

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: P184416

Luminaire Tested: **612EN-LD2-45-UNV-L830-CD1-U**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184416  
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-LD2-45-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: 4213.6 lumens  
Efficiency: N/A  
Efficacy: 110.9 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

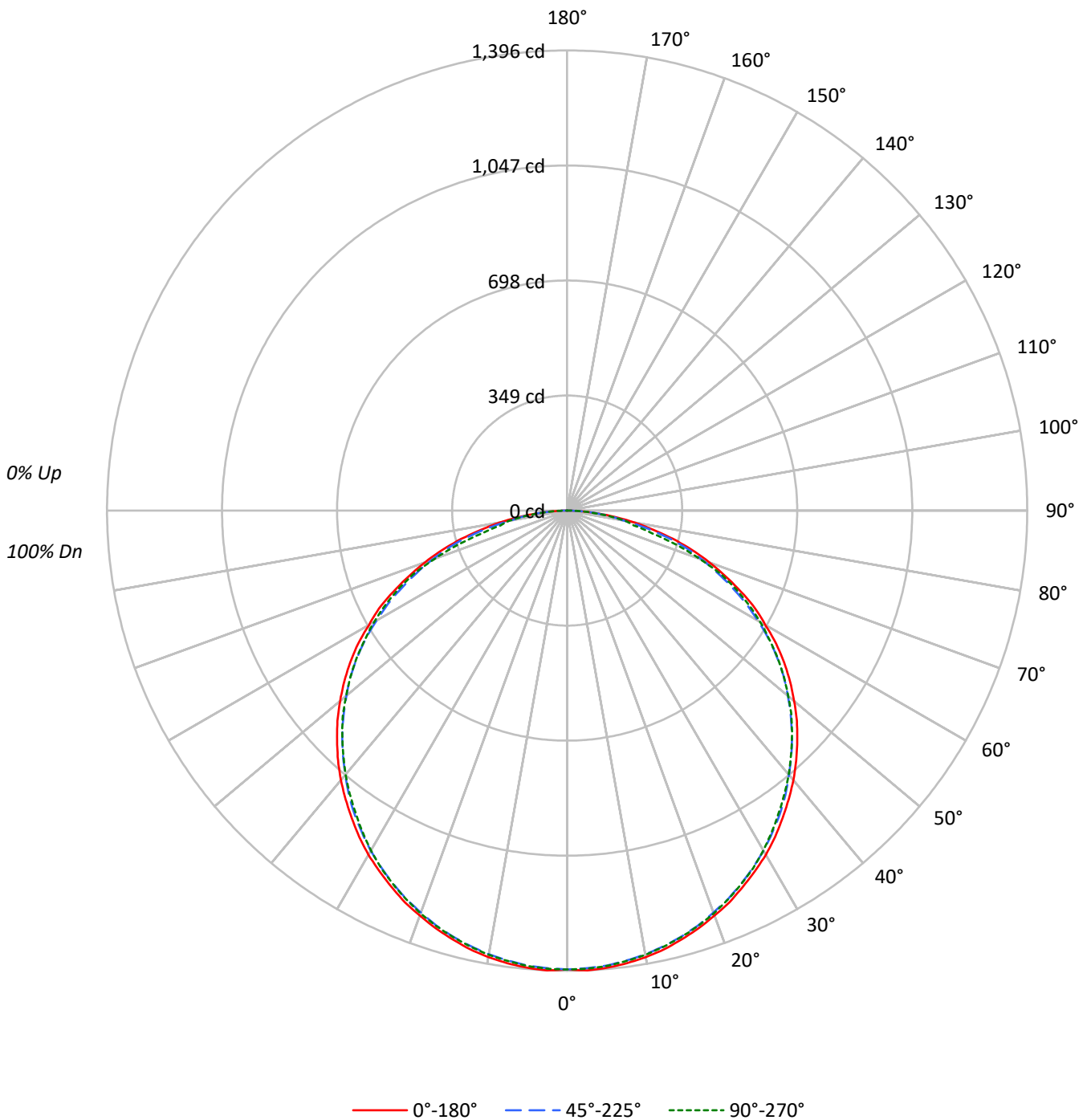
Input Watts (W): 38  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1873 | 1873 | 1873 |
| 5°  | 1880 | 1871 | 1873 |
| 10° | 1879 | 1868 | 1870 |
| 15° | 1875 | 1864 | 1866 |
| 20° | 1872 | 1858 | 1862 |
| 25° | 1871 | 1854 | 1856 |
| 30° | 1873 | 1852 | 1849 |
| 35° | 1871 | 1848 | 1839 |
| 40° | 1876 | 1839 | 1837 |
| 45° | 1878 | 1836 | 1836 |
| 50° | 1883 | 1830 | 1833 |
| 55° | 1884 | 1826 | 1829 |
| 60° | 1869 | 1798 | 1821 |
| 65° | 1853 | 1760 | 1800 |
| 70° | 1807 | 1714 | 1681 |
| 75° | 1730 | 1635 | 1390 |
| 80° | 1597 | 1337 | 1392 |
| 85° | 1332 | 1267 | 1204 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 131.7  | 3.1       |
| 10°-20°   | 378.1  | 9.0       |
| 20°-30°   | 576.8  | 13.7      |
| 30°-40°   | 704.7  | 16.7      |
| 40°-50°   | 748.5  | 17.8      |
| 50°-60°   | 699.8  | 16.6      |
| 60°-70°   | 555.7  | 13.2      |
| 70°-80°   | 324.2  | 7.7       |
| 80°-90°   | 94.0   | 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°    | 1086.7 | 25.8      |
| 0°-40°    | 1791.4 | 42.5      |
| 0°-60°    | 3239.7 | 76.9      |
| 0°-90°    | 4213.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4213.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1392 | 1392  | 1392 | 1392  | 1392 |      |
| 5°  | 1392 | 1387  | 1385 | 1382  | 1387 | 132  |
| 15° | 1346 | 1342  | 1338 | 1334  | 1339 | 380  |
| 25° | 1260 | 1253  | 1249 | 1246  | 1250 | 581  |
| 35° | 1139 | 1132  | 1125 | 1117  | 1119 | 713  |
| 45° | 987  | 979   | 965  | 961   | 965  | 762  |
| 55° | 803  | 795   | 778  | 774   | 780  | 717  |
| 65° | 582  | 568   | 553  | 558   | 565  | 575  |
| 75° | 333  | 320   | 315  | 280   | 267  | 350  |
| 85° | 86   | 82    | 82   | 81    | 78   | 100  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1392.2 | 1392.2 | 1392.2 | 1392.2 | 1392.2 |
| 2.5°  | 1396.4 | 1390.9 | 1389.5 | 1386.7 | 1390.9 |
| 5°    | 1392.2 | 1386.7 | 1385.3 | 1382.5 | 1386.7 |
| 7.5°  | 1385.3 | 1379.7 | 1376.9 | 1374.1 | 1378.3 |
| 10°   | 1375.5 | 1370.0 | 1367.2 | 1364.4 | 1368.6 |
| 12.5° | 1363.0 | 1356.0 | 1353.3 | 1350.5 | 1354.7 |
| 15°   | 1346.3 | 1342.1 | 1337.9 | 1333.8 | 1339.3 |
| 17.5° | 1328.2 | 1322.6 | 1319.8 | 1317.1 | 1321.2 |
| 20°   | 1307.3 | 1303.1 | 1297.6 | 1296.2 | 1300.4 |
| 22.5° | 1286.4 | 1278.1 | 1275.3 | 1271.1 | 1276.7 |
| 25°   | 1260.0 | 1253.0 | 1248.8 | 1246.1 | 1250.2 |
| 27.5° | 1233.5 | 1226.6 | 1221.0 | 1218.2 | 1222.4 |
| 30°   | 1205.7 | 1197.3 | 1191.8 | 1186.2 | 1190.4 |
| 32.5° | 1173.7 | 1165.3 | 1158.3 | 1152.8 | 1155.6 |
| 35°   | 1138.9 | 1131.9 | 1124.9 | 1116.6 | 1119.4 |
| 37.5° | 1104.1 | 1097.1 | 1087.3 | 1080.4 | 1083.2 |
| 40°   | 1067.9 | 1060.9 | 1047.0 | 1042.8 | 1045.6 |
| 42.5° | 1028.9 | 1020.5 | 1006.6 | 1002.4 | 1005.2 |
| 45°   | 987.1  | 978.7  | 964.8  | 960.6  | 964.8  |
| 47.5° | 945.3  | 935.6  | 920.3  | 917.5  | 923.1  |
| 50°   | 899.4  | 889.6  | 874.3  | 872.9  | 875.7  |
| 52.5° | 852.1  | 840.9  | 828.4  | 824.2  | 828.4  |
| 55°   | 803.3  | 795.0  | 778.3  | 774.1  | 779.7  |
| 57.5° | 751.8  | 739.3  | 725.4  | 721.2  | 726.8  |
| 60°   | 694.7  | 683.6  | 668.3  | 666.9  | 676.6  |
| 62.5° | 643.2  | 627.9  | 612.6  | 611.2  | 622.3  |
| 65°   | 582.0  | 568.0  | 552.7  | 558.3  | 565.3  |
| 67.5° | 519.3  | 508.2  | 494.2  | 498.4  | 505.4  |
| 70°   | 459.4  | 445.5  | 435.8  | 433.0  | 427.4  |
| 72.5° | 396.8  | 385.7  | 380.1  | 357.8  | 350.8  |
| 75°   | 332.7  | 320.2  | 314.6  | 279.8  | 267.3  |
| 77.5° | 265.9  | 260.3  | 246.4  | 211.6  | 207.4  |
| 80°   | 206.1  | 203.3  | 172.6  | 175.4  | 179.6  |
| 82.5° | 143.4  | 142.0  | 132.3  | 129.5  | 128.1  |
| 85°   | 86.3   | 82.1   | 82.1   | 80.8   | 78.0   |
| 87.5° | 34.8   | 37.6   | 36.2   | 34.8   | 36.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)