

GE  
Lighting

# maximize



GE energy-efficient T5 linear fluorescent systems

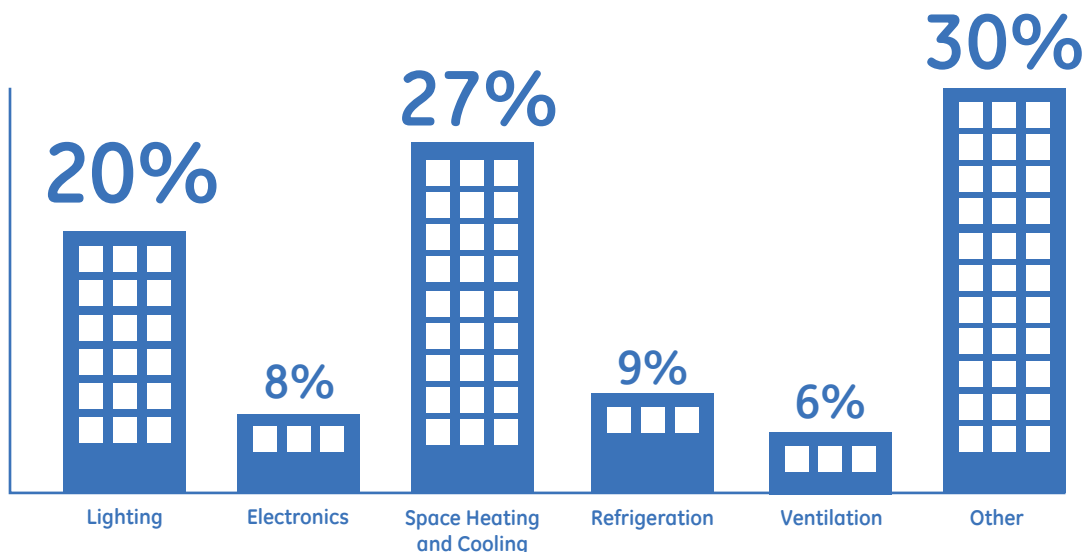


# a bright way to improve efficiency

Your business is valuable. And when workers have to take time out of the day to climb scaffolds and change energy-draining lamps, productivity and profits suffer. GE linear fluorescent systems offer the ideal solution — energy-efficiency and long life combine to create a system that lowers the cost of your energy bill, and the cost of maintenance.

## how lighting affects electricity usage

Lighting makes up 20% of a building's electricity usage.





## leading the industry

GE has been lighting businesses for 100 years. The challenges are constantly evolving, but our products and our people continue to rise to the occasion. Our team offers expertise on everything from auditing to product selection, ensuring that you are always confident in your lighting decision.

In addition, GE delivers innovation coupled with the latest education, including lighting legislation and environmental regulations. As part of our ecomagination<sup>SM</sup> initiatives, GE offers expansive online resources and tools to help businesses navigate the ever-changing market landscape.

### did you know?

In 1938, GE invented the first practical low-pressure discharge lamp, now referred to as the fluorescent lamp.

### At [gelighting.com](http://gelighting.com), you can find:

- Environmental data, regulations and certifications
- Legislation Product Replacement Tool
- Fluorescent Solutions Calculator

# compliant

## a smart choice

GE T5 linear fluorescent lamps are a healthy choice for your budget. With system solutions that meet the Toxicity Characteristic Leaching Procedure (TCLP), we have the right selection of linear fluorescent systems for the needs of virtually any facility.

- Replace older technology to provide energy savings and lower maintenance costs.
- Re-lamp existing fixtures with energy-saving or long-life lamp options.
- Receive warranty support when using a GE UltraStart® lamp and ballast system.

## did you know?

The total electrical energy used in the U.S. for lighting is equivalent to the output of about 100 large power plants. The cost is around \$55 billion per year.

*Source: Lighting Research Center website*



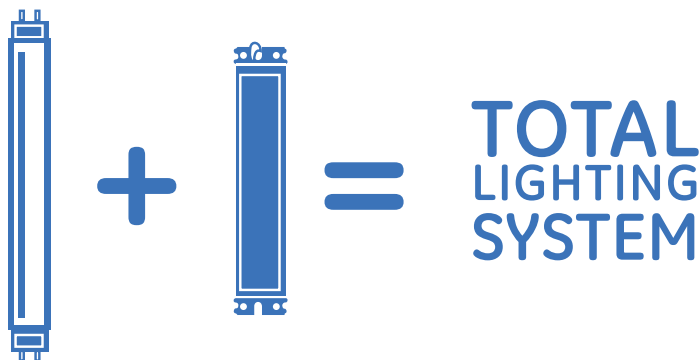


## conformance directive

The Restriction of Hazardous Substances (RoHS) is a European Union directive that restricts six hazardous materials in consumer products:

- Lead
- Mercury
- Cadmium
- Hexavalent chromium
- PBB flame retardants
- PBDE flame retardants

GE T5 lamp and ballast options offer full system solutions that meet the material restriction requirements of RoHS relating to those substances.

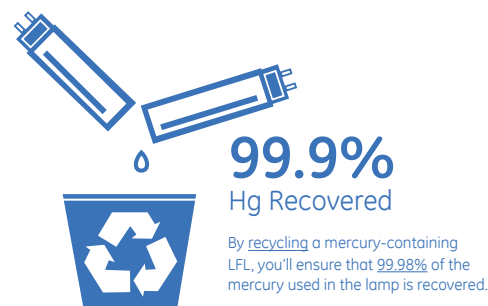


## reduce, recover, recycle

All fluorescent lamps require a very small amount of mercury to enable the lamp to operate with optimal energy efficiency and long life.

When you recycle fluorescent lamps, it allows us to recover and reuse that mercury, reducing environmental impact.

That's why GE works with recyclers who offer services for homeowners, retailers and distributors.



Source: Based on information from ENERGY STAR® (2007) and Cain et. al. (2007).

# elevate

## comprehensive solutions

GE offers a complete range of High Efficiency and High Output T5 lamp options. High Efficiency lamps deliver over 100 lumens per watt, giving you more light while using less energy. High Output lamps are an energy-efficient solution designed to produce the maximum amount of light.

### High Efficiency and High Output T5 systems

	High Efficiency systems	High Output systems
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Smaller lamp profile allows for more aesthetic fixtures</li> <li>• Low operating costs</li> <li>• Ability to meet light needs with less glare</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum light output</li> <li>• Lower maintenance costs and extend re-lamp cycles with longer life</li> <li>• Energy saving alternative to HID fixtures</li> </ul>
<b>When to use</b>	<ul style="list-style-type: none"> <li>• Ideal for indirect lighting applications</li> <li>• Low ceiling heights requiring less foot candles</li> <li>• Areas sensitive to glare</li> </ul>	<ul style="list-style-type: none"> <li>• Higher ceiling heights that require maximum light output</li> </ul>
<b>Common application/space</b>	<ul style="list-style-type: none"> <li>• Office buildings</li> <li>• Commercial spaces with lower ceilings</li> </ul>	<ul style="list-style-type: none"> <li>• High bay, industrial, warehouse facilities</li> <li>• Replace HID fixtures</li> </ul>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• 112 lumens per watt (LPW)</li> </ul>	<ul style="list-style-type: none"> <li>• 102 lumens per watt (LPW)</li> </ul>
<b>Rated life</b>	<ul style="list-style-type: none"> <li>• 36,000 hours</li> </ul>	<ul style="list-style-type: none"> <li>• <math>\geq</math> to 60,000 hours</li> </ul>

Information provided is subject to change without notice. Please verify all details with GE. All values are design or typical values when measured under laboratory conditions, and GE makes no warranty or guarantee, expressed or implied, that such performance will be obtained under end-use conditions.



## where quality meets innovation

GE T5 lamps utilize the latest fluorescent technology combined with versatile design.

- Watt-Miser® lamps: GE's best fluorescent technology is at the heart of our most energy-efficient lamp, delivering the same or similar lumen output as standard fluorescent lamps with less energy used.
- covRguard® lamps: A shatter-resistant coating offers strong protection with minimum light loss. These lamps block most ultraviolet light emissions, and meet FDA, NSF and OSHA standards.

All GE T5 lamps include:

- Starcoat® technology: A proprietary coating technology that eliminates the need for traditional, lower quality halophosphor coating by reflecting the UV-light more effectively.
- Ecolux® technology: Lamps are low in mercury, TCLP-compliant and feature outstanding performance and reliability.



# customize

## variety you can rely on

GE T5 lamps are available in both High Efficiency and High Output technologies, ensuring that no matter what type of light you need, we have you covered.

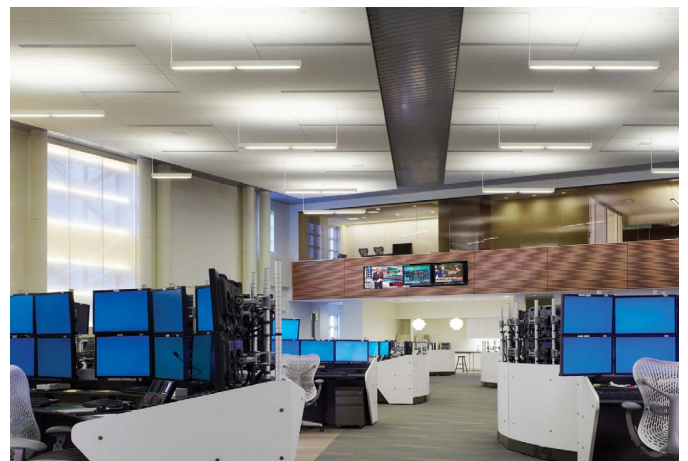
The charts below show GE's T5 product offering, including standard lamps, Watt-Miser® lamps and covRguard® lamps in both High Efficiency and High Output categories.

### High Efficiency

Length	Standard High Efficiency lamps	Watt-Miser® High Efficiency lamps	covRguard® High Efficiency lamps
2'	14W	13W	14W
3'	21W	20W	—
4'	28W	26W	28W
4'	28W (high lumen)	—	—
5'	35W	33W	—

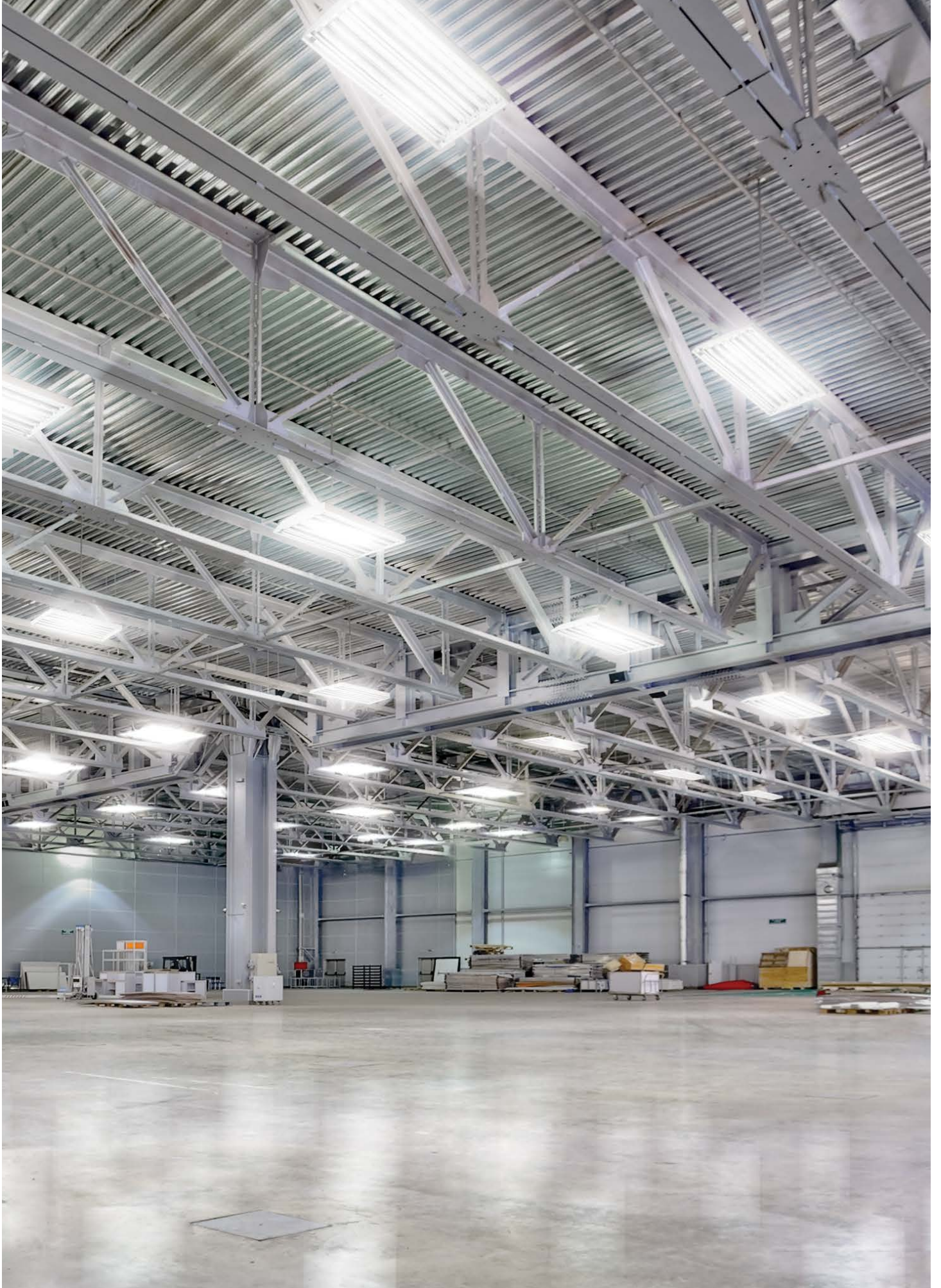
### High Output

Length	Standard High Output lamps	Watt-Miser® High Output lamps	covRguard® High Output lamps
2'	24W	—	24W
3'	39W	—	39W
4'	54W	47W, 51W	51W, 54W
4'	54W	54W XL (extra-life)	47W
4'	54W XL (extra-life)	—	—
5'	80W	—	—



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# exceed

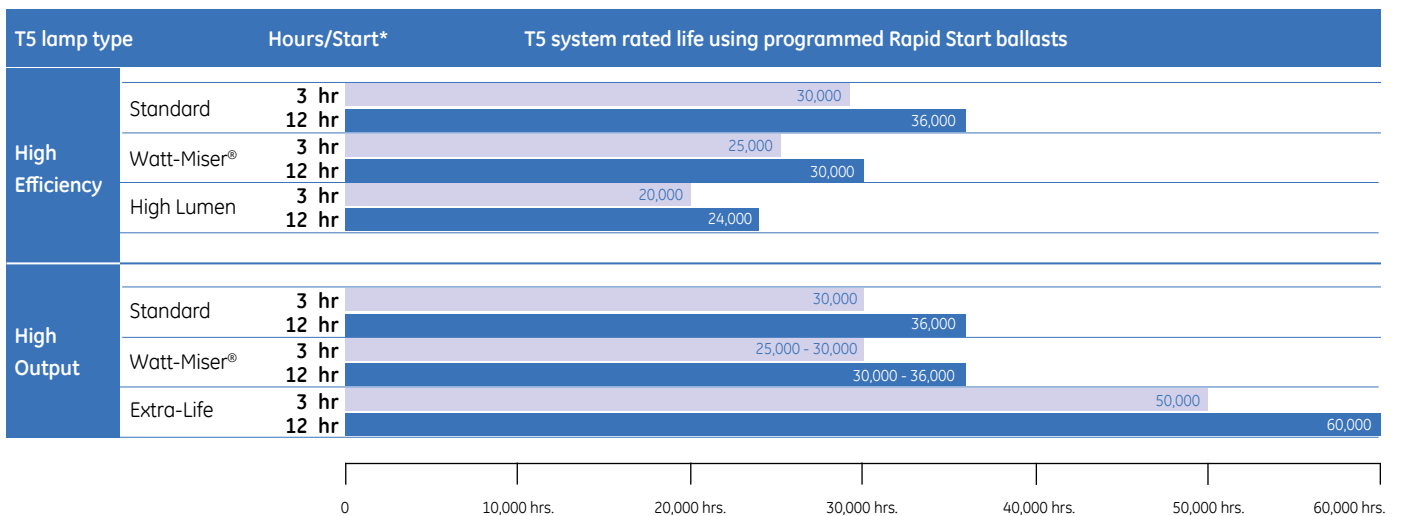
## start right

UltraStart® is a family of High Efficiency GE programmed Rapid Start ballasts with parallel operation and fast starting. They are specifically designed to optimize the performance of GE T5 lamps, providing over 100,000 starts before 50 percent lamp failure. That means your lamps last longer, and your systems remain efficient.

### did you know?

In 1939, GE showcased the first fluorescent ballast at the World's Fair in New York City.

## T5 system life ratings



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\*Rated life is given for programmed Rapid Start ballasts. Life ratings are based on engineering data with lamps cycled every 3 or 12 operating hours.



## the UltraStart® family

This feature-rich new generation of programmed start ballasts offer longer life in frequently switched applications common with use of sensors.

### UltraStart® ballast benefits and features

	Benefits	Features	UltraStart®
<b>Energy savings</b>	<ul style="list-style-type: none"> <li>Ballast consumes &lt;10% of the total system power</li> </ul>	High Efficiency (>90%)	✓
	<ul style="list-style-type: none"> <li>Cuts unneeded power to lamp filaments</li> <li>Operates at instant-start high-efficiency levels</li> </ul>	Continuous cathode cutout	✓
<b>Lamp life</b>	<ul style="list-style-type: none"> <li>Recommended with sensors</li> <li>Extends lamp life and warranty</li> </ul>	Programmed start	✓
	<ul style="list-style-type: none"> <li>ANSI requirements &lt;1.7 (A crest factor of 1.41 or less is optimal to extend lamp life)</li> </ul>	Current crest factor	<1.7
	<ul style="list-style-type: none"> <li>If one lamp fails, others remain lit</li> <li>Reduces spot re-lamping by 50%, group re-lamping by 15%</li> </ul>	Parallel lamp operation	✓
<b>Performance</b>	<ul style="list-style-type: none"> <li>Simplifies installation, adapting to any voltage from 108V to 305V</li> </ul>	Multi-voltage technology	✓
	<ul style="list-style-type: none"> <li>Eliminates maintenance issues caused by striating or spiraling lamps</li> </ul>	Anti-striation control	✓
	<ul style="list-style-type: none"> <li>Important with sensors</li> <li>Provides needed convenience</li> </ul>	Fast starting time	<700ms
	<ul style="list-style-type: none"> <li>High-performance starting with F54T5HO lamps in cold temperatures</li> </ul>	Minimum starting temperature	0°F
	<ul style="list-style-type: none"> <li>Maintains 5-year warranty even in high ambient (55°C) applications</li> </ul>	UltraCool™ certification	✓

LENGTH	NOMINAL LENGTH (IN)	WATTS	PRODUCT CODE	DESCRIPTION	CASE QTY	RATED LIFE (3 HRS/START)*	RATED LIFE (12 HRS/START)*	INITIAL LUMENS^	MEAN LUMENS^	COLOR TEMP (K)	CRI
<b>Standard</b>											
2'	22	14	31590	F14W/T5/830/ECO	40	30,000	36,000	1,350	1,240	3,000	85
	22	14	46671	F14W/T5/835/ECO	40	30,000	36,000	1,350	1,240	3,500	85
	22	14	46673	F14W/T5/841/ECO	40	30,000	36,000	1,350	1,240	4,100	85
	22	14	46674	F14W/T5/850/ECO	40	30,000	36,000	1,300	1,190	5,000	85
	22	14	46676	F14W/T5/865/ECO	40	30,000	36,000	1,250	1,150	6,500	85
3'	33	21	46677	F21W/T5/830/ECO	40	30,000	36,000	2,100	1,930	3,000	85
	33	21	46684	F21W/T5/835/ECO	40	30,000	36,000	2,100	1,930	3,500	85
	33	21	46687	F21W/T5/841/ECO	40	30,000	36,000	2,100	1,930	4,100	85
	33	21	46688	F21W/T5/850/ECO	40	30,000	36,000	2,000	1,840	5,000	85
	33	21	46689	F21W/T5/865/ECO	40	30,000	36,000	1,950	1,790	6,500	85
4'	45	28	46704	F28W/T5/830/ECO	40	30,000	36,000	2,900	2,660	3,000	85
	45	28	46705	F28W/T5/835/ECO	40	30,000	36,000	2,900	2,660	3,500	85
	45	28	46706	F28W/T5/841/ECO	40	30,000	36,000	2,900	2,660	4,100	85
	45	28	46707	F28W/T5/850/ECO	40	30,000	36,000	2,750	2,530	5,000	85
	45	28	46708	F28W/T5/865/ECO	40	30,000	36,000	2,700	2,480	6,500	85
5'	57	35	46724	F35W/T5/830/ECO	40	30,000	36,000	3,650	3,350	3,000	85
	57	35	46727	F35W/T5/835/ECO	40	30,000	36,000	3,650	3,350	3,500	85
	57	35	46735	F35W/T5/841/ECO	40	30,000	36,000	3,650	3,350	4,100	85
	57	35	46742	F35W/T5/850/ECO	40	30,000	36,000	3,500	3,220	5,000	85
	57	35	46743	F35W/T5/865/ECO	40	30,000	36,000	3,400	3,120	6,500	85
<b>High lumen</b>											
4'	45	28	71652	F28W/T5/830/HL/ECO	40	20,000	24,000	3,050	2,810	3,000	85
	45	28	71653	F28W/T5/835/HL/ECO	40	20,000	24,000	3,050	2,810	3,500	85
	45	28	71654	F28W/T5/841/HL/ECO	40	20,000	24,000	3,050	2,810	4,100	85
	45	28	71655	F28W/T5/850/HL/ECO	40	20,000	24,000	2,900	2,670	5,000	85
	45	28	71656	F28W/T5/865/HL/ECO	40	20,000	24,000	2,850	2,620	6,500	85
<b>Watt-Miser®</b>											
2'	22	13	71632	F14T5/830/WM/ECO	40	25,000	30,000	1,350	1,240	3,000	85
	22	13	71633	F14T5/835/WM/ECO	40	25,000	30,000	1,350	1,240	3,500	85
	22	13	71634	F14T5/841/WM/ECO	40	25,000	30,000	1,350	1,240	4,100	85
	22	13	71635	F14T5/850/WM/ECO	40	25,000	30,000	1,300	1,190	5,000	85
	22	13	71636	F14T5/865/WM/ECO	40	25,000	30,000	1,250	1,150	6,500	85
3'	33	20	71637	F21T5/830/WM/ECO	40	25,000	30,000	2,100	1,930	3,000	85
	33	20	71638	F21T5/835/WM/ECO	40	25,000	30,000	2,100	1,930	3,500	85
	33	20	71639	F21T5/841/WM/ECO	40	25,000	30,000	2,100	1,930	4,100	85
	33	20	71640	F21T5/850/WM/ECO	40	25,000	30,000	2,000	1,840	5,000	85
	33	20	71641	F21T5/865/WM/ECO	40	25,000	30,000	1,950	1,790	6,500	85
4'	45	26	71642	F28T5/830/WM/ECO	40	25,000	30,000	2,900	2,660	3,000	85
	45	26	71643	F28T5/835/WM/ECO	40	25,000	30,000	2,900	2,660	3,500	85
	45	26	71644	F28T5/841/WM/ECO	40	25,000	30,000	2,900	2,660	4,100	85
	45	26	71645	F28T5/850/WM/ECO	40	25,000	30,000	2,750	2,530	5,000	85
	45	26	71646	F28T5/865/WM/ECO	40	25,000	30,000	2,700	2,480	6,500	85
5'	57	33	71647	F35T5/830/WM/ECO	40	25,000	30,000	3,650	3,350	3,000	85
	57	33	71648	F35T5/835/WM/ECO	40	25,000	30,000	3,650	3,350	3,500	85
	57	33	71649	F35T5/841/WM/ECO	40	25,000	30,000	3,650	3,350	4,100	85
	57	33	71650	F35T5/850/WM/ECO	40	25,000	30,000	3,500	3,220	5,000	85
	57	33	71651	F35T5/865/WM/ECO	40	25,000	30,000	3,400	3,120	6,500	85
<b>covRguard®</b>											
2'	22	14	73194	F14W/T5/830/ECO/CVG	40	30,000	36,000	1,310	1,200	3,000	85
	22	14	73195	F14W/T5/835/ECO/CVG	40	30,000	36,000	1,310	1,200	3,500	85
4'	45	28	81546	F28W/T5/830/ECO/CVG	40	30,000	36,000	2,813	2,672	3,000	85
	45	28	81547	F28W/T5/835/ECO/CVG	40	30,000	36,000	2,813	2,672	3,500	85
	45	28	81548	F28W/T5/841/ECO/CVG	40	30,000	36,000	2,813	2,672	4,100	85
	45	28	81549	F28W/T5/850/ECO/CVG	40	30,000	36,000	2,667	2,534	5,000	85
	45	28	81550	F28W/T5/865/ECO/CVG	40	30,000	36,000	2,319	2,488	6,500	85

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\*Rated life is given for programmed Rapid Start ballasts. Life ratings are based on engineering data with lamps cycled every 3 or 12 operating hours.  
 ^T5 Starcoat® Ecolux® lamp initial and mean lumen ratings reflect light output at 95° F (35° C).  
 Note: All T5 lamps included in product charts have a Miniature Bi-Pin (G5) base.

Get more information at  
[GELighting.com/LFL](http://GELighting.com/LFL)

LENGTH	NOMINAL LENGTH (IN)	WATTS	PRODUCT CODE	DESCRIPTION	CASE QTY	RATED LIFE (3 HRS/START)*	RATED LIFE (12 HRS/START)*	INITIAL LUMENS^	MEAN LUMENS^	COLOR TEMP (K)	CRI
<b>Standard</b>											
2'	22	24	46699	F24W/T5/830/ECO	40	30,000	36,000	2,000	1,840	3,000	85
	22	24	46700	F24W/T5/835/ECO	40	30,000	36,000	2,000	1,840	3,500	85
	22	24	46701	F24W/T5/841/ECO	40	30,000	36,000	2,000	1,840	4,100	85
	22	24	46702	F24W/T5/850/ECO	40	30,000	36,000	1,900	1,740	5,000	85
	22	24	46703	F24W/T5/865/ECO	40	30,000	36,000	1,880	1,740	6,500	85
3'	33	39	46744	F39W/T5/830/ECO	40	30,000	36,000	3,500	3,220	3,000	85
	33	39	46745	F39W/T5/835/ECO	40	30,000	36,000	3,500	3,220	3,500	85
	33	39	46746	F39W/T5/841/ECO	40	30,000	36,000	3,500	3,220	4,100	85
	33	39	46747	F39W/T5/850/ECO	40	30,000	36,000	3,350	3,080	5,000	85
	33	39	46748	F39W/T5/865/ECO	40	30,000	36,000	3,330	3,060	6,500	85
4'	45	54	46759	F54W/T5/830/ECO	40	30,000	36,000	5,000	4,600	3,000	85
	45	54	46760	F54W/T5/835/ECO	40	30,000	36,000	5,000	4,600	3,500	85
	45	54	46761	F54W/T5/841/ECO	40	30,000	36,000	5,000	4,600	4,100	85
	45	54	46762	F54W/T5/850/ECO	40	30,000	36,000	4,800	4,410	5,000	85
	45	54	46763	F54W/T5/865/ECO	40	30,000	36,000	4,750	4,370	6,500	85
5'	57	80	46802	F80W/T5/830/ECO	40	30,000	36,000	7,000	6,440	3,000	85
	57	80	46803	F80W/T5/835/ECO	40	30,000	36,000	7,000	6,440	3,500	85
	57	80	46804	F80W/T5/841/ECO	40	30,000	36,000	7,000	6,440	4,100	85
	57	80	46805	F80W/T5/850/ECO	40	30,000	36,000	6,700	6,160	5,000	85
	57	80	46806	F80W/T5/865/ECO	40	30,000	36,000	6,650	6,110	6,500	85
<b>Watt-Miser®</b>											
4'	45	51	71627	F54T5/830/WM/ECO	40	30,000	36,000	5,000	4,600	3,000	85
	45	51	71628	F54T5/835/WM/ECO	40	30,000	36,000	5,000	4,600	3,500	85
	45	51	71629	F54T5/841/WM/ECO	40	30,000	36,000	5,000	4,600	4,100	85
	45	51	71630	F54T5/850/WM/ECO	40	30,000	36,000	4,790	4,410	5,000	85
	45	51	71631	F54T5/865/WM/ECO	40	30,000	36,000	4,750	4,370	6,500	85
4'	45	47	62020	F54T5/47W/830ECO	40	30,000	36,000	4,800	4,410	3,000	84
	45	47	62021	F54T5/47W/835ECO	40	30,000	36,000	4,800	4,410	3,500	84
	45	47	62022	F54T5/47W/841ECO	40	30,000	36,000	4,800	4,410	4,100	84
	45	47	62023	F54T5/47W/850ECO	40	30,000	36,000	4,600	4,230	5,000	84
	45	47	62024	F54T5/47W/865ECO	40	30,000	36,000	4,550	4,180	6,500	84
<b>Extra-Life</b>											
4'	45	54	68836	F54T5/XL/830/ECO	40	50,000	60,000	5,000	4,600	3,000	84
	45	54	68837	F54T5/XL/835/ECO	40	50,000	60,000	5,000	4,600	3,500	84
	45	54	68838	F54T5/XL/841/ECO	40	50,000	60,000	5,000	4,600	4,100	84
	45	54	68839	F54T5/XL/850/ECO	40	50,000	60,000	4,800	4,410	5,000	84
	45	54	68840	F54T5/XL/865/ECO	40	50,000	60,000	4,750	4,370	6,500	84
<b>covRguard®</b>											
2'	22	24	71000	F24W/T5/830/ECO/CVG	40	30,000	36,000	1,950	1,853	3,000	85
	22	24	70998	F24W/T5/835/ECO/CVG	40	30,000	36,000	1,950	1,853	3,500	85
	22	24	70997	F24W/T5/841/ECO/CVG	40	30,000	36,000	1,950	1,853	4,100	85
	22	24	70999	F24W/T5/850/ECO/CVG	40	30,000	36,000	1,850	1,758	5,000	85
	22	24	70996	F24W/T5/865/ECO/CVG	40	30,000	36,000	1,800	1,710	6,500	85
3'	33	39	70995	F39W/T5/830/ECO/CVG	40	30,000	36,000	3,400	3,230	3,000	85
	33	39	70994	F39W/T5/835/ECO/CVG	40	30,000	36,000	3,400	3,230	3,500	85
	33	39	70993	F39W/T5/841/ECO/CVG	40	30,000	36,000	3,400	3,230	4,100	85
	33	39	70990	F39W/T5/865/ECO/CVG	40	30,000	36,000	3,250	3,040	6,500	85
4'	45	54	48433	F54T5/830/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	3,000	85
	45	54	48436	F54T5/835/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	3,500	85
	45	54	48458	F54T5/841/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	4,100	85
	45	54	80311	F54T5/850/HO/ECO/CVG	40	30,000	36,000	4,650	4,370	5,000	85
	45	54	48469	F54T5/865/HO/ECO/CVG	40	30,000	36,000	4,650	4,320	6,500	85
<b>Watt-Miser® with covRguard®</b>											
4'	45	51	72986	F54T5/835/WM/ECO/CVG	40	30,000	36,000	4,850	4,560	3,500	85
	45	51	72987	F54T5/841/WM/ECO/CVG	40	30,000	36,000	4,850	4,560	4,100	85
	45	51	72988	F54T5/850/WM/ECO/CVG	40	30,000	36,000	4,650	4,370	5,000	85
	45	47	65106	F54T5/47W/841CVG	40	30,000	36,000	4,728	4,343	4,100	84
	45	47	65107	F54T5/47W/850CVG	40	30,000	36,000	4,531	4,167	5,000	84
<b>Cold temperature</b>											
4'	45	54	81522	F54T5/841/CT	36	30,000	36,000	4,500	4,275	4,100	85

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\*Rated life is given for programmed Rapid Start ballasts. Life ratings are based on engineering data with lamps cycled every 3 or 12 operating hours.  
 ^T5 Starcoat® Ecolux® lamp initial and mean lumen ratings reflect light output at 95° F (35° C).  
 Note: All T5 lamps included in product charts have a Miniature Bi-Pin (G5) base.

Get more information at  
[GELighting.com/LFL](http://GELighting.com/LFL)

## 14 T5 High Efficiency ballasts

PRODUCT CODE	DESCRIPTION	EXTENDED DESCRIPTION	LINE VOLTS	# OF LAMPS	LAMP TYPE	INPUT WATTS	NOMINAL LINE AMPS	BALLAST FACTOR	POWER FACTOR	HARMONIC TOTAL	CREST FACTOR	MINIMUM STARTING TEMPERATURE
<b>2-lamp T5 High Efficiency ballasts</b>												
68993	GE228MVPS-MC	2 or 1 - F14-F35HE 120 to 277 UltraStart® PRS Normal Light 0.95 BF Mini Can	120-277	2	F14T5/WM	32	0.27/0.13	0.99	>0.99	<9%	1.5	5°F
				2	F14T5/HE	34	0.29/0.14	1.03	>0.99	<9%	1.5	5°F
				2	F21T5/WM	45	0.38/0.18	1.01	>0.99	<9%	1.5	5°F
				2	F21T5/HE	48	0.40/0.18	1.01	>0.99	<9%	1.5	5°F
				2	F28T5WM	57/58	0.48/0.21	0.95	>0.99	<9%	1.5	5°F
				2	F28T5HE	60/59	0.50/0.23	0.95	>0.99	<10%	1.6	5°F
				2	F28T5HL	60/60	0.50/0.24	0.96	>0.99	<10%	1.6	5°F
				2	F35T5WM	70/69	0.59/0.26	0.94	>0.99	<9%	1.6	5°F
				2	F35T5HE	74/73	0.62/0.27	0.95	>0.99	<9%	1.7	5°F
				2	F14T5/WM	38	0.32/0.15	1.17	>0.91	<10%	1.5	5°F
68994	GE228MVPS-MC-H	2 or 1-F14-F35HE 120-277 UltraStart® PRS High Light 1.15 BF Mini Can	120-277	2	F14T5/HE	40	0.34/0.16	1.18	>0.92	<9%	1.5	5°F
				2	F21T5/WM	57/56	0.47/0.21	1.17	>0.95	<8%	1.5	5°F
				2	F21T5/HE	57/56	0.47/0.21	1.17	>0.90	<8%	1.5	5°F
				2	F28T5WM	68/67	0.57/0.25	1.16	>0.96	<10%	1.5	5°F
				2	F28T5HE	72/70	0.60/0.25	1.16	>0.97	<10%	1.6	5°F
				2	F28T5HL	72/70	0.60/0.25	1.16	>0.97	<10%	1.6	5°F

## T5 High Output ballasts

PRODUCT CODE	DESCRIPTION	EXTENDED DESCRIPTION	LINE VOLTS	# OF LAMPS	LAMP TYPE	INPUT WATTS	NOMINAL LINE AMPS	BALLAST FACTOR	POWER FACTOR	HARMONIC TOTAL	CREST FACTOR	MINIMUM STARTING TEMPERATURE
<b>4-lamp T5 High Output ballasts</b>												
77114	GE454MVPS90-E	4-1 - F54T5HO 120-277V UltraStart® High Temp	120-277	4	F54T5/47W	206/202	1.85/0.79	1.00	>0.98	<8%	1.4	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<8%	1.4	0°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<8%	1.4	-20°F
67566	GE454MVPS90-F	4-1 - F54T5HO 120-277V UltraStart® High Temp	120-277	4	F54T5/47W	206/202	1.85/0.79	1.00	>0.98	<8%	1.4	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<8%	1.4	0°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<8%	1.4	-20°F
73192	GE454MVPS90-G	4-1 - F54T5HO 120-277V UltraStart® High Temp with Bi-Level Switching	120-277	4	F54T5/47W	206/201	1.82/0.77	1.00	>0.98	<7%	1.6	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<7%	1.6	5°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<7%	1.6	5°F
62730	GE454PS347/480-E	4-1 - F54T5HO 347/480V UltraStart® High Temp	347-480	4	F54T5/47W	206	0.63/0.44	1.00	>0.98	<7%	1.4	-20°F
				4	F54T5/WM(51W)	219/218	0.65/0.47	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/HO	229	0.68/0.49	1.00	>0.98	<7%	1.4	0°F
62731	GE454PS347-E	4-1 - F54T5HO 347V UltraStart® High Temp	347	4	F54T5/47W	229	0.68	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/WM(51W)	219	0.65	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/HO	206	0.63	1.00	>0.98	<7%	1.4	-20°F
<b>2- and 1-lamp High Output ballasts</b>												
67562	GE254MVPS-A	2-1 - F54T5HO 120-277V UltraStart® High Temp with lead wires	120-277	2	F54T5/47W	105/103	0.38/0.23	1.00	>0.96	<14%	1.4	0°F
				2	F54T5/WM(51W)	109/107	0.40/0.25	1.00	>0.96	<8%	1.4	0°F
				2	F54T5/HO	117/114	0.42/0.26	1.00	>0.96	<10%	1.4	-20°F
62728	GE254PS347/480-E	2-1 - F54T5HO 347/480V UltraStart® High Temp with lead wires	347-480	2	F54T5/47W	104	0.31/0.22	1.00	>0.95	<8%	1.4	0°F
				2	F54T5/WM(51W)	113	0.31/0.23	1.00	>0.95	<8%	1.4	0°F
				2	F54T5/HO	118	0.32/0.26	1.00	>0.95	<8%	1.4	-20°F
62729	GE254PS347-F	2-1 - F54T5HO 347V UltraStart® High Temp with lead wires	347	2	F54T5/47W	104	0.31	1.00	>0.97	<7%	1.4	0°F
				2	F54T5/WM(51W)	107	0.31	1.00	>0.97	<7%	1.4	0°F
				2	F54T5/HO	118	0.36	1.00	>0.97	<7%	1.4	-20°F
72279	GE254MVPS-D	2-1 - F54T5HO 120-277V UltraStart® low profile with no lead wires	120-277	2	F54T5/47W	106/105	0.93/0.40	1.00	>0.97	<8%	1.4	32°F
				2	F54T5/WM(51W)	112/111	0.94/0.41	1.00	>0.97	<8%	1.4	0°F
				2	F54T5/HO	119/117	0.99/0.43	1.00	>0.97	<8%	1.4	-20°F
47540	B239PUNV-DOG1C	2 lamp F39T5HO 120-277 PRS 120-277	120-277	2	F39T5/HO	88/89	0.75/0.32	1.11	>0.98	<10%	1.7	0°F
68976	GE224MVPS-N	2 or 1 F24T5HO 1 F39T5/HO 120-277 UltraStart® Normal Light 1.0BF Mini Can	120-277	2	F24T5HO	53/52	0.45/0.19	1.00	>0.98	<10%	1.7	0°F
72280	GE180MVPS-D	1 lamp F80T5 120-277 PRS D Can	120-277	1	F80T5HO	41/40	0.34/0.15	0.90	>0.98	<10%	1.7	0°F
						93/91	0.78/0.34	1.08/1.11	>0.98	<8%	1.6	-20°F

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## assurance

Whether you're using our linear fluorescent systems, using our ballasts as a component, selling them across your counter, installing them at your job site or enjoying their energy-saving performance and value, GE supports you by efficiently addressing warranty issues that may arise.

### You will have the assurance of:

- A simple, clear limited warranty
- Toll-free dedicated technical support at 1-800-GELAMPS (435-2677) or 1-888-GEBALLAST (432-255-278)
- Claim-tracking status
- Access to our national service network

## GE lamp and ballast systems limited warranty summary

For full details and specific lamp cycle requirements, see the GE Lighting limited warranty, applicable to your system, lamp or ballast type.

Linear fluorescent lamp	Lamp warranty on GE ballasts		
	When operated on GE programmed Rapid Start ballasts	When operated on GE Instant Start ballasts	Electronic ballast warranty
F17T8/XL; F25T8/XL; F32T8 (SP, SPP & SPX)	3 years	2.5 years	5 years
F17T8/XL/WM; F25T8/XL/WM	3 years	3 years	5 years
F32T8/XL (SP & SPX); F28T8/XL/SPP; F32T8/25W/SPP	4 years	3 years	5 years
F32T8/XL/HL	4 years	4 years	5 years
F32T8/SXL; F28T8/XL; F32T8/25W	5 years	4 years	5 years
F96T8; F96T8/HO	-	2 years	5 years
F96T8/XL (SP, SPP & SPX); F96T8/54W/SPP; F96T8/XL/WM; F96T8/49W (SPP & SPX)	-	3 years	5 years
F28WT5/HL	3 years	-	5 years
F14T5/WM; F21T5/WM; F28T5/WM; F35T5/WM	3.5 years	-	5 years
F14T5HE; F21T5HE; F28T5HE; F35T5HE; F24T5HO; F54T5/WM; F54T5/47W; F39T5HO; F80T5HO	4 years	-	5 years
F54T5/XL	5 years	-	5 years

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For complete warranty information, visit  
[GELighting.com/Warranty](https://www.gelighting.com/Warranty)

## Experience efficiency and energy savings the moment you turn on GE T5 linear fluorescent systems.

When the right lighting illuminates your space, you notice the difference – in productivity and in your energy bill. That's why GE offers energy-efficient T5 linear fluorescent systems that are long-lasting and smart for your budget. Not only do workers have more time to get their jobs done, you experience the financial benefits of environmentally-sound lighting.

Our T5 linear fluorescent systems can change the way you light your space. To find out more and schedule your free lighting audit, visit [www.gelighting.com/LFL](http://www.gelighting.com/LFL).

ecomagination<sup>SM</sup>



imagination at work

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GE  
Lighting

# maximize



GE energy-efficient T5 linear fluorescent systems

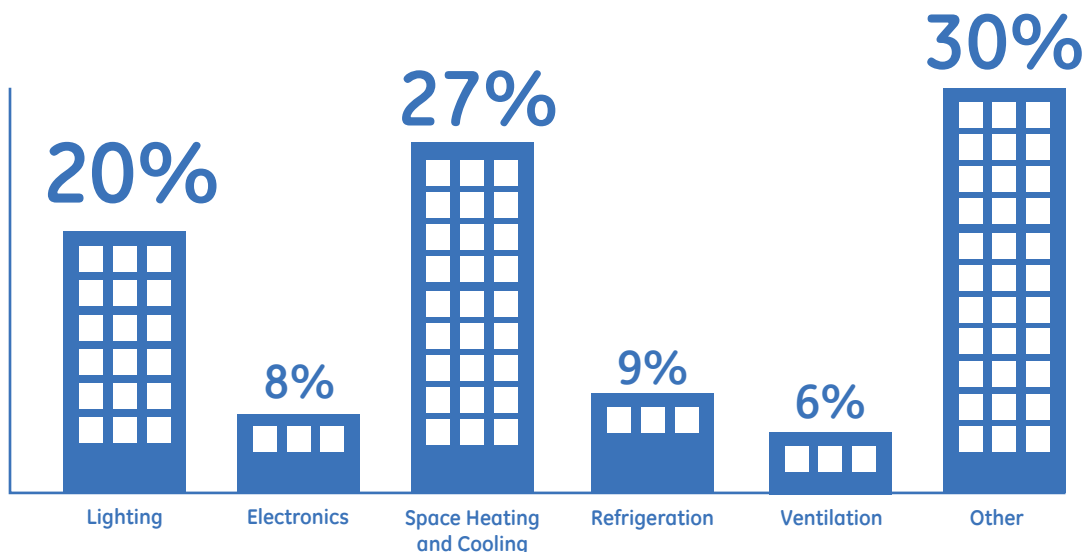


# a bright way to improve efficiency

Your business is valuable. And when workers have to take time out of the day to climb scaffolds and change energy-draining lamps, productivity and profits suffer. GE linear fluorescent systems offer the ideal solution — energy-efficiency and long life combine to create a system that lowers the cost of your energy bill, and the cost of maintenance.

## how lighting affects electricity usage

Lighting makes up 20% of a building's electricity usage.





## leading the industry

GE has been lighting businesses for 100 years. The challenges are constantly evolving, but our products and our people continue to rise to the occasion. Our team offers expertise on everything from auditing to product selection, ensuring that you are always confident in your lighting decision.

In addition, GE delivers innovation coupled with the latest education, including lighting legislation and environmental regulations. As part of our ecomagination<sup>SM</sup> initiatives, GE offers expansive online resources and tools to help businesses navigate the ever-changing market landscape.

### did you know?

In 1938, GE invented the first practical low-pressure discharge lamp, now referred to as the fluorescent lamp.

### At [gelighting.com](http://gelighting.com), you can find:

- Environmental data, regulations and certifications
- Legislation Product Replacement Tool
- Fluorescent Solutions Calculator

# compliant

## a smart choice

GE T5 linear fluorescent lamps are a healthy choice for your budget. With system solutions that meet the Toxicity Characteristic Leaching Procedure (TCLP), we have the right selection of linear fluorescent systems for the needs of virtually any facility.

- Replace older technology to provide energy savings and lower maintenance costs.
- Re-lamp existing fixtures with energy-saving or long-life lamp options.
- Receive warranty support when using a GE UltraStart® lamp and ballast system.

## did you know?

The total electrical energy used in the U.S. for lighting is equivalent to the output of about 100 large power plants. The cost is around \$55 billion per year.

*Source: Lighting Research Center website*



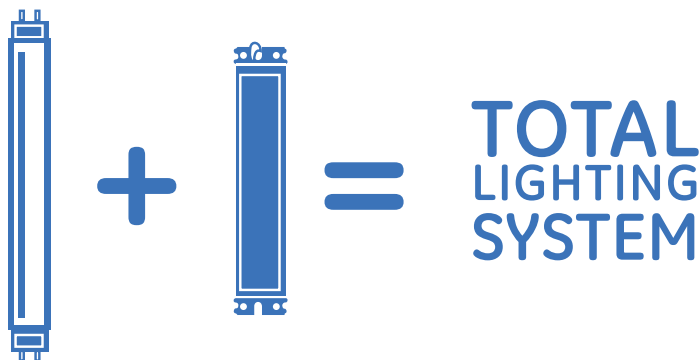


## conformance directive

The Restriction of Hazardous Substances (RoHS) is a European Union directive that restricts six hazardous materials in consumer products:

- Lead
- Mercury
- Cadmium
- Hexavalent chromium
- PBB flame retardants
- PBDE flame retardants

GE T5 lamp and ballast options offer full system solutions that meet the material restriction requirements of RoHS relating to those substances.

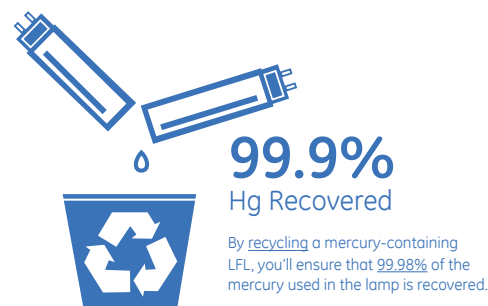


## reduce, recover, recycle

All fluorescent lamps require a very small amount of mercury to enable the lamp to operate with optimal energy efficiency and long life.

When you recycle fluorescent lamps, it allows us to recover and reuse that mercury, reducing environmental impact.

That's why GE works with recyclers who offer services for homeowners, retailers and distributors.



Source: Based on information from ENERGY STAR® (2007) and Cain et. al. (2007).

# elevate

## comprehensive solutions

GE offers a complete range of High Efficiency and High Output T5 lamp options. High Efficiency lamps deliver over 100 lumens per watt, giving you more light while using less energy. High Output lamps are an energy-efficient solution designed to produce the maximum amount of light.

### High Efficiency and High Output T5 systems

	High Efficiency systems	High Output systems
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Smaller lamp profile allows for more aesthetic fixtures</li> <li>• Low operating costs</li> <li>• Ability to meet light needs with less glare</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum light output</li> <li>• Lower maintenance costs and extend re-lamp cycles with longer life</li> <li>• Energy saving alternative to HID fixtures</li> </ul>
<b>When to use</b>	<ul style="list-style-type: none"> <li>• Ideal for indirect lighting applications</li> <li>• Low ceiling heights requiring less foot candles</li> <li>• Areas sensitive to glare</li> </ul>	<ul style="list-style-type: none"> <li>• Higher ceiling heights that require maximum light output</li> </ul>
<b>Common application/space</b>	<ul style="list-style-type: none"> <li>• Office buildings</li> <li>• Commercial spaces with lower ceilings</li> </ul>	<ul style="list-style-type: none"> <li>• High bay, industrial, warehouse facilities</li> <li>• Replace HID fixtures</li> </ul>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• 112 lumens per watt (LPW)</li> </ul>	<ul style="list-style-type: none"> <li>• 102 lumens per watt (LPW)</li> </ul>
<b>Rated life</b>	<ul style="list-style-type: none"> <li>• 36,000 hours</li> </ul>	<ul style="list-style-type: none"> <li>• <math>\geq</math> to 60,000 hours</li> </ul>

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## where quality meets innovation

GE T5 lamps utilize the latest fluorescent technology combined with versatile design.

- Watt-Miser® lamps: GE's best fluorescent technology is at the heart of our most energy-efficient lamp, delivering the same or similar lumen output as standard fluorescent lamps with less energy used.
- covRguard® lamps: A shatter-resistant coating offers strong protection with minimum light loss. These lamps block most ultraviolet light emissions, and meet FDA, NSF and OSHA standards.

All GE T5 lamps include:

- Starcoat® technology: A proprietary coating technology that eliminates the need for traditional, lower quality halophosphor coating by reflecting the UV-light more effectively.
- Ecolux® technology: Lamps are low in mercury, TCLP-compliant and feature outstanding performance and reliability.



# customize

## variety you can rely on

GE T5 lamps are available in both High Efficiency and High Output technologies, ensuring that no matter what type of light you need, we have you covered.

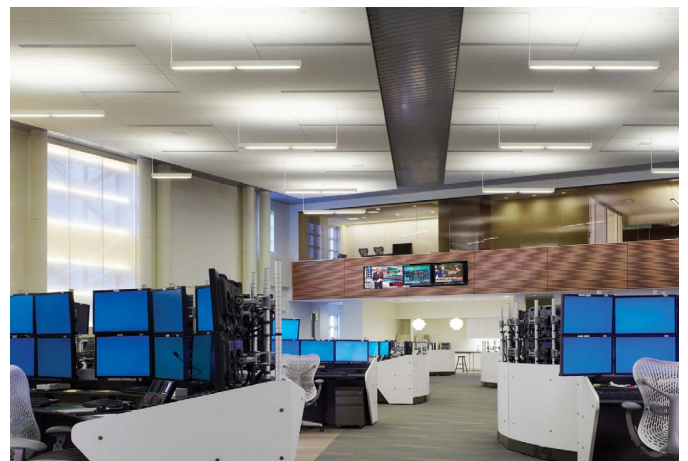
The charts below show GE's T5 product offering, including standard lamps, Watt-Miser® lamps and covRguard® lamps in both High Efficiency and High Output categories.

### High Efficiency

Length	Standard High Efficiency lamps	Watt-Miser® High Efficiency lamps	covRguard® High Efficiency lamps
2'	14W	13W	14W
3'	21W	20W	—
4'	28W	26W	28W
4'	28W (high lumen)	—	—
5'	35W	33W	—

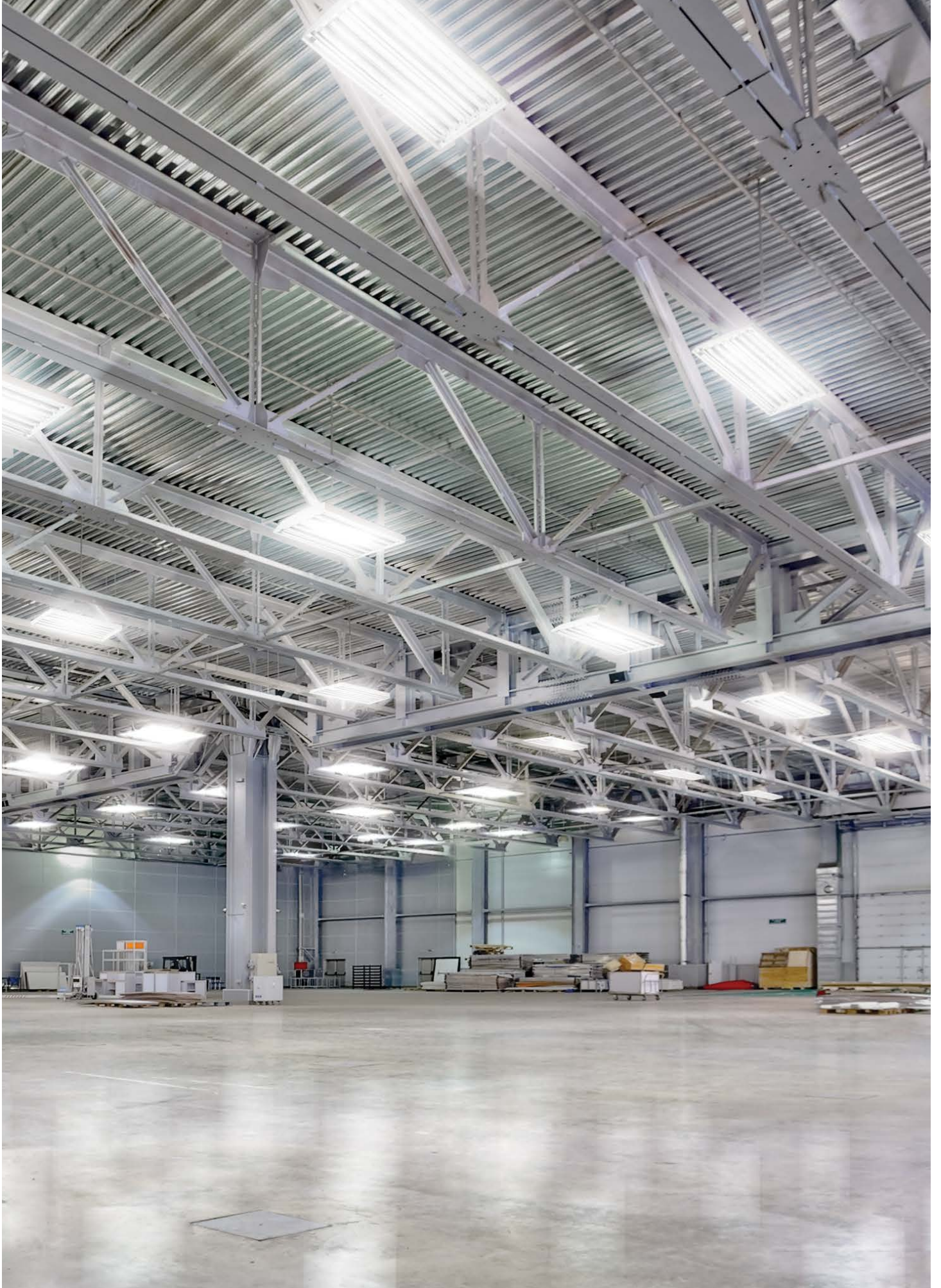
### High Output

Length	Standard High Output lamps	Watt-Miser® High Output lamps	covRguard® High Output lamps
2'	24W	—	24W
3'	39W	—	39W
4'	54W	47W, 51W	51W, 54W
4'	54W	54W XL (extra-life)	47W
4'	54W XL (extra-life)	—	—
5'	80W	—	—



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# exceed

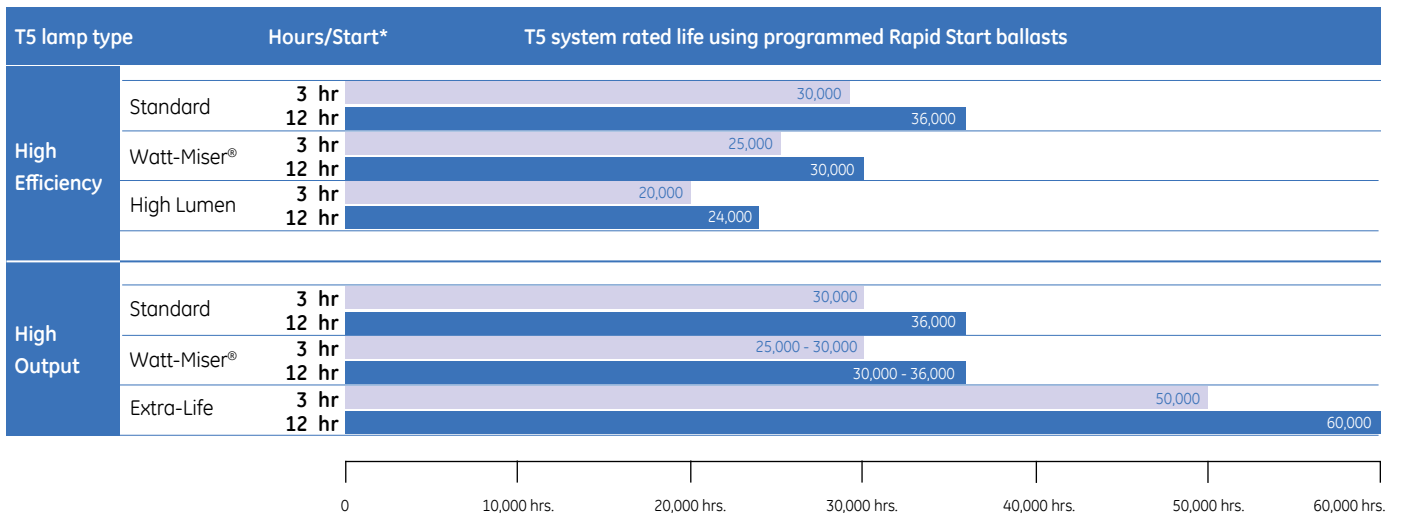
## start right

UltraStart® is a family of High Efficiency GE programmed Rapid Start ballasts with parallel operation and fast starting. They are specifically designed to optimize the performance of GE T5 lamps, providing over 100,000 starts before 50 percent lamp failure. That means your lamps last longer, and your systems remain efficient.

**did you know?**

In 1939, GE showcased the first fluorescent ballast at the World's Fair in New York City.

## T5 system life ratings



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\*Rated life is given for programmed Rapid Start ballasts. Life ratings are based on engineering data with lamps cycled every 3 or 12 operating hours.



## the UltraStart® family

This feature-rich new generation of programmed start ballasts offer longer life in frequently switched applications common with use of sensors.

### UltraStart® ballast benefits and features

	Benefits	Features	UltraStart®
<b>Energy savings</b>	<ul style="list-style-type: none"> <li>Ballast consumes &lt;10% of the total system power</li> </ul>	High Efficiency (>90%)	✓
	<ul style="list-style-type: none"> <li>Cuts unneeded power to lamp filaments</li> <li>Operates at instant-start high-efficiency levels</li> </ul>	Continuous cathode cutout	✓
<b>Lamp life</b>	<ul style="list-style-type: none"> <li>Recommended with sensors</li> <li>Extends lamp life and warranty</li> </ul>	Programmed start	✓
	<ul style="list-style-type: none"> <li>ANSI requirements &lt;1.7 (A crest factor of 1.41 or less is optimal to extend lamp life)</li> </ul>	Current crest factor	<1.7
	<ul style="list-style-type: none"> <li>If one lamp fails, others remain lit</li> <li>Reduces spot re-lamping by 50%, group re-lamping by 15%</li> </ul>	Parallel lamp operation	✓
<b>Performance</b>	<ul style="list-style-type: none"> <li>Simplifies installation, adapting to any voltage from 108V to 305V</li> </ul>	Multi-voltage technology	✓
	<ul style="list-style-type: none"> <li>Eliminates maintenance issues caused by striating or spiraling lamps</li> </ul>	Anti-striation control	✓
	<ul style="list-style-type: none"> <li>Important with sensors</li> <li>Provides needed convenience</li> </ul>	Fast starting time	<700ms
	<ul style="list-style-type: none"> <li>High-performance starting with F54T5HO lamps in cold temperatures</li> </ul>	Minimum starting temperature	0°F
	<ul style="list-style-type: none"> <li>Maintains 5-year warranty even in high ambient (55°C) applications</li> </ul>	UltraCool™ certification	✓

LENGTH	NOMINAL LENGTH (IN)	WATTS	PRODUCT CODE	DESCRIPTION	CASE QTY	RATED LIFE (3 HRS/START)*	RATED LIFE (12 HRS/START)*	INITIAL LUMENS^	MEAN LUMENS^	COLOR TEMP (K)	CRI
<b>Standard</b>											
2'	22	14	31590	F14W/T5/830/ECO	40	30,000	36,000	1,350	1,240	3,000	85
	22	14	46671	F14W/T5/835/ECO	40	30,000	36,000	1,350	1,240	3,500	85
	22	14	46673	F14W/T5/841/ECO	40	30,000	36,000	1,350	1,240	4,100	85
	22	14	46674	F14W/T5/850/ECO	40	30,000	36,000	1,300	1,190	5,000	85
	22	14	46676	F14W/T5/865/ECO	40	30,000	36,000	1,250	1,150	6,500	85
3'	33	21	46677	F21W/T5/830/ECO	40	30,000	36,000	2,100	1,930	3,000	85
	33	21	46684	F21W/T5/835/ECO	40	30,000	36,000	2,100	1,930	3,500	85
	33	21	46687	F21W/T5/841/ECO	40	30,000	36,000	2,100	1,930	4,100	85
	33	21	46688	F21W/T5/850/ECO	40	30,000	36,000	2,000	1,840	5,000	85
	33	21	46689	F21W/T5/865/ECO	40	30,000	36,000	1,950	1,790	6,500	85
4'	45	28	46704	F28W/T5/830/ECO	40	30,000	36,000	2,900	2,660	3,000	85
	45	28	46705	F28W/T5/835/ECO	40	30,000	36,000	2,900	2,660	3,500	85
	45	28	46706	F28W/T5/841/ECO	40	30,000	36,000	2,900	2,660	4,100	85
	45	28	46707	F28W/T5/850/ECO	40	30,000	36,000	2,750	2,530	5,000	85
	45	28	46708	F28W/T5/865/ECO	40	30,000	36,000	2,700	2,480	6,500	85
5'	57	35	46724	F35W/T5/830/ECO	40	30,000	36,000	3,650	3,350	3,000	85
	57	35	46727	F35W/T5/835/ECO	40	30,000	36,000	3,650	3,350	3,500	85
	57	35	46735	F35W/T5/841/ECO	40	30,000	36,000	3,650	3,350	4,100	85
	57	35	46742	F35W/T5/850/ECO	40	30,000	36,000	3,500	3,220	5,000	85
	57	35	46743	F35W/T5/865/ECO	40	30,000	36,000	3,400	3,120	6,500	85
<b>High lumen</b>											
4'	45	28	71652	F28WT5/830/HL/ECO	40	20,000	24,000	3,050	2,810	3,000	85
	45	28	71653	F28WT5/835/HL/ECO	40	20,000	24,000	3,050	2,810	3,500	85
	45	28	71654	F28WT5/841/HL/ECO	40	20,000	24,000	3,050	2,810	4,100	85
	45	28	71655	F28WT5/850/HL/ECO	40	20,000	24,000	2,900	2,670	5,000	85
	45	28	71656	F28WT5/865/HL/ECO	40	20,000	24,000	2,850	2,620	6,500	85
<b>Watt-Miser®</b>											
2'	22	13	71632	F14T5/830/WM/ECO	40	25,000	30,000	1,350	1,240	3,000	85
	22	13	71633	F14T5/835/WM/ECO	40	25,000	30,000	1,350	1,240	3,500	85
	22	13	71634	F14T5/841/WM/ECO	40	25,000	30,000	1,350	1,240	4,100	85
	22	13	71635	F14T5/850/WM/ECO	40	25,000	30,000	1,300	1,190	5,000	85
	22	13	71636	F14T5/865/WM/ECO	40	25,000	30,000	1,250	1,150	6,500	85
3'	33	20	71637	F21T5/830/WM/ECO	40	25,000	30,000	2,100	1,930	3,000	85
	33	20	71638	F21T5/835/WM/ECO	40	25,000	30,000	2,100	1,930	3,500	85
	33	20	71639	F21T5/841/WM/ECO	40	25,000	30,000	2,100	1,930	4,100	85
	33	20	71640	F21T5/850/WM/ECO	40	25,000	30,000	2,000	1,840	5,000	85
	33	20	71641	F21T5/865/WM/ECO	40	25,000	30,000	1,950	1,790	6,500	85
4'	45	26	71642	F28T5/830/WM/ECO	40	25,000	30,000	2,900	2,660	3,000	85
	45	26	71643	F28T5/835/WM/ECO	40	25,000	30,000	2,900	2,660	3,500	85
	45	26	71644	F28T5/841/WM/ECO	40	25,000	30,000	2,900	2,660	4,100	85
	45	26	71645	F28T5/850/WM/ECO	40	25,000	30,000	2,750	2,530	5,000	85
	45	26	71646	F28T5/865/WM/ECO	40	25,000	30,000	2,700	2,480	6,500	85
5'	57	33	71647	F35T5/830/WM/ECO	40	25,000	30,000	3,650	3,350	3,000	85
	57	33	71648	F35T5/835/WM/ECO	40	25,000	30,000	3,650	3,350	3,500	85
	57	33	71649	F35T5/841/WM/ECO	40	25,000	30,000	3,650	3,350	4,100	85
	57	33	71650	F35T5/850/WM/ECO	40	25,000	30,000	3,500	3,220	5,000	85
	57	33	71651	F35T5/865/WM/ECO	40	25,000	30,000	3,400	3,120	6,500	85
<b>covRguard®</b>											
2'	22	14	73194	F14W/T5/830/ECO/CVG	40	30,000	36,000	1,310	1,200	3,000	85
	22	14	73195	F14W/T5/835/ECO/CVG	40	30,000	36,000	1,310	1,200	3,500	85
4'	45	28	81546	F28W/T5/830/ECO/CVG	40	30,000	36,000	2,813	2,672	3,000	85
	45	28	81547	F28W/T5/835/ECO/CVG	40	30,000	36,000	2,813	2,672	3,500	85
	45	28	81548	F28W/T5/841/ECO/CVG	40	30,000	36,000	2,813	2,672	4,100	85
	45	28	81549	F28W/T5/850/ECO/CVG	40	30,000	36,000	2,667	2,534	5,000	85
	45	28	81550	F28W/T5/865/ECO/CVG	40	30,000	36,000	2,319	2,488	6,500	85

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 ^T5 Starcoat® Ecolux® lamp initial and mean lumen ratings reflect light output at 95° F (35° C).  
 Note: All T5 lamps included in product charts have a Miniature Bi-Pin (G5) base.

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LENGTH	NOMINAL LENGTH (IN)	WATTS	PRODUCT CODE	DESCRIPTION	CASE QTY	RATED LIFE (3 HRS/START)*	RATED LIFE (12 HRS/START)*	INITIAL LUMENS^	MEAN LUMENS^	COLOR TEMP (K)	CRI
<b>Standard</b>											
2'	22	24	46699	F24W/T5/830/ECO	40	30,000	36,000	2,000	1,840	3,000	85
	22	24	46700	F24W/T5/835/ECO	40	30,000	36,000	2,000	1,840	3,500	85
	22	24	46701	F24W/T5/841/ECO	40	30,000	36,000	2,000	1,840	4,100	85
	22	24	46702	F24W/T5/850/ECO	40	30,000	36,000	1,900	1,740	5,000	85
	22	24	46703	F24W/T5/865/ECO	40	30,000	36,000	1,880	1,740	6,500	85
3'	33	39	46744	F39W/T5/830/ECO	40	30,000	36,000	3,500	3,220	3,000	85
	33	39	46745	F39W/T5/835/ECO	40	30,000	36,000	3,500	3,220	3,500	85
	33	39	46746	F39W/T5/841/ECO	40	30,000	36,000	3,500	3,220	4,100	85
	33	39	46747	F39W/T5/850/ECO	40	30,000	36,000	3,350	3,080	5,000	85
	33	39	46748	F39W/T5/865/ECO	40	30,000	36,000	3,330	3,060	6,500	85
4'	45	54	46759	F54W/T5/830/ECO	40	30,000	36,000	5,000	4,600	3,000	85
	45	54	46760	F54W/T5/835/ECO	40	30,000	36,000	5,000	4,600	3,500	85
	45	54	46761	F54W/T5/841/ECO	40	30,000	36,000	5,000	4,600	4,100	85
	45	54	46762	F54W/T5/850/ECO	40	30,000	36,000	4,800	4,410	5,000	85
	45	54	46763	F54W/T5/865/ECO	40	30,000	36,000	4,750	4,370	6,500	85
5'	57	80	46802	F80W/T5/830/ECO	40	30,000	36,000	7,000	6,440	3,000	85
	57	80	46803	F80W/T5/835/ECO	40	30,000	36,000	7,000	6,440	3,500	85
	57	80	46804	F80W/T5/841/ECO	40	30,000	36,000	7,000	6,440	4,100	85
	57	80	46805	F80W/T5/850/ECO	40	30,000	36,000	6,700	6,160	5,000	85
	57	80	46806	F80W/T5/865/ECO	40	30,000	36,000	6,650	6,110	6,500	85
<b>Watt-Miser®</b>											
4'	45	51	71627	F54T5/830/WM/ECO	40	30,000	36,000	5,000	4,600	3,000	85
	45	51	71628	F54T5/835/WM/ECO	40	30,000	36,000	5,000	4,600	3,500	85
	45	51	71629	F54T5/841/WM/ECO	40	30,000	36,000	5,000	4,600	4,100	85
	45	51	71630	F54T5/850/WM/ECO	40	30,000	36,000	4,790	4,410	5,000	85
	45	51	71631	F54T5/865/WM/ECO	40	30,000	36,000	4,750	4,370	6,500	85
4'	45	47	62020	F54T5/47W/830ECO	40	30,000	36,000	4,800	4,410	3,000	84
	45	47	62021	F54T5/47W/835ECO	40	30,000	36,000	4,800	4,410	3,500	84
	45	47	62022	F54T5/47W/841ECO	40	30,000	36,000	4,800	4,410	4,100	84
	45	47	62023	F54T5/47W/850ECO	40	30,000	36,000	4,600	4,230	5,000	84
	45	47	62024	F54T5/47W/865ECO	40	30,000	36,000	4,550	4,180	6,500	84
<b>Extra-Life</b>											
4'	45	54	68836	F54T5/XL/830/ECO	40	50,000	60,000	5,000	4,600	3,000	84
	45	54	68837	F54T5/XL/835/ECO	40	50,000	60,000	5,000	4,600	3,500	84
	45	54	68838	F54T5/XL/841/ECO	40	50,000	60,000	5,000	4,600	4,100	84
	45	54	68839	F54T5/XL/850/ECO	40	50,000	60,000	4,800	4,410	5,000	84
	45	54	68840	F54T5/XL/865/ECO	40	50,000	60,000	4,750	4,370	6,500	84
<b>covRguard®</b>											
2'	22	24	71000	F24W/T5/830/ECO/CVG	40	30,000	36,000	1,950	1,853	3,000	85
	22	24	70998	F24W/T5/835/ECO/CVG	40	30,000	36,000	1,950	1,853	3,500	85
	22	24	70997	F24W/T5/841/ECO/CVG	40	30,000	36,000	1,950	1,853	4,100	85
	22	24	70999	F24W/T5/850/ECO/CVG	40	30,000	36,000	1,850	1,758	5,000	85
	22	24	70996	F24W/T5/865/ECO/CVG	40	30,000	36,000	1,800	1,710	6,500	85
3'	33	39	70995	F39W/T5/830/ECO/CVG	40	30,000	36,000	3,400	3,230	3,000	85
	33	39	70994	F39W/T5/835/ECO/CVG	40	30,000	36,000	3,400	3,230	3,500	85
	33	39	70993	F39W/T5/841/ECO/CVG	40	30,000	36,000	3,400	3,230	4,100	85
	33	39	70990	F39W/T5/865/ECO/CVG	40	30,000	36,000	3,250	3,040	6,500	85
4'	45	54	48433	F54T5/830/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	3,000	85
	45	54	48436	F54T5/835/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	3,500	85
	45	54	48458	F54T5/841/HO/ECO/CVG	40	30,000	36,000	4,850	4,560	4,100	85
	45	54	80311	F54T5/850/HO/ECO/CVG	40	30,000	36,000	4,650	4,370	5,000	85
	45	54	48469	F54T5/865/HO/ECO/CVG	40	30,000	36,000	4,650	4,320	6,500	85
<b>Watt-Miser® with covRguard®</b>											
4'	45	51	72986	F54T5/835/WM/ECO/CVG	40	30,000	36,000	4,850	4,560	3,500	85
	45	51	72987	F54T5/841/WM/ECO/CVG	40	30,000	36,000	4,850	4,560	4,100	85
	45	51	72988	F54T5/850/WM/ECO/CVG	40	30,000	36,000	4,650	4,370	5,000	85
	45	47	65106	F54T5/47W/841CVG	40	30,000	36,000	4,728	4,343	4,100	84
	45	47	65107	F54T5/47W/850CVG	40	30,000	36,000	4,531	4,167	5,000	84
<b>Cold temperature</b>											
4'	45	54	81522	F54T5/841/CT	36	30,000	36,000	4,500	4,275	4,100	85

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 ^T5 Starcoat® Ecolux® lamp initial and mean lumen ratings reflect light output at 95° F (35° C).  
 Note: All T5 lamps included in product charts have a Miniature Bi-Pin (G5) base.

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## 14 T5 High Efficiency ballasts

PRODUCT CODE	DESCRIPTION	EXTENDED DESCRIPTION	LINE VOLTS	# OF LAMPS	LAMP TYPE	INPUT WATTS	NOMINAL LINE AMPS	BALLAST FACTOR	POWER FACTOR	HARMONIC TOTAL	CREST FACTOR	MINIMUM STARTING TEMPERATURE
<b>2-lamp T5 High Efficiency ballasts</b>												
68993	GE228MVPS-MC	2 or 1 - F14-F35HE 120 to 277 UltraStart® PRS Normal Light 0.95 BF Mini Can	120-277	2	F14T5/WM	32	0.27/0.13	0.99	>0.99	<9%	1.5	5°F
				2	F14T5/HE	34	0.29/0.14	1.03	>0.99	<9%	1.5	5°F
				2	F21T5/WM	45	0.38/0.18	1.01	>0.99	<9%	1.5	5°F
				2	F21T5/HE	48	0.40/0.18	1.01	>0.99	<9%	1.5	5°F
				2	F28T5WM	57/58	0.48/0.21	0.95	>0.99	<9%	1.5	5°F
				2	F28T5HE	60/59	0.50/0.23	0.95	>0.99	<10%	1.6	5°F
				2	F28T5HL	60/60	0.50/0.24	0.96	>0.99	<10%	1.6	5°F
				2	F35T5WM	70/69	0.59/0.26	0.94	>0.99	<9%	1.6	5°F
				2	F35T5HE	74/73	0.62/0.27	0.95	>0.99	<9%	1.7	5°F
				2	F14T5/WM	38	0.32/0.15	1.17	>0.91	<10%	1.5	5°F
68994	GE228MVPS-MC-H	2 or 1-F14-F35HE 120-277 UltraStart® PRS High Light 1.15 BF Mini Can	120-277	2	F14T5/HE	40	0.34/0.16	1.18	>0.92	<9%	1.5	5°F
				2	F21T5/WM	57/56	0.47/0.21	1.17	>0.95	<8%	1.5	5°F
				2	F21T5/HE	57/56	0.47/0.21	1.17	>0.90	<8%	1.5	5°F
				2	F28T5WM	68/67	0.57/0.25	1.16	>0.96	<10%	1.5	5°F
				2	F28T5HE	72/70	0.60/0.25	1.16	>0.97	<10%	1.6	5°F
				2	F28T5HL	72/70	0.60/0.25	1.16	>0.97	<10%	1.6	5°F

## T5 High Output ballasts

PRODUCT CODE	DESCRIPTION	EXTENDED DESCRIPTION	LINE VOLTS	# OF LAMPS	LAMP TYPE	INPUT WATTS	NOMINAL LINE AMPS	BALLAST FACTOR	POWER FACTOR	HARMONIC TOTAL	CREST FACTOR	MINIMUM STARTING TEMPERATURE
<b>4-lamp T5 High Output ballasts</b>												
77114	GE454MVPS90-E	4-1 - F54T5HO 120-277V UltraStart® High Temp	120-277	4	F54T5/47W	206/202	1.85/0.79	1.00	>0.98	<8%	1.4	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<8%	1.4	0°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<8%	1.4	-20°F
67566	GE454MVPS90-F	4-1 - F54T5HO 120-277V UltraStart® High Temp	120-277	4	F54T5/47W	206/202	1.85/0.79	1.00	>0.98	<8%	1.4	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<8%	1.4	0°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<8%	1.4	-20°F
73192	GE454MVPS90-G	4-1 - F54T5HO 120-277V UltraStart® High Temp with Bi-Level Switching	120-277	4	F54T5/47W	206/201	1.82/0.77	1.00	>0.98	<7%	1.6	32°F
				4	F54T5/WM(51W)	214/210	1.79/0.78	1.00	>0.98	<7%	1.6	5°F
				4	F54T5/HO	220/216	1.84/0.80	1.00	>0.98	<7%	1.6	5°F
62730	GE454PS347/480-E	4-1 - F54T5HO 347/480V UltraStart® High Temp	347-480	4	F54T5/47W	206	0.63/0.44	1.00	>0.98	<7%	1.4	-20°F
				4	F54T5/WM(51W)	219/218	0.65/0.47	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/HO	229	0.68/0.49	1.00	>0.98	<7%	1.4	0°F
62731	GE454PS347-E	4-1 - F54T5HO 347V UltraStart® High Temp	347	4	F54T5/47W	229	0.68	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/WM(51W)	219	0.65	1.00	>0.98	<7%	1.4	0°F
				4	F54T5/HO	206	0.63	1.00	>0.98	<7%	1.4	-20°F
<b>2- and 1-lamp High Output ballasts</b>												
67562	GE254MVPS-A	2-1 - F54T5HO 120-277V UltraStart® High Temp with lead wires	120-277	2	F54T5/47W	105/103	0.38/0.23	1.00	>0.96	<14%	1.4	0°F
				2	F54T5/WM(51W)	109/107	0.40/0.25	1.00	>0.96	<8%	1.4	0°F
				2	F54T5/HO	117/114	0.42/0.26	1.00	>0.96	<10%	1.4	-20°F
62728	GE254PS347/480-E	2-1 - F54T5HO 347/480V UltraStart® High Temp with lead wires	347-480	2	F54T5/47W	104	0.31/0.22	1.00	>0.95	<8%	1.4	0°F
				2	F54T5/WM(51W)	113	0.31/0.23	1.00	>0.95	<8%	1.4	0°F
				2	F54T5/HO	118	0.32/0.26	1.00	>0.95	<8%	1.4	-20°F
62729	GE254PS347-F	2-1 - F54T5HO 347V UltraStart® High Temp with lead wires	347	2	F54T5/47W	104	0.31	1.00	>0.97	<7%	1.4	0°F
				2	F54T5/WM(51W)	107	0.31	1.00	>0.97	<7%	1.4	0°F
				2	F54T5/HO	118	0.36	1.00	>0.97	<7%	1.4	-20°F
72279	GE254MVPS-D	2-1 - F54T5HO 120-277V UltraStart® low profile with no lead wires	120-277	2	F54T5/47W	106/105	0.93/0.40	1.00	>0.97	<8%	1.4	32°F
				2	F54T5/WM(51W)	112/111	0.94/0.41	1.00	>0.97	<8%	1.4	0°F
				2	F54T5/HO	119/117	0.99/0.43	1.00	>0.97	<8%	1.4	-20°F
47540	B239PUNV-DOG1C	2 lamp F39T5HO 120-277 PRS 120-277	120-277	2	F39T5/HO	88/89	0.75/0.32	1.11	>0.98	<10%	1.7	0°F
68976	GE224MVPS-N	2 or 1 F24T5HO 1 F39T5/HO 120-277 UltraStart® Normal Light 1.0BF Mini Can	120-277	2	F24T5HO	53/52	0.45/0.19	1.00	>0.98	<10%	1.7	0°F
72280	GE180MVPS-D	1 lamp F80T5 120-277 PRS D Can	120-277	1	F80T5HO	41/40	0.34/0.15	0.90	>0.98	<10%	1.7	0°F
						93/91	0.78/0.34	1.08/1.11	>0.98	<8%	1.6	-20°F

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## assurance

Whether you're using our linear fluorescent systems, using our ballasts as a component, selling them across your counter, installing them at your job site or enjoying their energy-saving performance and value, GE supports you by efficiently addressing warranty issues that may arise.

### You will have the assurance of:

- A simple, clear limited warranty
- Toll-free dedicated technical support at 1-800-GELAMPS (435-2677) or 1-888-GEBALLAST (432-255-278)
- Claim-tracking status
- Access to our national service network

## GE lamp and ballast systems limited warranty summary

For full details and specific lamp cycle requirements, see the GE Lighting limited warranty, applicable to your system, lamp or ballast type.

Linear fluorescent lamp	Lamp warranty on GE ballasts		
	When operated on GE programmed Rapid Start ballasts	When operated on GE Instant Start ballasts	Electronic ballast warranty
F17T8/XL; F25T8/XL; F32T8 (SP, SPP & SPX)	3 years	2.5 years	5 years
F17T8/XL/WM; F25T8/XL/WM	3 years	3 years	5 years
F32T8/XL (SP & SPX); F28T8/XL/SPP; F32T8/25W/SPP	4 years	3 years	5 years
F32T8/XL/HL	4 years	4 years	5 years
F32T8/SXL; F28T8/XL; F32T8/25W	5 years	4 years	5 years
F96T8; F96T8/HO	-	2 years	5 years
F96T8/XL (SP, SPP & SPX); F96T8/54W/SPP; F96T8/XL/WMP; F96T8/49W (SPP & SPX)	-	3 years	5 years
F28WT5/HL	3 years	-	5 years
F14T5/WM; F21T5/WM; F28T5/WM; F35T5/WM	3.5 years	-	5 years
F14T5HE; F21T5HE; F28T5HE; F35T5HE; F24T5HO; F54T5/WM; F54T5/47W; F39T5HO; F80T5HO	4 years	-	5 years
F54T5/XL	5 years	-	5 years

Information provided is subject to change without notice. Please verify all details with GE. All values are design or typical values when measured under laboratory conditions, and GE makes no warranty or guarantee, expressed or implied, that such performance will be obtained under end-use conditions.

For complete warranty information, visit  
[GELighting.com/Warranty](https://www.gelighting.com/Warranty)

## Experience efficiency and energy savings the moment you turn on GE T5 linear fluorescent systems.

When the right lighting illuminates your space, you notice the difference – in productivity and in your energy bill. That's why GE offers energy-efficient T5 linear fluorescent systems that are long-lasting and smart for your budget. Not only do workers have more time to get their jobs done, you experience the financial benefits of environmentally-sound lighting.

Our T5 linear fluorescent systems can change the way you light your space. To find out more and schedule your free lighting audit, visit [www.gelighting.com/LFL](http://www.gelighting.com/LFL).

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