OptiMax2 LED Retrofit Instructions (web only)

Anthony®

99-18258-I001_A

Document Revision History

Revision History

Rev A	18 May 2010	SWatstein	New release. Replace individual LED retrofit manual.

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WARNINGS AND IMPORTANT NOTES

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 includes:

safety glasses

work gloves

work shoes

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

Tools

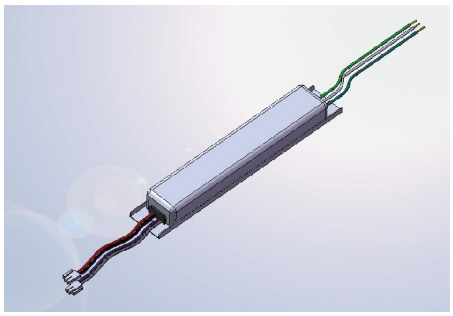
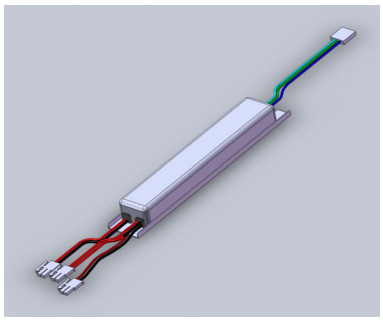
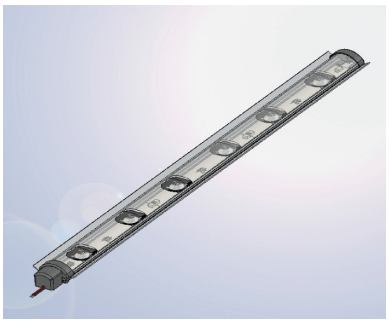
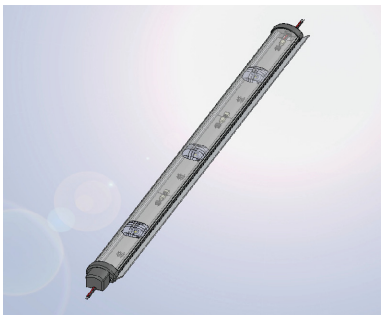
Tools required for this procedure include:

#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

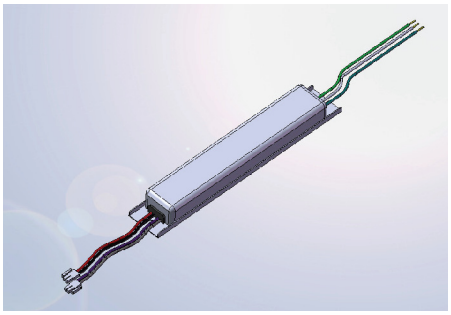
TIPS

- 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.

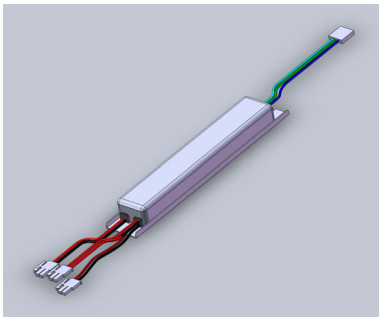
RETROFIT LED COMPONENTS

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]						
	**Center Fixture Part No.**	**Description**	**Color Temp (K)**			
	60-17447-0001	60” Light Fixture	4100	☒	☒	☒
	60-17447-0002	72” Light Fixture	4100	☒	☒	☒
	60-17447-0003	48” Light Fixture	4100	☒	☒	☒
	60-17447-1001	60” Light Fixture	5000	☒	☒	☒
	60-17447-1002	72” Light Fixture	5000	☒	☒	☒
	60-17447-1003	48” Light Fixture	5000	☒	☒	☒
	60-17447-2001	60” Light Fixture	3500	☒	☒	☒
	60-17447-2002	72” Light Fixture	3500	☒	☒	☒
	60-17447-2003	48” Light Fixture	3500	☒	☒	☒
	HALF POWER END					
	Right End Fixture Part No.	**Description**	**Color Temp (K)**			
	60-17445-0001	60” Light Fixture	4100	☒	☒	☒
	60-17445-0002	72” Light Fixture	4100	☒	☒	☒
	60-17445-0003	48” Light Fixture	4100	☒	☒	
	60-17445-1001	60” Light Fixture	5000	☒	☒	☒
	60-17445-1002	72” Light Fixture	5000	☒	☒	☒
	60-17445-1003	48” Light Fixture	5000	☒	☒	
	60-17445-2001	60” Light Fixture	3500	☒	☒	☒
	60-17445-2002	72” Light Fixture	3500	☒	☒	☒
	60-17445-2003	48” Light Fixture	3500	☒	☒	
	HALF POWER END					
	**Left End Fixture Part No.**	**Description**	**Color Temp (K)**			
	60-17446-0001	60” Light Fixture	4100	☒	☒	☒
	60-17446-0002	72” Light Fixture	4100	☒	☒	☒
	60-17446-0003	48” Light Fixture	4100	☒	☒	
	60-17446-1001	60” Light Fixture	5000	☒	☒	☒
	60-17446-1002	72” Light Fixture	5000	☒	☒	☒
	60-17446-1003	48” Light Fixture	5000	☒	☒	
	60-17446-2001	60” Light Fixture	3500	☒	☒	☒
	60-17446-2002	72” Light Fixture	3500	☒	☒	☒
	60-17446-2003	48” Light Fixture	3500	☒		

LED Power Supply Part No.

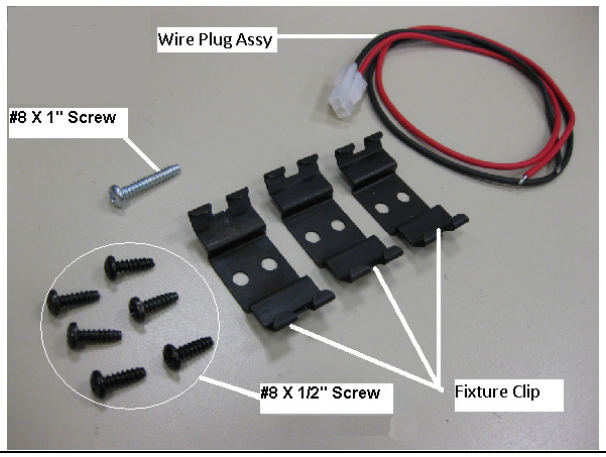


60-16979-0002[1] or **60-16851-0002**[1]



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]
			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	Description
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
NOTE:[1] The OptiMax2 lamp assemblies are available from Anthony Inc. Specify the lamp length and color temperature required when ordering LED lamp assemblies. Items listed must be ordered before retrofiting the Ardco frame.	

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

Part Number	Description
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
NOTE:[1] The OptiMax2 lamp assemblies are available from Anthony Inc. Specify the lamp length and color temperature required when ordering LED lamp assemblies. Items listed must be ordered before retrofiting the model 1001, 401, 1KDR/1KDB or 401D/401B.	

REMOVING EXISTING LIGHTING SYSTEM

Removing Existing Lighting System:

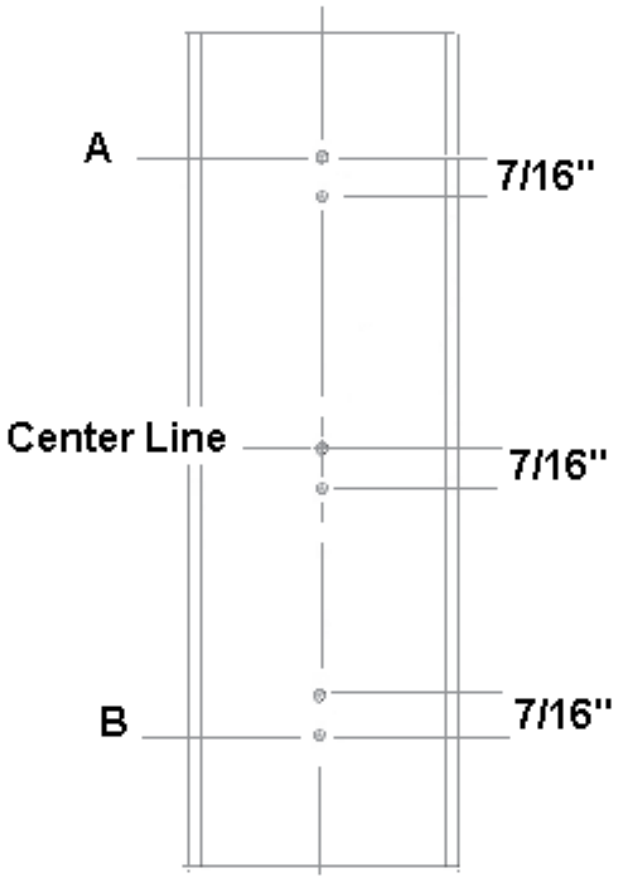
1. Remove the following items:
   a. Lens
   b. Fluorescent lamps
   c. Lamp holder
   d. Mounting clips
   e. Ballasts from existing lighting system
2. For Anthony 401D and 1KDR with ELS option only:
   a. Remove Mullion cover using a flat screwdriver.
   b. Remove the raceway cover by inserting a flat 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 area marked off for the designated holes.

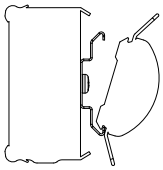


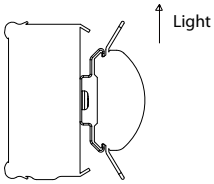
72" LED Fixture-- Half length is 30.125"
60" LED Fixture-- Half length is 25.475"
48" LED Fixture-- Half length is 20.825"

1. Using a ruller 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 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.
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.
11. Go to ORIENTATION OF CENTER FIXTURES on page 8.

ORIENTATION OF CENTER FIXTURES

Center Mullion LED Fixture Mounting Instructions



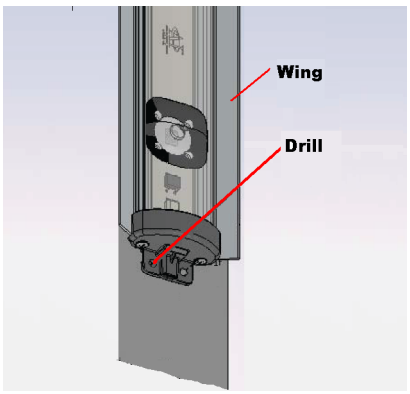


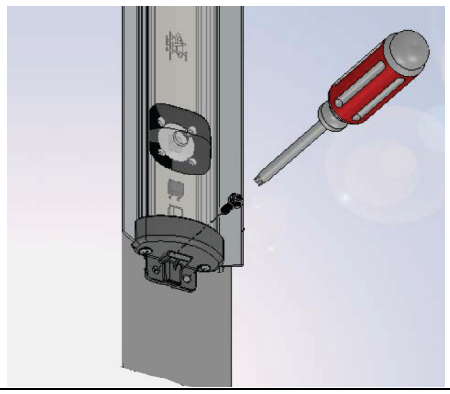
1. Align the LED light with the mounting clips so that the LEDs are facing the display case interior. Snap the LED light into the mounting clips:
   a. By placing one edge of the LED light into the groove.
   b. Gently rotate until the opposite edge firmly locks into the mounting clip

NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

   c. Adjust the lamp position until it is centered on the Mullion.
2. Go to Locking LED Fixture to Center Mullion Fixture on page 8.

Locking LED Fixture to Center Mullion Fixture





1. Using a (#29) 0.136 dia. drill bit, drill a hole through the LED Lighting fixture end cap 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 28.

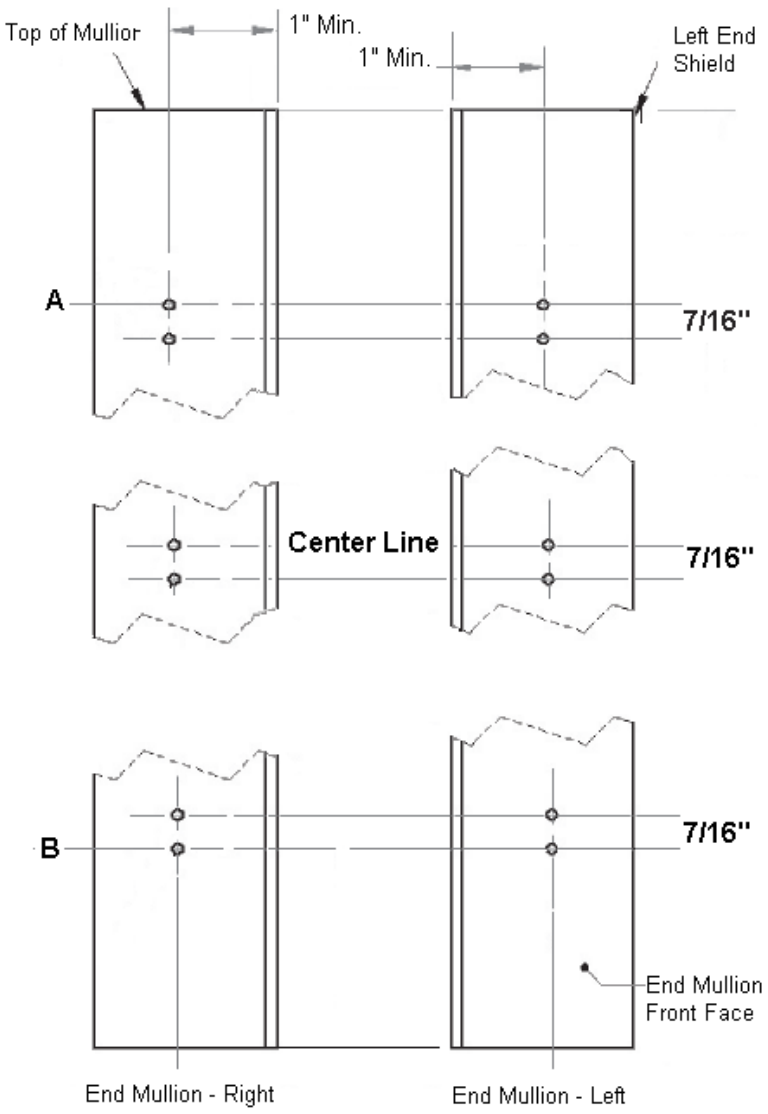
END MULLION FIXTURE

Removing Existing Lighting System

Refer to "Removing Existing Lighting System:" on page 6.

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

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

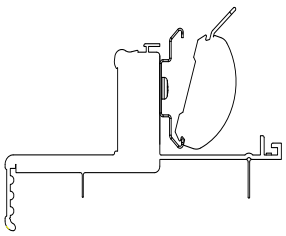


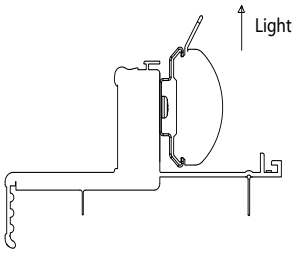
1. Using a ruller measure 1” min. from the inside of the end Mullion exclusion at the top and bottom.
2. Mark a vertical line from the top of the Mullion to the bottom of the Mullion thru the lines measurement in step 1.
3. Divide the vertical line distance in half and mark as a center line.
4. Mark a horizontal line 7/16” (0.438”) below the Center Line (**A**).
5. Mark two horizontal lines, one from the center (**A**) as follows:
   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 (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.
12. Go to Orientation Of End Fixtures on page 11.

Orientation Of End Fixtures

Refer to Orientation Of End Fixtures.

End Mullion LED Fixture Mounting Instructions





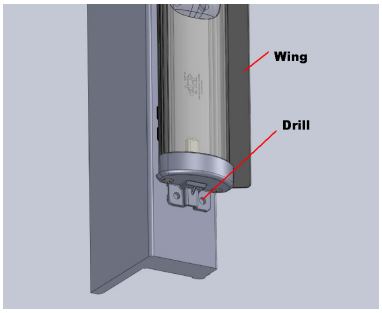
1. Align the LED light with the mounting clips so that the LEDs are facing the display case interior. Snap the LED light into the mounting clips:
   a. By placing one edge of the LED light into the groove.
   b. Gently rotate until the opposite edge firmly locks into the mounting clip.

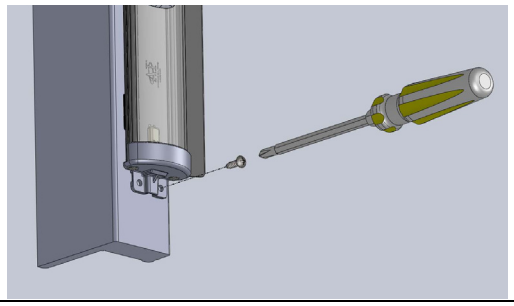
NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

   c. Adjust the LED lamp assembly until it is centered on the Mullion.

2. Go to Locking LED Fixture to Right End Mullion Fixture (Wires Connected at Bottom of Frame) on page 12 or go to “Locking LED Fixture to Left End Mullion Fixture (Wires Connected at Top of Frame) on page 13.

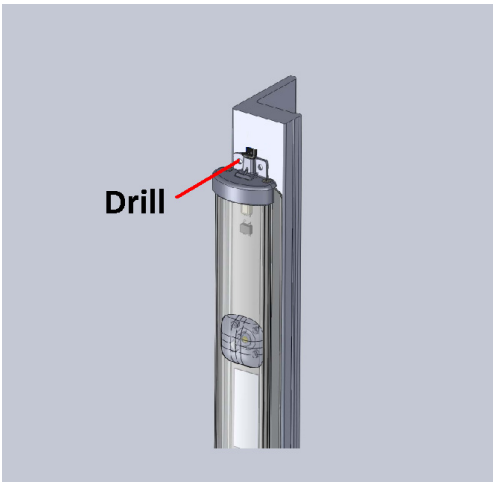
Locking LED Fixture to Right End Mullion Fixture (Wires Connected at Bottom of Frame)

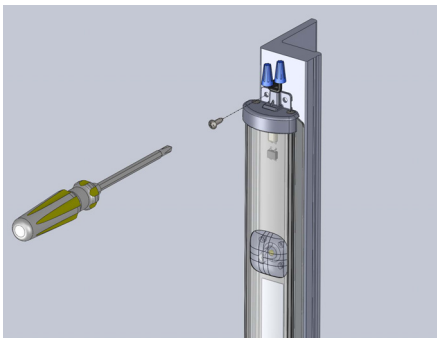




1. Using a (#29) 0.136 dia. drill bit, drill a hole through the LED Lighting fixture end cap and through the End Mullion Fixture.
2. Using a Phillips screw driver to start threading the #8 X 1” long self-tapping screw to hold the clip to the End Mullion fixture.
3. Continue to “CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES" on page 28.

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 cap and 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 28

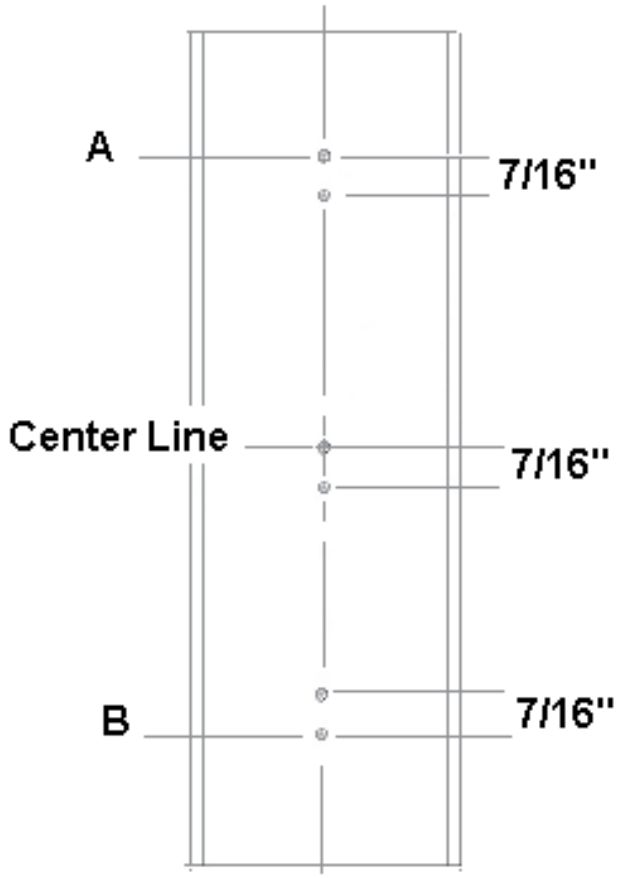
OptiMax2 RETROFIT INSTRUCTIONS FOR ANTHONY MODEL 401D AND 1KDR

Removing Existing Lighting System

Refer to "Removing Existing Lighting System:" on page 6.

Locate, Drill and Mount the Top and Bottom LED Fixture Mounting Clips on Center Mullion (Model 401)

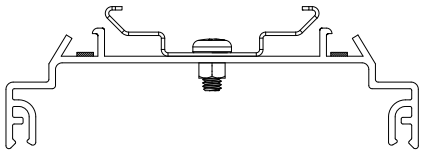
⚠ Prior to drilling make sure that there are no existing components inside the Mullion in the area marked off for the designated holes.



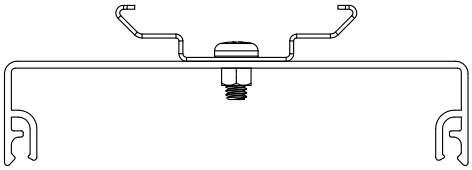
72" LED Fixture-- Half length is 30.125"
60" LED Fixture-- Half length is 25.475"
48" LED Fixture-- Half length is 20.825"

NOTE: Refer to "Fixture Orientation" on page 32 **for the following procedures:**

1. Using a ruller 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 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.
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.



With ELS Option



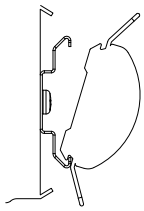
With T-10 Option

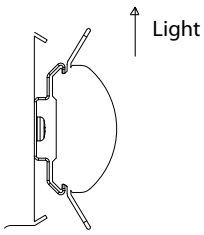
9. Use a power drill and (#29) 0.136” dia. drill bit, drill (6) holes at the intersection of the vertical center line and the horizontal lines.
10. Insert two #8-32 X 3/8” screws thru each clip and Mullion cover and secure with two #8-32 captive nuts. A total of (6) screws, (3) nuts, and (3) mounting clips should be installed.
11. Drill a 3/8” hole about 1/2” from the top of the installed LED mounting clip.

NOTE: 3/8” hole will be used for bring the leads from the wire plug assembly to the LED fixture.

12. Go to Center Mullion LED Fixture Mounting Instructions on page 16.

Center Mullion LED Fixture Mounting Instructions





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:
   a. By placing one edge of the LED light into the groove.
   b. Gently rotate until the opposite edge firmly locks into the mounting clip

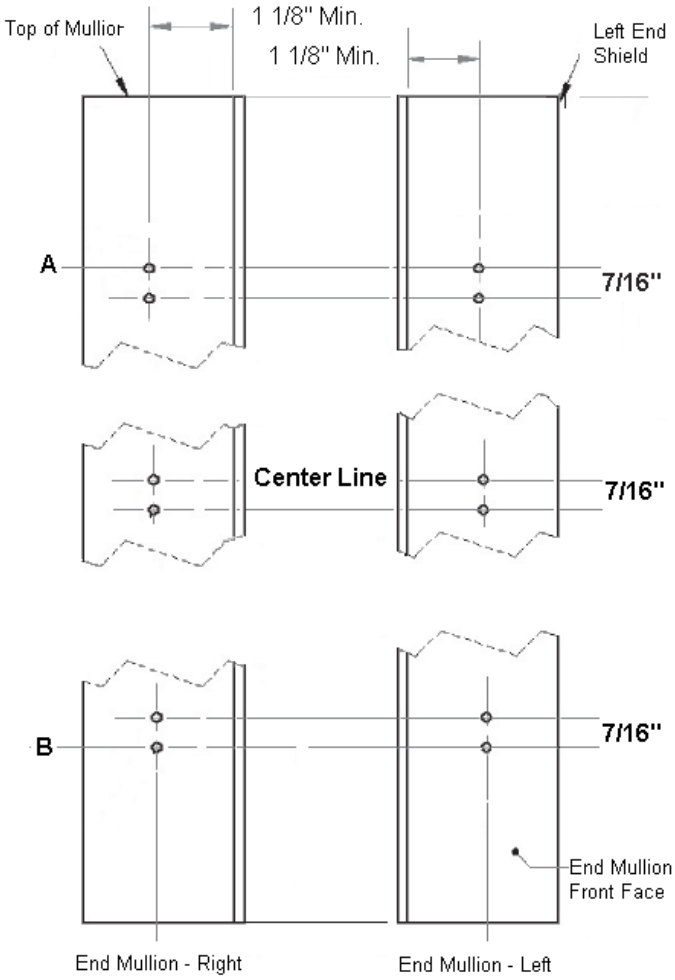
NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

   c. Adjust the lamp position until it is centered on the Mullion.

2. Continue to “Locking LED Fixture to Center Mullion Fixture" on page 8.

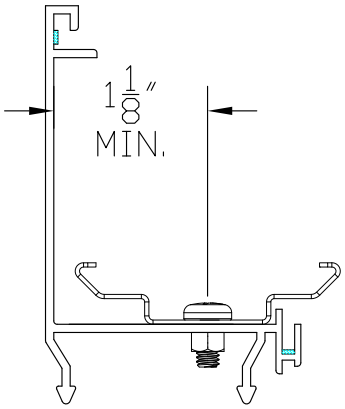
Locate, Drill and Mount the Top and Bottom LED Fixture Mounting Clips for End Mullion

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

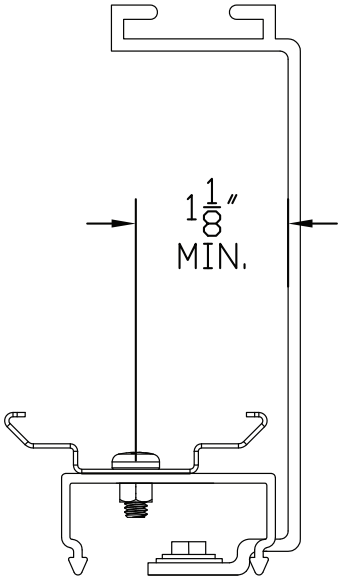


NOTE: Refer to "Fixture Orientation" on page 32 **for the following procedures:**

1. Using a ruller measure 1 1/8” 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:
   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 (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 as 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.



With ELS Option



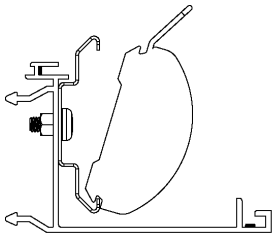
With T10 Option

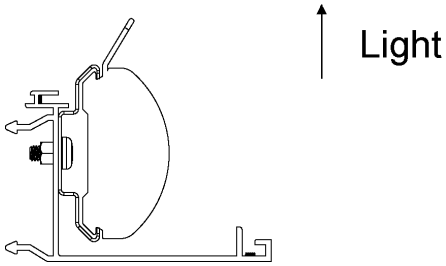
11. Insert two #8-32 X 3/8” screws thru each clip and Mullion cover and secure with two #8-32 captive nuts. A total of (6) screws, (3) nuts, and (3) mounting clips should be installed.
12. Drill a 3/8” hole about 1/2” from the top of the installed LED mounting clip.

NOTE: 3/8” hole will be used for bring the leads from the wire plug assembly to the LED fixture.

13. Continue to “End Mullion LED Fixture Mounting Instructions" on page 19.

End Mullion LED Fixture Mounting Instructions





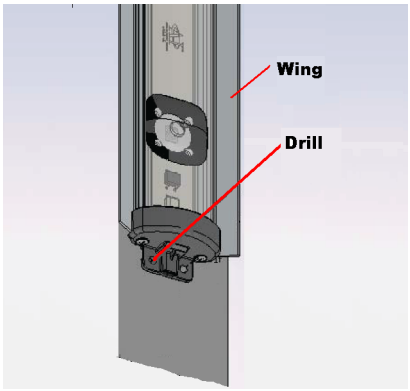
1. Align the LED light with the mounting clips so that the LEDs are facing the display case interior. Snap the LED light into the mounting clips:
   a. By placing one edge of the LED light into the groove.
   b. Gently rotate until the opposite edge firmly locks into the mounting clip

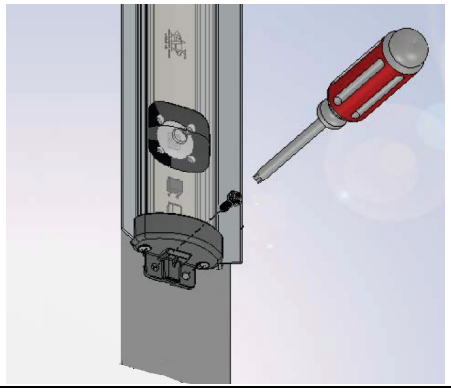
NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

   c. Adjust the lamp position until it is centered on the Mullion.

2. Continue to “Locking LED Fixture to Center Mullion Fixture" on page 20.

Locking LED Fixture to Center Mullion Fixture

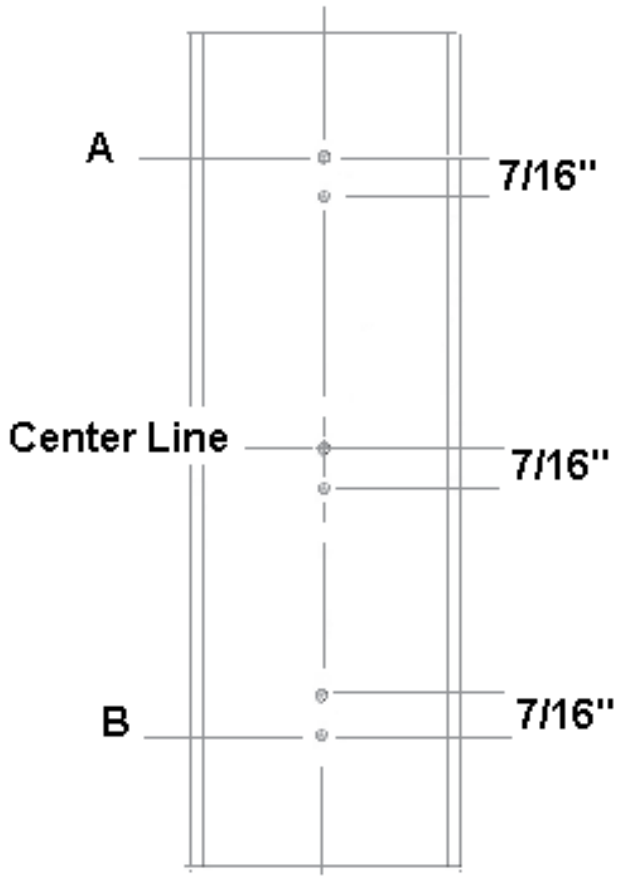




1. Using a (#29) 0.136 dia. drill bit, drill a hole through the LED Lighting fixture end cap and through the Center Mullion Fixture.
2. Using a Phillips screw driver to start threading the #8 X 1” long self-tapping screw to hold the end cap to the Center Mullion.
3. Continue to “CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES" on page 28.

Locate, Drill and Mount the Top and Bottom LED Fixture Mounting Clips for Center Mullion

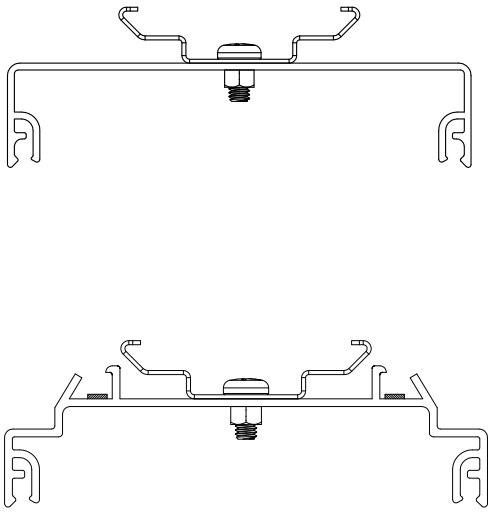
⚠ Prior to drilling make sure that there are no existing components inside the Mullion in the area marked off for the designated holes.



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

NOTE: Refer to "Fixture Orientation" on page 32 **for the following procedures:**

1. Using a ruller 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 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.
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.

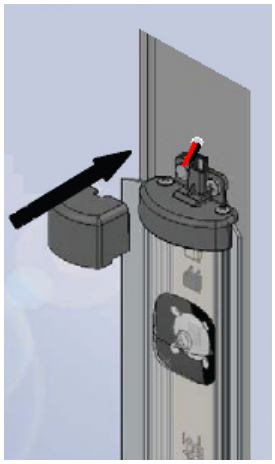


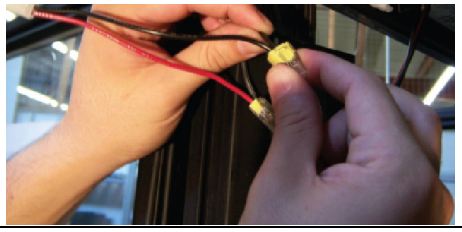
9. Use a power drill and (#29) 0.136” dia. drill bit, drill (6) holes at the intersection of the vertical center line and the horizontal lines.
10. Insert two #8-32 X 1” screws thru each clip and Mullion cover and secure with two #8-32 captive nuts. A total of (6) screws, (3) nuts, and (3) mounting clips should be installed.
11. Drill a 3/8” hole about 1/2” from the top of the installed LED mounting clip.

NOTE: 3/8” hole will be used for bring the leads from the wire plug assembly to the LED fixture.

12. Go to Center Mullion LED Fixture Mounting Instructions on page 16.

Connecting LED Light Fixture to Wire Plug Assembly





1. Bring the wires from the LED fixture thru the 3/8” DIA. hole.
2. Connect wires from the LED light fixture to the black and red wires from the 2-conductor harness (Refer to "RETROFIT LED COMPONENTS" on page 3) using Wago Wall-NUT connector part number 773-162 or other approved connectors.
3. Snap the end cap onto LED light fixture making 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.
   a. For wiring diagram Refer to "Fixture Orientation" on page 32.
   b. Continue to “MOUNTING THE LED POWER SUPPLIES" on page 30.

Ardco FRAMES

Typical Orientations

Refer to "STANDARD CONFIGURATION" on page 36.

Parts Removal

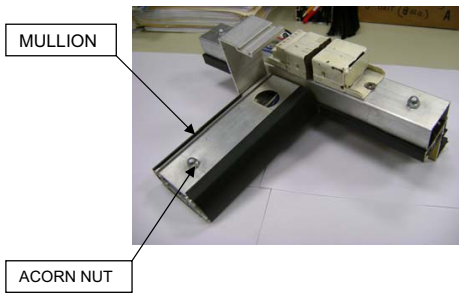


Figure 1

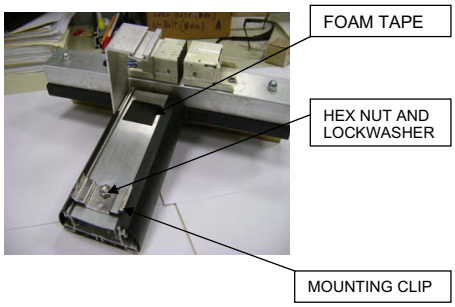


Figure 2

1. Turn the power switch to the frame off.
2. Disconnect the frame from the main power.
3. Remove all of the old lamps and light fixtures from the frame.

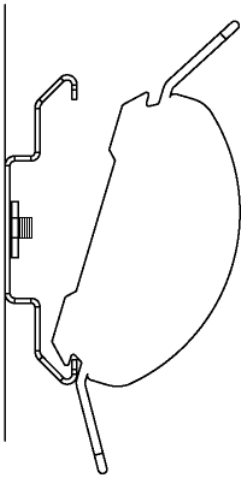
NOTE: All hardware should be taken off, this includes lamp guards, clips and fasteners.

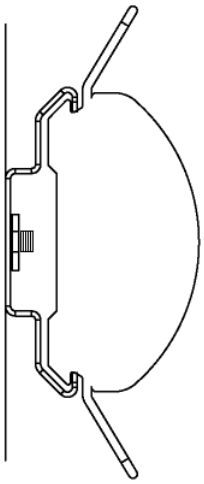
4. Remove all acorn nuts along the Mullion.
5. Close any holes along the Mullion with a 1/32” thick foam sealant. Refer to "ADDITIONAL PARTS REQUIRED FOR Ardco FRAME" on page 5 and Refer to Figure 1 and Figure 2 .
6. Install three LED mounting clips onto the lamp side of the Mullion using #10-32 hex nuts and lock washers. Refer to "ADDITIONAL PARTS REQUIRED FOR Ardco FRAME" on page 5.
7. Clip should be installed near the top, the bottom and at the midpoint of the Mullion.

NOTE: Do not use the acorn nuts previously removed to fasten the clips. Refer to Figure 2 .

8. Install the LED power supply(s) into a UL approved enclosure. Refer to "ADDITIONAL PARTS REQUIRED FOR Ardco FRAME" on page 5.

Figure 3





9. Route the LED connector as shown in Figure 3 . The LED cable assembly must pass through an appropriate UL approved strain relief or an approved cover cap not shown in Figure 3 .

NOTE: Additional hardware to install the power supply and remote enclosures can be supplied by A.I. Refer to "Fixture Orientation" on page 32.

10. The Red and Black main input power must pass through an appropriate UL approved strain relief secured to the enclosure to prevent wire damage.Refer to Figure 3 .
11. LED power transformer:
    a. Cut off the of the 3-position plug on the LED power supply and strip the Blue (Hot), Green/yellow (GND) and White/Blue wires.
    b. Connect the Red main input power wire to Blue LED power supply wire using a Wago Wall-NUT connectors or approved connector.
    c. Connect the Black main input power wire to Black LED power supply wire using a Wago Wall-NUT connector or approved connector.
12. Plug all unused holes on the enclosure with an approved cover cap.
13. Mount the remote enclosure(s) to the top header above the frame.

NOTE: Before installing the OptiMax2 lamp assembly into the clips verify the following (Refer to "Fixture Orientation" on page 32**):**

    a. The wire leads exiting the lamps are oriented correctly for connection to the LED power supplies.
    b. The right and left Mullions will use a lamp fixture marked with “RT” and “LT” respectively.
    c. The center Mullions will use the fixture labeled with “CTR”.

14. Install the OptiMax2 LED lamp assembly to the clips on the Mullion by:
    a. Align the LED light with the mounting clips so that the LEDs are facing the displace case interior.
    b. Snap the LED light into the mounting clips:
    c. By placing one end of the LED light into the groove.
    d. Gently rotate until the opposite edge firmly locks into the mounting clip.

NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

    e. Adjust the lamp position until it is centered on the Mullion.

15. Continue to “Locking LED Fixture to Center Mullion Fixture" on page 8.

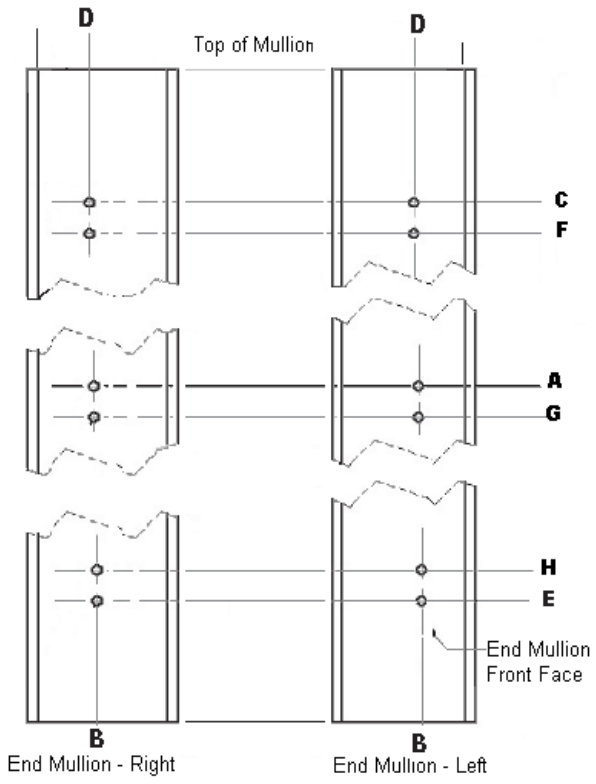
HUSSMANN FRAME

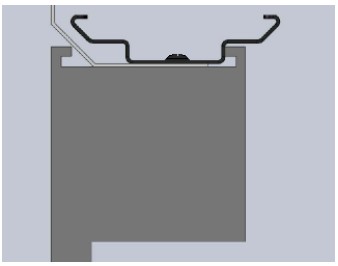
Removing Existing Lighting System

Refer to "Removing Existing Lighting System:" on page 6.

Locate, Drill and Mount the LED Fixture Mounting Clips for Hussmann Frame

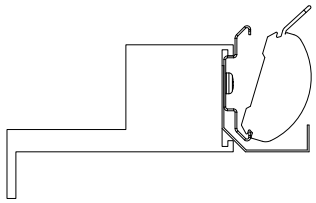
> ⚠ Prior to drilling make sure that there are no existing components inside the Mullion in the area marked off for the designated holes.

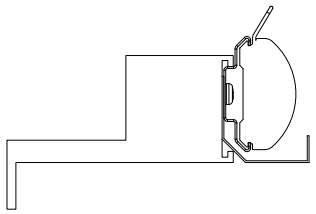




1. Place a mounting clip at the top of the Mullion against the outer edge away from the wall and mark one hole at (**D**).
1. Place the same mounting clip at the bottom of the Mullion against the other edge away from the wall and mark one hole at (**B**).
2. Mark a vertical line from (**D**) to (**B**).
3. Divide the vertical line (**D**) and (**B**) in half and mark as a center line (**A**).
4. Mark a horizontal line (**G**) 7/16” (0.438”) below the center line (**A**).
5. Mark two horizontal lines, one from the center (**A**) as follows:
   a. For 72” fixture-- 30.125” (**A**) to (**C**) and (**A**) to (**E**).
   b. For 60” fixture-- 25.475” (**A**) to (**C**) and (**A**) to (**E**).
   c. For 48” fixture-- 20.825” (**A**) to (**C**) and (**A**) to (**E**).
6. Mark one horizontal mark (**F**) 7/16” (0.438”) below the line (**C**).
7. Mark one horizontal line (**H**) 7/16” (0.438”) above the line (**E**).
8. Center 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 step1. 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.
12. Refer to "Fixture Orientation" on page 32.
13. Continue to “Orientation Of End Fixtures" on page 11.

End Mullion Fixture LED Mounting Instructions





1. Align the LED light with the mounting clips so that the LEDs are facing the displace case interior. Snap the LED light into the mounting clips:
   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.

NOTE: Ensure that the mounting clips lock into the outer edge of the LED light aluminum extrusion.

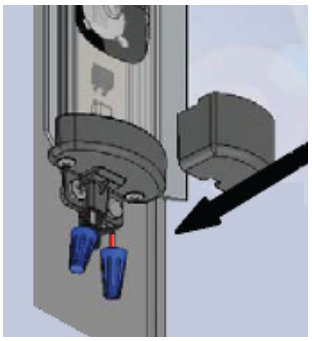
   c. Adjust the LED lamp assembly until it is centered on the Mullion.

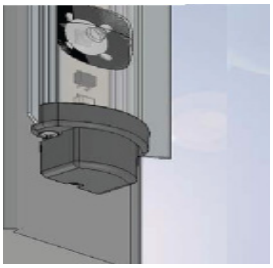
2. To lock LED fixture to Mullion:
   a. Right end Mullion, refer to “Connecting Wires at the Bottom of the Frame on page 28.
   b. Left end Mullion, refer to “Connecting Wires at the Top of the Frame on page 28.

3. To lock LED Fixture:
   a. Locking LED fixture to right end Mullion (wires connected at bottom of frame) Continue to “Locking LED Fixture to Right End Mullion Fixture (Wires Connected at Bottom of Frame)" on page 12.
   b. Locking LED fixture to left end Mullion fixture (wires connected at top of frame) Continue to “Locking LED Fixture to Left End Mullion Fixture (Wires Connected at Top of Frame)" on page 13.

CONNECTING THE WIRE PLUG ASSEMBLY TO THE LED FIXTURE WIRES

Connecting Wires at the Bottom of the Frame



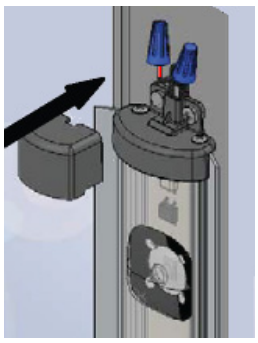


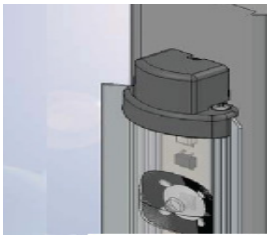
1. Connect wires from the fixture to the black and red wires from the 2-conductor harness using Wago Wall-NUT connector part number 773-162 or other approved connectors.

NOTE: End fixtures need to be connected together. Refer to "Center Mullion LED Fixture Mounting Instructions" on page 8**.**

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. Continue to “MOUNTING THE LED POWER SUPPLIES" on page 30.

Connecting Wires at the Top of the Frame





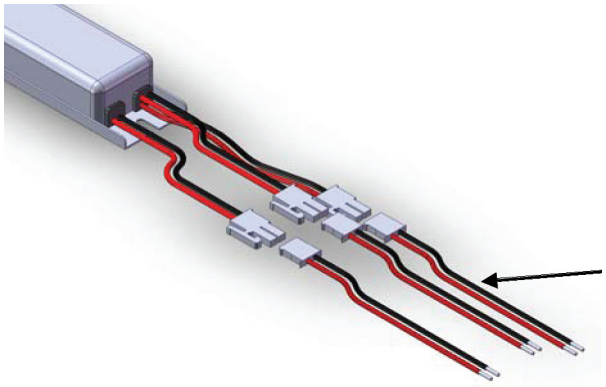
1. Connect wires from the fixture to the black and red wires from the 2-conductor harness (Refer to "RETROFIT LED COMPONENTS" on page 3) using Wago Wall-NUT connector part number 773-162 or other approved connectors.

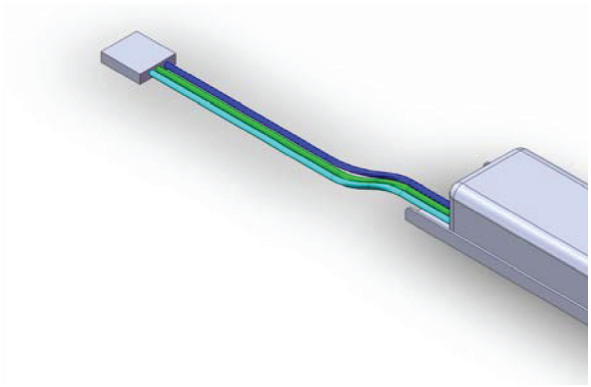
NOTE: End fixtures need to be connected together. Refer to "Center Mullion LED Fixture Mounting Instructions" on page 8.

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. Continue to “MOUNTING THE LED POWER SUPPLIES" on page 30.

MOUNTING THE LED POWER SUPPLIES

Low Power (3-in-1 Driver)





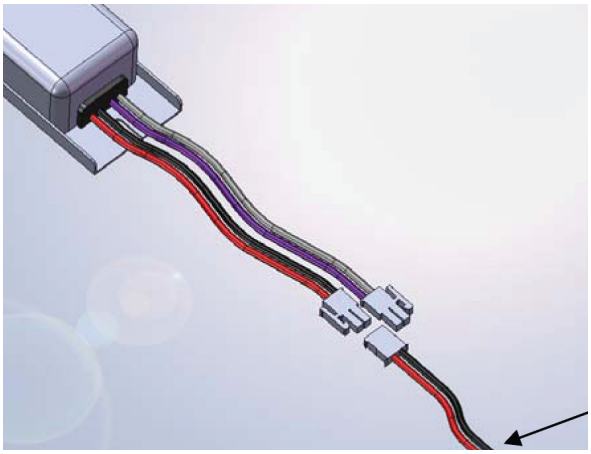
1. Install the LED power supply in the same location where the ballast was fitted or in the general location for ease of wire connection.
2. Mount the LED power supply using two #8 tapping screws saved when the ballast was removed.

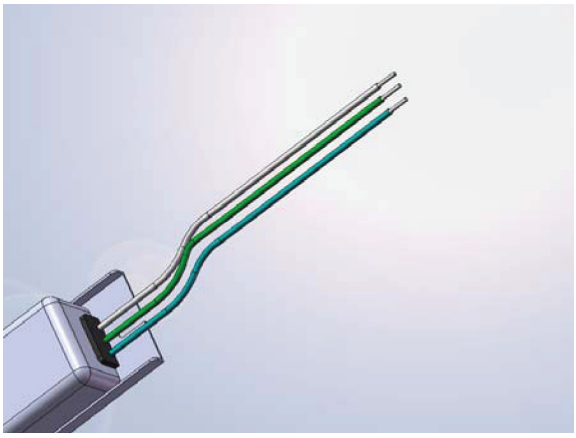
NOTE: Installer may have to drill two holes in raceway to accommodate LED power supply.

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 LED COMPONENTS" 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.

Low 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 LED COMPONENTS" 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.

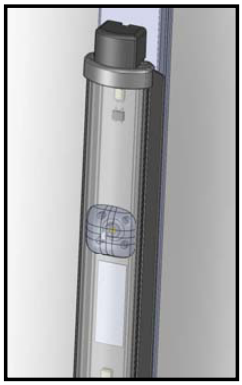
Table 1: Fixture Orientation

Orientation	Center Mullion	End Mullion	401D, 1KDR, ELS	ARDCO Frame	HUSSMANN Frame
"(Standard Configuration (5-Door)" on page 37	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"3-Door (Upper Raceway)" on page 42			"OptiMax2 RETROFIT INSTRUCTIONS FOR ANTHONY MODEL 401D AND 1KDR" on page 14		
"FULL POWER End & MULL Option (2-Door)" on page 39	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10			
"FULL POWER End & MULL Option (3-Door)" on page 39	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10			
"FULL POWER End Option (1-Door)" on page 39	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10			
"HALF POWER End & MULL Options (3-in-1 Drive, 2-Door)" on page 40	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	"HUSSMANN FRAME" on page 26
"HALF POWER End & MULL Options (3-in-1 Driver, 4-Door)" on page 41	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	"HUSSMANN FRAME" on page 26
"HALF POWER End & MULL Options (3-in-1 Driver, 5-Door)" on page 41	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	"HUSSMANN FRAME" on page 26
"HALF POWER End & MULL Options (6-Door)" on page 41	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"HALF POWER End Options (3-in-1, Driver 1-Door)" on page 40	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	"HUSSMANN FRAME" on page 26
"ORIENTATION OF CENTER FIXTURES" on page 34	"Center Mullion LED Fixture Mounting Instructions" on page 8	"Center Mullion LED Fixture Mounting Instructions" on page 8			"HUSSMANN FRAME" on page 26
"STANDARD CONFIGURATION (1-Door)" on page 36	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"STANDARD CONFIGURATION (2-Door)" on page 36	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"STANDARD CONFIGURATION (3-Door)" on page 37	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	

Table 1: Fixture Orientation (Continued)

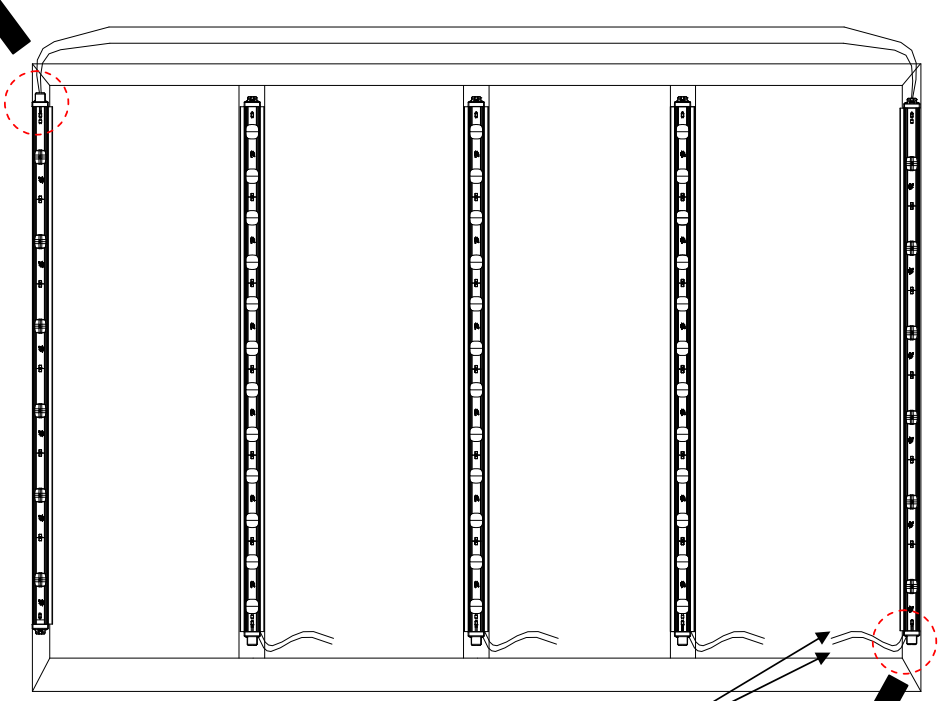
"Standard Configuration (4-Door)" on page 37	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"STANDARD CONFIGURATION (6-Door)" on page 38	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10		"Ardco FRAMES" on page 24	
"TYPICAL INSTALLATION (4-Dr Frame Shown, 3-in-1 Driver)" on page 40	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10			"HUSSMANN FRAME" on page 26
"TYPICAL INSTALLATION (HALF POWER END FIXTURES WITH SINGLE FIXTURE DRIVERS)" on page 36	"Center Mullion LED Fixture Mounting Instructions" on page 8	"END MULLION FIXTURE" on page 10			

ORIENTATION OF CENTER FIXTURES

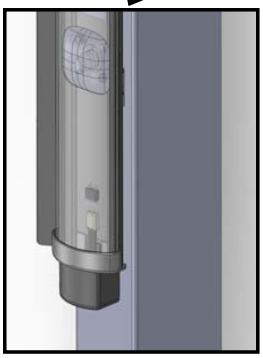


SIDE 1

Viewed from the inside of the case.



Typical input wires

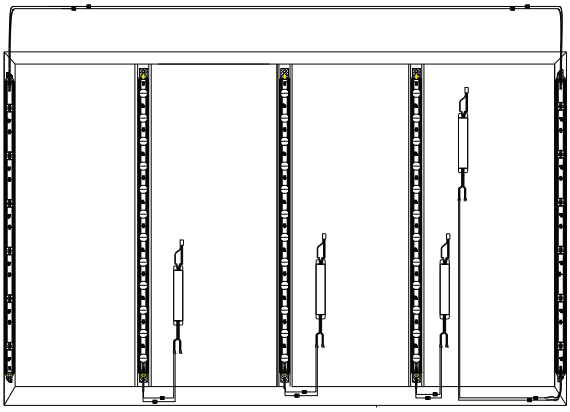


SIDE 2

- **Side 2** end fixture will remain the same orientation as the center light fixtures. **Side 1** end fixture must be flipped over for the correct orientation as shown. Therefore, the installer must connect the wires at the top of the frame instead of the bottom as **Side 2**.

STANDARD CONFIGURATION

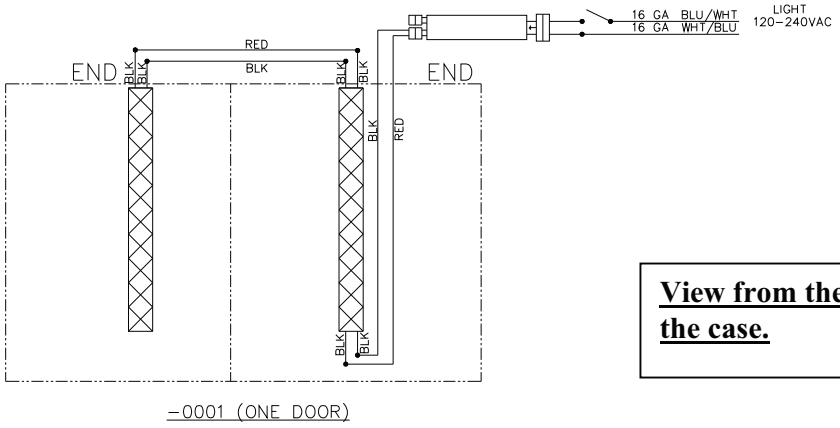
TYPICAL INSTALLATION (HALF POWER END FIXTURES WITH SINGLE FIXTURE DRIVERS)



(4–DOOR)

View from the inside of the case.

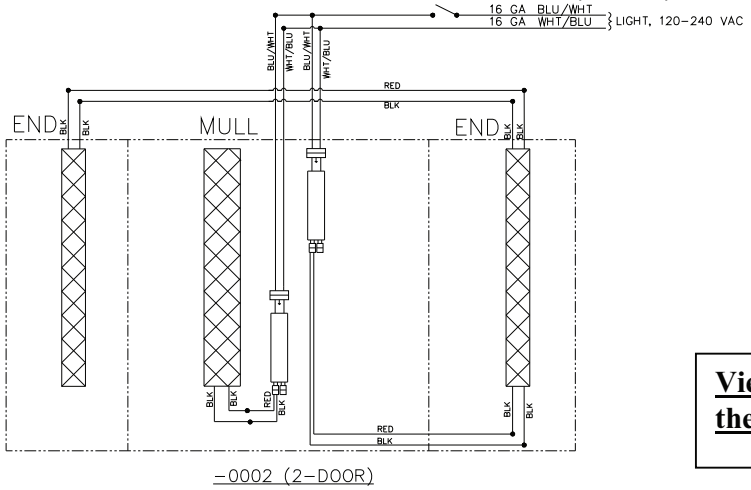
STANDARD CONFIGURATION (1-Door)



–0001 (ONE DOOR)

View from the inside of the case.

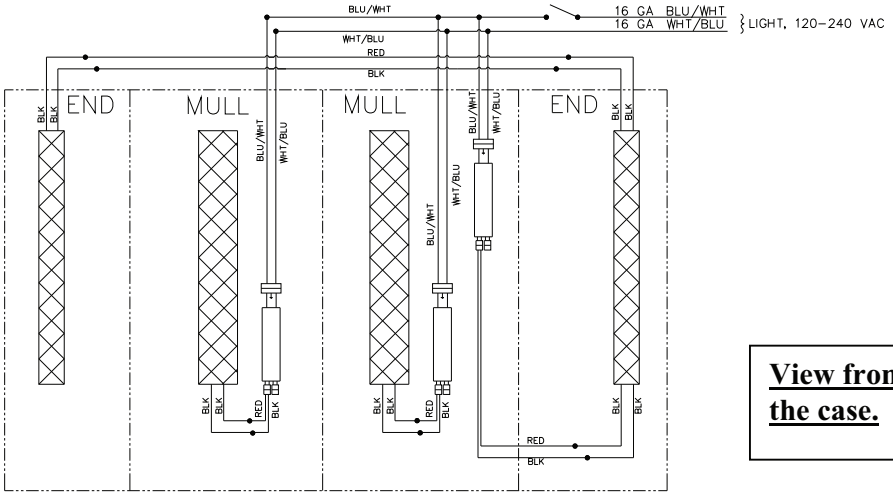
STANDARD CONFIGURATION (2-Door)



–0002 (2–DOOR)

View from the inside of the case.

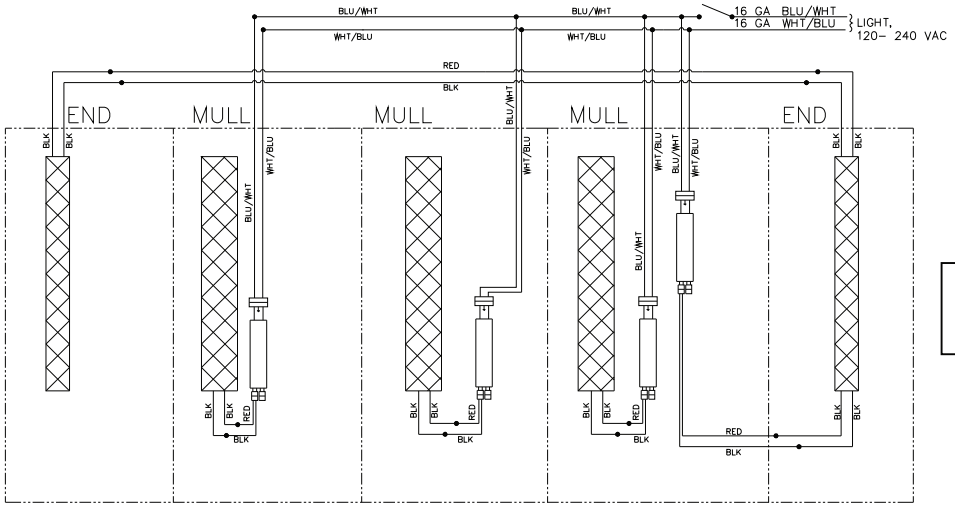
STANDARD CONFIGURATION (3-Door)



−0003 (3−DOOR)

View from the inside of the case.

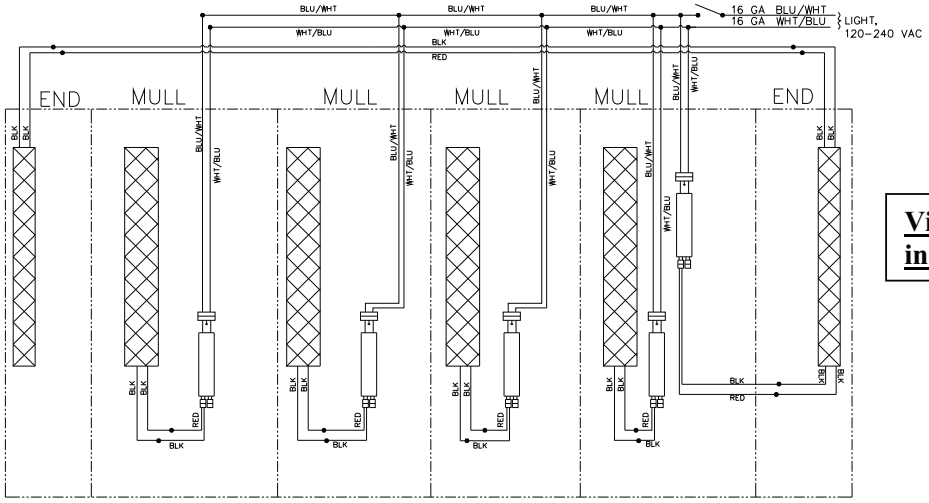
Standard Configuration (4-Door)



−0004 (4−DOOR)

View from the inside of the case.

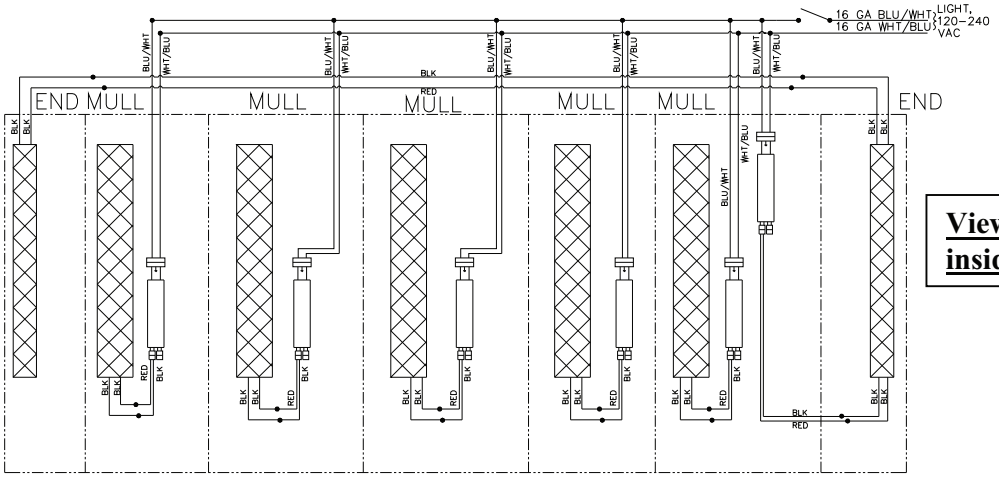
(Standard Configuration (5-Door)



−0005 (5−DOOR)

View from the inside of the case.

STANDARD CONFIGURATION (6-Door)

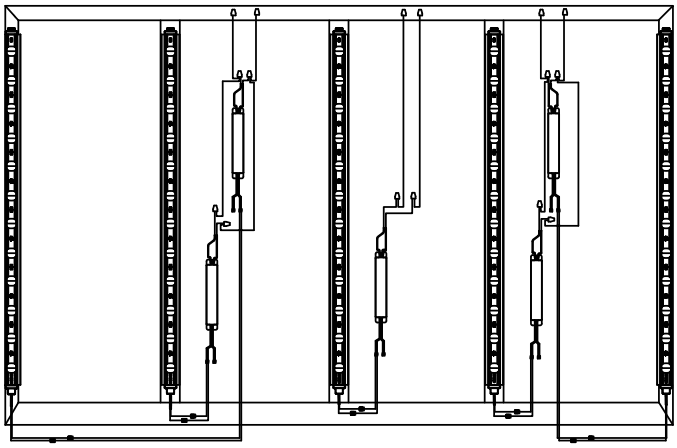


–0006 (6–DOOR)

View from the inside of the case.

OPTIONAL CONFIGURATION (FULL POWER ENDS)

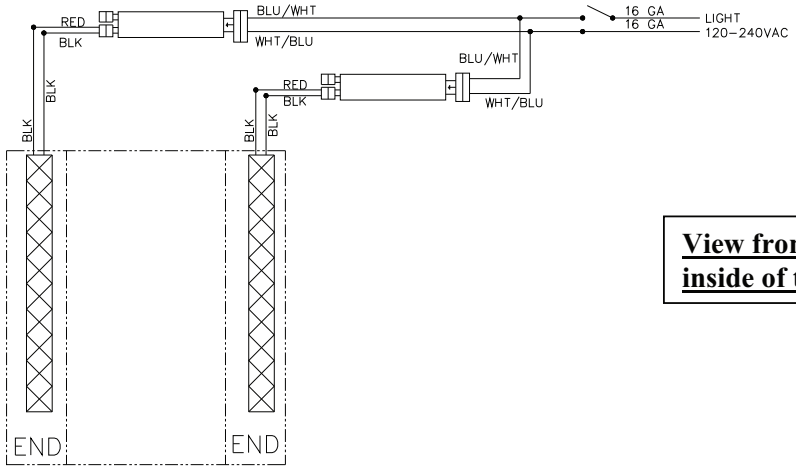
FULL POWER ENDS OPTION



4–DOOR SHOWN

View from the inside of the case.

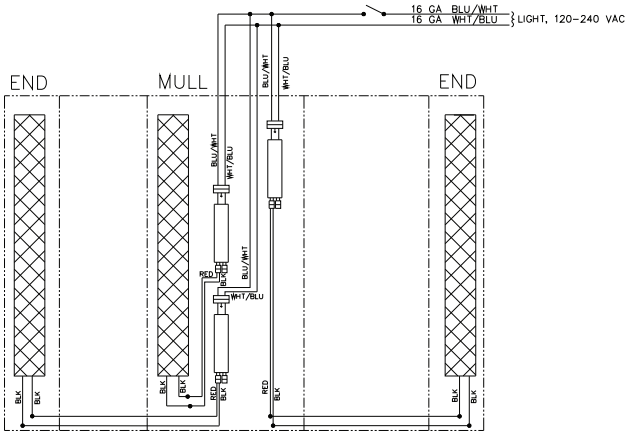
FULL POWER End Option (1-Door)



1-DOOR

View from the inside of the case.

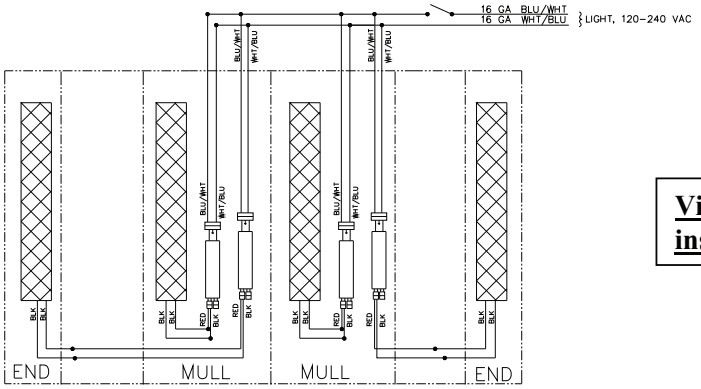
FULL POWER End & MULL Option (2-Door)



2-DOOR

View from the inside of the case.

FULL POWER End & MULL Option (3-Door)

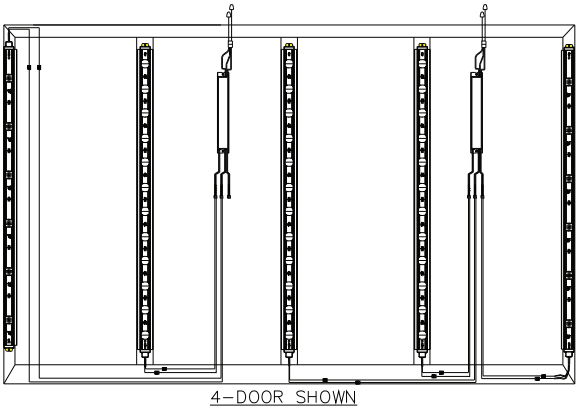


3-DOOR SHOWN TYPICAL FOR 4,5 AND 6 DOOR FRAMES

View from the inside of the case.

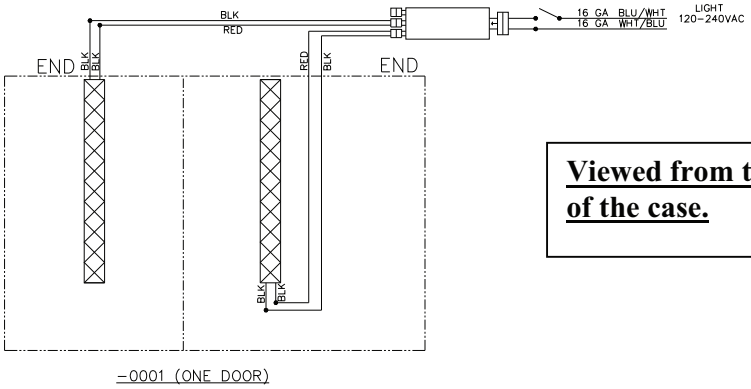
CONFIGURATION (MULTI-FIXTURE DRIVER)

TYPICAL INSTALLATION (4-Dr Frame Shown, 3-in-1 Driver)



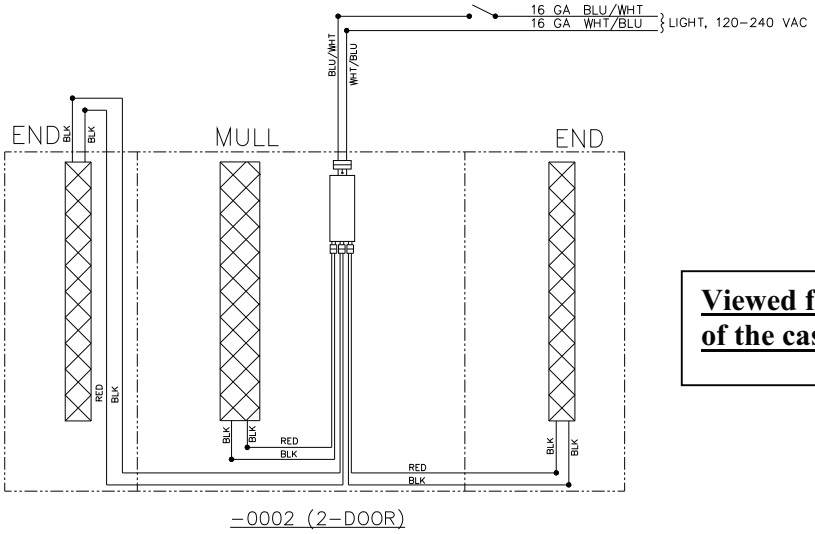
Viewed from the inside of the case.

HALF POWER End Options (3-in-1, Driver 1-Door)



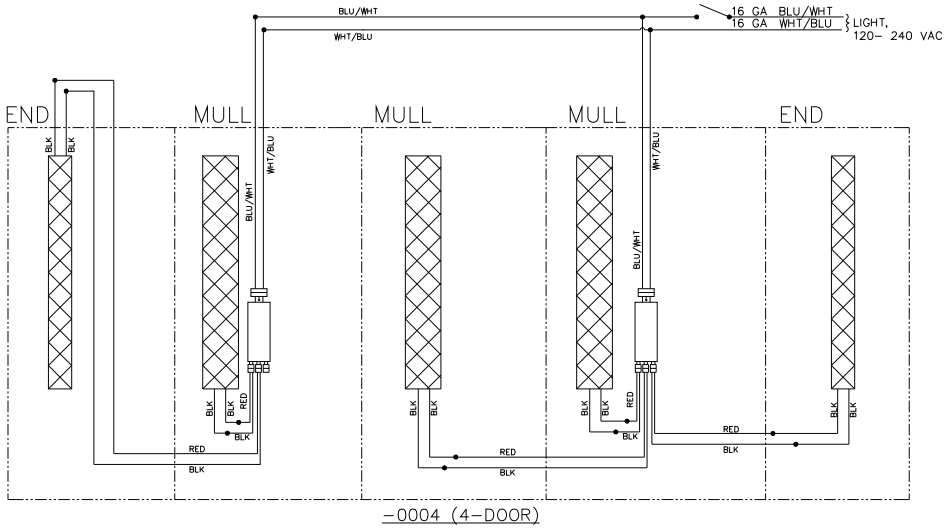
Viewed from the inside of the case.

HALF POWER End & MULL Options (3-in-1 Drive, 2-Door)



Viewed from the inside of the case.

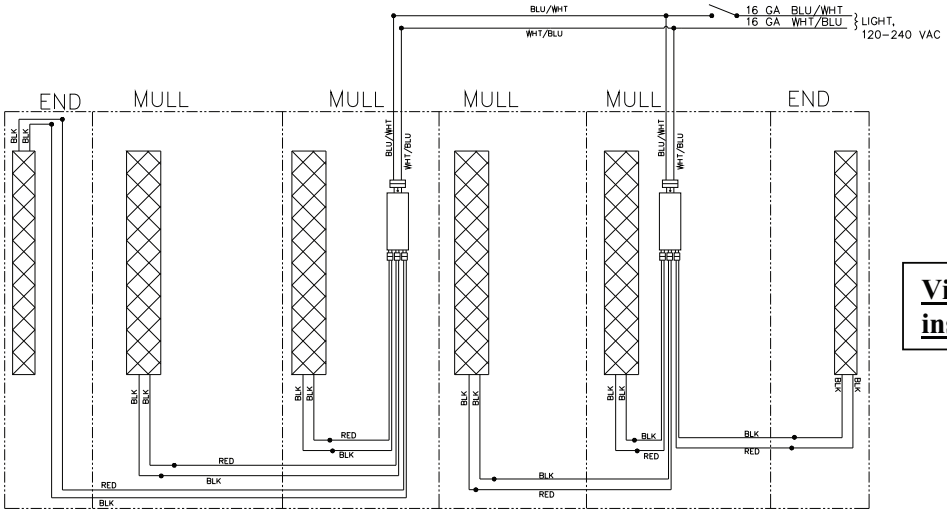
HALF POWER End & MULL Options (3-in-1 Driver, 4-Door)



–0004 (4–DOOR)

Viewed from the inside of the case.

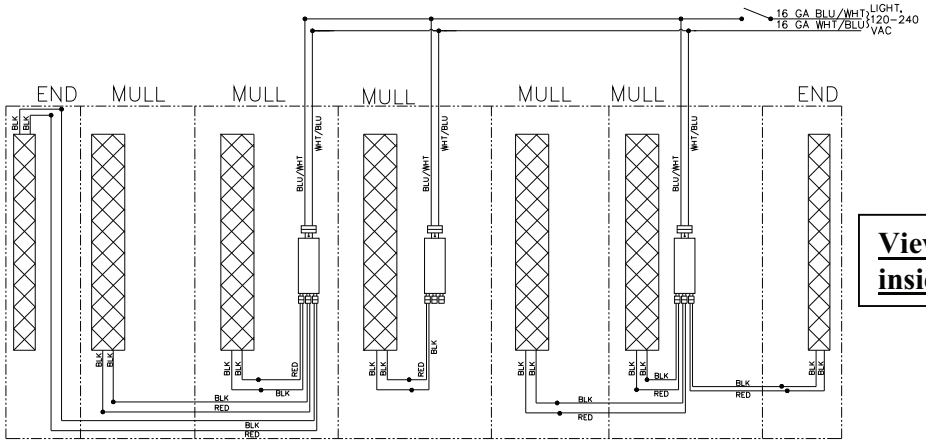
HALF POWER End & MULL Options (3-in-1 Driver, 5-Door)



–0005 (5–DOOR)

Viewed from the inside of the case.

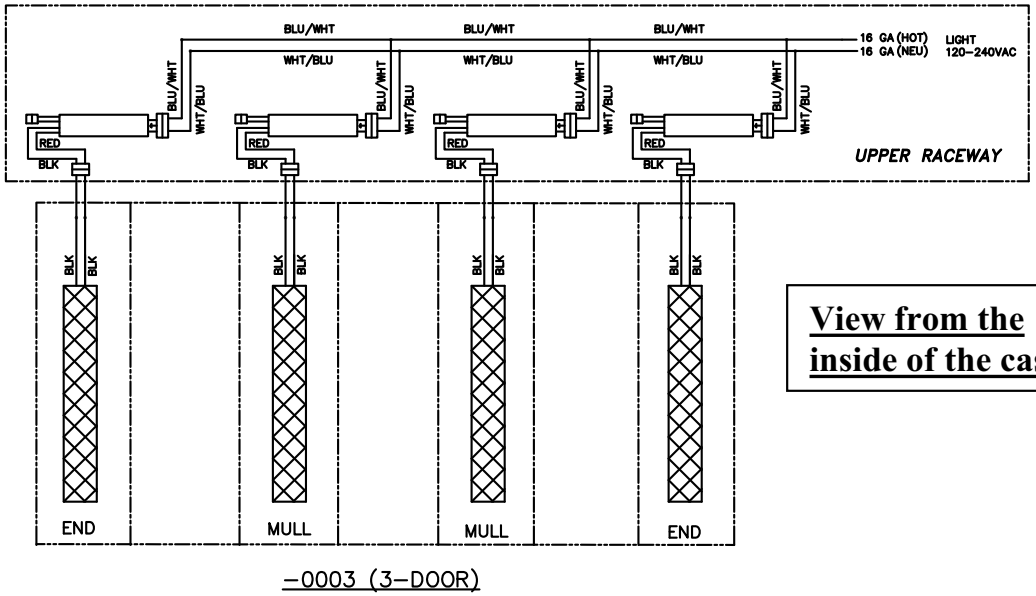
HALF POWER End & MULL Options (6-Door)



–0006 (6–DOOR)

Viewed from the inside of the case.

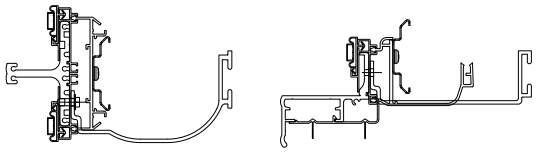
3-Door (Upper Raceway)



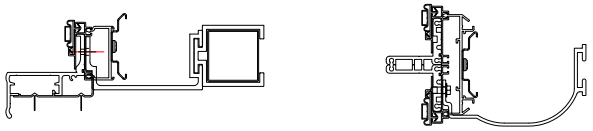
View from the inside of the case.

-0003 (3-DOOR)

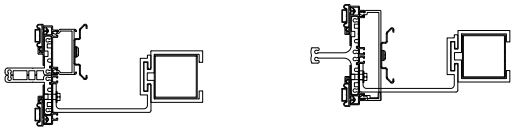
MULLION CONFIGURATIONS



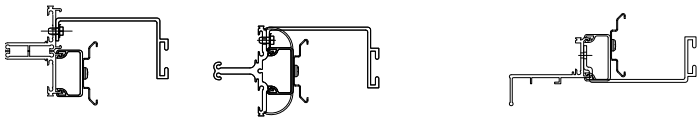
1001 w/ELS System



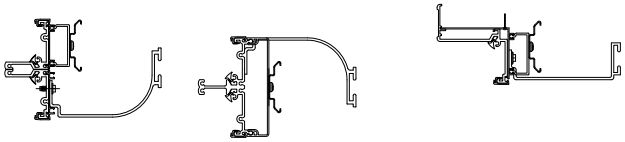
1001 T10-T12 1001 w/E:S System



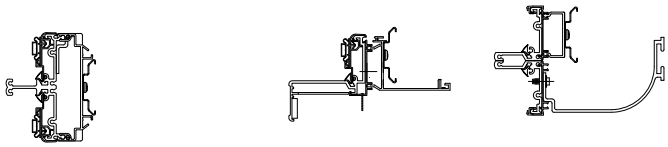
1001 T10-12 1001 T10-T123



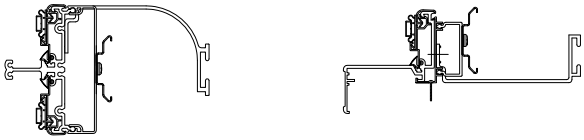
401 (old) 401 (old) 401 (old)



401D/401B 401 D/401B 401D/401B



1KDR/1KDB 1KDR/1KDB 1KDB/1KDR



1KDR/1KDB Standard T12

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 damped 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.

Anthony®

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