

OptiMax2 LED Retrofit Instructions



BEFORE YOU BEGIN

Read these instructions completely and carefully.



WARNING: TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY, OBSERVE THE FOLLOWING:

1. INSTALLATION OF THIS RETROFIT ASSEMBLY REQUIRES A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF ELECTRICAL SYSTEMS AND THE HAZARD INVOLVED.
2. Use this unit in the manner intended by the manufacturer.
3. Before servicing or cleaning, switch power off.
4. Turn power off before removing existing lighting system and follow appropriate lock out/tag out safety procedures.
5. For use in a commercial refrigeration case with packaged foods only.
6. When drilling for installation hardware, be careful not to nick wires or electrical components which may result in risk of fire or electrical shock.
7. Only those open holes indicated in the photographs and/or drawings may be made or altered as a result of kit installation. Do not leave any other open holes in an enclosure of wiring or electrical components
8. Risk of fire or electrical shock. Install this kit only in the luminaries that has the construction features shown in the photographs and/or drawings.
9. To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

NOTE: Remove and dispose of existing ballasts per any local or Federal guidelines.



Safety

Proper safety equipment



Safety glasses



Work gloves



Work shoes



TURN OFF ALL ELECTRICAL POWER PRIOR TO BEGINNING WORK ON THE DOOR OR ANY ELECTRICAL. USE EXTRA CAUTION WHEN WORKING WITH OR AROUND THE DOOR GLASS PACKAGE.

TOOLS

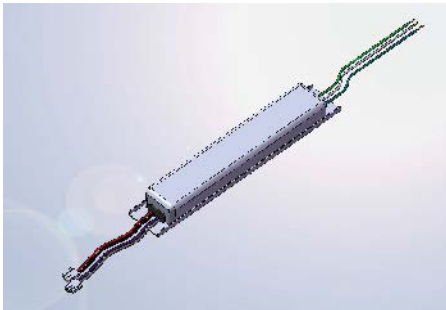
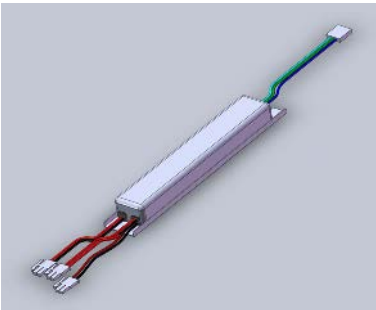
#2 Phillips-head screwdriver	Rubber or plastic mallet
Cordless drill w/attachments	Flat-head screwdriver
Needle-nose pliers	Wire stripper and cutter
Razor Knife	Tape measure

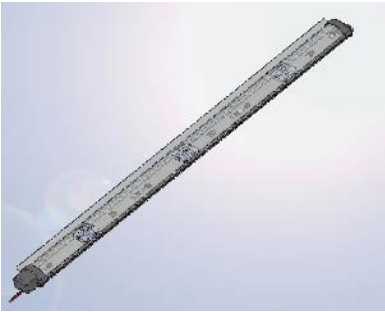
TIPS

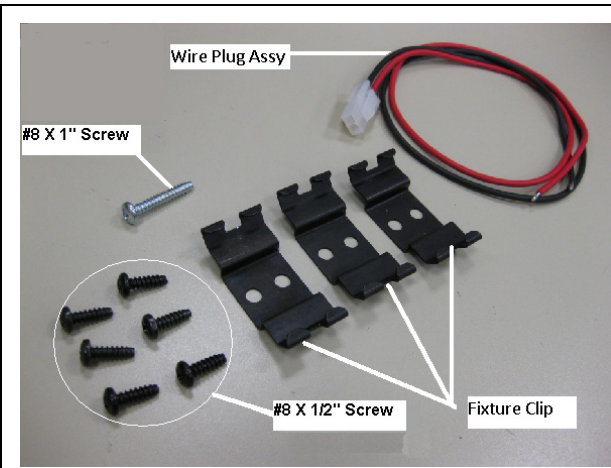
- Always use the correct tool for the job to be performed. This ensures proper installation and minimizes safety risks.
- If there is any doubt about the work to be performed, consult with a certified technician or Anthony representative.
- Preventative maintenance is recommended to ensure product longevity.

RETROFIT PARTS LIST

LED Power Supply Part No.							
 60-16979-0002 ¹ or 60-16851-0002 ¹	 60-17544-0001 ²				60-16979-0002 - 500 ma, Low Power ¹	60-16851-0002 - 700 ma, High Power ¹	60-17544-0001 - 500 ma, Multi-Fixture ²
	Center Fixture Part No.	Description	Color Temp (K)				
	60-17447-0001	60" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-0002	72" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-0003	48" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-1001	60" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-1002	72" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-1003	48" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-2001	60" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-2002	72" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17447-2003	48" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
HALF POWER END							
	Right End Fixture Part No.	Description	Color Temp (K)				
	60-17445-0001	60" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-0002	72" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-0003	48" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-1001	60" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-1002	72" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-1003	48" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-2001	60" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-2002	72" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17445-2003	48" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
HALF POWER END							
	Left End Fixture Part No.	Description	Color Temp (K)				
	60-17446-0001	60" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-0002	72" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-0003	48" Light Fixture	4100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-1001	60" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-1002	72" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-1003	48" Light Fixture	5000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-2001	60" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-2002	72" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	60-17446-2003	48" Light Fixture	3500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

LED Power Supply Part No.		60-16979-0002 - 500 ma. Low Power ¹	60-16851-0002 - 700 ma. High Power ¹	60-17544-0001 - 500 ma. Multi-Fixture ²
	60-16979-0002 ¹ or 60-16851-0002 ¹			
	60-17544-0001 ²			

	OPTIONAL Full POWER END					
	Right End Fixture Part No.	Description	Color Temp (K)			
	60-17554-0001	60" Light Fixture	4100	X	X	X
	60-17554-0002	72" Light Fixture	4100	X	X	X
	60-17554-0003	48" Light Fixture	4100	X	X	X
	60-17554-1001	60" Light Fixture	5000	X	X	X
	60-17554-1002	72" Light Fixture	5000	X	X	X
	60-17554-1003	48" Light Fixture	5000	X	X	X
	60-17554-2001	60" Light Fixture	3500	X	X	X
	60-17554-2002	72" Light Fixture	3500	X	X	X
	60-17554-2003	48" Light Fixture	3500	X	X	X



Mounting Kit Part No.	
04-18201-0001	Optimax2 Mounting Kit

ADDITIONAL PARTS REQUIRED FOR Ardco FRAME

Part Number	<u>Description</u>
15-12314-0001	UL approved enclosure
40-12348-1002	#8/32 zinc nuts
40-10997-1005	#8-32 X 3/8" screws
40-11012-1007	#10X 1/2" hex screw with washers
70-13705-0001	1/32" thick foam sealant tape
77-12036P018	#10-32 hex nuts
<p>NOTE:¹ The Optimax2 lamp assemblies are available from Anthony Inc. Specify the lamp length and color temperature required when ordering LED lamp assemblies.</p> <p>Items listed must be ordered before doing a Ardco frame retrofit.</p>	

ADDITIONAL PARTS REQUIRED FOR MODELS 1001, 401, 1KDR/1KDB, 401D/401B

Part Number	<u>Description</u>
40-12348-1002	#8/32 zinc nuts
40-10997-1005	#8-32 X 3/8" screws
70-13705-0001	1/32" thick foam sealant tape
<p>NOTE:¹ The Optimax2 lamp assemblies are available from Anthony Inc. Specify the lamp length and color temperature required when ordering LED lamp assemblies.</p> <p>Items listed must be ordered before doing model 1001, 401, 1KDR1/KDB, or 401D/401 retrofit.</p>	

REMOVING EXISTING LIGHTING SYSTEM

Removing Existing Lighting System:

1. Remove the following items:
 - a. Lens
 - b. Fluorescent lamps
 - c. Lamp holder
 - d. Mounting clips
 - e. Ballasts from existing lighting system
2. For 401D, 1KDR and ELS only:
 - a. Remove Mullion cover using a flat screwdriver.
 - b. Remove the raceway cover by inserting a flat screwdriver into the seam between the metal raceway and the plastic cover and pry open.

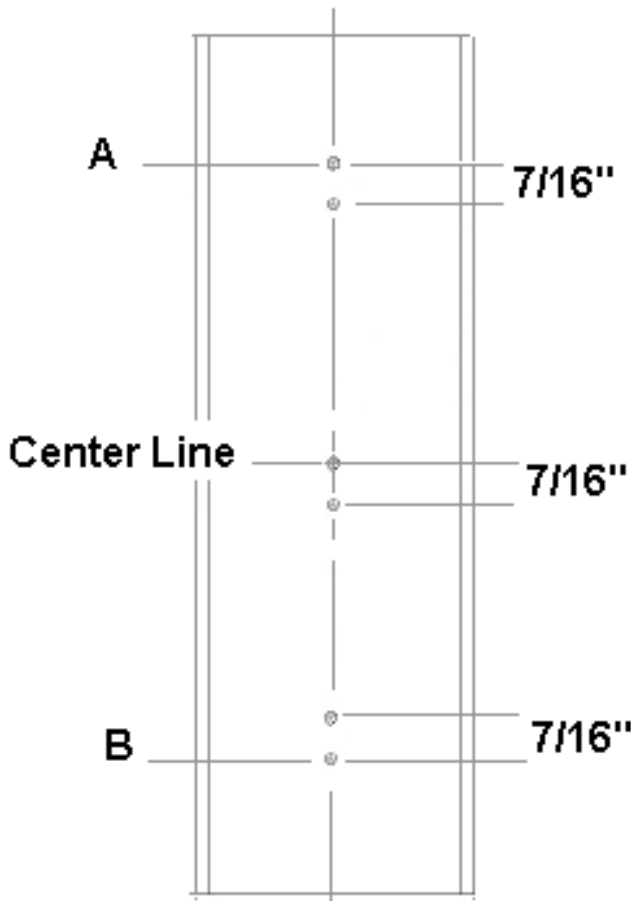
NOTE: Refer to case manufactures instructions for any questions on removing the fluorescent system and ballast.

3. Seal any open holes on Mullion using neutral cure silicone sealant (not provided).
4. Make sure you save the two #8 tapping screws used to hold the ballast.

LOCATE, DRILL and MOUNT CLIP MOUNTING FIXTURES FOR CENTER MULLION



Prior to drilling make sure that there are no existing components inside the mullion in the areas marked off for the designated holes.

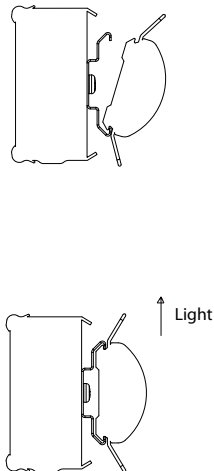


72" LED Fixture-- Half length is 30.125"
 60" LED Fixture-- Half length is 25.475"
 48" LED Fixture-- Half length is 20.825"

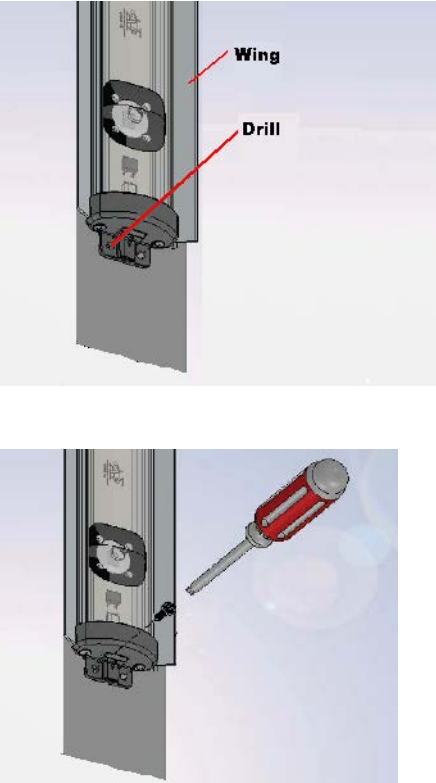
1. Measure the total width of the Mullion and mark a vertical line half the total width near the top and bottom of the Mullion.
2. Mark a vertical line from the top of the Mullion to the bottom of the Mullion through the lines measurement in [step 1](#).
3. Divide the vertical line distance in half and mark as a Center Line.
4. Mark a horizontal line 7/16" (0.438") below the center line.
5. Mark two horizontal lines, one from the center as follows:
 - a. For 72" fixture -- 30.125" (**A**) to Center Line and (**B**) to Center line.
 - b. For 60" fixture-- 25.475" (**A**) to Center Line and (**B**) to Center Line.
 - c. For 48" fixture-- 20.825" (**A**) to Center Line and (**B**) to Center Line.
6. Mark one horizontal line 7/16" (0.438") below the line (**A**).
7. Mark one horizontal line 7/16" (0.438") above the line (**B**).
8. Position the center punch directly over at the intersection of the horizontal lines (6 total) and the vertical line (top, center and bottom) and establish a dimple.
9. Use a power drill and (#29) 0.136" dia. drill bit, drill (6) holes at the intersection of the vertical center line and the horizontal lines.
10. Using a Phillips screw driver, tread the the two #8 tapping screws (supplied) to hold each mounting clip. A total of (6) screws and (3) mounting clips should be installed.

ORIENTATION OF CENTER FIXTURES

Center Mullion LED Fixture Mounting Instructions

	<ol style="list-style-type: none">1. Align the LED light with the mounting clips so that the LEDs are facing the display case interior. Snap the LED light into the mounting clips:<ol style="list-style-type: none">a. By placing one end of the LED light into the groove.b. Gently rotate until the opposite edge firmly locks into the mounting clip.<p>NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.</p><ol style="list-style-type: none">c. Adjust the lamp position until it is centered on the Mullion.2. Go to "Locking LED Fixture to Center Mullion Fixture".
---	--

Locking LED Fixture to Center Mullion Fixture

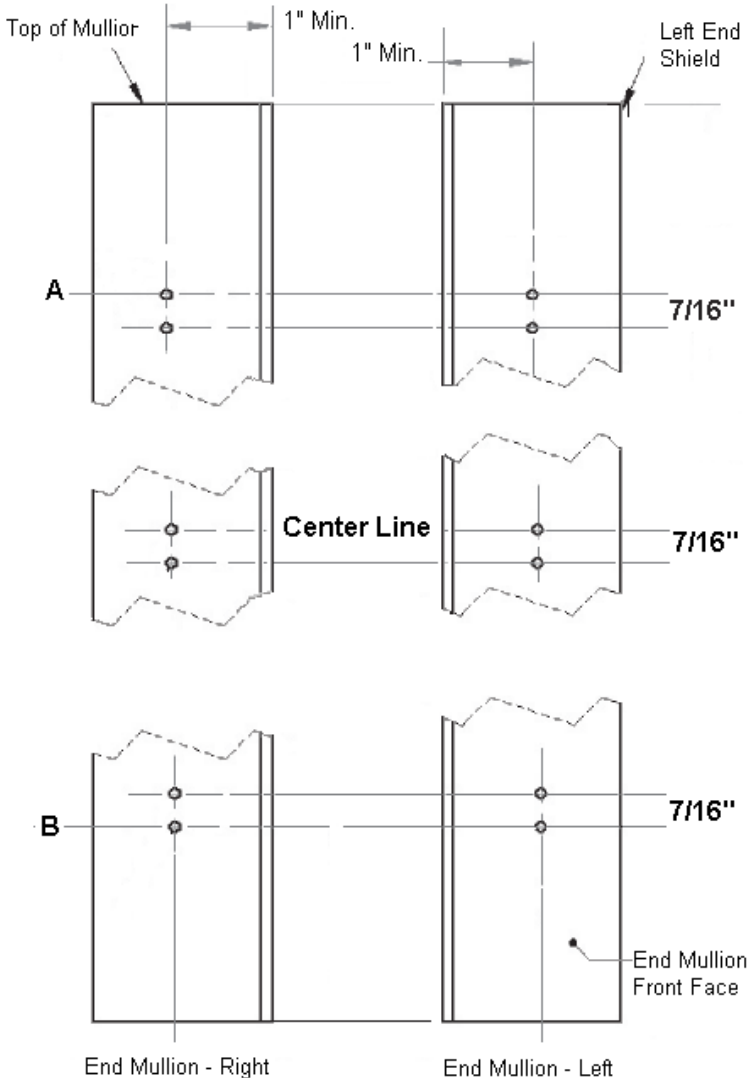
	<ol style="list-style-type: none">1. Using a (#29) 0.136 dia. drill bit, drill a hole through the LED Lighting fixture and through the Center Mullion Fixture.2. Using a Phillips screw driver to start threading the #8 X 1" long self-tapping screw to hold the end cap to the Center Mullion.3. Continue to "CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES" on page 11.
---	---

END MULLION FIXTURE

Removing Existing Lighting System

Refer to "Removing Existing Lighting System:" on page 5.

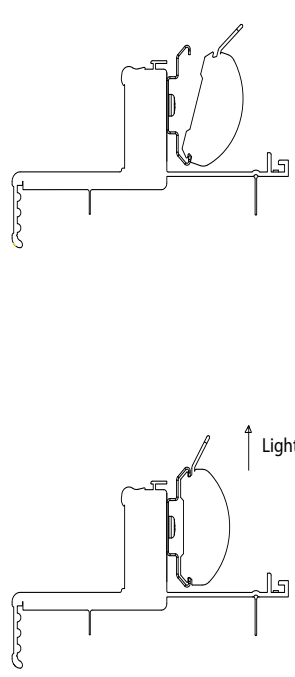
Locate, Drill and Mount the LED Fixture Mounting Clip For End Mullion

 <p>Top of Mullion</p> <p>1" Min.</p> <p>1" Min.</p> <p>Left End Shield</p> <p>A</p> <p>7/16"</p> <p>Center Line</p> <p>7/16"</p> <p>B</p> <p>7/16"</p> <p>End Mullion Front Face</p> <p>End Mullion - Right</p> <p>End Mullion - Left</p>	<ol style="list-style-type: none"> 1. Measure 1" min. from the inside of the end Mullion exclusion at the top and bottom. 2. Mark a vertical line from the top of the Mullion to the bottom of the Mullion thru the lines measurement in step 1. 3. Divide the vertical line distance in half and mark as a center line. 4. Mark a horizontal line 7/16" (0.438") below the Center Line (A). 5. Mark two horizontal lines, one from the center (A) as follows: <ol style="list-style-type: none"> a. For 72" fixture-- 30.125" (A) to Center Line and (B) to Center Line. b. For 60" fixture-- 25.475" (A) to Center Line and (A) to Center Line. c. For 48" fixture-- 20.825" (A) to Center Line and (A) to Center Line. 6. Mark one horizontal line 7/16" (0.438") below the line (A). 7. Mark one horizontal line (H) 7/16" (0.438") above the line (B). 8. Position the center punch directly over at the intersection of the horizontal lines (6 total) and the vertical line (top, center and bottom) and establish a dimple. 9. Use a power drill and (#29) 0.136" dia. drill bit, drill (6) holes at the intersection of the vertical center line and the horizontal lines. 10. Repeat Step 1 thru step 9. for the opposite side end Mullion. 11. Using a Phillips screw driver, tread the two #8 tapping screws (supplied) to hold each mounting clip. A total of (6) screws and (3) mounting clips should be installed per Mullion.
--	---

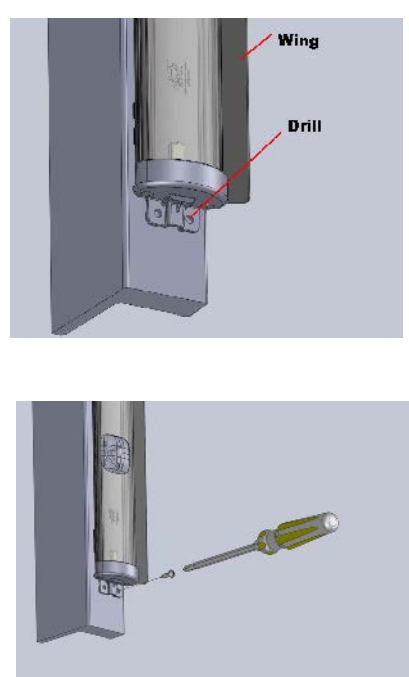
Orientation Of End Fixtures

Refer to "WIRING DIAGRAMS and ORIENTATION" on page 14.

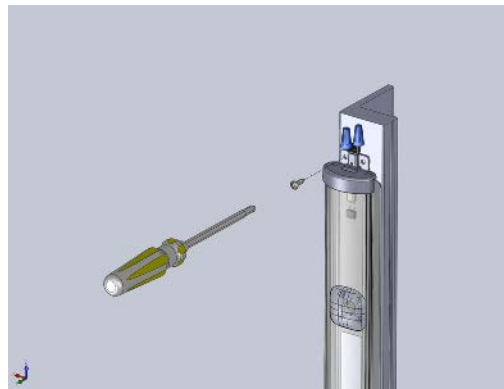
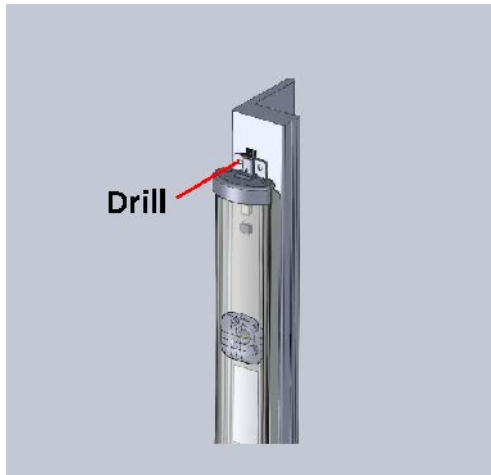
End Mullion LED Fixture Mounting Instructions

	<ol style="list-style-type: none"> Align the LED light with the mounting clips so that the LEDs are facing the display case interior. Snap the LED light into the mounting clips: <ol style="list-style-type: none"> By placing one end of the LED light into the groove. Gently rotate until the opposite edge firmly locks into the mounting clip. <p>NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.</p> <ol style="list-style-type: none"> Adjust the LED lamp assembly until it is centered on the Mullion. Continue to "Locking LED Fixture to End Mullion Fixture" below.
--	--

Locking LED Fixture to End Mullion Fixture

	<ol style="list-style-type: none"> Using a (#29) 0.136 dia. drill bit, drill a hole through the bottom LED Lighting fixture through the End Mullion Fixture. Using a Phillips screw driver to start threading the #8 X 1" long self-tapping screw to hold the clip to the End Mullion fixture. Continue to "CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES" on page 11.
---	--

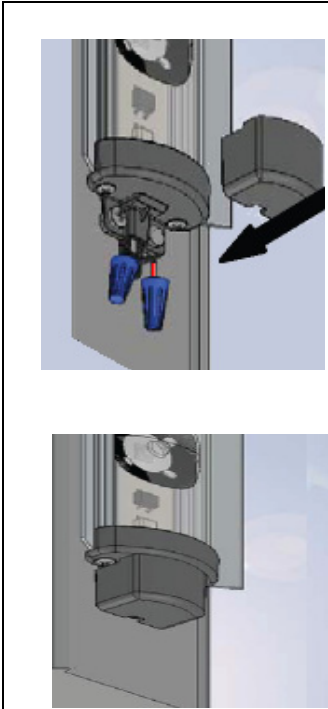
Locking LED Fixture to Left End Mullion Fixture (Wires Connected at Top of Frame)



1. Using a (#29) 0.136 dia. drill bit, drill a hole through the LED Lighting fixture through the End Mullion Fixture.
2. Using a Phillips screw driver to start threading the #8 X 1" long self-tapping screw to hold the end cap to the End Mullion.
3. Continue to "CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES" on page 11.

CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES

Connecting Wires at the Bottom of the Frame

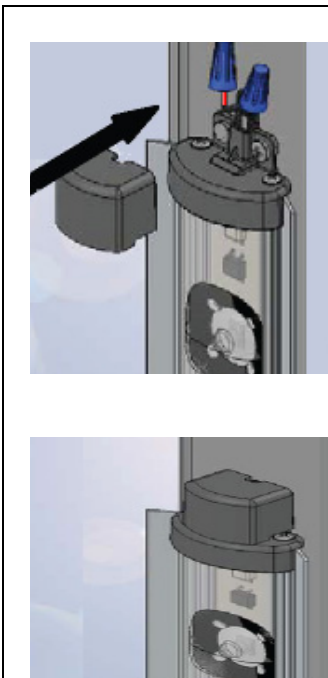


1. Connect wires from the fixture to the black and red wires from the 2-conductor harness using Wago Wall-NUT connector part number 773-162 or other approved connectors.

NOTE: Half power end fixtures need to be connected together. Refer to "WIRING DIAGRAMS and ORIENTATION" on page 14.

2. Tuck the wire connectors underneath the wire cover before snapping it to the end cap.
3. Make sure the wire cover is locked into the end cap.
4. Remove the protective film from the lens.
5. Seal off the cutouts in the Mullions using insulating material.
6. [Go to "MOUNTING THE LED POWER SUPPLIES" on page 12.](#)

Connecting Wires at the Top of the Frame



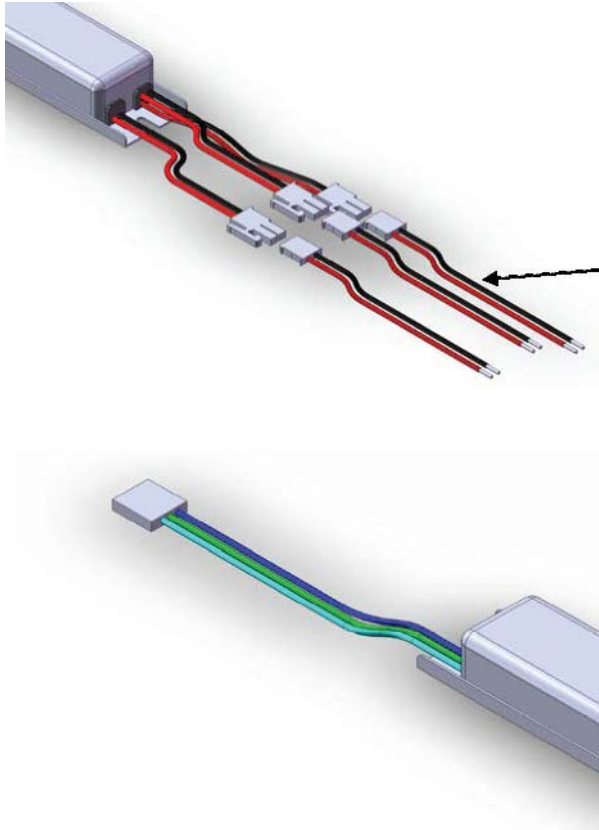
1. Connect wires from the fixture to the black and red wires from the 2-conductor harness ([Refer to "RETROFIT PARTS LIST" on page 3](#)) using Wago Wall-NUT connector part number 773-162 or other approved connectors.

NOTE: Half power end fixtures need to be connected together. Refer to "WIRING DIAGRAMS and ORIENTATION" on page 14.

2. Tuck the wire connectors underneath the wire cover before snapping it to the end cap.
3. Make sure the wire cover is locked into the end cap.
4. Remove the protective film from the lens.
5. Seal off the cutouts in the Mullions using insulating material.
6. [Go to "MOUNTING THE LED POWER SUPPLIES" on page 12.](#)

MOUNTING THE LED POWER SUPPLIES

Multi-Fixture Driver



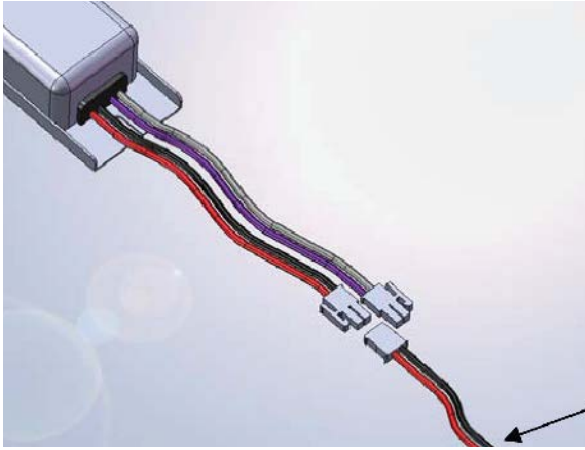
1. Install the LED power supply in the same location where the ballast was fitted or in the general location for ease of wire connection.
2. Mount the LED power supply using two #8 tapping screws saved when the ballast was removed.

NOTE: Installer may have to drill two holes in raceway to accommodate LED power supply.

NOTE: The LED power supply case is grounded. Attach the LED power supply to a ground point in the refrigerated case either directly with a screw or by using the green wire to attach to a remote point.

3. Connect LED Light fixture wire connectors to LED power supply using plug assembly provided. Refer to "RETROFIT PARTS LIST" on page 3.
4. Connect the 3-position plug on the primary side of the LED power supply as follows:
 - a. If a 3-position plug is present on the load wire harness go to [step 5](#).
 - b. If no 3-position plug is present on the load wire harness go [step 6](#).
5. Connect the primary LED power supply input 3-position plug (blue, green and white/blue wires) to the harness 120-240 VAC electrical 3-position plug (blue/white and white/blue wires). Go to [step 7](#).
6. If no 3-position plug is present on the load wire harness:
 - a. Cut off the 3-position plug on LED power supply.
 - b. Connect the blue (+) on LED power supply to the original load blue/white wire on the frame using a Wago Wall-NUT connector part number 773-162 or approved connector.
 - a. Connect the white/blue (-) on the LED power supply to the original load white/blue wire from the frame using a Wago Wall-NUT connector part number 773-162 or approved connector.
7. Reinstall raceway cover(s).
8. Turn power on and verify LED fixture(s) are working.

Single-Fixture Driver (Low Power and High Power)



1. Install the LED power supply in the same location where the ballast was fitted or in the general location for ease of wire connection.
2. Mount the LED power supply using two #8 tapping screws saved when the ballast was removed.

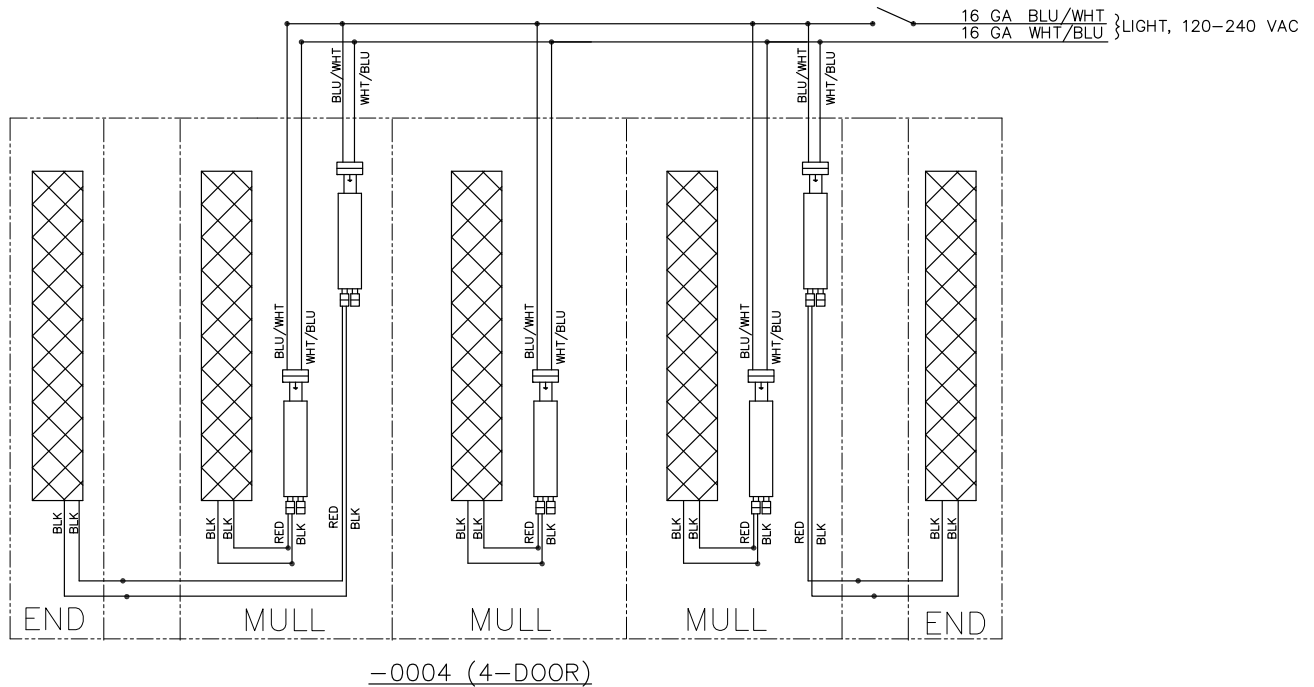
NOTE: Installer may have to drill two holes in raceway to accommodate LED power supply.

NOTE: The LED power supply case is grounded. Attach the LED power supply to a ground point in the refrigerated case either directly with a screw or by using the green wire to attach to a remote point.

3. Connect LED Light fixture wire connectors to LED power supply using plug assembly provided. Refer to ["RETROFIT PARTS LIST" on page 3](#).
4. Connect the 3-position plug on the primary side of the LED power supply as follows:
 - a. If a 3-position plug is present on the load wire harness go to [step 5](#).
 - b. If no 3-position plug is present on the load wire harness go [step 6](#).
5. Connect the primary LED power supply input 3-position plug (blue, green and white/blue wires) to the harness 120-240 VAC electrical 3-position plug (blue/white and white/blue wires). Go to [step 7](#).
6. If no 3-position plug is present on the load wire harness:
 - a. Cut off the 3-position plug on LED power supply.
 - b. Connect the blue (+) on LED power supply to the original load blue/white wire on the frame using a Wago Wall-NUT connector part number 773-162 or approved connector.
 - a. Connect the white/blue (-) on the LED power supply to the original load white/blue wire from the frame using a Wago Wall-NUT connector part number 773-162 or approved connector.
7. Reinstall raceway cover(s).
8. Turn power on and verify LED fixture(s) are working.

OPTIONAL CONFIGURATION WITH FULL-POWER ENDS and SINGLE-FIXTURE DRIVER

Full Power Ends Option



DETAILED RETROFIT INSTRUCTIONS FOR ANTHONY 401D,
1KDR, ELS, Ardco and Hussmann FRAMES

Optimax2 Retrofit Instructions for Anthony 401D and 1KDR with ELS Option	Refer to 99-18258-I001_A Optiplex2 Retrofit Instructions (Web Use) found on www.Anthonyintl.com
Ardco Frame	
Hussmann Frame	

LED CLEANING INSTRUCTIONS

- The LED light may be dusted as needed with a dry, clean, soft cloth.
- The outer lens should be cleaned periodically with a mild dish detergent.
- Do not use chemical cleaners to clean the system.
- Keep the outside clean. Wipe with a clean cloth lightly dampened with mild dish washer detergent. Dry with a clean, soft cloth
- Do not wipe the lens with a soiled dish cloth or wet towel. These may leave a residue that can damage the finish.
- Do not use scouring pads, powered cleaners, bleach or cleaners containing bleach because these products can scratch and damage the finish.

