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Maintenance • Service • Safety

## Recommendations for Lumalier In AHU & In Duct AR Series



1931 Thomas Road | Memphis TN 38134 | 901-800-1709  
EPA EST. NO. 91347-TN-002

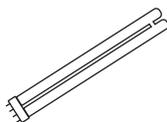
# Included Parts



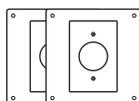
Inspection Gloves x1 per fixture



Warning Sticker x2



UV Lamp x# of lamps on the racks



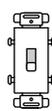
Viewports x2  
Viewport tube x1



or



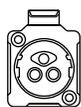
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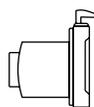
J-box x1  
Lockout cover x1  
Toggle Switch x1  
Relay x1 (for Double gang option)



Front



Side



J-box x1  
Female connector x1  
Blank Cover x1



Roller Switch x1

# Safety

## Personal Protective Equipment

Employees must wear personal protective equipment whenever UV radiation measurements are being made close to the lamp source in order to document lamp output, or when maintenance procedures must be performed in areas where UVC systems are activated.

Personal Protection Equipment includes:

- Safety glasses with side shields
- Head, neck and face covering opaque to UV radiation
- Soft cotton gloves
- Long-sleeved, tightly woven fabrics with SPF 15 or greater

## Reporting UV Exposure

Should any temporary eye or skin irritation develop after acute exposure to UV radiation, one should contact their supervisor or physician.

## Material Safety Data Sheets (MSDS)

For MSDS sheets on our lamps, please contact your local Lumalier representative.

# Maintenance

## Scheduled Maintenance Procedures

Quarterly – Visually inspect lamps through a viewing window to ensure all lamps are operational.

Semi-Annually – If the lamps show visual dust accumulation, they should be cleaned.

To clean lamps:

- De-energize by switching the exterior toggle switch to the “off” position.
- Remove the UV unit from the duct. (if necessary)
- Using soft cotton gloves, remove the lamps from the UV unit.
- Using a soft cotton cloth, with isopropyl alcohol, wipe the lamps and allow to dry.
- Replace the lamps.
- Reinstall the UV unit in the duct. (if necessary)
- Turn on the exterior toggle switch.
- Inspect the lamps through the viewing port to ensure all lamps are energized.

Annually – Replace the lamps.

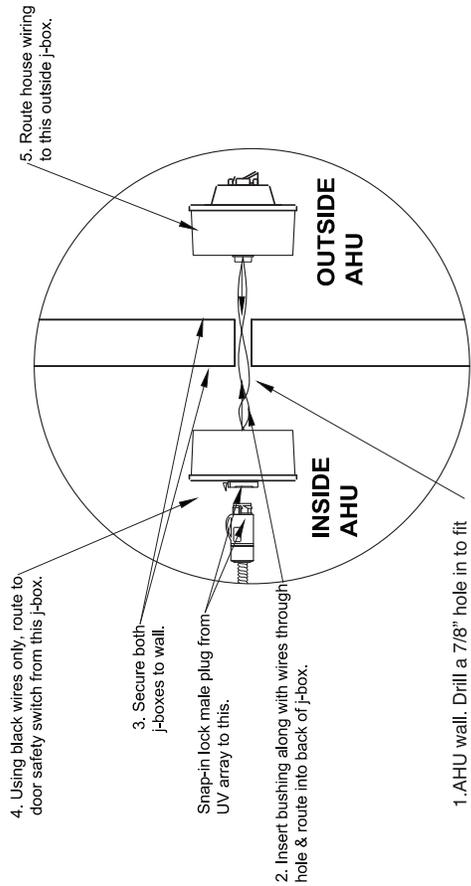
To replace lamps:

- De-energize by switching the exterior toggle switch to the “off” position.
- Remove the UV unit from the duct. (if necessary)
- Remove the used lamps from the UV unit.
- Wearing soft cotton gloves and using a soft cotton cloth, with isopropyl alcohol, wipe the new lamps and allow to dry.
- Install the new lamps.
- Reinstall the UV unit in the duct.
- Turn on the exterior toggle switch.
- Inspect the lamps through the viewing port to ensure all lamps are energized.

**Note:** Dielectric grease is required to be used on all lamp sockets and male/female whips.

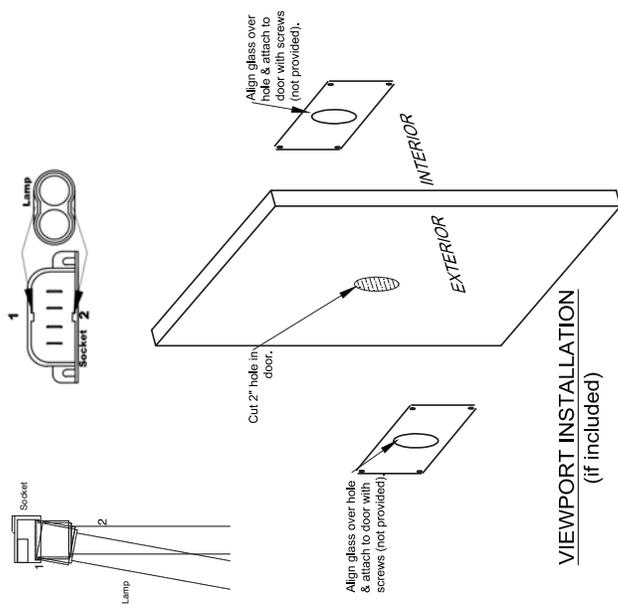
## Service

Lumalier replacement parts and lamps can be purchased from authorized distributors or directly. For technical assistance or information call 901-800-1709 or [email@evergreenuv.com](mailto:email@evergreenuv.com).



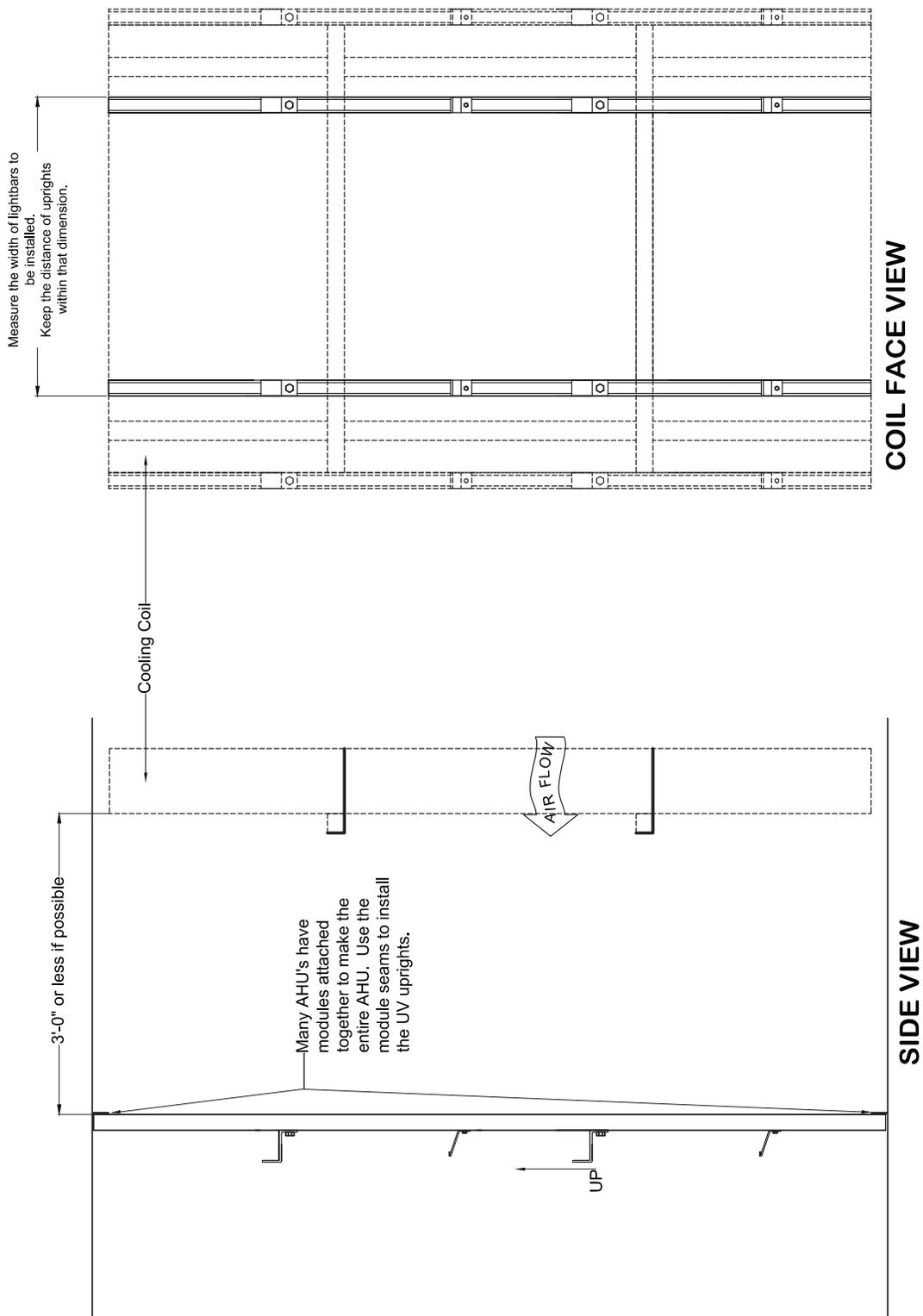
**EQUIPMENT INCLUDED**  
**(1 SET PER UV ARRAY)**

**LAMP INSTALLATION:** INSERT THE LAMP AT AN ANGLE AS SHOWN UNDER THE TOP SOCKET TAB FIRST (# 1 ABOVE). ALIGN & INSERT THE 4 LAMP PINS INTO THE 4 SOCKET SLOTS & HOLD IN PLACE WHILE SIMULTANEOUSLY ROTATING THE LAMP OVER TO THE OTHER SOCKET TAB (#2 ABOVE) & ALLOWING THE LAMP TO SNAP UNDER SOCKET TAB 2. CHECK THE LAMP IS FULLY SEATED UNDER THE SOCKET TAB 2. IF THE LAMP IS NOT FULLY SEATED, IT MAY CAUSE THE LAMP TO FAIL. FOLLOWING THIS ORDER OF INSTALLATION MAY RESULT IN BREAKAGE OF LAMP SOCKET &/OR LAMP.

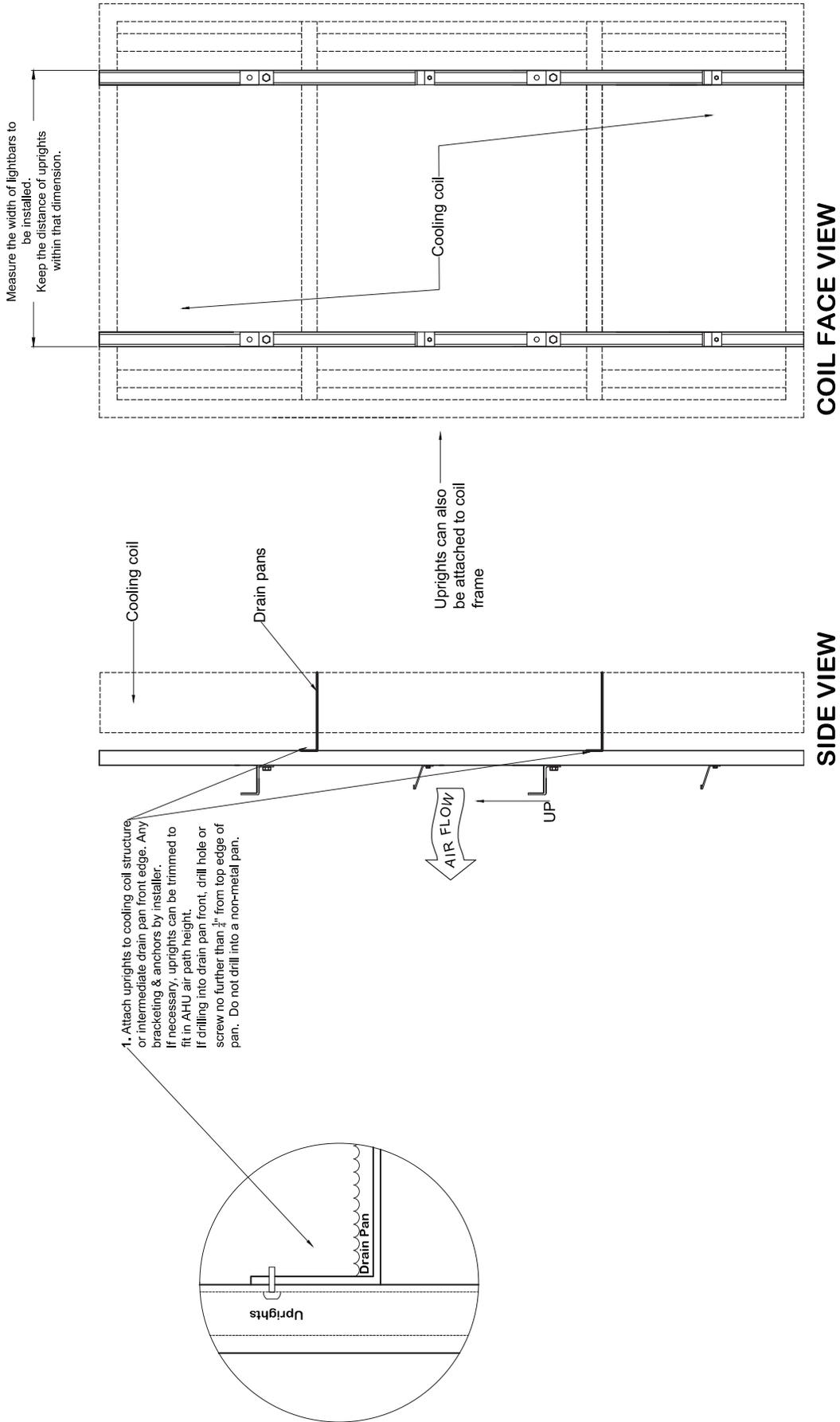


**VIEWPORT INSTALLATION**  
**(if included)**

**1**

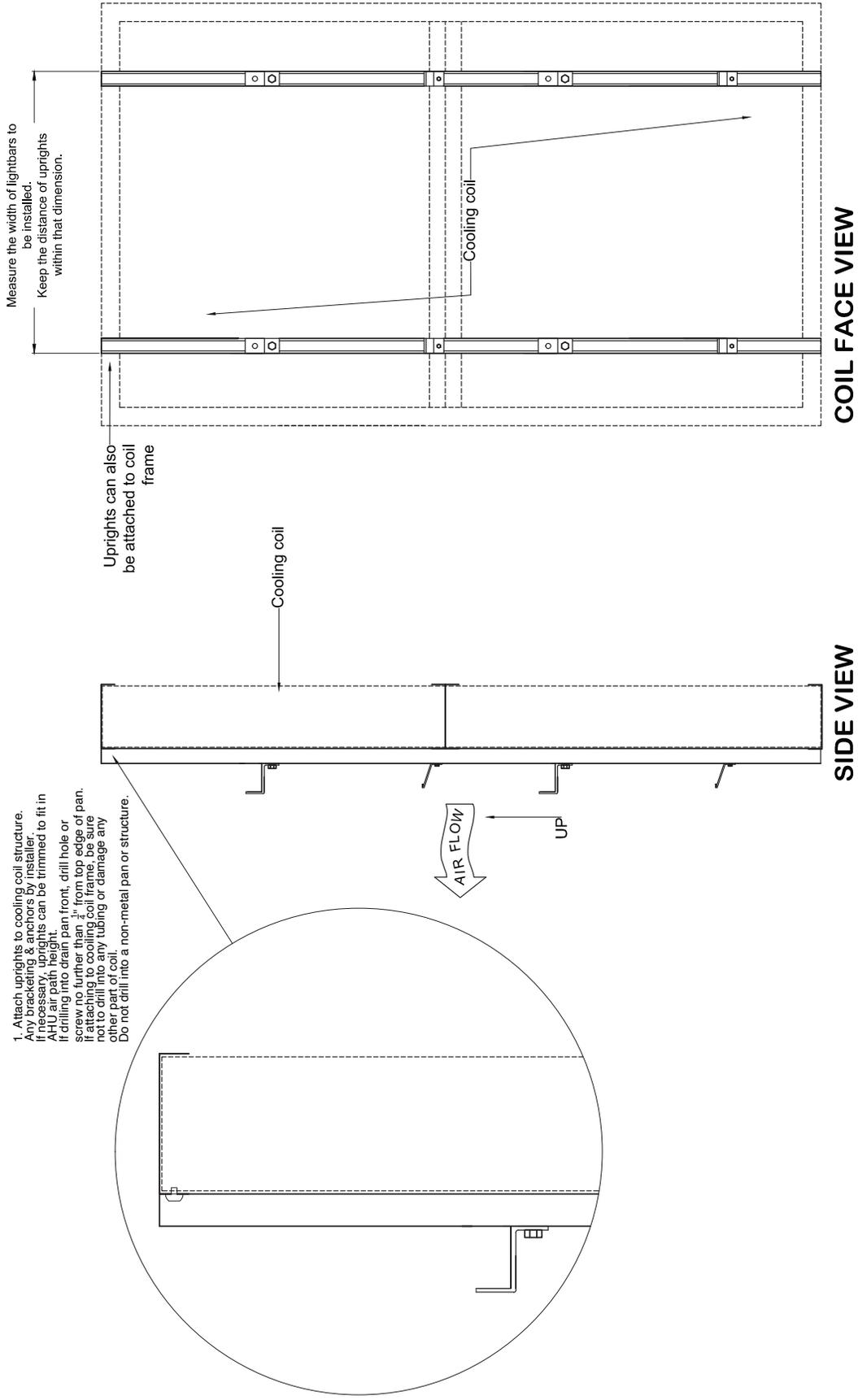


A POSSIBLE UPRIGHTS INSTALLATION SITUATION  
 INSTALLATION  
 DRAWING



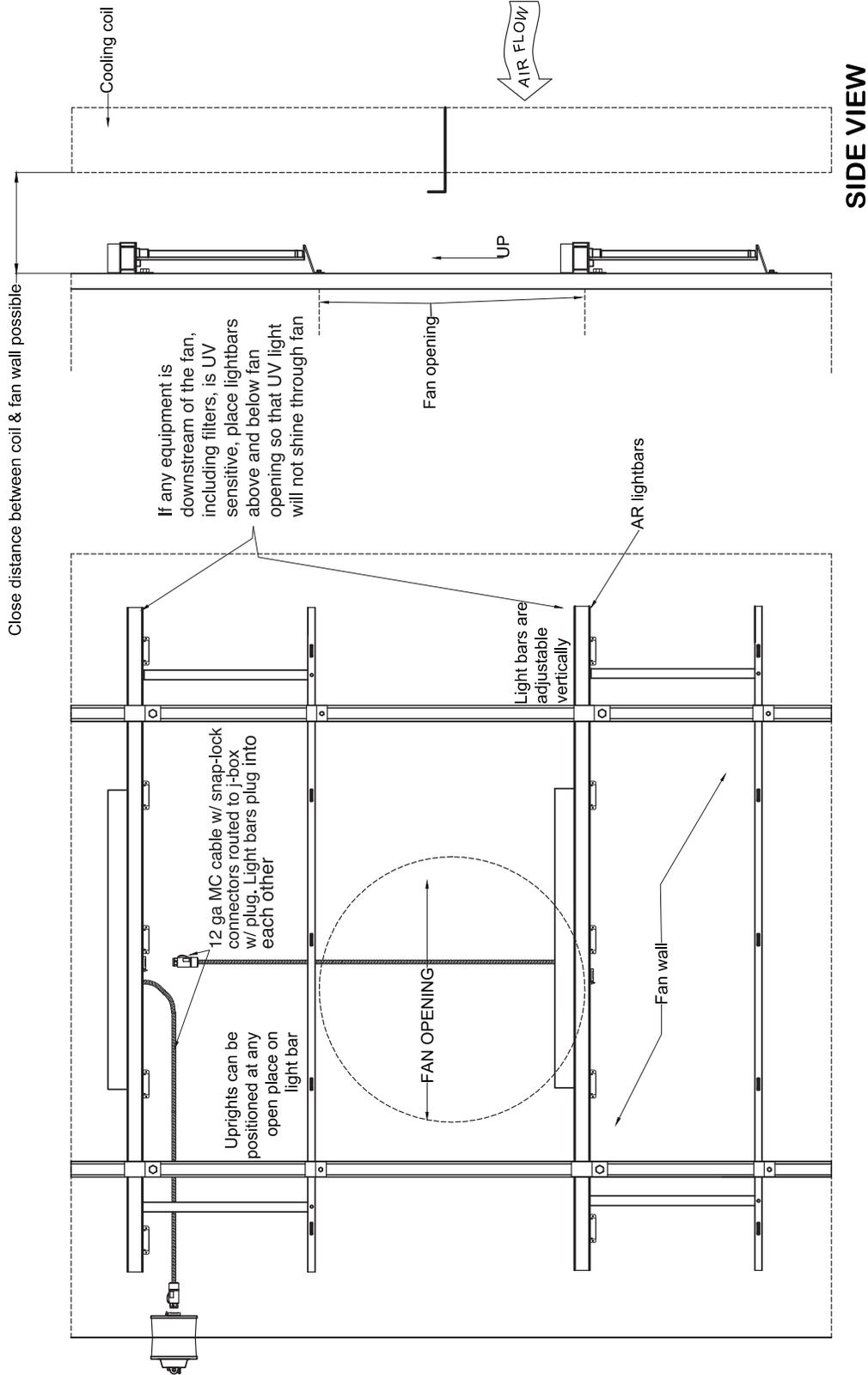
**A POSSIBLE INSTALLATION SITUATION ON DRAIN PANS**

**ON-COIL  
INSTALLATION  
DRAWING**



1. Attach uprights to cooling coil structure. Any length of uprights can be trimmed to fit in AHU air path height. If drilling into drain pan front, drill hole or screw no further than 3/8" from top edge of pan. If attaching to cooling coil frame, be sure not to drill into any tubing or damage any other part of coil. Do not drill into a non-metal pan or structure.

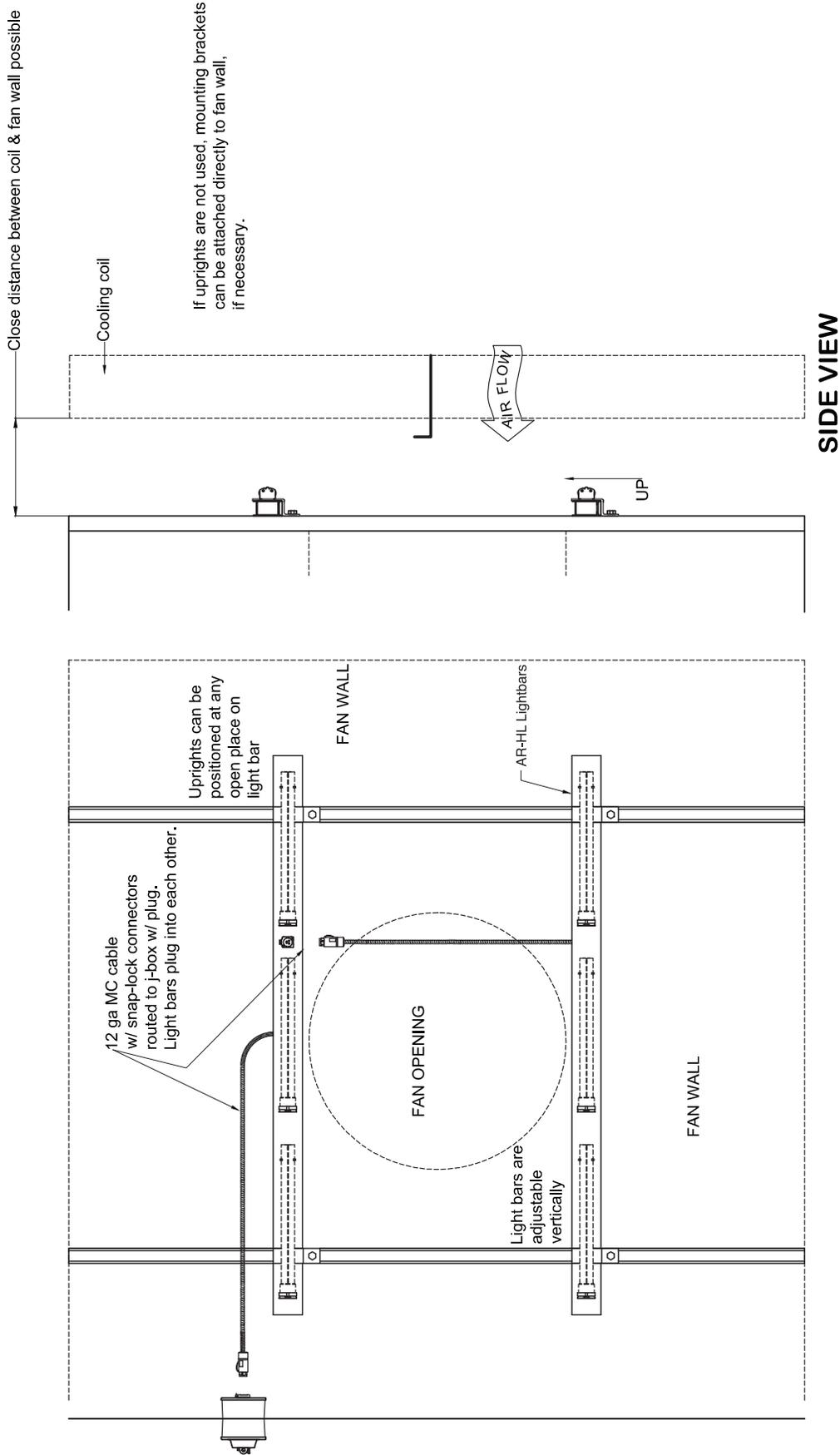
A POSSIBLE INSTALLATION SITUATION  
ON-COIL  
INSTALLATION  
DRAWING



SIDE VIEW

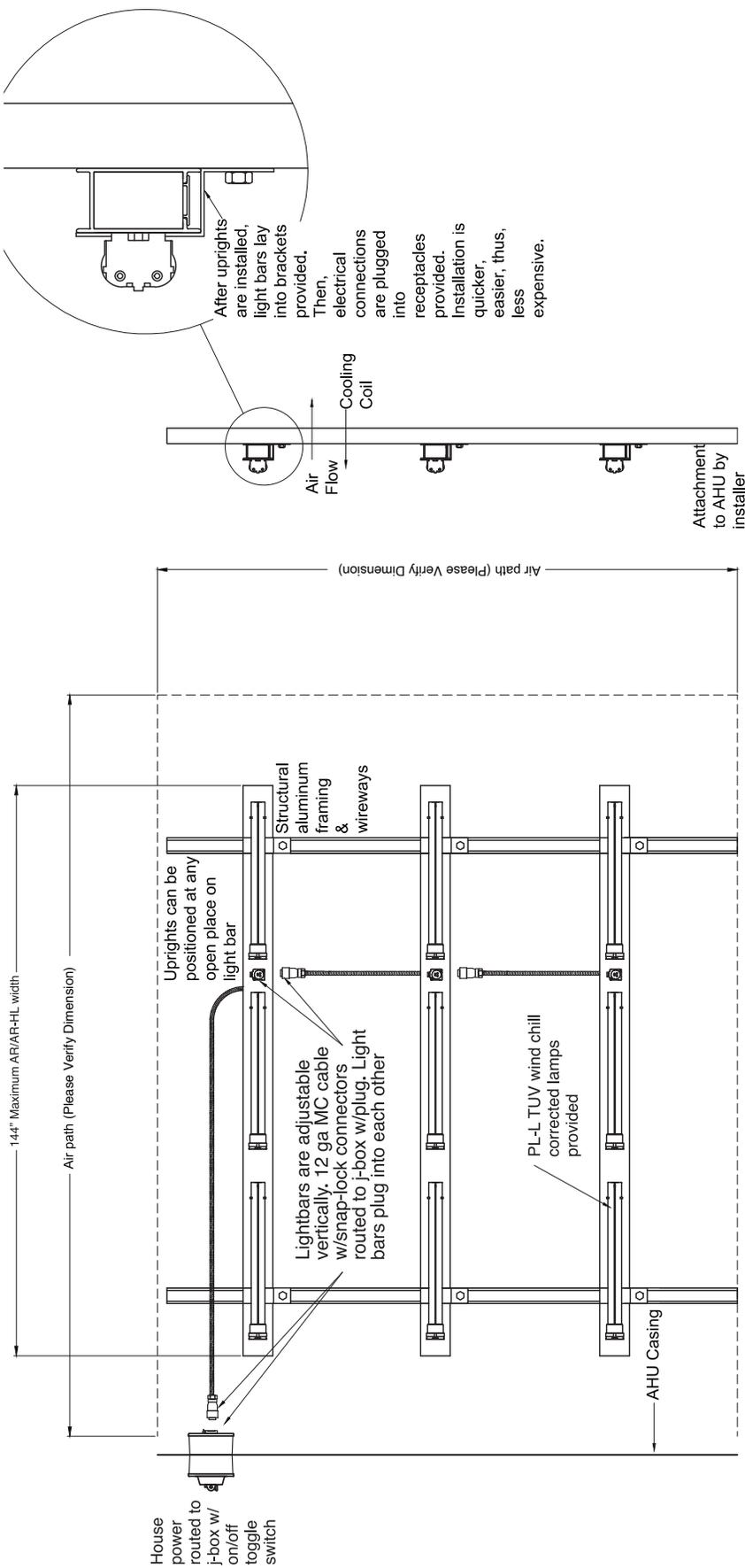
A POSSIBLE INSTALLATION SITUATION USING THE AR LIGHTBARS

FAN WALL  
INSTALLATION  
DRAWING



**A POSSIBLE INSTALLATION SITUATION USING THE AR-HL LIGHTBARS**

**FAN WALL  
INSTALLATION  
DRAWING**



After uprights are installed, light bars lay into brackets provided. Then, electrical connections are plugged into receptacles provided. Installation is quicker, easier, thus, less expensive.

# AR-HL

## ELECTRICAL REQUIREMENTS: 120V to 240V LAMPS: PL-LWTUV (WIND CHILL CORRECTED)

DAMP LOCATIONS ONLY

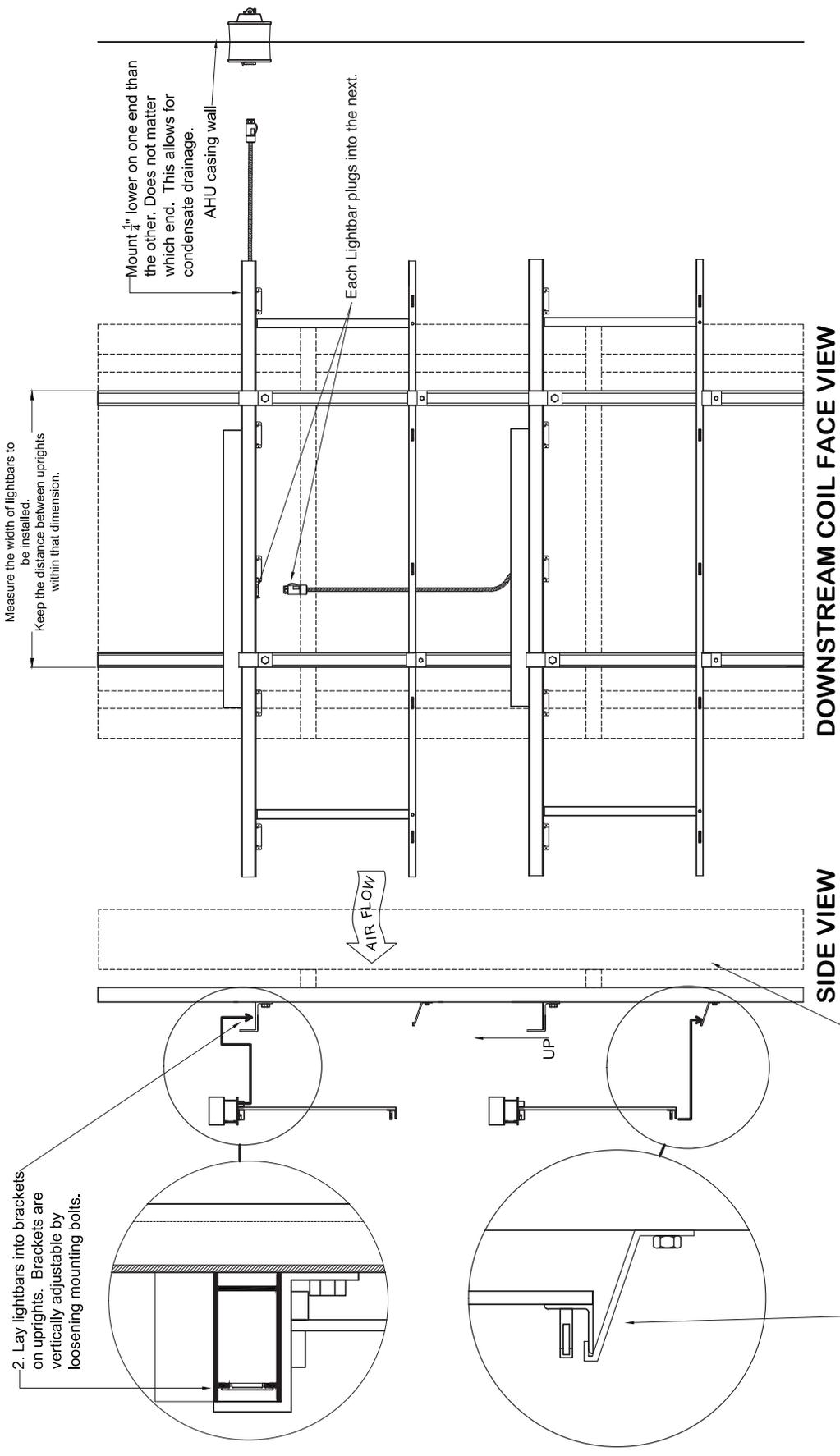
CAN BE MORE MULTIPLE LIGHTBAR ROWS BUT THEY ALL INSTALL THE SAME.

**NOTE:** TO ENSURE PROPER FIT AND CLEARANCES AT INSTALLATION, CONFIRMATION OF ALL DIMENSIONS & CONDITIONS IS THE SOLE RESPONSIBILITY OF AHU'S LOCAL AUTHORIZED PERSONNEL & MUST BE PERFORMED BY SAME ON RESPECTIVE AHU(S) PRIOR TO UV UNITS' PRODUCTION (i.e. IT IS THE RESPONSIBILITY OF THE OWNER, OWNER'S REPRESENTATIVE AND/OR CONTRACTOR TO DETERMINE IF THE UV UNIT WILL OR WILL NOT FIT IN AHU) THIS SUBMITTAL DRAWING WAS GENERATED WITH ONLY LIMITED INFORMATION PROVIDED VIA AHU(S) MANUFACTURER'S OR CUSTOMER'S WRITTEN AND/OR ORAL INFORMATION, SPECIFICATIONS, SCHEMATIC DRAWINGS, SKETCHES &/OR SCHEDULES. CONFIRMATION OF AHU(S) UV AREA ON SITE CONDITION(S) IS NECESSARY FOR A SMOOTH INSTALLATION. **THIS DRAWING MUST BE SIGNED & DATED BY RESPONSIBLE PARTY FOR APPROVAL BEFORE PRODUCTION CAN PROCEED.** DRAWING APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

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SUBMITTAL DRAWING

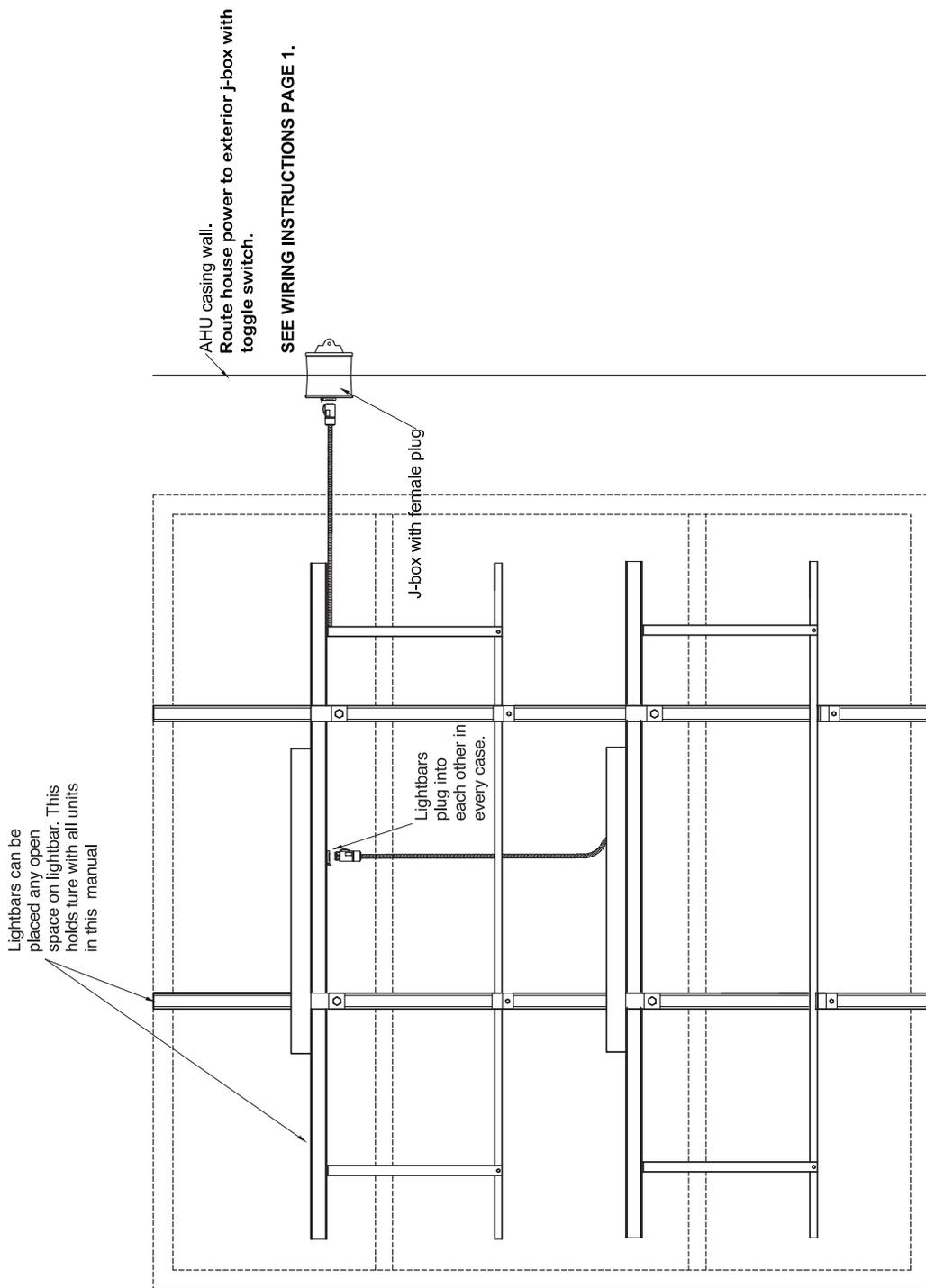
PLEASE CHECK(✓) ITEMS TO INCLUDE OR NOT INCLUDE	
INCLUDE	NOT INCLUDE
✓	
✓	
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**AR**

**ELECTRICAL REQUIREMENTS: 120V to 240V LAMPS: PL-LWTUV (WIND CHILL CORRECTED) DAMP LOCATIONS ONLY CAN BE MORE MULTIPLE LIGHTBAR ROWS BUT THEY ALL INSTALL THE SAME.**

**INSTALLATION  
DRAWING**



**DOWNSTREAM COIL FACE VIEW**

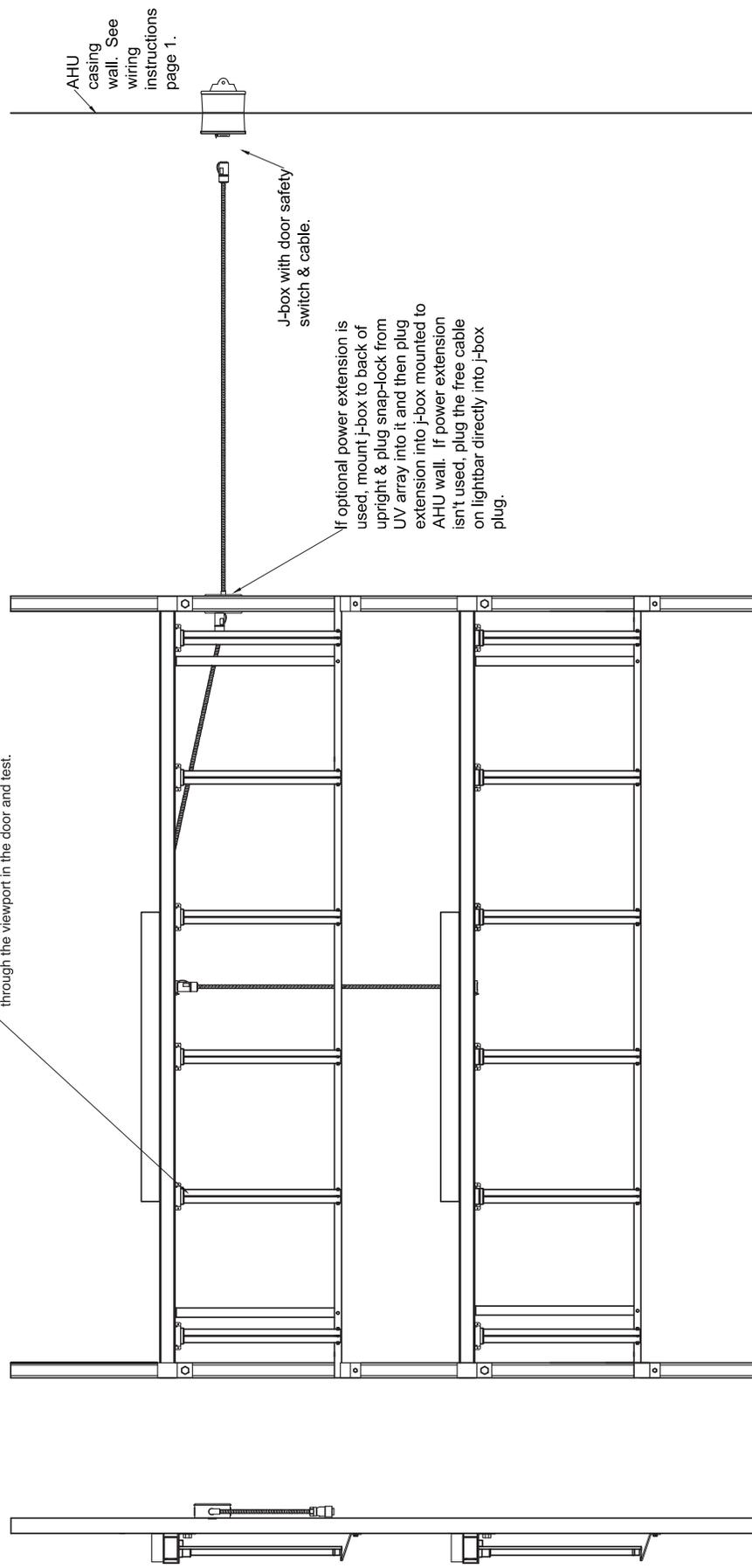
**AR**

**ELECTRICAL REQUIREMENTS: 120V to 240V  
LAMPS: PL-LWTUV (WIND CHILL CORRECTED)  
DAMP LOCATIONS ONLY**

**INSTALLATION  
DRAWING**

**9**

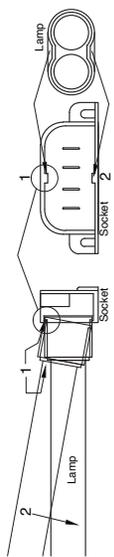
Install lamps (SEE BELOW), plug into interior J-box, energize UV lamps from outside of AHU looking through the viewport in the door and test.



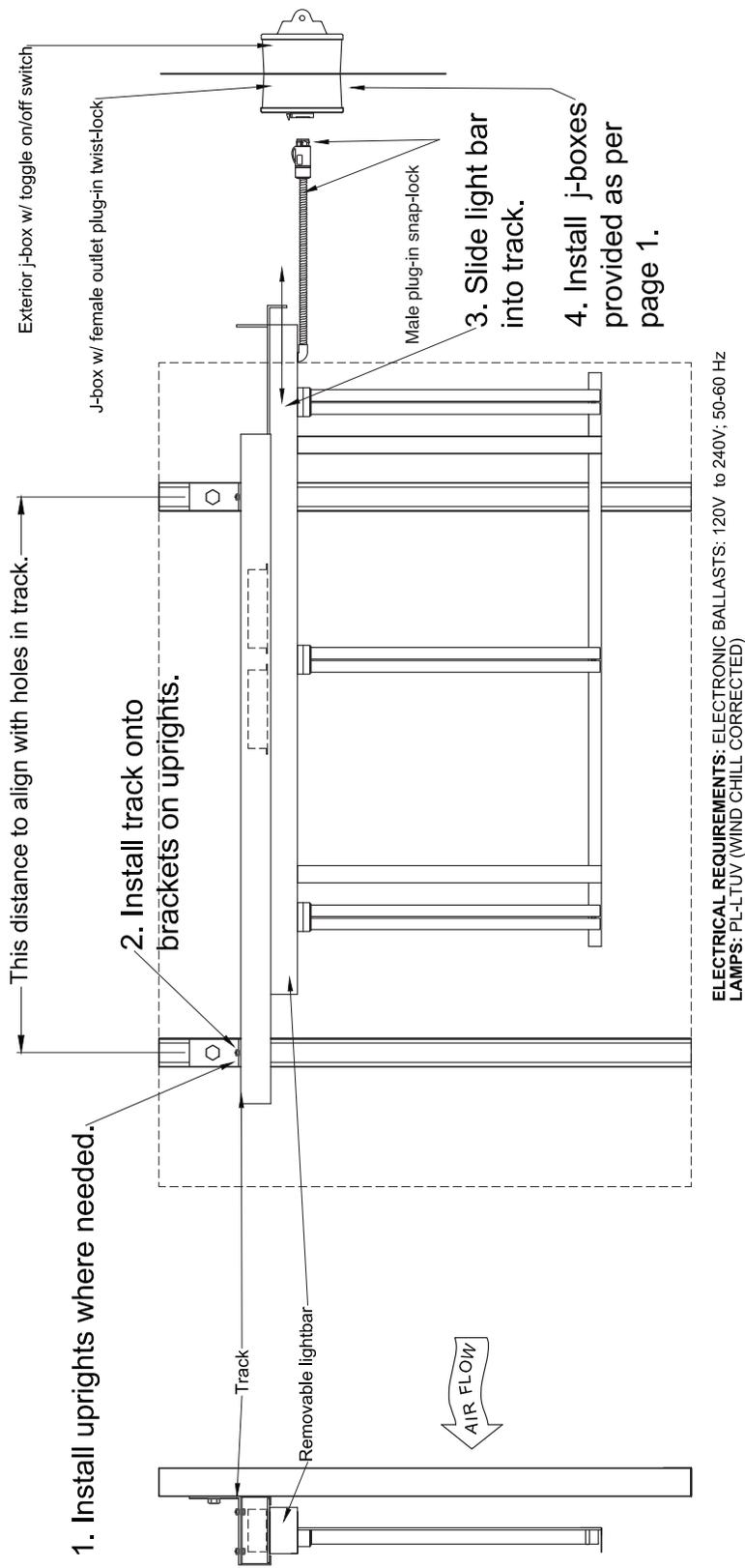
# AR

**ELECTRICAL REQUIREMENTS: 120V to 240V  
LAMPS: PL-LWTUV (WIND CHILL CORRECTED)  
DAMP LOCATIONS ONLY**

## LAMP INSTALLATION



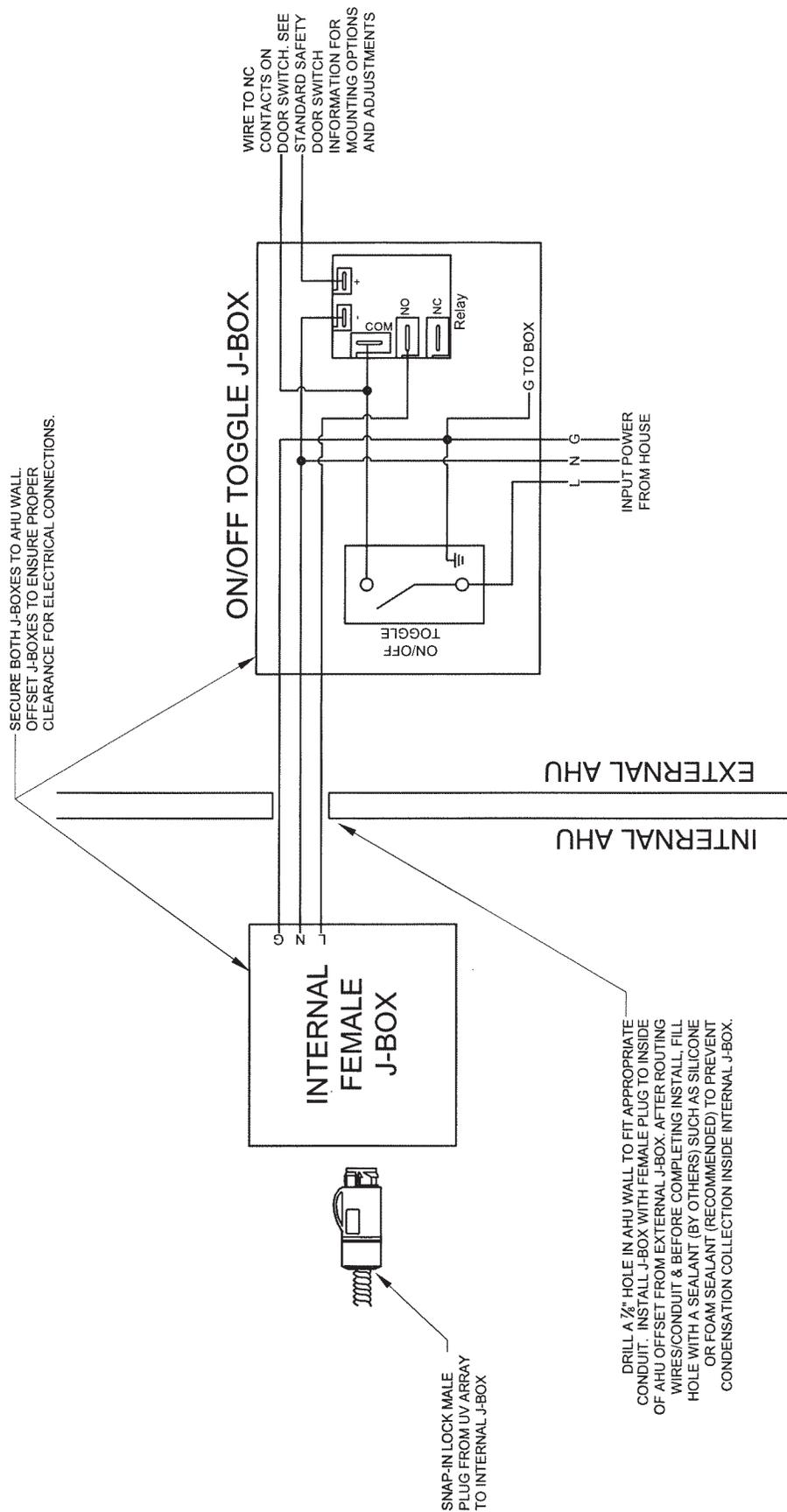
LAMP INSTALLATION: INSERT THE LAMP AT AN ANGLE AS SHOWN UNDER THE TOP SOCKET TAB FIRST (# 1 ABOVE). ALIGN & INSERT THE 4 LAMP PINS INTO THE 4 SOCKET SLOTS & HOLD IN PLACE WHILE SIMULTANEOUSLY ROTATING THE LAMP OVER TO THE OTHER SOCKET TAB (# 2 ABOVE) & ALLOWING THE LAMP TO SNAP UNDER SOCKET TAB 2.  
TO REMOVE LAMP, FOLLOW THIS INSTRUCTION IN REVERSE ORDER. FAILING TO FOLLOW THIS ORDER OF INSTALLATION MAY RESULT IN BREAKAGE OF LAMP SOCKET &/OR LAMP.



# AR-S

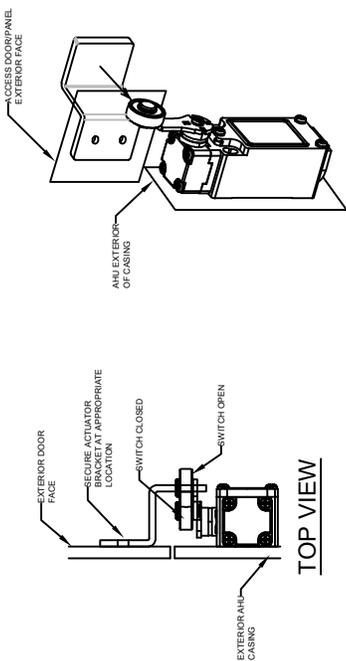
**ELECTRICAL REQUIREMENTS: 120V to 240V  
LAMPS: PL-LWTUV (WIND CHILL CORRECTED)  
DAMP LOCATIONS ONLY**

AR-S INSTALLATION  
INSTRUCTIONS



- NOTE!**
- ANY ADDITIONAL FASTENERS, CONNECTORS, OR WIRING REQUIRED THAT IS NOT SUPPLIED IS THE DUTY OF THE INSTALLER TO PROVIDE
  - ALL LOCAL AND NATIONAL CODES MUST BE FOLLOWED WHEN INSTALLING ELECTRICAL CIRCUIT
  - ALL FIELD WIRING MUST BE RATED 90°C
  - ENSURE THE MAIN POWER SWITCH IS POWERED OFF AND LOCKED OUT BEFORE ATTEMPTING TO WORK INSIDE AHU
  - POWER INPUT INTO JUNCTION BOX MUST BE ROUTED THROUGH BOTTOM OF BOX IF INSTALLED OUTSIDE

### SINGLE PHASE WIRING DIAGRAM WITH SINGLE POLE LIGHT SWITCH

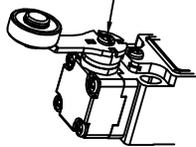


**TOP VIEW**

**ACTUATOR HEAD POSITIONING**

THE ACTUATOR HEAD MAY BE POSITIONED IN ANY OF FOUR DIRECTIONS DEPENDING ON IN-SWINGING OR OUT-SWINGING DOOR.

1. REMOVE FOUR HEAD RETAINING SCREWS WHILE HOLDING ACTUATOR HEAD IN PLACE.
2. TO PREVENT ACTUATOR SPRING LOSS; REMOVE HEAD SLOWLY TO RELIEVE SPRING TENSION PRIOR TO REMOVAL.
3. ROTATE ACTUATOR HEAD TO DESIRED POSITION.
4. POSITION THE LARGE DIAMETER END OF THE ACTUATOR SPRING OVER THE ACTUATOR. PLACE RETAINING SCREWS THROUGH GASKET MATERIAL AND POSITION HEAD OVER SCREW HOLES IN DESIRED POSITION.
5. SECURELY TIGHTEN THE SCREWS TO 0.2Nm OF TORQUE.

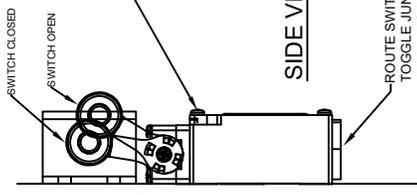


**POSITIONING LEVER**

THE LEVER ON THE ROTARY ACTUATED UNITS IS ADJUSTABLE TO ANY OF THE SEGMENTED POSITIONS 360° AROUND THE SHAFT; HOWEVER, THE DEGREE OF ROTATION IS DEPENDANT ON HEAD POSITION AND DIRECTION OF ROLLER.

1. LOOSEN THE LEVER RETAINING SCREW WITH A PHILLIPS HEAD SCREWDRIVER.
2. REMOVE LEVER.
3. REPOSITION LEVER TO DESIRED LOCATION.
4. SECURELY TIGHTEN SCREWS.

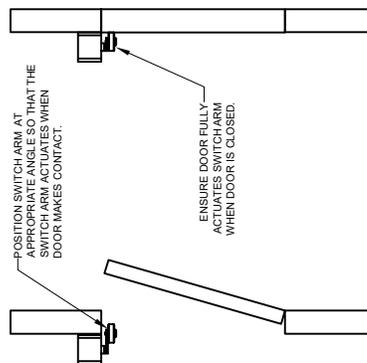
- WIRING TO SWITCH**
1. REMOVE FRONT COVER PLATE SCREW.
  2. CONTACT BLOCK AREA BY TERMINAL SCREW IS LABELED FOR NO (NORMALLY OPEN) AND NC (NORMALLY CLOSED) CONTACTS.
  3. CONNECT STRANDED WIRE (18 AWG - 14 AWG) OR SOLID WIRE (18 AWG - 16 AWG) TO DESIRED CONNECTOR TERMINALS. USE 90°C (194° F) RATED WIRE WHEN AMBIENT TEMPERATURE IS TO EXCEED 75°C (158° F).
  4. SECURELY TIGHTEN COVER SCREW.



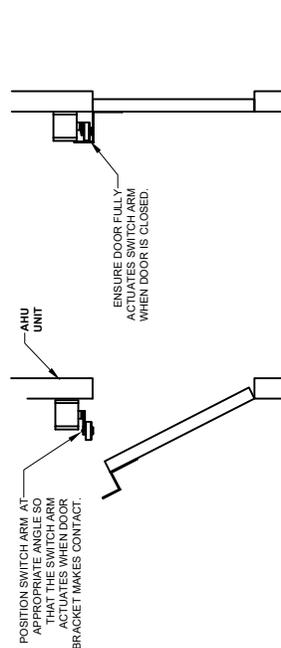
**SIDE VIEW**

**WARNINGS!**

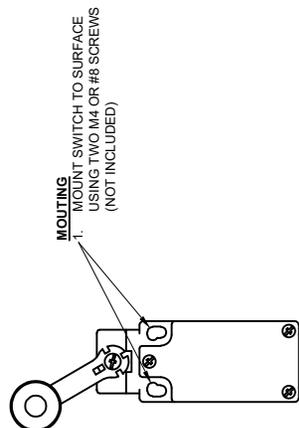
- WHERE POSSIBLE, INSTALL THESE SWITCHES WITH THE CONDUIT OPENING POINTED DOWN TO DRAIN MOISTURE AWAY FROM SWITCH
- DO NOT INSTALL SWITCH AT THE LOW POINT OF A CONDUIT RUN
- INSTALL A FITTING INTO THE CONDUIT OPENING THAT PROVIDES STRAIN RELIEF TO THE WIRES/CABLE, AS WELL AS SEALING AGAINST CONTAMINANTS FOUND IN THE APPLICATION.
- IN APPLICATIONS WHERE FLUIDS OR MOISTURE MAY BE PRESENT, SEAL THE FITTING THREADS WITH A PRODUCT SUCH AS TEFLON TAPE OR PIPE DOPE.



**IN-SWINGING DOOR MOUNTING OPTION**



**OUT-SWINGING DOOR MOUNTING OPTION**



**MOUNTING**

**STANDARD SAFETY DOOR SWITCH INFORMATION**