

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: P345087

Luminaire Tested: **24CZ-40SE-L835-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P345087  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1905-313-5)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ-40SE-L835-HRP-UNV-CD1-U  
Description: CRUZE 2X4 WITH HRP LENS INSERT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3411.4 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.29 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

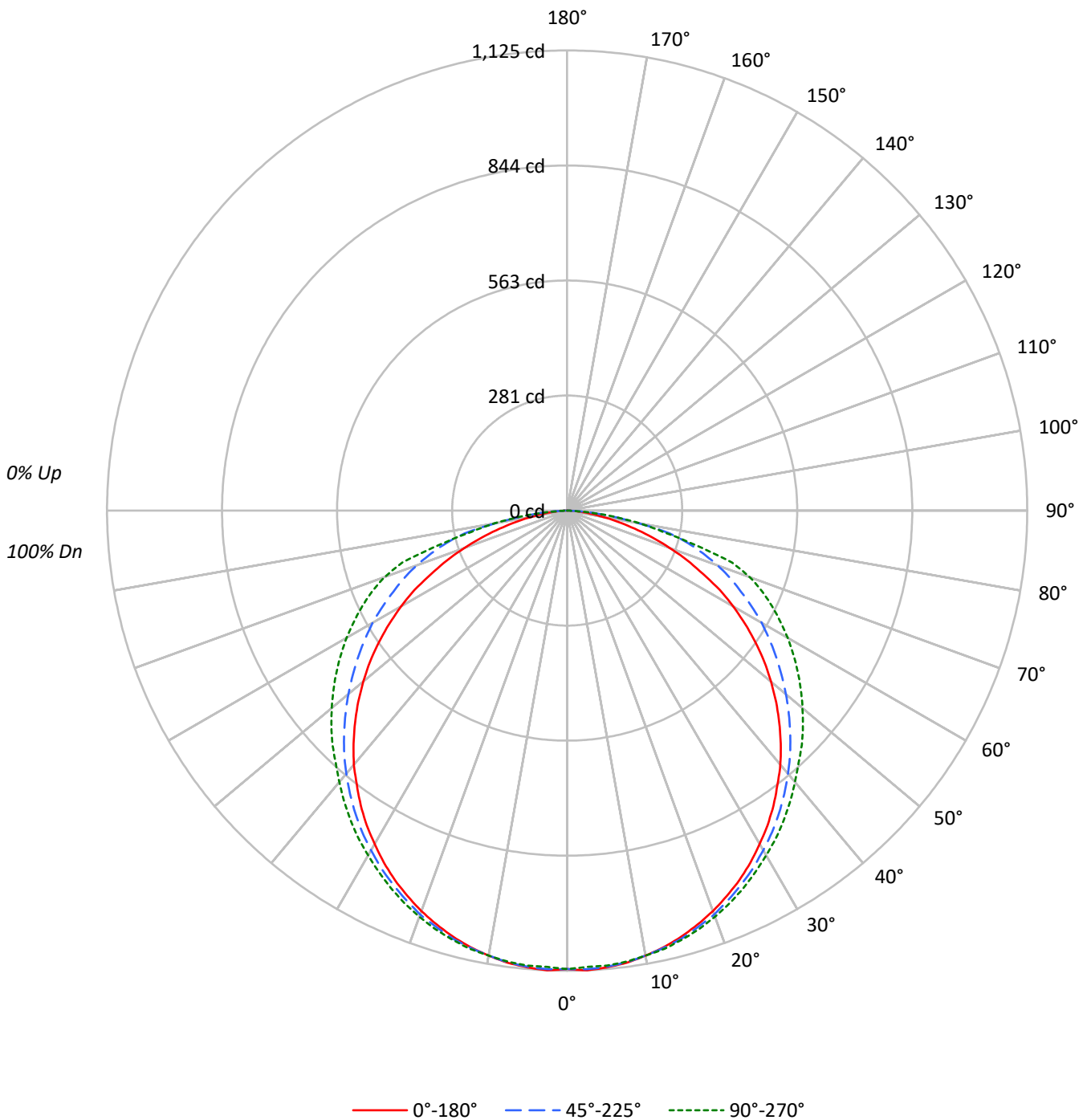
Input Watts (W): 32.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 87  | 89  | 87  | 85  | 83  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 81  | 75  | 84  | 78  | 74  | 81  | 76  | 72  | 77  | 74  | 70  | 68  |
| 3   | 89  | 78  | 70  | 63  | 86  | 76  | 69  | 62  | 73  | 67  | 61  | 71  | 65  | 60  | 68  | 63  | 59  | 57  |
| 4   | 81  | 69  | 60  | 53  | 79  | 68  | 59  | 52  | 65  | 58  | 52  | 63  | 56  | 51  | 60  | 55  | 50  | 48  |
| 5   | 75  | 61  | 52  | 45  | 72  | 60  | 52  | 45  | 58  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 43  | 41  |
| 6   | 69  | 55  | 46  | 39  | 67  | 54  | 45  | 39  | 52  | 45  | 39  | 51  | 44  | 38  | 49  | 43  | 38  | 36  |
| 7   | 64  | 50  | 41  | 35  | 62  | 49  | 41  | 34  | 48  | 40  | 34  | 46  | 39  | 34  | 45  | 38  | 34  | 32  |
| 8   | 59  | 45  | 37  | 31  | 58  | 45  | 36  | 31  | 43  | 36  | 31  | 42  | 35  | 30  | 41  | 35  | 30  | 28  |
| 9   | 55  | 42  | 33  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 25  |
| 10  | 52  | 38  | 30  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 25  | 35  | 29  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1508 | 1508 | 1508 |
| 5°  | 1514 | 1512 | 1508 |
| 10° | 1509 | 1509 | 1509 |
| 15° | 1502 | 1508 | 1512 |
| 20° | 1492 | 1504 | 1513 |
| 25° | 1480 | 1497 | 1512 |
| 30° | 1462 | 1489 | 1512 |
| 35° | 1445 | 1483 | 1517 |
| 40° | 1425 | 1476 | 1522 |
| 45° | 1396 | 1468 | 1543 |
| 50° | 1361 | 1462 | 1572 |
| 55° | 1320 | 1464 | 1615 |
| 60° | 1262 | 1479 | 1675 |
| 65° | 1168 | 1493 | 1759 |
| 70° | 1052 | 1541 | 1868 |
| 75° | 889  | 1588 | 1671 |
| 80° | 690  | 1359 | 1404 |
| 85° | 496  | 925  | 812  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 106.2  | 3.1       |
| 10°-20°   | 305.1  | 8.9       |
| 20°-30°   | 463.9  | 13.6      |
| 30°-40°   | 563.7  | 16.5      |
| 40°-50°   | 594.9  | 17.4      |
| 50°-60°   | 559.0  | 16.4      |
| 60°-70°   | 460.2  | 13.5      |
| 70°-80°   | 289.9  | 8.5       |
| 80°-90°   | 68.4   | 2.0       |
| 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°    | 875.3  | 25.7      |
| 0°-40°    | 1438.9 | 42.2      |
| 0°-60°    | 2592.9 | 76.0      |
| 0°-90°    | 3411.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3411.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1121 | 1121  | 1121 | 1121  | 1121 |      |
| 5°  | 1121 | 1115  | 1119 | 1118  | 1116 | 107  |
| 15° | 1078 | 1074  | 1083 | 1086  | 1086 | 304  |
| 25° | 997  | 995   | 1008 | 1014  | 1019 | 459  |
| 35° | 880  | 884   | 903  | 915   | 924  | 550  |
| 45° | 734  | 745   | 772  | 794   | 811  | 566  |
| 55° | 563  | 583   | 624  | 668   | 688  | 502  |
| 65° | 367  | 402   | 469  | 529   | 552  | 364  |
| 75° | 171  | 224   | 305  | 333   | 322  | 182  |
| 85° | 32   | 54    | 60   | 56    | 53   | 40   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1120.9 | 1120.9 | 1120.9 | 1120.9 | 1120.9 |
| 2.5°  | 1125.2 | 1117.9 | 1122.3 | 1120.9 | 1116.5 |
| 5°    | 1120.9 | 1115.0 | 1119.4 | 1117.9 | 1116.5 |
| 7.5°  | 1115.0 | 1109.2 | 1113.6 | 1112.1 | 1112.1 |
| 10°   | 1104.8 | 1100.4 | 1104.8 | 1104.8 | 1104.8 |
| 12.5° | 1093.1 | 1088.7 | 1094.6 | 1096.0 | 1097.5 |
| 15°   | 1078.5 | 1074.1 | 1082.9 | 1085.8 | 1085.8 |
| 17.5° | 1060.9 | 1058.0 | 1066.8 | 1069.7 | 1072.6 |
| 20°   | 1041.9 | 1040.5 | 1050.7 | 1053.6 | 1056.6 |
| 22.5° | 1020.0 | 1020.0 | 1030.3 | 1033.2 | 1039.0 |
| 25°   | 996.6  | 995.2  | 1008.3 | 1014.2 | 1018.6 |
| 27.5° | 970.3  | 970.3  | 985.0  | 992.3  | 996.6  |
| 30°   | 941.1  | 944.0  | 958.6  | 967.4  | 973.3  |
| 32.5° | 911.9  | 914.8  | 932.3  | 942.6  | 949.9  |
| 35°   | 879.7  | 884.1  | 903.1  | 914.8  | 923.6  |
| 37.5° | 844.7  | 852.0  | 872.4  | 885.6  | 895.8  |
| 40°   | 811.1  | 816.9  | 840.3  | 854.9  | 866.6  |
| 42.5° | 773.1  | 783.3  | 806.7  | 824.2  | 837.4  |
| 45°   | 733.6  | 745.3  | 771.6  | 793.5  | 811.1  |
| 47.5° | 692.7  | 707.3  | 735.1  | 764.3  | 781.8  |
| 50°   | 650.3  | 666.4  | 698.5  | 733.6  | 751.1  |
| 52.5° | 607.9  | 625.5  | 660.5  | 701.5  | 720.4  |
| 55°   | 562.6  | 583.1  | 624.0  | 667.8  | 688.3  |
| 57.5° | 515.9  | 539.2  | 586.0  | 635.7  | 656.1  |
| 60°   | 469.1  | 493.9  | 549.5  | 599.2  | 622.5  |
| 62.5° | 420.9  | 448.6  | 508.6  | 565.5  | 587.5  |
| 65°   | 366.8  | 401.9  | 469.1  | 529.0  | 552.4  |
| 67.5° | 317.1  | 353.6  | 431.1  | 491.0  | 515.9  |
| 70°   | 267.4  | 309.8  | 391.6  | 451.6  | 474.9  |
| 72.5° | 217.7  | 267.4  | 347.8  | 409.2  | 422.3  |
| 75°   | 171.0  | 223.6  | 305.4  | 333.2  | 321.5  |
| 77.5° | 125.7  | 184.1  | 257.2  | 242.6  | 239.7  |
| 80°   | 89.1   | 146.1  | 175.4  | 176.8  | 181.2  |
| 82.5° | 57.0   | 108.1  | 114.0  | 115.4  | 116.9  |
| 85°   | 32.1   | 54.1   | 59.9   | 55.5   | 52.6   |
| 87.5° | 14.6   | 17.5   | 14.6   | 10.2   | 8.8    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)