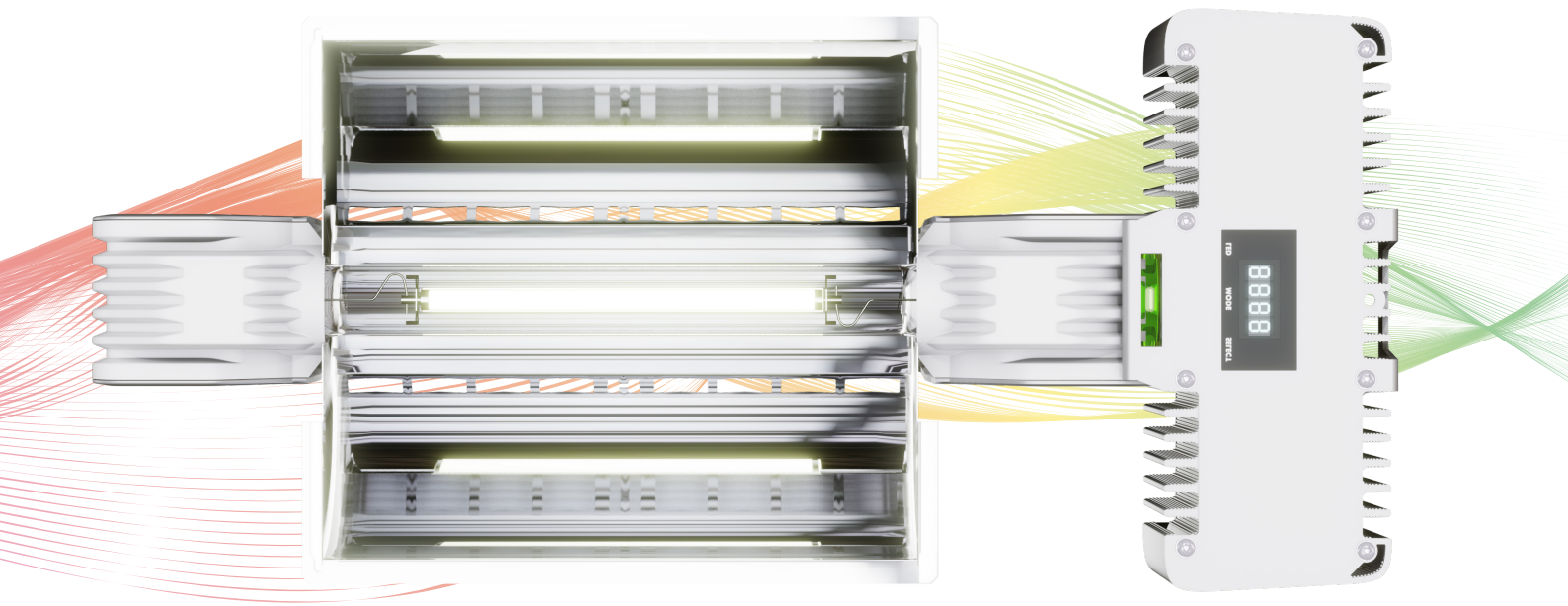
DIMLUX

PRO SERIES

ULTRA optics reflectors



User Manual

DIMLUX

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DIMLUX PRO SERIES

DIMLUX PRO 1000W 347-400V (ANALOG)

Voltage:	347 - 400V
Display:	Single LED
Available for markets:	EU + CAN
Default reflector:	Ultra Optics Hybrid 96

DIMLUX PRO 1000W 208-240V PRO IEC DISPLAY

Voltage:	208V - 240V
Display:	4-character Display
Available for markets:	EU + USA
Default reflector:	Ultra Optics Hybrid 96

DIMLUX PRO 1000W 277-347V PRO WATERPROOF EPO30

Voltage:	277V - 347V
Display:	4-character Display
Available for markets:	USA + CAN
Default reflector:	Ultra Optics Hybrid 96

DIMLUX PRO 1000W 347-400V PRO

Voltage:	347V - 400V
Display:	4-character Display
Available for markets:	EU + CAN
Default reflector:	Ultra Optics Hybrid 96

DIMLUX PRO SERIES SPECIFICATIONS

Voltage:	**240V**	**277V**
Input Power @100%:	1035W	1032W
Input Current @100%:	4.5A	3.7A
Input power @boost:	1242W	1187W
Input Current @boost:	5,4A	4.25A
Input Frequency:	50/60Hz	50/60Hz
Power factor:	> 0,95	> 0,95
System PPF@1000W:	2016µmol/s	2016µmol/s
System PPE@1000W:	1,95µmol/J	1,955µmol/J
System PPF@1150W:	2339µmol/s	2339µmol/s
System PPE@1150W:	1,96µmol/J	1,97µmol/J
Ultra High Frequency (UHF):	Yes	Yes
Controller:	By WiFi – Maxi controller	By WiFi – Maxi controller
Measurements:	538×248×115mm	538×248×115mm
Weight:	4,1kg	4,1kg
Power cord:	4m IEC—240V plug	2m EP030-open leads

WHAT'S INCLUDED & COMPATIBLE BULBS

Unboxing

Your Dimlux fixture box will contain the following items:
1x Interlink cable
1x Power cord
2x Eye bolt and nut (M6)
1x Instruction manual

Extra Interlink cables are available in different sizes
0.6 m (24 in.)
1,0 m (40 in.)
1.5 m (60 in.)
2,0 m (80 in.)
2,5 m (100 in.)
3,5 m (140 in.)
5,0 m (200 in.)
10,0 m (400 in.)

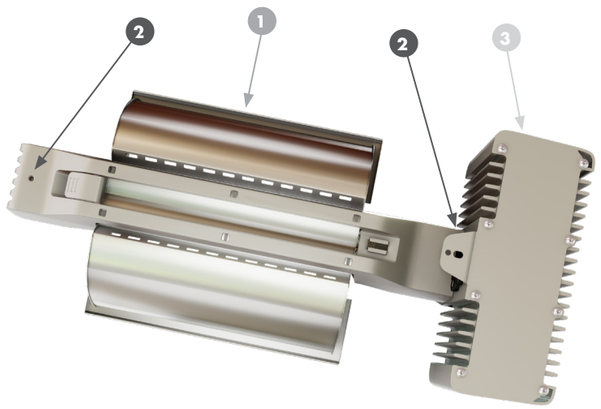
Suitable lamps

⚠ Please ensure that the lamp has been burning for at least 5 minutes before turning off the power. Short ON/OFF cycles can shorten the lifespan of the installed lamp.

- 1000W Philips Master Greenpower EL DE
- Dimlux 1000W PRO
- Dimlux 1000W MKII Ultra
- 1000W 2-74
- Horturion MH 1000 DE EL 5.5K
- HPS1000 PRO DE 2K

Mounting

There are indicators on the top rail of each fixture to help you mount the supplied fixing brackets in the correct place. The image below shows the locations for each different fixture.



1 Ultra Optics Reflector
2 Fixing Position
3 Ballast

INSTALLATION

Installation Dimlux Pro Series (without Maxicontroller)

If the fixture is not connected to a Maxi Controller or another fixture, the fixture will operate in "Free running" mode. By pressing the select button you can turn the lamp on and cycle through different powers.

The presets at 1000W are:
OFF, 500 watts, 600 watts, 700 watts, 800 watts, 900 watts, 1000 watts, 1075 watts, 1150 watts

In "Free running", the display shows the selected power of the fixture, or OFF if the ballast is off.

Installation with Maxicontroller

The Dimlux Pro Series can be controlled with the Dimlux Maxi Controller or by using external switching gear (contactors, timers). Make sure that the contactors and timers are designed to match the load of the ballasts.

Maxi Controller

The Maxi Controller can control up to 160 Dimlux Pro fixtures at the same time. No longer needed are the switchboard, time delay timers, timers and relays (contactors). The power cables of the fixtures can be directly plugged into a power socket, after which they can be remote controlled. Light on and off times, brightness, and many more settings can be controlled with the Maxi Controller.

If a Maxi Controller is connected to the first fixture, the chain of fixtures will be in 'analog mode'. The power output and on/off state is controlled by the Maxi Controller. The user can still overrule the off state (but not the output power) of any fixture in a chain, by pressing the button. Using the button while a chain is in 'analog mode' only influences that fixture and not other fixtures in the same chain.

When the Maxi Controller sends an 'on' signal (for example 90%), and the fixture is not manually turned off, the display will first show "analog on" for a while, after which it will just show "on".

When the Maxi Controller sends an 'off' signal, or the fixture is manually turned off, the display will first show "analog off" for a while, after which it will just show "off".

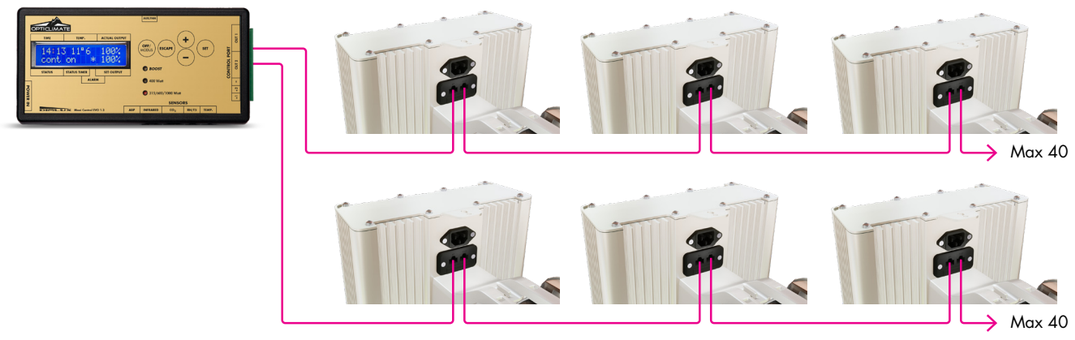
INSTALLATION

The Maxi Controller sends a signal to the fixtures to switch them on or off. There are 2 output ports on the Maxi Controller. Each port can switch up to 80 fixtures using the oem interlink cables and splitters. Interlink cables are available in different lengths.

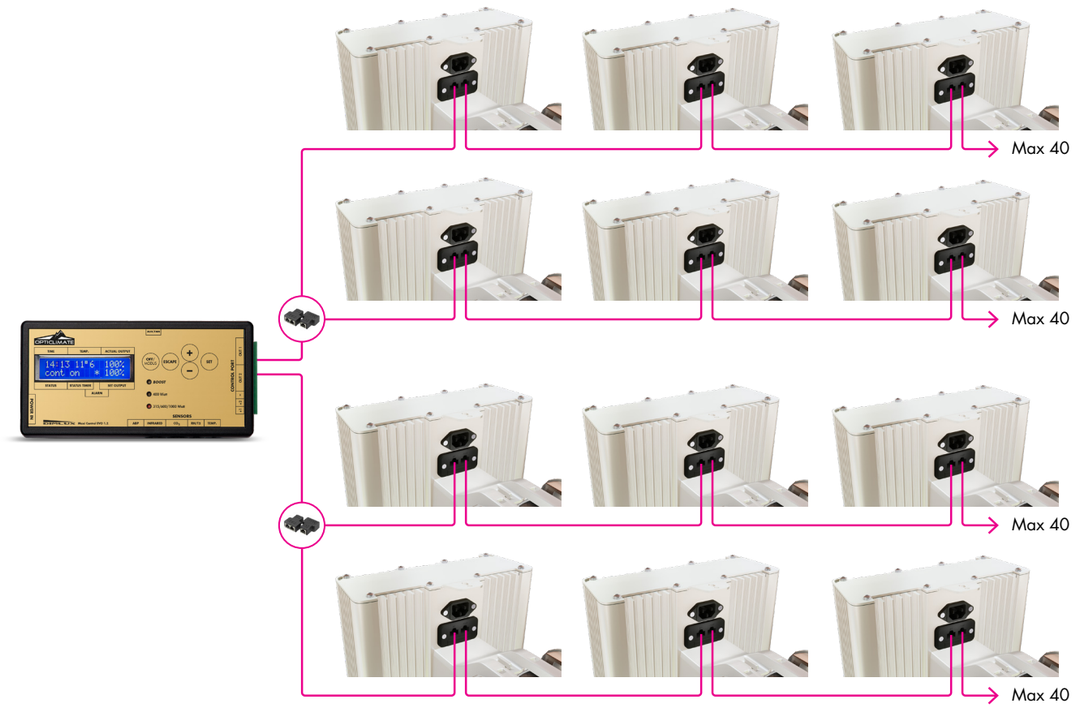
Please refer to the Maxi Controller manual for specific settings information.

For up to 40 fixtures, connect OUT-1 to IN of the fixture

For more than 40 fixtures, it is recommended to divide equally between ports OUT-1 and OUT-2 (up to 80 fixtures)



For more than 80 fixtures, use a splitter and divide equally between OUT-1 and OUT-2



GENERAL USE

Air

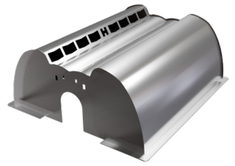
The open reflector versions have holes in the top of the reflective portion where no direct light can shine through. By natural convection, the heat will escape through these holes and cool the lamp.

Boosting and Cooling

Boosting light output will increase the temperature of the lamp. The lamp openings in the reflector allow the lamp to operate at its optimum temperature. Without this passive cooling, the lamp efficiency would decrease.

Ultra Optics Reflector

The main goal in designing the Ultra Optics reflector was to achieve the highest efficiency (light output) possible. It's designed according to the SBCS (Single Bounce Clear Sight) principle which means that each light beam reflects only one single time in the reflector and then goes out directly (Single Bounce). After reflection, the beam is not hindered by the lamp or other parts (Clear Sight). The design from the reflector is optically perfect so that no hammered or textured pattern is needed to spread hotspots. Hammered or textured reflective reflectors are made to improve uniformity and create undesirable multiple reflections inside the reflector and cause internal reflections from the reflector to the lamp causing a decrease in efficiency. These techniques used in our reflector combined with the use of Miro Silver mirror will provide unparalleled results.



ULTRA OPTICS HYBRID +96

The Hybrid reflector ensures a deep penetration into the plants, while having a larger overlap with other fixtures for better uniformity. The area it illuminates has an aspect ratio of 1.3:1. This reflector is the ideal choice for many scenarios because it combines the best qualities of the Deep and Wide reflectors.This reflector can be used for all types of crops.

For a fixture spacing of 1.2 by 1.6 meter (1.92m²), the recommended reflector height is 80cm

ULTRA OPTICS DEEP 98

The Deep reflector allows the light to penetrate very deep into the canopy. Because the Deep reflector directs more light downwards and less to the sides, losses due to walls and walking paths are minimized. The area it illuminates has an aspect ratio of 1:1, square.

This reflector can be used for plants taller than about 75cm, or have a very closed canopy (less plant spacing, more bushy plants). This is also ideal for use in a growing tent, where there would be more wall reflection-losses than in a larger room.

For a fixture spacing of 1.4 by 1.4 meter (1.96m²), the recommended reflector height is 100cm.

GENERAL USE

ULTRA OPTICS WIDE 98

The Wide reflector illuminates a much wider area, which allows for a very short distance between the plants and the reflector. Because of the wider spread, the distance between the crop and reflector for the 1000W fixture is about the same as a regular 600W system. The area it illuminates has an aspect ratio of 2:1, a rectangle. The large side of the rectangle is perpendicular to the lamp. This reflector can be used for plants shorter than about 75cm, or have a very open canopy (more plant spacing, less bushy plants). This is also ideal for rooms with a very low ceiling, or which have a rectangular cultivation surface.

For a fixture spacing of 1 by 2 meter (2m²), the recommended reflector height is 70cm.

The Wide reflector is also ideal for combining HID fixtures with LED fixtures.

For more information about the Dimlux Ulta Optics Reflector range please visite **dimlux.nl/ultra-optics-reflectors**

Fixture Spacing

The spacing between fixtures depends on the lamp power, power setting, and type of crop. Most crops require at most 1500 µmol/m²/s of photosyntetic flux. The next table lists the minimum footprint size to obtain at most 1500 µmol/m²/s at the crops, for common power settings.

Power	Min footprint area for 1500 µmol/m²/s
600W	0.78 m²
1000W	1.30 m²
1150W	1.50 m²

You can adjust these numbers for different power settings and for different desired flux at the crops, using this formula: area = power / 770 For example: 0.80 m² = 720W / 770

The number 770 is estimated from the expected light output of the lamp, with reflector and wall losses taken into account. Depending on your exact set-up, the actual number can be as low as 720, but rarely higher than 770. This formula is intended to give you the minimum area, hence we use 770.

Note that 1.3 m² is not the same as a square of 1.3 by 1.3 m. The latter is 1.3×1.3 = 1.69 m² in area.

The minimum area determines the distance between the fixtures, and therefore, the amount of fixtures needed to place in a multi-fixture growing room. For the calculation of how high your fixtures should be placed, see te next section.

ERROR/STATUS MESSAGES & LAMP REPLACEMENT

Display indication on Dimlux Pro (Analog version only)

Each Dimlux fixture has a self diagnosis system. The display on each unit shows error and status info.

Status

Flashing	=	**Ignition Running**	No action needed.
1x	=	**Ignition Failure (Timeout)**	Place lamp or replace defected lamp.
2x	=	**Ignition Interval**	No Action needed.
3x	=	**Undervoltage**	Correct mains voltage within specified limits.
4x	=	**Overheat**	Reduce ambient temperature.
5x	=	**Lamp End-of-Life**	Change lamp.
6x	=	**Overvoltage**	Correct mains voltage within specified limits.

Display indication on Dimlux Pro (Digital versions only)

If there is an error message, it will scroll across the display.

LVP error low voltage protection	=	Input voltage too low
HTP error high temperature protection	=	The ballast is over heated
OCP error open contact	=	Open contact, or lamp is defective
SHORT error short circuit	=	Short circuit in the lamp circuit, or lamp is defective
EOL error end of live bulb	=	Lamp surpassed it's service life. Maximum power connot be attained anymore.*

If there is a (mains) power failure (but the fixture is connected to other fixtures, "psu fail" will scroll across the display.
If there is an internal error in the electronics that drive the lamp, then "hid fail" will scroll across the display.

* When EOL appears, then it's possible that the lamp will still work fine at lower powers.

Lamp replacement

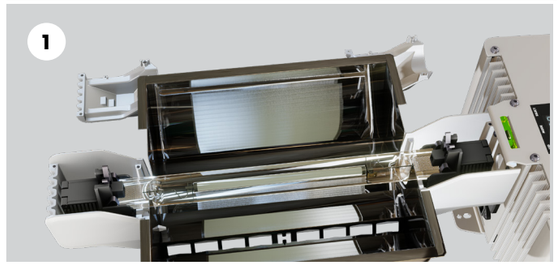
⚠ **Always wear gloves when replacing lamps to avoid leaving any residue on the new lamp which will affect performance**

When installing a new lamp, ensure that the two pins, one large and one small, are lined up with the holes in the socket, then push and turn to lock the lamp in place.

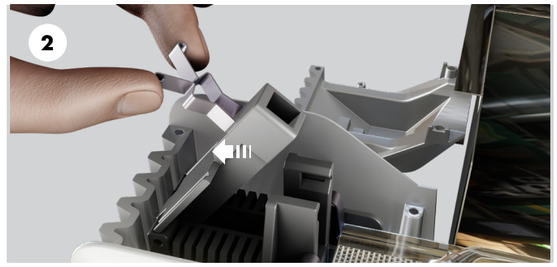
The 1000W DE lamp has 2 wire clamps.

LAMP REPLACEMENT

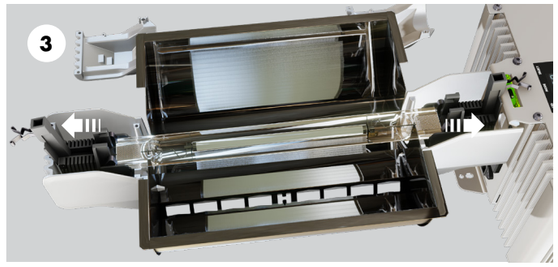
⚠ Always wear gloves when replacing lamps to avoid leaving any residue on the new lamp



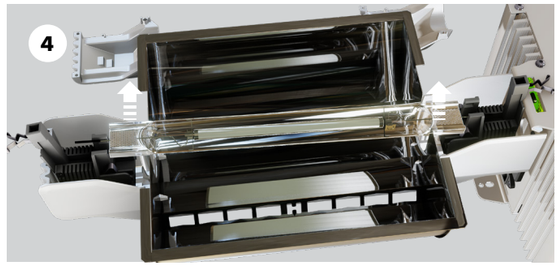
Open and remove both covers to expose lamp fittings



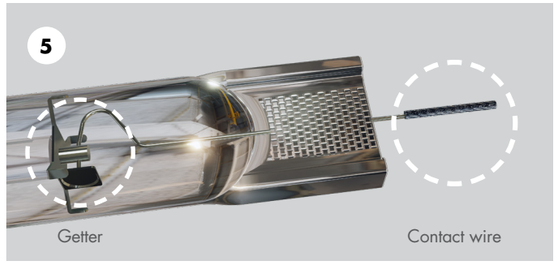
Slide both fittings fully open as shown



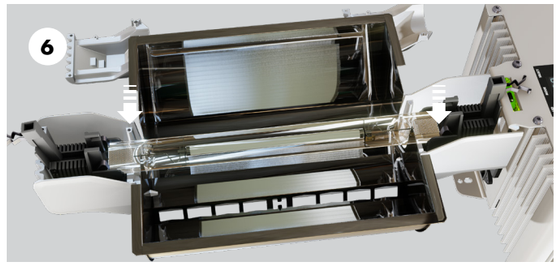
Make sure both sliders are in the fully-open position.



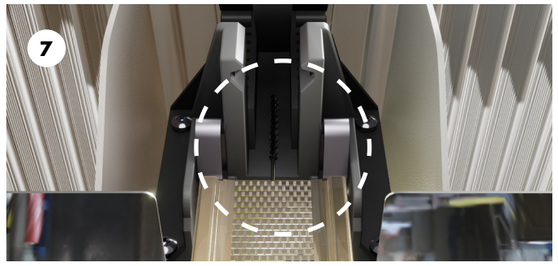
Remove the lamp



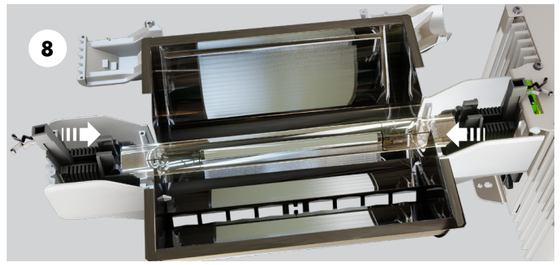
Before placing the new lamp, make sure the contact wire is straight, the getter is on the ballast side and the text on the lamp is facing out.



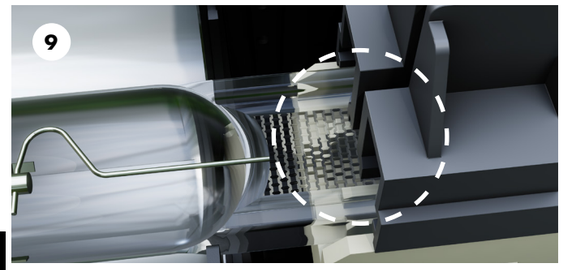
Insert lamp and push into place



Make sure the contact wire from the lamp is straight between the contact plates inside the fitting



Slide the fittings firmly inwards



Make sure the fitting is fully closed

10

⚠

TEST THE COMPLETE FIXTURE

REFLECTOR REPLACEMENT

1

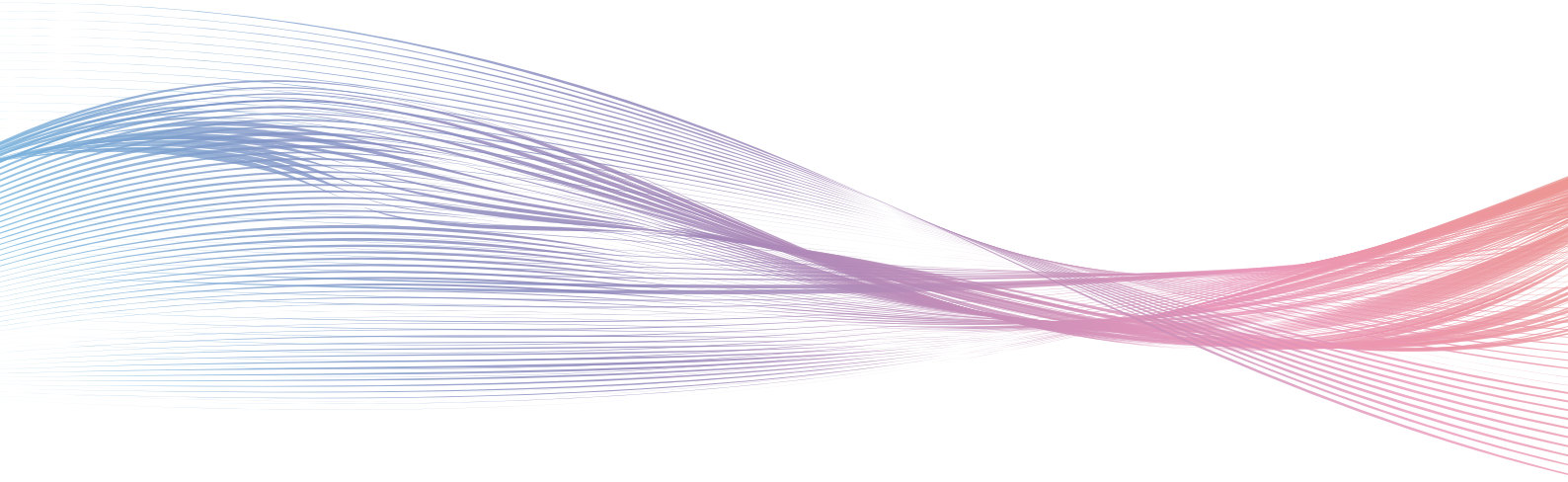
⚠

REMOVE LAMP(S) BEFORE REPLACEMENT

Pull handle to unlock reflector

3 Discard reflector	4 Insert new reflector in reverse order	5 Insert bulb and test.

⚠ Always dispose of old reflectors, do not re-use, as performance will be severely affected.



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