

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: P475351

Luminaire Tested: **14CZ2-25-UNV-L835-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475351
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14CZ2-25-UNV-L835-CD1-U
Description: 1'X4' TROFFER LED MODULE, RIBBED LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

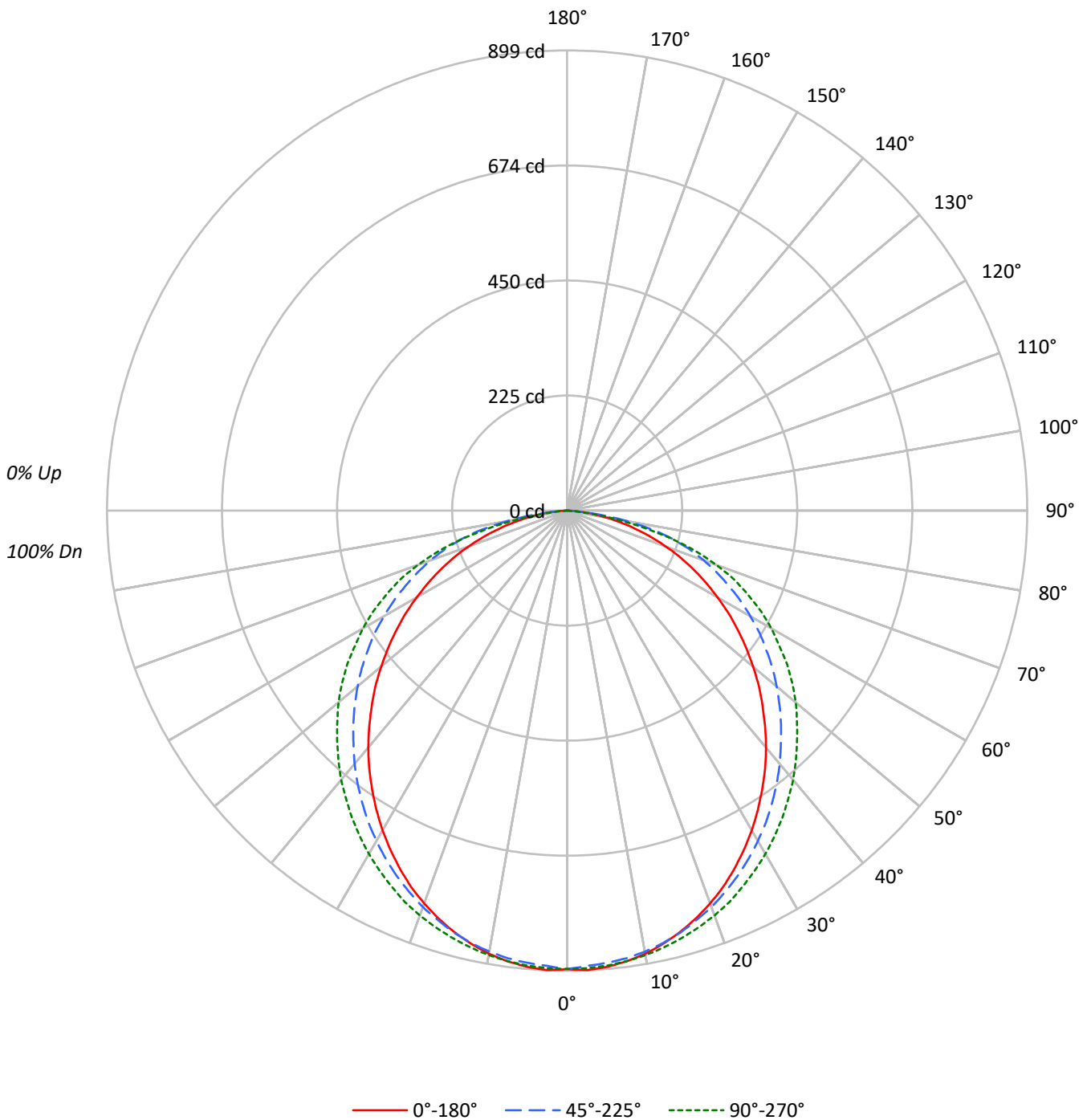
Lumens per Lamp: N/A
Luminaire Lumens: 2581.9 lumens
Efficiency: N/A
Efficacy: 135.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.29 / 1.37
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 19
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 | 109 | 104 | 99 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 64 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 |
| 6 | 69 | 56 | 47 | 40 | 68 | 55 | 46 | 40 | 53 | 46 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 55 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2410 | 2410 | 2410 |
| 5° | 2417 | 2396 | 2410 |
| 10° | 2403 | 2391 | 2410 |
| 15° | 2375 | 2378 | 2409 |
| 20° | 2338 | 2361 | 2410 |
| 25° | 2293 | 2339 | 2408 |
| 30° | 2242 | 2316 | 2407 |
| 35° | 2182 | 2292 | 2407 |
| 40° | 2124 | 2270 | 2413 |
| 45° | 2054 | 2248 | 2418 |
| 50° | 1984 | 2238 | 2441 |
| 55° | 1909 | 2228 | 2461 |
| 60° | 1825 | 2225 | 2479 |
| 65° | 1732 | 2220 | 2484 |
| 70° | 1613 | 2232 | 2437 |
| 75° | 1430 | 2203 | 2185 |
| 80° | 1199 | 1843 | 1488 |
| 85° | 840 | 722 | 173 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 84.7 | 3.3 |
| 10°-20° | 241.9 | 9.4 |
| 20°-30° | 364.4 | 14.1 |
| 30°-40° | 437.5 | 16.9 |
| 40°-50° | 455.4 | 17.6 |
| 50°-60° | 420.8 | 16.3 |
| 60°-70° | 337.1 | 13.1 |
| 70°-80° | 201.7 | 7.8 |
| 80°-90° | 38.4 | 1.5 |
| 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° | 691.0 | 26.8 |
| 0°-40° | 1128.5 | 43.7 |
| 0°-60° | 2004.7 | 77.6 |
| 0°-90° | 2581.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2581.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 896 | 896 | 896 | 896 | 896 | |
| 5° | 895 | 893 | 887 | 894 | 892 | 85 |
| 15° | 852 | 852 | 854 | 865 | 865 | 240 |
| 25° | 772 | 777 | 788 | 808 | 811 | 356 |
| 35° | 664 | 674 | 698 | 725 | 733 | 416 |
| 45° | 540 | 556 | 591 | 626 | 635 | 417 |
| 55° | 407 | 429 | 475 | 512 | 525 | 364 |
| 65° | 272 | 300 | 349 | 383 | 390 | 270 |
| 75° | 138 | 172 | 212 | 215 | 210 | 147 |
| 85° | 27 | 40 | 23 | 10 | 6 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475351

CATALOG NUMBER: 14CZ2-25-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 895.7 | 895.7 | 895.7 | 895.7 | 895.7 |
| 2.5° | 898.7 | 896.1 | 890.5 | 896.1 | 894.8 |
| 5° | 894.8 | 892.7 | 887.0 | 893.5 | 892.2 |
| 7.5° | 888.3 | 886.6 | 882.3 | 889.2 | 887.9 |
| 10° | 879.3 | 878.0 | 874.9 | 882.7 | 881.9 |
| 12.5° | 866.7 | 867.2 | 865.4 | 874.9 | 874.1 |
| 15° | 852.4 | 852.4 | 853.7 | 864.6 | 864.6 |
| 17.5° | 835.6 | 836.4 | 839.0 | 853.3 | 853.7 |
| 20° | 816.6 | 818.7 | 824.3 | 839.0 | 841.6 |
| 22.5° | 796.2 | 798.8 | 806.6 | 823.9 | 827.8 |
| 25° | 772.4 | 776.8 | 787.6 | 807.5 | 810.9 |
| 27.5° | 747.4 | 753.8 | 767.2 | 788.9 | 793.2 |
| 30° | 721.4 | 728.3 | 745.2 | 768.5 | 774.6 |
| 32.5° | 693.3 | 702.4 | 722.7 | 747.4 | 754.3 |
| 35° | 664.3 | 674.3 | 697.6 | 725.3 | 732.6 |
| 37.5° | 635.3 | 646.1 | 672.5 | 702.4 | 709.7 |
| 40° | 604.6 | 617.2 | 646.1 | 676.9 | 686.8 |
| 42.5° | 572.2 | 586.0 | 618.0 | 651.8 | 661.3 |
| 45° | 539.8 | 555.8 | 590.8 | 625.8 | 635.3 |
| 47.5° | 508.2 | 524.6 | 562.7 | 599.0 | 609.0 |
| 50° | 474.0 | 493.0 | 534.6 | 570.5 | 583.0 |
| 52.5° | 440.7 | 461.9 | 505.6 | 541.9 | 554.5 |
| 55° | 407.0 | 429.0 | 474.9 | 511.6 | 524.6 |
| 57.5° | 374.1 | 397.5 | 445.9 | 482.2 | 491.3 |
| 60° | 339.1 | 364.6 | 413.5 | 450.2 | 460.6 |
| 62.5° | 306.2 | 332.6 | 381.9 | 417.4 | 427.3 |
| 65° | 272.0 | 300.2 | 348.6 | 382.8 | 390.1 |
| 67.5° | 240.0 | 268.1 | 317.0 | 346.4 | 353.8 |
| 70° | 205.0 | 236.1 | 283.7 | 308.8 | 309.7 |
| 72.5° | 171.7 | 203.3 | 249.6 | 265.6 | 263.4 |
| 75° | 137.5 | 172.1 | 211.9 | 215.0 | 210.2 |
| 77.5° | 106.8 | 141.4 | 168.7 | 159.2 | 149.6 |
| 80° | 77.4 | 111.2 | 118.9 | 104.2 | 96.0 |
| 82.5° | 51.0 | 77.8 | 71.8 | 51.5 | 44.1 |
| 85° | 27.2 | 39.8 | 23.4 | 9.5 | 5.6 |
| 87.5° | 10.4 | 6.9 | 2.6 | 2.2 | 1.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)