

# RECESSED LIGHTING GUIDE

5 Simple Steps for Selecting the Best Product for Any Application







## TABLE OF CONTENTS

- 2 STEP 1: Determine Your Lighting Application
- STEP 2: Determine Trim Type & Size to Achieve the Desired Lighting Effect
- 3 STEP 3: Determine Housing Type
- STEP 4: Determine Housing Size
- STEP 5: Choose the Right Color Temperature
- 5 Why Choose LEDs?
- 6 Recessed Lighting FAQ
- 8 Planning Your Lighting Layout
- Installation Guidelines
- Shopping for Light Bulbs

Find us on



# Step 1: Determine Your Lighting Application



### General Lighting

Uniform light patterns that are bright and comfortable, ideal for living and family rooms.



### Accent, Task & Wall Wash

Used to accent bookcases and artwork, or to accomplish specific tasks on kitchen islands or counter areas. Emphasize vertical surfaces. Draw attention to fireplaces and warm hangings.







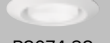


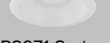
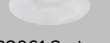
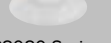











### Wet Locations








Shower trims allow for use in wet locations as well as exterior uses such as porches.

# Step 2: Determine Trim Type & Size to Achieve the Desired Lighting Effect

## General Lighting

6"	5"	4"
Baffle		
 P8066-28	 P8175-28	 P8044-28
Reflector		
 P8068-21A	 P8172-21A	 P8043-21
Open		
 P8074-28	 P8168-28	 P8041-28
LED		
 P8071 Series	 P8061 Series	 P8080 Series
 P8022 Series	 P8022 Series	 P8022 Series
 P8027 Series	 P8027 Series	 P8027 Series
		 P8240 Series
		 P8241 Series
		 P8247 Series

## Accent, Task & Wall Wash

6"	5"	4"
Eyeball		
 P8077-28	 P8176-28	 P8046-28
Wall Wash		
 P8052-28*	N/A	 P8047-31
Pinhole		
 P8065-28*	N/A	 P8042-28

### Baffle

Most commonly used, minimizes glare.

### Open

Streamlined, finished look.

### Reflector

Maximizes light output, used in residential and commercial applications.

### Eyeball











Adjustable, directional lighting.

### Lens

Diffuses light and shields lamp. Used in closets, porches and shower lights.

\* non-ic only

## Wet Locations

6"	5"	4"
Open		
 P8072WL-28	 P8367WL-28	 P8041WL-28
Lens		
 P8009-60	 P8109-28	
LED		
 P8071 Series	 P8061 Series	 P8080 Series
 P8022 Series	 P8022 Series	 P8022 Series
 P8027 Series	 P8027 Series	 P8027 Series
		 P8240 Series
		 P8241 Series
		 P8247 Series

Multiple Finish Options Available

## Step 3: Determine Housing Type

### New Construction

For use when access above and below the ceiling is still available.

### Remodel

Easily installed in existing ceilings with little or no access above or below.

### IC Rated

Required in most residential applications, can be covered in insulation to maintain an unbroken barrier.




### Non-IC

Insulation must be kept at least 3" away from all sides of the housing.

### Air Tight

Use these housings to minimize airflow between conditioned spaces in a house or unconditioned attic areas. These housings may be covered in insulation and may be required to meet building energy codes.

## Step 4: Determine Housing Size

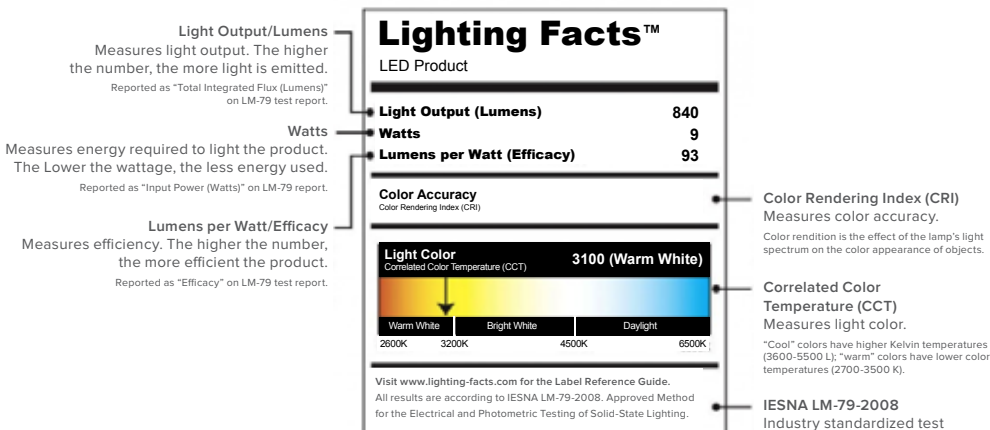
6"	5"	4"
New Construction IC-Rated / Air Tight		
		
P87-AT P87-ATQC	P85-AT	P831-AT
Wall Wash		
		
P187-TG Most commonly used size, used for all lighting applications.	P185-TG Slightly smaller aperture and reduced lamp options, used for all lighting applications.	P832-TG Smaller aperture. Used mainly for accent, task and wall wash applications

**2" – Smallest aperture.**  
Used mainly for accent, task and wall wash applications.

## Step 5: Choose the Right Color Temperature

Color rendering and appearance are critical considerations in light source selections. Correlated Color Temperature (CCT) relates to the color of light produced by a light source, and uses the Kelvin temperature measurement scale.

Color temperatures over 5000K are called cool colors (bluish white), while lower color temperatures (2700–3000K) are called warm colors (yellowish white through red).



Color rendering index (CRI) is a measure of how accurately an artificial light source displays colors. The higher the CRI (80 and above), the better the artificial light source is at rendering colors accurately.

### Warm White

(2600K – 3200K) is the warmest option that most closely approximates a standard incandescent bulb. It is most often used in areas like living rooms.

### Bright White

(3200K – 4500K) is a whiter light than soft white and is most often selected for kitchens and bathrooms or work spaces.

### Daylight

(4500K – 6500K) is recommended for reading areas or for use in craft rooms and is a more bluish white that most closely approximates an outdoor overcast sky.

**Color Rendering Index (CRI)**  
Measures color accuracy.  
Color rendition is the effect of the lamp's light spectrum on the color appearance of objects.

**Correlated Color Temperature (CCT)**  
Measures light color.  
"Cool" colors have higher Kelvin temperatures (3600-5500 K); "warm" colors have lower color temperatures (2700-3500 K).

**IESNA LM-79-2008**  
Industry standardized test procedure that measures performance qualities of LED luminaires and integral lamps. It allows for a true comparison of luminaires regardless of the light source.



# Why Choose LEDs?



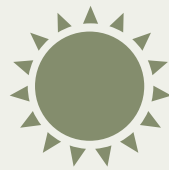
Energy Efficient



Reduced Maintenance Costs



Environmentally Friendly



Little to no UV Radiation



Incandescent Look and Feel



Energy Star and New CA Title 24 Compliant Options

## Estimated Lifetime for Common Light Sources

Type	Hours
Incandescent	750 – 2,000
Compact Fluorescent (CFL)	7,500 – 20,000
LED	35,000 – 50,000

## Did You Know?

### Reduced Electricity Demand

The Department of Energy estimates that rapid adoption of LED lighting in the U.S. over the next 20 years can reduce lighting electricity demand by 33% by 2027.

### Insects aren't attracted to LEDs

Most insects are primarily attracted to Ultra-violet rays to help them forage, navigate and select mates. Because LEDs do not have UV content they don't attract as many insects compared to conventional light sources.

**OUR LED FLUSH MOUNT SERIES USES AN INTUITIVE SNAP-IN SYSTEM THAT MAKES INSTALLATION EASIER THAN EVER.**



Simply install the adapter into the junction box, then snap into place using the flush mount clip.

Learn more at [www.progresslighting.com](http://www.progresslighting.com)



## How to Determine Savings

### Example:

P8071: 13W  
 Usage: 5 hours a day,  
 5 days a week  
 (Total: 1300 per year)  
 kW/H: \$0.12  
 Fixture  
 Quantity: 100

**65W BR30 Lamp**  
 $((65 \times 1300)/1000) \times \$0.12 = \$10.14$

**13W LED Retrofit**  
 $((13 \times 1300)/1000) \times \$0.12 = \$2.03$

**Difference = \$8.11**

**Total Savings:**  
**\$811**  
 per year



## Recessed Lighting

# FAQ

### **What is recessed lighting?**

Recessed lighting refers to fixtures that are set into ceilings or walls. Commonly called cans because of their shape, they include the housing (the internal part in the ceiling that you don't see) and the trim, which is visible. With little or no profile, recessed lighting provides effective ambient and accent illumination for both residential and commercial use.

### **Which type of housing should I use:**

#### **Remodel or New Construction?**

There are two types of housings, New Construction and Remodel. Determining which type to use will depend on your application. If the ceiling has not been installed or if a T-bar ceiling is used, you will want to use a New Construction housing. If you do not have access, you will want to use a Remodel housing.

### **What is the difference between IC vs. Non-IC rated housings?**

IC rated housings allow insulation (either laid in or blown in) to be installed on or around the housing. Non-IC housings require that insulation be kept at least 3" away from the housing at all times.

### **How many lights am I going to need?**

This question has no easy answer, as opinions on this subject vary greatly. However, a good rule of thumb is to take the height of the ceiling and divide it in half. This is the distance that each light should be from one another. For example, a room with an 8' ceiling, should have lights approximately 4' from one another ( $8' \text{ ceiling} / 2 = 4'$  apart). The total number of lights will also be affected by the type and wattage of bulb being used. Spot lights with narrow beams will produce pockets or pools of light, while flood type bulbs will produce broader amounts of light.

### **Can I use a dimmer?**

Yes, a dimmer can be used on most recessed lighting. Line Voltage recessed lighting can be dimmed with a standard incandescent dimmer. While Low Voltage recessed lighting will be dimmed with either a Low Voltage Electronic or Magnetic dimmer. The type of transformer (Electronic or Magnetic) used in the housing will determine which type of dimmer you need. Triac and ELV dimmers can be used in many LED applications. Make sure to check with the lighting manufacturer for dimmer compatibility.

### **What is meant by Air-Tight down light and why would I want to use one?**

Any air-tight rated down light has demonstrated in an independent testing laboratory environment that it will prevent air flow through the fixture. This is important because it saves money in heating and cooling costs. Just as important, some state regulations are now requiring that new home construction use this type of down light.

### **Can recessed lights be installed in a bathroom?**

Yes, recessed lighting trims and housings are suitable for damp locations (porch or bathroom) using any trim. Wet locations, above a shower or outdoors, require the use of specific wet location trims.



**Does the integrated bulb (light engine) make the fixture disposable? If the LED light engine goes out does that mean you have to replace the whole fixture?**

Not in all cases, we have products that have replaceable light engines; therefore, if the light engine were to fail it could easily be replaced. These products carry a 5-year warranty and we would replace the light engine at no cost.

**Are all LED recessed retrofits adaptable to other recessed manufacturers?**

Our recessed retrofits are adaptable to most residential recessed housing in the market today.

**What tips can you give for transferring a homeowner from regular recessed lighting to LED? What would the homeowner need to purchase?**

When converting to LED, focus on the energy savings and virtually no maintenance. What they need to purchase will depend on the products they choose for their home.

**Do you make a recessed fixture that fits a four inch junction box?**

Not currently, but stay tuned.

**If it's an incandescent fixture and it's replaced with an LED bulb, will it still be dimmable?**

It may be, just make sure the LED bulb states it is dimmable.

**Are the replacement LEDs inside your fixtures universal or are they're multiple SKU options?**

At this moment there are two options, 17W and 9W versions. All we need to know is which version is required for replacement.

**Are all of your LEDs wet rated?**

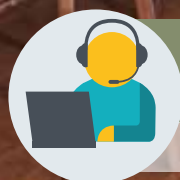
The type of fixture not the LEDs determines wet rating. Always check the rating on the fixture to ensure proper usage.

**Are LEDs bad for your eyes?**

Like any light source, if you stare too long it will cause some discomfort and or imaging. However, if LED products are used the same way traditional lighting is used, they will not damage your eyes.

**What is the benefit to purchasing a fixture with an integrated LED panel instead of a fixture that can accommodate either incandescent or LED bulbs?**

Fixtures with an integrated LED source were intentionally designed to provide proper heat dissipation, ensuring a long lifespan and consistency of delivered lumens over time.



**Technical Support**

[technicalprogressitg@hubbell-ltg.com](mailto:technicalprogressitg@hubbell-ltg.com)

**864-678-1670**

Find us on     

## PLANNING YOUR LIGHTING LAYOUT

### QUICK TIPS:

- Take the general dimension of the room. Account for the location of items such as countertops and cabinets. In some rooms, furniture placement should be accounted for, as well.
- Determine where the illumination is needed and the type of lighting required (general, wall wash, accent). For general lighting, baffle, open or reflectors are recommended.
- The housing will be determined by the ceiling and/or building codes. In most residential applications an IC rated/ Airtight housing will be required. If the ceiling is not yet installed, then new constructions housing should be used. If the ceiling already exists then a retrofit should be used. If there are any questions or concerns, always check with the local electrical and/or building codes to ensure proper selections.

## Installation Guidelines

### General Downlighting

For proper spacing of fixtures, use the following rule of thumb for 6" housings: for multiple units, space fixtures 4' to 5' apart in 8' to 10' ceiling heights to achieve relative uniform lighting. For example, a 12'x16' room using the P8071 LED Trim would require a minimum of six fixtures to be uniformly lit.

### Wall Washing

For uniform wall washing, distance from walls (X) is equal to the distance between fixtures (Y).

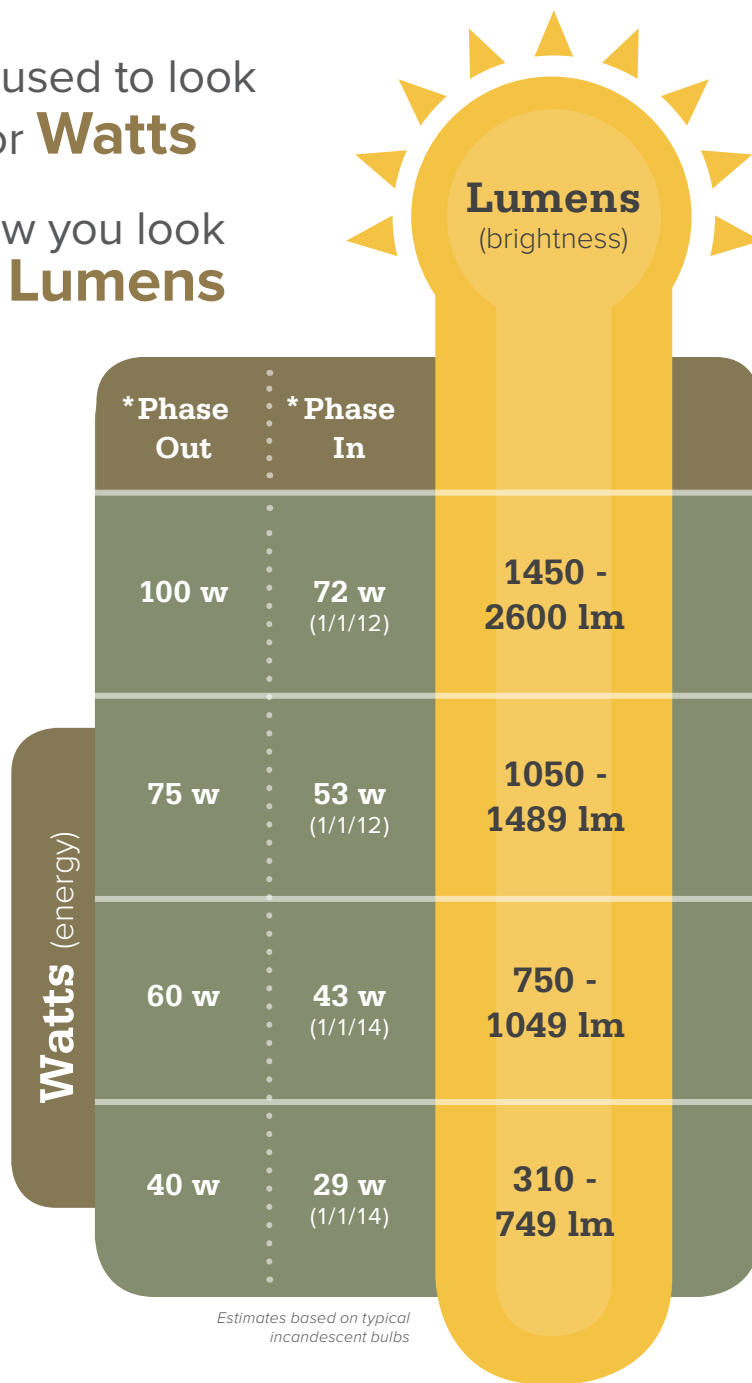
Recessed lighting provides a variety of fixtures to meet different lighting requirements. Downlight fixtures – open, baffle – are intended for overall room illumination, while others – adjustable eyeballs – can help you create interesting accents by high-lighting walls, above cabinets, fireplaces, plants, bookcases and paintings. Various aperture sizes such as 6", 5", 4" and 2" are available.

## Shopping for light bulbs?

# What to look for...

You used to look for **Watts**

Now you look for **Lumens**



\*The Energy Independence and Security Act (EISA) of 2007 is designed to implement sweeping changes to energy policies in the United States. The A-style or Edison-style bulbs that many use in their homes or office will no longer be produced-starting with the 100 watt incandescent in January 2012 and ending with the phase-out of the 40 watt and 60 watt incandescents in 2014 as they do not meet the new efficiency standards.

Watts measure the amount of electricity a bulb needs to operate.

Energy Star certified bulbs provide the same brightness (lumens) with less energy (watts).

# One of our most innovative LED designs!

## Introducing the P8022 Series.



JUNCTION BOX MOUNTING

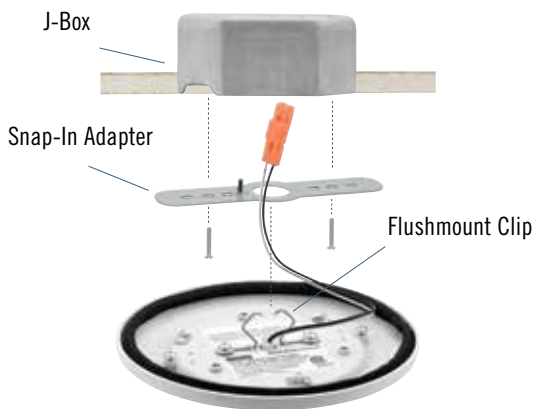


RECESSED MOUNTING



DRIVER AND EXTERIOR TRIM

The first of its kind, the P8022 is designed for both surface mounted and recessed applications, while also eliminating the need for a traditional LED driver. The P8022 unites performance, cost and safety benefits for an LED solution unlike any other on the market.



### KEY FEATURES

- Designed for recessed and commercial settings
- Classified for wet locations and fire-rated application
- Slim profile to coordinate with any design scheme
- 120V alternating current, without a traditional LED driver
- 17 watt input power with 1035 lumen output
- Easy installation into junction boxes and multi-sized recessed housing

Redefining the LED Landscape **PROGRESS LED**



## Why Choose Progress Lighting?

With over 100 years in the lighting industry, Progress Lighting is committed to manufacturing award-winning energy efficient products while educating individuals on new options available in solid-state lighting. Progress Lighting also responds to the ever-changing needs of the lighting industry with extensive research and development programs that ensure high standards of quality and innovation for the home.

701 Millennium Boulevard  
Greenville, South Carolina  
29607

[www.progresslighting.com](http://www.progresslighting.com)



Issued July 2015