

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: P243241

Luminaire Tested: S122RDRP-H1005D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243241  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-H1005D935-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

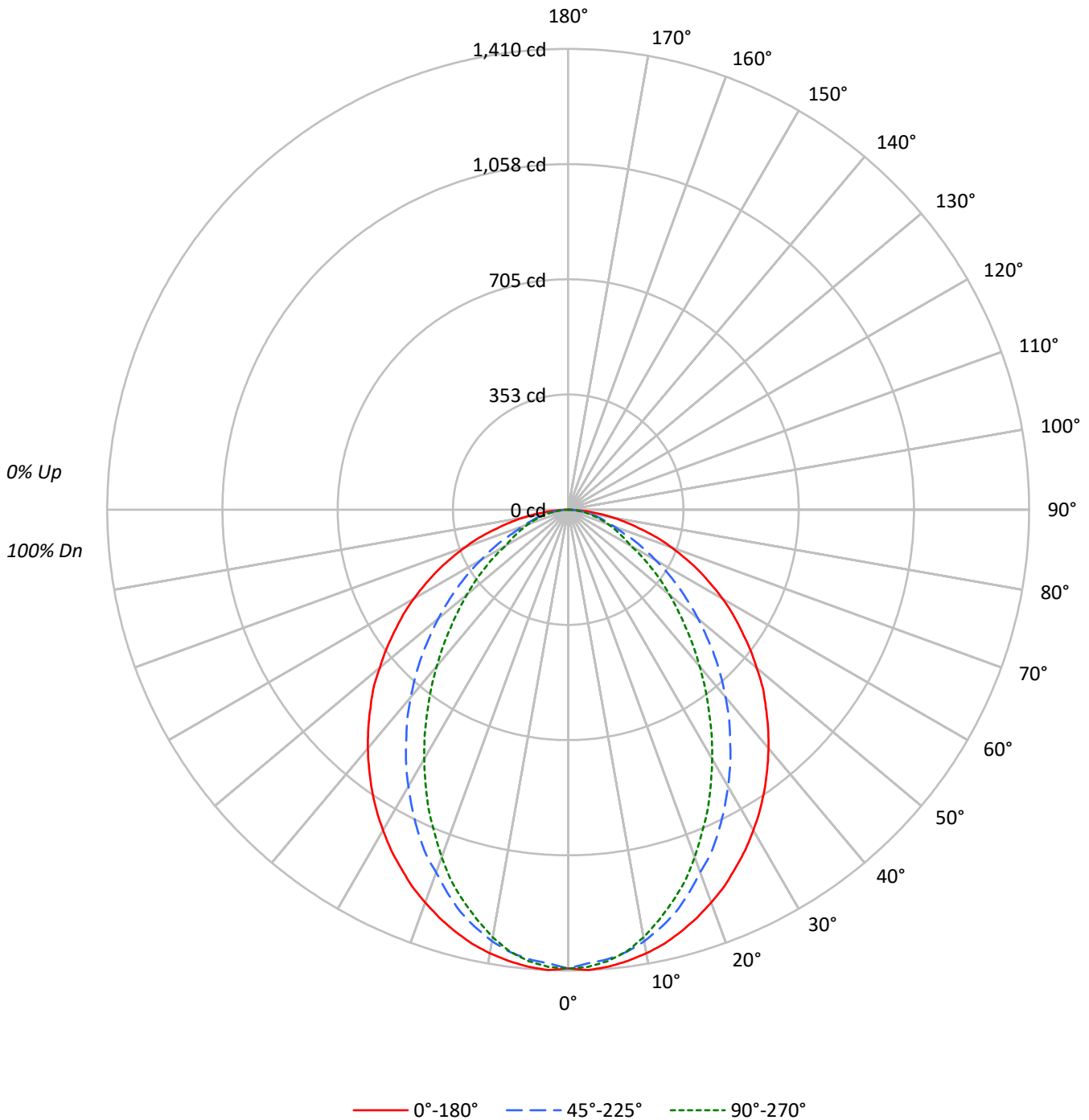
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2878.7 lumens  
Efficiency: N/A  
Efficacy: 76.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 37.7  
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 |  |  |  |  |  |  |  |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 101 | 94  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 77  | 82  | 79  | 76  | 74  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  | 76  | 71  | 67  | 74  | 69  | 66  | 64  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 86  | 75  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  | 69  | 63  | 58  | 66  | 62  | 57  | 55  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  | 62  | 56  | 51  | 60  | 55  | 51  | 49  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 46  | 58  | 51  | 46  | 57  | 50  | 46  | 55  | 50  | 45  | 43  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 42  | 53  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  | 39  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 64  | 51  | 43  | 38  | 62  | 51  | 43  | 37  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 35  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 46  | 39  | 34  | 44  | 38  | 34  | 44  | 38  | 34  | 32  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  | 41  | 35  | 31  | 29  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 26737 | 26737 | 26737 |
| 5°  | 26839 | 26400 | 26514 |
| 10° | 26657 | 25931 | 25697 |
| 15° | 26341 | 25125 | 24433 |
| 20° | 25923 | 23935 | 22930 |
| 25° | 25428 | 22858 | 21229 |
| 30° | 24906 | 21497 | 19366 |
| 35° | 24332 | 20079 | 17433 |
| 40° | 23699 | 18611 | 15538 |
| 45° | 23032 | 17062 | 13668 |
| 50° | 22287 | 15359 | 11987 |
| 55° | 21516 | 13675 | 10338 |
| 60° | 20808 | 11764 | 8442  |
| 65° | 19867 | 9934  | 7806  |
| 70° | 18685 | 8231  | 7284  |
| 75° | 17022 | 7485  | 6682  |
| 80° | 15280 | 6647  | 5978  |
| 85° | 12698 | 5551  | 5289  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 23032 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 131.5  | 4.6       |
| 10°-20°   | 360.3  | 12.5      |
| 20°-30°   | 505.5  | 17.6      |
| 30°-40°   | 550.6  | 19.1      |
| 40°-50°   | 506.0  | 17.6      |
| 50°-60°   | 397.1  | 13.8      |
| 60°-70°   | 259.1  | 9.0       |
| 70°-80°   | 134.0  | 4.7       |
| 80°-90°   | 34.7   | 1.2       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 997.2  | 34.6      |
| 0°-40°    | 1547.8 | 53.8      |
| 0°-60°    | 2451.0 | 85.1      |
| 0°-90°    | 2878.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2878.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1404 | 1404  | 1404 | 1404  | 1404 |      |
| 5°  | 1404 | 1396  | 1381 | 1390  | 1387 | 133  |
| 15° | 1336 | 1320  | 1274 | 1249  | 1239 | 377  |
| 25° | 1210 | 1168  | 1088 | 1034  | 1010 | 558  |
| 35° | 1046 | 977   | 864  | 784   | 750  | 654  |
| 45° | 855  | 768   | 633  | 541   | 507  | 660  |
| 55° | 648  | 551   | 412  | 334   | 311  | 581  |
| 65° | 441  | 334   | 220  | 179   | 173  | 435  |
| 75° | 231  | 144   | 102  | 93    | 91   | 247  |
| 85° | 58   | 28    | 25   | 24    | 24   | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1403.7 | 1403.7 | 1403.7 | 1403.7 | 1403.7 |
| 2.5°  | 1409.7 | 1403.7 | 1389.1 | 1402.5 | 1400.0 |
| 5°    | 1403.7 | 1396.4 | 1380.7 | 1390.3 | 1386.7 |
| 7.5°  | 1392.8 | 1385.5 | 1364.9 | 1369.8 | 1363.7 |
| 10°   | 1378.2 | 1368.5 | 1340.7 | 1335.8 | 1328.6 |
| 12.5° | 1360.1 | 1346.7 | 1309.2 | 1294.7 | 1285.0 |
| 15°   | 1335.8 | 1320.1 | 1274.1 | 1248.6 | 1239.0 |
| 17.5° | 1309.2 | 1286.2 | 1229.3 | 1200.2 | 1190.5 |
| 20°   | 1278.9 | 1252.3 | 1180.8 | 1150.5 | 1131.2 |
| 22.5° | 1247.4 | 1213.5 | 1139.6 | 1092.4 | 1069.4 |
| 25°   | 1209.9 | 1167.5 | 1087.6 | 1034.3 | 1010.1 |
| 27.5° | 1173.6 | 1123.9 | 1033.1 | 971.3  | 944.7  |
| 30°   | 1132.4 | 1077.9 | 977.4  | 905.9  | 880.5  |
| 32.5° | 1091.2 | 1028.2 | 922.9  | 845.3  | 816.3  |
| 35°   | 1046.4 | 977.4  | 863.5  | 783.6  | 749.7  |
| 37.5° | 1000.4 | 928.9  | 809.0  | 720.6  | 687.9  |
| 40°   | 953.1  | 873.2  | 748.5  | 656.4  | 624.9  |
| 42.5° | 904.7  | 823.5  | 691.5  | 597.1  | 566.8  |
| 45°   | 855.0  | 767.8  | 633.4  | 541.4  | 507.4  |
| 47.5° | 807.8  | 713.3  | 574.1  | 486.9  | 454.2  |
| 50°   | 752.1  | 658.8  | 518.3  | 429.9  | 404.5  |
| 52.5° | 701.2  | 604.3  | 463.9  | 379.1  | 357.3  |
| 55°   | 647.9  | 551.0  | 411.8  | 334.3  | 311.3  |
| 57.5° | 598.3  | 495.3  | 359.7  | 289.5  | 267.7  |
| 60°   | 546.2  | 442.1  | 308.8  | 244.6  | 221.6  |
| 62.5° | 491.7  | 387.6  | 264.0  | 203.5  | 196.2  |
| 65°   | 440.8  | 334.3  | 220.4  | 179.2  | 173.2  |
| 67.5° | 386.3  | 284.6  | 175.6  | 157.4  | 151.4  |
| 70°   | 335.5  | 236.2  | 147.8  | 134.4  | 130.8  |
| 72.5° | 285.8  | 190.1  | 124.7  | 113.8  | 110.2  |
| 75°   | 231.3  | 144.1  | 101.7  | 93.3   | 90.8   |
| 77.5° | 184.1  | 101.7  | 81.1   | 75.1   | 72.7   |
| 80°   | 139.3  | 73.9   | 60.6   | 56.9   | 54.5   |
| 82.5° | 95.7   | 49.7   | 42.4   | 40.0   | 38.8   |
| 85°   | 58.1   | 27.9   | 25.4   | 24.2   | 24.2   |
| 87.5° | 23.0   | 10.9   | 10.9   | 9.7    | 9.7    |
| 90°   | 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 | 22.66            | 24.18 | 23.03 | 24.50 | 24.81 | 18.55          | 20.07 | 18.92 | 20.39 | 20.70 |
|                 | 3H   | 24.43            | 25.80 | 24.81 | 26.12 | 26.48 | 19.84          | 21.21 | 20.22 | 21.54 | 21.90 |
|                 | 4H   | 25.09            | 26.37 | 25.49 | 26.72 | 27.10 | 20.35          | 21.63 | 20.75 | 21.98 | 22.36 |
|                 | 6H   | 25.58            | 26.76 | 25.99 | 27.13 | 27.52 | 20.73          | 21.92 | 21.15 | 22.28 | 22.68 |
|                 | 8H   | 25.75            | 26.87 | 26.17 | 27.26 | 27.66 | 20.86          | 21.98 | 21.28 | 22.37 | 22.77 |
|                 | 12H  | 25.86            | 26.93 | 26.29 | 27.32 | 27.75 | 20.94          | 22.02 | 21.37 | 22.40 | 22.83 |
| 4H              | 2H   | 22.76            | 24.05 | 23.16 | 24.39 | 24.77 | 19.26          | 20.54 | 19.66 | 20.89 | 21.26 |
|                 | 3H   | 24.70            | 25.77 | 25.11 | 26.17 | 26.57 | 20.73          | 21.79 | 21.14 | 22.19 | 22.59 |
|                 | 4H   | 25.45            | 26.40 | 25.88 | 26.82 | 27.26 | 21.33          | 22.29 | 21.77 | 22.71 | 23.15 |
|                 | 6H   | 26.04            | 26.87 | 26.50 | 27.31 | 27.77 | 21.83          | 22.66 | 22.28 | 23.10 | 23.56 |
|                 | 8H   | 26.25            | 27.03 | 26.71 | 27.47 | 27.94 | 21.99          | 22.77 | 22.45 | 23.21 | 23.68 |
|                 | 12H  | 26.41            | 27.11 | 26.90 | 27.59 | 28.06 | 22.10          | 22.80 | 22.59 | 23.28 | 23.75 |
| 8H              | 4H   | 25.47            | 26.25 | 25.93 | 26.69 | 27.16 | 21.69          | 22.47 | 22.16 | 22.92 | 23.38 |
|                 | 6H   | 26.11            | 26.75 | 26.61 | 27.24 | 27.72 | 22.29          | 22.93 | 22.78 | 23.42 | 23.90 |
|                 | 8H   | 26.36            | 26.94 | 26.87 | 27.45 | 27.93 | 22.51          | 23.09 | 23.02 | 23.60 | 24.09 |
|                 | 12H  | 26.57            | 27.08 | 27.08 | 27.58 | 28.14 | 22.69          | 23.20 | 23.20 | 23.69 | 24.26 |
| 12H             | 4H   | 25.46            | 26.15 | 25.94 | 26.63 | 27.10 | 21.74          | 22.43 | 22.22 | 22.91 | 23.38 |
|                 | 6H   | 26.09            | 26.67 | 26.60 | 27.18 | 27.67 | 22.35          | 22.93 | 22.87 | 23.44 | 23.93 |
|                 | 8H   | 26.37            | 26.88 | 26.88 | 27.38 | 27.94 | 22.63          | 23.14 | 23.14 | 23.63 | 24.20 |