

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: P184547

Luminaire Tested: **36EN-LD2-31-UNV-L835-CD1-U**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P184547
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-L835-CD1-U
Description: METALUX ENCOUNTER 300X600 TROFFER

Light Source: EATON LED 3500K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

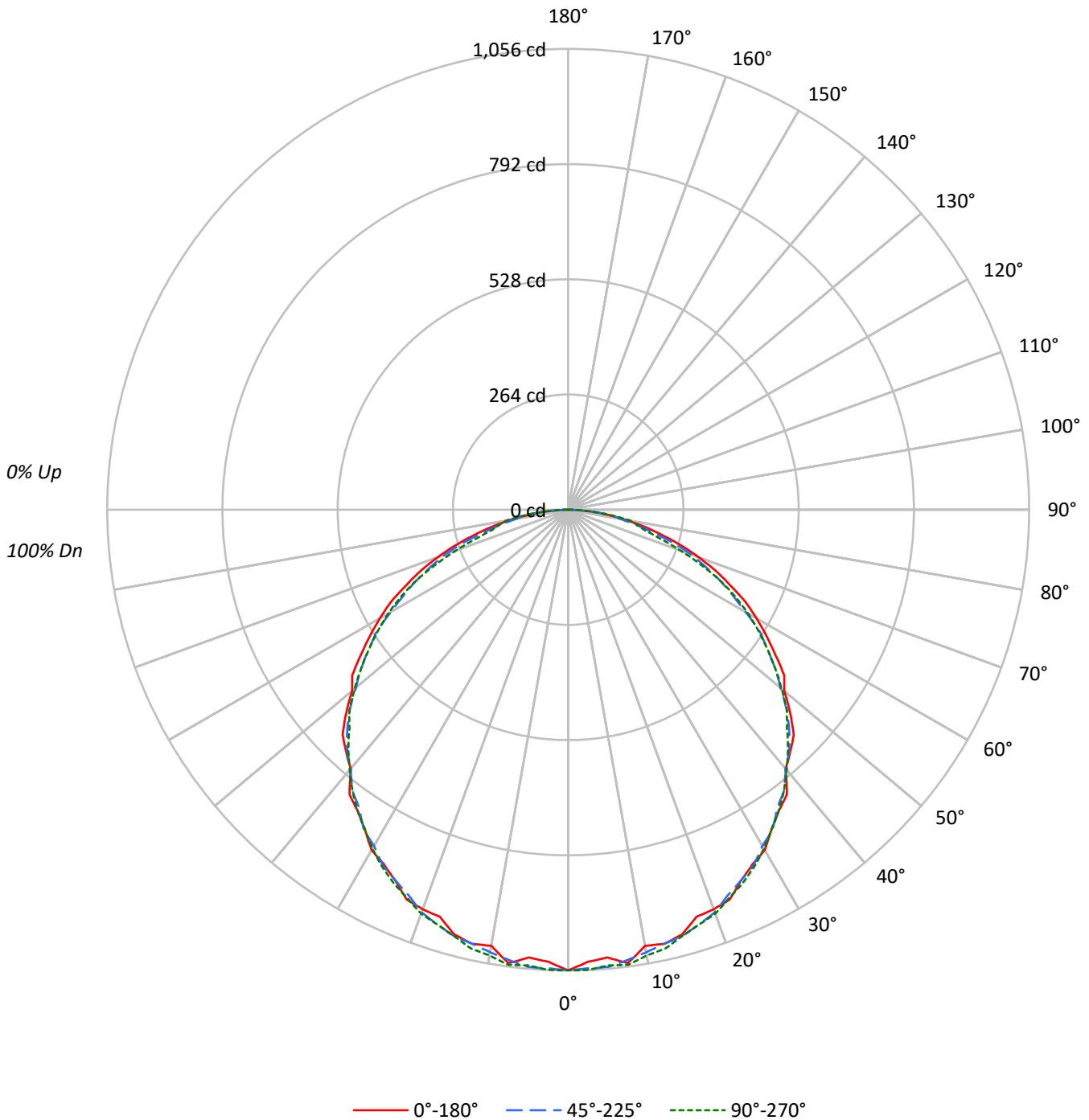
Lumens per Lamp: N/A
Luminaire Lumens: 3068.9 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.38
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 27.7
Input Voltage (V): NR
Input Current (A_{in}): 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° | 5681 | 5681 | 5681 |
| 5° | 5563 | 5682 | 5662 |
| 10° | 5546 | 5627 | 5668 |
| 15° | 5614 | 5634 | 5634 |
| 20° | 5580 | 5623 | 5644 |
| 25° | 5567 | 5567 | 5611 |
| 30° | 5596 | 5527 | 5573 |
| 35° | 5529 | 5480 | 5529 |
| 40° | 5445 | 5445 | 5471 |
| 45° | 5562 | 5450 | 5393 |
| 50° | 5408 | 5315 | 5346 |
| 55° | 5437 | 5229 | 5229 |
| 60° | 5363 | 5045 | 5125 |
| 65° | 5217 | 4888 | 4888 |
| 70° | 4995 | 4703 | 4297 |
| 75° | 4604 | 4144 | 3760 |
| 80° | 4119 | 3775 | 4460 |
| 85° | 3421 | 3872 | 3643 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 99.8 | 3.3 |
| 10°-20° | 285.0 | 9.3 |
| 20°-30° | 433.8 | 14.1 |
| 30°-40° | 525.5 | 17.1 |
| 40°-50° | 551.2 | 18.0 |
| 50°-60° | 504.2 | 16.4 |
| 60°-70° | 385.3 | 12.6 |
| 70°-80° | 216.6 | 7.1 |
| 80°-90° | 67.6 | 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° | 818.6 | 26.7 |
| 0°-40° | 1344.1 | 43.8 |
| 0°-60° | 2399.5 | 78.2 |
| 0°-90° | 3068.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3068.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1056 | 1056 | 1056 | 1056 | 1056 | |
| 5° | 1030 | 1048 | 1052 | 1059 | 1048 | 99 |
| 15° | 1008 | 1008 | 1011 | 1011 | 1011 | 283 |
| 25° | 937 | 941 | 937 | 945 | 945 | 434 |
| 35° | 842 | 838 | 834 | 842 | 842 | 528 |
| 45° | 731 | 720 | 716 | 709 | 709 | 557 |
| 55° | 579 | 572 | 557 | 557 | 557 | 518 |
| 65° | 410 | 399 | 384 | 380 | 384 | 406 |
| 75° | 221 | 214 | 199 | 184 | 181 | 235 |
| 85° | 55 | 55 | 63 | 59 | 59 | 64 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P184547

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1055.5 | 1055.5 | 1055.5 | 1055.5 | 1055.5 |
| 2.5° | 1037.1 | 1051.8 | 1051.8 | 1059.2 | 1055.5 |
| 5° | 1029.7 | 1048.1 | 1051.8 | 1059.2 | 1048.1 |
| 7.5° | 1048.1 | 1044.4 | 1040.7 | 1048.1 | 1051.8 |
| 10° | 1014.9 | 1029.7 | 1029.7 | 1048.1 | 1037.1 |
| 12.5° | 1018.6 | 1022.3 | 1018.6 | 1018.6 | 1029.7 |
| 15° | 1007.5 | 1007.5 | 1011.2 | 1011.2 | 1011.2 |
| 17.5° | 978.0 | 992.8 | 996.5 | 1000.2 | 996.5 |
| 20° | 974.3 | 978.0 | 981.7 | 985.4 | 985.4 |
| 22.5° | 966.9 | 959.6 | 955.9 | 970.6 | 963.2 |
| 25° | 937.4 | 941.1 | 937.4 | 944.8 | 944.8 |
| 27.5° | 915.3 | 915.3 | 919.0 | 915.3 | 922.6 |
| 30° | 900.5 | 896.8 | 889.4 | 896.8 | 896.8 |
| 32.5° | 867.3 | 871.0 | 871.0 | 867.3 | 867.3 |
| 35° | 841.5 | 837.8 | 834.1 | 841.5 | 841.5 |
| 37.5° | 823.0 | 804.5 | 811.9 | 808.2 | 811.9 |
| 40° | 775.0 | 786.1 | 775.0 | 775.0 | 778.7 |
| 42.5° | 752.9 | 749.2 | 749.2 | 745.5 | 745.5 |
| 45° | 730.7 | 719.7 | 716.0 | 708.6 | 708.6 |
| 47.5° | 690.1 | 690.1 | 679.1 | 671.7 | 679.1 |
| 50° | 645.9 | 649.5 | 634.8 | 631.1 | 638.5 |
| 52.5° | 623.7 | 612.6 | 597.9 | 601.6 | 597.9 |
| 55° | 579.4 | 572.0 | 557.3 | 557.3 | 557.3 |
| 57.5° | 538.8 | 535.1 | 520.4 | 516.7 | 516.7 |
| 60° | 498.2 | 490.8 | 468.7 | 472.4 | 476.1 |
| 62.5° | 457.6 | 446.6 | 424.4 | 431.8 | 431.8 |
| 65° | 409.7 | 398.6 | 383.8 | 380.1 | 383.8 |
| 67.5° | 365.4 | 350.6 | 339.5 | 335.8 | 328.5 |
| 70° | 317.4 | 310.0 | 298.9 | 276.8 | 273.1 |
| 72.5° | 269.4 | 258.3 | 251.0 | 225.1 | 221.4 |
| 75° | 221.4 | 214.1 | 199.3 | 184.5 | 180.8 |
| 77.5° | 177.1 | 173.5 | 155.0 | 155.0 | 162.4 |
| 80° | 132.9 | 129.2 | 121.8 | 136.6 | 143.9 |
| 82.5° | 92.3 | 88.6 | 99.6 | 103.3 | 103.3 |
| 85° | 55.4 | 55.4 | 62.7 | 59.0 | 59.0 |
| 87.5° | 22.1 | 25.8 | 25.8 | 29.5 | 29.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)