

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: P997980

Luminaire Tested: SA2XXDIP-B1005D725UB2750-4F0-XX-W2A-F\_2700K

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997980  
REPORT IS A COMBINATION OF REPORTS P983717 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B1005D725UB2750-4F0-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**

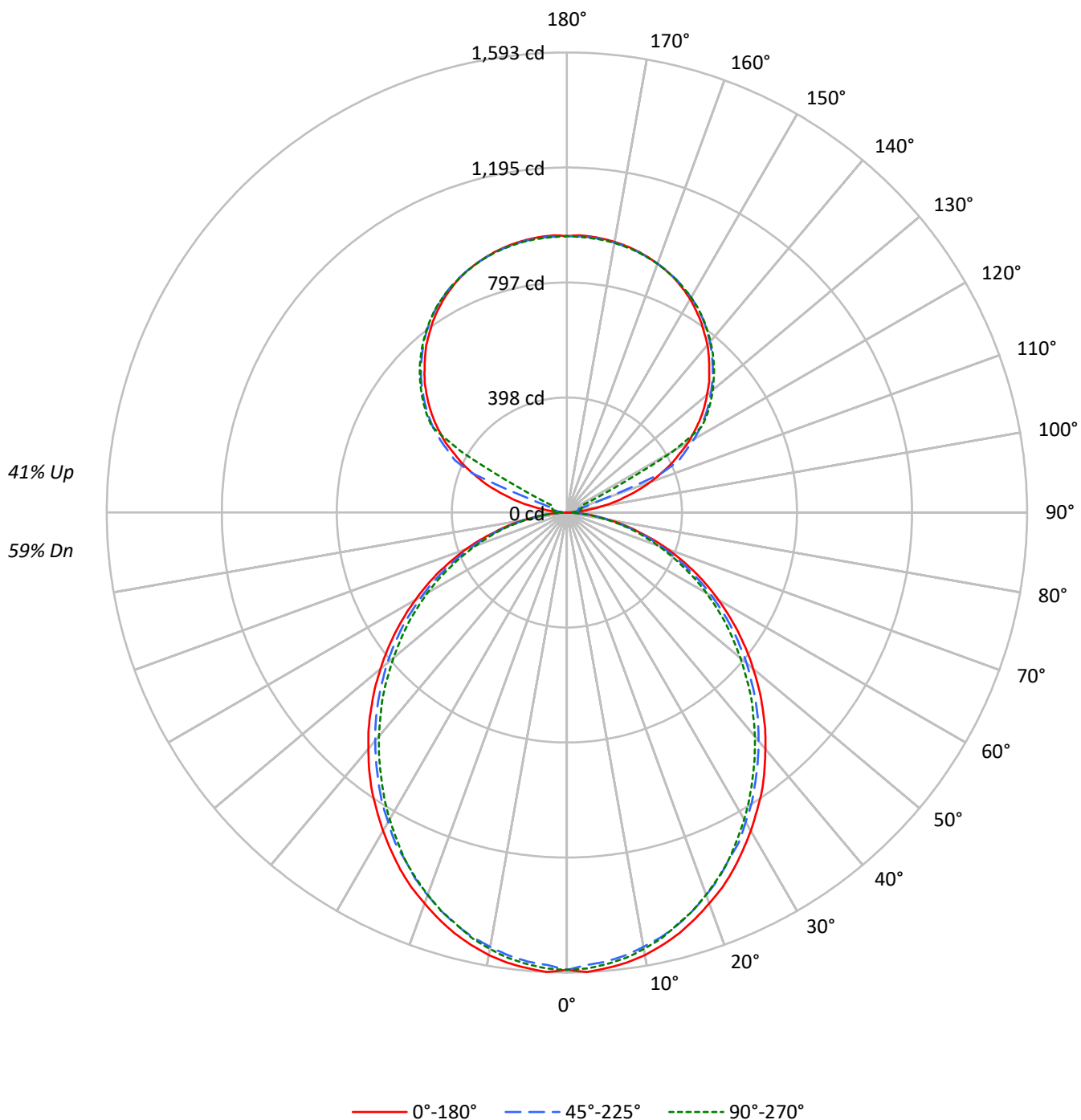
Lumens per Lamp: N/A  
Luminaire Lumens: 6837.0 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 82.4  
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   | 109 | 109 | 109 | 109 | 102 | 102 | 102 | 102 | 88 | 88 | 88 | 76 | 76 | 76 | 64 | 64 | 64 |
| 1   | 100 | 95  | 91  | 88  | 93  | 89  | 86  | 83  | 78 | 75 | 73 | 67 | 65 | 63 | 57 | 56 | 54 |
| 2   | 91  | 83  | 77  | 72  | 85  | 78  | 73  | 68  | 68 | 64 | 60 | 59 | 56 | 53 | 50 | 48 | 46 |
| 3   | 83  | 73  | 66  | 60  | 77  | 69  | 62  | 57  | 60 | 55 | 51 | 52 | 48 | 45 | 44 | 41 | 39 |
| 4   | 76  | 65  | 57  | 51  | 71  | 61  | 54  | 48  | 53 | 48 | 43 | 46 | 42 | 38 | 40 | 36 | 34 |
| 5   | 70  | 58  | 50  | 44  | 65  | 54  | 47  | 41  | 48 | 42 | 37 | 42 | 37 | 33 | 36 | 32 | 29 |
| 6   | 64  | 52  | 44  | 38  | 60  | 49  | 41  | 36  | 43 | 37 | 33 | 38 | 33 | 29 | 32 | 29 | 26 |
| 7   | 59  | 47  | 39  | 33  | 55  | 44  | 37  | 32  | 39 | 33 | 29 | 34 | 29 | 26 | 30 | 26 | 23 |
| 8   | 55  | 43  | 35  | 29  | 51  | 40  | 33  | 28  | 36 | 30 | 26 | 31 | 27 | 23 | 27 | 23 | 21 |
| 9   | 51  | 39  | 31  | 26  | 48  | 37  | 30  | 25  | 33 | 27 | 23 | 29 | 24 | 21 | 25 | 21 | 19 |
| 10  | 48  | 36  | 29  | 24  | 45  | 34  | 27  | 23  | 30 | 25 | 21 | 27 | 22 | 19 | 23 | 20 | 17 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 25067 | 25067 | 25067 |
| 5°  | 25108 | 23894 | 23724 |
| 10° | 24904 | 22805 | 22353 |
| 15° | 24540 | 21709 | 20909 |
| 20° | 24047 | 20514 | 19542 |
| 25° | 23556 | 19269 | 18178 |
| 30° | 22937 | 18098 | 16746 |
| 35° | 22355 | 16861 | 15339 |
| 40° | 21634 | 15642 | 14009 |
| 45° | 20918 | 14433 | 12705 |
| 50° | 20138 | 13201 | 11353 |
| 55° | 19313 | 11886 | 10071 |
| 60° | 18389 | 10461 | 8739  |
| 65° | 17377 | 9013  | 7339  |
| 70° | 16089 | 7428  | 5926  |
| 75° | 14310 | 5728  | 4576  |
| 80° | 12159 | 3892  | 2945  |
| 85° | 8814  | 1811  | 1253  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 20918 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 149.0  | 2.2       |
| 10°-20°   | 419.4  | 6.1       |
| 20°-30°   | 616.3  | 9.0       |
| 30°-40°   | 715.8  | 10.5      |
| 40°-50°   | 714.9  | 10.5      |
| 50°-60°   | 623.3  | 9.1       |
| 60°-70°   | 460.8  | 6.7       |
| 70°-80°   | 260.7  | 3.8       |
| 80°-90°   | 70.5   | 1.0       |
| 90°-100°  | 31.6   | 0.5       |
| 100°-110° | 117.7  | 1.7       |
| 110°-120° | 312.1  | 4.6       |
| 120°-130° | 517.6  | 7.6       |
| 130°-140° | 549.8  | 8.0       |
| 140°-150° | 511.0  | 7.5       |
| 150°-160° | 410.8  | 6.0       |
| 160°-170° | 264.7  | 3.9       |
| 170°-180° | 91.1   | 1.3       |
| 0°-30°    | 1184.7 | 17.3      |
| 0°-40°    | 1900.5 | 27.8      |
| 0°-60°    | 3238.7 | 47.4      |
| 0°-90°    | 4030.7 | 59.0      |
| 90°-120°  | 461.3  | 6.7       |
| 90°-150°  | 2039.7 | 29.8      |
| 90°-180°  | 2806.0 | 41.0      |
| 0°-180°   | 6837.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1584 | 1584  | 1584 | 1584  | 1584 |      |
| 5°   | 1584 | 1578  | 1561 | 1573  | 1570 | 150  |
| 15°  | 1508 | 1498  | 1479 | 1485  | 1477 | 425  |
| 25°  | 1364 | 1352  | 1326 | 1329  | 1326 | 628  |
| 35°  | 1177 | 1162  | 1138 | 1128  | 1121 | 735  |
| 45°  | 958  | 947   | 924  | 908   | 901  | 739  |
| 55°  | 725  | 716   | 697  | 679   | 672  | 648  |
| 65°  | 489  | 480   | 464  | 451   | 443  | 483  |
| 75°  | 256  | 253   | 245  | 236   | 239  | 273  |
| 85°  | 62   | 61    | 59   | 55    | 53   | 70   |
| 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°     | 1583.6 | 1583.6 | 1583.6 | 1583.6 | 1583.6 |
| 2.5°   | 1592.8 | 1585.1 | 1568.4 | 1583.6 | 1580.6 |
| 5°     | 1583.6 | 1577.5 | 1560.8 | 1573.0 | 1569.9 |
| 7.5°   | 1573.0 | 1563.8 | 1547.1 | 1559.3 | 1556.2 |
| 10°    | 1556.2 | 1545.6 | 1527.3 | 1539.5 | 1534.9 |
| 12.5°  | 1533.4 | 1524.2 | 1506.0 | 1513.6 | 1510.5 |
| 15°    | 1507.5 | 1498.4 | 1478.6 | 1484.7 | 1477.0 |
| 17.5°  | 1475.5 | 1466.4 | 1446.6 | 1454.2 | 1446.6 |
| 20°    | 1440.5 | 1431.4 | 1410.0 | 1414.6 | 1408.5 |
| 22.5°  | 1405.5 | 1391.8 | 1372.0 | 1372.0 | 1368.9 |
| 25°    | 1364.4 | 1352.2 | 1326.3 | 1329.3 | 1326.3 |
| 27.5°  | 1318.7 | 1308.0 | 1288.2 | 1283.7 | 1276.0 |
| 30°    | 1273.0 | 1260.8 | 1238.0 | 1233.4 | 1227.3 |
| 32.5°  | 1224.3 | 1215.1 | 1190.8 | 1181.6 | 1175.5 |
| 35°    | 1177.1 | 1161.8 | 1137.5 | 1128.3 | 1120.7 |
| 37.5°  | 1123.8 | 1110.1 | 1085.7 | 1075.0 | 1067.4 |
| 40°    | 1068.9 | 1056.8 | 1032.4 | 1018.7 | 1012.6 |
| 42.5°  | 1015.7 | 1003.5 | 979.1  | 963.9  | 954.7  |
| 45°    | 957.8  | 947.1  | 924.3  | 907.5  | 901.4  |
| 47.5°  | 901.4  | 890.8  | 866.4  | 849.7  | 840.5  |
| 50°    | 842.1  | 834.4  | 813.1  | 791.8  | 784.2  |
| 52.5°  | 784.2  | 773.5  | 753.7  | 737.0  | 726.3  |
| 55°    | 724.8  | 715.7  | 697.4  | 679.1  | 671.5  |
| 57.5°  | 665.4  | 657.8  | 638.0  | 619.7  | 613.7  |
| 60°    | 606.0  | 600.0  | 578.6  | 561.9  | 557.3  |
| 62.5°  | 548.2  | 537.5  | 522.3  | 507.1  | 501.0  |
| 65°    | 488.8  | 479.7  | 464.4  | 450.7  | 443.1  |
| 67.5°  | 427.9  | 420.3  | 406.6  | 395.9  | 389.8  |
| 70°    | 371.5  | 365.5  | 351.7  | 341.1  | 335.0  |
| 72.5°  | 313.7  | 307.6  | 300.0  | 289.3  | 284.7  |
| 75°    | 255.8  | 252.8  | 245.2  | 236.0  | 239.1  |
| 77.5°  | 204.0  | 198.0  | 194.9  | 190.3  | 185.8  |
| 80°    | 152.3  | 150.7  | 147.7  | 143.1  | 140.1  |
| 82.5°  | 103.5  | 103.5  | 102.0  | 95.9   | 95.9   |
| 85°    | 62.4   | 60.9   | 59.4   | 54.8   | 53.3   |
| 87.5°  | 27.4   | 24.4   | 21.3   | 16.7   | 15.2   |
| 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 | 17.22            | 18.16 | 18.09 | 19.06 | 20.20 | 18.00          | 18.95 | 18.87 | 19.84 | 20.98 |
|                 | 3H   | 18.56            | 19.41 | 19.45 | 20.32 | 21.48 | 19.63          | 20.48 | 20.52 | 21.39 | 22.55 |
|                 | 4H   | 18.97            | 19.77 | 19.87 | 20.69 | 21.86 | 20.23          | 21.03 | 21.13 | 21.94 | 23.12 |
|                 | 6H   | 19.19            | 19.94 | 20.11 | 20.85 | 22.04 | 20.63          | 21.38 | 21.55 | 22.30 | 23.48 |
|                 | 8H   | 19.23            | 19.93 | 20.15 | 20.87 | 22.05 | 20.75          | 21.45 | 21.67 | 22.39 | 23.57 |
|                 | 12H  | 19.22            | 19.89 | 20.15 | 20.82 | 22.03 | 20.79          | 21.47 | 21.72 | 22.40 | 23.61 |
| 4H              | 2H   | 17.70            | 18.50 | 18.61 | 19.41 | 20.59 | 18.34          | 19.14 | 19.25 | 20.06 | 21.23 |
|                 | 3H   | 19.22            | 19.89 | 20.14 | 20.84 | 22.02 | 20.13          | 20.80 | 21.05 | 21.74 | 22.93 |
|                 | 4H   | 19.73            | 20.34 | 20.66 | 21.28 | 22.50 | 20.81          | 21.43 | 21.74 | 22.36 | 23.58 |
|                 | 6H   | 20.04            | 20.57 | 20.98 | 21.53 | 22.74 | 21.31          | 21.84 | 22.26 | 22.80 | 24.02 |
|                 | 8H   | 20.10            | 20.59 | 21.04 | 21.55 | 22.78 | 21.46          | 21.95 | 22.40 | 22.91 | 24.14 |
|                 | 12H  | 20.10            | 20.55 | 21.07 | 21.52 | 22.75 | 21.52          | 21.97 | 22.49 | 22.94 | 24.18 |
| 8H              | 4H   | 19.91            | 20.41 | 20.86 | 21.36 | 22.59 | 20.91          | 21.40 | 21.85 | 22.36 | 23.58 |
|                 | 6H   | 20.30            | 20.71 | 21.27 | 21.71 | 22.93 | 21.48          | 21.89 | 22.45 | 22.88 | 24.11 |
|                 | 8H   | 20.40            | 20.77 | 21.39 | 21.75 | 23.00 | 21.67          | 22.03 | 22.65 | 23.02 | 24.26 |
|                 | 12H  | 20.44            | 20.76 | 21.42 | 21.74 | 23.03 | 21.77          | 22.09 | 22.75 | 23.07 | 24.36 |
| 12H             | 4H   | 19.90            | 20.35 | 20.87 | 21.32 | 22.55 | 20.87          | 21.32 | 21.84 | 22.29 | 23.53 |
|                 | 6H   | 20.32            | 20.68 | 21.30 | 21.67 | 22.91 | 21.47          | 21.83 | 22.45 | 22.82 | 24.06 |
|                 | 8H   | 20.44            | 20.75 | 21.42 | 21.73 | 23.03 | 21.67          | 21.99 | 22.66 | 22.97 | 24.26 |