

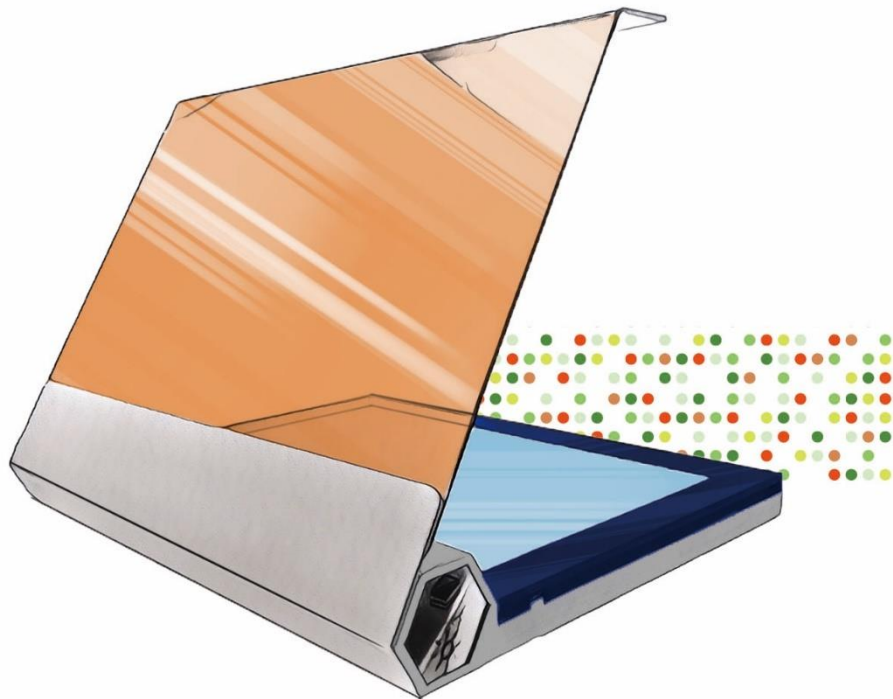


Cleaver
S C I E N T I F I C

**ProBlueVIEW Dual LED Blue/White
Light Transilluminator**

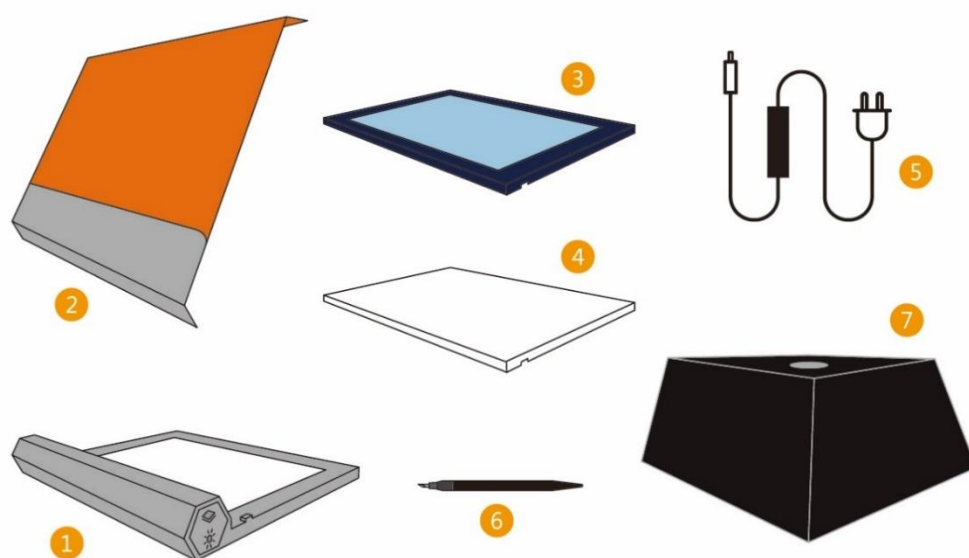
Instruction Manual

Catalogue No: PROBLUEVIEW



Version 1 03/05/2018

Packing List



1. Dual LED Blue / White Light Transilluminator Base
2. Amber Filter Cover
3. Blue Uniform Plate
4. White Uniform Plate
5. Power Cord
6. Gel-Cutting Knife and Spare Blade
7. Mini Darkroom

Signed by:

Date:

Cleaver Scientific is liable for all missing or damaged parts / accessories within 7 days after customer received this instrument package. Please contact Cleaver Scientific immediately regarding this issue. If no response within such time period from consignee party, that will be consignee party's whole responsibility.

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These units comply with the following European directives:

2014/35/EU Low Voltage Directive and 2014/30/UE (official Title 2004/108/EC) EMC

Electromagnetic Compatibility

By virtue of the following harmonised standards:

BS EN IEC 61010-1: 2010 Safety Testing of Lab Equipment

BS EN IEC 61326-1:2013 EMC Electro Magnetic Compatibility

ROHS DIRECTIVE 2011/65/EU

BS EN 50581:2012 Restriction of Hazardous Substances

Warning

Clever Scientific PROBLUEVIEW Transilluminator has been tested and found to comply with the limits for the CE regulation. Also, it is RoHS compliant to deliver confident product which meets the environmental directive. These limits are designed to provide reasonable protection against harmful interference when the instrument series is operated in a commercial environment. This instrument series used together with power supply unit generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this instrument series in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. It is strongly recommended for the user to read the following points carefully before operating this equipment.

1. Read and follow the manual instructions carefully.
2. Do not alter the equipment. Failure to follow these directions could result in personal and/or laboratory hazards, as well as invalidate equipment warranty.
3. Use a properly grounded electrical outlet with correct voltage and current handling capacity.
4. Disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.
5. Never use this instrument series without having the safety cover correctly in position.
6. Do not use the unit if there is any sign of damage to the external body or cover. Replace damaged parts.
7. Do not use in the presence of flammable or combustible material; fire or explosion may result. This device contains components which may ignite such materials.
8. Refer maintenance and servicing to qualified personnel.
9. Ensure that the system is connected to electrical service according to local and national electrical codes. Failure to make a proper connection may create fire or shock hazard.
10. Use appropriate materials and operate correctly to avoid possible hazards of explosion, implosion or release of toxic or flammable gases arising from overheated materials.
11. The unit shall be operated only by qualified personnel.

Safety Information

Use high level of precaution against any electrical device. Before connecting the electrical supply, check to see if the supply voltage is within the range stated at the rating label, and see to it that the device be seated firmly. Place the unit in a safe and dry location; it must NOT touch the surrounding. Follow the safety precautions for chemicals / dangerous materials. If needed, please contact qualified service representative.

Caution:

Safe blue LED lights of PROBLUEVIEW Transilluminator may induce macular degeneration upon prolonged exposure, especially in those prone to such problems (e.g. people with fair complexion and blue eyes, nutritional or endocrine defects or those who are aging).

Environmental Conditions

Ensure the instrument is installed and operated strictly under the following conditions:

1. Indoor use only
2. $\leq 95\%$ RH
3. 75 kPa – 106 kPa
4. Altitude must not exceed 2000 meters
5. Ambient to 40°C operating temperature
6. Pollution degree: 2
7. Mains supply voltage fluctuations up to $\pm 10\%$ of the normal voltage

Avoiding Electrical Shock

Follow the guidelines below to ensure safe operation of the unit.

PROBLUEVIEW Transilluminator has been designed to utilize shielded wires thus minimizing any potential shock hazard to the user. Cleaver Scientific recommends against the use of unshielded wires.

To avoid electrical shock:

1. In the event of solution spilling on the instrument, it must be dried out for at least 2 hours and restored to NORMAL CONDITION before each operation.
2. Never connect or disconnect wires loading from the power jacks when the red indicator light of power switch is on.

3. WAIT at least 5 seconds after stopping a run before handling output leads or any connected apparatus.
4. ALWAYS make sure that your hands, work area, and instruments are clean and dry before making any connections or operating the power supply.
5. ONLY connect the power cord to a properly grounded AC outlet.

Avoiding Damage to the Instrument

1. Do not attempt to operate the device if damage is suspected.
2. Protect this unit from physical damage, corrosive agents and extreme temperatures (direct sunlight, etc.).
3. For proper ventilation and safety concerns, keep at least 10 cm of space behind the instrument, and at least 5 cm of space on each side.
4. Use high level of precaution against the damages on the unit.
5. Do not operate the unit out of environmental conditions addressed above.
6. Prior to applying any cleaning or decontamination methods other than manufacturer's recommendation, users should check with the manufacturer's instruction to see if the proposed method will damage the equipment.

Equipment Operation

Follow the guidelines below to ensure safe operation of the unit:

1. NEVER access dangerous chemicals or other materials to prevent possible hazard of explosion and damage.
2. Do not operate the unit without lids or covers to prevent possible hazards.
3. A temporary conductivity caused by condensation might occur even though this series is rated Pollution Degree 2 in accordance with IEC 664.

Symbol

Symbols used on SafeVIEW-mini2 Transilluminator are explained below.



Indicates disposal instruction.

DO NOT throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. To ensure utmost protection of the global environment and minimize pollution, please recycle this unit.

Section 1 Introduction

1.1 Overview

This elegant laboratory equipment is an innovatively designed transilluminator with dual light sources which enable the user to analyze both nucleic acid and protein samples. It is extremely easy to use, and its ergonomic shape facilitates post-observation applications, such as gel cutting and data imaging. This unit was created to offer a convenient, user friendly and versatile tool with the users' needs in mind.

1.2 Mode

[Blue Light Mode]

With the 470nm LED light wavelength as the excitation light source (Figure1.), the Blue Light mode is suitable for qualitative and quantitative analysis of nucleic acid or protein stained with most fluorescent stains available on the market. For instance, not only is compatible with our range of safe reagents such as the CSL-RUNSAFE and CSL-JADNA but it also performs well with fluorescent staining products such as SYBR Gold, SYBR Green I & II, SYPRO Ruby, SSYPRO Orange Coomassie Fluor Orange, GelStar and GelGreen stains. Moreover, the three different light intensity adjustments enable the user to select the most suitable background contrast based on the sample concentration to obtain the best imaging quality possible. Furthermore, the magnetic amber filter, with the free-hinges design, offers simplicity, safety, and convenience when opening and closing the filter.

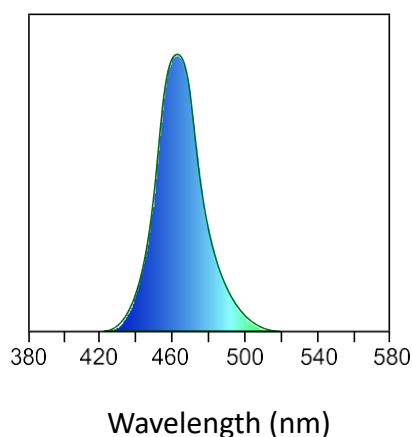


Figure 1.
Excitation and Emission Spectra for Dual
LED Blue / White Light Transilluminator.

[White Light Mode]

By using the whole-wavelength white LED light as the excitation light source, the White Light mode exhibits softness and uniformity and is suitable for observing and imaging SDS-PAGE gels stained with the Coomassie Blue or Silver Stain. It can also be employed as a simple film-viewing transilluminator for checking X-Ray films for research or clinical purposes. The three level of light intensity adjustments allow the user to select the most suitable light contrast background for achieving best imaging quality.

[Field Study Mode]

Connectable with external power bank for hassle-free field experiments.

**The power bank is NOT INCLUDED in the package and needs to be purchased separately.

1.3 Features

- [Dual Light Sources - LED White Light and Blue Light](#)

Broad ranges of applications in basic science and medical diagnosis research fields.

- [Magnetic Filter](#)

The hinges-free design offers simplicity, safety, and convenience to the user and will not cause any damage to the filter near the hinges. Conducting the observation and gel-cutting does not require protective goggles.

- [Bottom-Up LED Illumination](#)

It prevents interference from the reflective lights usually caused by side illumination, thus improving analysis and imaging quality. LED lights have long life span and are safe, therefore they do not cause damage to the eyes and skin or to the sample as normally associated with the use of UV illumination.

- [Adjustable Light Intensity \(3 Levels\)](#)

Adjusting the light intensity and contrast based on the sample quantity or observational requirement will allow the user to achieve the best observational or imaging quality.

- [5-Minute Automatic Power-Off](#)

It protects the transilluminator from the risk caused by the user's operational negligence.

- [Designer Metal Housing](#)

The transilluminator's base is rendered more stable, thus facilitating the operational process.

- [Exquisite and Compact Design](#)

Ensures ease of mobility and storage and is suitable for the experimental observation

during field studies.

- [Enhanced Portability with the Power Bank](#)

Hassle-Free for performing outdoor experiments.

**The power bank is NOT INCLUDED in the package and needs to be purchased separately.

Section 2 Technical Specifications

| PROBLUEVIEW | |
|---------------------------------------|-----------------------------------------------|
| Unit Dimensions (W*L*H) | 18.5 x 22 x 3cm |
| Gel Viewing Dimensions (W*L) | 12 x 18cm |
| Input Voltage | 100-240Vac |
| Input Current | 2.0A |
| LED Source | Built-in LED blue light & white light modules |
| LED Life (hours) | >30,000 |
| Emission Maxima (nm) | 470nm |
| Store Temperature | 25°C |
| Automatic Power - Off | 5 mins |
| Filter Type | Amber filter (580nm) |
| Certifications | CE / ETL |

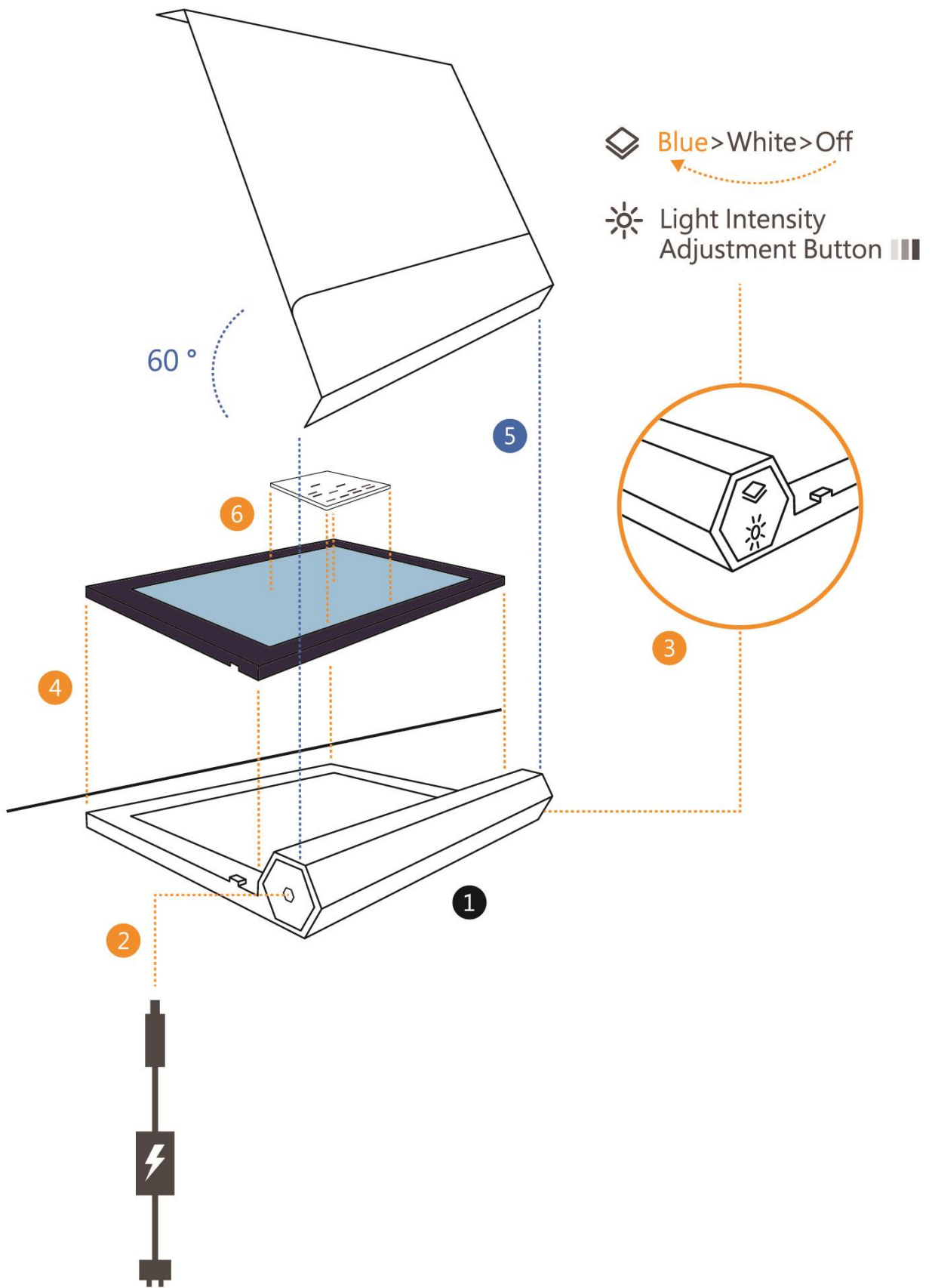
Section 3 Operation Instruction

3.1 Blue Light Mode – Gel Cutting

1. Place the Dual LED Blue / White Light Transilluminator on a levelled bench, with enough space around the unit to allow air circulation and prevent overheating.
2. Connect the power cord to the power socket.
3. Place the blue filter (including the scratch-proof glass) in position.
4. Position the amber filter at a 60 degrees angle and magnetically connect it with the transilluminator's base.
6. Place the gel sample in the transparent glass area of the blue filter.
5. Press the ON / OFF switch of the Blue Light Mode.

Caution : Once the LED indicator light turns off to activate the automatic power-off feature, please press the power switch again.

7. Turn the transilluminator off after use.
8. Please wipe the surfaces of the transilluminator and filter after every use with a clean damp cotton cloth.

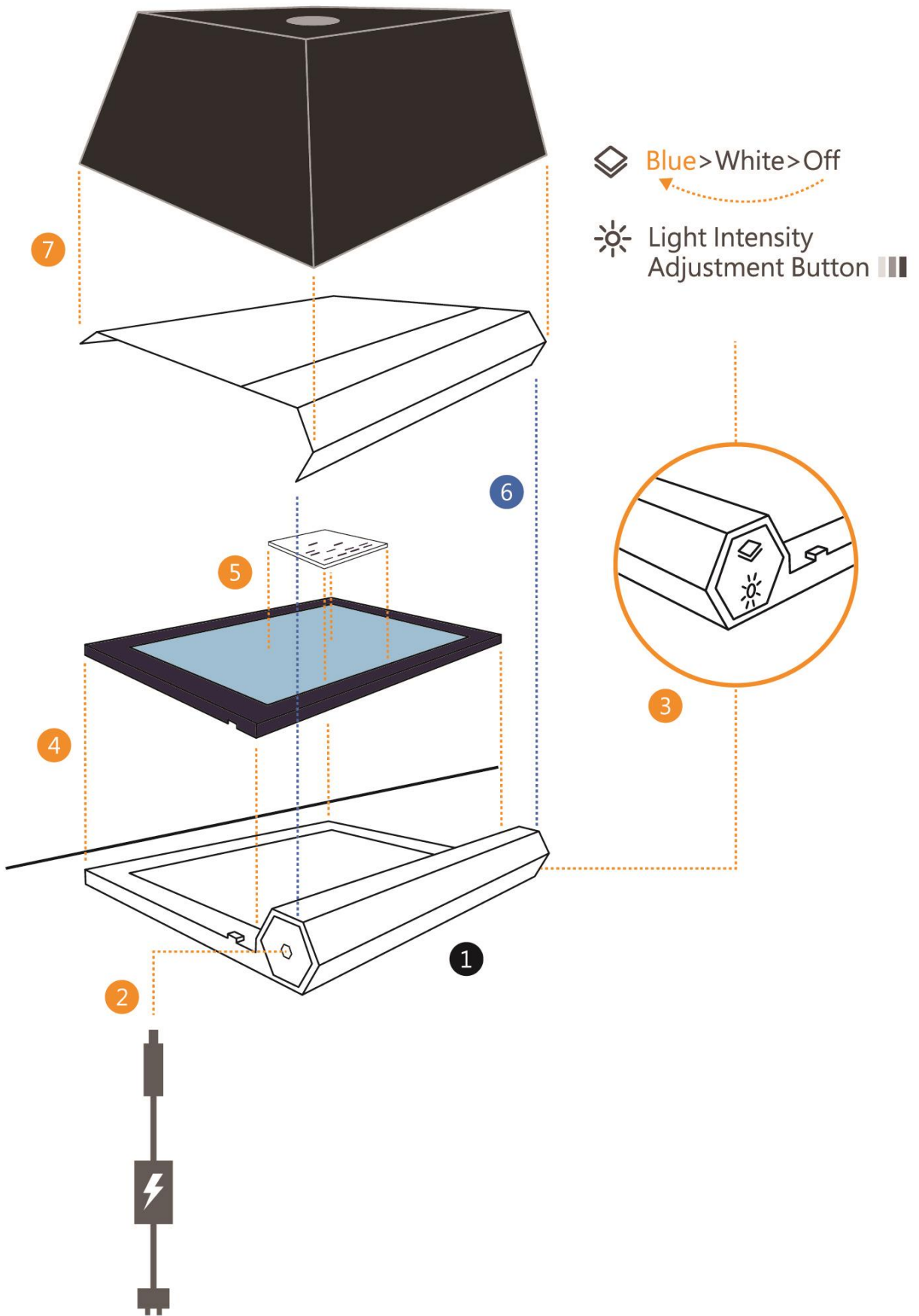


3.2 Blue Light Mode – Imaging

1. Place the Dual LED Blue / White Light Transilluminator on a levelled bench, with enough space around the unit to allow air circulation and prevent overheating.
2. Connect the power cord to the power socket.
3. Place the blue filter in position (including the scratch-proof glass).
4. Place the gel sample in the transparent glass area of the blue filter.
5. Position the amber filter at a 0-degree angle and magnetically connect it with the transilluminator's base.
6. Place the mini Darkroom on the top of the amber filter. (Observation and imaging can be performed immediately).
7. Press the ON / OFF switch to the Blue Light Mode.

Caution: Once the LED indicator light turns off to re-activate the automatic power-off feature, please press the power switch again.

8. To adjust the light intensity please press the blue light mode switch until the required intensity is reached.
9. Please switch off the power upon analysis completion
10. Please wipe the surfaces of the transilluminator and filter every time after use with a clean damp cotton cloth.



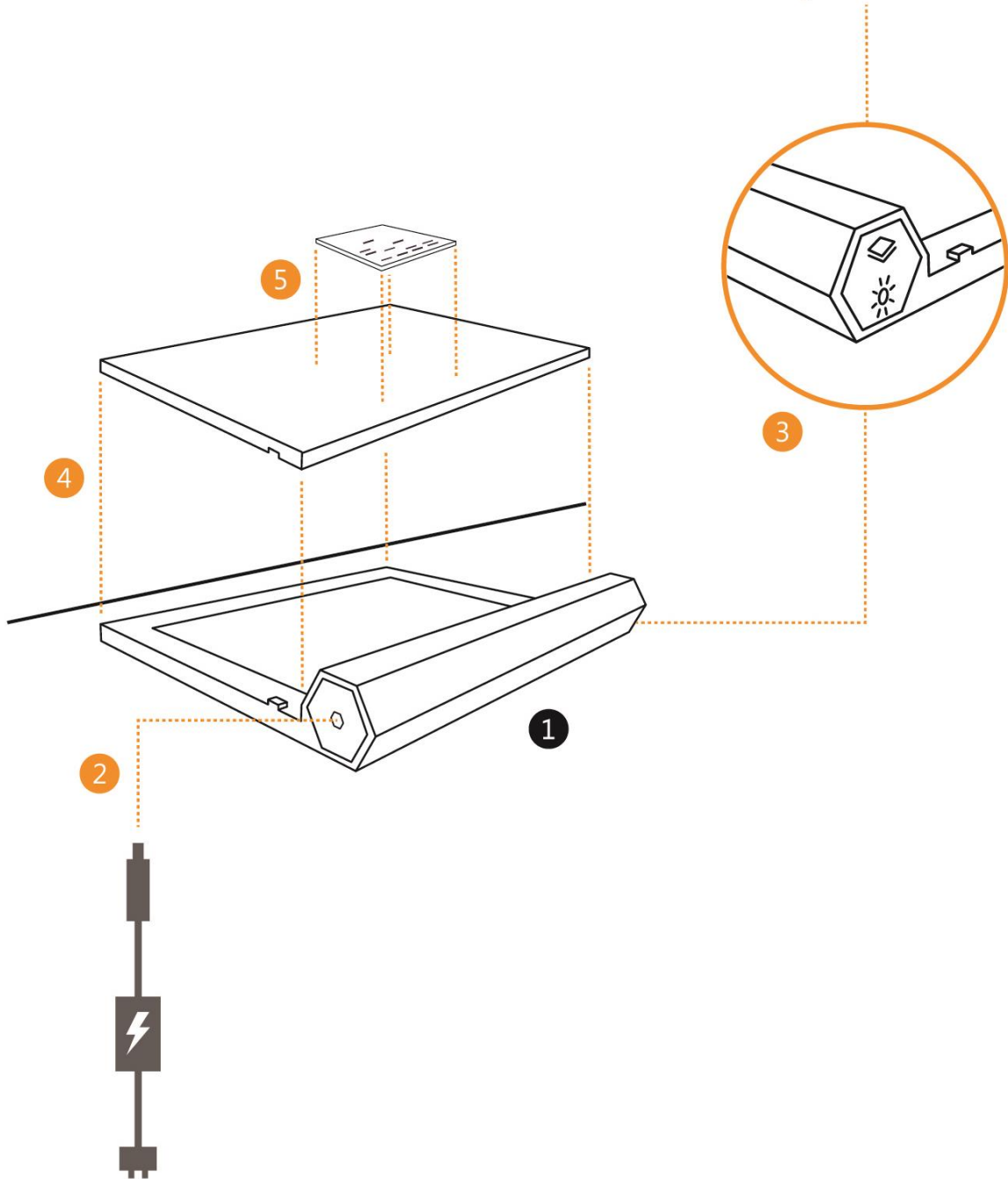
3.3 White Light Mode

1. Place the Dual LED Blue / White Light Transilluminator on a levelled operational bench, with enough space around the unit for allowing air circulation and preventing overheating.
2. Connect the power cord to the power socket.
3. Place the white filter in position.
4. Place the gel or X-ray film in the white filter area
5. Press the ON / OFF switch of the White Light Mode.

Caution: Once the LED indicator light turns off to re-activate the automatic power-off feature, please press the power switch again.

 Blue > White > Off

 Light Intensity Adjustment Button 



Section 4 Troubleshooting

Refer to the table below for troubleshooting problems that you may encounter when viewing with the Dual LED Blue / White Light Transilluminator.

| Problem | Cause | Solution |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low sensitivity. | <ul style="list-style-type: none">* The fluorescent staining reagents selected and used do not exhibit wavelengths within the 400nm - 450nm range.* Insufficient sample concentration. | <ul style="list-style-type: none">* Replace the fluorescent staining reagent.* Adjust the light intensity and check for improvement. Please increase the sample concentration if no improvement is observed. |
| The sample is not observed under the Blue Light Mode. | Incorrect light source. | Please confirm the selected light source is the blue light, NOT the WHITE Light. |

Section 5 Maintenance and Repair

5.1 Cleaning and Maintenance

The transilluminator should be wiped with a damp soft cotton cloth. Do not soak wet the cloth. Do not use aggressive cleaning detergents or solvents.

After every use we recommend wiping the frame and the filter glass of the transilluminator with a damp cloth. Take care that the cloth is not soaked with scrubbing or corrosive detergents as this could damage the filter glass. We suggest using alcohol, glass cleaners or similar mild detergents.

Pay attention to wear appropriate protective gloves when cleaning areas (such as the filter plate of the transilluminator, switches, protection shield) which may have been in contact with carcinogenic or toxic reagents. The protection shield is made of tempered glass and must only be cleaned with a damp cloth without any detergents.

5.2 Replacing the scalpel's blade

To replace the blade of the scalpel, unscrew the silver handling part of the knife counterclockwise from the head part. Push out the section of the head that holds the blade in position. Remove the old blade and replace it with the new one. Reassemble the scalpel making sure to firmly screw the head part with the silver handling part clockwise.

Caution : The blade is quite sharp. Please act with caution to avoid cuts.

5.3 Replacement of Spare Parts

Only original spare parts are allowed.

Section 6 Warranty

Cleaver Scientific warrants apparatus against defects in materials and workmanship, under normal service, for one year from the shipping date to purchaser. This warranty excludes damages resulting from shipping, misuse, carelessness, or neglect. Consumable parts are not covered by our warranty. Cleaver Scientific's liability under the warranty is limited to the receipt of reasonable proof by the customer that the defect is embraced within the terms of the warranty. All claims made under this warranty must be presented to Cleaver Scientific within one year following the date of delivery of the product to the customer.

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