

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: P997800

Luminaire Tested: SA2XXDIP-B1005D1080UB2750-4F0-XX-W2A-D\_3500K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997800  
REPORT IS A COMBINATION OF REPORTS P983534 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B1005D1080UB2750-4F0-XX-W2A-D\_3500K  
Description: Define 2 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

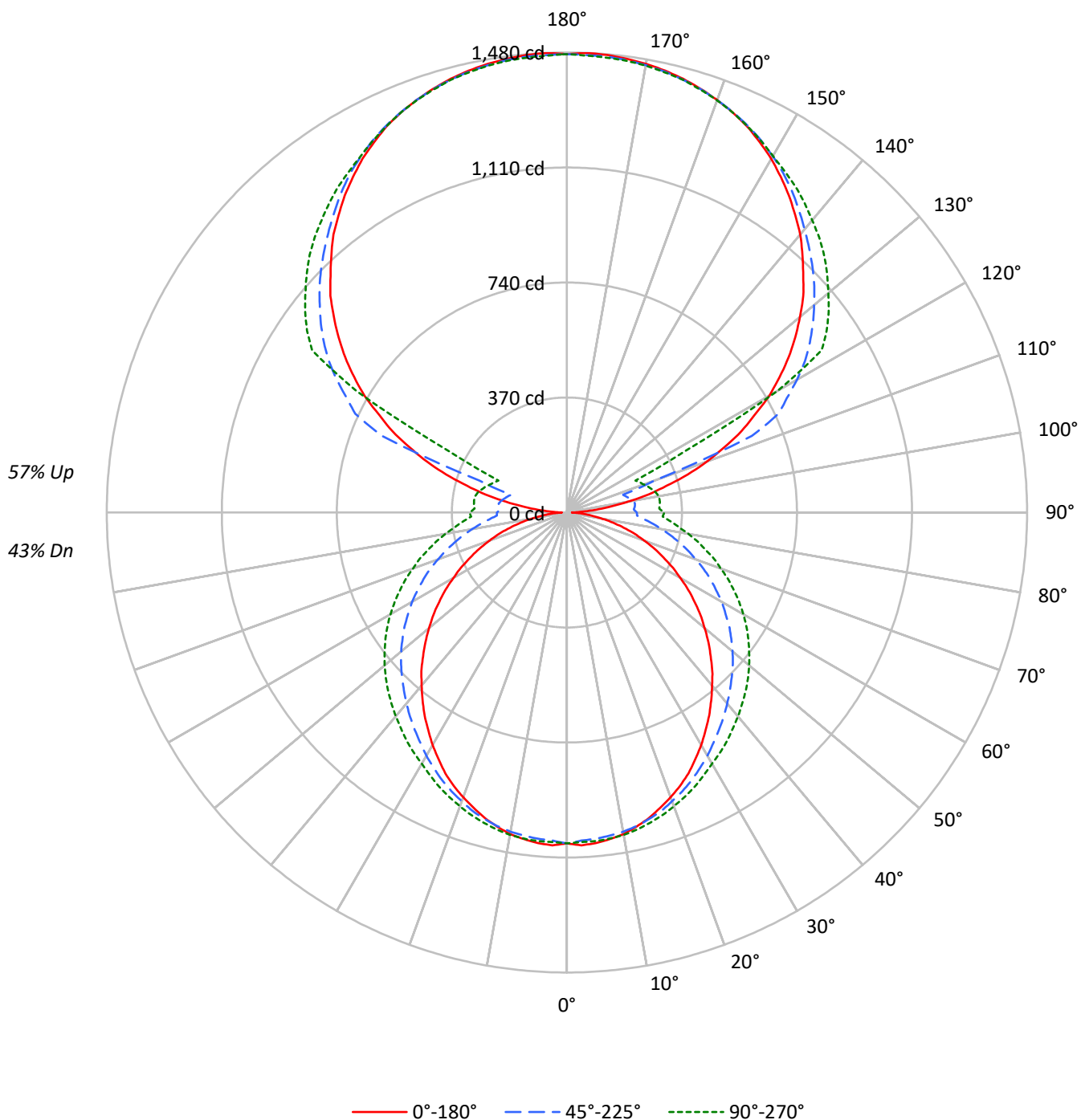
Lumens per Lamp: N/A  
Luminaire Lumens: 8386.0 lumens  
Efficiency: N/A  
Efficacy: 87.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 96.3  
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   | 105 | 105 | 105 | 105 | 96 | 96 | 96 | 96 | 79 | 79 | 79 | 64 | 64 | 64 | 50 | 50 | 50 |
| 1   | 95  | 90  | 86  | 82  | 86 | 82 | 79 | 75 | 68 | 65 | 63 | 54 | 52 | 51 | 42 | 41 | 39 |
| 2   | 86  | 78  | 71  | 66  | 78 | 71 | 65 | 61 | 59 | 54 | 51 | 47 | 44 | 41 | 36 | 34 | 32 |
| 3   | 78  | 68  | 60  | 54  | 71 | 62 | 55 | 50 | 51 | 46 | 42 | 41 | 37 | 34 | 32 | 29 | 27 |
| 4   | 71  | 60  | 52  | 45  | 65 | 55 | 48 | 42 | 45 | 40 | 35 | 36 | 32 | 29 | 28 | 25 | 23 |
| 5   | 65  | 53  | 45  | 39  | 59 | 49 | 41 | 36 | 40 | 35 | 30 | 32 | 28 | 25 | 25 | 22 | 20 |
| 6   | 60  | 47  | 39  | 33  | 54 | 44 | 36 | 31 | 36 | 30 | 26 | 29 | 25 | 22 | 23 | 20 | 17 |
| 7   | 55  | 43  | 35  | 29  | 50 | 39 | 32 | 27 | 33 | 27 | 23 | 26 | 22 | 19 | 21 | 17 | 15 |
| 8   | 51  | 39  | 31  | 25  | 47 | 36 | 29 | 24 | 30 | 24 | 20 | 24 | 20 | 17 | 19 | 16 | 13 |
| 9   | 48  | 35  | 28  | 22  | 43 | 32 | 26 | 21 | 27 | 22 | 18 | 22 | 18 | 15 | 17 | 14 | 12 |
| 10  | 44  | 32  | 25  | 20  | 40 | 30 | 23 | 19 | 25 | 20 | 16 | 20 | 16 | 13 | 16 | 13 | 11 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16847 | 16847 | 16847 |
| 5°  | 16924 | 16128 | 16037 |
| 10° | 16809 | 15569 | 15342 |
| 15° | 16572 | 14992 | 14631 |
| 20° | 16273 | 14385 | 13954 |
| 25° | 15978 | 13805 | 13340 |
| 30° | 15564 | 13214 | 12733 |
| 35° | 15146 | 12644 | 12286 |
| 40° | 14704 | 12153 | 11844 |
| 45° | 14283 | 11705 | 11458 |
| 50° | 13832 | 11295 | 11076 |
| 55° | 13358 | 10856 | 10688 |
| 60° | 12778 | 10401 | 10279 |
| 65° | 12172 | 9879  | 9810  |
| 70° | 11489 | 9316  | 9305  |
| 75° | 10612 | 8755  | 8828  |
| 80° | 9237  | 8169  | 8334  |
| 85° | 7840  | 7620  | 7908  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14283 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 100.9  | 1.2       |
| 10°-20°   | 289.4  | 3.5       |
| 20°-30°   | 438.5  | 5.2       |
| 30°-40°   | 533.9  | 6.4       |
| 40°-50°   | 574.5  | 6.9       |
| 50°-60°   | 557.9  | 6.7       |
| 60°-70°   | 487.2  | 5.8       |
| 70°-80°   | 375.0  | 4.5       |
| 80°-90°   | 253.7  | 3.0       |
| 90°-100°  | 221.9  | 2.6       |
| 100°-110° | 307.8  | 3.7       |
| 110°-120° | 564.2  | 6.7       |
| 120°-130° | 843.8  | 10.1      |
| 130°-140° | 866.4  | 10.3      |
| 140°-150° | 790.3  | 9.4       |
| 150°-160° | 632.7  | 7.5       |
| 160°-170° | 407.7  | 4.9       |
| 170°-180° | 140.3  | 1.7       |
| 0°-30°    | 828.7  | 9.9       |
| 0°-40°    | 1362.6 | 16.2      |
| 0°-60°    | 2495.0 | 29.8      |
| 0°-90°    | 3610.9 | 43.1      |
| 90°-120°  | 1093.8 | 13.0      |
| 90°-150°  | 3594.3 | 42.9      |
| 90°-180°  | 4775.0 | 56.9      |
| 0°-180°   | 8386.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1064 | 1064  | 1064 | 1064  | 1064 |      |
| 5°   | 1067 | 1063  | 1054 | 1063  | 1061 | 101  |
| 15°  | 1018 | 1021  | 1021 | 1035  | 1034 | 287  |
| 25°  | 926  | 936   | 950  | 969   | 973  | 426  |
| 35°  | 798  | 824   | 853  | 887   | 898  | 498  |
| 45°  | 654  | 696   | 750  | 798   | 813  | 505  |
| 55°  | 501  | 557   | 637  | 693   | 713  | 448  |
| 65°  | 342  | 418   | 509  | 572   | 592  | 340  |
| 75°  | 190  | 276   | 375  | 441   | 461  | 201  |
| 85°  | 56   | 151   | 250  | 315   | 336  | 59   |
| 90°  | 16   | 118   | 225  | 292   | 313  | 15   |
| 95°  | 82   | 119   | 219  | 283   | 300  | 92   |
| 105° | 332  | 409   | 198  | 263   | 285  | 355  |
| 115° | 620  | 655   | 751  | 303   | 243  | 609  |
| 125° | 870  | 884   | 954  | 1003  | 1020 | 777  |
| 135° | 1075 | 1092  | 1117 | 1160  | 1170 | 831  |
| 145° | 1245 | 1244  | 1262 | 1279  | 1281 | 779  |
| 155° | 1371 | 1361  | 1374 | 1380  | 1372 | 632  |
| 165° | 1444 | 1438  | 1441 | 1449  | 1441 | 408  |
| 175° | 1478 | 1470  | 1472 | 1480  | 1469 | 141  |
| 180° | 1474 | 1474  | 1474 | 1474  | 1474 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1064.3 | 1064.3 | 1064.3 | 1064.3 | 1064.3 |
| 2.5°   | 1072.0 | 1067.4 | 1056.6 | 1064.3 | 1061.2 |
| 5°     | 1067.4 | 1062.8 | 1053.5 | 1062.8 | 1061.2 |
| 7.5°   | 1059.7 | 1056.6 | 1048.9 | 1059.7 | 1058.1 |
| 10°    | 1050.4 | 1047.3 | 1042.7 | 1055.0 | 1053.5 |
| 12.5°  | 1035.0 | 1036.5 | 1033.5 | 1045.8 | 1044.2 |
| 15°    | 1018.0 | 1021.1 | 1021.1 | 1035.0 | 1033.5 |
| 17.5°  | 996.4  | 1002.6 | 1007.2 | 1021.1 | 1021.1 |
| 20°    | 974.8  | 982.6  | 988.7  | 1005.7 | 1005.7 |
| 22.5°  | 951.7  | 961.0  | 970.2  | 987.2  | 990.3  |
| 25°    | 925.5  | 936.3  | 950.2  | 968.7  | 973.3  |
| 27.5°  | 894.6  | 911.6  | 927.0  | 950.2  | 953.2  |
| 30°    | 863.8  | 883.8  | 903.9  | 928.6  | 933.2  |
| 32.5°  | 829.8  | 853.0  | 877.7  | 907.0  | 916.2  |
| 35°    | 797.5  | 823.7  | 853.0  | 886.9  | 897.7  |
| 37.5°  | 762.0  | 791.3  | 828.3  | 865.3  | 876.1  |
| 40°    | 726.5  | 760.4  | 802.1  | 842.2  | 856.1  |
| 42.5°  | 692.6  | 726.5  | 775.9  | 820.6  | 834.5  |
| 45°    | 654.0  | 695.7  | 749.6  | 797.5  | 812.9  |
| 47.5°  | 617.0  | 661.7  | 723.4  | 772.8  | 789.7  |
| 50°    | 578.4  | 626.2  | 695.7  | 748.1  | 765.1  |
| 52.5°  | 541.4  | 592.3  | 666.3  | 720.3  | 738.8  |
| 55°    | 501.3  | 556.8  | 637.0  | 692.6  | 712.6  |
| 57.5°  | 462.7  | 524.4  | 604.6  | 664.8  | 684.9  |
| 60°    | 421.1  | 487.4  | 575.3  | 634.0  | 655.5  |
| 62.5°  | 384.1  | 453.5  | 541.4  | 604.6  | 624.7  |
| 65°    | 342.4  | 418.0  | 509.0  | 572.3  | 592.3  |
| 67.5°  | 305.4  | 384.1  | 476.6  | 539.9  | 561.5  |
| 70°    | 265.3  | 345.5  | 441.1  | 507.5  | 526.0  |
| 72.5°  | 228.3  | 311.6  | 408.8  | 473.5  | 496.7  |
| 75°    | 189.7  | 276.1  | 374.8  | 441.1  | 461.2  |
| 77.5°  | 152.7  | 242.2  | 342.4  | 408.8  | 430.3  |
| 80°    | 115.7  | 209.8  | 310.0  | 374.8  | 396.4  |
| 82.5°  | 84.8   | 177.4  | 279.2  | 344.0  | 364.0  |
| 85°    | 55.5   | 151.2  | 249.9  | 314.7  | 336.3  |
| 87.5°  | 33.9   | 126.5  | 225.2  | 288.4  | 308.5  |
| 90°    | 16.5   | 117.7  | 224.9  | 292.0  | 312.6  |
| 92.5°  | 40.6   | 118.0  | 215.3  | 277.6  | 297.2  |
| 95°    | 81.6   | 118.9  | 219.0  | 282.9  | 300.4  |
| 97.5°  | 135.6  | 114.4  | 221.0  | 281.3  | 300.9  |
| 100°   | 199.6  | 110.6  | 215.0  | 280.6  | 299.8  |
| 102.5° | 268.5  | 317.3  | 206.3  | 273.7  | 293.8  |
| 105°   | 332.0  | 408.7  | 197.8  | 263.4  | 284.7  |
| 107.5° | 407.8  | 471.4  | 189.1  | 253.2  | 274.5  |
| 110°   | 478.8  | 532.0  | 299.3  | 242.0  | 263.2  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 547.1  | 590.9  | 643.8  | 233.3  | 253.4  |
| 115°   | 619.6  | 654.7  | 750.7  | 303.1  | 243.3  |
| 117.5° | 681.0  | 714.7  | 797.7  | 691.3  | 427.2  |
| 120°   | 751.4  | 773.6  | 854.5  | 910.5  | 783.5  |
| 122.5° | 811.1  | 829.8  | 908.1  | 956.3  | 971.2  |
| 125°   | 870.5  | 884.3  | 953.9  | 1003.1 | 1020.2 |
| 127.5° | 925.9  | 939.3  | 997.0  | 1046.2 | 1061.1 |
| 130°   | 978.2  | 993.7  | 1037.8 | 1086.6 | 1097.9 |
| 132.5° | 1031.5 | 1043.8 | 1078.8 | 1123.9 | 1135.1 |
| 135°   | 1074.8 | 1091.8 | 1116.9 | 1160.0 | 1170.2 |
| 137.5° | 1121.7 | 1134.5 | 1153.0 | 1192.9 | 1200.5 |
| 140°   | 1167.6 | 1174.6 | 1189.4 | 1223.7 | 1227.6 |
| 142.5° | 1206.0 | 1211.9 | 1225.8 | 1252.9 | 1255.2 |
| 145°   | 1245.0 | 1244.0 | 1262.1 | 1278.9 | 1281.2 |
| 147.5° | 1280.2 | 1277.0 | 1295.2 | 1302.0 | 1302.4 |
| 150°   | 1314.4 | 1306.9 | 1324.0 | 1330.4 | 1325.0 |
| 152.5° | 1343.2 | 1334.6 | 1350.6 | 1357.0 | 1349.6 |
| 155°   | 1370.9 | 1361.3 | 1374.1 | 1380.5 | 1372.0 |
| 157.5° | 1393.3 | 1384.8 | 1394.4 | 1401.8 | 1393.3 |
| 160°   | 1412.5 | 1406.1 | 1412.5 | 1418.9 | 1411.4 |
| 162.5° | 1429.6 | 1423.2 | 1428.5 | 1436.0 | 1426.4 |
| 165°   | 1444.5 | 1438.1 | 1441.3 | 1448.8 | 1441.3 |
| 167.5° | 1456.3 | 1449.9 | 1453.1 | 1460.5 | 1450.9 |
| 170°   | 1465.9 | 1459.5 | 1461.6 | 1469.1 | 1459.5 |
| 172.5° | 1472.3 | 1465.9 | 1468.0 | 1475.5 | 1465.9 |
| 175°   | 1477.6 | 1470.1 | 1472.3 | 1479.7 | 1469.1 |
| 177.5° | 1479.7 | 1472.3 | 1473.3 | 1480.8 | 1471.2 |
| 180°   | 1474.4 | 1474.4 | 1474.4 | 1474.4 | 1474.4 |

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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 | 14.35            | 15.20 | 15.36 | 16.22 | 17.58 | 17.43          | 18.27 | 18.43 | 19.29 | 20.66 |
|                 | 3H   | 15.81            | 16.58 | 16.83 | 17.61 | 18.99 | 20.02          | 20.78 | 21.03 | 21.81 | 23.19 |
|                 | 4H   | 16.29            | 17.01 | 17.31 | 18.05 | 19.44 | 21.27          | 22.00 | 22.30 | 23.03 | 24.42 |
|                 | 6H   | 16.57            | 17.24 | 17.61 | 18.28 | 19.68 | 22.57          | 23.24 | 23.60 | 24.27 | 25.68 |
|                 | 8H   | 16.63            | 17.27 | 17.67 | 18.32 | 19.72 | 23.22          | 23.86 | 24.27 | 24.92 | 26.32 |
|                 | 12H  | 16.65            | 17.26 | 17.69 | 18.30 | 19.73 | 23.95          | 24.56 | 25.00 | 25.61 | 27.03 |
| 4H              | 2H   | 15.40            | 16.13 | 16.43 | 17.16 | 18.55 | 17.76          | 18.48 | 18.79 | 19.52 | 20.91 |
|                 | 3H   | 17.11            | 17.72 | 18.15 | 18.78 | 20.19 | 20.55          | 21.16 | 21.59 | 22.22 | 23.63 |
|                 | 4H   | 17.73            | 18.30 | 18.78 | 19.35 | 20.77 | 21.96          | 22.53 | 23.01 | 23.58 | 25.01 |
|                 | 6H   | 18.15            | 18.64 | 19.20 | 19.71 | 21.13 | 23.43          | 23.92 | 24.49 | 25.00 | 26.42 |
|                 | 8H   | 18.25            | 18.71 | 19.31 | 19.78 | 21.22 | 24.19          | 24.65 | 25.24 | 25.72 | 27.15 |
|                 | 12H  | 18.30            | 18.72 | 19.37 | 19.80 | 21.24 | 25.02          | 25.44 | 26.09 | 26.52 | 27.96 |
| 8H              | 4H   | 18.52            | 18.98 | 19.58 | 20.05 | 21.48 | 22.11          | 22.57 | 23.16 | 23.64 | 25.07 |
|                 | 6H   | 19.15            | 19.54 | 20.23 | 20.65 | 22.08 | 23.73          | 24.12 | 24.81 | 25.23 | 26.66 |
|                 | 8H   | 19.37            | 19.72 | 20.46 | 20.81 | 22.26 | 24.62          | 24.97 | 25.71 | 26.06 | 27.51 |
|                 | 12H  | 19.51            | 19.81 | 20.60 | 20.90 | 22.39 | 25.62          | 25.92 | 26.71 | 27.01 | 28.50 |
| 12H             | 4H   | 18.72            | 19.14 | 19.79 | 20.22 | 21.66 | 22.08          | 22.50 | 23.16 | 23.58 | 25.02 |
|                 | 6H   | 19.49            | 19.83 | 20.57 | 20.92 | 22.37 | 23.76          | 24.10 | 24.85 | 25.19 | 26.64 |
|                 | 8H   | 19.79            | 20.09 | 20.88 | 21.18 | 22.67 | 24.69          | 24.99 | 25.78 | 26.08 | 27.57 |