

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: P184431

Luminaire Tested: **612EN-LD2-58-UNV-L830-CD1-U**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184431  
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-LD2-58-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: 5442.2 lumens  
Efficiency: N/A  
Efficacy: 115.8 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

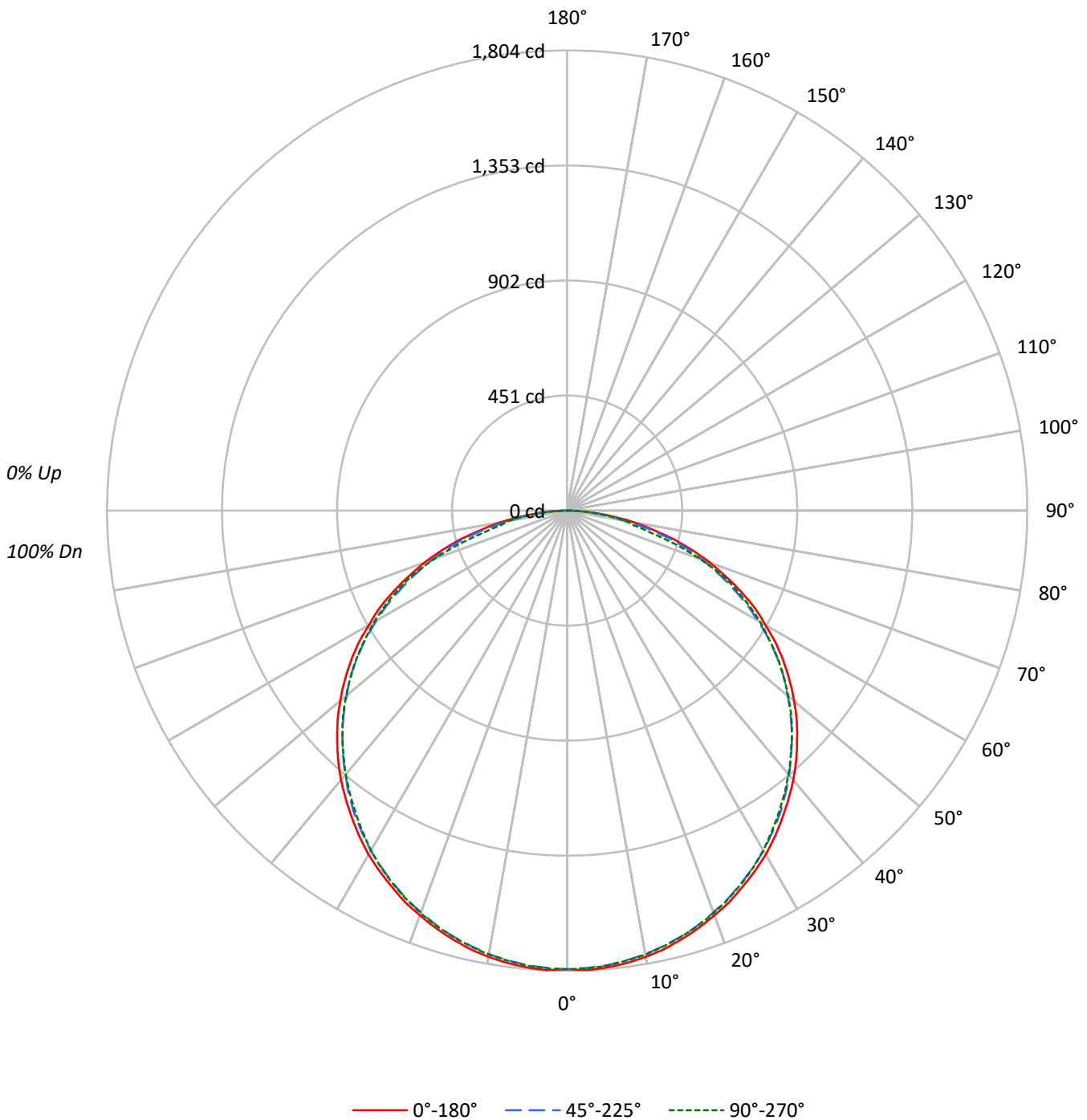
Input Watts (W): 47  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 2419 | 2419 | 2419 |
| 5°  | 2429 | 2417 | 2419 |
| 10° | 2427 | 2413 | 2415 |
| 15° | 2422 | 2407 | 2410 |
| 20° | 2418 | 2400 | 2405 |
| 25° | 2416 | 2395 | 2397 |
| 30° | 2419 | 2392 | 2389 |
| 35° | 2416 | 2387 | 2375 |
| 40° | 2422 | 2375 | 2372 |
| 45° | 2426 | 2371 | 2371 |
| 50° | 2431 | 2364 | 2368 |
| 55° | 2434 | 2358 | 2362 |
| 60° | 2415 | 2323 | 2352 |
| 65° | 2393 | 2273 | 2324 |
| 70° | 2334 | 2214 | 2172 |
| 75° | 2234 | 2113 | 1795 |
| 80° | 2062 | 1728 | 1798 |
| 85° | 1721 | 1638 | 1555 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 170.1  | 3.1       |
| 10°-20°   | 488.4  | 9.0       |
| 20°-30°   | 745.0  | 13.7      |
| 30°-40°   | 910.2  | 16.7      |
| 40°-50°   | 966.7  | 17.8      |
| 50°-60°   | 903.9  | 16.6      |
| 60°-70°   | 717.7  | 13.2      |
| 70°-80°   | 418.7  | 7.7       |
| 80°-90°   | 121.5  | 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°    | 1403.5 | 25.8      |
| 0°-40°    | 2313.7 | 42.5      |
| 0°-60°    | 4184.3 | 76.9      |
| 0°-90°    | 5442.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5442.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1798 | 1798  | 1798 | 1798  | 1798 |      |
| 5°  | 1798 | 1791  | 1789 | 1786  | 1791 | 171  |
| 15° | 1739 | 1734  | 1728 | 1723  | 1730 | 491  |
| 25° | 1627 | 1618  | 1613 | 1609  | 1615 | 751  |
| 35° | 1471 | 1462  | 1453 | 1442  | 1446 | 921  |
| 45° | 1275 | 1264  | 1246 | 1241  | 1246 | 984  |
| 55° | 1038 | 1027  | 1005 | 1000  | 1007 | 926  |
| 65° | 752  | 734   | 714  | 721   | 730  | 742  |
| 75° | 430  | 414   | 406  | 361   | 345  | 452  |
| 85° | 112  | 106   | 106  | 104   | 101  | 129  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1798.2 | 1798.2 | 1798.2 | 1798.2 | 1798.2 |
| 2.5°  | 1803.6 | 1796.4 | 1794.6 | 1791.0 | 1796.4 |
| 5°    | 1798.2 | 1791.0 | 1789.2 | 1785.6 | 1791.0 |
| 7.5°  | 1789.2 | 1782.0 | 1778.4 | 1774.8 | 1780.2 |
| 10°   | 1776.6 | 1769.4 | 1765.8 | 1762.3 | 1767.6 |
| 12.5° | 1760.5 | 1751.5 | 1747.9 | 1744.3 | 1749.7 |
| 15°   | 1738.9 | 1733.5 | 1728.1 | 1722.7 | 1729.9 |
| 17.5° | 1715.5 | 1708.3 | 1704.7 | 1701.1 | 1706.5 |
| 20°   | 1688.5 | 1683.1 | 1675.9 | 1674.1 | 1679.5 |
| 22.5° | 1661.6 | 1650.8 | 1647.2 | 1641.8 | 1649.0 |
| 25°   | 1627.4 | 1618.4 | 1613.0 | 1609.4 | 1614.8 |
| 27.5° | 1593.2 | 1584.2 | 1577.0 | 1573.4 | 1578.8 |
| 30°   | 1557.3 | 1546.5 | 1539.3 | 1532.1 | 1537.5 |
| 32.5° | 1515.9 | 1505.1 | 1496.1 | 1488.9 | 1492.5 |
| 35°   | 1470.9 | 1461.9 | 1453.0 | 1442.2 | 1445.8 |
| 37.5° | 1426.0 | 1417.0 | 1404.4 | 1395.4 | 1399.0 |
| 40°   | 1379.2 | 1370.2 | 1352.3 | 1346.9 | 1350.5 |
| 42.5° | 1328.9 | 1318.1 | 1300.1 | 1294.7 | 1298.3 |
| 45°   | 1274.9 | 1264.1 | 1246.2 | 1240.8 | 1246.2 |
| 47.5° | 1221.0 | 1208.4 | 1188.6 | 1185.0 | 1192.2 |
| 50°   | 1161.6 | 1149.1 | 1129.3 | 1127.5 | 1131.1 |
| 52.5° | 1100.5 | 1086.1 | 1069.9 | 1064.5 | 1069.9 |
| 55°   | 1037.6 | 1026.8 | 1005.2 | 999.8  | 1007.0 |
| 57.5° | 971.0  | 954.9  | 936.9  | 931.5  | 938.7  |
| 60°   | 897.3  | 882.9  | 863.1  | 861.3  | 873.9  |
| 62.5° | 830.8  | 811.0  | 791.2  | 789.4  | 803.8  |
| 65°   | 751.7  | 733.7  | 713.9  | 721.1  | 730.1  |
| 67.5° | 670.7  | 656.3  | 638.4  | 643.8  | 652.8  |
| 70°   | 593.4  | 575.4  | 562.8  | 559.2  | 552.1  |
| 72.5° | 512.5  | 498.1  | 490.9  | 462.1  | 453.2  |
| 75°   | 429.8  | 413.6  | 406.4  | 361.4  | 345.3  |
| 77.5° | 343.5  | 336.3  | 318.3  | 273.3  | 267.9  |
| 80°   | 266.1  | 262.5  | 223.0  | 226.6  | 232.0  |
| 82.5° | 185.2  | 183.4  | 170.8  | 167.2  | 165.4  |
| 85°   | 111.5  | 106.1  | 106.1  | 104.3  | 100.7  |
| 87.5° | 45.0   | 48.6   | 46.8   | 45.0   | 46.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)