

# ALTO® SILHOUETTE™ T5 Fluorescent Lamps

ALTO® SILHOUETTE™ T5 High Output Fluorescent Lamps:  
Powerful, Environmentally-Responsible Ultra-Slim Lamps

Miniaturization: Slim Profile Lamp and Ballast

Operates on Programmed Start Electronic Ballasts

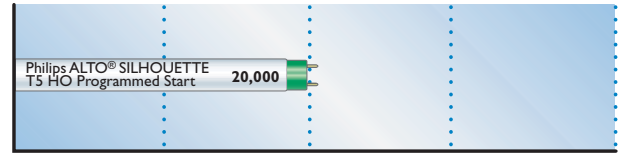
Environmentally Responsible: Low mercury—TCLP\*-compliant;  
energy efficient; long life

Sustainable Lighting Solution: Less mercury and fewer lamps in landfills,  
combined with energy efficiency, reduces the impact on the environment

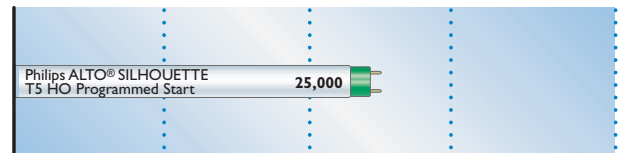
Ideal for Medium and High Bay Retail

Ideal for Industrial Applications

ALTO® SILHOUETTE™ T5 HO Lamp Rated Average Life  
Based on 3 Hours Per Start



ALTO® SILHOUETTE™ T5 HO Lamp Rated Average Life  
Based on 12 Hours Per Start



Rated Average Life in Hours

ALTO SILHOUETTE T5 Warranty: 24 months



Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO® SILHOUETTE™ T5 High Output Fluorescent Lamps</b> T5 Miniature Bipin; Programmed Start											
54	29026-2	ⓔⓈ	F54T5/830/HO/ALTO	40	TL 830, 3000K	46	20,000	25,000	5000	4750	85
	29028-8	ⓔⓈ	F54T5/835/HO/ALTO	40	TL 835, 3500K	46	20,000	25,000	5000	4750	85
	29083-3	ⓔⓈ	F54T5/841/HO/ALTO	40	TL 841, 4100K	46	20,000	25,000	5000	4750	85
	13510-3	ⓔⓈ	F54T5/850/HO/ALTO	40	TL 850, 5000K	46	20,000	25,000	5000	4750	85

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
14	23077-1	Ⓢ	F14T5/830	40	TL 830, 3000K	22	20,000	1350	1275	85
	23079-7	Ⓢ	F14T5/835	40	TL 835, 3500K	22	20,000	1350	1275	85
	23080-5	Ⓢ	F14T5/841	40	TL 841, 4100K	22	20,000	1350	1275	85
21	23081-3	Ⓢ	F21T5/830	40	TL 830, 3000K	34	20,000	2100	2000	85
	23082-1	Ⓢ	F21T5/835	40	TL 835, 3500K	34	20,000	2100	2000	85
	23083-9	Ⓢ	F21T5/841	40	TL 841, 4100K	34	20,000	2100	2000	85
28	23084-7	ⓔⓈ	F28T5/830	40	TL 830, 3000K	46	20,000	2900	2750	85
	23085-4	ⓔⓈ	F28T5/835	40	TL 835, 3500K	46	20,000	2900	2750	85
	23086-2	ⓔⓈ	F28T5/841	40	TL 841, 4100K	46	20,000	2900	2750	85
35	23088-8	Ⓢ	F35T5/830	40	TL 830, 3000K	58	20,000	3650	3450	85
	23091-2	Ⓢ	F35T5/835	40	TL 835, 3500K	58	20,000	3650	3450	85
	23095-3	Ⓢ	F35T5/841	40	TL 841, 4100K	58	20,000	3650	3450	85

<b>SILHOUETTE Series 2'-5' T5 High Output Fluorescent Lamps</b> T5 Miniature Bipin; Programmed Start											
24	29019-7	Ⓢ	F24T5/830/HO	40	TL 830, 3000K	22	20,000	2000	1900	85	
	29020-5	Ⓢ	F24T5/835/HO	40	TL 835, 3500K	22	20,000	2000	1900	85	
	29021-3	Ⓢ	F24T5/841/HO	40	TL 841, 4100K	22	20,000	2000	1900	85	
39	29022-1	Ⓢ	F39T5/830/HO	40	TL 830, 3000K	34	20,000	3500	3325	85	
	29023-9	Ⓢ	F39T5/835/HO	40	TL 835, 3500K	34	20,000	3500	3325	85	
	29025-4	Ⓢ	F39T5/841/HO	40	TL 841, 4100K	34	20,000	3500	3325	85	
80	29084-1	Ⓢ	F80T5/830/HO	40	TL 830, 3000K	58	20,000	7000	6650	85	
	29088-2	Ⓢ	F80T5/841/HO	40	TL 841, 4100K	58	20,000	7000	6650	85	

For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)

Fluorescent symbols and footnotes located on page 77

☐ This product utilizes ALTO® Lamp Technology

\* The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.



T5 Miniature Bipin

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>SILHOUETTE™ Series T5 Circular Fluorescent Lamps</b> 2GX13 Base; Programmed Start										
22	29010-6	\$	FC9T5/830	10	TL 830, 3000K	9 OD	16,000	1800	1530	85
	29011-4	\$	FC9T5/835	10	TL 835, 3500K	9 OD	16,000	1800	1530	85
	29012-2	\$	FC9T5/841	10	TL 841, 4100K	9 OD	16,000	1800	1530	85
40	29014-8	\$	FC12T5/830	10	TL 830, 3000K	12 OD	16,000	3300	2805	85
	29016-3	\$	FC12T5/835	10	TL 835, 3500K	12 OD	16,000	3300	2805	85
	29017-1	\$	FC12T5/841	10	TL 841, 4100K	12 OD	16,000	3300	2805	85

<b>SILHOUETTE Series T5 High Output Circular Fluorescent Lamps</b> 2GX13 Base; Programmed Start										
55	38479-2	\$	FC12T5/830/HO	10	TL 830, 3000K	12 OD	16,000	4400	3750	85
	38480-0	\$	FC12T5/841/HO	10	TL 841, 4100K	12 OD	16,000	4400	3750	85

<b>Preheat Fluorescent Lamps</b> T5 Miniature Bipin; Requires Use of Starters										
4	33236-1		F4T5/CW	25	Cool White, 4100K	6	6000	135	95	62
6	33241-1		F6T5/CW	25	Cool White, 4100K	9	7500	295	230	62
	33242-9		F6T5/D	25	Daylight, 6500K	9	7500	230	180	79
8	33252-8		F8T5/WW	25	Warm White, 3000K	12	7500	400	300	53
	33247-8		F8T5/CW	25	Cool White, 4100K	12	7500	400	300	62
	20702-7	□	F8T5/30U	25	Ultralume, 3000K	12	7500	450	360	85
	33249-4		F8T5/D	25	Daylight, 6500K	12	7500	330	265	79
13	33253-6		F13T5/CW	25	Cool White, 4100K	21	7500	820	655	62
	20703-5	□	F13T5/30U	25	Ultralume, 3000K	21	7500	1000	800	85

For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)

Fluorescent symbols and footnotes located on page 77

## T5 Lumens at 35°C and 25°C

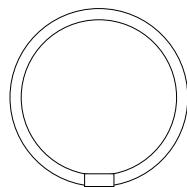
LAMP TYPE	INITIAL LUMENS AT 35°C	INITIAL LUMENS AT 25°C
F14T5	1350	1200
F21T5	2100	1900
F28T5	2900	2600
F35T5	3650	3300
F24T5/HO	2000	1800
F39T5/HO	3500	3150
F54T5/HO	5000	4500
F80T5/HO	7000	6300

## SILHOUETTE and SILHOUETTE High Output Dimensions (226)

TYPE	A MAX.		B MIN.		B MAX.		C MAX.	
	inches	mm	inches	mm	inches	mm	inches	mm
T5 14W/24W	21.61	549.0	21.80	553.7	21.89	556.1	22.17	563.2
T5 21W/39W	33.42	849.0	33.61	853.7	33.70	856.1	33.98	863.2
T5 28W/54W	45.24	1149.0	45.42	1153.7	45.52	1156.1	45.80	1163.2
T5 35W/80W	57.05	1449.0	57.23	1453.7	57.33	1456.1	57.61	1463.2



T5 Miniature Bipin



T5 Circular 2GX13 Base

ALTO® Universal T8: Full Rated Average Life on All T8 Ballast Types, Environmentally-Responsible Lamps. Ideal for any lighting application requiring maximum quality of light and maintained light output.



# ALTO® Universal T8 Fluorescent Lamps

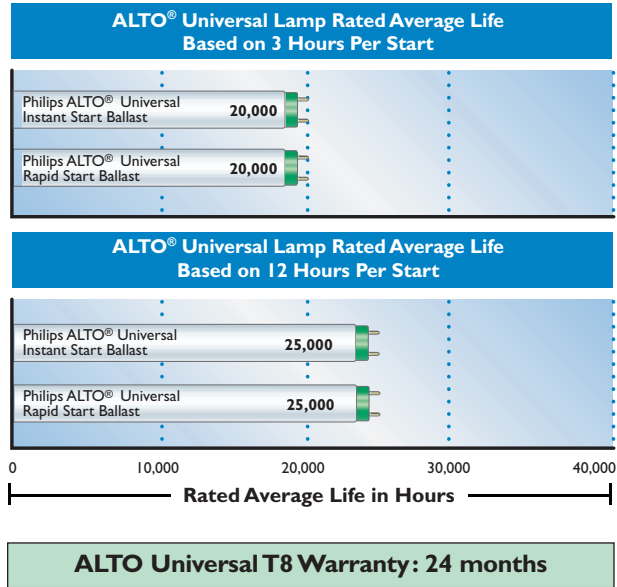
**Philips Exclusive Universal Design:** The only T8 lamp to deliver full rated average life on all T8 ballast types (Instant Start, Rapid Start, Programmed Start and Hybrid ballasts)

**Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life

**Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment

**Outstanding Lumen Maintenance:** HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening

**Enhanced CRI:** 86 CRI for TL80 lamps; 78 CRI for TL70 lamps



Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO Universal T8 Fluorescent Lamps T8 Medium Bipin</b>											
17	36787-0	\$	<b>F17T8/TL830/ALTO</b>	25	TL 830, 3000K	24	20,000	25,000	1400	1300	86
	36791-2	\$	<b>F17T8/TL835/ALTO</b>	25	TL 835, 3500K	24	20,000	25,000	1400	1300	86
	36793-8	\$	<b>F17T8/TL841/ALTO</b>	25	TL 841, 4100K	24	20,000	25,000	1400	1300	86
	36807-6	\$	<b>F17T8/TL730/ALTO</b>	25	TL 730, 3000K	24	20,000	25,000	1325	1200	78
	36808-4	\$	<b>F17T8/TL735/ALTO</b>	25	TL 735, 3500K	24	20,000	25,000	1325	1200	78
	36812-6	\$	<b>F17T8/TL741/ALTO</b>	25	TL 741, 4100K	24	20,000	25,000	1325	1200	78
25	36813-4	\$	<b>F25T8/TL830/ALTO</b>	25	TL 830, 3000K	36	20,000	25,000	2225	2050	86
	36814-2	\$	<b>F25T8/TL835/ALTO</b>	25	TL 835, 3500K	36	20,000	25,000	2225	2050	86
	36825-8	\$	<b>F25T8/TL841/ALTO</b>	25	TL 841, 4100K	36	20,000	25,000	2225	2050	86
	36826-6	\$	<b>F25T8/TL730/ALTO</b>	25	TL 730, 3000K	36	20,000	25,000	2125	1925	78
	36828-2	\$	<b>F25T8/TL735/ALTO</b>	25	TL 735, 3500K	36	20,000	25,000	2125	1925	78
	36829-0	\$	<b>F25T8/TL741/ALTO</b>	25	TL 741, 4100K	36	20,000	25,000	2125	1925	78
32	24667-8	ⓔ \$	<b>F32T8/TL830/ALTO</b>	25	TL 830, 3000K	48	20,000	25,000	2950	2800	86
	27236-9	ⓔ \$	<b>F32T8/TL830/ALTO PLZ</b>	1350	TL 830, 3000K	48	20,000	25,000	2950	2800	86
	24670-2	ⓔ \$	<b>F32T8/TL835/ALTO</b>	25	TL 835, 3500K	48	20,000	25,000	2950	2800	86
	27233-6	ⓔ \$	<b>F32T8/TL835/ALTO PLZ</b>	1350	TL 835, 3500K	48	20,000	25,000	2950	2800	86
	24671-0	ⓔ \$	<b>F32T8/TL841/ALTO</b>	25	TL 841, 4100K	48	20,000	25,000	2950	2800	86
	27235-1	ⓔ \$	<b>F32T8/TL841/ALTO PLZ</b>	1350	TL 841, 4100K	48	20,000	25,000	2950	2800	86
	27229-4	ⓔ \$	<b>F32T8/TL850/ALTO</b>	25	TL 850, 5000K	48	20,000	25,000	2950	2800	86
	27252-6	ⓔ \$	<b>F32T8/TL730/ALTO</b>	25	TL 730, 3000K	48	20,000	25,000	2800	2660	78
	27282-3	ⓔ \$	<b>F32T8/TL730/ALTO PLZ</b>	1350	TL 730, 3000K	48	20,000	25,000	2800	2660	78
	27249-2	ⓔ \$	<b>F32T8/TL735/ALTO</b>	25	TL 735, 3500K	48	20,000	25,000	2800	2660	78
	27259-1	ⓔ \$	<b>F32T8/TL735/ALTO PLZ</b>	1350	TL 735, 3500K	48	20,000	25,000	2800	2660	78
	27248-4	ⓔ \$	<b>F32T8/TL741/ALTO</b>	25	TL 741, 4100K	48	20,000	25,000	2800	2660	78
	38351-3	ⓔ \$	<b>F32T8/TL741/ALTO</b>	10	TL 741, 4100K, 10 Pk.	48	20,000	25,000	2800	2660	78
	27255-9	ⓔ \$	<b>F32T8/TL741/ALTO PLZ</b>	1350	TL 741, 4100K	48	20,000	25,000	2800	2660	78
	27268-2	ⓔ \$	<b>F32T8/TL750/ALTO</b>	25	TL 750, 5000K	48	20,000	25,000	2700	2550	78

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

Fluorescent symbols and footnotes located on page 77

ⓔ This product utilizes ALTO® Lamp Technology

\*The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.



T8 Medium Bipin

# ALTO® PLUS T8 Fluorescent Lamps

**Long Life:** Up to 36,000 hours rated average life; 50% more life than standard T8 lamps means reduced maintenance and disposal costs

**Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life

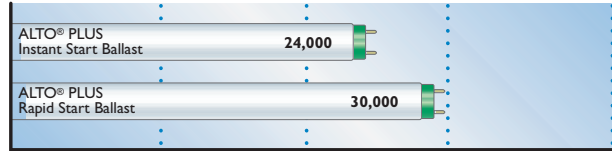
**Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment

**Outstanding Lumen Maintenance:** HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening

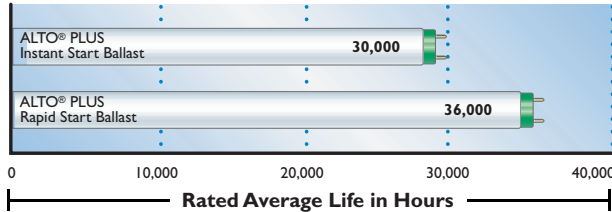
**Enhanced CRI:** 86 CRI for TL80 lamps; 78 CRI for TL70 lamps



### ALTO® PLUS Lamp Rated Average Life Based on 3 Hours Per Start



### ALTO® PLUS Lamp Rated Average Life Based on 12 Hours Per Start



**ALTO PLUS T8 Warranty: 30 months**

Nom. Lamp Watts	Product Symbols, Number Footnotes	Ordering Code	Pkg. Qty. • Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208, 239)	CRI
					3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO PLUS T8 Fluorescent Lamps</b> T8 Medium Bipin Featuring HI-VISION® Phosphor									
15	38419-8 (E)◇□\$	<b>F15T8/TL865/PLUS/ALTO</b>	24 TL 865, 6500K	18	24,000	30,000	975	925	86
17	38215-0 (E)\$	<b>F17T8/TL865/PLUS/ALTO</b>	25 TL 865, 6500K	24	24,000	30,000	1300	1235	86
25	38258-0 (E)\$	<b>F25T8/TL865/PLUS/ALTO</b>	25 TL 865, 6500K	36	24,000	30,000	2150	2040	86
32	36000-8 (E)\$	<b>F32T8/TL830/PLUS/ALTO</b>	25 TL 830, 3000K	48	30,000	36,000	2950	2800	86
	36001-6 (E)\$	<b>F32T8/TL835/PLUS/ALTO</b>	25 TL 835, 3500K	48	30,000	36,000	2950	2800	86
	36002-4 (E)\$	<b>F32T8/TL841/PLUS/ALTO</b>	25 TL 841, 4100K	48	30,000	36,000	2950	2800	86
	13686-1 (E)\$	<b>F32T8/TL841/PLUS/ALTO PLZ</b>	1350 TL 841, 4100K	48	30,000	36,000	2950	2800	86
	36003-2 (E)\$	<b>F32T8/TL850/PLUS/ALTO</b>	25 TL 850, 5000K	48	30,000	36,000	2950	2800	86
	38261-4 (E)\$	<b>F32T8/TL865/PLUS/ALTO</b>	25 TL 865, 6500K	48	30,000	36,000	2800	2660	86
	36004-0 (E)\$	<b>F32T8/TL730/PLUS/ALTO</b>	25 TL 730, 3000K	48	30,000	36,000	2800	2660	78
	36005-7 (E)\$	<b>F32T8/TL735/PLUS/ALTO</b>	25 TL 735, 3500K	48	30,000	36,000	2800	2660	78
	38383-6 (E)\$	<b>F32T8/TL735/PLUS/ALTO PLZ</b>	1350 TL 735, 3500K	48	30,000	36,000	2800	2660	78
	36013-1 (E)\$	<b>F32T8/TL741/PLUS/ALTO</b>	25 TL 741, 4100K	48	30,000	36,000	2800	2660	78
38384-4 (E)\$	<b>F32T8/TL741/PLUS/ALTO PLZ</b>	1350 TL 741, 4100K	48	30,000	36,000	2800	2660	78	
36014-9 (E)\$	<b>F32T8/TL750/PLUS/ALTO</b>	25 TL 750, 5000K	48	30,000	36,000	2700	2550	78	

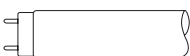
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□ This product utilizes ALTO® Lamp Technology

\*The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.

FLUORESCENT



T8 Medium Bipin

ALTO® Advantage T8: High Performance, Long Life, Environmentally-Responsible Lamps. Ideal for any lighting application requiring maximum quality of light and maintained light output.



# ALTO® Advantage T8 Fluorescent Lamps

**High Performance:** 3100 lumens is 10% more than standard T8 lamps

**Long Life:** Up to 36,000 hours rated average life; 50% more life than standard T8 lamps means reduced maintenance and disposal costs

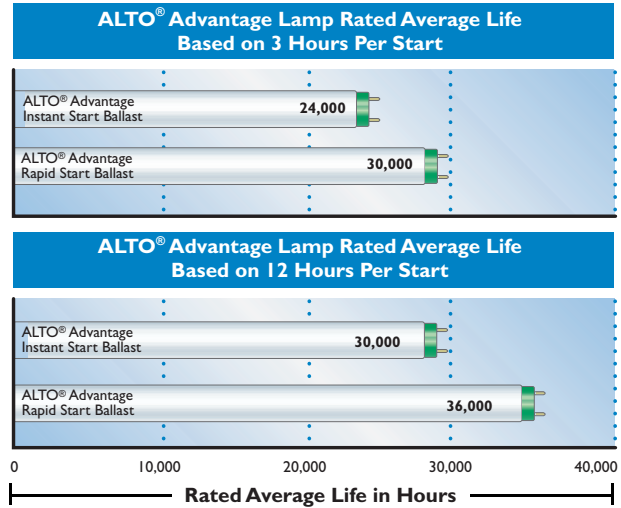
**Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life

**Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment

**Ultimate System Solution:** Higher lumens enables multiple system options to maximize energy saving and reduce lighting costs; fully dimmable without burn-in; ideal for light harvesting

**Outstanding Lumen Maintenance:** HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening

**Enhanced CRI:** 86 CRI for TL80 lamps



**ALTO Advantage T8 Warranty: 36 months**



Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208, 239)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO Advantage T8 Fluorescent Lamps</b> T8 Medium Bipin Featuring HI-VISION® Phosphor											
32	27064-5	(E) (U) (\$)	<b>F32T8/ADV830/ALTO</b>	25	Advantage 830, 3000K	48	30,000	36,000	3100	2950	86
	27065-2	(E) (U) (\$)	<b>F32T8/ADV835/ALTO</b>	25	Advantage 835, 3500K	48	30,000	36,000	3100	2950	86
	27066-0	(E) (U) (\$)	<b>F32T8/ADV841/ALTO</b>	25	Advantage 841, 4100K	48	30,000	36,000	3100	2950	86
	27068-6	(E) (U) (\$)	<b>F32T8/ADV850/ALTO</b>	25	Advantage 850, 5000K	48	30,000	36,000	3100	2950	86

### ALTO Advantage T8 Systems vs. Standard T8 Systems

Energy Savings: 2 Lamp vs. 2 Lamp System							Energy Savings: 2 Lamp vs. 3 Lamp System						
Electronic Ballast	Ballast Factor	No. of Lamps	Lamp Watts	Standard T8 Lumens	Advantage T8 Lumens	System Watts Savings	Electronic Ballast	Ballast Factor	No. of Lamps	Lamp Watts	Standard T8 Lumens	Advantage T8 Lumens	System Watts Savings
Standard T8	0.87	2	32	2850		58	Standard T8	0.87	3	32	2850		88
Reduced Light Output T8	0.75	2	32		3100	\$2.80/yr	Increased Light Output T8	1.20	2	32		3100	\$4.00/yr

**Combine Advantage T8 lamps with Reduced Light Output Electronic Ballasts, with these Results:**

- ▶ Produce comparable light output
- ▶ Save 7 system watts vs. standard T8 system
- ▶ Save \$2.80 per fixture per year
- ▶ Energy savings based on 4000 hrs/yr @ \$.10 kw/hr

**Combine Advantage T8 Lamps with Increased Light Output Ballasts. A 2 Lamp Advantage T8 System vs. a 3 Lamp Standard T8 System will:**

- ▶ Produce comparable light output
- ▶ Save 10 system watts
- ▶ Save \$4.00 per fixture per year
- ▶ Energy savings based on 4000 hrs/yr @ \$.10 kw/hr
- ▶ Reduce lighting installation costs (lamps, ballasts, fixtures and labor)
- ▶ Philips Advantage T8 lamps operate on ballast with ballast factors up to 1.32 with warranty intact

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)  
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T8 Medium Bipin

FLUORESCENT



ALTO® Energy Advantage T8: Superior Energy-Saving, Environmentally-Responsible Lamps. Ideal for any lighting application requiring maximum energy savings.

# ALTO® Energy Advantage T8 Fluorescent Lamps

Replace standard 32 watt T8 lamps with Philips ALTO Energy Advantage 25 watt T8 and save 7 watts per lamp instantly!

Replace standard 32 watt T8 lamps with Philips ALTO Energy Advantage 30 watt T8 and save 2 watts per lamp instantly!

**Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life

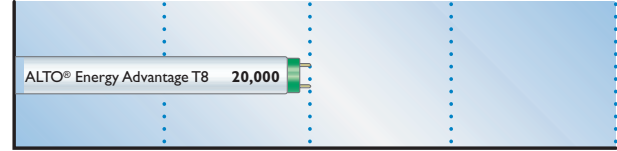
**Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment

**High Energy Efficiency:** Replace 32 watt T8 lamps with 25 watt or 30 watt T8 lamps and save in energy costs

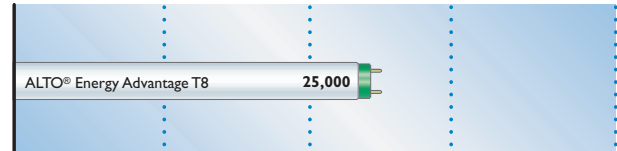
**Instant Start Operation:** Operates on any standard Instant Start system

**Enhanced CRI:** 85 CRI for 25 watt lamps/86 CRI for 30 watt lamps

### ALTO® Energy Advantage Lamp Rated Average Life Based on 3 Hours Per Start



### ALTO® Energy Advantage Lamp Rated Average Life Based on 12 Hours Per Start



0 10,000 20,000 30,000 40,000  
Rated Average Life in Hours

**ALTO Energy Advantage T8 Warranty: 24 months**



Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO Energy Advantage T8 Fluorescent Lamps</b> T8 Medium Bipin Featuring HI-VISION® Phosphor											
25	13781-0	ⓔⓈ	<b>F32T8/ADV830/XEW/ALTO</b>	25	Advantage 830, 3000K	48		25,000	2400	2280	85
	13782-8	ⓔⓈ	<b>F32T8/ADV835/XEW/ALTO</b>	25	Advantage 835, 3500K	48		25,000	2400	2280	85
	13783-6	ⓔⓈ	<b>F32T8/ADV841/XEW/ALTO</b>	25	Advantage 835, 4100K	48		25,000	2400	2280	85
	13784-4	ⓔⓈ	<b>F32T8/ADV850/XEW/ALTO</b>	25	Advantage 841, 5000K	48		25,000	2400	2280	85
30	38780-3	ⓔⓈ	<b>F32T8/ADV830/EW/ALTO</b>	25	Advantage 830, 3000K	48	20,000	25,000	2900	2750	86
	38781-1	ⓔⓈ	<b>F32T8/ADV835/EW/ALTO</b>	25	Advantage 835, 3500K	48	20,000	25,000	2900	2750	86
	38783-7	ⓔⓈ	<b>F32T8/ADV841/EW/ALTO</b>	25	Advantage 841, 4100K	48	20,000	25,000	2900	2750	86

### ALTO Energy Advantage 25W T8 Savings

Save 7 Watts Instantly			
7 watts per lamp saved	Energy Savings Calculator		
	Annual Operating Hours*	Savings Over Lamp Life	
KWH Rate	4380	8760	25,000 hrs.
\$0.06	\$1.84	\$3.68	\$10.50
\$0.08	\$2.45	\$4.90	\$14.00
\$0.10	\$3.07	\$6.13	\$17.50
\$0.12	\$3.68	\$7.36	\$21.00
\$0.20	\$6.13	\$12.26	\$35.00

\*4380 hours are based on operating the lamps 12 hours per day/7 days per week.  
8760 hours are based on operating the lamps 24 hours per day/7 days per week.

### Cost of Ownership Savings

ALTO Energy Advantage T8 Fluorescent Lamps vs. Standard T8 Lamps.

#### General Overview

ALTO Energy Advantage 25 watt T8 fluorescent lamps provide energy savings of up to 25% versus standard 32 watt T8, so the benefits and financial impact can be significant.

#### Benefits

By using ALTO Energy Advantage 25W T8 lamps the energy savings of 7 watts per lamp can be achieved instantly by simply changing the lamp.

#### Financial Impact

Energy Savings per Lamp	7 Watts
Operating Hours per Year	8760 hours, continuous burn
Cost per KWh	\$.10

**Cost of Ownership Savings = \$6.13 per lamp per year**

For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)  
Fluorescent symbols and footnotes located on page 77

ⓔⓈ This product utilizes ALTO® Lamp Technology

\*The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.



T8 Medium Bipin

FLUORESCENT

# FLUORESCENT LAMPS

## T8 Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>Rapid Start Fluorescent Lamps</b> T8 Medium Bipin; High CRI											
17	22083-0	☐ \$	<b>F17T8/TL930</b>	26	TL 930, 3000K	24	20,000	20,000	910	850	95
		22154-9	\$	<b>F17T8/TL950</b>	25	TL 950, 5000K	24	20,000	20,000	910	850
25	22158-0	☐ \$	<b>F25T8/TL930</b>	25	TL 930, 3000K	36	20,000	20,000	1550	1450	95
		22159-8	\$	<b>F25T8/TL950</b>	25	TL 950, 5000K	36	20,000	20,000	1550	1450
32	20904-9	☐ \$	<b>F32T8/TL930</b>	25	TL 930, 3000K	48	20,000	20,000	2000	1860	95
		20905-6	\$	<b>F32T8/TL950</b>	25	TL 950, 5000K	48	20,000	20,000	2000	1860

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI	
											<b>U-Bent Rapid Start Fluorescent Lamps</b> T8 Medium Bipin with 6" Long Spacing (212)
32	37897-6	\$	<b>FB32T8/TL830/6/ALTO</b>	20	TL 830, 3000K	22 7/8	20,000	2800	2535	85	
		37900-8	\$	<b>FB32T8/TL835/6/ALTO</b>	20	TL 835, 3500K	22 7/8	20,000	2800	2535	85
		37902-4	\$	<b>FB32T8/TL841/6/ALTO</b>	20	TL 841, 4100K	22 7/8	20,000	2800	2535	85
		37880-2	\$	<b>FB32T8/TL850/6/ALTO</b>	20	TL 850, 5000K	22 7/8	20,000	2750	2500	84
		37892-7	\$	<b>FB32T8/TL730/6/ALTO</b>	20	TL 730, 3000K	22 7/8	20,000	2650	2370	75
		37893-5	\$	<b>FB32T8/TL735/6/ALTO</b>	20	TL 735, 3500K	22 7/8	20,000	2650	2370	75
		37894-3	\$	<b>FB32T8/TL741/6/ALTO</b>	20	TL 741, 4100K	22 7/8	20,000	2650	2370	75
		37882-8	\$	<b>FB32T8/TL750/6/ALTO</b>	20	TL 750, 5000K	22 7/8	20,000	2600	2325	75

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI	
											<b>Rapid Start Fluorescent Lamps</b> T8 Medium Bipin
40	36831-6	\$	<b>F40T8/TL830/ALTO</b>	25	TL 830, 3000K	60	20,000	3775	3500	86	
		36834-0	\$	<b>F40T8/TL835/ALTO</b>	25	TL 835, 3500K	60	20,000	3775	3500	86
		36847-2	\$	<b>F40T8/TL841/ALTO</b>	25	TL 841, 4100K	60	20,000	3775	3500	86
		36851-4	\$	<b>F40T8/TL730/ALTO</b>	25	TL 730, 3000K	60	20,000	3600	3250	78
		36852-2	\$	<b>F40T8/TL735/ALTO</b>	25	TL 735, 3500K	60	20,000	3600	3250	78
		36853-0	\$	<b>F40T8/TL741/ALTO</b>	25	TL 741, 4100K	60	20,000	3600	3250	78

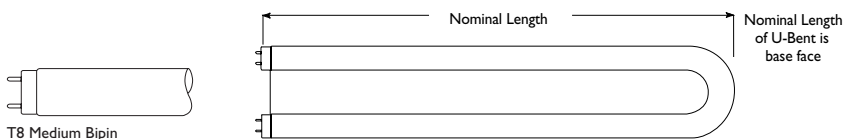
Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI	
											<b>Preheat Fluorescent Lamps</b> T8 Medium Bipin Linear Fluorescent Lamps; Requires Use of Starters (202)
15	37823-2		<b>F15T8D/ALTO</b>	24	Daylight, 6500K	18	7500	750	660	79	
		38298-6		<b>F15T8/WW/ALTO</b>	24	Warm White, 3000K	18	7500	870	740	53
		36720-1		<b>F15T8/CW/ALTO</b>	24	Cool White, 4100K	18	7500	870	765	62
		36436-4		<b>F15T8/CW BULK</b>	96	Cool White, 4100K	18	7500	850	750	62
		39226-6		<b>F15T8/PLANT</b>	6	Plant Lite, Sleeved	18	7500	410	—	—
30	26063-8		<b>F30T8/D</b>	24	Daylight, 6500K	36	7500	1500	1350	79	
		38691-2		<b>F30T8/CW/ALTO</b>	24	Cool White, 4100K	36	7500	2200	2000	62

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

Fluorescent symbols and footnotes located on page 77

☐ This product utilizes ALTO® Lamp Technology

\*The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.

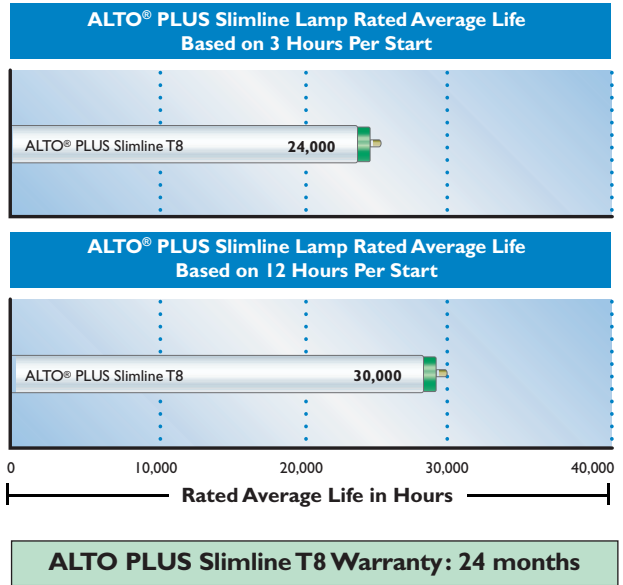




ALTO® PLUS Slimline T8 8-Foot Fluorescent Lamps  
 Long Life, Environmentally-Responsible Lamps.  
 Ideal for applications where long life is important.

# ALTO® PLUS Slimline T8 8-Ft. Fluorescent Lamps

- Long Life:** Up to 30,000 hours rated average life; 60% more life than standard T8 lamps means reduced maintenance and disposal costs
- Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life
- Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment
- Outstanding Lumen Maintenance:** HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 90% lumen maintenance and reduced lamp-end blackening
- Enhanced CRI:** 86 CRI for TL80 lamps; 78 CRI for TL70 lamps



Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. *	Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
							3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO® PLUS Slimline T8 8-Foot Fluorescent Lamps</b> T8 Single Pin; Featuring ALTO® Lamp Technology; Instant Start											
59	38800-9	ⓔ □ □ \$	<b>F96T8/TL830/PLUS/ALTO</b>	24	TL 830, 3000K	96	24,000	30,000	5900	5490	86
	38801-7	ⓔ □ □ \$	<b>F96T8/TL835/PLUS/ALTO</b>	24	TL 835, 3500K	96	24,000	30,000	5900	5490	86
	38802-5	ⓔ □ □ \$	<b>F96T8/TL841/PLUS/ALTO</b>	24	TL 841, 4100K	96	24,000	30,000	5900	5490	86
	38803-3	ⓔ □ □ \$	<b>F96T8/TL850/PLUS/ALTO</b>	24	TL 850, 5000K	96	24,000	30,000	5780	5375	86
	38805-8	ⓔ □ □ \$	<b>F96T8/TL735/PLUS/ALTO</b>	24	TL 735, 3500K	96	24,000	30,000	5700	5190	78
	38806-6	ⓔ □ □ \$	<b>F96T8/TL741/PLUS/ALTO</b>	24	TL 741, 4100K	96	24,000	30,000	5700	5190	78

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### ALTO PLUS Slimline T8 8-Foot Cost of Ownership Savings

ALTO PLUS Slimline 8-foot T8 Fluorescent Lamps vs. Standard 8-foot T8 Lamps

#### General Overview

ALTO PLUS Slimline 8-foot T8 fluorescent lamps provide up to 60% longer life than standard 8-foot T8 products. With an incremental cost as little as \$1.00 per lamp, benefits and financial impact can be significant.

#### Benefits

By using ALTO PLUS Slimline 8-foot T8 lamps the lamp replacement and labor costs are extended by an extra 2 years on a facility that operates an average of 4000 hours per year. For example, a standard 8-foot T8 product, with a rated average life expectancy of 15,000 hours, will last nearly 4 years (15,000 hours rated average life/4000 hours per year = 3 3/4 years). Conversely, ALTO PLUS Slimline 8-foot T8 lamps will operate for 6 years due to their rated average life expectancy of 24,000 hours (24,000 hours rated average life/4000 hours per year = 6 years).

#### Financial Impact

With the extended life expectancy of 2 years and the benefits of Philips' exclusive ALTO TCLP-compliant low mercury technology, the positive financial impact of installing ALTO PLUS Slimline 8-foot T8 lamps will provide cost of ownership savings per lamp as follows:

Incremental Cost	\$ (1.00)
Material Cost Avoidance <sup>A</sup>	\$ 4.00
Labor Cost Avoidance <sup>B</sup>	\$ 3.72
Disposal Cost Avoidance <sup>C</sup>	\$ 0.72
<b>Cost of Ownership Savings</b>	<b>\$ 7.44</b>

- A** Material Cost Avoidance is the annualized acquisition cost per lamp (average cost per lamp of \$7.50 for standard 8-Foot T8 product / 3 3/4 years = \$2.00 per year). By installing ALTO PLUS Slimline 8-Foot T8 lamps, a material cost per lamp of \$4.00 is avoided due to the extra 2 years of life expectancy. Note that the average cost per lamp may vary.
- B** Labor Cost Avoidance is the annualized labor replacement cost per lamp (labor replacement cost per lamp of \$7.00 / 3 years = \$1.86 per year). By installing ALTO PLUS Slimline 8-Foot T8 lamps, a labor replacement cost per lamp of \$3.72 is avoided due to the extra 2 years life expectancy. Note that the labor replacement cost per lamp may vary.
- C** Disposal Cost Avoidance is based on an average of \$.09 per foot for lamp recycling or \$.72 per 8-foot lamp. Philips Lighting Company encourages the recycling of all fluorescent lamps.

For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)

Fluorescent symbols and footnotes located on page 77

□ This product utilizes ALTO® Lamp Technology

\*The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.



T8 Single Pin



**ALTO® PLUS High Output T8: Long Life, Environmentally-Responsible Lamps.**

Ideal for industrial applications where the quality of light over the life of the lamp is important.



# ALTO® PLUS High Output T8 Fluorescent Lamps

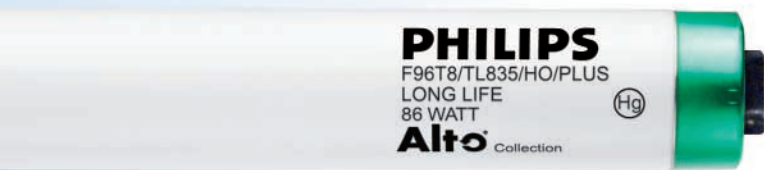
**Long Life:** Up to 30,000 hours rated average life; 50% more life than competitor's T8 8-foot lamps† means reduced maintenance and disposal costs

**Environmentally Responsible:** Low mercury—TCLP\*-compliant; energy efficient; long life

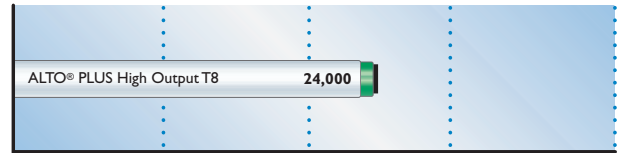
**Sustainable Lighting Solution:** Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment

**Outstanding Lumen Maintenance:** HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening

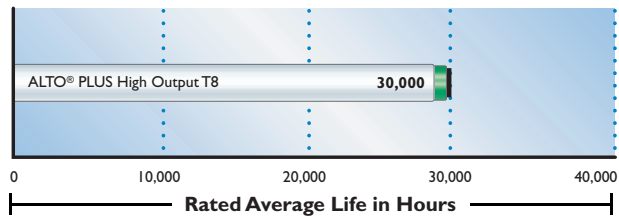
**Enhanced CRI:** 86 CRI for TL80 lamps; 78 CRI for TL70 lamps



**ALTO® PLUS High Output Lamp Rated Average Life Based on 3 Hours Per Start**



**ALTO® PLUS High Output Lamp Rated Average Life Based on 12 Hours Per Start**



**ALTO PLUS High Output T8 Warranty: 24 months**

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. • Description	Nom. Length (In.)	Rated Avg. Life, Hrs.		Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
						3-Hr. Start (202)	12-Hr. Start (241)			
<b>ALTO® PLUS High Output T8 8-Foot Fluorescent Lamps</b> T8 Recessed D.C.; Featuring ALTO® Lamp Technology										
86	38826-4	ⓔ □ \$	<b>F96T8/TL830/HO/PLUS/ALTO</b>	24 TL 830, 3000K	96	24,000	30,000	8200	7625	86
	38827-2	ⓔ □ \$	<b>F96T8/TL835/HO/PLUS/ALTO</b>	24 TL 835, 3500K	96	24,000	30,000	8200	7625	86
	38828-0	ⓔ □ \$	<b>F96T8/TL841/HO/PLUS/ALTO</b>	24 TL 841, 4100K	96	24,000	30,000	8200	7625	86
	38831-4	ⓔ □ \$	<b>F96T8/TL741/HO/PLUS/ALTO</b>	24 TL 741 4100K	96	24,000	30,000	7900	7100	78

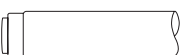
Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. • Description	Nom. Length (In.)	Average Life, Hours (205)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
44	38808-2	□ \$	<b>F48T8/TL830/HO/ALTO</b>	24 TL 830, 3000K	48	18,000	4000	3600	86
	38809-0	□ \$	<b>F48T8/TL835/HO/ALTO</b>	24 TL 835, 3500K	48	18,000	4000	3600	86
	38810-8	□ \$	<b>F48T8/TL841/HO/ALTO</b>	24 TL 841, 4100K	48	18,000	4000	3600	86
55	38814-0	□ \$	<b>F60T8/TL830/HO/ALTO</b>	24 TL 830, 3000K	60	18,000	5050	4545	86
	38815-7	□ \$	<b>F60T8/TL835/HO/ALTO</b>	24 TL 835, 3500K	60	18,000	5050	4545	86
	38816-5	□ \$	<b>F60T8/TL841/HO/ALTO</b>	24 TL 841, 4100K	60	18,000	5050	4545	86
65	38820-7	□ \$	<b>F72T8/TL830/HO/ALTO</b>	24 TL 830, 3000K	72	18,000	6100	5490	86
	38821-5	□ \$	<b>F72T8/TL835/HO/ALTO</b>	24 TL 835, 3500K	72	18,000	6100	5490	86
	38822-3	□ \$	<b>F72T8/TL841/HO/ALTO</b>	24 TL 841, 4100K	72	18,000	6100	5490	86

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

Fluorescent symbols and footnotes located on page 77

□ This product utilizes ALTO® Lamp Technology

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T8 Recessed Double Contact

# FLUORESCENT LAMPS

## T12 Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203,204)	Design Lumens (208)	CRI	
<b>Rapid Start Fluorescent Lamps</b> T12 Medium Bipin											
25	27247-6	\$	<b>F25T12/CW/RS/EW/ALTO</b>	30	Cool White, 4100K	36	18,000	1950	1650	62	
	31365-0	\$	<b>F25T12/WW/RS/EW</b>	30	Warm White, 3000K	36	18,000	2000	1700	53	
30	31377-5		<b>F30T12/30U/RS</b>	30	Ultralume, 3000K	36	18,000	2400	2160	85	
	31379-1		<b>F30T12/35U/RS</b>	30	Ultralume, 3500K	36	18,000	2400	2160	85	
	31380-9	□	<b>F30T12/41U/RS</b>	30	Ultralume, 4100K	36	18,000	2400	2160	85	
	31381-7	□	<b>F30T12/50U/RS</b>	30	Ultralume, 5000K	36	18,000	2380	2140	85	
	31369-2		<b>F30T12/SPEC30/RS</b>	30	SPEC30, 3000K	36	18,000	2350	2080	70	
	31371-8		<b>F30T12/SPEC35/RS</b>	30	SPEC35, 3500K	36	18,000	2350	2080	73	
	31372-6		<b>F30T12/SPEC41/RS</b>	30	SPEC41, 4100K	36	18,000	2350	2080	70	
	31376-7		<b>F30T12/C50/RS</b>	30	Colortone 50, 5000K	36	18,000	1550	1300	92	
	37649-1		<b>F30T12/D/RS/ALTO</b>	30	Daylight, 6500K	36	18,000	1950	1700	79	
	27242-7		<b>F30T12/CW/RS/ALTO</b>	30	Cool White, 4100K	36	18,000	2250	1900	62	
	31374-2		<b>F30T12/WW/RS</b>	30	Warm White, 3000K	36	18,000	2300	1950	53	
	34	23781-8	\$	<b>F34/30U/RS/EW/ALTO</b>	30	Ultralume, 3000K	48	20,000	2900	2600	85
		23782-6	\$	<b>F34/35U/RS/EW/ALTO</b>	30	Ultralume, 3500K	48	20,000	2900	2600	85
23783-4		\$	<b>F34/41U/RS/EW/ALTO</b>	30	Ultralume, 4100K	48	20,000	2900	2600	85	
23784-2		\$	<b>F34/50U/RS/EW/ALTO</b>	30	Ultralume, 5000K	48	20,000	2880	2580	85	
23775-0		\$	<b>F34/SPEC30/RS/EW/ALTO</b>	30	SPEC30, 3000K	48	20,000	2800	2520	70	
23777-6		\$	<b>F34/SPEC35/RS/EW/ALTO</b>	30	SPEC35, 3500K	48	20,000	2800	2520	73	
23779-2		\$	<b>F34/SPEC41/RS/EW/ALTO</b>	30	SPEC41, 4100K	48	20,000	2800	2520	70	
28511-4		\$	<b>F34/CWX/RS/EW</b>	30	Cool White Deluxe, 4100K	48	20,000	1925	1580	89	
26659-3		\$	<b>F34/DX/RS/EW/ALTO</b>	30	Daylight Deluxe, 6500K	48	20,000	2025	1775	84	
24470-7		\$	<b>F34/CW/RS/EW/ALTO</b>	30	Cool White, 4100K	48	20,000	2650	2300	62	
22046-7		\$	<b>F34/CW/RS/EW/ALTO</b>	10	Cool White, 4100K, 10 Pk.	48	20,000	2650	2300	62	
24472-3		\$	<b>F34/CW/RS/EW/ALTO PLZ</b>	650	Cool White, 4100K	48	20,000	2650	2650	62	
25686-7		\$	<b>F34/WW/RS/EW/ALTO</b>	30	Warm White, 3000K	48	20,000	2700	2350	53	
27321-9		\$	<b>F34/LW/RS/EW/ALTO</b>	30	Lite White, 4200K	48	20,000	2750	2400	51	

### U-Bent Fluorescent Lamps T12 Medium Bipin

34	37871-1	\$	<b>FB34/SPEC30/6/EW/ALTO</b>	12	SPEC30, 3000K	22 3/8	18,000	2760	2500	70
	37872-9	\$	<b>FB34/SPEC35/6/EW/ALTO</b>	12	SPEC35, 3500K	22 3/8	18,000	2760	2500	73
	37874-5	\$	<b>FB34/SPEC41/6/EW/ALTO</b>	12	SPEC41, 4100K	22 3/8	18,000	2760	2500	70
	37863-8		<b>FB34/CW/6/EW/ALTO</b>	12	Cool White, 4100K	22 3/8	18,000	2400	2050	62
	37865-3		<b>FB34/LW/6/EW/ALTO</b>	12	Lite White, 4200K	22 3/8	18,000	2500	2150	62
	37862-0		<b>FB34/WW/6/EW/ALTO</b>	12	Warm White, 3000K	22 3/8	18,000	2400	2050	53
	20704-3		<b>FB34/CW/3/EW</b>	12	Cool White, 4100K	22 3/8	18,000	2350	2050	62
	20705-0		<b>FB34/WW/3/EW</b>	12	Warm White, 3000K	22 3/8	18,000	2425	2125	51

### Advantage Rapid Start Ultimate Performance Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps

40	26604-9	□	<b>F40T12/ADV30/ALTO</b>	30	Advantage 30,T12, 3000K	48	24,000	3600	3250	85
	26631-2	□	<b>F40T12/ADV35/ALTO</b>	30	Advantage 35,T12, 3500K	48	24,000	3600	3250	85
	26640-3	□	<b>F40T12/ADV41/ALTO</b>	30	Advantage 41,T12, 4100K	48	24,000	3600	3250	85
	26643-7	□	<b>F40T12/ADV50/ALTO</b>	30	Advantage 50,T12, 5000K	48	24,000	3600	3250	85

### Rapid Start Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps

40	27298-9		<b>F40/30U/ALTO</b>	30	Ultralume, 3000K	48	20,000	3300	2970	85
	27299-7		<b>F40/35U/ALTO</b>	30	Ultralume, 3500K	48	20,000	3300	2970	85
	27309-4		<b>F40/41U/ALTO</b>	30	Ultralume, 4100K	48	20,000	3300	2970	85
	27315-1		<b>F40/50U/ALTO</b>	30	Ultralume, 5000K	48	20,000	3280	2950	85
	27311-0		<b>F40/SPEC30/ALTO</b>	30	SPEC30, 3000K	48	20,000	3200	2880	70
	27291-4		<b>F40/SPEC35/ALTO</b>	30	SPEC35, 3500K	48	20,000	3200	2880	73
	27295-5		<b>F40/SPEC41/ALTO</b>	30	SPEC41, 4100K	48	20,000	3200	2880	70
	33464-9		<b>F40/C75</b>	30	Colortone 75, 7500K	48	20,000	2000	1720	95
	30203-4		<b>F40/C50</b>	30	Colortone 50, 5000K	48	20,000	2200	1915	92
	30198-6		<b>F40/N</b>	30	Natural, 3700K	48	20,000	2000	1780	90
	27359-9		<b>F40/DX/ALTO</b>	30	Daylight Deluxe, 6500K	48	20,000	2325	2025	84
	39228-2		<b>F40/PLANT</b>	6	Plant Lite, Sleeved	48	20,000	1600	1360	—
	20189-7		<b>F40/BB</b>	6	Special Blue	48	20,000	550	385	—
	22630-8		<b>F40/GO</b>	30	Gold Sleeved Lamp	48	20,000	1700	1465	—

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Fluorescent symbols and footnotes located on page 77

□ This product utilizes ALTO® Lamp Technology



T12 Medium Bipin

# FLUORESCENT LAMPS

## T12 Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>U-Bent Fluorescent Lamps</b> T12 Medium Bipin										
40	37879-4		<b>FB40/30U/6/ALTO</b>	12	Ultralume, 3000K	22 7/16	18,000	3100	2850	85
	37840-6		<b>FB40/35U/6/ALTO</b>	12	Ultralume, 3500K	22 7/16	18,000	3100	2850	85
	37876-0		<b>FB40/41U/6/ALTO</b>	12	Ultralume, 4100K	22 7/16	18,000	3100	2850	85
	37866-1		<b>FB40/SPEC30/6/ALTO</b>	12	SPEC30, 3000K	22 7/16	18,000	3050	2775	70
	37854-7		<b>FB40/SPEC35/6/ALTO</b>	12	SPEC35, 3500K	22 7/16	18,000	3050	2775	73
	37868-7		<b>FB40/SPEC41/6/ALTO</b>	12	SPEC41, 4100K	22 7/16	18,000	3050	2775	70
	21993-1		<b>FB40/DX/6</b>	12	Daylight Deluxe, 6500K	22 7/16	18,000	2250	1950	84

### Slimline Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start

20	26277-4	X	<b>F24T12/CW</b>	24	Cool White, 4100K	24	7500	1090	960	62
30	26284-0	\$	<b>F36T12/CW</b>	24	Cool White, 4100K	36	7500	1850	1630	62
35	26303-8		<b>F42T12/CW</b>	24	Cool White, 4100K	42	7500	2200	1920	62
30	36609-6	\$	<b>F48T12/SPEC41/EW/ALTO</b>	15	SPEC41, 4100K	48	9000	2575	2350	70
	38700-1	\$	<b>F48T12/CW/EW/ALTO</b>	15	Cool White, 4100K	48	9000	2400	2150	62
39	36613-8		<b>F48T12/SPEC35/ALTO</b>	15	SPEC35, 3500K	48	9000	3000	2800	73
	38701-9		<b>F48T12/D/ALTO</b>	30	Daylight, 6500K	48	9000	2500	220	79
	38702-7		<b>F48T12/CW/ALTO</b>	30	Cool White, 4100K	48	9000	2950	2600	62
	36660-9		<b>F48T12/WW/ALTO</b>	15	Warm White, 3000K	48	9000	2950	2650	53
50	35564-4		<b>F60T12/D</b>	15	Daylight, 6500K	60	12,000	3150	2850	79
	35563-6		<b>F60T12/CW</b>	15	Cool White, 4100K	60	12,000	3450	3050	62
51	35577-6		<b>F64T12/D</b>	15	Daylight, 6500K	64	12,000	3200	2800	79
	35576-8		<b>F64T12/CW</b>	15	Cool White, 4100K	64	12,000	3750	3050	62
56	36614-6		<b>F72T12/30U/ALTO</b>	15	Ultralume, 3000K	72	12,000	4850	4550	85
	36618-7		<b>F72T12/35U/ALTO</b>	15	Ultralume, 3500K	72	12,000	4850	4550	85
	36621-1		<b>F72T12/41U/ALTO</b>	15	Ultralume, 4100K	72	12,000	4850	4550	85
	36623-7		<b>F72T12/SPEC35/ALTO</b>	15	SPEC35, 3500K	72	12,000	4700	4400	73
	36985-0		<b>F72T12/D/ALTO</b>	15	Daylight, 6500K	72	12,000	3800	3350	79
	36989-2		<b>F72T12/CW/ALTO</b>	15	Cool White, 4100K	72	12,000	4450	3900	62
	36661-7		<b>F72T12/WW/ALTO</b>	15	Warm White, 3000K	72	12,000	4550	4000	53
60	36624-5	\$	<b>F96T12/30U/EW/ALTO</b>	15	Ultralume, 3000K	96	12,000	5900	5550	85
	36625-2	\$	<b>F96T12/35U/EW/ALTO</b>	15	Ultralume, 3500K	96	12,000	5900	5550	85
	36627-8	\$	<b>F96T12/41U/EW/ALTO</b>	15	Ultralume, 4100K	96	12,000	5900	5550	85
	36628-6	\$	<b>F96T12/50U/EW/ALTO</b>	15	Ultralume, 5000K	96	12,000	5850	5500	85
	36630-2	\$	<b>F96T12/SPEC30/EW/ALTO</b>	15	SPEC30, 3000K	96	12,000	5750	5400	70
	26018-2	\$	<b>F96T12/SPEC35/EW/ALTO</b>	15	SPEC35, 3500K	96	12,000	5750	5400	73
	26022-4	\$	<b>F96T12/SPEC41/EW/ALTO</b>	15	SPEC41, 4100K	96	12,000	5750	5400	70
	34198-2	\$	<b>F96T12/C50/EW</b>	15	Coloritone 50, 5000K	96	12,000	4100	3700	92
	36654-2		<b>F96T12/DX/EW/ALTO</b>	15	Daylight Deluxe, 6500K	96	12,000	4200	3675	84
	25840-0		<b>F96T12/CW/EW/ALTO</b>	15	Cool White, 4100K	96	12,000	5400	4750	62
	36656-7		<b>F96T12/WW/EW/ALTO</b>	15	Warm White, 3000K	96	12,000	5500	4850	53
	36655-9		<b>F96T12/LW/EW/ALTO</b>	15	Lite White, 4200K	96	12,000	5600	4950	51
75	36633-6		<b>F96T12/30U/ALTO</b>	15	Ultralume, 3000K	96	12,000	6600	6225	85
	36634-4		<b>F96T12/35U/ALTO</b>	15	Ultralume, 3500K	96	12,000	6600	6225	85
	36635-1		<b>F96T12/41U/ALTO</b>	15	Ultralume, 4100K	96	12,000	6600	6225	85
	36636-9		<b>F96T12/50U/ALTO</b>	15	Ultralume, 5000K	96	12,000	6500	6125	85
	36647-6		<b>F96T12/SPEC30/ALTO</b>	15	SPEC30, 3000K	96	12,000	6425	6050	70
	36648-4		<b>F96T12/SPEC35/ALTO</b>	15	SPEC35, 3500K	96	12,000	6425	6050	73
	36650-0		<b>F96T12/SPEC41/ALTO</b>	15	SPEC41, 4100K	96	12,000	6425	6050	70
	34170-1		<b>F96T12/C50</b>	15	Coloritone 50, 5000K	96	12,000	4650	4200	92
	34165-1		<b>F96T12/N</b>	15	Natural, 3700K	96	12,000	4300	3850	90
	37282-1		<b>F96T12/DX/ALTO</b>	15	Daylight Deluxe, 6500K	96	12,000	4500	3950	84
	22689-4	X	<b>F96T12/GO</b>	15	Gold Sleeved Lamp	96	12,000	3400	—	—

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Fluorescent symbols and footnotes located on page 77

■ This product utilizes ALTO® Lamp Technology



T12 Medium Bipin



T12 Single Pin

# FLUORESCENT LAMPS

## T12 Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>High Output Fluorescent Lamps (800ma) T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)</b>										
35	26274-1		<b>F24T12/D/HO</b>	24	Daylight, 6500K	24	9000	1400	1180	79
	26279-0		<b>F24T12/CW/HO</b>	24	Cool White, 4100K	24	9000	1650	1390	62
40	34334-3		<b>F30T12/D/HO</b>	24	Daylight, 6500K	30	9000	1920	1590	79
	22646-4		<b>F30T12/CW/HO</b>	24	Cool White, 4100K	30	9000	2290	1900	62
50	26290-7		<b>F36T12/D/HO</b>	24	Daylight, 6500K	36	9000	2500	2150	79
	26286-5		<b>F36T12/CW/HO</b>	24	Cool White, 4100K	36	9000	2800	2450	62
51	35584-2		<b>F64T12/D/HO</b>	15	Daylight, 6500K	64	12,000	4900	4250	79
	35578-4		<b>F64T12/CW/HO</b>	15	Cool White, 4100K	64	12,000	5600	4850	62
55	26306-1		<b>F42T12/D/HO</b>	24	Daylight, 6500K	42	9000	3000	2610	79
	26304-6		<b>F42T12/CW/HO</b>	24	Cool White, 4100K	42	9000	3400	2950	62
60	13222-5		<b>F48T12/41U/HO/ALTO</b>	15	Ultralume, 4100K	48	12,000	4400	4000	85
	26773-2		<b>F48T12/41U/HO</b>	15	Ultralume, 4100K	48	12,000	4400	4000	85
	21896-6		<b>F48T12/SPEC30/HO</b>	15	SPEC30, 3000K	48	12,000	4250	3830	70
	21897-4		<b>F48T12/SPEC35/HO</b>	15	SPEC35, 3500K	48	12,000	4250	3830	73
	26775-7		<b>F48T12/SPEC41/HO</b>	15	SPEC41, 4100K	48	12,000	4250	3830	70
	36984-3		<b>F48T12/D/HO/ALTO</b>	15	Daylight, 6500K	48	12,000	3400	3000	79
	36978-5		<b>F48T12/CW/HO/ALTO</b>	15	Cool White, 4100K	48	12,000	4050	3500	62
	21816-4		<b>F48T12/WW/HO</b>	15	Warm White, 3000K	48	12,000	4100	3550	53
75	35567-7		<b>F60T12/D/HO</b>	15	Daylight, 6500K	60	12,000	4400	3800	79
	35566-9		<b>F60T12/CW/HO</b>	15	Cool White, 4100K	60	12,000	5150	4500	62
80	35584-2		<b>F64T12/D/HO</b>	15	Daylight, 6500K	64	12,000	4900	4250	79
	35578-4		<b>F64T12/CW/HO</b>	15	Cool White, 4100K	64	12,000	5600	4850	62
85	27305-2		<b>F72T12/30U/HO</b>	15	Ultralume, 3000K	72	12,000	6800	6200	85
	26723-7		<b>F72T12/35U/HO</b>	15	Ultralume, 3500K	72	12,000	6800	6200	85
	26742-7		<b>F72T12/41U/HO</b>	15	Ultralume, 4100K	72	12,000	6800	6200	85
	30001-2		<b>F72T12/SPEC35/HO</b>	15	SPEC35, 3500K	72	12,000	6650	6000	73
	30756-1		<b>F72T12/SPEC41/HO</b>	15	SPEC41, 4100K	72	12,000	6650	6000	70
	21204-3		<b>F72T12/N/HO</b>	15	Natural, 3700K	72	12,000	4200	3610	90
	36653-4		<b>F72T12/D/HO/ALTO</b>	15	Daylight, 6500K	72	12,000	5600	4850	79
	36651-8		<b>F72T12/CW/HO/ALTO</b>	15	Cool White, 4100K	72	12,000	6350	5500	62
	33053-0		<b>F72T12/WW/HO</b>	15	Warm White, 3000K	72	12,000	6500	5700	53
	100	21206-8		<b>F84T12/D/HO</b>	15	Daylight, 6500K	84	12,000	6900	6000
21205-0			<b>F84T12/CW/HO</b>	15	Cool White, 4100K	84	12,000	7800	6800	62
95	27319-3	\$	<b>F96T12/30U/HO/EW</b>	15	Ultralume, 3000K	96	12,000	8625	7750	85
	34862-3	\$	<b>F96T12/41U/HO/EW</b>	15	Ultralume, 4100K	96	12,000	8620	7750	85
	20525-2	\$	<b>F96T12/50U/HO/EW</b>	15	Ultralume, 5000K	96	12,000	8520	7675	85
	34861-5	\$	<b>F96T12/SPEC30/HO/EW</b>	15	SPEC30, 3000K	96	12,000	8350	7500	70
	22117-6	\$	<b>F96T12/SPEC35/HO/EW</b>	15	SPEC35, 3500K	96	12,000	8350	7500	73
	34848-2	\$	<b>F96T12/SPEC41/HO/EW</b>	15	SPEC41, 4100K	96	12,000	8350	7500	70
	21471-8	\$	<b>F96T12/DX/HO/EW</b>	15	Daylight Deluxe, 6500K	96	12,000	5850	5000	84
	26660-1	\$	<b>F96T12/CW/HO/EW/ALTO</b>	15	Cool White, 4100K	96	12,000	8000	6950	62
	34219-6	\$	<b>F96T12/WW/HO/EW</b>	15	Warm White, 3000K	96	12,000	8100	7050	53
	34216-2	\$	<b>F96T12/LW/HO/EW</b>	15	Lite White, 4200K	96	12,000	8300	7200	51
110	34863-1		<b>F96T12/30U/HO</b>	15	Ultralume, 3000K	96	12,000	9500	8550	85
	26710-4		<b>F96T12/35U/HO</b>	15	Ultralume, 3500K	96	12,000	9500	8550	85
	34864-9		<b>F96T12/41U/HO</b>	15	Ultralume, 4100K	96	12,000	9500	8550	85
	34865-6		<b>F96T12/50U/HO</b>	15	Ultralume, 5000K	96	12,000	9350	8350	85
	27276-5		<b>F96T12/SPEC30/HO</b>	15	SPEC30, 3000K	96	12,000	9300	8375	70
	27681-6		<b>F96T12/SPEC35/HO</b>	15	SPEC35, 3500K	96	12,000	9300	8375	73
	27279-9		<b>F96T12/SPEC41/HO</b>	15	SPEC41, 4100K	96	12,000	9300	8375	70
	34226-1		<b>F96T12/C50/HO</b>	15	Colortone 50, 5000K	96	12,000	6300	5400	92
	34230-3		<b>F96T12/N/HO</b>	15	Natural, 3700K	96	12,000	6250	5400	90
	34222-0		<b>F96T12/CWX/HO</b>	15	Cool White Deluxe, 5000K	96	12,000	6600	5500	89
	21489-0		<b>F96T12/DX/HO</b>	15	Daylight Deluxe, 6500K	96	12,000	6750	5800	84

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Fluorescent symbols and footnotes located on page 77

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T12 Recessed D.C.

# FLUORESCENT LAMPS

## T12 Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>High Output Fluorescent Lamps (800ma)</b> T12 Recessed D.C. Linear Fluorescent Lamps; For Low Temperature Applications (223)										
110	38177-4		F96T12/D/HO-O/ALTO	15	Daylight, 6500K	96	12,000	7800	6800	79
	38176-4		F96T12/CW/HO-O/ALTO	15	Cool White, 4100K	96	12,000	8800	7650	62

<b>Very High Output Fluorescent Lamps (1500ma)</b> T12 Recessed D.C. Linear Fluorescent Lamps (214)										
110	21819-8		F48T12/CW/VHO	15	Cool White, 4100K	48	12,000	7050	4950	62
135	21785-1		F60T12/CW/VHO	15	Cool White, 4100K	60	12,000	9000	6300	62
160	33054-8		F72T12/D/VHO	15	Daylight, 6500K	72	12,000	12,000	6400	79
	21210-0		F72T12/CW/VHO	15	Cool White, 4100K	72	12,000	11,000	7600	62
185	34232-9	\$	F96T12/CW/VHO/EW	15	Cool White, 4100K	96	12,000	13,000	9000	62
	34233-7	\$	F96T12/LW/VHO/EW	15	Lite White, 4200K	96	12,000	14,400	10,100	51
215	38213-5	□	F96T12/41U/VHO/ALTO	15	Ultralume, 4100K	96	12,000	17,500	16,100	85
	34237-8		F96T12/D/VHO	15	Daylight, 6500K	96	12,000	12,505	8750	79
	34234-5		F96T12/CW/VHO	15	Cool White, 4100K	96	12,000	15,200	10,700	62

<b>Outdoor Very High Output Fluorescent Lamps (1500ma)</b> T12 Recessed D.C. Linear Fluorescent Lamps										
116	21820-6		F48T12/CW/VHO-O	12	Cool White, 4100K	48	10,000	7000	4900	62
140	37543-6		F60T12/50U/VHO-O	15	Ultralume, 5000K	60	10,000	7300	5200	85
	21786-9		F60T12/CW/VHO-O	12	Cool White, 4100K	60	10,000	8900	8250	62
162	21211-8		F72T12/CW/VHO-O	8	Cool White, 4100K	72	10,000	11,250	7750	62
212	34243-6		F96T12/CW/VHO-O	8	Cool White, 4100K	96	10,000	14,900	10,400	62

<b>Low-Temperature Jacketed Very High Output Fluorescent Lamps (1500ma) T14 ½</b> (1 ½" Diameter Jacket)										
T12 Recessed D.C. Linear Fluorescent Lamps										
116	28409-1	X	FJ48T12/CW/VHO-O	12	Cool White, 4100K	48	10,000	7000	4900	62
140	26471-3	X	FJ60T12/CW/VHO-O	12	Cool White, 4100K	60	10,000	8900	6250	62
162	28410-9	X	FJ72T12/CW/VHO-O	8	Cool White, 4100K	72	10,000	11,100	7750	62
212	28397-8	X	FJ96T12/CW/VHO-O	8	Cool White, 4100K	96	10,000	14,900	10,400	62

<b>Preheat Fluorescent Lamps</b> T12 Medium Bipin Linear Fluorescent Lamps										
14	25916-8		F14T12/CW	24	Cool White, 4100K	15	9000	710	590	62
15	25980-4		F15T12/D	24	Daylight, 6500K	18	9000	650	535	79
	25971-3		F15T12/CW	24	Cool White, 4100K	18	9000	800	695	62
	25975-4	X	F15T12/WW	24	Warm White, 3000K	18	9000	800	670	53
20	31399-9		F20T12/30U	30	Ultralume, 3000K	24	9000	1350	1270	85
	31400-5	X	F20T12/35U	30	Ultralume, 3500K	24	9000	1350	1270	85
	31401-3		F20T12/41U	30	Ultralume, 4100K	24	9000	1350	1270	85
	31403-9		F20T12/50U	30	Ultralume, 5000K	24	9000	1340	1260	85
	31386-6		F20T12/SPEC30	24	SPEC30, 3000K	24	9000	1275	1190	70
	31388-2		F20T12/SPEC35	24	SPEC35, 3500K	24	9000	1275	1190	73
	31396-5		F20T12/C50	30	ColorTone 50, 5000K	24	9000	850	755	92
	27328-4		F20T12/D/ALTO	30	Daylight, 6500K	24	9000	960	960	79
	27332-6		F20T12/CW/ALTO	30	Cool White, 4100K	24	9000	1200	1050	62
	27349-0		F20T12/WW/ALTO	30	Warm White, 3000K	24	9000	1250	1100	53
25	39227-4		F20T12/PLANT	6	Plant Lite, Sleeved	24	9000	600	500	—
	31745-3		F20T12/BB	6	Special Blue	24	9000	225	180	—
	26041-4	X	F25T12/D	24	Daylight, 6500K	33	7500	1600	1440	79
26030-7		F25T12/CW	24	Cool White, 4100K	33	7500	1900	1710	62	

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

Fluorescent symbols and footnotes located on page 77

□ This product utilizes ALTO® Lamp Technology



T12 Recessed D.C.



T12 Medium Bipin

# FLUORESCENT LAMPS

## Appliance & Circline Fluorescent Lamps—Professional

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>Appliance Fluorescent Lamps</b> T8 Medium Bipin Linear Fluorescent Lamps; For Use With Starters										
14	25914-3		F14T8/CW/15	24	Cool White, 4100K	15	7500	700	595	62
16	25989-5		F16T8/CW/26	24	Cool White, 4100K	26	7500	1275	1020	62
17	25990-3		F17T8/CW/28	24	Cool White, 4100K	28	7500	1300	1030	62
18	38302-6		F18T8/CW/30/ALTO	24	Cool White, 4100K	30	7500	1350	1070	62
	36520-5		F18T8/CW/24	24	Cool White, 4100K	24	7500	1175	940	62

<b>Appliance Fluorescent Lamps</b> T12 Medium Bipin Linear Fluorescent Lamps; For Use With Starters										
25	26034-9		F25T12/CW/28	24	Cool White, 4100K	28	7500	1600	1280	62
	26033-1	X	F25T12/CW/30	24	Cool White, 4100K	30	7500	1600	1280	62

<b>Circline Fluorescent Lamps</b> T9 4-Pin Circular Fluorescent Lamps										
20	24982-1		FC6T9/Cool White Plus	12	Cool White, 4100K	6 1/2 OD	12,000	800	590	62
22	39222-5		FC8T9/Soft White	12/1	3000K	8 OD	12,000	1150	875	85
	26234-5		FC8T9/D	12	Daylight, 6500K	8 1/4 OD	12,000	910	675	79
	39235-7		FC8T9/DayDLX	12/1	6500K	8 OD	12,000	910	675	79
	39116-9		FC8T9/Cool White Plus	12/1	Cool White, 4100K	8 OD	12,000	1050	775	62
32	39122-7		FC12T9/Soft White	12/1	3000K	12 OD	12,000	1900	1600	85
	26260-0		FC12T9/D	12	Daylight, 6500K	12 OD	12,000	1570	1300	79
	39238-1	X	FC12T9/DayDLX	12/1	6500K	12 OD	12,000	1570	1300	79
	39117-7		FC12T9/Cool White Plus	12/1	Cool White, 4100K	12 OD	12,000	1800	1500	62
40	39118-5		FC16T9/Cool White Plus	12/1	Cool White, 4100K	16 OD	12,000	2500	1975	62

For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)

Fluorescent symbols and footnotes located on page 77

This product utilizes ALTO® Lamp Technology

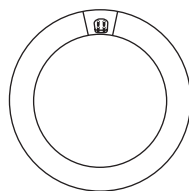
For Black Light lamps, turn to page 111.



T8 Medium Bipin



T12 Medium Bipin



T9 Circline

## HomeLight Fluorescent Lamps

HomeLight Collection	<b>Cool White Plus</b>	<b>Soft White</b>	<b>Natural Sunshine</b>	<b>Daylight Deluxe</b>
<b>The mood of the light</b>	General purpose light for the home. Ideal for the garage, workshop or basement.	Comfortable, pleasant light that shows color accurately. Ideal for the kitchen, bathroom, or any room.	Simulates natural, full-spectrum light. Bright white light. Ideal for any room where more natural light is desired.	Creates a cool, refreshing environment. Arctic white light. Can be used in any room.
<b>Color Scale:</b> 3000 = Soft light 6500 = Vibrant, white light (a)	4100K	3000K	5000K	6500K
On a scale of 0 to 100, the lamp's ability to show colors accurately (b)	62	85	92	79
<b>Also known as. . .</b>	Cool, Cool White, Residential, Shoplight	Warm Deluxe, Kitchen & Bath, Warm White	Full Spectrum, Sunshine, Sunlight	Daylight, Daybright
(a) Color is a personal preference. Select a bulb that creates the mood you desire to have in the room. (b) A higher number can make a big difference, even in laundry rooms. You will be able to distinguish between similar colors.				

## Philips Specialty Fluorescent Lamps

### PLANT & AQUARIUM

Helps promote plant growth. Enhances the appearance of aquarium fish.



### BLACKLIGHT

True blacklight-blue fluorescent light. Great special effects.



Color is a personal preference. Select a bulb that creates the mood you desire to have in the room.



FLUORESCENT

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Rated Avg. Life, Years (240)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>HomeLight T5 Fluorescent Lamps</b> Blister-Carded Linear Fluorescent Lamps; Miniature Bipin											
4	39218-3		F4T5/Soft White	12/1	3000K	6	6000	3	150	120	85
6	39219-1		F6T5/Soft White	12/1	3000K	9	7500	3	325	260	85
8	39220-9		F8T5/Soft White	12/1	3000K	12	7500	3	450	360	85
	39114-4		F8T5/Cool White Plus	12/1	4100K	12	7500	3	400	300	62
13	39221-7		F13T5/Soft White	12/1	3000K	21	7500	3	1000	800	85

## HomeLight T8 Fluorescent Lamps

 Individually Sleeved Fluorescent Lamps; Medium Bipin

15	39212-6		F15T8/Soft White	6/1	3000K	18	7500	3	1000	900	85
	39207-6		F15T8/Cool White Plus	6/1	4100K	18	7500	3	870	765	62
	39108-6		F15T8/Cool White Plus	6/1	4100K	24	7500	3	1175	1035	62
	39232-4		F15T8/DayDLX	6/1	6500K	18	7500	3	750	660	79
	39229-0		F15T8/Natural Sunshine	6/1	5000K	18	7500	3	590	475	92
	39223-3		F15T8/Blacklight	6/1	—	18	7500	—	—	—	—
30	39216-7		F30T8/Soft White	6/1	3000K	36	7500	3	2500	2250	85
	39210-0		F30T8/Cool White Plus	6/1	4100K	36	7500	3	2200	1760	62
32	13360-3		F32T8/Cool White Plus	72/2	4100K, Coffin Pack	48	20,000	7	2850	2710	78
	13427-0		F32T8/Natural Sunshine	6	5000K	48	20,000	7	2950	2800	86
	13426-2		F32T8/Soft White	6	3000K	48	20,000	7	2950	2800	86

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

Fluorescent symbols and footnotes located on page 77

This product utilizes ALTO® Lamp Technology



T5 Miniature Bipin



T8 Medium Bipin

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Rated Avg. Life, Years (240)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>HomeLight T12 Fluorescent Lamps</b> Individually Sleeved Fluorescent Lamps; Medium Bipin											
14	39213-4		F14T12/Soft White	6/1	3000K	15	9000	4	700	560	85
15	39214-2		F15T12/Soft White	6/1	3000K	18	9000	4	800	720	85
	39208-4		F15T12/Cool White Plus	6/1	4100K	18	9000	4	800	695	62
20	39120-1	ALTO	F20T12/Soft White	6/1	3000K	24	9000	4	1350	1215	85
	39209-2	ALTO	F20T12/Cool White Plus	6/1	4100K	24	9000	4	1200	1050	62
	39230-8		F20T12/Natural Sunshine	6/1	5000K	24	9000	4	850	755	92
	39233-2	ALTO	F20T12/DayDLX	6/1	6500K	24	9000	4	1075	960	79
	39224-1		F20T12/Blacklight	6/1	—	24	9000	—	—	—	—
	39227-4		F20T12/Plant	6/1	—	24	9000	—	600	—	—
30	39215-9	ALTO	F30T12/Soft White	6/1	3000K	36	18000	7	2400	2160	85
	39109-4	ALTO	F30T12/Cool White Plus	6/1	4100K	36	18000	7	2250	1900	62
40	39121-9	ALTO	F40T12/Soft White	6/1	3000K	48	20,000	7	3300	2970	85
	39240-7	ALTO	F40T12/Soft White/15/2PK	15/2	3000K	48	20,000	7	3300	2970	85
	39217-5	ALTO	F40T12/Soft White/84/2PK	84/2	3000K	48	20,000	7	3300	2970	85
	39111-0	ALTO	F40T12/Cool White Plus	6/1	4100K	48	20,000	7	3200	2880	70
	39239-9	ALTO	F40T12/Cool White Plus/15/2PK	15/2	4100K	48	20,000	7	3200	2880	70
	39211-8	ALTO	F40T12/Cool White Plus/84/2PK	84/2	4100K	48	20,000	7	3200	2880	70
	39231-6		F40T12/Natural Sunshine	6/1	5000K	48	20,000	7	2200	1915	92
	39234-0	ALTO	F40T12/DayDLX	6/1	6500K	48	20,000	7	2325	2025	84
	39241-5	ALTO	F40T12/DayDLX/15/2PK	15/2	6500K	48	20,000	7	2325	2025	84
	39123-5	ALTO	F40T12/DayDLX/84/2PK	84/2	6500K	48	20,000	7	2325	2025	84
	39225-8		F40T12/Blacklight	6/1	—	48	20,000	—	—	—	—
39228-2		F40T12/Plant	6/1	—	48	20,000	—	1600	—	—	

## HomeLight Circline Fluorescent Lamps T9 Circular 4-Pin Fluorescent Lamps

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Rated Avg. Life, Years (240)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
22	39222-5		FC8T9/Soft White	12/1	3000K	8 OD	12,000	4	1150	875	85
	39116-9		FC8T9/Cool White Plus	12/1	4100K	8 OD	12,000	4	1050	775	62
	39235-7		FC8T9/DayDLX	12/1	6500K	8 OD	12,000	4	910	675	79
32	39122-7		FC12T9/Soft White	12/1	3000K	12 OD	12,000	4	1900	1600	85
	39117-7		FC12T9/Cool White Plus	12/1	4100K	12 OD	12,000	4	1800	1500	62
	39238-1	X	FC12T9/DayDLX	12/1	6500K	12 OD	12,000	4	1570	1300	79
40	39118-5		FC16T9/Cool White Plus	12/1	4100K	16 OD	12,000	4	2500	1975	62

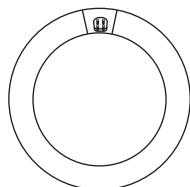
For the most current product information, go to [www.nam.lighting.philips.com/us/catalog/](http://www.nam.lighting.philips.com/us/catalog/)

Fluorescent symbols and footnotes located on page 77

ALTO This product utilizes ALTO® Lamp Technology



T12 Medium Bipin



T9 Circline





# FLUORESCENT LAMPS

Individually Packaged—Consumer

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. (202)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
<b>UPC Lamps Labeled For Retail Sale (225)</b>										
<b>Preheat T8</b> T8 Medium Bipin Linear Fluorescent Lamps; Requires Use of Starters										
30	13348-8	UPC	F30T8/Cool White Plus UPC	24	Cool White, 4100K	36	7500	2200	2000	62
<b>Rapid Start T8</b> T8 Medium Bipin Linear Fluorescent Lamps										
17	13599-5		F17T8/TL950 UPC	25	TL90, 5000K	24	20,000	910	850	98
	16069-0	UPC	F17T8/Soft White UPC	25	TL80, 3000K	24	20,000	1400	1300	85
32	13600-2		F32T8/TL950 UPC	25	TL90, 5000K	48	20,000	2000	1860	98
	13555-6	UPC	F32T8/TL850 UPC	25	TL80, 5000K	48	20,000	2950	2800	86
	27278-1	UPC	F32T8/TL730 UPC	25	TL70, 3000K	48	20,000	2850	2710	78
	27274-0	UPC	F32T8/TL735 UPC	25	TL70, 3500K	48	20,000	2850	2710	78
	27269-0	UPC	F32T8/TL741 UPC	25	TL70, 4100K	48	20,000	2850	2710	78
<b>Rapid Start U-Bent T8</b> T8 Medium Bipin										
32	37888-5	UPC	FB32T8/TL735/6 UPC	20	TL70, 3500K	22 7/8	20,000	2650	2370	75
	37889-3	UPC	FB32T8/TL741/6 UPC	20	TL70, 4100K	22 7/8	20,000	2650	2370	75
<b>Preheat T12</b> T12 Medium Bipin Linear Fluorescent Lamps										
20	38693-8		F20T12/SPEC35 UPC	30	SPEC, 3500K	24	9,000	1275	1190	73
	21331-4	UPC	F20T12/D UPC	30	Daylight, 6500K	24	9,000	1075	960	79
	33948-1		F20T12/Cool White Plus UPC	30	Cool White, 4100K	24	9,000	1200	1050	62
<b>Rapid Start T12</b> T12 Medium Bipin Linear Fluorescent Lamps										
30	38694-6		F30T12/SPEC35 UPC	30	SPEC, 3500K	36	18,000	2350	2080	73
	13579-8		F30T12/C50 UPC	30	Colortone 50, 5000K	36	18,000	1650	1400	92
	38692-0	UPC	F30T12/D UPC	30	Daylight, 6500K	36	18,000	1950	1700	79
	33949-9		F30T12/Cool White Plus UPC	30	Cool White, 4100K	36	18,000	2250	1900	62
34	26793-0	UPC	F34/SPEC35/EW UPC	30	SPEC, 3500K	48	20,000	2800	2520	73
	38695-3	UPC	F34/SPEC41/EW UPC	30	SPEC, 4100K	48	20,000	2800	2520	70
	24475-6	UPC	F34/CW/RS/EW UPC	30	Cool White, 4100K	48	20,000	2650	2300	62
<b>Rapid Start U-Bent T12</b> T12 Medium Bipin										
34	37839-8	UPC	FB34/CW/6/EW UPC	12	Cool White, 4100K	22 7/8	18,000	2400	2050	62
<b>Rapid Start T12</b> T12 Medium Bipin Linear Fluorescent Lamps										
40	37530-3	UPC	F40/DX UPC	30	Daylight, 6500K	48	20,000	2325	2025	84
	13096-2		F40/Cool White Plus UPC	30	Cool White Plus, 4100K	48	20,000	3200	2880	70
<b>Rapid Start U-Bent T12</b> T12 Medium Bipin										
40	37875-8	UPC	FB40/SPEC35/6 UPC	12	SPEC, 3500K	22 7/8	18,000	3050	2775	73
<b>Slimline T12</b> T12 Single Pin Linear Fluorescent Lamps; Instant Start										
39	38703-5	UPC	F48T12/CW UPC	15	Cool White, 4100K	48	9,000	2950	2600	62
56	36999-1	UPC	F72T12/CW UPC	15	Cool White, 4100K	72	12,000	4450	3900	62
60	36631-0	UPC	F96T12/SPEC35/EW UPC	15	SPEC, 3500K	96	12,000	5750	5400	73
	33994-5	UPC	F96T12/CW/EW UPC	15	Cool White, 4100K	96	12,000	5400	4750	62
75	20574-0		F96T12/C50 UPC	15	Colortone 50, 5000K	96	12,000	4650	4200	92
<b>High Output T12</b> T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)										
60	36982-7	UPC	F48T12/CW/HO UPC	15	Cool White, 4100K	48	12,000	4050	3500	62
85	36652-6	UPC	F72T12/CW/HO UPC	15	Cool White, 4100K	72	12,000	6350	5500	62
110	38178-0	UPC	F96T12/CW/HO-O UPC	15	Cool White, 4100K	96	12,000	8800	7650	62

For the most current product information, go to [www.nam.lighting.philips.com/us/ecatalog/](http://www.nam.lighting.philips.com/us/ecatalog/)

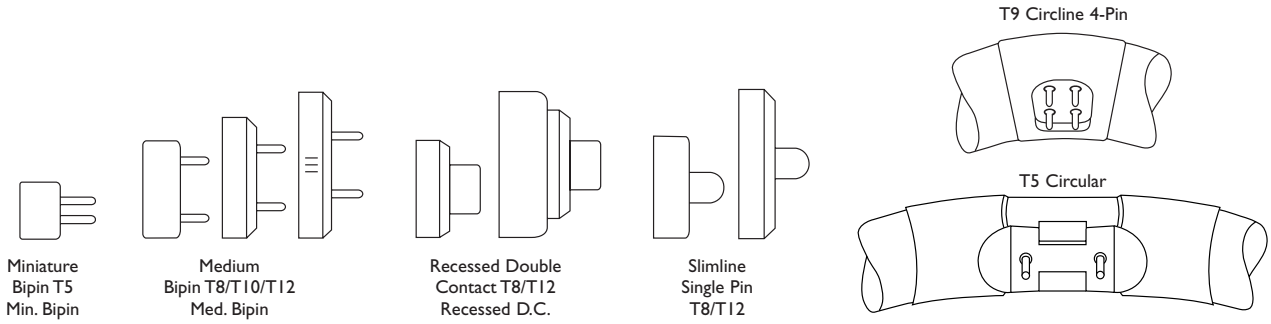
Fluorescent symbols and footnotes located on page 77

UPC This product utilizes ALTO® Lamp Technology

# FLUORESCENT LAMPS

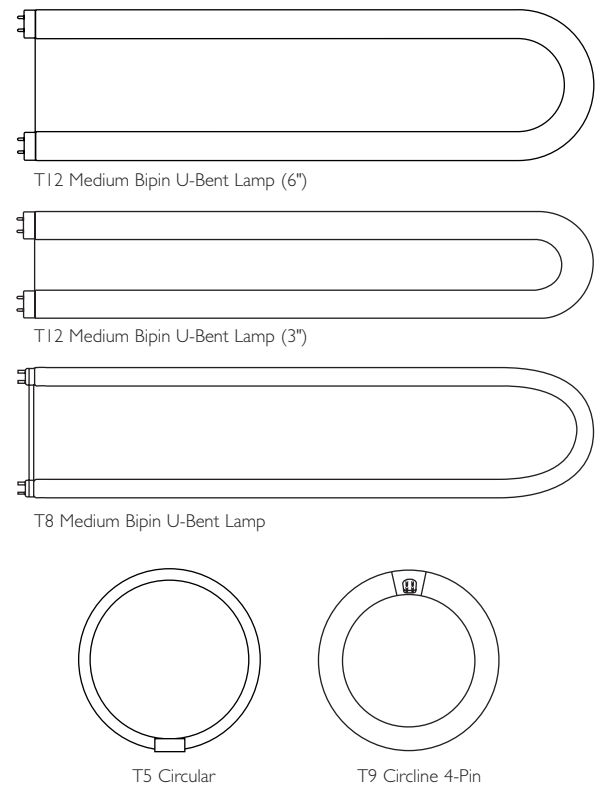
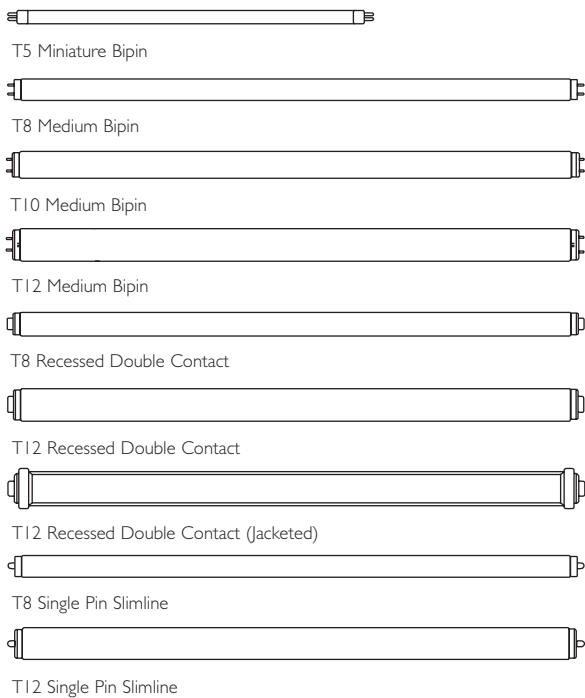
## Fluorescent Base Types and Bulb Shapes

### Base Types (Not Actual Sizes)



### Bulb Shapes (Not Actual Sizes)

The size and shape of a bulb is designated by a letter or letters followed by a number. The letter indicates the shape of the bulb while the number indicates the diameter of the bulb in eighths of an inch. For example, "T12" indicates a tubular shaped bulb having a diameter of 1 1/2 inches. The following illustrations show some of the more popular bulb shapes and sizes.



Because of frequent improvements, the values listed may not be current ratings. For design purposes, obtain ratings from current Product Bulletins.

□ Exclusive to Philips Lighting Company

- Quantity shown is minimum shipping container—refer to Net Price Schedule for number of lamps to qualify as a standard case.

§ Energy Saving Product

♦ Maximum Beam Candlepower

✕ Orders will be shipped until inventory is depleted; no longer manufactured

ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

† New since last printing

◇ Designed for Instant Start Operation

**(202)** Average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours. Lamp life is appreciably longer if lamps are started less frequently.

**(203)** Approximate initial lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under standard laboratory conditions.

**(204)** For expected lamp lumen output, commercial ballast manufacturers can advise the appropriate ballast factor for each of their ballasts when they are informed of the designated lamp. The ballast factor is a multiplier applied to the designated lamp lumen output.

**(205)** Approximate hours of life for F40 lamps operated by standard rapid start ballasts at three hours per start. When these lamps are operated on modified rapid start or preheat circuits the operating life will be reduced by approximately 25 percent. When employing dimming systems or energy-saving device systems, the device manufacturer can advise of the effect of their system upon lamp life.

**(206)** The pins of these lamps are short-circuited inside the end caps and the lamp will not operate on preheat or rapid start ballast circuits.

**(207)** Approximate initial lumens are for 800 ma. operation. For 1000 ma. operation, lumens are approximately 10% higher and watts approximately 15% higher.

**(208)** Design lumens are the approximate lamp lumen output at 40% of the lamp's rated average life. This output is based upon measurements obtained during lamp operation on a reference ballast under standard laboratory conditions.

**(209)** Operation on existing single lamp ballasts is not recommended because of marginal starting.

**(210)** Approximate initial lumens are for operation at 200 ma.

**(211)** Designed for service other than illumination.

**(212)** Nominal length measured from face of base to maximum distant outside point of U. Measurement does not include base pins. Leg spacing center to center approximately 6", for /6 and 3 $\frac{3}{4}$ " for /3 lamps.

**(213)** Unique construction maintains light output over a wide range of operating temperatures.

**(214)** Econ-o-watt® lamps are only recommended for use on high power factor lead, indoor ballasts that meet ANSI standards. The lamps are not recommended for use in drafty areas, or locations where the ambient temperature is less than 60°F, except as noted. Also they should not be operated on low power factor ballasts, reduced light or reduced current ballasts, dimming ballasts or emergency system inverter ballasts.

**(215)** This lamp will operate on rapid start circuits provided ambient temperature is above 60°F, line voltage is 116 volts or higher and the lamps are located within  $\frac{1}{4}$ " of the grounded starting aid (usually the reflector).

**(216)** The use of Amalgam Technology results in relatively stable light output across a broad range of ambient temperatures and operating positions.

**(217)** All Marathon® lamps are suitable for indoor or outdoor use down to -10°F. Outdoor use requires weather-protected fixture. All these products comply with part 18 of the FCC rules. These products may cause interference with AM radios, cordless telephones, and remote control devices. Interference may be caused after a brief 90-second lamp warm-up period. If interference continues, relocate the lamp away from the device or plug into a different outlet.

**(218)** All lamps are electronically ballasted and designed for 120 volt operation. Lamps operated in extreme environments will have reduced life (ie. recessed or enclosed lighting fixtures with elevated line voltage). Caution: except for lamps marked dimmable, do not use with dimmers. Before using these lamps with electronic timing or photocell devices, check to determine whether the device is compatible with compact fluorescent lamps. Use with incompatible devices will result in premature lamp failure. These products are UL listed.

**(219)** PL-S 5W lamps should not be used in sockets or adapters intended for PL-S 7W and PL-S 9W lamps.

**(220)** Total wattage consumption for adapter systems is higher than lamp wattage due to ballast losses. Total system wattage equals lamp wattage plus 2 ballast watts.

**(221)** The PL-C13W/27 is physically and electrically incompatible with the more popular PL-C13W/27/USA types.

**(222)** Low temperature starting down to -20°F at nominal line voltage.

**(223)** Meets the National Energy Policy Act of 1992 exemption for outdoor or cold temperature applications only.

**(225)** Lamp includes scannable Universal Product Code (UPC).

**(226)** SILHOUETTE™ T5 nominal lamp lengths are shorter than standard sizes. See chart on page 65 for details.

**(227)** Do not use in recessed cans or totally enclosed fixtures.

**(228)** Use in recessed cans or enclosed indoor fixtures could result in reduced lamp life.

**(230)** Average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours.

**(231)** Approximate initial lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life under standard laboratory conditions.

**(232)** Lamp is designed for use with most standard incandescent dimmers.

**(233)** Rated average life of 7,000 hours when wired in recessed cans or totally enclosed fixtures.

**(234)** Rated average life 15,000 hours. Operate on Instant Start ballasts only.

**(235)** Universal T8 lamps have full rated average life on Instant Start, Rapid Start and Programmed Start ballasts.

**(236)** Use base down only.

**(237)** Do not use in totally enclosed indoor fixtures.

**(238)** UL approved for outdoor wet location applications when used base up. Base down use requires a weather-protected enclosed fixture.

**(239)** Design lumens rated at 3 hours per start on Instant Start ballast.

**(240)** Life is based upon household usage of 6 hours average usage per day, 7 days per week. See individual product packaging for details.

**(241)** Average life under engineering data with lamps turned off and restarted once every 12 operating hours.