

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: P894791

Luminaire Tested: 8TMB-18HL-FLTU-UNV-L840

Issue Date: 11/11/2024

**Test Information**

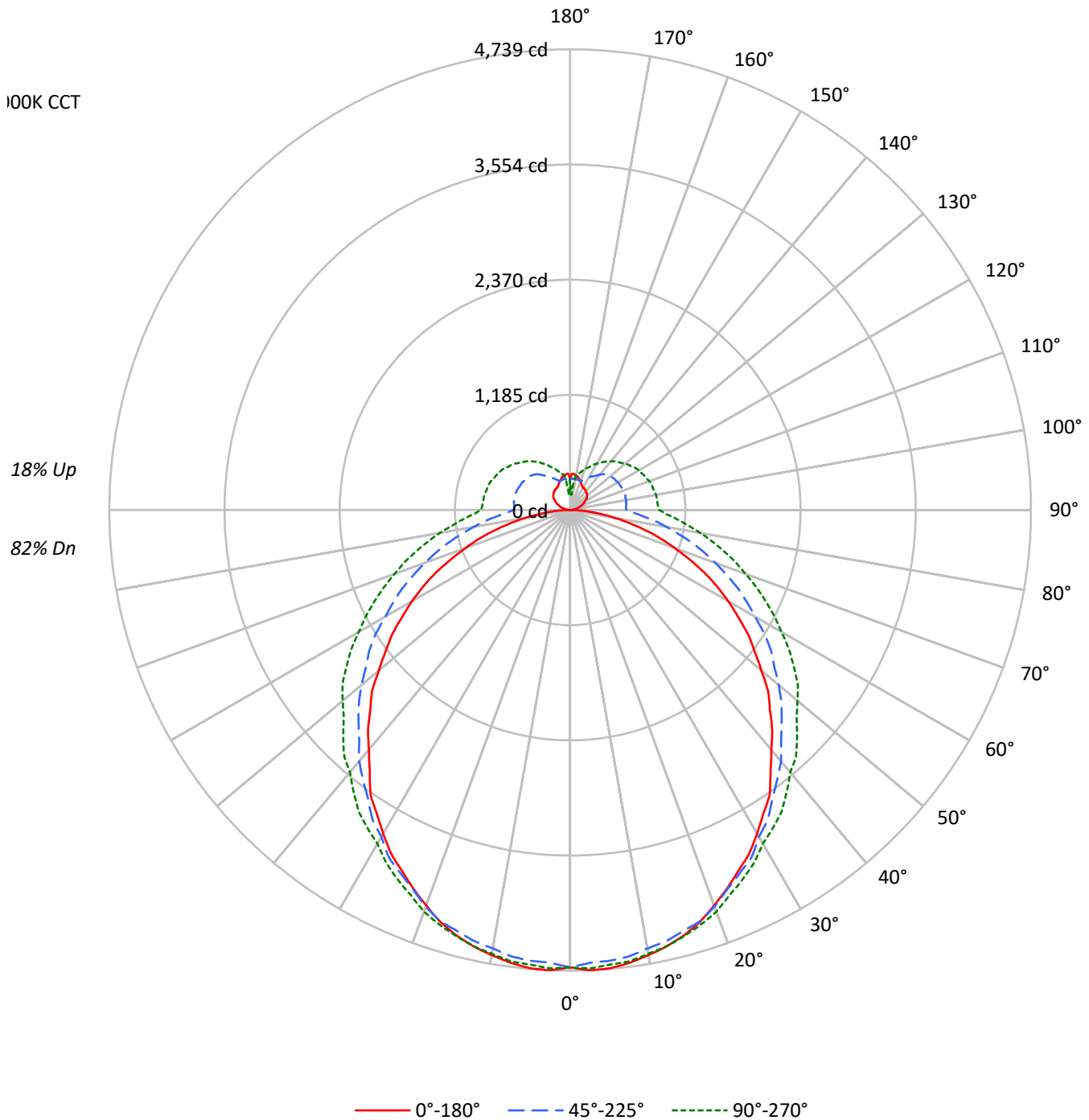
Test Method: LM-79-2019  
Report Number: P894791  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-18HL-FLTU-UNV-L840  
Description: 18000 Lumen 8FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 40  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17684.9 lumens  
Efficiency: N/A  
Efficacy: 131.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 7.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 134.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 8.62  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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CATALOG NUMBER: 8TMB-18HL-FLTU-UNV-L840

### 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   | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 110 | 101 | 101 | 101 | 93 | 93 | 93 | 86 | 86 | 86 | 86 | 86 | 86 | 82 |
| 1   | 103 | 98  | 93  | 89  | 99  | 94  | 90  | 86  | 87  | 83  | 80  | 80 | 77 | 74 | 73 | 71 | 69 | 69 | 69 | 69 | 66 |
| 2   | 93  | 85  | 77  | 71  | 89  | 81  | 75  | 69  | 75  | 70  | 65  | 69 | 65 | 61 | 63 | 60 | 57 | 57 | 57 | 57 | 54 |
| 3   | 85  | 74  | 66  | 59  | 81  | 71  | 63  | 57  | 66  | 59  | 54  | 60 | 55 | 51 | 56 | 51 | 48 | 48 | 48 | 48 | 45 |
| 4   | 78  | 65  | 56  | 49  | 74  | 63  | 55  | 48  | 58  | 51  | 46  | 54 | 48 | 43 | 50 | 45 | 41 | 41 | 41 | 41 | 38 |
| 5   | 71  | 58  | 49  | 42  | 68  | 56  | 48  | 41  | 52  | 45  | 39  | 48 | 42 | 37 | 44 | 39 | 35 | 35 | 35 | 35 | 33 |
| 6   | 66  | 52  | 43  | 37  | 63  | 50  | 42  | 36  | 47  | 40  | 34  | 43 | 37 | 33 | 40 | 35 | 31 | 31 | 31 | 31 | 28 |
| 7   | 61  | 47  | 38  | 32  | 58  | 46  | 37  | 32  | 42  | 35  | 30  | 39 | 33 | 29 | 37 | 31 | 27 | 27 | 27 | 27 | 25 |
| 8   | 56  | 43  | 34  | 29  | 54  | 42  | 34  | 28  | 39  | 32  | 27  | 36 | 30 | 26 | 34 | 28 | 24 | 24 | 24 | 24 | 22 |
| 9   | 53  | 39  | 31  | 26  | 50  | 38  | 30  | 25  | 36  | 29  | 24  | 33 | 27 | 23 | 31 | 26 | 22 | 22 | 22 | 22 | 20 |
| 10  | 49  | 36  | 28  | 23  | 47  | 35  | 28  | 23  | 33  | 26  | 22  | 31 | 25 | 21 | 29 | 24 | 20 | 20 | 20 | 20 | 18 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16691 | 16691 | 16691 |
| 5°  | 16814 | 16008 | 15954 |
| 10° | 16673 | 15396 | 15225 |
| 15° | 16521 | 14856 | 14531 |
| 20° | 16192 | 14283 | 13841 |
| 25° | 15836 | 13576 | 13078 |
| 30° | 15516 | 12884 | 12338 |
| 35° | 15225 | 12224 | 11862 |
| 40° | 14592 | 11658 | 11174 |
| 45° | 14203 | 10982 | 10695 |
| 50° | 13742 | 10414 | 10191 |
| 55° | 13341 | 9876  | 9741  |
| 60° | 12761 | 9134  | 9137  |
| 65° | 12102 | 8538  | 8568  |
| 70° | 11081 | 7797  | 7948  |
| 75° | 10022 | 7058  | 7360  |
| 80° | 8230  | 6249  | 6764  |
| 85° | 6192  | 5467  | 6207  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14203 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 445.6   | 2.5       |
| 10°-20°   | 1272.4  | 7.2       |
| 20°-30°   | 1911.3  | 10.8      |
| 30°-40°   | 2290.8  | 13.0      |
| 40°-50°   | 2401.7  | 13.6      |
| 50°-60°   | 2253.0  | 12.7      |
| 60°-70°   | 1871.3  | 10.6      |
| 70°-80°   | 1338.0  | 7.6       |
| 80°-90°   | 793.5   | 4.5       |
| 90°-100°  | 582.1   | 3.3       |
| 100°-110° | 573.5   | 3.2       |
| 110°-120° | 535.0   | 3.0       |
| 120°-130° | 469.4   | 2.7       |
| 130°-140° | 378.0   | 2.1       |
| 140°-150° | 271.3   | 1.5       |
| 150°-160° | 172.4   | 1.0       |
| 160°-170° | 95.6    | 0.5       |
| 170°-180° | 30.1    | 0.2       |
| 0°-30°    | 3629.3  | 20.5      |
| 0°-40°    | 5920.1  | 33.5      |
| 0°-60°    | 10574.7 | 59.8      |
| 0°-90°    | 14577.6 | 82.4      |
| 90°-120°  | 1690.5  | 9.6       |
| 90°-150°  | 2809.3  | 15.9      |
| 90°-180°  | 3107.0  | 17.6      |
| 0°-180°   | 17684.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 4704 | 4704  | 4704 | 4704  | 4704 |      |
| 5°   | 4732 | 4722  | 4654 | 4677  | 4694 | 449  |
| 15°  | 4529 | 4502  | 4484 | 4517  | 4537 | 1275 |
| 25°  | 4094 | 4132  | 4124 | 4172  | 4194 | 1889 |
| 35°  | 3579 | 3592  | 3624 | 3729  | 3789 | 2222 |
| 45°  | 2904 | 2987  | 3077 | 3279  | 3299 | 2247 |
| 55°  | 2237 | 2310  | 2522 | 2727  | 2807 | 1990 |
| 65°  | 1522 | 1637  | 1902 | 2157  | 2220 | 1500 |
| 75°  | 802  | 987   | 1295 | 1562  | 1635 | 848  |
| 85°  | 198  | 432   | 757  | 1012  | 1107 | 217  |
| 90°  | 8    | 262   | 577  | 825   | 915  | 16   |
| 95°  | 22   | 275   | 577  | 815   | 900  | 23   |
| 105° | 80   | 302   | 587  | 805   | 880  | 85   |
| 115° | 145  | 327   | 575  | 765   | 840  | 143  |
| 125° | 208  | 337   | 557  | 710   | 775  | 182  |
| 135° | 240  | 325   | 517  | 642   | 695  | 186  |
| 145° | 260  | 300   | 425  | 565   | 605  | 164  |
| 155° | 285  | 300   | 347  | 437   | 495  | 132  |
| 165° | 340  | 330   | 320  | 317   | 397  | 95   |
| 175° | 375  | 360   | 322  | 267   | 162  | 35   |
| 180° | 310  | 310   | 310  | 310   | 310  |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 4704.1 | 4704.1 | 4704.1 | 4704.1 | 4704.1 |
| 2.5°   | 4739.0 | 4701.6 | 4661.6 | 4721.6 | 4719.1 |
| 5°     | 4731.5 | 4721.6 | 4654.1 | 4676.6 | 4694.1 |
| 7.5°   | 4696.6 | 4671.6 | 4631.6 | 4686.6 | 4681.6 |
| 10°    | 4649.1 | 4619.1 | 4579.1 | 4611.6 | 4634.1 |
| 12.5°  | 4596.6 | 4571.6 | 4544.1 | 4579.1 | 4594.1 |
| 15°    | 4529.1 | 4501.6 | 4484.1 | 4516.6 | 4536.6 |
| 17.5°  | 4441.6 | 4434.1 | 4436.6 | 4439.1 | 4471.6 |
| 20°    | 4329.1 | 4334.1 | 4341.6 | 4386.6 | 4396.6 |
| 22.5°  | 4214.2 | 4241.6 | 4221.7 | 4291.6 | 4286.6 |
| 25°    | 4094.2 | 4131.7 | 4124.2 | 4171.7 | 4194.2 |
| 27.5°  | 3986.7 | 3989.2 | 4034.2 | 4101.7 | 4094.2 |
| 30°    | 3844.2 | 3886.7 | 3881.7 | 3964.2 | 3964.2 |
| 32.5°  | 3699.3 | 3761.7 | 3781.7 | 3854.2 | 3879.2 |
| 35°    | 3579.3 | 3591.8 | 3624.3 | 3729.3 | 3789.2 |
| 37.5°  | 3384.3 | 3444.3 | 3496.8 | 3634.3 | 3656.8 |
| 40°    | 3219.4 | 3279.3 | 3374.3 | 3534.3 | 3521.8 |
| 42.5°  | 3076.9 | 3139.4 | 3209.4 | 3394.3 | 3439.3 |
| 45°    | 2904.4 | 2986.9 | 3076.9 | 3279.3 | 3299.3 |
| 47.5°  | 2764.4 | 2829.4 | 2946.9 | 3131.9 | 3156.9 |
| 50°    | 2567.0 | 2672.0 | 2799.4 | 3014.4 | 3051.9 |
| 52.5°  | 2392.0 | 2482.0 | 2644.5 | 2866.9 | 2951.9 |
| 55°    | 2237.1 | 2309.5 | 2522.0 | 2727.0 | 2806.9 |
| 57.5°  | 2047.1 | 2147.1 | 2369.5 | 2597.0 | 2669.5 |
| 60°    | 1879.6 | 1977.1 | 2192.1 | 2452.0 | 2509.5 |
| 62.5°  | 1702.2 | 1817.1 | 2049.6 | 2302.0 | 2367.0 |
| 65°    | 1522.2 | 1637.2 | 1902.1 | 2157.1 | 2219.6 |
| 67.5°  | 1327.2 | 1469.7 | 1739.7 | 2004.6 | 2069.6 |
| 70°    | 1144.8 | 1299.7 | 1589.7 | 1854.6 | 1919.6 |
| 72.5°  | 979.8  | 1147.3 | 1442.2 | 1714.7 | 1784.6 |
| 75°    | 802.3  | 987.3  | 1294.7 | 1562.2 | 1634.7 |
| 77.5°  | 629.9  | 829.8  | 1142.3 | 1412.2 | 1497.2 |
| 80°    | 462.4  | 682.4  | 1009.8 | 1269.7 | 1359.7 |
| 82.5°  | 324.9  | 549.9  | 887.3  | 1142.3 | 1224.8 |
| 85°    | 197.5  | 432.4  | 757.3  | 1012.3 | 1107.3 |
| 87.5°  | 87.5   | 334.9  | 654.9  | 907.3  | 992.3  |
| 90°    | 7.5    | 262.4  | 577.4  | 824.8  | 914.8  |
| 92.5°  | 15.0   | 267.4  | 574.9  | 814.8  | 904.8  |
| 95°    | 22.5   | 274.9  | 577.4  | 814.8  | 899.8  |
| 97.5°  | 32.5   | 284.9  | 582.4  | 814.8  | 897.3  |
| 100°   | 47.5   | 289.9  | 584.9  | 814.8  | 897.3  |
| 102.5° | 62.5   | 297.4  | 582.4  | 802.3  | 887.3  |
| 105°   | 80.0   | 302.4  | 587.4  | 804.8  | 879.8  |
| 107.5° | 97.5   | 307.4  | 587.4  | 792.3  | 877.3  |
| 110°   | 115.0  | 314.9  | 582.4  | 784.8  | 867.3  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 130.0 | 322.4 | 579.9 | 769.8 | 849.8 |
| 115°   | 145.0 | 327.4 | 574.9 | 764.8 | 839.8 |
| 117.5° | 160.0 | 329.9 | 572.4 | 752.3 | 824.8 |
| 120°   | 172.5 | 334.9 | 567.4 | 737.4 | 817.3 |
| 122.5° | 187.5 | 337.4 | 559.9 | 722.4 | 802.3 |
| 125°   | 207.5 | 337.4 | 557.4 | 709.9 | 774.8 |
| 127.5° | 217.5 | 339.9 | 547.4 | 694.9 | 762.3 |
| 130°   | 227.5 | 332.4 | 542.4 | 677.4 | 742.4 |
| 132.5° | 235.0 | 329.9 | 529.9 | 659.9 | 717.4 |
| 135°   | 240.0 | 324.9 | 517.4 | 642.4 | 694.9 |
| 137.5° | 247.5 | 317.4 | 499.9 | 629.9 | 679.9 |
| 140°   | 252.4 | 312.4 | 474.9 | 604.9 | 654.9 |
| 142.5° | 257.4 | 304.9 | 449.9 | 582.4 | 629.9 |
| 145°   | 259.9 | 299.9 | 424.9 | 564.9 | 604.9 |
| 147.5° | 267.4 | 292.4 | 409.9 | 542.4 | 577.4 |
| 150°   | 264.9 | 287.4 | 387.4 | 514.9 | 549.9 |
| 152.5° | 272.4 | 294.9 | 367.4 | 477.4 | 527.4 |
| 155°   | 284.9 | 299.9 | 347.4 | 437.4 | 494.9 |
| 157.5° | 297.4 | 309.9 | 332.4 | 402.4 | 469.9 |
| 160°   | 314.9 | 314.9 | 314.9 | 374.9 | 449.9 |
| 162.5° | 324.9 | 324.9 | 317.4 | 342.4 | 422.4 |
| 165°   | 339.9 | 329.9 | 319.9 | 317.4 | 397.4 |
| 167.5° | 354.9 | 334.9 | 324.9 | 307.4 | 379.9 |
| 170°   | 357.4 | 342.4 | 322.4 | 289.9 | 367.4 |
| 172.5° | 367.4 | 349.9 | 319.9 | 274.9 | 284.9 |
| 175°   | 374.9 | 359.9 | 322.4 | 267.4 | 162.5 |
| 177.5° | 372.4 | 359.9 | 329.9 | 267.4 | 157.5 |
| 180°   | 309.9 | 309.9 | 309.9 | 309.9 | 309.9 |



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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 | 17.53            | 18.85 | 18.14 | 19.48 | 20.20 | 20.12          | 21.44 | 20.73 | 22.07 | 22.79 |
|                 | 3H   | 18.96            | 20.16 | 19.58 | 20.80 | 21.55 | 22.52          | 23.72 | 23.14 | 24.36 | 25.11 |
|                 | 4H   | 19.42            | 20.57 | 20.07 | 21.22 | 21.98 | 23.66          | 24.80 | 24.30 | 25.45 | 26.21 |
|                 | 6H   | 19.69            | 20.75 | 20.35 | 21.41 | 22.19 | 24.82          | 25.88 | 25.47 | 26.54 | 27.32 |
|                 | 8H   | 19.74            | 20.76 | 20.41 | 21.44 | 22.22 | 25.40          | 26.41 | 26.07 | 27.10 | 27.88 |
|                 | 12H  | 19.76            | 20.73 | 20.43 | 21.41 | 22.22 | 26.03          | 27.00 | 26.71 | 27.68 | 28.49 |
| 4H              | 2H   | 18.41            | 19.56 | 19.06 | 20.21 | 20.97 | 20.46          | 21.60 | 21.11 | 22.25 | 23.01 |
|                 | 3H   | 20.07            | 21.04 | 20.72 | 21.72 | 22.51 | 23.07          | 24.04 | 23.73 | 24.73 | 25.51 |
|                 | 4H   | 20.65            | 21.54 | 21.32 | 22.23 | 23.04 | 24.37          | 25.26 | 25.05 | 25.95 | 26.76 |
|                 | 6H   | 21.02            | 21.80 | 21.72 | 22.52 | 23.34 | 25.70          | 26.48 | 26.39 | 27.20 | 28.02 |
|                 | 8H   | 21.11            | 21.85 | 21.81 | 22.56 | 23.40 | 26.38          | 27.11 | 27.07 | 27.82 | 28.66 |
|                 | 12H  | 21.15            | 21.82 | 21.87 | 22.56 | 23.40 | 27.12          | 27.78 | 27.84 | 28.52 | 29.36 |
| 8H              | 4H   | 21.29            | 22.02 | 21.99 | 22.73 | 23.57 | 24.52          | 25.26 | 25.22 | 25.97 | 26.80 |
|                 | 6H   | 21.82            | 22.44 | 22.55 | 23.20 | 24.03 | 25.99          | 26.61 | 26.72 | 27.37 | 28.21 |
|                 | 8H   | 21.99            | 22.55 | 22.73 | 23.30 | 24.16 | 26.79          | 27.35 | 27.53 | 28.11 | 28.96 |
|                 | 12H  | 22.09            | 22.59 | 22.84 | 23.34 | 24.25 | 27.69          | 28.19 | 28.43 | 28.93 | 29.85 |
| 12H             | 4H   | 21.45            | 22.12 | 22.17 | 22.85 | 23.69 | 24.51          | 25.18 | 25.23 | 25.92 | 26.76 |
|                 | 6H   | 22.07            | 22.63 | 22.81 | 23.39 | 24.24 | 26.01          | 26.57 | 26.75 | 27.33 | 28.18 |
|                 | 8H   | 22.32            | 22.82 | 23.06 | 23.56 | 24.48 | 26.86          | 27.36 | 27.60 | 28.11 | 29.02 |