

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: METALUX

Report Number: P#

Luminaire Tested: 22D3X-LP-20-L950.ies

Issue Date: 12/20/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P#  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2307-104-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 22D3X-LP-20-L950.ies  
Description: 2x2 D3X-LP AT 2000LM 5000K 90CRI  
Light Source: -  
Ballast/Driver: -

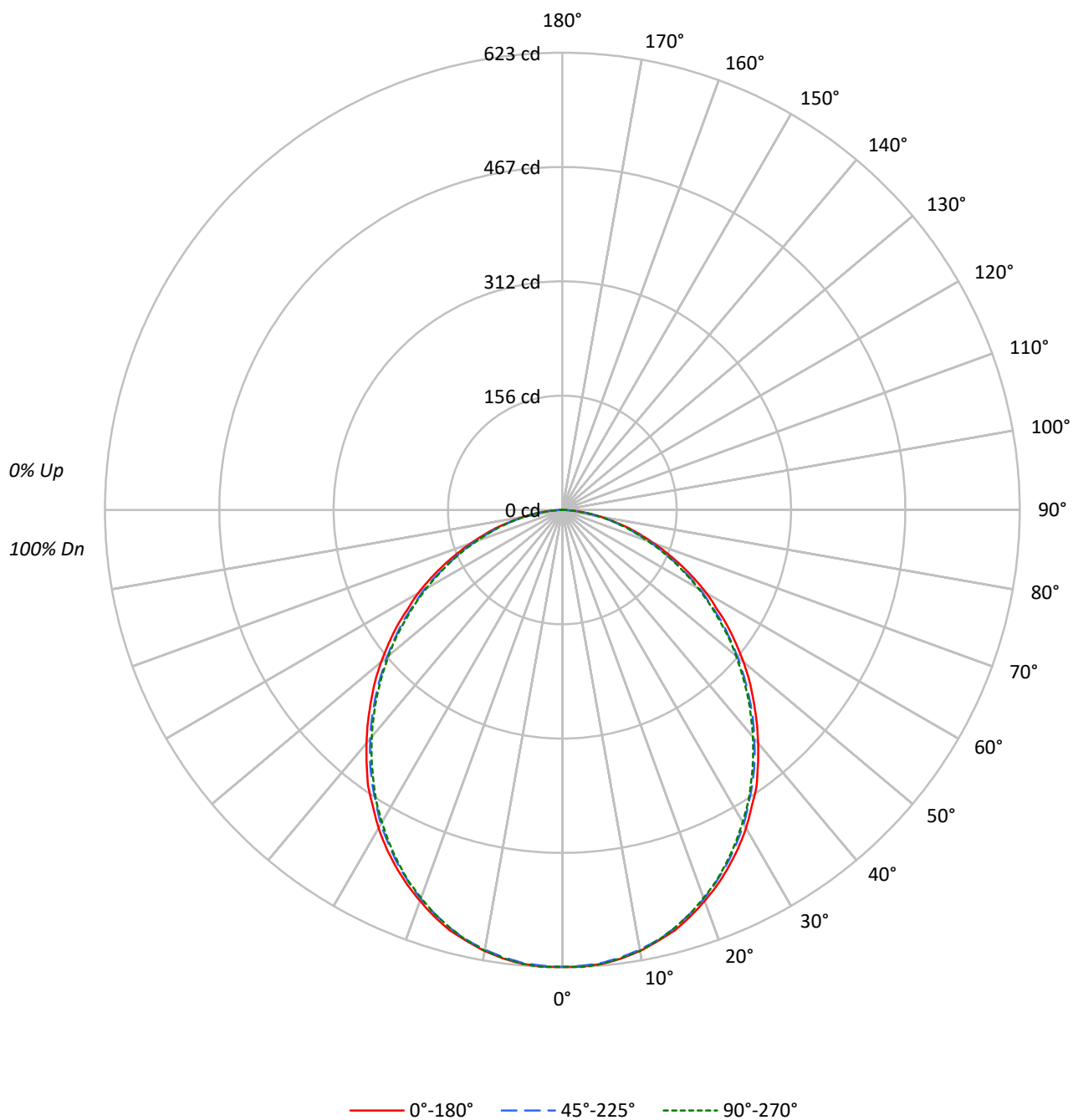
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1555.9 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.29  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.1  
Input Voltage (V): 120  
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: 24 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  |     |     |  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 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 |  | 100 |
| 1   | 109 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  |  | 94  | 92  | 89  |  | 85  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  |  | 83  | 79  | 75  |  | 71  |
| 3   | 91  | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 76  | 70  | 65  |  | 74  | 68  | 64  |  | 61  |
| 4   | 84  | 72  | 64  | 57  | 81  | 71  | 63  | 57  | 68  | 61  | 56  |  | 66  | 60  | 55  |  | 52  |
| 5   | 77  | 65  | 56  | 49  | 75  | 64  | 55  | 49  | 61  | 54  | 49  |  | 59  | 53  | 48  |  | 45  |
| 6   | 71  | 58  | 50  | 43  | 69  | 57  | 49  | 43  | 56  | 48  | 43  |  | 54  | 47  | 42  |  | 40  |
| 7   | 66  | 53  | 44  | 38  | 65  | 52  | 44  | 38  | 51  | 43  | 38  |  | 49  | 43  | 38  |  | 36  |
| 8   | 62  | 49  | 40  | 34  | 60  | 48  | 40  | 34  | 47  | 39  | 34  |  | 45  | 39  | 34  |  | 32  |
| 9   | 58  | 45  | 37  | 31  | 56  | 44  | 36  | 31  | 43  | 36  | 31  |  | 42  | 35  | 31  |  | 29  |
| 10  | 54  | 41  | 33  | 28  | 53  | 41  | 33  | 28  | 40  | 33  | 28  |  | 39  | 32  | 28  |  | 26  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1675 | 1675 | 1675 |
| 5°  | 1677 | 1673 | 1677 |
| 10° | 1667 | 1662 | 1666 |
| 15° | 1652 | 1643 | 1643 |
| 20° | 1623 | 1614 | 1611 |
| 25° | 1593 | 1578 | 1572 |
| 30° | 1555 | 1536 | 1526 |
| 35° | 1514 | 1485 | 1475 |
| 40° | 1457 | 1429 | 1418 |
| 45° | 1402 | 1369 | 1357 |
| 50° | 1348 | 1303 | 1293 |
| 55° | 1286 | 1240 | 1222 |
| 60° | 1222 | 1168 | 1152 |
| 65° | 1137 | 1082 | 1070 |
| 70° | 1039 | 1000 | 976  |
| 75° | 948  | 890  | 896  |
| 80° | 817  | 769  | 778  |
| 85° | 633  | 611  | 574  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1402 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 58.8   | 3.8       |
| 10°-20°   | 166.3  | 10.7      |
| 20°-30°   | 244.9  | 15.7      |
| 30°-40°   | 283.3  | 18.2      |
| 40°-50°   | 278.6  | 17.9      |
| 50°-60°   | 237.4  | 15.3      |
| 60°-70°   | 170.1  | 10.9      |
| 70°-80°   | 92.4   | 5.9       |
| 80°-90°   | 24.1   | 1.5       |
| 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°    | 470.1  | 30.2      |
| 0°-40°    | 753.4  | 48.4      |
| 0°-60°    | 1269.3 | 81.6      |
| 0°-90°    | 1555.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1555.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 623 | 623   | 623 | 623   | 623 |      |
| 5°  | 621 | 620   | 620 | 620   | 621 | 59   |
| 15° | 593 | 590   | 590 | 589   | 590 | 167  |
| 25° | 536 | 534   | 532 | 530   | 530 | 247  |
| 35° | 461 | 457   | 452 | 450   | 449 | 287  |
| 45° | 368 | 366   | 360 | 357   | 357 | 285  |
| 55° | 274 | 269   | 264 | 261   | 260 | 245  |
| 65° | 179 | 175   | 170 | 168   | 168 | 177  |
| 75° | 91  | 88    | 86  | 84    | 86  | 96   |
| 85° | 20  | 20    | 20  | 19    | 19  | 25   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 622.6 | 622.6 | 622.6 | 622.6 | 622.6 |
| 2.5°  | 622.6 | 622.0 | 621.4 | 622.0 | 623.3 |
| 5°    | 620.8 | 619.5 | 619.5 | 619.5 | 620.8 |
| 7.5°  | 616.4 | 615.2 | 614.6 | 615.2 | 615.8 |
| 10°   | 610.2 | 609.0 | 608.4 | 609.0 | 609.6 |
| 12.5° | 601.5 | 600.9 | 600.3 | 600.3 | 600.9 |
| 15°   | 592.9 | 590.4 | 589.8 | 589.1 | 589.8 |
| 17.5° | 580.5 | 579.8 | 577.4 | 577.4 | 577.4 |
| 20°   | 566.8 | 565.6 | 563.7 | 562.5 | 562.5 |
| 22.5° | 552.6 | 551.3 | 548.2 | 547.0 | 547.6 |
| 25°   | 536.4 | 534.0 | 531.5 | 530.2 | 529.6 |
| 27.5° | 519.1 | 516.6 | 512.9 | 511.0 | 511.0 |
| 30°   | 500.5 | 498.6 | 494.3 | 491.8 | 491.2 |
| 32.5° | 480.0 | 478.8 | 472.6 | 471.3 | 471.3 |
| 35°   | 460.8 | 457.1 | 452.1 | 449.6 | 449.0 |
| 37.5° | 437.8 | 435.3 | 430.4 | 427.3 | 426.7 |
| 40°   | 414.9 | 411.8 | 406.8 | 404.3 | 403.7 |
| 42.5° | 391.9 | 388.8 | 383.9 | 380.8 | 380.2 |
| 45°   | 368.4 | 365.9 | 359.7 | 356.6 | 356.6 |
| 47.5° | 346.0 | 341.1 | 335.5 | 333.0 | 332.4 |
| 50°   | 321.9 | 317.5 | 311.3 | 308.8 | 308.8 |
| 52.5° | 297.7 | 294.6 | 287.8 | 286.5 | 285.3 |
| 55°   | 274.1 | 269.1 | 264.2 | 261.1 | 260.5 |
| 57.5° | 248.7 | 244.3 | 239.4 | 236.9 | 236.9 |
| 60°   | 227.0 | 221.4 | 217.1 | 214.0 | 214.0 |
| 62.5° | 202.2 | 197.2 | 192.9 | 191.0 | 190.4 |
| 65°   | 178.6 | 174.9 | 169.9 | 168.1 | 168.1 |
| 67.5° | 155.0 | 151.9 | 147.6 | 145.7 | 146.4 |
| 70°   | 132.1 | 130.2 | 127.1 | 124.7 | 124.0 |
| 72.5° | 111.0 | 108.5 | 105.4 | 104.8 | 104.8 |
| 75°   | 91.2  | 88.1  | 85.6  | 84.3  | 86.2  |
| 77.5° | 70.7  | 68.8  | 67.6  | 67.0  | 67.6  |
| 80°   | 52.7  | 50.2  | 49.6  | 50.2  | 50.2  |
| 82.5° | 36.6  | 35.3  | 34.7  | 34.7  | 34.7  |
| 85°   | 20.5  | 20.5  | 19.8  | 19.2  | 18.6  |
| 87.5° | 8.1   | 8.1   | 8.7   | 8.7   | 9.3   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |      |      |      |      |                |      |      |      |      |
|-----------------|------|------------------|------|------|------|------|----------------|------|------|------|------|
| Ceiling         |      | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5  | 0.5  | 0.3  |
| Wall            |      | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5  | 0.3  | 0.3  |
| Reference plane |      | 0.2              | 0.2  | 0.2  | 0.2  | 0.2  | 0.2            | 0.2  | 0.2  | 0.2  | 0.2  |
| Room Dimensions |      | Viewed crosswise |      |      |      |      | Viewed endwise |      |      |      |      |
| X=2H            | Y=2H | 12.8             | 14.4 | 13.1 | 14.7 | 15.0 | 12.5           | 14.1 | 12.9 | 14.4 | 14.8 |
|                 | 3H   | 14.4             | 15.9 | 14.8 | 16.2 | 16.5 | 14.1           | 15.6 | 14.5 | 15.9 | 16.3 |
|                 | 4H   | 15.0             | 16.4 | 15.4 | 16.7 | 17.1 | 14.7           | 16.1 | 15.1 | 16.4 | 16.8 |
|                 | 6H   | 15.4             | 16.7 | 15.9 | 17.1 | 17.5 | 15.2           | 16.4 | 15.6 | 16.8 | 17.2 |
|                 | 8H   | 15.6             | 16.8 | 16.0 | 17.2 | 17.6 | 15.3           | 16.5 | 15.7 | 16.9 | 17.3 |
|                 | 12H  | 15.7             | 16.8 | 16.1 | 17.2 | 17.6 | 15.4           | 16.5 | 15.8 | 16.9 | 17.3 |
| 4H              | 2H   | 13.3             | 14.7 | 13.7 | 15.0 | 15.4 | 13.1           | 14.5 | 13.5 | 14.8 | 15.2 |
|                 | 3H   | 15.2             | 16.3 | 15.6 | 16.7 | 17.1 | 14.9           | 16.1 | 15.4 | 16.5 | 16.9 |
|                 | 4H   | 15.9             | 16.9 | 16.3 | 17.3 | 17.8 | 15.6           | 16.7 | 16.1 | 17.1 | 17.5 |
|                 | 6H   | 16.4             | 17.3 | 16.9 | 17.8 | 18.2 | 16.2           | 17.1 | 16.6 | 17.5 | 18.0 |
|                 | 8H   | 16.6             | 17.4 | 17.1 | 17.9 | 18.4 | 16.4           | 17.2 | 16.8 | 17.6 | 18.1 |
|                 | 12H  | 16.7             | 17.5 | 17.2 | 17.9 | 18.4 | 16.5           | 17.2 | 16.9 | 17.7 | 18.2 |
| 8H              | 4H   | 16.2             | 17.0 | 16.6 | 17.4 | 17.9 | 15.9           | 16.8 | 16.4 | 17.2 | 17.7 |
|                 | 6H   | 16.8             | 17.5 | 17.3 | 18.0 | 18.4 | 16.6           | 17.3 | 17.1 | 17.8 | 18.2 |
|                 | 8H   | 17.0             | 17.6 | 17.5 | 18.2 | 18.6 | 16.8           | 17.4 | 17.3 | 17.9 | 18.4 |
|                 | 12H  | 17.2             | 17.8 | 17.7 | 18.2 | 18.8 | 17.0           | 17.5 | 17.5 | 18.0 | 18.6 |
| 12H             | 4H   | 16.2             | 16.9 | 16.7 | 17.4 | 17.9 | 15.9           | 16.7 | 16.4 | 17.2 | 17.6 |
|                 | 6H   | 16.8             | 17.5 | 17.4 | 17.9 | 18.5 | 16.6           | 17.2 | 17.1 | 17.7 | 18.2 |
|                 | 8H   | 17.1             | 17.7 | 17.6 | 18.2 | 18.7 | 16.9           | 17.5 | 17.4 | 17.9 | 18.5 |













(END OF REPORT)