



# QUICK RESPONSE

*Saving life and property through effective licensing, plan review, and inspection of fire protection systems.*

June 2006

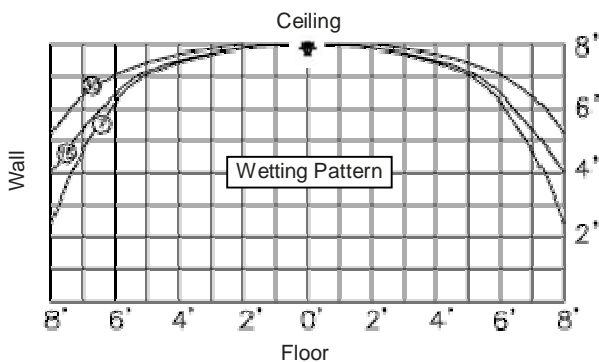
## Standard-Response vs. Fast-Response

The six characteristics that define a sprinkler's ability to control or extinguish a fire and hence define its listing are: a) Thermal sensitivity, b) Temperature rating, c) Orifice size, d) Installation orientation, e) Water distribution characteristics, and f) Special service conditions. One of these characteristics, **thermal sensitivity**, is a measurement of how quickly a particular thermal element in a particular sprinkler assembly will operate. The most commonly known measure of **thermal sensitivity** is the *response time index* (RTI). A **standard-response** element has an RTI of 80 (meters-seconds)<sup>1/2</sup> or greater, while a **fast-response** element has an RTI of 50 (meters-seconds)<sup>1/2</sup> or less. Thus, a **fast-response** sprinkler will operate sooner than a **standard-response** sprinkler installed under the exact same conditions. Examples of various types of **fast-response** sprinklers are residential, quick-response and early suppression fast response (ESFR).

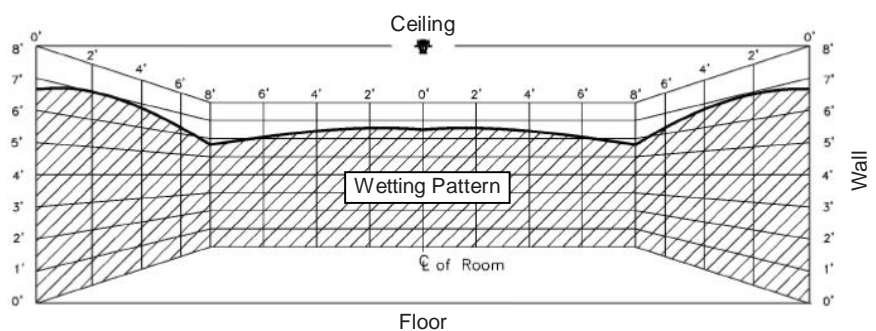
## Standard vs. Residential Spray Patterns

The intent of a **standard spray** sprinkler is to wet as much of the floor as possible. They are listed for their ability to control various fire hazards and have specific areas of coverage as outlined in NFPA 13.

A **residential** sprinkler has a higher discharge pattern than that of a **standard spray** sprinkler. They have been specifically developed for discharging water higher on the walls in order to keep ceiling gas temperatures lower. This will help prevent "flash-over" in a fire and thus increase the chance of human survivability.



Standard Spray Pendant



Residential Pendant