

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: P184498

Luminaire Tested: **312EN-LD2-33-UNV-L840-CD1-U**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P184498
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34485)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: 312EN-LD2-33-UNV-L840-CD1-U
Description: METALUX ENCOUNTER 300X1200 TROFFER

Light Source: EATON LED 4000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

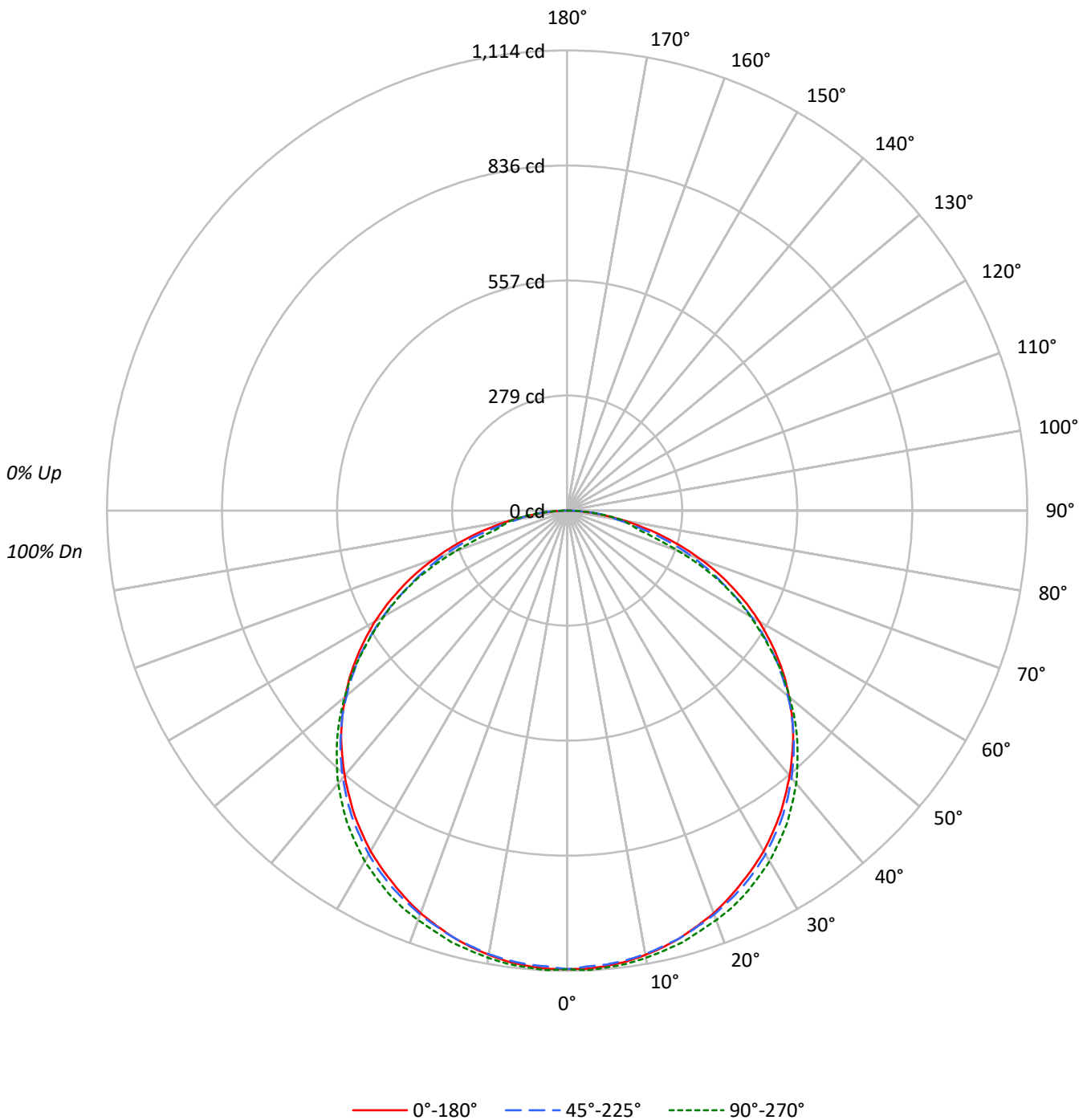
Lumens per Lamp: N/A
Luminaire Lumens: 3301.0 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.31 / 1.41
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.1
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 | 109 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 77 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 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 | 51 | 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 | 41 | 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 | 28 | 55 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 30 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2987 | 2987 | 2987 |
| 5° | 2989 | 2979 | 2999 |
| 10° | 2985 | 2980 | 3004 |
| 15° | 2979 | 2979 | 3013 |
| 20° | 2970 | 2980 | 3021 |
| 25° | 2958 | 2984 | 3037 |
| 30° | 2958 | 2985 | 3046 |
| 35° | 2951 | 2981 | 3045 |
| 40° | 2943 | 2968 | 3031 |
| 45° | 2945 | 2952 | 2999 |
| 50° | 2934 | 2920 | 2942 |
| 55° | 2921 | 2871 | 2863 |
| 60° | 2891 | 2777 | 2757 |
| 65° | 2821 | 2639 | 2616 |
| 70° | 2701 | 2505 | 2253 |
| 75° | 2497 | 2220 | 1850 |
| 80° | 2177 | 1875 | 2123 |
| 85° | 1649 | 1976 | 1924 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.2 | 3.2 |
| 10°-20° | 302.9 | 9.2 |
| 20°-30° | 464.5 | 14.1 |
| 30°-40° | 568.9 | 17.2 |
| 40°-50° | 599.8 | 18.2 |
| 50°-60° | 547.9 | 16.6 |
| 60°-70° | 416.3 | 12.6 |
| 70°-80° | 227.3 | 6.9 |
| 80°-90° | 68.2 | 2.1 |
| 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° | 872.6 | 26.4 |
| 0°-40° | 1441.5 | 43.7 |
| 0°-60° | 2589.2 | 78.4 |
| 0°-90° | 3301.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3301.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1110 | 1110 | 1110 | 1110 | 1110 | |
| 5° | 1106 | 1106 | 1103 | 1108 | 1110 | 105 |
| 15° | 1069 | 1069 | 1069 | 1078 | 1082 | 302 |
| 25° | 996 | 998 | 1005 | 1018 | 1023 | 460 |
| 35° | 898 | 898 | 907 | 920 | 927 | 562 |
| 45° | 774 | 774 | 776 | 783 | 788 | 596 |
| 55° | 623 | 621 | 612 | 607 | 610 | 556 |
| 65° | 443 | 434 | 414 | 411 | 411 | 438 |
| 75° | 240 | 231 | 214 | 183 | 178 | 254 |
| 85° | 53 | 57 | 64 | 62 | 62 | 66 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P184498

CATALOG NUMBER: 312EN-LD2-33-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1110.1 | 1110.1 | 1110.1 | 1110.1 | 1110.1 |
| 2.5° | 1110.1 | 1110.1 | 1104.7 | 1110.1 | 1113.6 |
| 5° | 1106.5 | 1106.5 | 1103.0 | 1108.3 | 1110.1 |
| 7.5° | 1101.2 | 1101.2 | 1097.6 | 1103.0 | 1106.5 |
| 10° | 1092.3 | 1092.3 | 1090.5 | 1095.8 | 1099.4 |
| 12.5° | 1081.6 | 1081.6 | 1079.8 | 1087.0 | 1090.5 |
| 15° | 1069.2 | 1069.2 | 1069.2 | 1078.1 | 1081.6 |
| 17.5° | 1053.2 | 1054.9 | 1054.9 | 1063.8 | 1067.4 |
| 20° | 1037.1 | 1038.9 | 1040.7 | 1051.4 | 1054.9 |
| 22.5° | 1017.6 | 1017.6 | 1022.9 | 1035.4 | 1040.7 |
| 25° | 996.2 | 998.0 | 1005.1 | 1017.6 | 1022.9 |
| 27.5° | 974.9 | 976.7 | 983.8 | 996.2 | 1001.6 |
| 30° | 951.8 | 953.5 | 960.6 | 973.1 | 980.2 |
| 32.5° | 925.1 | 926.8 | 934.0 | 948.2 | 953.5 |
| 35° | 898.4 | 898.4 | 907.3 | 919.7 | 926.8 |
| 37.5° | 868.1 | 869.9 | 877.0 | 889.5 | 894.8 |
| 40° | 837.9 | 839.7 | 845.0 | 855.7 | 862.8 |
| 42.5° | 805.9 | 807.7 | 811.2 | 820.1 | 825.4 |
| 45° | 773.9 | 773.9 | 775.6 | 782.7 | 788.1 |
| 47.5° | 738.3 | 738.3 | 738.3 | 741.8 | 747.2 |
| 50° | 700.9 | 700.9 | 697.4 | 699.1 | 702.7 |
| 52.5° | 663.6 | 661.8 | 654.7 | 654.7 | 660.0 |
| 55° | 622.6 | 620.9 | 612.0 | 606.6 | 610.2 |
| 57.5° | 579.9 | 576.4 | 563.9 | 558.6 | 560.4 |
| 60° | 537.2 | 531.9 | 515.9 | 508.8 | 512.3 |
| 62.5° | 491.0 | 485.7 | 466.1 | 460.8 | 464.3 |
| 65° | 443.0 | 434.1 | 414.5 | 410.9 | 410.9 |
| 67.5° | 394.9 | 384.3 | 366.5 | 357.6 | 352.2 |
| 70° | 343.3 | 332.7 | 318.4 | 297.1 | 286.4 |
| 72.5° | 291.8 | 282.9 | 268.6 | 236.6 | 225.9 |
| 75° | 240.2 | 231.3 | 213.5 | 183.2 | 177.9 |
| 77.5° | 188.6 | 183.2 | 160.1 | 151.2 | 156.5 |
| 80° | 140.5 | 140.5 | 121.0 | 131.6 | 137.0 |
| 82.5° | 94.3 | 90.7 | 99.6 | 101.4 | 101.4 |
| 85° | 53.4 | 56.9 | 64.0 | 62.3 | 62.3 |
| 87.5° | 23.1 | 26.7 | 28.5 | 26.7 | 26.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)