Living Rooms

The living room designs support many activities, including conversation, reading, and viewing television.

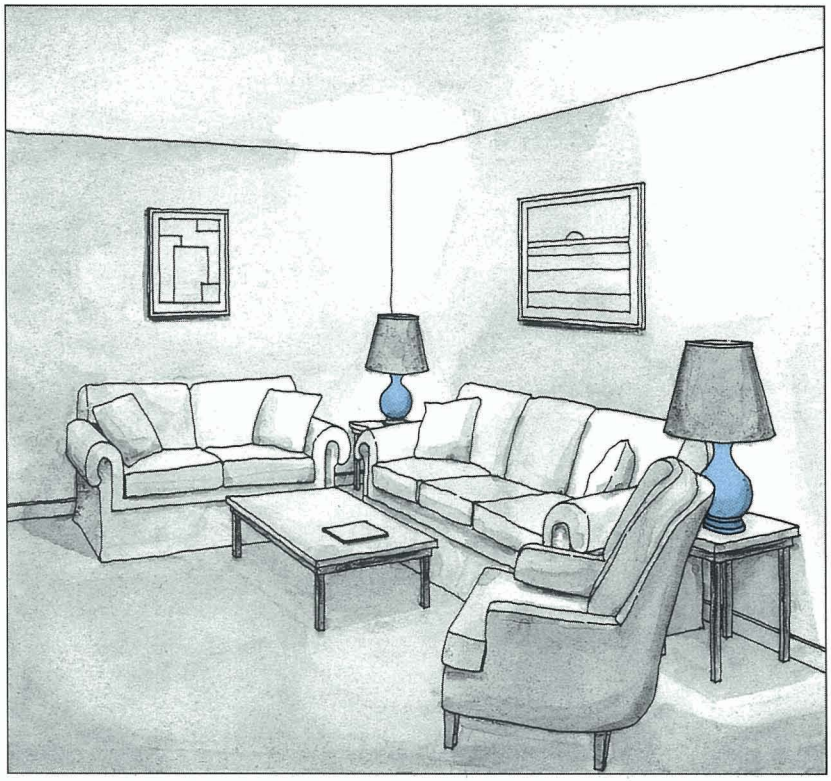
Locate luminaires near places where reading or other visually demanding tasks will be done. Use table or floor lamps, which can be relocated as the furniture arrangement changes. For watching television, use low-level ambient lighting.

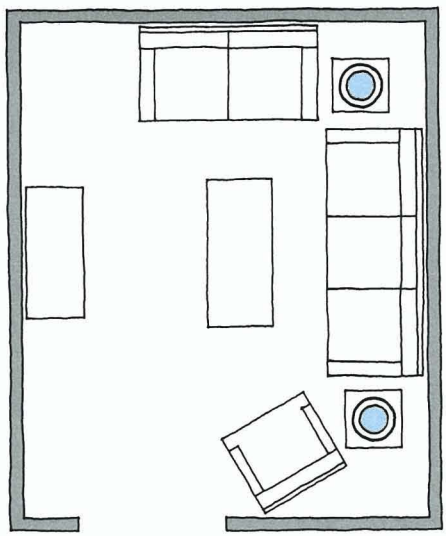
Locate the television so that the images of light sources, including windows, are not reflected from the television screen into the eyes of the viewer. For greater viewing comfort, avoid windows or bright lamps and luminaires on the wall directly behind the television. Switch lamps separately in a living room with a television, or use dimmers to reduce ambient light when there are no other simultaneous visual tasks such as reading.

Living rooms may also have artwork on the walls. Avoid direct sunlight on paintings, prints, and drawings to reduce fading. To highlight artwork, use accent lighting or wall washing techniques. Position the lamp to avoid reflected glare, especially for shiny surfaces or glass-covered artworks. Locate low-wattage lamps close to the artwork to save energy while maintaining illumination; however, do not locate them so close that they would discolor or burn the artwork. See the Accent technique for more information. To reveal texture and form on sculptures, try lighting one side of the form more than the other to create shadows. Switch the artwork luminaires separately to avoid long exposure to light on sensitive artwork.

Plants have special lighting requirements that can be met economically and efficiently in the home. A simple system of linear fluorescent lamps, positionable luminaires, and a timer can be integrated into shelving, display cabinets, or free-standing benches. Consult a lamp catalog or a garden center for guidance on lamp selection.

Small Living Room 1





Typical

Two table lamps, each containing one 100-watt incandescent A-lamp, provide ambient lighting and lighting for television viewing; one table lamp is controlled by a wall-mounted switch.

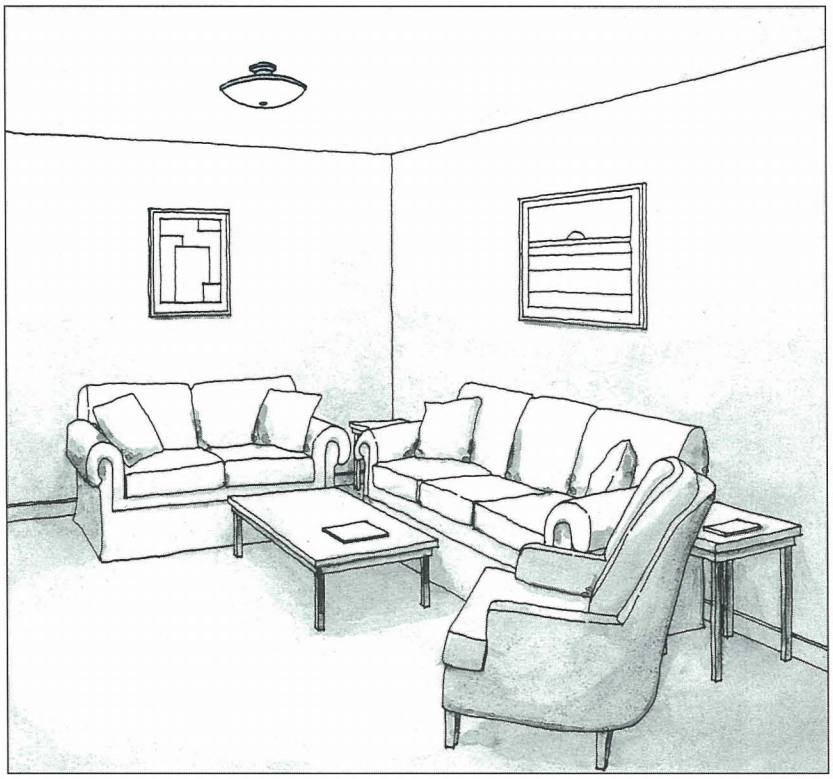
Replace lamps

If a lower light output is acceptable, replace the A-lamps with either 75-watt halogen A-lamps or with magnetically ballasted 26-watt screwbase compact fluorescent lamps. Note that electronically ballasted lamps may interfere with the television remote control. Make sure that the weight of the compact fluorescent lamps does not make the table lamps top-heavy or otherwise unbalanced. Also, do not use compact fluorescent lamps in dimmable table lamps.

Annual Operating Cost at $0.10 per kWh

CFL = compact fluorescent lamp
For all of the lamps, assume 3 hours of use per day and 2 hours per start.

Small Living Room 2



Typical

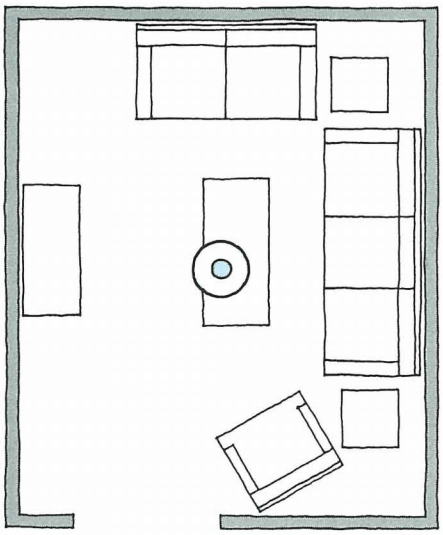
One ceiling-mounted diffuser containing four 60-watt incandescent A-lamps provides ambient lighting and is controlled by a wall-mounted switch.

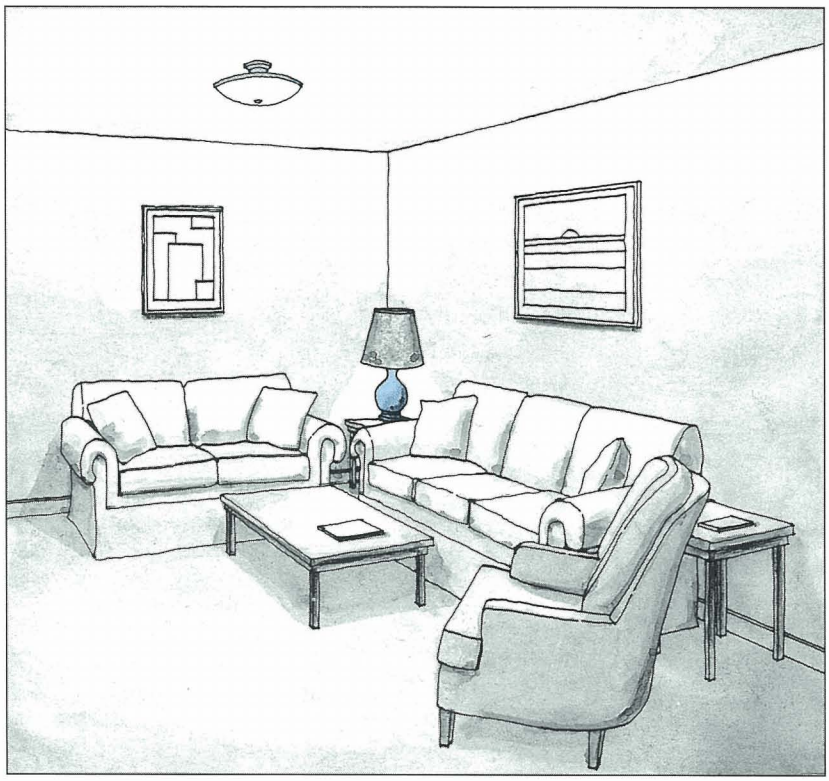
Replace lamps

Replace the A-lamps with 52-watt halogen A-lamps.

Replace controls

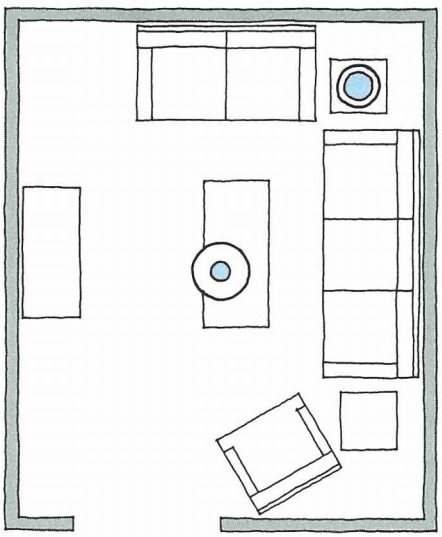
For the typical design, replace the wall-mounted switch with a dimmer; however, do not use a dimmer with compact fluorescent lamps.





Replace luminaires

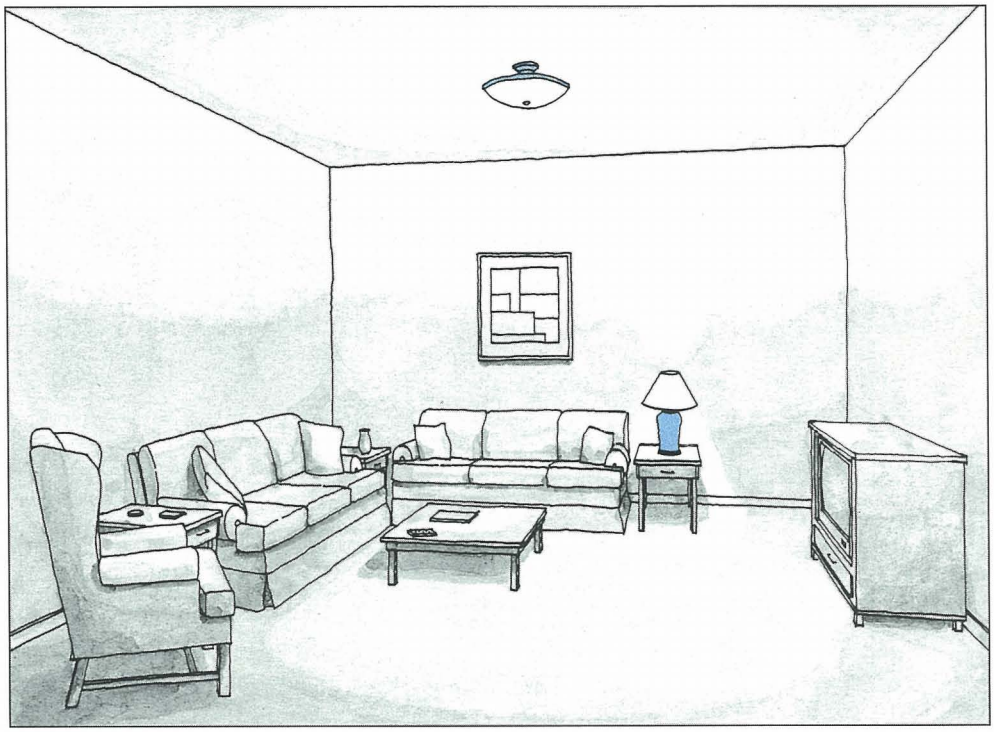
One ceiling-mounted diffuser containing two 13-watt compact fluorescent twin-tube lamps and one magnetic ballast provides ambient lighting. A table lamp containing two 13-watt compact fluorescent twin-tube lamps and a magnetic ballast provides lighting for television viewing and reading. A wall-mounted switch controls the diffuser.

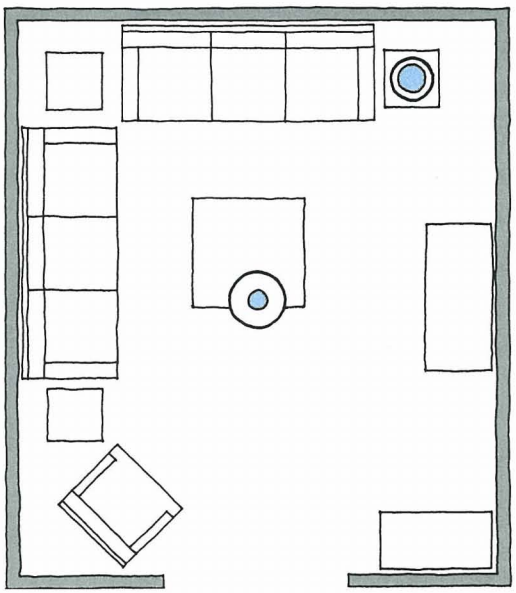


Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 3 hours of use per day and 2 hours per start. Lamps with dimmers are dimmed 50 percent of the time they are operated, to 50 percent light output as perceived by the human eye; the other 50 percent of the time, they are operated at full light output.

Medium Living Room 1





Typical

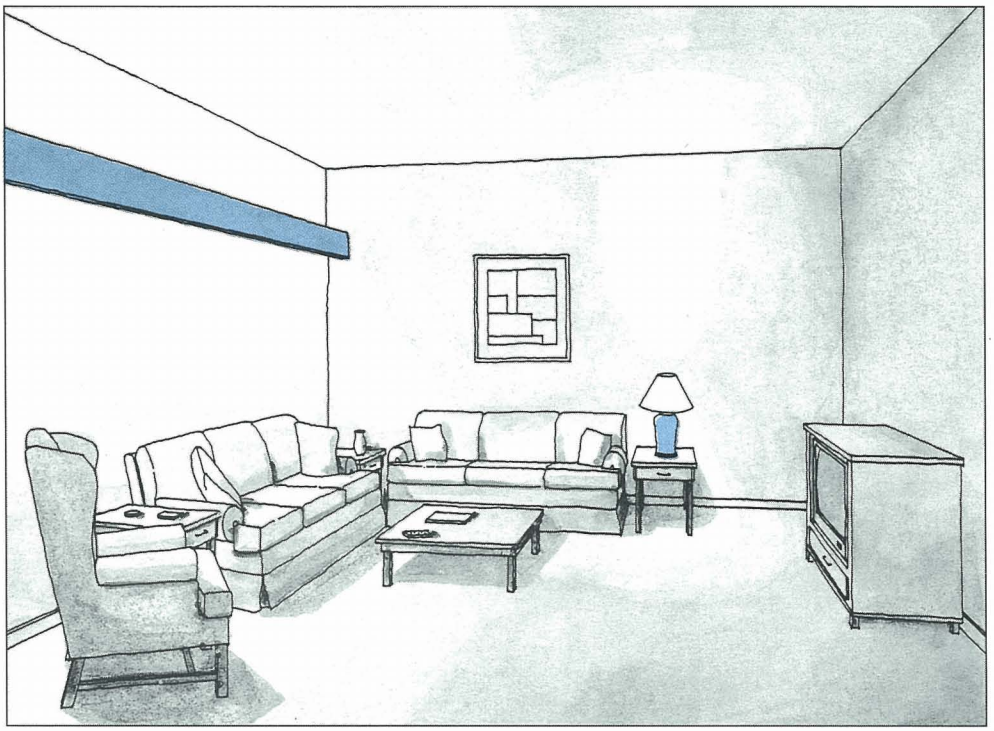
One ceiling-mounted diffuser containing three 60-watt incandescent A-lamps provides ambient lighting and lighting for television viewing and is controlled by a wall-mounted switch. One table lamp containing one 75-watt incandescent A-lamp also provides ambient lighting; it is controlled by a wall-mounted switch.

Replace lamps

Replace the A-lamps in the diffuser with 52-watt halogen A-lamps, and the one in the table lamp with a 60-watt halogen A-lamp if a slightly lower light output is acceptable near the table lamp.

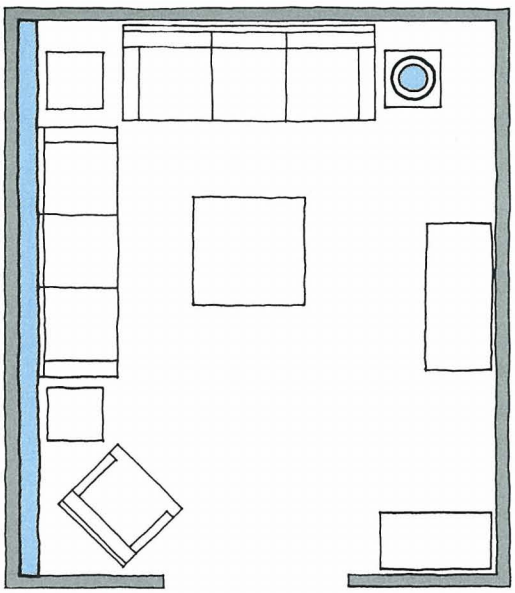
Replace controls

For the typical design, replace the control for the diffuser with a motion detector.



Remodel or new construction

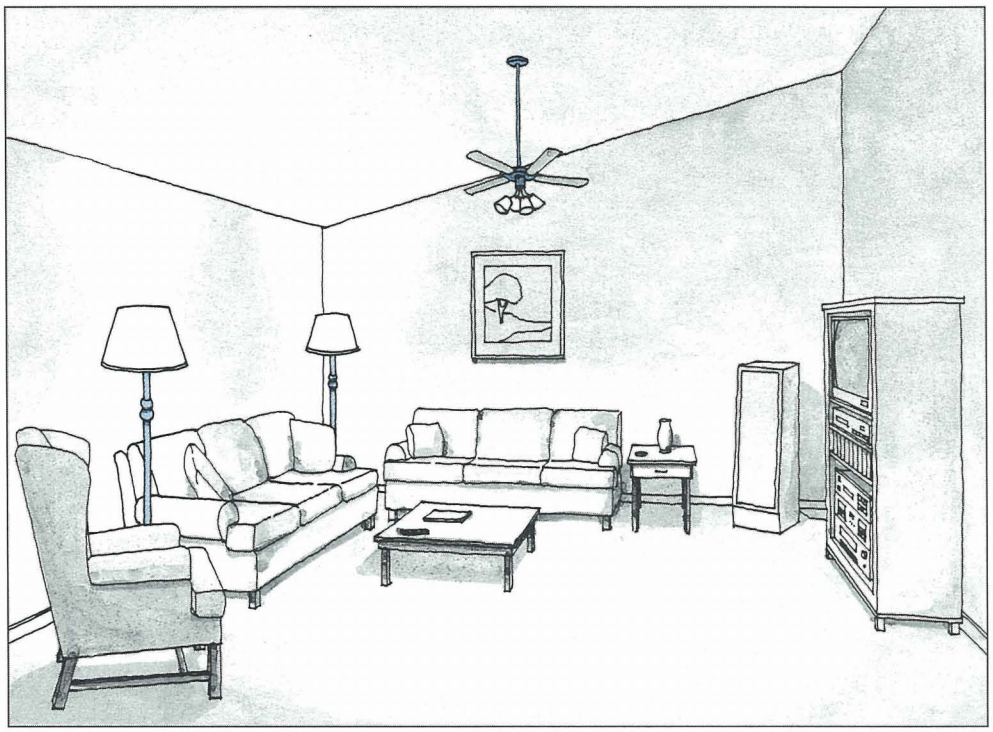
For a different light distribution pattern in the living room, install a valance containing three 32-watt, 4-foot T8 RE830 linear fluorescent lamps and one electronic ballast to provide ambient lighting, wall washing, and lighting for television viewing and reading. One table lamp containing two 13-watt compact fluorescent lamps and one magnetic ballast also provides ambient lighting. Both the valance and the table lamp are controlled by wall-mounted switches. Optionally, the valance could be controlled by a wall-mounted dimmer if a dimming ballast is installed.



Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 3 hours of use per day and 2 hours per start. The motion detector factor is 80 percent.

Medium Living Room 2

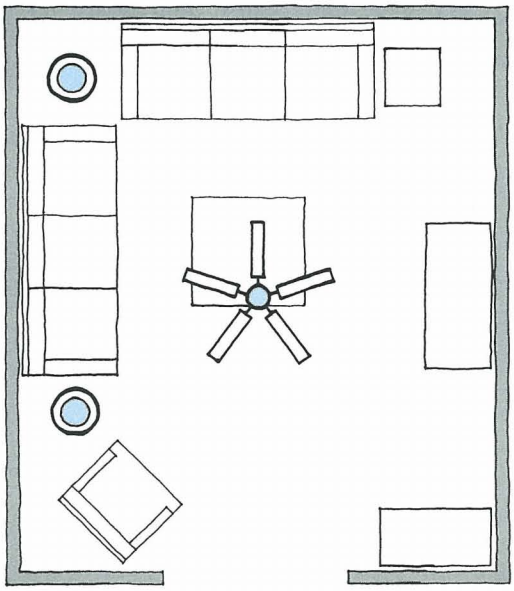


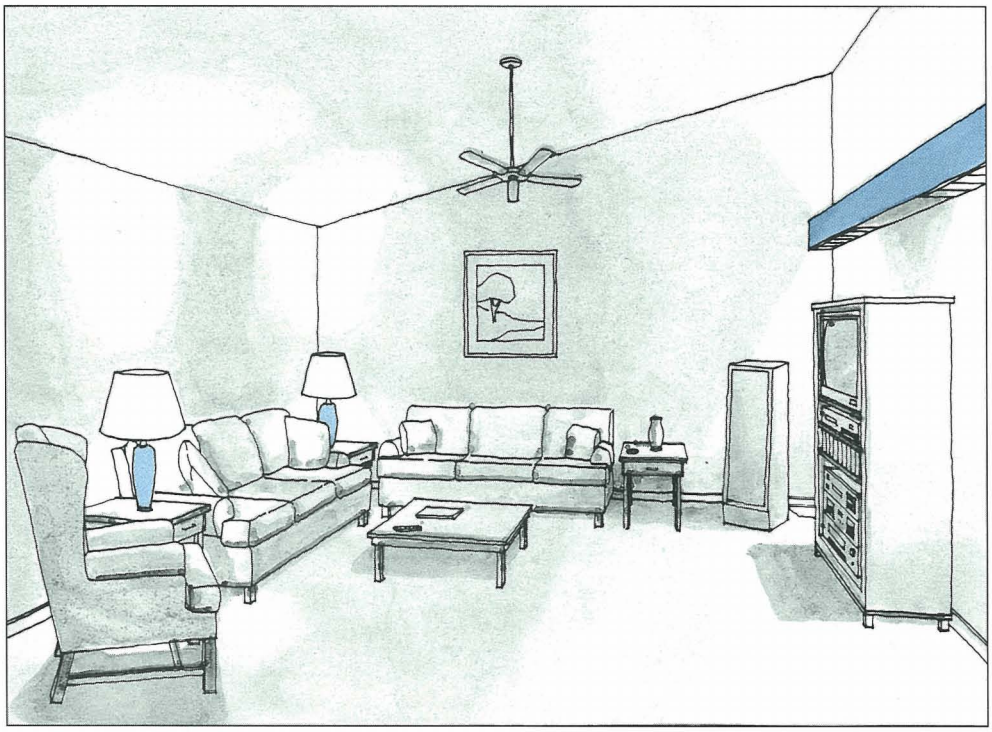
Typical

A ceiling fan luminaire with four 60-watt A-lamps provides ambient lighting. Two floor lamps, each containing a three-level 50/100/150-watt lamp, provide lighting for reading. The lamps in the fan luminaire are controlled by a wall-mounted switch.

Replace lamps

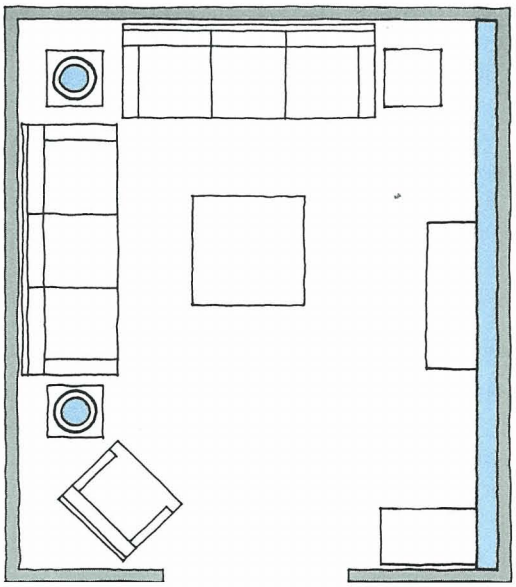
To reduce glare, and if lower light output is acceptable, replace the 60-watt lamps with 42-watt halogen A-lamps.





Remodel or new construction

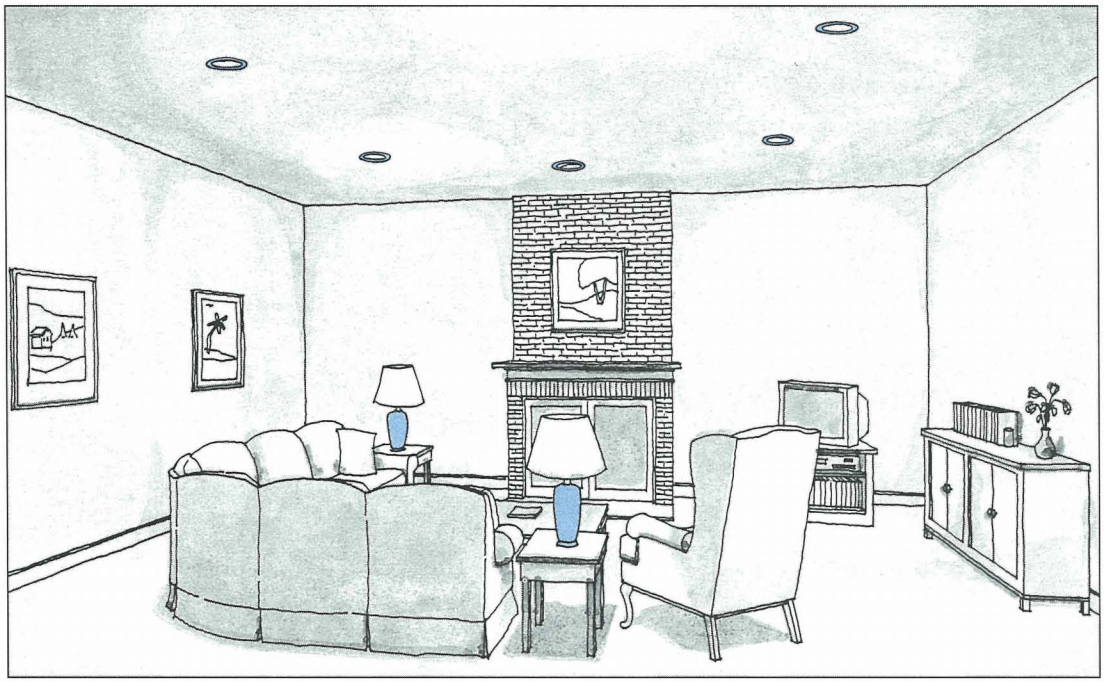
Remove the light kit from the ceiling fan. For ambient lighting, install a valance that contains three 32-watt, 4-foot T8 RE830 linear fluorescent lamps and an electronic ballast. Optionally, install a dimming electronic ballast. Two table lamps each contain two 13-watt compact fluorescent twin-tube lamps and one magnetic ballast. Wall-mounted switches control the valance and the table lamps.

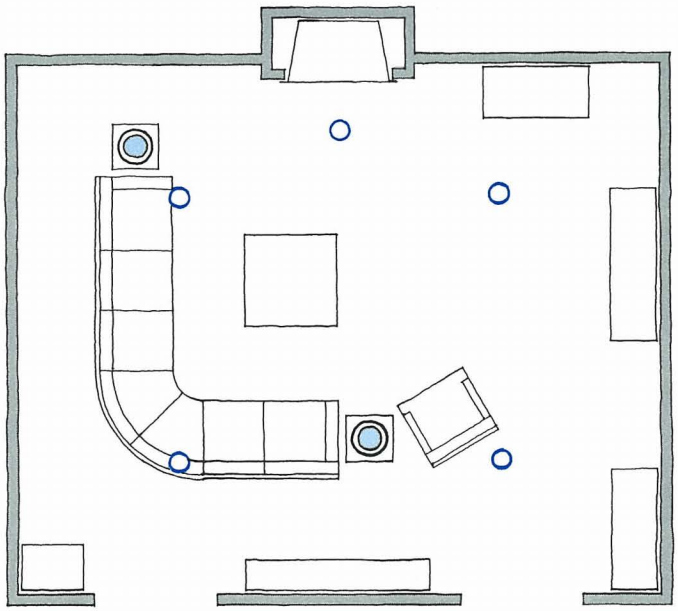


Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 3 hours of use per day and 2 hours per start. For the three-level lamp, assume that the average wattage during use is 100 watts.

Large Living Room 1





Typical

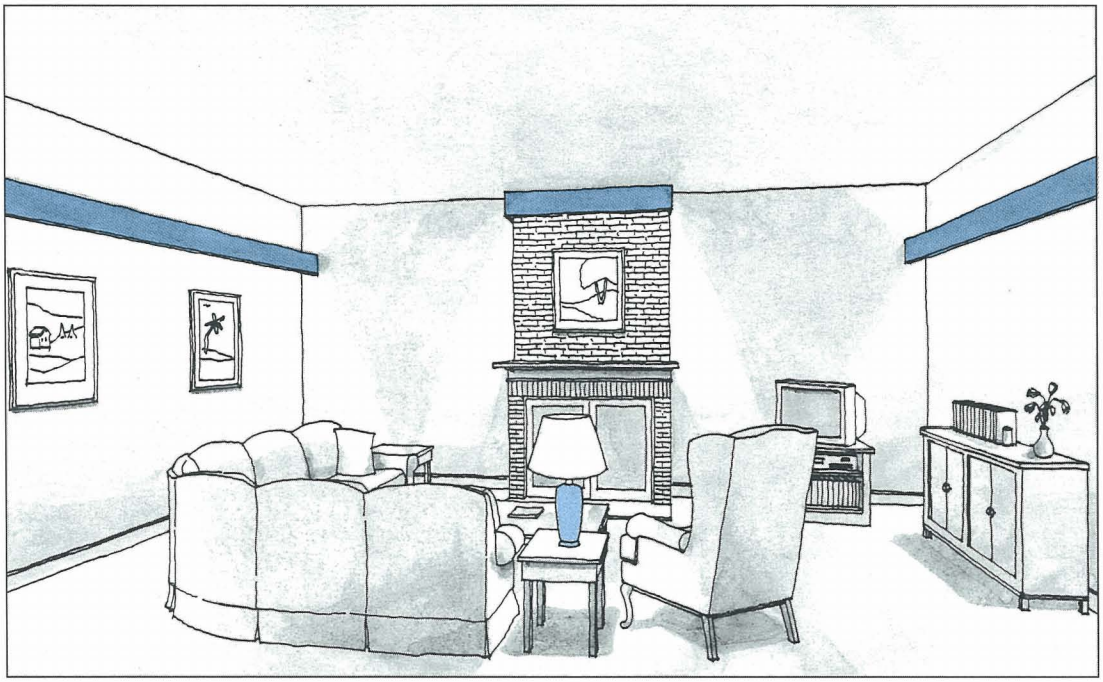
Four recessed downlights, each containing one 75-watt R30 lamp, provide ambient lighting. Two table lamps, each containing two 60-watt A-lamps, provide lighting for reading. A recessed accent luminaire containing a 75-watt R30 lamp highlights the fireplace and is controlled by a separate wall-mounted switch.

Replace lamps

Replace the five R30 lamps with five 50-watt PAR30 halogen flood lamps and the four 60-watt lamps with 52-watt halogen A-lamps. Alternatively, replace the four 60-watt lamps with four electronically ballasted 18-watt screwbase compact fluorescent twin-tube lamps, if they fit in the luminaires.

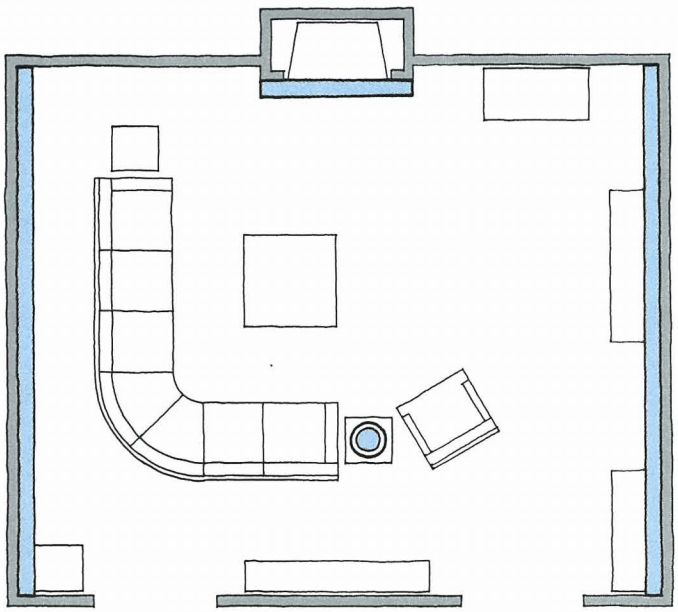
Replace controls

For the typical design, replace the wall-mounted switch for the four recessed downlights with a motion detector. Optionally, install dimmers for the table lamps but do not use dimmers with compact fluorescent lamps.



Remodel or new construction

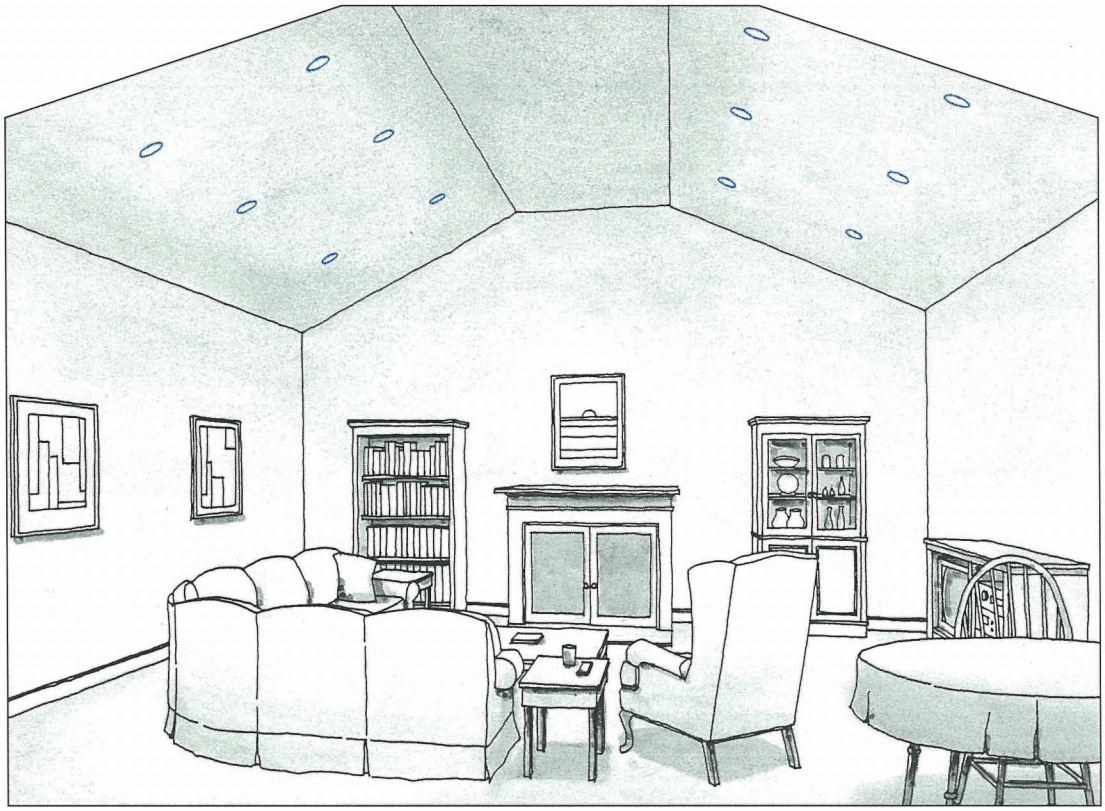
For a different light distribution pattern in the living room, two valances and one soffit, containing a total of seven electronically ballasted 40-watt, 5-foot T8 linear fluorescent RE830 lamps, provide ambient lighting. Depending upon the dimensions of the room, 4-foot lamps could also be used in these architectural luminaires. The table lamp contains two 13-watt compact fluorescent twin-tube lamps and one magnetic ballast. The valances and soffit each are controlled by a wall-mounted switch.



Annual Operating Cost at $0.10 per kWh

* PAR30, halogen A-lamps ** PAR30, compact fluorescent twin-tube
For all of the lamps, assume 3 hours of use per day and 2 hours per start.
The motion detector factor is 80 percent.

Large Living Room 2



Typical

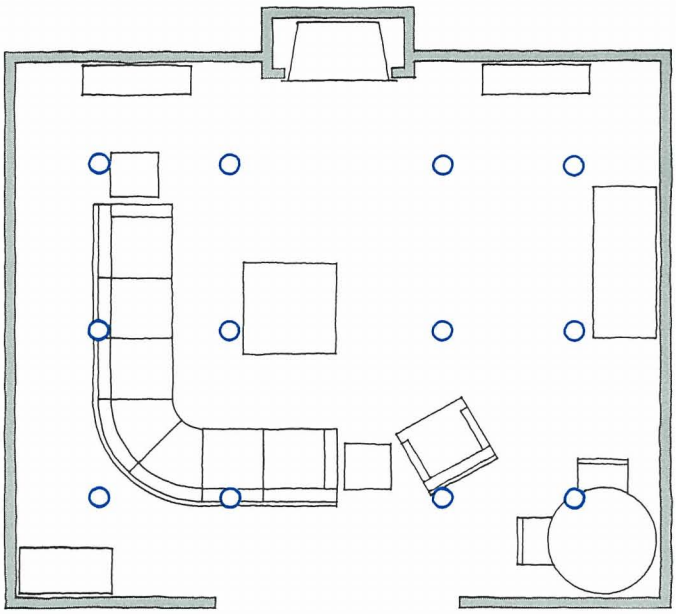
Twelve recessed downlights, each containing one 150-watt R40 lamp, provide ambient lighting. The perimeter and interior lamps are controlled by separate wall-mounted switches.

Replace lamps

Replace the 150-watt lamps with 60-watt IR PAR38 halogen flood lamps or alternatively, if lower light output is acceptable, with 50-watt PAR30 halogen flood lamps.

Replace controls

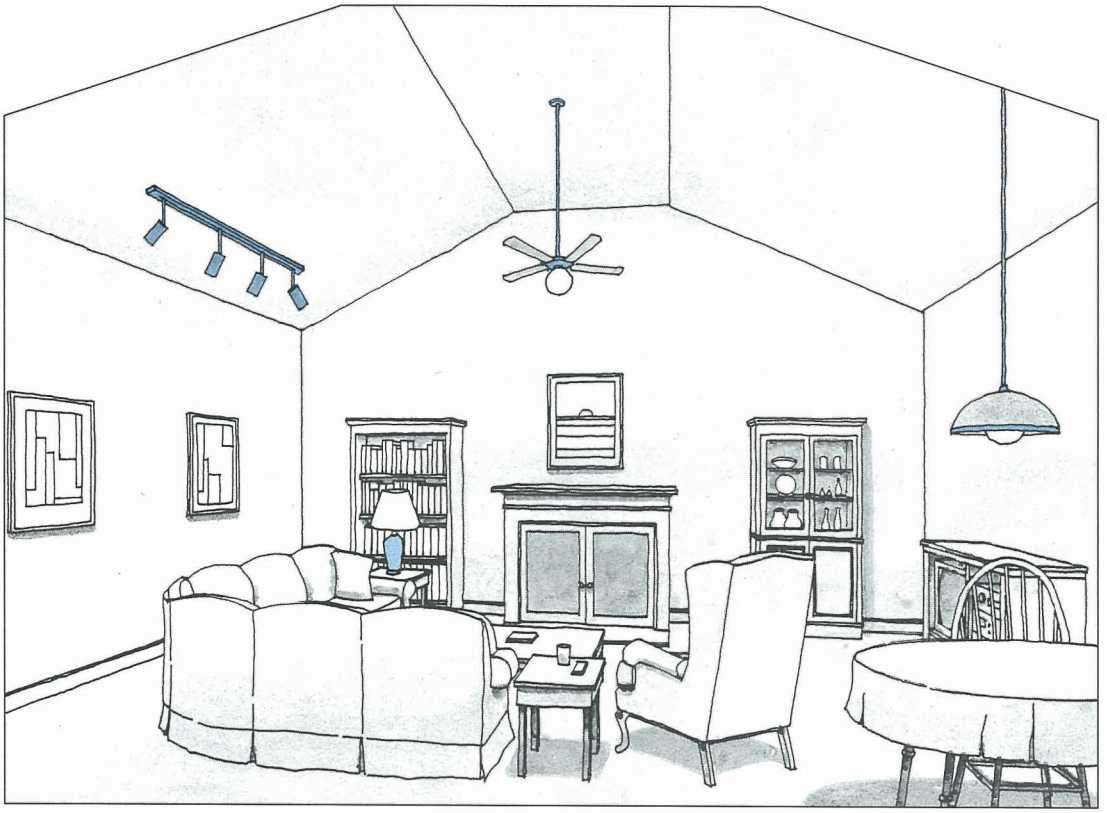
For the typical design, replace the wall-mounted switches with dimmers.

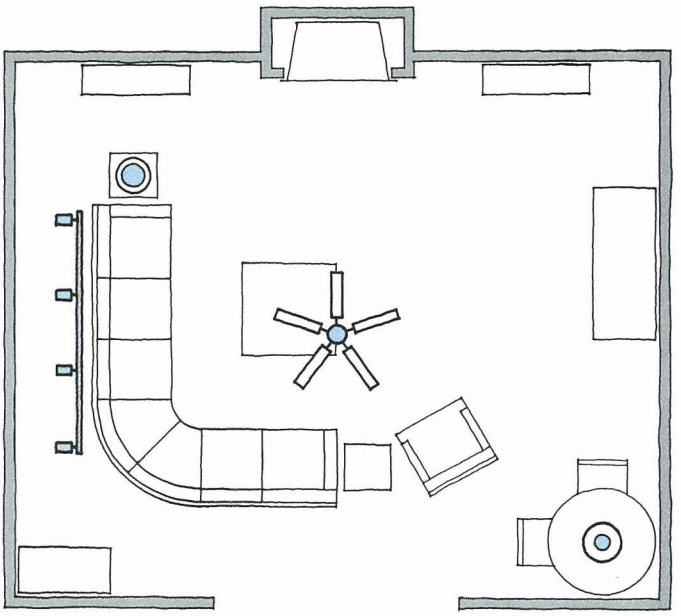


Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 3 hours of use per day and 2 hours per start. Lamps with dimmers are dimmed 50 percent of the time they are operated, to 50 percent light output as perceived by the human eye; the other 50 percent of the time, they are operated at full light output.

Large Living Room 3





Typical

A ceiling fan luminaire with one 150-watt A-lamp provides ambient lighting; it is controlled by a wall-mounted switch. A table lamp containing one 60-watt A-lamp and a suspended downlight containing one 100-watt A-lamp also provide ambient lighting and lighting for reading. The suspended luminaire is controlled by a wall-mounted switch. The ceiling-mounted track with four adjustable heads, each containing one 75-watt R30 lamp, washes the wall and artwork with light. The track luminaire is controlled by a wall-mounted switch.

Replace lamps

If lower light output is acceptable, replace the 150-watt lamp in the fan luminaire with a 100-watt halogen A-lamp. Replace the lamp in the table lamp with an electronically ballasted 18-watt screwbase compact fluorescent lamp, using a harp extender if needed. Remove the diffuser and replace the lamp in the suspended luminaire with an electronically ballasted 18-watt globe screwbase compact fluorescent lamp.

Replace the 75-watt lamps in the track heads with 50-watt PAR30 halogen lamps.

Replace controls

For the typical design, replace the wall-mounted switches with dimmers. Install a socket and cord dimmer on the table lamp. Do not use dimmers with compact fluorescent lamps.

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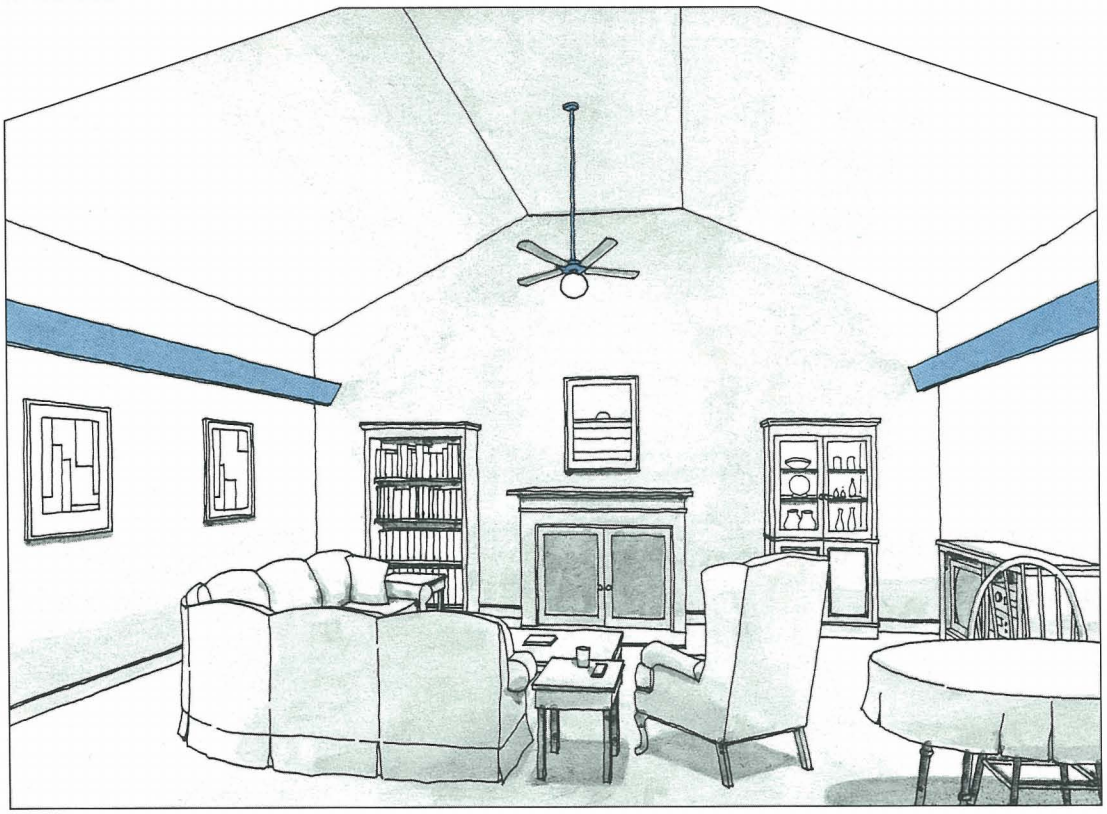
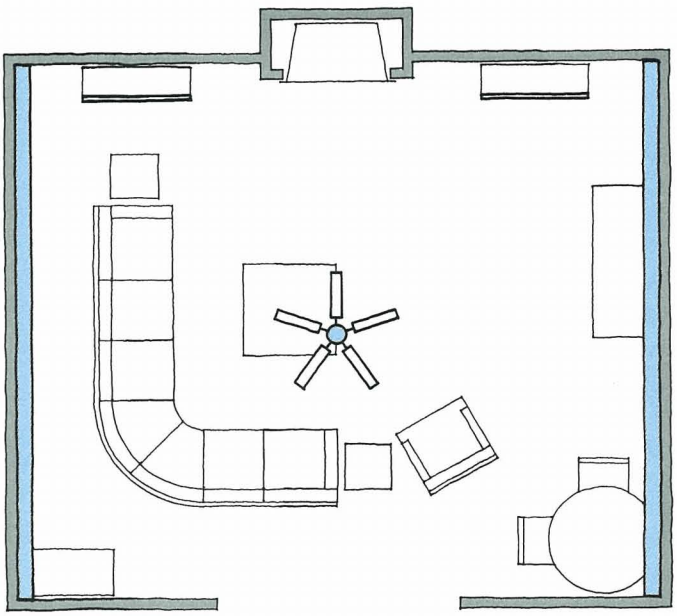
Large Living Room 3
continued



Remodel or new construction

A ceiling fan luminaire with one 75-watt halogen A-lamp provides ambient lighting; it is controlled by a wall-mounted dimmer. For a different light distribution pattern in the living room, two valances, containing a total of eight 32-watt, 4-foot T8 RE830 linear fluorescent lamps, provide ambient lighting; they are electronically ballasted and controlled by two wall-mounted switches. Depending upon the dimensions of the room, 5-foot lamps could be used in the valances. A luminaire containing two 13-watt, 21-inch T5 linear fluorescent warm white lamps provides lighting for objects in the cabinets; it is controlled by a luminaire-mounted switch.



Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 3 hours of use per day and 2 hours per start. Lamps with dimmers are dimmed 50 percent of the time they are operated, to 50 percent light output as perceived by the human eye; the other 50 percent of the time, they are operated at full light output.