

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: P275981

Luminaire Tested: **24CZ2-40HE-UNV-L93050-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P275981
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40HE-UNV-L93050-W2A1-U-5000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED TO 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3598.7 lumens
Efficiency: N/A
Efficacy: 122.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

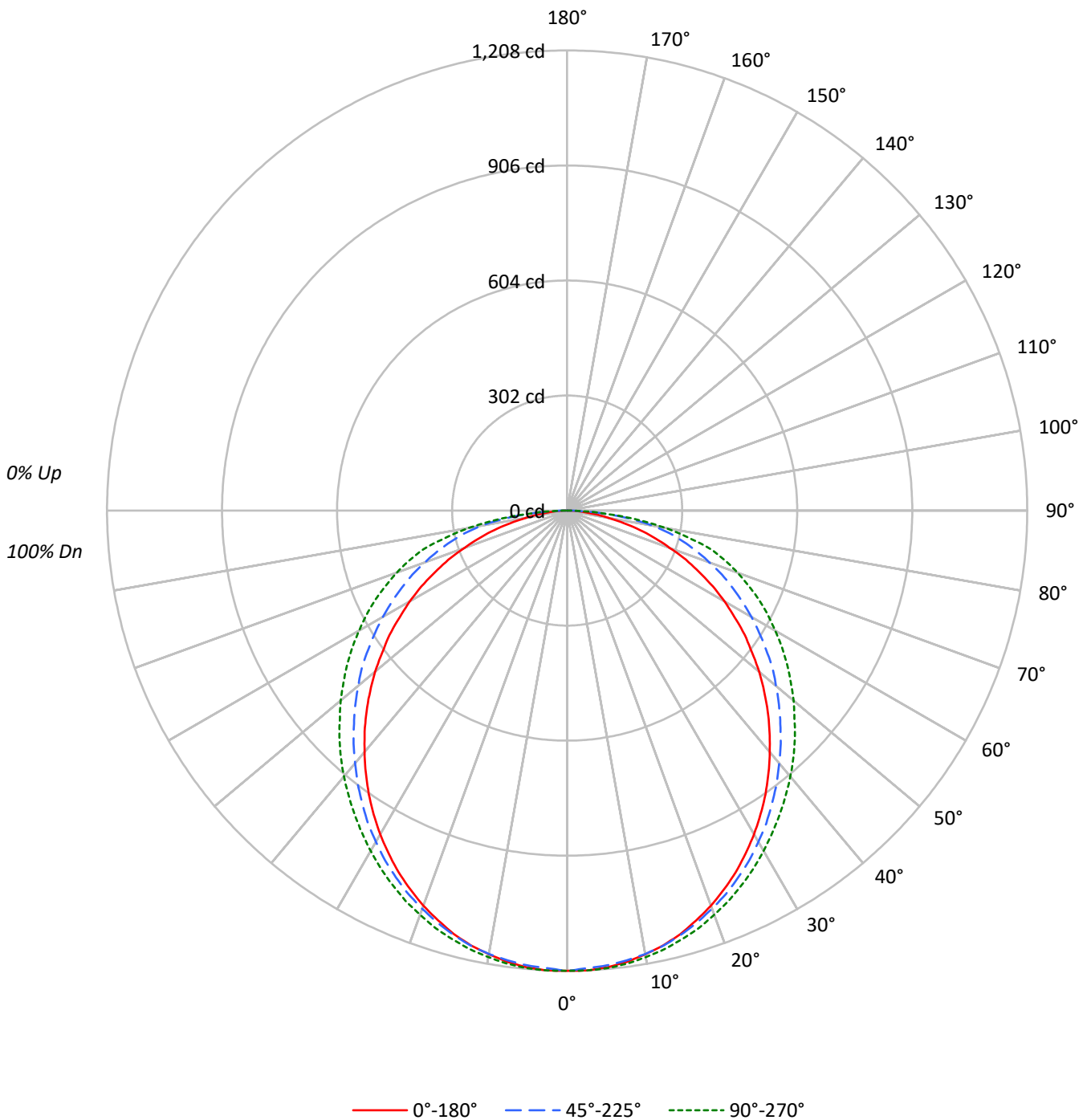
Input Watts (W): 29.459424
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 89 | 86 | 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 | 61 | 70 | 64 | 60 | 68 | 63 | 58 | 56 |
| 4 | 81 | 69 | 59 | 52 | 79 | 67 | 59 | 52 | 65 | 57 | 51 | 62 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 74 | 61 | 52 | 45 | 72 | 60 | 51 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 44 | 38 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 40 | 34 | 47 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1626 | 1626 | 1626 |
| 5° | 1625 | 1619 | 1629 |
| 10° | 1616 | 1615 | 1626 |
| 15° | 1603 | 1606 | 1623 |
| 20° | 1580 | 1592 | 1617 |
| 25° | 1555 | 1578 | 1610 |
| 30° | 1525 | 1560 | 1603 |
| 35° | 1491 | 1541 | 1598 |
| 40° | 1453 | 1521 | 1601 |
| 45° | 1417 | 1506 | 1609 |
| 50° | 1378 | 1498 | 1624 |
| 55° | 1335 | 1496 | 1654 |
| 60° | 1283 | 1503 | 1697 |
| 65° | 1216 | 1526 | 1770 |
| 70° | 1129 | 1564 | 1871 |
| 75° | 1030 | 1642 | 2029 |
| 80° | 847 | 1768 | 2029 |
| 85° | 648 | 1632 | 1743 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 114.3 | 3.2 |
| 10°-20° | 326.2 | 9.1 |
| 20°-30° | 490.9 | 13.6 |
| 30°-40° | 588.3 | 16.3 |
| 40°-50° | 613.1 | 17.0 |
| 50°-60° | 570.4 | 15.9 |
| 60°-70° | 469.8 | 13.1 |
| 70°-80° | 320.0 | 8.9 |
| 80°-90° | 105.6 | 2.9 |
| 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° | 931.5 | 25.9 |
| 0°-40° | 1519.8 | 42.2 |
| 0°-60° | 2703.3 | 75.1 |
| 0°-90° | 3598.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3598.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1208 | 1208 | 1208 | 1208 | 1208 | |
| 5° | 1204 | 1204 | 1199 | 1205 | 1206 | 114 |
| 15° | 1151 | 1152 | 1153 | 1164 | 1165 | 324 |
| 25° | 1047 | 1052 | 1063 | 1081 | 1085 | 482 |
| 35° | 908 | 919 | 938 | 963 | 973 | 568 |
| 45° | 745 | 760 | 792 | 831 | 846 | 574 |
| 55° | 569 | 588 | 638 | 688 | 705 | 507 |
| 65° | 382 | 414 | 479 | 536 | 556 | 379 |
| 75° | 198 | 243 | 316 | 372 | 390 | 209 |
| 85° | 42 | 82 | 106 | 113 | 113 | 52 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P275981

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1208.3 | 1208.3 | 1208.3 | 1208.3 | 1208.3 |
| 2.5° | 1208.3 | 1208.3 | 1202.3 | 1208.3 | 1208.3 |
| 5° | 1203.5 | 1203.5 | 1198.7 | 1204.7 | 1205.9 |
| 7.5° | 1195.1 | 1196.3 | 1191.5 | 1198.7 | 1199.9 |
| 10° | 1183.0 | 1184.2 | 1181.8 | 1189.1 | 1190.3 |
| 12.5° | 1168.6 | 1169.8 | 1169.8 | 1178.2 | 1179.4 |
| 15° | 1150.6 | 1151.8 | 1153.0 | 1163.8 | 1165.0 |
| 17.5° | 1127.8 | 1131.4 | 1133.8 | 1147.0 | 1149.4 |
| 20° | 1103.8 | 1107.4 | 1112.2 | 1126.6 | 1129.0 |
| 22.5° | 1076.2 | 1081.0 | 1089.4 | 1105.0 | 1108.6 |
| 25° | 1047.3 | 1052.1 | 1062.9 | 1081.0 | 1084.6 |
| 27.5° | 1014.9 | 1022.1 | 1035.3 | 1054.5 | 1059.3 |
| 30° | 981.3 | 988.5 | 1004.1 | 1024.5 | 1031.7 |
| 32.5° | 945.2 | 954.8 | 972.9 | 995.7 | 1002.9 |
| 35° | 908.0 | 918.8 | 938.0 | 963.3 | 972.9 |
| 37.5° | 868.4 | 880.4 | 903.2 | 930.8 | 942.8 |
| 40° | 827.5 | 841.9 | 866.0 | 898.4 | 911.6 |
| 42.5° | 786.7 | 799.9 | 829.9 | 864.8 | 879.2 |
| 45° | 744.7 | 760.3 | 791.5 | 831.1 | 845.5 |
| 47.5° | 701.4 | 717.0 | 754.3 | 796.3 | 809.5 |
| 50° | 658.2 | 673.8 | 715.8 | 760.3 | 775.9 |
| 52.5° | 611.3 | 631.8 | 679.8 | 724.2 | 739.9 |
| 55° | 569.3 | 588.5 | 637.8 | 688.2 | 705.0 |
| 57.5° | 521.3 | 544.1 | 598.1 | 651.0 | 669.0 |
| 60° | 476.8 | 500.8 | 558.5 | 612.5 | 630.6 |
| 62.5° | 431.2 | 457.6 | 518.9 | 574.1 | 594.5 |
| 65° | 381.9 | 414.4 | 479.2 | 535.7 | 556.1 |
| 67.5° | 337.5 | 371.1 | 439.6 | 497.2 | 515.3 |
| 70° | 287.1 | 327.9 | 397.6 | 455.2 | 475.6 |
| 72.5° | 243.8 | 284.7 | 357.9 | 414.4 | 434.8 |
| 75° | 198.2 | 242.6 | 315.9 | 372.3 | 390.3 |
| 77.5° | 152.5 | 201.8 | 275.0 | 318.3 | 324.3 |
| 80° | 109.3 | 160.9 | 228.2 | 253.4 | 261.8 |
| 82.5° | 76.9 | 123.7 | 168.1 | 185.0 | 189.8 |
| 85° | 42.0 | 81.7 | 105.7 | 112.9 | 112.9 |
| 87.5° | 18.0 | 34.8 | 42.0 | 43.2 | 44.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)