

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: P999197

Luminaire Tested: SA2XXDIP-B865D725UB40-4F0-XX-W2A-F

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999197  
REPORT IS A COMBINATION OF REPORTS P984946 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B865D725UB40-4F0-XX-W2A-F  
Description: Define 2 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

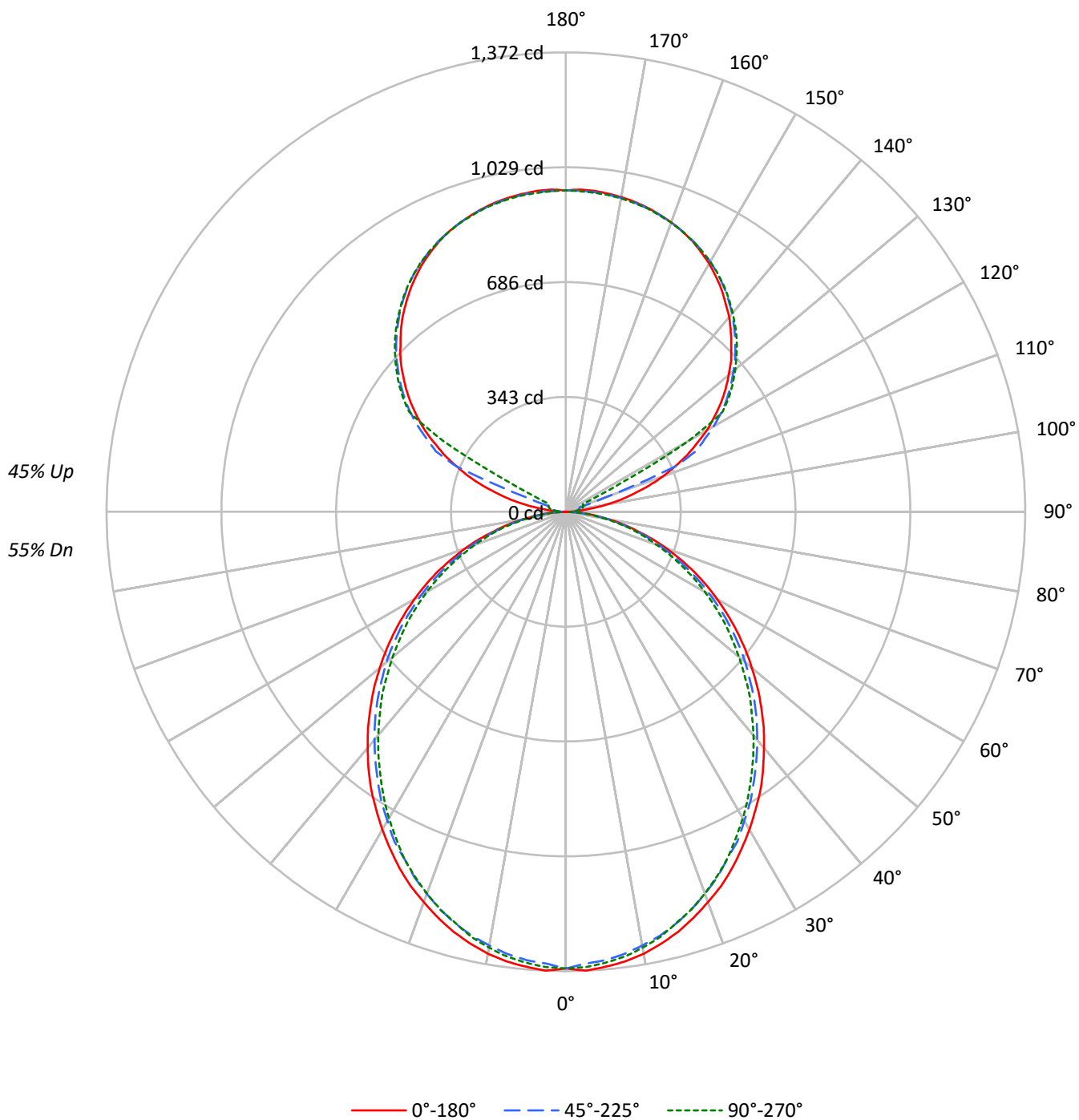
Lumens per Lamp: N/A  
Luminaire Lumens: 6286.0 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 67.9  
Input Voltage (V):  
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°  | 21590 | 21590 | 21590 |
| 5°  | 21625 | 20578 | 20433 |
| 10° | 21449 | 19641 | 19251 |
| 15° | 21135 | 18696 | 18008 |
| 20° | 20710 | 17668 | 16831 |
| 25° | 20287 | 16595 | 15656 |
| 30° | 19755 | 15586 | 14422 |
| 35° | 19254 | 14522 | 13210 |
| 40° | 18632 | 13472 | 12065 |
| 45° | 18016 | 12431 | 10943 |
| 50° | 17342 | 11370 | 9778  |
| 55° | 16635 | 10236 | 8673  |
| 60° | 15840 | 9011  | 7527  |
| 65° | 14966 | 7763  | 6320  |
| 70° | 13858 | 6397  | 5104  |
| 75° | 12324 | 4931  | 3941  |
| 80° | 10467 | 3352  | 2537  |
| 85° | 7600  | 1558  | 1079  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 18016 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.4  | 2.0       |
| 10°-20°   | 361.2  | 5.7       |
| 20°-30°   | 530.8  | 8.4       |
| 30°-40°   | 616.5  | 9.8       |
| 40°-50°   | 615.7  | 9.8       |
| 50°-60°   | 536.9  | 8.5       |
| 60°-70°   | 396.9  | 6.3       |
| 70°-80°   | 224.5  | 3.6       |
| 80°-90°   | 60.9   | 1.0       |
| 90°-100°  | 31.7   | 0.5       |
| 100°-110° | 118.0  | 1.9       |
| 110°-120° | 313.0  | 5.0       |
| 120°-130° | 519.1  | 8.3       |
| 130°-140° | 551.4  | 8.8       |
| 140°-150° | 512.4  | 8.2       |
| 150°-160° | 412.0  | 6.6       |
| 160°-170° | 265.5  | 4.2       |
| 170°-180° | 91.4   | 1.5       |
| 0°-30°    | 1020.3 | 16.2      |
| 0°-40°    | 1636.8 | 26.0      |
| 0°-60°    | 2789.4 | 44.4      |
| 0°-90°    | 3471.7 | 55.2      |
| 90°-120°  | 462.7  | 7.4       |
| 90°-150°  | 2045.5 | 32.5      |
| 90°-180°  | 2814.0 | 44.8      |
| 0°-180°   | 6286.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1364 | 1364  | 1364 | 1364  | 1364 |      |
| 5°   | 1364 | 1359  | 1344 | 1355  | 1352 | 129  |
| 15°  | 1298 | 1290  | 1273 | 1279  | 1272 | 366  |
| 25°  | 1175 | 1165  | 1142 | 1145  | 1142 | 541  |
| 35°  | 1014 | 1001  | 980  | 972   | 965  | 633  |
| 45°  | 825  | 816   | 796  | 782   | 776  | 637  |
| 55°  | 624  | 616   | 601  | 585   | 578  | 558  |
| 65°  | 421  | 413   | 400  | 388   | 382  | 416  |
| 75°  | 220  | 218   | 211  | 203   | 206  | 235  |
| 85°  | 54   | 52    | 51   | 47    | 46   | 60   |
| 90°  | 1    | 8     | 14   | 17    | 19   | 6    |
| 95°  | 45   | 22    | 27   | 31    | 30   | 53   |
| 105° | 211  | 232   | 42   | 50    | 53   | 226  |
| 115° | 399  | 411   | 429  | 107   | 57   | 393  |
| 125° | 565  | 574   | 587  | 592   | 594  | 504  |
| 135° | 699  | 710   | 716  | 723   | 722  | 540  |
| 145° | 811  | 810   | 822  | 827   | 823  | 507  |
| 155° | 893  | 886   | 895  | 899   | 893  | 411  |
| 165° | 940  | 936   | 938  | 943   | 938  | 266  |
| 175° | 962  | 957   | 959  | 963   | 956  | 92   |
| 180° | 960  | 960   | 960  | 960   | 960  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1363.9 | 1363.9 | 1363.9 | 1363.9 | 1363.9 |
| 2.5°   | 1371.8 | 1365.2 | 1350.8 | 1363.9 | 1361.3 |
| 5°     | 1363.9 | 1358.7 | 1344.2 | 1354.7 | 1352.1 |
| 7.5°   | 1354.7 | 1346.9 | 1332.4 | 1342.9 | 1340.3 |
| 10°    | 1340.3 | 1331.1 | 1315.4 | 1325.9 | 1321.9 |
| 12.5°  | 1320.6 | 1312.8 | 1297.0 | 1303.6 | 1301.0 |
| 15°    | 1298.3 | 1290.5 | 1273.4 | 1278.7 | 1272.1 |
| 17.5°  | 1270.8 | 1262.9 | 1245.9 | 1252.4 | 1245.9 |
| 20°    | 1240.6 | 1232.8 | 1214.4 | 1218.3 | 1213.1 |
| 22.5°  | 1210.5 | 1198.7 | 1181.6 | 1181.6 | 1179.0 |
| 25°    | 1175.1 | 1164.6 | 1142.3 | 1144.9 | 1142.3 |
| 27.5°  | 1135.7 | 1126.5 | 1109.5 | 1105.6 | 1099.0 |
| 30°    | 1096.4 | 1085.9 | 1066.2 | 1062.3 | 1057.0 |
| 32.5°  | 1054.4 | 1046.5 | 1025.6 | 1017.7 | 1012.4 |
| 35°    | 1013.8 | 1000.6 | 979.7  | 971.8  | 965.2  |
| 37.5°  | 967.9  | 956.0  | 935.1  | 925.9  | 919.3  |
| 40°    | 920.6  | 910.1  | 889.2  | 877.4  | 872.1  |
| 42.5°  | 874.7  | 864.2  | 843.3  | 830.1  | 822.3  |
| 45°    | 824.9  | 815.7  | 796.1  | 781.6  | 776.4  |
| 47.5°  | 776.4  | 767.2  | 746.2  | 731.8  | 723.9  |
| 50°    | 725.2  | 718.7  | 700.3  | 682.0  | 675.4  |
| 52.5°  | 675.4  | 666.2  | 649.2  | 634.7  | 625.6  |
| 55°    | 624.3  | 616.4  | 600.6  | 584.9  | 578.3  |
| 57.5°  | 573.1  | 566.5  | 549.5  | 533.8  | 528.5  |
| 60°    | 522.0  | 516.7  | 498.4  | 483.9  | 480.0  |
| 62.5°  | 472.1  | 462.9  | 449.8  | 436.7  | 431.5  |
| 65°    | 421.0  | 413.1  | 400.0  | 388.2  | 381.6  |
| 67.5°  | 368.5  | 362.0  | 350.2  | 341.0  | 335.7  |
| 70°    | 320.0  | 314.7  | 302.9  | 293.8  | 288.5  |
| 72.5°  | 270.2  | 264.9  | 258.4  | 249.2  | 245.2  |
| 75°    | 220.3  | 217.7  | 211.1  | 203.3  | 205.9  |
| 77.5°  | 175.7  | 170.5  | 167.9  | 163.9  | 160.0  |
| 80°    | 131.1  | 129.8  | 127.2  | 123.3  | 120.7  |
| 82.5°  | 89.2   | 89.2   | 87.9   | 82.6   | 82.6   |
| 85°    | 53.8   | 52.5   | 51.1   | 47.2   | 45.9   |
| 87.5°  | 23.6   | 21.0   | 18.4   | 14.4   | 13.1   |
| 90°    | 0.7    | 8.3    | 13.9   | 17.4   | 18.8   |
| 92.5°  | 17.4   | 14.6   | 16.7   | 18.1   | 18.8   |
| 95°    | 45.2   | 22.2   | 27.1   | 30.6   | 29.9   |
| 97.5°  | 81.3   | 24.3   | 35.4   | 37.5   | 38.2   |
| 100°   | 122.9  | 27.8   | 39.6   | 45.2   | 46.5   |
| 102.5° | 168.8  | 167.4  | 41.0   | 48.6   | 50.7   |
| 105°   | 211.2  | 232.0  | 42.4   | 50.0   | 52.8   |
| 107.5° | 260.5  | 277.9  | 43.8   | 51.4   | 54.2   |
| 110°   | 307.7  | 322.3  | 121.6  | 52.1   | 54.9   |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 352.2 | 364.7 | 352.9 | 53.5  | 55.6  |
| 115°   | 399.4 | 411.2 | 428.6 | 107.0 | 57.0  |
| 117.5° | 440.4 | 454.3 | 466.1 | 366.8 | 184.8 |
| 120°   | 486.2 | 496.7 | 509.2 | 517.5 | 423.7 |
| 122.5° | 525.1 | 536.3 | 550.1 | 554.3 | 555.0 |
| 125°   | 564.7 | 573.8 | 587.0 | 591.8 | 593.9 |
| 127.5° | 600.9 | 610.6 | 621.0 | 627.9 | 628.6 |
| 130°   | 634.9 | 646.0 | 653.6 | 661.3 | 660.6 |
| 132.5° | 669.6 | 678.7 | 686.3 | 692.5 | 691.8 |
| 135°   | 698.8 | 709.9 | 716.2 | 723.1 | 721.7 |
| 137.5° | 729.4 | 737.7 | 744.6 | 751.6 | 749.5 |
| 140°   | 759.2 | 764.8 | 772.4 | 778.7 | 775.2 |
| 142.5° | 784.2 | 789.1 | 798.1 | 803.7 | 800.2 |
| 145°   | 810.6 | 809.9 | 821.7 | 826.6 | 823.1 |
| 147.5° | 833.6 | 831.5 | 843.3 | 846.8 | 844.0 |
| 150°   | 855.8 | 850.9 | 862.0 | 866.2 | 862.7 |
| 152.5° | 874.5 | 869.0 | 879.4 | 883.6 | 878.7 |
| 155°   | 892.6 | 886.3 | 894.7 | 898.8 | 893.3 |
| 157.5° | 907.2 | 901.6 | 907.9 | 912.7 | 907.2 |
| 160°   | 919.7 | 915.5 | 919.7 | 923.9 | 919.0 |
| 162.5° | 930.8 | 926.6 | 930.1 | 935.0 | 928.7 |
| 165°   | 940.5 | 936.4 | 938.4 | 943.3 | 938.4 |
| 167.5° | 948.2 | 944.0 | 946.1 | 950.9 | 944.7 |
| 170°   | 954.4 | 950.3 | 951.6 | 956.5 | 950.3 |
| 172.5° | 958.6 | 954.4 | 955.8 | 960.7 | 954.4 |
| 175°   | 962.1 | 957.2 | 958.6 | 963.4 | 956.5 |
| 177.5° | 963.4 | 958.6 | 959.3 | 964.1 | 957.9 |
| 180°   | 960.0 | 960.0 | 960.0 | 960.0 | 960.0 |

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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 | 16.38            | 17.29 | 17.29 | 18.22 | 19.41 | 17.16          | 18.07 | 18.07 | 19.00 | 20.20 |
|                 | 3H   | 17.72            | 18.54 | 18.64 | 19.48 | 20.70 | 18.79          | 19.61 | 19.71 | 20.55 | 21.77 |
|                 | 4H   | 18.13            | 18.90 | 19.07 | 19.84 | 21.07 | 19.39          | 20.16 | 20.32 | 21.10 | 22.33 |
|                 | 6H   | 18.35            | 19.06 | 19.30 | 20.01 | 21.25 | 19.79          | 20.50 | 20.74 | 21.45 | 22.70 |
|                 | 8H   | 18.38            | 19.06 | 19.34 | 20.03 | 21.27 | 19.90          | 20.58 | 20.86 | 21.55 | 22.79 |
|                 | 12H  | 18.37            | 19.02 | 19.34 | 19.98 | 21.25 | 19.95          | 20.59 | 20.91 | 21.56 | 22.82 |
| 4H              | 2H   | 16.85            | 17.63 | 17.80 | 18.57 | 19.80 | 17.50          | 18.27 | 18.44 | 19.22 | 20.44 |
|                 | 3H   | 18.38            | 19.02 | 19.33 | 20.00 | 21.24 | 19.28          | 19.93 | 20.24 | 20.90 | 22.14 |
|                 | 4H   | 18.88            | 19.47 | 19.85 | 20.44 | 21.71 | 19.97          | 20.56 | 20.93 | 21.52 | 22.79 |
|                 | 6H   | 19.19            | 19.70 | 20.17 | 20.69 | 21.96 | 20.47          | 20.97 | 21.44 | 21.97 | 23.23 |
|                 | 8H   | 19.25            | 19.72 | 20.23 | 20.71 | 21.99 | 20.61          | 21.08 | 21.59 | 22.07 | 23.35 |
|                 | 12H  | 19.25            | 19.68 | 20.25 | 20.68 | 21.97 | 20.67          | 21.10 | 21.67 | 22.10 | 23.39 |
| 8H              | 4H   | 19.06            | 19.54 | 20.04 | 20.52 | 21.80 | 20.06          | 20.53 | 21.03 | 21.52 | 22.80 |
|                 | 6H   | 19.45            | 19.84 | 20.45 | 20.87 | 22.15 | 20.63          | 21.02 | 21.63 | 22.05 | 23.33 |
|                 | 8H   | 19.55            | 19.90 | 20.56 | 20.91 | 22.21 | 20.82          | 21.16 | 21.83 | 22.18 | 23.47 |
|                 | 12H  | 19.59            | 19.89 | 20.60 | 20.90 | 22.24 | 20.92          | 21.22 | 21.93 | 22.23 | 23.57 |
| 12H             | 4H   | 19.05            | 19.48 | 20.05 | 20.48 | 21.76 | 20.02          | 20.45 | 21.02 | 21.45 | 22.74 |
|                 | 6H   | 19.47            | 19.81 | 20.48 | 20.83 | 22.13 | 20.62          | 20.97 | 21.63 | 21.98 | 23.28 |
|                 | 8H   | 19.58            | 19.89 | 20.60 | 20.90 | 22.24 | 20.82          | 21.12 | 21.83 | 22.13 | 23.47 |