

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: P184497

Luminaire Tested: **312EN-LD2-33-UNV-L835-CD1-U**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P184497
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-L835-CD1-U
Description: METALUX ENCOUNTER 300X1200 TROFFER

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

Summary

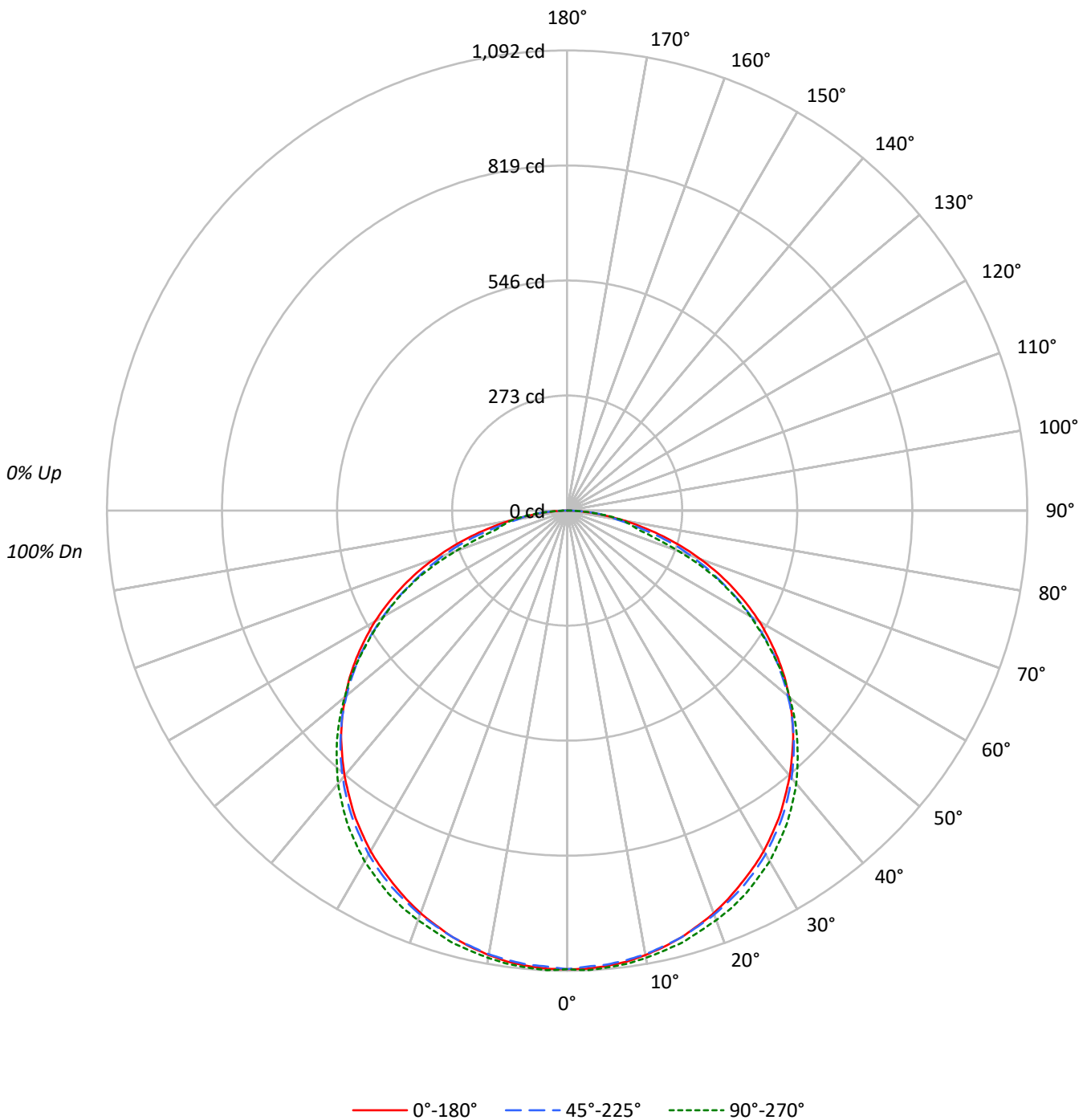
Lumens per Lamp: N/A
Luminaire Lumens: 3236.3 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.31 / 1.41
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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° | 2929 | 2929 | 2929 |
| 5° | 2930 | 2921 | 2940 |
| 10° | 2926 | 2921 | 2945 |
| 15° | 2920 | 2920 | 2954 |
| 20° | 2912 | 2922 | 2962 |
| 25° | 2900 | 2926 | 2978 |
| 30° | 2899 | 2926 | 2986 |
| 35° | 2893 | 2922 | 2985 |
| 40° | 2886 | 2910 | 2971 |
| 45° | 2887 | 2894 | 2940 |
| 50° | 2877 | 2862 | 2884 |
| 55° | 2864 | 2815 | 2807 |
| 60° | 2835 | 2722 | 2703 |
| 65° | 2765 | 2588 | 2565 |
| 70° | 2648 | 2456 | 2209 |
| 75° | 2449 | 2176 | 1813 |
| 80° | 2135 | 1838 | 2081 |
| 85° | 1615 | 1939 | 1883 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.2 | 3.2 |
| 10°-20° | 296.9 | 9.2 |
| 20°-30° | 455.4 | 14.1 |
| 30°-40° | 557.8 | 17.2 |
| 40°-50° | 588.0 | 18.2 |
| 50°-60° | 537.1 | 16.6 |
| 60°-70° | 408.1 | 12.6 |
| 70°-80° | 222.8 | 6.9 |
| 80°-90° | 66.9 | 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° | 855.5 | 26.4 |
| 0°-40° | 1413.3 | 43.7 |
| 0°-60° | 2538.4 | 78.4 |
| 0°-90° | 3236.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3236.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1088 | 1088 | 1088 | 1088 | 1088 | |
| 5° | 1085 | 1085 | 1081 | 1087 | 1088 | 103 |
| 15° | 1048 | 1048 | 1048 | 1057 | 1060 | 296 |
| 25° | 977 | 978 | 985 | 998 | 1003 | 451 |
| 35° | 881 | 881 | 890 | 902 | 909 | 551 |
| 45° | 759 | 759 | 760 | 767 | 773 | 585 |
| 55° | 610 | 609 | 600 | 595 | 598 | 545 |
| 65° | 434 | 426 | 406 | 403 | 403 | 429 |
| 75° | 236 | 227 | 209 | 180 | 174 | 249 |
| 85° | 52 | 56 | 63 | 61 | 61 | 64 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P184497

CATALOG NUMBER: 312EN-LD2-33-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1088.3 | 1088.3 | 1088.3 | 1088.3 | 1088.3 |
| 2.5° | 1088.3 | 1088.3 | 1083.1 | 1088.3 | 1091.8 |
| 5° | 1084.8 | 1084.8 | 1081.3 | 1086.6 | 1088.3 |
| 7.5° | 1079.6 | 1079.6 | 1076.1 | 1081.3 | 1084.8 |
| 10° | 1070.9 | 1070.9 | 1069.1 | 1074.4 | 1077.8 |
| 12.5° | 1060.4 | 1060.4 | 1058.7 | 1065.6 | 1069.1 |
| 15° | 1048.2 | 1048.2 | 1048.2 | 1056.9 | 1060.4 |
| 17.5° | 1032.5 | 1034.2 | 1034.2 | 1043.0 | 1046.5 |
| 20° | 1016.8 | 1018.5 | 1020.3 | 1030.8 | 1034.2 |
| 22.5° | 997.6 | 997.6 | 1002.9 | 1015.1 | 1020.3 |
| 25° | 976.7 | 978.4 | 985.4 | 997.6 | 1002.9 |
| 27.5° | 955.8 | 957.5 | 964.5 | 976.7 | 981.9 |
| 30° | 933.1 | 934.8 | 941.8 | 954.0 | 961.0 |
| 32.5° | 906.9 | 908.7 | 915.6 | 929.6 | 934.8 |
| 35° | 880.8 | 880.8 | 889.5 | 901.7 | 908.7 |
| 37.5° | 851.1 | 852.9 | 859.8 | 872.0 | 877.3 |
| 40° | 821.5 | 823.2 | 828.4 | 838.9 | 845.9 |
| 42.5° | 790.1 | 791.8 | 795.3 | 804.0 | 809.3 |
| 45° | 758.7 | 758.7 | 760.4 | 767.4 | 772.6 |
| 47.5° | 723.8 | 723.8 | 723.8 | 727.3 | 732.5 |
| 50° | 687.2 | 687.2 | 683.7 | 685.4 | 688.9 |
| 52.5° | 650.5 | 648.8 | 641.8 | 641.8 | 647.1 |
| 55° | 610.4 | 608.7 | 600.0 | 594.7 | 598.2 |
| 57.5° | 568.6 | 565.1 | 552.9 | 547.6 | 549.4 |
| 60° | 526.7 | 521.5 | 505.8 | 498.8 | 502.3 |
| 62.5° | 481.4 | 476.1 | 457.0 | 451.7 | 455.2 |
| 65° | 434.3 | 425.6 | 406.4 | 402.9 | 402.9 |
| 67.5° | 387.2 | 376.7 | 359.3 | 350.6 | 345.3 |
| 70° | 336.6 | 326.1 | 312.2 | 291.3 | 280.8 |
| 72.5° | 286.0 | 277.3 | 263.4 | 232.0 | 221.5 |
| 75° | 235.5 | 226.7 | 209.3 | 179.6 | 174.4 |
| 77.5° | 184.9 | 179.6 | 157.0 | 148.2 | 153.5 |
| 80° | 137.8 | 137.8 | 118.6 | 129.1 | 134.3 |
| 82.5° | 92.4 | 88.9 | 97.7 | 99.4 | 99.4 |
| 85° | 52.3 | 55.8 | 62.8 | 61.0 | 61.0 |
| 87.5° | 22.7 | 26.2 | 27.9 | 26.2 | 26.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)