

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P894188

Luminaire Tested: 4MB-SC3-ASYMR-UNV-CC93-MID-5000K

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P894188  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2410-248-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASYMR-UNV-CC93-MID-5000K  
Description: Selectable 4FT MICROBAY LINEAR BAY with ASYMMERIC REFLECTOR, 90CRI, 5000K CCT, MID setting  
Light Source: -  
Ballast/Driver: -

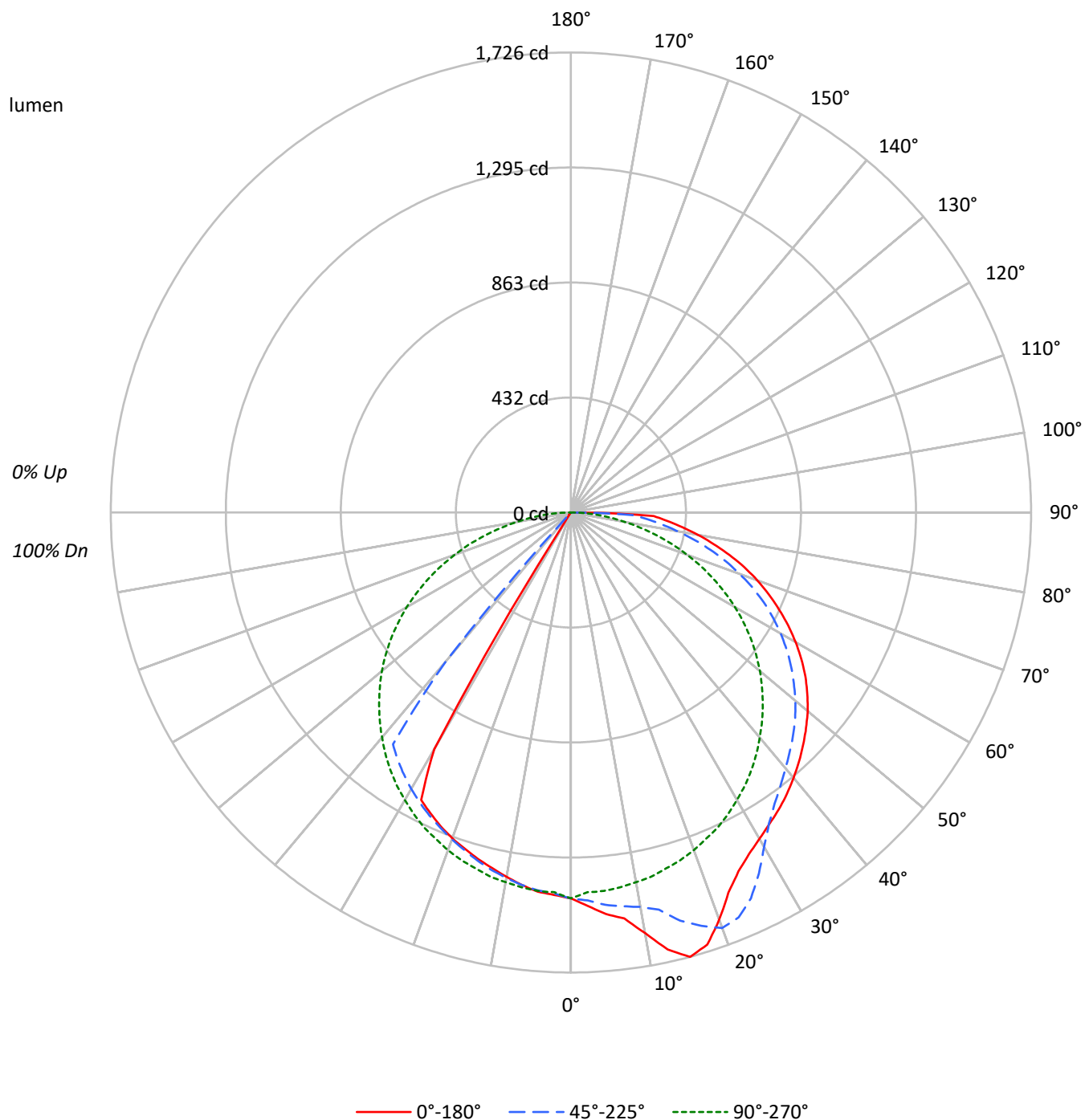
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3917.0 lumens  
Efficiency: N/A  
Efficacy: 116.9 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.28 / 1.25  
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.5  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9948  
Total Harmonic Distortion (THDi): 5.65231997856897  
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  |     |     |     | 10  |     |    | 0  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| 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   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |    |    |
| 3   | 90  | 79  | 71  | 65  | 88  | 78  | 70  | 64  | 75  | 68  | 63  | 72  | 67  | 62  | 70  | 65  | 61  | 59  |    |    |
| 4   | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  | 65  | 58  | 53  | 62  | 57  | 53  | 50  |    |    |
| 5   | 76  | 63  | 55  | 48  | 74  | 62  | 54  | 48  | 60  | 53  | 47  | 58  | 52  | 47  | 56  | 51  | 46  | 44  |    |    |
| 6   | 71  | 57  | 48  | 42  | 69  | 56  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 51  | 45  | 41  | 39  |    |    |
| 7   | 66  | 52  | 44  | 37  | 64  | 51  | 43  | 37  | 50  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 36  | 35  |    |    |
| 8   | 61  | 48  | 39  | 34  | 60  | 47  | 39  | 33  | 46  | 38  | 33  | 45  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  | 39  | 32  | 27  | 38  | 32  | 27  | 37  | 32  | 27  | 26  |    |    |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 18798 | 18798 | 18798 | 18798 | 18798 |
| 5°  | 19714 | 19260 | 18578 | 18547 | 18611 |
| 10° | 21123 | 19811 | 18576 | 18357 | 18301 |
| 15° | 23207 | 21313 | 18581 | 18181 | 18090 |
| 20° | 22469 | 22928 | 18630 | 18034 | 17978 |
| 25° | 21289 | 22881 | 18676 | 17974 | 17843 |
| 30° | 21197 | 21720 | 18673 | 17952 | 15367 |
| 35° | 21555 | 21123 | 18704 | 17954 | 211   |
| 40° | 22024 | 21222 | 18680 | 12383 | 141   |
| 45° | 22626 | 21653 | 18683 | 228   | 92    |
| 50° | 23417 | 22195 | 18694 | 168   | 34    |
| 55° | 24310 | 22827 | 18641 | 113   | 18    |
| 60° | 25279 | 23602 | 18475 | 44    | 21    |
| 65° | 26470 | 24534 | 18140 | 52    | 52    |
| 70° | 28239 | 25562 | 17567 | 65    | 65    |
| 75° | 30910 | 27207 | 16807 | 166   | 85    |
| 80° | 36275 | 30442 | 15561 | 247   | 127   |
| 85° | 53978 | 42744 | 14571 | 372   | 253   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 87.5°

Luminance: 92552 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 138.7  | 3.5       |
| 10°-20°   | 414.2  | 10.6      |
| 20°-30°   | 636.7  | 16.3      |
| 30°-40°   | 682.4  | 17.4      |
| 40°-50°   | 619.7  | 15.8      |
| 50°-60°   | 565.3  | 14.4      |
| 60°-70°   | 420.6  | 10.7      |
| 70°-80°   | 296.0  | 7.6       |
| 80°-90°   | 143.4  | 3.7       |
| 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°    | 1189.7 | 30.4      |
| 0°-40°    | 1872.0 | 47.8      |
| 0°-60°    | 3057.1 | 78.0      |
| 0°-90°    | 3917.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3917.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1448 | 1448 | 1448 | 1448 | 1448 |      |
| 5°  | 1512 | 1478 | 1425 | 1423 | 1428 | 146  |
| 15° | 1726 | 1585 | 1382 | 1352 | 1346 | 477  |
| 25° | 1486 | 1597 | 1304 | 1254 | 1245 | 691  |
| 35° | 1360 | 1332 | 1180 | 1133 | 13   | 852  |
| 45° | 1232 | 1179 | 1017 | 12   | 5    | 952  |
| 55° | 1074 | 1008 | 823  | 5    | 1    | 959  |
| 65° | 862  | 798  | 590  | 2    | 2    | 853  |
| 75° | 616  | 542  | 335  | 3    | 2    | 650  |
| 85° | 362  | 287  | 98   | 2    | 2    | 364  |
| 90° | 0    | 0    | 0    | 0    | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1447.7 | 1447.7 | 1447.7 | 1447.7 | 1447.7 | 1447.7 | 1447.7 | 1447.7 | 1447.7 |
| 2.5°  | 1477.6 | 1461.0 | 1456.9 | 1468.5 | 1426.2 | 1454.4 | 1431.1 | 1436.1 | 1436.1 |
| 5°    | 1512.4 | 1489.2 | 1477.6 | 1474.3 | 1425.3 | 1444.4 | 1422.9 | 1422.9 | 1427.8 |
| 7.5°  | 1536.5 | 1510.7 | 1490.0 | 1481.7 | 1417.9 | 1434.5 | 1409.6 | 1409.6 | 1409.6 |
| 10°   | 1602.0 | 1553.9 | 1502.5 | 1487.5 | 1408.8 | 1421.2 | 1392.2 | 1393.8 | 1388.0 |
| 12.5° | 1679.1 | 1636.0 | 1526.5 | 1485.0 | 1398.8 | 1404.6 | 1373.9 | 1373.1 | 1366.5 |
| 15°   | 1726.3 | 1694.0 | 1585.4 | 1481.7 | 1382.2 | 1387.2 | 1352.4 | 1349.9 | 1345.7 |
| 17.5° | 1699.8 | 1694.8 | 1626.0 | 1479.2 | 1367.3 | 1363.2 | 1328.3 | 1325.8 | 1322.5 |
| 20°   | 1626.0 | 1638.4 | 1659.2 | 1474.3 | 1348.2 | 1339.9 | 1305.1 | 1303.5 | 1301.0 |
| 22.5° | 1543.9 | 1556.4 | 1644.2 | 1482.6 | 1325.0 | 1315.1 | 1280.2 | 1278.6 | 1275.3 |
| 25°   | 1485.9 | 1485.9 | 1597.0 | 1502.5 | 1303.5 | 1285.2 | 1254.5 | 1252.0 | 1245.4 |
| 27.5° | 1445.2 | 1437.8 | 1526.5 | 1524.8 | 1276.1 | 1255.4 | 1227.2 | 1224.7 | 1216.4 |
| 30°   | 1413.7 | 1401.3 | 1448.6 | 1535.6 | 1245.4 | 1223.0 | 1197.3 | 1194.8 | 1024.9 |
| 32.5° | 1385.5 | 1372.3 | 1383.1 | 1544.7 | 1214.7 | 1188.2 | 1165.8 | 831.7  | 36.5   |
| 35°   | 1359.8 | 1344.9 | 1332.5 | 1538.1 | 1179.9 | 1153.4 | 1132.6 | 24.0   | 13.3   |
| 37.5° | 1330.8 | 1319.2 | 1291.0 | 1503.3 | 1142.6 | 1116.1 | 1096.2 | 13.3   | 11.6   |
| 40°   | 1299.3 | 1288.5 | 1252.0 | 1451.9 | 1102.0 | 1079.6 | 730.5  | 11.6   | 8.3    |
| 42.5° | 1267.0 | 1258.7 | 1215.6 | 1377.3 | 1061.3 | 1039.0 | 23.2   | 9.1    | 6.6    |
| 45°   | 1232.1 | 1224.7 | 1179.1 | 1286.9 | 1017.4 | 996.7  | 12.4   | 6.6    | 5.0    |
| 47.5° | 1196.5 | 1185.7 | 1140.9 | 1189.9 | 972.6  | 951.9  | 10.8   | 5.0    | 3.3    |
| 50°   | 1159.2 | 1147.6 | 1098.7 | 1104.5 | 925.4  | 904.6  | 8.3    | 3.3    | 1.7    |
| 52.5° | 1117.7 | 1103.6 | 1053.9 | 1027.3 | 875.6  | 856.5  | 6.6    | 1.7    | 0.8    |
| 55°   | 1073.8 | 1058.0 | 1008.3 | 960.2  | 823.4  | 801.8  | 5.0    | 1.7    | 0.8    |
| 57.5° | 1024.9 | 1007.4 | 960.2  | 896.3  | 767.8  | 542.3  | 3.3    | 1.7    | 0.8    |
| 60°   | 973.4  | 956.0  | 908.8  | 836.6  | 711.4  | 37.3   | 1.7    | 1.7    | 0.8    |
| 62.5° | 918.7  | 900.5  | 854.9  | 776.1  | 650.9  | 30.7   | 1.7    | 1.7    | 1.7    |
| 65°   | 861.5  | 840.0  | 798.5  | 713.9  | 590.4  | 25.7   | 1.7    | 1.7    | 1.7    |
| 67.5° | 804.3  | 776.9  | 738.0  | 650.1  | 528.2  | 21.6   | 1.7    | 1.7    | 1.7    |
| 70°   | 743.8  | 713.9  | 673.3  | 585.4  | 462.7  | 17.4   | 1.7    | 1.7    | 1.7    |
| 72.5° | 681.6  | 652.6  | 608.6  | 519.9  | 401.3  | 13.3   | 1.7    | 1.7    | 1.7    |
| 75°   | 616.1  | 589.5  | 542.3  | 454.4  | 335.0  | 10.0   | 3.3    | 1.7    | 1.7    |
| 77.5° | 548.1  | 527.4  | 474.3  | 387.2  | 270.3  | 6.6    | 3.3    | 1.7    | 1.7    |
| 80°   | 485.1  | 461.8  | 407.1  | 319.2  | 208.1  | 5.0    | 3.3    | 2.5    | 1.7    |
| 82.5° | 420.4  | 399.7  | 344.9  | 257.0  | 149.3  | 4.1    | 3.3    | 2.5    | 1.7    |
| 85°   | 362.3  | 342.4  | 286.9  | 200.7  | 97.8   | 3.3    | 2.5    | 2.5    | 1.7    |
| 87.5° | 310.9  | 292.7  | 238.0  | 146.8  | 55.6   | 2.5    | 2.5    | 2.5    | 1.7    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 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 | 24.72            | 26.34 | 25.09 | 26.65 | 26.97 | 20.16          | 21.77 | 20.52 | 22.09 | 22.40 |
|                 | 3H   | 27.17            | 28.64 | 27.55 | 28.96 | 29.32 | 20.80          | 22.26 | 21.18 | 22.59 | 22.95 |
|                 | 4H   | 28.30            | 29.68 | 28.69 | 30.03 | 30.40 | 20.94          | 22.33 | 21.34 | 22.67 | 23.05 |
|                 | 6H   | 29.39            | 30.67 | 29.80 | 31.04 | 31.43 | 20.99          | 22.27 | 21.40 | 22.63 | 23.02 |
|                 | 8H   | 29.92            | 31.15 | 30.34 | 31.54 | 31.93 | 20.97          | 22.20 | 21.40 | 22.59 | 22.99 |
|                 | 12H  | 30.49            | 31.66 | 30.92 | 32.05 | 32.47 | 20.95          | 22.13 | 21.38 | 22.51 | 22.94 |
| 4H              | 2H   | 25.38            | 26.76 | 25.78 | 27.11 | 27.49 | 21.28          | 22.67 | 21.68 | 23.01 | 23.39 |
|                 | 3H   | 28.07            | 29.24 | 28.48 | 29.64 | 30.04 | 22.63          | 23.79 | 23.04 | 24.19 | 24.59 |
|                 | 4H   | 29.37            | 30.43 | 29.80 | 30.84 | 31.28 | 23.16          | 24.22 | 23.59 | 24.64 | 25.07 |
|                 | 6H   | 30.65            | 31.58 | 31.10 | 32.02 | 32.48 | 23.44          | 24.37 | 23.89 | 24.81 | 25.27 |
|                 | 8H   | 31.27            | 32.15 | 31.73 | 32.59 | 33.06 | 23.47          | 24.35 | 23.93 | 24.79 | 25.26 |
|                 | 12H  | 31.96            | 32.75 | 32.44 | 33.23 | 33.70 | 23.49          | 24.28 | 23.97 | 24.75 | 25.22 |
| 8H              | 4H   | 29.73            | 30.61 | 30.19 | 31.05 | 31.51 | 24.11          | 24.99 | 24.57 | 25.43 | 25.89 |
|                 | 6H   | 31.21            | 31.95 | 31.70 | 32.44 | 32.91 | 24.70          | 25.44 | 25.19 | 25.92 | 26.40 |
|                 | 8H   | 32.00            | 32.66 | 32.50 | 33.17 | 33.65 | 24.88          | 25.54 | 25.38 | 26.05 | 26.53 |
|                 | 12H  | 32.89            | 33.48 | 33.39 | 33.97 | 34.53 | 24.98          | 25.57 | 25.48 | 26.06 | 26.62 |
| 12H             | 4H   | 29.77            | 30.56 | 30.25 | 31.04 | 31.50 | 24.33          | 25.12 | 24.81 | 25.59 | 26.06 |
|                 | 6H   | 31.30            | 31.97 | 31.81 | 32.47 | 32.96 | 25.05          | 25.72 | 25.56 | 26.22 | 26.70 |
|                 | 8H   | 32.18            | 32.77 | 32.69 | 33.26 | 33.82 | 25.36          | 25.95 | 25.87 | 26.44 | 27.00 |