

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: INVUE

Report Number: P184411

Luminaire Tested: **612EN-LD2-40-UNV-L830-CD1-U**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P184411
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34470)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: 612EN-LD2-40-UNV-L830-CD1-U
Description: METALUX ENCOUNTER 600X1200 TROFFER

Light Source: EATON LED 3000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3805.2 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.27 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

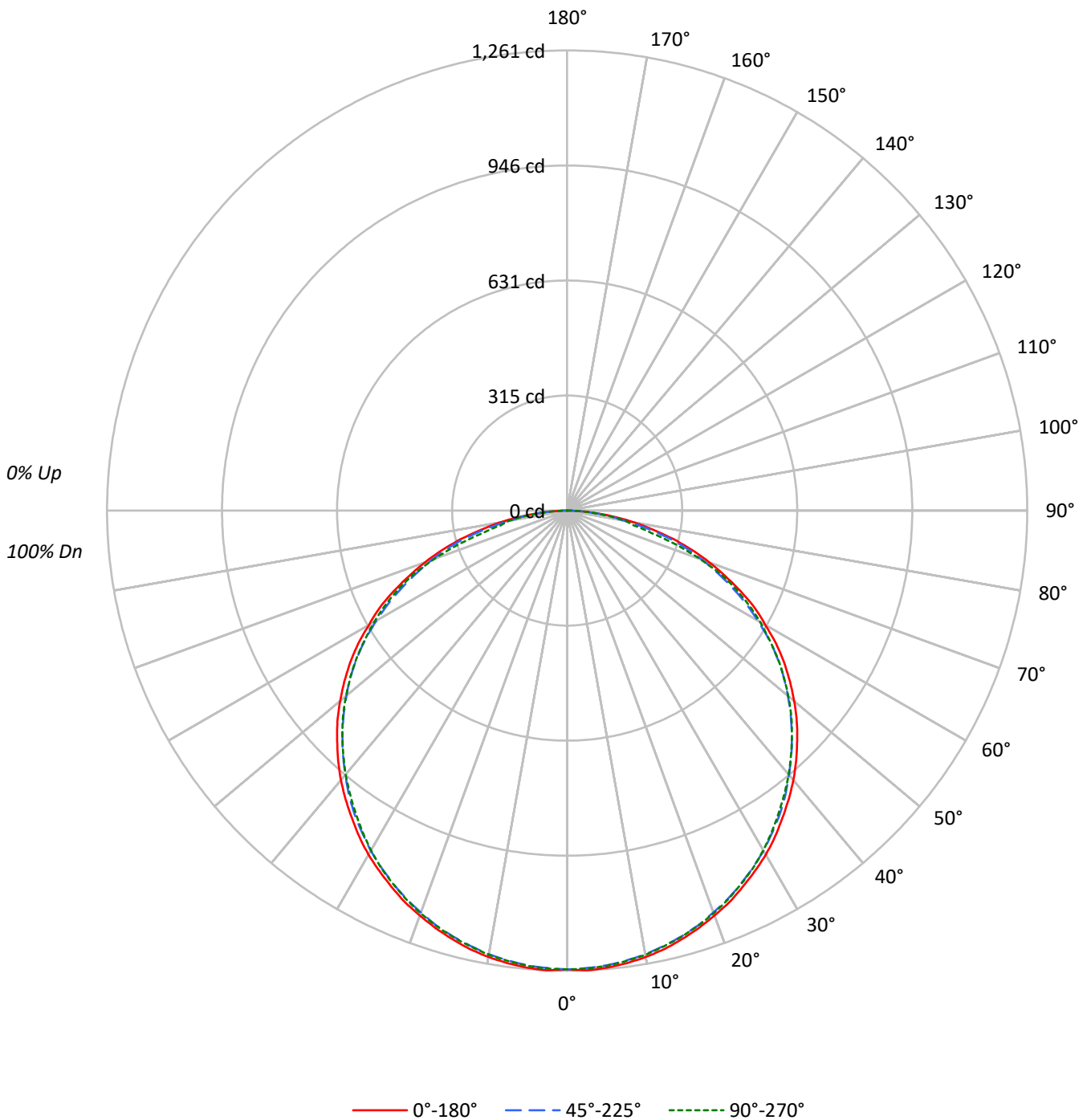
Input Watts (W): 33.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | | 93 | 90 | 88 | | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | | 81 | 76 | 72 | | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | | 71 | 65 | 60 | | 68 | 64 | 59 | 57 |
| 4 | 82 | 69 | 60 | 53 | 79 | 68 | 59 | 53 | 65 | 58 | 52 | | 63 | 57 | 51 | | 61 | 55 | 51 | 48 |
| 5 | 75 | 62 | 52 | 46 | 73 | 61 | 52 | 45 | 58 | 51 | 45 | | 56 | 50 | 44 | | 54 | 49 | 44 | 42 |
| 6 | 69 | 55 | 46 | 40 | 67 | 54 | 46 | 39 | 53 | 45 | 39 | | 51 | 44 | 39 | | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 41 | 35 | 48 | 40 | 35 | | 46 | 39 | 34 | | 45 | 39 | 34 | 32 |
| 8 | 59 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | | 42 | 36 | 31 | | 41 | 35 | 30 | 28 |
| 9 | 56 | 42 | 34 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 28 | | 39 | 32 | 27 | | 38 | 32 | 27 | 25 |
| 10 | 52 | 39 | 31 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | | 36 | 30 | 25 | | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1692 | 1692 | 1692 |
| 5° | 1698 | 1690 | 1691 |
| 10° | 1697 | 1687 | 1689 |
| 15° | 1694 | 1683 | 1685 |
| 20° | 1690 | 1678 | 1681 |
| 25° | 1689 | 1674 | 1676 |
| 30° | 1692 | 1672 | 1670 |
| 35° | 1689 | 1669 | 1660 |
| 40° | 1694 | 1661 | 1659 |
| 45° | 1696 | 1658 | 1658 |
| 50° | 1700 | 1653 | 1656 |
| 55° | 1702 | 1649 | 1652 |
| 60° | 1688 | 1624 | 1644 |
| 65° | 1673 | 1589 | 1625 |
| 70° | 1632 | 1548 | 1519 |
| 75° | 1562 | 1477 | 1255 |
| 80° | 1442 | 1208 | 1257 |
| 85° | 1204 | 1145 | 1087 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 119.0 | 3.1 |
| 10°-20° | 341.5 | 9.0 |
| 20°-30° | 520.9 | 13.7 |
| 30°-40° | 636.4 | 16.7 |
| 40°-50° | 675.9 | 17.8 |
| 50°-60° | 632.0 | 16.6 |
| 60°-70° | 501.9 | 13.2 |
| 70°-80° | 292.8 | 7.7 |
| 80°-90° | 84.9 | 2.2 |
| 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° | 981.4 | 25.8 |
| 0°-40° | 1617.8 | 42.5 |
| 0°-60° | 2925.7 | 76.9 |
| 0°-90° | 3805.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3805.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1257 | 1257 | 1257 | 1257 | 1257 | |
| 5° | 1257 | 1252 | 1251 | 1248 | 1252 | 120 |
| 15° | 1216 | 1212 | 1208 | 1204 | 1210 | 343 |
| 25° | 1138 | 1132 | 1128 | 1125 | 1129 | 525 |
| 35° | 1028 | 1022 | 1016 | 1008 | 1011 | 644 |
| 45° | 891 | 884 | 871 | 868 | 871 | 688 |
| 55° | 726 | 718 | 703 | 699 | 704 | 647 |
| 65° | 526 | 513 | 499 | 504 | 510 | 519 |
| 75° | 300 | 289 | 284 | 253 | 241 | 316 |
| 85° | 78 | 74 | 74 | 73 | 70 | 90 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P184411

CATALOG NUMBER: 612EN-LD2-40-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1257.3 | 1257.3 | 1257.3 | 1257.3 | 1257.3 |
| 2.5° | 1261.1 | 1256.1 | 1254.8 | 1252.3 | 1256.1 |
| 5° | 1257.3 | 1252.3 | 1251.0 | 1248.5 | 1252.3 |
| 7.5° | 1251.0 | 1246.0 | 1243.5 | 1241.0 | 1244.8 |
| 10° | 1242.2 | 1237.2 | 1234.7 | 1232.2 | 1236.0 |
| 12.5° | 1230.9 | 1224.6 | 1222.1 | 1219.6 | 1223.4 |
| 15° | 1215.8 | 1212.1 | 1208.3 | 1204.5 | 1209.6 |
| 17.5° | 1199.5 | 1194.5 | 1192.0 | 1189.4 | 1193.2 |
| 20° | 1180.6 | 1176.9 | 1171.8 | 1170.6 | 1174.3 |
| 22.5° | 1161.8 | 1154.2 | 1151.7 | 1147.9 | 1153.0 |
| 25° | 1137.9 | 1131.6 | 1127.8 | 1125.3 | 1129.1 |
| 27.5° | 1114.0 | 1107.7 | 1102.7 | 1100.2 | 1103.9 |
| 30° | 1088.9 | 1081.3 | 1076.3 | 1071.2 | 1075.0 |
| 32.5° | 1059.9 | 1052.4 | 1046.1 | 1041.1 | 1043.6 |
| 35° | 1028.5 | 1022.2 | 1015.9 | 1008.4 | 1010.9 |
| 37.5° | 997.1 | 990.8 | 982.0 | 975.7 | 978.2 |
| 40° | 964.4 | 958.1 | 945.5 | 941.7 | 944.3 |
| 42.5° | 929.2 | 921.6 | 909.1 | 905.3 | 907.8 |
| 45° | 891.4 | 883.9 | 871.3 | 867.6 | 871.3 |
| 47.5° | 853.7 | 844.9 | 831.1 | 828.6 | 833.6 |
| 50° | 812.2 | 803.4 | 789.6 | 788.3 | 790.9 |
| 52.5° | 769.5 | 759.4 | 748.1 | 744.3 | 748.1 |
| 55° | 725.5 | 717.9 | 702.8 | 699.1 | 704.1 |
| 57.5° | 679.0 | 667.6 | 655.1 | 651.3 | 656.3 |
| 60° | 627.4 | 617.4 | 603.5 | 602.3 | 611.1 |
| 62.5° | 580.9 | 567.1 | 553.2 | 552.0 | 562.0 |
| 65° | 525.6 | 513.0 | 499.2 | 504.2 | 510.5 |
| 67.5° | 469.0 | 458.9 | 446.4 | 450.1 | 456.4 |
| 70° | 414.9 | 402.3 | 393.5 | 391.0 | 386.0 |
| 72.5° | 358.3 | 348.3 | 343.3 | 323.1 | 316.8 |
| 75° | 300.5 | 289.2 | 284.2 | 252.7 | 241.4 |
| 77.5° | 240.2 | 235.1 | 222.5 | 191.1 | 187.3 |
| 80° | 186.1 | 183.6 | 155.9 | 158.4 | 162.2 |
| 82.5° | 129.5 | 128.2 | 119.4 | 116.9 | 115.7 |
| 85° | 78.0 | 74.2 | 74.2 | 72.9 | 70.4 |
| 87.5° | 31.4 | 33.9 | 32.7 | 31.4 | 32.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)