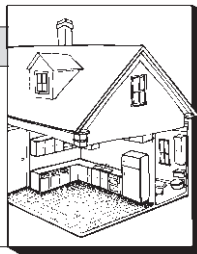


Kitchen Lighting Basics

by Steve Topol



There's no room that puts more demand on good lighting than the kitchen. The reasons are obvious if you think about the amount of time spent there, and the different activities it has to accommodate—cooking, eating, clean up, foot traffic, conversation, homework, etc. It's also a room that has grown larger over time, is often not well lit even by sunlight in the daytime, and has lots of different shapes and surfaces—appliances, cabinets, counters, islands—that require careful lighting to avoid shadows and glare.

Lighting Goals

Good lighting ensures that all areas of a room are bright and pleasant (the job of general or ambient lighting), and brings a flood of light to specific work areas (task lighting). A third kind, accent lighting, is a design tool that is used to highlight walls and decor, but

ture, then it should be moved away from the center of the room and mounted closer to cabinets and work areas. But in most kitchens, a central ceiling light should be combined with other fixtures, or replaced by four to six recessed lights (see Table).

Another approach that works well is directing light up at the ceiling. Track lighting, wall-mounted fixtures, chandeliers, and pendant lights can all provide this kind of light. The last two also help with task lighting over a kitchen table or island/peninsula.

Still another good source is indirect lighting—fluorescent fixtures mounted behind soffits or on top of wall cabinets. The advantage of indirect lighting is that it offers very little glare because the light that reaches the eye is reflected. It also makes a room feel more spacious. This approach requires light-colored ceilings to be effective.

TABLE: Ambient Lighting Coverage With Recessed Fixtures

Fixture Trim	"A" Bulb			"R" Bulb		
	75W	100W	150W	50W	75W	150W
Cone	25	40	50	15	30	65
Baffle	20	30	50	10	25	60
Lens	25	35	55	—	—	—
Diffuser	20	30	45	—	—	—

This guideline for general lighting with recessed fixtures shows square foot coverage per fixture based on different lamp types, wattages, and fixture trims. The coverage figures are based on providing 15 to 25 footcandles of light. Darker rooms require higher wattage, and spacing will vary with the distance from fixture to subject.

Source: American Lighting Association

comes third in importance here.

How much light is needed in a kitchen? The American Lighting Association (ALA) suggests some ballpark figures. For a very small kitchen—75 square feet or less—150 watts of incandescent light from up to three bulbs is the bare minimum. The equivalent in fluorescent bulbs is 55 to 70 watts. In kitchens of up to 120 square feet, the ALA suggests at least 200 watts from up to four incandescent bulbs, or closer to 80 watts from fluorescents. In kitchens over 120 square feet, consider two watts per square foot (3/4 watt per square foot with fluorescent lighting) a bare minimum if the fixtures are carefully placed.

Where most kitchen lighting goes wrong is in relying on a single source—a ceiling fixture in the middle of the room. In all but the smallest kitchens, this will create shadows at counter work areas because the person at the chopping board, sink, or cooktop comes between the light source and the activity there. A central fixture will also produce a lot of uncomfortable glare if it is bright enough to penetrate the corners of the room with light.

General Lighting

This doesn't mean you should rule out ceiling fixtures; they're an excellent source of ambient light. If a kitchen is small enough to light with a single fix-

Task Lighting

The job of task lighting is to provide sinks, cooktops, countertop workstations, islands/peninsulas, and table tops with even light. To a large degree, the choice of fixtures depends on the location of the work area.

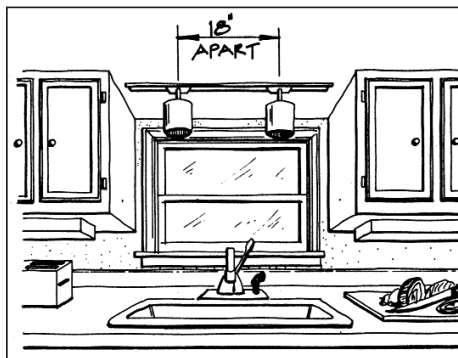
Undercabinet lights are easily installed over kitchen counters. These slim, compact fluorescent fixtures come in 12- to 48-inch lengths. Make sure to bring them as far forward as possible—just behind the lip of the upper cabinets—so they light the work area and not the backsplash. Another option is a line of recessed downlights just out from the wall cabinets.

Either recessed fixtures or track lighting can be used over sinks or cooktops; these downlights should be placed 15 to 18 inches apart. Here, either 75-watt incandescent bulbs or compact 30-watt fluorescent bulbs work well. Islands and counters not under cabinets should be lit similarly. Again, recessed or track lights are ideal, although a pendant can be used.

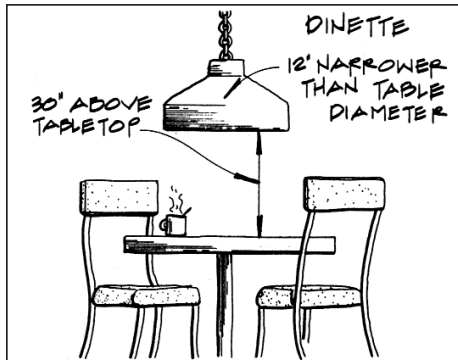
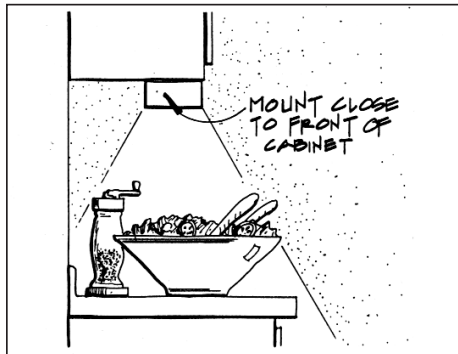
Finally, all task lighting should be on one switch if possible. The reason for this becomes clear if you imagine a cook reaching for a switch with hands already covered with flour or shortening.

Table Top

There are a range of choices for lighting the kitchen table. If your client



Sink or range lighting (top) is best handled by two recessed or track downlights using 75-watt "R" lamps. For countertops (middle), use eight watts of fluorescent light under the cabinets for every foot of counter length. And keep pendant fixtures (bottom) over tables or breakfast bars to 120 watts with an incandescent lamp or 32 to 40 watts with fluorescent.



Adapted from American Lighting Association

chooses a pendant light, the ALA recommends a 120-watt incandescent or a 32- to 40-watt fluorescent fixture. Either should be positioned 30 to 36 inches above the table.

However, chandeliers and pendant lights aren't always the best solution because their location (which involves knowing the exact size and placement of the table to be used) has to be determined very early in the construction process, and they can detract from the clean lines of contemporary architecture. The alternative is track lighting or recessed lights. In either case, it's important not to shine light straight down because of the hard shadows it will cast on the faces of the diners. Rather, position the lights behind and to the side of where people will be sitting. One exception is using bulbs with very tight beam spreads; a low-voltage bulb like an MR-16 or Par-36 can be aimed directly at the table with other fixtures filling light around it.

Matching Lamps and Fixtures

The performance of any lighting fixture depends a lot on the lamp (bulb) used in it. General service "A" lamps emit light in all directions and are fine for most general lighting fixtures. But reflector lamps, or "R" lamps—which are designated either flood type (FL) or spot type (SP)—should be considered when you need to direct a beam of light. Reflector lamps put out nearly

double the amount of light on a subject as an "A" lamp of the same wattage; parabolic ("Par") lamps produce four times the light on the subject by controlling it more precisely. Low voltage bulbs—MR-16 and Par-36—have built-in reflectors with halogen bulbs for even finer beam control.

Choose a lamp not only by wattage—the measure of electrical consumption—but also by the amount of light it'll produce, and the width and length of that beam. The terms used to describe the amount of light delivered by a lamp are lumens (measured at the lamp) and footcandles (measured at the subject being lit). Your supplier will be able to help with charts that show the characteristics of different lamps and the fixtures they can be used in.

The best kitchen lighting is a combination of fluorescent and incandescent bulbs. New warm-tone fluorescents have color fidelity comparable to incandescents, and can save a lot of money in energy bills—they typically use one third as much electricity (lower wattage) as an incandescent for a comparable lumen rating. For example, a 30-watt fluorescent bulb produces the same amount of light as a 75-watt incandescent. Fluorescents also last a good deal longer. ■

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