

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: P230451

Luminaire Tested: **24CZ-LD5-55SE-SQP-UNV-L950-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P230451
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25695)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-55SE-SQP-UNV-L950-CD1-U
Description: CRUZE 2x4 LED TROFFER
WITH SQP LENS
Light Source: (84) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3674.4 lumens
Efficiency: N/A
Efficacy: 67.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.31 / 1.42
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

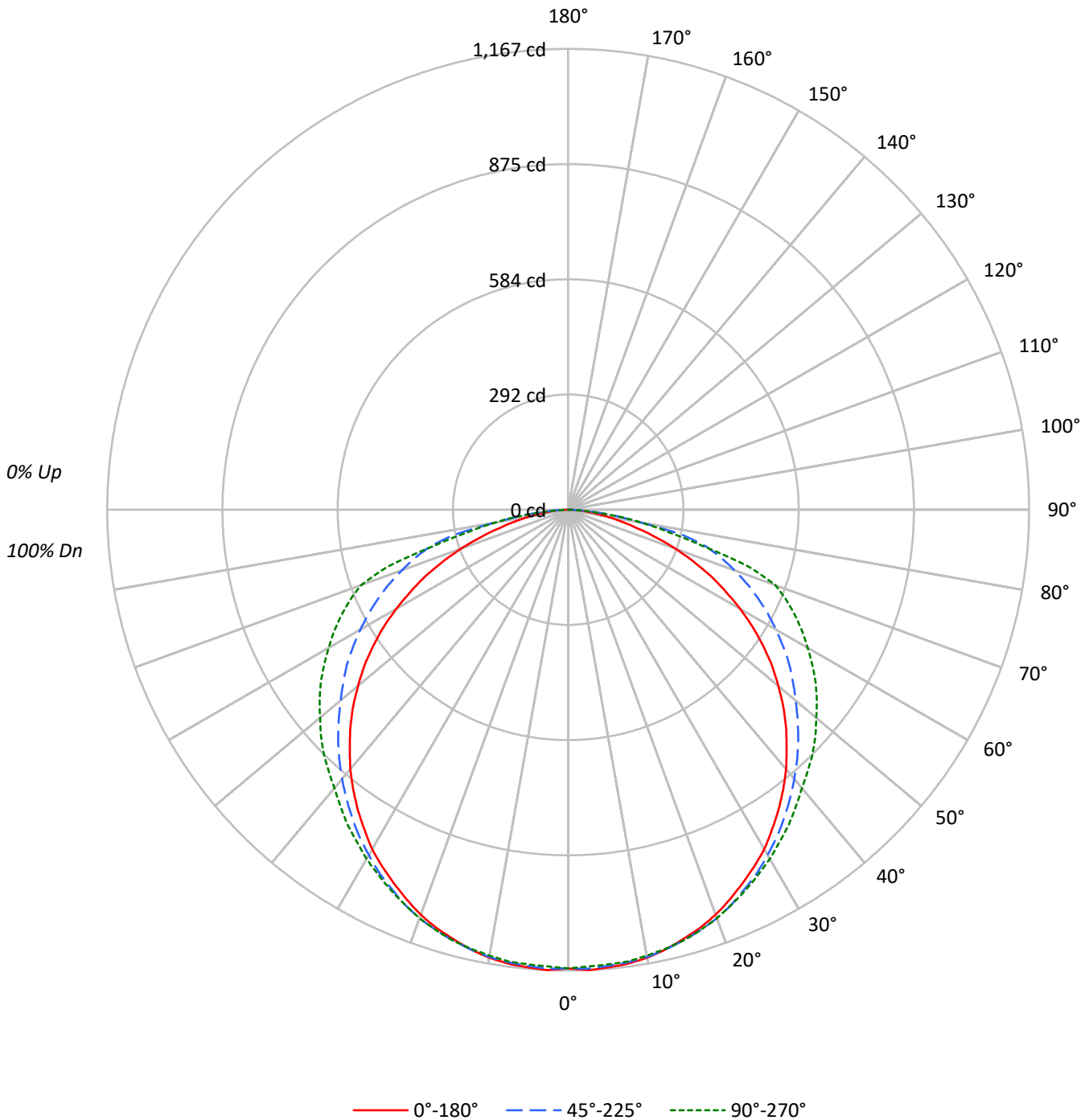
Input Watts (W): 54.69
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P230451

CATALOG NUMBER: 24CZ-LD5-55SE-SQP-UNV-L950-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P230451

CATALOG NUMBER: 24CZ-LD5-55SE-SQP-UNV-L950-CD1-U

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 | 101 | 97 | 93 | 96 | 93 | 90 | 92 | 90 | 87 | 89 | 87 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 78 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 67 |
| 3 | 89 | 78 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 60 | 70 | 64 | 59 | 67 | 63 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 79 | 67 | 58 | 52 | 64 | 57 | 51 | 62 | 56 | 50 | 60 | 54 | 50 | 47 |
| 5 | 74 | 61 | 51 | 45 | 72 | 60 | 51 | 44 | 57 | 50 | 44 | 55 | 49 | 43 | 54 | 48 | 43 | 41 |
| 6 | 68 | 55 | 45 | 39 | 66 | 54 | 45 | 38 | 52 | 44 | 38 | 50 | 43 | 38 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 62 | 49 | 40 | 34 | 47 | 39 | 34 | 45 | 39 | 33 | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | 42 | 35 | 30 | 40 | 34 | 29 | 28 |
| 9 | 55 | 41 | 33 | 27 | 54 | 41 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 30 | 24 | 36 | 29 | 24 | 35 | 29 | 24 | 35 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1563 | 1563 | 1563 |
| 5° | 1571 | 1566 | 1561 |
| 10° | 1574 | 1571 | 1566 |
| 15° | 1568 | 1573 | 1573 |
| 20° | 1563 | 1576 | 1576 |
| 25° | 1550 | 1572 | 1578 |
| 30° | 1542 | 1569 | 1586 |
| 35° | 1524 | 1565 | 1599 |
| 40° | 1507 | 1563 | 1617 |
| 45° | 1484 | 1567 | 1665 |
| 50° | 1454 | 1573 | 1716 |
| 55° | 1416 | 1603 | 1794 |
| 60° | 1354 | 1634 | 1884 |
| 65° | 1269 | 1686 | 2018 |
| 70° | 1135 | 1762 | 2195 |
| 75° | 937 | 1884 | 1815 |
| 80° | 765 | 1456 | 1471 |
| 85° | 616 | 966 | 908 |



TEST NUMBER: P230451

CATALOG NUMBER: 24CZ-LD5-55SE-SQP-UNV-L950-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 110.3 | 3.0 |
| 10°-20° | 318.3 | 8.7 |
| 20°-30° | 486.5 | 13.2 |
| 30°-40° | 595.0 | 16.2 |
| 40°-50° | 636.7 | 17.3 |
| 50°-60° | 609.7 | 16.6 |
| 60°-70° | 515.7 | 14.0 |
| 70°-80° | 326.9 | 8.9 |
| 80°-90° | 75.2 | 2.0 |
| 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° | 915.2 | 24.9 |
| 0°-40° | 1510.2 | 41.1 |
| 0°-60° | 2756.5 | 75.0 |
| 0°-90° | 3674.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3674.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1162 | 1162 | 1162 | 1162 | 1162 | |
| 5° | 1163 | 1158 | 1160 | 1158 | 1156 | 111 |
| 15° | 1126 | 1124 | 1129 | 1129 | 1129 | 318 |
| 25° | 1044 | 1044 | 1059 | 1063 | 1063 | 482 |
| 35° | 928 | 934 | 953 | 966 | 974 | 581 |
| 45° | 780 | 793 | 824 | 858 | 875 | 601 |
| 55° | 604 | 622 | 683 | 740 | 765 | 538 |
| 65° | 399 | 436 | 530 | 602 | 634 | 393 |
| 75° | 180 | 254 | 362 | 361 | 349 | 196 |
| 85° | 40 | 61 | 63 | 57 | 59 | 48 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P230451

CATALOG NUMBER: 24CZ-LD5-55SE-SQP-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1161.5 | 1161.5 | 1161.5 | 1161.5 | 1161.5 |
| 2.5° | 1167.2 | 1161.5 | 1163.4 | 1161.5 | 1157.7 |
| 5° | 1163.4 | 1157.7 | 1159.6 | 1157.7 | 1155.8 |
| 7.5° | 1159.6 | 1153.9 | 1155.8 | 1153.9 | 1153.9 |
| 10° | 1152.0 | 1146.4 | 1150.1 | 1148.3 | 1146.4 |
| 12.5° | 1140.7 | 1136.9 | 1140.7 | 1138.8 | 1138.8 |
| 15° | 1125.5 | 1123.6 | 1129.3 | 1129.3 | 1129.3 |
| 17.5° | 1110.3 | 1108.4 | 1116.0 | 1116.0 | 1116.0 |
| 20° | 1091.3 | 1089.4 | 1100.8 | 1100.8 | 1100.8 |
| 22.5° | 1068.5 | 1066.6 | 1081.8 | 1081.8 | 1081.8 |
| 25° | 1043.9 | 1043.9 | 1059.0 | 1062.8 | 1062.8 |
| 27.5° | 1019.2 | 1019.2 | 1036.3 | 1042.0 | 1042.0 |
| 30° | 992.6 | 992.6 | 1009.7 | 1017.3 | 1021.1 |
| 32.5° | 960.4 | 964.2 | 983.1 | 992.6 | 996.4 |
| 35° | 928.1 | 933.8 | 952.8 | 966.0 | 973.6 |
| 37.5° | 893.9 | 899.6 | 922.4 | 937.6 | 947.1 |
| 40° | 857.9 | 865.5 | 890.1 | 909.1 | 920.5 |
| 42.5° | 818.0 | 829.4 | 857.9 | 882.5 | 897.7 |
| 45° | 780.1 | 793.3 | 823.7 | 857.9 | 874.9 |
| 47.5° | 738.3 | 753.5 | 787.6 | 831.3 | 848.4 |
| 50° | 694.6 | 709.8 | 751.6 | 800.9 | 819.9 |
| 52.5° | 651.0 | 668.1 | 717.4 | 770.6 | 793.3 |
| 55° | 603.5 | 622.5 | 683.3 | 740.2 | 764.9 |
| 57.5° | 554.2 | 577.0 | 645.3 | 706.0 | 732.6 |
| 60° | 503.0 | 531.4 | 607.3 | 671.9 | 700.3 |
| 62.5° | 449.8 | 484.0 | 569.4 | 637.7 | 668.1 |
| 65° | 398.6 | 436.5 | 529.5 | 601.6 | 633.9 |
| 67.5° | 343.5 | 391.0 | 489.7 | 567.5 | 597.8 |
| 70° | 288.5 | 343.5 | 447.9 | 527.6 | 558.0 |
| 72.5° | 233.4 | 299.9 | 406.2 | 478.3 | 478.3 |
| 75° | 180.3 | 254.3 | 362.5 | 360.6 | 349.2 |
| 77.5° | 136.7 | 212.6 | 298.0 | 254.3 | 256.2 |
| 80° | 98.7 | 170.8 | 187.9 | 187.9 | 189.8 |
| 82.5° | 66.4 | 131.0 | 121.5 | 119.6 | 123.4 |
| 85° | 39.9 | 60.7 | 62.6 | 56.9 | 58.8 |
| 87.5° | 19.0 | 20.9 | 17.1 | 11.4 | 11.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)