

14. LIGHTING PART I

Windows are installed in houses so daylight and the view beyond becomes part of the experience in a house, but when the sun goes down and darkness falls it is time to flick a switch and use lighting for your nocturnal needs.

Artificial lighting is a very important part of any house and how this is dealt with in the design process will determine whether you end up with a dark, uninviting house at night or a well lit interesting and inviting space.

I would like to discuss the lighting options available and how they can be applied to your new residence. First of all, the use of the room will determine the required level of lighting which in turn will determine the type and quantity of light fixtures to use. For example a bedroom requires light at the bed for reading but otherwise you do not need to be able to read anywhere in the room so the rest of the room can have low levels of lighting. Another example is a kitchen where there is constant activity a real need for very high levels of both natural light and artificial light. So I would suggest making a list of the rooms to be incorporated in your new residence and the probable uses in these rooms (reading, sleeping, eating etc.). Once this is done the level of lighting can be determined and then the type and location of fixtures can be done. Keep in mind when doing this list that some rooms may have multiple needs, for instance, a desk and phone area in a kitchen may require task lighting for the desk.

The types of lighting fixtures available vary from recessed down lights to surface mounted spots for lighting walls or particular art pieces.

Within the family of recessed ceiling mounted cans you can have:

- 1) Cans that strictly project light down for area lighting.
- 2) Cans that have reflector lamps and lenses that can wash large areas of walls or surfaces.
- 3) Cans that have adjustable reflectors and lamps that can accent specific objects or smaller wall areas.
- 4) Cans that have adjustable reflectors and lamps that wash large areas of walls.

Using these can types in different numbers and locations can make for a very interesting lighting layout.

Surface mounted lights also have many different types available over the shelf. There are:

- 1) Surface mounted cans for area lighting.
- 2) Spotlights that are mounted on stems to accent walls and objects.
- 3) Surface mounted tracks with cans or spots attached.
- 4) Surface mounted fluorescent fixtures.
- 5) Pendant type fixtures that mount to the ceiling and extend below the ceiling to do either area or spot lighting.
- 6) Wires that attach to ceiling and carry low voltage that allows you to hang fixtures anywhere along the suspended wires. (This is mainly used in high end commercial applications).

With both recessed and surface mounted lights in any application the choice of bulbs is another very important choice. Incandescent lamps are the most often used but within this type of lamp are many variations. The standard bulb that you buy off the shelf is the general service type. They can range from 15 watts to 1500 watts. Their shape is either the standard globe shape or the pear shape. PAR lamps are incandescent also, but have built in reflectors, thus the designation PAR which stands for parabolic aluminizer reflector. These are shaped like spotlights and used when good light and maximum reflection of light down is required.

There are several energy efficient options for replacing incandescent lights today. Fluorescent lighting, including CFLs, are a common replacement in residential incandescent fixtures. They are dimmable, provide a similar amount of light as incandescent, and fit most existing household fixtures. They take some time to reach full luminosity so are better for areas where the light will be on for an extended period and less so for places like a closet or pantry.

LEDs, light-emitting diodes, are one of the most energy efficient lighting sources and their market options are constantly improving. They are tiny, emit light in one direction, and emit very little heat. Currently, they are ideal for recessed downlights and task lighting such as kitchen under cabinets, but are still improving for producing the right brightness and color in all locations.

Halogen bulbs are typically smaller than most other types and have great light quality (good color, good optical light control).

They are used a lot in smaller fixtures and with high end lighting applications. Mercury vapor, metal halide and high pressure sodium bulbs are typically not used residentially so I won't talk about these.

With all the above choices you must wonder how to make the choice? First of all only spend money on expensive fixtures where you'll get the maximum use and most "bang for your buck". Put expensive fixtures in the public spaces where all can enjoy, like in the living room or dining room, but remember when buying these fixtures look at the cost to replace the light bulbs. I have seen in my years clients replace PAR bulbs with regular incandescent because they were cheaper, so the money spent for a nice fixture is negated when the bulb dies and a cheap bulb replaces it.

Secondly in some rooms you don't need recessed or surface mounted lights, a floor or desk lamp will be just fine without doing any lights above. Many times in bedrooms we just put an outlet on each side of the bed and a switch connected to it by the entry door so when you walk in the bedroom you can just flick a switch and the lamps next to the bed will come on. This allows for reading and enough light to move comfortably around the room.

Thirdly, do not put too many lights in your house. Pools of light are much nicer than having the institutional feel of light flooding onto all surfaces. Pick those walls where you might have art or another type of object you would want to accent and use some nice recessed or surface mounted light fixtures.

Finally as stated before determine the mood you want to set for the space and do it with appropriately specified and located fixtures.