Installation Instructions
IVR15-RPS  1.5” O.D. Solid State Illuminated Rail

CAUTION: TO REDUCE RISK OF SHOCK, TURN OFF electrical supply BEFORE installing / SERVICING THE FIXTURES.
WARNING: LAMP WILL BE HOT. ALLOW LAMP TO COOL BEFORE ATTEMPTING TO REPLACE LAMP.
(Do Not Use Bare Hand To Replace Lamp In Fixture)

WARNING: Fixture must be installed in accordance of National Electrical Code (NEC) and/or any local codes.
Failure to do so may result in serious injury and/or damage to the fixture.

RECOMMEND TOOLS

1. Tape Measure
2. Level
3. Cut-Off Saw
4. Tube Bender
5. Power Drill
6. Half –Round File (To Remove Burrs)
7. Ratchet With Socket Set
8. Allen Hex Set
9. Silicone Sealant
10. 2” Wide Painters Masking Tape
11. Scotch Brite Pad
12. 3M Scotch weld epoxy

IMPORTANT SAFETY INSTRUCTIONS

SAFETY FOR LIGHTING
- Read all installation instructions before installing. It is important to save these instructions.
- V-Rail and electrical components must be grounded and connected to a GFCI as per local codes or the National Electrical Code.
- For LED lamp replacement, contact Intense Lighting at (800) 961-5321.
- Do not touch lens, guard, or enclosure.
- Keep lamp away from materials that may burn.
- WARNING - To reduce risk of FIRE OR INJURY. Refer to V-Rail Maintenance instructions (#950004) to replace LED components. Do not operate the luminaire with a missing or damaged lens.
- “Use only with Class 2 power unit.” Do not install the luminaire with other than a Class 2 power unit.
- Be sure to connect ground wire to prevent electric shock or other potential hazards.
- The product must be installed in a manner consistent with the intended use and in compliance with the national electrical codes and local codes.
- WARNING: RISK OF FIRE. Most dwellings built before 1985 have supply wire rated for 60°C. Consult a qualified electrician before installation.

SAFETY FOR RAIL
- Always use protective gear such as breathing mask, goggles, and gloves. Refer to protective gear supplied with all tools power equipment, (such as cutoff saws) before installing V-Rail components.
- Check and be aware of all local railing code requirements.
- A structural analysis may be required per local codes. Responsibility for structural analysis is by others Intense Lighting’s approved structural analysis calculations are available by request. Intense Lighting’s strength calculations cannot be used per site specific locations. The calculations are intended for reference only to convey V-Rail strength parameters.

PROPERTY PLANNING
- Before commencing installation, check to make sure all parts arrived and are inspected. Notify Intense Lighting’s Customer Service Department for all shipment questions.
- It is advised to lay the parts down on a clean padded surface (such as cardboard) to protect the V-Rail finish. Keep protective plastic over lighting section during installation by taping the ends.
- Verify electrical input voltage on site matches V-Rail requirements of 120V through 277V input.
- The spacing between posts with the V-Rail light can vary between 2 feet minimum center-to-center of posts to a maximum length of 5 feet center-to-center of posts. Do not exceed 5 foot spacing unless approved by a qualified licensed structural engineer. (Consult Intense Lighting)
- Depending on project. Shop drawings provided by others Intense Lighting will aid in installation. V-Rail is a modular system, the installation instructions below only pertain to the parts supplied by Intense Lighting to be installed by qualified professional installer and licensed electricians. An electrical plan for the post need to be determined before installation of V-Rail.
- The anchors for base mounting are supplied by others. Responsibility of strength and selection for anchors are by others. Approvals may be required per local codes.
- It is very important to pre-plan the placements of the electrical stub-outs. Stub-out locations are determined by Intense Lighting and project Architect or Electrical Contractor. For new construction, accuracy of the dimensions regarding stairways (especially the rise) will benefit the ease of the V-Rail installation.
Installation Instructions
IVR15-RPS  1.5” O.D. Solid State Illuminated Rail (Post Mounted)

INSTALLATION

PRE-INSTALLATION FOR POST MOUNTED POST
(IT IS BEST TO MOCK UP THE V-RAIL COMPONENTS AT THE PROJECT SITE TO INSURE PROPER FIT. FOLLOW THESE INSTRUCTIONS IN THE ORDER PRESENTED.)

1. Place post over the electrical conduit stub out. Place the next post in line. Important Note: Horizontal distance between posts must be between 2’0” min. / 5’0” max. from center-to-center of posts (See drawing for important dimensions).

2. With posts in position, mark anchor bolt hole locations using the base template (supplied by Intense Lighting). Move V-Rail assemblies to a protected (safe) location near install.

3. Post must be plumbed. The base MUST mate to a level surface. It is recommended to shim and add a minimum amount of grout to achieve level before drilling anchor holes. Use post base or anchor bolt template to mark location. The Base Level Line must be orientated with all other post in series. Drill for anchors (supplied by others and approved per site conditions).

4. To determine the exact length of extension tubes, follow these instructions: With posts standing plumb, take a measurement between post center-lines to be referred to as dimension “V” for calculations required as follows. Dimension “V” minus the light section (which are offered from the factory as 21.75”, 31.75”, or 41.75” long) — total distance less light section divided by 2 = length of each “extension tube” (ex. 60” - 41.75” - 3.25” = 15” ÷ 2 = 7.5”). For each extension tube length cut “extension tubes” (per cutting instructions). Tape the extensions on to the ends of the lighted section and then onto the post swivel coupling to check fit. Place assembly into expected mounting positions with electricity OFF. Run wires as required. Make wiring connections red to red (24V positive) and blue to blue (24V negative) with supplied waterproof wire connections. Make sure wires are safe from being pinched or cut. Make sure wiring seal grommet is tightly secured into each end of swivel. Continue with above instructions with other V-Rail sections.

5. With electricity OFF, install Intense Lighting LED driver / power supply enclosure as required per project. Connect incoming wires as follows: green to green (ground), white to white (neutral), black to black (line voltage) with UL recognized wire nuts supplied by Intense Lighting. Turn on electricity and check all LED operation. Turn electricity OFF to troubleshoot any loose connections and check for correct polarity. Replace power supply enclosure cover if operation is successful.

6. Add fittings (by Intense Lighting or by fabricators) per fittings installation instructions before installing the next V-Rail lighted section.

NOTE: Refer to instruction sheets supplied with optional equipment, such as “battery back-up” or “proximity sensor/photocell” or dimming.
All V-Rail instruction sheets are available by calling Intense Lighting at (800) 961-5321 or email at customerservice@intenselighting.com.

FINAL INSTALLATION FOR POST MOUNTED POST
NOTE: EPOXY WELD IS A PERMANENT BONDING OF PARTS. INSTALLER IS RESPONSIBLE FOR FINAL ASSEMBLY AND MUST BE SATISFIED WITH MOCK UP ASSEMBLY. CURE TIME OF EPOXY VARIES WITH DIFFERENT BRANDS AND TEMPERATURES.

1. Remove taped extension tubes from lighted section and swivel couplings. Install the first post and secure with anchor bolts (by others).

2. With a second person to hold the V-Rail lighted section. Epoxy weld extension tube #1 (per epoxy weld instructions) onto swivel coupling. Epoxy weld the V-Rail lighted section next. With extension tube #2 taped in place with second post, check fit and alignment with anchor bolts. Double check extension tube measurement. If position has changed, shorten tube or cut another tube if needed to accommodate a perfect fit. Epoxy weld extension tube #2 to V-Rail lighted section and tape joint. Epoxy weld swivel coupling with post attached anchor post in place. Repeat above procedures for remaining assemblies.

3. Add fittings (by Intense or by fabricators) per fittings installation instructions before installing the next V-Rail lighted section.

4. Finish V-Rail installation by attaching the end returns per installation instructions supplied for fittings.

5. Refer to V-Rail maintenance instructions for guidelines to maintain all finishes offered, or replacing LED components.

NOTE: All V-Rail instruction sheets are available by calling Intense Lighting at (800) 961-5321 or email at customerservice@intenselighting.com.
Installation Instructions
IVR15-RPS 1.5” O.D. Solid State Illuminated Rail (Post Mounted)

**Base Detail**

**IMPORTANT:**
- Seal end of conduit with good grade RTV to Prevent moisture entering compartment
- Shim and grout as required to level posts for uneven or grades not level
- Anchors supplied and approved by others.

**Level Post**
- Field wiring connects to internal terminal block.

**Electrical Conduit Stub-out**
- (by Others) 6” Minimum

**Center to Center**
- 24” Min to 60” Max
- Distance/Dimension “V”

**End View**
- 42” Guardrail Height
- 36” Handrail Height

**Top View**
- 24V pigtail to next light section (both ends)

**Side View**
- 21.75” / 31.75” / 41.75” Available
- V-Rail LED Lighted Section

**Anchors supplied and approved by others.**

**Step Level**

**Grade Level**

**Typical Stair Risers**

**Wiring Seal Grommet** (both ends)

**IS-V1001R3**

**IMPORTANT:**
- Seal end of conduit with good grade RTV to Prevent moisture entering compartment

**Extension Tube Length Calculation (for straight sections).**
- Dimension “V” - V-RAIL LED Lighted Section - 3.25” = Result ÷ 2 = Length Per Extension Tube*
- Example: 60” - 41.75” - 3.25” = 15 ÷ 2 = 7.5” Length Per Extension Tube*

**Field wiring connects to internal terminal block.**

**Wire 24V pigtail to next light section (both ends).**
Post Anchor Bolt Template
1:1 Scale
Do Not Fit or Scale To Page When Printing

- Ø 4.13"
- 3.13" B.C.D.
- 1.5" OD
- 1.26" ID
- 3x Ø0.35
- 1/2" Conduit Placed On Center

Must Be Plumb
Installation Instructions
IVR15-RPS  1.5” O.D. Solid State Illuminated Rail (Embedded Post)

INSTALLATION

- With (2) people place post with driver (pre-installed inside by factory) over the electrical conduit stub-out. Place the next post in line. Important Note: make sure horizontal distance between post must be between 4'-0” min. / 6'-0” max. from center-to-center of post. (See drawing for important dimensions)
- Post must be plumbed level. To determine the exact length of extension tube follow these instructions: with posts sitting level, take a measurement between post center-lines to be referred to as dimension "v" for calculations required as follows. Dimension "v" minus 41.75” For light section = total distance less light section divided by 2 = length of each "extension tube" [ex. 60”-41.75”×3”= 18.5” + 2”=9.25” For each extension tube length] cut “extension tubes” [per cutting instructions]. Tape the extensions on to the ends of the lighted section and then onto the post swivel coupling to check fitment. Place assembly into expected mounting positions. Do not make wiring connections yet, but make sure wires are safe from being pinched or cut. Continue with above instructions with other VRAIL sections.
- With VRAIL components taped in place, start at one end and work in succession to the other end. With a second person to hold the VRAIL lighted section, remove tape from extension tube#1 and route wires through extension tube and make connections with supplied wiring connector. Epoxy weld extension tube (per epoxy weld instructions) onto swivel coupling. Epoxy weld the VRAIL lighted section next. With extension tube #2 taped in place with second post, check fit and alignment with anchor bolts. Double check extension tube measurement. If position has changed, shorten tube or cut another tube if needed to accommodate a perfect fit. Epoxy weld extension tube #2 to VRAIL lighted section and tape joint.
- Epoxy weld swivel coupling with post attached anchor post in place. Repeat above procedures for remaining assemblies.
- With VRAIL post in place and braced level. Pour Rockite® into post holes. Check level often during cure and set as required, before Rockite® hardens.
- When Rockite® is cured and mounting is completed, remove cover from the posts equipped with led drivers. Insert field wires into bottom terminal block as follows: green to green (ground), white to white (neutral), black to black (line/voltage). Turn electricity on and check operation. Troubleshoot any loose connections. Replace covers if operation is successful.
- Finish VRAIL installation by attaching the end returns per installation instructions supplied for fittings.
- Add fittings (by Intense Lighting or by fabricators) per fittings installation instructions before installing the next VRAIL lighted section.
- Refer to instruction sheets supplied with optional equipment, such as “battery back-up” or “proximity sensor/photocell”.
- Refer to VRAIL maintenance instructions for guidelines to maintain all finishes offered, or replacing led components.
- All VRAIL instruction sheets are available by calling Intense Lighting at (800) 961-5321 or email at customerservice@intenselighting.com.

FINAL INSTALLATION FOR EMBEDDED POST

NOTE: EPOXY WELD IS A PERMANENT BONDING OF PARTS. INSTALLER IS RESPONSIBLE FOR FINAL ASSEMBLY AND MUST BE SATISFIED WITH MOCK UP ASSEMBLY. CURE TIME OF EPOXY VARIES WITH DIFFERENT BRANDS AND TEMPERATURES.

1. Remove taped extension tubes from lighted section and swivel couplings. Install the first post and secure with anchor bolts (by others).
2. With a second person to hold the V-Rail lighted section. Epoxy weld extension tube #1 (per epoxy weld instructions) onto swivel coupling. Epoxy weld the V-Rail lighted section next. With extension tube #2 taped in place with second post, check fit and alignment with anchor bolts. Double check extension tube measurement. If position has changed, shorten tube or cut another tube if needed to accommodate a perfect fit. Epoxy weld extension tube #2 to V-Rail lighted section and tape joint. Epoxy weld swivel coupling with post attached anchor post in place. Repeat above procedures for remaining assemblies.
3. Add fittings (by Intense or by fabricators) per fittings installation instructions before installing the next V-Rail lighted section.
4. Finish V-Rail installation by attaching the end returns per installation instructions supplied for fittings.
5. Refer to V-Rail maintenance instructions for guidelines to maintain all finishes offered, or replacing LED components.

NOTE: All V-Rail instruction sheets are available by calling Intense Lighting at (800) 961-5321 or email at customerservice@intenselighting.com.
**Embedded Installation Detail**

**IMPORTANT:**
Seal end of conduit with good grade RTV to prevent moisture entering compartment.

Field wiring connects to internal terminal block.

Electrical 1/2" conduit (max) stub-up, in and out access (by others) 6” above grade.

Note:
Conduit feed only required when installing post with integral power supply. Typically every other post will require conduit feed.

**Concrete (by others)**

**Rockite® Anchor Cement (or equal)**

6" Burial Depth*

Cored hole dimensions to be determined by others per local codes.

**Electrical 1/2" conduit (max)**

Stub-up, in and out access (by others) 6” above grade.

**Field wiring** connects to internal terminal block.

**Note:**
Conduit feed only required when installing post with integral power supply. Typically every other post will require conduit feed.

**Center to Center**

24” Min to 60” Max

Distance/Dimension “V”

21.75” / 31.75” / 41.75” Available V-Rail LED Lighted Section

**Wiring Seal Grommet** (both ends)

**Wire 24V pigtail to next light section** (both ends)

**Top View**

**Grade Level**

Typical Stair Risers

**Side View**

**Step Level**

**End View**

Grade Level

6” (TVP)

42” Guardrail Height

36” Handrail Height

**Extension Tube Length Calculation** (for straight sections).

Dimension “V” = V-Rail LED Lighted Section - 3.25” = Result + 2 = Length Per Extension Tube*

Example: 60” - 41.75” - 3.25” = 15 + 2 = 7.5” Length Per Extension Tube*

*Extension Tube #1
(length varies see calculation to determine)

*Extension Tube #2
(length varies see calculation to determine)
INTENSE LIGHTING EXTERIOR LED PRODUCTS
5-YEAR LIMITED WARRANTY

Intense Lighting warrants the LED electronics and components of its properly installed EXTERIOR LED products listed below, to be free of defects in material and workmanship in normal use, for a period of five years from the date of our shipment. Intense Lighting will repair or replace, at its option, any warranted product returned to it that it determines to be defective. This limited warranty does not include installation or removal. For the first year after the date of shipment, Intense Lighting will provide personnel to make field repairs for defective recessed fixtures only. In addition to complete failure, defects include lumen depreciation to levels below 70% of initial lumen output within warranty period and/or color shift beyond that which is set forth in the Energy Star Program Requirements for SSL – Version 1.1 within warranty period.

Defects do not include improper installation or operation, alterations, power surges or overheating due to external conditions. To receive credit for defective merchandise, product must undergo quality inspection prior to the processing of credit. If the product is found defective, you will be issued a credit. Product in good working condition will not receive a credit. Please inform your accounting department not to short pay or issue any debits to our company regarding a return. Testing and evaluation can take approximately 1-2 weeks based on quantity. At that time you will be notified if credit is granted for your warranty return.

THE ABOVE EXPRESS WARRANTY STATES THE FULL AND COMPLETE OBLIGATION OF INTENSE LIGHTING. ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE TERM OF THE EXPRESS WARRANTY. UNDER NO CIRCUMSTANCES WILL INTENSE LIGHTING ACCEPT LIABILITY FOR ANY CONSEQUENTIAL SPECIAL OR INDIRECT DAMAGES WHETHER ARISING OUT OF CONTRACT, TORT, OR STRICT LIABILITY.