

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: P#

Luminaire Tested: **24CZ-LD5-35-UNV-L830-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25689)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-35-UNV-L830-CD1-U
Description: CRUZE 2x4 LED TROFFER

Light Source: -
Ballast/Driver: -

Summary

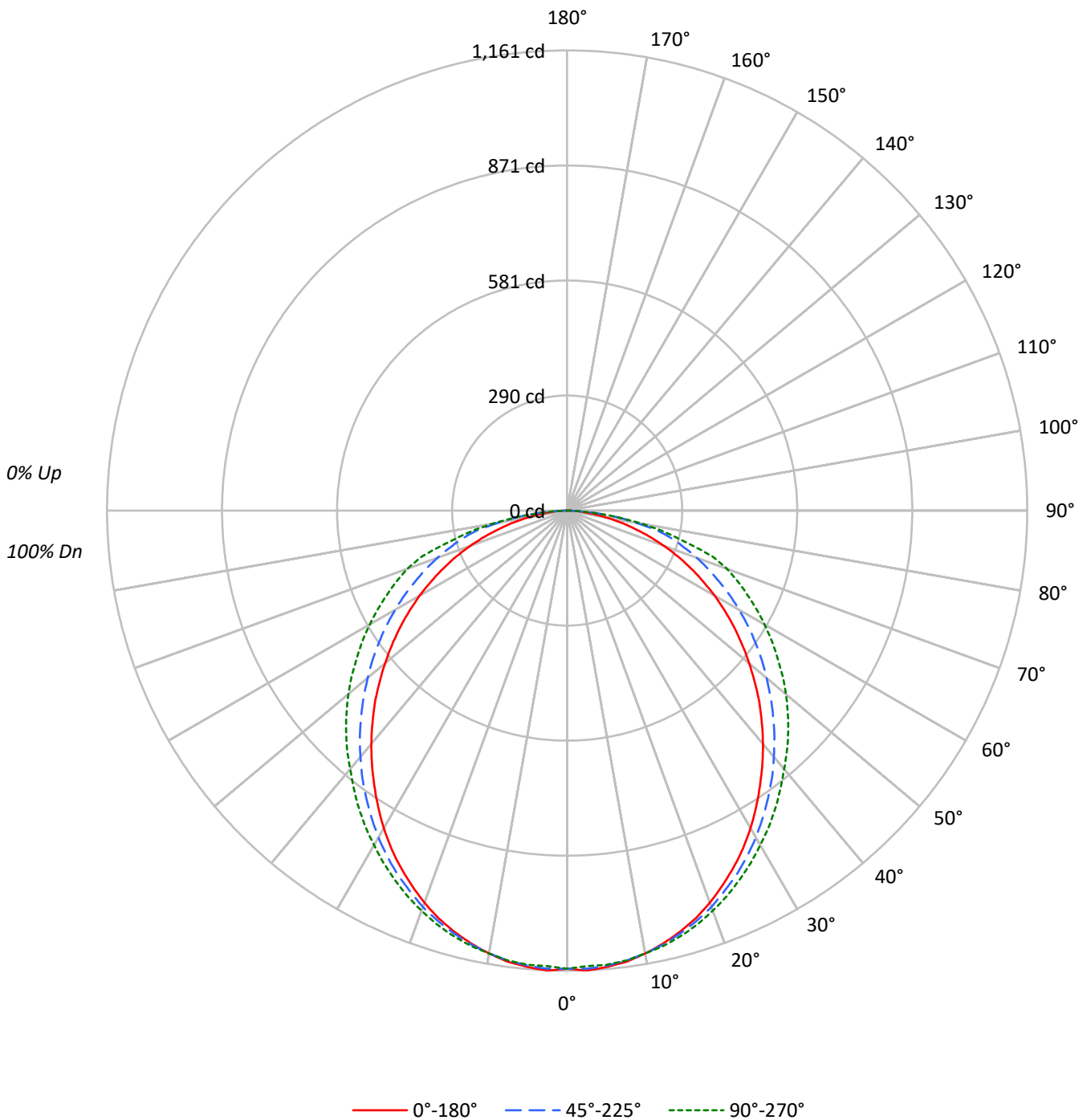
Lumens per Lamp: N/A
Luminaire Lumens: 3289.1 lumens
Efficiency: N/A
Efficacy: 129.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.26 / 1.35
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 4' x H: 0.1')
CIE Type: Direct

Input Watts (W): 25.32
Input Voltage (V): NR
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





TEST NUMBER: P#

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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 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | | 93 | 90 | 88 | | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | | 81 | 76 | 72 | | 78 | 74 | 71 | 68 |
| 3 | 89 | 79 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | | 71 | 65 | 61 | | 69 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | | 63 | 57 | 52 | | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | | 57 | 50 | 45 | | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | | 51 | 44 | 39 | | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | | 47 | 40 | 35 | | 45 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | | 43 | 36 | 31 | | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 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° | 1555 | 1555 | 1555 |
| 5° | 1558 | 1549 | 1547 |
| 10° | 1543 | 1536 | 1537 |
| 15° | 1522 | 1517 | 1527 |
| 20° | 1494 | 1495 | 1511 |
| 25° | 1458 | 1467 | 1492 |
| 30° | 1417 | 1435 | 1472 |
| 35° | 1369 | 1400 | 1454 |
| 40° | 1322 | 1364 | 1435 |
| 45° | 1273 | 1328 | 1429 |
| 50° | 1219 | 1293 | 1424 |
| 55° | 1166 | 1264 | 1418 |
| 60° | 1108 | 1235 | 1424 |
| 65° | 1042 | 1209 | 1441 |
| 70° | 955 | 1195 | 1482 |
| 75° | 835 | 1190 | 1363 |
| 80° | 683 | 1047 | 1155 |
| 85° | 469 | 678 | 660 |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-35-UNV-L830-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 109.3 | 3.3 |
| 10°-20° | 311.1 | 9.5 |
| 20°-30° | 465.0 | 14.1 |
| 30°-40° | 551.4 | 16.8 |
| 40°-50° | 567.1 | 17.2 |
| 50°-60° | 518.7 | 15.8 |
| 60°-70° | 418.4 | 12.7 |
| 70°-80° | 271.6 | 8.3 |
| 80°-90° | 76.4 | 2.3 |
| 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° | 885.4 | 26.9 |
| 0°-40° | 1436.9 | 43.7 |
| 0°-60° | 2522.6 | 76.7 |
| 0°-90° | 3289.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3289.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1156 | 1156 | 1156 | 1156 | 1156 | |
| 5° | 1156 | 1148 | 1152 | 1150 | 1150 | 110 |
| 15° | 1100 | 1094 | 1104 | 1109 | 1111 | 310 |
| 25° | 994 | 994 | 1013 | 1020 | 1028 | 457 |
| 35° | 848 | 856 | 884 | 902 | 916 | 531 |
| 45° | 686 | 698 | 735 | 769 | 789 | 529 |
| 55° | 515 | 531 | 580 | 626 | 648 | 460 |
| 65° | 345 | 365 | 423 | 478 | 501 | 341 |
| 75° | 176 | 208 | 274 | 308 | 311 | 187 |
| 85° | 39 | 65 | 70 | 69 | 67 | 47 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-35-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1155.8 | 1155.8 | 1155.8 | 1155.8 | 1155.8 |
| 2.5° | 1161.4 | 1152.4 | 1156.9 | 1154.7 | 1150.2 |
| 5° | 1155.8 | 1148.0 | 1152.4 | 1150.2 | 1150.2 |
| 7.5° | 1148.0 | 1140.1 | 1144.7 | 1144.7 | 1144.7 |
| 10° | 1134.6 | 1127.8 | 1134.6 | 1134.6 | 1134.6 |
| 12.5° | 1118.9 | 1113.3 | 1121.1 | 1122.2 | 1124.5 |
| 15° | 1099.8 | 1094.3 | 1104.4 | 1108.8 | 1111.0 |
| 17.5° | 1078.6 | 1074.2 | 1085.3 | 1090.9 | 1094.3 |
| 20° | 1052.9 | 1049.5 | 1064.1 | 1069.6 | 1074.2 |
| 22.5° | 1023.8 | 1023.8 | 1038.4 | 1045.0 | 1052.9 |
| 25° | 993.6 | 993.6 | 1012.6 | 1020.4 | 1028.3 |
| 27.5° | 961.1 | 962.3 | 983.5 | 994.6 | 1002.5 |
| 30° | 925.3 | 929.8 | 952.2 | 965.6 | 974.5 |
| 32.5° | 887.3 | 892.9 | 918.6 | 935.4 | 946.6 |
| 35° | 848.1 | 856.0 | 883.9 | 901.8 | 916.4 |
| 37.5° | 808.9 | 819.0 | 849.2 | 869.3 | 883.9 |
| 40° | 768.6 | 779.9 | 811.2 | 834.7 | 851.5 |
| 42.5° | 727.2 | 739.6 | 774.2 | 801.1 | 821.3 |
| 45° | 685.9 | 698.2 | 735.1 | 768.6 | 788.8 |
| 47.5° | 642.2 | 656.7 | 696.0 | 735.1 | 755.2 |
| 50° | 599.7 | 615.4 | 656.7 | 699.3 | 720.6 |
| 52.5° | 557.2 | 575.1 | 618.7 | 663.5 | 684.8 |
| 55° | 514.7 | 531.4 | 579.6 | 625.5 | 647.8 |
| 57.5° | 472.2 | 490.1 | 540.5 | 588.5 | 612.0 |
| 60° | 429.7 | 448.7 | 501.2 | 551.6 | 575.1 |
| 62.5° | 386.0 | 406.1 | 462.1 | 514.7 | 538.2 |
| 65° | 344.7 | 364.8 | 422.9 | 477.8 | 501.2 |
| 67.5° | 302.1 | 324.5 | 384.9 | 440.8 | 465.4 |
| 70° | 259.5 | 284.2 | 348.0 | 403.9 | 428.5 |
| 72.5° | 217.1 | 245.0 | 309.9 | 365.8 | 383.8 |
| 75° | 175.7 | 208.1 | 274.2 | 307.7 | 311.0 |
| 77.5° | 137.7 | 171.2 | 233.9 | 247.3 | 254.0 |
| 80° | 100.7 | 137.7 | 175.7 | 192.5 | 191.3 |
| 82.5° | 67.2 | 105.2 | 126.4 | 128.6 | 126.4 |
| 85° | 39.1 | 64.9 | 70.5 | 69.4 | 67.2 |
| 87.5° | 16.8 | 25.7 | 22.4 | 19.0 | 15.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)