

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: P893983

Luminaire Tested: 4MB-8HL-RNDU-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893983
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-8HL-RNDU-UNV-L940
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, 4
Light Source: -
Ballast/Driver: -

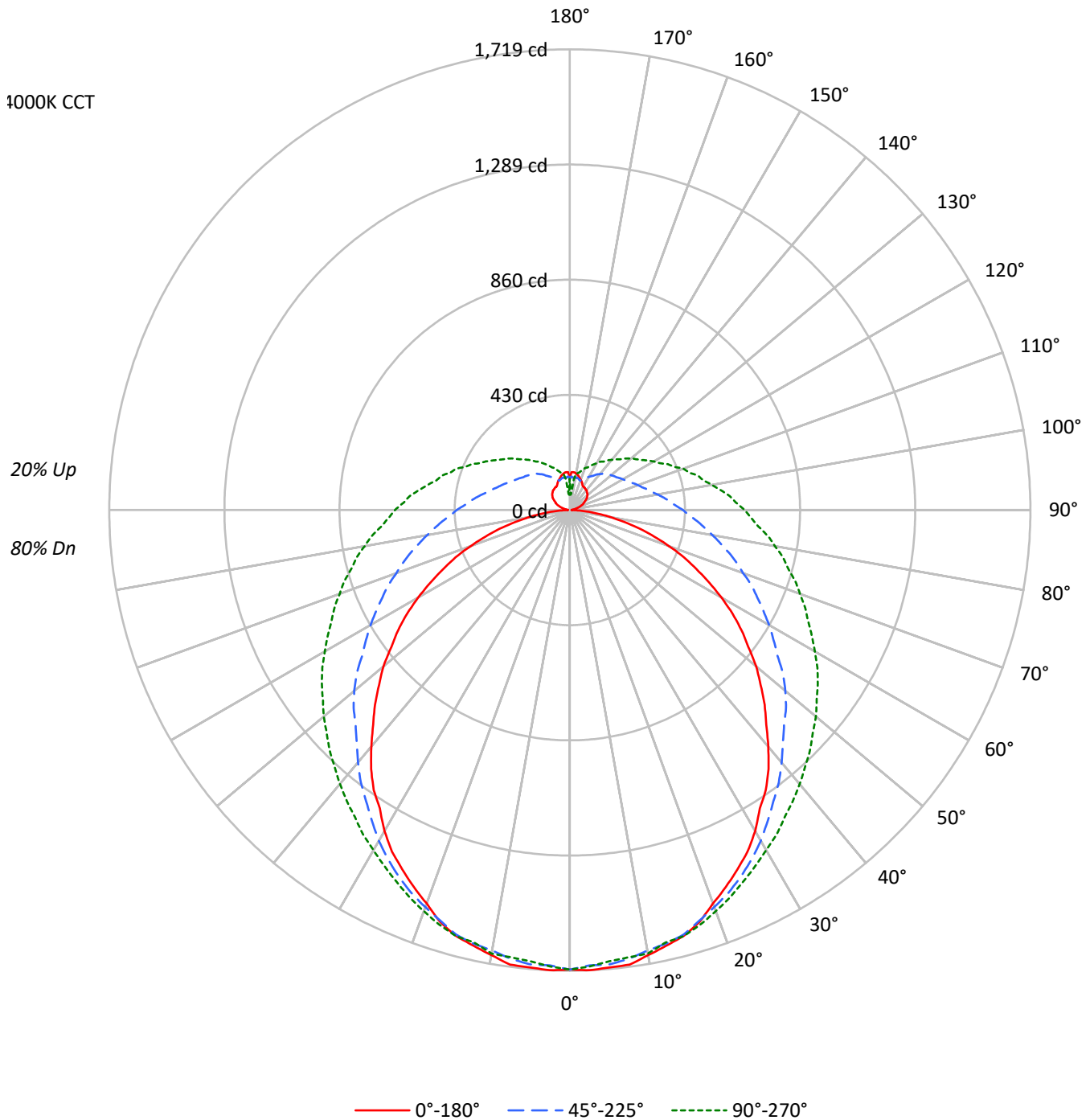
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7209.0 lumens
Efficiency: N/A
Efficacy: 124.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 57.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.999
Total Harmonic Distortion (THDi): 4.23
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P893983
CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

Luminous Intensity Polar Plot





TEST NUMBER: P893983

CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

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 | 114 | 114 | 114 | 114 | 109 | 109 | 109 | 109 | 100 | 100 | 100 | 91 | 91 | 91 | 83 | 83 | 83 | 83 | 83 | 83 | 80 |
| 1 | 102 | 96 | 91 | 86 | 97 | 92 | 87 | 83 | 84 | 80 | 77 | 76 | 73 | 71 | 69 | 67 | 65 | 65 | 65 | 65 | 61 |
| 2 | 92 | 82 | 75 | 68 | 87 | 79 | 72 | 66 | 72 | 66 | 61 | 66 | 61 | 57 | 60 | 56 | 53 | 53 | 53 | 53 | 49 |
| 3 | 83 | 72 | 63 | 56 | 79 | 69 | 61 | 54 | 63 | 56 | 51 | 57 | 52 | 47 | 52 | 48 | 44 | 44 | 44 | 44 | 41 |
| 4 | 76 | 63 | 54 | 47 | 72 | 60 | 52 | 45 | 55 | 48 | 43 | 51 | 45 | 40 | 46 | 41 | 37 | 37 | 37 | 37 | 34 |
| 5 | 69 | 56 | 47 | 40 | 66 | 54 | 45 | 39 | 49 | 42 | 37 | 45 | 39 | 34 | 41 | 36 | 32 | 32 | 32 | 32 | 29 |
| 6 | 64 | 50 | 41 | 35 | 61 | 48 | 40 | 34 | 44 | 37 | 32 | 41 | 35 | 30 | 38 | 32 | 28 | 28 | 28 | 28 | 26 |
| 7 | 59 | 46 | 37 | 30 | 56 | 44 | 35 | 30 | 40 | 33 | 28 | 37 | 31 | 26 | 34 | 29 | 25 | 25 | 25 | 25 | 23 |
| 8 | 55 | 41 | 33 | 27 | 52 | 40 | 32 | 26 | 37 | 30 | 25 | 34 | 28 | 24 | 31 | 26 | 22 | 22 | 22 | 22 | 20 |
| 9 | 51 | 38 | 30 | 24 | 49 | 37 | 29 | 23 | 34 | 27 | 22 | 31 | 25 | 21 | 29 | 24 | 20 | 20 | 20 | 20 | 18 |
| 10 | 48 | 35 | 27 | 22 | 46 | 34 | 26 | 21 | 31 | 25 | 20 | 29 | 23 | 19 | 27 | 22 | 18 | 18 | 18 | 18 | 16 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12202 | 12202 | 12202 |
| 5° | 12178 | 11717 | 11517 |
| 10° | 12070 | 11217 | 11070 |
| 15° | 11948 | 10847 | 10571 |
| 20° | 11609 | 10341 | 10056 |
| 25° | 11341 | 9893 | 9571 |
| 30° | 11029 | 9404 | 9147 |
| 35° | 10688 | 8875 | 8778 |
| 40° | 10249 | 8421 | 8495 |
| 45° | 9830 | 7988 | 8242 |
| 50° | 9463 | 7720 | 8028 |
| 55° | 9032 | 7304 | 7862 |
| 60° | 8521 | 7040 | 7710 |
| 65° | 7883 | 6805 | 7594 |
| 70° | 7169 | 6613 | 7589 |
| 75° | 6241 | 6540 | 7611 |
| 80° | 4910 | 6504 | 7759 |
| 85° | 3233 | 6650 | 7934 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9830 cd/sqm



TEST NUMBER: P893983
 CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 162.3 | 2.3 |
| 10°-20° | 463.9 | 6.4 |
| 20°-30° | 696.6 | 9.7 |
| 30°-40° | 836.5 | 11.6 |
| 40°-50° | 884.7 | 12.3 |
| 50°-60° | 852.6 | 11.8 |
| 60°-70° | 756.4 | 10.5 |
| 70°-80° | 620.4 | 8.6 |
| 80°-90° | 480.1 | 6.7 |
| 90°-100° | 374.6 | 5.2 |
| 100°-110° | 298.2 | 4.1 |
| 110°-120° | 238.3 | 3.3 |
| 120°-130° | 188.0 | 2.6 |
| 130°-140° | 143.4 | 2.0 |
| 140°-150° | 100.9 | 1.4 |
| 150°-160° | 64.5 | 0.9 |
| 160°-170° | 36.1 | 0.5 |
| 170°-180° | 11.5 | 0.2 |
| 0°-30° | 1322.8 | 18.3 |
| 0°-40° | 2159.2 | 30.0 |
| 0°-60° | 3896.6 | 54.1 |
| 0°-90° | 5753.5 | 79.8 |
| 90°-120° | 911.1 | 12.6 |
| 90°-150° | 1343.4 | 18.6 |
| 90°-180° | 1455.0 | 20.2 |
| 0°-180° | 7209.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1715 | 1715 | 1715 | 1715 | 1715 | |
| 5° | 1713 | 1718 | 1701 | 1714 | 1690 | 163 |
| 15° | 1645 | 1646 | 1640 | 1651 | 1646 | 462 |
| 25° | 1480 | 1504 | 1510 | 1536 | 1531 | 682 |
| 35° | 1276 | 1295 | 1326 | 1380 | 1398 | 795 |
| 45° | 1028 | 1059 | 1131 | 1238 | 1268 | 793 |
| 55° | 783 | 822 | 946 | 1074 | 1130 | 698 |
| 65° | 521 | 593 | 772 | 932 | 981 | 518 |
| 75° | 271 | 390 | 615 | 781 | 843 | 287 |
| 85° | 63 | 238 | 477 | 648 | 706 | 71 |
| 90° | 7 | 189 | 422 | 587 | 652 | 7 |
| 95° | 9 | 156 | 373 | 536 | 599 | 9 |
| 105° | 29 | 127 | 298 | 438 | 495 | 30 |
| 115° | 56 | 124 | 247 | 358 | 404 | 54 |
| 125° | 78 | 126 | 213 | 294 | 325 | 68 |
| 135° | 91 | 122 | 191 | 248 | 268 | 71 |
| 145° | 99 | 112 | 157 | 208 | 221 | 62 |
| 155° | 109 | 115 | 130 | 163 | 182 | 50 |
| 165° | 130 | 127 | 122 | 119 | 148 | 36 |
| 175° | 142 | 137 | 122 | 100 | 63 | 13 |
| 180° | 116 | 116 | 116 | 116 | 116 | |



TEST NUMBER: P893983

CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1714.9 | 1714.9 | 1714.9 | 1714.9 | 1714.9 |
| 2.5° | 1718.7 | 1724.4 | 1700.5 | 1714.9 | 1704.3 |
| 5° | 1712.9 | 1717.7 | 1701.4 | 1713.9 | 1689.9 |
| 7.5° | 1711.0 | 1709.1 | 1689.0 | 1705.3 | 1683.2 |
| 10° | 1686.1 | 1692.8 | 1668.8 | 1690.9 | 1680.3 |
| 12.5° | 1665.0 | 1678.4 | 1657.3 | 1674.6 | 1652.5 |
| 15° | 1644.8 | 1645.8 | 1640.0 | 1650.6 | 1645.8 |
| 17.5° | 1611.3 | 1619.9 | 1606.5 | 1630.5 | 1621.8 |
| 20° | 1562.4 | 1589.2 | 1576.7 | 1598.8 | 1593.0 |
| 22.5° | 1522.1 | 1535.5 | 1546.1 | 1571.0 | 1563.3 |
| 25° | 1479.9 | 1503.9 | 1509.6 | 1535.5 | 1530.7 |
| 27.5° | 1436.7 | 1447.3 | 1469.3 | 1497.1 | 1498.1 |
| 30° | 1383.0 | 1394.5 | 1425.2 | 1456.9 | 1465.5 |
| 32.5° | 1319.7 | 1356.2 | 1374.4 | 1422.3 | 1435.8 |
| 35° | 1275.6 | 1294.8 | 1325.5 | 1380.1 | 1398.4 |
| 37.5° | 1218.0 | 1240.1 | 1281.3 | 1345.6 | 1367.7 |
| 40° | 1151.9 | 1184.5 | 1229.6 | 1309.2 | 1335.1 |
| 42.5° | 1085.7 | 1124.1 | 1176.8 | 1269.8 | 1299.6 |
| 45° | 1028.1 | 1058.8 | 1130.8 | 1238.2 | 1267.9 |
| 47.5° | 965.8 | 1003.2 | 1094.3 | 1196.9 | 1230.5 |
| 50° | 908.3 | 946.6 | 1050.2 | 1158.6 | 1198.9 |
| 52.5° | 839.2 | 883.3 | 1002.2 | 1114.5 | 1161.5 |
| 55° | 782.6 | 821.9 | 945.7 | 1074.2 | 1129.8 |
| 57.5° | 720.3 | 764.4 | 901.5 | 1044.4 | 1095.3 |
| 60° | 653.1 | 708.8 | 858.4 | 1007.0 | 1056.0 |
| 62.5° | 587.0 | 653.1 | 814.3 | 970.6 | 1018.6 |
| 65° | 520.8 | 592.7 | 772.1 | 932.2 | 981.1 |
| 67.5° | 461.3 | 539.0 | 733.7 | 890.0 | 950.5 |
| 70° | 394.2 | 487.2 | 688.6 | 850.7 | 914.0 |
| 72.5° | 330.9 | 440.2 | 652.2 | 819.1 | 882.4 |
| 75° | 271.4 | 390.3 | 614.8 | 780.7 | 843.0 |
| 77.5° | 212.0 | 343.4 | 575.5 | 746.2 | 814.3 |
| 80° | 155.4 | 305.0 | 540.9 | 712.6 | 777.8 |
| 82.5° | 107.4 | 271.4 | 507.4 | 684.8 | 746.2 |
| 85° | 63.3 | 237.9 | 476.7 | 648.3 | 705.9 |
| 87.5° | 28.8 | 211.0 | 445.0 | 620.5 | 677.1 |
| 90° | 6.7 | 188.9 | 422.0 | 587.0 | 652.2 |
| 92.5° | 6.7 | 171.7 | 394.2 | 562.0 | 621.5 |
| 95° | 8.6 | 156.3 | 373.1 | 536.1 | 599.4 |
| 97.5° | 11.5 | 144.8 | 353.9 | 512.2 | 567.8 |
| 100° | 16.3 | 137.1 | 332.8 | 484.3 | 539.0 |
| 102.5° | 22.1 | 131.4 | 313.6 | 459.4 | 510.2 |
| 105° | 28.8 | 126.6 | 298.3 | 438.3 | 494.9 |
| 107.5° | 35.5 | 124.7 | 282.9 | 418.2 | 466.1 |
| 110° | 42.2 | 123.7 | 271.4 | 397.1 | 450.8 |



TEST NUMBER: P893983
 CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 48.9 | 122.8 | 259.0 | 377.9 | 421.0 |
| 115° | 55.6 | 123.7 | 247.4 | 357.7 | 403.8 |
| 117.5° | 59.5 | 123.7 | 236.9 | 340.5 | 378.8 |
| 120° | 65.2 | 124.7 | 229.2 | 322.3 | 362.5 |
| 122.5° | 71.0 | 124.7 | 221.5 | 308.8 | 344.3 |
| 125° | 77.7 | 125.6 | 212.9 | 293.5 | 325.1 |
| 127.5° | 81.5 | 125.6 | 208.1 | 282.9 | 311.7 |
| 130° | 85.4 | 124.7 | 201.4 | 269.5 | 299.2 |
| 132.5° | 89.2 | 122.8 | 197.6 | 257.0 | 284.8 |
| 135° | 91.1 | 121.8 | 190.9 | 248.4 | 267.6 |
| 137.5° | 94.0 | 118.9 | 184.1 | 235.9 | 257.0 |
| 140° | 96.9 | 118.0 | 174.6 | 226.3 | 244.6 |
| 142.5° | 96.9 | 115.1 | 167.8 | 217.7 | 234.0 |
| 145° | 98.8 | 112.2 | 157.3 | 208.1 | 220.6 |
| 147.5° | 100.7 | 111.3 | 149.6 | 198.5 | 213.9 |
| 150° | 100.7 | 110.3 | 142.9 | 188.0 | 202.4 |
| 152.5° | 102.6 | 111.3 | 136.2 | 178.4 | 191.8 |
| 155° | 109.3 | 115.1 | 129.5 | 163.0 | 182.2 |
| 157.5° | 115.1 | 118.9 | 122.8 | 151.5 | 171.7 |
| 160° | 119.9 | 121.8 | 117.0 | 140.0 | 166.9 |
| 162.5° | 123.7 | 124.7 | 118.0 | 129.5 | 156.3 |
| 165° | 129.5 | 126.6 | 121.8 | 118.9 | 147.7 |
| 167.5° | 134.3 | 128.5 | 123.7 | 116.0 | 141.0 |
| 170° | 138.1 | 132.4 | 121.8 | 109.3 | 138.1 |
| 172.5° | 141.0 | 133.3 | 122.8 | 102.6 | 116.0 |
| 175° | 141.9 | 137.1 | 121.8 | 99.7 | 63.3 |
| 177.5° | 141.0 | 138.1 | 125.6 | 98.8 | 56.6 |
| 180° | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |



TEST NUMBER: P893983
 CATALOG NUMBER: 4MB-8HL-RNDU-UNV-L940

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 | 15.73 | 17.05 | 16.37 | 17.71 | 18.48 | 19.14 | 20.46 | 19.78 | 21.12 | 21.89 |
| | 3H | 17.19 | 18.39 | 17.84 | 19.06 | 19.86 | 21.98 | 23.18 | 22.63 | 23.85 | 24.65 |
| | 4H | 17.66 | 18.80 | 18.33 | 19.48 | 20.29 | 23.43 | 24.57 | 24.10 | 25.25 | 26.07 |
| | 6H | 17.94 | 19.00 | 18.62 | 19.69 | 20.52 | 24.99 | 26.05 | 25.67 | 26.75 | 27.57 |
| | 8H | 18.00 | 19.02 | 18.69 | 19.73 | 20.56 | 25.81 | 26.83 | 26.50 | 27.54 | 28.37 |
| | 12H | 18.01 | 18.99 | 18.72 | 19.70 | 20.56 | 26.69 | 27.66 | 27.39 | 28.37 | 29.23 |
| 4H | 2H | 16.87 | 18.01 | 17.54 | 18.70 | 19.51 | 19.48 | 20.62 | 20.16 | 21.31 | 22.12 |
| | 3H | 18.58 | 19.56 | 19.26 | 20.28 | 21.11 | 22.55 | 23.53 | 23.24 | 24.25 | 25.08 |
| | 4H | 19.17 | 20.08 | 19.88 | 20.80 | 21.66 | 24.19 | 25.09 | 24.89 | 25.81 | 26.67 |
| | 6H | 19.58 | 20.38 | 20.30 | 21.13 | 22.00 | 25.95 | 26.75 | 26.67 | 27.49 | 28.36 |
| | 8H | 19.70 | 20.45 | 20.42 | 21.19 | 22.07 | 26.88 | 27.63 | 27.60 | 28.38 | 29.26 |
| | 12H | 19.75 | 20.44 | 20.50 | 21.21 | 22.09 | 27.89 | 28.57 | 28.63 | 29.34 | 30.23 |
| 8H | 4H | 20.20 | 20.96 | 20.93 | 21.70 | 22.58 | 24.37 | 25.12 | 25.09 | 25.87 | 26.75 |
| | 6H | 20.85 | 21.49 | 21.60 | 22.28 | 23.16 | 26.31 | 26.95 | 27.06 | 27.74 | 28.62 |
| | 8H | 21.08 | 21.66 | 21.84 | 22.44 | 23.34 | 27.39 | 27.97 | 28.15 | 28.76 | 29.65 |
| | 12H | 21.23 | 21.75 | 21.99 | 22.52 | 23.48 | 28.59 | 29.11 | 29.36 | 29.89 | 30.84 |
| 12H | 4H | 20.53 | 21.22 | 21.28 | 21.99 | 22.87 | 24.36 | 25.05 | 25.11 | 25.82 | 26.70 |
| | 6H | 21.34 | 21.92 | 22.10 | 22.71 | 23.60 | 26.34 | 26.92 | 27.10 | 27.71 | 28.60 |
| | 8H | 21.69 | 22.21 | 22.46 | 22.99 | 23.94 | 27.49 | 28.01 | 28.25 | 28.78 | 29.74 |