

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: P1055812

Luminaire Tested: S123R3DRP-H775D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055812  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DRP-H775D940-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

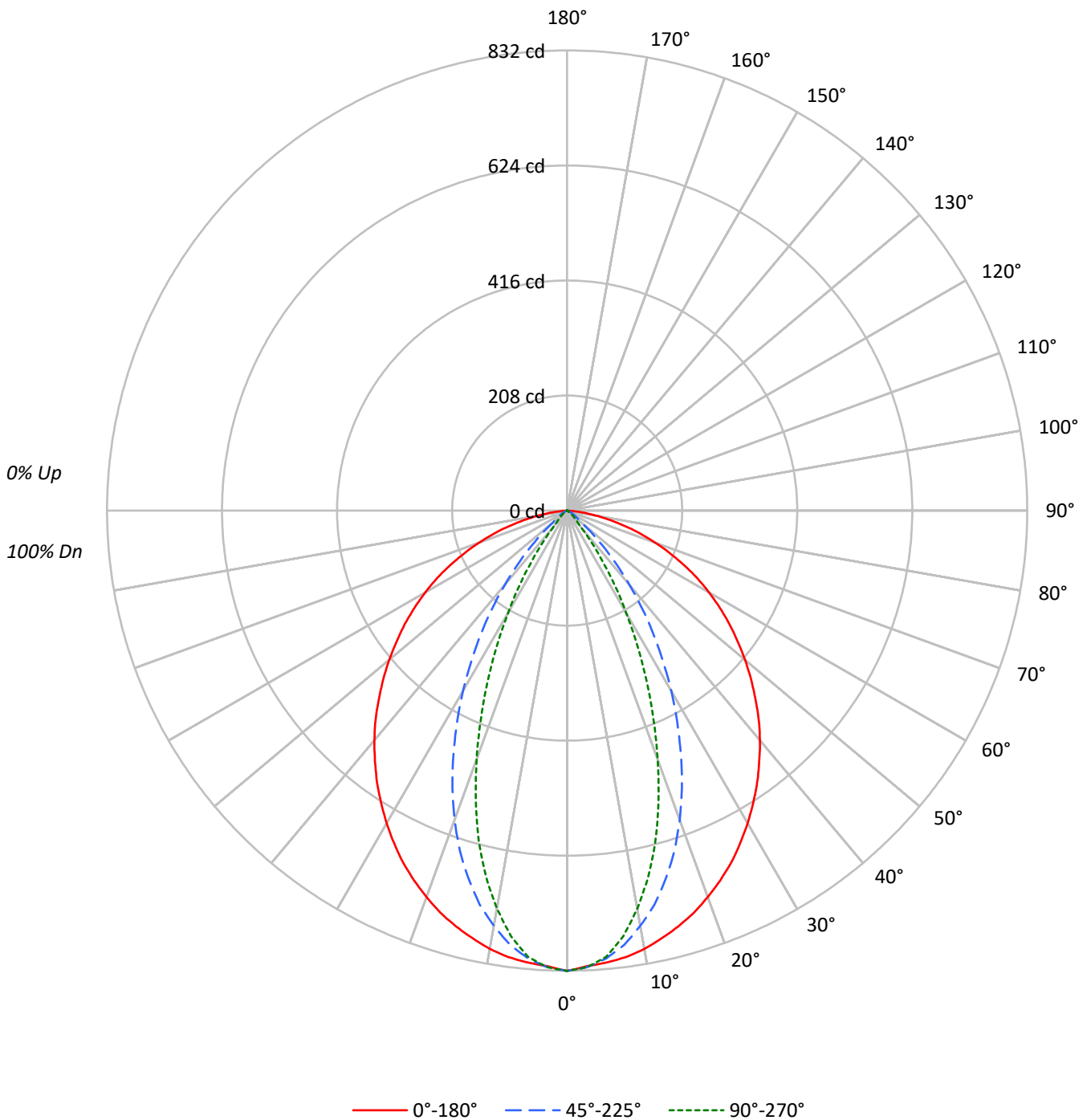
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 974.3 lumens  
Efficiency: N/A  
Efficacy: 40.9 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
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 | 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   | 112 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98  | 98  | 97  | 95  | 95  | 93  | 92  | 90  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 105 | 99  | 94  | 89  | 102 | 97  | 92  | 88  | 93  | 90  | 86  | 90  | 87  | 84  | 87  | 85  | 83  | 81  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  | 73  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 92  | 82  | 75  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 86  | 76  | 69  | 63  | 84  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 81  | 70  | 63  | 57  | 79  | 69  | 62  | 57  | 67  | 61  | 57  | 66  | 60  | 56  | 64  | 60  | 56  | 54  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 76  | 65  | 58  | 53  | 74  | 64  | 57  | 52  | 63  | 57  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 50  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 71  | 60  | 53  | 48  | 70  | 60  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  | 46  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 68  | 56  | 49  | 45  | 66  | 56  | 49  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 53  | 48  | 44  | 43  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 64  | 53  | 46  | 42  | 63  | 52  | 46  | 42  | 51  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 40  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 10036 | 10036 | 10036 |
| 5°  | 9928  | 9834  | 9803  |
| 10° | 9853  | 9335  | 8943  |
| 15° | 9711  | 8601  | 7706  |
| 20° | 9539  | 7634  | 6138  |
| 25° | 9339  | 6468  | 4526  |
| 30° | 9088  | 5241  | 2969  |
| 35° | 8821  | 3990  | 1626  |
| 40° | 8535  | 2759  | 557   |
| 45° | 8201  | 1604  | 324   |
| 50° | 7872  | 632   | 195   |
| 55° | 7533  | 399   | 90    |
| 60° | 7142  | 251   | 41    |
| 65° | 6650  | 123   | 26    |
| 70° | 5964  | 60    | 32    |
| 75° | 5068  | 42    | 42    |
| 80° | 3777  | 62    | 0     |
| 85° | 1439  | 0     | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8201 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 76.3   | 7.8       |
| 10°-20°   | 193.7  | 19.9      |
| 20°-30°   | 231.0  | 23.7      |
| 30°-40°   | 196.0  | 20.1      |
| 40°-50°   | 133.2  | 13.7      |
| 50°-60°   | 82.6   | 8.5       |
| 60°-70°   | 41.8   | 4.3       |
| 70°-80°   | 17.1   | 1.8       |
| 80°-90°   | 2.6    | 0.3       |
| 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°    | 501.0  | 51.4      |
| 0°-40°    | 697.0  | 71.5      |
| 0°-60°    | 912.8  | 93.7      |
| 0°-90°    | 974.3  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 974.3  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 832 | 832   | 832 | 832   | 832 |      |
| 5°  | 820 | 828   | 813 | 806   | 810 | 78   |
| 15° | 778 | 758   | 689 | 635   | 617 | 219  |
| 25° | 702 | 636   | 486 | 376   | 340 | 323  |
| 35° | 599 | 481   | 271 | 146   | 110 | 375  |
| 45° | 481 | 315   | 94  | 23    | 19  | 372  |
| 55° | 358 | 159   | 19  | 7     | 4   | 320  |
| 65° | 233 | 39    | 4   | 1     | 1   | 230  |
| 75° | 109 | 7     | 1   | 1     | 1   | 116  |
| 85° | 10  | 0     | 0   | 1     | 0   | 18   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 832.4 | 832.4 | 832.4 | 832.4 | 832.4 |
| 2.5°  | 824.6 | 835.9 | 826.4 | 825.5 | 826.4 |
| 5°    | 820.3 | 828.1 | 812.6 | 806.5 | 810.0 |
| 7.5°  | 814.3 | 817.7 | 791.8 | 776.3 | 776.3 |
| 10°   | 804.8 | 802.2 | 762.5 | 736.6 | 730.5 |
| 12.5° | 791.8 | 781.5 | 729.7 | 689.1 | 677.9 |
| 15°   | 778.0 | 758.2 | 689.1 | 634.7 | 617.4 |
| 17.5° | 762.5 | 732.3 | 645.0 | 574.2 | 549.2 |
| 20°   | 743.5 | 702.9 | 595.0 | 508.6 | 478.4 |
| 22.5° | 723.6 | 670.9 | 542.3 | 441.3 | 407.6 |
| 25°   | 702.0 | 636.4 | 486.2 | 375.6 | 340.2 |
| 27.5° | 677.9 | 600.1 | 430.9 | 312.6 | 273.7 |
| 30°   | 652.8 | 562.1 | 376.5 | 252.1 | 213.3 |
| 32.5° | 626.0 | 522.4 | 322.1 | 196.9 | 160.6 |
| 35°   | 599.3 | 481.0 | 271.1 | 145.9 | 110.5 |
| 37.5° | 570.8 | 439.5 | 221.9 | 101.0 | 69.9  |
| 40°   | 542.3 | 398.9 | 175.3 | 63.9  | 35.4  |
| 42.5° | 512.9 | 356.6 | 133.0 | 31.9  | 24.2  |
| 45°   | 481.0 | 315.2 | 94.1  | 23.3  | 19.0  |
| 47.5° | 450.7 | 275.5 | 62.2  | 19.0  | 14.7  |
| 50°   | 419.7 | 235.7 | 33.7  | 13.8  | 10.4  |
| 52.5° | 388.6 | 197.7 | 24.2  | 10.4  | 6.9   |
| 55°   | 358.4 | 158.9 | 19.0  | 6.9   | 4.3   |
| 57.5° | 327.3 | 125.2 | 14.7  | 4.3   | 2.6   |
| 60°   | 296.2 | 92.4  | 10.4  | 2.6   | 1.7   |
| 62.5° | 265.1 | 63.9  | 6.9   | 1.7   | 0.9   |
| 65°   | 233.1 | 38.9  | 4.3   | 0.9   | 0.9   |
| 67.5° | 200.3 | 26.8  | 2.6   | 0.9   | 0.9   |
| 70°   | 169.2 | 19.0  | 1.7   | 0.9   | 0.9   |
| 72.5° | 138.2 | 12.1  | 0.9   | 0.9   | 0.0   |
| 75°   | 108.8 | 6.9   | 0.9   | 0.9   | 0.9   |
| 77.5° | 80.3  | 2.6   | 0.9   | 0.9   | 0.0   |
| 80°   | 54.4  | 0.9   | 0.9   | 0.9   | 0.0   |
| 82.5° | 30.2  | 0.0   | 0.9   | 0.9   | 0.0   |
| 85°   | 10.4  | 0.0   | 0.0   | 0.9   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.9   | 0.0   |
| 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 | 17.06            | 18.34 | 17.42 | 18.65 | 18.97 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 19.00            | 20.14 | 19.38 | 20.47 | 20.83 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.83            | 20.89 | 20.24 | 21.24 | 21.62 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.39            | 21.36 | 20.80 | 21.73 | 22.12 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.51            | 21.43 | 20.94 | 21.82 | 22.23 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.54            | 21.41 | 20.97 | 21.80 | 22.23 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 16.82            | 17.88 | 17.23 | 18.23 | 18.61 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 18.78            | 19.64 | 19.19 | 20.04 | 20.45 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.59            | 20.36 | 20.03 | 20.78 | 21.22 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.19            | 20.85 | 20.66 | 21.30 | 21.77 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.34            | 20.96 | 20.81 | 21.41 | 21.88 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.39            | 20.93 | 20.88 | 21.42 | 21.89 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 19.45            | 20.07 | 19.92 | 20.51 | 20.98 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.03            | 20.53 | 20.53 | 21.03 | 21.51 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.18            | 20.63 | 20.70 | 21.15 | 21.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.24            | 20.63 | 20.75 | 21.13 | 21.70 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 19.40            | 19.94 | 19.89 | 20.43 | 20.90 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.97            | 20.42 | 20.49 | 20.93 | 21.43 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.13            | 20.53 | 20.65 | 21.03 | 21.60 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |