

### Light Emitted Diode (LED) versus Fluorescent Lamp (FCL)

	LED	FCL	
Energy efficient (lumens/watt ratio) or lumens efficacy	100	55	28 Watt FCL equivalent 16 Watt LED
Average Rated Hours (lifetime)	50,000	30,000	
Durability	yes	no	
Dimmable	yes	no	
Instant light (warm-up)	no	yes	LED instant on to full brightness
Rapid cycling (on and off) effect	no	yes	FCL significant energy loss to warm-up
Remote control, Wi-Fi	yes	no	
Control interface via Wi-Fi (smart home systems)	yes	no	
Direct light	yes	no	FCL requires a reflector
Different colors (RGB LED's)	yes	no	
Low profile	yes	no	
Miniature pulse drivers (power supplies)	yes	no	
Mount the built-in battery for autonomous operation	yes	no	
Mercury emission	no	yes	
Maintenance cost	low	high	
External ballast required	no	yes	

### Power consumption saving LED vs Incandescent

Bulbs to exchange (average dwelling)	40		
LED watt consumption, Watt	10	\$64.24	LED
Incandescent bulb consumption, Watt	60	\$385.44	Incandescent
Usage hours of one bulb in year ( 4 hr x 365)	1,460		
Energy cost, (\$ per Wh, dollar per watt per hour)	0.00011	<b>\$321.20</b>	<b>Annual savings by using one bulb 4h/day</b>