

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: P184546

Luminaire Tested: **36EN-LD2-31-UNV-L830-CD1-U**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184546  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34514)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: 36EN-LD2-31-UNV-L830-CD1-U  
Description: METALUX ENCOUNTER 300X600 TROFFER  
  
Light Source: EATON LED 3000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

**Summary**

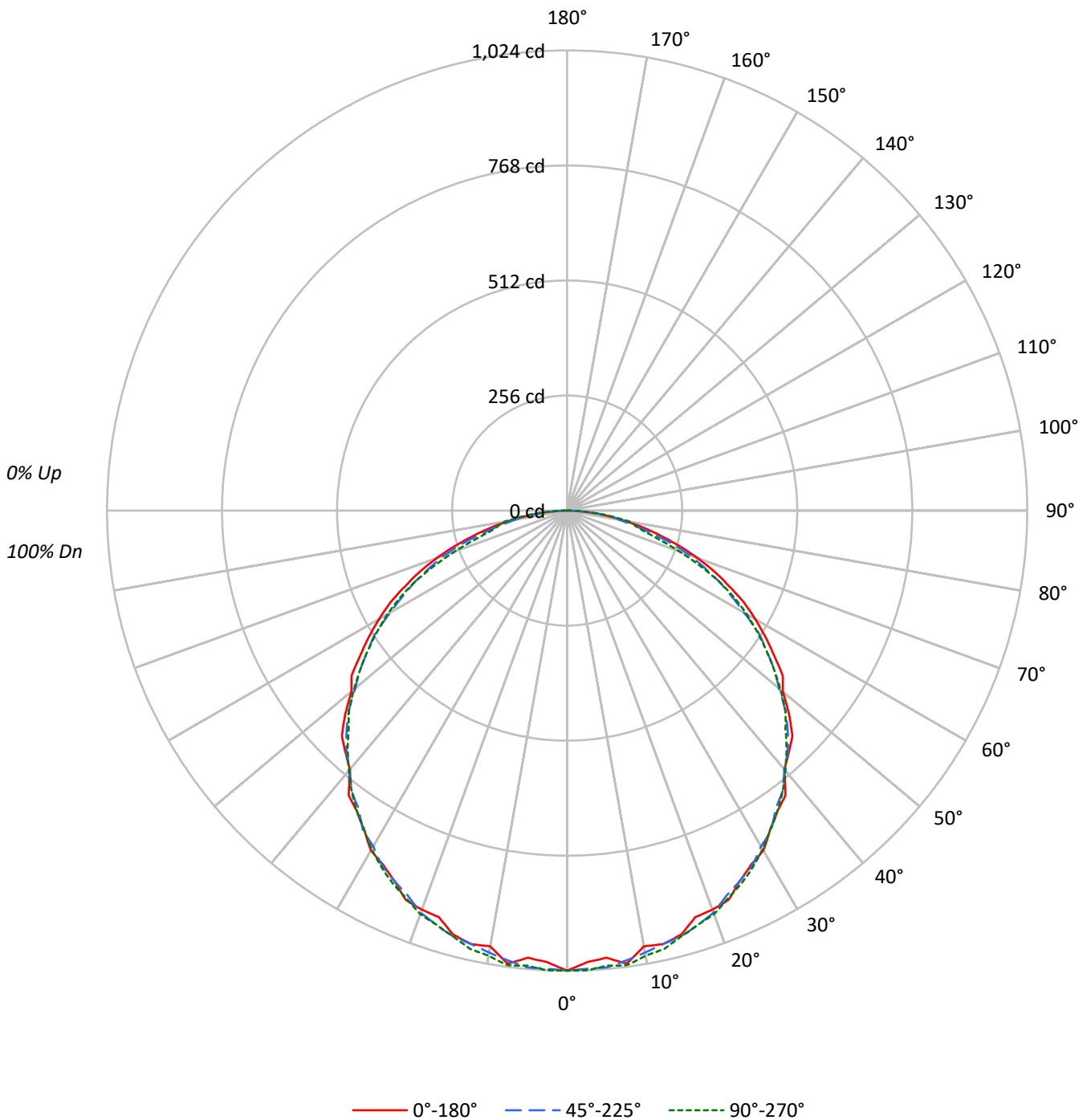
Lumens per Lamp: N/A  
Luminaire Lumens: 2976.9 lumens  
Efficiency: N/A  
Efficacy: 107.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.38  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 27.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 90  | 87  | 85  | 83  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 63  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 52  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 52  | 46  | 57  | 50  | 45  | 55  | 49  | 45  | 43  |
| 6   | 70  | 56  | 47  | 40  | 68  | 55  | 47  | 40  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |
| 7   | 64  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  | 47  | 40  | 35  | 46  | 39  | 35  | 33  |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 37  | 32  | 44  | 37  | 31  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |
| 9   | 56  | 42  | 34  | 29  | 55  | 42  | 34  | 28  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 28  | 26  |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 25  | 24  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5510 | 5510 | 5510 |
| 5°  | 5396 | 5512 | 5493 |
| 10° | 5380 | 5458 | 5497 |
| 15° | 5445 | 5465 | 5465 |
| 20° | 5413 | 5454 | 5474 |
| 25° | 5400 | 5400 | 5442 |
| 30° | 5428 | 5362 | 5406 |
| 35° | 5363 | 5316 | 5363 |
| 40° | 5282 | 5282 | 5307 |
| 45° | 5395 | 5286 | 5231 |
| 50° | 5246 | 5155 | 5185 |
| 55° | 5273 | 5073 | 5073 |
| 60° | 5202 | 4893 | 4971 |
| 65° | 5061 | 4741 | 4741 |
| 70° | 4845 | 4563 | 4168 |
| 75° | 4467 | 4020 | 3647 |
| 80° | 3995 | 3660 | 4327 |
| 85° | 3316 | 3761 | 3538 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 96.8   | 3.3       |
| 10°-20°   | 276.4  | 9.3       |
| 20°-30°   | 420.8  | 14.1      |
| 30°-40°   | 509.7  | 17.1      |
| 40°-50°   | 534.7  | 18.0      |
| 50°-60°   | 489.1  | 16.4      |
| 60°-70°   | 373.7  | 12.6      |
| 70°-80°   | 210.1  | 7.1       |
| 80°-90°   | 65.6   | 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°    | 794.0  | 26.7      |
| 0°-40°    | 1303.8 | 43.8      |
| 0°-60°    | 2327.5 | 78.2      |
| 0°-90°    | 2976.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2976.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1024 | 1024  | 1024 | 1024  | 1024 |      |
| 5°  | 999  | 1017  | 1020 | 1027  | 1017 | 96   |
| 15° | 977  | 977   | 981  | 981   | 981  | 274  |
| 25° | 909  | 913   | 909  | 916   | 916  | 421  |
| 35° | 816  | 813   | 809  | 816   | 816  | 512  |
| 45° | 709  | 698   | 694  | 687   | 687  | 540  |
| 55° | 562  | 555   | 541  | 541   | 541  | 502  |
| 65° | 397  | 387   | 372  | 369   | 372  | 394  |
| 75° | 215  | 208   | 193  | 179   | 175  | 228  |
| 85° | 54   | 54    | 61   | 57    | 57   | 62   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1023.8 | 1023.8 | 1023.8 | 1023.8 | 1023.8 |
| 2.5°  | 1005.9 | 1020.3 | 1020.3 | 1027.4 | 1023.8 |
| 5°    | 998.8  | 1016.7 | 1020.3 | 1027.4 | 1016.7 |
| 7.5°  | 1016.7 | 1013.1 | 1009.5 | 1016.7 | 1020.3 |
| 10°   | 984.5  | 998.8  | 998.8  | 1016.7 | 1005.9 |
| 12.5° | 988.0  | 991.6  | 988.0  | 988.0  | 998.8  |
| 15°   | 977.3  | 977.3  | 980.9  | 980.9  | 980.9  |
| 17.5° | 948.7  | 963.0  | 966.6  | 970.1  | 966.6  |
| 20°   | 945.1  | 948.7  | 952.2  | 955.8  | 955.8  |
| 22.5° | 937.9  | 930.8  | 927.2  | 941.5  | 934.3  |
| 25°   | 909.3  | 912.9  | 909.3  | 916.4  | 916.4  |
| 27.5° | 887.8  | 887.8  | 891.4  | 887.8  | 895.0  |
| 30°   | 873.5  | 869.9  | 862.8  | 869.9  | 869.9  |
| 32.5° | 841.3  | 844.9  | 844.9  | 841.3  | 841.3  |
| 35°   | 816.2  | 812.6  | 809.1  | 816.2  | 816.2  |
| 37.5° | 798.3  | 780.4  | 787.6  | 784.0  | 787.6  |
| 40°   | 751.8  | 762.5  | 751.8  | 751.8  | 755.4  |
| 42.5° | 730.3  | 726.7  | 726.7  | 723.1  | 723.1  |
| 45°   | 708.8  | 698.1  | 694.5  | 687.3  | 687.3  |
| 47.5° | 669.4  | 669.4  | 658.7  | 651.5  | 658.7  |
| 50°   | 626.5  | 630.1  | 615.7  | 612.2  | 619.3  |
| 52.5° | 605.0  | 594.3  | 579.9  | 583.5  | 579.9  |
| 55°   | 562.0  | 554.9  | 540.6  | 540.6  | 540.6  |
| 57.5° | 522.7  | 519.1  | 504.8  | 501.2  | 501.2  |
| 60°   | 483.3  | 476.1  | 454.6  | 458.2  | 461.8  |
| 62.5° | 443.9  | 433.2  | 411.7  | 418.8  | 418.8  |
| 65°   | 397.4  | 386.6  | 372.3  | 368.7  | 372.3  |
| 67.5° | 354.4  | 340.1  | 329.3  | 325.8  | 318.6  |
| 70°   | 307.9  | 300.7  | 290.0  | 268.5  | 264.9  |
| 72.5° | 261.3  | 250.6  | 243.4  | 218.4  | 214.8  |
| 75°   | 214.8  | 207.6  | 193.3  | 179.0  | 175.4  |
| 77.5° | 171.8  | 168.3  | 150.4  | 150.4  | 157.5  |
| 80°   | 128.9  | 125.3  | 118.1  | 132.5  | 139.6  |
| 82.5° | 89.5   | 85.9   | 96.7   | 100.2  | 100.2  |
| 85°   | 53.7   | 53.7   | 60.9   | 57.3   | 57.3   |
| 87.5° | 21.5   | 25.1   | 25.1   | 28.6   | 28.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)