N° ei8ht
LIGHTING
®

400 SERIES
400-R-RT REMODEL
REMOTE POWER SUPPLY
INSTALLATION INSTRUCTIONS

SCAN QR CODE FOR INSTRUCTIONS

WARNING: Read and understand these instructions completely before installation. Disconnect power at circuit breaker or fuse panel before installation. Always allow LED assembly to cool before servicing. To be installed by qualified electricians only. Products should be installed in accordance with these instructions, local electrical codes, and the National Electric Code (NEC). These products may represent a possible shock or fire hazard if improperly installed.

Do not install where insulation or ambient temperatures will exceed maximum values noted in product specifications. See www.8lighting.com for current product specifications.

NOTE: Number Eight Lighting fixtures are designed to meet the latest NEC requirements and are listed in full compliance with UL standards. Before attempting installation check and understand your local electrical code which sets the wiring standards and installation requirements for your locality.
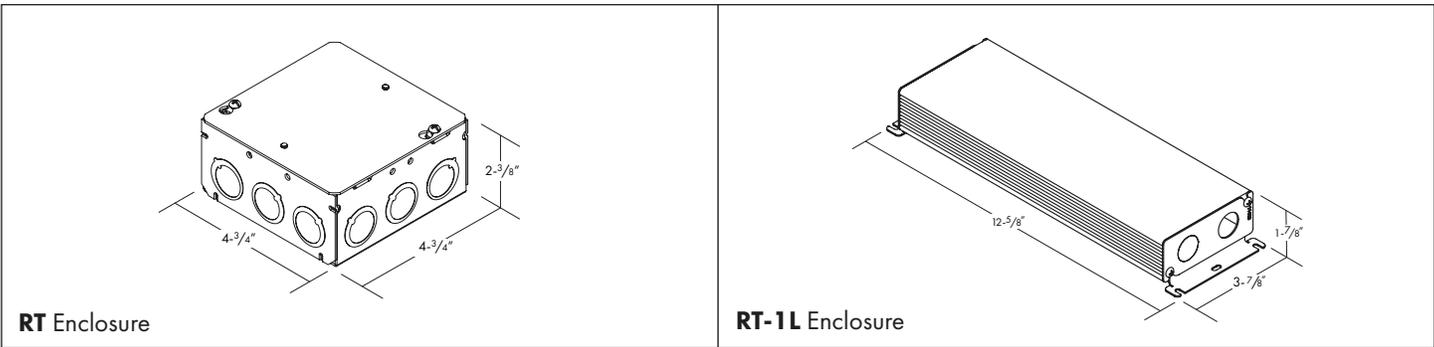
Save these instructions.

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400-R-RT SERIES COMPONENTS

400 R-RT SERIES - AIR-TIGHT and I.C. RATED REMODEL LIGHT ENGINE with REMOTE POWER SUPPLY

400-R-RT REMODEL LIGHT ENGINE
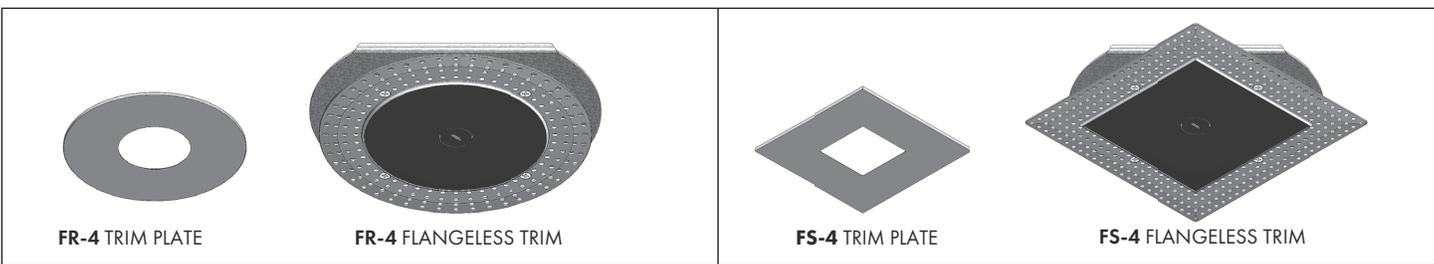**400-R-RT** REMODEL LIGHT ENGINE

400 R-RT-SERIES – REMOTE DRIVER ENCLOSURES

2-3/8"
4-3/4"
4-3/4"

RT Enclosure

12-5/8"
1-7/8"
3-7/8"

RT-1L Enclosure

400 SERIES – FLANGED TRIMS

FLR-4 FLANGED ROUND FLAT TRIM PLATE

FLS-4 FLANGED SQUARE FLAT TRIM PLATE
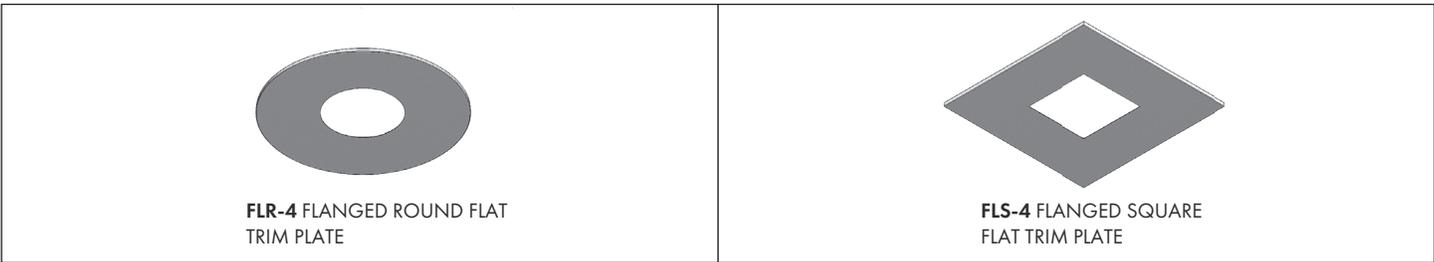
400 SERIES - FLANGELESS TRIMS

FR-4 TRIM PLATE   **FR-4** FLANGELESS TRIM

FS-4 TRIM PLATE   **FS-4** FLANGELESS TRIM

400 SERIES – OPTIC OPTIONS + ACCESSORIES

TIR-10 10° Very narrow spot*
TIR-15 15° Narrow spot
TIR-25 25° Narrow flood
TIR-40 40° Flood
*For use with HI-2 LED option only

NSP Narrow softening lens
NFL Medium softening lens
FL Wide softening lens
WFL Extra wide softening lens
LS Linear spread lens

CF-24* 2400K Color filter
CF-27** 2700K Color filter
CF-35** 3500K Color filter
*For use with 2700K LED options only
**For use with 3000K LED options only

REMODEL – REMOTE INSTALLATION – FLANGED TRIMS

CEILING TYPES: Sheetrock, Wood, & Stone
CEILING THICKNESS: ½" Min – 5 ½" Max
CUT-OUT: Ø 4 ½"

Ø 4¹/₂"
Cut-Out

400-R-RT
Light Engine

FLR-4
Trim Plate

FLS-4
Trim Plate

RT
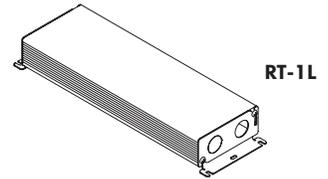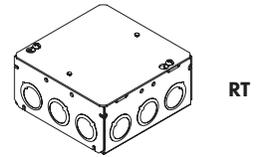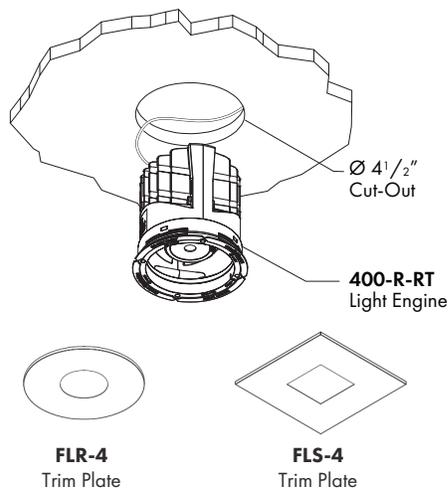
RT-1L

Remote Power Supply
RT or **RT-1L**

CAUTION: Cut-out must be within +/-1/32". Ceiling material must be rigid and able to support weight of fixture (approximately 5lbs.). Not for use with acoustic tile or non-rigid ceiling materials.

STEP 1 – ROUGH WIRING

1a. Disconnect power at circuit breaker.
1b. Review wiring instructions on **Pages 10-12**, wire accordingly.
1c. Install Class 2 wiring to fixture location leaving a 12" to 18" flexible whip to facilitate installation/servicing.
Note: 0-10V, DALI and EcoSystem Dimming Options (if specified) require additional control wiring.

STEP 2 – CEILING CUT-OUT AND INSTALLATION

2a. Ensure location of fixture will be a minimum of ½" from edge of cut-out to nearest framing member and there will be sufficient space for installation of power supply assembly.
2b. (Skip this step if installing into existing ceiling)
Install ceiling material over rough wiring.
Note: Rough wiring will be accessible after making ceiling cut-out. Certain local electrical codes may require rough wiring to be installed in temporary junction box (not supplied) prior to installing ceiling.
2c. For sheetrock ceilings - apply all coats of finish and primer coating before making cut-out.
**2d.** Make Ø 4 ½" cut-out using appropriate hole saw.
.

REMODEL – REMOTE INSTALLATION – FLANGED TRIMS

3a. Route class 2 wiring from remote power supply to fixture location and pull through ceiling cut-out ensuring a minimum of 6" of wire extends below the ceiling. Support Light Engine and attach remote wire assembly splice connectors to Class 2 wiring. Remove dust cover temporarily and save.

Class 2 Wiring (by others)

Splice connectors

Remote Wire Assembly

Dust Cover
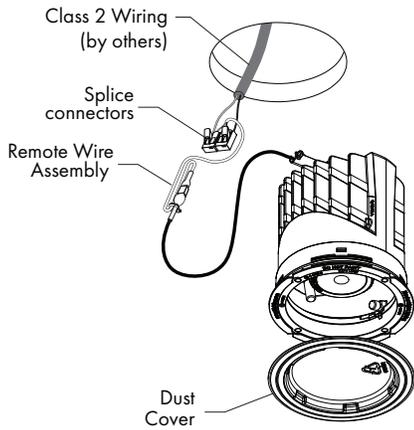
3b. Install light engine into cut-out.
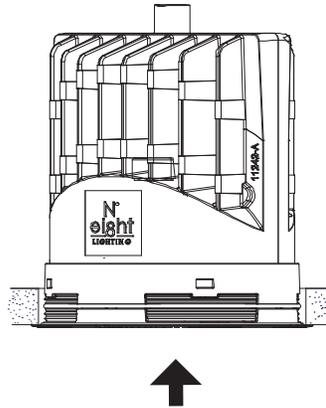
3c. Rotate light engine flange so notches are aligned with adjacent walls or fixtures.

Wall Line
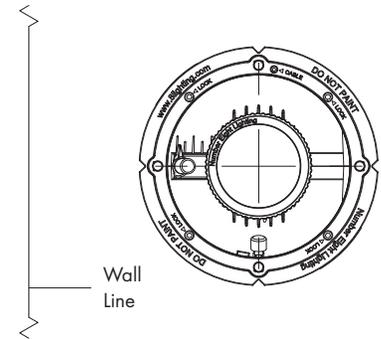
3d. Locate (4) four locking screws. While applying upward pressure on light engine flange, hand tighten using supplied 3/32" hex-key. Ensure light engine flange is tight against ceiling. **Caution:** Ceiling finish must not extend above backside of light engine flange.

Ceiling Finish

Light Engine Flange
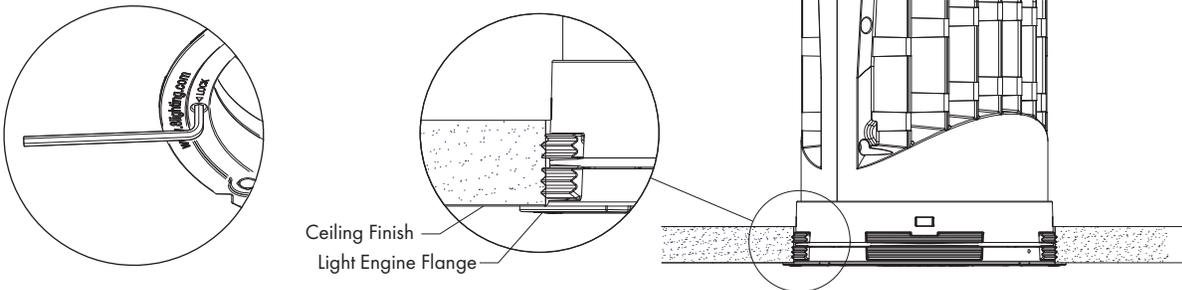
3e. Re-install temporary dust cover until after ceiling has been completely finished.

REMODEL – REMOTE INSTALLATION – FLANGELESS TRIMS

FR-4 Trim Mounting Bracket

Ø 6" Cut-Out

FR-4 Trim

400-R-RT Housing + Light Engine

FR-4 Trim Plate

RT

RT-1L

Remote Power Supply
RT or **RT-1L**
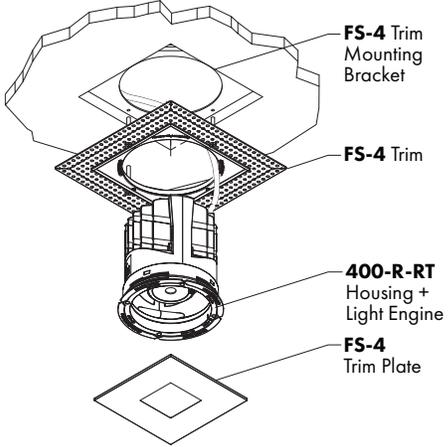
FS-4 Trim Mounting Bracket

FS-4 Trim

400-R-RT Housing + Light Engine

FS-4 Trim Plate

CEILING TYPES: Sheetrock
CEILING THICKNESS: ½" Min – 5 ½" Max*
CUT-OUT: Ø 6"
*For ceiling thicknesses over 1 ¼" use longer FHMS 8-32 screws (not supplied)

CEILING TYPES: Sheetrock
CEILING THICKNESS: ½" Min – 5 ½" Max*
CUT-OUT: 6" x 6"
*For ceiling thicknesses over 1 ¼" use longer FHMS 8-32 screws (not supplied)

CAUTION: Cut out must be within +/-1/16". Ceiling material must be rigid and able to support weight of fixture (approximately 5lbs.). Not for use with acoustic tile or non-rigid ceiling materials.

STEP 1 – ROUGH WIRING

1a. Disconnect power at circuit breaker.
1b. Review wiring instructions included on **Pages 10-12**, wire accordingly.
1c. Install Class 2 wiring to fixture location leaving a 12-18" flexible whip to facilitate installation/servicing.
Note: 0-10V, DALI and EcoSystem Dimming Options (if specified) require additional control wiring.

STEP 2 – CEILING CUT-OUT AND INSTALLATION

2a. Ensure location of fixture will be a minimum of ½" from edge of cut-out to nearest framing member and there will be sufficient space for installation of power supply assembly.
2b. (Skip this step if installing into existing ceiling)
     Install ceiling material over rough wiring.
Note: Rough wiring will be accessible after making ceiling cut-out. Certain local electrical codes may require rough wiring to be installed in temporary junction box (not supplied) prior to installing ceiling.
2c. Make Ø 6" cut-out for **FR-4** trim or 6" x 6" cut-out for **FS-4** trim .
Note: For **FS-4** trim, align cut-out with adjacent walls and fixtures.

STEP 3 – FLANGELESS TRIM INSTALLATION

3a. Install ceiling bracket through cut-out. Remove mud shield and save. Install trim using four screws. Note: do not tighten screws until Step 3b.

FR-4 FLANGELESS TRIM

Mud Shield

FS-4 FLANGELESS TRIM

Mud Shield
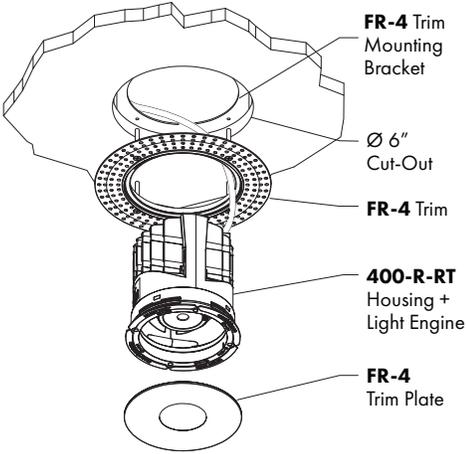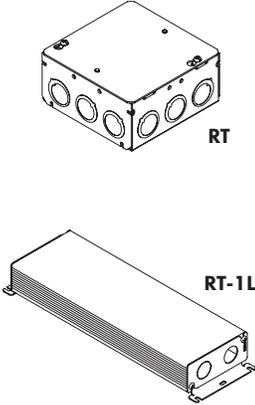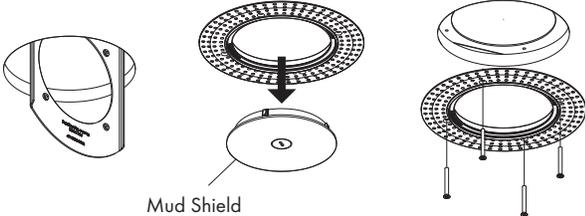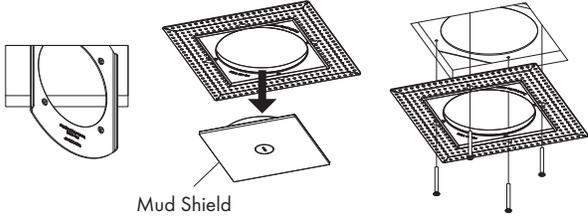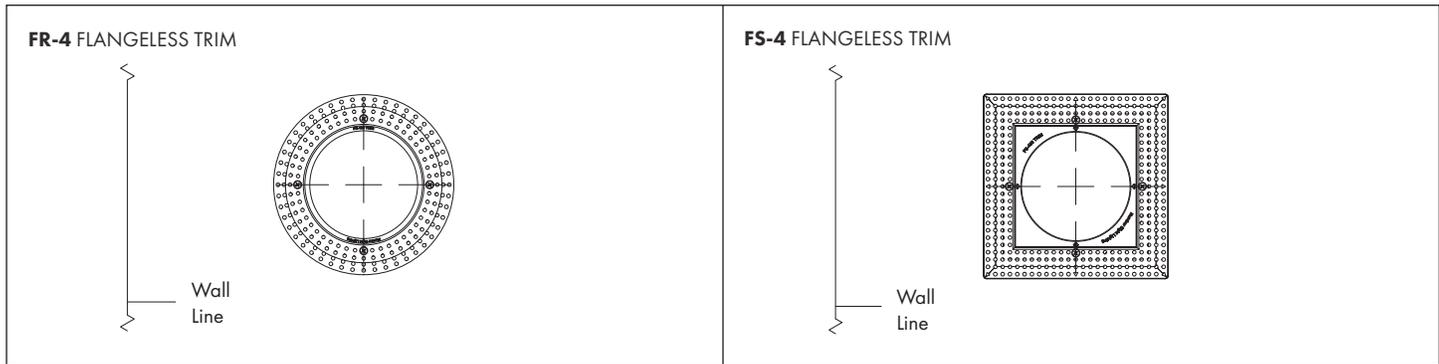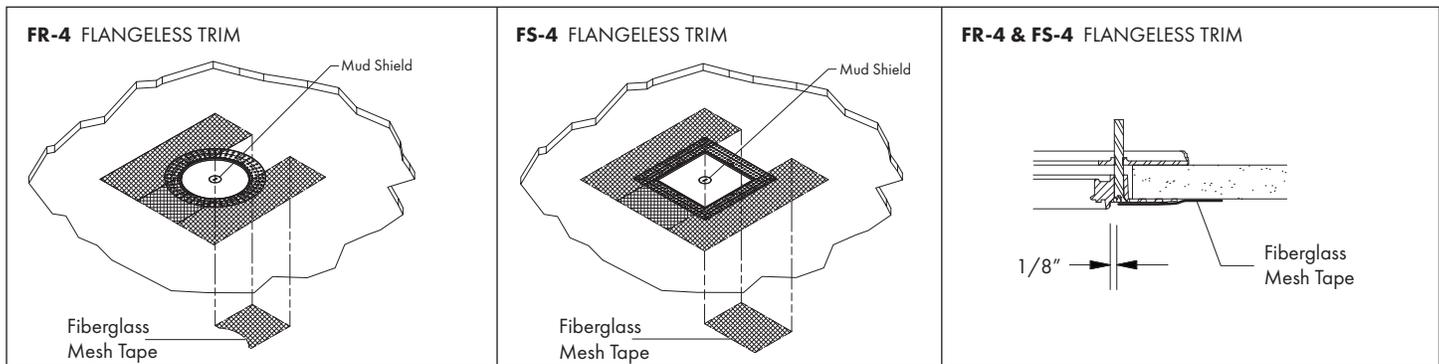
REMODEL – REMOTE INSTALLATION – FLANGELESS TRIMS
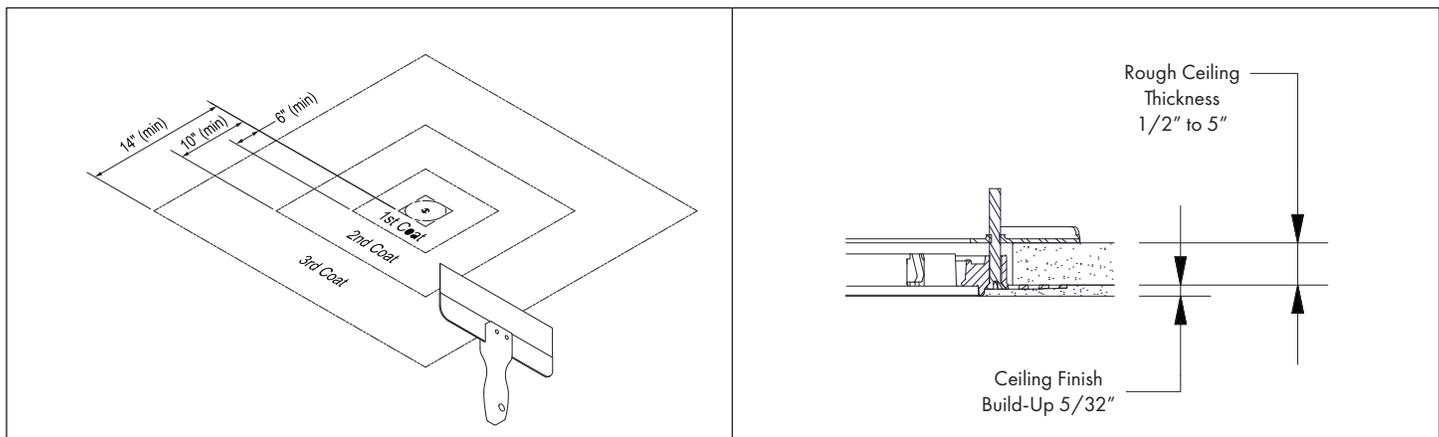
STEP 3 – FLANGELESS TRIM INSTALLATION (CONTINUED)

3b. Rotate trim so screws are aligned with adjacent walls or fixtures.
CAUTION: Hand tighten trim screws. Power driver is not recommended.

FR-4 FLANGELESS TRIM

Wall
Line

FS-4 FLANGELESS TRIM

Wall
Line

3c. Re-install mud shield
3d. Apply 6″ wide fiberglass mesh tape over perforated metal trim flange leaving 1/8″ cut-out around the outside edge of the raised trim lip and extending over ceiling board

FR-4 FLANGELESS TRIM

Mud Shield

Fiberglass
Mesh Tape

FS-4 FLANGELESS TRIM

Mud Shield

Fiberglass
Mesh Tape

FR-4 & FS-4 FLANGELESS TRIM

1/8″

Fiberglass
Mesh Tape

3e. Apply Ceiling Finish **FR-4 & FS-4** FLANGELESS TRIM

14″ (min)
10″ (min)
6″ (min)
1st Coat
2nd Coat
3rd Coat

Rough Ceiling
Thickness
1/2″ to 5″

Ceiling Finish
Build-Up 5/32″

3f. First Coat - Apply USG "Durabond" setting-type joint compound for embedding the perforated flange and fiberglass mesh tape following the manufacturer's instructions and warnings for outside corners and trim. The compound should extend a minimum of 6″ from the trim edge. Allow first coat to dry completely and remove any high spots by lightly sanding before applying the second coat.

3g. Second Coat - Apply USG general purpose ready-mixed joint compound flush to finished edge of trim, floating outward following the manufacturer's instructions and warnings. The compound should extend a minimum of 10″ from the trim edge. Allow second coat to dry completely and remove any high spots by lightly sanding before applying the third coat.

3h. Third Coat - Apply USG ready-mixed finishing joint compound flush to finished edge of trim, floating outward following the manufacturer's instructions and warnings. The compound should extend a minimum of 14″ from the trim edge. Allow third coat to dry completely before sanding.

3i. Sand third coat with fine grit sandpaper until mud shield and finished metal edge of trim lip are barely exposed.

3j. Remove mud shield knock-out and remove mud-shield by pulling outward.

3k. Remove excess material from inside edges of trim.

3l. Apply primer (USG Sheetrock or equivalent) and paint following the paint manufacturer's instructions and warnings.
CAUTION: Do not paint inside of **FR-4** or **FS-4** trim surface.

REMODEL – REMOTE INSTALLATION – FLANGELESS TRIMS

4a. Route class 2 wiring from remote power supply to fixture location and pull through ceiling cut-out ensuring a minimum of 6" of wire extends below the ceiling. Support Light Engine and attach remote wire assembly splice connectors to Class 2 wiring. Remove dust cover temporarily and save.

Class 2 Wiring (by others)

Splice connectors

Remote Wire Assembly

Dust Cover
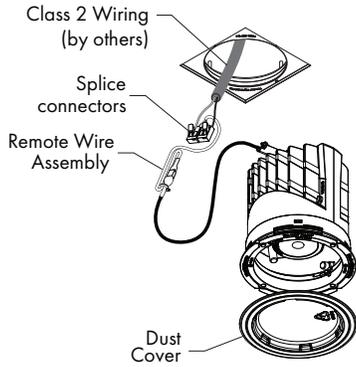
4b. Install light engine into trim cut-out.
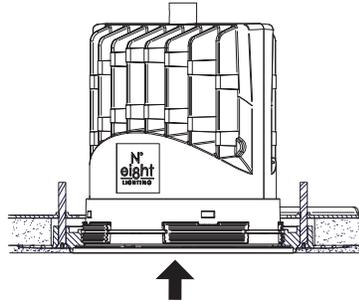
4c. For **FR-4** trim, rotate light engine flange so notches are aligned with adjacent walls or fixtures. For **FS-4** trim, rotate light engine flange until notches in flange mate with notches in trim.

Wall Line
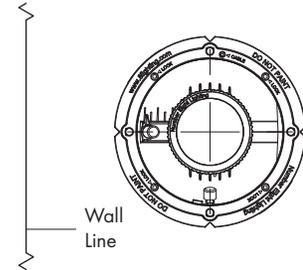
4d. Locate (4) four locking screws. While applying upward pressure on light engine, hand tighten using supplied 3/32" hex-key. Ensure light engine flange is tight against trim.

Trim Notch
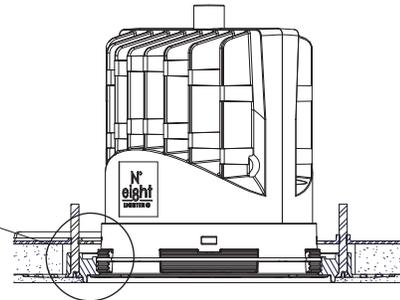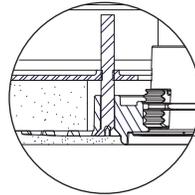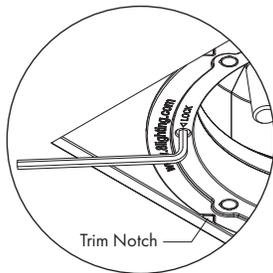
4e. Re-install dust cover temporarily until after ceiling has been completely finished.

AIMING & ADJUSTMENT

1a. After ceiling is finished, remove temporary dust cover and discard.

1b. Loosen vertical and horizontal adjustment locks.

1c. Adjust vertical aiming by sliding the lamp holder to desired angle (0-35°).

1d. Adjust the horizontal aiming by rotating the lamp holder & housing assembly to desired angle (0-360°).

1e. Tighten vertical and horizontal adjustment screws.

Vertical aiming angle adjustment			Horizontal aiming angle adjustment
0° 10° 20° 30° 5° 15° 25° 35° — Vertical Lock / Horizontal Lock	0° Aiming Angle	35° Aiming Angle	360° Rotation

2a. Remove lens ring from lamp holder by unscrewing counter-clockwise.
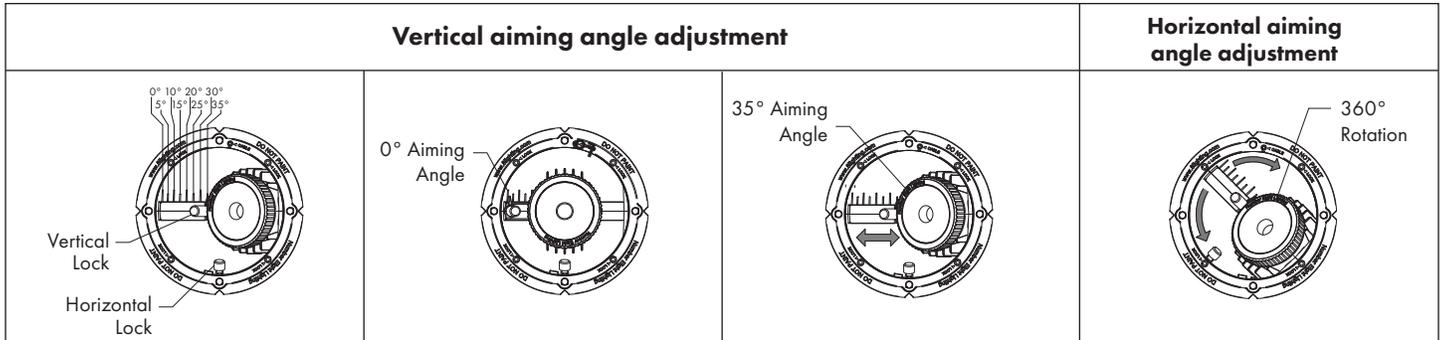
2b. Remove optic lens (and accessory lens if installed) by gently pressing upward on the center while holding the lens ring.

2c. Install desired optic (and accessory lens if used) by aligning the optic lens teeth with notches in lens ring.

2d. Re-install lens ring onto lamp holder by turning clockwise.

	Optical Lens / Accessory Lens / Notch / Lens Ring	Install Teeth Into Lens Ring Notches	Lens Must Fully Seat Into Lens Ring Opening
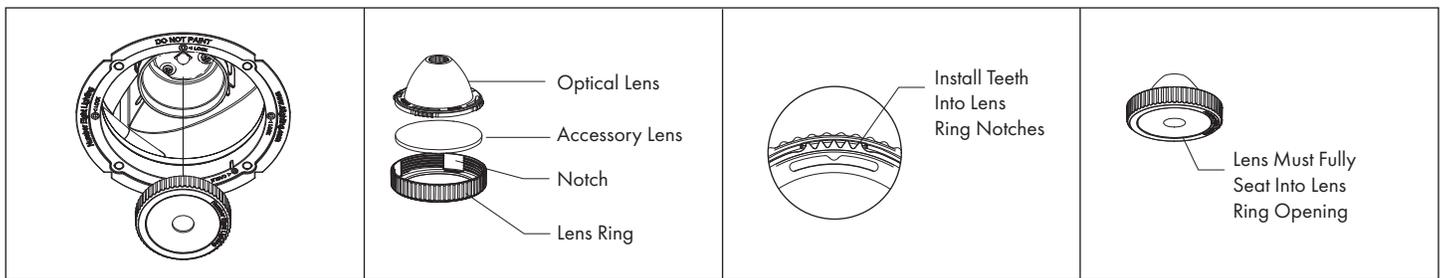
WW-4 Wall Wash Trim Adjustment and Installation

> **Important: For optimal performance use 40° optic with HI, HI-3, WD, WD-2, WD-4, or TW LED. Use 10° optic and FL lens with HI-2 LED.**
>
> **1a.** Unlock & adjust vertical aiming angle to 20°.
>
> **1b.** Unlock & adjust horizontal position to aim light towards wall surface to be illuminated.
>
> **1c.** Orient & install Wall Wash Trim Plate into Trim as shown.
>
> **Note:** Magnets will permit Trim Plates to only be installed in 4 horizontal orientations.

1a. Adjust Vertical Aiming Angle

Adjust to 20°

0° 10° 20° 30°
5° 15° 25° 35°

Vertical lock knob
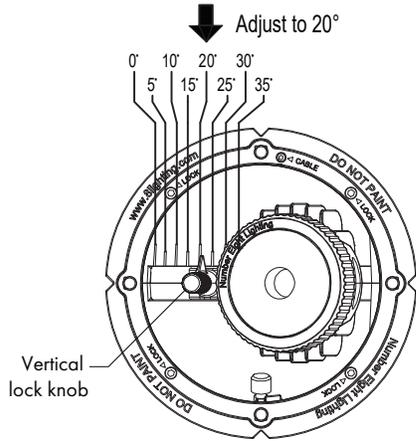
1b. Adjust Horizontal Aiming Angle

Horizontal lock knob

Important: Install Light Engine so Cable Screw is oriented closest to wall as shown.

Wall
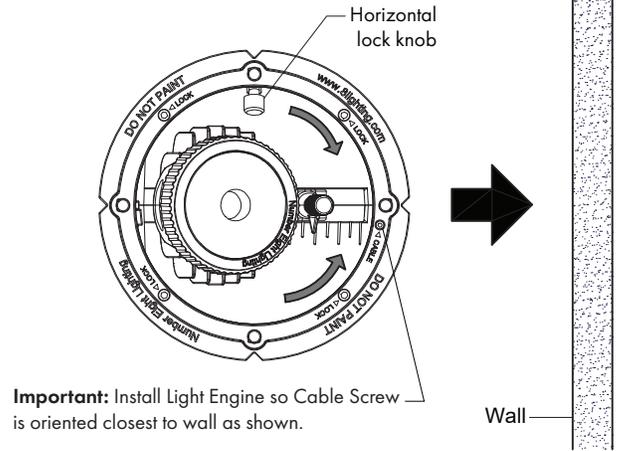
1c. Install onto Light Engine Flange

Insert cable into side hole & secure with Hex Key

4x Magnets

FLR-4-WW-4 shown

FLS-4-WW-4 shown

1/16" Hex Key

LED Holder

Wall Wash Trim Plate

Install so Wall Wash Trim Plate aligns to LED Holder as shown

Ceiling

Wall
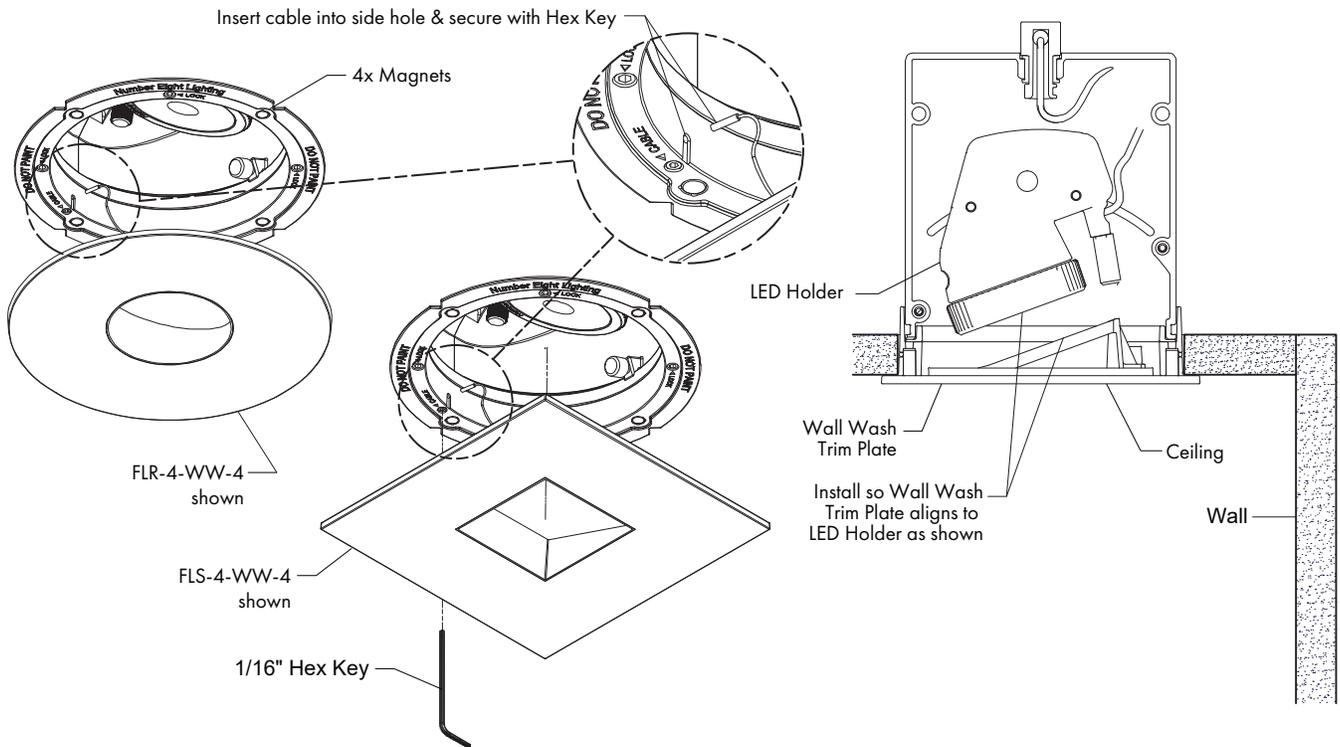
TRIM PLATE FINISHING & INSTALLATION

STEP 1 (OPTIONAL) – PAINT TRIM PLATE

1a. Remove the trim plate from packaging.

1b. Clean and prepare exposed surfaces for painting following the paint manufacturer's instructions and warnings.

1c. Paint as desired using a "dry roller" or light spray application.

Note: If applying paint by spray method, mask trim plate lens (if installed).

Caution: Paint must be rated for minimum 90°C (150°F). Do not paint trim plate while installed in fixture. Do not paint backside of trim plate or trim safety cable. Do not paint edges of FR-4 or FS-4 trim plate.

1d. Allow trim plate to dry completely before installing.

STEP 2 – INSTALL TRIM PLATE

2a. Remove temporary dust cover and discard.

2b. Install trim safety cable into attachment hole on housing marked "CABLE" and secure by hand tightening set screw using supplied 1/16" hex key.
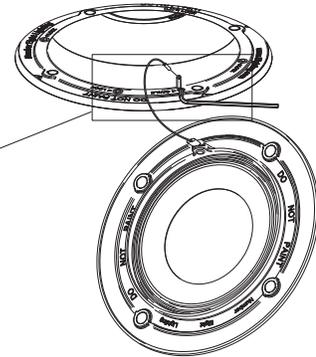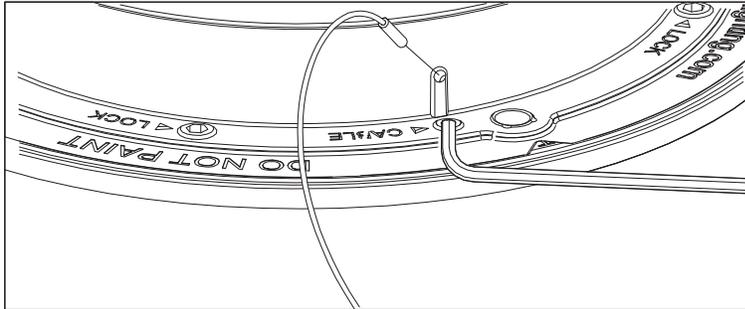
2c. Align trim plate with magnets and install.

WIRING INSTRUCTIONS

For PR1-4-RT and EL1/EL1-01/EL2/EL2-01/EL3/EL4/EL5/LU4-4-RT -1L Remote Power Supply Options

STEP 1 Verify correct power supply model (see label on cover plate), LED type (see label on fixture), wire length and gauge (see chart in **FIG 10.2** below) and input requirements (see label on driver).

Note: For compatible dimmers see: www.8lighting.com/resources-downloads.

STEP 2 Install & wire remote power supply (RT & RT-1L) - **FIG 10.1**. See Wiring Diagrams on **Pages 11-12** .

STEP 3 Connect fixture supply wires to Class 2 wiring - **FIG 10.1**.

STEP 4 Push fixture supply connections completely behind Cover or End Caps - **FIG 10.1**

RT ENCLOSURE

Input Power Wiring

Class 2 Output Fixture Wiring

PR1-4-R-RT-350/1000 Remote Power Supply

RT-1L ENCLOSURE

Input 0-10V, DALI, DMX or EcoSystem Control Wiring (if specified)

Class 2 Output Fixture Wiring

EL1/EL1-01/EL2/EL2-01/LU4-4-R-RT-1L-350/1000 Remote Power Supply

Note: Class 2 output wiring inside junction box must be separated from line voltage by a minimum of 0.25in (6mm)

FIG 10.1 Wire & Install Remote Power Supply

Maximum REMOTE Driver-to-LED Light Engine Wire Length					
Driver Model					Wire Gauge
PR1-M-RT 350/1000/1400	EL1/EL1-01/EL2/EL2-01-M-RT-1L 350/1000/1400	EL3/EL4/EL5-M-RT-1L-700	LU4-M RT-1L-350	LU4-M RT-1L-1000	
8 ft (2.5 m)			4 ft (1.2 m)		24 AWG (0.2 mm²)
13 ft (4 m)			6 ft (1.8 m)		22 AWG (0.34 mm²)
20 ft (6 m)			10 ft (3 m)		20 AWG (0.5 mm²)
30 ft (9 m)			15 ft (4.5 m)		18 AWG (.75 mm²)
35 ft (10.5 m)			25 ft (7.5 m)		16 AWG (1.5 mm²)
50 ft (15 m)			40 ft (12 m)		14 AWG (2.5 mm²)
100 ft (30 m)			60 ft (18 m)		12 AWG (4.0 mm²)
Wire Type: Stranded Class 2 wire (supplied by others)					

FIG 10.2 Remote Power Supply Class 2 Wire Length

WIRING DIAGRAMS

For PR1-4-R-RT and EL1/EL1-01/EL2/EL2-01-4-R-RT-1L Remote Power Supply Options

PR1-4-R-RT-350/1000 - REMOTE PHASE CONTROL

Input Power Wiring (by installer)

120V/60Hz Supply

Green
White
Black

PR1-4-R-RT Power Supply

Red
Black

+
−

Class 2 Wiring to Light Engine (by installer)

Forward or Reverse Phase Dimmer w/ Neutral Connection (as required)

Phase Control Notes:
PR1 drivers are Forward or Reverse Phase Dimmable
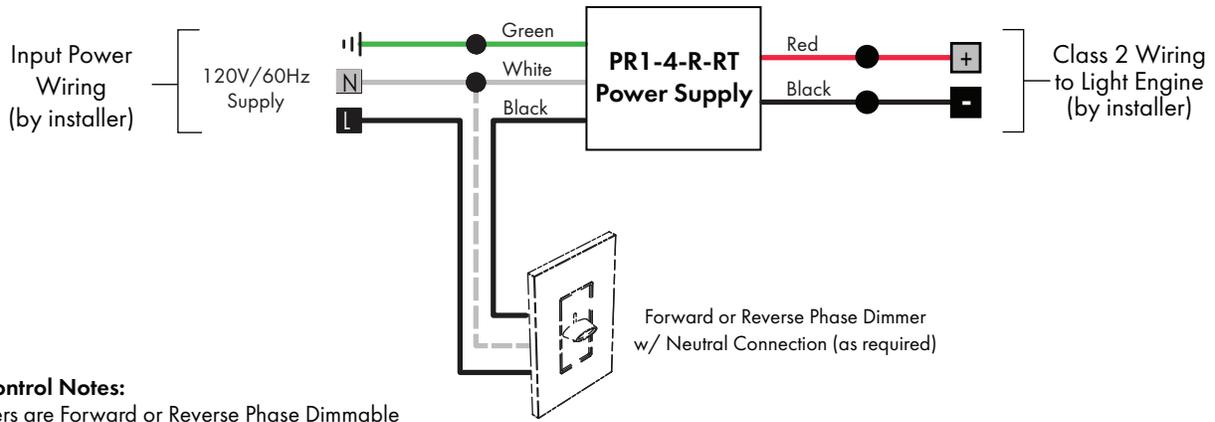
EL1/EL1-01-4-R-RT-350/1000 - REMOTE 0-10V CONTROL
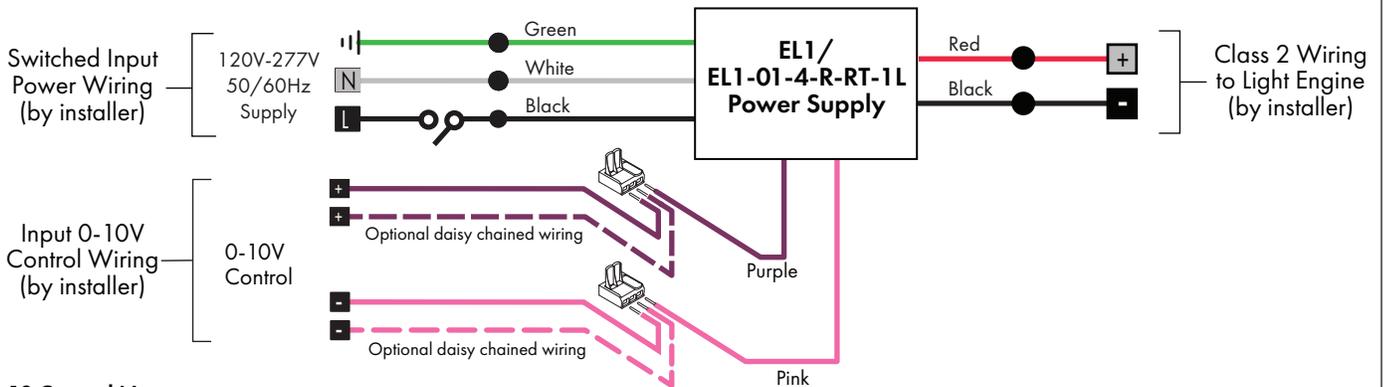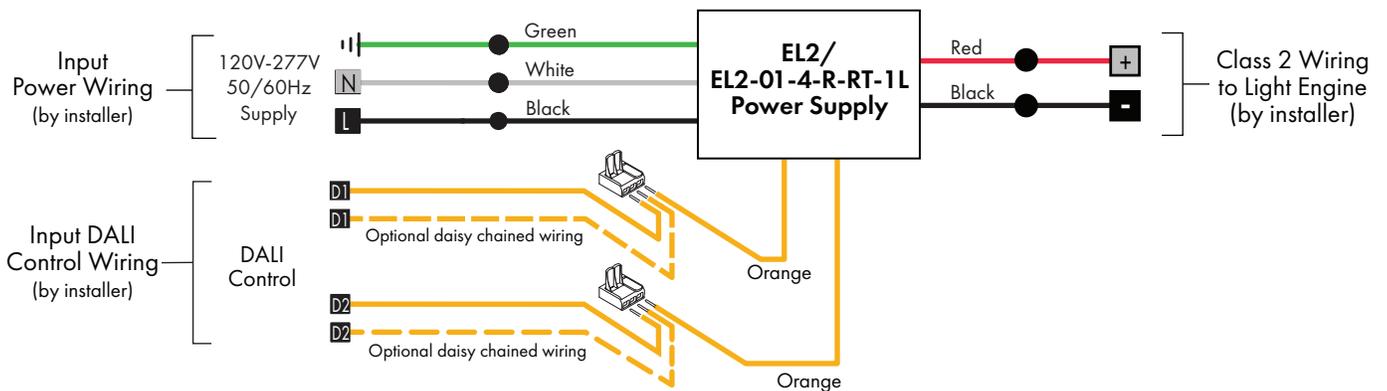
Switched Input Power Wiring (by installer)

120V-277V 50/60Hz Supply

Green
White
Black

EL1/ EL1-01-4-R-RT-1L Power Supply

Red
Black

+
−

Class 2 Wiring to Light Engine (by installer)

Input 0-10V Control Wiring (by installer)

0-10V Control

+
+
Optional daisy chained wiring

Purple

−
−
Optional daisy chained wiring

Pink

0-10 Control Notes:
0-10 control wiring IS polarity sensitive and can be run as Class 2.
300' is the maximum control wiring run length to reduce EMI susceptibility and voltage drop. Voltage drop should be no greater than 0.3V.

EL2/EL2-01-4-R-RT-350/1000 - REMOTE DALI CONTROL

Input Power Wiring (by installer)

120V-277V 50/60Hz Supply

Green
White
Black

EL2/ EL2-01-4-R-RT-1L Power Supply

Red
Black

+
−

Class 2 Wiring to Light Engine (by installer)

Input DALI Control Wiring (by installer)

DALI Control

D1
D1
Optional daisy chained wiring

Orange

D2
D2
Optional daisy chained wiring

Orange

DALI Control Notes:
DALI control wiring IS NOT polarity sensitive and can be run as Class 1 or 2.
Up to 64 **EL2** power supplies can be daisy chained per DALI control loop. Maximum control wiring run length is 1000'.

WIRING INSTRUCTIONS

For LU4-4-R-RT-350/1000 Remote Power Supply Options

LU4-4-R-RT-350/1000 - REMOTE ECOSYSTEM CONTROL

Input EcoSystem Control Wiring (by installer) — EcoSystem Control

E1 — Purple
E1 — Purple

Input Power Wiring (by installer) — 120V or 277V 50/60Hz Supply

L — Black
N — White
⏚ — Green

LU4-4-R-RT-1L Power Supply

Red — +
Black — -

Class 2 Wiring to Light Engine (by installer)
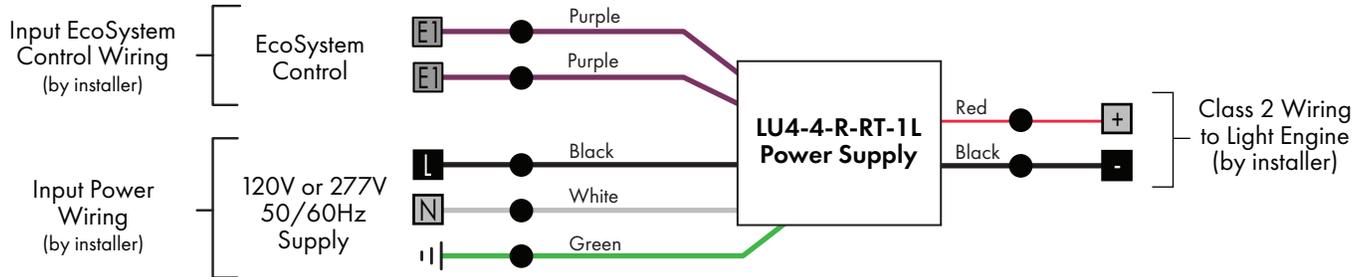
Lutron EcoSystem Control Notes:
Up to 64 **LU4** power supplies can be daisy chained per EcoSystem control loop. Maximum control wiring run length is 1000'.
For additional information contact LED Center of Excellance at 1.877.346.5338 or LEDs@lutron.com.

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