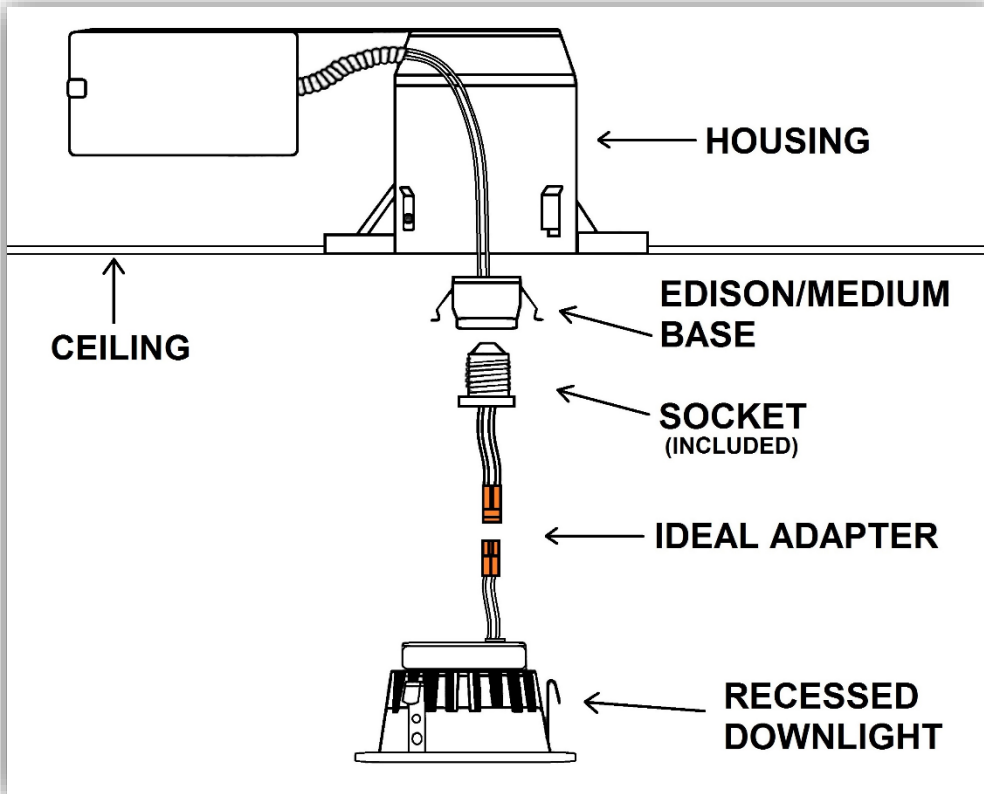
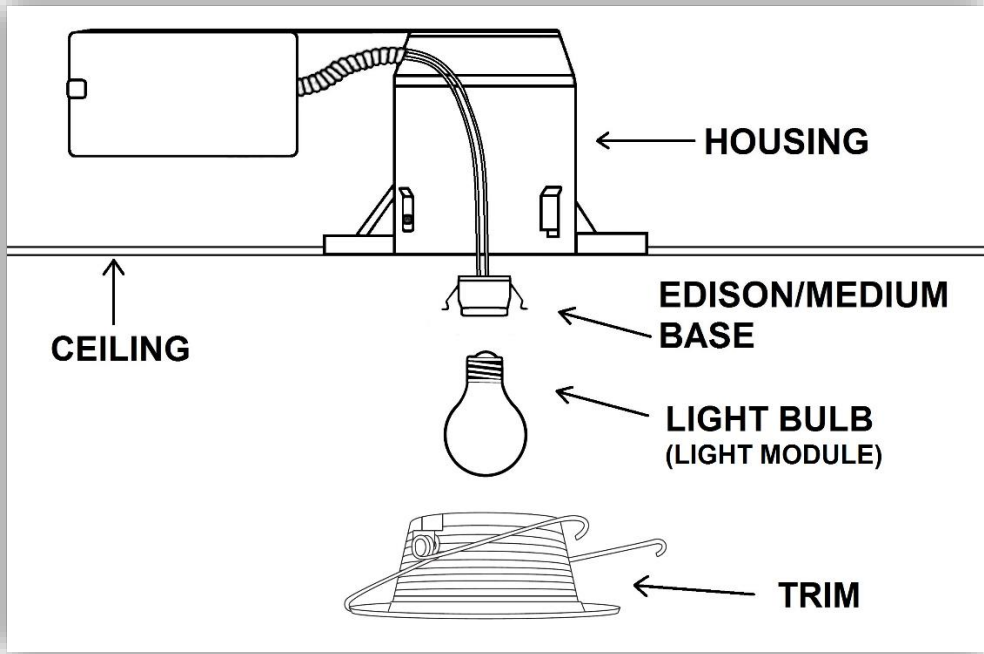


Recessed Lighting Products

Within the Recessed Lighting category, there are 3 primary types of products: *housings, light modules, and trims*. Each of these products are required to create recessed downlight kits. The recessed lighting category has transformed in the last decade as LED technology has become a more efficient alternative to traditional recessed lighting. An LED downlight is a hybrid made up of an LED light module and a trim.



Housings

The picture on the left is of a New Construction Housing, meaning it's meant for applications still in the building phase. Note the New Construction Housing has adjustable mounting brackets allowing for the housing to be mounted to studs. The picture on the right is of a Remodel Housing. The remodel housing is meant for use in applications where the construction is finished and a drywall ceiling exists. The entire remodel housing can fit into a 6" round hole in the ceiling.

New Construction Housing



Remodel Housing



Now, there are different attributes/options available on housings (all of which we manufacture and provide). Each new construction housing and remodel housing are available with the following options/attributes:

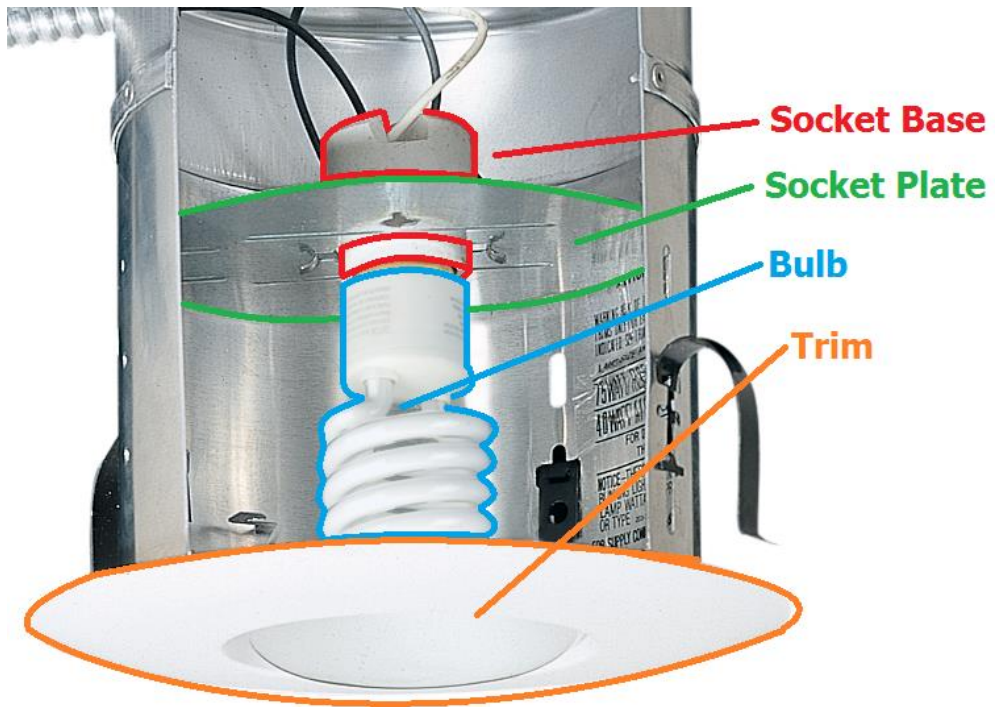
Airtight – To keep the home insulated, this airtight option will not allow airflow to escape. This keeps energy costs down.

Shallow – This housing is for ceilings where there is not much room to operate (i.e. a ceiling between the 1st and 2nd story floors). These shallow housings measure less than 5.75 inches, compared to a traditional 7.5-inch housing.

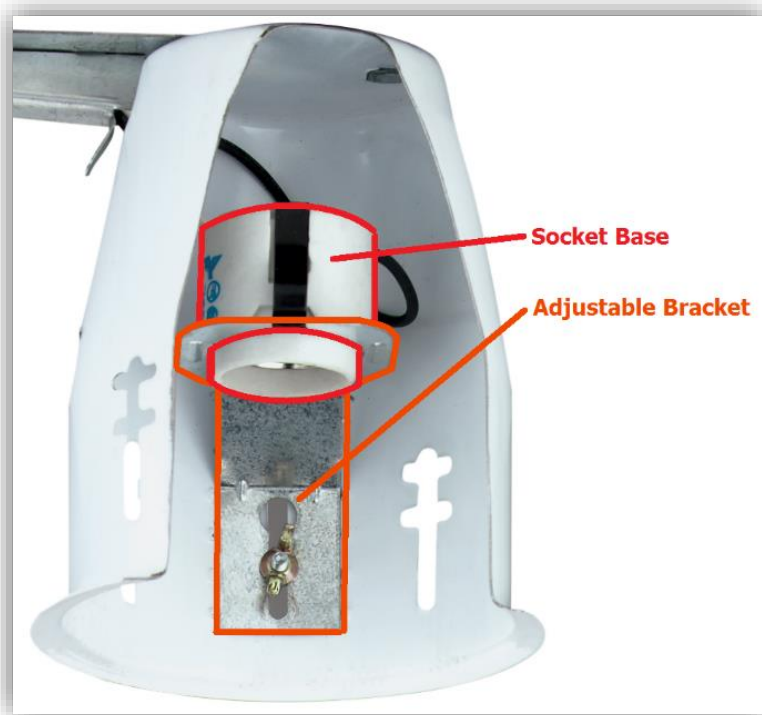
IC Rated – Insulation Contact Rated. This means that insulation can literally contact/cover the housing (insulation can be set directly on/around the housing).

Non-IC Rated – Insulation cannot touch the housing, for safety purposes. The insulation must be kept at least 3 inches from the housing.

No Bracket – Some housings have a round plate inside the housing that holds the light bulb socket base in place (you can see this in the picture below). Housings without the plate have the light bulb socket base hanging freely. Existing plates can be removed from most housings. Customers that put Recessed LED downlights like the DLR56, do not need a bracket.



Adjustable Bracket – This housing has an adjustable bracket that can be adjusted up or down to fit abnormally small or large bulbs.



Sloped Housing/Super Sloped Housing – These housings are meant for pitched ceilings allowing for a straight downward light on a sloped ceiling. Sloped Housings will work with ceilings that slope between 10° and 26.5°. The Super Sloped Housings will work with ceilings that slope within the range of 30° and 42.5°. See images below.



Recessed Trims

There are a variety of trims available in different sizes, styles, and finishes. Trims are simply the cover you see in the ceiling that hides the housing and the light module. Trims do not include light modules, but they can include a lens (also called a diffuser). Here are some of the different types of trims available today:

Baffle Trim – This is a trim with baffled edges that softens the edge of the light being projected on whatever is beneath the light. The picture below shows a baffled trim and a smooth trim.

Baffled Trim

Smooth Trim



Open or Splay Trims – Open Trims are just as the name infers. They are open in the middle and allow for the bulb to fit right up against the trim itself. Open trims do not include lenses (or diffusers) because the bulb itself takes up the space where the lens usually would. They are sometimes called Splay Trims. See picture below:



Shower Trims – Shower Trims include a glass or acrylic lens that protects the bulb. Most all shower trims are Wet-Location Rated and are ok to use in bathrooms and showers. Shower trims may come with Fresnel Lenses or Lexan Lenses.



Eyeball/Gimbal Trims - Eyeball Trims are adjustable and allow the user to point the light in any direction. They are great for showcasing artwork, or displays, or to even light up areas that may not get enough light. Eyeball trims hold the bulb in place and therefore require the housing be stripped of any brackets or plates before installing.



Slope Trims – As the name says, and simply put, these are meant to be used with slope housings:



Reflector Trims – Have a reflective finish on the inner side of the trim itself. This allows for more light to reflect out in more directions. These are often used when large spaces need to be lit up.



Wall Wash Trims – Wall Wash Trims are designed so that light is directed in one direction towards a side and not aimed downward. These are often used to showcase artwork, or light up dark areas. They are similar to what eyeball trims do, except Wall Wash Trims are not adjustable.



Specialty Trims – Trims with specific purposes. Some trims, like *Pinhole Trims* are used to lower light levels and concentrate light on one very specific area. *Slotted Aperture Trims* do the same thing with slightly different light directions. Retractable trims allows for the entire light to retract out of the trim and angled at up to 90 degrees.



LED Retrofit Downlights Explained

An LED Retrofit Downlight is a hybrid product that includes an LED Light Module and a Trim. In other words, these LED Downlights take the place of the bulb and the trim. They can be installed into either a New Construction or Remodel Housing, just like traditional trims. Here are the parts of an LED Downlight:



Like traditional trims, LED Retrofit Downlights come in a variety of sizes, styles and finishes. But unlike traditional trims, LED Retrofit Downlights are available in various LED Color Temperatures and Light Quality (measured by CRI and R9 values).

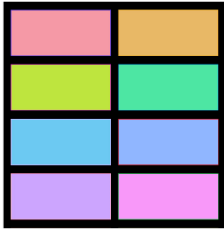
Color Temperature (CCT)

Achieving the perfect color temperature in your home can be difficult. You may want certain rooms to feel more relaxing, while keeping an upbeat feel in other rooms. By establishing a set color temperature for each room in your home, you can essentially set a distinct atmosphere in each room, distinct from one another. Warmer color temperatures, such as 2700K and 3000K, provide a relaxing type of ambience that works well in living rooms, family rooms, and dens. Cooler color temperatures, like 4000K and 5000K, in contrast, are associated with daylight and are better suited in rooms used for work or exercise, like a laundry room or home office.

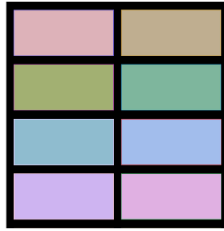


Color Rendering Index (CRI)

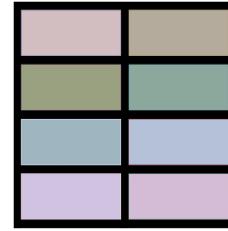
CRI (Color Rendering Index) is a quantitative measure of how accurately an LED light source can reveal the true colors of various objects compared to a natural light source. The higher the CRI rating, the better the LED light source is at rendering colors as true and as accurate as possible. True and brighter colors are revealed when a high CRI rated light is used. The standard test for CRI is done using a representative set of colors most commonly found in homes throughout the United States.



HIGH CRI
(CRI > 90)



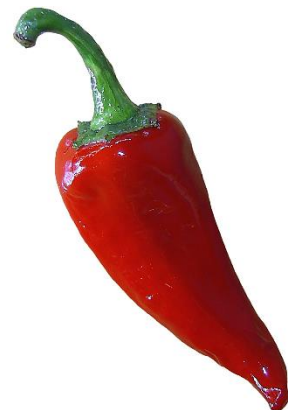
AVG CRI
(CRI = 80)



LOW CRI
(CRI = 70)

R9 Values

While CRI focuses on the measurement of 8 standard pastel colors under various light sources, the R9 Value focuses exclusively on the color Red. But why Red? The color Red is found within more processed colors than any other color in the visible light spectrum. The ability to precisely reproduce the color Red is essential for accurately rendering the true colors of objects in your home. LED lights with high R9 Values produce the most vivid colors and yield the finest quality of light available today.



NICOR LED Downlight Colors and Finishes

Black, Nickel, Oil-Rubbed Bronze, and White. Baffled downlights are also available, but only in white.



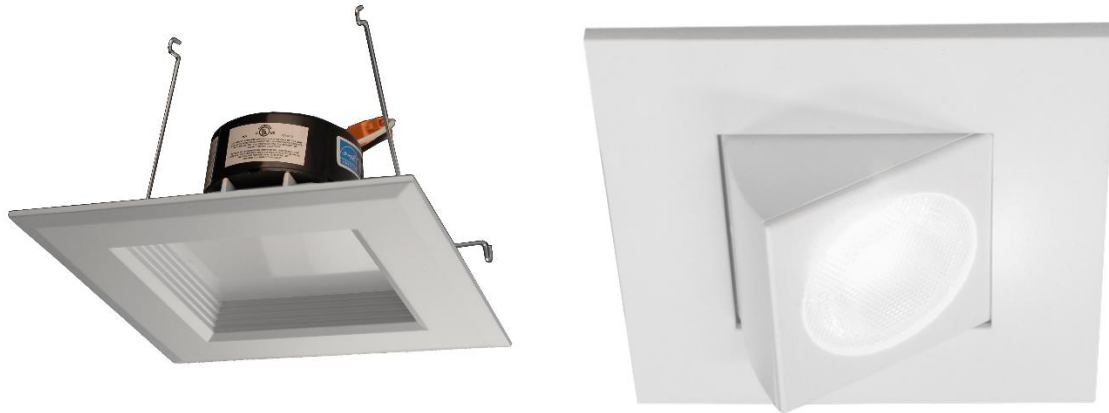
NICOR® | LED

LED Retrofit Downlight types

Gimbal/Eyeball – Allows the user to aim the light in any direction. This is usually done to accent specific areas or features in the home such as artwork, or areas that may be hard to brighten up with lights that point straight down. (Gimbals sit flush when pointing straight down, whereas eyeballs usually have a slightly recessed light like the one shown on the right).



Square - Square LED Downlights are available in regular and adjustable LED Retrofit Downlights. Don't worry, you don't need a square housing to make these work. They are designed to fit into traditional housings.

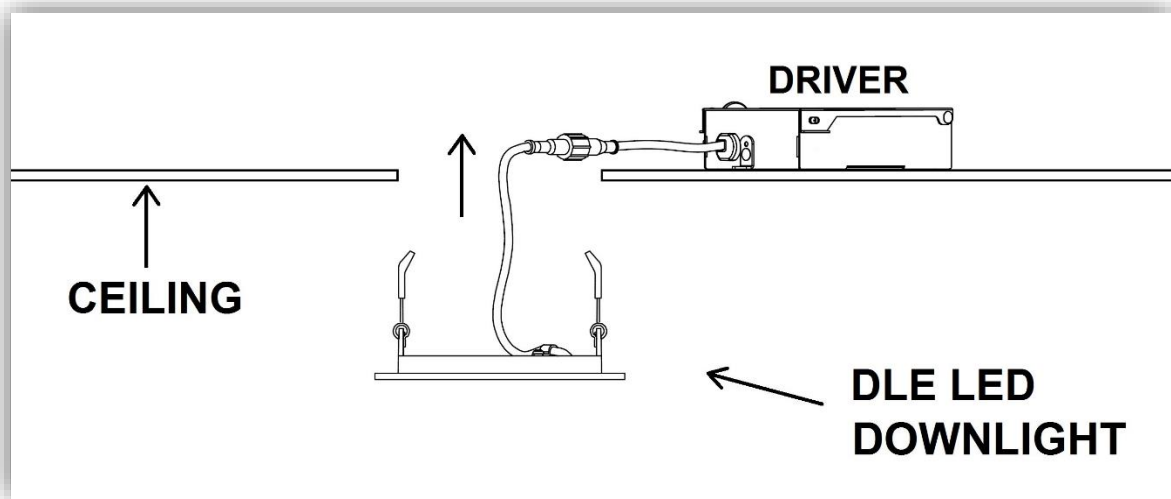
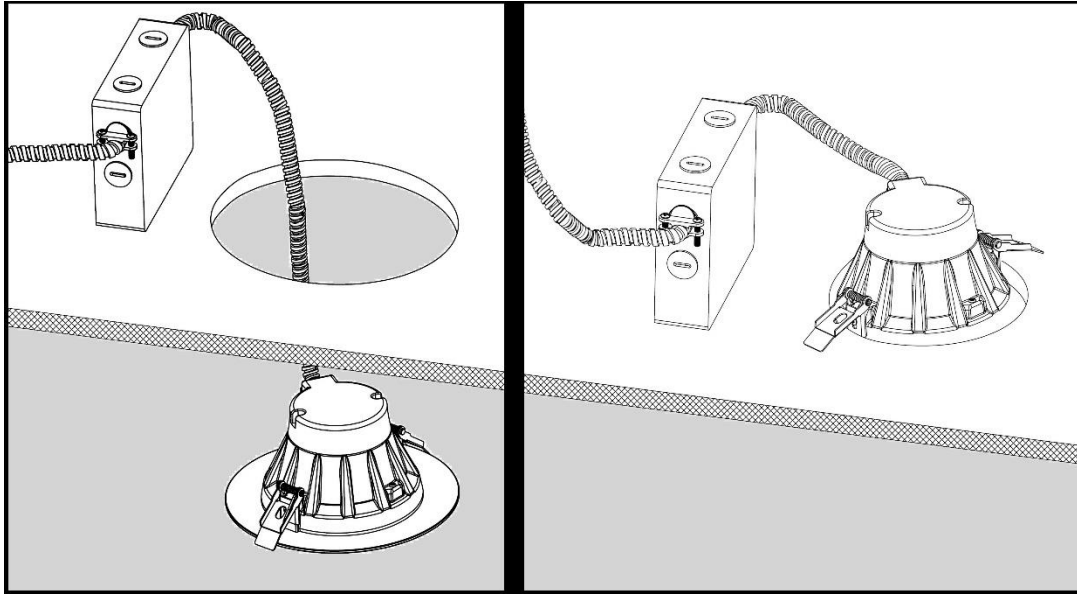


Surface Mount - These will fit in housings and junction boxes (also called J-Boxes) allowing them to be mounted in more applications, and places where housings may not fit. Notice how shallow they are in depth. These are sometimes referred to as disk lights.



Housing-Free LED Downlights - Newer LED downlights have been designed to be installed or retrofitted directly into the ceiling without the use of a housing. NICOR has two versions for sale on the Market today; one for commercial applications, and one for residential applications.





New Construction Downlight Kits

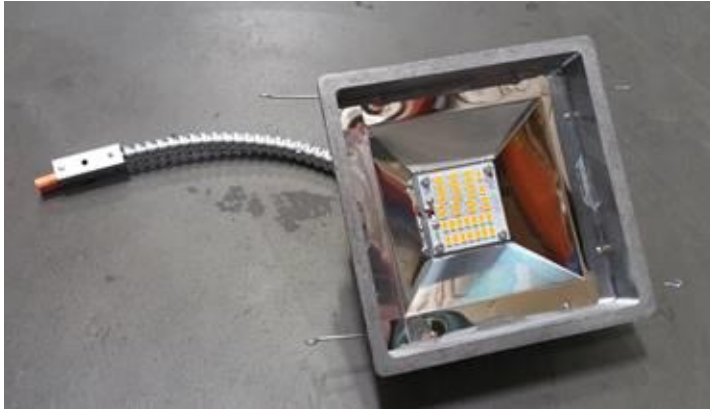
New Construction Downlight kits are not the same as LED Retrofit Downlights. Retrofits are easy to install because you can use an existing housing. Installation is as easy as screwing in the Edison adapter and connecting mounting clips to hold the LED retrofit downlight in the housing.

New Construction Downlight Kits are not designed for retrofitting (as their name implies). These kits come with their own housing, their own LED Module, and sometimes their own Trim. They are usually all sold together, though they are also sold separately as well.

Not all Kits are designed for New Construction applications. Remodel Kits, which include a remodel housing and an LED downlight, or other combination of light and trim, are also common.

The DQR5-10-120-3K-WH is a great example of a New Construction LED Downlight Kit:

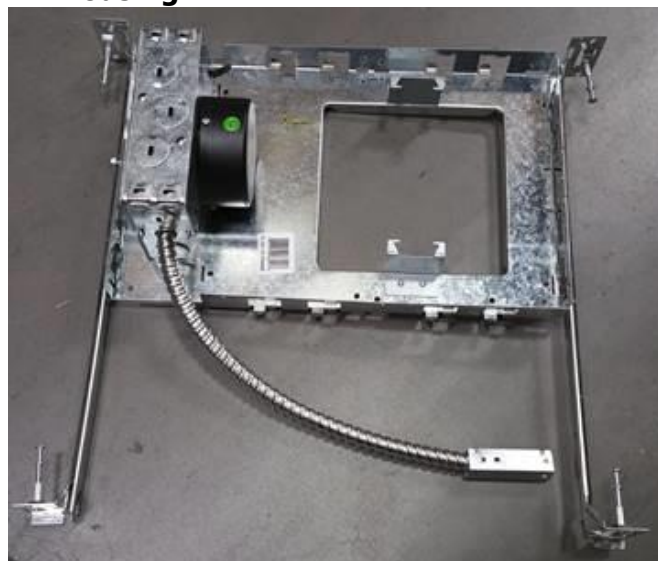
LED Module



Trim



Housing



Terminology

Any of the words Downlight, Retrofit, Recessed, and Light can be used in conjunction with one another. It's all about knowing what each one means:

Downlight – A Light Fixture aimed downwards

New Construction – Refers to the type of housing. New Construction Housings are designed with brackets and are meant to be installed before the ceiling is complete.

Remodel – Refers to the type of housing. Remodel Housings are designed to be installed into existing ceilings. They're compact size allows them to fit through cutouts in the ceiling.

Retrofit – Means it's meant to be, or can be used in existing housings. To Fit into Something already there.

Recessed – Anything recessed means it fits into something, or into the ceiling in this case. There are recessed housings (often just called housings because everyone knows they're recessed). Recessed downlights (LED Downlights meant to fit into housings within the ceiling).

So a Retrofit Downlight is also a Recessed Light. However, the keyword is RETROFIT. As discussed above there are two types of Recessed Downlights; There are Retrofits and there are New Construction Kits.

As Described above, anything with the word RETROFIT assumes that there is retrofitting going on. To retrofit something means to fit into something already existing (This always refers to the housing). A Retrofit Downlight means it's a downlight fixture meant to be installed into existing housings. They may want to specify, because depending on where you are at in the United States, some say Recessed Retrofits, and others say Recessed Downlights. To be safe and appeal to them all, simply use "Recessed Retrofit Downlight".