

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: NEO-RAY

Report Number: P999168

Luminaire Tested: SA2XXDIP-B865D725UB2750-4F0-XX-W2A-F\_2700K

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999168  
REPORT IS A COMBINATION OF REPORTS P984917 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B865D725UB2750-4F0-XX-W2A-F\_2700K  
Description: Define 2 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

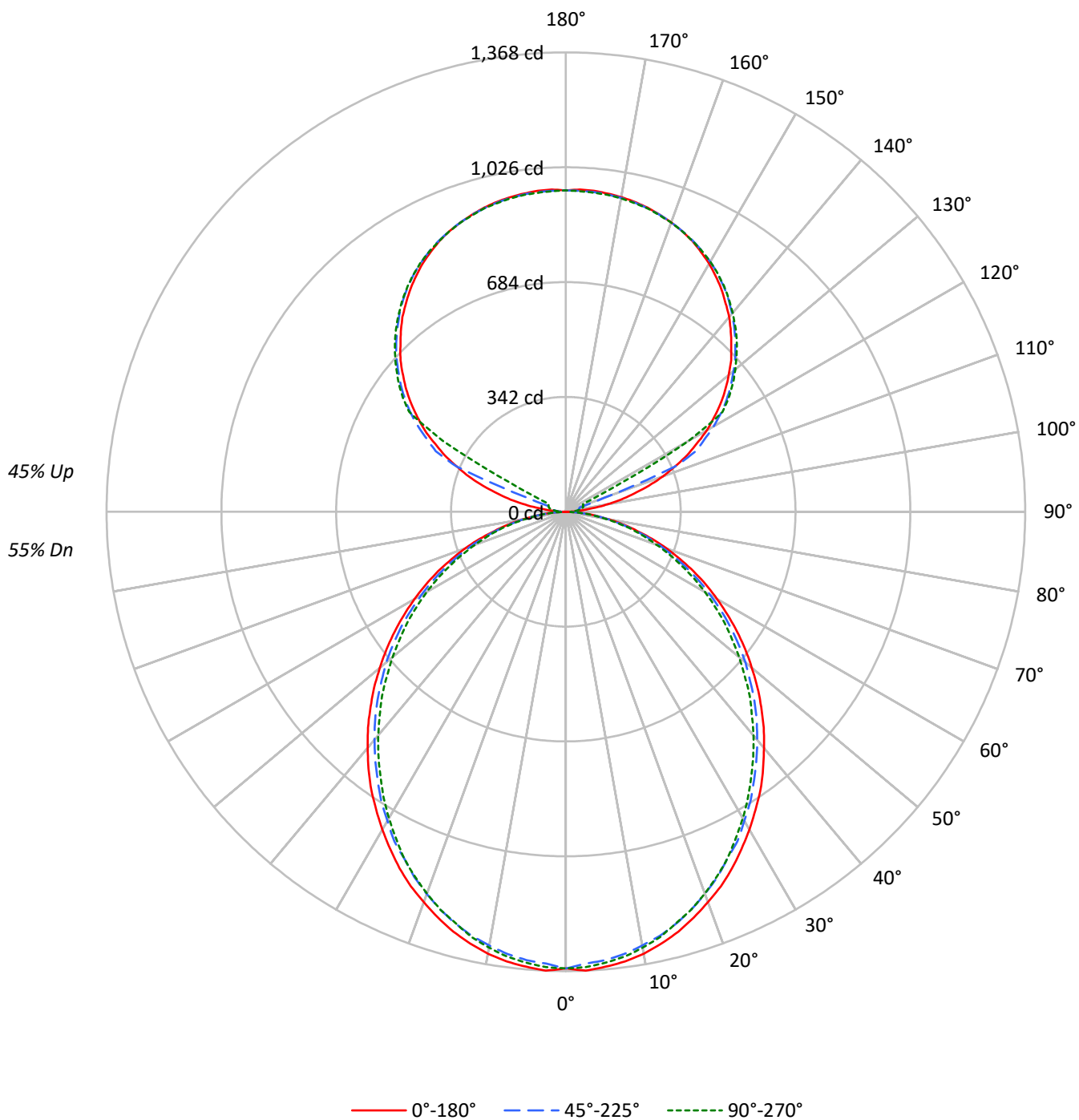
Lumens per Lamp: N/A  
Luminaire Lumens: 6268.0 lumens  
Efficiency: N/A  
Efficacy: 92.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 67.9  
Input Voltage (V): 120  
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: 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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
| 0   | 108 | 108 | 108 | 108 | 101 | 101 | 101 | 101 | 86 | 86 | 86 | 73 | 73 | 73 | 61 | 61 | 61 |
| 1   | 99  | 95  | 91  | 87  | 92  | 88  | 85  | 82  | 76 | 73 | 71 | 64 | 63 | 61 | 54 | 53 | 51 |
| 2   | 90  | 83  | 76  | 71  | 83  | 77  | 72  | 67  | 66 | 62 | 59 | 56 | 53 | 51 | 47 | 45 | 43 |
| 3   | 82  | 73  | 65  | 59  | 76  | 68  | 61  | 56  | 59 | 54 | 49 | 50 | 46 | 43 | 42 | 39 | 37 |
| 4   | 75  | 64  | 56  | 50  | 70  | 60  | 53  | 47  | 52 | 46 | 42 | 45 | 40 | 37 | 38 | 34 | 32 |
| 5   | 69  | 57  | 49  | 43  | 64  | 54  | 46  | 41  | 47 | 41 | 36 | 40 | 36 | 32 | 34 | 30 | 28 |
| 6   | 64  | 51  | 43  | 37  | 59  | 48  | 41  | 36  | 42 | 36 | 32 | 36 | 32 | 28 | 31 | 27 | 24 |
| 7   | 59  | 47  | 38  | 33  | 55  | 44  | 36  | 31  | 38 | 32 | 28 | 33 | 28 | 25 | 28 | 24 | 22 |
| 8   | 55  | 42  | 34  | 29  | 51  | 40  | 33  | 28  | 35 | 29 | 25 | 30 | 26 | 22 | 26 | 22 | 20 |
| 9   | 51  | 39  | 31  | 26  | 47  | 36  | 29  | 25  | 32 | 26 | 22 | 28 | 23 | 20 | 24 | 20 | 18 |
| 10  | 48  | 35  | 28  | 23  | 44  | 33  | 27  | 22  | 29 | 24 | 20 | 26 | 21 | 18 | 22 | 19 | 16 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 21528 | 21528 | 21528 |
| 5°  | 21563 | 20520 | 20374 |
| 10° | 21386 | 19585 | 19195 |
| 15° | 21074 | 18642 | 17956 |
| 20° | 20651 | 17617 | 16783 |
| 25° | 20229 | 16547 | 15611 |
| 30° | 19697 | 15541 | 14381 |
| 35° | 19197 | 14479 | 13172 |
| 40° | 18579 | 13433 | 12031 |
| 45° | 17963 | 12395 | 10911 |
| 50° | 17292 | 11337 | 9750  |
| 55° | 16587 | 10207 | 8649  |
| 60° | 15794 | 8984  | 7505  |
| 65° | 14924 | 7740  | 6302  |
| 70° | 13819 | 6380  | 5090  |
| 75° | 12290 | 4917  | 3930  |
| 80° | 10443 | 3341  | 2529  |
| 85° | 7571  | 1555  | 1077  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 17963 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.0  | 2.0       |
| 10°-20°   | 360.1  | 5.7       |
| 20°-30°   | 529.2  | 8.4       |
| 30°-40°   | 614.7  | 9.8       |
| 40°-50°   | 613.9  | 9.8       |
| 50°-60°   | 535.3  | 8.5       |
| 60°-70°   | 395.7  | 6.3       |
| 70°-80°   | 223.9  | 3.6       |
| 80°-90°   | 60.8   | 1.0       |
| 90°-100°  | 31.6   | 0.5       |
| 100°-110° | 117.7  | 1.9       |
| 110°-120° | 312.1  | 5.0       |
| 120°-130° | 517.6  | 8.3       |
| 130°-140° | 549.8  | 8.8       |
| 140°-150° | 511.0  | 8.2       |
| 150°-160° | 410.8  | 6.6       |
| 160°-170° | 264.7  | 4.2       |
| 170°-180° | 91.1   | 1.5       |
| 0°-30°    | 1017.4 | 16.2      |
| 0°-40°    | 1632.1 | 26.0      |
| 0°-60°    | 2781.3 | 44.4      |
| 0°-90°    | 3461.7 | 55.2      |
| 90°-120°  | 461.3  | 7.4       |
| 90°-150°  | 2039.7 | 32.5      |
| 90°-180°  | 2806.0 | 44.8      |
| 0°-180°   | 6268.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1360 | 1360  | 1360 | 1360  | 1360 |      |
| 5°   | 1360 | 1355  | 1340 | 1351  | 1348 | 129  |
| 15°  | 1295 | 1287  | 1270 | 1275  | 1268 | 365  |
| 25°  | 1172 | 1161  | 1139 | 1142  | 1139 | 539  |
| 35°  | 1011 | 998   | 977  | 969   | 962  | 631  |
| 45°  | 822  | 813   | 794  | 779   | 774  | 635  |
| 55°  | 622  | 615   | 599  | 583   | 577  | 557  |
| 65°  | 420  | 412   | 399  | 387   | 380  | 415  |
| 75°  | 220  | 217   | 210  | 203   | 205  | 234  |
| 85°  | 54   | 52    | 51   | 47    | 46   | 60   |
| 90°  | 1    | 8     | 14   | 17    | 19   | 6    |
| 95°  | 45   | 22    | 27   | 30    | 30   | 53   |
| 105° | 211  | 231   | 42   | 50    | 53   | 225  |
| 115° | 398  | 410   | 427  | 107   | 57   | 392  |
| 125° | 563  | 572   | 585  | 590   | 592  | 502  |
| 135° | 697  | 708   | 714  | 721   | 720  | 538  |
| 145° | 808  | 808   | 819  | 824   | 821  | 506  |
| 155° | 890  | 884   | 892  | 896   | 891  | 410  |
| 165° | 938  | 934   | 936  | 941   | 936  | 265  |
| 175° | 959  | 954   | 956  | 961   | 954  | 91   |
| 180° | 957  | 957   | 957  | 957   | 957  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1360.0 | 1360.0 | 1360.0 | 1360.0 | 1360.0 |
| 2.5°   | 1367.8 | 1361.3 | 1346.9 | 1360.0 | 1357.4 |
| 5°     | 1360.0 | 1354.7 | 1340.4 | 1350.8 | 1348.2 |
| 7.5°   | 1350.8 | 1343.0 | 1328.6 | 1339.1 | 1336.4 |
| 10°    | 1336.4 | 1327.3 | 1311.6 | 1322.1 | 1318.1 |
| 12.5°  | 1316.8 | 1309.0 | 1293.3 | 1299.8 | 1297.2 |
| 15°    | 1294.6 | 1286.7 | 1269.7 | 1275.0 | 1268.4 |
| 17.5°  | 1267.1 | 1259.3 | 1242.3 | 1248.8 | 1242.3 |
| 20°    | 1237.1 | 1229.2 | 1210.9 | 1214.8 | 1209.6 |
| 22.5°  | 1207.0 | 1195.2 | 1178.2 | 1178.2 | 1175.6 |
| 25°    | 1171.7 | 1161.2 | 1139.0 | 1141.6 | 1139.0 |
| 27.5°  | 1132.4 | 1123.3 | 1106.3 | 1102.4 | 1095.8 |
| 30°    | 1093.2 | 1082.8 | 1063.1 | 1059.2 | 1054.0 |
| 32.5°  | 1051.4 | 1043.5 | 1022.6 | 1014.8 | 1009.5 |
| 35°    | 1010.8 | 997.8  | 976.8  | 969.0  | 962.4  |
| 37.5°  | 965.1  | 953.3  | 932.4  | 923.2  | 916.7  |
| 40°    | 918.0  | 907.5  | 886.6  | 874.8  | 869.6  |
| 42.5°  | 872.2  | 861.8  | 840.8  | 827.8  | 819.9  |
| 45°    | 822.5  | 813.4  | 793.8  | 779.4  | 774.1  |
| 47.5°  | 774.1  | 765.0  | 744.1  | 729.7  | 721.8  |
| 50°    | 723.1  | 716.6  | 698.3  | 680.0  | 673.5  |
| 52.5°  | 673.5  | 664.3  | 647.3  | 632.9  | 623.8  |
| 55°    | 622.5  | 614.6  | 598.9  | 583.2  | 576.7  |
| 57.5°  | 571.5  | 564.9  | 547.9  | 532.2  | 527.0  |
| 60°    | 520.5  | 515.2  | 496.9  | 482.5  | 478.6  |
| 62.5°  | 470.8  | 461.6  | 448.5  | 435.5  | 430.2  |
| 65°    | 419.8  | 411.9  | 398.8  | 387.1  | 380.5  |
| 67.5°  | 367.5  | 360.9  | 349.1  | 340.0  | 334.8  |
| 70°    | 319.1  | 313.8  | 302.1  | 292.9  | 287.7  |
| 72.5°  | 269.4  | 264.1  | 257.6  | 248.5  | 244.5  |
| 75°    | 219.7  | 217.1  | 210.5  | 202.7  | 205.3  |
| 77.5°  | 175.2  | 170.0  | 167.4  | 163.5  | 159.5  |
| 80°    | 130.8  | 129.5  | 126.8  | 122.9  | 120.3  |
| 82.5°  | 88.9   | 88.9   | 87.6   | 82.4   | 82.4   |
| 85°    | 53.6   | 52.3   | 51.0   | 47.1   | 45.8   |
| 87.5°  | 23.5   | 20.9   | 18.3   | 14.4   | 13.1   |
| 90°    | 0.7    | 8.3    | 13.9   | 17.3   | 18.7   |
| 92.5°  | 17.3   | 14.5   | 16.6   | 18.0   | 18.7   |
| 95°    | 45.0   | 22.2   | 27.0   | 30.5   | 29.8   |
| 97.5°  | 81.0   | 24.2   | 35.3   | 37.4   | 38.1   |
| 100°   | 122.6  | 27.7   | 39.5   | 45.0   | 46.4   |
| 102.5° | 168.3  | 166.9  | 40.9   | 48.5   | 50.6   |
| 105°   | 210.6  | 231.3  | 42.3   | 49.9   | 52.6   |
| 107.5° | 259.7  | 277.1  | 43.6   | 51.3   | 54.0   |
| 110°   | 306.8  | 321.4  | 121.2  | 51.9   | 54.7   |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 351.2 | 363.6 | 351.9 | 53.3  | 55.4  |
| 115°   | 398.3 | 410.1 | 427.4 | 106.7 | 56.8  |
| 117.5° | 439.1 | 453.0 | 464.8 | 365.7 | 184.2 |
| 120°   | 484.9 | 495.2 | 507.7 | 516.0 | 422.5 |
| 122.5° | 523.6 | 534.7 | 548.6 | 552.7 | 553.4 |
| 125°   | 563.1 | 572.1 | 585.3 | 590.1 | 592.2 |
| 127.5° | 599.1 | 608.8 | 619.2 | 626.2 | 626.9 |
| 130°   | 633.1 | 644.2 | 651.8 | 659.4 | 658.7 |
| 132.5° | 667.7 | 676.7 | 684.3 | 690.6 | 689.9 |
| 135°   | 696.8 | 707.9 | 714.1 | 721.1 | 719.7 |
| 137.5° | 727.3 | 735.6 | 742.5 | 749.5 | 747.4 |
| 140°   | 757.1 | 762.6 | 770.2 | 776.5 | 773.0 |
| 142.5° | 782.0 | 786.9 | 795.9 | 801.4 | 797.9 |
| 145°   | 808.3 | 807.6 | 819.4 | 824.3 | 820.8 |
| 147.5° | 831.2 | 829.1 | 840.9 | 844.3 | 841.6 |
| 150°   | 853.3 | 848.5 | 859.6 | 863.7 | 860.3 |
| 152.5° | 872.1 | 866.5 | 876.9 | 881.1 | 876.2 |
| 155°   | 890.1 | 883.8 | 892.1 | 896.3 | 890.8 |
| 157.5° | 904.6 | 899.1 | 905.3 | 910.1 | 904.6 |
| 160°   | 917.1 | 912.9 | 917.1 | 921.2 | 916.4 |
| 162.5° | 928.2 | 924.0 | 927.5 | 932.3 | 926.1 |
| 165°   | 937.9 | 933.7 | 935.8 | 940.6 | 935.8 |
| 167.5° | 945.5 | 941.3 | 943.4 | 948.2 | 942.0 |
| 170°   | 951.7 | 947.6 | 948.9 | 953.8 | 947.6 |
| 172.5° | 955.9 | 951.7 | 953.1 | 957.9 | 951.7 |
| 175°   | 959.3 | 954.5 | 955.9 | 960.7 | 953.8 |
| 177.5° | 960.7 | 955.9 | 956.6 | 961.4 | 955.2 |
| 180°   | 957.2 | 957.2 | 957.2 | 957.2 | 957.2 |

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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 | 16.37            | 17.28 | 17.28 | 18.21 | 19.40 | 17.15          | 18.06 | 18.06 | 18.99 | 20.19 |
|                 | 3H   | 17.71            | 18.53 | 18.63 | 19.47 | 20.69 | 18.78          | 19.60 | 19.70 | 20.54 | 21.76 |
|                 | 4H   | 18.12            | 18.89 | 19.06 | 19.84 | 21.06 | 19.38          | 20.15 | 20.31 | 21.09 | 22.32 |
|                 | 6H   | 18.34            | 19.05 | 19.29 | 20.00 | 21.24 | 19.78          | 20.49 | 20.73 | 21.44 | 22.68 |
|                 | 8H   | 18.37            | 19.05 | 19.33 | 20.02 | 21.26 | 19.89          | 20.57 | 20.85 | 21.54 | 22.78 |
|                 | 12H  | 18.36            | 19.01 | 19.33 | 19.97 | 21.24 | 19.94          | 20.58 | 20.90 | 21.54 | 22.81 |
| 4H              | 2H   | 16.84            | 17.62 | 17.79 | 18.56 | 19.79 | 17.49          | 18.26 | 18.43 | 19.20 | 20.43 |
|                 | 3H   | 18.37            | 19.01 | 19.32 | 19.99 | 21.23 | 19.27          | 19.92 | 20.23 | 20.89 | 22.13 |
|                 | 4H   | 18.87            | 19.46 | 19.84 | 20.43 | 21.70 | 19.96          | 20.55 | 20.92 | 21.51 | 22.78 |
|                 | 6H   | 19.18            | 19.69 | 20.16 | 20.68 | 21.95 | 20.45          | 20.96 | 21.43 | 21.96 | 23.22 |
|                 | 8H   | 19.24            | 19.71 | 20.22 | 20.70 | 21.98 | 20.60          | 21.07 | 21.58 | 22.06 | 23.34 |
|                 | 12H  | 19.24            | 19.67 | 20.24 | 20.67 | 21.96 | 20.66          | 21.09 | 21.66 | 22.09 | 23.38 |
| 8H              | 4H   | 19.05            | 19.53 | 20.03 | 20.51 | 21.79 | 20.05          | 20.52 | 21.02 | 21.51 | 22.79 |
|                 | 6H   | 19.44            | 19.83 | 20.44 | 20.86 | 22.14 | 20.62          | 21.01 | 21.62 | 22.04 | 23.32 |
|                 | 8H   | 19.54            | 19.89 | 20.55 | 20.90 | 22.20 | 20.81          | 21.15 | 21.82 | 22.17 | 23.46 |
|                 | 12H  | 19.58            | 19.88 | 20.59 | 20.89 | 22.23 | 20.91          | 21.21 | 21.92 | 22.22 | 23.56 |
| 12H             | 4H   | 19.04            | 19.47 | 20.04 | 20.47 | 21.75 | 20.01          | 20.44 | 21.01 | 21.44 | 22.73 |
|                 | 6H   | 19.46            | 19.80 | 20.47 | 20.82 | 22.12 | 20.61          | 20.96 | 21.62 | 21.97 | 23.27 |
|                 | 8H   | 19.57            | 19.88 | 20.59 | 20.89 | 22.23 | 20.81          | 21.11 | 21.82 | 22.12 | 23.46 |