

Furniture or Cabinet-Integrated

Many times, furniture, cabinetry, and appliances for homes include lighting elements. Included are lighting for medicine cabinets, shelves or display cabinets, under-cabinet, artwork, and stove/appliances. Typically, low-wattage incandescent or linear fluorescent lamps are incorporated to provide task or accent lighting. Purchase luminaires at department stores, appliance stores, building supply stores, and with the furniture at furniture stores. Lamps, sockets, and strip luminaires for fluorescent lamps are available at lighting stores and electrical suppliers and can be built into furniture such as shelves or cabinets.

Energy and Lamps

Choose or build luminaires that use fluorescent lamps for highest efficiency. Replace incandescent lamps in existing luminaires with fluorescent lamps wherever possible.

Installation

Luminaires can be purchased as manufactured units and added to furniture or cabinets, or may be offered as an option by the maker of the furniture, cabinets, or appliances.

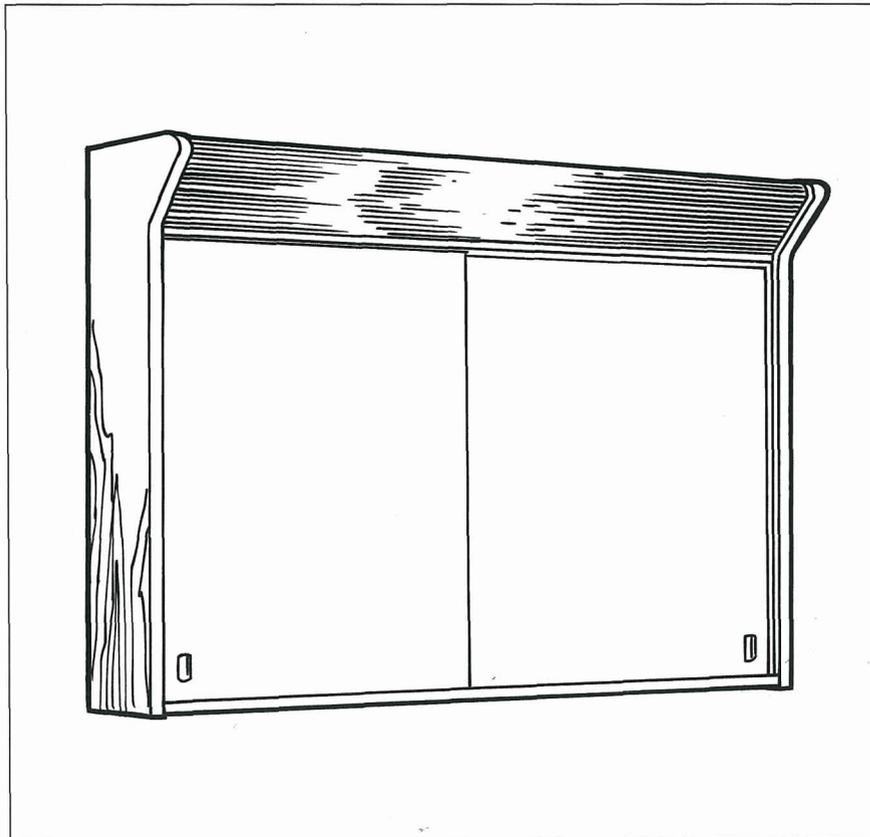
Controls

Some built-in luminaires are provided with switches that are located in awkward places, so the resident frequently leaves the luminaire on. Choose luminaires with controls in an easily accessible position for the resident's convenience and for energy savings. Switch furniture- and cabinet-integrated luminaires separately from other luminaires in the room so that the lighting is used only when needed.

Cautions

Glare can be a problem with furniture- or cabinet-integrated lighting for people in seated positions, so conceal or shield the lamps. As a safety precaution, choose luminaires and lamps that are intended for use in enclosed areas.

Furniture or Cabinet-Integrated: Medicine Cabinet



Medicine cabinets often include luminaires that provide diffuse lighting for the sink area. The luminaires may contain two to four 40- to 60-watt incandescent A-lamps. Luminaires with linear and compact fluorescent lamps are also available. Some medicine cabinets position the luminaires on either side of the mirror; others position the luminaire above the mirror. The resident's face will be more evenly illuminated with side-mounted luminaires.

Energy and Lamps

Select medicine cabinets with fluorescent lamps for highest efficiency. If an existing medicine cabinet contains common incandescent A-lamps, replace them with halogen A-lamps or screwbase compact fluorescent lamps, if the latter will fit in the luminaire.

Installation

For fewer shadows, select medicine cabinets with lighting mounted vertically on both sides.

Controls

Consider using timers or motion detectors, which can reduce wasted lighting energy in bathrooms.

For more information refer to

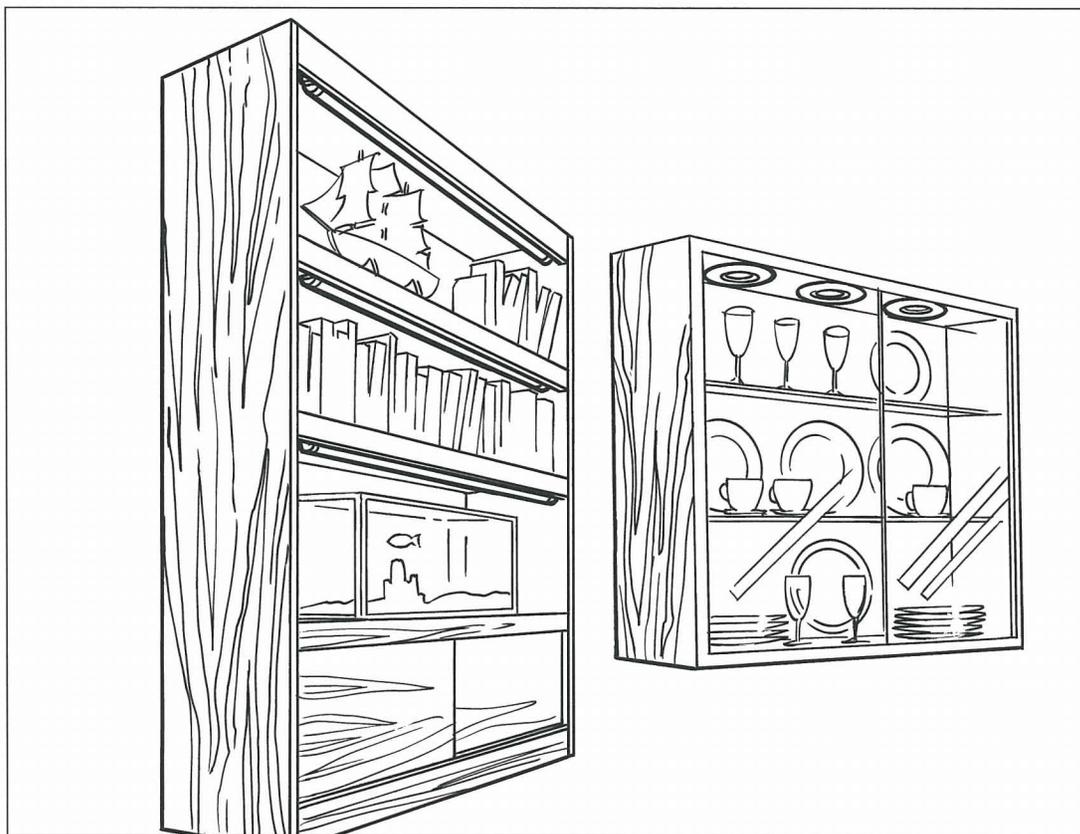
Techniques: Special Purpose

Lamps: Halogen A, Linear Fluorescent, Compact Fluorescent

Designs: Medium Bath 2

Other luminaires: Soffits, Valances, Wall-Mounted, Night Lights

Furniture or Cabinet-Integrated: Shelf or Display Cabinet



Shelf and display cabinet luminaires accent books, plants, glassware, and collections of other objects and art. They can also be used to light shelves in storage areas. The “spill light” from these luminaires in a living room can provide a soft, ambient light for watching television or relaxing.

Energy and Lamps

Consider linear fluorescent lamps, including small-diameter T5 lamps, to wash shelves with light and save energy. Incandescent lamps, especially low-voltage MR-lamps, are best for lighting crystal and glass objects because they create a sparkling effect. Linear fluorescent lamps mounted near the front of the shelves and concealed behind the trim are appropriate for lighting books and other matte-surface objects.

Controls

Switch shelf and display cabinet lighting separately from other luminaires in the room. Use a timer for utility shelves. Place controls on or near the luminaires, or in a convenient location for residents.

Cautions

Ventilate shelf units and cabinets properly to dissipate heat from the lamps. Light fades many colors of paper and fabric, so use the luminaires only when needed for viewing the display.

For more information refer to

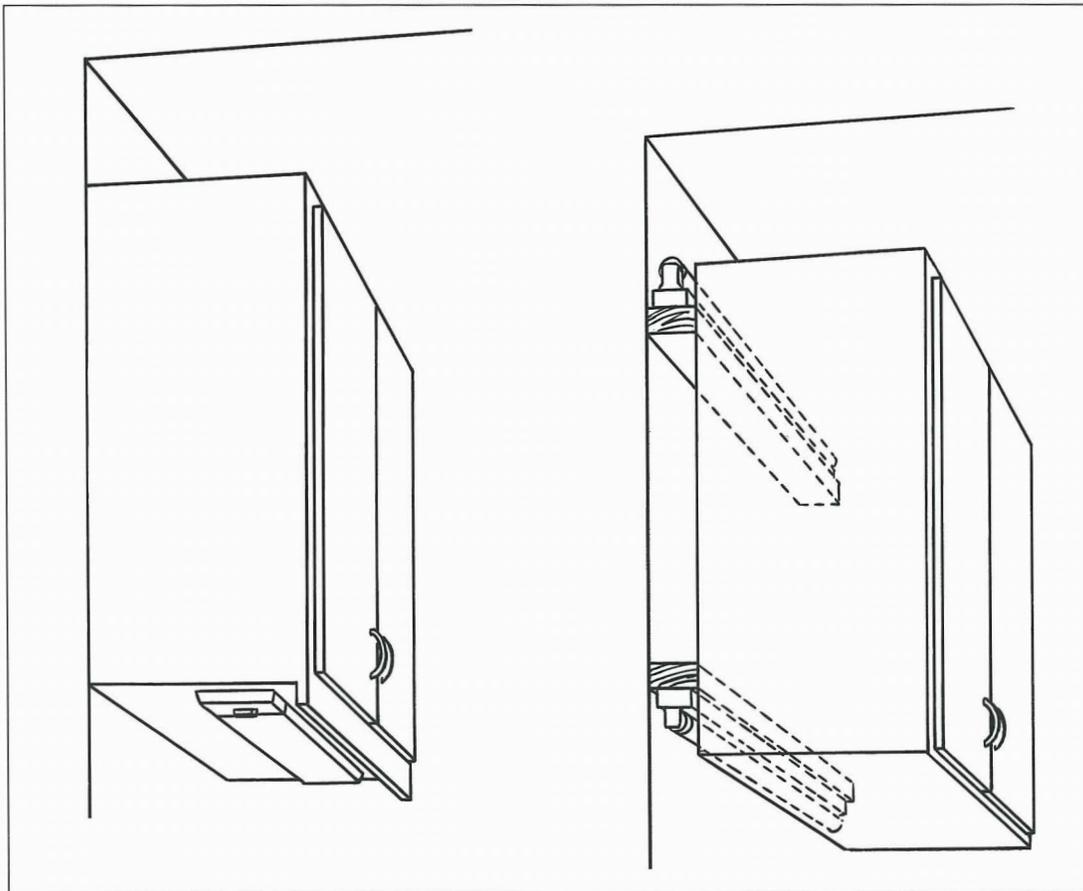
Techniques: Ambient, Accent, Special Purpose

Lamps: Common Incandescent, Low-Voltage Halogen, Linear Fluorescent, Compact Fluorescent

Designs: Large Living Room 3

Other luminaires: Ceiling-Mounted Track or Adjustable Heads, Recessed Wall Wash, Recessed Accent, Soffits, Under-Cabinet

Furniture or Cabinet-Integrated: Under-Cabinet



Lighting for areas such as countertops and desks is efficiently provided by under-cabinet luminaires. Under-cabinet luminaires use incandescent or fluorescent lamps installed below the upper cabinet to direct light down to the work surface. Manufactured units with small-diameter, low-wattage fluorescent lamps such as the 8- and 13-watt T5 linear fluorescent lamps are readily available in lengths of 12 to 42 inches and fit easily under many cabinets. Various diffusers are also offered to spread the light uniformly over the work area.

Energy and Lamps

Use the longest linear fluorescent lamp that will fill at least two-thirds of the cabinet width.

Installation

Mount lamps as close to the front of the cabinet as possible without exposing the lamps to view. Check that the lamp is properly concealed to avoid glare from a seated position, such as someone sitting at the counter. A shielding board may be added to extend the depth of the recess under some cabinets.

Cautions

Shield the lamps to avoid direct glare and to prevent breakage or burns.

For more information refer to

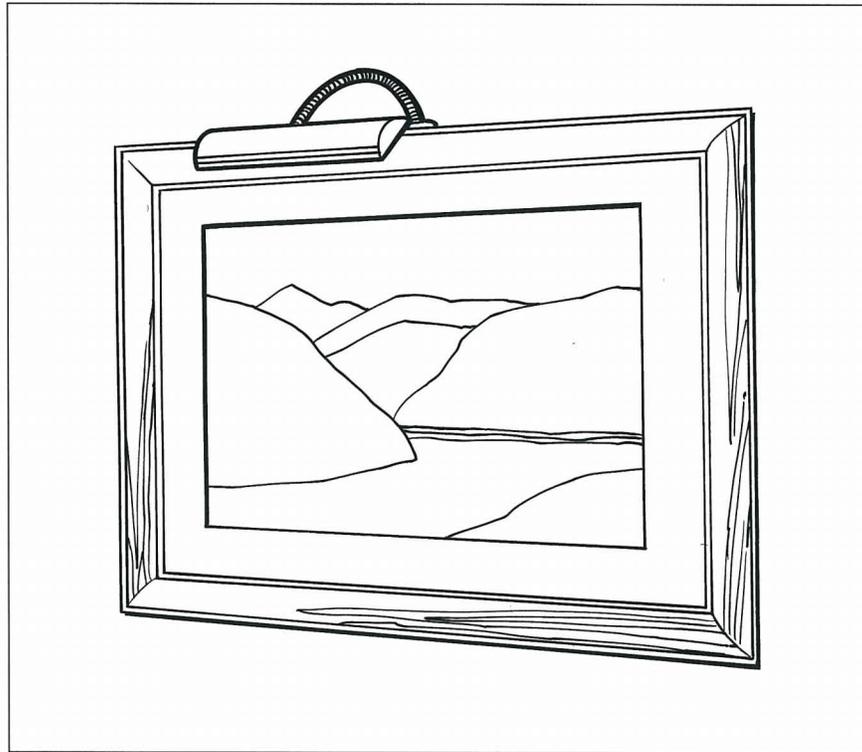
Techniques: Task, Special Purpose

Lamps: Linear Fluorescent

Designs: Medium Kitchen 2, Large Kitchen

Other luminaires: Ceiling-Mounted Track or Adjustable Heads, Recessed Downlights, Soffits, Desk Lamps

Furniture or Cabinet-Integrated: Artwork



Artwork luminaires can be an integral part of a frame or may be attached to an existing frame by clips or brackets. Typically, artwork luminaires have a 7- to 14-inch linear housing that contains one or two low-wattage incandescent lamps. Luminaires containing low-voltage halogen lamps with remote transformers also are available. Linear fluorescent lamps in 2-foot housings may be furnished with filters to screen ultraviolet radiation.

Installation

Many of these lamps have adjustable arms so that the angle may be changed to decrease glare.

Controls

Switch each artwork luminaire separately to avoid excessive exposure of the artwork to light.

Energy and Lamps

Often tubular incandescent lamps are used. Consider low-voltage halogen lamps. A series of low-wattage (3 to 7 watts) halogen lamps spaced about 8 inches apart are used in some artwork luminaires. For larger artwork, consider using wall washing or accent techniques. These luminaires can use high-color-rendering linear or compact fluorescent lamps with higher efficacy than incandescent lamps.

Cautions

These luminaires may cause reflected glare on glass surfaces. Light fades many colors of paper and fabric, so use the luminaires only when needed for viewing the display.

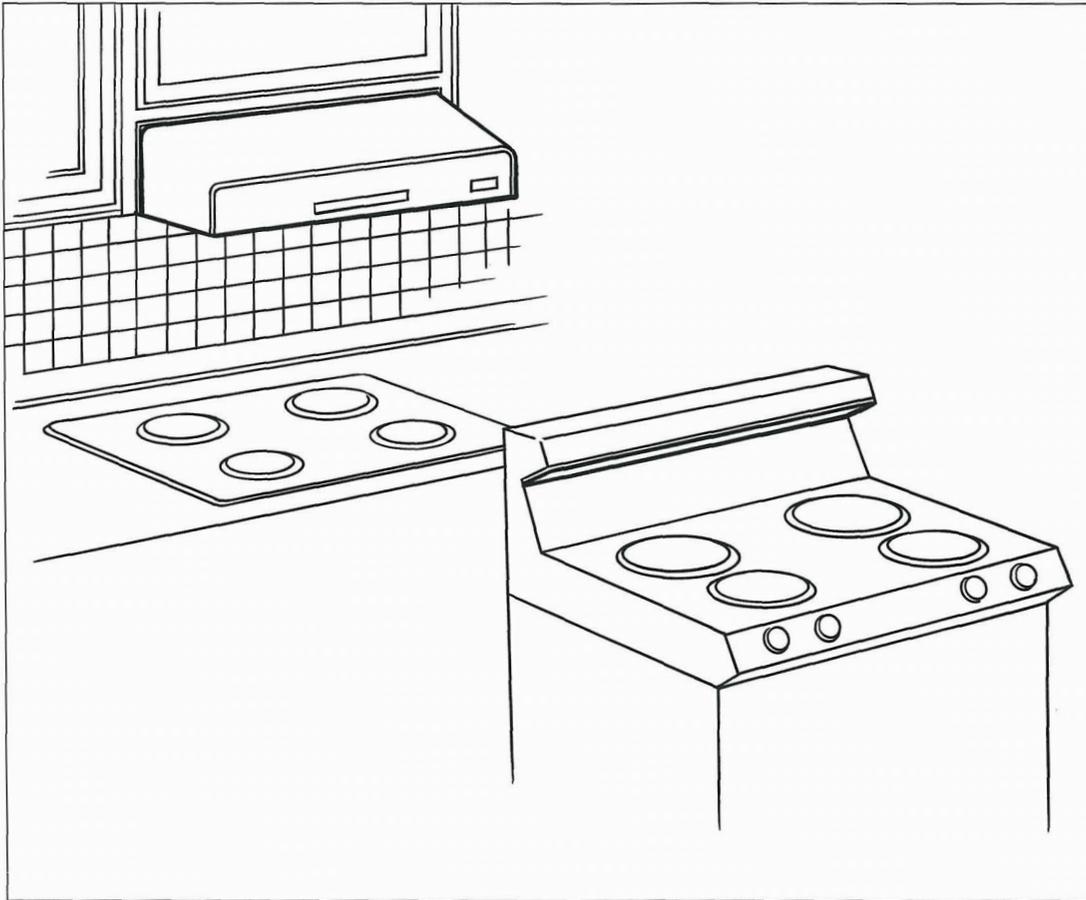
For more information refer to

Techniques: Accent, Special Purpose

Lamps: Common Incandescent, Low-Voltage Halogen, Linear Fluorescent, Compact Fluorescent

Other luminaires: Ceiling-Mounted Track or Adjustable Heads, Recessed Wall Wash, Recessed Accent, Soffits

Furniture or Cabinet-Integrated: Stove and Appliance



Luminaires are commonly provided with range hoods. Many other kitchen appliances, including conventional and microwave ovens and refrigerators, also contain luminaires. Many use 25-watt clear incandescent lamps.

Energy and Lamps

Follow the appliance manufacturer's recommendation for permissible lamp types and sizes. Incandescent A-lamps can be replaced with halogen A-lamps. Some luminaires may be large enough to accommodate screwbase compact fluorescent lamps.

Installation

Consider appliance lighting when designing kitchens. For example, an additional ceiling-mounted or recessed luminaire over the stove may be unnecessary if a range hood with a luminaire is chosen. A range hood containing a low-wattage lamp can serve as a night light.

Controls

Refrigerators incorporate door switches. Most other appliances have switches on the luminaire.

For more information refer to

Techniques: Task

Lamps: Common Incandescent, Compact Fluorescent

Designs: Small Kitchen, Medium Kitchen 2

Other luminaires: Under-Cabinet