

Please verify the contents of the packages!

Please read instructions entirely before starting installation.

Be sure power is turned off before installing or modifying the system.

Call Tivoli, LLC tech support with questions.

Caution: Fantasma™ Series is designed to work with listed Class 2 12V DC transformers only. Use of any other power source will cause damage, shorten the life of the fixture and will void the warranty.

Consult any and all applicable local and national codes for installation.

Do not conceal or extend exposed conductors through a building wall as per local electrical code.

Warning: With any luminaire for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injuries. This fixture should be installed by a certified professional.

Installation Instructions



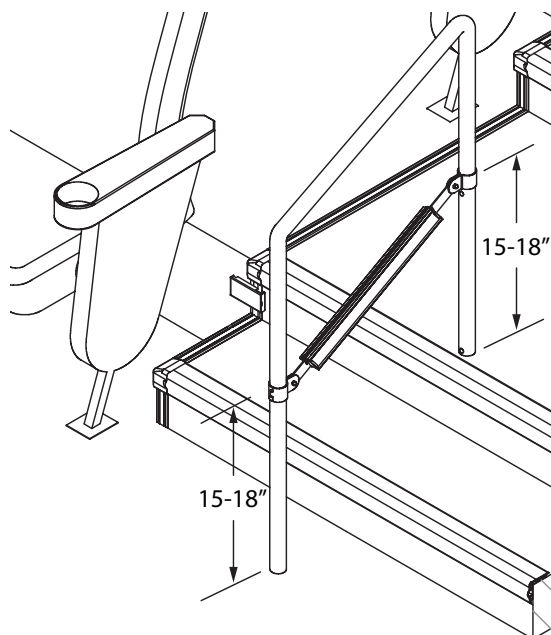
Overview

Fantasma™ Rail Light is offered in two configurations; Single Sided for edge of walkway and Double Sided for center of walkway applications.

Rail lights are manufactured to fit provided dimensions with Extension Clamps completely extended. When ordering, measure from center of poles along the plane of inclination.

Mounting The Fixture

Step 1: Measure 15 to 18 inches from floor for each handrail post. Make a pencil mark. Be sure the measurement is the same for each post.

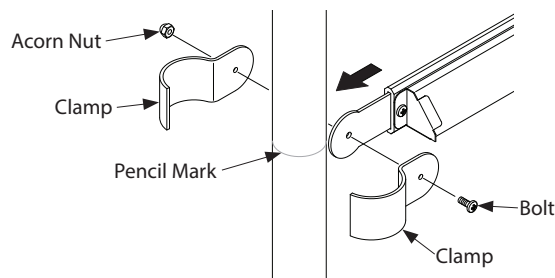


Step 2: Place center of Clamp on pencil mark for each post.

Step 3: Insert bolt through clamp and bracket. Brackets are adjustable up to 2" on each end. Attach acorn nut to bolt.

Step 4: Adjust bracket on each end to center Fantasma™ Rail light between handrail posts. Brackets extend up to 2" on each side. Hold adjustable bracket in position by tightening set screw on underside of unit.

Step 5: Tighten Clamp Bolts and Nuts.

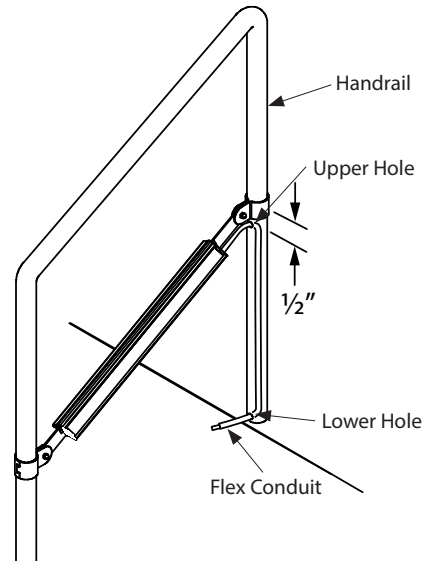


Installation Instructions (Continued)

Wiring Rail Fixture to Floor

Step 1: Select handrail nearest to flex conduit end of rail light. Drill two $\frac{5}{8}$ " dia. holes in handrail post; one hole $\frac{1}{2}$ " down from the bottom edge of clamp and one hole as close to the floor as possible. Be sure holes are aligned.

Step 2: Feed flex conduit from Rail Light through top hole down handrail post and out again through bottom hole.



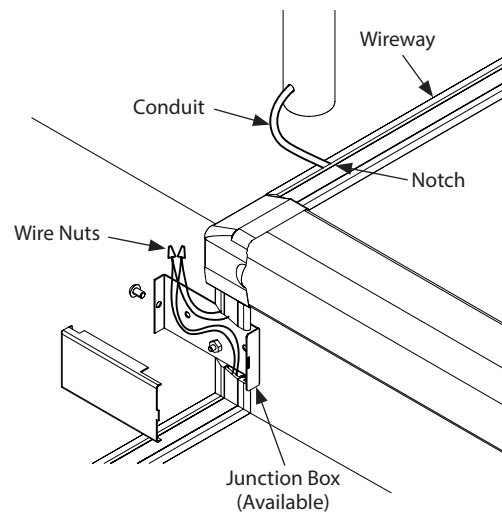
Single Side Fantasma™ Rail Light Connection to Power

Step 1: Cut notch in Wireway.

Step 2: The junction box (available separately) must align with the wireway and be mounted on the step riser so that the cutout of the junction box lines up with the wireway. Mounting screws by others.

Step 3: Feed the wires from flex conduit through Wireway and Step End Cap to the Junction Box (available separately).

Step 4: Use Wire Nuts to make connections in Junction Box to additional rail lights or feed point to transformer. Be sure to maintain proper polarity; the ribbed wire is negative (-) and the smooth wire is positive (+).

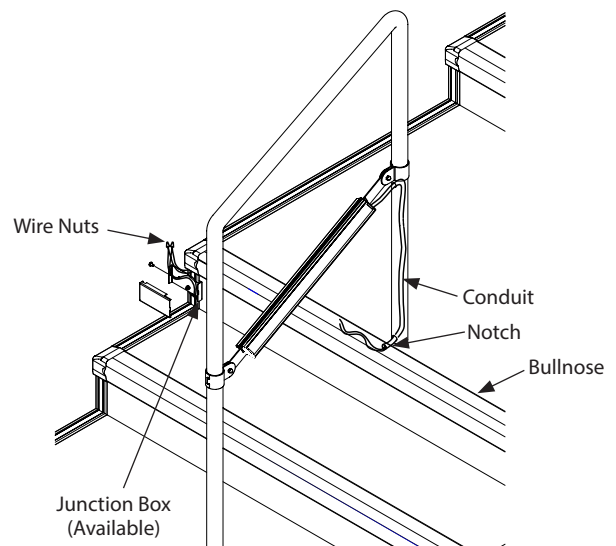


Double Side Fantasma™ Connection To Power

Step 1: Cut notch at center of Bullnose Step.

Step 2: Feed the wires from conduit through Bullnose, End Cap and to Junction Box.

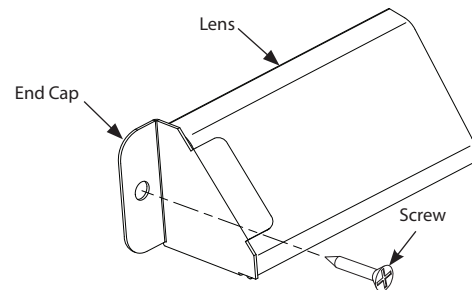
Step 3: Use Wire Nuts to make connections in Junction Box for extra rail lights or feed point to transformer. Be sure to maintain proper polarity.



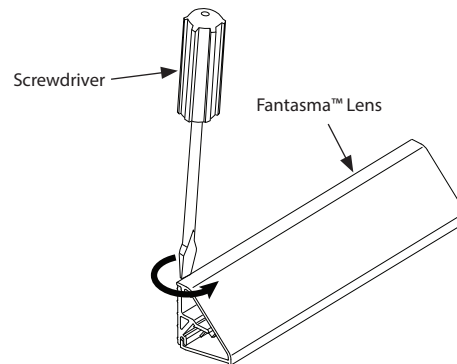
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Fantasma Lens Removal Procedure

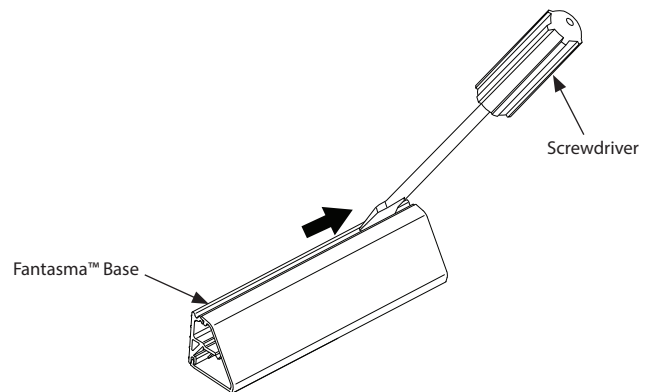
Step 1: Remove End Cap, if used.



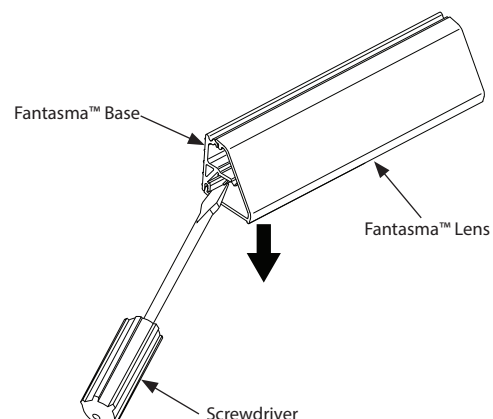
Step 2: Insert screwdriver blade behind Lens at one end of the Lens and twist screwdriver to pry end of lens away from the Base Channel. Use this method if the lens is at the end or in a middle position.



Step 3: Slide blade of screwdriver along top groove of channel to finish removing the top edge of the lens.

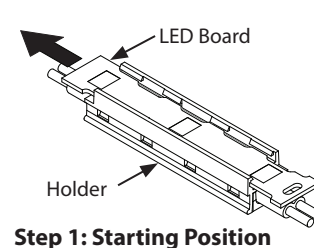


Step 4: Position the blade of the screwdriver between the bottom surface of the lens and the lower edge of the channel and pry in a downward motion. The Lens will disengage from the lower groove of the Base Channel.

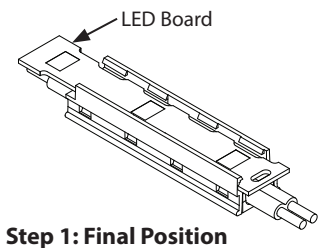


Removing and Installing the LED Board

Step 1: Slide board to the left as far as it will go. Insert a pointed object, such as a pen tip, into the slot at the end of the LED board to slide it more easily.



Step 1: Starting Position

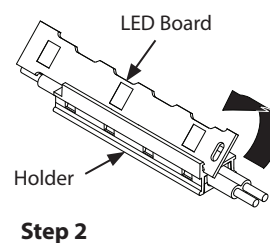


Step 1: Final Position

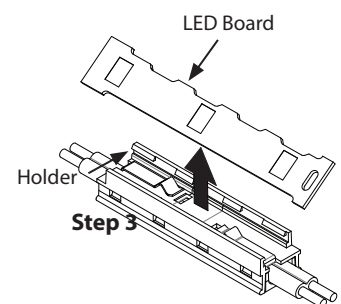
Step 2: Rotate top edge of board upward, as shown.

Step 3: Remove board.

Installation: Reverse steps to install.



Step 2



Step 3

Replacing a Module Strand

Step 1: Turn off power to Fantasma Lighting System.

Step 2: Remove End Cap and Lens as previously shown.

Step 3: Cut the wires outside of the defective light strand on either end, as shown.

Step 4: Position a Putty Knife between the LED module and the mounting channel. Gently pry LED module up and out of the channel.

Step 5: Repeat removal procedure for all defective modules.

Step 6: Insert the upper mounting tab of the first replacement module under the top ledge of the channel opening.

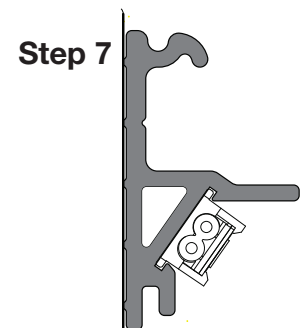
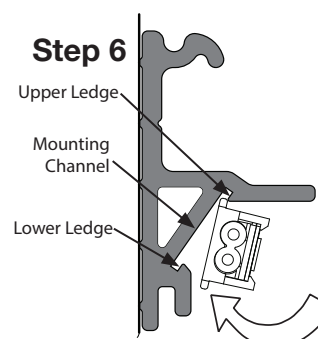
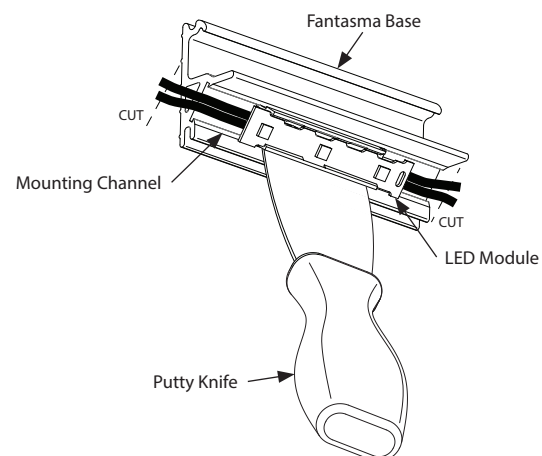
Step 7: Rotate the module down until it makes contact with the lower ledge of the mounting channel. Continue to gently press the module into the channel until the lower mounting tab snaps into place under the lower ledge of the mounting channel.

Step 8: Repeat installation process for all new modules in the strand.

Step 9: Use Butt Connectors to connect the wiring from the replacement strand to the existing strand wiring.

Step 10: Replace the Lens.

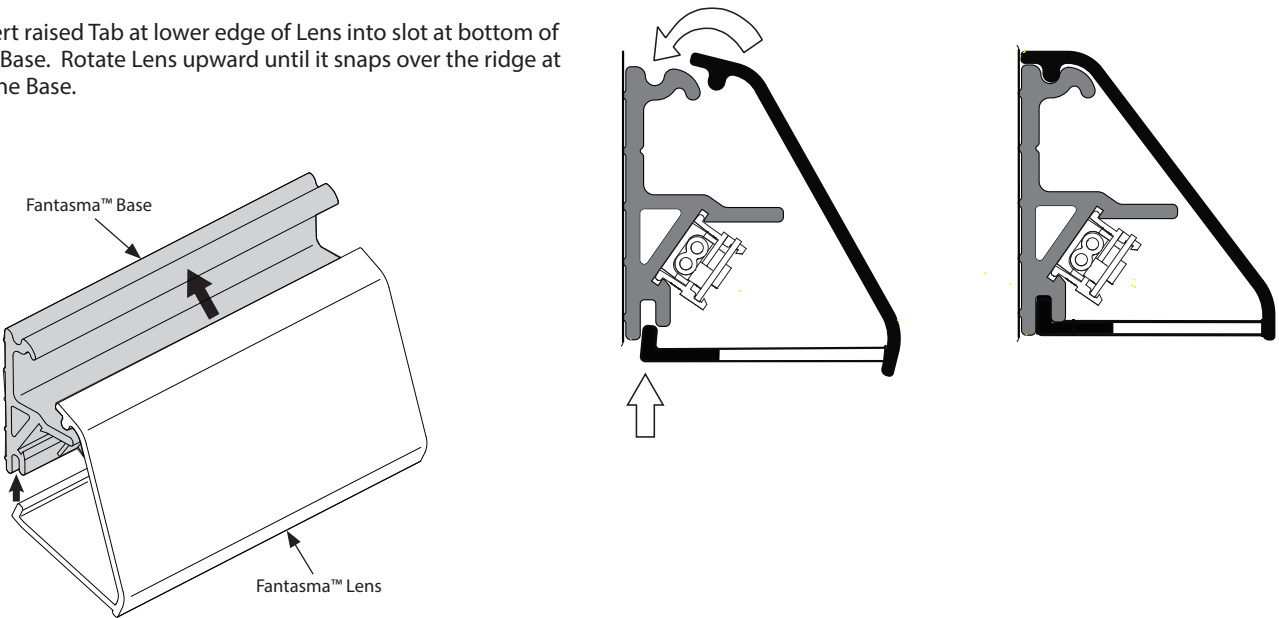
Step 11: Re-establish power to the lighting system.





Replacing Fantasma™ Rail Lens

Step 3: Insert raised Tab at lower edge of Lens into slot at bottom of Fantasma™ Base. Rotate Lens upward until it snaps over the ridge at the top of the Base.



Product Specification Guide

Max Leds Per Circuit*

RAIL SIZE	SINGLE OR DOUBLE	MAX WATTS PER RAIL	RAILS PER FEED	LEDS
02	S	1.5	30	150
	D	3.0	15	150
03	S	2.4	18	150
	D	4.8	9	150
04	S	3.6	12	150
	D	7.2	6	150
05	S	4.8	9	150
	D	9.6	4	150
06	S	6	7	150
	D	12	3	150

*Calculated using Class 2 transformer and 12ga wire.

Wiring Size

In order for low voltage circuits to operate properly, care must be taken in sizing the wire from the transformer to the lighting systems. Tivoli recommends locating the transformer as close to the lighting system as possible. Use 12 gauge wire and keep a maximum linear length of 100' from the fixture.