IC Rating vs. NON-IC Rating on Light Fixtures

It is very important to understand the difference between an IC rated fixture and a NON-IC rated fixture. For purposes of this technical topic, definitions and examples will be provided for IC and NON-IC as they pertain to applications in the lighting industry.

IC rating

If a light fixture is intended for direct contact with insulation, it will require an **IC** rating (IC stands for Insulated Contact). An IC rated fixture must, by definition, "be approved for zero clearance insulation cover by and OSHA NRTL laboratory", such as Underwriters Laboratory (commonly referred to as UL).

IC ratings on light fixtures are very common in residential applications. Many homes have blown cellulose insulation in the attic space, covering all light fixtures. By offering a light fixture that is IC rated, homeowners can rest easy that as long as they abide by the information listed on the labels on our fixtures, they will not have to worry about the performance of their Capri IC rated fixtures.

There is a lower lamp wattage (than is approved for a non-IC application) that is approved for use with an IC rated fixture because of the fact that the "blanket" of insulation will keep the heat from the lamp from escaping into the plenum (attic space). For example, if an IC rated housing is UL approved for use with a 90 watt Par38 incandescent lamp source, then a Par38 lamp with 90 watts or fewer must be installed. However, if the homeowner/ electrician/ contractor installs a Par38 lamp greater than 90 watts into the socket of that housing, the thermal protector will kick in, terminating power to the fixture until the problem is addressed.

NON-IC rating

If the space that a light fixture is to be installed does not contain insulation, a NON-IC rated fixture should be used (NON-IC stands for NON Insulated Contact). If insulation *is* present in an application where a NON-IC rated fixture is used, a minimum 3" clearance should exist on all sides of the fixture, and no insulation may be present across the top of the installed fixture. By maintaining these clearance requirements, overheating should not be an issue according to testing conducted on the fixture.

NON-IC rated fixtures are occasionally used in residential applications, but much more often they can be found in commercial applications. This is because most residential, single-family dwellings will use insulation in the attic space for energy conservation---but it is less likely that commercial spaces (such as shopping centers and grocery stores) will use insulation as part of their construction. There will always be exceptions to this, of course, but this is a general rule when determining what fixture to use in what application.

A higher lamp wattage (than is approved for an IC application) is approved for use with a NON-IC rated fixture. This is because in a NON-IC application, no insulation comes in direct contact with the housing; therefore, the heat from the lamp can escape and dissipate into the plenum.