Thank you for purchasing a CCS product. To ensure proper use of the product, please read this instruction guide before use and keep it for your future reference.

1 Important Information for Equipment Safety - Read Before Use -

This product has been designed with full consideration of safety. Incorrect usage of the product may result in fire, electric shock, or other serious damages. Please ensure to follow the conditions below.

The following symbols are used in this instruction guide to indicate and classify the relative importance of warnings and cautions.

**Warning**
Indicates that incorrect usage may result in serious injury or death.

**Caution**
Indicates that incorrect usage may result in injury or property damage.

The following symbols in the instruction guide indicate and classify the precautions.

**PROHIBITED**
These symbols mean the prohibited action. This symbol means the necessary action must obey.

**CAUTION**
 Indicates that incorrect usage may cause product failure.

**INSTRUCTED**
Indicates that the luminescence color of the Light. The back of the tag there is a name tag which gives the model number, power consumption, and serial number. Be sure to check the contents before using the product and handle the label with care. If the label is missing or damaged and the contents cannot be checked, please contact CCS Inc.

**Important Information for Equipment Safety**

Do not disassemble or modify the product. Doing so may result in fire or electric shock.

LED light radiation may cause corneal or retinal abnormalities if you look directly at the light. To prevent harmful light exposure, never look directly at the LED light.

Do not touch the product with wet hands. Doing so may result in electric shock.

This product generates high temperatures. Do not touch the product while it is turned on or immediately after it is turned off, or burning may result. Provide cooling with a fan or other ventilation if the product is to be used in a closed space.

Make sure that the product is free of moisture or any liquid. Exposure to water may result in fire, electric shock.

Connect or disconnect the light cable only after turning off the power source. Failure to do so may result in circuit damage, fire caused by a minute spark, or electric shock.

If abnormal condition occurs such as fuming, heat, smell, noise, or so on, stop using the product immediately, and turn off the power source. A fire or electric shock may result if the product is kept used.

**Caution**

Do not use user-made cables. Doing so may cause product failure. Use the CCS extension cable if it is necessary to extend the distance between the light and the control unit.

Be careful of static electricity. Damage to the LED light may occur if a person charged with static electricity touches it. Keep the product away from all items charged with static electricity.

Do not drop the product or subject it to impact. Doing so may cause the product to malfunction.

**Do not use the product in the following situations.**

- Under conditions or in an environment not described in this instruction guide.
- In nuclear energy control systems, railroad systems, aviation systems, vehicles, combustion equipment, medical equipment, amusement machines, or safety equipment.
- In applications involving serious risk to life or property, particularly applications demanding a high level of safety.

**Please install the product to locations with following conditions.**

- Incorrect installation location may cause product failure.

- In a flat and stable location with minimal vibration.
- Places free from corrosive and combustible gas.
- Places free from corruption.
- Places away from water faucets, boilers, humidifiers, air conditioners, heaters, or stoves.

**Confirming Product Information**

The following tag is attached to the cable on the LED Light. The color of the label indicates the luminescence color of the Light. The back of the tag there is a name tag which gives the model number, power consumption, and serial number.

Be sure to check the contents before using the product and handle the label with care. If the label is missing or damaged and the contents cannot be checked, please contact CCS Inc.

2 Operating Instructions

1. Connect the light cable of the product to the control unit.
   - Connect to the control unit equipped with SMP-03V-BC Connectors for power output.

2. Turn ON the control unit to turn ON the light.
   - Read the instruction guide of the control unit before use.

3. Adjust light range, light angle, and radiant quantity to optimize images.
   - When using color image processing equipment, readjust the white balance of the camera according to the operating conditions.

**Changing the Position of the Diffuser**

You can change the position of the diffuser from the default position to adjust the uniformity and intensity of the light. To change the position, move the diffuser to another slit.

(Applicable models: LFV3-50, 50x100, 70, 100, 130, 200)

1. Remove the metal plate cover.
   * Make sure that the LED base plate and diffuser do not slip off.

2. Pull out the diffuser and insert it into one of the other slits.
   * Do not insert the diffuser into the mounting slit for the polarizer/light control film.

3. Attach the metal plate cover.
   * The diffuser has a front side and a back side. Install it with the glossy, smooth side facing the LED base plate.
   * The uniformity and intensity of the light depend on the distance between the slit and the LED base plate.

<table>
<thead>
<tr>
<th>Slit</th>
<th>Close to the LED base plate</th>
<th>Away from the LED base plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniformity</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Intensity</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
Operating Instructions (Continued)

III Optional Accessories (Sold Separately)

The following optional products are available as required.
(Applicable models: LFV3-35, 50, 50x100, 70, 100, 130, 200)

<table>
<thead>
<tr>
<th>Product name</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polarizer</td>
<td>PL-LFV3-35, 50, 50x100, 70, 100, 130, 200</td>
</tr>
<tr>
<td>Light Control Film</td>
<td>LC-LFV3-35, 50, 50x100, 70, 100, 130, 200</td>
</tr>
<tr>
<td>Diffuser</td>
<td>DF-LFV3-35, 50, 50x100, 70, 100, 130, 200</td>
</tr>
</tbody>
</table>

Refer to “Operation Guide for Optional Products” before using optional products.

IV Precautions

- A ghost image (double vision) of the inspection object may appear due to reflection from the half mirror inside the light. It is impossible to remove these images because of the characteristics of the light.
  (Applicable models: LFV3-34, 35, 40, 50, 50x100, 70, 100, 130, 200)

- An image of the emitting surface of the light may be reflected by the inspection object. In that case, install an optional dichroic film into the light.
  (Applicable models: LFV3-35, 50, 50x100, 70, 100, 130, 200)

- Dust, dirt, or fingerprints on the glass portions of the light may affect the captured image. In that case, clean the light as follows:
  - Remove dust and dirt by blowing it off with air. Do not touch the light with your hand.
  - Use a soft, finely woven cloth to wipe away any marks, such as fingerprints.
  - Use a soft, finely woven cloth soaked with dilute neutral detergent to remove any heavy dirt.
  Also, handle the light with care during daily use. Make sure no dust, dirt, or fingerprints adhere to the light.

IV Environmental Regulation

EU RoHS Directive

The RoHS Directive is short for the "Restriction of use of certain Hazardous Substances in electrical and electronic equipment." As a directive, it restricts the use of specific hazardous substances for new electrical and electronic equipment marketed in the EU on or after July 1, 2006, and restricts the use of six substances, which are (1) lead, (2) mercury, (3) cadmium, (4) hexavalent chromium, (5) polybrominated biphenyl (PBB), and (6) polybrominated diphenyl ether (PBDE).

China RoHS Directive

China RoHS Directive is formally known as “Management Methods for Controlling Pollution by Electronic Information Products”, which was implemented on March 1, 2007 in China. Same as EU RoHS Directive, this regulation restricts the use of six substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE). This regulation requires electronic information products which are manufactured or imported, and sold in China, to clearly disclose contents of the polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE).

Refer to "Operation Guide for Optional Products" before using optional products.