

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: METALUX

Report Number: P392870

Luminaire Tested: **12EN-LD2-31-UNV-L82765-W2A-1-U (4500K)**

Issue Date: 3/28/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P392870  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-563-38)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 12EN-LD2-31-UNV-L82765-W2A-1-U (4500K)  
Description: 1X2 ENCOUNTER, 3100 LUMENS, VIVIDTUNE TUNABLE WHITE  
Light Source: 3000K/5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3006.7 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

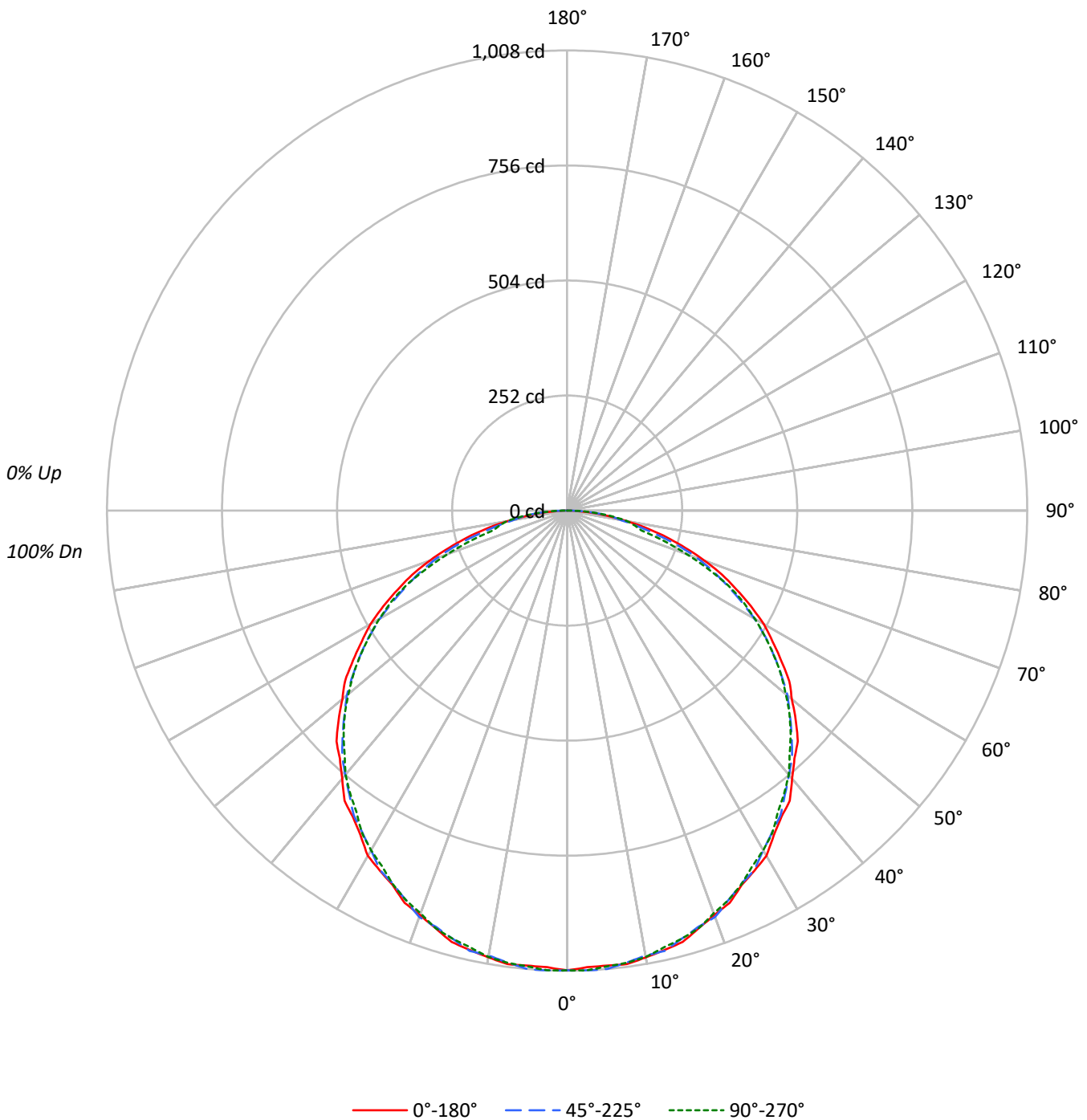
Input Watts (W): 26.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  | 57  | 50  | 45  | 55  | 49  | 44  | 42  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 37  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  | 48  | 40  | 35  | 47  | 40  | 35  | 45  | 39  | 34  | 32  |
| 8   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 44  | 36  | 31  | 43  | 36  | 31  | 41  | 35  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 40  | 33  | 28  | 39  | 33  | 28  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 25  | 37  | 30  | 25  | 36  | 30  | 25  | 35  | 29  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5420 | 5420 | 5420 |
| 5°  | 5404 | 5446 | 5414 |
| 10° | 5430 | 5409 | 5425 |
| 15° | 5450 | 5407 | 5407 |
| 20° | 5399 | 5426 | 5376 |
| 25° | 5375 | 5358 | 5364 |
| 30° | 5427 | 5338 | 5338 |
| 35° | 5378 | 5353 | 5290 |
| 40° | 5386 | 5311 | 5304 |
| 45° | 5439 | 5293 | 5271 |
| 50° | 5380 | 5275 | 5235 |
| 55° | 5370 | 5190 | 5190 |
| 60° | 5353 | 5093 | 5114 |
| 65° | 5217 | 4912 | 4973 |
| 70° | 5040 | 4768 | 4375 |
| 75° | 4700 | 4240 | 3500 |
| 80° | 4085 | 3667 | 4144 |
| 85° | 3205 | 3977 | 4039 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 95.5   | 3.2       |
| 10°-20°   | 274.4  | 9.1       |
| 20°-30°   | 417.5  | 13.9      |
| 30°-40°   | 508.9  | 16.9      |
| 40°-50°   | 538.8  | 17.9      |
| 50°-60°   | 498.9  | 16.6      |
| 60°-70°   | 388.2  | 12.9      |
| 70°-80°   | 217.3  | 7.2       |
| 80°-90°   | 67.4   | 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°    | 787.4  | 26.2      |
| 0°-40°    | 1296.2 | 43.1      |
| 0°-60°    | 2333.9 | 77.6      |
| 0°-90°    | 3006.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3006.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1007 | 1007  | 1007 | 1007  | 1007 |      |
| 5°  | 1000 | 1007  | 1008 | 1009  | 1002 | 95   |
| 15° | 978  | 972   | 970  | 969   | 970  | 275  |
| 25° | 905  | 903   | 902  | 901   | 903  | 419  |
| 35° | 818  | 818   | 815  | 810   | 805  | 514  |
| 45° | 715  | 709   | 695  | 692   | 692  | 548  |
| 55° | 572  | 568   | 553  | 550   | 553  | 512  |
| 65° | 410  | 400   | 386  | 387   | 390  | 406  |
| 75° | 226  | 218   | 204  | 183   | 168  | 238  |
| 85° | 52   | 54    | 64   | 64    | 65   | 62   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1007.0 | 1007.0 | 1007.0 | 1007.0 | 1007.0 |
| 2.5°  | 1001.3 | 1005.1 | 1008.0 | 1008.0 | 1008.0 |
| 5°    | 1000.3 | 1007.0 | 1008.0 | 1009.0 | 1002.2 |
| 7.5°  | 1002.2 | 997.4  | 998.4  | 996.5  | 999.3  |
| 10°   | 993.6  | 988.8  | 989.7  | 991.6  | 992.6  |
| 12.5° | 985.9  | 986.8  | 987.8  | 986.8  | 980.1  |
| 15°   | 978.2  | 972.4  | 970.5  | 968.6  | 970.5  |
| 17.5° | 958.9  | 955.1  | 956.1  | 957.0  | 958.9  |
| 20°   | 942.6  | 947.4  | 947.4  | 945.5  | 938.7  |
| 22.5° | 930.1  | 929.1  | 923.4  | 920.5  | 923.4  |
| 25°   | 905.1  | 903.2  | 902.2  | 901.2  | 903.2  |
| 27.5° | 888.7  | 888.7  | 887.8  | 883.9  | 878.2  |
| 30°   | 873.3  | 868.5  | 858.9  | 857.0  | 858.9  |
| 32.5° | 842.6  | 838.7  | 835.8  | 832.0  | 836.8  |
| 35°   | 818.5  | 818.5  | 814.7  | 809.9  | 805.1  |
| 37.5° | 801.2  | 795.4  | 783.9  | 780.0  | 781.0  |
| 40°   | 766.6  | 762.7  | 756.0  | 751.2  | 755.0  |
| 42.5° | 736.8  | 735.8  | 729.1  | 723.3  | 721.4  |
| 45°   | 714.6  | 708.9  | 695.4  | 691.6  | 692.5  |
| 47.5° | 679.1  | 673.3  | 661.7  | 657.9  | 660.8  |
| 50°   | 642.5  | 638.7  | 630.0  | 624.2  | 625.2  |
| 52.5° | 613.6  | 606.0  | 591.5  | 589.6  | 590.6  |
| 55°   | 572.3  | 567.5  | 553.1  | 550.2  | 553.1  |
| 57.5° | 533.8  | 528.0  | 514.6  | 508.8  | 513.6  |
| 60°   | 497.3  | 488.6  | 473.2  | 471.3  | 475.1  |
| 62.5° | 454.0  | 447.3  | 429.0  | 429.9  | 435.7  |
| 65°   | 409.7  | 400.1  | 385.7  | 386.7  | 390.5  |
| 67.5° | 367.4  | 356.8  | 345.3  | 339.5  | 334.7  |
| 70°   | 320.3  | 312.6  | 303.0  | 284.7  | 278.0  |
| 72.5° | 271.2  | 264.5  | 255.8  | 228.0  | 223.1  |
| 75°   | 226.0  | 218.3  | 203.9  | 182.7  | 168.3  |
| 77.5° | 177.9  | 174.1  | 156.8  | 147.2  | 152.0  |
| 80°   | 131.8  | 131.8  | 118.3  | 128.9  | 133.7  |
| 82.5° | 88.5   | 87.5   | 97.1   | 102.0  | 101.0  |
| 85°   | 51.9   | 53.9   | 64.4   | 64.4   | 65.4   |
| 87.5° | 22.1   | 25.0   | 29.8   | 30.8   | 30.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)