



## #1 How can I distinguish between lamp failure and fixture failure?

All HIDirect fixtures shipped from our facility are tested to operate a compatible lamp. First check to see that you have the correct wattage lamp that matches the ballasts. The label affixed to the side of the fixture identifies the wattage of that specific fixture and the coordinating lamp and ballast ANSI Codes.

If the lamp does not ignite, replace with a known good lamp. If that lamp does not operate there may be a wiring or ballast problem.

## #2 What do I need to check within the system prior to operation?

Be certain that the lamp you are using is compatible with the fixture wattage and ANSI code.

## #3 What are the dimming wires that come out of an electronic fixture?

Dimming wires from the fixture are Orange and Brown. Please follow the instructions exactly for correct wiring. If a motion sensor is used, please follow the wiring diagrams provided by the sensor manufacturer.

The cord coming from the fixture is already wired to the inside of the ballast and is ready to be utilized. If a rework of the cord connection for length extension or compatibility with a specific plug is required, a re-wiring of the new cord is necessary. Note that the Pink (light red color) wires are for the lamp connection (which is already connected to the socket). The Green wire is the ground wire, Yellow is the low or neutral wire, and the Black is the high or hot wire. All of these wires are integrated into our own cord; be certain that you are connecting the plug correctly to the fixture's cord. In the case of the use of a longer cord, please follow the standard wiring diagrams approved by the lighting industry.

## #4 What if the lamp will not start?

- 1) Check to see if lamp is loose in the socket. Check for arcing (blackening) at the center contact button and retighten lamp until it is properly seated. Tightening too much may cause lamp breakage.
- 2) No power to ballast: Check circuit breakers or other causes of potential power outages.
- 3) Normal end of lamp life: Test operating lamp in adjacent luminaire. Replace if necessary.
- 4) Sensing devices: Replace sensing device as needed.
- 5) Defective/improper wiring: Verify fixture has been properly wired. Correct as needed.

### Correct wiring if required.

- 6) Voltage at luminaire is too low: Line voltage at input of ballast should be within 10% of label rating (increased loading/demand decreases available voltage at ballast primary). Check at full load. If tapped ballast, match ballast tap connection to supply voltage measured at ballast. Verify that lamp to ballast distance is acceptable.
- 7) Ballast/Lamp: Use a ballast compatible with your lamp. Ensure ballast and lamp are not defective.
- 8) Improper lamp operating position: Be certain operating position agrees with lamp specifications.
- 9) Hot restrike: When power is cut or interrupted for HID lamps, they require a cool-down period of up to 20 minutes for "hot restrike" with standard probe start metal halide systems and 8-12 minutes with Uni-Form® pulse start systems.

Verify ignitor pulse is present.

## #5 What if the lamp life is reduced?

- 1) Lamp compatibility: Check that the lamp is the correct wattage and ANSI Code.
- 2) Lamp damaged: Visually check interior and exterior bulb, arc tube and base for defects.
- 3) Ballast: Make certain that the ballast label agrees with the line voltage and lamp.
- 4) Lamp in incorrect position: Replace incorrect lamp with suitable lamp in proper position.

## #6 What if lamp flickers or cycles?

- 1) Check the photocell (if applicable): If a photocell is used to switch the fixture, cover the photocell window or eye completely with black electrical tape and check for proper operation.
  - A. If the cycling STOPS, re-aim the photocell (or the fixture) to reduce fixture light spill onto the photocell eye.
  - B. If the cycling CONTINUES, replace the photocell with a shortening cap if available or bypass the photocell completely in the circuit temporarily. If the lamp remains on the photocell is defective. If the cycling STILL CONTINUES, the lamp is probably bad.
- 2) Wrong ballast: New lamps may "cycle." If lamp doesn't stabilize after 3 starts or after 30-60 sec. intervals, check ballast.

Measure lamp operating voltage. Measure ballast open circuit voltage. Replace as necessary.

- 3) Variable voltage: Other machinery on lighting circuits may cause flickering. Remove lighting circuits from those serving these devices. Provide voltage regulators.

## #7

### What if the lamp starts slowly?

1) Hard starter: If lamp doesn't ignite rapidly, check voltage and ballast. Replace if necessary.

## #8

### What if the fuses are blown or circuit breakers are open on lamp start?

1) Overloaded circuit: Rewire to accommodate starting open circuit current of lamp and ballast found on lamp specification sheet.

2) High momentary transient current: Limit amperage by reducing luminaire quantity to each circuit.

## #9

### What if the lamp output light is low?

1) Lamp depreciation: Refer to published technical characteristics to see if depreciation is within normal range. The lighting system may be due for a group re-lamp.

2) Incorrect voltage: Check if rating designation conforms to lamp rating description. Check line voltage at ballast and compare to rated voltage requirements. Look at wiring connections for voltage loss points. Check socket contact point.

3) Incorrect ballast output: Determine if it conforms to lamp requirements. If voltage & current don't stabilize within 5-10 min. of warm-up time, ballast output is incorrect & adjustment should be made.

4) Dirt accumulation: Regularly clean and maintain your lamp and luminaire.

## #10

### What if the arc tube becomes blackened or swollen?

1) Over-wattage operation/improper ballasting: Check if lamp is operated on ballast designed for higher wattages, check ballast label against lamp specification.

2) Reflector problem: If you suspect reflector is refocusing damaging energy on arc tube, contact luminaire manufacturer.

3) "Glow state" operation: Under certain conditions, lamps will go into a partial discharge (dim glow). Replace lamp and check ballast.

## #11

### What if a difference in lamp color is noted?

1) Normal maintenance: Color shift may occur as lamps age. Using Uni-Form® pulse start systems and/or group re-lamping will minimize this.

2) Wrong lamp color: Etching on lamps will be different if lamps are not the same. Replace as needed.

3) Variations in luminaires: Variations in the surface or finish of the reflectors and/or lenses can introduce color differences. Interchange lamps to check for possible luminaire differences. Make certain that luminaries are clean.

4) Environmental variations: A room's walls, floors, furnishings, etc. may affect appearance of lamp color.

Measure capacitance to specification using capacitance meter. Replace capacitors if needed.

## #12

### What if the reflector has changed shape and color?

Verify the reflector meets the following guidelines:

**Plastic:** Any open optic greater than a 22 inch diameter and 3570 cubic inch volume.

**Glass and Metal:** Any open optic greater than a 15 inch diameter and 1390 cubic inch volume:

Optics specifications are UL requirements based on heat constraints. Optics may also be referred to as a Reflector, Reflexor, Refractor etc. by various manufacturers. All of HIDirect's fixtures are "Open Rated" only.

