

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: P998928

Luminaire Tested: SA2XXDIP-B675D925UB2750-4F0-XX-W2A-D\_3500K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998928  
REPORT IS A COMBINATION OF REPORTS P984674 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-B675D925UB2750-4F0-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**

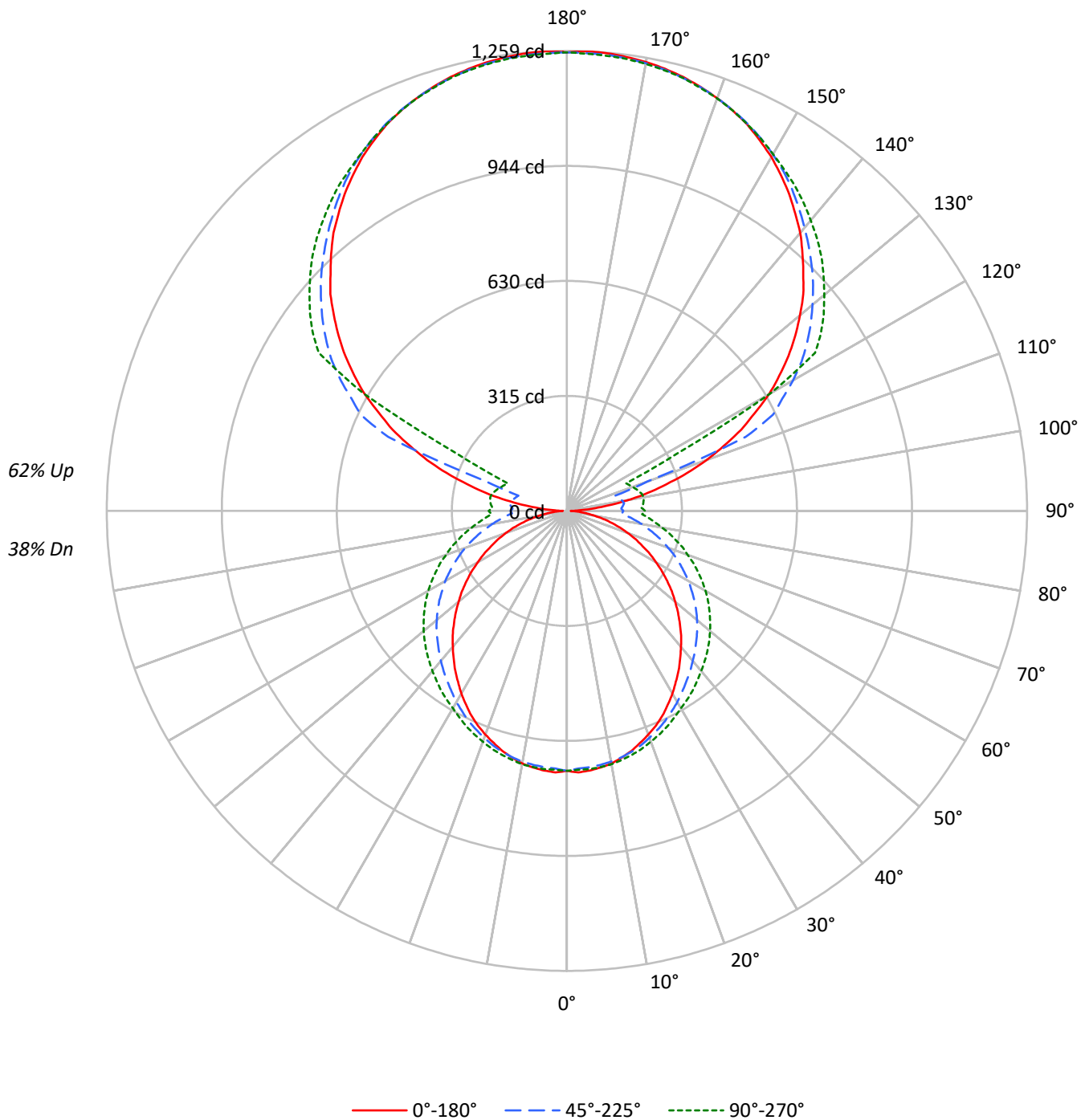
Lumens per Lamp: N/A  
Luminaire Lumens: 6395.0 lumens  
Efficiency: N/A  
Efficacy: 99.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 64.4  
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   | 104 | 104 | 104 | 104 | 95 | 95 | 95 | 95 | 77 | 77 | 77 | 60 | 60 | 60 | 45 | 45 | 45 |
| 1   | 94  | 89  | 85  | 81  | 85 | 81 | 77 | 74 | 65 | 63 | 60 | 51 | 49 | 48 | 38 | 37 | 36 |
| 2   | 85  | 77  | 71  | 65  | 77 | 70 | 64 | 60 | 57 | 53 | 49 | 44 | 41 | 39 | 33 | 31 | 29 |
| 3   | 77  | 67  | 60  | 54  | 70 | 61 | 55 | 49 | 49 | 45 | 41 | 39 | 35 | 32 | 29 | 26 | 24 |
| 4   | 70  | 59  | 51  | 45  | 63 | 54 | 47 | 41 | 44 | 38 | 34 | 34 | 30 | 27 | 25 | 23 | 21 |
| 5   | 64  | 53  | 44  | 38  | 58 | 48 | 41 | 35 | 39 | 33 | 29 | 30 | 27 | 23 | 23 | 20 | 18 |
| 6   | 59  | 47  | 39  | 33  | 53 | 43 | 36 | 30 | 35 | 29 | 25 | 27 | 23 | 20 | 20 | 18 | 15 |
| 7   | 55  | 42  | 34  | 29  | 49 | 39 | 31 | 26 | 31 | 26 | 22 | 25 | 21 | 18 | 19 | 16 | 14 |
| 8   | 51  | 38  | 30  | 25  | 46 | 35 | 28 | 23 | 29 | 23 | 19 | 23 | 19 | 16 | 17 | 14 | 12 |
| 9   | 47  | 35  | 27  | 22  | 42 | 32 | 25 | 21 | 26 | 21 | 17 | 21 | 17 | 14 | 16 | 13 | 11 |
| 10  | 44  | 32  | 25  | 20  | 40 | 29 | 23 | 18 | 24 | 19 | 15 | 19 | 15 | 13 | 15 | 12 | 10 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11259 | 11259 | 11259 |
| 5°  | 11309 | 10779 | 10717 |
| 10° | 11234 | 10404 | 10254 |
| 15° | 11076 | 10019 | 9778  |
| 20° | 10876 | 9614  | 9325  |
| 25° | 10678 | 9225  | 8916  |
| 30° | 10402 | 8831  | 8510  |
| 35° | 10121 | 8451  | 8212  |
| 40° | 9826  | 8121  | 7915  |
| 45° | 9546  | 7823  | 7658  |
| 50° | 9245  | 7548  | 7402  |
| 55° | 8926  | 7255  | 7142  |
| 60° | 8539  | 6952  | 6870  |
| 65° | 8134  | 6603  | 6555  |
| 70° | 7678  | 6226  | 6218  |
| 75° | 7093  | 5851  | 5899  |
| 80° | 6171  | 5460  | 5569  |
| 85° | 5241  | 5092  | 5284  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9546 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 67.4   | 1.1       |
| 10°-20°   | 193.4  | 3.0       |
| 20°-30°   | 293.0  | 4.6       |
| 30°-40°   | 356.8  | 5.6       |
| 40°-50°   | 383.9  | 6.0       |
| 50°-60°   | 372.8  | 5.8       |
| 60°-70°   | 325.6  | 5.1       |
| 70°-80°   | 250.6  | 3.9       |
| 80°-90°   | 170.1  | 2.7       |
| 90°-100°  | 157.2  | 2.5       |
| 100°-110° | 238.8  | 3.7       |
| 110°-120° | 464.9  | 7.3       |
| 120°-130° | 709.6  | 11.1      |
| 130°-140° | 733.8  | 11.5      |
| 140°-150° | 672.1  | 10.5      |
| 150°-160° | 538.5  | 8.4       |
| 160°-170° | 347.0  | 5.4       |
| 170°-180° | 119.4  | 1.9       |
| 0°-30°    | 553.8  | 8.7       |
| 0°-40°    | 910.7  | 14.2      |
| 0°-60°    | 1667.4 | 26.1      |
| 0°-90°    | 2413.6 | 37.7      |
| 90°-120°  | 860.9  | 13.5      |
| 90°-150°  | 2976.4 | 46.5      |
| 90°-180°  | 3981.0 | 62.3      |
| 0°-180°   | 6395.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 711  | 711   | 711  | 711   | 711  |      |
| 5°   | 713  | 710   | 704  | 710   | 709  | 68   |
| 15°  | 680  | 682   | 682  | 692   | 691  | 192  |
| 25°  | 618  | 626   | 635  | 647   | 650  | 284  |
| 35°  | 533  | 550   | 570  | 593   | 600  | 333  |
| 45°  | 437  | 465   | 501  | 533   | 543  | 337  |
| 55°  | 335  | 372   | 426  | 463   | 476  | 300  |
| 65°  | 229  | 279   | 340  | 382   | 396  | 227  |
| 75°  | 127  | 184   | 250  | 295   | 308  | 134  |
| 85°  | 37   | 101   | 167  | 210   | 225  | 39   |
| 90°  | 11   | 81    | 154  | 200   | 214  | 11   |
| 95°  | 67   | 86    | 154  | 198   | 209  | 76   |
| 105° | 281  | 338   | 144  | 190   | 205  | 301  |
| 115° | 526  | 553   | 622  | 233   | 179  | 518  |
| 125° | 740  | 752   | 802  | 836   | 848  | 661  |
| 135° | 914  | 929   | 947  | 978   | 985  | 707  |
| 145° | 1060 | 1059  | 1074 | 1087  | 1087 | 663  |
| 155° | 1167 | 1159  | 1170 | 1175  | 1168 | 538  |
| 165° | 1229 | 1224  | 1227 | 1233  | 1227 | 347  |
| 175° | 1258 | 1251  | 1253 | 1259  | 1250 | 120  |
| 180° | 1255 | 1255  | 1255 | 1255  | 1255 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 711.3 | 711.3 | 711.3 | 711.3 | 711.3 |
| 2.5°   | 716.4 | 713.3 | 706.1 | 711.3 | 709.2 |
| 5°     | 713.3 | 710.3 | 704.1 | 710.3 | 709.2 |
| 7.5°   | 708.2 | 706.1 | 701.0 | 708.2 | 707.2 |
| 10°    | 702.0 | 699.9 | 696.8 | 705.1 | 704.1 |
| 12.5°  | 691.7 | 692.7 | 690.7 | 698.9 | 697.9 |
| 15°    | 680.4 | 682.4 | 682.4 | 691.7 | 690.7 |
| 17.5°  | 665.9 | 670.0 | 673.1 | 682.4 | 682.4 |
| 20°    | 651.5 | 656.6 | 660.8 | 672.1 | 672.1 |
| 22.5°  | 636.0 | 642.2 | 648.4 | 659.7 | 661.8 |
| 25°    | 618.5 | 625.7 | 635.0 | 647.4 | 650.5 |
| 27.5°  | 597.9 | 609.2 | 619.5 | 635.0 | 637.1 |
| 30°    | 577.3 | 590.7 | 604.1 | 620.6 | 623.7 |
| 32.5°  | 554.6 | 570.1 | 586.5 | 606.1 | 612.3 |
| 35°    | 532.9 | 550.5 | 570.1 | 592.7 | 600.0 |
| 37.5°  | 509.2 | 528.8 | 553.6 | 578.3 | 585.5 |
| 40°    | 485.5 | 508.2 | 536.0 | 562.8 | 572.1 |
| 42.5°  | 462.8 | 485.5 | 518.5 | 548.4 | 557.7 |
| 45°    | 437.1 | 464.9 | 501.0 | 532.9 | 543.3 |
| 47.5°  | 412.3 | 442.2 | 483.5 | 516.5 | 527.8 |
| 50°    | 386.6 | 418.5 | 464.9 | 500.0 | 511.3 |
| 52.5°  | 361.8 | 395.8 | 445.3 | 481.4 | 493.8 |
| 55°    | 335.0 | 372.1 | 425.7 | 462.8 | 476.2 |
| 57.5°  | 309.3 | 350.5 | 404.1 | 444.3 | 457.7 |
| 60°    | 281.4 | 325.7 | 384.5 | 423.7 | 438.1 |
| 62.5°  | 256.7 | 303.1 | 361.8 | 404.1 | 417.5 |
| 65°    | 228.8 | 279.4 | 340.2 | 382.4 | 395.8 |
| 67.5°  | 204.1 | 256.7 | 318.5 | 360.8 | 375.2 |
| 70°    | 177.3 | 230.9 | 294.8 | 339.1 | 351.5 |
| 72.5°  | 152.6 | 208.2 | 273.2 | 316.5 | 331.9 |
| 75°    | 126.8 | 184.5 | 250.5 | 294.8 | 308.2 |
| 77.5°  | 102.1 | 161.8 | 228.8 | 273.2 | 287.6 |
| 80°    | 77.3  | 140.2 | 207.2 | 250.5 | 264.9 |
| 82.5°  | 56.7  | 118.5 | 186.6 | 229.9 | 243.3 |
| 85°    | 37.1  | 101.0 | 167.0 | 210.3 | 224.7 |
| 87.5°  | 22.7  | 84.5  | 150.5 | 192.8 | 206.2 |
| 90°    | 11.2  | 81.0  | 154.3 | 200.0 | 214.2 |
| 92.5°  | 32.0  | 83.0  | 148.6 | 190.6 | 203.9 |
| 95°    | 67.2  | 85.8  | 153.9 | 197.7 | 209.1 |
| 97.5°  | 113.4 | 83.3  | 157.6 | 198.5 | 211.7 |
| 100°   | 167.9 | 81.7  | 154.9 | 200.2 | 213.4 |
| 102.5° | 226.8 | 259.0 | 149.5 | 196.6 | 210.6 |
| 105°   | 281.2 | 338.3 | 144.1 | 190.1 | 205.1 |
| 107.5° | 345.7 | 393.1 | 138.6 | 183.7 | 198.6 |
| 110°   | 406.3 | 446.0 | 234.2 | 176.3 | 191.3 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 464.5  | 497.3  | 529.3  | 170.9  | 185.0  |
| 115°   | 526.2  | 553.0  | 622.1  | 232.6  | 178.6  |
| 117.5° | 578.8  | 605.1  | 663.9  | 565.0  | 337.4  |
| 120°   | 638.7  | 656.4  | 714.0  | 753.8  | 642.6  |
| 122.5° | 689.5  | 705.1  | 761.4  | 794.7  | 804.9  |
| 125°   | 740.3  | 752.1  | 802.3  | 836.5  | 848.5  |
| 127.5° | 787.5  | 799.1  | 840.7  | 875.4  | 885.6  |
| 130°   | 832.0  | 845.4  | 877.1  | 911.8  | 919.2  |
| 132.5° | 877.4  | 888.1  | 913.6  | 945.5  | 952.8  |
| 135°   | 914.4  | 929.0  | 947.4  | 978.2  | 984.6  |
| 137.5° | 954.4  | 965.3  | 979.6  | 1008.3 | 1012.7 |
| 140°   | 993.4  | 999.7  | 1011.8 | 1036.5 | 1038.0 |
| 142.5° | 1026.1 | 1031.5 | 1043.3 | 1063.0 | 1063.5 |
| 145°   | 1059.6 | 1058.7 | 1074.2 | 1086.7 | 1087.3 |
| 147.5° | 1089.6 | 1086.9 | 1102.3 | 1107.9 | 1107.3 |
| 150°   | 1118.7 | 1112.3 | 1126.8 | 1132.3 | 1127.7 |
| 152.5° | 1143.2 | 1135.9 | 1149.5 | 1155.0 | 1148.6 |
| 155°   | 1166.8 | 1158.6 | 1169.5 | 1175.0 | 1167.7 |
| 157.5° | 1185.8 | 1178.6 | 1186.8 | 1193.1 | 1185.8 |
| 160°   | 1202.2 | 1196.7 | 1202.2 | 1207.6 | 1201.3 |
| 162.5° | 1216.7 | 1211.3 | 1215.8 | 1222.2 | 1214.0 |
| 165°   | 1229.4 | 1224.0 | 1226.7 | 1233.1 | 1226.7 |
| 167.5° | 1239.4 | 1234.0 | 1236.7 | 1243.1 | 1234.9 |
| 170°   | 1247.6 | 1242.1 | 1244.0 | 1250.3 | 1242.1 |
| 172.5° | 1253.0 | 1247.6 | 1249.4 | 1255.8 | 1247.6 |
| 175°   | 1257.6 | 1251.2 | 1253.0 | 1259.4 | 1250.3 |
| 177.5° | 1259.4 | 1253.0 | 1253.9 | 1260.3 | 1252.1 |
| 180°   | 1254.9 | 1254.9 | 1254.9 | 1254.9 | 1254.9 |

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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 | 12.39            | 13.18 | 13.43 | 14.24 | 15.67 | 15.46          | 16.26 | 16.51 | 17.32 | 18.75 |
|                 | 3H   | 13.84            | 14.56 | 14.90 | 15.63 | 17.08 | 18.05          | 18.77 | 19.10 | 19.83 | 21.28 |
|                 | 4H   | 14.32            | 15.00 | 15.38 | 16.07 | 17.53 | 19.30          | 19.98 | 20.36 | 21.05 | 22.51 |
|                 | 6H   | 14.60            | 15.23 | 15.67 | 16.30 | 17.77 | 20.59          | 21.22 | 21.67 | 22.29 | 23.76 |
|                 | 8H   | 14.65            | 15.26 | 15.74 | 16.35 | 17.81 | 21.25          | 21.85 | 22.33 | 22.94 | 24.40 |
|                 | 12H  | 14.67            | 15.24 | 15.76 | 16.33 | 17.81 | 21.97          | 22.55 | 23.06 | 23.63 | 25.12 |
| 4H              | 2H   | 13.43            | 14.12 | 14.50 | 15.18 | 16.64 | 15.79          | 16.47 | 16.86 | 17.54 | 18.99 |
|                 | 3H   | 15.13            | 15.71 | 16.21 | 16.81 | 18.28 | 18.57          | 19.15 | 19.65 | 20.24 | 21.71 |
|                 | 4H   | 15.75            | 16.29 | 16.84 | 17.37 | 18.86 | 19.99          | 20.52 | 21.07 | 21.60 | 23.09 |
|                 | 6H   | 16.17            | 16.63 | 17.26 | 17.74 | 19.22 | 21.45          | 21.91 | 22.54 | 23.02 | 24.50 |
|                 | 8H   | 16.27            | 16.71 | 17.37 | 17.81 | 19.31 | 22.21          | 22.64 | 23.30 | 23.74 | 25.24 |
|                 | 12H  | 16.31            | 16.71 | 17.42 | 17.82 | 19.33 | 23.03          | 23.43 | 24.14 | 24.54 | 26.05 |
| 8H              | 4H   | 16.54            | 16.97 | 17.63 | 18.07 | 19.57 | 20.12          | 20.56 | 21.22 | 21.66 | 23.16 |
|                 | 6H   | 17.17            | 17.53 | 18.28 | 18.67 | 20.17 | 21.75          | 22.11 | 22.87 | 23.26 | 24.75 |
|                 | 8H   | 17.39            | 17.71 | 18.51 | 18.83 | 20.35 | 22.64          | 22.96 | 23.76 | 24.08 | 25.60 |
|                 | 12H  | 17.52            | 17.80 | 18.65 | 18.92 | 20.47 | 23.63          | 23.91 | 24.76 | 25.03 | 26.59 |
| 12H             | 4H   | 16.73            | 17.13 | 17.85 | 18.24 | 19.75 | 20.10          | 20.49 | 21.21 | 21.60 | 23.11 |
|                 | 6H   | 17.50            | 17.82 | 18.62 | 18.95 | 20.46 | 21.78          | 22.10 | 22.90 | 23.22 | 24.73 |
|                 | 8H   | 17.80            | 18.09 | 18.93 | 19.21 | 20.76 | 22.70          | 22.98 | 23.83 | 24.10 | 25.66 |