

Choosing the right light

Comparing fluorescents and LEDs

		Abandoned/ obsolete technology	Standard energy efficiency	Standard energy efficiency	Medium energy efficiency	High energy efficiency
		T12 Fluorescent Using magnetic ballasts	T8 Fluorescent Using electronic ballasts	T8 Fluorescent Using electronic ballasts Using a lighting control, e.g., motion sensor	T5/ T5HO Fluorescent Using electronic ballasts Using a lighting control, e.g., motion sensor	Light Emitting Diode (LED) Using a lighting control, e.g., motion sensor
Features	Energy efficiency	Low	Medium	Medium	Medium	High
	Light colour	Bright colour temperature; poor colour rendering	Colour temperature options range from warm to cool; good colour rendering	Colour temperature options range from warm to cool; good colour rendering	Colour temperature options range from warm to cool; good colour rendering	Colour temperature options range from warm to cool; good colour rendering
	Dimmability	None	Partial to full range; expensive to implement	Partial to full range; expensive to implement	Partial to full range; expensive to implement	Full range, widely available; less expensive to implement
	Attributes	Humming, flickering	Mild humming, flickering	Mild humming, flickering	Mild humming, flickering	No humming, some flickering may occur
	Application	Recessed and surface- mounted ceiling troffers; pendant/linear	Recessed and surface- mounted ceiling troffers; pendant/linear	Recessed and surface- mounted ceiling troffers; pendant/linear	Surface-mounted ceiling troffers; pendant/linear, low/high bays	Recessed and surface- mounted ceiling troffers; pendant/linear, low/high bays
Light output in lumen*	1,500–3,000 lm (low output)	25W–50W	17W–35W	17W–23W	15W–30W	13W–25W
	3,000–5,000 lm (average output)	50W–90W	35W–60W	23W–45W	30W–50W	25W–40W
	5,000–10,000 lm (high output)	90W–180W	60W–120W	45W–90W	50W–100W	40W–85W
Percentage of improvement (T12 using magnetic ballasts as baseline**)		N/A	25%	40%	50%	70%
Estimated operating cost per bulb	Lifespan***	About 20,000 hours or 5 years	20,000 to 60,000 hours or 5–15 years	20,000 to 60,000 hours or 5–15 years	About 20,000 hours or 5 years	50,000 to 80,000 hours or 12–20 years
	Annual energy cost****	\$27.59	\$20.69	\$16.55	\$13.79	\$8.28

*Generally, the higher the lumen, the brighter the bulb.

**Assumption based on 30% time of use reduction due to vacancy.

***Assumption based on 12 hours of use per day.

****Estimated energy cost is \$0.094/kWh.