

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: P685617

Luminaire Tested: **8CZL-24-UNV-FUL-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685617  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8CZL-24-UNV-FUL-L840-CD-U  
Description: METALUX CRUZE LINEAR 8FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 4000K  
Light Source: (1176) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

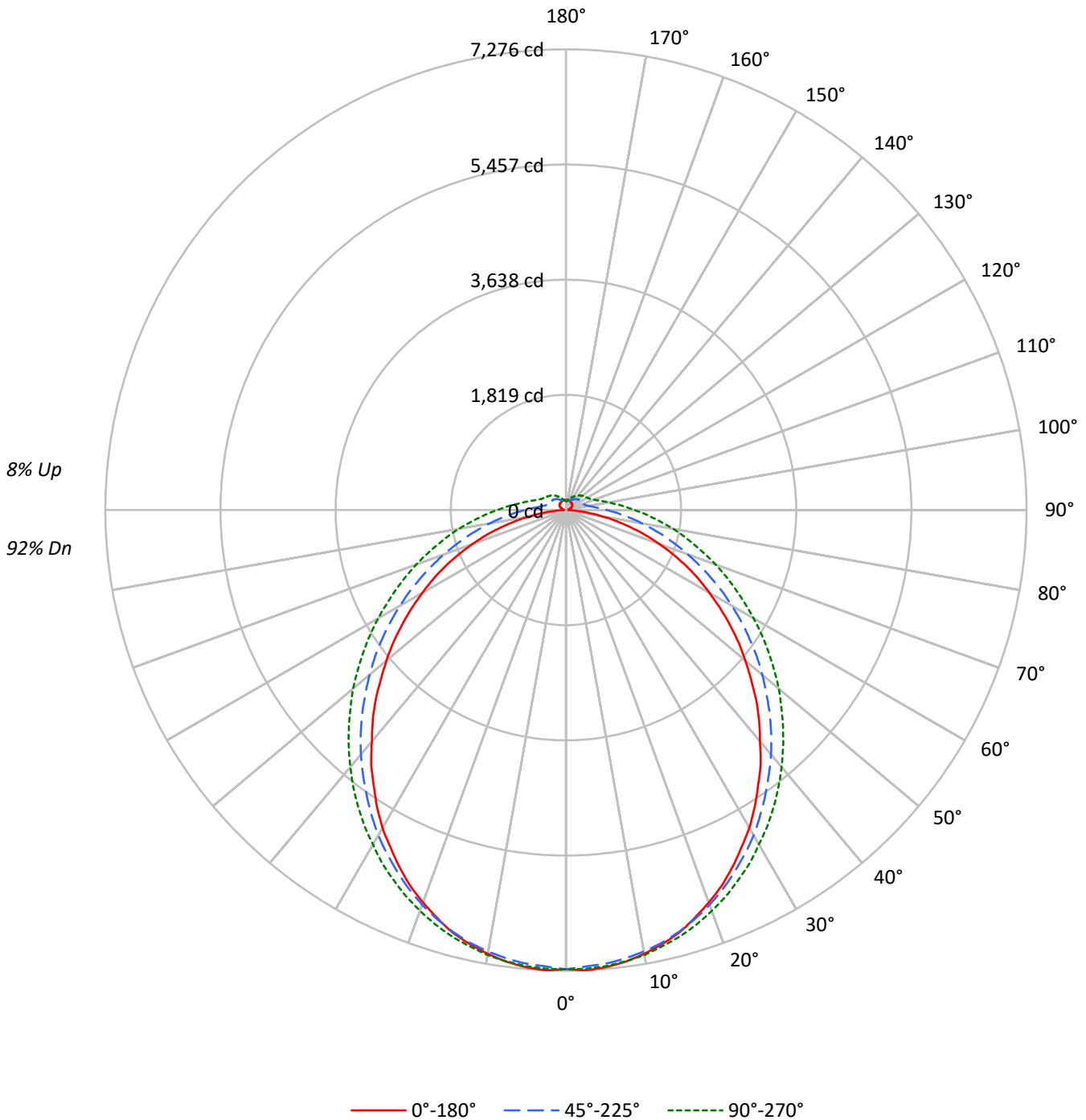
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22627.0 lumens  
Efficiency: N/A  
Efficacy: 146.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 8' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 154  
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 | 50 | 30 | 10 | 0  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 0   | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 107 | 107 | 107 | 100 | 100 | 100 | 95 | 95 | 95 | 95 | 95 | 95 | 92 |
| 1   | 106 | 101 | 96  | 92  | 102 | 98  | 93  | 90  | 92  | 88  | 85  | 87  | 84  | 81  | 82 | 79 | 77 | 77 | 77 | 77 | 75 |
| 2   | 96  | 87  | 80  | 74  | 93  | 85  | 78  | 73  | 80  | 74  | 70  | 75  | 71  | 67  | 71 | 68 | 64 | 64 | 64 | 64 | 62 |
| 3   | 87  | 77  | 68  | 61  | 84  | 74  | 67  | 60  | 70  | 64  | 58  | 66  | 61  | 56  | 63 | 58 | 54 | 54 | 54 | 54 | 52 |
| 4   | 80  | 68  | 59  | 52  | 77  | 66  | 58  | 51  | 62  | 55  | 50  | 59  | 53  | 48  | 56 | 51 | 47 | 47 | 47 | 47 | 44 |
| 5   | 74  | 61  | 51  | 45  | 71  | 59  | 50  | 44  | 56  | 49  | 43  | 53  | 47  | 42  | 50 | 45 | 41 | 41 | 41 | 41 | 38 |
| 6   | 68  | 54  | 45  | 39  | 65  | 53  | 45  | 38  | 50  | 43  | 38  | 48  | 42  | 37  | 46 | 40 | 36 | 36 | 36 | 36 | 33 |
| 7   | 63  | 49  | 41  | 34  | 61  | 48  | 40  | 34  | 46  | 39  | 33  | 44  | 37  | 32  | 42 | 36 | 32 | 32 | 32 | 32 | 30 |
| 8   | 59  | 45  | 37  | 31  | 57  | 44  | 36  | 30  | 42  | 35  | 30  | 40  | 34  | 29  | 38 | 33 | 28 | 28 | 28 | 28 | 26 |
| 9   | 55  | 41  | 33  | 28  | 53  | 40  | 33  | 27  | 39  | 32  | 27  | 37  | 31  | 26  | 35 | 30 | 26 | 26 | 26 | 26 | 24 |
| 10  | 51  | 38  | 30  | 25  | 50  | 37  | 30  | 25  | 36  | 29  | 24  | 34  | 28  | 24  | 33 | 27 | 23 | 23 | 23 | 23 | 22 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11711 | 11711 | 11711 |
| 5°  | 11727 | 11499 | 11516 |
| 10° | 11625 | 11297 | 11302 |
| 15° | 11491 | 11065 | 11060 |
| 20° | 11250 | 10787 | 10792 |
| 25° | 10980 | 10467 | 10504 |
| 30° | 10677 | 10143 | 10193 |
| 35° | 10288 | 9758  | 9892  |
| 40° | 9879  | 9391  | 9563  |
| 45° | 9512  | 8988  | 9227  |
| 50° | 9069  | 8575  | 8903  |
| 55° | 8639  | 8148  | 8547  |
| 60° | 8159  | 7697  | 8215  |
| 65° | 7691  | 7230  | 7902  |
| 70° | 7007  | 6779  | 7666  |
| 75° | 6162  | 6363  | 7455  |
| 80° | 4946  | 6053  | 7509  |
| 85° | 3112  | 5970  | 7732  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 686.1   | 3.0       |
| 10°-20°   | 1952.1  | 8.6       |
| 20°-30°   | 2914.8  | 12.9      |
| 30°-40°   | 3445.7  | 15.2      |
| 40°-50°   | 3511.3  | 15.5      |
| 50°-60°   | 3166.0  | 14.0      |
| 60°-70°   | 2505.1  | 11.1      |
| 70°-80°   | 1693.0  | 7.5       |
| 80°-90°   | 946.8   | 4.2       |
| 90°-100°  | 515.2   | 2.3       |
| 100°-110° | 337.9   | 1.5       |
| 110°-120° | 268.0   | 1.2       |
| 120°-130° | 228.0   | 1.0       |
| 130°-140° | 182.4   | 0.8       |
| 140°-150° | 130.5   | 0.6       |
| 150°-160° | 84.1    | 0.4       |
| 160°-170° | 45.4    | 0.2       |
| 170°-180° | 14.2    | 0.1       |
| 0°-30°    | 5552.9  | 24.5      |
| 0°-40°    | 8998.7  | 39.8      |
| 0°-60°    | 15676.0 | 69.3      |
| 0°-90°    | 20821.0 | 92.0      |
| 90°-120°  | 1121.2  | 5.0       |
| 90°-150°  | 1662.2  | 7.3       |
| 90°-180°  | 1806.0  | 8.0       |
| 0°-180°   | 22627.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 7253 | 7253  | 7253 | 7253  | 7253 |      |
| 5°   | 7249 | 7237  | 7192 | 7233  | 7230 | 688  |
| 15°  | 6913 | 6904  | 6897 | 6956  | 6971 | 1945 |
| 25°  | 6223 | 6252  | 6303 | 6421  | 6446 | 2865 |
| 35°  | 5296 | 5368  | 5492 | 5666  | 5722 | 3315 |
| 45°  | 4253 | 4337  | 4551 | 4763  | 4849 | 3275 |
| 55°  | 3160 | 3278  | 3540 | 3808  | 3904 | 2827 |
| 65°  | 2103 | 2209  | 2526 | 2838  | 2955 | 2076 |
| 75°  | 1065 | 1212  | 1614 | 1972  | 2087 | 1131 |
| 85°  | 208  | 467   | 897  | 1246  | 1372 | 255  |
| 90°  | 32   | 257   | 646  | 964   | 1084 | 24   |
| 95°  | 35   | 169   | 474  | 758   | 864  | 30   |
| 105° | 60   | 150   | 310  | 489   | 561  | 63   |
| 115° | 93   | 161   | 276  | 378   | 420  | 92   |
| 125° | 124  | 167   | 263  | 340   | 368  | 110  |
| 135° | 137  | 164   | 244  | 304   | 324  | 106  |
| 145° | 142  | 157   | 205  | 259   | 273  | 90   |
| 155° | 153  | 154   | 170  | 214   | 220  | 70   |
| 165° | 158  | 156   | 153  | 160   | 173  | 45   |
| 175° | 160  | 157   | 151  | 132   | 134  | 15   |
| 180° | 148  | 148   | 148  | 148   | 148  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 7253.1 | 7253.1 | 7253.1 | 7253.1 | 7253.1 |
| 2.5°   | 7276.4 | 7264.7 | 7216.7 | 7254.5 | 7253.1 |
| 5°     | 7248.7 | 7237.1 | 7192.0 | 7232.7 | 7229.8 |
| 7.5°   | 7194.9 | 7187.6 | 7145.5 | 7190.5 | 7189.1 |
| 10°    | 7116.4 | 7116.4 | 7080.0 | 7132.4 | 7136.7 |
| 12.5°  | 7021.8 | 7020.4 | 7001.5 | 7055.3 | 7055.3 |
| 15°    | 6912.8 | 6904.0 | 6896.8 | 6956.4 | 6970.9 |
| 17.5°  | 6757.1 | 6763.0 | 6776.0 | 6847.3 | 6861.9 |
| 20°    | 6597.2 | 6610.2 | 6635.0 | 6719.3 | 6738.2 |
| 22.5°  | 6425.5 | 6440.1 | 6479.3 | 6571.0 | 6601.5 |
| 25°    | 6223.4 | 6252.5 | 6303.4 | 6421.2 | 6445.9 |
| 27.5°  | 6005.2 | 6056.1 | 6121.6 | 6246.6 | 6288.8 |
| 30°    | 5795.8 | 5836.5 | 5931.0 | 6061.9 | 6098.3 |
| 32.5°  | 5554.3 | 5603.8 | 5714.3 | 5871.4 | 5920.9 |
| 35°    | 5295.5 | 5368.2 | 5491.8 | 5666.3 | 5721.6 |
| 37.5°  | 5054.0 | 5112.2 | 5264.9 | 5451.1 | 5516.5 |
| 40°    | 4769.0 | 4863.5 | 5039.5 | 5222.7 | 5298.4 |
| 42.5°  | 4518.8 | 4600.3 | 4798.1 | 5000.2 | 5078.8 |
| 45°    | 4252.7 | 4337.0 | 4550.8 | 4763.2 | 4849.0 |
| 47.5°  | 3967.6 | 4068.0 | 4296.3 | 4533.4 | 4613.4 |
| 50°    | 3700.0 | 3804.7 | 4049.0 | 4289.0 | 4389.4 |
| 52.5°  | 3436.7 | 3545.8 | 3798.9 | 4052.0 | 4145.0 |
| 55°    | 3160.4 | 3278.2 | 3540.0 | 3807.6 | 3903.6 |
| 57.5°  | 2889.9 | 3007.7 | 3286.9 | 3563.3 | 3666.5 |
| 60°    | 2617.9 | 2728.5 | 3028.1 | 3311.7 | 3425.1 |
| 62.5°  | 2363.4 | 2471.0 | 2779.4 | 3084.8 | 3183.7 |
| 65°    | 2103.1 | 2209.2 | 2526.3 | 2837.5 | 2955.3 |
| 67.5°  | 1834.0 | 1962.0 | 2280.5 | 2606.3 | 2731.4 |
| 70°    | 1569.3 | 1700.2 | 2052.2 | 2391.0 | 2516.1 |
| 72.5°  | 1319.1 | 1467.5 | 1822.4 | 2168.5 | 2296.5 |
| 75°    | 1064.6 | 1211.5 | 1614.4 | 1972.2 | 2087.1 |
| 77.5°  | 824.6  | 996.3  | 1410.8 | 1771.5 | 1906.7 |
| 80°    | 594.8  | 789.7  | 1227.5 | 1580.9 | 1723.5 |
| 82.5°  | 391.2  | 613.8  | 1057.3 | 1407.9 | 1535.8 |
| 85°    | 208.0  | 466.9  | 897.4  | 1246.4 | 1371.5 |
| 87.5°  | 81.4   | 346.1  | 763.6  | 1099.5 | 1224.6 |
| 90°    | 32.0   | 257.4  | 645.8  | 964.3  | 1083.5 |
| 92.5°  | 32.0   | 200.7  | 549.8  | 855.2  | 967.2  |
| 95°    | 34.9   | 168.7  | 474.1  | 757.7  | 863.9  |
| 97.5°  | 37.8   | 152.7  | 414.5  | 671.9  | 766.5  |
| 100°   | 43.6   | 146.9  | 369.4  | 602.1  | 687.9  |
| 102.5° | 50.9   | 146.9  | 333.1  | 538.1  | 619.6  |
| 105°   | 59.6   | 149.8  | 309.8  | 488.7  | 561.4  |
| 107.5° | 66.9   | 152.7  | 293.8  | 448.0  | 513.4  |
| 110°   | 75.6   | 157.1  | 285.1  | 417.4  | 474.1  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 84.4  | 160.0 | 279.2 | 395.6 | 445.0 |
| 115°   | 93.1  | 161.4 | 276.3 | 378.1 | 420.3 |
| 117.5° | 101.8 | 164.3 | 273.4 | 366.5 | 402.9 |
| 120°   | 110.5 | 165.8 | 270.5 | 357.8 | 389.8 |
| 122.5° | 117.8 | 165.8 | 267.6 | 349.1 | 378.1 |
| 125°   | 123.6 | 167.3 | 263.2 | 340.3 | 368.0 |
| 127.5° | 128.0 | 168.7 | 260.3 | 331.6 | 356.3 |
| 130°   | 132.4 | 167.3 | 256.0 | 322.9 | 346.1 |
| 132.5° | 135.3 | 165.8 | 250.2 | 314.2 | 336.0 |
| 135°   | 136.7 | 164.3 | 244.3 | 304.0 | 324.3 |
| 137.5° | 138.2 | 162.9 | 235.6 | 293.8 | 312.7 |
| 140°   | 138.2 | 161.4 | 225.4 | 282.2 | 299.6 |
| 142.5° | 139.6 | 158.5 | 215.3 | 270.5 | 286.5 |
| 145°   | 142.5 | 157.1 | 205.1 | 258.9 | 273.4 |
| 147.5° | 145.4 | 154.2 | 196.3 | 245.8 | 258.9 |
| 150°   | 148.3 | 154.2 | 187.6 | 234.2 | 245.8 |
| 152.5° | 149.8 | 154.2 | 178.9 | 224.0 | 232.7 |
| 155°   | 152.7 | 154.2 | 170.2 | 213.8 | 219.6 |
| 157.5° | 154.2 | 154.2 | 164.3 | 200.7 | 206.5 |
| 160°   | 155.6 | 155.6 | 158.5 | 186.2 | 194.9 |
| 162.5° | 158.5 | 155.6 | 155.6 | 171.6 | 183.3 |
| 165°   | 158.5 | 155.6 | 152.7 | 160.0 | 173.1 |
| 167.5° | 160.0 | 157.1 | 151.3 | 151.3 | 164.3 |
| 170°   | 160.0 | 157.1 | 151.3 | 144.0 | 151.3 |
| 172.5° | 160.0 | 157.1 | 151.3 | 138.2 | 141.1 |
| 175°   | 160.0 | 157.1 | 151.3 | 132.4 | 133.8 |
| 177.5° | 160.0 | 157.1 | 149.8 | 128.0 | 133.8 |
| 180°   | 148.3 | 148.3 | 148.3 | 148.3 | 148.3 |

(END OF REPORT)