



Deuterium Lamp Test Report and User Manual

SN: 202211112026061501

Product Name: Deuterium Lamp

Product Model: LL-Lamp-DL

Product Name	Deuterium Lamp		
SN	202211112026061501	Product Model	LL-Lamp-DL
Test Date	20250615	Quantity	1
Test Environment	Temperature: 25 °C Relative Humidity: 40%		
Test Results	Test results meet the specified requirements		
Acceptance Test Results	Passed		

Chapter 1: Pass Criteria

1.1 Testing Pass Criteria

Based on the severity level and number of non-conformities identified during testing, the test result is considered “Pass” if all of the following conditions are met; otherwise, the test result is considered “Fail”:

- Number of Level 1 errors ≤ 0 ;
- Number of Level 2 severity errors ≤ 2 ;
- Number of Level 3 severity errors ≤ 3 ;

If the test conclusion is “Pass” but failing items still exist, the failing items must be corrected, and the test must be repeated to ensure that all identified failing items have been fully resolved.

See the table below for definitions and descriptions of problem severity levels:

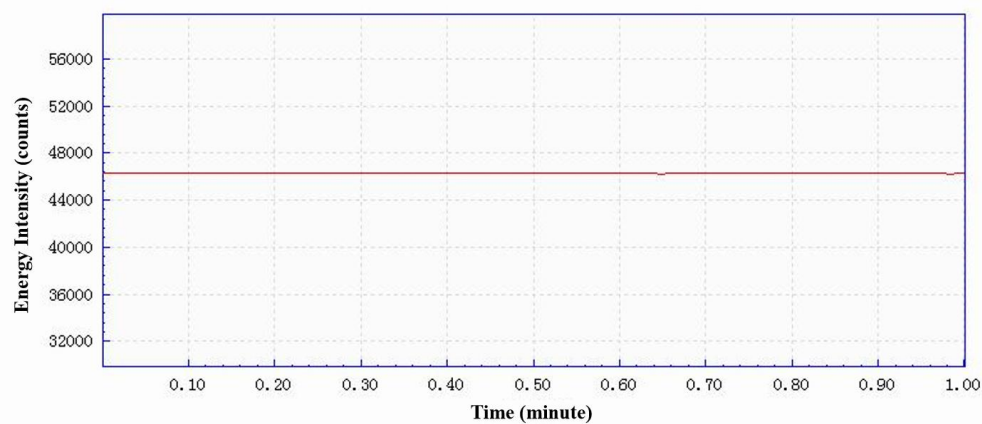
Level	Consequences of the Failure	Examples of Failures
Level 1	Causes the unit to be untestable	Severe deformation of the light source's structure
		The light source does not illuminate
Level 2	The light source cannot perform its intended functions	The light source exhibits slight deformation in its structural shape
		The light source's spectrum shows noticeable fluctuations.
Level 3	The light source has cosmetic defects, but these do not affect its primary functionality.	The light source exhibits extremely slight deformation around its perimeter.
		The light source's spectrum shows minor fluctuations, but the error is extremely small.

Chapter 2: Test Results

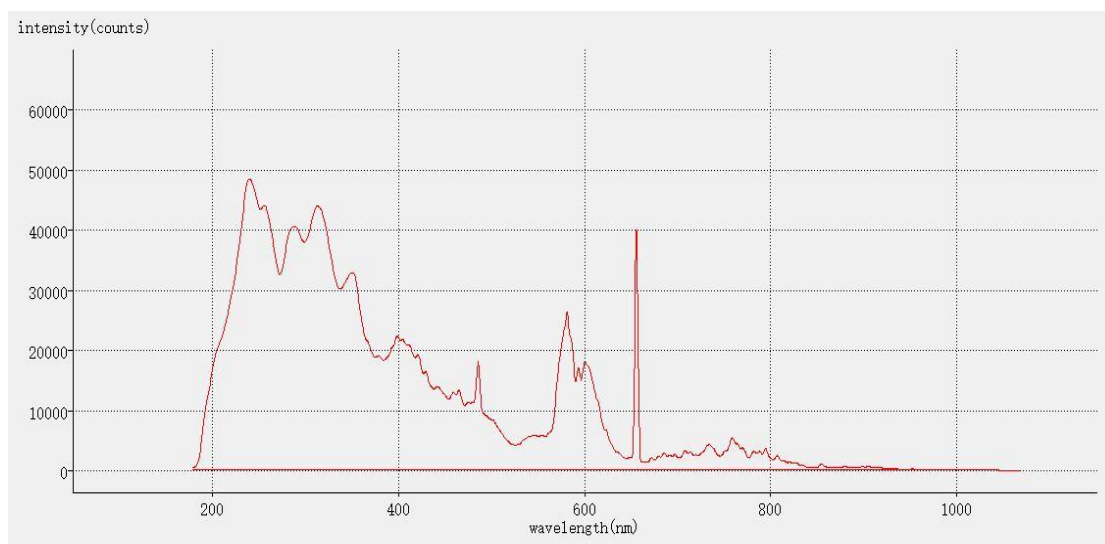
2.1 Test Results

2.2.1. Light Source Appearance Quality: Normal

2.2.2. The light source stability test results are shown in the figure below: (Tested using a spectrometer with a wavelength range of 200-1100 nm)



2.2.3. The measured spectrum of the light source is shown below: (Measured using a spectrometer with a wavelength range of 220-1100 nm)



User Manual

I. Overview

The deuterium lamp light source uses a 30W deuterium lamp, with a wavelength range of 190–600 nm. The lamp has been upgraded with a solid-state heat dissipation structure and dual convection cooling fans. The product primarily consists of a power supply unit, a heat dissipation unit, a light source unit, and a housing. The light source can be widely used in scientific research experiments such as spectral measurement and analysis.

II. Main Technical Specifications

	Deuterium Lamp Light Source
Product Model	LL-Lamp-DL
Fiber Connector	SMA905
Spectral Range	190- 600 nm
Bulb Power	30W
Bulb Lifetime	Approx. 1,000 hours
Input Voltage	AC220V50Hz
Operating Temperature	0°C- 70°C
Dimensions	210x230x90mm

III. Safety Precautions

1. When using the light source, always follow basic safety precautions to reduce the risk of fire, electric shock, or personal injury.
2. Read and understand the entire instruction manual, and operate the light source correctly according to the instructions.
3. Unplug the light source when not in use, and do not clean it with liquids or aerosol cleaners.
4. Do not use this light source near water. Do not cover the light source or power cord with any objects.
5. When replacing the bulb, contact the manufacturer for replacement.
6. The use and maintenance of the light source must be performed by qualified personnel.

IV. Operating Environment Requirements

- Ambient Temperature: 5–30°C
- Relative Humidity: 36%–75%
- Atmospheric Pressure: 700 hPa–1060 hPa

V. User Interface



Equipment Diagram

1	2	3	4	5	6
Power Connector (AC220V)	Light Source Switch	Cooling Fan	Fiber Connector	Deuterium Lamp Switch	Filter Slot

VI. Instructions for Use

1. Pre-use Inspection

- A. Open the package and inspect the contents for any damage or missing items.
- B. Check the model number, name, quantity, and accessories against the packing list; if you find any discrepancies, contact the manufacturer immediately.
- C. Verify that the power supply voltage matches the voltage indicated on the light source label.

2. Operating Instructions

- A. Connect the power cord to the light source's power port.
- B. Check that the optical fiber is securely connected to the optical fiber port.
- C. Press the light source switch to turn on the light source.
- D. Ensure the cooling fan is running smoothly and keep it at least 20 cm away from any obstructions.
- E. The slot can accommodate filters up to 3 mm thick.
- F. After pressing the deuterium lamp switch, wait 10 seconds for the deuterium lamp to turn on automatically.

VII. Precautions

- 1. When the light source is in operation, it should be placed in a dry, well-ventilated, and stable location. Maintain a distance of > 20 cm between the fan vents on the back of the enclosure and any objects behind it.
- 2. When the light source is in operation, ensure the power connection is secure. Do not place any objects on top of the enclosure, and keep it away from pedestrian walkways to prevent human interference with its operation.
- 3. Once the light source is turned on, never look directly at the light guide output head or the light source output port with the naked eye to avoid eye injury.
- 4. During operation, the housing and light output port will become hot; do not touch them to avoid burns.

5. The light source should not be subjected to violent vibrations; handle it with care when moving it.
6. After using the light source, wait until the cooling fan has completely dissipated the high temperature inside the housing before turning off the power switch and unplugging the power cord. Store it in a well-ventilated, dry place.
7. The unit contains high-voltage circuits; non-professionals must not open the housing.
8. The bulb is a consumable item and must be replaced after a period of use. When replacing it, use a bulb of the same specifications and model to ensure the light source functions properly. This light source uses a 30W bulb specifically designed for optical instruments.
9. Discard used bulbs in a designated waste bin; do not dispose of them carelessly to prevent injuries from broken glass fragments.
10. Dimming Instructions
 - a. After replacing the bulb, the light spot position must be recalibrated; otherwise, normal operation of the light source will be affected. Therefore, after replacing the bulb, power the unit on again to adjust the brightness. Before powering on the bulb, check to ensure that the positive and negative terminals are connected correctly. In addition, no metal parts of the light source may come into contact with the metal terminals or wires of the bulb; a safety distance of at least 20 mm must be maintained.
 - b. Bulb replacement must be performed by a qualified professional; we recommend contacting the manufacturer's after-sales service.

VIII. After-Sales Service and Warranty Information

▲ This product is covered by a 12-month warranty.



▲ Warranty Period: Under normal use, any malfunction caused by product quality issues will be repaired free of charge upon presentation of the warranty card and purchase receipt.

▲ Light bulbs are consumable parts and are not covered by the warranty.

▲ Malfunctions resulting from modifications or the addition of other functions without the Company's permission are not covered by the warranty.

▲ If the model number, serial number, or date of manufacture indicated on the product has been altered, removed, or is illegible, the product will be treated as being outside the warranty period.

▲ Failures caused by human factors such as dropping, crushing, submersion, or exposure to moisture are not covered by the warranty.

▲ Returns or exchanges within seven days without cause are not supported for issues not related to the product's inherent quality.

IX. Transportation and Storage Conditions

- Ambient temperature: 40°C to 55°C
- Relative humidity: 30% to 80%
- Atmospheric pressure range: 500 hPa to 1060 hPa