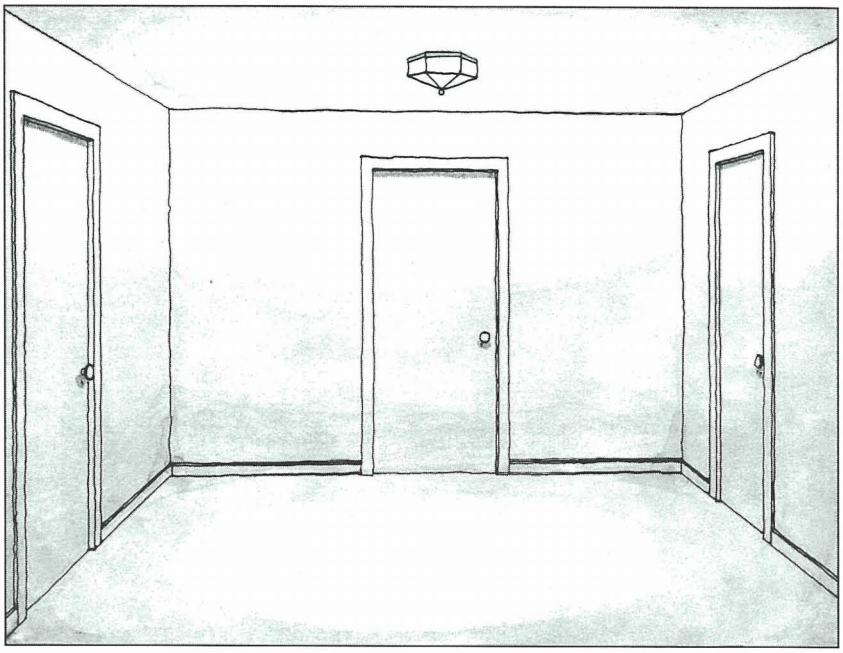
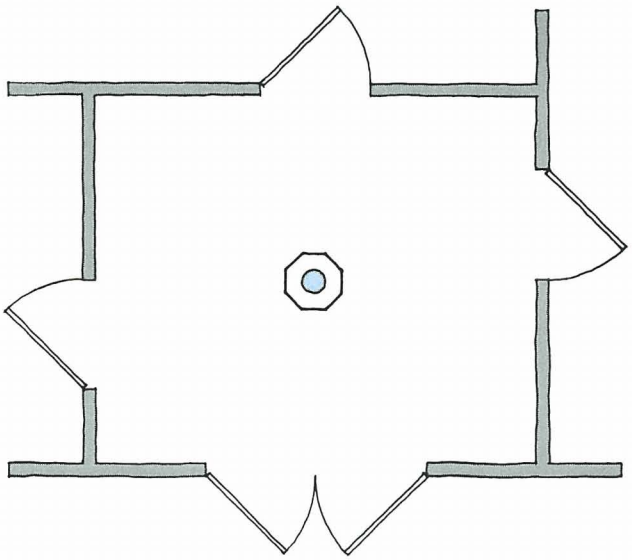
Multi-Family Common Spaces

Some common spaces in multi-family housing lack windows or skylights and therefore require long hours of use of electric lighting. Well-designed lighting can help residents or visitors understand the space and locate the entry and exits quickly. Entries and exits can be highlighted; see the Accent Technique for more information. Refer to the local building codes for information on requirements for and placement of exit signs and other emergency lighting.

Multi-Family Lobby





Typical

One ceiling-mounted luminaire containing three 40-watt G16.5 lamps provides ambient lighting and is controlled by a switch in a remote location.

Replace lamps

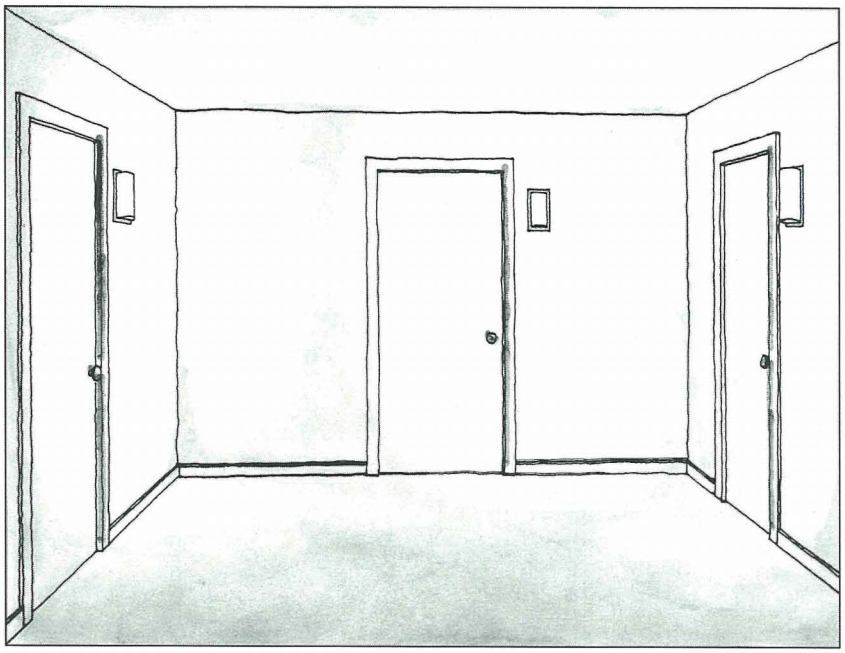
Replace the 40-watt lamps with electronically ballasted 11-watt globe screwbase compact fluorescent lamps, if the luminaire will accommodate their size.

Replace controls

For the typical design, install a dimming motion detector. Do not, however, use this control with compact fluorescent lamps.

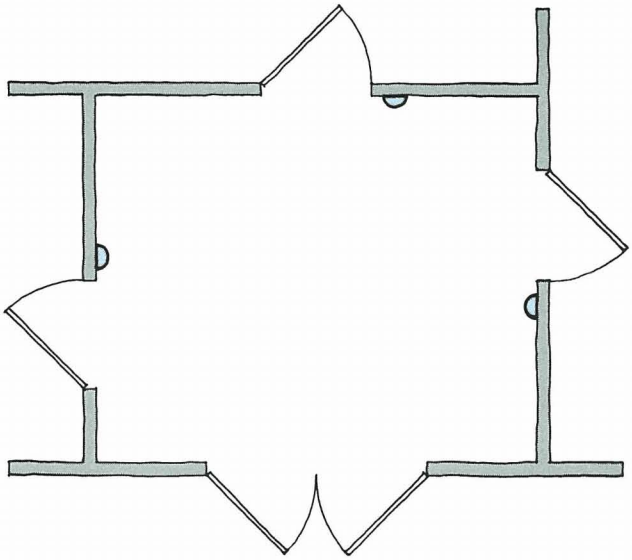
Replace luminaires

Replace the luminaire with one that contains two 13-watt compact fluorescent twin-tube lamps and one magnetic ballast. Optionally, choose a luminaire that contains a 32-watt circline lamp.

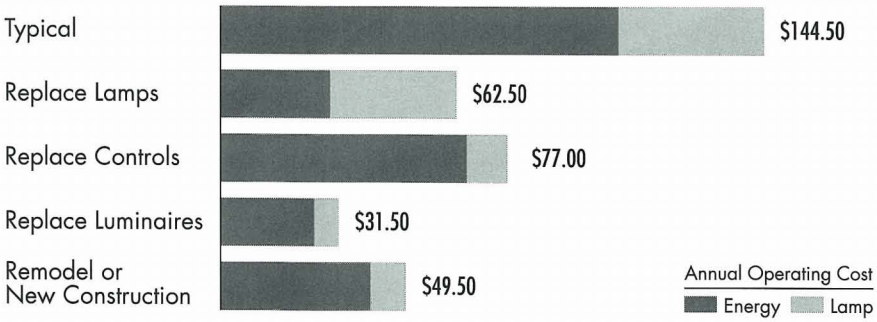


Remodel or new construction

For a different light distribution pattern in the lobby, install three sconces, each containing one 13-watt compact fluorescent lamp and one magnetic ballast. The sconces are controlled by a switch at a remote location.

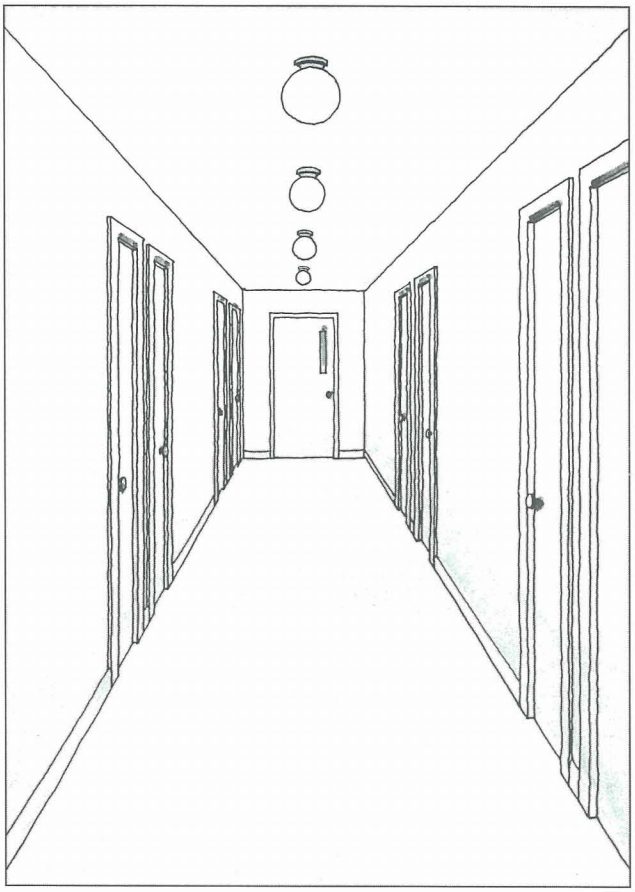


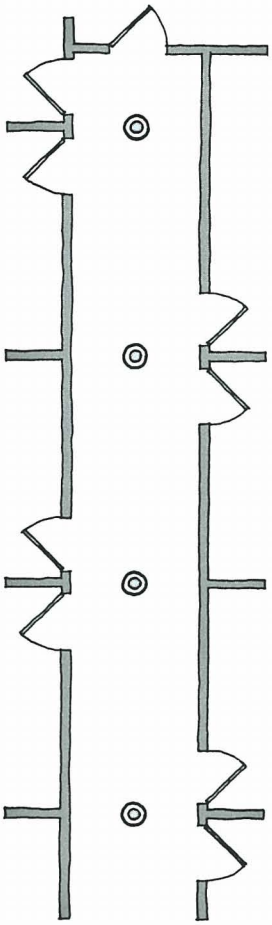
Annual Operating Cost at $0.10 per kWh



For all of the lamps, assume 24 hours of use per day. Lamps with dimming motion detectors are dimmed 75 percent of the time they are operated, to 50 percent light output as perceived by the human eye; the other 25 percent of the time, they are operated at full light output.

Multi-Family Corridor





Typical

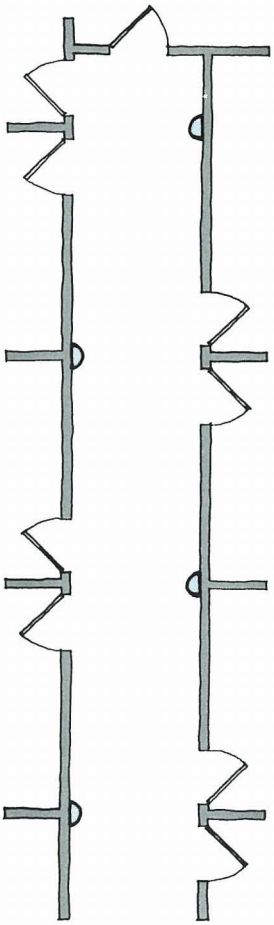
Four ceiling-mounted luminaires, each containing one 60-watt incandescent A-lamp, provide ambient lighting.

Replace lamps

Remove the globe diffusers and replace each A-lamp with one magnetically ballasted 18-watt globe screwbase compact fluorescent lamp.

Replace controls

For the typical design, install a motion detector that is designed for hallways.



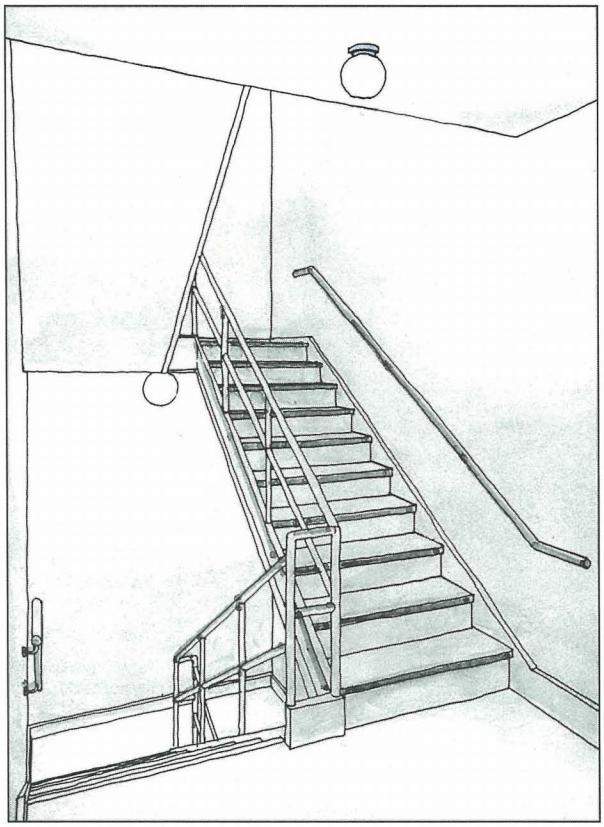
Remodel or new construction

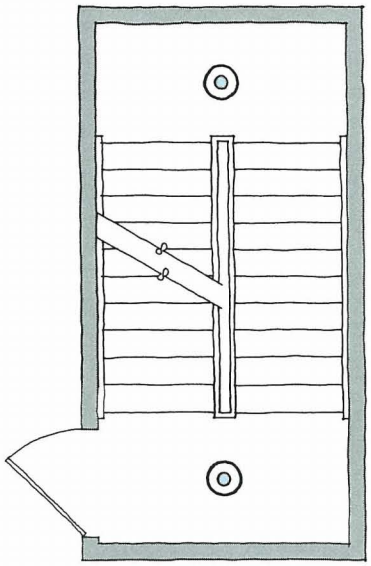
Four wall-mounted diffusers, each containing one 18-watt compact fluorescent quad-tube lamp and one magnetic ballast, provide ambient lighting.

Annual Operating Cost at $0.10 per kWh

For all of the lamps, assume 24 hours of use per day. For lamps controlled by a motion detector, assume 30 minutes per start and a motion detector factor of 25 percent.

Multi-Family Fire Stair 1





Typical

One ceiling-mounted diffuser or porcelain socket containing one 150-watt A-lamp provides ambient lighting for each landing of the staircase.

Replace lamps

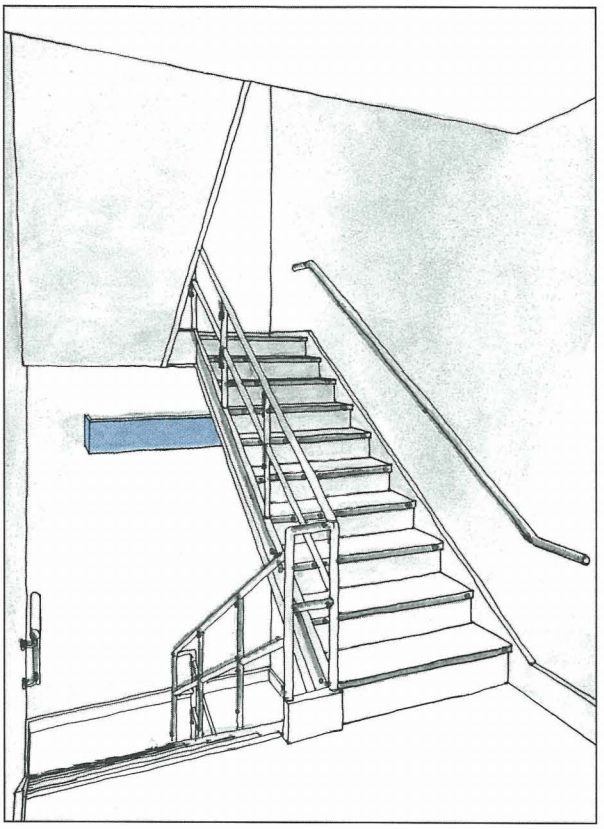
If lower light output is acceptable, replace each 150-watt lamp with one 100-watt halogen A-lamp. Alternatively, replace each 150-watt lamp with one 35-watt high-pressure sodium lamp with a screw-in adapter for the ballast. Note that the light that is emitted will be yellow-white.

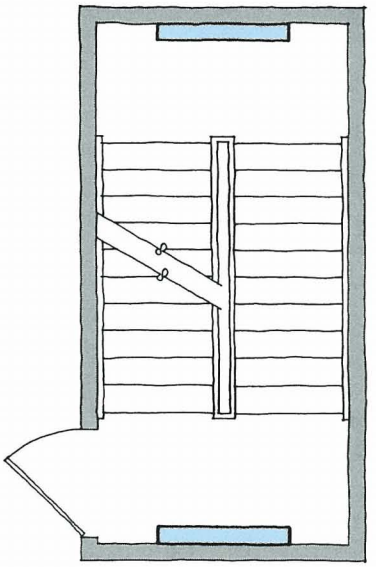
Replace controls

For the typical design, install a wall-mounted interval timer system that can be activated at each floor.

Replace luminaires

To maintain light output, install ceiling-mounted diffusers, each containing one 22-watt and one 32-watt circline lamp.

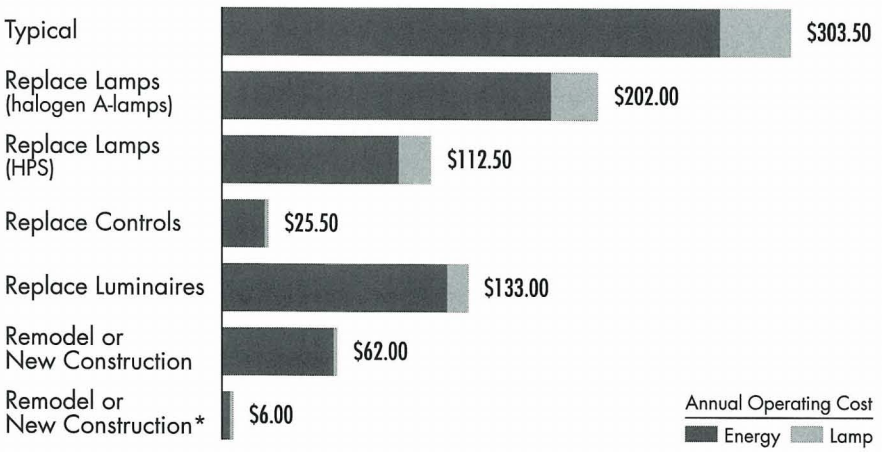




Remodel or new construction

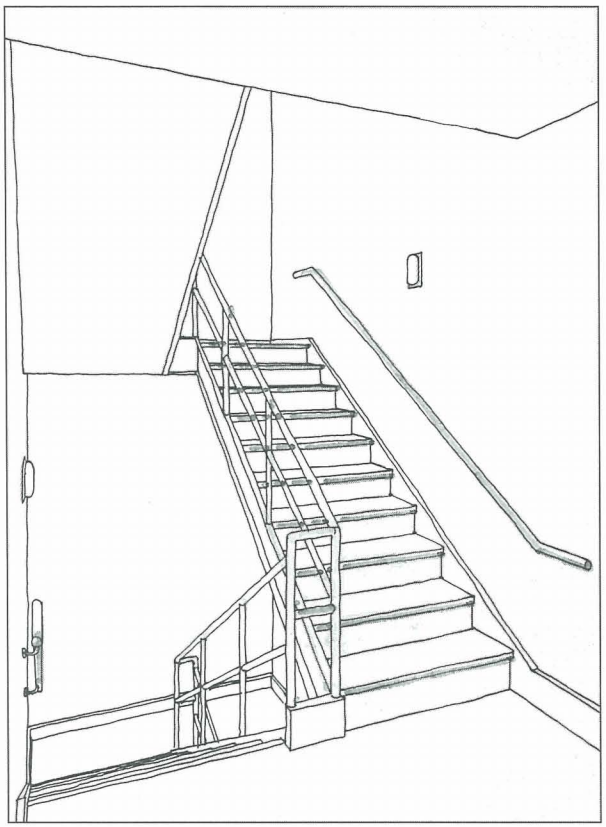
A valance on each landing contains one 32-watt, 4-foot T8 RE730 linear fluorescent lamp and one electronic ballast.
Alternatively, also install a wall-mounted interval timer system that can be activated at each floor.

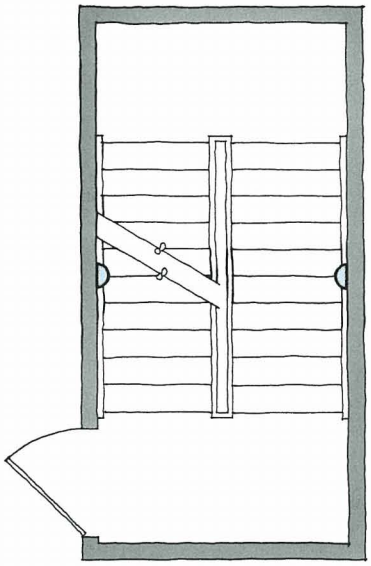
Annual Operating Cost at $0.10 per kWh



HPS = high pressure sodium * With timer
For all of the lamps, assume 24 hours of use per day. For lamps that are controlled by a timer, assume 2 hours of use per day and 15 minutes per start.

Multi-Family Fire Stair 2





Typical

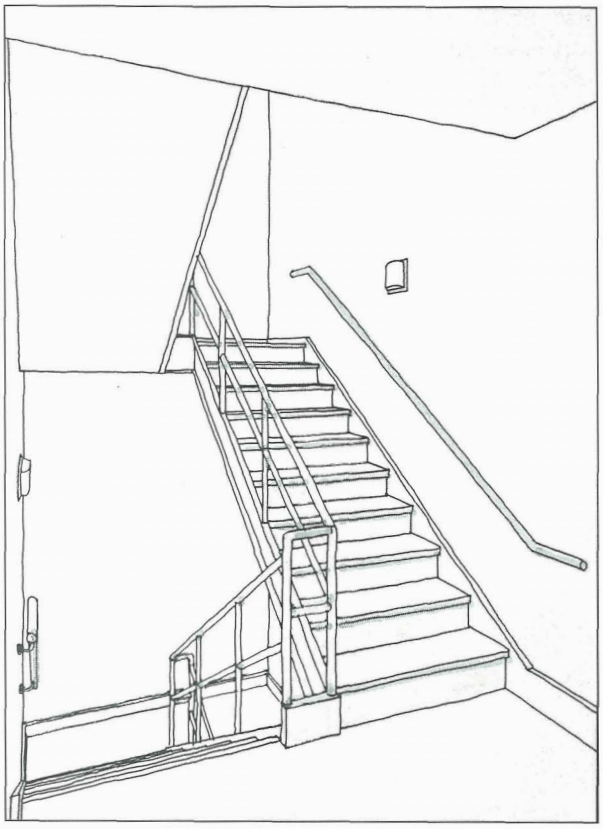
A wall-mounted diffuser on each flight of stairs contains one 100-watt A-lamp and provides ambient lighting.

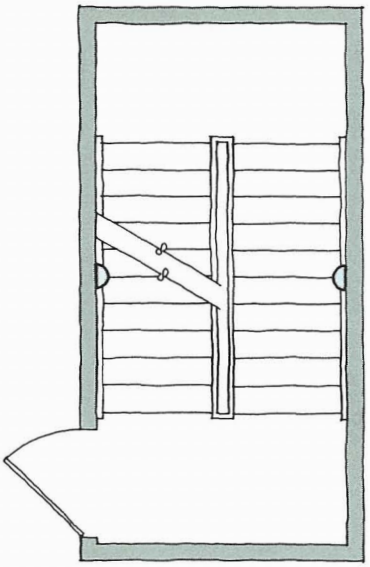
Replace lamps

If lower light output is acceptable, replace the 100-watt lamp with a 75-watt halogen A-lamp.

Replace controls

For the typical design, install a wall-mounted interval timer system that can be activated at each floor.

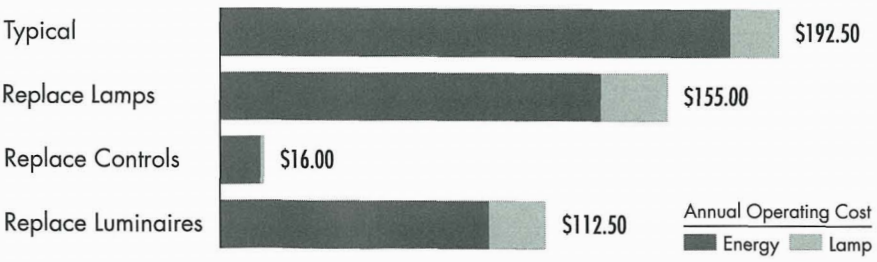




Replace luminaires

A wall-mounted diffuser on each flight of stairs contains one 35-watt high-pressure sodium lamp and provides ambient lighting. Note that the light that is emitted will be yellow-white. Also, many high-intensity discharge lamps require several minutes to relight. This could cause a problem for people using the stairwell after a power interruption, so consult manufacturers' data to select an appropriate lamp for this design. Optionally, use a luminaire that contains a fluorescent lamp.

Annual Operating Cost at $0.10 per kWh



For all of the lamps, assume 24 hours of use per day. For lamps that are controlled by a timer, assume 2 hours of use per day and 15 minutes per start.