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ENGLISH

FOLLOWSPOT 2500 HTI



USER' S MANUAL release 1.0

This manual must be considered an integral part of the projector.

BEFORE CONNECTING AND USING THE PROJECTOR, IT IS IMPORTANT TO READ CAREFULLY ALL THE INSTRUCTIONS IN THIS MANUAL.

QUALIFIED PERSONNEL ONLY, IN COMPLIANCE WITH ALL THE SECURITY LAWS, CAN DO THE INSTALLATION, THE MAINTENANCE AND THE UTILISATION OF THIS PROJECTOR.

BEFORE CONNECTING THE PROJECTOR, MAKE SURE THAT THE FREQUENCY AND THE VOLTAGE VALUES ARE SUITABLE AS SPECIFIED ON THE PROJECTOR.

DISCONNECT MAINS POWER SUPPLY BEFORE ANY OPERATIONS.

FOR ANY DOUBT, CONTACT YOUR SUPPLIER OR SEND AN E-MAIL TO:

tech@lamosrl.it

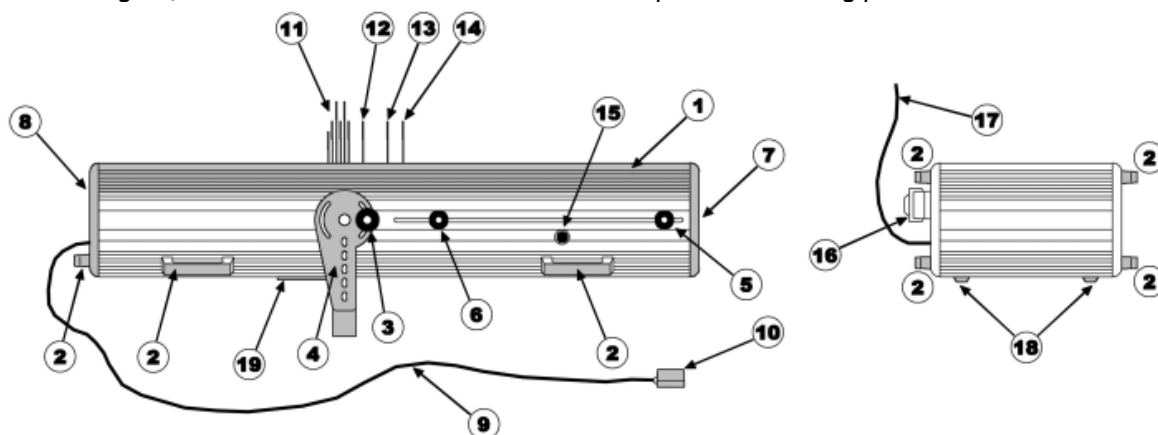
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GENERAL DESCRIPTION

PARTS OF THE PROJECTOR

As shown in the figure, the FOLLOWSPOT 2500 HTI is made up of the following parts:



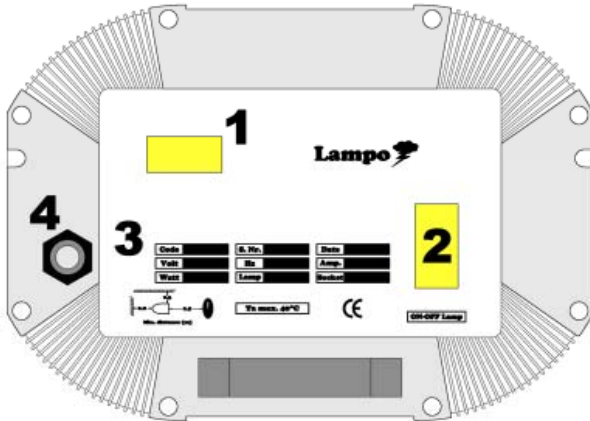
1. Upper lid (re-lamping or maintenance)
2. Handle
3. Knob adjustable projector
4. Bracket (d. 12mm)
5. Adjustable zoom
6. Adjustable focusing
7. Front opening
8. Rear panel
9. Ballast connection cable (2m)
10. 6 pin connector
11. Colours
12. Iris
13. CTO filter correction
14. FROST filter
15. Adjustable dimmer / black out
16. 6 pin panel connector
17. Cable 3G2.5 not terminated
18. Four plastic feet
19. Forced air exit

TECHNICAL FEATURES AND DIMENSIONS

Voltage rating	230 V	Rated current	14.7 A
Frequency	50 Hz	Absorbed power	3050 W
Maximum surface temperature	70° C	Maximum room temperature	40° C
Main mount via # 1 screw	M12	Operating	+/- 45°
Projector measure	1375x580x430mm	Weight of the projector	34 kg
Ballast measure	350X254X525mm	Ballast weight	32 kg

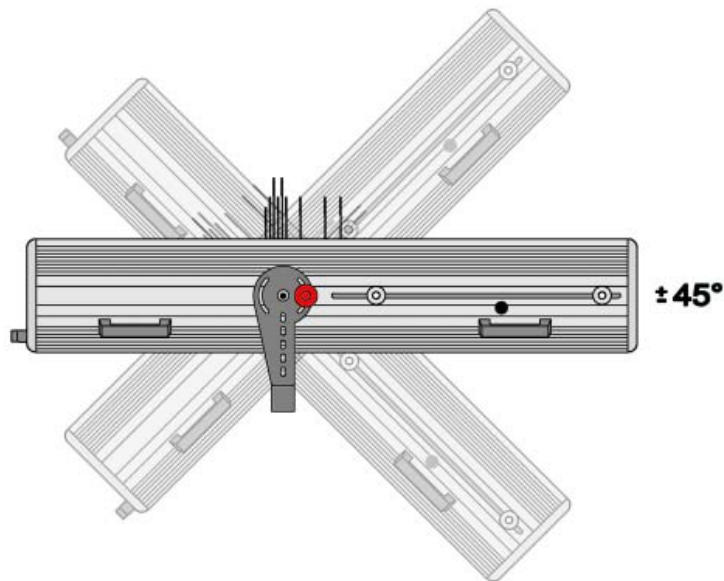
REAR PANEL

As shown in the figure, the following elements can be seen on the rear panel:



1. Projector work hour counter
2. ON – OFF lamp switch
3. Serial number and other characteristic
4. Main ballast supply cable

ADJUSTMENT OF PROJECTOR BODY ANGLE



As shown in the figure, to control manually the movement of the vertical axis, it's sufficient to loosen the knobs of the bracket. Thanks to the innovative reinforced bracket with teflon coated disks, you can avoid hard adjustments and obtain smooth movement and perfect stability of the product, even in case of "release". The vertical movement is $\pm 45^\circ$ compared to the assembly position of the bracket.

WORKING POSITION

The FOLLOWSPOT 2500 HTI can work in all positions.

MECHANICAL SAFETY GUARDS

A bipolar cut-off switch is located between the lamp compartment and the cooling unit. This safety switch cuts off the power to the projector if the top lid is opened.

Always ensure that the power to the projector is disconnected before opening the projector or commencing any maintenance work.

NOISE LEVEL

After the projector has been powered up and the initial configuration takes place, the noise produced by the projector is primarily due to its cooling system. The noise level is much lower than the limit of 70 db as permitted by law.

PACKING

The projector is shipped and delivered in a cardboard box made of KRAFT cardboard and semi-chemical additive-free paper, in compliance with BSFV Class 3 standards for waste disposal.

The projector is completely assembled, placed in the box inside a polyethylene bag and held firmly in place with polyurethane foam packing material. The box is stapled shut.

Even though the packing provides complete protection from rain, it must not be exposed to inclement weather or humidity.

No more than three identical boxes can be stacked one on top of the other.

STORAGE

The projector, in its original packing, must be kept in covered, dry areas with a temperature between -10°C and $+50^{\circ}\text{C}$.

HANDLING

The projector, with or without packing, must be handled with care.

Lifting and handling must be carried out with special equipment. Do not expose the projector, with or without its packing, to brusque accelerated or decelerated movements, knocks, dragging, or other stress caused by unsuitable handling.



IMPORTANT

*The projector in its packing can be seriously damaged if it falls or suffers a blow during transportation.
HANDLE WITH CARE!*

START-UP PROCEDURES

POSITIONING AND INSTALLATION

Follow these steps to open the package and install the projector in its working position:

- *Place the projector near the place where it will be installed.*
- *Open the package and remove the anchoring elements, accessories, and User manual.*
- *Carefully read the instructions in the manual.*
- *Arrange tripod or stand or any other adequate support.*
- *In case of tripod or stand, position the projector on an horizontal plane and mount on the rotating pivot in the middle of the adjustable anchoring bracket.*
- *Using an adequate lifting equipment, complete the mounting on the stand or on any other suitable support.*
- *Tighten the M12 bolts and insert a device to prevent them from accidentally loosening.*
- *Make sure all adjustable parts are locked firmly in place in the desired position.*



CAUTION

You must verify the stability of the anchoring elements when the projector is in working condition. In compliance with the laws in force, the anchoring support must hold a load of minimum 80kg. Screws, hooks, and hardware must be inserted correctly and installed to prevent from accidentally loosening.



IMPORTANT

The cooling aperture of the projector must be at, at least, 30cm from any objects that can obstruct it.

ADMISSIBLE ENVIRONMENTAL CONDITIONS

The projector was engineered and produced to function in covered dry areas with an air temperature ranging between 0° and 40° C, and with a humidity level between 30 and 90%.

Sharp changes in room temperature may generate condensation inside the projector which can harm the projector. Therefore, switch on the projector only after it has undergone a period of gradual adaptation to the room temperature.

POWER SUPPLY

Use the cable provided inside the special junction box. The power line must be protected by a differential MGT breaker, while metal parts, that might be electrically charged through the projector must be grounded. This FOLLOWSPOT absorbs 3050W at 230V (LAMP ON). Make sure the projector does not pull the cable in all different working positions, and that sources of heat are not placed in the vicinity.

Connect the fixture to the mains with the enclosed power cord and plug. See the table for the colours of the connection-cable.

PIN	SYMBOL	EC	US	UK
phase	L	brown	yellow/c	red
neutral	N	blue	silver	black
earth		yellow/green	green	green

When in doubt, consult a qualified electrician.



DANGER

Be careful with your operations. With a high voltage you can suffer a dangerous electric shock when touching the wires! Inside the projector, the ignitor circuit have very high voltage, over 5Kv.



WARNING

The User must ensure that the power supply is provided with a highly sensitive differential circuit breaker 30mA to protect the projector from indirect contacts, and that the grounding system PE is working properly.



WARNING

Don't power the projector with a dimmer circuit

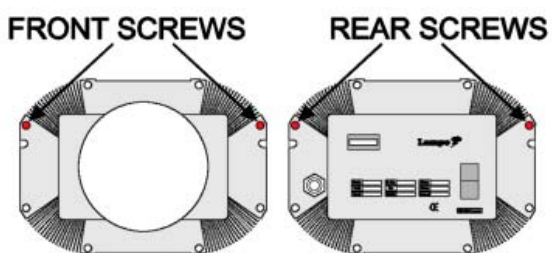
LAMP INSTALLATION

- Switch off projector and disconnect power!
- Loosen the hexagon screws on the frontal panel and on the rear panel (2+2).
- Remove the upper lid of the projector, insert your hand inside the frontal hole to help you remove the lid.
- Remove the lamp from the packing and carefully read the manufacturer's instructions.

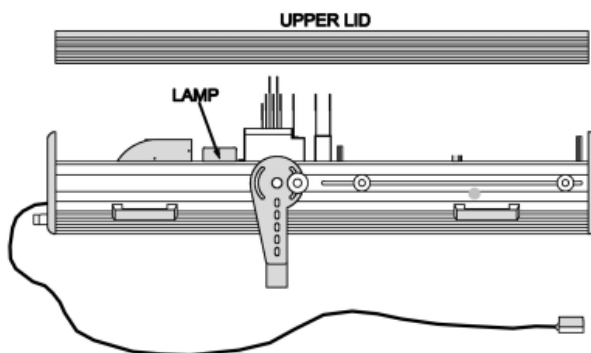
LAMP OSRAM HTI 2500W/SE G22. Insert the lamp into the socket and the cables into the ceramic connector, regulate the lamp, if necessary. The lamp holder is aligned at the factory.

Replace the top lid (4 screws) and firmly tight the screws.

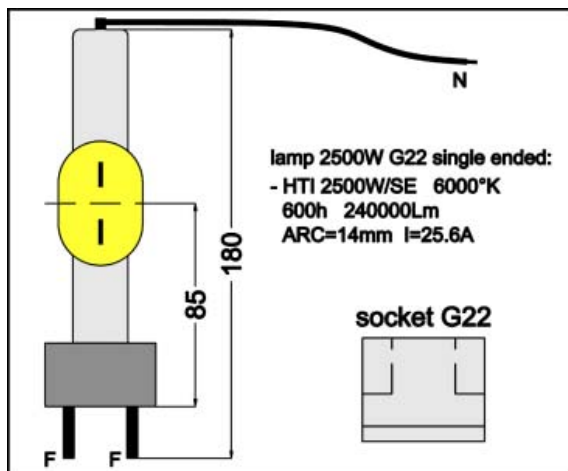
Loosen the hexagon screws



Remove the upper lid



Lamp OSRAM: HTI 2500W Single Ended G22



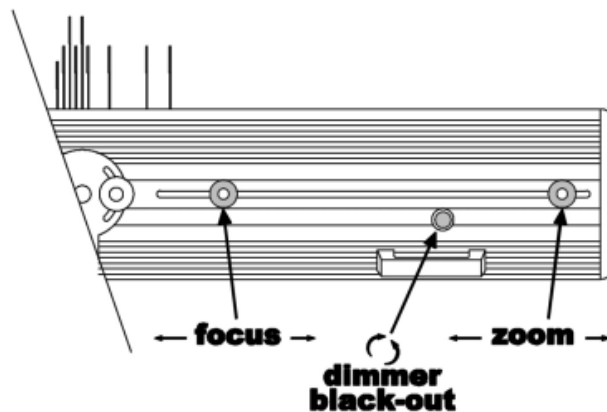
OPTICAL SYSTEM

The FOLLOWSPOT 2500 HTI is provided with a high-efficiency optical system comprising up of a mirror, a double optic condenser and two frontal lenses. This system allows the FOLLOWSPOT 2500 to project an extremely powerful and homogenous light beam

LENS ADJUSTMENT

The FOLLOWSPOT 2500 has a lens system that lets you create beams of different sizes. It has a manual zoom with manual focusing.

With projector ON, in order to obtain the desired beam aperture, it is sufficient to act on the control knob, visible on the picture and located on the side of the projector body. See the drawing.



The projector has a standard zoom between 9.2° and 5.8°, with adjustable focusing from 3m to infinity.

To project very far with a smaller beam angle, it is necessary to take away the focus lens. The beam angle will be 4,6° and the light output is at its maximum power.

In this case the zoom lens will do the function of the focus lens, from approx 40m to infinity.

DIMMER / BLACK-OUT

The followspot 2500W has a dimmer and black-out system.

It is sufficient to turn the dimmer / black-out control knob to get from 100% light to black out.

Without the focus lens, the control knob is used for the black out function.

GOBOS HOLDER

To insert the gobo holder into the projector, follow these steps:

- Choose the pattern you want, standard M-size, metal or glass gobos.
- Fix the pattern on gobo holder, use the 3 screws given.
- Remove the lid of gobo holder slot, before the iris lever.
- Insert the gobo holder in its seat.

BEAM ANGLE

The diagrams show the beam angle and the light output

This FOLLOWSPOT is ideal for distances **from 30 to 100mt.**

The projector was tested with new and regulated lamp.

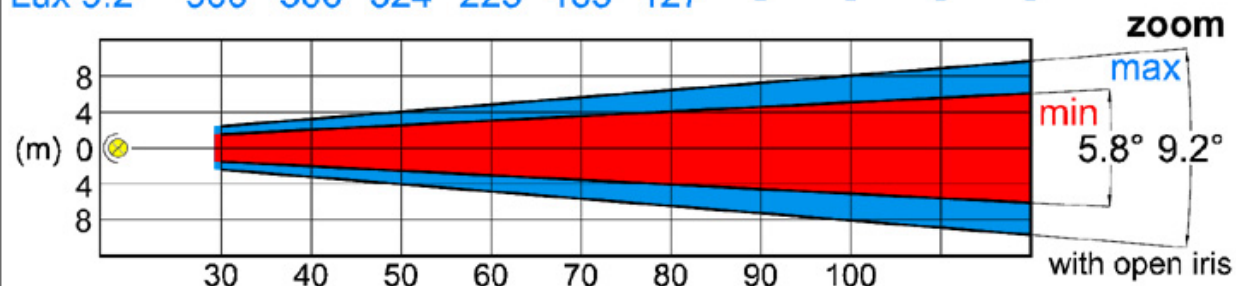
The characteristics in the table are real, not finctional.

Test with HTI 2500W lamp 230V 50Hz G22+cable LCL 85mm

Lux centre beam $\pm 5\%$

Lux 5.8° 2300 1294 828 575 422 323 256 207 - -

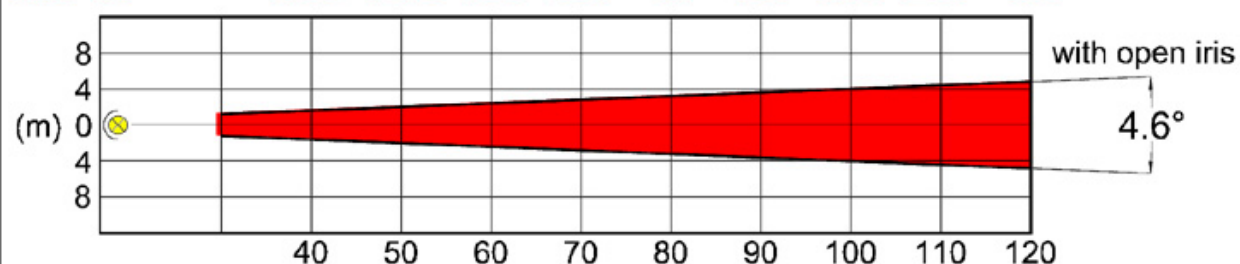
Lux 9.2° 900 506 324 225 165 127 - - - -



Lux centre beam $\pm 5\%$

Whitout rear lens - togliendo la lente posteriore

Lux 4.6° - 1789 1145 795 584 447 353 286 236 199



Diameters with open iris: $5.8^\circ = 0.1013 \cdot \text{distance}$

$9.2^\circ = 0.1609 \cdot \text{distance}$

$4.6^\circ = 0.0803 \cdot \text{distance}$

Foot candles = Lux * 0,0929

MAINTENANCE

Safety guards, lenses and filters must be replaced if they are visibly damaged to the point that they become ineffective (i.e.: if they have deep slashes or cuts)..

The lamp must be replaced if damaged, cracked or deformed by the heat

PLANNED MAINTENANCE

OPERATION	FREQUENCY	RESPONSIBLE	ACTION
Optical efficiency test	600 hours	User	M1
Lamp replacement	600 hours	" "	M2
Surface temperature test	Quarterly	" "	M3
Cleaning	Every two months	" "	M4
Testing for safety breaker circuit on general electric system	Monthly	" "	Check life-saving safety device by pressing its "T" bottom
Check damage to cables due to mobile use projector	Once a year	" "	Replace cable if damage
General service check of projector	Every two years	Authorized technician	



Always use original spare parts to ensure safe and proper functioning of the projector.



***Do not make changes to the projector. A modified projector
Requires a new CE marking***

M1 OPTICAL EFFICIENCY TEST

Use the controller to focus the beam on a flat surface, keeping the Iris and Dimmer at 100%. If the spot is not homogeneous, follow these steps:

- Turn clockwise or counter clockwise to optimise the horizontal position of the lamp compared to the optical system. (3 lateral screws)*

M2 LAMP REPLACEMENT

The lamp must be replaced with the same type of lamp and according to the same frequency. A less efficient lamp jeopardizes projector performance. Replace the lamp as follows:

- When the projector is cold, turn off the ON/OFF SWITCH to cut the electricity and open the top lid to access the lamp compartment.*
- Remove the lamp from the lamp holder.*
- Remove the new lamp from its packing and carefully read the manufacturer's instructions*
- Inserting new lamp in its lamp holder*
- Block the wire contact firmly to avoid low efficiency connection.*

M3 SURFACE TEMPERATURE TEST

Before you check the temperature, make sure the projector is in its full operating mode (wait about 20 minutes after switching on the projector). Use a contact probe to measure the surface temperature on the projector's metal case and determine the hottest area.. The temperature must be less than 70° C. Otherwise, check the cooling system.

M4 CLEANING

Cleaning must be carried out when the projector is cool disconnected from the power supply with the general power switch turned off, and the ON/OFF switch on the rear panel switched OFF.

FREQUENCY

It is recommended to clean the projector every two months to ensure efficiency and performance. If the projector is used in particularly smoky or dusty areas, clean the projector more frequently.

Cleaning Procedures

- 1 Open the top lid by unscrewing the knob and remove it from its seat.*
- 2 Use a low power compressed air to remove dust.*
- 3 Use a soft cloth (non fabric) and pH neutral (pH7) liquid detergent to clean mirror and lens surface. Make sure you remove all residual traces. Never touch the lamp directly with your hands or materials that can leave greasy traces.*
- 4 Follow the same steps to clean the other internal parts of the projector.*
- 5 Make sure the cleaning procedure did not damage any internal part or modified their correct position*
- 6 Replace the top lid and firmly tight the knob.*

If the projector is operated in ordinary working conditions and the user follows the planned maintenance operations established by the Manufacturer, it should last for years.

When the projector is discarded, it must be disposed of according to recycling laws.

WARRANTY

FOLLOWSPOT 2500 HTI is guaranteed against any manufacturing defects or material flaws. If defects or breakdowns occur during the warranty period, the manufacturer, directly or through its agents. After inspection and according to its own unquestionable judgment, the manufacturer will repair or replace the defective part. No goods can be returned, for any reason without previous authorisation from the manufacturer, and the transport charges, to and from LAMPO are at the cost of the client.

The warranty is not valid in the following cases:

- 1 If the projector was used improperly or with negligence, or if it was damaged and repaired and/or modified to the point of jeopardizing safe functioning.*
- 2 If the projector is used in conditions other than those specified in this manual.*
- 3 If non-original spare parts are used.*
- 4 All malfunctioning and breakdowns caused by acts of God, negligence, and improper use, and parts subject to wear are not covered by the warranty.*

SPARE PARTS

When ordering spare parts for the projector remember to mention the model and serial number which can be found on the plate at the rear of the projector.

Call your area dealer or feel free to contact the manufacturer for any additional assistance.

SPARE PART LIST

CODE	DESCRIPTION
LENSES ORDER FROM REAR TO FRONT	
PAR35	Spherical mirror d.68mm
LEN68	Aspheric lens d.68mm
LEN14	Fields lens d.100mm
LEN06	Focusing lens d.150mm
LEN60	Frontal lens d.200mm
PL07	G22 socket
DIC27/R	Dichroic filter RED d.78mm
DIC27/VE	Dichroic filter GREEN d.78mm
DIC27/B	Dichroic filter DARK BLUE d.78mm
DIC27/V	Dichroic filter VIOLET d.78mm
DIC27/G	Dichroic filter YELLOW d.78mm
DIC27/FR	Filter SOFT BEAM d.78mm
DIC27/3200	Filter 3200°K d.78mm
AL06	N°1 ballast 50/60Hz (1/2 ballast)
OB13	Capacitor 80microF (1/3 capacitor)
EA00012	Power supply filter 25A
INT13	Switch 2x25A MGT C
INT22	Lamp switch 2P
MOR03	Ceramic buckler
VEN02	120mm FAN 230V (for ballast)
MO00017	Projector big special FAN, with capacitor
EE00130	PCB distribution (fastom)
EE00145	PCB power supply (buckler)
AB00143	Lamp ignitor MSR-HTI 2500W
EA00011	Work counter hour (50/60Hz specified with order)
IR00006	Only iris (professional iris)
VM00005	Plastic handle (big)
VOL05	Lateral plastic handle

ACCESSORIES

CODE	DESCRIPTION
SP20	Followspot stand, up to 1.6m
SP07	Fixed pivot
SP12	Rotating pivot
	Flight case (on request)
LP102	Lamp OSRAM 2500W HTI

On request are available spare parts list and diagrams (send e-mail please)