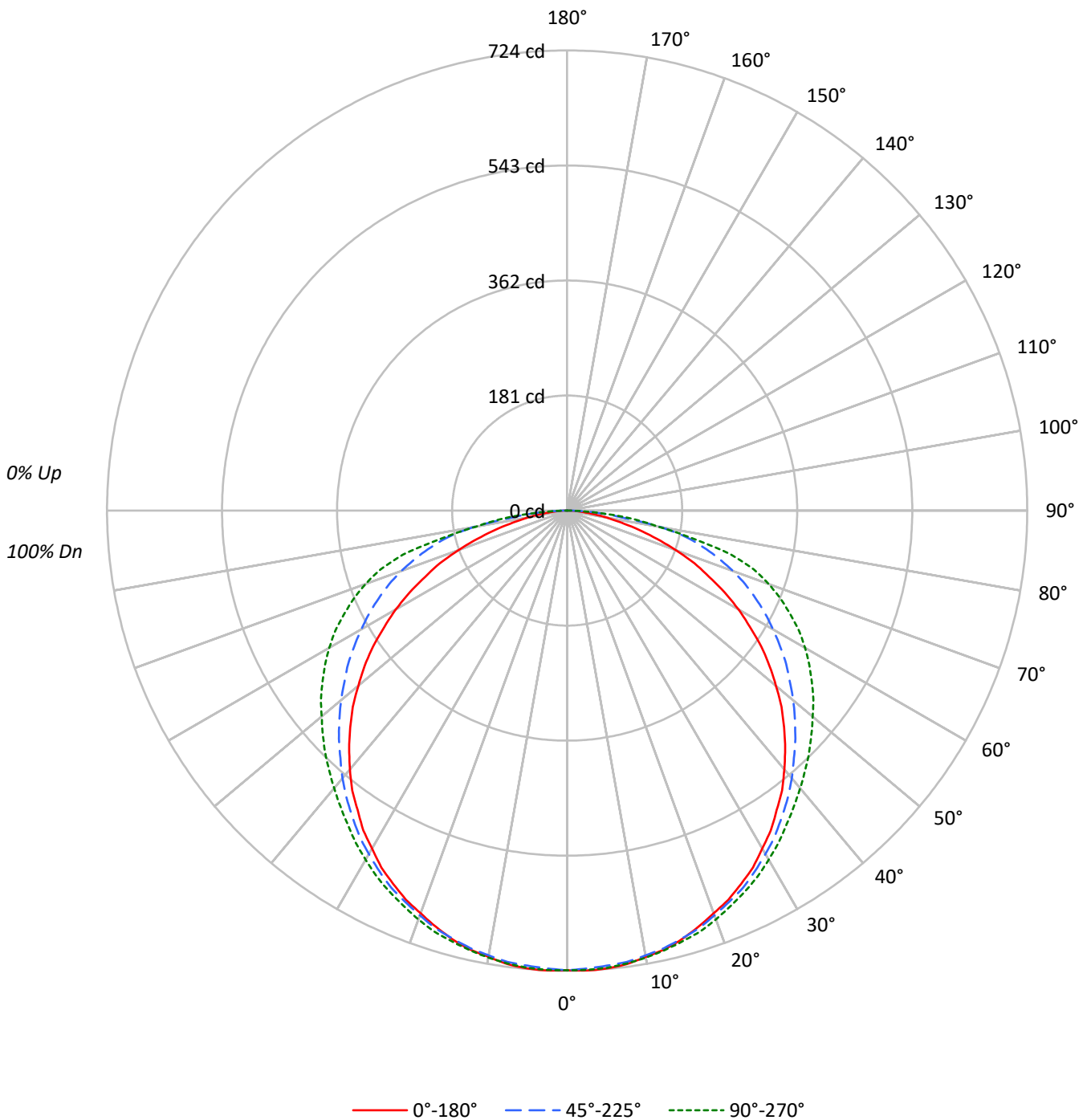
Input Watts (W): 27.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 68 | 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° | 973 | 973 | 973 |
| 5° | 977 | 971 | 975 |
| 10° | 974 | 971 | 976 |
| 15° | 973 | 971 | 977 |
| 20° | 965 | 970 | 980 |
| 25° | 962 | 972 | 982 |
| 30° | 953 | 969 | 985 |
| 35° | 944 | 967 | 989 |
| 40° | 934 | 966 | 1002 |
| 45° | 918 | 966 | 1024 |
| 50° | 898 | 972 | 1055 |
| 55° | 875 | 987 | 1103 |
| 60° | 838 | 1007 | 1163 |
| 65° | 784 | 1042 | 1235 |
| 70° | 714 | 1090 | 1328 |
| 75° | 605 | 1150 | 1388 |
| 80° | 477 | 1158 | 1122 |
| 85° | 352 | 881 | 986 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 68.6 | 3.0 |
| 10°-20° | 197.5 | 8.6 |
| 20°-30° | 301.9 | 13.1 |
| 30°-40° | 369.1 | 16.0 |
| 40°-50° | 393.4 | 17.1 |
| 50°-60° | 376.1 | 16.4 |
| 60°-70° | 318.6 | 13.9 |
| 70°-80° | 214.1 | 9.3 |
| 80°-90° | 60.4 | 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° | 568.0 | 24.7 |
| 0°-40° | 937.1 | 40.7 |
| 0°-60° | 1706.6 | 74.2 |
| 0°-90° | 2299.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2299.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 723 | 723 | 723 | 723 | 723 | |
| 5° | 723 | 722 | 719 | 722 | 722 | 69 |
| 15° | 698 | 698 | 697 | 703 | 702 | 197 |
| 25° | 648 | 650 | 655 | 660 | 662 | 299 |
| 35° | 575 | 580 | 589 | 600 | 602 | 360 |
| 45° | 483 | 490 | 508 | 529 | 538 | 372 |
| 55° | 373 | 387 | 421 | 454 | 470 | 332 |
| 65° | 246 | 272 | 327 | 371 | 388 | 245 |
| 75° | 116 | 158 | 221 | 259 | 267 | 125 |
| 85° | 23 | 47 | 57 | 62 | 64 | 28 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474162

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 723.3 | 723.3 | 723.3 | 723.3 | 723.3 |
| 2.5° | 724.4 | 724.4 | 721.0 | 723.3 | 723.3 |
| 5° | 723.3 | 722.1 | 718.7 | 722.1 | 722.1 |
| 7.5° | 719.8 | 718.7 | 716.4 | 719.8 | 718.7 |
| 10° | 713.0 | 713.0 | 710.7 | 714.1 | 714.1 |
| 12.5° | 707.3 | 706.1 | 705.0 | 709.6 | 708.4 |
| 15° | 698.2 | 698.2 | 697.0 | 702.7 | 701.6 |
| 17.5° | 686.7 | 687.9 | 689.0 | 693.6 | 694.7 |
| 20° | 674.2 | 676.5 | 677.6 | 684.5 | 684.5 |
| 22.5° | 662.8 | 663.9 | 666.2 | 673.0 | 673.0 |
| 25° | 647.9 | 650.2 | 654.8 | 660.5 | 661.6 |
| 27.5° | 633.1 | 634.2 | 639.9 | 647.9 | 649.1 |
| 30° | 613.7 | 617.1 | 624.0 | 633.1 | 634.2 |
| 32.5° | 596.6 | 600.0 | 608.0 | 617.1 | 619.4 |
| 35° | 574.9 | 579.5 | 588.6 | 600.0 | 602.3 |
| 37.5° | 555.5 | 558.9 | 570.3 | 582.9 | 586.3 |
| 40° | 531.6 | 538.4 | 549.8 | 564.6 | 570.3 |
| 42.5° | 507.7 | 514.5 | 528.2 | 547.5 | 554.3 |
| 45° | 482.6 | 490.5 | 507.7 | 529.3 | 538.4 |
| 47.5° | 457.4 | 466.6 | 486.0 | 511.1 | 521.4 |
| 50° | 428.9 | 440.3 | 464.3 | 492.8 | 504.2 |
| 52.5° | 401.5 | 415.2 | 441.5 | 473.4 | 488.3 |
| 55° | 373.0 | 386.7 | 420.9 | 454.0 | 470.0 |
| 57.5° | 341.0 | 359.3 | 397.0 | 434.6 | 451.7 |
| 60° | 311.5 | 328.5 | 374.1 | 415.2 | 432.3 |
| 62.5° | 279.5 | 302.3 | 351.3 | 394.7 | 411.8 |
| 65° | 246.4 | 271.5 | 327.3 | 370.7 | 387.8 |
| 67.5° | 216.7 | 244.1 | 303.5 | 346.7 | 363.9 |
| 70° | 181.4 | 215.6 | 277.2 | 320.5 | 337.6 |
| 72.5° | 148.3 | 185.9 | 249.8 | 292.1 | 308.0 |
| 75° | 116.3 | 158.5 | 221.3 | 259.0 | 267.0 |
| 77.5° | 86.7 | 131.1 | 191.6 | 207.6 | 201.9 |
| 80° | 61.6 | 105.0 | 149.4 | 141.4 | 144.8 |
| 82.5° | 39.9 | 79.9 | 92.4 | 105.0 | 108.3 |
| 85° | 22.8 | 46.8 | 57.1 | 61.6 | 63.9 |
| 87.5° | 10.3 | 17.1 | 22.8 | 22.8 | 21.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)