

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P243702

Luminaire Tested: S125DRP-H850D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243702  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-56)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S125DRP-H850D830-X4F0-XX-UDD-D-W  
Description: DEFINE 5 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

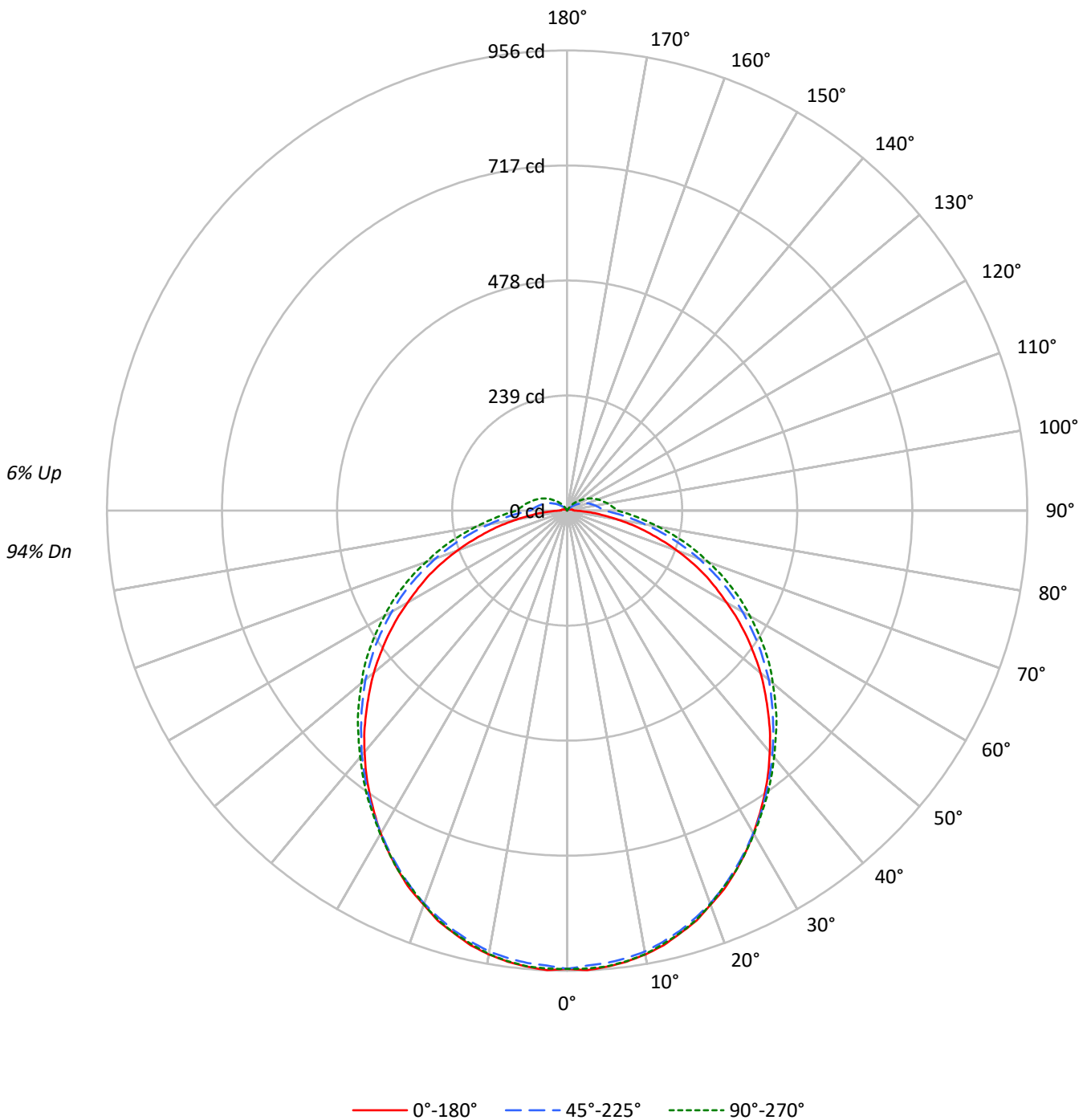
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2956.6 lumens  
Efficiency: N/A  
Efficacy: 125.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 0.39' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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 | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   |
| 0   | 118 | 118 | 118 | 118 | 114 | 114 | 114 | 114 | 108 | 108 | 108 | 102 | 102 | 102 | 96 | 96 | 96 | 94 |    |    |    |   |
| 1   | 106 | 101 | 96  | 92  | 103 | 98  | 94  | 90  | 93  | 89  | 86  | 88  | 85  | 82  | 83 | 81 | 79 | 76 |    |    |    |   |
| 2   | 96  | 88  | 80  | 74  | 93  | 85  | 78  | 73  | 81  | 75  | 70  | 76  | 72  | 68  | 72 | 69 | 65 | 63 |    |    |    |   |
| 3   | 88  | 77  | 68  | 61  | 84  | 75  | 67  | 60  | 71  | 64  | 59  | 67  | 61  | 57  | 64 | 59 | 55 | 53 |    |    |    |   |
| 4   | 80  | 68  | 59  | 52  | 77  | 66  | 58  | 51  | 63  | 55  | 50  | 60  | 53  | 48  | 57 | 51 | 47 | 45 |    |    |    |   |
| 5   | 74  | 60  | 51  | 44  | 71  | 59  | 50  | 44  | 56  | 49  | 43  | 53  | 47  | 42  | 51 | 45 | 41 | 39 |    |    |    |   |
| 6   | 68  | 54  | 45  | 39  | 66  | 53  | 45  | 38  | 51  | 43  | 38  | 48  | 42  | 37  | 46 | 40 | 36 | 34 |    |    |    |   |
| 7   | 63  | 49  | 40  | 34  | 61  | 48  | 40  | 34  | 46  | 39  | 33  | 44  | 37  | 33  | 42 | 36 | 32 | 30 |    |    |    |   |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  | 42  | 35  | 30  | 40  | 34  | 29  | 39 | 33 | 29 | 27 |    |    |    |   |
| 9   | 55  | 41  | 33  | 27  | 53  | 40  | 33  | 27  | 39  | 32  | 27  | 37  | 31  | 26  | 36 | 30 | 26 | 24 |    |    |    |   |
| 10  | 51  | 38  | 30  | 25  | 50  | 37  | 30  | 25  | 36  | 29  | 24  | 35  | 28  | 24  | 33 | 28 | 23 | 22 |    |    |    |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6768 | 6768 | 6768 |
| 5°  | 6774 | 6634 | 6656 |
| 10° | 6732 | 6522 | 6507 |
| 15° | 6651 | 6367 | 6321 |
| 20° | 6538 | 6195 | 6109 |
| 25° | 6423 | 5996 | 5900 |
| 30° | 6277 | 5793 | 5672 |
| 35° | 6123 | 5596 | 5468 |
| 40° | 5967 | 5403 | 5263 |
| 45° | 5801 | 5212 | 5096 |
| 50° | 5655 | 5053 | 4919 |
| 55° | 5470 | 4857 | 4756 |
| 60° | 5246 | 4645 | 4550 |
| 65° | 5066 | 4420 | 4347 |
| 70° | 4766 | 4145 | 4082 |
| 75° | 4362 | 3820 | 3849 |
| 80° | 3885 | 3470 | 3553 |
| 85° | 3456 | 3246 | 3383 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5801 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 90.1   | 3.0       |
| 10°-20°   | 256.0  | 8.7       |
| 20°-30°   | 381.1  | 12.9      |
| 30°-40°   | 451.5  | 15.3      |
| 40°-50°   | 467.1  | 15.8      |
| 50°-60°   | 430.8  | 14.6      |
| 60°-70°   | 348.2  | 11.8      |
| 70°-80°   | 232.6  | 7.9       |
| 80°-90°   | 120.0  | 4.1       |
| 90°-100°  | 67.3   | 2.3       |
| 100°-110° | 49.9   | 1.7       |
| 110°-120° | 33.3   | 1.1       |
| 120°-130° | 18.6   | 0.6       |
| 130°-140° | 8.3    | 0.3       |
| 140°-150° | 1.8    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 727.2  | 24.6      |
| 0°-40°    | 1178.6 | 39.9      |
| 0°-60°    | 2076.5 | 70.2      |
| 0°-90°    | 2777.3 | 93.9      |
| 90°-120°  | 150.5  | 5.1       |
| 90°-150°  | 179.2  | 6.1       |
| 90°-180°  | 179.0  | 6.1       |
| 0°-180°   | 2956.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 952 | 952   | 952 | 952   | 952 |      |
| 5°   | 951 | 950   | 943 | 950   | 950 | 90   |
| 15°  | 909 | 912   | 904 | 909   | 908 | 256  |
| 25°  | 827 | 831   | 824 | 828   | 827 | 381  |
| 35°  | 716 | 722   | 720 | 723   | 724 | 448  |
| 45°  | 590 | 599   | 605 | 614   | 615 | 456  |
| 55°  | 455 | 469   | 485 | 496   | 501 | 406  |
| 65°  | 315 | 334   | 356 | 372   | 377 | 311  |
| 75°  | 172 | 197   | 225 | 245   | 252 | 182  |
| 85°  | 53  | 83    | 115 | 136   | 143 | 54   |
| 90°  | 15  | 44    | 77  | 98    | 105 | 10   |
| 95°  | 12  | 37    | 68  | 88    | 94  | 10   |
| 105° | 9   | 24    | 52  | 70    | 77  | 9    |
| 115° | 6   | 12    | 36  | 53    | 59  | 6    |
| 125° | 4   | 4     | 21  | 34    | 40  | 3    |
| 135° | 2   | 2     | 8   | 20    | 24  | 2    |
| 145° | 1   | 0     | 0   | 5     | 8   | 1    |
| 155° | 0   | 0     | 0   | 0     | 0   | 0    |
| 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 180° | 0   | 0     | 0   | 0     | 0   | 0    |

TEST NUMBER: P243702

CATALOG NUMBER: S125DRP-H850D830-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 952.2 | 952.2 | 952.2 | 952.2 | 952.2 |
| 2.5°   | 955.7 | 953.1 | 946.0 | 953.1 | 952.2 |
| 5°     | 951.3 | 950.4 | 943.4 | 950.4 | 950.4 |
| 7.5°   | 945.2 | 944.3 | 938.1 | 945.2 | 944.3 |
| 10°    | 936.4 | 936.4 | 930.2 | 935.5 | 935.5 |
| 12.5°  | 924.9 | 924.9 | 917.9 | 924.0 | 922.3 |
| 15°    | 909.1 | 911.7 | 903.8 | 909.1 | 908.2 |
| 17.5°  | 893.2 | 893.2 | 887.1 | 891.5 | 891.5 |
| 20°    | 871.2 | 874.8 | 868.6 | 873.0 | 870.4 |
| 22.5°  | 851.9 | 853.6 | 847.5 | 851.9 | 847.5 |
| 25°    | 827.2 | 830.8 | 823.7 | 828.1 | 827.2 |
| 27.5°  | 801.7 | 804.4 | 799.1 | 804.4 | 801.7 |
| 30°    | 774.4 | 777.1 | 773.5 | 777.1 | 776.2 |
| 32.5°  | 745.4 | 750.7 | 748.0 | 750.7 | 749.8 |
| 35°    | 716.3 | 721.6 | 719.9 | 723.4 | 724.3 |
| 37.5°  | 686.4 | 691.7 | 691.7 | 696.1 | 697.0 |
| 40°    | 654.7 | 661.8 | 663.5 | 669.7 | 668.8 |
| 42.5°  | 623.9 | 631.0 | 633.6 | 641.5 | 641.5 |
| 45°    | 589.6 | 599.3 | 604.6 | 614.3 | 615.1 |
| 47.5°  | 557.1 | 567.6 | 575.5 | 584.3 | 586.1 |
| 50°    | 524.5 | 534.2 | 547.4 | 556.2 | 557.9 |
| 52.5°  | 489.3 | 501.6 | 514.8 | 527.1 | 530.7 |
| 55°    | 455.0 | 469.1 | 484.9 | 496.3 | 500.7 |
| 57.5°  | 419.8 | 434.7 | 452.3 | 466.4 | 469.9 |
| 60°    | 382.8 | 400.4 | 420.7 | 434.7 | 438.3 |
| 62.5°  | 348.5 | 367.9 | 389.0 | 403.9 | 409.2 |
| 65°    | 315.1 | 333.5 | 356.4 | 372.3 | 376.7 |
| 67.5°  | 279.0 | 299.2 | 323.0 | 340.6 | 345.0 |
| 70°    | 242.9 | 264.9 | 290.4 | 307.1 | 311.5 |
| 72.5°  | 205.9 | 230.6 | 257.8 | 276.3 | 281.6 |
| 75°    | 171.6 | 197.1 | 225.3 | 244.6 | 251.7 |
| 77.5°  | 139.0 | 165.4 | 193.6 | 213.8 | 220.0 |
| 80°    | 106.5 | 133.8 | 164.6 | 185.7 | 191.8 |
| 82.5°  | 77.4  | 106.5 | 138.2 | 159.3 | 165.4 |
| 85°    | 52.8  | 82.7  | 115.3 | 135.5 | 142.6 |
| 87.5°  | 32.6  | 61.6  | 95.0  | 115.3 | 122.3 |
| 90°    | 15.0  | 44.0  | 76.6  | 97.7  | 104.7 |
| 92.5°  | 13.2  | 40.5  | 72.2  | 93.3  | 99.4  |
| 95°    | 12.3  | 37.0  | 67.8  | 88.0  | 94.2  |
| 97.5°  | 11.4  | 33.4  | 63.4  | 83.6  | 89.8  |
| 100°   | 10.6  | 29.9  | 59.8  | 79.2  | 85.4  |
| 102.5° | 9.7   | 27.3  | 55.4  | 74.8  | 80.1  |
| 105°   | 8.8   | 23.8  | 51.9  | 70.4  | 76.6  |
| 107.5° | 7.9   | 20.2  | 48.4  | 66.0  | 72.2  |
| 110°   | 7.0   | 17.6  | 44.0  | 61.6  | 67.8  |



TEST NUMBER: P243702

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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°  |
|--------|-----|-------|------|-------|------|
| 112.5° | 6.2 | 15.0  | 40.5 | 57.2  | 63.4 |
| 115°   | 6.2 | 12.3  | 36.1 | 52.8  | 59.0 |
| 117.5° | 5.3 | 9.7   | 31.7 | 48.4  | 54.6 |
| 120°   | 4.4 | 7.0   | 28.2 | 44.0  | 50.2 |
| 122.5° | 4.4 | 5.3   | 24.6 | 39.6  | 45.8 |
| 125°   | 3.5 | 3.5   | 21.1 | 34.3  | 40.5 |
| 127.5° | 3.5 | 2.6   | 17.6 | 30.8  | 35.2 |
| 130°   | 2.6 | 1.8   | 15.0 | 27.3  | 31.7 |
| 132.5° | 2.6 | 1.8   | 11.4 | 23.8  | 28.2 |
| 135°   | 1.8 | 1.8   | 7.9  | 20.2  | 23.8 |
| 137.5° | 1.8 | 0.9   | 5.3  | 15.8  | 20.2 |
| 140°   | 0.9 | 0.9   | 1.8  | 12.3  | 15.8 |
| 142.5° | 0.9 | 0.9   | 0.9  | 8.8   | 12.3 |
| 145°   | 0.9 | 0.0   | 0.0  | 5.3   | 7.9  |
| 147.5° | 0.9 | 0.0   | 0.0  | 1.8   | 4.4  |
| 150°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.9  |
| 152.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 155°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 157.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 160°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 162.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 165°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 167.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 170°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 172.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 175°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 177.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 180°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |



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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 | 16.56            | 18.09 | 17.01 | 18.53 | 18.99 | 17.65          | 19.18 | 18.10 | 19.62 | 20.08 |
|                 | 3H   | 18.21            | 19.60 | 18.68 | 20.05 | 20.55 | 19.81          | 21.21 | 20.28 | 21.65 | 22.16 |
|                 | 4H   | 18.78            | 20.10 | 19.27 | 20.56 | 21.08 | 20.77          | 22.09 | 21.26 | 22.56 | 23.08 |
|                 | 6H   | 19.16            | 20.39 | 19.67 | 20.87 | 21.40 | 21.68          | 22.90 | 22.18 | 23.38 | 23.92 |
|                 | 8H   | 19.27            | 20.44 | 19.78 | 20.95 | 21.49 | 22.11          | 23.28 | 22.62 | 23.78 | 24.32 |
|                 | 12H  | 19.33            | 20.46 | 19.85 | 20.95 | 21.53 | 22.56          | 23.68 | 23.08 | 24.18 | 24.75 |
| 4H              | 2H   | 17.32            | 18.64 | 17.81 | 19.11 | 19.63 | 18.17          | 19.49 | 18.67 | 19.96 | 20.48 |
|                 | 3H   | 19.20            | 20.32 | 19.71 | 20.83 | 21.37 | 20.56          | 21.67 | 21.06 | 22.18 | 22.73 |
|                 | 4H   | 19.91            | 20.93 | 20.43 | 21.45 | 22.02 | 21.67          | 22.69 | 22.19 | 23.21 | 23.78 |
|                 | 6H   | 20.42            | 21.32 | 20.96 | 21.87 | 22.46 | 22.74          | 23.63 | 23.28 | 24.18 | 24.77 |
|                 | 8H   | 20.57            | 21.42 | 21.12 | 21.96 | 22.57 | 23.25          | 24.09 | 23.80 | 24.64 | 25.24 |
|                 | 12H  | 20.68            | 21.44 | 21.25 | 22.02 | 22.62 | 23.80          | 24.56 | 24.37 | 25.14 | 25.75 |
| 8H              | 4H   | 20.39            | 21.23 | 20.94 | 21.78 | 22.38 | 21.92          | 22.77 | 22.47 | 23.31 | 23.92 |
|                 | 6H   | 21.06            | 21.77 | 21.64 | 22.36 | 22.97 | 23.15          | 23.86 | 23.73 | 24.45 | 25.06 |
|                 | 8H   | 21.30            | 21.94 | 21.89 | 22.54 | 23.16 | 23.78          | 24.42 | 24.38 | 25.02 | 25.64 |
|                 | 12H  | 21.48            | 22.05 | 22.08 | 22.64 | 23.33 | 24.49          | 25.06 | 25.08 | 25.65 | 26.34 |
| 12H             | 4H   | 20.49            | 21.25 | 21.06 | 21.83 | 22.43 | 21.94          | 22.70 | 22.51 | 23.28 | 23.89 |
|                 | 6H   | 21.22            | 21.86 | 21.81 | 22.46 | 23.08 | 23.19          | 23.83 | 23.79 | 24.44 | 25.06 |
|                 | 8H   | 21.54            | 22.11 | 22.13 | 22.70 | 23.38 | 23.90          | 24.47 | 24.49 | 25.06 | 25.74 |