See what's possible with Philips Lighting

Lamp Specification and Application Guide 2006

PHILIPS

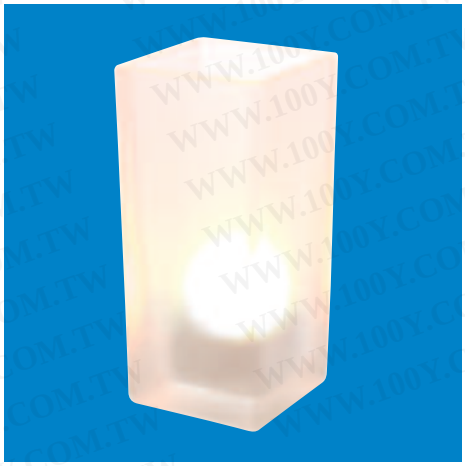
Delivering Solutions

The world of lighting today has become complex and technical. Trends toward miniaturization, energy efficiency, ease of use, light and well being, quality of light, personalization, mood and emotion all drive new product developments. All Philips innovations are based on extensive knowledge of these trends and market insights.

At Philips, we are committed to making our products easier to experience. We are also committed to understanding current and future trends by listening to our business partners and customers. Together we can develop lighting solutions of the highest quality and originality that meets their needs and expands their possibilities.

Philips MasterColor® Integrated 25W PAR38

Philips Energy Advantage Long Life 25W T8 System featuring ALTO® Lamp Technology



Philips Aurelle™ Rechargeable LED Candles

Philips Lighting: A history of innovation

For over 100 years now, Philips Lighting has been introducing lighting innovations to the market. It's what we do best and by doing so we create business opportunities for ourselves and for our partners.

Our new products and marketing initiatives are based on our detailed understanding of current and future trends within the many market segments we work in and input from end-users.

Our innovations over the past 25 years include:

1980	1985	1990	1991	1995
				
Compact Fluorescent Technology	Philips Long Life Incandescent	Dimmable Compact Fluorescent	Halogená® Classic	ALTO® Lamp Technology

Photography by Jeff MacWright of MacWright Studio

2000	2001	2003	2004	2005
				
QL Induction Lighting	Halogená® Flood and Spot	Halogen PAR38 IRC	Mini MasterColor®	MasterColor® Integrated PAR38

Lighting can change your environment

Lighting the Task

How much light you need depends on the visibility of the task (its size and contrast), the speed and accuracy of the task and the age of the person performing the task. Requirements can vary widely so choosing the right light source is critical.

The colors of the walls, ceilings and furniture also affect lighting since darker finishes can absorb more light than more reflective surfaces.

Lighting People

To read people's expressions, you need lighting that renders facial tones well. Lighting that reveals a healthy skin tone also makes people feel better and more motivated. Most people feel that better color aids visual acuity and productivity.

Older lighting systems are particularly poor with respect to color but can be easily upgraded with today's systems, which have better color rendering and are more energy efficient.

What is Color Rendering?

Color rendering is the ability of a light source to represent colors in objects. Commonly called CRI or color rendering index, it is a relative measurement which rates light sources on a scale of 0–100, the higher the CRI, the more vibrant colors appear.

Light from lamps with good (70–80 CRI) and excellent (80+ CRI) color rendering properties is said to be "high quality light" because objects and people look more appealing and light level itself appears to be higher.

Excellent CRI is critical in settings where it is important that people appear natural, in retail applications where merchandise must look appealing and in restaurant applications where food must look appetizing. In office and factory applications, high color rendering can increase visual clarity and create a more pleasing and productive work environment.

Luminous Efficacy

Luminous efficacy is the rate at which a lamp is able to convert electrical power (watts) into light (lumens), expressed in terms of lumens per watt (LPW). Put simply, a watt of electricity is the amount of power into a lighting system and a lumen or light is the amount of power out of a lighting system. Luminous efficacy is key when evaluating a lamp because lighting represents a large portion of the total operating cost of a typical installation and can affect related costs such as air conditioning. By investing in energy efficient lighting upgrades, you can leverage the energy cost savings to achieve significant reductions in your operating costs. In addition, an energy-efficient system benefits the environment.

Color Temperature

The overall color appearance of the light that comes from a light source is called color temperature or chromaticity. Also referred to as Correlated Color Temperature (CCT) and measured in degrees Kelvin or "K", color temperature creates the mood or ambience of the space you are lighting and can influence shopping behavior or work performance.

To help visualize color temperature in lamp types designated as "warm" or "cool," imagine a piece of iron (or a horseshoe, for instance) in a fire. At first, the iron becomes "red-hot" and will be reddish-yellow in color. The reddish-yellow color corresponds to a warm color temperature. It would be equivalent to incandescent lamps operating at 2700K.

As you continue to heat the iron, it will become "white-hot" and will be white in color. This corresponds to a cool white fluorescent lamp operating at 4100K.

Heating the iron further causes it to become "blue-hot" or blue in appearance (like flash bulbs or stars), such as in 5K metal halide sources operating at 5000K.

The Influence of Color Temperature on Mood and Lighting Applications

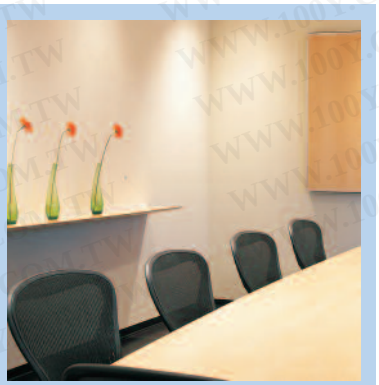
Color Temperature	Warm	White	Neutral	Cool	Daylight
Kelvin Range	2700K	3000K	3500K	4100K	5000K
Associated Effects and Moods	Warm Cozy Open	Friendly Intimate Personal Exclusive	Friendly Inviting Non-threatening	Neat Clean Efficient	Bright Alert Exacting coloration
Appropriate Applications	Restaurants Hotel lobbies Boutiques Homes	Libraries Office areas Retail stores	Public reception areas Showrooms Bookstores Office areas	Office areas Conference rooms Classrooms Mass merchandisers Hospitals	Galleries Museums Jewelry stores Medical examination areas Printing companies

Tips on Color Temperature

Tip: Cooler light, in the 4100K range, communicates neatness and efficiency. It's appropriate for the work areas in most offices. Philips T8 lamps are perfect for creating a cooler atmosphere.

Tip: A warm atmosphere, achieved with compact fluorescent lighting, can create a friendly, intimate or inviting surrounding. Philips Marathon® compact fluorescents create a warm atmosphere.


Cool atmosphere


Warm atmosphere

Every lighting application has its own unique requirement. Philips can provide the right solution to help transform all your spaces.

Brighten the shop

©2005 Photography by Josh Edenbaum.

Photo courtesy of Darris Lee, Padgett and Company.

ping experience

Photography by Jeff MacWright of MacWright Studio.

Retail Lighting

Effective retail lighting can drive traffic into a store by illuminating enticing store front displays. The right lighting can also create a comfortable environment inside the store that highlights the merchandise and makes customers feel comfortable. If a customer can focus on merchandise that is well lit then they may want to spend more time browsing.

Shoppers are becoming more demanding of retailers as their shopping purpose becomes more inspirational and social. Understanding how lighting effects the mood of the shopper is critical to maintaining the proper atmosphere in a retail environment.

The Philips Halogen lamp family is perfect for retail lighting. Lamps are available in three simple categories for decorative, accent, ambient, and track lighting. Designed to appeal visually, they also save on energy costs.

Philips MasterColor® lamps provide excellent color rendering in the retail environment and are available in a variety of shapes and sizes to fit your existing fixtures and suit your budget.

Creating a respon and productive wo

Photography © Z.Jedrus.

Photography © Z.Jedrus.

sible rkplace space

Office Lighting

What are the most challenging visual tasks in the office? Reading material on computer screens? Reading the fine print of photocopied documents? Or perhaps evaluating the facial expressions of people in sensitive discussions or sales situations? Whatever tasks are the most critical in your office, lighting can play a crucial role in achieving a productive and appealing visual environment.

In fluorescent lighting, which dominates office spaces, Philips sets the standard in cost-effective, energy saving, long life performance. Philips innovative tri-phosphor design gives modern fluorescent lamps both good color rendering and energy efficiency. Our ALTO® Technology is the pre-eminent low-mercury technology. And, our slim Silhouette T5 lamps have made indirect office lighting more efficient and more attractive.

Replacing standard 32W T8 fluorescent lamps with Philips Energy Advantage Long Life 25W T8 lamps can save you 7 watts per lamp instantly. Philips UV germicidal lamps, installed in HVAC ducts, protect against airborne pathogens, purifying the air we breathe and improving indoor air quality.

Make your guests

feel at home

Hospitality Lighting

Lighting plays a big part in making a good first impression with your hotel guests. Lighting can dramatically change the mood, image and functionality of a space. Lighting can create a unique atmosphere for your guests and make them feel at home.

To create a unique lighting experience, use a combination of ambient, focal and decorative light. Ambient light provides general light in the room, while focal light draws particular attention to specific areas—for example art, in the guest room. Decorative light adds sparkle and atmosphere.

In addition to creating a unique atmosphere, lighting can significantly improve your bottom line. The largest cost when considering lighting comes from the energy used to operate lamps over time, not the initial cost of the lamp. A simple upgrade to long lasting, lower wattage lamps like Philips Marathon® compact fluorescents, can save on electricity and maintenance costs.

Philips offers a wide range of products that allow you to use less energy, while not sacrificing light quality, and at the same time provide you the opportunity to create a unique atmosphere in your space.

Improve lighting in industrial and ware

ehouse spaces

Photography by Jeff MacWright of MacWright Studio.

Industrial and Warehouse Lighting

Industrial and warehousing facilities face increasingly complex challenges: an aging workforce, concerns for health and safety, volatile energy markets, and environmental mandates. Lighting plays a crucial role in responding to industrial demand for productivity, cost control, and environmental responsibility.

Whether you are changing your space from yellow to white light by using Philips HPS-Retro White™ or from HID to fluorescent by using our Silhouette™ T5 lamps, or upgrading to the latest HID technology available, Philips Lighting products can provide the visual requirements for your space and workforce.

If long life is what you are looking for, consider QL lamps which have a rated average life of 100,000 hours.

Fluorescent, HID (mostly metal halide) and QL Induction Lighting all compete in the industrial arena. Each light source has its strengths and weaknesses. Analyzing your needs and knowing your applications will guide you to the best lighting choices.

Energy conservation and emission reduction

Energy Savings Calculator

To calculate energy dollars saved over the life of a bulb, use this formula. All you need is your Present Bulb Wattage and the Replacement Bulb Wattage and Lamp Life.

Present Bulb Wattage		Watts
Subtract		
Replacement Bulb Wattage		Watts
Equals Wattage Saved		Watts
Multiply		
By Replacement Bulb Life		Hours Life
Equals Energy Saved		Watt-Hours
To Convert to Kilowatt Hours Divide by 1000	÷1000	
Equals Energy Saved		KiloWatt Hours
Multiply		
By Your KwH Rate		
Equals Energy Dollars Saved by Each Bulb	$	
Multiply		
By Number of Bulbs in Your Facility		
TOTAL DOLLARS SAVED Over the Rated Average Life of the Bulbs	$	

Conserving energy not only reduces electricity costs; it also decreases the emission of greenhouse gases produced in electricity generation. In addition to the energy saving strategies applicable to the primary fluorescent lighting systems in the office, you can reduce energy consumption in supplemental lighting by using compact fluorescent and metal halide lamps. They can save significantly on energy consumed as compared to incandescent lamps—with commensurate savings in electricity costs. So you can do well by doing good!

Using Lighting Controls

Dimming and occupancy sensing controls also save energy and are viable options for most fluorescent lighting. For dimming or frequent switching, the Philips Advantage T8 featuring ALTO® Lamp Technology offers superior energy efficiency and full controllability.

Additional Savings on HVAC

Lighting systems add heat to all spaces, which contributes to the air conditioning load. Depending on the climate, each watt saved on lighting can produce an additional savings on the energy used to cool the space.

Working towards sustainability

At Philips we believe sustainable development is imperative. It is our way of doing business—an investment that will create value and secure the future. And in the end, it is the right thing to do.

The Philips holistic approach to sustainable innovation:

Ecology: Technological Innovation
Society: New Values
Economy: New Business Models

The decisions we make are critical in stimulating and exploring new business initiatives and new markets focused on sustainability.

Philips Product Design

EcoDesign is environmentally conscious product design. Philips product development involves focusing on the following areas when developing products:

Weight | Hazardous substances | Energy consumption | Packaging | Recycling and disposal

Green Flagship Product A product determined by Philips to offer better environmental performance in two or more of the above areas, compared with its predecessors or closest commercial competitors.

Packaging Wherever possible Philips product packaging must be reusable or recyclable.

Supplier Management We developed a Supplier Declaration on Sustainability that outlines minimum expectations of behavior in the areas of environment, health and safety and labor conditions.

U.S. GREEN BUILDING COUNCIL MEMBER

Philips Lighting Company is proud to be the first lighting manufacturer to become a member of the USGBC.

energy ENERGY STAR PARTNER

Reduce, reuse and recycle

Philips Lighting Company has adopted an integrated approach to sustainable lighting solutions. Using the "3R's" guideline set forth by the Environmental Protection Agency's Division of Solid Waste Management, we affirmed our endorsement and outlined how we live by this principle of "reduce, reuse and recycle."

Reduce: Philips fluorescent lamps featuring ALTO® Lamp Technology combine low mercury with long life and energy efficiency—which together help achieve sustainability:

Low Mercury: Philips fluorescent lamps featuring ALTO® Lamp Technology average 70% less mercury than the 2001 industry average for fluorescent lamps up to sixty inches which are not TCLP[1] compliant. Source reduction during the manufacturing phase is essential to mercury management throughout the product lifecycle.

Long Life: Philips 4' T8 lamps featuring ALTO Lamp Technology achieve longer life than standard 4' T8 lamps, reducing the impact of lamps on the environment.

Energy Efficiency: Since lighting, on average, consumes 25% of the energy use in a typical building, energy efficient lighting not only reduces operating costs it also supports a clean and sustainable environment.

Optimized Performance: Higher lumen output lamps potentially reduce the quantity of lamps required to achieve and maintain light levels. Better lumen output and maintenance can improve visual acuity. The IALD (International Association of Lighting Designers) defines sustainable lighting as "lighting design that meets the qualitative needs of the visual environment with the least amount of impact on the physical environment." Balancing the visual needs and environmental needs to achieve a sustainable lighting design is imperative.

Reuse: ALTO lamps use 100% recycled mercury during the ALTO manufacturing process. We also reuse as much of our glass and packaging materials as possible.

Philips also has target reductions in packaging and production processes as outlined in the Annual Philips Sustainability Report.

Recycle: As part of our EcoVision program, we strive to reduce waste and increase recycling of all materials. Philips encourages recycling of all mercury-containing lamps.

Solutions for LEED-EB lighting standards

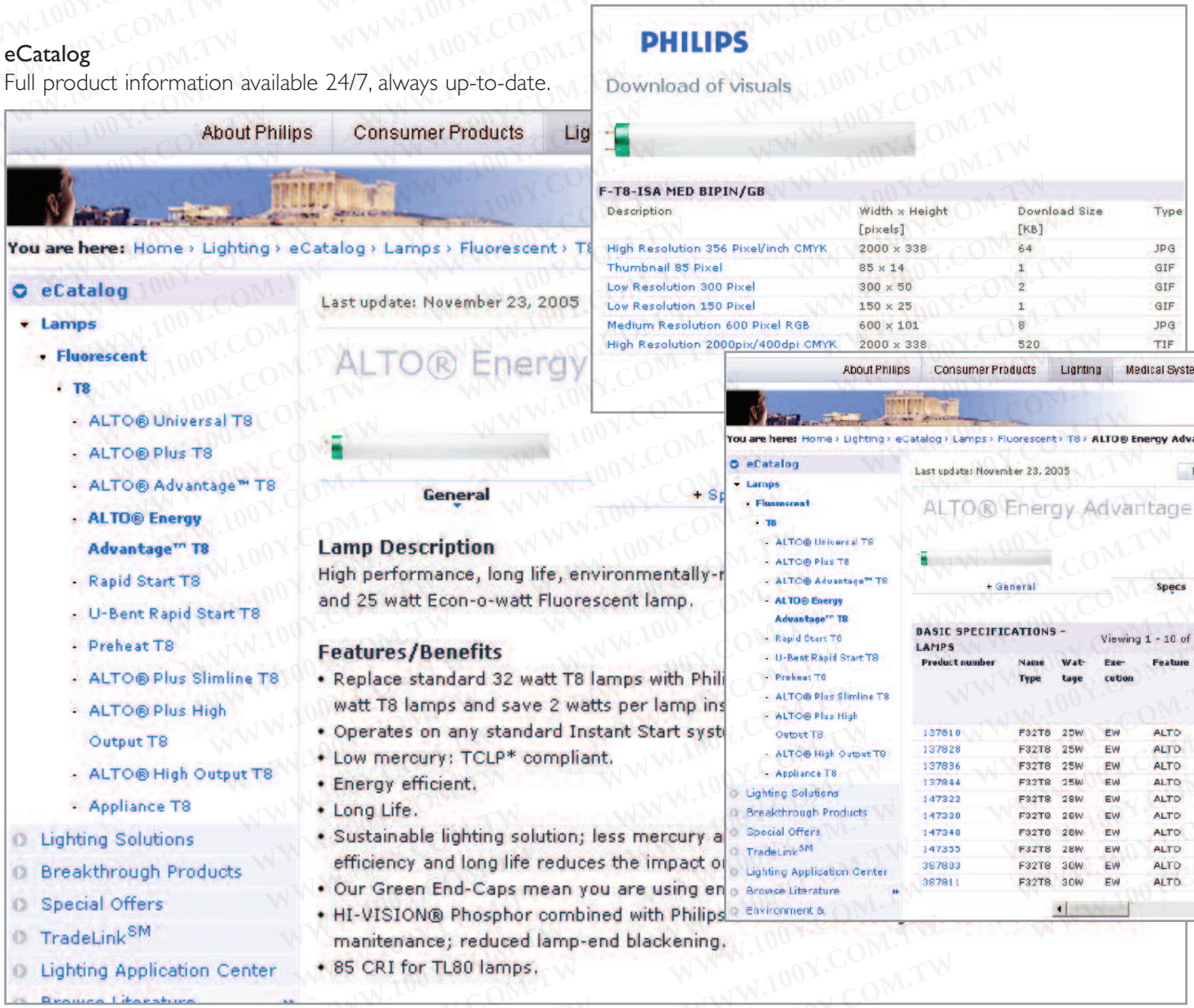
When it comes to lighting performance, existing buildings must have a maximum of 100 pico-grams per lumen hour to pass LEED-EB standards. At Philips we provide a wide array of low-mercury, long life, high lumen, high performance or optimized performing lamps that exceed this standard with a goal of achieving 80 pico-grams per lumen hour or below. Facility managers can visit www.philips.com to use an online Sustainable Lighting Index℠ calculator. Philips designed the calculator to be compatible with the LEED-EB lighting specifications.

1) The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.

Find us online @ www.philips.com

Online Professional Tools Available 24/7

eCatalog
Full product information available 24/7, always up-to-date.



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Lighting Application Center

General info and registration

Browse Literature

You can find all of our literature online including: catalogs/brochures, product bulletins, technical data sheets, case studies, photometric data

Incandescent Lighting

Create a brighter standard

Bad lighting can make people and objects look washed out. Philips Natural Light Bulbs help you see things the way they should be. Natural Light's distinctive blue coating reduces dull light effects to provide light that is more vibrant and natural. Natural Light brings out the true colors of people and the décor.

Philips DuraMax® Long Life Light Bulbs reduce the hassle of replacing light bulbs every few months, since all DuraMax products last longer than standard incandescent light bulbs. A wide assortment of shapes, sizes and wattages ensures that there is a DuraMax product to meet most basic lighting needs.

Philips Family of Specialty Incandescents provide the perfect light for dramatic accents and display lighting as well as general lighting in a variety of applications. From tubular shapes and appliance bulbs, to colored lamps made specifically for holiday, party or special effects lighting, this family of lamps has everything needed for professional and consumer applications.

Incandescent Lighting

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
DuraMax® Long Life Soft White														
15	A-15	Med.	**16860-9**	▲	**15A/WL 12/2**	**120**	24	Soft White Long Life	B, C-9		3 ½	3000		115
25	A-19	Med.	**16868-2**	▲	**25A/WL 12/2**	**120**	24	Soft White Long Life	C, CC-6		4 7/16	3000		235
30	A-21	3 Ct.	**16947-4**	▲ (8)	**30/100A/WL 12/1**	**120**	12	Soft White Long Life	C, 2CC-8		5 5/16	1750		285
70		Med.						3-Way						920
100														1205
40	A-19	Med.	**16869-0**	▲	**40A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 7/16	1500		475
			16737-9	▲	**40A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 7/16	1500		475
50	A-21	3 Ct.	**16948-2**	▲ (8)	**50/150A/WL 12/1**	**120**	12	Soft White Long Life	C, 2CC-8		5 5/16	1750		575
100		Med.						3-Way						1440
150														2015
50	A-21	3 Ct.	**16949-0**	▲ (8)	**50/250A/WL 12/1**	**120**	12	Soft White Long Life	C, 2CC-8		5 5/16	1750		575
200		Med.						3-Way						3120
250														3695
60	A-19	Med.	**16874-0**	▲	**60A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 7/16	1500		830
			16738-7	▲	**60A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 7/16	1500		830
75	A-19	Med.	**16879-9**	▲	**75A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 7/16	1500		1040
			16739-5	▲	**75A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 7/16	1500		1040
100	A-19	Med.	**16862-5**	▲	**100A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-8		4 7/16	1500		1550
			16740-3	▲	**100A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-8		4 7/16	1500		1550
150	A-21	Med.	**16866-6**	▲	**150A/WL 12/1**	**120**	12	Soft White Long Life	C, CC-8		5 5/16	1500		2310
200	A-21	Med.	**16867-4**	▲	**200A/WL 6/1**	**120**	6	Soft White Long Life	C, CC-8		5 5/16	1500		3300
DuraMax® Long Life Globes														
25	G-25	Med.	**16748-6**	▲	**25G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		210
			16887-2	▲	**25G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		235
			16901-1	▲	**25G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		235
			16902-9	▲	**25G25/W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		210
40	G-25	Med.	**16903-7**	▲	**40G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		460
			16904-5	▲	**40G25/W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		415
			16746-0	▲	**40G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		415
			16747-8	▲	**40G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		460
			16702-3	▲	**40G25/CT 6/1**	**120**	6	Clear Long Life Chrome Top	C, C-9		4 7/16	2000		200
	G-40	Med.	**16857-5**	▲	**40G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9		6 15/16	3000		372
			16858-3	▲	**40G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9		6 15/16	3000		335
60	G-25	Med.	**16749-4**	▲	**60G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		700
			16896-2	▲	**60G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		775
			16899-6	▲	**60G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6		4 7/16	2000		775
			16900-3	▲	**60G25/W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		700
	G-30	Med.	**16849-2**	▲	**60G30/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9		5 ½	3000		580
	G-40	Med.	**16851-8**	▲	**60G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9		6 15/16	3000		595
			16852-6	▲	**60G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9		6 15/16	3000		665
100	G-25	Med.	**13423-9**	▲	**100G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6		4 7/16	2000		1180
	G-30	Med.	**16850-0**	▲	**100G30/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9		5 ½	3000		945
	G-40	Med.	**16853-4**	▲	**100G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9		6 15/16	3000		985
			16859-1	▲	**100G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9		6 15/16	3000		1100
150	G-40	Med.	**16854-2**	▲	**150G40/W/L 6/1**	**120**	6	White Long Life Globe	C, C-9		6 15/16	3000		1770

For the most current product information, go to the e-catalog on **www.philips.com**

Incandescent symbols and footnotes located on page 44

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
DuraMax® Long Life Reflectors														
30	R-20	Med.	**16753-6**	▲ (87)	**30R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500	350	205
45	BR-30	Med.	**16751-0**	▲ (87)	**45BR30/FL55/LL 12/1**	**120**	12	Long Life Reflector Flood	C, CC-6		5 3/8	2500		340
50	BR-19	Med.	**16750-2**	▲ (87) $ ▢	**50BR19/25/SP/LL 12/1**	**120**	12	Long Life Spotline Reflector	C, CC-11		4 1/8	2500	700	385
	R-20	Med.	**16755-1**	▲ (87)	**50R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500	600	385
65	BR-30	Med.	**16768-4**	▲ (87)	**65BR30/FL55/LL 12/1**	**120**	12	Long Life Reflector Flood	C, CC-6		5 3/8	2500	510	595
			16769-2	▲ (87)	**65BR30/SP20/LL 12/1**	**120**	12	Long Life Reflector Spot	C, CC-6		5 3/8	2500	530	610
	BR-40	Med.	**16741-1**	▲ (87)	**65BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	500	630
75	R-20	Med.	**16763-5**	▲ (87)	**75R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500	1250	570
85	BR-30	Med.	**16766-8**	▲ (87)	**85BR30/FL55/LL 6/1**	**120**	6	Long Life Reflector Flood	C, CC-6		5 3/8	2500	700	855
			16767-6	▲ (87)	**85BR30/SP20/LL 6/1**	**120**	6	Long Life Reflector Spot	C, CC-6		5 3/8	2500	3100	865
	BR-40	Med.	**16785-8**	▲ (87)	**85BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	700	900
			16788-2	▲ (87)	**85BR/SP20/LL 8/1**	**120**	8	Long Life Reflector Spot	C, CC-6		6 1/2	2500	3100	900
100	R-20	Med.	**16701-5**	▲ (87)	**100R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500		935
120	BR-40	Med.	**16779-1**	▲ (87)	**120BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	1000	1285
			16781-7	▲ (87)	**120BR/SP20/LL 8/1**	**120**	8	Long Life Reflector Spot	C, CC-6		6 1/2	2500	4600	1225
DuraMax® Long Life Sparkling Clear														
40	A-19	Med.	**16797-2**	▲	**40A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		505
60	A-19	Med.	**16794-0**	▲	**60A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		900
75	A-19	Med.	**16801-3**	▲	**75A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		1080
100	A-19	Med.	**16795-6**	▲	**100A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		1470
150	A-21	Med.	**16799-8**	▲	**150A/CL/LL 12/1**	**120**	12	Clear Long Life	C, CC-8		5 7/16	1500		2570
200	A-23	Med.	**16798-0**	▲	**200A/CL/LL 6/1**	**120**	6	Clear Long Life	C, CC-8		6 7/16	1500		3665
DuraMax® Long Life Fan Lights														
40	A-15	Med.	**16934-2**	▲	**BC40A15/FAN/CL/LL 6/2**	**120**	12	Clear Long Life Fan	C, CC-2R		3 1/2	2000		395
			16935-9	▲	**BC40A15/FAN/W/LL 6/2**	**120**	12	White Long Life Fan	C, CC-2R		3 1/2	2000		365
60	A-15	Med.	**16945-8**	▲	**BC60A15/FAN/W/LL 6/2**	**120**	12	White Long Life Fan	C, CC-2R		3 1/2	2000		570
			16946-6	▲	**BC60A15/FAN/CL/LL 6/2**	**120**	12	Clear Long Life Fan	C, CC-2R		3 1/2	2000		630
DuraMax® Long Life Decoratives														
3	CA-10	Med.	**16697-4**	▲ (12)	**BC3CA10/CL/LL 6/1**	**120**	6	Clear Long Life Flicker Flame	B, CC-2V		3 7/8	2000		
		Cand.	**16698-2**	▲ (12)	**BC3CA10C/CL/LL 6/1**	**120**	6	Clear Long Life Flicker Flame	B, CC-2V		4 1/16	2000		
15	BA-9	Cand.	**16811-2**	▲ (12)	**BC15BA9C/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	B, CC-2V C-7A		4 1/16	2000		110
			16696-6	▲ (12)	**BC15BA9C/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	B, CC-2V C-7A		3 3/4	2000		110
	F-10	Cand.	**16830-2**	▲ (12)	**BC15F10C/CL/LL 6/2**	**120**	12	Clear Long Life Flame	B, C-7A		3 1/16	2000		95
			16831-0	▲ (12)	**BC15F10C/A/LL 6/2**	**120**	12	Amber Long Life Flame	B, C-7A		3 1/16	2000		85
25	BA-9	Cand.	**16719-7**	▲ (12)	**BC25BA9C/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		150
			16806-2	▲ (12)	**BC25BA9C/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		150
			16810-4	▲ (12)	**BC25BA9C/F/LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		145
	BA-9 1/2	Med.	**16819-5**	▲ (12)	**BC25BA9-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		150
	B-10 1/2	Cand.	**16824-5**	▲ (12)	**BC25B10-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		150
	B-13	Med.	**16827-8**	▲ (12)	**BC25B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		150
	CA-8	Cand.	**13568-1**	▲ (12)	**BC25CA8C/CL/LL 6/2**	**120**	12	Clear Petite Long Life Bent Tip	C, CC-2V		3 1/2	2000		220
	F-10	Cand.	**16832-8**	▲ (12)	**BC25F10C/CL/LL 6/2**	**120**	12	Clear Long Life Flame	B, C-7A		3 1/16	2000		105

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
25	F-15	Med.	**16833-6**	▲ (12)	**BC25F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	B, C-9		4 ½	2000		150
			16839-3	▲ (12)	**BC25F15/IR/LL 6/2**	**120**	12	Iridescent Long Life Flame	C, C-9		4 ½	2000		150
			16840-1	▲ (12)	**BC25F15/W/LL 6/2**	**120**	12	White Long Life Flame	C, C-9		4 ½	2000		120
			16841-9	▲ (12)	**BC25F15/A/LL 6/2**	**120**	12	Amber Long Life Flame	B, C-9		4 ½	2000		130
	G-16 ½	Cand.	**16845-0**	▲ (12)	**BC25G16-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Globe	B, CC-2V C-7A		3	2000		200
			16847-6	▲ (12)	**BC25G16-1/2C/W/LL 6/2**	**120**	12	White Long Life Globe	B, CC-2V C-7A		3	2000		165
		Med.	**13535-0**	▲ (12)	**BC25G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 ¾	2000		180
			13534-3	▲ (12)	**BC25G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 ¾	2000		120
40	BA-9	Cand.	**16720-5**	▲ (12)	**BC40BA9C/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅜	2000		300
			16807-0	▲ (12)	**BC40BA9C/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅜	2000		300
			16809-6	▲ (12)	**BC40BA9C/F/LL 6/2**	**120**	12	Frost. Long Life Bent Tip	C, CC-2V C-7A		4 ⅜	2000		295
	BA-9 ½	Med.	**16760-1**	▲ (12)	**BC40BA9-1/2/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		300
			16820-3	▲ (12)	**BC40BA9-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		300
			16821-1	▲ (12)	**BC40BA9-1/2/F/LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		295
	B-10 ½	Cand.	**16825-2**	▲ (12)	**BC40B10-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		300
	B-13	Med.	**16828-6**	▲ (12)	**BC40B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		300
	F-15	Med.	**16835-1**	▲ (12)	**BC40F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	C, C-9		4 ½	2000		385
			16837-7	▲ (12)	**BC40F15/IR/LL 6/2**	**120**	12	Iridescent Long Life Flame	C, C-9		4 ½	2000		370
			16838-5	▲ (12)	**BC40F15/W/LL 6/2**	**120**	12	White Long Life Flame	C, C-9		4 ½	2000		300
	G-16 ½	Cand.	**16846-8**	▲ (12)	**BC40G16-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V C-7A		3	2000		300
			16848-4	▲ (12)	**BC40G16-1/2C/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V C-7A		3	2000		245
		Med.	**13537-6**	▲ (12)	**BC40G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 ¾	2000		300
			13536-8	▲ (12)	**BC40G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 ¾	2000		270
60	BA-9	Cand.	**16808-8**	▲ (12)	**BC60BA9C/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅜	2000		550
			16721-3	▲ (12)	**BC60BA9C/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅜	2000		550
			16805-4	▲ (12)	**BC60BA9C/F/LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		545
	BA-9 ½	Med.	**16822-9**	▲ (12)	**BC60BA9-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		550
			16823-7	▲ (12)	**BC60BA9-1/2/F/LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		545
	B-10 ½	Cand.	**16826-0**	▲ (12)	**BC60B10-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		550
	B-13	Med.	**16829-4**	▲ (12)	**BC60B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		550
	F-15	Med.	**16842-7**	▲ (12)	**BC60F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	C, C-9		4 ½	2000		630
	G-16 ½	Cand.	**16699-0**	▲ (12)	**BC60G16-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V C-7A		3	2000		540
			16700-7	▲ (12)	**BC60G16-1/2C/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V C-7A		3	2000		450
		Med.	**13538-4**	▲ (12)	**BC60G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 ¾	2000		540
			13530-1	▲ (12)	**BC60G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 ¾	2000		420
100	F-20	Med.	**16844-3**	▲ (12)	**100F20/POSTLT/CL/LL 6/1**	**120**	6	Clear Long Life PostLight	C, C-9		5 ⅛	4000		1250

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Natural Light

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
Natural Light Standard													
40	A-19	Med.	**13558-2**	▲	**40A/NTL 12/4**	**120**	48	Natural Light Standard	C,CC-6	4 7/16	1000		400
NEW! **60**	A-19	Med.	**13559-0**	▲	**60A/NTL 12/4**	**120**	48	Natural Light Standard	C,CC-6	4 7/16	1000		680
75	A-19	Med.	**13560-8**	▲	**75A/NTL 12/4**	**120**	48	Natural Light Standard	C,CC-6	4 7/16	750		950
100	A-19	Med.	**13561-6**	▲	**100A/NTL 12/4**	**120**	48	Natural Light Standard	C,CC-6	4 7/16	750		1350
Natural Light 3-Way													
50	A-21	3 Ct.	**13564-0**	▲ (8)	**50/150A/NTL 12/1**	**120**	12	Natural Light 3-Way	C, 2CC-8	5 5/16	1200		490
NEW! **100**		Med.											1250
150													1740
Natural Light Globe													
NEW! **40**	G-25	Med.	**13563-3**	▲	**40G25/NTL 6/1**	**120**	6	Natural Light Globe	C,CC-6	4 7/16	1500		320
60	G-25	Med.	**13562-4**	▲	**60G25/NTL 6/1**	**120**	6	Natural Light Globe	C,CC-6	4 7/16	1500		560
Natural Light Fan													
NEW! **40**	A-15	Med.	**13565-7**	▲	**BC40A15/NTL 6/2**	**120**	6	Natural Light Fan	C.CC-2R	3 ½	1500		340
Natural Light Reflector													
50	R-20	Med.	**13797-5**	▲ (87)	**50R20/FL/NTL 12/1**	**120**	12	Natural Light Reflector	C,CC-6	3 15/16	2000		265
NEW! **65**	BR-30	Med.	**13785-1**	▲ (87)	**65BR30/FL/NTL 12/1**	**120**	12	Natural Light Reflector	C,CC-6	5 3/8	2000		500
85	BR-40	Med.	**14579-7**	▲ (87)	**85BR/FL/NTL 8/1**	**120**	8	Natural Light Reflector	C,CC-6	6 ½	2000		640
Natural Light Decorative													
40	G16 ½	Cand.	**14129-1**	▲ (12)	**BC40G16-1/2C/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	3	2000		270
	B10 ½	Cand.	**14125-9**	▲ (12)	**BC40B10-1/2C/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	4 1/16	2000		270
NEW!	B13	Med.	**14127-5**	▲ (12)	**BC40B13/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	4 1/16	2000		270
60	G16 ½	Cand.	**14130-9**	▲ (12)	**BC60G16-1/2C/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	3	2000		510
	B10 ½	Cand.	**14126-7**	▲ (12)	**BC60B10-1/2C/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	4 1/16	2000		510
	B13	Med.	**14128-3**	▲ (12)	**BC60B13/NTL 6/2**	**120**	12	Natural Light Decorative	C, C-7A	4 1/16	2000		510

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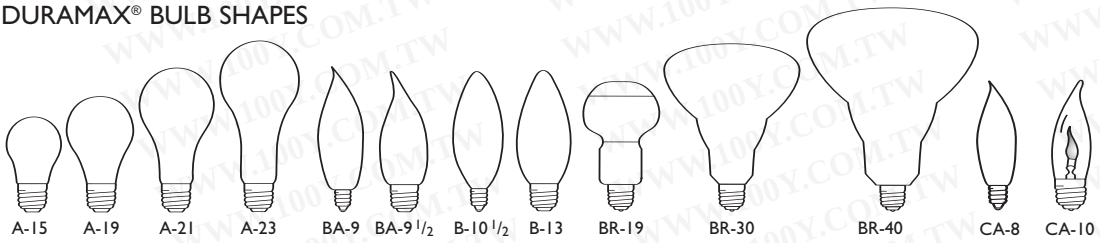
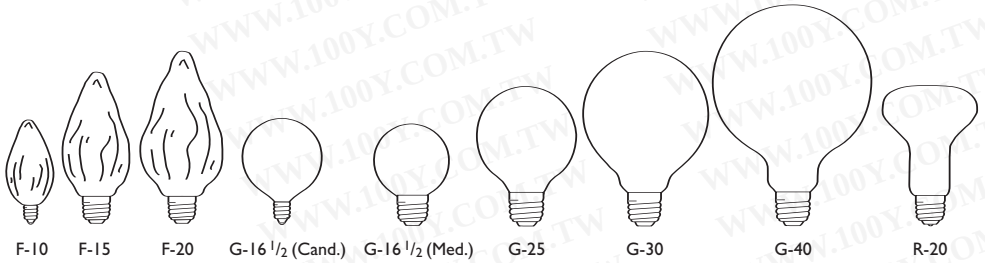
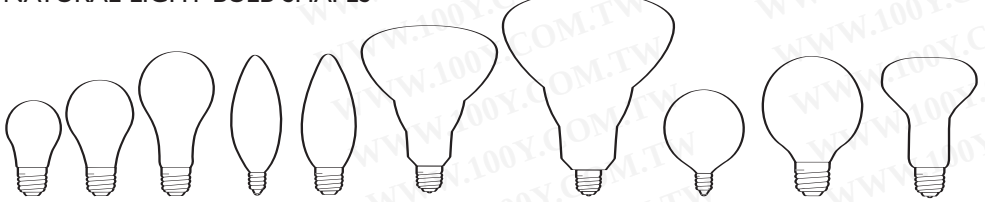
DURAMAX® BULB SHAPES





NATURAL LIGHT BULB SHAPES



Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
3	S-6	Cand.	**37374-6**	▲	**3S6/5**	**120–130**	48	Clear Indicator	B, C-7A		1 ⅞	3000		12
4	C-7	Cand.	**25706-3**	▲	**BC4C7 12/2**	**120**	24	Clear Night Light	B, C-7A		2 ⅛	3000		16
			24741-1	▲	**BC4C7/4 12/4**	**120**	48	Clear Night Light	B, C-7A		2 ⅛	3000		16
			25708-9	▲	**BC4C7/W 12/2**	**120**	24	White Night Light	B, C-7A		2 ⅞	3000		14
6	S-6	Cand.	**23443-5**	▲	**6S6**	**12**	48	Clear Indicator	B, C-2V		1 ⅞	1500		48
			23449-2	▲	**6S6**	**24**	48	Clear Indicator	B, C-2V		1 ⅞	1500		53
			23451-8	▲	**6S6**	**30**	48	Clear Train	B, C-2V		1 ⅞	1500		52
			23458-3		**6S6/BR**	**32**	48	Clear Train	B, C-2V		1 ⅞	1500		51
			24835-1		**6S6**	**120–130**	48	Clear Indicator	B, C-7A		1 ⅞	1500		39
			23461-7		**6S6**	**135**	48	Clear Indicator	B, C-7A		1 ⅞	1500		38
			23462-5		**6S6**	**145**	48	Clear Indicator	B, C-7A		1 ⅞	1500		37
			23476-5		**6S6**	**155**	48	Clear Indicator	B, C-7A		1 ⅞	1500		37
			23477-3		**6S6/3**	**130**	48	Clear Vibration	B, C-7A		1 ⅞	1500		18
		Inter.	**23479-9**		**6S6/7**	**120**	48	Clear Indicator	B, C-7A		1 13/16	1500		39
		D.C. Bay	**37376-1**		**6S6DC**	**120–130**	48	Clear Indicator	B, C-7A	1 1/16	1 13/16	1500		39
			23483-1		**6S6DC**	**145**	48	Clear Indicator	B, C-7A	1 1/16	1 13/16	1500		37
	T-4 ½	Cand.	**37377-9**	▲	**6T4 1/2 1**	**120–130**	24	Clear Indicator	B, C-7A		1 ⅞	1500		34
7	C-7	Cand.	**37378-7**	▲	**7C7**	**120–130**	24	Clear Indicator	B, C-7A		2 ⅛	3000		45
			23643-0	▲	**7C7/W**	**120**	24	White Night Light	B, C-7A		2 ⅛	3000		35
			25714-7	▲	**BC7C7/W 12/2**	**120**	24	White Night Light	B, C-7A		2 ⅛	3000		35
			23635-6	▲	**7C7/O 24PK**	**120**	24	Orange Indicator	B, C-7A		2 ⅛	3000		16
			23636-4	▲	**7C7/R 24PK**	**120**	24	Red Indicator	B, C-7A		2 ⅛	3000		13
7 1/2	S-11	Med.	**24811-2**	▲	**7 1/2 S**	**120–130**	24	Clear	B, C-7A		2 ¼	1400		45
			37380-3	▲	**7 1/2 S/W**	**120–130**	24	White Night Light	B, C-7A		2 ¼	1400		35
			23611-7	▲	**7 1/2 S/O 24PK**	**120**	24	Orange	B, C-7A		2 ¼	1400		18
10	C-7	Cand.	**24812-0**	(3)	**10C7**	**120**	24	Clear Indicator	B, C-7A		2 ⅛			50
		D.C. Bay	**23639-8**	▲ (3)	**10C7DC**	**120**	24	Clear Indicator	B, C-7A		2 ⅛			50
	S-6	Cand.	**23485-6**	▲	**10S6/10**	**230**	48	Clear Indicator	B, C-7A		1 ⅞	1500		65
			23488-0	▲	**10S6/10**	**250**	48	Clear Indicator	B, C-7A		1 ⅞	1500		65
	S-11	Cand.	**23598-6**	▲	**10S11/79**	**120**	24	Clear Indicator	B, C-7A	1 ⅝	2 ¼	1500		70
		Inter.	**23606-7**	▲	**10S11N/IF**	**120**	24	Frost Appliance	B, C-7A		2 ¼	1500		70
			37381-1	▲	**10S11N**	**120–130**	24	Clear	B C-7A	1 ⅝	2 ¼	1500		70
	S-14	Med.	**21308-2**	X	**10S14/IF**	**130**	120	Frost Sign	B, C-9		3 ½	1500		
			13828 9		**10S14/IF**	**130**	120	Frost Sign	B, C-9		3 ½	1500		72
			13829 7		**10S14**	**120–130**	120	Clear Sign	B, C-9		3 ½	1500		72
11	S-14	Med.	**38025-3**	X	**11S14/Y**	**130**	120	Yellow Sign	B, C-9		3 ½	3000		
			13831 3		**11S14/Y 24/1**	**130**	24	Yellow Sign	B, C-9		3 ½	3000		
			13833 9		**11S14/TB 24/1**	**130**	24	Transparent Blue Sign	B, C-9		3 ½	3000		
			39006-2	X	**11S14/TR**	**130**	120	Transparent Red Sign	B, C-9		3 ½	3000		
			13832 1		**11S14/TR 24/1**	**130**	24	Transparent Red Sign	B, C-9		3 ½	3000		
			39095-5	X	**11S14/TY**	**130**	120	Transparent Yellow Sign	B, C-9		3 ½	3000		
			13834 7		**11S14/TY 24/1**	**130**	24	Transparent Yellow Sign	B, C-9		3 ½	3000		
			373837		**11S14**	**130**	24	Clear Sign	B, C-9		3 ½	3000		77
15	A-15	Med.	**37384-5**	▲	**15A15**	**120–130**	120	Frost	B, C-9		3 ½	2500		110
			37385-2	▲	**15A15/CL**	**120–130**	120	Clear	B, C-9	2 ⅜	3 ½	2500		110
			21376-9	▲	**15A/R**	**120**	60	Red	B, C-9		3 ½	2500		
			16860-9	▲	**15A/WL 12/2**	**120**	24	Soft White Long Life	B, C-9		3 ½	3000		115
		Med.	**25849-1**	▽	**15A15/35**	**130**	60	Frost Industrial Service	B, C-9		3 ½	3500		113
	S-11	D.C. Bay	**23599-4**	(12)	**15S11/3DC**	**75**	24	Clear Train Marker Control	B, C-7A	1 ¼	2 ⅜	1000		140
		Med.	**23614-1**	▲	**15S11/102**	**120**	24	Clear Refrigerator	B, C-7A	1 ⅜	2 ¼	400		130
	T-6	Cand.	**23582-0**	▲	**15T6**	**120**	24	Clear Switchboard	B, C-7A		3 1/16	2000		110
			24815-3	▲ (63)	**15T6**	**140–150**	24	Clear Switchboard	B, C-7A		3 1/16	2000		100
		D.C. Bay	**23590-3**		**15T6DC**	**120**	24	Clear Switchboard	B, C-7A		3 1/16	2000		110
	T-7	D.C. Bay	**22307-3**	(4)	**15T7DC**	**120**	24	Clear Appliance	B, C-7A		2 ¼			104
		Cand.	**22308-1**	▲(4)	**15T7C**	**120**	24	Clear Appliance	B, C-7A		2 ¼			104
		Inter.	**24816-1**	▲(4)	**15T7N**	**120**	24	Clear Appliance	B, C-7A		2 ¼			104
			29904-0	▲(4)	**BC15T7N 12/1**	**120**	12	Clear Appliance	B, C-7A		2 ¼			104
	T-8	Cand.	**23591-1**	▲	**15T8C**	**120**	24	Clear Appliance	B, C-7A		2 ⅜	1000		110
		Inter.	**23594-5**	▲	**15T8N**	**120**	24	Clear Appliance	B, C-7A		2 ⅜	1000		110
	T-10	Med.	**39041 9**	▲	**BC15T10 6/1**	**120**	6	Frost Showcase	B, C-8		5 ⅝	1000		120

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
17	R-20	Med.	**23263-7**		**17R20**	**6.3**	60	Frost Reflector Lt.	C, C-6		3 15/16	2000		
18	S-11	S.C. Bay	**29137-7**		**18S11/1SC/6**	**10**	120	Railroad Signal	C, CC-6	1 1/4	2 3/8	6000		
20	S-11	S.C. Bay	**29139-3**		**20S11/1SC/6**	**10**	120	Railroad Signal	C, CC-6	1 1/4	2 3/8	6000		
	T-6 1/2	Inter.	**24853-4**	(3)	**20T6-1/2IF**	**120**	24	Frost Exit Sign	B, C-8		5 1/2			150
		D.C. Bay	**24839-3**	(3)	**20T6-1/2DC/IF**	**120**	24	Frost Exit Sign	B, C-8		5 1/2			150
			24838-5	(3)	**20T6-1/2DC**	**120**	24	Clear Exit Sign	B, C-8		5 1/2			160
24	T-6 1/2	Inter.	**24848-4**	▢	**24T6-1/2IF**	**120**	24	Frost Exit Sign 1 Yr. Life	B, C-8		5 1/2	8760		200
25	A-15	Med.	**23165-4**	▲	**25A15/1**	**120**	120	Frost Refrigerator	B, C-9		3 1/2	1000		205
			16710-6	▲	**BC25A15/IF 12/1**	**120**	12	Frost Appliance	B, C-9		3 1/2	1000		210
	A-19	Med.	**16868-2**	▲	**25A/WL 12/2**	**120**	24	Soft White Long Life	C, CC-6		4 7/16	3000		235
			38942-9	▲ X	**25A/TG 6/1**	**120**	6	Transparent Green	B, C-9		3 15/16	3000		
			14421-2	▲	**25A/TG 6/1**	**120**	6	Transparent Green	B, C-9		3 15/16	3000		
			38943-7	▲ X	**25A/TR 6/1**	**120**	6	Transparent Red	B, C-9		3 15/16	3000		
			14422-0	▲	**25A/TR 6/1**	**120**	6	Transparent Red	B, C-9		3 15/16	3000		
			38945-2	▲ X	**25A/TY 6/1**	**120**	6	Transparent Yellow	B, C-9		3 15/16	3000		
			14423-8	▲	**25A/TY 6/1**	**120**	6	Transparent Yellow	B, C-9		3 15/16	3000		
			38946-0	▲ X	**25A/TB 6/1**	**120**	6	Transparent Blue	B, C-9		3 15/16	3000		
			14420-4	▲	**25A/TB 6/1**	**120**	6	Transparent Blue	B, C-9		3 15/16	3000		
			14152 3	▲	**25A**	**24**	120	Frost	C, C-6		4 1/4	1000		320
			14153 1	▲	**25A**	**34**	120	Frost Train	C, C-6		4 1/4	1000		270
			25564-6	▲	**25A**	**120**	24/2	Frost	C, CC-6		4 7/16	2500		232
			30031-9	▲	**25A/TF**	**120**	120	Frost Silicone Coated	B, C-9		3 15/16	2500		
			37988-3	▲ X	**25A/B**	**120**	60	Blue	B, C-9		3 15/16	2500		
			14159 8	▲	**25A/B**	**120**	60	Blue	B, C-9		3 15/16	2500		
			37994-1	▲ X	**25A/G**	**120**	60	Green	B, C-9		3 15/16	2500		
			14161 4	▲	**25A/G**	**120**	60	Green	B, C-9		3 15/16	2500		
			37989-1	▲ X	**25A/R**	**120**	60	Red	B, C-9		3 15/16	2500		
			14160 6	▲	**25A/R**	**120**	60	Red	B, C-9		3 15/16	2500		
			37978-4	▲ X	**25A/Y**	**120**	60	Yellow	B, C-9		3 15/16	2500		
			14158 0	▲	**25A/Y**	**120**	60	Yellow	B, C-9		3 15/16	2500		
			33365-8	▲	**25A19/RS**	**75**	120	Frost Train Rough Ser.	R, C-9		3 15/16	1000		240
			37386-0	▲	**25A/RS**	**120–130**	120	Frost Rough Service	R, C-9		3 15/16	1000		235
			37387-8	▢	**25A19/35**	**120–130**	60	Frost Industrial Service	B, C-9		3 15/16	3500		220
	R-14	Inter.	**24828-6**	■	**25R12/R14N Replaces 25R12N & 25R14**	**120**	24	Mini-Refl. Lt. Fr. Actual Bulb Dia. 1½"	C, CC-2V		2 3/8	1500		200
	S-11	S.C. Bay	**29102-1**		**25S11/4SC/6**	**10**	120	Railroad Signal	C, CC-6	1 1/4	2 3/8	6000		
		Cand.	**23603-4**	▲ (2)	**25S11/2C**	**120**	24	Clear Headlamp	B, C-7A	1 7/16	2 1/4	500		220
	T-6 1/2	Inter.	**37388-6**	▲	**25T6-1/2IF**	**120–130**	24	Frost Appliance	B, C-8		5 1/2	1000		210
			37389-4	▲	**25T6-1/2**	**120–130**	24	Clear Appliance	B, C-8		5 1/2	1000		220
		D.C. Bay	**37391-0**		**25T6-1/2DC/IF**	**120–130**	24	Frost Appliance	B, C-8		5 1/2	1000		210
			37392-8		**25T6-1/2DC**	**120–130**	24	Clear Appliance	B, C-8		5 1/2	1000		220
	T-8	D.C. Bay	**29909-9**	(4)	**BC25T8DC 12/1**	**120**	12	Clear Appliance	B, C-7A		2 3/8			210
			24827-8	(4)	**25T8DC**	**120**	24	Clear Appliance	B, C-7A		2 3/8			210
		Cand.	**23592-9**	▲ (4)	**25T8C**	**120**	24	Clear Appliance	B, C-7A		2 3/8			220
		Inter.	**23593-7**	▲ (4)	**25T8N**	**120**	24	Clear Appliance	B, C-7A		2 3/8			220
	T-10	Med.	**39040-1**	▲	**BC25T10/IF/TP 6/1**	**120**	6	Frost Showcase	B, C-8		5 3/8	1000		235
			13812-3	▲	**25T10/IF 24/1**	**120–130**	24	Frost Showcase	B, C-8		5 3/8	1000		235
			38985-8	▲	**BC25T10/TP 6/1**	**120**	6	Clear Showcase	B, C-8		5 3/8	1000		240
			13813-1	▲	**25T10 24/1**	**120–130**	24	Clear Showcase	B, C-8		5 3/8	1000		240

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30	A-15	Med.	**30448-5**		**30A15**	**130**	120	Frost Sign Service Ratings @ 120V = 27W	C, C-9		3 ½	8000 22828		155 118
			30452-7		**30A15/CL**	**130**	120	Clear Sign Service Ratings @ 120V = 27W	C, C-9	2 ⅜	3 ½	8000 22828		155 118
	R-20	Med.	**22078-0**	▲ (87)	**30R20 12/1**	**130**	12	Lt. Frost Reflector	C, CC-6		3 ⅜	2000		205
			20264-8		**30R20/SFL**	**120**	60	Lt. Frost Reflector Sign	C, C-9		3 ⅜	6000		150
			22601-9	▢ (66)	**30R20/SFL/TF**	**130**	60	Frost Silicone Coated Reflector Sign	C, CC-6		3 ⅜	6000		135
			16753-6	▲ (87)	**30R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 ⅜	2500	335	205
30 **70** **100**	A-21	3 Ct. Med.	**16947-4**	▲ (8)	**30/100A/WL 12/1**	**120**	12	Soft White Long Life 3-Way	C, 2CC-8		5 ⅜	1750		285 920 1205
			36662-5	▲ (8)	**30/100A/W 12/1**	**120**	12	Soft White 3-Way	C, 2CC-8		5 ⅜	1200		310 945 1255
33	A-19	Med.	**22145-7**		**33A19/5**	**130**	60	Clear Sign Ratings @ 120V = 29W	C, C-9		3 ⅝	3000 8561		220 168
			30549-0		**33A19/GR/CL**	**130**	60	Clear Sign Ratings @ 120V = 29W	B, C-9		3 ⅝	3000 8561		220 168
34	A-19	Med.	**22234-9**	▲ • $	**40A-34A/EW**	**120**	48	Frost Econ-o-watt	C, CC-6		4 ⅞	1500		410
			22235-6	▲ $	**40A-34A/EW**	**130**	48	Frost Econ-o-watt Ratings @ 120V = 30W	C, CC-6		4 ⅞	1500 4245		400 305
			37397-7	• $ **X**	**40A-34A/99/EW**	**120–130**	48	Frost Econ-o-watt Extended Service Ratings @ 120V = 32W	C, CC-6		4 ⅞	2500 4250		350 304
40	A-15	Med.	**29999-0**	▲	**BC40A15/CL/LL 12/1**	**120**	12	Clear Longer Life Home Appliance	C, CC-2R		3 ½	1750		400
			37398-5	▲	**40A15**	**120–130**	120	Frost Home Appliance	C, CC-2R		3 ½	1000		415
			25109-0	▲ ▢ (66)	**40A15/TF**	**120–130**	120	Frost Refrigerator Silicone Coated	C, CC-2R		3 ½	1000		
			16934-2	▲	**BC40A15/FAN/CL/LL 6/2**	**120**	12	Clear Long Life Fan	C, CC-2R		3 ½	2000		395
			16935-9	▲	**BC40A15/FAN/W/LL 6/2**	**120**	12	White Long Life Fan	C, CC-2R		3 ½	2000		365
			20002-2	▲	**40A15/22**	**120**	120	Clear Home Oven	C, CC-2R		3 ½	1000		420
			13565-7	▲	**BC40A15/NTL 6/2**	**120**	6	Natural Light Fan	C, CC-2R		3 ½	1500		340
	A-19	Med.	**27081-9**	▲	**40A 12/4**	**120**	48	Frost	C, CC-6		4 ⅞	1500		495
			16797-2	▲	**40A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 ⅞	1500		505
			16737-9	▲	**40A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 ⅞	1500		475
			16869-0	▲	**40A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 ⅞	1500		475
			13558-2	▲	**40A/NTL 12/4**	**120**	48	Natural Light Standard	C, CC-6		4 ⅞	1000		400
			37465-2	▲	**40A**	**120**	48	Frost	C, CC-6		4 ⅞	1500		495
			37466-0	▲	**40A**	**130**	48	Frost Ratings @ 120V = 35W	C, CC-6		4 ⅞	1500 4245		490 375
			30033-5	▲ (66)	**40A/TF**	**120**	120	Frost Silicone Coated	C, CC-6		4 ⅞	1500		
			37399-3	▲	**40A/CL**	**120–130**	48	Clear Ratings @ 120V = 37W	C, CC-6	3 ⅛	4 ⅞	1500 2550		500 435
			37400-9	▲	**40A/99**	**120–130**	48	Frost Extended Service Ratings @ 120V = 37W	C, CC-6		4 ⅞	2500 5100		465 405
			24424-4	▲	**BC40A/GD 12/2**	**120**	24	Frost Garage Door	C, C-9		3 ⅝	3500		370
			37481-9	▲	**40A/W12/4**	**120**	48	Soft White	C, CC-6		4 ⅞	1000		500
			37482-7	▲	**40A/W/TP 24/4**	**120**	96	Soft White Tra-Pak	C, CC-6		4 ⅞	1000		500
			35452-2	▲	**40A/YL 12/2**	**120**	24	Bug-A-Way® Yellow Longer Life	C, CC-6		4 ⅞	1350		
			23096-1	▢	**40A19/35**	**130**	48	Frost Industrial Service Ratings @ 120V =35W	C, C-9		4 ¼	3500 9987		315 240

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40	A-21	Med.	**37973-5**	X	**40A/B**	**120**	120	Blue-Sign	B, C-9		4 7/16	1000		
			14336-2		**40A/B**	**120**	120	Blue-Sign	B, C-9		4 7/16	1000		
			37974-3	X	**40A/G**	**120**	120	Green-Sign	B, C-9		4 7/16	1000		
			38022-0	X	**40A/R**	**120**	120	Red-Sign	B, C-9		4 7/16	1000		
			14337-0		**40A/R**	**120**	120	Red-Sign	B, C-9		4 7/16	1000		
			38024-6	X	**40A/Y**	**120**	120	Yellow-Sign	B, C-9		4 7/16	1000		
			14338-8		**40A/Y**	**120**	120	Yellow-Sign	B, C-9		4 7/16	1000		
	K-19	Med.	**30728-0**	▲	**40K19/DL 6/2**	**120**	12	Director®	C, C-9		4 1/8	1150		500
	R-14	Med.	**35454-8**		**40R14/SP**	**120**	24	Light Fr. Mini. Refl.	C, CC-2V		2 5/8	1500		250
	S-11	Inter.	**21216-7**	▲	**BC40S11/NTP 16/1**	**120**	16	Clear High Intensity	C, CC-2V		2 1/4	500		440
			24830-2	▲	**40S11N/IF**	**120**	24	Frost High Intensity	C, CC-2V		2 1/4	500		420
	T-6 1/2	Inter.	**24850-0**	▲	**40T6-1/2**	**120**	24	Clear Refrigerator	B, C-8		5 1/2	1000		350
			24852-6	▲	**40T6-1/2IF**	**120**	24	Frost Refrigerator	B, C-8		5 1/2	1000		340
			20491-7	▲	**BC40T6-1/2/2 12/1**	**120**	12	Clear Refrigerator	B, C-8		5 1/2	1000		350
	T-10	Med.	**38989 0**	▲	**BC40T10/IF/TP 6/1**	**120**	6	Frost Showcase	B, C-8		5 5/8	1000		420
			13814 9	▲	**40T10/IF 24/1**	**120–130**	24	Frost Showcase	B, C-8		5 5/8	1000		420
			38988 2	▲	**BC40T10/TP 6/1**	**120**	6	Clear Showcase	B, C-8		5 5/8	1000		425
			13815 6	▲	**40T10 24/1**	**120–130**	24	Clear Showcase	B, C-8		5 5/8	1000		425
		Med. Pf.	**21941-0**	X	**40T10P**	**120**	60	Aviation Airport Marker	C, CC-2V	1 1/2	3 15/16	1000		400
			14406 3		**40T10P**	**120**	60	Aviation Airport Marker	C, CC-2V	1 1/2	3 15/16	1000		400
45	BR-30	Med.	**16751-0**	▲ (87)	**45BR30/FL55/LL 12/1**	**120**	12	Long Life Reflector Flood	C, CC-6		5 3/8	2500		340
50	A-19	Med.	**34765-8**	X	**50A**	**24**	120	Frost Train	C, C-6		4 1/4	1000		
			14154 9	▲	**50A**	**24**	120	Frost Train	C, C-6		4 1/4	1000		700
			14155 6	▲	**50A**	**34**	120	Frost Train	C, C-6		4 1/4	1000		750
			24569-6	▲	**50A**	**250**	120	Frost	C, RC-9		3 15/16	1000		
			24324-6	▲ X	**50A/RS**	**34**	120	Frost Rough Serv. Train	B, C-9		3 15/16	1000		500
			14156 4	▲	**50A/RS**	**34**	120	Frost Rough Serv. Train	B, C-9		3 15/16	1000		500
			24326-1	▲	**50A19/RS**	**75**	120	Frost Rough Serv. Train	B, RC-9		3 15/16	1000		500
			21952-7	▲	**50A19/31**	**120**	120	Clear Commercial Oven	B, C-9	2 1/2	3 15/16	1000		500
			37403-3	▲	**50A/RS**	**120–130**	120	Frost Rough Service Ratings @ 120V =47W	B, RC-9		3 15/16	1000 1700		500 440
			20163-2	▲	**50A/RS 12/2**	**120**	24	Frost Rough Service	B, RC-9		3 15/16	1000		480
			24572-0	▲	**50A/RS**	**250**	120	Frost Rough Service	C, RC-9		3 15/16	1000		355
			30034-3	▲ (66)	**50A/RS/TF**	**120–130**	120	Frost Rough Service Silicone Coated	B, RC-9		3 15/16	1000		
	BR-19	Med.	**16750-2**	▲ $ ▢ (66)	**50BR19/25/SP/LL**	**120**	12	Long Life Spotline Reflector	C, CC-11		4 1/8	2500	635	385
	BR-30	Med.	**24889-8**	▲	**50BR30/FL**	**120**	12	Reflector Flood	C, CC-6		5 3/8	2000		
	ER-30	Med.	**37404-1**	▲ $ (87) X	**50ER30**	**120–130**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		
			14355 2	▲ $ (87)	**50ER30**	**120–130**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		400
	PAR-36	M.P.	**29603-8**		**50PAR36/WFL**	**12**	12	Compact Wide Flood	C, C-6		2 3/4	2000		
			22859-3		**50PAR36/NSP/8**	**12**	12	Compact Narrow Spot	C, C-6		2 3/4	2000		
	P-25	3 Ct. Mog.	**22018-6**	(15)	**50/50P25/28**	**120**	60	Clear Marine	C, C-5, C-9	3 5/16	5 1/16	750		375
	R-20	Med.	**22082-2**	▲ (87)	**50R20 12/1**	**130**	12	Lt. Frost Reflector	C, CC-6		3 15/16	2000		380
			26635-3	▲ (19,87) X	**50R20/PK**	**120**	60	Pink Reflector	C, CC-6		3 15/16	2000		
			14349 5	▲ (19,87)	**50R20/PK**	**120**	60	Pink Reflector	C, CC-6		3 15/16	2000		
			16755-1	▲ (87)	**50R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500		385
			13797-5	▲ (87)	**50R20/FL/NTL 12/1**	**120**	12	Natural Light Reflector	C, CC-6		3 15/16	2000		265
			167098	▲ (19,87)	**50R20/Agro 12/1**	**120**	12	Agro-Lite Plant Light	C, CC-6		3 15/16	2000		
50 **100** **150**	A-21	3 Ct. Med.	**36671-6**	▲ (8)	**50/150A/W 12/1**	**120**	12	Soft White 3-Way	C, 2CC-8		5 7/16	1200		610 1510 2120
			31739-6	▲ (8)	**50/150A/STP/PK 8/1**	**120**	8	Pink Softone Pastel® 3-Way	C, 2CC-8		5 7/16	1200		550 1310 1860
			13564-0	▲ (8)	**50/150A/NTL 12/1**	**120**	12	Natural Light Reflector	C, 2CC-8		5 7/16	1200		490 1250 1740
			16948-2	▲ (8)	**50/150A/WL 12/1**	**120**	12	Soft White Long Life 3-Way	C, 2CC-8		5 7/16	1750		575 1440 2015

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
50	A-21	3 Ct.	**16717-1**	▲ (8)	**DIS 50/150A/WL**	**120**	48	Soft White Long Life	C, 2CC-8		5 5/16	1750		575
100		Med.			**48/1**			3-Way						1440
150														2015
			32359-2	▲ ▢ (8)	**50/150A/DL 12/1**	**120**	12	Director® 3-Way	C, 2CC-8		5 15/16	1200		
50	A-21	3 Ct.	**16949-0**	▲ (8)	**50/250A/WL 12/1**	**120**	12	Soft White Long Life	C, 2CC-8		5 5/16	1750		575
200		Med.						3-Way						3120
250														3695
51	A-19	Med. +	**20555-9**	**X**	**51A19/RR/TS**	**130**	20	Clear Ring Reflector Traffic Signal	C, C-7A	2 7/16	3 3/4	8000		380
52	A-19	Med.	**22237-2**	▲ •	**60A-52A/EW**	**120**	48	Frost Econ-o-watt	C, CC-6		4 7/16	1000		700
			22239-8	▲ $	**60A-52A/EW**	**130**	48	Frost Econ-o-watt	C, CC-6		4 7/16	1000		680
								Ratings @ 120V =46W				2830		550
			37459-5	▲ $ **X**	**60A-52A/99/EW**	**120–130**	48	Frost Econ-o-watt Extended Service	C, CC-6		4 7/16	2500		605
								Ratings @ 120V =49W				4250		564
			14999-6	▲ $	**60A-52A/99/EW**	**120–130**	48	Frost Econ-o-watt Extended Service	C, CC-6		4 7/16	2000		660
								Ratings @ 120V =49W				3400		570
54	A-19	Med.	**37166-6**	$ (12)	**K54A19/TS/EW**	**120–125**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	2 7/16	4 3/8	8000		530
60	A-15	Med.	**16945-8**	▲	**BC60A15/FAN/W/ LL 6/2**	**120**	12	White Long Life Fan	C, CC-2R		3 1/2	2000		570
			16946-6	▲	**BC60A15/FAN/CL/ LL 6/2**	**120**	12	Clear Long Life Fan	C, CC-2R		3 1/2	2000		630
	A-19	Med.	**16794-0**	▲	**60A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		900
			16738-7	▲	**60A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 7/16	1500		830
			16874-0	▲	**60A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 7/16	1500		830
			13559-0	▲	**60A/NTL 12/4**	**120**	48	Natural Light Standard	C, CC-6		4 7/16	1000		680
			27082-7	▲ •	**60A 12/4**	**120**	48	Frost	C, CC-6		4 7/16	1000		890
			37469-4	▲ •	**60A**	**120**	48	Frost	C, CC-6		4 7/16	1000		890
			37471-0	▲ •	**60A**	**130**	48	Frost	C, CC-6		4 7/16	1000		850
								Ratings @ 120V =53W				2830		650
			30038-4	▲ (66)	**60A/TF**	**120**	120	Frost Silicone Coated	C, CC-6		4 7/16	1000		
			22245-5	▲ •	**60A/99**	**120**	48	Frost Extended Service	C, CC-6		4 7/16	2500		800
			22246-3	▲ •	**60A/99**	**130**	48	Frost Extended Service	C, CC-6		4 7/16	2500		790
								Ratings @ 120V =53W				7075		595
			37522-0	▲	**60A/CL**	**130**	48	Clear	C, CC-6	3 1/8	4 7/16	1000		880
								Ratings @ 120V =53W				2830		665
			13532-7	▲ **X**	**60A/AGRO 12/1**	**120**	12	Agro-Lite Plant Light	C, C-9		4 7/16	1000		
			14424-6	▲	**60A/AGRO 12/1**	**120**	12	Agro-Lite Plant Light	C, C-9		4 7/16	1000		
			38027-9	▲ **X**	**60A/D**	**120**	120	Frost Daylight	C, CC-6		4 7/16	1000		515
			14165 5	▲	**60A/D**	**120**	120	Frost Daylight	C, CC-6		4 7/16	1000		515
			37517-0	▲	**60A/Y**	**120–130**	48	Bug-A-Way®	C, CC-6		4 7/16	1350		
			37987-5	▲ **X**	**60A19/B**	**120**	60	Blue	C, C-9		4 7/16	1000		
			14164 8	▲	**60A19/B**	**120**	60	Blue	C, C-9		4 7/16	1000		
			37977-6	▲ **X**	**60A19/G**	**120**	60	Green	C, C-9		4 7/16	1000		
			14163 0	▲	**60A19/G**	**120**	60	Green	C, C-9		4 7/16	1000		
			37976-8	▲ **X**	**60A19/R**	**120**	60	Red	C, C-9		4 7/16	1000		
			14162 2	▲	**60A19/R**	**120**	60	Red	C, C-9		4 7/16	1000		
			14399 9	▲	**60A/IF/SB**	**120**	120	Frost Silvered Bowl	C, CC-6		4 7/16	1000		810
			28111-3	▲	**60A**	**230**	120	Frost	C, RC-9		3 15/16	1000		545
			37483-5	▲ •	**60A/W 12/4**	**120**	48	Soft White	C, CC-6		4 7/16	1000		860
			37484-3	▲	**60A/W/TP 24/4**	**120**	96	Soft White Tra-Pak	C, CC-6		4 7/16	1000		860
			34822-7	▲ ▢	**60A/STP/PK 12/2**	**120**	24	Pink Softone Pastel®	C, CC-6		4 3/16	1000		
			22573-0	▲ • ▢	**60A/YL 12/2**	**120**	24	Bug-A-Way® Yellow Longer Life	C, CC-6		4 7/16	1350		
			22247-1	▢	**60A19/35**	**120**	48	Frost Industrial Service	C, C-9		4 7/16	3500		600

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Watts	Bulb	Base		Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP	Lumens
60	A-19	Med.		**22248-9**	▢	**60A19/35**	**130**	48	Frost Industrial Service Ratings @ 120V =53W	C, C-9		4 7/16	3500 9987		585 446
				25836-8	▢ (66)	**60A/35/TF**	**120**	60	Frost Silicone Coated Industrial Service	C, C-9		4 7/16	3500		
			+	**21056-7**	$ (12)	**K60A19/TS/EW**	**120–125**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	2 7/16	4 3/8	8000		610
			+	**37167-4**	$ (12)	**K60A19/TS/EW**	**130**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	2 7/16	4 3/8	8000		610
	K-19	Med.		**22486-5**	▲ ▢	**60K19/DL 6/2**	**120**	12	Director®	C, CC-6		4 1/8	1150		770
	T-10	Med.		**13811 5**	▲	**60T10/64IF 24/1**	**120**	24	Frost	B, C-8		5 5/8	1000		660
				13810 7	▲	**60T10/64 24/1**	**120**	24	Clear	B, C-8		5 5/8	1000		665
65	BR-30	Med.		**24876-5**	▲ • (87)	**65BR30/FL55 12/1**	**120**	12	Reflector Flood	C, CC-6		5 3/8	2000		635
				24884-9	▲ • (87)	**65BR30/FL55**	**130**	12	Reflector Flood	C, CC-6		5 3/8	2000		635
				24877-3	▲ (87)	**65BR30/SP20 12/1**	**120**	12	Reflector Spot	C, CC-6		5 3/8	2000		655
				24880-7	▲ (87)	**65BR30/SP20**	**130**	12	Reflector Spot	C, CC-6		5 3/8	2000		655
				24452-5	(87)	**65BR30/SFL**	**120**	24	Reflector Sign Frost	C, C-17A		5 5/8	5000		635
				13785-1	▲ (87)	**65BR30/FL/NTL 12/1**	**120**	12	Natural Light Reflector	C, CC-6		5 3/8	2000		500
				16768-4	▲ (87)	**65BR30/FL55/LL 12/1**	**120**	12	Long Life Reflector Flood	C, CC-6		5 3/8	2500	510	595
				16769-2	▲ (87)	**65BR30/SP20/LL 12/1**	**120**	12	Long Life Reflector Spot	C, CC-6		5 3/8	2500	530	610
	BR-40	Med.		**22537-5**	▲ • (87)	**65BR/FL60**	**130**	24	Reflector Flood	C, CC-6		6 1/2	2000		685
				22546-6	▲ (87)	**65BR/SP20**	**120–130**	24	Reflector Spot	C, CC-6		6 1/2	2000		655
				16741-1	▲ (87)	**65BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	500	630
				38913-0	▲ (87)	**65BR/FL60 24/1**	**120**	24	Long Life Reflector Flood	C, CC-6		6 1/2	2000	500	630
67	A-19	Med.		**22240-6**	▲ • $	**75A-67A/EW**	**120**	48	Frost Econ-o-watt	C, CC-6		4 7/16	750		1010
				22241-4	▲ • $	**75A-67A/EW**	**130**	48	Frost Econ-o-watt Ratings @ 120V =59W	C, CC-6		4 7/16	750 2120		990 805
				37405-8	▲ • $ X	**75A-67A/99/EW**	**120–130**	48	Frost Econ-o-watt Extended Service Ratings @ 120V =63W	C, CC-6		4 7/16	2500 4250		835 780
				15000-3	▲ $	**75A-67A/99/EW**	**120–130**	48	Frost Econ-o-watt Extended Service Ratings @ 120V =63W	C, CC-6		4 7/16	2000 3400		970 840
	A-21	Med.	+	**22192-9**	• (12)	**67A21/99TS**	**120**	120	Clear Traffic Signal	C, C-11V		4 7/16	8000		610
			+	**22197-8**	• (12)	**67A21/99TS**	**130**	120	Clear Traffic Signal	C, C-11V	2 7/16	4 7/16	8000		610
69	A-21	Med.	+	**22199-4**	• (12)	**69A21/TS**	**120**	120	Clear Traffic Signal	C, C-9	2 7/16	4 7/16	8000		685
			+	**22204-2**	• (12)	**69A21/TS**	**130**	120	Clear Traffic Signal	C, C-9	2 7/16	4 7/16	8000		685
75	A-19	Med.		**37472-8**	▲ •	**75A**	**120**	48	Frost	C, CC-6		4 7/16	750		1220
				16801-3	▲	**75A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		1080
				16879-9	▲	**75A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-6		4 7/16	1500		1060
				16739-5	▲	**75A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-6		4 7/16	1500		1060
				13560-8	▲	**75A/NTL 12/4**	**120**	48	Natural Light Standard	C, CC-6		4 7/16	750		950
				27083-5	▲ •	**75A 12/4**	**120**	48	Frost	C, CC-6		4 7/16	750		1220
				37473-6	▲	**75A**	**130**	48	Frost Ratings @ 120V =66W	C, CC-6		4 7/16	750 2120		1150 860
				37406-6	▲ •	**75A/99**	**120–130**	48	Frost Extended Service Ratings @ 120V =70W	C, CC-6		4 7/16	2500 4250		1070 930
				29360-5	▲	**75A/RS/VS**	**120–130**	12	Frost Rough & Vib. Serv. Ratings @ 120V =70W	R, C-9	2 1/2	3 15/16	1000 1700		712 660
				37525-3	▲	**75A/CL**	**130**	48	Clear Ratings @ 120V =66W	C, CC-6	3 1/8	4 7/16	750 2140		1195 885
				37485-0	▲ •	**75A/W 12/4**	**120**	48	Soft White	C, CC-6		4 7/16	750		1180
				37486-8	▲	**75A/W/TP 24/4**	**120**	96	Soft White Tra-Pak	C, CC-6		4 7/16	750		1180
	A-21	Med.		**31305-6**	▲	**75A21**	**120–130**	120	Frost Ratings @ 120V =66W	C, CC-8		5 5/16	1000 2854		1200 858
				20922-1	▲ (66)	**75A/RH/TF 12/1**	**120–130**	12	Frost Silicone Coated Tough Bulb	C, RC-9		5 5/16	1000		

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75	A-21	Med.	**20470-1**	▲	**75A/RH 12/1**	**120–130**	12	Frost Rough House Ratings @ 120V =70W	C, RC-9		5 5/16	1000 1700		750 730
			14345 3	▲	**75A21**	**12**	120	Frost	C, C-6		5 5/16	1000		1100
	BR-30	Med.	**24903-7**	▲ (66, 87)	**75BR30/FL/TF**	**120**	12	Frost Silicone Coated Reflector	C, CC-6		5 5/16	2000		
			24905-2	▲ (87)	**75BR30/AGRO 6/1**	**120**	6	Agro-Lite Plant Light	C, CC-6		5 3/8	2000		700
			24904-5	▲ (87)	**75BR30/B 8/1**	**120**	8	Blue	C, CC-6		5 3/8	2000		
			24902-9	▲ (87)	**75BR30/PK 8/1**	**120**	8	Pink	C, CC-6		5 3/8	2000		
			24899-7	▲ (87)	**75BR30/R 8/1**	**120**	8	Red	C, CC-6		5 3/8	2000		
	ER-30	Med.	**20572-4**	▲ $ **X** (19,37,87)	**75ER30**	**120**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		
			14353-7	▲ $ (19,37,87)	**75ER30**	**120**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		660
			29636-8	▲ $ **X** (19,37,87)	**75ER30**	**130**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		
			14354-5	▲ $ (19,37,87)	**75ER30**	**130**	24	Elliptical Reflector	C, CC-6		6 3/8	2000		650
	K-19	Med.	**22487-3**	▲ ▢	**75K19/DL 6/2**	**120**	12	Director®	C, CC-6		4 1/8	1150		1000
	R-20	Med.	**16763-5**	▲ ▢ (87)	**75R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500	800	570
85	BR-30	Med.	**16766-8**	▲ (87)	**85BR30/FL55/LL 6/1**	**120**	6	Long Life Reflector Flood	C, CC-6		5 3/8	2500	700	855
			16767-6	▲ (87)	**85BR30/SP20/LL 6/1**	**120**	6	Long Life Reflector Spot	C, CC-6		5 3/8	2500	3100	865
	BR-40	Med.	**22527-6**	▲ • (87)	**85BR/FL60**	**120**	24	Reflector Flood	C, CC-6		6 1/2	2000		900
			22528-4	▲ • (87)	**85BR/FL60**	**130**	24	Reflector Flood	C, CC-6		6 1/2	2000		925
			14579-7	▲ (87)	**85BR/FL/NTL 8/1**	**120**	8	Natural Light Reflector	C, CC-6		6 1/2	2000		640
			16785-8	▲ (87)	**85BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	700	900
			16788-2	▲ (87) **X**	**85BR/SP20/LL 8/1**	**120**	8	Long Life Reflector Spot	C, CC-6		6 1/2	2500	3100	900
90	A-19	Med.	**22243-0**	▲ • $	**100A-90A/EW**	**120**	48	Frost Econ-o-watt	C, CC-6		4 7/16	750		1445
			37390-2	▲ $ **X**	**100A-90A/99EW**	**120–130**	48	Frost Econ-o-watt Extended Service Ratings @ 120V =84W	C, CC-6		4 7/16	2500 4250		1185 1105
			15001-1	▲ $	**100A-90A/99EW**	**120–130**	48	Frost Econ-o-watt Extended Service Ratings @ 120V =84W	C, CC-6		4 7/16	1500 2550		1400 1220
		+	**37168-2**	$ (12)	**K90A19/TS/EW**	**120–125**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	2 7/16	4 3/8	8000		1040
		+	**37615-2**	$ (12)	**K90A19/I/TS/EW**	**120–125**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	3	4 3/8	8000		1040
	A-21	Med.	**26829-2**	$ ▢	**90A21/35**	**130**	60	Frost Econ-o-watt Industrial Service Ratings @ 120V =80W	C, C-9		5 5/16	3500 9987		1050 801
100	A-19	Med.	**27086-8**	▲	**100A 12/4**	**120**	48	Frost	C, CC-6		4 7/16	750		1600
			37474-4	▲ •**X**	**100A**	**120**	48	Frost	C, CC-6		4 7/16	750		1600
			13684-6	▲ •	**100A**	**120**	48	Frost	C, CC-8		4 7/16	750		1710
			37476-9	▲ •	**100A**	**130**	48	Frost Ratings @ 120V =88W	C, CC-6		4 7/16	750 2120		1590 1205
			22978-1	▲ •	**100A/99**	**120**	48	Frost Extended Service	C, CC-6		4 7/16	2500		1500
			22979-9	▲ •	**100A/99**	**130**	48	Frost Extended Service Ratings @ 120V =88W	C, CC-6		4 7/16	2500 7075		1470 1110
			37527-9	▲	**100A/CL**	**130**	48	Clear Ratings @ 120V =88W	C, CC-6	3 1/2	4 7/16	750 2120		1590 1205
			13254-8	▲ •	**100A/W 12/4**	**120**	48	Soft White	C, CC-6		4 7/16	750		1620
			13561-6	▲	**100A/NTL 12/4**	**120**	48	Natural Light Standard	C, CC-6		4 7/16	750		1350
			16795-6	▲	**100A/CL/LL 12/2**	**120**	24	Clear Long Life	C, CC-6		4 7/16	1500		1580
			16740-3	▲	**100A/WL 24/4**	**120**	96	Soft White Long Life	C, CC-8		4 7/16	1500		1550
			13255-5	▲	**100A/W/TP 24/4**	**120**	96	Soft White Tra-Pak	C, CC-6		4 7/16	750		1620
			22581-3	▲ • ▢	**100A/YL 12/2**	**120**	24	Bug-A-Way® Yellow Longer Life	C, CC-6		4 7/16	1350		
			16862-5	▲	**100A/WL 12/4**	**120**	48	Soft White Long Life	C, CC-8		4 7/16	1500		1550

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100	A-19	Med. LHT	**37414-0**	(18)	**100A/LHT**	**120–130**	48	Frost	C, CC-6		4 7/16	750		1560
	A-21	Med.	**34803-7**	▲ **X**	**100A**	**12**	120	Frost	C, C-6		5 3/16	1000		
			14346 1	▲	**100A**	**12**	120	Frost	C, C-6		5 3/16	1000		1500
			28171-7	▲	**100A21**	**120–130**	120	Frost	C, CC-8		5 3/16	750		1680
								Ratings @ 120V =94W				1280		1463
			30051-7	▲ (66)	**100A21/TF**	**120**	120	Frost Silicone Coated	C, CC-8		5 3/16	750		
			29956-0	▲	**100A**	**230**	120	Frost	C, C-9		5 3/16	1000		1270
			29955-2	▲	**100A**	**250**	120	Frost	C, C-9		5 3/16	1000		1270
			24661-1	▲	**100A**	**277**	120	Frost Mine	C, C-9		5 3/16	1000		1070
			37460-3	▲	**100A21/99**	**120–130**	60	Frost Extended Service	C, CC-8		5 3/16	2500		1475
								Ratings @ 120V =94W				4250		1280
			38026-1	▲ **X**	**100A/D**	**120**	60	Frost Daylight	C, C-9		5 3/16	750		900
			14340 4	▲	**100A/D**	**120**	60	Frost Daylight	C, C-9		5 3/16	750		900
			37969-3	▲ (43,64) **X**	**100A/1SBIF**	**120**	120	Frost Silvered Bowl	C, CC-6		5 3/16	1000		
			14400 6	▲ (43,64)	**100A/1SBIF**	**120**	120	Frost Silvered Bowl	C, CC-6		5 3/16	1000		1150
			27985-1	▲ (66)	**100A/RS/TF**	**120–130**	60	Frost Silicone Coated Rough Service	C, RC-9		5 3/16	1000		
			27550-3	▲	**100A/RS**	**250**	60	Frost Rough Service	C, RC-9		5 3/16	1000		1030
			27560-2	▲	**100A/CL/RS/VS**	**120–130**	60	Clear Rough & Vibration Service	C, RC-9	3 3/4	5 7/8	1000		1100
								Ratings @ 120V =94W				1700		945
			37411-6	▢	**100A21/35**	**120–130**	60	Frost Industrial Service	C, C-9		5 3/16	3500		1175
								Ratings @ 120V =94W				5975		1015
			25838-4	▢ (14, 66)	**100A21/35/TF**	**120**	60	Frost Silicone Coated Industrial Service	C, C-9		5 3/16	3500		
			27569-3		**100A/RS/VS/BR**	**120–130**	60	Frost Rough & Vibration Service	C, RC-9		5 3/16	1000		1230
								Ratings @ 120V =94W				1700		945
		+	**22390-9**	(12)	**100A21/TS**	**130**	120	Clear Traffic Signal	C, C-9	2 7/16	4 7/16	2000		1260
	A-23	Med.	**22430-3**	▲	**100A23**	**120**	120	Frost	C, CC-6		6 3/16	750		1730
	F-20	Med.	**16844-3**		**100F20/POSTLT/ CL/LL 6/1**	**120**	6	Clear Long Life PostLight	C, C-9		5 1/8	4000		1250
	PAR-38	Med. Skt.	**36235-0**	(29, 82)	**100PAR/A 6/1**	**120**	6	Amber PAR	C, CC-6		5 3/16	2000		
			20177-2	(29, 82)	**100PAR/B 6/1**	**120**	6	Blue PAR	C, CC-6		5 3/16	2000		
			20186-3	(29, 82)	**100PAR/G 6/1**	**120**	6	Green PAR	C, CC-6		5 3/16	2000		
			20228-3	(29, 82)	**100PAR/R 6/1**	**120**	6	Red PAR	C, CC-6		5 3/16	2000		
			20232-5	(29, 82)	**100PAR/Y 6/1**	**120**	6	Yellow PAR	C, CC-6		5 3/16	2000		
			36249-1	(29, 82)	**100PAR/PK 6/1**	**120**	6	Pink PAR	C, CC-6		5 3/16	2000		
			14550-8	(29, 82)	**100PAR38/HEAT/CL**	**120**	12	Clear PAR Infrared	C, C-9		5 3/16			
			22191-1	(29, 82) **X**	**100PAR38/HEAT/CL**	**120**	15	Clear PAR Infrared	C, C-9		5 3/16			
	K-19	Med.	**22491-5**	▲ ▢	**100K19/DL 6/2**	**120**	12	Director®	C, CC-6		4 1/8	1150		1450
	R-20	Med.	**14174-7**	■	**100R20/FL/S**	**12**	60	Clear Reflector Flood Swimming Pool	C, C-6		3 15/16	2000		1000
			16701-5	▲ ▢ (82)	**100R20/LL 12/1**	**120**	12	Frost Long Life Reflector	C, CC-6		3 15/16	2500		935
100	PS-25	3 Ct.	**36734-2**	▲ (8)	**100/300/W 12/1**	**120**	12	Soft White	C, 2CC-6		6 13/16	1200		1320
200		Mog.						3-Way						3300
300														4620
116	A-21	Med. +	**22483-2**	(12)	**116A21/TS**	**120**	120	Traffic Signal Clear	C, C-9	2 7/16	4 7/16	8000		1260
		+	**22485-7**	(12)	**116A21/TS**	**130**	120	Traffic Signal Clear	C, C-9	2 7/16	4 7/16	8000		1260
120	BR-40	Med.	**22541-7**	▲ • (87)	**120BR/FL60**	**120**	24	Reflector Flood	C, CC-6		6 1/2	2000		1300
			22532-6	▲ • (87)	**120BR/FL60**	**130**	24	Reflector Flood	C, CC-6		6 1/2	2000		1300
			22544-1	▲ (87)	**120BR/SP20**	**120–130**	24	Reflector Spot	C, CC-6		6 1/2	2000		1250
			16779-1	▲ (87)	**120BR/FL60/LL 8/1**	**120**	8	Long Life Reflector Flood	C, CC-6		6 1/2	2500	1000	1285
			16781-7	▲ (87)	**120BR/SP20/LL 8/1**	**120**	8	Long Life Reflector Spot	C, CC-6		6 1/2	2500	4600	1225
			167155	▲ (87)	**120BR/Agro 6/1**	**120**	6	Agro-Lite Plant Light	C, CC-6		6 1/2	2000		
	ER-40	Med.	**21562-4**	▲ $ **X**	**120ER40**	**120**	24	Elliptical Reflector	C, CC-6		7 3/8	2000		1190
			21565-7	▲ $ **X**	**120ER40**	**130**	24	Elliptical Reflector	C, CC-6		7 3/8	2000		1190
			13928-7	▲ $	**120ER40**	**120–130**	24	Elliptical Reflector	C, CC-6		7 3/8	2000		1250

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP	Lumens
124	A-21	Med. +	**20556-7**	$ ▢	**124A21/RR/TS**	**120**	20	Clear Ring Reflector Traffic Signal	C, C7A		4 7/16	8000		1150
		+	**20557-5**	**X**	**124A21/RR/TS**	**125**	20	Clear Ring Reflector	C, C7A	3	4 7/16	8000		1125
		+	**20558-3**		**124A21/RR/TS**	**130**	20	Clear Ring Reflector Traffic Signal	C, C7A	3	4 7/16	8000		1100
125	BR-40	Med.	**38931-2**	▲(27,87,89)	**125BR40/1 4/1**	**120**	4	Clear Reflector Infrared	C, C-9		6 1/2			
	T-10	Med. Pf.	**23640-6**	**X** (8)	**125T10P**	**120**	24	Spotlight	C, C-13	2 3/16	5 3/4	500		1740
135	A-21	Med.	**28175-8**	▲ $	**150A-135A/EW**	**120–130**	60	Frost Econ-o-watt	C, CC-8		5 5/16	750		2490
								Ratings @ 120V=127W				1280		2169
			37464-5	▲ $ **X**	**150A-135A/99/EW**	**120–130**	60	Frost Econ-o-watt	C, CC-8		5 5/16	2500		2030
								Ratings @ 120V=126W				4250		1760
			15002-9	▲ $	**150A-135A/99/EW**	**120–130**	60	Frost Econ-o-watt	C, CC-8		5 5/16	1000		2300
								Ratings @ 120V=119W				1700		2000
			37616-0	$ (12)	**K135A21/TS/EW**	**120–125**	120	Clear Krypton Econ-o-watt Traffic Signal	C, C-11V	3	4 11/16	8000		1750
	A-25	Med.	**26836-7**	**X** $ ▢	**135A25/35**	**130**	60	Frost Econ-o-watt Industrial Service	C, C-9		6 13/16	3500		1865
								Ratings @ 120V=119W				9987		1423
150	A-21	Med.	**27003-3**	▲ •	**150A**	**120**	48	Frost	C, CC-8		5 5/16	750		2850
			27069-4	▲ •	**150A**	**130**	48	Frost	C, CC-8		5 5/16	750		2800
								Ratings @120V=133W				2140		2174
			37417-3	▲ • (82)	**150A/99**	**120–130**	60	Frost Extended Service	C, CC-8		5 5/16	2500		2445
								Ratings @120V=141W				4250		2115
			37418-1	▲ (82)	**150A/CL**	**120–130**	60	Clear	C, CC-8	3 7/8	5 5/16	750		2815
								Ratings @120V=141W				1275		2440
			27983-6	▲ (66)	**150A21/RS/TF**	**120–130**	60	High-Temp. Coating	C, RC-9		5 5/16	1000		2140
			16799-8	▲	**150A/CL/LL 12/1**	**120**	12	Clear Long Life	C, CC-8		5 5/16	1500		2600
			16866-6	▲	**150A/WL 12/1**	**120**	12	Soft White Long Life	C, CC-8		5 5/16	1500		2310
			27578-4	▲	**150A21/RS/BR**	**120–130**	60	Frost Rough & Vibration Service	C, RC-9		5 5/16	1000		2205
								Ratings @120V=141W				1700		1915
			27586-7	▲	**150A21/CL/RS/VS**	**120–130**	60	Clear Rough & Vibration Service	C, RC-9	3 7/8	5 5/16	1000		2200
								Ratings @120V=141W				1700		1915
			32357-6	▲ ▢ (8)	**150A/DL 12/1**	**120**	12	Director®	C, CC-8		5 5/16	1000		
			27588-3	▲	**150A/35/RS/BR**	**120–130**	60	Frost Industrial Rough Service	C, RC-9	3 3/4	5 13/16	3500		1640
								Ratings @120V=141W				5900		1425
	A-23	Med. LHT	**28170-9**	(18)	**150A23/LHT**	**120–130**	60	Frost	C, CC-8		6 5/16	750		2850
		Med.	**37419-9**	▲	**150A23/CL**	**120–130**	60	Clear	C, CC-8	4 5/8	6 5/16	750		2855
								Ratings @120V=141W				1275		2475
	A-25	Med.	**37421-5**	▢	**150A25/35**	**120–130**	60	Frost Industrial Service	C, C-9		6 5/16	3500		1825
								Ratings @120V=141W				5975		1642
			22965-8	▢ (14,66)	**150A25/35/TF**	**120**	60	Frost Silicone Coated Industrial Service	C, C-9		6 13/16	3500		
	BR-40	Med.	**22725-6**	▲ (87)	**150BR/AGRO 6/1**	**120**	6	Agro-Lite Plant Light	C, CC-6		6 1/2	2000		
	P-25	Med.	**14402 2**		**150P25/2SB**	**120**	60	Clear Spotlight	C, C-5		4 3/4	200		1700
			14401 4		**150P25/10**	**120**	60	Light Frost Spotlight	C, C-5	3	4 3/4	200		2100
	BR-38	Med.	**38568-2**		**150PAR/1/5FL**	**130**	12	PAR Flood Anti-Vibration	C, C-11V		5 1/2	5000		
	PS-25	Med.	**28173-3**	▲	**150**	**120–130**	60	Frost	C, C-9		6 13/16	750		2460
								Ratings @120V=141W				1280		2143
			28174-1	▲	**150PS25/99**	**120–130**	60	Frost Extended Service	C, C-9		6 13/16	2500		2080
								Ratings @120V=141W				4268		1812
			30056-6	▲ (66)	**150PS25/TF**	**120**	60	Frost Silicone Coated	C, C-9		6 13/16	1000		
			24684-3	▲	**150PS25/99CL**	**250**	60	Clear Extended Service	C, CC-9		6 13/16	2500		1840

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175	PAR-38	Med. Skt.	**14551-6**	(27, 89)	**175PAR38/HEAT/CL**	**120**	12	Clear Infrared	C, C-9		5 5/16			
			13033-6	(27, 89) **X**	**175PAR38/HEAT/CL**	**120**	15	Clear Infrared	C, C-9		5 5/16			
189	PS-25	Med.	**39423-9**		**189PS25/64**	**125**	60	Clear	C, C-9	5 1/4	6 15/16	3000		2900
200	A-21	Med.	**16867-4**	▲	**200A/WL 6/1**	**120**	6	Soft White Long Life	C, CC-8		5 5/16	1500		3300
	A-23	Med.	**16798-0**	▲	**200A/CL/LL 6/1**	**120**	6	Clear Long Life	C, CC-8		6 5/16	1500		3665
			36289-7	▲	**200A**	**120**	60	Frost	C, CC-8		6 5/16	750		3800
			36291-3	▲	**200A**	**130**	60	Frost	C, CC-8		6 5/16	750		3800
								Ratings @120V=177W				2120		2865
			37427-2	▲	**200A/CL**	**120–130**	60	Clear	C, CC-8	4 5/8	6 5/16	750		3815
								Ratings @120V=187W				1275		3310
			28176-6	▲	**200A/99**	**120–130**	60	Frost Extended Service	C, CC-8		6 5/16	2500		3500
								Ratings @120V=187W				4268		3014
	A-25	Med.	**39813-1**	▢	**200A25/35**	**130**	60	Frost Industrial Service	C, C-9		6 15/16	3500		2690
								Ratings @120V=177W				9987		2052
	BR-40	Med.	**14341 2**	▲ (87)	**200BR/FL**	**120**	24	Reflector Flood	C, C-9		6 1/2	2000		2200
	PAR-56	M-P	**23371-8**	(10)	**200PAR56**	**30**	8	PAR Headlight R.R.	C, CC-6		4 1/2	350		2300
		Mog. End Prong	**28956-1**	(9,59,90)	**200PAR56/MFL**	**120**	8	PAR Med. Flood	C, CC-13		5	2000		
	PS-25	Med.	**34974-6**	▲	**200/IF**	**250**	60	Frost	C, CC-9		6 15/16	1000		3000
			34976-1	▲	**200**	**277**	60	Clear Mine	C, CC-9	5 1/4	6 15/16	1000		2650
	PS-30	Med.	**22729-8**	▲ **X**	**200**	**130**	60	Clear	C, C-9	6	8 1/16	750		3710
								Ratings @120V=177W				2120		2825
			14301-6	▲	**200**	**120–130**	60	Clear	C, C-9		8 1/16	750		3250
								Ratings @120V=177W				2120		2470
			14299-1	▲	**200/IF**	**120–130**	12	Clear	C, C-9		8 1/16	750		3200
								Ratings @120V=177W				2120		2430
			14298-3	▲ (66)	**200/TF**	**120**	60	Frost Silicone Coated	C, C-9		8 1/16	750		2980
			14297-5	▲	**200/99IF**	**120–130**	60	Clear	C, C-9		8 1/16	750		2600
								Ratings @120V=177W				2120		1975
			14293-5	▲ (31, 43)	**200/SBIF**	**120–130**	60	Frost Silvered Bowl	C, C-9		8 1/16	1000		2700
								Ratings @120V=177W				2830		2050
			22704-1	▲ **X**	**200PS30/23**	**120**	60	Frost Rough Service	C, C-9		8 1/16	1000		3500
			22732-2	▲ **X**	**200PS30/23**	**130**	60	Frost Rough Service	C, C-9		8 1/16	1000		3500
								Ratings @120V=177W				2830		2670
			14304-0	▲	**200PS30/23**	**120–130**	60	Clear	C, C-9		8 1/16	1000		2800
								Ratings @120V=177W				2830		2130
			22726-4	▲ **X**	**200PS30/24**	**130**	60	Clear Rough Service	C, C-9	6	8 1/16	1000		3500
								Ratings @120V=177W				2830		2670
			14303-2	▲	**200PS30/24**	**120–130**	60	Clear Rough Service	C, C-9		8 1/16	1000		2900
								Ratings @120V=177W				2830		2210
			14305-7	▲ (66)	**200PS30/RS/TF**	**120–130**	60	Frost Rough Service	C, C-9		8 1/16	1000		2690
								Silicone Coated				2830		2044
			14302-4	▲	**200PS30/RS**	**250**	60	Clear Rough Service	C, C-9		8 1/16	1000		2600
			22995-5	▢ **X** (14, 66)	**200/35/TF**	**120**	60	Frost Silicone Coated Industrial Service	C, C-9		8 1/16			3500
			14300-8		**200/35/TF**	**120**	60	Frost Silicone Coated Industrial Service	C, C-9		8 1/16	3500		2570
		Mog.	**22751-2**	**X**	**200PS30/12**	**130**	60	Clear	C, C-9	6 3/8	8 1/16	750		3650
								Ratings @120V=177W				2140		2785
			14296-7		**200PS30/12**	**120–130**	60	Frost Silicone Coated	C, C-9		8 1/16	750		3250
								Industrial Service				2830		2470
250	BR-40	Med.	**38932-0**	▲ (27, 87)	**250BR40/1 4/1**	**120**	4	Clear Reflector Infrared	C, C-9		6 1/2			
	PAR-38	Med. Skt.	**37432-2**	▢ (53, 82)	**K250PAR38/FL**	**120–130**	12	PAR Floodlight (Krypton)	C, CC-6		5 5/16	4000	5000	3100
			37433-0	▢ (53, 82)	**K250PAR38/SP**	**120–130**	12	PAR Spotlight (Krypton)	C, CC-6		5 5/16	4000		3100
	R-40	Med.	**38933-8**	▲ $ (27, 87, 89)	**250R40/HR 4/1**	**120**	4	Red Bowl Heat Ray	C, C-9		6 7/8	5000		

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300	BR-40	Med.	**37441-3**	▲ $ (87) X	**300BR/FL**	**120–130**	24	Reflector Flood	C, CC-11		6 ½	2000		2480
			14343-8	▲ $ (87)	**300BR/FL**	**120–130**	24	Reflector Flood	C, CC-11		6 ½	2000		2480
	PAR-56	M-P	**23382-5**		**300PAR56/MFL**	**120**	8	PAR Med. Flood	C, CC-13		5	2000		
			23405-4	(9, 55)	**300PAR56/MFL**	**130**	8	PAR Med. Flood	C, CC-13		5	2000		
			23388-2	(9, 55)	**300PAR56/WFL**	**120**	8	PAR Wide Flood	C, CC-13		5	2000		
			23410-4	(9, 55)	**300PAR56/WFL**	**130**	8	PAR Wide Flood	C, CC-13		5	2000		
			23378-3	(9, 46, 55)	**300PAR56/NSP**	**120**	8	PAR Narrow Spotlight	C, CC-13		5	2000		
	PS-25	Med.	**28177-4**	▲	**300M/IF**	**120–130**	60	Frost	C, CC-8		6 15/16	750		6230
								Ratings @120V=282W				1280		5471
			38941-1	▲	**300M/IF**	**120**	6	Frost	C, CC-8		6 15/16	750		6300
			37151-8	▲	**300M**	**120**	60	Clear	C, CC-8	5 ¼	6 15/16	750		6280
			37153-4	▲	**300M**	**130**	60	Clear	C, CC-8	5 ¼	6 15/16	750		6280
								Ratings @120V=265W				2120		4675
			13391-8	▲	**300M**	**120–130**	12	Clear	C, CC-8	5 ¼	6 15/16	750		6280
								Ratings @120V=265W				2120		4625
			35008-2	▲	**300M/99IF**	**120**	60	Frost Extended Service	C, CC-8		6 15/16	2500		5060
			35009-0	▲	**300M/99IF**	**130**	60	Frost Extended Service	C, CC-8		6 15/16	2500		5060
								Ratings @120V=265W				7130		4044
			35007-4	▲	**300M/99**	**130**	60	Clear Extended Service	C, CC-8	5 ¼	6 15/16	2500		5300
								Ratings @120V=265W				7134		4044
	PS-30	Med.	**22783-5**	▲ X	**300M/PS30IF**	**120**	60	Frost	C, C-9		8 1/16	750		6100
			14307-3	▲	**300M/PS30IF**	**120–130**	60	Frost	C, C-9		8 1/16	750		5000
								Ratings @120V=265W				2120		3800
			14306-5	▲	**300M/PS30**	**120–130**	60	Clear	C, C-9		8 1/16	750		4900
								Ratings @120V=265W				2120		3720
			14294-3		**300M/PS30/35**	**120–130**	60	Frost Industrial Service	C, C-9		8 1/16	3500		3800
								Ratings @120V=265W				9900		2885
	PS-35	Mog.	**14320-6**		**300/RSIF**	**120**	24	Frost Rough Service	C, C-9		9 3/8	1000		5150
			14309-9		**300/99IF**	**120–130**	24	Frost Extended Service	C, C-9		9 3/8	1000		4500
								Ratings @120V=265W				2830		3420
			22890-8	X	**300/99**	**130**	24	Clear Extended Service	C, C-9	7	9 3/8	2500		5070
								Ratings @120V=265W				7134		3868
			14321-4		**300/99**	**120–130**	24	Clear Extended Service	C, C-9		9 3/8	2500		4600
								Ratings @120V=265W				7134		3490
			13390-0	▲X	**300/IF**	**120–130**	12	Frost	C, C-9		9 3/8	1000		5700
								Ratings @120V=265W				2830		4025
			14316-4		**300/IF**	**120–130**	12	Frost	C, C-9		9 3/8	1000		4,500
								Ratings @120V=265W				2830		3415
			22862-7	▲ X	**300**	**120**	24	Clear	C, C-9	7	9 3/8	1000		5700
			22889-0	▲ X	**300**	**130**	24	Clear	C, C-9	7	9 3/8	1000		5700
								Ratings @120V=265W				2830		4063
			14314-9		**300**	**120–130**	24	Clear	C, C-9	7	9 3/8	1000		4600
								Ratings @120V=265W				2830		3490
			24759-3	▲ X	**300**	**277**	24	Clear	C, C-9	7	9 3/8	1000		4300
			14317-2		**300**	**277**	24	Clear	C, C-9	7	9 3/8	1000		4000
	R-40	Med.	**14432-9**	■ ★ (31, 37, 51, 53)	**300R/FL/I**	**12**	24	Reflector Flood Frost Swimming Pool	C, C-2V		6 ¾	2000		3240
			37442-1	■ ★ X (31, 37, 51, 53)	**300R/FL/I**	**120–130**	24	Reflector Flood Swimming Pool	C, CC-11		6 ¾	2000		2480
			14429-5	■ ★ (31, 37, 51, 53)	**300R/FL/I**	**120–130**	24	Reflector Flood Swimming Pool	C, CC-11		6 ¾	2000		2480
		Mog.	**14433-7**	★ (31, 37, 51, 53)	**300R/3FL**	**120–130**	24	Reflector Flood	CC-11		7 ¼	2000		2480

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Incandescent

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP◆	Lumens
350	PAR-56	M.P.	**22904-7**		**350PAR56/SP**	**75**	8	Train Light	C, CC-8		4 ½	500	185,000	6200
375	BR-40	Med. Skt.	**14342-0**	(19, 31, 37, 38)	**375BR40**	**120**	24	Reflector Infrared Lt. Frost Industrial	C, C-7A		7 ⅝	5000		
	R-40	Med. Skt.	**14574 8**	(11, 31, 37, 89)	**375R40/I**	**120**	24	Clear Reflector Infrared Industrial	C, C-7A		7 ⅝	5000		
400	G-30	Med.	**37443-9**	■ **X**(12, 22)	**400G/FL**	**120–130**	60	Clear Floodlight	C, C-7A	3	5 ⅛	800		6280
			14461-8	(12, 22)	**400G/FL**	**120–130**	60	Clear Floodlight	C, C-7A	3	5 ⅛	800		6280
	R-40	Med.	**31069-8**	■ **X**	**400R40/FL**	**120**	24	Swimming Pool	C, C-7A	3 ⅜	6 ¾	2000		
			14431-1	■ ★ (31, 37, 51, 53)	**400R40/FL**	**120**	24	Swimming Pool	C, C-7A	3 ⅜	6 ¾	2000		3500
500	PAR-64	Ext. Mog. End Prong	**23417-9**	(9, 55)	**500PAR64/MFL**	**120**	6	PAR Med. Flood	C, CC-13		6	2000		
			23416-1		**500PAR64/NSP**	**120**	8	PAR Narrow Spot	C, CC-13		6	2000		
	PS-35	Mog.	**37446-2**	**X** (9,46,55)	**500**	**120–130**	24	Clear	C, C-9	7	9 ⅜	1000		
			14407-1		**500**	**120–130**	24	Clear	C, C-9	7	9 ⅜	1000		8900
								Ratings @120V=442W				2830		6755
			14313-1		**500/IF**	**120–130**	24	Frost	C, C-9		9 ⅜	1000		8700
								Ratings @120V=442W				2830		6600
			37448-8	**X**	**500/99**	**120–130**	24	Clear Extended Service	C, C-9	7	9 ⅜	2500		8750
			14319-8		**500/99**	**120–130**	24	Clear Extended Service	C, C-9	7	9 ⅜	2500		8100
								Ratings @120V=442W				7134		6145
			14318-0		**500/99IF**	**120–130**	24	Frost Extended Service	C, C-9		9 ⅜	2500		8000
								Ratings @120V=442W				7134		6080
	PS-40	Mog.	**14327-1**		**500**	**277**	24	Clear	C, C-9		9 ¾	1000		7000
			14322-2		**500PS40**	**120–130**	24	Clear	C, C-9		9 ¾	1000		8300
								Ratings @120V=442W				2830		6300
			23975-6	**X** (14, 31)	**500/SBIF**	**120**	24	Frost Silvered Bowl	C, C-9		9 ¾	1000		9500
			14325-5		**500/SBIF**	**120–130**	24	Frost Silvered Bowl	C, C-9		9 ¾	1000		8300
								Ratings @120V=442W				2830		6300
			14326-3		**500/RS**	**120–130**	24	Clear Rough Service	C, C-9		9 ¾	1000		8300
								Ratings @120V=442W				2830		6300
	R-40	Med.	**33730-3**	■ ★ **X** (31, 37,51,53,12)	**500R/3FL/2S**	**130**	24	Swimming Pool	C, C-7A		6 ¾	2000		6120
								Ratings @120V=442W				5707		4669
			14430-3	■ ★ **X** (31, 37,51,53,12)	**500R/3FL/2S**	**130**	24	Swimming Pool	C, C-7A		6 ¾	2000		6120
								Ratings @120V=442W				5707		4669
		Mog.	**14434-5**	★ (51, 53)	**500R/3FL**	**120–130**	24	Frost Reflector Flood	CC-11		7 ¼	2000		5000
			24783-3	★ **X** (51, 53)	**500R/3FL**	**250**	24	Frost Reflector Flood Special Service	C, C-7A		7 ¼	2000		
			14435-2	★ (51, 53)	**500R/3FL**	**250**	24	Frost Reflector Flood Special Service	C, C-7A		7 ¼	2000		4700
620	PS-40	Mog. Pf.	**14323-0**		**620PS40P**	**120**	24	Code Beacon	C, C-7A	5 ¹¹⁄₁₆	10 ⅛	3000		9000

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Philinea Lamps															
60	T-10	2XS14s		**34589-2**		**60T10/White**	**120–130**	25	White Philinea	B, C-8		19 1⁄16	1500		400
Lamps Listed by Lumens															
1950L	P-25	Med.	+	**20494-1**	X	**1950L/P25/TS**	**120**	60	Traffic Signal	C, C-9	3	4 3⁄4	8000		1950
			+	**14572 2**		**1950L/P25/TS**	**120**	60	Traffic Signal	C, C-9	3	4 3⁄4	8000		1950
			+	**26482-0**	X	**1950L/P25/TS**	**130**	60	Traffic Signal	C, C-9	3	4 3⁄4	8000		1950
			+	**14573 0**		**1950L/P25/TS**	**130**	60	Traffic Signal	C, C-9	3	4 3⁄4	8000		1950
Special Lighting															
Night Light Plug In				**25139-7**	(94)	**BCPNL 4C7 12/1**	**120**	12	Night Light Plug In	B, C-7A		2 1⁄8	3000		16
Street Lighting Lamps, Multiple															
189	PS-25	Med.		**39423-9**		**189PS25/64**	**125**	60	Clear	C, C-9	5 1⁄4	6 15⁄16	3000		2900

Street Lighting Lamps, Series

Rated Init. (67) Lumens	Amps	Bulb	Base	Product Number	Symbols, Footnotes	Volts	Qty.	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life Hrs. (93)
—	**6.6A**	PS-35	Mog.	**25065-4**	X	22.8	24	Clear	C, C-2V	7	9 3⁄8	3000
2200				**14311-5**		22.8	24	Clear Extended Service	C, C-2V	7	9 3⁄8	3000
—				**36785-4**	X	22.8	24	Clear Extended Service	C, C-2V	7	9 3⁄8	6000
2200				**14312-3**		22.8	24	Clear Extended Service	C, C-2V	7	9 3⁄8	6000
—		PS-35	Mog.	**25069-6**	X	34.0	24	Clear Extended Service	C, C-2V	7	9 3⁄8	3000
3800				**14310-7**		34.0	24	Clear Extended Service	C, C-2V	7	9 3⁄8	3000
—		PS-40	Mog.	**20540-1**	X	52.7	24	Clear Extended Service	C, C-2V	7	9 3⁄4	6000
5400				**14324-8**		52.7	24	Clear Extended Service	C, C-2V	7	9 3⁄8	6000

+ Pursuant to California law, these incandescent lamps **cannot** be used or offered for sale for use in traffic signals in the State of California.

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
Decoratives, Blister-Carded														
3	CA-10	Med.	**16697-4**	▲ (12)	**BC3CA10/CL/ LL 6/1**	**120**	6	Clear Long Life Flicker Flame	B, CC-2V		3 ⅞	2000		
		Cand.	**16698-2**	▲ (12)	**BC3CA10C/CL/ LL 6/1**	**120**	6	Clear Long Life Flicker Flame	B, CC-2V		4 ⅛	2000		
15	BA-9	Cand.	**16696-6**	▲ (12)	**BC15BA9C/CL/ LL 6/4**	**120**	24	Clear Long Life Bent Tip	B, CC-2V C-7A		3 ¾	2000		110
			16811-2	▲ (12)	**BC15BA9C/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	B, CC-2V C-7A		4 ⅛	2000		110
	F-10	Cand.	**16830-2**	▲ (12)	**BC15F10C/CL/LL 6/2**	**120**	12	Clear Long Life Flame	B, C-7A		3 ⅛	2000		95
			16831-0	▲ (12)	**BC15F10C/A/LL 6/2**	**120**	12	Amber Long Life Flame	B, C-7A		3 ⅛	2000		85
25	BA-9	Cand.	**16719-7**	▲ (12)	**BC25BA9C/CL/ LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		150
			16806-2	▲ (12)	**BC25BA9C/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		150
			16810-4	▲ (12)	**BC25BA9C/F/ LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		145
	BA-9 ½	Med.	**16819-5**	▲ (12)	**BC25BA9-1/2/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 ⅛	2000		150
	B-10 ½	Cand.	**16824-5**	▲ (12)	**BC25B10-1/2C/CL/ LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		150
	B-13	Med.	**16827-8**	▲ (12)	**BC25B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 ⅛	2000		150
	CA-8	Cand.	**13568-1**	▲ (12)	**BC25CA8C/CL/LL 6/2**	**120**	12	Clear Petite Long Life Bent Tip	C, CC-2V		3 ½	2000		220
	F-10	Cand.	**16832-8**	▲ (12)	**BC25F10C/CL/ LL 6/2**	**120**	12	Clear Long Life Flame	B, C-7A		3 ⅛	2000		105
	F-15	Med.	**16833-6**	▲ (12)	**BC25F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	B, C-9		4 ½	2000		150
			16839-3	▲ (12)	**BC25F15/IR/LL 6/2**	**120**	12	Iridescent Long Life Flame	C, C-9		4 ½	2000		150
			16840-1	▲ (12)	**BC25F15/W/LL 6/2**	**120**	12	White Long Life Flame	C, C-9		4 ½	2000		120
			16841-9	▲ (12)	**BC25F15/A/LL 6/2**	**120**	12	Amber Long Life Flame	B, C-9		4 ½	2000		130
	G-16 ½	Cand.	**16845-0**	▲ (12)	**BC25G16-1/2C/CL/ LL 6/2**	**120**	12	Clear Long Life Globe	B, CC-2V C-7A		3	2000		200
			16847-6	▲ (12)	**BC25G16-1/2C/W/ LL 6/2**	**120**	12	White Long Life Globe	B, CC-2V C-7A		3	2000		165
		Med.	**13535-0**	▲ (12)	**BC25G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 ¾	2000		180
			13534-3	▲ (12)	**BC25G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 ¾	2000		120

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
40	BA-9	Cand.	**16720-5**	▲ (12)	**BC40BA9C/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		300
			16807-0	▲ (12)	**BC40BA9C/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		300
			16809-6	▲ (12)	**BC40BA9C/F/ LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		295
	BA-9 ½	Med.	**16760-1**	▲ (12)	**BC40BA9-1/2/CL/LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		300
			16820-3	▲ (12)	**BC40BA9-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		300
			16821-1	▲ (12)	**BC40BA9-1/2/F/ LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		295
	B-10 ½	Cand.	**16825-2**	▲ (12)	**BC40B10-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		300
			14125-9	▲ (12)	**BC40B10-1/2C/NTL 6/2**	**120**	12	Natural Light Blunt Tip	C, C-7A		4 1/16	2000		270
	B-13	Med.	**16828-6**	▲ (12)	**BC40B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		300
			14127-5	▲ (12)	**BC40B13/NTL 6/2**	**120**	12	Natural Light Blunt Tip	C, C-7A		4 1/16	2000		270
	F-15	Med.	**16835-1**	▲ (12)	**BC40F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	C, C-9		4 ½	2000		385
			16837-7	▲ (12)	**BC40F15/IR/LL 6/2**	**120**	12	Iridescent Long Life Flame	C, C-9		4 ½	2000		370
			16838-5	▲ (12)	**BC40F15/W/LL 6/2**	**120**	12	White Long Life Flame	C, C-9		4 ½	2000		300
	G-16 ½	Cand.	**16846-8**	▲ (12)	**BC40G16-1/2C/CL/ LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V C-7A		3	2000		300
			16848-4	▲ (12)	**BC40G16-1/2C/W/ LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V C-7A		3	2000		245
			14129-1	▲ (12)	**BC40G16-1/2C/NTL 6/2**	**120**	12	Natural Light Globe	C, C-7A		3	2000		270
		Med.	**13537-6**	▲ (12)	**BC40G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 3/4	2000		300
			13536-8	▲ (12)	**BC40G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 3/4	2000		270
60	BA-9	Cand.	**16808-8**	▲ (12)	**BC60BA9C/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		550
			16721-3	▲ (12)	**BC60BA9C/CL/ LL 6/4**	**120**	24	Clear Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		550
			16805-4	▲ (12)	**BC60BA9C/F/ LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 3/16	2000		545
	BA-9 ½	Med.	**16822-9**	▲ (12)	**BC60BA9-1/2/CL/ LL 6/2**	**120**	12	Clear Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		550
			16823-7	▲ (12)	**BC60BA9-1/2/F/ LL 6/2**	**120**	12	Frost Long Life Bent Tip	C, CC-2V C-7A		4 1/16	2000		545
	B-10 ½	Cand.	**16826-0**	▲ (12)	**BC60B10-1/2C/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		550
			14126-7	▲ (12)	**BC60B10-1/2C/NTL 6/2**	**120**	12	Natural Light Blunt Tip	C, C-7A		4 1/16	2000		510
	B-13	Med.	**16829-4**	▲ (12)	**BC60B13/CL/LL 6/2**	**120**	12	Clear Long Life Blunt Tip	C, C-7A		4 1/16	2000		550
			14128-3	▲ (12)	**BC60B13/NTL 6/2**	**120**	12	Natural Light Blunt Tip	C, C-7A		4 1/16	2000		510
	F-15	Med.	**16842-7**	▲ (12)	**BC60F15/CL/LL 6/2**	**120**	12	Clear Long Life Flame	C, C-9		4 ½	2000		630
	G-16 ½	Cand.	**16699-0**	▲ (12)	**BC60G16-1/2C/CL/ LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V C-7A		3	2000		540
			16700-7	▲ (12)	**BC60G16-1/2C/W/ LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V C-7A		3	2000		450
			14130-9	▲ (12)	**BC60G16-1/2C/NTL 6/2**	**120**	12	Natural Light Globe	C, C-7A		3	2000		510
		Med.	**13538-4**	▲ (12)	**BC60G16-1/2/CL/LL 6/2**	**120**	12	Clear Long Life Globe	C, CC-2V		2 3/4	2000		540
			13530-1	▲ (12)	**BC60G16-1/2/W/LL 6/2**	**120**	12	White Long Life Globe	C, CC-2V		2 3/4	2000		420
100	F-20	Med.	**16844-3**	▲(12)	**100F20/POSTLT/ CL/LL 6/1**	**120**	6	Clear Long Life PostLight	C, C-9		5 1/8	4000		1250

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Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (In.)	Rated Avg. Life, Hrs (93)	Approx. MBCP*	Lumens
Decoratives, Boxed													
15	BA-9	Cand.	**31087-0**	▲ (12)	**15BA9C/4M**	**120**	25	Clear Bent Tip	B, C-7A	3 ¾	4000		90
	G-16 ½	Cand.	**31132-4**	▲ (12)	**15G16-1/2C/4M**	**120**	25	Clear Globe	B, C-7A	3	4000		80
25	B-10 ½	Cand.	**31114-2**	▲ (12)	**25B10-1/2C/4M**	**120**	25	Clear Blunt Tip	C, C-7A	4 1/16	4000		135
	G-16 ½	Cand.	**31133-2**	▲ (12)	**25G16-1/2C/4M**	**120**	25	Clear Globe	C, C-7A	3	4000		170
40	BA-9	Cand.	**31093-8**	▲ (12)	**40BA9C/4M**	**120**	25	Clear Bent Tip	C, C-7A	4 3/16	4000		270
	BA-9 ½	Med.	**31098-7**	▲ (12)	**40BA9-1/2/4M**	**120**	25	Clear Bent Tip	C, C-7A	4 1/16	4000		270
	B-10 ½	Cand.	**31115-9**	▲ (12)	**40B10-1/2C/4M**	**120**	25	Clear Blunt Tip	C, C-7A	4 1/16	4000		270
	G-16 ½	Cand.	**31134-0**	▲ (12)	**40G16-1/2C/4M**	**120**	25	Clear Globe	C, C-7A	3	4000		250
60	BA-9	Cand.	**31095-3**	▲ (12)	**60BA9C/4M**	**120**	25	Clear Bent Tip	C, C-7A	4 3/16	4000		530
	BA-9 ½	Med.	**31099-5**	▲ (12)	**60BA9-1/2/4M**	**120**	25	Clear Bent Tip	C, C-7A	4 1/16	4000		530
	B-10 ½	Cand.	**31116-7**	▲ (12)	**60B10-1/2C/4M**	**120**	25	Clear Blunt Tip	C, C-7A	4 1/16	4000		530
Decoratives, All Others													
25	G-25	Med.	**16887-2**	▲	**25G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		235
			16748-6	▲	**25G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		210
			16901-1	▲	**25G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		235
			16902-9	▲	**25G25/W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		210
	G40	Med.	**13809 9**		**25G40/4M 6/1**	**120**	6	Clear Long Life Globe	C, CC-6	4 7/16	2000		
40	G-25	Med.	**16702-3**	▲	**40G25/CT**	**120**	6	Clear Chrome-Top Long Life Globe	C, C-9	4 7/16	2000		200
			16747-8	▲	**40G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		460
			16746-0	▲	**40G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		415
			16903-7	▲	**40G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		460
			16904-5	▲	**40G25/W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		415
			13563-3	▲	**40G25/NTL 6/1**	**120**	12	Natural Light Globe	C, CC-6	4 7/16	1500		320
	G-40	Med.	**16857-5**	▲	**40G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9	6 15/16	3000		372
			16858-3	▲	**40G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	6 15/16	3000		335
60	G-25	Med.	**16896-2**	▲	**60G25/CL/LL 12/1**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		775
			16749-4	▲	**60G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		700
			16899-6	▲	**60G25/CL/LL 4/3**	**120**	12	Clear Long Life Globe	C, CC-6	4 7/16	2000		775
			16900-3	▲	**60G25W/LL 4/3**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		700
			13562-4	▲	**60G25/NTL 6/1**	**120**	12	Natural Light Globe	C, CC-6	4 7/16	1500		560
	G-30	Med.	**16849-2**	▲	**60G30/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	5 ½	3000		580
	G-40	Med.	**16851-8**	▲	**60G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	6 15/16	3000		595
			16852-6	▲	**60G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9	6 15/16	3000		665
100	G-25	Med.	**13423-9**	▲	**100G25/W/LL 12/1**	**120**	12	White Long Life Globe	C, CC-6	4 7/16	2000		1180
	G-30	Med.	**16850-0**	▲	**100G30/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	5 ½	3000		945
	G-40	Med.	**16853-4**	▲	**100G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	6 15/16	3000		985
			16859-1	▲	**100G40/CL/LL 6/1**	**120**	6	Clear Long Life Globe	C, C-9	6 15/16	3000		1100
150	G-40	Med.	**16854-2**	▲	**150G40/W/LL 6/1**	**120**	6	White Long Life Globe	C, C-9	6 15/16	3000		1770

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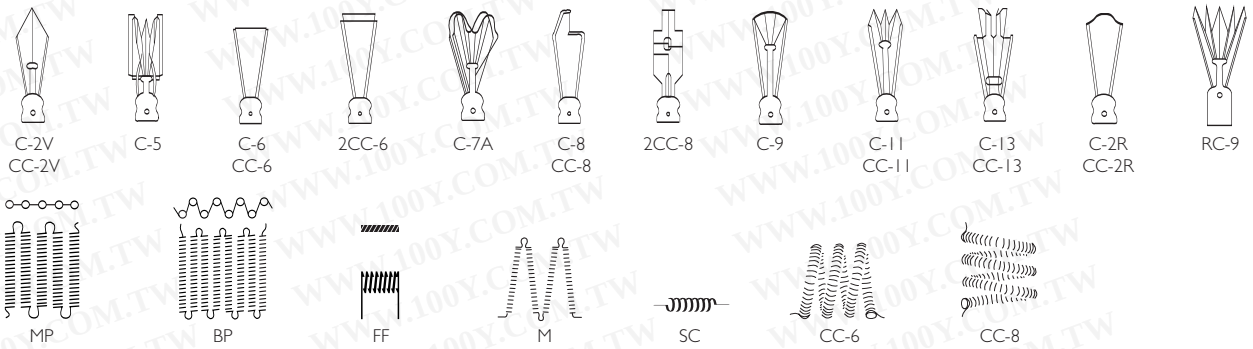
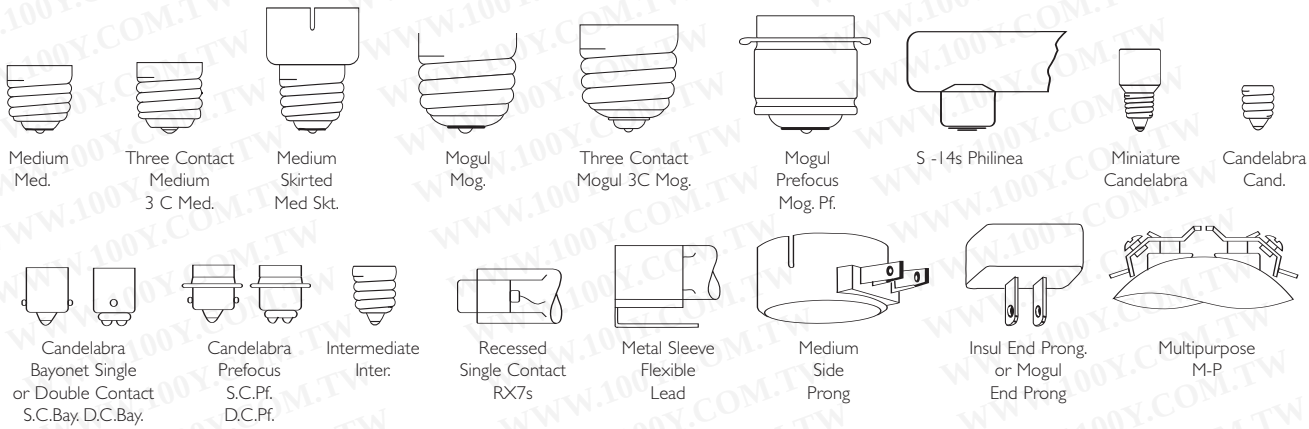
Incandescent symbols and footnotes located on page 44

Filament Designations (Not Actual Sizes)

Filament designations consist of a letter or letters to indicate how the wire is coiled and an arbitrary number sometimes followed by a letter to indicate the arrangement of the filament on the supports. Prefix letters include C (coil) — wire is wound into a helical coil or it may be deeply fluted; CC (coiled coil) — wire is wound into a helical coil and this coiled wire again wound into a helical coil. Some of the more commonly used types of filament arrangements are illustrated.

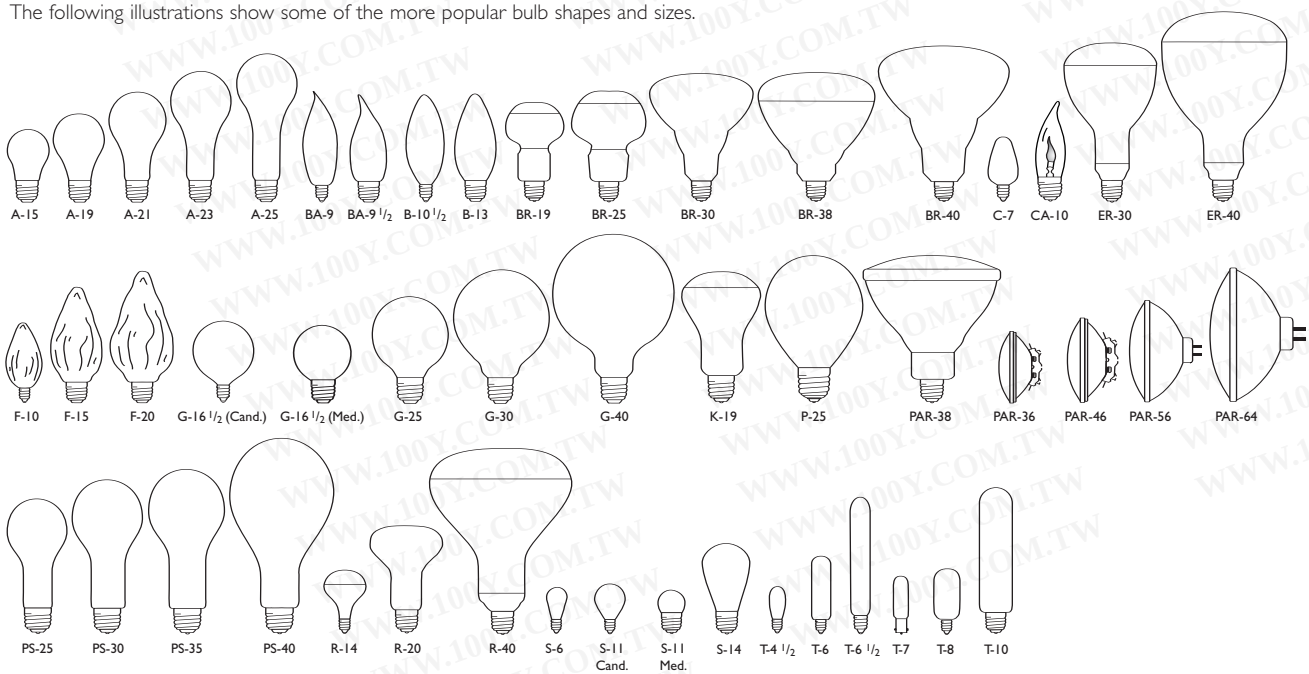


Base Shapes (Not Actual Sizes)



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, "T-10" indicates a tubular shaped bulb having a diameter of 1⅛ or 1¼ inches. The following illustrations show some of the more popular bulb shapes and sizes.



▢ 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.
* Two Lamp Carded Pack.
▲ Aluminum base.
■ Nickel plated brass base.
★ Heat resisting glass bulb.
• Consider the compact fluorescent lamps listed on pages 53–54 for energy savings
$ Energy Saving Product
• Maximum Beam Candlepower
X Orders will be shipped until inventory is depleted; no longer manufactured
Ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

(2) Although the lamp is of the highest quality in material and workmanship, it has been designed to meet certain purchase requirements which preclude a guarantee of performance.
(3) Indefinite-long life.
(4) Average laboratory life is 200 hours for vacuum cleaner and 600 hours for sewing machine service. Design life 1000 hours.
(8) Operate base down.
(9) This lamp should be shielded from moisture to prevent breakage.
(10) Operating position—horizontal.
(11) Design volts 115.
(12) Operate base down to horizontal.
(13) Not recommended for horizontal burning.
(14) Operate base up.
(15) Operate base down. Filaments operated separately.
(18) Base is medium left hand thread.
(19) May not give satisfactory performance if any accessory equipment is attached to or touches the glass bulb.
(22) Unsatisfactory lamp operation is likely to occur in operating positions between horizontal and base up, particularly between 45° from base up and base up.
(23) May be operated in any position.
(25) Base pins approximately parallel to plane of filament.
(26) Use only on circuits supplying the voltage as marked on the lamp. DO NOT use in household sockets.
(27) Average laboratory life in excess of 5000 hours. In-service life depends upon service conditions.
(29) Suitable for indoor and outdoor service.
(31) Operate only in porcelain sockets.
(34) Operate base up to horizontal.
(37) Should not be used in equipment where the base temperature will exceed 500°F.
(41) Avoid use at short distances on materials that are inflammable or susceptible to heat damage.
(43) Unless otherwise noted, may be operated in any position, but lumen maintenance is best when operated vertically base up.
(46) Stippled, rounded cover.
(49) Should not be used in equipment where the seal temperature exceeds 750°F.
(50) For use on 50-60 cycle A.C. circuits.
(51) Light output is maintained best when operated within 45° of vertically base up.
(53) The bulb, though made of heat-resistant glass, may break if moisture falls on it. Not recommended for use in enclosed, close-fitting housings.
(55) For use only with heat resistant connector and with lamp supported by bulb rim.
(59) Life dependent upon service conditions.
(63) Design volts 145.
(64) For use only in equipment specially designed to maintain bulb and base temperature within safe limits.
(65) AA tolerance ½", L.C.L. tolerance ¾".
(66) Silicone Coating reduces lumen output from Standard Values less than 3%.
(72) Light Center Length & Axial Alignment tolerance ¼".
(75) 2¾" diameter unsilvered spot on end of bulb.
(81) LCL & Axial Alignment tolerance ½".
(82) CAUTION: To avoid deterioration of lampholder by heat, use only heat resistant lampholders or fixtures listed by a nationally recognized electrical testing organization for use with reflector or PAR lamps.
(83) Base does not have ceramic insulator.
(86) PAR Halogen Caution Notice: Before using bulb, see operating instructions on inside flap. Adherence to the operating instructions will reduce the risk of personal injury or fire. The filament capsule contained inside this glass bulb is pressurized, operates at high temperature and could unexpectedly shatter. Should the outer bulb break, particles of extremely hot glass could be discharged into the fixture and/or the surrounding environment, thereby creating a risk of personal injury or fire.
Operating Instructions: Before replacing, turn off power and let lamp cool to avoid electrical shock or burn.
— For indoor or outdoor use. A weather-protected fixture is recommended for wet locations.
— Suitable for use in open fixtures.
— Do not exceed the maximum wattage rating of the fixture.
— Do not use if outer glass is scratched or broken since it may break during operation or removal.
— If outer glass breaks the lamp may continue to light, however, immediately discontinue use.
— Due to the heat that radiates from the bulb, do not use in close proximity to combustible materials or objects susceptible to drying or fading.
— Manage in accord with disposal laws.
(87) Do not allow hot bulb to come in contact with liquid or metal parts of the fixture, as glass may shatter. Do not use outdoors. Do not operate in close proximity to flammable materials or those adversely affected by heat or drying. Operate only in heat resistant sockets.
(89) CAUTION: Do not operate in close proximity to flammable materials or those adversely affected by heat or drying. Operate only in heat resistant sockets.
WARNING: Use carefully. May cause serious burns. Do not use over insensitive skin areas or in the presence of poor circulation. The unattended use of infrared heat by children or incapacitated persons may be dangerous.
—Lamp should not be placed closer than 18" to the surface being irradiated.
—Do not use for therapeutic or topical applications unless recommended by a physician.
—For food warming, use only lamps with heat resisting glass.
(90) Since there is considerable heat radiation in the beam of this lamp, care should be taken against using it without suitable protection, in close proximity to combustible materials or those adversely affected by drying action.
(91) CAUTION: Do not touch inner capsule with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. **THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350°C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(92) CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER so to avoid injury and to avoid exposure to ultraviolet radiation, this lamp should be used in a fixture that provides a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350° C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(93) Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not.
(94) To prevent electrical shock, match wide blade of plug to wide slot of outlet, fully insert. Do not cover night light; overheating may occur. Do not plug in near radiator or source of heat. **WARNING:** for indoor use only.
(95) NOTICE: Do not touch bulb with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. **CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350° C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(96) Operating Instructions: Do not use lamp in close proximity to combustible materials. If used outdoors, use in an enclosed fixture only. If used indoors, no additional shield is required. Can be operated in all positions. **CAUTION:** Read operating instructions before use. If outer glass breaks, turn power off immediately and avoid touching any metal components. To avoid potential burn and electrical shock during lamp replacement, always turn power off and let lamp cool before replacing bulb. Lasts 2 years based on 4 hours average usage per day/7 days per week.
(97) Operating Instructions: Before replacing, turn off power and let lamp cool to avoid electrical shock or burn. For indoor use only. Do not allow hot bulb to come in contact with liquid or metal parts of the fixture as glass may shatter. Do not exceed the maximum wattage rating of the fixture. Do not use if outer glass is scratched or broken since it may break during operation or removal. If outer glass breaks the lamp may continue to light, however, immediately discontinue use. Due to the heat that radiates from the bulb, do not use in close proximity to combustible materials or objects susceptible to drying or fading. Manage in accord with disposal laws.
CAUTION: Adherence to the operating instructions will reduce the risk of personal injury or fire. The filament capsule contained inside this glass bulb is pressurized, operates at high temperature and could unexpectedly shatter. Should the outer bulb break, particles of extremely hot glass could be discharged into the fixture and/or the surrounding environment, thereby creating a risk of personal injury or fire.
(98) Note: This twistline has a GU10 base and may be used in fixtures that have either GU10 or GZ10 sockets.
Operating Instructions: Do not use in close proximity to combustible materials or objects adversely affected by drying or fading. Can be operated in all positions. **CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, this lamp should be used in a fixture that provides a protective shield of tempered glass. If outer glass breaks, immediately discontinue use. Always turn power off and let lamp cool before removal to avoid potential burn or electric shock.
(99) WARNING: BULB OPERATES AT VERY HIGH TEMPERATURES AND MUST BE USED PROPERLY TO AVOID/REDUCE RISK OF FIRE. Do not use bulbs greater than 300 watts in indoor residential fixtures. Use only in fixtures specifying this bulb type and that meet revised UL 153 standard for tungsten-halogen torchiere lamps. Bulb is pressurized and could shatter and should only be used in fixtures that provide a protective shield of tempered glass. To avoid exposure to ultraviolet radiation which could cause skin and eye irritation use only in fixtures that provide a protective shield of tempered glass. **NOTICE:** Do not touch bulb with bare hands. Fingerprints may result in reduced performance unless they are removed with alcohol. When operating, bulb is hot. To avoid risks of burns or injury, turn power off and allow bulb to cool before replacing. Socket conditions may affect bulb life. Inspect and replace socket if deterioration has occurred. Provide adequate ventilation to ensure that seal temperature does not exceed 350°C. **TO AVOID/REDUCE RISK OF FIRE, DO NOT USE NEAR COMBUSTIBLE MATERIALS.**

Halogen Lighting

Put people in the best light

Three simple families:

Halogen Lamps will provide bright, white light across the product line. Offers a rated average life† ranging from 2000 to 3000 hours depending upon the product, and feature excellent beam qualities for accent or ambient lighting.

Halogen Long Life Lamps feature 6000 hour rated average life† which is double the life of comparable standard halogen lamps. These lamps are ideal for places where maintenance is expensive and disruptive. Longer life lamps also delay replacement frequency which will save on re-lamping costs.

Halogen Energy Advantage IR Lamps provide the most enhanced features of our halogen lamp line. The double ended burner with an IR coating optimizes lumen output. Therefore you can use a lower wattage lamp to achieve energy savings and also get up to 67% longer rated average life† than standard halogen lamps.

† Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not.

Photography courtesy of Polo Ralph Lauren

Photography by Laszlo Regos

Halogen Lighting

Philips Halogená® Lamps, the elegant, long life alternative to ordinary household light. Halogená provides bright, white light that lasts two years.† Their long life makes them great for hard-to-reach fixtures. Fewer replacements means less hassle. But that's not all, Halogená light bulbs are also fully dimmable, which can save energy. From Decorative to PARs, from the Classic to easy grip Reflectors, Halogená light bulbs provide bright, white light, indoors or out.

† Lasts 2 years based on 4 hours average usage per day/7 days per week.

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogená® Classic Blister-Carded (96)													
60	BT-15	Med	**24924-3**		**BC60BT15/HAL/CL**	**120**	10	Clear, Blister Card	C, CC-8	4	3000	—	900
			24926-8		**BC60BT15/HAL/W**	**120**	10	White, Blister Card	C, CC-8	4	3000	—	840
75	BT-15	Med.	**24927-6**		**BC75BT15/HAL/W**	**120**	10	White, Blister Card	C, CC-8	4	3000	—	1120
100	BT-15	Med.	**24931-8**		**BC100BT15/HAL/W**	**120**	10	White, Blister Card	C, CC-8	4	3000	—	1670
150	BT-15	Med.	**24933-4**		**BC150BT15/HAL/W**	**120**	10	White, Blister Card	C, CC-8	4	3000	—	2650
Natural Light Plus Blister-Carded (96)													
60	BT-15	Med.	**13958-4**		**BC60BT15/HAL/NLP/CL**	**120**	10	Natural Light Plus	C, CC-8	4	3000	—	650
Halogená Decorative Blister-Carded (96)													
25	CP-19	Med.	**36472-9**	▢	**BC25CP19/HAL/CL**	**120**	6	Clear, Blister Card	C, CC-8	4 ⅛	3000	—	300
	F-10 ½	Cand.	**38903-1**		**BC25F10-1/2C/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	300
	F-10 ½	Med.	**38906-4**		**BC25F10-1/2/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	300
	F-15	Med.	**38904-9**		**BC25F15/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 13/16	3000	—	300
40	CP-19	Med.	**36485-1**	▢	**BC40CP19/HAL/CL**	**120**	6	Clear, Blister Card	C, CC-8	4 ⅛	3000	—	540
	F-10 ½	Cand.	**38901-5**		**BC40F10-1/2C/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	540
	F-10 ½	Med.	**38895-9**		**BC40F10-1/2/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	540
	F-15	Med.	**38905-6**		**BC40F15/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 13/16	3000	—	540
60	CP-19	Med.	**36411-7**	▢	**BC60CP19/HAL/CL**	**120**	6	Clear, Blister Card	C, CC-8	4 ⅛	3000	—	900
	F-10 ½	Cand.	**39029-4**		**BC60F10-1/2C/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	900
	F-10 ½	Med.	**38898-3**		**BC60F10-1/2/HAL/CL**	**120**	4	Clear, Blister Card	C, CC-8	4 ⅜	3000	—	900
	F-15	Med.	**38551-8**		**BC60F15/HAL/POST TOP**	**120**	4	Clear, Blister Card	C, CC-8	4 13/16	3000	—	900
Halogená Indoor Floodlight, Spotlight (97)													
60	BR-30	Med.	**38875-1**	$ ▢	**60BR30/HAL/SP**	**120**	6	Spot	C, CC-8	5 ⅜	3000	2250	700
			38849-6	$ ▢	**60BR30/HAL/FL**	**120**	6	Flood	C, CC-8	5 ⅜	3000	500	700
	BR-40	Med.	**39174-8**	$ ▢	**60BR40/HAL/FL**	**120**	6	Flood	C, CC-8	6 ½	3000	325	750
Halogená PAR-16 Lamps Blister-Carded (82, 86)													
45	PAR-16	Med.	**13412-2**	$	**BC45PAR16/HAL/FL/LL**	**120**	6	Blister Card, Flood	C, CC-8	3 ½	3000	1250	420
60	PAR-16	Med.	**13413-0**	$	**BC60PAR16/HAL/FL/LL**	**120**	6	Blister Card, Flood	C, CC-8	3 ½	3000	1800	580
Halogená PAR-20 Lamps (82,86)													
50	PAR-20	Med.	**13411-4**	$	**50PAR20/HAL/SP/LL**	**120**	6	Spot	C, CC-8	3 ⅜	3000	4000	520
			13410-6	$	**50PAR20/HAL/FL/LL**	**120**	6	Flood	C, CC-8	3 ⅜	3000	900	520
Halogená PAR-30 Long Lamps (82, 86)													
50	PAR-30L	Med.	**13407-2**	$ Ⓔ	**50PAR30L/HAL/FL/LL**	**120**	6	Flood	C, CC-8	4 ½	3000	2350	590
75	PAR-30L	Med.	**13409-8**	$ Ⓔ	**75PAR30L/HAL/SP/LL**	**120**	6	Spot	C, CC-8	4 ½	3000	12300	1000
			13408-0	$ Ⓔ	**75PAR30L/HAL/FL/LL**	**120**	6	Flood	C, CC-8	4 ½	3000	4100	1000
Halogená PAR-30 Short Lamps (82, 86)													
60	PAR-30S	Med.	**13406-4**	$ Ⓔ	**60PAR30S/HAL/FL/LL**	**120**	6	Flood	C, CC-8	3 ⅜	3000	2900	800
Halogená PAR-38 Lamps (82, 86)													
45	PAR-38 Standard Reflector	Med.Skt.	**13404-9**	$ Ⓔ	**45PAR38/HAL/SP/LL**	**120**	6	Spot	C, CC-8	5 5/16	3000	6200	530
			13401-5	$ Ⓔ	**45PAR38/HAL/FL/LL**	**120**	6	Flood	C, CC-8	5 5/16	3000	2000	530
60	PAR-38 Standard Reflector	Med.Skt.	**14022-8**	$ Ⓔ	**60PAR38/HAL/FL/LL**	**120**	6	Flood	C, CC-8	5 5/16	3000	3200	800
90	PAR-38 Standard Reflector	Med.Skt.	**13405-6**	$ Ⓔ	**90PAR38/HAL/SP/LL**	**120**	6	Spot	C, CC-8	5 5/16	3000	16,400	1350
			13402-3	$ Ⓔ	**90PAR38/HAL/FL/LL**	**120**	6	Flood	C, CC-8	5 5/16	3000	5350	1350
Halogen PAR-38 Lamps (82,86)													
45	PAR-38	Med.Skt.	**14060-8**	$ Ⓔ	**45PAR38/HAL/SP**	**120**	6	Spot	C, CC-8	5 5/16	2000	6400	560
			26883-9	$ Ⓔ	**45PAR38/HAL/FL**	**120**	6	Flood	C, CC-8	5 5/16	2000	2100	560
90	PAR-38	Med.Skt.	**14023-6**	$ Ⓔ	**90PAR38/HAL/SP**	**120**	6	Spot	C, CC-8	5 5/16	2000	16,500	1370
			26877-1	$ Ⓔ	**90PAR38/HAL/FL**	**120**	6	Flood	C, CC-8	5 5/16	2000	5400	1370

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Halogen symbols and footnotes located on page 56

Halogen

PAR-16, PAR-20, PAR-30L Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogen PAR-16 Lamps (82,86)													
45	PAR-16	Med.	**26335-0**	$	**45PAR16/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ½	3000	3800	420
			26345-9	$	**45PAR16/HAL/FL27**	**120**	15	Flood 27°	C, CC-8	3 ½	3000	1250	420
60	PAR-16	Med.	**33004-3**	$	**60PAR16/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ½	3000	5000	580
			33006-8	$	**60PAR16/HAL/FL27**	**120**	15	Flood 27°	C, CC-8	3 ½	3000	1800	580
Halogen PAR-16 Lamps 130V (82,86)													
45	PAR-16	Med.	**26338-4**	$	**45PAR16/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ½	2500	3950	450
								Ratings @ 120V = 40W			5000	3160	340
			26348-3	$	**45PAR16/HAL/FL27**	**130**	15	Flood 27°	C, CC-8	3 ½	2500	1300	450
								Ratings @ 120V = 40W			5000	1040	340
60	PAR-16	Med.	**33005-0**	$	**60PAR16/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ½	3000	5000	580
								Ratings @ 120V = 53W			6000	4000	450
			33007-6	$	**60PAR16/HAL/FL27**	**130**	15	Flood 27°	C, CC-8	3 ½	3000	1800	580
								Ratings @ 120V = 53W			6000	1440	450
Halogen PAR-20 Lamps WISO Reflector (82,86)													
50	PAR-20	Med.	**22906-2**	$	**50PAR20/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	3000	4000	520
			22911-2	$	**50PAR20/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	3000	900	520
Halogen PAR-20 Lamps 130V WISO Reflector (82,86)													
50	PAR-20	Med.	**13846-1**	$	**50PAR20/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ⅜	2000	4150	550
								Ratings @ 120V = 44W			4000	3320	420
			22921-1	$	**50PAR20/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	3 ⅜	2000	1100	550
								Ratings @ 120V = 44W			4000	880	420
Halogen PAR-30L Long Neck Lamps WISO Reflector (82,86)													
50	PAR-30L	Med.	**22922-9**	$ Ⓔ	**50PAR30L/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	4 ½	3000	7500	590
			22923-7	$ Ⓔ	**50PAR30L/HAL/WSP16**	**120**	15	Wide Spot 16°	C, CC-8	4 ½	3000	3800	590
			22925-2	$ Ⓔ	**50PAR30L/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	4 ½	3000	2350	590
			22927-8	$ Ⓔ	**50PAR30L/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	4 ½	3000	950	590
75	PAR-30L	Med.	**22930-2**	$ Ⓔ	**75PAR30L/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	4 ½	3000	12,300	1000
			22934-4	$ Ⓔ	**75PAR30L/HAL/WSP16**	**120**	15	Wide Spot 16°	C, CC-8	4 ½	3000	6900	1000
			22941-9	$ Ⓔ	**75PAR30L/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	4 ½	3000	4100	1000
			22944-3	$ Ⓔ	**75PAR30L/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	4 ½	3000	1650	1000
Halogen PAR-30L Long Neck Lamps 130V WISO Reflector (82,86)													
50	PAR-30L	Med.	**13847-9**	$ Ⓔ	**50PAR30L/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	4 ½	2000	8500	630
								Ratings @ 120V = 44W			4000	6800	470
			22926-0	$ Ⓔ	**50PAR30L/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	4 ½	2000	2450	630
								Ratings @ 120V = 44W			4000	1960	470
			22928-6	$ Ⓔ	**50PAR30L/HAL/WFL40**	**130**	15	Wide Flood 40°	C, CC-8	4 ½	2000	1050	630
								Ratings @ 120V = 44W			4000	840	470
75	PAR-30L	Med.	**13848-7**	$ Ⓔ	**75PAR30L/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	4 ½	2500	13,000	1050
								Ratings @ 120V = 66W			5000	10,400	780
			22943-5	$ Ⓔ	**75PAR30L/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	4 ½	2500	4200	1050
								Ratings @ 120V = 66W			5000	3360	780
			22945-0	$ Ⓔ	**75PAR30L/HAL/WFL40**	**130**	15	Wide Flood 40°	C, CC-8	4 ½	2500	1750	1050
								Ratings @ 120V = 66W			5000	1400	780

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Halogen symbols and footnotes located on page 56

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogen PAR-30S Short Lamps WISO Reflector (82,86)													
50	PAR-30S	Med.	**26349-1**	$ Ⓔ	**50PAR30S/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	3000	6600	610
			26358-2	$ Ⓔ	**50PAR30S/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	3000	2250	610
			26364-0	$ Ⓔ	**50PAR30S/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	3000	1000	610
60	PAR-30S	Med.	**35751-7**	$ Ⓔ	**60PAR30S/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	3000	9650	800
			35753-3	$ Ⓔ	**60PAR30S/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	3000	2900	800
			35758-2	$ Ⓔ	**60PAR30S/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	3000	1300	800
75	PAR-30S	Med.	**28479-4**	$ Ⓔ	**75PAR30S/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	3000	12,900	1050
			28488-5	$ Ⓔ	**75PAR30S/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	3000	4100	1050
			28491-9	$ Ⓔ	**75PAR30S/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	3000	1650	1050
Halogen PAR-30S Short Lamps 130V WISO Reflector (82,86)													
50	PAR-30S	Med.	**26357-4**	$ Ⓔ	**50PAR30S/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ⅜	2000	7100	630
								Ratings @ 120V = 44W			4000	5680	480
			26362-4	$ Ⓔ	**50PAR30S/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	3 ⅜	2000	2300	630
								Ratings @ 120V = 44W			4000	1840	480
			26384-8	$ Ⓔ	**50PAR30S/HAL/WFL40**	**130**	15	Wide Flood 40°	C, CC-8	3 ⅜	2000	1020	630
								Ratings @ 120V = 44W			4000	816	480
60	PAR-30S	Med.	**35752-5**	$ Ⓔ	**60PAR30S/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ⅜	3000	9650	800
								Ratings @ 120V = 53W			6000	7720	610
			35788-9	$ Ⓔ	**60PAR30S/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	3 ⅜	3000	2900	800
								Ratings @ 120V = 53W			6000	2320	610
			35762-4	$ Ⓔ	**60PAR30S/HAL/WFL40**	**130**	15	Wide Flood 40°	C, CC-8	3 ⅜	3000	1300	800
								Ratings @ 120V = 53W			6000	1040	610
75	PAR-30S	Med.	**13849-5**	$ Ⓔ	**75PAR30S/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ⅜	2500	12,900	1050
								Ratings @ 120V = 66W			5000	10,320	800
			13467-6	$ Ⓔ	**75PAR30S/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	3 ⅜	2500	4100	1050
								Ratings @ 120V = 66W			5000	3280	800
			28492-7	$ Ⓔ	**75PAR30S/HAL/WFL40**	**130**	15	Wide Flood 40°	C, CC-8	3 ⅜	2500	1650	1050
								Ratings @ 120V = 66W			5000	1320	800
Halogen Energy Advantage IR PAR-30S Short Lamps Featuring Halogen Infrared Technology and WISO Reflector (82,86)													
LOWER WATTAGE ENERGY SAVING LAMPS													
40	PAR-30S	Med.	**14496-3**	$ Ⓔ	**40PAR30S/IRC/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	4200	9100	720
			14497-1	$ Ⓔ	**40PAR30S/IRC/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	4200	2420	720
			14498-9	$ Ⓔ	**40PAR30S/IRC/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	4200	1150	720
50	PAR-30S	Med.	**14499-7**	$ Ⓔ	**50PAR30S/IRC/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	4200	12,300	970
			14500-3	$ Ⓔ	**50PAR30S/IRC/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	4200	3850	970
			14501-1	$ Ⓔ	**50PAR30S/IRC/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	4200	1460	970
Halogen Energy Advantage IR PAR-30S Short Lamps 130V Featuring Halogen Infrared Technology and WISO Reflector (82, 86)													
50	PAR-30S	Med.	**13853-7**	$ Ⓔ	**50PAR30S/IRC/HAL/SP10**	**130**	15	Spot 10°	C, CC-8	3 ⅜	3000	11,000	840
								Ratings @ 120V = 44W			6000	—	650
			13854-5	$ Ⓔ	**50PAR30S/IRC/HAL/FL25**	**130**	15	Flood 25°	C, CC-8	3 ⅜	3000	3400	840
								Ratings @ 120V = 44W			6000	—	650
			13855-2	$ Ⓔ	**50PAR30S/IRC/HAL/WFL40**	**130**	15	W. Flood 40°	C, CC-8	3 ⅜	3000	1350	840
								Ratings @ 120V = 44W			6000	—	650
Halogen Long Life IR PAR-30S Short Lamps Featuring Halogen Infrared Technology and WISO Reflector (82,86)													
These lamps are 130V lamps run on 120V.													
45	PAR-30S	Med.	**13850-3**	$ Ⓔ	**45PAR30S/IRC/HAL/SP10**	**120**	15	Spot 10°	C, CC-8	3 ⅜	6000	8560	650
			13851-1	$ Ⓔ	**45PAR30S/IRC/HAL/FL25**	**120**	15	Flood 25°	C, CC-8	3 ⅜	6000	2340	650
			13852-9	$ Ⓔ	**45PAR30S/IRC/HAL/WFL40**	**120**	15	Wide Flood 40°	C, CC-8	3 ⅜	6000	1050	650

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Halogen symbols and footnotes located on page 56

Halogen

PAR-36, PAR-38 Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogen PAR-36 Lamps													
50	PAR-36	MP	**13082-3**	$	**50PAR36Q/VNSP6**	**12**	12	PAR, Narrow Spot	C, C-6	2 ¾	4000	35,000	400
Halogen PAR-38 Lamps (82, 86)													
45	PAR-38 Standard Reflector	Med.Skt.	**22946-8**	$ Ⓔ	**45PAR38/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 5/16	3000	6200	530
			22948-4	$ Ⓔ	**45PAR38/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 5/16	3000	2000	530
60	PAR-38 Standard Reflector	Med. Skt.	**14482-4**	$ Ⓔ	**60PAR38/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 5/16	3000	10,500	800
			14483-2	$ Ⓔ	**60PAR38/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 5/16	3000	3200	800
			14484-0	$ Ⓔ	**60PAR38/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 5/16	3000	1300	800
75	PAR-38 Standard Reflector	Med. Skt.	**14485-7**	$ Ⓔ	**75PAR38/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 5/16	3000	13,000	1050
			14486-5	$ Ⓔ	**75PAR38/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 5/16	3000	3800	1050
90	PAR-38 Standard Reflector	Med. Skt.	**23069-8**	$ Ⓔ	**90PAR38/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 5/16	3000	16,400	1350
			23070-6	$ Ⓔ	**90PAR38/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 5/16	3000	5350	1350
			14487-3	$ Ⓔ	**90PAR38/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 5/16	3000	2200	1350
Halogen PAR-38 Lamps 130V (82, 86)													
45	PAR-38 Standard Reflector	Med.Skt.	**22947-6**	$ Ⓔ	**45PAR38/HAL/SP10**	**130**	12	Spot 10°	C, CC-8	5 5/16	2500	6200	530
								Ratings @ 120V = 40W			5000	4960	410
			22949-2	$ Ⓔ	**45PAR38/HAL/FL25**	**130**	12	Flood 25°	C, CC-8	5 5/16	2500	2000	530
								Ratings @ 120V = 40W			5000	1600	410
60	PAR-38 Standard Reflector	Med.Skt.	**14488-1**	$ Ⓔ	**60PAR38/HAL/SP10**	**130**	12	Spot 10°	C, CC-8	5 5/16	3000	10,500	800
								Ratings @ 120V = 53W			6000	8400	610
			14490-7	$ Ⓔ	**60PAR38/HAL/FL25**	**130**	12	Flood 25°	C, CC-8	5 5/16	3000	3200	800
								Ratings @ 120V = 53W			6000	2560	610
			14491-5	$ Ⓔ	**60PAR38/HAL/WFL40**	**130**	12	W. Flood 40°	C, CC-8	5 5/16	3000	1300	800
								Ratings @ 120V = 53W			6000	1040	610
75	PAR-38 Standard Reflector	Med.Skt.	**14492-3**	$ Ⓔ	**75PAR38/HAL/NSP8**	**130**	12	N. Spot 8°	C, CC-8	5 5/16	2500	16,750	1100
								Ratings @ 120V = 66W			5000	13,400	840
			14493-1	$ Ⓔ	**75PAR38/HAL/SP10**	**130**	12	Spot 10°	C, CC-8	5 5/16	2500	14,000	1100
								Ratings @ 120V = 66W			5000	11,200	840
			14494-9	$ Ⓔ	**75PAR38/HAL/FL25**	**130**	12	Flood 25°	C, CC-8	5 5/16	2500	4350	1100
								Ratings @ 120V = 66W			5000	3480	840
90	PAR-38 Standard Reflector	Med.Skt.	**23650-5**	$ Ⓔ	**90PAR38/HAL/SP10**	**130**	12	Spot 10°	C, CC-8	5 5/16	2500	16,400	1350
								Ratings @ 120V = 79W			5000	13,120	1020
			23651-3	$ Ⓔ	**90PAR38/HAL/FL25**	**130**	12	Flood 25°	C, CC-8	5 5/16	2500	5350	1350
								Ratings @ 120V = 79W			5000	4280	1020
			14495-5	$ Ⓔ	**90PAR38/HAL/WFL40**	**130**	12	W. Flood 40°	C, CC-8	5 5/16	2500	2200	1350
								Ratings @ 120V = 79W			5000	1760	1020

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Halogen symbols and footnotes located on page 56

Halogen Energy Advantage IR PAR-38 Lamps Featuring Halogen Infrared Technology and DiOptic Reflector (82,86)

LOWER WATTAGE ENERGY SAVING LAMPS

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
40	PAR-38 DiOptic Reflector	Med.Skt.	**14502-9**	$ Ⓔ	**40PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	4200	11,000	720
			14503-7	$ Ⓔ	**40PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	4200	2900	720
			14504-5	$ Ⓔ	**40PAR38/IRC/HAL/WFL40**	**120**	12	Wide Flood 40°	C, CC-8	5 ⅞	4200	1200	720
50	PAR-38 DiOptic Reflector	Med.Skt.	**14505-2**	$ Ⓔ	**50PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	4200	15,500	970
			14506-0	$ Ⓔ	**50PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	4200	4000	970
			14507-8	$ Ⓔ	**50PAR38/IRC/HAL/WFL40**	**120**	12	Wide Flood 40°	C, CC-8	5 ⅞	4200	1600	970
60	PAR-38 DiOptic Reflector	Med.Skt.	**13873-5**	$ Ⓔ	**60PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	4200	15,500	1120
			13874-3	$ Ⓔ	**60PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	4200	5100	1120
			13875-0	$ Ⓔ	**60PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	4200	1800	1120
70	PAR-38 DiOptic Reflector	Med.Skt.	**13861-0**	$ Ⓔ	**70PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	4200	17,800	1550
			13862-8	$ Ⓔ	**70PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	4200	6170	1550
			13863-6	$ Ⓔ	**70PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	4200	2320	1550
100	PAR-38 DiOptic Reflector	Med.Skt.	**13876-8**	$ Ⓔ	**100PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	4200	26,400	2200
			13877-6	$ Ⓔ	**100PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	4200	8500	2200
			13878-4	$ Ⓔ	**100PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	4200	3500	2200

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Halogen Energy Advantage IR PAR-38 Lamps 130V Featuring Halogen Infrared Technology and DiOptic Reflector (82,86)

60	PAR-38 DiOptic Reflector	Med.Skt.	**13920-4**	$ Ⓔ	**60PAR38/IRC/HAL/SP10**	**130**	12	Spot 10°	C, CC-8	5 ⅞	4200	15,500	1120
								Ratings @ 120V = 53W			8400	—	880
			13879-2	$ Ⓔ	**60PAR38/IRC/HAL/FL25**	**130**	12	Flood 25°	C, CC-8	5 ⅞	4200	5100	1120
								Ratings @ 120V = 53W			8400	—	880
			13918-8	$ Ⓔ	**60PAR38/IRC/HAL/WFL40**	**130**	12	W. Flood	C, CC-8	5 ⅞	4200	1800	1120
								Ratings @ 120V = 53W			8400	—	880

Halogen Long Life IR PAR-38 Featuring Halogen Infrared Technology and DiOptic Reflector (82,86)

These lamps are 130V lamps run on 120V.

45	PAR-38 DiOptic Reflector	Med.Skt.	**13919-6**	$ Ⓔ	**45PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	6000	8750	675
			13856-0	$ Ⓔ	**45PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	6000	2570	675
			13857-8	$ Ⓔ	**45PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	6000	1100	675
55	PAR-38 DiOptic Reflector	Med.Skt.	**13858-6**	$ Ⓔ	**55PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	6000	10,700	880
			13859-4	$ Ⓔ	**55PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	6000	3650	880
			13860-2	$ Ⓔ	**55PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	6000	1400	880
90	PAR-38 DiOptic Reflector	Med.Skt.	**13864-4**	$ Ⓔ	**90PAR38/IRC/HAL/SP10**	**120**	12	Spot 10°	C, CC-8	5 ⅞	6000	19,500	1650
			13865-1	$ Ⓔ	**90PAR38/IRC/HAL/FL25**	**120**	12	Flood 25°	C, CC-8	5 ⅞	6000	7200	1650
			13866-9	$ Ⓔ	**90PAR38/IRC/HAL/WFL40**	**120**	12	W. Flood 40°	C, CC-8	5 ⅞	6000	2500	1650

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Halogen symbols and footnotes located on page 56

Halogen

PAR-38, MRC-11, MRC-16, MR-16 Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogen PAR-38 Lamps, Medium Side Prong Base (82,86)													
60	PAR-38 Standard Reflector	Med. Side Prong	**38887-6**	Ⓔ	**60PAR38/HAL/3FL**	**120**	12	Flood 25°	C, CC-8	4 1/16	3000	3000	770
90	PAR-38 Standard Reflector	Med. Side Prong	**38890-0**	Ⓔ	**90PAR38/HAL/3FL**	**130**	12	Flood 25° Ratings @ 120V = 79W	C, CC-8	4 1/16	2500 5000	4500 3600	1350 1020
Halogen PAR-38 Lamps, Cool Beam Reflector													
60	PAR-38 Standard Reflector	Med.Skt.	**38884-3**	Ⓔ	**60PAR38/HAL/2FL**	**130**	12	Flood 25° Ratings @ 120V = 53W	C, CC-8	5 5/16	3000 6000	3000 2400	770 590
90	PAR-38 Standard Reflector	Med.Skt.	**38886-8**	Ⓔ	**90PAR38/HAL/2FL**	**130**	12	Flood 25° Ratings @ 120V = 79W	C, CC-8	5 5/16	2500 5000	4500 3600	1350 1020
Halogen MRC-11 Blister-Carded (92)													
20	MRC-11	GU4	**13345-4**		**BC20MRC11/FL30**	**12**	12	Blister Card, Flood 30°	C, CC-8	1 5/8	2000	500	230
Halogen MRC-11 (Formerly BrilliantLine Pro) (92)													
20	MRC-11	GU4	**37821-6**		**20MRC11/SP10 PRO FTB**	**12**	50	Spot 10°	C, CC-8	1 5/8	4000	4800	310
			37822-4		**20MRC11/FL30 PRO FTD**	**12**	50	Flood 30°	C, CC-8	1 5/8	4000	690	320
MRC-16 Halogen Display Lamps Blister-Carded (Formerly AccentLine) Dichroic Reflector With Lens (92)													
20	MRC-16	GU5.3	**39248-0**		**BC20MRC16/FL36-BAB**	**12**	12	Blister Card, Flood 36°	C, C-8	1 7/8	3000	500	200
35	MRC-16	GU5.3	**39256-3**		**BC35MRC16/FL36-FMX**	**12**	12	Blister Card, Flood 36°	C, C-8	1 7/8	3000	1000	400
50	MRC-16	GU5.3	**39262-1**		**BC50MRC16/SP10-EXT**	**12**	12	Blister Card, Spot 10°	C, C-8	1 7/8	3000	6200	600
			39259-7		**BC50MRC16/FL36-EXN**	**12**	12	Blister Card, Flood 36°	C, C-8	1 7/8	3000	1500	600
Halogen MR (Formerly AccentLine) (91)													
20	MR-16	GU5.3	**37802-6**		**20MR16/SP10 ESX**	**12**	50	Spot 10°	C, C-8	1 7/8	3000	3400	240
			37803-4		**20MR16/FL36 BAB**	**12**	50	Flood 36°	C, C-8	1 7/8	3000	550	240
NEW! **35**	MR-16	GU5.3	**14055-8**		**35MR16/SP10**	**12**	50	Spot 10°	C, C-8	1 7/8	3000	6000	510
			14056-6		**35MR16/FL36**	**12**	50	Flood 36°	C, C-8	1 7/8	3000	1000	540
50	MR-16	GU5.3	**37804-2**		**50MR16/SP10 EXT**	**12**	50	Spot 10°	C, C-8	1 7/8	3000	8800	790
			37807-5		**50MR16/NFL24 EXZ**	**12**	50	N. Flood 24°	C, C-8	1 7/8	3000	2500	800
			37805-9		**50MR16/FL36 EXN**	**12**	50	Flood 36°	C, C-8	1 7/8	3000	1600	850
Halogen MR Long Life (Formerly BrilliantLine Pro and Continuum Color) (91, 92)													
20	MRC-16	GU5.3	**37814-1**	(92)	**20MRC16/SP10 ESX**	**12**	50	Spot 10°	C, C-8	1 7/8	6000	5000	310
			26966-2	(92)	**20MRC16/NFL24 BBF**	**12**	50	N. Flood 24°	C, C-8	1 7/8	6000	1700	320
			37815-8	(92)	**20MRC16/FL36 BAB**	**12**	50	Flood 36°	C, C-8	1 7/8	6000	780	320
NEW! **35**	MRC-16	GU5.3	**14054-1**	(92)	**35MRC16/SP10**	**12**	50	Spot 10°	C, C-8	1 7/8	6000	8000	680
			14052-5	(92)	**35MRC16/NFL24**	**12**	50	N. Flood 24°	C, C-8	1 7/8	6000	3100	690
			14053-3	(92)	**35MRC16/FL36**	**12**	50	Flood 36°	C, C-8	1 7/8	6000	1500	710
50	MRC-16	GU5.3	**37816-6**	(92)	**50MRC16/SP10 EXT**	**12**	50	Spot 10°	C, C-8	1 7/8	6000	13000	920
			14061-6	(92)	**50MRC16/SP15**	**12**	50	Spot 15°	C, C-8	1 7/8	6000	8000	930
			37817-4	(92)	**50MRC16/NFL24 EXZ**	**12**	50	N. Flood 24°	C, C-8	1 7/8	6000	4400	960
			37818-2	(92)	**50MRC16/FL36 EXN**	**12**	50	Flood 36°	C, C-8	1 7/8	6000	2200	970
75	MR-16	GU5.3	**37808-3**	(91)	**75MR16/SP10 EYF**	**12**	50	Spot 10°	C, C-8	1 7/8	6000	14000	1320
			37809-1	(91)	**75MR16/FL36 EYC**	**12**	50	Flood 36°	C, C-8	1 7/8	6000	2500	1410

For the most current product information, go to the e-catalog on **www.philips.com**

Halogen symbols and footnotes located on page 56

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.•	Description	Class, Filament	MOL (in.)	Rated Avg. Life (93)	Approx MBCP*	Lumens
Halogen MR Energy Advantage IR (Formerly MasterLine® ES IRC) (92)													
20	MRC-16	GU5.3	**13451-0**		**20MRC16/IRC/SP8**	**12**	20	Spot 8°	C, C-8	1 ⅞	5000	6500	370
			13452-8		**20MRC16/IRC/FL36**	**12**	20	Flood 36°	C, C-8	1 ⅞	5000	1000	400
30	MRC-16	GU5.3	**14057-4**		**30MRC16/IRC/SP8**	**12**	20	Spot 8°	C, C-8	1 ⅞	5000	11,000	640
			14058-2		**30MRC16/IRC/NFL24**	**12**	20	N. Flood 24°	C, C-8	1 ⅞	5000	3350	660
			14063-2		**30MRC16/IRC/FL36**	**12**	20	Flood 36°	C, C-8	1 ⅞	5000	1600	680
35	MRC-16	GU5.3	**13453-6**		**35MRC16/IRC/SP8**	**12**	20	Spot 8°	C, C-8	1 ⅞	5000	14,000	780
			13454-4		**35MRC16/IRC/NFL24**	**12**	20	N. Flood 24°	C, C-8	1 ⅞	5000	4400	800
			13455-1		**35MRC16/IRC/FL36**	**12**	20	Flood 36°	C, C-8	1 ⅞	5000	2200	830
			13456-9		**35MRC16/IRC/WFL60**	**12**	20	W. Flood 60°	C, C-8	1 ⅞	5000	1050	870
45	MRC-16	GU5.3	**13457-7**		**45MRC16/IRC/SP8**	**12**	20	Spot 8°	C, C-8	1 ⅞	5000	16,000	1020
			13458-5		**45MRC16/IRC/NFL24**	**12**	20	N. Flood 24°	C, C-8	1 ⅞	5000	5450	1080
			13459-3		**45MRC16/IRC/FL36**	**12**	20	Flood 36°	C, C-8	1 ⅞	5000	2850	1100
			13460-1		**45MRC16/IRC/WFL60**	**12**	20	W. Flood 60°	C, C-8	1 ⅞	5000	1300	1180
Halogen MR Aluminum (Formerly Continuum Pro) (92)													
50	MRC-16	GU5.3	**13981-6**		**50 MRC16/NFL24/A**	**12**	50	N. Flood 24°	C, C-8	1 ⅞	5000	3300	940
			13982-4		**50 MRC16/FL36/A**	**12**	50	Flood 36°	C, C-8	1 ⅞	5000	2100	950
Closed Aluminum Reflector (ALR) Lamps Aluminum Reflector With Lens (92)													
20	37mm	BA15d	**32840-1**		**20ALR12/NSP6-GBD Clear**	**12**	50	Clear, N. Spot 6°	C, C-8	1 ½	2000	7000	250
			34002-6		**20ALR12/SP18-GBE Frost**	**12**	50	Frost, Spot 18°	C, C-8	1 ½	2000	1500	250
			34003-4		**20ALR12/FL32-GBF Frost**	**12**	50	Frost, Flood 32°	C, C-8	1 ½	2000	750	250
50	56mm	B15d	**32826-0**		**50ALR18/SP10-GBJ Clear**	**12**	50	Clear, Spot 10°	C, C-8	2 ¼	2000	13,000	820
			34091-9		**50ALR18/NFL25-GBK Frost**	**12**	50	Frost, N. Flood 25°	C, C-8	2 ¼	2000	2500	820
ALUline PRO 111													
50	ALU Pro 111	G53	**13396-6**		**ALU111MM 50W G53 12V 8D**	**12**	6	Spot 8°	C, C-8	2 3/4	3000	23,000	950
			13397-4		**ALU111MM 50W G53 12V 24D**	**12**	6	Flood 24°	C, C-8	2 3/4	3000	4000	950
75	ALU Pro 111	G53	**13398-2**		**ALU111MM 75W G53 12V 8D**	**12**	6	Spot 8°	C, C-8	2 3/4	3000	30,000	1575
			13399-0		**ALU111MM 75W G53 12V 24D**	**12**	6	Flood 24°	C, C-8	2 3/4	3000	5300	1575
			13400-7		**ALU111MM 75W G53 12V 45D**	**12**	6	Wide Flood 45°	C, C-8	2 3/4	3000	1900	1575
Twistline GU10 Blister-Carded (98)													
25	Twistline	GU10	**13587-1**		**BC25TWISTLINE GU10/FL25**	**120**	6	Blister Card, Flood 25°	C, C-6	2	3000	345	160
35	Twistline	GU10	**13347-0**		**BC35TWISTLINE GU10/FL25**	**120**	6	Blister Card, Flood 25°	C, C-6	2	3000	480	265
50	Twistline	GU10	**13081-5**		**BC50TWISTLINE GU10/FL25**	**120**	6	Blister Card, Flood 25°	C, C-6	2	3000	700	430

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Halogen symbols and footnotes located on page 56

Halogen

Single-Ended Linear, Double-Ended Linear, Low Voltage Capsule Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Volts	Pkg. Qty.*	Description	Class, Filament	MOL (in.)	Rated Avg. Life(93)	Approx MBCP*	Lumens
Halogen Single-Ended Linear Lamps Blister-Carded (95)													
50	T-4	Mini-Can	**13803-2**		**BC50Q/CL**	**120**	12	Blister Card	C, CC-8	2 3/4	1000	—	500
75	T-4	Mini-Can	**39249-8**		**BC75Q/CL**	**120**	12	Blister Card	C, CC-8	3	1000	—	1050
100	T-4	Mini-Can	**21365-2**		**BC100Q/CL ESN**	**120**	12	Blister Card	C, CC-8	2 13/16	1000	—	1600
150	T-4	Mini-Can	**34754-2**		**BC150Q/CL ETG**	**120**	12	Blister Card	C, CC-8	3	1000	—	2800
Halogen Single-Ended Linear Lamps (95)													
100	T-4	D.C. Bay	**44278-0**		**100Q/CL/DC ESR**	**120**	12	Clear	C, CC-8	2 7/16	1000	—	1600
150	T-4	Mini-Can	**29856-2**		**150Q ETH**	**120**	12	Frost	C, CC-8	3	1000	—	2700
			20049-3		**150Q/CL**	**130**	12	Clear	C, CC-8	3	1000	—	2800
		D.C. Bay	**26676-7**		**150Q/CL/DC ETC**	**120**	12	Clear	C, CC-8	2 1/2	1000	—	2800
			29850-5		**150Q/DC ETF**	**120**	12	Frost	C, CC-8	2 1/2	1000	—	2700
250	T-4	Mini-Can	**14668-8**		**250Q/CL EHT**	**120**	12	Clear	C, CC-8	3 1/8	1000	—	5000
			14667-0		**250Q/CL**	**130**	12	Clear	C, CC-8	3 1/8	1000	—	5000
		D.C. Bay	**14666-2**		**250Q/CL/DC ESS**	**120**	12	Clear	C, CC-8	3	1000	—	5000
			14669-6		**250Q/CL/DC**	**130**	12	Clear	C, CC-8	3	1000	—	5000
500	T-4	Mini-Can	**38079-0**		**500Q/CL EVR**	**120**	12	Clear	C, C-8	3 5/8	2000	—	10,000
750	T-4	Med. 2-Pin	**26972-0**		**750Q/CL EHG**	**120**	24	Clear	C, CC-8	4 1/4	2000	—	15,000
Halogen Double-Ended Linear Lamp Blister-Carded (99)													
100	T-3	RSC	**21750-5**		**BC100T3Q/CL**	**120**	12	Blister Card	C, C-8	3 1/8	2000	—	1400
150	T-3	RSC	**21751-3**		**BC150T3Q/CL**	**120**	12	Blister Card	C, C-8	3 1/8	2000	—	2400
			13444-5		**BC150T3Q/CL LONG**	**120**	12	Blister Card	C, C-8	4 1/16	1500	—	2000
250	T-3	RSC	**39250-6**		**BC250T3Q/CL**	**120**	12	Blister Card	C, C-8	3 1/8	2000	—	4000
300	T-3	RSC	**39246-4**		**BC300T3Q/CL**	**120**	12	Blister Card	C, C-8	4 1/16	2000	—	5000
500	T-3	RSC	**39247-2**		**BC500T3Q/CL**	**120**	12	Blister Card	C, C-8	4 1/16	2000	—	9500
Halogen Double-Ended Linear Lamp (99)													
300	T-3	RSC	**39282-9**		**300T3Q/CL EHM**	**120**	12	Clear	C, C-8	4 1/16	2000	—	5000
500	T-3	RSC	**13223-3**		**500T3Q/CL**	**125-130**	12	Clear	C, C-8	4 1/16	2000	—	9200
			20010-5		**500T3Q/CL FCL**	**120**	12	Clear	C, C-8	4 1/16	2000	—	9500
1000	T-3	RSC	**38320-8**		**1000T3Q/CL**	**240**	12	Clear	C, C-8	10 1/16	3000	—	21,000
1500	T-3	RSC	**23868-3**		**1500T3Q/CL**	**277**	12	Clear	C, C-8	10 1/16	3000	—	33,000
			13226-6		**1500T3Q/CL**	**240**	12	Clear	C, C-8	10 1/16	2000	—	32,250
Halogen Low-Voltage Capsule Lamp Blister-Carded (95)													
10	T-3	G4	**39251-4**		**BC10W/T3/12V**	**12**	12	Blister Card	C, C-8	1 1/4	2000	—	100
20	T-3	G4	**13015-3**		**BC20W/T3/12V**	**12**	12	Blister Card	C, C-8	1 1/4	2000	—	250
35	T-4	GY6.35	**13346-2**		**BC35W/T4/12V**	**12**	12	Blister Card	C, C-8	1 3/4	2000	—	465
50	T-4	GY6.35	**13016-1**		**BC50W/T4/12V**	**12**	12	Blister Card	C, C-8	1 3/4	2000	—	700
75	T-4	GY6.35	**13441-1**		**BC75W/T4/12V**	**12**	12	Blister Card	C, C-8	1 3/4	2000	—	1100
Halogen Low-Voltage Capsule Lamp All Lamps Contain UV Block and are Low Pressure (95)													
10	T-3	G4	**23262-9**		**10W/T3/12V**	**12**	100	Capsule Type 13284	C, C-8	1 1/4	4000	—	140
20	T-3	G4	**23264-5**		**20W/T3/12V**	**12**	100	Capsule Type 13078	C, C-8	1 1/4	4000	—	320
35	T-4	GY6.35	**29553-5**		**35W/T4/12V**	**12**	100	Capsule Type 13103	C, C-8	1 3/4	4000	—	600
50	T-4	GY6.35	**23265-2**		**50W/T4/12V**	**12**	100	Capsule Type 13079	C, C-8	1 3/4	4000	—	800

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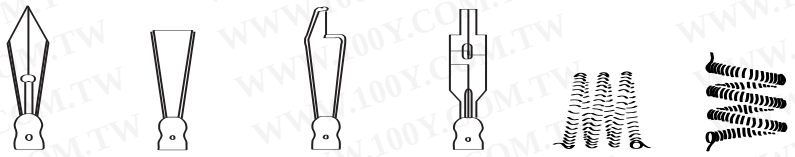
Halogen symbols and footnotes located on page 56

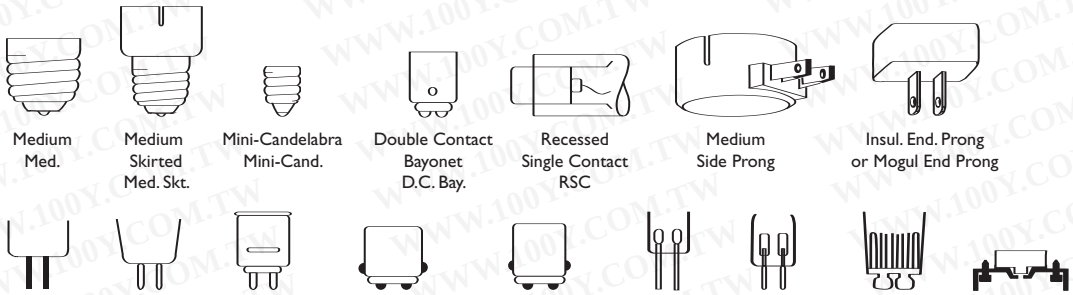
Filament Designations (Not Actual Sizes)

Filament Designations consist of a letter or letters to indicate how the wire is coiled and an arbitrary number sometimes followed by a letter to indicate the arrangement of the filament on the supports. Prefix letters include C (coil) — wire is wound into a helical coil or it may be deeply fluted; CC (coiled coil) — wire is wound into a helical coil and this coiled wire again wound into a helical coil. Some of the more commonly used types of filament arrangements are illustrated.



C-2V CC-2V | C-6 CC-6 | C-8 CC-8 | 2CC-8 | CC-6 | CC-8

Base Types (Not Actual Sizes)



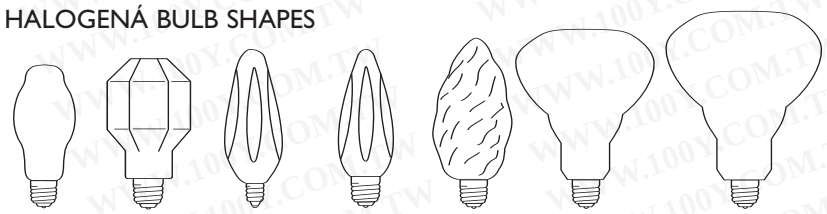
Medium Med. | Medium Skirted Med. Skt. | Mini-Candelabra Mini-Cand. | Double Contact Bayonet D.C. Bay. | Recessed Single Contact RSC | Medium Side Prong | Insul. End. Prong or Mogul End Prong

GU4 | GU5.3 | Medium 2-Pin | B15d | BA15d | G4 | GY6.35 | GU10 | G53

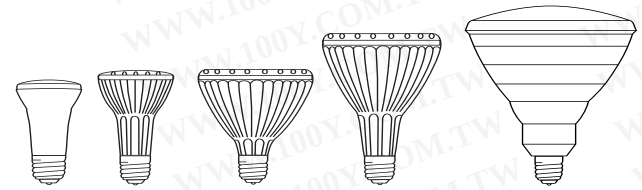
Bulb Shapes (Not Actual Sizes)

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, "T-10" indicates a tubular shaped bulb having a diameter of 1⅛ or 1¼ inches. The following illustrations show some of the more popular bulb shapes and sizes.

HALOGENÁ BULB SHAPES

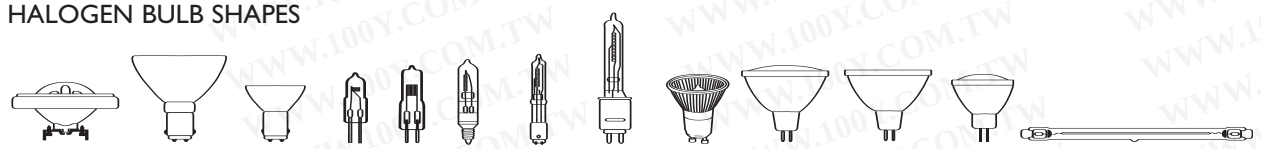


BT-15 | CP-19 | F-10 1/2 Candelabra | F-10 1/2 Medium | F-15 | BR-30 | BR-40

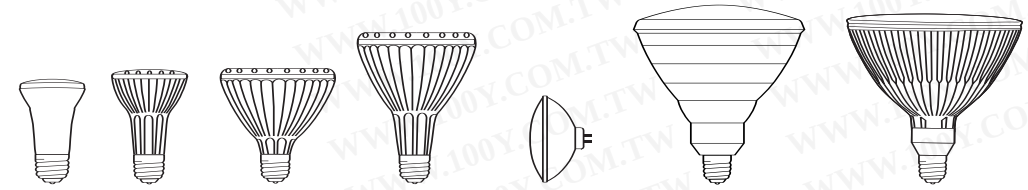


PAR-16 | PAR-20 | PAR-30S | PAR-30L | PAR-38 Standard Reflector

HALOGEN BULB SHAPES



ALU-Pro III | 56mm ALR | 37mm ALR | T-3 | T-4 | T-4 Mini-Can | T-4 DC Bay | T-5 Med. 2-Pin | Twistline | MRC-16 | MR-16 | MRC-11 | T-3 RSC



PAR-16 | PAR-20 | PAR-30S | PAR-30L | PAR-36 | PAR-38 Standard Reflector | PAR-38 DiOptic Reflector

▢ 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.
* Two Lamp Carded Pack.
▲ Aluminum base.
■ Nickel plated brass base.
★ Heat resisting glass bulb.
• Consider the compact fluorescent lamps listed on pages 53–54 for energy savings
$ Energy Saving Product
• Maximum Beam Candlepower
X Orders will be shipped until inventory is depleted; no longer manufactured
Ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

(2) Although the lamp is of the highest quality in material and workmanship, it has been designed to meet certain purchase requirements which preclude a guarantee of performance.
(3) Indefinite-long life.
(4) Average laboratory life is 200 hours for vacuum cleaner and 600 hours for sewing machine service. Design life 1000 hours.
(8) Operate base down.
(9) This lamp should be shielded from moisture to prevent breakage.
(10) Operating position—horizontal.
(11) Design volts 115.
(12) Operate base down to horizontal.
(13) Not recommended for horizontal burning.
(14) Operate base up.
(15) Operate base down. Filaments operated separately.
(18) Base is medium left hand thread.
(19) May not give satisfactory performance if any accessory equipment is attached to or touches the glass bulb.
(22) Unsatisfactory lamp operation is likely to occur in operating positions between horizontal and base up, particularly between 45° from base up and base up.
(23) May be operated in any position.
(25) Base pins approximately parallel to plane of filament.
(26) Use only on circuits supplying the voltage as marked on the lamp. DO NOT use in household sockets.
(27) Average laboratory life in excess of 5000 hours. In-service life depends upon service conditions.
(29) Suitable for indoor and outdoor service.
(31) Operate only in porcelain sockets.
(34) Operate base up to horizontal.
(37) Should not be used in equipment where the base temperature will exceed 500°F.
(41) Avoid use at short distances on materials that are inflammable or susceptible to heat damage.
(43) Unless otherwise noted, may be operated in any position, but lumen maintenance is best when operated vertically base up.
(46) Stippled, rounded cover.
(49) Should not be used in equipment where the seal temperature exceeds 750°F.
(50) For use on 50-60 cycle A.C. circuits.
(51) Light output is maintained best when operated within 45° of vertically base up.
(53) The bulb, though made of heat-resistant glass, may break if moisture falls on it. Not recommended for use in enclosed, close-fitting housings.
(55) For use only with heat resistant connector and with lamp supported by bulb rim.
(59) Life dependent upon service conditions.
(63) Design volts 145.
(64) For use only in equipment specially designed to maintain bulb and base temperature within safe limits.
(65) AA tolerance ½", L.C.L. tolerance 3⁄64".
(66) Silicone Coating reduces lumen output from Standard Values less than 3%.
(72) Light Center Length & Axial Alignment tolerance 1⁄64".
(75) 2¾" diameter unsilvered spot on end of bulb.
(81) LCL & Axial Alignment tolerance ½".
(82) CAUTION: To avoid deterioration of lampholder by heat, use only heat resistant lampholders or fixtures listed by a nationally recognized electrical testing organization for use with reflector or PAR lamps.
(83) Base does not have ceramic insulator.
(86) PAR Halogen Caution Notice: Before using bulb, see operating instructions on inside flap. Adherence to the operating instructions will reduce the risk of personal injury or fire. The filament capsule contained inside this glass bulb is pressurized, operates at high temperature and could unexpectedly shatter. Should the outer bulb break, particles of extremely hot glass could be discharged into the fixture and/or the surrounding environment, thereby creating a risk of personal injury or fire.
Operating Instructions: Before replacing, turn off power and let lamp cool to avoid electrical shock or burn.
— For indoor or outdoor use. A weather-protected fixture is recommended for wet locations.
— Suitable for use in open fixtures.
— Do not exceed the maximum wattage rating of the fixture.
— Do not use if outer glass is scratched or broken since it may break during operation or removal.
— If outer glass breaks the lamp may continue to light, however, immediately discontinue use.
— Due to the heat that radiates from the bulb, do not use in close proximity to combustible materials or objects susceptible to drying or fading.
— Manage in accord with disposal laws.
(87) Do not allow hot bulb to come in contact with liquid or metal parts of the fixture, as glass may shatter. Do not use outdoors. Do not operate in close proximity to flammable materials or those adversely affected by heat or drying. Operate only in heat resistant sockets.
(89) CAUTION: Do not operate in close proximity to flammable materials or those adversely affected by heat or drying. Operate only in heat resistant sockets.
WARNING: Use carefully. May cause serious burns. Do not use over insensitive skin areas or in the presence of poor circulation. The unattended use of infrared heat by children or incapacitated persons may be dangerous.
—Lamp should not be placed closer than 18" to the surface being irradiated.
—Do not use for therapeutic or topical applications unless recommended by a physician.
—For food warming, use only lamps with heat resisting glass.
(90) Since there is considerable heat radiation in the beam of this lamp, care should be taken against using it without suitable protection, in close proximity to combustible materials or those adversely affected by drying action.
(91) CAUTION: Do not touch inner capsule with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. **THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350°C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(92) CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER so to avoid injury and to avoid exposure to ultraviolet radiation, this lamp should be used in a fixture that provides a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350° C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(93) Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not.
(94) To prevent electrical shock, match wide blade of plug to wide slot of outlet, fully insert. Do not cover night light; overheating may occur. Do not plug in near radiator or source of heat. **WARNING:** for indoor use only.
(95) NOTICE: Do not touch bulb with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. **CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350° C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred.
(96) Operating Instructions: Do not use lamp in close proximity to combustible materials. If used outdoors, use in an enclosed fixture only. If used indoors, no additional shield is required. Can be operated in all positions. **CAUTION:** Read operating instructions before use. If outer glass breaks, turn power off immediately and avoid touching any metal components. To avoid potential burn and electrical shock during lamp replacement, always turn power off and let lamp cool before replacing bulb. Lasts 2 years based on 4 hours average usage per day/7 days per week.
(97) Operating Instructions: Before replacing, turn off power and let lamp cool to avoid electrical shock or burn. For indoor use only. Do not allow hot bulb to come in contact with liquid or metal parts of the fixture as glass may shatter. Do not exceed the maximum wattage rating of the fixture. Do not use if outer glass is scratched or broken since it may break during operation or removal. If outer glass breaks the lamp may continue to light, however, immediately discontinue use. Due to the heat that radiates from the bulb, do not use in close proximity to combustible materials or objects susceptible to drying or fading. Manage in accord with disposal laws. **CAUTION:** Adherence to the operating instructions will reduce the risk of personal injury or fire. The filament capsule contained inside this glass bulb is pressurized, operates at high temperature and could unexpectedly shatter. Should the outer bulb break, particles of extremely hot glass could be discharged into the fixture and/or the surrounding environment, thereby creating a risk of personal injury or fire.
(98) Note: This twistline has a GU10 base and may be used in fixtures that have either GU10 or GZ10 sockets. **Operating Instructions:** Do not use in close proximity to combustible materials or objects adversely affected by drying or fading. Can be operated in all positions. **CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER** so to avoid injury and to avoid exposure to ultraviolet radiation, this lamp should be used in a fixture that provides a protective shield of tempered glass. If outer glass breaks, immediately discontinue use. Always turn power off and let lamp cool before removal to avoid potential burn or electric shock.
(99) WARNING: BULB OPERATES AT VERY HIGH TEMPERATURES AND MUST BE USED PROPERLY TO AVOID/REDUCE RISK OF FIRE. Do not use bulbs greater than 300 watts in indoor residential fixtures. Use only in fixtures specifying this bulb type and that meet revised UL 153 standard for tungsten-halogen torchiere lamps. Bulb is pressurized and could shatter and should only be used in fixtures that provide a protective shield of tempered glass. To avoid exposure to ultraviolet radiation which could cause skin and eye irritation use only in fixtures that provide a protective shield of tempered glass. **NOTICE:** Do not touch bulb with bare hands. Fingerprints may result in reduced performance unless they are removed with alcohol. When operating, bulb is hot. To avoid risks of burns or injury, turn power off and allow bulb to cool before replacing. Socket conditions may affect bulb life. Inspect and replace socket if deterioration has occurred. Provide adequate ventilation to ensure that seal temperature does not exceed 350°C. **TO AVOID/REDUCE RISK OF FIRE, DO NOT USE NEAR COMBUSTIBLE MATERIALS.**

Compact Fluorescent Lighting

Energy savings made simple

Philips Marathon® Lamps combine the economies of fluorescent lighting with the quality light output and versatility of standard incandescent lamps. Marathon CFL lamps offer you a direct replacement lamp to fit your current incandescent fixtures.

Philips Marathon Lamps offer a direct replacement lamp to fit your current incandescent fixtures. They deliver an incandescent-like light and provide long life while reducing energy and maintenance costs. The rated average life for Philips Marathon lamps ranges from 6000 to 15,000 hours, depending on shape and type of the lamp. They are reliable, have a high CRI and are instant-on capable. Simply put, they are an easy way to improve your bottom line without much effort and to maintain your location's appearance.

Philips PL Compact Fluorescent Lamps offer designers, specifiers and end-users new levels of efficiencies and versatility in sizes, configurations and application possibilities. With so many elegant fixtures available to complement their small size, high light output and advanced technology, they are fast becoming the preferred choice when maximum efficiency and sleek design solutions are required.

Compact Fluorescent Lighting

Philips Marathon® Compact Fluorescent Lamps

Reliability: Did you know that Philips has been making CFLs for over 20 years in the US? While the product has gone through many evolutions, one thing has remained constant. Our reliability.

Energy Savings: Depending on the incandescent lamp you are replacing, you can achieve significant savings over the life of the lamp.

ALTO® Lamp Technology: Many Marathon lamps use the ALTO® Lamp Technology, which reduces the amount of mercury in a lamp without compromising performance.

ENERGY STAR®: By choosing an ENERGY STAR® QUALIFIED Philips Marathon lamp, you will be doing your part in helping to promote energy efficiency.

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	CRI	
Marathon® Mini-Decorative Twister												
5	EL/mdT	Med.	14792-6	$	**Mini-Deco Twister EL/mdT 5**	6	Small, Decorative Shape (228)	4	8000	250	82	
9	EL/mdT	Med.	14793-4	$	**Mini-Deco Twister EL/mdT 9**	6	Small, Decorative Shape (228)	4 1/4	8000	550	82	
11	EL/mdT	Med.	13804-0	$	**Mini-Deco Twister EL/mdT 11**	6	Small, Decorative Shape (228)	4 7/16	8000	675	82	
			13991-5	$	**Mini-Deco Twister BC-EL/mdT 11**	6	Small, Decorative Shape/Blister (228)	4 7/16	8000	675	82	
13	EL/mdT	Med.	14786-8	$	**Mini-Deco Twister EL/mdT 13 4100K**	6	Small, Decorative Shape (228)	4 1/4	10,000	900	82	
			14787-6	$	**Mini-Deco Twister EL/mdT 13 5000K**	6	Small, Decorative Shape (228)	4 1/4	10,000	900	82	
15	EL/mdT	Med.	13363-7	$	**Mini-Deco Twister BC-EL/mdT 15**	6	Small, Decorative Shape/Blister (228)	5 7/64	10,000	900	82	NEW!
			13581-4	$ ■	**Mini-Deco Twister EL/mdT 15**	6	Small, Decorative Shape (228)	5 7/64	10,000	900	82	
20	EL/mdT	Med.	13805-7	$ ■	**Mini-Deco Twister EL/mdT 20**	6	Small, Decorative Shape (228)	5 5/16	10,000	1250	82	
			13713-3	$ ■	**Mini-Deco Twister BC-EL/mdT 20**	6	Small, Decorative Shape/Blister (228)	5 5/16	10,000	1250	82	
27	EL/mdT	Med.	13715-8	$ ■	**Mini-Deco Twister EL/mdT 27**	6	Small, Decorative Shape (228)	5 5/16	10,000	1750	82	
			13946-9	$ ■	**Mini-Deco Twister BC-EL/mdT 27**	6	Small, Decorative Shape/Blister (228)	5 5/16	10,000	1750	82	
			14788-4	$	**Mini-Deco Twister EL/mdT 27 4100K**	6	Small, Decorative Shape (228)	5 3/4	10,000	1850	82	
			14789-2	$	**Mini-Deco Twister EL/mdT 27 5000K**	6	Small, Decorative Shape (228)	5 3/4	10,000	1850	82	
Marathon® Twister												
42	EL/DT	Med.	13948-5	$	**Decorative Twister EL/dT 42**	6	High Light Output (228)	7 3/32	8000	2600	82	NEW!
			13947-7	$	**Decorative Twister BC-EL/dT 42**	6	High Light Output/Blister (228)	7 3/32	8000	2600	82	
Marathon® Universal												
14	SLS	Med.	14691-0	$	**Universal SLS 14 ALTO**	6	Super Long Life (216)	4 15/16	12,000	860	82	
20	SLS	Med.	13077-3	$	**Universal SLS 20 ALTO**	6	Super Long Life (216)	5 5/8	15,000	1200	82	NEW!
25	SLS	Med.	13574-9	$	**Universal SLS 25 ALTO**	6	Super Long Life (216)	6 3/16	15,000	1750	82	
Marathon® Vanity Globe												
12	EL/A G25	Med.	14413-9	$ ■	**Vanity Globe BC-EL/A1 G25 12 ALTO**	6	G25 Globe/Blister (216, 228)	4 19/32	8000	525	82	
Marathon® Décor Globe												
16	EL/A G30	Med.	14514-4	$ ■	**Décor Globe EL/A1 16W G30 ALTO**	6	G30 Globe (216, 228)	5 23/32	8000	750	82	
20	EL/A G40	Med.	14515-1	$ ■	**Décor Globe EL/A1 20W G40**	6	G40 Globe (216, 228)	6 25/32	8000	1100	82	NEW!

For the most current product information, go to the e-catalog on **www.philips.com**
Compact Fluorescent symbols and footnotes located on page 87
☐ This product utilizes ALTO® Lamp Technology

Marathon®

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	CRI
Marathon® Reflector Flood											
12	EL/A R20	Med	13942-8	$ ■	**Reflector Flood EL/A R20 12 ALTO**	6	R20 Reflector (216, 238)	4 9/16	8000	450	82
			13940-2	$ ■	**Reflector Flood BC-EL/A R20 12 ALTO**	6	R40 Reflector/Blister (216, 238)	4 9/16	8000	450	82
16	EL/A R30	Med	13939-4	$ ■	**Reflector Flood EL/A BR30 16 ALTO**	6	BR30 Reflector (216, 238)	5 13/32	8000	630	82
			14412-1	$ ■	**Reflector Flood BC-EL/A BR30 16 ALTO**	5	R30 Reflector/Blister (216, 238)	5 13/32	8000	630	82
20	EL/A R40	Med	13941-0	$ ■	**Reflector Flood EL/A R40 20 ALTO**	6	R40 Reflector (216, 238)	5 21/32	8000	930	82
			13724-0	$ ■	**Reflector Flood BC-EL/A R40 20 ALTO**	4	R40 Reflector/Blister (216, 238)	5 21/32	8000	930	82
	EL/A PAR38	Med	13943-6	$ ■	**Reflector Flood EL/A PAR38 20 ALTO**	6	PAR 38 Reflector (216, 238)	5 21/32	8000	940	82
			13723-2	$ ■	**Reflector Flood BC-EL/A PAR38 20 ALTO**	4	PAR 38 Reflector/Blister (216, 238)	5 21/32	8000	940	82
Marathon® Dimmable Flood											
20	SLS/R30	Med.	38488-3	X $	**Dimmable Flood SLS/R30 20**	6	Dimmable Snap-On Reflector (216, 232)	6 5/16	7000	575	82
	SLS/R40	Med.	38489-1	X $	**Dimmable Flood SLS/R40 20**	6	Dimmable Snap-On Reflector (216, 232)	6 15/16	7000	800	82
16	EL/A R30	Med.	13707-5	$	**Reflector Flood Dim EL/A R30 Dim 16 ALTO**	6	R30 One Piece Dimmable Reflector (216, 232, 238)	5 13/32	8000	630	82
20	EL/A R40	Med.	13708-3	$	**Reflector Flood Dim EL/A R40 Dim 20ALTO**	6	R40 One Piece Dimmable Reflector (216, 232, 238)	6 3/32	8000	900	82
	EL/A PAR38	Med.	14644-9	$	**Reflector Flood Dim EL/A PAR38 Dim 20 ALTO**	6	PAR38 One Piece Dimmable Reflector (216, 232, 238)	6 3/32	8000	850	82
Marathon® Outdoor											
15	EL/O	Med.	13786-9	$	**Outdoor EL/O 15 ALTO**	6	Translucent Cover (216)	5 3/8	10,000	800	82
			13952-7	$	**Outdoor BC-EL/O 15 ALTO**	6	Translucent Cover/Blister (216)	5 3/8	10,000	800	82
18	EL/O	Med.	13578-0	$ ■	**Outdoor EL/O 18 ALTO**	6	Translucent Cover (216)	6 1/8	10,000	1100	82
Marathon® Bug-A-Way											
15	EL/O	Med.	37148-4	X $	**Bug-A-Way EL/O 15 BAW**	6	Yellow Cover (216)	5 3/8	10,000	750	—
16	EL/SWP	Med.	14025-1	$	**Bug-A-Way BC-EL/SWP 16 BAW ALTO**	6	Yellow Cover/Blister (216)	4 17/32	8000	600	—
Marathon® Soft White Plus (216, 228)											
12	EL/SWP	Med.	13704-2	$ ■	**Soft White Plus EL/SWP 12 ALTO**	6	Small, Incandescent Like Shape	4 17/32	8000	550	82
16	EL/SWP	Med.	14066-5	$ ■	**Soft White Plus EL/SWP 16 ALTO**	6	Small, Incandescent-Like Shape	4 17/32	8000	800	82
			13705-9	$ ■	**Soft White Plus BC-EL/SWP 16 ALTO**	6	Small, Incandescent-Like Shape/Blister	4 17/32	8000	800	
20	EL/SWP	Med.	14024-4	$ ■	**Soft White Plus BC-EL/SWP 20 ALTO**	6	Incandescent-Like Shape/Blister	5 3/32	8000	1100	82

NEW!

NEW!

NEW!

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

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This product utilizes ALTO® Lamp Technology

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	CRI
Marathon® Candle (216, 228)											
5	EL/A mCan	Cand.	14791-8	$	**Mini Candle EL/mCan 5**	6	Decorative Candle Shape	4 ½	6000	200	82
	EL/A Can	Med	14790-0	$	**Mini Candle EL/A Can 5**	6	Decorative Candle Shape	5 ¾	6000	200	82
9	EL/A mCan	Cand.	13954-3	$	**Mini Candle EL/mCan 9 ALTO**	9	Decorative Candle Shape	4 13/16	8000	315	82
			13953-5	$	**Mini Candle BC-EL/mCan 9 ALTO**	9	Decorative Candle Shape/Blister	4 13/16	8000	315	82
12	EL/A Can	Med.	14045-9	$	**Candle EL/A Can 12 ALTO**	12	Decorative Candle Shape	5 ⅛	8000	525	82
			14415-4	$	**Candle BC-EL/A Can 12 ALTO**	12	Decorative Candle Shape/Blister	5 ⅛	8000	525	82
Marathon® Table Lamp (216, 227, 236)											
34	EL/T	Med.	37082-5	X $ ■	**Table Lamp EL/T 34**	6	High Light Output	6 3/16	7000	2100	82
Marathon® 3-Way (216, 227, 236)											
			37219-3	X $	**3-Way BC-EL/TW 34**	6	50/100/150W Equivalents/Blister	6 ⅝	7000	1100 1600	82
34-26-18	EL/TW	3 Ct. Med	14042-6	$	**3-Way EL/TW1 34-26-18**	6	Multiple Light Settings	6 3/16	7000	2050/ 1600/700	82
			14416-2	$	**3-Way BC-EL/TW1 34-26-18**	6	Multiple Light Settings/Blister	6 3/16	7000	2050/ 1600/700	82
Marathon® Dimmable (216, 232)											
16	EL/ES	Med.	14645-6	$	**Energy Saver Dimmable EL/ES Dim 16 ALTO**	6	Dimmable	4 31/32	8000	800	82
20	EL/ES	Med.	14646-4	$	**Energy Saver Dimmable EL/ES Dim 20 ALTO**	6	Dimmable	5 11/16	8000	1050	82
Marathon® Circline Adapter System (242)											
22	FC7T5	Med.	13936-0	$	**Circline Adapter System FC7T5/SYS 22**	4	Wide Light Distribution	7.4 OD	10000	1450	86
28	FC9T5	Med.	13938-6	$	**Circline Adapter System FC9T5/SYS 28**	4	Wide Light Distribution	9.0 OD	10000	1950	86

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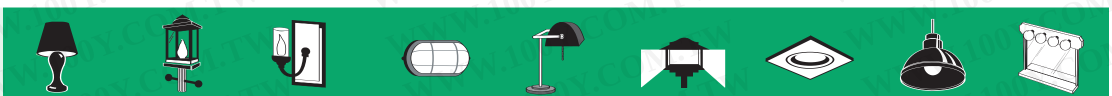
☐ This product utilizes ALTO® Lamp Technology

An extensive portfolio to meet your home lighting needs!



Marathon® Bulb Type	Table/Floor Lamp	Outdoor Postlight	Wall Sconce	Surface Mount	Reading Lamp	Border Lights	Recessed Fixture	Open Hanging	Vanity Strip
Decorative Twister	●		●		●			●	
Universal	●	●	●	●	●	●	●	●	
Vanity & Globe								●	●
Reflector							●	●	
Dimmable Reflector							●	●	
Outdoor		●				●		●	
Bug-A-Way		●						●	
Soft White Plus	●	●	●		●	●		●	
Candle		●	●		●				
Table Lamps	●		●	●	●			●	
3-Way	●								
Dimmable	●		●	●	●			●	
Circline Adapter System	●							●	

Compact Fluorescent Lamps

PL-H®, PL-S, PL-C Lamps

PL-S Short Fluorescent Lamps (204)

Watts	Bulb	Base	Old Product Number	Symbols, Footnotes		New Product Number	New Ordering Code	Generic Designation	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	Design Lumens (208)	CRI
5	PL-S	G23	**33233-8**	**X**	$	**14671-2**	**PL-S 5W/827/2P/ALTO**	CFT5W/G23/827	10	2700K	4 5/32	10,000	250	210	82
			NEW!		$	**14868-4**	**PL-S 5W/841/2P/ALTO**	CFT5W/G23/842	10	4100K	4 5/32	10,000	250	210	82
7	PL-S	G23	**34256-8**	**X**	$	**14871-8**	**PL-S 7W/827/2P/ALTO**	CFT7W/G23/827	10	2700K	5 1/32	10,000	400	360	82
			32780-9	**X**	$	**14872-6**	**PL-S 7W/835/2P/ALTO**	CFT7W/G23/835	10	3500K	5 1/32	10,000	400	360	82
			33869-9	**X**	$	**14873-4**	**PL-S 7W/841/2P/ALTO**	CFT7W/G23/841	10	4100K	5 1/32	10,000	400	360	82
			33384-9	**X**	$	**14874-2**	**PL-S 7W/850/2P/ALTO**	CFT7W/G23/850	10	5000K	5 1/32	10,000	380	340	82
9	PL-S	G23	**34257-6**	**X**	$	**14867-6**	**PL-S 9W/827/2P/ALTO**	CFT9W/G23/827	10	2700K	6 19/32	10,000	600	540	82
			32786-6	**X**	$	**14869-2**	**PL-S 9W/835/2P/ALTO**	CFT9W/G23/835	10	3500K	6 19/32	10,000	600	540	82
			33870-7	**X**	$	**14870-0**	**PL-S 9W/841/2P/ALTO**	CFT9W/G23/841	10	4100K	6 19/32	10,000	600	540	82
			33385-6	**X**	$	**14680-3**	**PL-S 9W/850/2P/ALTO**	CFT9W/G23/850	10	5000K	6 19/32	10,000	570	510	82
13	PL-S	GX23	**26219-6**	**X**	$	**14681-1**	**PL-S 13W/827/2P/ALTO**	CFT13W/GX23/827	10	2700K	7 1/64	10,000	825	740	82
			26212-1	**X**	$	**14682-9**	**PL-S 13W/827/2P/ALTO/BULK**	CFT13W/GX23/827	50	2700K	7 1/64	10,000	825	740	82
			26202-2	**X**	$	**14683-7**	**PL-S 13W/830/2P/ALTO**	CFT13W/GX23/830	10	3000K	7 1/64	10,000	825	740	82
			26214-7	**X**	$	**14684-5**	**PL-S 13W/835/2P/ALTO**	CFT13W/GX23/835	10	3500K	7 1/64	10,000	825	740	82
			26213-9	**X**	$	**14685-2**	**PL-S 13W/841/2P/ALTO**	CFT13W/GX23/841	10	4100K	7 1/64	10,000	825	740	82
			26229-5	**X**	$	**14686-0**	**PL-S 13W/841/2P/ALTO/BULK**	CFT13W/GX23/841	50	4100K	7 1/64	10,000	825	740	82
			26216-2	**X**	$	**14687-8**	**PL-S 13W/850/2P/ALTO**	CFT13W/GX23/850	10	5000K	7 1/64	10,000	800	720	82
			14308-1	**X**	$	**14688-6**	**PL-S 13W/850/2P/ALTO/BULK**	CFT13W/GX23/850	50	5000K	7 1/64	10,000	800	720	82

NEW!

PL-H® High Fluorescent Lamps (204)

Watts	Bulb	Base	Product Number	Symbols, Footnotes		Ordering Code	Generic Designation	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	Design Lumens (208)	CRI
60	PL-H	2G8-1	**13368-6**		$	**PL-H 60W/830/4P/ALTO**	TBD	10	3000K	7 1/64	20,000	4000	3440	82
			13369-4		$	**PL-H 60W/841/4P/ALTO**	TBD	10	4100K	7 1/64	20,000	4000	3440	82
85	PL-H	2G8-1	**13370-2**		$	**PL-H 85W/830/4P/ALTO**	TBD	10	3000K	8 25/32	20,000	6000	5160	82
			13371-0		$	**PL-H 85W/841/4P/ALTO**	TBD	10	4100K	8 25/32	20,000	6000	5160	82
120	PL-H	2G8-1	**13372-8**		$	**PL-H 120W/830/4P/ALTO**	TBD	10	3000K	11 13/16	20,000	9000	7740	82
			13373-6		$	**PL-H 120W/841/4P/ALTO**	TBD	10	4100K	11 13/16	20,000	9000	7740	82

PL-C Cluster 2-Pin Fluorescent Lamps (204)

13	PL-C	GX23-2	**38310-9**		$	**PL-C 13W/827/USA/ALTO**	CFQ13W/GX23/827	10	2700K	4 5/8	10,000	860	735	82
			38311-7		$	**PL-C 13W/830/USA/ALTO**	CFQ13W/GX23/830	10	3000K	4 5/8	10,000	860	735	82
			38312-5		$	**PL-C 13W/835/USA/ALTO**	CFQ13W/GX23/835	10	3500K	4 5/8	10,000	860	735	82
			38313-3		$	**PL-C 13W/841/USA/ALTO**	CFQ13W/GX23/841	10	4100K	4 5/8	10,000	860	735	82
		G24d-1	**38314-1**		$	**PL-C 13W/827/ALTO**	CFQ13W/G24d/827	10	2700K	5 1/2	10,000	900	770	82
			38315-8		$	**PL-C 13W/830/ALTO**	CFQ13W/G24d/830	10	3000K	5 1/2	10,000	900	770	82
18	PL-C	G24d-2	**38316-6**		$	**PL-C 18W/827/ALTO**	CFQ18W/G24d/827	10	2700K	6	10,000	1250	1070	82
			38317-4		$	**PL-C 18W/830/ALTO**	CFQ18W/G24d/830	10	3000K	6	10,000	1250	1070	82
			38318-2		$	**PL-C 18W/835/ALTO**	CFQ18W/G24d/835	10	3500K	6	10,000	1250	1070	82
			38319-0		$	**PL-C 18W/841/ALTO**	CFQ18W/G24d/841	10	4100K	6	10,000	1250	1070	82
26	PL-C	G24d-3	**38321-6**		$	**PL-C 26W/827/ALTO**	CFQ26W/G24d/827	10	2700K	6 13/16	10,000	1800	1545	82
			38322-4		$	**PL-C 26W/830/ALTO**	CFQ26W/G24d/830	10	3000K	6 13/16	10,000	1800	1545	82
			38323-2		$	**PL-C 26W/835/ALTO**	CFQ26W/G24d/835	10	3500K	6 13/16	10,000	1800	1545	82
			38324-0		$	**PL-C 26W/841/ALTO**	CFQ26W/G24d/841	10	4100K	6 13/16	10,000	1800	1545	82

PL-C Cluster 2-Pin Fluorescent Lamps, 15mm Tube Diameter (204, 222)

20	PL-C	GX32d-2	**20478-4**		$	**PL-C 15mm/22W/827**	CFQ20W/GX32d/827	40	2700K	6	10,000	1200	995	82
27	PL-C	GX32d-3	**20479-2**		$	**PL-C 15mm/28W/827**	CFQ27W/GX32d/827	40	2700K	6 13/16	10,000	1600	1325	82

X Orders will be shipped until inventory is depleted; no longer manufactured; new product features ALTO® Lamp Technology.

For the most current product information, go to the e-catalog on **www.philips.com**

Compact Fluorescent symbols and footnotes located on page 87

This product utilizes ALTO® Lamp Technology

Compact Fluorescent Lamps

PL-C, PL-L, PL-T Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Generic Designation	Pkg. Qty.	Description	MOL (In.)	Avg. Hrs. Life (230)	Approx. Initial (231) Lumens	Design Lumens (208)	CRI
PL-C Cluster 4-Pin Fluorescent Lamps, Electronic Operation (204)													
13	PL-C	G24q-1	**38325-7**	$	**PL-C 13W/827/4P/ALTO**	CFQ13W/G24q/827	10	2700K	5 3/8	12,000	900	775	82
			38326-5	$	**PL-C 13W/830/4P/ALTO**	CFQ13W/G24q/830	10	3000K	5 3/8	12,000	900	775	82
			38327-3	$	**PL-C 13W/835/4P/ALTO**	CFQ13W/G24q/835	10	3500K	5 3/8	12,000	900	775	82
			38328-1	$	**PL-C 13W/841/4P/ALTO**	CFQ13W/G24q/841	10	4100K	5 3/8	12,000	900	775	82
18	PL-C	G24q-2	**38329-9**	$	**PL-C 18W/827/4P/ALTO**	CFQ18W/G24q/827	10	2700K	5 11/16	12,000	1250	1075	82
			38330-7	$	**PL-C 18W/830/4P/ALTO**	CFQ18W/G24q/830	10	3000K	5 11/16	12,000	1250	1075	82
			38332-3	$	**PL-C 18W/835/4P/ALTO**	CFQ18W/G24q/835	10	3500K	5 11/16	12,000	1250	1075	82
			38333-1	$	**PL-C 18W/841/4P/ALTO**	CFQ18W/G24q/841	10	4100K	5 11/16	12,000	1250	1075	82
26	PL-C	G24q-3	**38334-9**	$	**PL-C 26W/827/4P/ALTO**	CFQ26W/G24q/827	10	2700K	6 1/2	12,000	1800	1550	82
			38335-6	$	**PL-C 26W/830/4P/ALTO**	CFQ26W/G24q/830	10	3000K	6 1/2	12,000	1800	1550	82
			38336-4	$	**PL-C 26W/835/4P/ALTO**	CFQ26W/G24q/835	10	3500K	6 1/2	12,000	1800	1550	82
			38337-2	$	**PL-C 26W/841/4P/ALTO**	CFQ26W/G24q/841	10	4100K	6 1/2	12,000	1800	1550	82
PL-L Long Fluorescent Lamps (204)													
18	PL-L	2G11	**34500-9**	$	**PL-L 18W/830/4P**	FT18W/2G11/830	25	3000K	8 15/16	15,000	1250	1125	82
			35932-3	$	**PL-L 18W/835/4P**	FT18W/2G11/835	25	3500K	8 15/16	15,000	1250	1125	82
			34501-7	$	**PL-L 18W/841/4P**	FT18W/2G11/841	25	4100K	8 15/16	15,000	1250	1125	82
24	PL-L	2G11	**34505-8**	$	**PL-L 24W/830/4P**	FT24W/2G11/830	25	3000K	12 11/16	15,000	1800	1620	82
			35933-1	$	**PL-L 24W/835/4P**	FT24W/2G11/835	25	3500K	12 11/16	15,000	1800	1620	82
			34508-2	$	**PL-L 24W/841/4P**	FT24W/2G11/841	25	4100K	12 11/16	15,000	1800	1620	82
36	PL-L	2G11	**34511-6**	$	**PL-L 36W/830/4P**	FT36W/2G11/830	25	3000K	16 7/8	15,000	2900	2610	82
			34942-3	$	**PL-L 36W/835/4P**	FT36W/2G11/835	25	3500K	16 7/8	15,000	2900	2610	82
			34513-2	$	**PL-L 36W/841/4P**	FT36W/2G11/841	25	4100K	16 7/8	15,000	2900	2610	82
40	PL-L	2G11	**30042-6**	$	**PL-L 40W/830/4P/RS/IS**	FT40W/2G11/RS/830	25	3000K	22 1/2	20,000	3300	2970	82
			30043-4	$	**PL-L 40W/835/4P/RS/IS**	FT40W/2G11/RS/835	25	3500K	22 1/2	20,000	3300	2970	82
			30044-2	$	**PL-L 40W/841/4P/RS/IS**	FT40W/2G11/RS/841	25	4100K	22 1/2	20,000	3300	2970	82
50	PL-L	2G11	**34747-6**	$	**PL-L 50W/830/4P/RS**	FT50W/2G11/RS/830	25	3000K	22 1/2	20,000	4300	3870	82
			34753-4	$	**PL-L 50W/835/4P/RS**	FT50W/2G11/RS/835	25	3500K	22 1/2	20,000	4300	3870	82
			34770-8	$	**PL-L 50W/841/4P/RS**	FT50W/2G11/RS/841	25	4100K	22 1/2	20,000	4300	3870	82
55	PL-L	2G11	**13844-6**	$	**PL-L 55W/950/4P/RS**	FT55W/2G11/RS/950	25	5000K	21 3/8	20,000	3650	3358	91
80	PL-L	2G11	**38697-9**	$	**PL-L 80W/830/4P**	FT80W/2G11/830	25	3000K	22 1/2	20,000	6000	5400	82
			38698-7	$	**PL-L 80W/835/4P**	FT80W/2G11/835	25	3500K	22 1/2	20,000	6000	5400	82
			38699-5	$	**PL-L 80W/841/4P**	FT80W/2G11/841	25	4100K	22 1/2	20,000	6000	5400	82
PL-T Triple 4-Pin Fluorescent Lamps (204)													
18	PL-T	GX24q-2	**38437-0**	$	**PL-T 18W/827/4P/ALTO**	CFTR18W/GX24q/827	12	2700K	4 3/8	12,000	1200	1020	82
			26802-9	$	**PL-T 18W/830/4P/ALTO**	CFTR18W/GX24q/830	12	3000K	4 3/8	12,000	1200	1020	82
			26820-1	$	**PL-T 18W/835/4P/ALTO**	CFTR18W/GX24q/835	12	3500K	4 3/8	12,000	1200	1020	82
			26822-7	$	**PL-T 18W/841/4P/ALTO**	CFTR18W/GX24q/841	12	4100K	4 3/8	12,000	1200	1020	82
26	PL-T	GX24q-3	**38440-4**	$	**PL-T 26W/827/4P/ALTO**	CFTR26W/GX24q/827	12	2700K	5	12,000	1800	1530	82
			26823-5	$	**PL-T 26W/830/4P/ALTO**	CFTR26W/GX24q/830	12	3000K	5	12,000	1800	1530	82
			26824-3	$	**PL-T 26W/835/4P/ALTO**	CFTR26W/GX24q/835	12	3500K	5	12,000	1800	1530	82
			26825-0	$	**PL-T 26W/841/4P/ALTO**	CFTR26W/GX24q/841	12	4100K	5	12,000	1800	1530	82
32	PL-T	GX24q-3	**38443-8**	$	**PL-T 32W/827/4P/ALTO**	CFTR32W/GX24q/827	12	2700K	5 5/8	12,000	2400	2040	82
			26832-6	$	**PL-T 32W/830/4P/ALTO**	CFTR32W/GX24q/830	12	3000K	5 5/8	12,000	2400	2040	82
			26833-4	$	**PL-T 32W/835/4P/ALTO**	CFTR32W/GX24q/835	12	3500K	5 5/8	12,000	2400	2040	82
			26872-2	$	**PL-T 32W/841/4P/ALTO**	CFTR32W/GX24q/841	12	4100K	5 5/8	12,000	2400	2040	82
42	PL-T	GX24q-4	**38450-3**	$	**PL-T 42W/827/4P/ALTO**	CFTR42W/GX24q/827	12	2700K	6 3/8	12,000	3200	2720	82
			26873-0	$	**PL-T 42W/830/4P/ALTO**	CFTR42W/GX24q/830	12	3000K	6 3/8	12,000	3200	2720	82
			26875-5	$	**PL-T 42W/835/4P/ALTO**	CFTR42W/GX24q/835	12	3500K	6 3/8	12,000	3200	2720	82
			26876-3	$	**PL-T 42W/841/4P/ALTO**	CFTR42W/GX24q/841	12	4100K	6 3/8	12,000	3200	2720	82
			13487-4	**X** $ (242)	**PL-T 42W/830/4P/HTA ALTO**	CFTR42W/GX24q/830	12	3000K	6 3/8	12,000	3200	2720	82
			13488-2	**X** $ (242)	**PL-T 42W/835/4P/HTA ALTO**	CFTR42W/GX24q/835	12	3500K	6 3/8	12,000	3200	2720	82
			13659-8	**X** $ (242)	**PL-T 42W/841/4P/HTA ALTO**	CFTR42W/GX24q/841	12	4100K	6 3/8	12,000	3200	2720	82
57	PL-T	GX24q-5	**14631-6**	$	**PL-T 57W/830/4P/A**	CFTR57W/GX24q/830	10	3000K	7 5/64	12,000	4300	3741	82
			14632-4	$	**PL-T 57W/835/4P/A**	CFTR57W/GX24q/835	10	3500K	7 5/64	12,000	4300	3741	82
			14633-2	$	**PL-T 57W/841/4P/A**	CFTR57W/GX24q/841	10	4100K	7 5/64	12,000	4300	3741	82

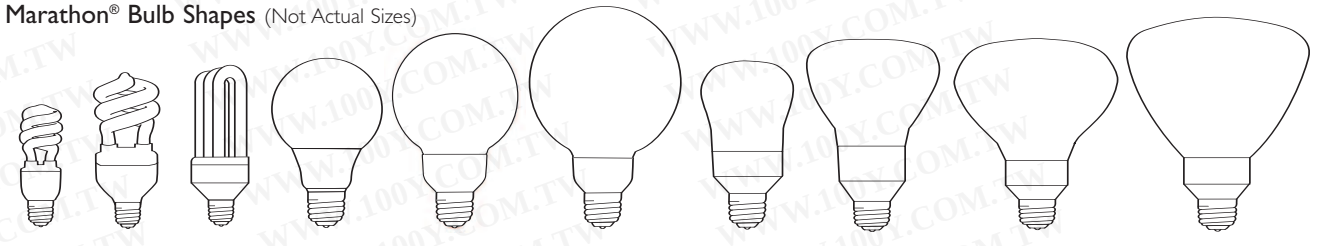
NEW!

X Orders will be shipped until inventory is depleted; no longer manufactured
For the most current product information, go to the e-catalog on **www.philips.com**
Compact Fluorescent symbols and footnotes located on page 87
This product utilizes ALTO® Lamp Technology

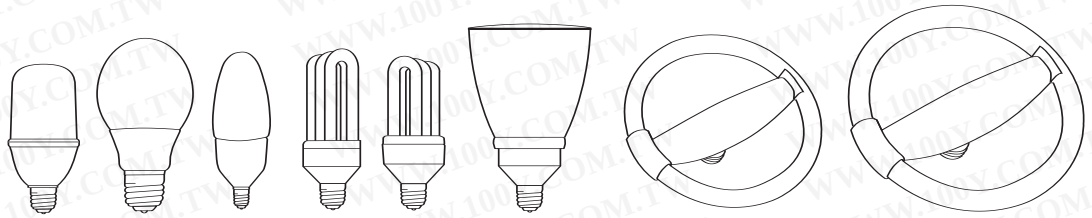
Compact Fluorescent Lamps

Base Types and Bulb Shapes

Marathon® Bulb Shapes (Not Actual Sizes)

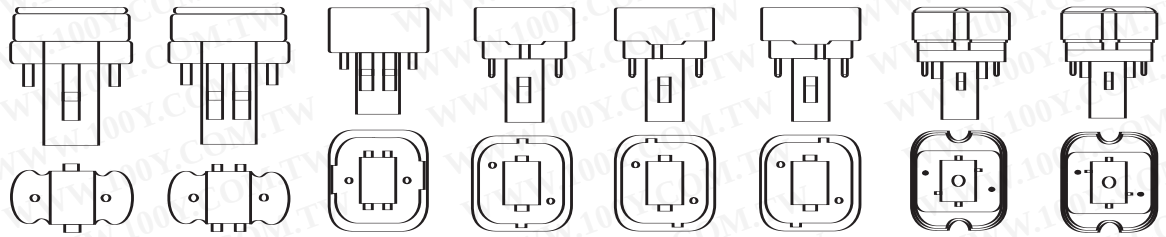


EL/mdT EL/DT SLS EL/A G25 EL/A G30 EL/A G40 EL/A R20 EL/A BR30 EL/A R40 EL/A PAR38

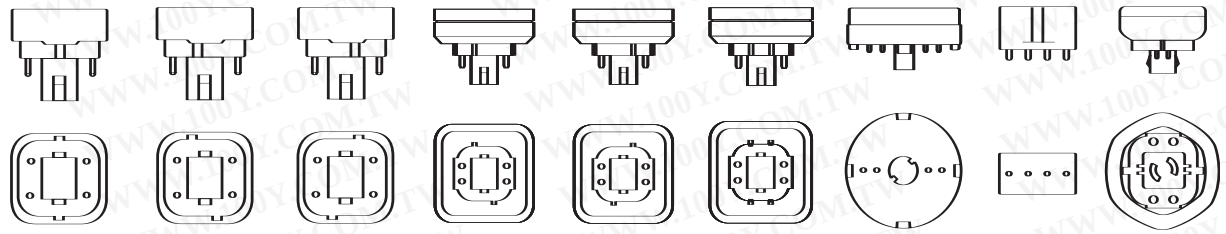


EL/O EL/SWP EL/A mCan EL/T EL/TW EL/ES SLS R30/R40 FC7T5 FC9T5

PL Base Types (Not Actual Sizes)

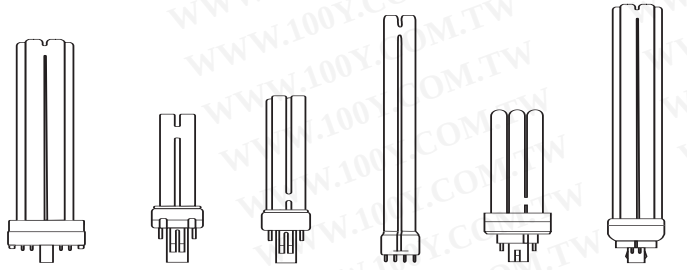


G-23 GX23 GX23-2 G24d-1 G24d-2 G24d-3 GX32d-2 GX32d-3



G24q-1 G24q-2 G24q-3 GX24q-2 GX24q-3 GX24q-4 2G8-1 2G11 GX24q-5

PL Bulb Shapes (Not Actual Sizes)



PL-H PL-S PL-C PL-L PL-T 57W PL-T

Fluorescent Lighting

High performance, energy-efficient, long life lamps

Philips T5 Fluorescent Lamps are incredibly powerful, environmentally-responsible, long life lamps with an ultra-slim profile. This translates into reduced maintenance and disposal costs and also allows the use of smaller fixtures—which reduces ceiling clutter. For the longest life in this lamp family, Philips SILHOUETTE™ Long Life T5 High Output lamps have a rated average life of 35,000 hours based on 12 hours per start!†

Philips T8 Fluorescent Lamps provide long life and high performance, which translates into reduced maintenance and disposal costs. ALTO® lamps are low mercury and TCLP-compliant††. This makes them a sustainable lighting solution, since less mercury combined with energy efficiency, reduces the impact on the environment. Hi-Vision® Phosphor combined with Philips' exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening.

Philips T12 Fluorescent Lamps provide high-performance and long life in a wide range of sizes, shapes, and types. The Advantage T12 series of lamps provide ultimate performance with long life (24,000 hour rated average life), 85 CRI, and the highest lumen output (3600 initial lumens) of any 40-watt four-foot T12 lamp available.

† Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

†† The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.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Fluorescent Lighting

Philips SILHOUETTE™ Long Life & Standard T5 Lamps
featuring ALTO® Lamp Technology

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

Miniaturization: Slim Profile Lamp and Ballast

Operates on Programmed Start Electronic Ballasts

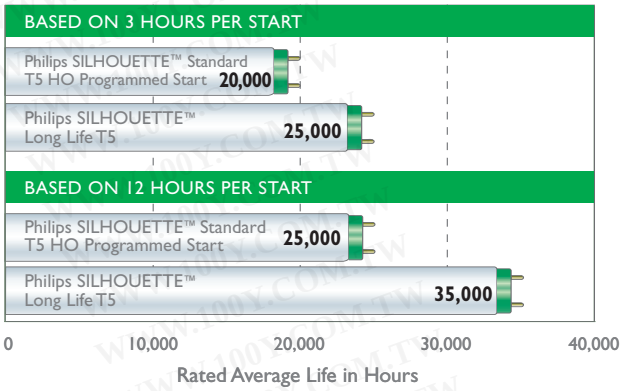
Environmentally Responsible: Low mercury—TCLP*-compliant; energy efficient; long life

Sustainable Lighting Solution: Less mercury combined with energy efficiency reduces the impact on the environment

Ideal for: Medium and High Bay Retail; Industrial Applications

Look for the Green End Caps®: Our Green End-Caps mean you are using ALTO® environmentally-responsible lamps

Philips SILHOUETTE™ Long Life and Standard T5 Lamp Rated Average Life



SILHOUETTE Long Life T5 Warranty Period: 36 months

SILHOUETTE T5 Warranty Period: 24 months

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.•	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
SILHOUETTE™ Long Life T5 High Output Fluorescent Lamps T5 Miniature Bipin; Programmed Start											
54	29026-2	Ⓔ $	**F54T5/830/HO/ALTO**	40	TL 830, 3000K	46	25,000	35,000	5000	4750	85
	29028-8	Ⓔ $	**F54T5/835/HO/ALTO**	40	TL 835, 3500K	46	25,000	35,000	5000	4750	85
	29083-3	Ⓔ $	**F54T5/841/HO/ALTO**	40	TL 841, 4100K	46	25,000	35,000	5000	4750	85
	13510-3	Ⓔ $	**F54T5/850/HO/ALTO**	40	TL 850, 5000K	46	25,000	35,000	4850	4625	85
	14745-4	Ⓔ $	**F54T5/865/HO/ALTO**	40	TL 865, 6500K	46	25,000	35,000	4750	4500	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
SILHOUETTE Series 2'–5' T5 Fluorescent Lamps T5 Miniature Bipin; Programmed Start										
14	23077-1	$	**F14T5/830/ALTO**	40	TL 830, 3000K	22	20,000	1350	1275	85
	23079-7	$	**F14T5/835/ALTO**	40	TL 835, 3500K	22	20,000	1350	1275	85
	23080-5	$	**F14T5/841/ALTO**	40	TL 841, 4100K	22	20,000	1350	1275	85
21	23081-3	$	**F21T5/830/ALTO**	40	TL 830, 3000K	34	20,000	2100	2000	85
	23082-1	$	**F21T5/835/ALTO**	40	TL 835, 3500K	34	20,000	2100	2000	85
	23083-9	$	**F21T5/841/ALTO**	40	TL 841, 4100K	34	20,000	2100	2000	85
28	23084-7	Ⓔ $	**F28T5/830/ALTO**	40	TL 830, 3000K	46	20,000	2900	2750	85
	23085-4	Ⓔ $	**F28T5/835/ALTO**	40	TL 835, 3500K	46	20,000	2900	2750	85
	23086-2	Ⓔ $	**F28T5/841/ALTO**	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
SILHOUETTE Series 2'–5' T5 High Output Fluorescent Lamps T5 Miniature Bipin; Programmed Start										
24	29019-7	$	**F24T5/830/HO/ALTO**	40	TL 830, 3000K	22	20,000	2000	1900	85
	29020-5	$	**F24T5/835/HO/ALTO**	40	TL 835, 3500K	22	20,000	2000	1900	85
	29021-3	$	**F24T5/841/HO/ALTO**	40	TL 841, 4100K	22	20,000	2000	1900	85
39	29022-1	$	**F39T5/830/HO/ALTO**	40	TL 830, 3000K	34	20,000	3500	3325	85
	29023-9	$	**F39T5/835/HO/ALTO**	40	TL 835, 3500K	34	20,000	3500	3325	85
	29025-4	$	**F39T5/841/HO/ALTO**	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
	14744-7	$	**F80T5/835/HO**	40	TL 835, 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 the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

☐ This product utilizes ALTO® Lamp Technology

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

T5 Fluorescent Lamps

Colored High Output, SILHOUETTE™ Circular, SILHOUETTE™ High Output Circular, Preheat

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
Colored—Linear Fluorescent Lamps—T5 High Output										
24	14637-3	± $	**F24T5/Red/HO**	15	TL5HO Colored Pro 24W/150 Red	22	12,000	1540	N/A	N/A
	14638-1	± $	**F24T5/Green/HO**	15	TL5HO Colored Pro 24W/170 Green	22	12,000	3000	N/A	N/A
NEW!	14639-9	± $	**F24T5/Blue/HO**	15	TL5HO Colored Pro 24W/180 Blue	22	12,000	600	N/A	N/A
54	14640-7	± $	**F54T5/Red/HO**	15	TL5HO Colored Pro 54W/150 Red	46	12,000	3800	N/A	N/A
	14641-5	± $	**F54T5/Green/HO**	15	TL5HO Colored Pro 54W/170 Green	46	12,000	7590	N/A	N/A
	14642-3	± $	**F54T5/Blue/HO**	15	TL5HO Colored Pro 54W/180 Blue	46	12,000	1650	N/A	N/A
SILHOUETTE™ Series T5 Circular Fluorescent Lamps 2GX13 Base; Programmed Start										
22	16601-7	± $	**TL5C 22W/830**	10	Formerly FC9T5/830	9 OD	16,000	1800	1530	85
	14856-9	± $	**TL5C 22W/835**	10	Formerly FC9T5/835	9 OD	16,000	1800	1530	85
NEW!	16600-9	± $	**TL5C 22W/840**	10	Formerly FC9T5/841	9 OD	16,000	1800	1530	85
40	16596-8	± $	**TL5C 40W/830**	10	Formerly FC12T5/830	12 OD	16,000	3300	2805	85
	14859-3	± $	**TL5C 40W/835**	10	Formerly FC12T5/835	12 OD	16,000	3300	2805	85
	16598-4	± $	**TL5C 40W/840**	10	Formerly FC12T5/841	12 OD	16,000	3300	2805	85
SILHOUETTE Series T5 High Output Circular Fluorescent Lamps 2GX13 Base; Programmed Start										
55	16593-6	± $	**TL5C 55W/830**	10	Formerly FC12T5/830/HO	12 OD	16,000	4200	3580	85
NEW!	14862-7	± $	**TL5C 55W/835**	10	FC12T5/835/HO	12 OD	16,000	4200	3580	85
	16592-8	± $	**TL5C 55W/840**	10	Formerly FC12T5/841/HO	12 OD	16,000	4200	3580	85
SILHOUETTE™ Series T5 Circular Fluorescent Lamps 2GX13 Base; Programmed Start										
22	29010-6	**X** $	**FC9T5/830**	10	TL 830, 3000K	9 OD	16,000	1800	1530	85
	29011-4	**X** $	**FC9T5/835**	10	TL 835, 3500K	9 OD	16,000	1800	1530	85
	29012-2	**X** $	**FC9T5/841**	10	TL 841, 4100K	9 OD	16,000	1800	1530	85
40	29014-8	**X** $	**FC12T5/830**	10	TL 830, 3000K	12 OD	16,000	3300	2805	85
	29016-3	**X** $	**FC12T5/835**	10	TL 835, 3500K	12 OD	16,000	3300	2805	85
	29017-1	**X** $	**FC12T5/841**	10	TL 841, 4100K	12 OD	16,000	3300	2805	85
SILHOUETTE Series T5 High Output Circular Fluorescent Lamps 2GX13 Base; Programmed Start										
55	38479-2	**X** $	**FC12T5/830/HO**	10	TL 830, 3000K	12 OD	16,000	4400	3750	85
	38480-0	**X** $	**FC12T5/841/HO**	10	TL 841, 4100K	12 OD	16,000	4400	3750	85
Preheat Fluorescent Lamps 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 the e-catalog on **www.philips.com**
Fluorescent symbols and footnotes located on page 87
± Available Q1, 2006
X Orders will be shipped until inventory is depleted; no longer manufactured

T5 Lumens at 35°C and 25°C

LAMP TYPE	APPROX. INITIAL LUMENS AT 35°C (203, 204)	APPROX. INITIAL LUMENS AT 25°C (203, 204)
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

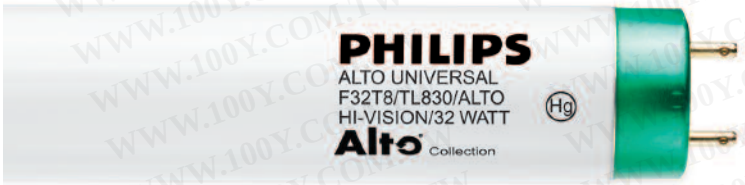
Philips Universal T8 Lamps
featuring ALTO® Lamp Technology

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

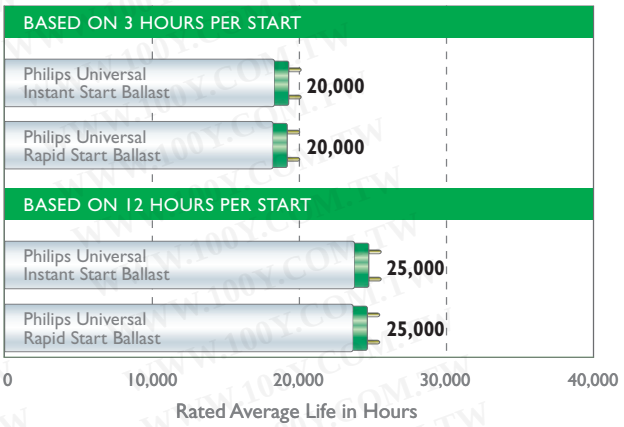
Outstanding Lumen Maintenance: HI-VISION® Phosphor combined with Philips exclusive cathode guard delivers 95% lumen maintenance and reduced lamp-end blackening

Enhanced CRI: 85 CRI for TL80 lamps; 78 CRI for TL70 lamps

Ideal for: Any application requiring maximum quality of light and maintained light output



Philips Universal T8 Lamp Rated Average Life



Philips Universal T8 Warranty Period: 24 months

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
Universal T8 Fluorescent Lamps T8 Medium Bipin											
17	36787-0	$	**F17T8/TL830/ALTO**	25	TL 830, 3000K	24	20,000	25,000	1400	1300	85
	36791-2	$	**F17T8/TL835/ALTO**	25	TL 835, 3500K	24	20,000	25,000	1400	1300	85
	36793-8	$	**F17T8/TL841/ALTO**	25	TL 841, 4100K	24	20,000	25,000	1400	1300	85
	14123-4	$	**F17T8/TL850/ALTO**	25	TL 850, 5000K	24	20,000	25,000	1400	1300	85
	36807-6	$	**F17T8/TL730/ALTO**	25	TL 730, 3000K	24	20,000	25,000	1325	1200	78
	36808-4	$	**F17T8/TL735/ALTO**	25	TL 735, 3500K	24	20,000	25,000	1325	1200	78
	36812-6	$	**F17T8/TL741/ALTO**	25	TL 741, 4100K	24	20,000	25,000	1325	1200	78
25	36813-4	$	**F25T8/TL830/ALTO**	25	TL 830, 3000K	36	20,000	25,000	2225	2050	85
	36814-2	$	**F25T8/TL835/ALTO**	25	TL 835, 3500K	36	20,000	25,000	2225	2050	85
	36825-8	$	**F25T8/TL841/ALTO**	25	TL 841, 4100K	36	20,000	25,000	2225	2050	85
	14124-2	$	**F25T8/TL850/ALTO**	25	TL 850, 5000K	36	20,000	25,000	2225	2050	85
	36826-6	$	**F25T8/TL730/ALTO**	25	TL 730, 3000K	36	20,000	25,000	2125	1925	78
	36828-2	$	**F25T8/TL735/ALTO**	25	TL 735, 3500K	36	20,000	25,000	2125	1925	78
	36829-0	$	**F25T8/TL741/ALTO**	25	TL 741, 4100K	36	20,000	25,000	2125	1925	78
32	24667-8	Ⓔ $	**F32T8/TL830/ALTO**	25	TL 830, 3000K	48	20,000	25,000	2950	2800	85
	27236-9	Ⓔ $	**F32T8/TL830/ALTO PLZ**	1350	TL 830, 3000K	48	20,000	25,000	2950	2800	85
	24670-2	Ⓔ $	**F32T8/TL835/ALTO**	25	TL 835, 3500K	48	20,000	25,000	2950	2800	85
	27233-6	Ⓔ $	**F32T8/TL835/ALTO PLZ**	1350	TL 835, 3500K	48	20,000	25,000	2950	2800	85
	24671-0	Ⓔ $	**F32T8/TL841/ALTO**	25	TL 841, 4100K	48	20,000	25,000	2950	2800	85
	27235-1	Ⓔ $	**F32T8/TL841/ALTO PLZ**	1350	TL 841, 4100K	48	20,000	25,000	2950	2800	85
	27229-4	Ⓔ $	**F32T8/TL850/ALTO**	25	TL 850, 5000K	48	20,000	25,000	2950	2800	85
	27252-6	Ⓔ $	**F32T8/TL730 ALTO**	25	TL 730, 3000K	48	20,000	25,000	2800	2660	78
	27282-3	Ⓔ $	**F32T8/TL730/ALTO PLZ**	1350	TL 730, 3000K	48	20,000	25,000	2800	2660	78
	27249-2	Ⓔ $	**F32T8/TL735/ALTO**	25	TL 735, 3500K	48	20,000	25,000	2800	2660	78
	27259-1	Ⓔ $	**F32T8/TL735/ALTO PLZ**	1350	TL 735, 3500K	48	20,000	25,000	2800	2660	78
	27248-4	Ⓔ $	**F32T8/TL741/ALTO**	25	TL 741, 4100K	48	20,000	25,000	2800	2660	78
	38351-3	Ⓔ $	**F32T8/TL741/ALTO**	10	TL 741, 4100K, 10PK	48	20,000	25,000	2800	2660	78
	27255-9	Ⓔ $	**F32T8/TL741/ALTO PLZ**	1350	TL 741, 4100K	48	20,000	25,000	2800	2660	78
	27268-2	Ⓔ $	**F32T8/TL750/ALTO**	25	TL 750, 5000K	48	20,000	25,000	2700	2550	78

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

This product utilizes ALTO® Lamp Technology

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

Philips PLUS T8 Lamps
featuring ALTO® Lamp Technology

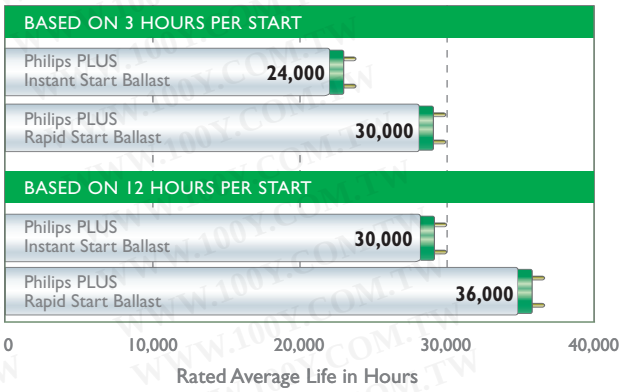
Long Life: 36,000 hours rated average life at 12 hours per start (see footnote 241); 50% more life than standard F32T8 lamps means reduced maintenance and disposal costs

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

Enhanced CRI: 85 CRI for TL80 lamps; 78 CRI for TL70 lamps

Ideal for: Any application requiring long life

Philips PLUS T8 Lamp Rated Average Life



Philips PLUS T8 Warranty Period: 30 months

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208, 239)	CRI
PLUS T8 Fluorescent Lamps T8 Medium Bipin Featuring HI-VISION® Phosphor											
15	38419-8	Ⓔ◇▯$	**F15T8/TL865/PLUS/ALTO**	24	TL 865, 6500K	18	24,000	30,000	975	925	85
17	14552-4	Ⓔ$	**F17T8/TL830/PLUS/ALTO**	25	TL 830, 3000K	24	24,000	30,000	1400	1300	85
	14553-2	Ⓔ$	**F17T8/TL835/PLUS/ALTO**	25	TL 835, 3500K	24	24,000	30,000	1400	1300	85
	14554-0	Ⓔ$	**F17T8/TL841/PLUS/ALTO**	25	TL 841, 4100K	24	24,000	30,000	1400	1300	85
	14555-7	Ⓔ$	**F17T8/TL850/PLUS/ALTO**	25	TL 850, 5000K	24	24,000	30,000	1325	1225	85
	38215-0	Ⓔ$	**F17T8/TL865/PLUS/ALTO**	25	TL 865, 6500K	24	24,000	30,000	1300	1235	85
25	14556-5	Ⓔ$	**F25T8/TL830/PLUS/ALTO**	25	TL 830, 3000K	36	24,000	30,000	2225	2050	85
	14557-3	Ⓔ$	**F25T8/TL835/PLUS/ALTO**	25	TL 835, 3500K	36	24,000	30,000	2225	2050	85
	14558-1	Ⓔ$	**F25T8/TL841/PLUS/ALTO**	25	TL 841, 4100K	36	24,000	30,000	2225	2050	85
	14559-9	Ⓔ$	**F25T8/TL850/PLUS/ALTO**	25	TL 850, 5000K	36	24,000	30,000	2125	2000	85
	38258-0	Ⓔ$	**F25T8/TL865/PLUS/ALTO**	25	TL 865, 6500K	36	24,000	30,000	2150	2040	85
32	36000-8	Ⓔ$	**F32T8/TL830/PLUS/ALTO**	25	TL 830, 3000K	48	30,000	36,000	2950	2800	85
	36001-6	Ⓔ$	**F32T8/TL835/PLUS/ALTO**	25	TL 835, 3500K	48	30,000	36,000	2950	2800	85
	36002-4	Ⓔ$	**F32T8/TL841/PLUS/ALTO**	25	TL 841, 4100K	48	30,000	36,000	2950	2800	85
	13686-1	Ⓔ$	**F32T8/TL841/PLUS/ALTO PLZ**	1350	TL 841, 4100K	48	30,000	36,000	2950	2800	85
	36003-2	Ⓔ$	**F32T8/TL850/PLUS/ALTO**	25	TL 850, 5000K	48	30,000	36,000	2950	2800	85
	38261-4	Ⓔ$	**F32T8/TL865/PLUS/ALTO**	25	TL 865, 6500K	48	30,000	36,000	2800	2660	85
	36004-0	Ⓔ$	**F32T8/TL730/PLUS/ALTO**	25	TL 730, 3000K	48	30,000	36,000	2800	2660	78
	36005-7	Ⓔ$	**F32T8/TL735/PLUS/ALTO**	25	TL 735, 3500K	48	30,000	36,000	2800	2660	78
	38383-6	Ⓔ$	**F32T8/TL735/PLUS/ALTO PLZ**	1350	TL 735, 3500K	48	30,000	36,000	2800	2660	78
	36013-1	Ⓔ$	**F32T8/TL741/PLUS/ALTO**	25	TL 741, 4100K	48	30,000	36,000	2800	2660	78
	38384-4	Ⓔ$	**F32T8/TL741/PLUS/ALTO PLZ**	1350	TL 741, 4100K	48	30,000	36,000	2800	2660	78
	36014-9	Ⓔ$	**F32T8/TL750/PLUS/ALTO**	25	TL 750, 5000K	48	30,000	36,000	2700	2550	78

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

▯ This product utilizes ALTO® Lamp Technology

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

Philips Advantage T8 Lamps
featuring ALTO® Lamp Technology

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

Long Life: 36,000 hours rated average life at 12 hours per start (see footnote 241); 50% more life than standard F32T8 lamps means reduced maintenance and disposal costs

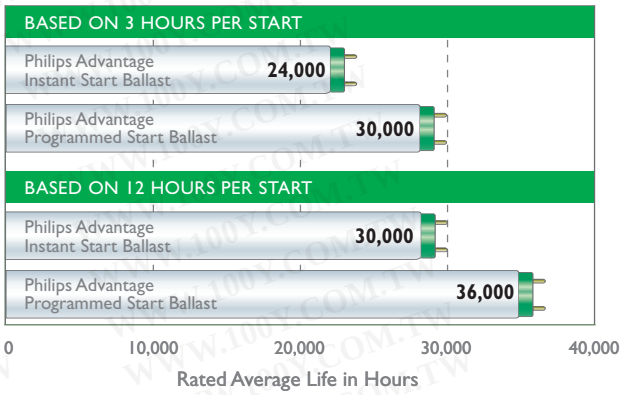
Ultimate System Solution: Higher lumens enables multiple system options to maximize energy saving and reduce lighting costs; fully dimmable without burn-in; ideal for light harvesting

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

Enhanced CRI: 85 CRI

Ideal for: T8 applications requiring maximum quality of light and maintained light output

Philips Advantage T8 Lamp Rated Average Life



Philips Advantage T8 Warranty Period: 36 months

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208, 239)	CRI
Advantage T8 Fluorescent Lamps T8 Medium Bipin Featuring HI-VISION® Phosphor											
32	13987-3	Ⓔ ▢ $	**F32T8/ADV830/ALTO**	25	Advantage 830, 3000K	48	30,000	36,000	3100	2950	85
	13988-1	Ⓔ ▢ $	**F32T8/ADV835/ALTO**	25	Advantage 835, 3500K	48	30,000	36,000	3100	2950	85
	13989-9	Ⓔ ▢ $	**F32T8/ADV841/ALTO**	25	Advantage 841, 4100K	48	30,000	36,000	3100	2950	85
	13990-7	Ⓔ ▢ $	**F32T8/ADV850/ALTO**	25	Advantage 850, 5000K	48	30,000	36,000	3025	2875	85

Advantage T8 Systems vs. Standard T8 Systems

Energy Savings: 2 Lamp vs. 2 Lamp System

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	
Reduced Light Output T8	0.75	2	32		3100	51	$2.80/yr

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
Standard T8	0.87	3	32	2850		88	
Increased Light Output T8	1.20	2	32		3100	78	$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 the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

▢ This product utilizes ALTO® Lamp Technology

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

Philips Energy Advantage Long Life 25W, 28W and 30W T8 Lamps

featuring ALTO® Lamp Technology

25 Watt T8 Lamp vs. Standard F32T8 Lamp: Save 7 watts per lamp instantly and up to 25% in energy costs; save $21.00 in energy costs over the rated average lamp life†

Optimum Lamp Life: When operated on Advance's Optanium™ Programmed Start Ballast

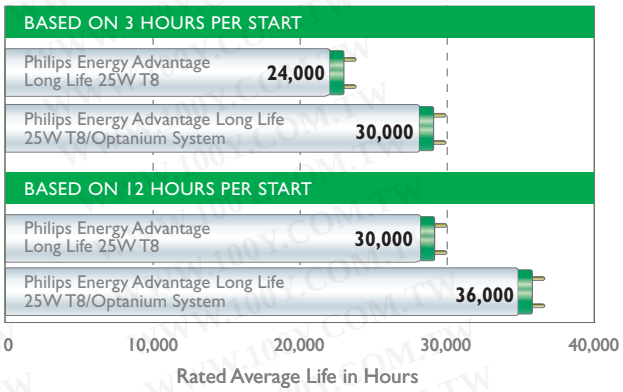
Operates on: Any Instant Start Ballast; Programmed Start Ballast that supplies equal to or greater than 550 starting voltage

Sustainable Lighting Solution: Less mercury combined with energy efficiency reduces the impact on the environment

Ideal for: Applications requiring the ultimate energy savings

† Based on 30,000 hour rated average life @ .10¢ per KWH @ 12 hours per start on an instant start ballast.

Philips Energy Advantage Long Life 25W, 28W and 30W T8 Lamp Rated Average Life



Philips Energy Advantage Long Life T8 Warranty Period: 30 months

Nom. Lamp Watts	Product Number 046677-	Symbols, Footnotes	Ordering Code	Pkg. Qty.•	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
Energy Advantage T8 Long Life 25 Watt Fluorescent Lamps T8 Medium Bipin Featuring HI-VISION® Phosphor											
25	13781-0	Ⓔ$	**F32T8/ADV830/XEW/LL/ALTO 25 Watt**	25	Advantage 830, 3000K	48	24,000	30,000	2400	2280	85
	13782-8	Ⓔ$	**F32T8/ADV835/XEW/LL/ALTO 25 Watt**	25	Advantage 835, 3500K	48	24,000	30,000	2400	2280	85
	13783-6	Ⓔ$	**F32T8/ADV841/XEW/LL/ALTO 25 Watt**	25	Advantage 841, 4100K	48	24,000	30,000	2400	2280	85
	13784-4	Ⓔ$	**F32T8/ADV850/XEW/LL/ALTO 25 Watt**	25	Advantage 850, 5000K	48	24,000	30,000	2300	2180	85
Energy Advantage T8 Long Life 28 Watt Fluorescent Lamps T8 Medium Bipin Featuring HI-VISION® Phosphor											
28	14732-2	Ⓔ$	**F32T8/ADV830/EW/LL/ALTO 28 Watt**	25	Advantage 830, 3000K	48	24,000	30,000	2725	2555	85
	14733-0	Ⓔ$	**F32T8/ADV835/EW/LL/ALTO 28 Watt**	25	Advantage 835, 3500K	48	24,000	30,000	2725	2555	85
	14734-8	Ⓔ$	**F32T8/ADV841/EW/LL/ALTO 28 Watt**	25	Advantage 841, 4100K	48	24,000	30,000	2725	2555	85
	14735-5	Ⓔ$	**F32T8/ADV850/EW/LL/ALTO 28 Watt**	25	Advantage 850, 5000K	48	24,000	30,000	2625	2470	85
Energy Advantage T8 Long Life 30 Watt Fluorescent Lamps T8 Medium Bipin Featuring HI-VISION® Phosphor											
30	14771-0	Ⓔ$	**F32T8/ADV830/EW/LL/ALTO 30 Watt**	25	Advantage 830, 3000K	48	24,000	30,000	2850	2700	85
	14772-8	Ⓔ$	**F32T8/ADV835/EW/LL/ALTO 30 Watt**	25	Advantage 835, 3500K	48	24,000	30,000	2850	2700	85
	14773-6	Ⓔ$	**F32T8/ADV841/EW/LL/ALTO 30 Watt**	25	Advantage 841, 4100K	48	24,000	30,000	2850	2700	85
	14774-4	Ⓔ$	**F32T8/ADV850/EW/LL/ALTO 30 Watt**	25	Advantage 850, 5000K	48	24,000	30,000	2850	2700	85

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

☐ This product utilizes ALTO® Lamp Technology

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

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
Rapid Start Fluorescent Lamps T8 Medium Bipin; High CRI											
17	22154-9	$	**F17T8/TL950**	25	TL 950, 5000K	24	20,000	20,000	910	850	98
25	22158-0	$	**F25T8/TL930**	25	TL 930, 3000K	36	20,000	20,000	1550	1450	95
	22159-8	$	**F25T8/TL950**	25	TL 950, 5000K	36	20,000	20,000	1550	1450	98
32	20904-9	$	**F32T8/TL930**	25	TL 930, 3000K	48	20,000	20,000	2000	1860	95
	20905-6	$	**F32T8/TL950**	25	TL 950, 5000K	48	20,000	20,000	2000	1860	98

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
U-Bent Rapid Start Fluorescent Lamps T8 Medium Bipin with 6" Long Spacing (212)										
32	37897-6	$	**FB32T8/TL830/6/ALTO**	20	TL 830, 3000K	22 7/8	20,000	2800	2535	85
	37900-8	$	**FB32T8/TL835/6/ALTO**	20	TL 835, 3500K	22 7/8	20,000	2800	2535	85
	37902-4	$	**FB32T8/TL841/6/ALTO**	20	TL 841, 4100K	22 7/8	20,000	2800	2535	85
	37880-2	$	**FB32T8/TL850/6/ALTO**	20	TL 850, 5000K	22 7/8	20,000	2750	2500	84
	37892-7	$	**FB32T8/TL730/6/ALTO**	20	TL 730, 3000K	22 7/8	20,000	2650	2370	75
	37893-5	$	**FB32T8/TL735/6/ALTO**	20	TL 735, 3500K	22 7/8	20,000	2650	2370	75
	37894-3	$	**FB32T8/TL741/6/ALTO**	20	TL 741, 4100K	22 7/8	20,000	2650	2370	75
	37882-8	$	**FB32T8/TL750/6/ALTO**	20	TL 750, 5000K	22 7/8	20,000	2600	2325	75
Rapid Start Fluorescent Lamps T8 Medium Bipin										
40	36831-6	$	**F40T8/TL830/ALTO**	25	TL 830, 3000K	60	20,000	3775	3500	86
	36834-0	$	**F40T8/TL835/ALTO**	25	TL 835, 3500K	60	20,000	3775	3500	86
	36847-2	$	**F40T8/TL841/ALTO**	25	TL 841, 4100K	60	20,000	3775	3500	86
	36851-4	$	**F40T8/TL730/ALTO**	25	TL 730, 3000K	60	20,000	3600	3250	78
	36852-2	$	**F40T8/TL735/ALTO**	25	TL 735, 3500K	60	20,000	3600	3250	78
	36853-0	$	**F40T8/TL741/ALTO**	25	TL 741, 4100K	60	20,000	3600	3250	78
Preheat Fluorescent Lamps T8 Medium Bipin Linear Fluorescent Lamps; Requires Use of Starters (202)										
15	37823-2		**F15T8D/ALTO**	24	Daylight, 6500K	18	7500	750	660	79
	38298-6		**F15T8/WW/ALTO**	24	Warm White, 3000K	18	7500	870	740	53
	36720-1		**F15T8/CW/ALTO**	24	Cool White, 4100K	18	7500	870	765	62
	36436-4		**F15T8/CW BULK**	96	Cool White, 4100K	18	7500	850	750	62
	39226-6		**F15T8/PLANT**	6	Plant Lite, Sleeved	18	7500	410	—	—
30	26063-8		**F30T8/D**	24	Daylight, 6500K	36	7500	1500	1350	79
	38691-2		**F30T8/CW/ALTO**	24	Cool White, 4100K	36	7500	2200	2000	62

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

Energy Advantage T8 Fluorescent Lamps vs. Standard T8 Lamps.

General Overview

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 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 the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

This product utilizes ALTO® Lamp Technology

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

Philips PLUS Slimline T8 8-Ft. Lamps
featuring ALTO® Lamp Technology

Long Life: Up to 30,000 hours rated average life at 12 hours per start (see footnote 241); Up to 60% more life than standard slimline T8 lamps means reduced maintenance and disposal costs

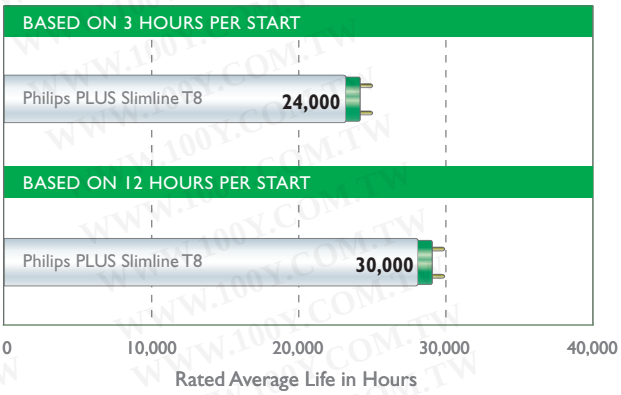
Environmentally Responsible: Low mercury—TCLP*-compliant; energy efficient; long life

Sustainable Lighting Solution: Less mercury 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

Philips PLUS Slimline Lamp Rated Average Life



Philips PLUS Slimline T8 Warranty Period: 24 months

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

PLUS Slimline T8 8-Foot Cost of Ownership Savings

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

General Overview
PLUS Slimline 8-foot T8 fluorescent lamps may 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 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, 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 TCLP-compliant low mercury technology, the positive financial impact of installing PLUS Slimline 8-foot T8 lamps may provide cost of ownership savings per lamp as follows:

Incremental Cost	$ (1.00)
Material Cost Avoidance[A]	$ 4.00
Labor Cost Avoidance[B]	$ 3.72
Disposal Cost Avoidance[C]	$ 0.72
Cost of Ownership Savings	**$ 7.44**

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 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 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 the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

▢ This product utilizes ALTO® Lamp Technology

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

Philips PLUS High Output T8 Lamps
featuring ALTO® Lamp Technology

Long Life: 30,000 hours rated average life at 12 hours per start (see footnote 241); 50% more life than standard T8 HO 8-foot lamps means reduced maintenance and disposal costs

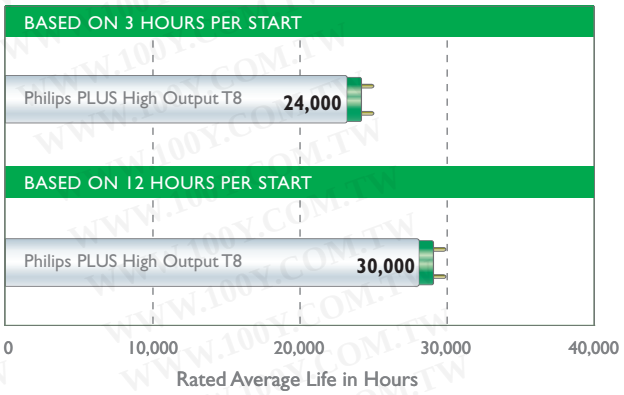
Environmentally Responsible: Low mercury—TCLP*-compliant; energy efficient; long life

Sustainable Lighting Solution: Less mercury 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

Philips PLUS High Output Lamp
Rated Average Life



Philips PLUS High Output T8
Warranty Period: 24 months

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.•	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
PLUS High Output T8 8-Foot Fluorescent Lamps T8 Recessed D.C.; Featuring ALTO® Lamp Technology											
86	38826-4	Ⓔ ▢ $	**F96T8/TL830/HO/PLUS/ALTO**	24	TL 830, 3000K	96	24,000	30,000	8200	7625	86
	38827-2	Ⓔ ▢ $	**F96T8/TL835/HO/PLUS/ALTO**	24	TL 835, 3500K	96	24,000	30,000	8200	7625	86
	38828-0	Ⓔ ▢ $	**F96T8/TL841/HO/PLUS/ALTO**	24	TL 841, 4100K	96	24,000	30,000	8200	7625	86
	38831-4	Ⓔ ▢ $	**F96T8/TL741/HO/PLUS/ALTO**	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
High Output Fluorescent Lamps T8 Recessed D.C.; Featuring ALTO® Lamp Technology										
44	38808-2	▢ $	**F48T8/TL830/HO/ALTO**	24	TL 830, 3000K	48	18,000	4000	3600	86
	38809-0	▢ $	**F48T8/TL835/HO/ALTO**	24	TL 835, 3500K	48	18,000	4000	3600	86
	38810-8	▢ $	**F48T8/TL841/HO/ALTO**	24	TL 841, 4100K	48	18,000	4000	3600	86
55	38814-0	▢ $	**F60T8/TL830/HO/ALTO**	24	TL 830, 3000K	60	18,000	5050	4545	86
	38815-7	▢ $	**F60T8/TL835/HO/ALTO**	24	TL 835, 3500K	60	18,000	5050	4545	86
	38816-5	▢ $	**F60T8/TL841/HO/ALTO**	24	TL 841, 4100K	60	18,000	5050	4545	86
65	38820-7	▢ $	**F72T8/TL830/HO/ALTO**	24	TL 830, 3000K	72	18,000	6100	5490	86
	38821-5	▢ $	**F72T8/TL835/HO/ALTO**	24	TL 835, 3500K	72	18,000	6100	5490	86
	38822-3	▢ $	**F72T8/TL841/HO/ALTO**	24	TL 841, 4100K	72	18,000	6100	5490	86

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

▢ This product utilizes ALTO® Lamp Technology

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

T12 Fluorescent Lamps

Rapid Start, Advantage Rapid Start, Rapid Start "Long Life," Rapid Start 800, U-Bent

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
Rapid Start Fluorescent Lamps T12 Medium Bipin										
25	27247-6	$	**F25T12/CW/RS/EW/ALTO**	30	Cool White, 4100K	36	18,000	1950	1650	62
	31365-0	$	**F25T12/WW/RS/EW**	30	Warm White, 3000K	36	18,000	2000	1700	53
30	31377-5		**F30T12/30U/RS**	30	Ultralume, 3000K	36	18,000	2400	2160	85
	31379-1		**F30T12/35U/RS**	30	Ultralume, 3500K	36	18,000	2400	2160	85
	31380-9	☐	**F30T12/41U/RS**	30	Ultralume, 4100K	36	18,000	2400	2160	85
	31381-7	☐	**F30T12/50U/RS**	30	Ultralume, 5000K	36	18,000	2380	2140	85
	31369-2		**F30T12/SPEC30/RS**	30	SPEC30, 3000K	36	18,000	2350	2080	70
	31371-8		**F30T12/SPEC35/RS**	30	SPEC35, 3500K	36	18,000	2350	2080	73
	31372-6		**F30T12/SPEC41/RS**	30	SPEC41, 4100K	36	18,000	2350	2080	70
	31376-7		**F30T12/C50/RS**	30	Colortone 50, 5000K	36	18,000	1550	1300	92
	37649-1		**F30T12/D/RS/ALTO**	30	Daylight, 6500K	36	18,000	1950	1700	79
	27242-7		**F30T12/CW/RS/ALTO**	30	Cool White, 4100K	36	18,000	2250	1900	62
	31221-7		**F30T12/WW/RS/ALTO**	30	Warm White, 3000K	36	18,000	2300	1950	53

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.•	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
Advantage Rapid Start Ultimate Performance Fluorescent Lamps T12 Medium Bipin											
34	14257-0		**F34T12/ADV30/EW/ALTO**	30	Advantage 30,T12, 3000K	48	24,000	30,000	3100	2945	85
NEW!	14258-8		**F34T12/ADV35/EW/ALTO**	30	Advantage 35,T12, 3500K	48	24,000	30,000	3100	2945	85
	14259-6		**F34T12/ADV41/EW/ALTO**	30	Advantage 41,T12, 4100K	48	24,000	30,000	3100	2945	85
	14260-4		**F34T12/ADV50/EW/ALTO**	30	Advantage 50,T12, 5000K	48	24,000	30,000	3000	2845	85
Rapid Start "Long Life" Fluorescent Lamps T12 Medium Bipin											
34	14251-3		**F34/CW/RS/EW/LL/ALTO**	30	Cool White, 4100K	48	24,000	30,000	2650	2300	62
NEW!	14252-1		**F34/WW/RS/EW/LL/ALTO**	30	Warm White, 3000K	48	24,000	30,000	2700	2350	53

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
Rapid Start 800 Series Fluorescent Lamps T12 Medium Bipin										
34	14253-9		**F34T12/830/EW/ALTO**	30	TL 830, 3000K	48	20,000	2800	2660	82
NEW!	14254-7		**F34T12/835/EW/ALTO**	30	TL 835, 3500K	48	20,000	2800	2660	82
	14255-4		**F34T12/841/EW/ALTO**	30	TL 841, 4100K	48	20,000	2800	2660	82
	14256-2		**F34T12/850/EW/ALTO**	30	TL 850, 5000K	48	20,000	2800	2660	82
Rapid Start Fluorescent Lamps T12 Medium Bipin										
34	26659-3	$	**F34/DX/RS/EW/ALTO**	30	Daylight Deluxe, 6500K	48	20,000	2025	1775	84
	24470-7	$	**F34/CW/RS/EW/ALTO**	30	Cool White, 4100K	48	20,000	2650	2300	62
	22046-7	$	**F34/CW/RS/EW/ALTO**	10	Cool White, 4100K, 10PK	48	20,000	2650	2300	62
	24472-3	$	**F34/CW/RS/EW/ALTO PLZ**	650	Cool White, 4100K	48	20,000	2650	2650	62
	25686-7	$	**F34/WW/RS/EW/ALTO**	30	Warm White, 3000K	48	20,000	2700	2350	53
U-Bent Fluorescent Lamps T12 Medium Bipin										
34	37871-1	$	**FB34/SPEC30/6/EW/ALTO**	12	SPEC30, 3000K	22 7/8	18,000	2760	2500	70
	37872-9	$	**FB34/SPEC35/6/EW/ALTO**	12	SPEC35, 3500K	22 7/8	18,000	2760	2500	73
	37874-5	$	**FB34/SPEC41/6/EW/ALTO**	12	SPEC41, 4100K	22 7/8	18,000	2760	2500	70
	37863-8		**FB34/CW/6/EW/ALTO**	12	Cool White, 4100K	22 7/8	18,000	2400	2050	62
	37865-3		**FB34/LW/6/EW/ALTO**	12	Lite White, 4200K	22 7/8	18,000	2500	2150	62
	37862-0		**FB34/WW/6/EW/ALTO**	12	Warm White, 3000K	22 7/8	18,000	2400	2050	53
	20704-3		**FB34/CW/3/EW**	12	Cool White, 4100K	22 7/8	18,000	2350	2050	62
	20705-0		**FB34/WW/3/EW**	12	Warm White, 3000K	22 7/8	18,000	2425	2125	51

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

☐ This product utilizes ALTO® Lamp Technology

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
Advantage Rapid Start Ultimate Performance Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps										
40	26604-9	☐	**F40T12/ADV30/ALTO**	30	Advantage 30,T12, 3000K	48	24,000	3600	3250	85
	26631-2	☐	**F40T12/ADV35/ALTO**	30	Advantage 35,T12, 3500K	48	24,000	3600	3250	85
	26640-3	☐	**F40T12/ADV41/ALTO**	30	Advantage 41,T12, 4100K	48	24,000	3600	3250	85
	26643-7	☐	**F40T12/ADV50/ALTO**	30	Advantage 50,T12, 5000K	48	24,000	3600	3250	85
Rapid Start 800 Series Fluorescent Lamps T12 Medium Bipin										
40	14261-2		**F40T12/830/ALTO**	30	TL 830, 3000K	48	20,000	3200	3040	82
	14262-0		**F40T12/835/ALTO**	30	TL 835, 3500K	48	20,000	3200	3040	82
	14263-8		**F40T12/841/ALTO**	30	TL 841, 4100K	48	20,000	3200	3040	82
	14264-6		**F40T12/850/ALTO**	30	TL 850, 5000K	48	20,000	2700	2900	82
Rapid Start Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps										
40	33464-9		**F40/C75**	30	Colortone 75, 7500K	48	20,000	2000	1720	95
	30203-4		**F40/C50**	30	Colortone 50, 5000K	48	20,000	2200	1915	92
	27359-9		**F40/DX/ALTO**	30	Daylight Deluxe, 6500K	48	20,000	2325	2025	84
	36765-6		**F40/CWX**	30	Cool White Deluxe, 4200K	48	20,000	2200	1800	89
	39228-2		**F40/PLANT**	6	Plant Light, Sleeved	48	20,000	1600	1360	—
	20189-7		**F40/BB**	6	Special Blue	48	20,000	550	385	—
U-Bent Fluorescent Lamps T12 Medium Bipin										
40	37879-4		**FB40/30U/6/ALTO**	12	Ultralume, 3000K	22 7/8	18,000	3100	2850	85
	37840-6		**FB40/35U/6/ALTO**	12	Ultralume, 3500K	22 7/8	18,000	3100	2850	85
	37876-0		**FB40/41U/6/ALTO**	12	Ultralume, 4100K	22 7/8	18,000	3100	2850	85
	37866-1		**FB40/SPEC30/6/ALTO**	12	SPEC30, 3000K	22 7/8	18,000	3050	2775	70
	37854-7		**FB40/SPEC35/6/ALTO**	12	SPEC35, 3500K	22 7/8	18,000	3050	2775	73
	37868-7		**FB40/SPEC41/6/ALTO**	12	SPEC41, 4100K	22 7/8	18,000	3050	2775	70
	21993-1		**FB40/DX/6**	12	Daylight Deluxe, 6500K	22 7/8	18,000	2250	1950	84

NEW!

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

☐ This product utilizes ALTO® Lamp Technology

T12 Fluorescent Lamps

Slimline, Slimline "Long Life," Slimline 800,

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
Slimline Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
30	14140-8	$	**F36T12/CW**	24	Cool White, 4100K	36	7500	1850	1630	62
	36609-6	$	**F48T12/SPEC41/EW/ALTO**	15	SPEC41, 4100K	48	9000	2575	2350	70
	38700-1	$	**F48T12/CW/EW/ALTO**	15	Cool White, 4100K	48	9000	2400	2150	62
39	36613-8		**F48T12/SPEC35/ALTO**	15	SPEC35, 3500K	48	9000	3000	2800	73
	36219-4		**F48T12/D/ALTO**	15	Daylight, 6500K	48	9000	2500	220	79
	38702-7		**F48T12/CW/ALTO**	30	Cool White, 4100K	48	9000	2950	2600	62
	36660-9		**F48T12/WW/ALTO**	15	Warm White, 3000K	48	9000	2950	2650	53
50	35564-4		**F60T12/D**	15	Daylight, 6500K	60	12,000	3150	2850	79
	35563-6		**F60T12/CW**	15	Cool White, 4100K	60	12,000	3450	3050	62
51	35577-6		**F64T12/D**	15	Daylight, 6500K	64	12,000	3200	2800	79
	35576-8		**F64T12/CW**	15	Cool White, 4100K	64	12,000	3750	3050	62
56	36614-6		**F72T12/30U/ALTO**	15	Ultralume, 3000K	72	12,000	4850	4550	85
	36618-7		**F72T12/35U/ALTO**	15	Ultralume, 3500K	72	12,000	4850	4550	85
	36621-1		**F72T12/41U/ALTO**	15	Ultralume, 4100K	72	12,000	4850	4550	85
	36623-7		**F72T12/SPEC35/ALTO**	15	SPEC35, 3500K	72	12,000	4700	4400	73
	36985-0		**F72T12/D/ALTO**	15	Daylight, 6500K	72	12,000	3800	3350	79
	36989-2		**F72T12/CW/ALTO**	15	Cool White, 4100K	72	12,000	4450	3900	62
	36661-7		**F72T12/WW/ALTO**	15	Warm White, 3000K	72	12,000	4550	4000	53
Slimline "Long Life" Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
NEW! **60**	14747-0		**F96T12/CW/EW/LL/ALTO**	15	Cool White, 4100K	96	15,000	5400	4750	62
	14748-8		**F96T12/841/EW/LL/ALTO**	15	TL841, 4100K	96	15,000	5900	5550	85
Slimline 800 Series Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
60	14269-5		**F96T12/830/EW/ALTO**	15	TL830, 3000K	96	12,000	5900	5550	85
NEW!	14270-3		**F96T12/835/EW/ALTO**	15	TL835, 3500K	96	12,000	5900	5550	85
	14271-1		**F96T12/841/EW/ALTO**	15	TL841, 4100K	96	12,000	5900	5550	85
	14272-9		**F96T12/850/EW/ALTO**	15	TL850, 5000K	96	12,000	5800	5450	85
Slimline Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
60	36624-5	X $	**F96T12/30U/EW/ALTO**	15	Ultralume, 3000K	96	12,000	5900	5550	85
	36625-2	X $	**F96T12/35U/EW/ALTO**	15	Ultralume, 3500K	96	12,000	5900	5550	85
	36627-8	X $	**F96T12/41U/EW/ALTO**	15	Ultralume, 4100K	96	12,000	5900	5550	85
	36628-6	X $	**F96T12/50U/EW/ALTO**	15	Ultralume, 5000K	96	12,000	5850	5500	85
	36630-2	X $	**F96T12/SPEC30/EW/ALTO**	15	SPEC30, 3000K	96	12,000	5750	5400	70
	26018-2	X $	**F96T12/SPEC35/EW/ALTO**	15	SPEC35, 3500K	96	12,000	5750	5400	73
	26022-4	X $	**F96T12/SPEC41/EW/ALTO**	15	SPEC41, 4100K	96	12,000	5750	5400	70
	34198-2	X $	**F96T12/C50/EW**	15	Colortone 50, 5000K	96	12,000	4100	3700	92
	36654-2		**F96T12/DX/EW/ALTO**	15	Daylight Deluxe, 6500K	96	12,000	4200	3675	84
	25840-0		**F96T12/CW/EW/ALTO**	15	Cool White, 4100K	96	12,000	5400	4750	62
	36656-7		**F96T12/WW/EW/ALTO**	15	Warm White, 3000K	96	12,000	5500	4850	53
	36655-9	X	**F96T12/LW/EW/ALTO**	15	Lite White, 4200K	96	12,000	5600	4950	51
Slimline "Long Life" Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
75	14749-6		**F96T12/841/LL/ALTO**	15	TL841, 4100K	96	15,000	6600	6225	85
Slimline 800 Series Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
75	14273-7		**F96T12/830/ALTO**	15	TL830, 3000K	96	12,000	6600	6225	85
NEW!	14274-5		**F96T12/835/ALTO**	15	TL835, 3500K	96	12,000	6600	6225	85
	14275-2		**F96T12/841/ALTO**	15	TL841, 4100K	96	12,000	6600	6225	85
	14276-0		**F96T12/850/ALTO**	15	TL850, 5000K	96	12,000	6500	6125	85
Slimline Fluorescent Lamps T12 Single Pin Linear Fluorescent Lamps; Instant Start										
75	36633-6	X	**F96T12/30U/ALTO**	15	Ultralume, 3000K	96	12,000	6600	6225	85
	36634-4	X	**F96T12/35U/ALTO**	15	Ultralume, 3500K	96	12,000	6600	6225	85
	36635-1	X	**F96T12/41U/ALTO**	15	Ultralume, 4100K	96	12,000	6600	6225	85
	36636-9	X	**F96T12/50U/ALTO**	15	Ultralume, 5000K	96	12,000	6500	6125	85
	36647-6	X	**F96T12/SPEC30/ALTO**	15	SPEC30, 3000K	96	12,000	6425	6050	70
	36648-4	X	**F96T12/SPEC35/ALTO**	15	SPEC35, 3500K	96	12,000	6425	6050	73
	36650-0	X	**F96T12/SPEC41/ALTO**	15	SPEC41, 4100K	96	12,000	6425	6050	70
	34170-1		**F96T12/C50**	15	Colortone 50, 5000K	96	12,000	4650	4200	92
	34165-1	X	**F96T12/N**	15	Natural, 3700K	96	12,000	4300	3850	90
	37282-1		**F96T12/DX/ALTO**	15	Daylight Deluxe, 6500K	96	12,000	4500	3950	84

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☐ This product utilizes ALTO® Lamp Technology **X** No longer manufactured, available until inventory depleted

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
High Output Fluorescent Lamps (800ma) T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)										
35	14144-0		**F24T12/D/HO**	30	Daylight, 6500K	24	9000	1400	1180	79
	14145-7		**F24T12/CW/HO**	30	Cool White, 4100K	24	9000	1650	1390	62
40	14141-6		**F30T12/D/HO**	30	Daylight, 6500K	30	9000	1920	1590	79
	14142-4		**F30T12/CW/HO**	30	Cool White, 4100K	30	9000	2290	1900	62
50	14138-2		**F36T12/D/HO**	30	Daylight, 6500K	36	9000	2500	2150	79
	14139-0		**F36T12/CW/HO**	30	Cool White, 4100K	36	9000	2800	2450	62
55	14136-6		**F42T12/D/HO**	30	Daylight, 6500K	42	9000	3000	2610	79
	14137-4		**F42T12/CW/HO**	30	Cool White, 4100K	42	9000	3400	2950	62
60	13222-5		**F48T12/41U/HO/ALTO**	15	Ultralume, 4100K	48	12,000	4400	4000	85
	26773-2		**F48T12/41U/HO**	15	Ultralume, 4100K	48	12,000	4400	4000	85
	21896-6		**F48T12/SPEC30/HO**	15	SPEC30, 3000K	48	12,000	4250	3830	70
	21897-4		**F48T12/SPEC35/HO**	15	SPEC35, 3500K	48	12,000	4250	3830	73
	26775-7		**F48T12/SPEC41/HO**	15	SPEC41, 4100K	48	12,000	4250	3830	70
	36984-3		**F48T12/D/HO/ALTO**	15	Daylight, 6500K	48	12,000	3400	3000	79
	36978-5		**F48T12/CW/HO/ALTO**	15	Cool White, 4100K	48	12,000	4050	3500	62
	21816-4		**F48T12/WW/HO**	15	Warm White, 3000K	48	12,000	4100	3550	53
75	35567-7		**F60T12/D/HO**	15	Daylight, 6500K	60	12,000	4400	3800	79
	35566-9		**F60T12/CW/HO**	15	Cool White, 4100K	60	12,000	5150	4500	62
80	35584-2		**F64T12/D/HO**	15	Daylight, 6500K	64	12,000	4900	4250	79
	35578-4		**F64T12/CW/HO**	15	Cool White, 4100K	64	12,000	5600	4850	62
85	27305-2		**F72T12/30U/HO**	15	Ultralume, 3000K	72	12,000	6800	6200	85
	26723-7		**F72T12/35U/HO**	15	Ultralume, 3500K	72	12,000	6800	6200	85
	26742-7		**F72T12/41U/HO**	15	Ultralume, 4100K	72	12,000	6800	6200	85
	30001-2		**F72T12/SPEC35/HO**	15	SPEC35, 3500K	72	12,000	6650	6000	73
	30756-1		**F72T12/SPEC41/HO**	15	SPEC41, 4100K	72	12,000	6650	6000	70
	21204-3		**F72T12/N/HO**	15	Natural, 3700K	72	12,000	4200	3610	90
	36653-4		**F72T12/D/HO/ALTO**	15	Daylight, 6500K	72	12,000	5600	4850	79
	36651-8		**F72T12/CW/HO/ALTO**	15	Cool White, 4100K	72	12,000	6350	5500	62
	33053-0		**F72T12/WW/HO**	15	Warm White, 3000K	72	12,000	6500	5700	53
100	21206-8		**F84T12/D/HO**	15	Daylight, 6500K	84	12,000	6900	6000	79
	21205-0		**F84T12/CW/HO**	15	Cool White, 4100K	84	12,000	7800	6800	62

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Fluorescent symbols and footnotes located on page 87

This product utilizes ALTO® Lamp Technology

T12 Fluorescent Lamps

High Output 800, High Output

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
High Output 800 Series Fluorescent Lamps (800ma)										
95	14277-8		**F96T12/830/HO/EW/ALTO**	15	TL830, 3000K	86	12,000	8625	7750	85
NEW!	14278-6		**F96T12/835/HO/EW/ALTO**	15	TL835, 3500K	96	12,000	8625	7750	85
	14279-4		**F96T12/841/HO/EW/ALTO**	15	TL841, 4100K	96	12,000	8625	7750	85
	14280-4		**F96T12/850/HO/EW/ALTO**	15	TL850, 5000K	96	12,000	8520	7675	85
High Output Fluorescent Lamps (800ma) T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)										
95	27319-3	X $	**F96T12/30U/HO/EW**	15	Ultralume, 3000K	96	12,000	8625	7750	85
	34862-3	X $	**F96T12/41U/HO/EW**	15	Ultralume, 4100K	96	12,000	8620	7750	85
	20525-2	X $	**F96T12/50U/HO/EW**	15	Ultralume, 5000K	96	12,000	8520	7675	85
	34861-5	X $	**F96T12/SPEC30/HO/EW**	15	SPEC30, 3000K	96	12,000	8350	7500	70
	22117-6	X $	**F96T12/SPEC35/HO/EW**	15	SPEC35, 3500K	96	12,000	8350	7500	73
	34848-2	X $	**F96T12/SPEC41/HO/EW**	15	SPEC41, 4100K	96	12,000	8350	7500	70
	21471-8	$	**F96T12/DX/HO/EW**	15	Daylight Deluxe, 6500K	96	12,000	5850	5000	84
	26660-1	$	**F96T12/CW/HO/EW/ALTO**	15	Cool White, 4100K	96	12,000	8000	6950	62
	34219-6	X $	**F96T12/WW/HO/EW**	15	Warm White, 3000K	96	12,000	8100	7050	53
	34216-2	X $	**F96T12/LW/HO/EW**	15	Lite White, 4200K	96	12,000	8300	7200	51
High Output 800 Series Fluorescent Lamps (800ma)										
110	14281-0		**F96T12/830/HO/ALTO**	15	TL830, 3000K	96	12,000	9500	8550	85
NEW!	14282-8		**F96T12/835/HO/ALTO**	15	TL835, 3500K	96	12,000	9500	8550	85
	14283-6		**F96T12/841/HO/ALTO**	15	TL841, 4100K	96	12,000	9500	8550	85
	14284-4		**F96T12/850/HO/ALTO**	15	TL850, 5000K	96	12,000	9350	8350	85
High Output Fluorescent Lamps (800ma) T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)										
110	34863-1	X	**F96T12/30U/HO**	15	Ultralume, 3000K	96	12,000	9500	8550	85
	26710-4	X	**F96T12/35U/HO**	15	Ultralume, 3500K	96	12,000	9500	8550	85
	34864-9	X	**F96T12/41U/HO**	15	Ultralume, 4100K	96	12,000	9500	8550	85
	34865-6	X	**F96T12/50U/HO**	15	Ultralume, 5000K	96	12,000	9350	8350	85
	27276-5	X	**F96T12/SPEC30/HO**	15	SPEC30, 3000K	96	12,000	9300	8375	70
	27681-6	X	**F96T12/SPEC35/HO**	15	SPEC35, 3500K	96	12,000	9300	8375	73
	27279-9	X	**F96T12/SPEC41/HO**	15	SPEC41, 4100K	96	12,000	9300	8375	70
	34226-1		**F96T12/C50/HO**	15	Colortone 50, 5000K	96	12,000	6300	5400	92
	34230-3	X	**F96T12/N/HO**	15	Natural, 3700K	96	12,000	6250	5400	90
	34222-0		**F96T12/CWX/HO**	15	Cool White Deluxe, 5000K	96	12,000	6600	5500	89
	21489-0		**F96T12/DX/HO**	15	Daylight Deluxe, 6500K	96	12,000	6750	5800	84
High Output Fluorescent Lamps (800ma) 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

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Fluorescent symbols and footnotes located on page 87

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Very High Output Fluorescent Lamps (1500ma) T12 Recessed D.C. Linear Fluorescent Lamps (214)

Nom. Lamp Watts	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty. •	Description	Nom. Length (In.)	Rated Avg. Life, Hrs. 3-Hr. Start (202)	Rated Avg. Life, Hrs. 12-Hr. Start (241)	Approx. Initial Lumens (203, 204)	Design Lumens (208)	CRI
110	21819-8		**F48T12/CW/VHO**	15	Cool White, 4100K	48	12,000	12,000	7050	4950	62
135	21785-1		**F60T12/CW/VHO**	15	Cool White, 4100K	60	12,000	12,000	9000	6300	62
160	33054-8		**F72T12/D/VHO**	15	Daylight, 6500K	72	12,000	12,000	12,000	6400	79
	21210-0		**F72T12/CW/VHO**	15	Cool White, 4100K	72	12,000	12,000	11,000	7600	62
185	34232-9	$	**F96T12/CW/VHO/EW**	15	Cool White, 4100K	96	12,000	12,000	13,000	9000	62
	34233-7	$	**F96T12/LW/VHO/EW**	15	Lite White, 4200K	96	12,000	12,000	14,400	10,100	51
215	38213-5	▢	**F96T12/41U/VHO/ALTO**	15	Ultralume, 4100K	96	12,000	12,000	17,500	16,100	85
	34237-8		**F96T12/D/VHO**	15	Daylight, 6500K	96	12,000	12,000	12,505	8750	79
	34234-5		**F96T12/CW/VHO**	15	Cool White, 4100K	96	12,000	12,000	15,200	10,700	62

Outdoor Very High Output Fluorescent Lamps (1500ma) T12 Recessed D.C. Linear Fluorescent Lamps

116	21820-6		**F48T12/CW/VHO-O**	12	Cool White, 4100K	48	10,000	10,000	7000	4900	62
140	37543-6		**F60T12/50U/VHO-O**	15	Ultralume, 5000K	60	10,000	10,000	7300	5200	85
	21786-9		**F60T12/CW/VHO-O**	12	Cool White, 4100K	60	10,000	10,000	8900	8250	62
162	21211-8		**F72T12/CW/VHO-O**	8	Cool White, 4100K	72	10,000	10,000	11,250	7750	62
212	34243-6		**F96T12/CW/VHO-O**	8	Cool White, 4100K	96	10,000	10,000	14,900	10,400	62

Preheat Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps

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	14151-5		**F14T12/CW**	30	Cool White, 4100K	15	9000	710	590	62
15	14147-3		**F15T12/D**	30	Daylight, 6500K	18	9000	650	535	79
	14149-9		**F15T12/CW**	30	Cool White, 4100K	18	9000	800	695	62
20	31399-9		**F20T12/30U**	30	Ultralume, 3000K	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
	39227-4		**F20T12/PLANT**	6	Plant Lite, Sleeved	24	9000	600	500	—
	31745-3		**F20T12/BB**	6	Special Blue	24	9000	225	180	—
25	26030-7		**F25T12/CW**	30	Cool White, 4100K	33	7500	1900	1710	62

Gold Fluorescent Lamps Blocks UV Emissions

32	14746-2	±	**F32T8/GOLD**	25	Gold Sleeved	48	20,000	1750	1480	—
40	14750-4	±	**F40T12/GOLD**	30	Gold Sleeved	48	20,000	1700	1465	—

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Fluorescent symbols and footnotes located on page 87

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± Available Q1, 2006

Fluorescent Lamps

Appliance, T9 4-Pin Circline

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
Appliance Fluorescent Lamps 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
Appliance Fluorescent Lamps T12 Medium Bipin Linear Fluorescent Lamps; For Use With Starters										
25	14135-8		**F25T12/CW/28**	30	Cool White, 4100K	28	7500	1600	1280	62
Circline Fluorescent Lamps T9 4-Pin Circular Fluorescent Lamps										
20	24982-1		**FC6T9/Cool White Plus**	12	Cool White, 4100K	6½ OD	12,000	800	590	62
22	39222-5		**FC8T9/Soft White**	12	3000K	8 OD	12,000	1150	875	85
	26234-5		**FC8T9/D**	12	Daylight, 6500K	8¼ OD	12,000	910	675	79
	39235-7		**FC8T9/DayDLX**	12	6500K	8 OD	12,000	910	675	79
	39116-9		**FC8T9/Cool White Plus**	12	Cool White, 4100K	8 OD	12,000	1050	775	62
32	39122-7		**FC12T9/Soft White**	12	3000K	12 OD	12,000	1900	1600	85
	26260-0		**FC12T9/D**	12	Daylight, 6500K	12 OD	12,000	1570	1300	79
	39117-7		**FC12T9/Cool White Plus**	12	Cool White, 4100K	12 OD	12,000	1800	1500	62
40	39118-5		**FC16T9/Cool White Plus**	12	Cool White, 4100K	16 OD	12,000	2500	1975	62

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Fluorescent symbols and footnotes located on page 87

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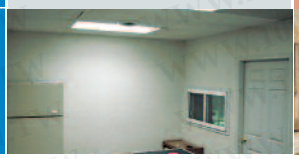
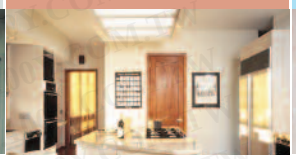
For Black Light lamps, turn to page 111.

HomeLight Fluorescent Lamps

HomeLight Collection	HOME LIGHT Cool White Plus	HOME LIGHT Soft White	HOME LIGHT Natural Sunshine	HOME LIGHT Daylight Deluxe
The mood of the light	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.
Color Scale: 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
Also known as. . .	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.

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
HomeLight T5 Fluorescent Lamps 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	ALTO	**F15T8/Soft White**	6/1	3000K	18	7500	3	1000	900	85
	39207-6	ALTO	**F15T8/Cool White Plus**	6/1	4100K	18	7500	3	870	765	62
	39108-6	ALTO	**F15T8/Cool White Plus**	6/1	4100K	24	7500	3	1175	1035	62
	39232-4	ALTO	**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	—	—	—	—
	39226-6		**F15T8/Plant**	6/1	—	18	7500	—	410	—	—
30	39216-7	ALTO	**F30T8/Soft White**	6/1	3000K	36	7500	3	2500	2250	85
	39210-0	ALTO	**F30T8/Cool White Plus**	6/1	4100K	36	7500	3	2200	1760	62
32	13360-3	ALTO	**F32T8/Cool White Plus**	72/2	4100K, Coffin Pack	48	20,000	7	2850	2710	78
	13427-0	ALTO	**F32T8/Natural Sunshine**	6	5000K	48	20,000	7	2950	2800	86
	13426-2	ALTO	**F32T8/Soft White**	6	3000K	48	20,000	7	2950	2800	86

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

ALTO This product utilizes ALTO® Lamp Technology

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
HomeLight T12 Fluorescent Lamps Individually Sleeved Fluorescent Lamps; Medium Bipin											
14	14150-7		**F14T12/Soft White**	6/1	3000K	15	9000	4	700	560	85
15	14146-5		**F15T12/Soft White**	6/1	3000K	18	9000	4	800	720	85
	14148-1		**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	18,000	7	2400	2160	85
	39109-4	ALTO	**F30T12/Cool White Plus**	6/1	4100K	36	18,000	7	2250	1900	62
40	39121-9	ALTO	**F40T12/Soft White**	6/1	3000K	48	20,000	7	3300	2970	85
	14751-2	ALTO	**F40T12/Soft White**	6/2	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
	22606-8	ALTO	**F40T12/Cool White Plus**	10	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		**F40T12/Cool White Plus/84/2PK**	84/2	4100K	48	20,000	7	3200	2880	70
	39231-6	ALTO	**F40T12/Natural Sunshine**	6/1	5000K	48	20,000	7	2200	1915	92
	29491-8	ALTO	**F40/HL EVERYWHERE**	15/2	5000K	48	20,000	7	2200	1800	89
	39234-0	ALTO	**F40T12/DayDLX**	6/1	6500K	48	20,000	7	2325	2025	84
	38752-2	ALTO	**F40T12/DayDLX**	10	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	—	—
60	20523-7	ALTO	**F96T12/CW/EW/8/2PK**	8/2	4100K	96	12,000	5	5400	4750	62
	13349-6	ALTO	**F96T12/CW/EW/36/2PK**	8/2	4100K	96	12,000	5	5400	4750	62
75	37663-2	ALTO	**F96T12/DayDLX/8/2PK**	8/2	6500K	96	12,000	5	4500	3950	84
HomeLight Circline Fluorescent Lamps T9 Circular 4-Pin Fluorescent Lamps											
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
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 the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

ALTO This product utilizes ALTO® Lamp Technology

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
UPC Lamps Labeled For Retail Sale (225)										
Silhouette T5 Fluorescent Lamp										
28	14695-0	±	**F25T5/835/ALTO UPC**	40	TL835, 3500K	46	20,000	2900	2750	85
Preheat T8 T8 Medium Bipin Linear Fluorescent Lamps; Requires Use of Starters										
30	13348-8		**F30T8/Cool White Plus UPC**	24	Cool White, 4100K	36	7500	2200	2000	62
Rapid Start T8 T8 Medium Bipin Linear Fluorescent Lamps										
17	13599-5		**F17T8/TL950 UPC**	25	TL90, 5000K	24	20,000	910	850	98
	16069-0		**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		**F32T8/TL850 UPC**	25	TL80, 5000K	48	20,000	2950	2800	86
	27278-1		**F32T8/TL730 UPC**	25	TL70, 3000K	48	20,000	2850	2710	78
	27274-0		**F32T8/TL735 UPC**	25	TL70, 3500K	48	20,000	2850	2710	78
	27269-0		**F32T8/TL741 UPC**	25	TL70, 4100K	48	20,000	2850	2710	78
Rapid Start U-Bent T8 T8 Medium Bipin										
32	37888-5		**FB32T8/TL735/6 UPC**	20	TL70, 3500K	22 7/8	20,000	2650	2370	75
	37889-3		**FB32T8/TL741/6 UPC**	20	TL70, 4100K	22 7/8	20,000	2650	2370	75
Preheat T12 T12 Medium Bipin Linear Fluorescent Lamps										
20	38693-8		**F20T12/SPEC35 UPC**	30	SPEC, 3500K	24	9000	1275	1190	73
	21331-4		**F20T12/D UPC**	30	Daylight, 6500K	24	9000	1075	960	79
	33948-1		**F20T12/Cool White Plus UPC**	30	Cool White, 4100K	24	9000	1200	1050	62
Rapid Start T12 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		**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		**F34/SPEC35/EW UPC**	30	SPEC, 3500K	48	20,000	2800	2520	73
	38695-3		**F34/SPEC41/EW UPC**	30	SPEC, 4100K	48	20,000	2800	2520	70
	22046-7		**F34/CW/RS/EW**	10	Cool White, 4100K	48	20,000	2650	2300	62
	14121-8		**F34/CW/RS/EW**	10	Cool White, 4100K	48	20,000	2650	2300	62
	24475-6		**F34/CW/RS/EW UPC**	30	Cool White, 4100K	48	20,000	2650	2300	62
	39088-0		**F34/CW/RS/EW CONTRACTOR**	—	Cool White, 4100K	48	20,000	2650	2300	62
Rapid Start U-Bent T12 T12 Medium Bipin										
34	37839-8		**FB34/CW/6/EW UPC**	12	Cool White, 4100K	22 7/8	18,000	2400	2050	62
Rapid Start T12 T12 Medium Bipin Linear Fluorescent Lamps										
40	37530-3		**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
	26790-6		**F40/C50 UPC**	30	Colortone 50, 5000K	48	20,000	2200	1915	92
Rapid Start U-Bent T12 T12 Medium Bipin										
40	37875-8		**FB40/SPEC35/6 UPC**	12	SPEC, 3500K	22 7/8	18,000	3050	2775	73
Slimline T12 T12 Single Pin Linear Fluorescent Lamps; Instant Start										
39	38703-5		**F48T12/CW UPC**	15	Cool White, 4100K	48	9000	2950	2600	62
56	36999-1		**F72T12/CW UPC**	15	Cool White, 4100K	72	12,000	4450	3900	62
60	36631-0		**F96T12/SPEC35/EW UPC**	15	SPEC, 3500K	96	12,000	5750	5400	73
	33994-5		**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
High Output T12 T12 Recessed D.C. Linear Fluorescent Lamps (207, 214)										
60	36982-7		**F48T12/CW/HO UPC**	15	Cool White, 4100K	48	12,000	4050	3500	62
85	36652-6		**F72T12/CW/HO UPC**	15	Cool White, 4100K	72	12,000	6350	5500	62
110	38178-0		**F96T12/CW/HO-O UPC**	15	Cool White, 4100K	96	12,000	8800	7650	62

For the most current product information, go to the e-catalog on **www.philips.com**

Fluorescent symbols and footnotes located on page 87

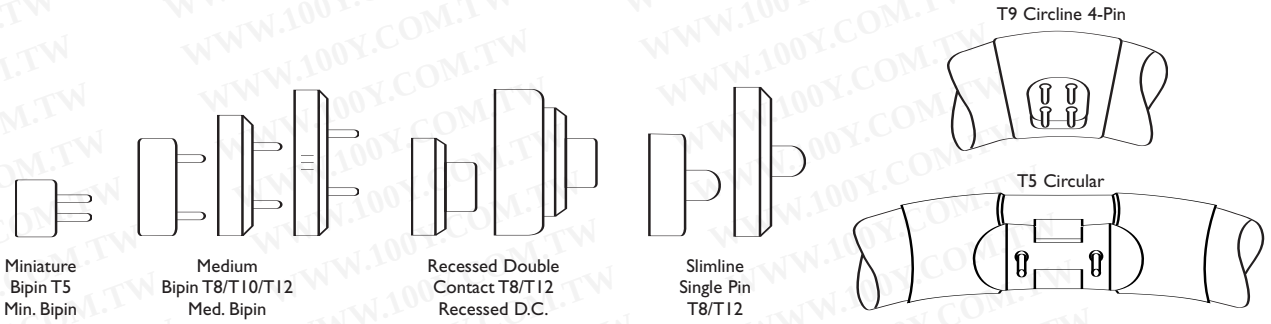
This product utilizes ALTO® Lamp Technology

± Available Q1, 2006

T12 Fluorescent Lamps

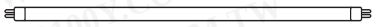
Base Types and Bulb Shapes

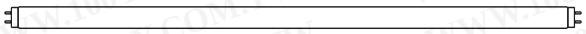
Base Types (Not Actual Sizes)



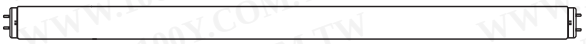
Bulb Shapes (Not Actual Sizes)

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 1⅛ or 1½ inches. The following illustrations show some of the more popular bulb shapes and sizes.


T5 Miniature Bipin


T8 Medium Bipin

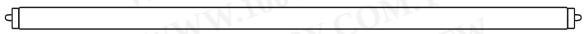

T10 Medium Bipin


T12 Medium Bipin

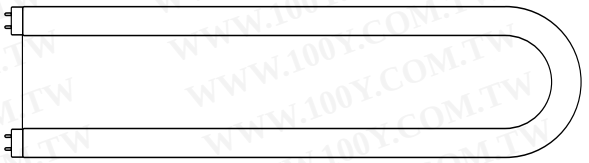

T8 Recessed Double Contact


T12 Recessed Double Contact

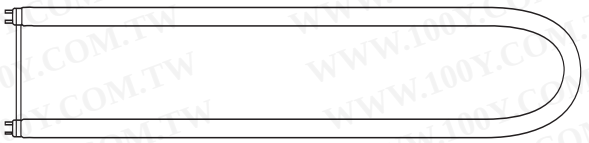

T12 Recessed Double Contact (Jacketed)

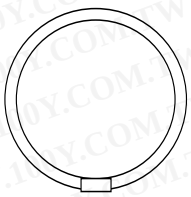

T8 Single Pin Slimline

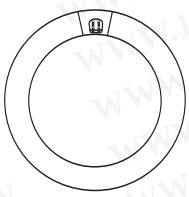

T12 Single Pin Slimline


T12 Medium Bipin U-Bent Lamp (6")


T12 Medium Bipin U-Bent Lamp (3")


T8 Medium Bipin U-Bent Lamp


T5 Circular


T9 Circline 4-Pin

Footnotes

For the most current product information, go to the e-catalog on www.philips.com

- ⊍ 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
- ■ ENERGY STAR®
- ♦ Maximum Beam Candlepower
- **X** 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 3⅝" 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 ¼" 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.

(242) HTA (High Temperature Application) HTA lamps are designed to achieve optimum light output in higher temperature applications (approx. 140–150°F). HTA lamps are not recommended for dimming.

Photo by Jeff MacWright of MacWright Studios

High Intensity Discharge Lighting

© Josh Edenbaum Photography & Digital Imaging

High Intensity Discharge Lighting

High performance, energy-efficient, long life lamps

Philips MasterColor® Integrated 25W PAR38 Lamps feature an integrated ballast that fits into existing PAR38 fixtures for instant retrofit. These long lasting lamps consume up to three times less energy compared to PAR38 halogen lamps with comparable light output.

Philips Mini MasterColor Lamps The smallest 20W ceramic metal halide lamp, is visually pleasing and financially rewarding. This easy-to-install system uses up to 66% less energy and lasts three times longer than standard 90W halogen lamps.

Philips MasterColor Ceramic Metal Halide HPS-Retro White™ Lamps are optimized for operation on HPS ballasts and ideal for 24-hour a day, 7-day a week operations.

Philips MasterColor Pulse Start Ceramic Metal Halide Lamps offer improved lumen maintenance, excellent color rendering (90 CRI) and superior color stability over life (within ±200K) for high bay applications.

Philips Protected Metal Halide "O" Rated Lamps provide safe operation in open fixtures and are ideal for 24-hour a day, 7-day a week operations.

Philips QL Induction Lighting System Lamps are virtually maintenance free with 100,000 hours rated average life and the ability to operate in hot and cold environments.

Photography by Jeff MacWright of MacWright Studio.


Lighting Design by Compact Lighting. Photography by Peter Smith.


Photography courtesy of Boeing.

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

MasterColor® Ceramic Metal Halide Lamps featuring ALTO® Lamp Technology

The latest breakthrough in the field of metal halide technology, MasterColor lamps provide unparalleled uniformity and consistency in lamp-to-lamp color—both initial and throughout life—as well as higher efficacy than any other low-wattage metal halide source available. The secret to MasterColor's unequalled performance is its ceramic discharge tube, which combines the white light and high efficacy of metal halide lamps with the color stability and reliable, long life of polycrystalline alumina (PCA) technology.

- Excellent color rendition (up to 96 CRI)
- Superior Color Stability over life of lamp ± 200K vs. up to ± 600K for standard metal halide lamps
- Increased efficacy—up to 93 LPW—results in reduced energy consumption
- Universal operation—can operate in any position
- Lamps operate on standard metal halide ballasts offers simple retrofit options
- FadeBlock™—lamps feature integrated UV blocking medium for reduced fading of photo sensitive materials

ANSI Code:
E = Enclosed Fixture Rated
O = Open Fixture Rated;
S = Open or Enclosed Fixture Rated

Explanation of suffix in ordering code (no suffix = clear):
/C Coated
/M Medium Base
/SP Spot 10°
/FL Flood 30°
/MP Protected
Operating Position—Universal, unless otherwise noted

Descriptive symbols for MasterColor:
CDM Ceramic Discharge Metal Halide
MHC Metal Halide Ceramic
G General Lighting

Philips Mini MasterColor® Tubular Single-Ended T-4 Lamps

Enclosed luminaires only; lifetime color stability within ±200K

PGJ5 twist and lock base miniaturized low wattage ceramic metal halide lamps; to be operated on Advance e-Vision® RMH-20-E-LF electronic ballast only

FadeBlock UV filtering

No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)

Mini MasterColor Ceramic Metal Halide Tubular Single-Ended BT-5 Lamps

- For **Warnings, Cautions and Operating Instructions**, see page 106

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
NEW!															
22	BT-5	PGJ5	14040-0	† ★	**CDM20/ TM/830**	/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	0.87	1 ¾	12,000	1625	1050	83	3000

MasterColor Ceramic Metal Halide Tubular Single-Ended T-4 Lamps

Enclosed luminaires only; lifetime color stability within ±200K

- G8.5 bipin based low wattage ceramic metal halide lamps; operate on specified ANSI compatible electronic ballasts only
- FadeBlock UV filtering
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- For **Warnings, Cautions and Operating Instructions**, see page 106

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
39	T-4	G8.5	37372-0	★	**CDM35/ TC/830**	M130/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2	3 ½	9000	3300	2640	81	3000
70	T-4	G8.5	37373-8	★	**CDM70/ TC/830**	M139/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2	3 ½	7500	6400	5300	83	3000

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 104

MasterColor Ceramic Metal Halide Tubular Single-Ended T-6 Lamps

Enclosed luminaires only; lifetime color stability within ±200K

- G12 bipin based low wattage ceramic metal halide lamps
- FadeBlock UV filtering
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- For **Warnings, Cautions and Operating Instructions**, see page 106

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
39	T-6	G12	22328-9	★	**CDM35/ T6/830**	M130/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2 7/32	3 15/16	12,000	3300	2600	81	3000
70	T-6	G12	22337-0	★	**CDM70/ T6/830**	M139/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2 7/32	3 15/16	12,000	6600	4950	81	3000
			28137-8	★	**CDM70/ T6/942**	M139/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2 7/32	3 15/16	12,000	6600	4620	92	4200
150	T-6	G12	23272-8	★	**CDM150/ T6/830**	M142/E	12	G, Clear, FadeBlock, also ANSI M102 (391, 392, 396, 397)	2 7/32	4 1/32	12,000	14,000	9800	85	3000
			37369-6	★	**CDM150/ T6/942**	M142/E	12	G, Clear, FadeBlock, also ANSI M102 (391, 392, 396, 397)	2 7/32	4 1/32	12,000	12,700	8900	96	4200

MasterColor Ceramic Metal Halide Tubular Double-Ended Lamps

Double-Ended TD-6 & TD-7 Style; enclosed luminaires only; lifetime color stability within ±200K

- RX7s single-pin based low wattage ceramic metal halide lamps
- FadeBlock™ UV filtering
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- For **Warnings, Cautions and Operating Instructions**, see page 106

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
70	TD-6	RX7s	23160-5	★	**CDM70/ TD/83**	M139/ M85/E	12	G, Clear, FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/4	4 1/16	15,000	6500	5200	82	3000
			37370-4	★	**CDM70/ TD/942**	M139/ M85/E	12	G, Clear, FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/4	4 1/16	15,000	6000	4500	92	4200
150	TD-7	RX7s	23167-0	★	**CDM150/ TD/83**	M142/ M102/M81E	12	G, Clear, FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 13/32	5 7/16	15,000	13,250	11,260	88	3000
			37371-2	★	**CDM150/ TD/942**	M142/ M102/M81E	12	G, Clear, FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 13/32	5 7/16	15,000	14,200	12,070	96	4200

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

Philips MasterColor® Integrated PAR Lamps

These lamps may be used in open fixtures; Do not use in totally enclosed recessed fixtures; Lifetime color stability within ±200K

FadeBlock UV filtering

Do not operate with an additional ballast since ballast is integrated in the lamp itself

No shut off required in 24-hour-a-day/7-day-a-week operations

Lamp should not be operated with dimmers

Lamp should be used in dry locations only

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
MasterColor Integrated PAR Lamps														
◗ For Warnings, Cautions and Operating Instructions, see page 105														
25	PAR-38	Med.	14477-4	† ▢ ★	**CDM-i25W/830/PAR38/10**	6	G, PAR Spot 10° (396, 406)	26,000	5 ½	10,500	1220	850	87	3000
NEW!			14478-2	† ▢ ★	**CDM-i25W/830/PAR38/25**	6	G, PAR Flood 25° (396, 406)	5600	5 ½	10,500	1220	850	87	3000
			14479-0	† ▢ ★	**CDM-i25W/830/PAR38/40**	6	G, PAR W. Flood 40° (396,406)	2100	5 ½	10,500	1220	850	87	3000

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide R111 Lamps															
Open or Enclosed luminaires; lifetime color stability within ±200K															
◗ GX8.5 twist and lock base low wattage ceramic metal halide lamps; operate on specified ANSI compatible electronic ballasts only															
◗ FadeBlock UV filtering															
◗ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
◗ For Warnings, Cautions and Operating Instructions, see page 106															
38	R111	GX8.5	13554-1	† ▢ ★	**CDM-R111/ 35W/830 10DG**	M130/O	6	G, R111, Spot 10°, (391, 392, 396, 397)	35,000	3¾	9000	1400	900	81	3000
			13556-6	† ▢ ★	**CDM-R111/ 35W/830 24DG**	M130/O	6	G, R111, N. Flood 24°, (391, 392, 396, 397)	8500	3¾	9000	1600	1040	81	3000
			13921-2	† ▢ ★	**CDM-R111/ 35W/830 40DG**	M130/O	6	G, R111, Flood 40°, (391, 392, 396, 397)	4000	3¾	9000	1800	1170	81	3000
70	R111	GX8.5	14754-6	† ▢ ★	**CDM-R111/ 70W/830 10DG**	M139/O	6	G, R111, Spot 10°, (391, 392, 396, 397)	50,000	3¾	9000	2850	1850	84	3000
NEW!			14755-3	† ▢ ★	**CDM-R111/ 70W/830 24DG**	M139/O	6	G, R111, N. Flood 24°, (391, 392, 396, 397)	15,000	3¾	9000	2850	1850	84	3000
			14795-8	† ▢ ★	**CDM-R111/ 70W/830 40DG**	M139/O	6	G, R111, Flood 40°, (391, 392, 396, 397)	9000	3¾	9000	2850	1850	84	3000

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide PAR Lamps															
Open or enclosed luminaires; lifetime color stability within ±200K															
◗ FadeBlock UV filtering															
◗ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
◗ For Warnings, Cautions and Operating Instructions, see page 106															
39	PAR-20	Med.	23365-0	★	**CDM35/PAR20 /M/SP**	M130/O	12	G, PAR WISO Spot 10° (391, 392, 396, 397)	23,000	3 ¾	9000	2000	1300	81	3000
			23364-3	★	**CDM35/PAR20 /M/FL**	M130/O	12	G, PAR WISO Flood 30° (391, 392, 396, 397)	5000	3 ¾	9000	2000	1300	81	3000
	PAR-30L	Med.	22329-7	★	**CDM35/PAR30L /M/SP**	M130/O	6	G, PAR WISO Spot 10° (391, 392, 396, 397)	44,000	4 ¾	9000	2200	1430	81	3000
			22330-5	★	**CDM35/PAR30L /M/FL**	M130/O	6	G, PAR WISO Flood 30° (391, 392, 396, 397)	7400	4 ¾	9000	2200	1430	81	3000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide PAR Lamps, continued															
70	PAR-30L	Med.	23224-9	★	**CDM70/PAR30L /M/SP**	M143/ M98/O	6	G, PAR WISO Spot 10° (391, 392, 396)	68,000	4 ¾	11000	5000	3050	83	3000
			23221-5	★	**CDM70/PAR30L /M/FL**	M143/ M98/O	6	G, PAR WISO Flood 40° (391, 392, 396)	10,000	4 ¾	11000	5000	3050	83	3000
	PAR-38	Med.	22250-5	★	**CDM70/PAR38 /SP/3K/ALTO**	M143/ M98/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	42,000	5 7/16	12,500	4100	2870	85	3000
			22249-7	★	**CDM70/PAR38 /FL/3K/ALTO**	M143/ M98/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	18,000	5 7/16	12,500	4100	2870	85	3000
			28872-0	▢★	**CDM70/PAR38 /SP/4K/ALTO**	M143/ M98/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	40,000	5 7/16	12,500	3700	2590	92	4000
			28873-8	▢★	**CDM70/PAR38 /FL/4K/ALTO**	M143/ M98/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	15,000	5 7/16	12,500	3700	2590	92	4000
100	PAR-38	Med.	24477-2	★	**CDM100/PAR38 /SP/3K/ALTO**	M140/ M90/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	65,000	5 7/16	12,500	6200	4340	85	3000
			24476-4	★	**CDM100/PAR38 /FL/3K/ALTO**	M140/ M90/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	24,000	5 7/16	12,500	6200	4340	85	3000
			28876-1	▢★	**CDM100/PAR38 /SP/4K/ALTO**	M140/ M90/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	52,000	5 7/16	12,500	5700	3990	92	4000
			28878-7	▢★	**CDM100/PAR38 /FL/4K/ALTO**	M140/ M90/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	19,000	5 7/16	12,500	5700	3990	92	4000

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide Lamps															

ED-17P sleeved arc tube; open or enclosed luminaires; lifetime color stability within ±200K; pulse start

- FadeBlock™ UV filtering
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Protective quartz sleeve surrounds the arc tube
- MP designation indicates lamps are suitable for open fixture applications
- For Warnings, Cautions and Operating Instructions, see page 107

50	ED-17P	Med.	36891-0	▢★	**MHC50/U/ MP/3K/ALTO**	M148/ M110/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	10,000	4000	2680	85	3000
			36893-6	▢★	**MHC50/U/ MP/4K/ALTO**	M148/ M110/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	20,000	3600	2450	92	4000
70	ED-17P	Med.	23366-8	★	**MHC70/U/ MP/3K/ALTO**	M143/ M98/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	16,000	5900	4365	85	3000
			23367-6	★	**MHC70/C/U/ MP/3K/ALTO**	M143/ M98/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	16,000	5400	3995	85	3000
			36057-8	▢★	**MHC70/U/ MP/4K/ALTO**	M143/ M98/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	20,000	5800	4060	92	4000
			36059-4	▢★	**MHC70/C/U/ MP/4K/ALTO**	M143/ M98/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	20,000	5200	3640	92	4000
100	ED-17P	Med.	23368-4	★	**MHC100/U/ MP/3K/ALTO**	M140/ M90/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	16,000	8600	6450	85	3000
			23444-3	★	**MHC100/C/U/ MP/3K/ALTO**	M140/ M90/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	16,000	7900	5925	85	3000
			36060-2	▢★	**MHC100/U/ MP/4K/ALTO**	M140/ M90/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	20,000	8200	6150	92	4000
			36061-0	▢★	**MHC100/C/U/ MP/4K/ALTO**	M140/ M90/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	20,000	7500	5625	92	4000
150	ED-17P	Med.	13463-5	† ★	**MHC150/U/ MP/3K/ALTO**	M142/ M102/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	16,000	12,900	9545	85	3000
			13464-3	† ★	**MHC150/C/U/ MP/3K/ALTO**	M142/ M102/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	16,000	11,900	8805	85	3000
			37724-2	▢★	**MHC150/U/ MP/4K/ALTO**	M142/ M102/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 7/16	5 7/16	20,000	12,000	9000	92	4000
			37726-7	▢★	**MHC150/C/U/ MP/4K/ALTO**	M142/ M102/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 7/16	20,000	11,000	8250	92	4000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

▢ This product utilizes ALTO® Lamp Technology

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

MasterColor Ceramic Metal Halide ED-17, ED-28 Lamps

Enclosed luminaires only; lifetime color stability within ±200K; pulse start

◗ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)

◗ For **Warnings, Cautions and Operating Instructions**, see page 107

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty. •	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approx. Lumens (352) Initial	Mean(353)	CRI	CCT (K)
50	ED-17	Med.	36020-6	▢★	**MHC50/U/ M/3K/ALTO**	M148/ M110/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	10,000	4100	2750	85	3000
			36022-2	▢★	**MHC50/C/U/ M/3K/ALTO**	M148/ M110/E	12	G, Coated (391, 392, 399)	—	5 7/16	10,000	3800	2545	85	3000
			36023-0	▢★	**MHC50/U/ M/4K/ALTO**	M148/ M110/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	20,000	3750	2550	92	4000
			36024-8	▢★	**MHC50/C/U/ M/4K/ALTO**	M148/ M110/E	12	G, Coated (391, 392, 399)	—	5 7/16	20,000	3600	2450	92	4000
70	ED-17	Med.	20884-3	★	**MHC70/U/ M/3K/ALTO**	M143/ M98/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	16,000	6200	4585	85	3000
			20887-6	★	**MHC70/C/U/ M/3K/ALTO**	M143/ M98/E	12	G, Coated (391, 392, 399)	—	5 7/16	16,000	5800	4290	85	3000
			28129-5	▢★	**MHC70/U/ M/4K/ALTO**	M143/ M98/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	20,000	5900	4130	92	4000
			28133-7	▢★	**MHC70/C/U/ M/4K/ALTO**	M143/ M98/E	12	G, Coated (391, 392, 399)	—	5 7/16	20,000	5500	3850	92	4000
100	ED-17	Med.	20888-4	★	**MHC100/U/ M/3K/ALTO**	M140/ M90/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	16,000	9500	7125	85	3000
			20889-2	★	**MHC100/C/U/ M/3K/ALTO**	M140/ M90/E	12	G, Coated (391, 392, 399)	—	5 7/16	16,000	8800	6600	85	3000
			28135-2	▢★	**MHC100/U/ M/4K/ALTO**	M140/ M90/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	20,000	9000	6750	92	4000
			28136-0	▢★	**MHC100/C/U/ M/4K/ALTO**	M140/ M90/E	12	G, Coated (391, 392, 399)	—	5 7/16	20,000	8400	6300	92	4000
	ED-28	Mog.	36543-7	▢★	**MHC100/U/ ED28/HR/4K**	M140/ M90/E	12	G, Clear (372, 377, 378)	5	8 5/16	10,000	8500	6800	92	4100
150	ED-17	Med.	13022-9	† ▢★	**MHC150/U/ M/3K/ALTO**	M142/ M102/E	12	G, Clear (391, 392, 399)	3 1/32	5 7/16	16,000	14,000	10,500	85	3000
			13023-7	† ▢★	**MHC150/C/U/ M/3K/ALTO**	M142/ M102E	12	G, Coated (391, 392, 399)	—	5 7/16	16,000	12,500	9375	85	3000
			37720-0	▢★	**MHC150/U/ M/4K/ALTO**	M142/ M102/E	12	G, Clear (391, 392, 399)	3 7/16	5 7/16	20,000	13,000	9750	92	4000
			37721-8	▢★	**MHC150/C/U/ M/4K/ALTO**	M142/ M102/E	12	G, Coated (391, 392, 399)	—	5 7/16	20,000	12,000	9000	92	4000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

▢ This product utilizes ALTO® Lamp Technology

Protected MasterColor Pulse Start Ceramic Metal Halide Lamps

Satisfies the 2005 NEC for use in open luminaries.*

Open or Enclosed luminaires; lifetime color stability within ±200K; V = Vertical Operation ±15°

- Higher Lumen maintenance and 80% of initial lumens at 8000 hours
- For operation on Metal Halide Pulse Start ballasts
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Patented coil design offers protection for open fixture rating
- For **Warnings, Cautions and Operating Instructions**, see page 107

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)	
320	ED-28	EX39	13291-0	† ★	**CDM320/V/O/ PS/4K/ALTO**	M170/ M132/O	12	G, Clear, Vertical ±15° (374, 391, 392, 399)	5	8 1/2	20,000	28,800	23,000	90	4200	
			13256-3	† ★	**CDM320/C/V/O/ PS/4K/ALTO**	M170/ M132/O	12	G, Coated, Vertical ±15° (374, 391, 392, 399)	–	8 1/2	20,000	28,000	22,400	90	4200	
350	ED-37	EX39	13257-1	† ★	**CDM350/V/O/ PS/4K/ALTO**	M171/ M131/O	6	G, Clear, Vertical ±15° (374, 391, 392, 399)	7	11 1/2	20,000	31,500	25,200	90	4200	NEW!
			13292-8	† ★	**CDM350/C/V/O/ PS/4K/ALTO**	M171/ M131/O	6	G, Coated, Vertical ±15° (374, 391, 392, 399)	–	11 1/2	20,000	30,600	24,500	90	4200	
400	ED-28	EX39	14598-6	† ★	**CDM400/V/O/PS 4K/ED28/ALTO**	M172/ M155/O	12	G, Clear, Vertical ±15° (374, 391, 392, 399)	5	8 1/2	20,000	36,000	28,800	90	4200	
	ED-37	EX39	13290-2	† ★	**CDM400/V/O/ PS/4K/ALTO**	M172/ M155/O	6	G, Clear, Vertical ±15° (374, 391, 392, 399)	7	11 1/2	20,000	36,000	28,800	90	4200	
			13293-6	† ★	**CDM400/C/V/O/ PS/4K/ALTO**	M172/ M155/O	6	G, Coated, Vertical ±15° (374, 391, 392, 399)	–	11 1/2	20,000	35,000	27,900	90	4200	

MasterColor Ceramic Metal Halide HPS-Retro White™

Satisfies the 2005 NEC for use in open luminaries.*

ED-18, open or enclosed luminaires; lifetime color stability within ±200K

- Replace yellow light with white light with just a simple twist!
- For operation on HPS ballasts; 80% lumen maintenance
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Patented coil design offers protection for open fixture rating
- For **Warnings, Cautions and Operating Instructions**, see page 108

HPS-Retro White™ Lamps Rated for Vertical Operation Only (V = Vertical Operation ± 15°)																
250	ED-18	Mog.	13093-0	★	**CDM250S50 /V/O/4K/ALTO**	M168/O S50	12	G, Clear, Vertical ± 15° (374, 399, 404)	5 3/4	9 3/4	20,000	20,750	16,600	85	4000	
400	ED-18	Mog.	13094-8	★	**CDM400S51 /V/O/4K/ALTO**	M169/O S51	12	G, Clear, Vertical ± 15° (374, 399, 404)	5 3/4	9 3/4	20,000	34,800	27,840	85	4000	
HPS-Retro White™ Lamps Rated for Horizontal Operation Only (HOR = Horizontal Operation ± 15°)																
250	ED-18	Mog.	14649-8	★	**CDM250S50 /HOR/4K/ALTO**	M168 S50	12	G, Clear, Horizontal ± 15° (374, 399, 404)	5 3/4	9 3/4	15,000	20,750	17,600	85	4000	
400	ED-18	Mog.	14650-6	★	**CDM400S51 /HOR/4K/ALTO**	M169 S51	12	G, Clear, Horizontal± 15° (374, 399, 403, 404)	5 3/4	9 3/4	15,000	34,800	29,600	85	4000	NEW!

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

This product utilizes ALTO® Lamp Technology

* The 2005 NEC states that luminaires that use a metal halide lamp shall be provided with either a containment barrier that encloses the lamp (historically referred to as an enclosed luminaire) or shall be provided with a means, typically a special lampholder, that will only accept ANSI Type-O metal halide lamp. (Exception—this requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.) For more information regarding use of Type-O, S, and E metal halide systems, please refer to the NEMA white paper on this subject that is freely available at www.nema.org

High Intensity Discharge Lamps

Metal Halide

Metal Halide Lamps

- Upgrade to crisp, white light with Metal Halide
- White light source offers improved color rendition over HPS and all dimmable down to 50%
- For color critical applications always consider Philips MasterColor® Ceramic Metal Halide

Explanation of suffix in ordering code (no suffix = clear, mogul base):

/C Coated
/M Medium Base
/MP Protected

ANSI Code:

E = Enclosed Fixture Rated
O = Open Fixture Rated
S = Open or Enclosed Fixture Rated (If used in open fixtures, operating instructions should be strictly followed)

Descriptive symbols for Metal Halide:

MH Metal Halide
PS Pulse Start
MS High Output Metal Halide
MHT Safety Lifeguard Metal Halide
MP Protected Metal Halide

Operating Position:

/U Universal
/BU Base up ±15° unless specified otherwise
/BD Base down ±15° unless specified otherwise
/HOR Horizontal

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Protected Pulse Start Metal Halide "O" Rated Lamps															
Satisfies the 2005 NEC for use in open luminaries.*															
Open or enclosed luminaires; pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors, offering:															
◗ Quicker start/restrike (2 minute start/5–10 minute restrike vs. 4 minute start/15 minute restrike for standard metal halide lamps)															
◗ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
◗ Longer life (20,000+ hours)															
◗ Improved lumen maintenance (20%) increase															
◗ Increased efficacy (up to 100 LPW)															
◗ For **Warnings, Cautions and Operating Instructions**, see page 109															
320	ED-37	EX39 Excl.	13039-3	■★	**MP320/ BU/PS**	M154/ M132/O	6	G, Clear, Base Up ± 15° Pulse Start (372, 374, 391)	7	11½	20,000	29,500	20,650	65	3800
		Mog.	13040-1	■★	**MP320/C/ BU/PS**	M154/ M132/O	6	Coated, Base Up ± 15° Pulse Start (372, 374, 391)	—	11½	20,000	27,200	19,040	65	3700
350	ED-37	EX39 Excl.	39101-1	■★	**MP350/ BU/PS**	M131/O	6	Clear, Base Up ± 15° Pulse Start (372, 374, 391)	7	11½	20,000	34,000	23,800	64	4000
		Mog.	39102-9	■★	**MP350/C/ BU/PS**	M131/O	6	Coated, Base Up ± 15° Pulse Start (372, 374, 391)	—	11½	20,000	31,000	21,700	67	3700
400	ED-37	EX39 Excl.	13334-8	■★	**MP400/ BU/PS**	M155/M128/ M135/O	6	G, Clear, Base Up ± 15° Pulse Start (372, 374, 391)	7	11½	20,000	40,000	28,000	65	3800
		Mog.	13335-5	■★	**MP400/C/ BU/PS**	M155/M128/ M135/O	6	G, Coated, Base Up ± 15° Pulse Start (372, 374, 391)	—	11½	20,000	36,000	23,400	68	3600
Pulse Start Metal Halide Lamps															
Enclosed luminaires only unless otherwise noted; base up operation ± 15° unless otherwise noted.															
Pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors, offering:															
◗ Quicker start/restrike (2 minute start/4 minute restrike vs. 4 minute start/15 minute restrike for standard metal halide lamps)															
◗ Longer life (15,000–20,000+ hours)															
◗ Improved lumen maintenance (20%) increase															
◗ Increased efficacy (up to 120 LPW); more energy savings															
◗ For **Warnings, Cautions and Operating Instructions**, see page 108															
175	ED-28	Mog.	27662-6	■★	**MS175/ BU/PS**	M152/ M137/E	12	G, Base Up ±15°, Pulse Start (372, 374, 391)	5	8 ⅜	15,000	16,000	11,200	62	3700
250	ED-28	Mog.	27661-8	■★	**MS250/ BU/PS**	M153/ M138/E	12	G, Base Up ± 15°, Pulse Start (372, 374, 391)	5	8 ⅜	15,000	23,750	16,625	65	4300
320	ED-28	Mog.	38381-0	■★	**MS320/ U/PS**	M154/ M132/E	12	G, Clear, Pulse Start (372, 374, 391)	5	8 ⅜	20,000	30,000	21,000	62	4100
			38386-9	■★	**MS320/ C/U/PS**	M154/ M132/E	12	G, Coated, Pulse Start (372, 374, 391)	—	8 ⅜	20,000	29,000	16,000	70	3600
350	ED-37	Mog.	38387-7	■★	**MS350 /BU/PS**	M131/E	12	G, Clear, Base Up ± 15°, Pulse Start (372, 374, 391)	7	11½	20,000	36,000	25,200	62	4000
			38388-5	■★	**MS350/ C/BU/PS**	M131/E	6	G, Coated, Base Up ± 15°, Pulse Start (372, 374, 391)	—	11½	20,000	35,000	24,500	65	3600

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

*The 2005 NEC states that luminaires that use a metal halide lamp shall be provided with either a containment barrier that encloses the lamp (historically referred to as an enclosed luminaire) or shall be provided with a means, typically a special lampholder, that will only accept ANSI Type-O metal halide lamp. (Exception—this requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.) For more information regarding use of Type-O, S, and E metal halide systems, please refer to the NEMA white paper on this subject that is freely available at www.nema.org

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
Pulse Start Metal Halide Lamps, continued															
400	ED-37	Mog.	27816-8	)■★	**MS400/ BU/PS**	M155/M128/ M135/S	6	G, Clear, Base Up ± 15°, Pulse Start (372, 374, 391)	7	11½	20,000	42,600	29,820	62	4100
			28362-2	)■★	**MS400/ C/BU/PS**	M155/M128/ M135/S	6	G, Coated, Base Up ± 15°, Pulse Start (372, 374, 391)	—	11½	20,000	41,500	29,050	66	3700
400			14475-8	†■★	**MS400/ HOR/PS**	M155/M135/ M128/E	6	G, Clear, Horizontal, Pulse Start (372, 374, 391)	7	11½	15,000	36,800	25,760	62	4300
750	BT-37	Mog.	13540-0	†■★	**MS750/BU/ BT37/PS**	M149/E	6	G, Clear, Base Up ± 15°, Pulse Start (372, 374, 391)	7	11½	16,000	82,000	61,500	65	4000
1000	BT-37	Mog.	36019-8	■★	**MS1000/BU/ BT37/PS**	M141/E	6	G, Clear, Base Up ± 15°, Pulse Start (372, 374, 391)	7	11½	15,000	120,000	96,000	65	3700

NEW!

Protected Metal Halide "O" Rated Lamps

Satisfies the 2005 NEC for use in open luminaries.*

- Protective quartz sleeve surrounds the arc tube
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- MP designation indicates lamps are suitable for open fixture applications
- For **Warnings, Cautions and Operating Instructions**, see page 109

175	ED-28	EX39 Excl. Mog.	28119-6	■★	**MP175/BU**	M57/O	12	Base Up ±15°, Clear (372, 374, 377)	5	8 3/16	10,000	15,000	12,000	65	3800
250	ED-28	EX39 Excl. Mog.	28124-6	■★	**MP250/BU**	M58/O	12	Base Up ±15°, Clear (372, 374, 377)	5	8 3/16	10,000	22,000	16,500	62	3800
360	ED-37	EX39 Excl. Mog.	13067-4	■$★	**MP360BU/ EW**	M165/ M59/O	6	Base Up ±15° (372, 374, 377)	7	11½	20,000	34,200	23,940	65	4000
			13068-2	■$★	**MP360/C/ BU/EW**	M165/ M59/O	6	Base Up ±15°, Coated (372, 374, 377)	—	11½	20,000	31,700	20,605	68	3600
400	ED-37	EX39 Excl. Mog.	13332-2	■★	**MP400/BU**	M59/O	6	Base Up ±15°, Clear (372, 374, 377)	7	11½	20,000	38,000	26,600	65	4000
			13333-0	■★	**MP400/C/BU**	M59/O	6	Base Up ±15°, Coated (372, 374, 377)	—	11½	20,000	34,500	22,425	67	3700
1000	BT-56	EX39 Excl. Mog.	28118-8	■★	**MP1000/BU**	M47/O	6	Base Up ±15°, Clear (372, 374, 377)	9½	15⅜	12,000	107,000	75,000	65	3900

Safety Lifeguard Metal Halide Lamps Open or enclosed luminaires.

- For **Warnings, Cautions and Operating Instructions**, see page 111

Safety Lifeguard lamps are designed to reduce the danger of possible injury from shortwave ultraviolet radiation. The lamp will self-extinguish automatically within 15 minutes after the outer envelope is broken by any means, accidental or intentional.

These lamps are particularly suited for use in open luminaires where the outer envelope is vulnerable to breakage and the risk of exposure to ultraviolet radiation is present. However, the lamp's ability to self-extinguish does not protect against the danger of breakage itself. Accordingly, the users are advised to follow the good lamping practices noted in the Operating Instructions for Metal Halide Lamps.

In case of lamp failure, for safety and to preserve ballast life, turn off electric power and replace lamp promptly.

400	ED-37	Mog.	34598-3	★	**MHT400/U**	M59PJ-T400/U/S	6	G, S, Clear (364, 372, 377)	7	11½	20,000	34,200	27,400	65	4000
			34601-5	★	**MHT400/C/U**	M59PK-T400/U/S	6	G, S, Coated (364, 372, 377)	—	11½	20,000	32,500	25,000	65	3700

Double-Ended Metal Halide Lamps Enclosed luminaires (387).

- For **Warnings, Cautions and Operating Instructions**, see page 106

70	TD-6	RX7s	30350-3	★	**MHN70/ TD/840**	M85/F	12	G, Hor. ± 15° (372, 374, 387, 391, 392)	2 1/4	4 11/16	9000	5700	4560	80	4200
150	TD-7	RX7s	30355-2	▢★	**MHN150/ TD/840**	M81/F	12	G, Hor. ± 15° (372, 374, 387, 391, 392)	2 19/32	5 13/32	9000	12,900	9675	85	4200
1800	TD Special	PSFc20-6 SFc20-6	31360-1		**MHD1800W**	—	4	Sports Ltg. Spot Hor. ± 15° (374, 387, 391)	4 1/4	14	4500	150,000	—	92	5600

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

* The 2005 NEC states that luminaires that use a metal halide lamp shall be provided with either a containment barrier that encloses the lamp (historically referred to as an enclosed luminaire) or shall be provided with a means, typically a special lampholder, that will only accept ANSI Type-O metal halide lamp. (Exception—this requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.) For more information regarding use of Type-O, S, and E metal halide systems, please refer to the NEMA white paper on this subject that is freely available at www.nema.org

High Intensity Discharge Lamps

Metal Halide

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
Metal Halide Lamps Enclosed luminaires only unless otherwise noted.															
◗ For Warnings, Cautions and Operating Instructions, see page 108															
150	BD-17	Med.	35462-1	★	**MH150/U/M**	M107/E	12	G, Clear (372, 385, 400)	3 7/16	5 7/16	10,000	12,500	8500	65	3700
			35463-9	★	**MH150/C/ U/M**	M107/E	12	G, Coated (372, 385, 400)	—	5 7/16	10,000	12,000	7900	65	3400
175	BD-17	Med.	31358-5	★	**MH175/U/M**	M57/E	12	G, Clear (372, 377, 385, 393)	3 7/16	5 7/16	10,000	13,500	9100	65	4000
			31359-3	★	**MH175/C/ U/M**	M57/E	12	G, Coated (372, 377, 385)	—	5 7/16	10,000	13,000	8380	65	3700
	ED-28	Mog.	28733-4	★	**MH175/U**	M57/E	12	G, S, Clear (372, 377, 385, 393)	5	8 5/16	10,000	13,500	8775	65	4000
			28728-4	★	**MH175/C/U**	M57/E	12	G, S, Coated (372, 374, 377, 385)	—	8 5/16	10,000	13,000	8200	70	3700
			31287-6	★	**MH175/ 3K/BU**	M57/E	12	G, Base Up ± 15°, Coated (372, 374, 377)	—	8 1/4	10,000	12,000	7560	70	3200
			24725-4	★	**MS175/BU**	M57/E	12	G, Base Up ± 15° (372, 374, 377)	5	8 1/4	10,000	15,000	9400	65	4000
	PAR-38	Med.	30858-5	▼★	**MH175/RFL**	M57/E	6	G, Clear, 55° Beam (372, 377)	—	5 13/16	7500	10,000	—	55	3700
250	ED-28	Mog.	27484-5	★	**MH250/U**	M58/E	12	G, S, Clear (372, 377, 385, 393)	5	8 5/16	10,000	20,500	13,500	65	4000
			29169-0	★	**MH250/C/U**	M58/E	12	G, S, Coated (372, 377, 385, 393)	—	8 5/16	10,000	19,475	12,500	70	3700
			31137-3	★	**MH250/ 3K/BU**	M58/E	12	G, Base Up ± 15°, Coated (372, 377, 393)	—	8 1/4	10,000	18,000	11,300	70	3200
360	ED-37	Mog.	39065-8	)$ ★	**MS360/ BU/EW**	M165/ M59/S	6	High Efficacy, Base Up ± 15°, Clear (372, 374, 377)	7	11 1/2	20,000	36,000	24,500	60	4300
			39066-6	)$ ★	**MS360/C/ BU/EW**	M165/ M59/S	6	High Efficacy, Base Up ± 15°, Coated (372, 374, 377)	—	11 1/2	20,000	34,200	22,600	65	4000
400	ED-28	Mog.	27862-2	★	**MH400/U /ED28**	M59/E	12	G, Clear (372, 377, 385, 393)	5	8 5/16	20,000	36,000	24,000	63	4000
			24673-6	★	**MS400/BU /ED28**	M59/E	12	G, Clear, Base Up ± 15° (372, 374, 377)	5	8 5/16	20,000	40,000	26,000	62	4100
	ED-37	Mog.	34415-0	)★	**MH400/U**	M59/S	6	G, S, Clear (372, 377, 385, 393)	7	11 1/2	20,000	36,000	24,000	65	4000
			34416-8	)★	**MH400/C/U**	M59/S	6	G, S, Coated (372, 377, 385, 393)	—	11 1/2	20,000	34,200	22,300	70	3700
			31285-0	)★	**MH400/3K/U**	M59/S	6	G, Coated (372, 377, 385)	—	11 1/2	20,000	34,400	22,360	63	3300
			30170-5	)★	**MS400/BU**	M59/S	6	High Efficacy, Base Up ± 15° Clear (372, 374, 377)	7	11 1/2	20,000	40,000	26,500	65	4000
			30172-1	)★	**MS400/C/BU**	M59/S	6	High Efficacy, Base Up ± 15° Coated (372, 374, 377)	—	11 1/2	20,000	39,200	27,440	65	3900
			31135-7	)★	**MS400/3K/BU**	M59/S	6	G, Base Up ± 15°, Coated (372, 374, 377)	—	11 1/2	20,000	36,800	23,920	67	3200
1000	BT-37	Mog.	32150-5	★	**MH1000/ U/BT37**	M47/E	6	G, Clear (359, 372, 377, 385, 393)	7	11 1/2	10,000	110,000	71,500	65	3700
	BT-56	Mog.	29826-5	)★	**MH1000/U**	M47/S	6	G, S, Clear (372, 377, 385, 393)	9 1/2	15 3/8	12,000	110,000	71,000	65	3700
			29827-3	)★	**MH1000/C/U**	M47/S	6	G, S, Coated (372, 377, 385, 393)	—	15 3/8	12,000	104,500	65,800	70	3400
			25093-6	)★	**MS1000/BU**	M47/S	6	High Efficacy, Base Up ± 15° Clear (372, 374, 377)	9 1/2	15 3/8	10,000	120,000	78,000	65	3700
			25130-6	)★	**MS1000/BD**	M47/S	6	High Efficacy, Base Down ± 15° Clear (372, 374, 377)	9 1/2	15 3/8	10,000	120,000	78,000	65	3700
			25137-1	)★	**MS1000/C/BU**	M47/S	6	High Efficacy, Base Up ± 15° Coated (372, 374, 377)	—	15 3/8	10,000	115,000	72,500	70	3400
1500	BT-56	Mog.	13162-3	★	**MH1500/U**	M48/E	6	G, S, Clear (359, 372, 374, 375, 377, 402)	9 1/2	15 3/8	3000	155,000	124,000	60	3700

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

Ceramalux® High Pressure Sodium Lamps

Explanation of suffix in ordering code
(no suffix = clear, mogul base, std. color):

/C Comfort Color
/D Diffuse Coated
/LV Low Volt
/M Medium Base

- To replace yellow light of HPS with white light with just a simple twist, consider MasterColor® Ceramic Metal Halide HPS-Retro White™ (See Page 95)

Descriptive symbols for
High Pressure Sodium Lamps:

G General
W Wide Beam
EW Econ-o-watt®
S Street Lighting
VW Very Wide

Operating Position:
/U Universal

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)

Mini WhiteSON® High Pressure Sodium Lamps Incandescent color quality

- Excellent color rendering of 83–85 CRI; perfect for applications where red is a prominent color
- Longer white lifetime of 10,000 hours
- GX12-1 base compact T-6 high pressure sodium lamps to be operated on Advance e-Vision® IWSN100CLF and IWSN100CBLS electronic ballasts only
- For Warnings, Cautions and Operating Instructions, see page 111

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
100	T-6	GX12-1	13425-4	†▢★	**SDW-TG 100W/T6/825**	S167	12	G, (360, 373, 376)	2 1/5	4 11/32	10,000	4900	4165	83	2550

White SON® High Pressure Sodium Lamps Incandescent color quality

- Excellent color rendering of 83–85 CRI; perfect for applications where red is a prominent color
- Small compact source
- Incandescent color appearance of 2700K
- Long life—10,000 hours
- For Warnings, Cautions and Operating Instructions, see page 111

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
50	T-10	PG-12	30229-9	▢★	**SDW-T 50W/LV**	S104	12	G (360, 373, 376, 394)	3 3/16	5 1/8	10,000	2300	2070	83	2500
	BD-17 Med.		31344-5	■▢★	**SDW-50W/ LV/D**	S104	12	G (360, 373, 376, 394)	—	5 1/8	10,000	2350	2000	85	2700
100	T-10	PG-12	30228-1	▢★	**SDW-T 100W/LV**	S105	12	G (360, 373, 376, 394)	3 3/16	5 1/8	10,000	5000	4250	83	2550
	BD-17 Med.		31346-0	■▢★	**SDW-100W/ LV/D**	S105	12	G (360, 373, 376, 394)	—	5 1/8	10,000	4900	4170	85	2700

Ceramalux® Comfort High Pressure Sodium Lamps Improved color rendering

- Improved color rendition of 65 CRI
- High efficacy
- Warm white color appearance
- Operates on standard HPS ballasts
- For Warnings, Cautions and Operating Instructions, see page 112

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
70	BD-17 Med.		30617-5	★	**C70S62/ C/M**	S62	12	G (360, 373, 376)	3 3/16	5 1/8	15,000	4400	3960	60	2200
100	BD-17 Med.		30635-7	★	**C100S54/ C/M**	S54	12	G (360, 373, 376)	3 3/16	5 1/8	15,000	7800	7020	60	2200
	ED-23½ Mog.		30637-3	★	**C100S54/C**	S54	12	G (360, 373, 376)	5	7 3/4	15,000	7900	7110	60	2200
150	BD-17 Med.		30647-2	★	**C150S55/ C/M**	S55	12	G (360, 373, 376)	3 3/16	5 1/8	15,000	12,000	10,800	60	2200
	ED-23½ Mog.		30643-1	★	**C150S55/C**	S55	12	G (360, 373, 376)	5	7 3/4	15,000	12,000	10,800	60	2200
250	ED-18 Mog.		30245-5	★	**C250S50/C**	S50	12	G (360, 373, 376)	5 3/4	9 3/4	15,000	23,000	20,700	65	2200
400	ED-18 Mog.		30652-2	★	**C400S51/C**	S51	12	G (360, 373, 376)	5 3/4	9 3/4	15,000	37,500	33,750	65	2200

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

High Pressure Sodium Lamps

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Ceramalux® High Pressure Sodium Lamps Featuring ALTO® Lamp Technology															
◗ Low total cost of ownership															
◗ Long life—up to 24,000 hours															
◗ High efficacy up to 140 LPW															
◗ ALTO Lamp Technology passes EPA's TCLP test for non-hazardous waste															
◗ For **Warnings, Cautions and Operating Instructions**, see page 112															
35	BF-55	Med.	30632-4	★	**C35S76/M**	S76	12	G (360, 373, 376)	3 7/16	5 7/16	24,000+	2250	2025	21	2100
			30633-2	★	**C35S76/ D/M**	S76	12	G (360, 373, 376)	—	5 7/16	24,000+	2150	1935	21	2100
50	BF-55	Med.	30336-2	★	**C50S68/M**	S68	12	G (360, 373, 376)	3 7/16	5 7/16	24,000+	4000	3600	21	2100
			30337-0	★	**C50S68/ D/M**	S68	12	G (360, 373, 376)	—	5 7/16	24,000+	3800	3420	21	2100
	ED-23½	Mog.	36867-0	★	**C50S68/ ALTO**	S68	12	G, S (360, 373, 376)	5	7 3/4	24,000+	4000	3600	21	2100
			33154-6	★	**C50S68/ D/ALTO**	S68	12	G, S (360, 373, 376)	—	7 3/4	24,000+	3800	3420	21	2100
70	BD-17	Med.	33192-6	★	**C70S62/M**	S62	12	G (360, 373, 376)	3 7/16	5 7/16	24,000+	6300	5850	21	2100
			33214-8	★	**C70S62/D/M**	S62	12	G (360, 373, 376)	—	5 7/16	24,000+	5860	5270	21	2100
	ED-23½	Mog.	36869-6	★	**C70S62/ ALTO**	S62	12	G, S (360, 373, 376)	5	7 3/4	24,000+	6500	5670	21	2100
	PAR-38	Med.	30620-9	▼★	**C70S62 /RFL**	S62	12	G, VW, 50 (360, 373) 125° Beam	—	5 13/16	16,000	5000	3960	21	2100
100	BD-17	Med.	34446-5	★	**C100S54/M**	S54S	12	G (360, 373, 376)	3 ½	5 7/16	24,000+	9500	8550	21	2100
			34448-1	★	**C100S54/ D/M**	S54S	12	G (360, 373, 376)	—	5 7/16	24,000+	8800	7920	21	2100
	ED-23½	Mog.	36872-0	★	**C100S54/ ALTO**	S54	12	G, S (360, 373, 376)	5	7 3/4	24,000+	9400	8460	21	2100
			33227-0	★	**C100S54/ D/ALTO**	S54	12	G, S (360, 373, 376)	—	7 3/4	24,000+	8610	7750	21	2100
150	BD-17	Med.	30347-9	★	**C150S55/M**	S55	12	G (360, 373, 376)	3 ½	5 7/16	24,000+	16,000	14,400	21	2100
			30348-7	★	**C150S55/ D/M**	S55	12	G (360, 373, 376)	—	5 7/16	24,000+	15,000	13,500	21	2100
	ED-23½	Mog.	36874-6	★	**C150S55/ ALTO**	S55	12	G, S (360, 370, 373, 376)	5	7 3/4	24,000+	15,800	14,220	21	2100
	ED-28	Mog.	36876-1	★	**C150S56/ ALTO**	S56	12	G, S (360, 370, 373, 376)	5	8 15/16	24,000+	15,000	13,950	21	2100
200	ED-18	Mog.	36877-9	★	**C200S66/ ALTO**	S66MN-200	12	G, S (360, 373, 376)	5 3/4	9 3/4	24,000+	21,400	19,260	21	2100
225	ED-18	Mog.	32291-7	$★	**C225S50/ EW**	S50	12	EW, G, S (360, 373, 376)	5 3/4	9 3/4	24,000+	27,300	24,620	21	2100
250	ED-18	Mog.	36879-5	★	**C250S50/ ALTO**	S50	12	G, S (360, 373, 376)	5 3/4	9 3/4	24,000+	27,000	24,300	21	2100
360	ED-18	Mog.	32292-5	$★	**C360S51/ EW**	S51	12	EW, G, S (360, 373, 376)	5 3/4	9 3/4	24,000+	46,000	41,450	21	2100
400	ED-18	Mog.	36881-1	★	**C400S51/ ALTO**	S51	12	G, S (360, 373, 376)	5 3/4	9 3/4	24,000+	50,000	45,000	21	2100
600	T-14	Mog.	23982-2	■★	**C600S106**	S106	12	G (360, 373, 376)	6 7/8	11 1/8	24,000+	90,000	81,000	21	2100
1000	ED-25	Mog.	36883-7	■★	**C1000S52/ ALTO**	S52XB-1000	6	G, S (359, 360, 362, 373, 376)	8 3/4	15 1/16	24,000	140,000	126,000	21	2100
	ED-37	Mog.	32386-5	■★	**C1000S52/ ED37**	S52	6	G, S (360, 373, 376)	7	11 ½	24,000	125,000	112,000	21	2100

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

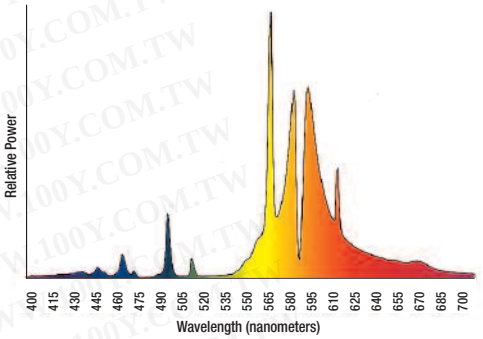
▯ This product utilizes ALTO® Lamp Technology

Horticulture Lamps—High Pressure Sodium Lamps For Plant Growth

- Ideal for growing vegetables and flowers
- Supplements daylight in greenhouses with "growth-light"
- "Growth-light" output is best measured by PPF—micromol value*

*The micromol value expresses the amount of light particles (photons) between 400 and 700 nm that are sent out by a light source (=Photosynthetic Photon Flux) per second. The amount that the plant absorbs determines the rate of photosynthesis and as a result the rate of plant growth. Therefore, the micromol value is also called "growth-light." In general, an increase of 22% in growth-light means an increase of 22% in plant growth.

Representative Spectral Power Distribution



Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	PPF* (µmol/ sn)	CCT (K)
Agrolite XT High Pressure Sodium Lamps															
1000	E-25	Mog.	14064-0	† ■★	**C1000S52 / AGROLITE XT**	S52	6	AGRO (359, 360, 362, 373, 376)	8 ¾	15 1⁄16	15,000	146,000	135,780	1850	2100
430	ED-18	Mog.	31710-7	★	**SON AGRO 430W**	S145/S51	12	AGRO (360, 373, 389, 396)	5 ¾	9 ¾	16,000	54,000	48,600	670	2100

NEW!

Agrolite XT High Pressure Sodium Lamps

- Enhanced spectrum Xtreme grow lamp
- Offers 22% more micromols*
- Excellent lumen maintenance at 97% (405)
- Features ALTO® Lamp Technology, environmentally responsible lamps.

Note: Best practice suggests grow lamps to be replaced at maximum 40% of their rated average life in order to maintain same level of growth-light on plants over time.

Ceramalux® Instant Restrike High Pressure Sodium Lamps

- Extra arc tube offers light instantly after momentary power interruption and will provide 80% light output within 1–2 minutes
- For applications where instant restrike is not required, rated average life is 40,000 hours
- Operates on standard HPS ballasts and auxiliary equipment

w For **Warnings, Cautions and Operating Instructions**, see page 112

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
50	ED-23½	Mog.	35467-0	■★	**C50S68/2**	S68	12	G, S (360, 373, 376)	5	7 ¾	24,000+	3800	3450	21	2100
70	ED-23½	Mog.	26541-3	■★	**C70S62/2**	S62	12	G, S (360, 373, 376)	5	7 ¾	24,000+	5600	5050	21	2100
100	ED-23½	Mog.	26560-3	■★	**C100S54/2**	S54	12	G, S (360, 373, 376)	5	7 ¾	24,000+	9100	8190	21	2100
150	ED-23½	Mog.	26561-1	■★	**C150S55/2**	S55	12	G, S (360, 373, 376)	5	7 ¾	24,000+	15,600	14,000	21	2100
250	ED-18	Mog.	37717-6	■★	**C250S50/2**	S50	12	G, S (360, 373, 376)	5 ¾	9 ¾	24,000+	27,500	24,750	21	2100
400	ED-18	Mog.	37688-9	■★	**C400S51/2**	S51	12	G, S (360, 373, 376)	5 ¾	9 ¾	24,000+	49,000	44,000	21	2100
1000	E-25	Mog.	20412-3	■★	**C1000S52/2**	S52	6	G, S (360, 373, 376)	8 ¾	15 1⁄16	24,000+	140,000	126,000	21	2100

Ceramalux® RetroLux High Pressure Sodium Lamps

For operation on all mercury vapor and metal halide ballasts of similar wattage
Operating position: universal

- 150W retrofits 175 watt mercury vapor or metal halide
- 220W retrofits 250 watt mercury vapor or metal halide
- 360W retrofits 400 watt mercury vapor or metal halide
- For **Warnings, Cautions and Operating Instructions**, see page 112

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Approximate Lumens, (352) Mean(353)	CRI	CCT (K)
150	BT-28	Mog.	39194-6	$★	**C150S63/ Retrolux**	S63	12	G, S	5 9⁄64	8 5⁄16	24,000	15,000	13,500	25	2100
220	BT-28	Mog.	39195-3	$★	**C220S65/ Retrolux**	S65	12	G, S	5 9⁄64	8 5⁄16	24,000	25,000	22,500	25	2100
360	BT-37	Mog.	39196-1	$★	**C360S64/ Retrolux**	S64	6	G, S	7⅛	11 ½	24,000	45,000	40,500	25	2100

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

Mercury Vapor Lamps

Low Pressure Sodium Lamps—SOX

For Warnings, Cautions and Operating Instructions, see page 112

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
18	T-17	D.C. Bay	23404-7	▢	**SOX-E18**	L69	12	Clear Base Up ± 110°	5 ½	8 ½	18,000	1800	1620	—	1700
35	T-17	D.C. Bay	32781-7		**SOX35**	L70	12	Clear Base Up ± 110°	—	12 3/16	18,000	4550	4095	—	1700
55	T-17	D.C. Bay	32151-3		**SOX55**	L71	12	Clear Base Up ± 110°	9 ½	16 ¾	18,000	7800	7800	—	1700
90	T-21	D.C. Bay	32152-1		**SOX90**	L72	12	Clear Hor. ± 20°	—	20 ¾	18,000	14,300	12,155	—	1700
135	T-21	D.C. Bay	32153-9		**SOX135**	L73	12	Clear Hor. ± 20°	—	30 ½	18,000	22,600	19,210	—	1700
180	T-21	D.C. Bay	15116-7		**SOX180**	L74	6	Clear Hor. ± 20°	—	44 1/8	18,000	32,000	22,400	—	1700

Mercury Vapor Lamps

Lifeguard lamps with Weather Duty® bulbs, except as noted. Lamps may be operated in any position.

Explanation of suffix in ordering code
(no suffix = clear, non-phosphor coated):
/DX Deluxe White
/M Medium Base

WARNING: "These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." See Safety Lifeguard Mercury Vapor Lamps for those applications where the lamps are to be used in luminaires to light areas where activities are conducted that can result in the outer envelope being broken or punctured and where prolonged exposure of a population confined to the area can occur.

Descriptive symbols for Mercury Vapor Lamps:

B	Black Light
FF	Frosted Face
G	General Lighting
K	Kleen-Beam
RF	Reflector Flood
SR	Semi Reflector
S	Street Lighting
VW	Very Wide
W	Wide

For Warnings, Cautions and Operating Instructions, see page 112

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code (363)	ANSI Code	Pkg.• Qty.	Description	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
50	BD-17	Med.	35664-2	★	**H46DL-40-50/DX**	H46	12	G, (379, 384)	—	5 1/8	24,000+	1580	1260	45	3200
75	BD-17	Med.	27524-8	★	**H43AV-75/DX**	H43	12	G, S, (379)	—	5 7/16	24,000+	2800	2250	45	3200
100	A-23	Med.	35658-4	★	**H38MP-100/DX**	H38	24	G, (379)	—	5 7/16	24,000+	4300	3700	45	3700
	ED-23½	Mog.	33712-1	X ★	**H38HT-100**	H38	12	G, S, B (355)	5	7 ½	24,000+	4100	3450	20	7000
			33713-9	★	**H38JA-100/DX**	H38	12	G, S (379)	—	7 ½	24,000+	4400	3400	45	3700
	R-40	Med.	31947-5	★	**H38BP-100/DX**	H38	12	RF, FF, VW (379) 145° Beam	—	7 ½	24,000+	3300	2300	45	4400
175	ED-28	Mog.	31965-7	★	**H39KB-175**	H39	12	G, S, B (355)	5	8 7/16	24,000+	7900	7400	20	6800
			24805-4	★	**H39KC-175/DX**	H39	12	G, S (379)	—	8 7/16	24,000+	7900	7600	45	3700
	R-40	Med.	30105-1	★	**H39BP-175/DX**	H39	12	RF, FF, VW (379) 105° Beam	—	7 ½	24,000+	6000	4800	40	4300
250	ED-28	Mog.	31985-5	★	**H37KB-250**	H37	12	G, S, B (355)	5	8 7/16	24,000+	12,100	10,500	20	6700
			24814-6	★	**H37KC-250/DX**	H37	12	G, S (379)	—	8 7/16	24,000+	13,000	10,700	45	3700
400	ED-37	Mog.	25205-6	X ★	**H33CD-400**	H33	6	G, S, B (355)	7	11 ½	24,000+	21,000	18,900	20	6500
			24842-7	★	**H33GL-400/DX**	H33	6	G, S (379)	—	11 ½	24,000+	23,000	19,100	45	3700
	R-60	Mog.	35661-8	★	**H33FS-400/DX**	H33	6	K, FF, RF (379) 146° Beam	—	10 ⅞	24,000+	15,000	12,400	45	3800
1000	BT-56	Mog.	25107-4	★	**H36GV-1000**	H36	6	G, S (359)	9 ½	15 ⅜	24,000+	57,500	48,400	20	6300
			39707-5	★	**H36GW-1000/DX**	H36	6	G, S (359, 379)	—	15 ⅜	24,000+	63,000	47,500	45	3700

For the most current product information, go to the e-catalog on **www.philips.com**

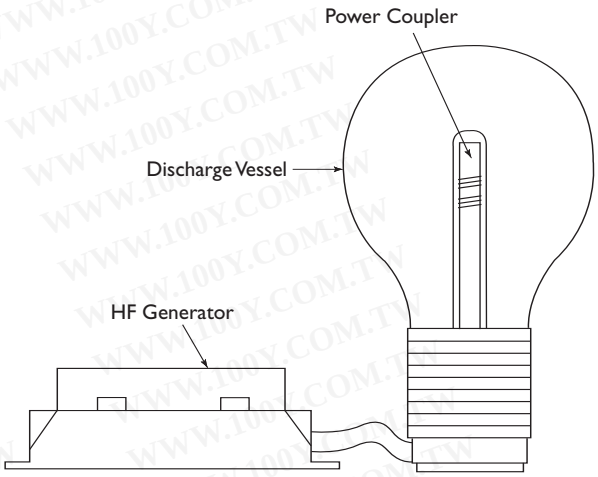
HID symbols and footnotes located on page 104

QL Induction Lighting Systems

QL Induction Lighting is based on a technology which is fundamentally different from that of incandescent lamps or today's conventional gas discharge lamps. Instead of the glowing filaments of incandescent lamps, or the electrodes used in conventional gas discharge lamps, light generation is by means of induction—the transmission of energy via a magnetic field—combined with a gas discharge.

Induced Current In Lamp Bulb (Vessel)

In the QL induction lighting system, the energy source—equivalent to the primary coil of the transformer—is the lamp's induction coil, which is powered by the high-frequency electronics in the HF generator. The secondary coil is represented by the low-pressure gas and metal vapor inside the lamp bulb. The induced current causes the acceleration of charged particles in the metal vapor. These particles collide, resulting in excitation and ionization of the metal vapor atoms and raising the energy level of the free electrons from these atoms to a higher, unstable state. As these excited electrons fall back to their stable, lower-energy state, they emit ultraviolet radiation. This falls on the fluorescent coating inside the lamp bulb, causing light to be emitted.



QL System Components

The QL lamp system consists of three main components (see illustration), each of which can be replaced separately if service is required.

- The **vessel** or **discharge bulb** is a closed glass bulb containing a low-pressure inert gas filling with a small amount of mercury vapor. The walls of the vessel are coated on the inside with a fluorescent powder of any of the modern three-line phosphor types, providing a choice of color temperatures. At present, the colors/830 (3000K) and /840 (4000K) are available. The discharge vessel is fixed to the power coupler by the plastic lamp cap with a click system. These two components normally never need to be disassembled, due to the ultra-long lifetime of the system.
- The **power coupler** transfers energy from the HF generator to the discharge inside the glass bulb, using an antenna that comprises the primary induction coil and its ferrite core. Other parts of the power coupler are a plastic support for the antenna, a 40 cm coaxial connecting cable carrying current from the HF generator and a heat conducting rod with mounting flange. The mounting flange allows the QL lamp system to be mechanically attached to the luminaire and removes waste heat to a heat sink which forms part of the luminaire.
- The **HF generator** produces the 2.65 MHz alternating current supply to the antenna.

Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	Pkg.• Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens (352) Initial	Mean(353)	CRI	CCT (K)
55			13542-6	☐	**QL55W/GEN 100–120V 6PK**	6	55W Generator 120V ◊	—	—	100,000	—	—	—	—
			13543-4	☐	**QL55W/GEN 200–277V 6PK**	6	55W Generator 277V ◊◊	—	—	100,000	—	—	—	—
			13544-2	☐	**QL55W/PC TWIST BASE 6PK**	6	55W Power Coupler	—	—	100,000	—	—	—	—
	P-26	Twist	14736-3	☐	**QL55W/827 TWIST BASE**	6	55W Lamp 2700K	—	5 ½	100,000	3500	2800	80	2700
			13545-9	☐	**QL55W/830 TWIST BASE**	6	55W Lamp 3000K	—	5 ½	100,000	3500	2800	80	3000
			13546-7	☐	**QL55W/840 TWIST BASE**	6	55W Lamp 4000K	—	5 ½	100,000	3500	2800	80	4000
85			13547-5	☐	**QL85W/GEN 100–120V 6PK**	6	85W Generator, 120V ◊	—	—	100,000	—	—	—	—
			13548-3	☐	**QL85W/GEN 200–277V 6PK**	6	85W Generator 277V ◊◊	—	—	100,000	—	—	—	—
			13549-1	☐	**QL85W/PC TWIST BASE 6PK**	6	85W Power Coupler	—	—	100,000	—	—	—	—
	P-35	Twist	14737-1	☐	**QL85W/827 TWIST BASE**	6	85W Lamp 2700K	—	7 ⅛	100,000	6000	4800	80	2700
			13550-9	☐	**QL85W/830 TWIST BASE**	6	85W Lamp 3000K	—	7 ⅛	100,000	6000	4800	80	3000
			13551-7	☐	**QL85W/840 TWIST BASE**	6	85W Lamp 4000K	—	7 ⅛	100,000	6000	4800	80	4000
			14428-7	☐	**QL85R/840 TWIST BASE**	6	85W Reflector Lamp 4K	—	8 ⅛	100,000	6000	4800	80	4000
165			37799-4	☐	**QL165W/GEN 200–277V 6PK**	6	165W Generator 277V ◊◊◊	—	—	100,000	—	—	—	—
			36916-5	☐	**QL165W/PC TWIST BASE 6PK**	6	165W Power Coupler	—	—	100,000	—	—	—	—
	P-41	Twist	36917-3	☐	**QL165W/830 TWIST BASE**	6	165W Lamp 3000K	—	8 ⅛	100,000	12,000	9600	80	3000
			36918-1	☐	**QL165W/840 TWIST BASE**	6	165W Lamp 4000K	—	8 ⅛	100,000	12,000	9600	80	4000

NEW!

Operating Position: Universal
Power Factor > .9
Total Harmonic Distortion (THD) < 10%
QL System Listings: UL, CSA, FCC Class A
Note: QL System requires all three components to operate (order 3 product numbers)
Vessel maximum diameter: 55W=85mm; 85W=111mm; 165W=131mm
For detailed system operating instructions see QL OEM Guide at **www.philips.com > Professional Lighting > Browse Literature > Catalogs/Brochures**

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

Footnotes

For the most current product information, go to the e-catalog on www.philips.com

- ⛉ 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.
- ❩ Can be used in open luminaire, only if operated vertically ± 15°.
- G = General Lighting
- S = Street Lighting
- ▼ PAR-38 (one piece)
- ▲ Aluminum base.
- ■ Nickel plated brass base.
- ★ Heat resisting glass bulb.
- $ Energy Saving Product
- X Orders will be shipped until inventory is depleted; no longer manufactured
- † New since last printing
- Ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

(351) Rated average life is the life obtained, on the average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps and allows for individual lamps or groups of lamps to vary considerably from the average. For HPS lamps with a rated average life of 24,000 hours, life is based on survival of 67% of the lamps.

(352) Measured at 100 hrs. life. Approximate lumen values listed are for vertical operation of the lamp.

(353) Approximate lumen output at 40% of lamp rated average life.

(355) Separate filter is required for black light application.

(356) Opaque coating on reflecting section of bulb.

(357) Protect bulb from moisture when used in base down position.

(359) Electrically insulated support for bulb may be required, especially in horizontal and nearly horizontal operating positions.

(360) Follow fixture manufacturer' recommendations regarding proximity of ballast to bulb.

(362) This lamp should be shielded from moisture to prevent breakage.

(363) These ordering codes generally conform to the designation system of the American National Standards Institute (ANSI).

(364) Rated average life: vertical ± 30° 20,000 hours; other positions, 15,000 hours.

(365) Supply voltage must be held to ± 10 volts of rated lamp voltage.

(367) Lamps will start down to –10°F.

(368) Supply voltage must be held to ± 5 volts of rated lamp voltage.

(369) Lamps will start down to 0°F.

(370) C150S55 and C150S56 lamps are not electrically interchangeable. Different ballasts are required for the proper operation of each lamp type. ANSI type S55 ballast is for the 55-volt (normal) lamp and the ANSI type S56 ballast is for the 100 volt (nominal) lamp.

(372) Color characteristics may vary somewhat from one lamp type to another. Time should be allowed for the lamp to stabilize in color when it is turned on for the first time or if for any reason its operating position is changed. This may require several hours' operation, with more than one start. Lamp color and output may change temporarily if the lamp is subjected to excess vibration or shock. Lamp color characteristics may change after long accumulate operating time.

(373) Fixtures should be designed so that sockets and wiring withstand starting pulse up to 5000 volts for 1000 watts and WHITE SON® types and 4000 volts for other sizes.

(374) Performance may not be satisfactory unless operated within specified operating positions.

(375) If specified operating position is base up or base down to horizontal, this permits 15° beyond the horizontal.

(376) For use in fixtures which do not redirect a substantial portion of the energy toward the arc tube; otherwise very early failure is anticipated.

(377) Requires a ballast specified or approved for Philips metal halide lamps, or one that is designed to operate all popular brands of metal halide lamps. 1000W types will operate from H36 conventional lag type ballast for Mercury Vapor lamps at ambient temperatures of 50°F or higher. 1000W types must not be operated at 1500W.

(378) Requires auxiliary 10KV pulse ignitor for instant restrike.

(379) It is a characteristic of phosphor-coated vapor lamps to require a few hundred hours of operation to gradually reach normal characteristic color. New lamps may have a slight pink appearance during this initial operating period.

(382) Though made of heat-resistant glass, breakage may result if moisture falls on bulb. Use in well ventilated housing.

(383) For indoor and outdoor use: if outdoors, in base down operation, lamp should be protected by a fully enclosed fixture, adequately ventilated. In base up operation, lamp can be used in open face fixture, 40° below horizontal. All fixtures should protect the lamp and wiring from water and corrosive atmospheric gases. The fixture, holder or shield should provide adequate ventilation near the socket and base of the lamp.

(384) For 40W operation use H45 ballast.

	Approx. Lumens	
Ordering Code	Initial	Mean
H46DL-40-50/DX	1140	910

(385) Rated average life: vertical ± 15°. Other positions 75% of vertical life.

(387) This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation and must be fully enclosed in a fixture with an appropriate UV filter. To protect against possible risk of property damage or personal injury due to an arc tube rupture, the fixture enclosure must be capable of withstanding particles of glass having temperatures up to 1000° C. DO NOT USE THIS LAMP IF THE UV FILTER IS MISSING.

(389) Operates at rated output on ANSI 430W S145 SON AGRO ballasts.

(390) Where instant restrike is not required, rated lamp life is 40,000+ hours.

(391) Requires a ballast specified or approved for Philips Metal Halide lamp or one designed to the indicated ANSI Standard. A pulse ignitor is required. Sockets and wiring must withstand starting pulse.

(392) Supply volts must be ±5% of rated ballast line volts for reactor type and ±10% for CWA or electronic ballasts.

(393) Vertical lumens. Horizontal lumens 6%–10% lower.

(394) To maintain color consistency within 250K, group relamp at 7500 hours.

(395) Lamp color may change temporarily if the lamp is subjected to excessive vibration or shock.

(396) UV filtered design (FadeBlock™).

(397) Operate only on thermally protected ballasts

(398) Rated average life: vertical operation = 10,000 hours; horizontal = 12,000 hours.

(399) This product utilizes ALTO® Lamp Technology. ALTO products pass the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) for non-hazardous waste status.

(400) Energy-saver retrofit for 175W, M107 ballast.

(401) MasterColor® Metal Halide Lamps are not recommended for use on dimmers and are not warranted if used on dimmer systems.

(402) Primarily used for sports-lighting applications. Life, initial and mean lumens are for horizontal operation. In vertical position and at 10 or more hours per start, lamp life is extended to 6000 hours, initial lumens are 170,000 and mean lumens are 136,000.

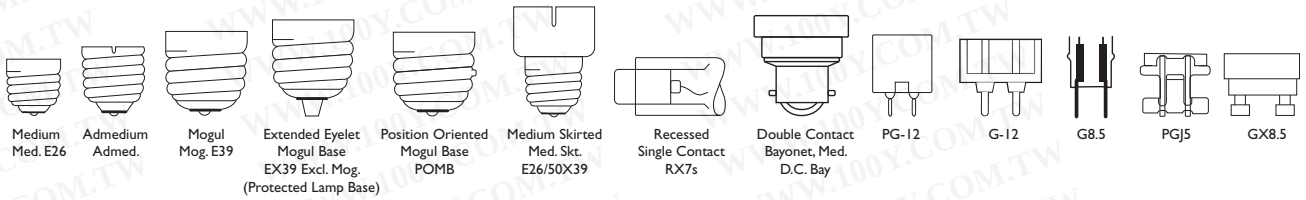
(403) Not to be used in compact Wall Pack or Flood Light type fixtures. Maximum temperature limit of outer bulb may be exceeded in these applications and can lead to premature lamp failure.

(404) Luminaire photometric distributions may be impacted due to difference in arc length vs. HPS lamp arc length.

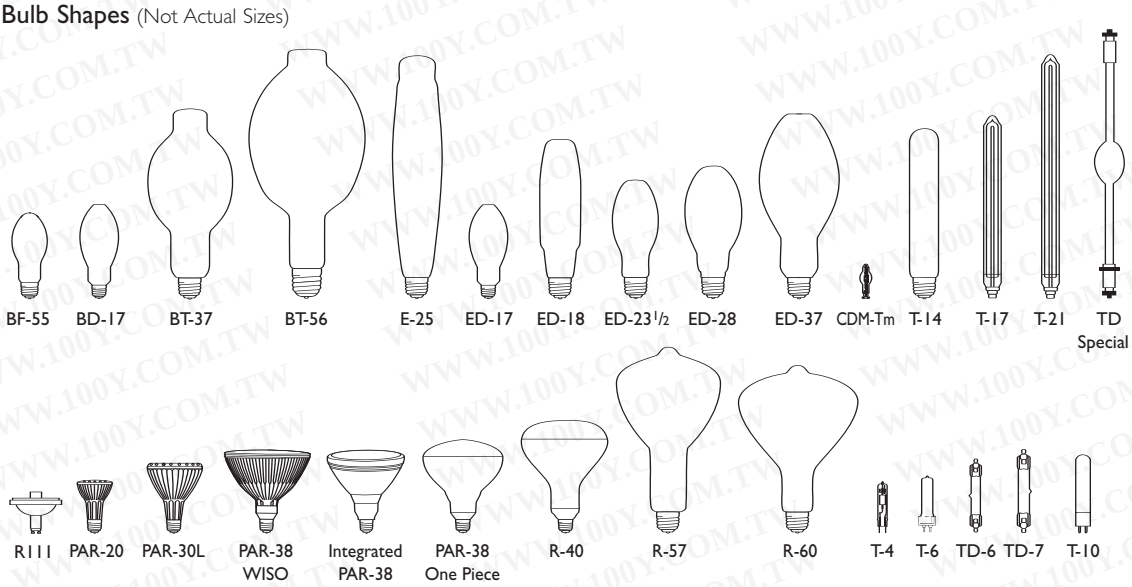
(405) 97% Lumen maintenance at 10% of rated average life. 93% lumen maintenance at 40% of rated average life.

(406) CAUTION: Beware of inadvertent circuit overload in new construction. Because of power factor of 0.57 in the ballast of the lamp, the lamp uses 0.36 amps.

Base Types (Not Actual Sizes)



Bulb Shapes (Not Actual Sizes)



WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® Integrated PAR 38 Lamps

Warnings, Cautions and Operating Instructions

R "**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000°C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

This lamp contains an arc tube with a filling gas containing less than 41 nCi of Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING LAMP OPERATING INSTRUCTIONS MUST BE FOLLOWED.

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. At high lighting levels or when illuminating light-sensitive materials the use of an extra UV filter is recommended.
3. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
4. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
5. Lamps may require up to 10 minutes to re-light if there is a power interruption.
6. Do not operate with an additional ballast, since a ballast is integrated in the lamp itself.
7. **Do not use in totally enclosed recessed fixtures.**
8. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
9. Lamp should not be used with dimmers.
10. Protect lamp, lamp socket and wiring against moisture, corrosive atmosphere and excessive heat. Lamp should be used in dry locations only.

These lamps may be used in open fixtures.

Hg - LAMP CONTAINS MERCURY
Manage in Accord with Disposal Laws See:
www.lamprecycle.org or 1-800-555-0050

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® (Elite) Ceramic Metal Halide Lamps: Single Ended CDM-T G12, CDM-TC G8.5 and CDM-Tm PGJ5 (Universal); Double-Ended CDM-TD RX7 (Horizontal ± 45°, Enclosed Fixtures Only)

Warnings, Cautions and Operating Instructions

R **"WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Use only in fully enclosed fixtures capable of withstanding particles of glass having temperatures up to 1000° C. Lens/diffuser material must be heat resistant. Consult fixture manufacturer regarding the suitability of the fixture for this lamp.
3. Do not operate a fixture with a missing or broken lens/diffuser. At high lighting levels or when illuminating light-sensitive materials the use of an extra UV filter is recommended.
4. Operate lamp only within specified limits of operating position.
5. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards. When inserting a new CDM-Tm lamp, twist the lamp 45° clock-wise in the holder to ensure proper electrical and mechanical connection.
6. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. Operate CDM-T (G12 base), CDM-TC (G8.5 base) and CDM-Tm (PGJ5 base) lamps only on thermally protected ballasts.
   D. Operate CDM-TC lamps (G8.5 base) and CDM-Tm (PGJ5 base) only on electronic ballasts.
7. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
8. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
9. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
10. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
11. Lamps may require 4 to 8 minutes (10-15 minutes for CDM-Tm) to re-light if there is a power interruption.
12. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Ceramic Metal Halide PAR and CDM-R111 Lamps (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R **"WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE. These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.**

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. Operate 39W PAR-20 and PAR-30L lamps only on thermally protected ballast.
   D. Operate CDM-R111 lamp only on approved thermally protected electronic ballast.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8. Lamps may require up to 10 minutes (4–8 minutes for CDM-R111) to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. For proper installation and removal, lamp should be handled by the sides of the reflector and not by the aluminum front anti-glare cap.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® Ceramic Metal Halide Lamps ED-17 (Enclosed Fixtures); Protected MasterColor® Ceramic Metal Halide Lamps ED-17P (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R **"WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Use ED-17 lamps in enclosed luminaires ONLY that are capable of withstanding particles of glass having temperatures up to 1000° C. ED-17P types are designed to retain all the glass particles should an arc tube rupture occur.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 4 to 8 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Pulse Start Ceramic Metal Halide Lamps ED-37 and ED-38 (Vertical Operation ± 15°, Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R **"WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. All Pulse Start mogul based lamps require a socket rated to withstand a 4000 volt pulse.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Use this lamp only in fixtures that contain Pulse Start metal halide ballasts and are specifically designed for use with Pulse Start metal halide lamps.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Ceramic Metal Halide HPS-Retro White™ Lamps ED-18 (Vertical Operation ± 15°, Open or Enclosed Fixtures or Horizontal Operation ±15°)

Warnings, Cautions and Operating Instructions

"WARNING: These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Pulse Start Metal Halide Lamps (Base Up Operation ±15° Unless Otherwise Noted; Enclosed Fixtures Only Unless Otherwise Noted)

Warnings, Cautions and Operating Instructions

"WARNING: These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous shortwave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. Use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C, unless otherwise noted.
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. All Pulse Start mogul based lamps require a socket rated to withstand a 4,000 volt pulse.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 2 to 4 minutes to relight if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically designed for use with Pulse Start metal halide lamps.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected Pulse Start Metal Halide Lamps (Base Up Operation ±15° Unless Noted; Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R "**WARNING:** These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous shortwave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE. These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.**

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. All Pulse Start mogul based lamps require a socket rated to withstand a 4000 volt pulse.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 2 to 4 minutes to relight if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically designed for use with Pulse Start metal halide lamps.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected Metal Halide Lamps (Base Up Operation ± 15° Unless Noted; Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R "**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur.

The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Do not use this lamp:
    A. In a fixture that contains a Pulse Start metal halide ballast.
    B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Standard Metal Halide Lamps (Enclosed Fixtures Only Unless Otherwise Noted)

Warnings, Cautions and Operating Instructions

R"**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. Use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
    A. In a fixture that contains a Pulse Start metal halide ballast.
    B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Standard Metal Halide Lamps (Open or Enclosed Fixtures; S Rated Lamps; Open Fixture Use Restricted to Base Up ± 15° [Base Down, BD ± 15°])

Warnings, Cautions and Operating Instructions

R"**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. **If operated other than vertical ± 15°, use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.**
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
    A. In a fixture that contains a Pulse Start metal halide ballast.
    B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Safety Lifeguard Metal Halide Lamps (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

T"**WARNING:** This lamp should self extinguish within 15 minutes after outer envelope is broken or punctured. If such damage occurs, turn off and remove lamp to avoid possible injury from hazardous shortwave ultraviolet radiation." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

This lamp should not be used on dimmers and is not warranted if used on dimming systems.

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. **If operated other than vertical ± 15°, use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.**
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
    A. In a fixture that contains a Pulse Start metal halide ballast.
    B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Mini WhiteSON and White SON High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with High Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the glass is struck. Operating the lamp improperly may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
   C. Operate Mini WhiteSON lamps only on approved electronic ballasts.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
5. If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition of the bulb glass.
6. Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.
7. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.
8. The arc tube of this lamp contains sodium and mercury. Dispose of in accordance with federal, state and local requirements.
9. It is possible that the light color will suddenly change. After some time the lamp will regain its old color.
10. In order to prevent damage to the ballast, the lamp should be replaced as quickly as possible at the end of its lifetime (lamp color turns yellow, lamp flickers and fails to start).
11. For Mini WhiteSON lamps, after 10,000 hours of burning the light color will become yellow. The lamp must then be replaced.
12. For WhiteSON lamps, after 7,500 hours of burning the light color will become yellow. The lamp must then be replaced.

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Ceramalux® High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with High Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the glass is struck. Operating the lamp improperly may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
5. If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition of the bulb glass.
6. Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.
7. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.
8. The arc tube of this lamp contains sodium and mercury. Dispose of in accordance with federal, state and local requirements.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Ceramalux® RetroLux High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

CAUTION: Electric discharge lamp—Use only with proper circuits and auxiliary equipment designed to produce established electrical values for this lamp. Operating the lamp improperly may result in damage to equipment or personal injury, for which the lamp manufacturer does not assume any responsibility.

If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass. Do not scratch the bulb or subject it to pressure, as it could fail violently. If the outer bulb is broken, turn off the lamp and replace it promptly.

The arc tube of this lamp contains sodium and mercury. Use appropriate care in disposal. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.

Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.

NOTICE: For total supply load, add auxiliary (ballast) watts to lamp watts.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Low Pressure Sodium Lamps—SOX

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with Low Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter.

Operating the lamp improperly and not following operating instructions may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
5. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.
6. The arc tube of this lamp contains sodium. Sodium can generate a high degree of heat when exposed to water. Dispose of in accordance with federal, state and local requirements.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Mercury Vapor Lamps

Warnings, Cautions and Operating Instructions

R "**WARNING:** This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

WARNING: The following GOOD LAMP PRACTICES are recommended to reduce the possibility of an arc tube rupture and the associated risk of property damage or personal injury.

1. TURN LAMPS OFF AT LEAST ONCE PER WEEK FOR AT LEAST 15 MINUTES, in systems which are otherwise operating on a continuous basis (24 hours/day-7 days/week).
2. RELAMP FIXTURES AT OR BEFORE END OF RATED LIFE. Allowing such lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. OPERATE LAMP WITH PROPER CIRCUITS AND AUXILIARY EQUIPMENT.

CAUTION: Electric discharge lamp—use only with proper circuits and auxiliary equipment designed to produce established electrical values for this lamp. Operating the lamp improperly may result in damage to equipment or personal injury, for which the lamp manufacturer does not assume any responsibility.

If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass. Do not scratch the bulb or subject it to pressure, as it could fail violently. If the outer bulb is broken, turn off the lamp and replace it promptly.

Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.

NOTICE: For total supply load, add auxiliary (ballast) watts to lamp watts.

Solid State Lighting

Create the perfect mood with solid state lighting

Philips Aurelle™ Rechargeable LED Candle combines innovative LED technology with a decorative vase to create a safe and distinctive alternative to conventional candles.

–Real candle flicker: warm and soothing candle glow with no heat and no wax mess

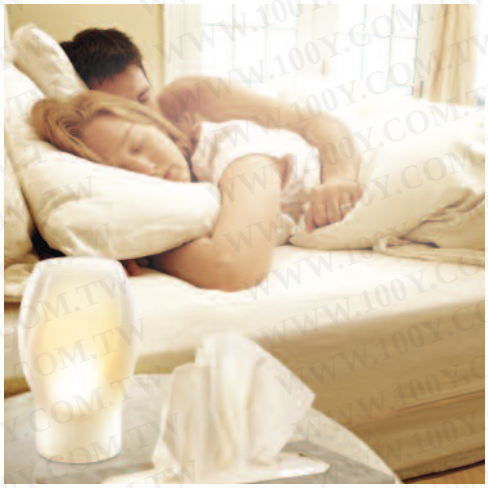
–Attractive, frosted glass vase is available in four distinct shapes (round, square, tulip and triangle)

–Rechargeable: no batteries needed; each candle will last approximately 10 hours on a full charge

–Water-resistant and wind-proof light base; great for outdoor use

Philips Aurelle™ LED Deck Lights accentuate and beautify your outdoor living space with light. Each kit contains 10 easy-to-install LED light points, which can be used to highlight your deck's beauty or even add the safety of stair or pathway lighting. Once installed, the Deck Lights simply plug into an existing socket and are operated on a remote control—no hard wiring is necessary.

Each kit contains:
- 10 LED light points (available in blue or white)
- Remote control
- 60' of connection cable
- Cable connectors
- Water-proof junction box
- Detailed installation instructions



Product Number	Symbols, Footnotes	Ordering Code	Pack Type	Output Voltage	Products per SKU	Case Qty.•	Description	MOL (in.)	• Diameter
Aurelle™ LED Candles									
14589-6		**Aurelle LED Candle Round**	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	2 3/32
14590-4		**Aurelle LED Candle Square**	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	2 3/16
14591-2		**Aurelle LED Candle Tulip**	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	3
14592-0		**Aurelle LED Candle Triangle**	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	3
14593-8		**Aurelle LED Candle Round**	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	2 3/32
14594-6		**Aurelle LED Candle Square**	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	2 3/16
14595-2		**Aurelle LED Candle Tulip**	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	3
14596-0		**Aurelle LED Candle Triangle**	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	3
13665-5		**Aurelle LED Candle Round**	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	2 3/32
13670-5		**Aurelle LED Candle Square**	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	2 3/16
13669-7		**Aurelle LED Candle Tulip**	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	3
13668-9		**Aurelle LED Candle Triangle**	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	3
Aurelle Deck Lights									
14647-2	±	**Aurelle Deck Light White**	10 Light Points	12V DC	10	1	Sparkling Light Points w/ 60' Cable and Remote Control	—	1 5/64
14648-0	±	**Aurelle Deck Light Blue**	10 Light Points	12V DC	10	1	Sparkling Light Points w/ 60' Cable and Remote Control	—	1 5/64

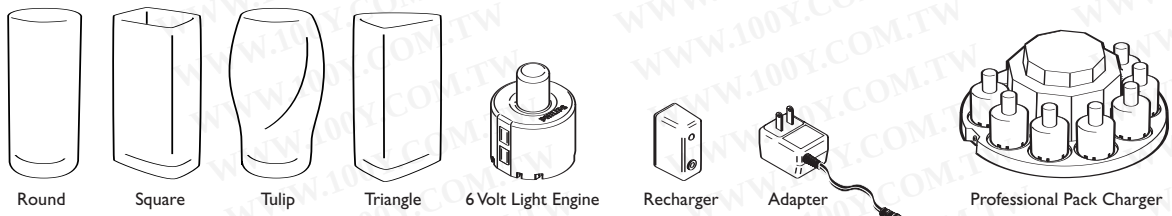
NEW!

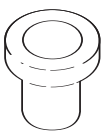
NEW!

For the most current product information, go to the e-catalog on **www.philips.com**
± Available Q1, 2006

Bulb Shapes (Not Actual Sizes)

AURELLE LED CANDLE SERIES





Specialty Lighting

Reliable, high quality lamps provide ultimate performance

Philips Germicidal T5 Sterilamp featuring ALTO® Lamp Technology uses UV technology, which allows for the emission of UVC energy to disinfect water. The Philips Germicidal T5 Sterilamp is a cost effective and environmentally responsible disinfection alternative to chemical treatment of waste water.

Philips Broadway Ceramic ST™ Lamps feature breakthrough technology that enable the use of smaller fixtures to provide cool, cost effective lighting for studios and theaters. Broadway Ceramic ST Lamps offer excellent color quality, outstanding beam quality, produce four times less heat and require fewer lamp replacements versus halogen stage and studio lamps.

Philips Broadway HPL+ Lamps with P3 technology enables flexible burning positions to ensure accurate aiming and supply of light wherever it is needed. HPL+ lamps are now designed to last longer, making them ideal for theater, studio and event lighting.

† UVC is a band of ultraviolet radiation with wavelengths shorter than 280 nanometers.

Actual photo of Ojai Waste Water Treatment Plant–Ojai, CA.
Photography courtesy of UVDI of Valencia, CA.

Specialty Lighting

Photo/Projection Lamps

	ANSI Code	Product Number	Std. Pkg. Qty.	Volts	Avg. Watts Amps.	Bulb	Base	Rated Avg. Life (Hrs.)*	Coil Type	LCL (In.)	LCL (mm)	MOL (In.)	MOL (mm)	Rated Approx. Lumens	Color Temp. (K)	Operating Position	Fig. No.
	BRL	31627-3	24	12	50	T-3.5	G6.35	50	C-6	1.18	30	1.73	44	1500	3400	BDTH	13
	BVE	23922-8	24	120	625	T-6	GY9.5	75	C-13D	1.75	44.5	3.5	89		3350	BDTH	11
	DDL	31509-3	24	20	150	GX5.3	GX5.3	500	CC-6			1.75	44.5		3150	BDTH	25
	DDM	23937-6	24	19	80	MR-16	GX5.3	50	CC-6			1.75	44.5		3350	BDTH	25
	DDS	31510-1	24	21	80	MR-16	GX5.3	1000	CC-6			1.75	44.5		3125	BDTH	25
	DNF	25241-1	24	21	150	MR-16	GX7.9	25	CC-6	6.15	15.88	1.78	45.24		3400	Horiz.	28
	DYS/DYV/BHC	31639-8	24	120	600	G-7	GZ9.5	75	CC-6	1.44	36.5	2.5	63.5	17,000	3200	Horiz.	15
	EFM	31484-9	50	8	50	MR-16	GZ6.35	50	C-6			1.65	42		3300	BDTH	25
	EFN	31502-8	50	12	75	MR-16	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
	EFP	31488-0	50	12	100	50 DICH	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
	EFR	31490-6	50	15	150	MR-16	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
	EHA	31641-4	24	120	500	T-6	GZ9.5	50	C-13D	1.44	36.5	3	76.2	11,000	3250	BDTH	14
	EHJ	31758-6	100	24	250	T-4	G6.35	50	C-6F	1.3	33	2.17	55	9400	3400	BD	13
	EHJ-5H	14169-7	100	24	250	T-4	G6.35	500	C-6F	1.3	33	2.17	55			BD	13
	EHJ-X	23175-3	200	24	250	T-4	G6.35	50	C-6F	1.3	33	2.17	55	10,000	3400	BD	13
	EJA	44142-8	24	21	150	MR-16	GX5.3	40	CC-6			1.85	44.5		3350		25
	EJL	31508-5	24	24	200	MR-16	GX5.3	50	CC-6			1.85	44.5		3400	BDTH	25
	EJM	23942-6	24	21	150	MR-16	GX5.3	40	CC-6			1.75	44.5		3400	BDTH	25
	EJV	33744-4	24	21	150	MR-16	GX5.3	40	CC-8			1.75	44.5		3400	BDTH	25
	EKE	31592-9	24	21	150	MR-16	GX5.3	200	CC-6			1.75	44.5		3400	BDTH	25
	EKZ	23945-9	24	10.8	30	MR-16	GX5.3	200	CC-6			1.75	44.5		3100	BDTH	25
	ELC	23103-5	24	24	250	MR-16	GX5.3	50	CC-6			1.75	44.5		3200	BDTH	25
	ELC-5	38166-5	24	24	250	MR-16	GX5.3	500	CC-6			1.75	44.5		3200	BDTH	25
	ELD	31618-2	24	21	150	MR-16	GX5.3	40	CC-6			1.85	44.5		3350	BDTH	25
	ELH	31619-0	24	120	300	MR-16	GY5.3	35	CC-8			1.85	44.5		3350	BDTH	25
	ENG	23951-7	24	120	300	MR-16	GY5.3	15	CC-8			1.75	44.5		3450	BDTH	25
	ENH	31621-6	24	120	250	50 DICH	GV5.3	175	CC-8			1.75	44.5		3250	BDTH	25
	ENX	31927-7	24	82	360	MR-16	GY5.3	75	CC-8			1.75	44.5		3300	BDTH	25
	ENX-5	20497-4	24	86	360	MR-16	GY5.3	75	CC-8			1.75	44.5		3300	BDTH	25
	ESA/EHD	26126-3	100	6	10	T-2.5	G-4	100	C-6	0.77	19.6	1.18	30	200	3200	ANY	3
	ESB	25678-4	100	6	20	T-3	G-4	100	C-6	0.77	19.5	1.22	31	420	3200	ANY	3
	ETA	31882-4	24	12	100	T-3.5	PG22d	50	C-6	0.71	18	1.89	48	3200	3400	BDTH	8
	EVA	25676-8	100	12	100	T-3.5	GY6.35	1000	C-6F	1.18	30	1.73	44	2500	3200	ANY	7
	EVA	25676-8	100	12	100	T-3.5	GY6.35	1000	C-6F	1.18	30	1.73	44	2500	3200	ANY	7
	EVC	31884-0	100	24	250	T-5	G6.35	300	C-GF	1.3	33	2.24	57	8400	3200	ANY	13
	EVD-X	23177-9	24	36	400	T-6	G6.35	50	C-6F	1.42	36.1	2.36	59.9	16,625	3400	BDTH	13
	EVW	25284-1	24	82	250	50 DICH	GX5.3	50	CC-8			1.75	44.45		3300	BD TO 22° UP	25
	EXR	25286-6	24	82	300	MR-13	GX5.3	35	CC-8			1.75	44.45		3350	BDTH	27
	EXR-5	23967-3	24	86	300	MR-13	GX5.3	15	CC-8			1.75	44.5		3400	BDTH	27
	EXW	23971-5	24	82	300	42 DICH	GX5.3	15	CC-8			1.75	44.5		3400	BDTH	27
	EXY	20493-3	24	82	250	MR-13	GX5.3	250	CC-8			1.75	44.5		3250	BDTH	27
D	**EYB**	14576-3	24	82	360	T-5	G5.3	75	CC-8	1.25	31	2.25	57	10,000	3250	BDTH	6
	FCM	33269-2	12	120	1000	T-3	RX7s	300	C-8			4.72	119.9	27,000	3200	Horiz.	20
	FCR	26101-6	100	12	100	T-3.5	GY6.35	50	C-6F	1.18	30	1.73	44	3400	3400	BDTH	7
	FCS	20607-8	200	24	150	T-4	G6.35	50	C-6F	1.18	30	2	50.8	6000	3400	BDTH	13
	FDS/DZE	31655-4	24	24	150	T-4 1/2	GZ9.5	50	C-6F	1.32	33.4	2.25	57	5000	3400	BD	5
	FHM	26130-5	100	120	1000	T-3	RX7s	300	C-8			4.72	119.9	26,000	3200	Horiz.	20
	FHS	25305-4	24	82	300	MR-13	GX5.3	70	CC-8			1.75	44.45		3300	BDTH	27
	FJX	31499-7	50	13.8	30	50 DICH	GX5.3	500	C-8			1.77	44.9		3150		25
	FKY	31924-4	24	6	9	MR-11	G3.9	250	C-6			1.65	42			BDTH	26
	FLT	23980-6	24	13.8	25	MR-11	GZ4	400	CC-6			1.38	35		3100	Horiz.	23
	FLW	20492-5	24	24	300	T-6	GY6.3	50	C-6F	1.3	33	2.17	55	10,450	3400	BD±15°	13
	FNT	20463-6	200	24	275	T-6	G6.35	75	C-6F	1.3	33	2.17	55	10,000	3400	BDTH	13
	FXL	23030-0	24	82	410	50 DICH	GY5.3	50	CC-8			1.75	44.5		3300	BDTH	25
	GDA	38684-7	100	120	500	T 3.5	RX7s	75	CC-8			5.25	133.3	11,000	3200	ANY	19

✦ — SPECIAL ORDER ITEM, Consult Customer Service for minimum order quantities and delivery.

D — Lamps to be discontinued after inventory is depleted. Please check with customer service for availability.

❖ — Not shown.

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Unless otherwise noted all dimensions are in inches. To convert inches to millimeters multiply by 25.4001.

For the most current product information, go to the e-catalog on **www.philips.com**

Photo/Projection Lamps, continued

ANSI Code	Product Number	Std. Pkg. Qty.	Volts	Avg. Watts Amps.	Bulb	Base	Rated Avg. Life (Hrs.)*	Coil Type	LCL (In.)	LCL (mm)	MOL (In.)	MOL (mm)	Rated Approx. Lumens	Color Temp. (K)	Operating Position	Fig. No.
JCR 15V, 150W	24923-5	24	15	150	MR-16	GZ6.35	500	C-8			1.65	42			BDTH	25
5761	25713-9	100	6	30	T-3.5	G4	100	C-6F	0.77	19.6	1.22	31	765	3200	ANY	16
5972	31333-8	100	6	10	T-3	G4	200		0.95	24	1.5	38	150	3000	ANY	4
6605	25684-2	100	6	10	T-3	G4	2000	C-6	0.77	19.5	1.22	30	150	2700	ANY	3
6981P	13420-5	10	115	750	T-6	G 9.5	300	Biplane	2 3/8	60.5	4.09	104	20500	3200	ANY	
6982P	13421-3	10	230	800	T-6	G 9.5	300	Biplane	2 3/8	60.5	4.09	104	20000	3200	ANY	
7010	25702-2	10	120	300	T-6	GX6.35	150	C-6	1.28				7500	3200	ANY	
13117	37614-5	50	17	150	MR-16	GX5.3	1000	CC-6			1.85	47		3200	ANY	25
13139	33545-5	50	12	75	MR-16	GX5.3	1000	C-8			1.65	42			BD±105°	25
13165	44295-4	50	14	35	35 DICH	GZ4	50				1.5	38			BD±130°	25
13288	22146-5	50	13.8	85	MR-16	GX5.3	1000	C-8			1.81	46			BDTH	25
13298	35436-5	230	10	52	35 DICH	GZ4	20	CC-8			1.77	44.9			Horiz.±40°	26
13347W	31453-4	100	6	15	T-6	BA15d	100	C-6F	1.75	44.5	2.13	54.1	210		Horiz.	❖
13477R	31349-4	150	220	800	T-3.5	RX7s	150				4.72	120	21,600	3200	Horiz.	22
13528	31504-4	360	6	15	35 DICH	GZ4	500	C-6			1.5	38			BD±105°	26
✦ **13529**	31507-7	360	6	9	MR-11	GZ4	250	C-6			1.5	38			BD±105°	26
13865	26423-4	50	12	75	MR-11	G5.3	50				1.57	40			BD±105°	23
14553	26391-3	230	10	52	MR-11	GZ4	20				1.57	40			BD±105°	26
64514	14168-9	720	120	300	T-6	GX 6.35	75	SPECIAL					7700	3400	ANY	

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❖ — Not shown.

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Cross Reference List of IEC and ANSI Base Designations

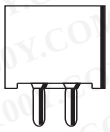
IEC	ANSI	IEC	ANSI	IEC	ANSI	IEC	ANSI
E10/12	Miniature Screw	G13	Medium Bipin	G17t	3-Pin Prefocus	GY9.5	Prefocus Two-Pin
E12/15	Candelabra Screw	G20	Mogul Bipin	G17q	4-Pin Prefocus		(Higher Wattage)
E17/20	Intermediate Screw	R17d	Recessed D.C.	GX17q	4-Pin Prefocus (Low-Volt)	GZ9.5	Prefocus Two-Pin
E26s	Medium Screw S.C.	BA15s	Candelabra Bayonet S.C.	G5.3	Miniature Two-Pin	G22	Medium Bipost
E26d	Medium Screw D.C.	BA15d	Candelabra Bayonet D.C.	G6.35	Glass Two-Pin	G38	Mogul Bipost
E39	Mogul Screw	P28S	Medium Prefocus	GY6.35	Glass Two-Pin	R7s	Recessed S.C.
Fa8	Single-Pin	P40s	Mogul Prefocus	G9.5	Medium Two-Pin	GY5.3	Two-Pin Reflector (Low-Volt)
G5	Miniature Bipin					GY5.3	Two-Pin Reflector

For the most current product information, go to the e-catalog on **www.philips.com**

Base Types (Not Actual Sizes)

PG22-6.35
DIN: 49751
iec: 7004-48

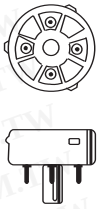
RX7s
DIN: 49750
IEC: 7004-92
ANSI: Recessed single contact base
C8.61-1990
sheet 1-770-1



G5.3
IEC: 7004-73-2
ANSI: Miniature 2-pin
C81.61-1990
sheet 1-20-1

BA 15s
DIN: 49720
IEC: 7004-11A
ANSI: Single contact candelabra bayonet base
C81.61-1990
sheet 1-20-1

BA15d
DIN: 49720
IEC: 7004-11A
ANSI: Candelabra bayonet base double contact
C81.61-1990
sheet 1-20-1



GX17q
GX17q
G17q
DIN: 49665
IEC: 7004-45
ANSI: Four-pin prefocus base
C81.61-1990
sheet 1-440-1

B15d
DIN: 49721
IEC: 7004-11

B22d/22
IEC: 7004-10

G3.9
ANSI:
C81.61-1990
sheet 1-300-1

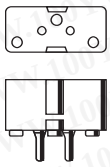
G4
IEC: 7004-72

GX5.3
(Round pin)
IEC: 7004-73
ANSI:
C61.61-1990
sheet 1-321-1

G6.35
GX6.35
GY6.35
IEC: 7004-59
ANSI: C81.61-1990
sheet 1-340-1

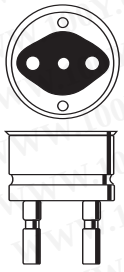
GZ6.35
DIN: 49754
IEC: 7004-59A

GZ4
IEC: 7004-67

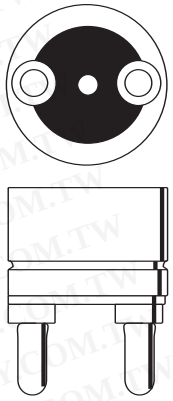


GX9.5
DIN: 49638
IEC: 7004-70A

GY9.5
IEC: 7004-70B
ANSI: C81.61-1990
sheet 1-369-1



G22
IEC: 7004-75
ANSI: Medium bipost
C81.61-1990
sheet 1-466-1



G38
IEC: 7004-76
ANSI: Mogul bipost
C81.61-1990
sheet 1-519-1

Bulb Shapes (Not Actual Sizes)

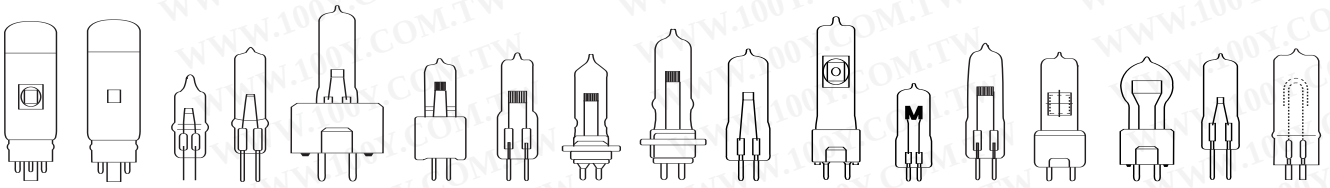


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8 Fig. 9 Fig. 10 Fig. 11 Fig. 12 Fig. 13 Fig. 14 Fig. 15 Fig. 16 Fig. 17

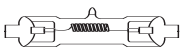


Fig. 18

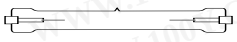


Fig. 19

Fig. 20

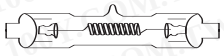


Fig. 21

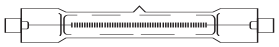


Fig. 22

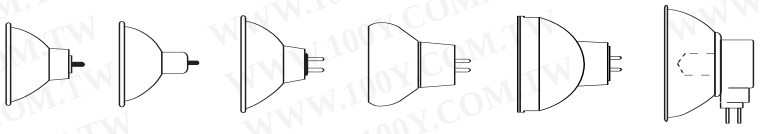


Fig. 23 Fig. 24 Fig. 25 Fig. 26 Fig. 27 Fig. 28

Stage/Studio/TV Lamps

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Mean Lumens	Rated Avg. Life (Hrs.)*	Filament	Color Temp. (K)	Envelope Finish
BTL	31891-5	500		120	Med. Pf.	4 ½		2.18	11,000	500	C-13D	3050	Clear
BTN	20481-8	750		120	Med. Pf.	4 ½		2 3/16	17,600	500	C-13D	3050	Clear
BTP	30514-4	750	750T7Q/4CL/2P	120	Med. Pf.	4 ½		2.38	21,000	200	C-13D	3200	Clear
BTR	30533-4	1000	1000T7Q/4CL/2P	120	Med Pf.	4 ½		2 3/16	28,500	250	C-13D	3200	Clear
CYV	31892-3	1000		120	Mog. Bipost	7 ¾		5	28,500	200	C-13D	3200	Clear
CYX	31893-1	2000		120	Mog. Bipost	8 ½		5	59,000	300	C-13D	3200	Clear
DWT	38295-2	1000	1000T6Q/CL	120	RX7s	5 5/8	1		23,400	2000	CC-8	3000	Clear
DXW	31219-9	1000	1000T5Q/CL	120	RX7s	3 ¾			28,000	150	CC-8	3200	Clear
DYS/DYV/BHC	31639-8	600		120	2-Pin Pf.	2 ½		1 7/16	17,000	75	CC-6	3200	Clear
EGE	39069-0	500		120	Med. Pf.	5 ½		3 ½	10,450	2000	CC-8	3000	Clear
EGG	39067-4	750		120	Med. Pf.	6		3 ½	15,000	2000	CC-8	3000	Clear
EGJ	39068-2	1000		120	Med. Pf.	6		3 ½	27,500	400	CC-8	3200	Clear
EGR	22563-1	750		120	Med. Bipost	5 ½		2 ½	21,000	150	C-13D	3200	Clear
EGT	31896-4	1000		120	Med. Bipost	5 ½		2 ½	28,500	250	C-13D	3200	Clear
EHD	26971-2	500	500Q/CL	120	Med. 2-Pin	3 5/8		2 3/8	10,600	2000	CC-8	3000	Clear
EHG	26972-0	750	750Q/CL	120	Med. 2-Pin	4 ¼		2 3/8	15,000	2000	CC-8	3000	Clear
EHT	37857-0	250	250Q/CL	120	Mini-Can	3 5/32		1 5/8	5000	2000	CC-8	3000	Clear
ESN	30759-5	100	100Q/CL	120	Mini-Can	2 ¾		1 3/8	1900	1000	CC-2V	3000	Clear
ESS	31584-6	250	250Q/CL/DC	120	D.C. Bay	3		1 5/8	5000	2000	CC-8	3000	Clear
ETC	26676-7	150	150QCL/DC	120	D.C. Bay	2 5/8		1 ½	2800	200	CC-8	2900	Clear
ETF	29850-5	150	150Q/DC	120	D.C. Bay	2 5/8		1 ½	2700	2000	CC-8	2900	Frosted
ETG	34754-2	150	150Q/CL	120	Mini-Can	3		1 ½	2800	2000	CC-8	2900	Clear
ETG	34754-2	150	150Q/CL	120	Mini-Can	3		1 ½	2800	2000	CC-8	2900	Clear
ETH	29856-2	150	150Q	120	Mini-Can	3		1 ½	2700	2000	C-8	2900	Frosted
EVR	38079-0	500	500Q/CL	120	Mini-Cam	3 ¾		2	10,000	2000	CC-8	3000	Clear
FAL	23976-4	420	420T6QCL	120	RX7s	2.63			11,000	75	CC-8	3200	Clear
FCL	20010-5	500	500T3Q/CL	120	RX7s	4 1/16			10,500	2600	C-8	3000	Clear
FCM	33269-2	1000	1000T3Q/CL	120	RX7s	4 1/16		2 ½	28,000	300	C-8	3200	Clear
FEL	26979-5	1000	1000Q/CL	120	Med. 2-Pin	4		2 3/8	27,500	300	CC-8	3200	Clear
FER/EHS	31240-5	1000	1000T6Q/4CL	120	RX7s	5 5/8			27,500	500	CC-8	3200	Clear
FER/EHS	31240-5	1000	1000T6Q/4CL	120	RX7s	5 5/8			27,500	500	CC-8	3200	Clear
FEV	13925-3	200	200Q/CL/DC	120	D.C. Bay	2 ½		1 3/8	5500	50	CC-2V	3200	Clear
FEY	13926-1	2000	2000T8Q/CL	120	RX7s	5 5/8			57,000	400	CC-8	3200	Clear
FFM	44235-0	420	420T6Q/CL	120	RX7s	3 1/8			11,000	75	CC-8	3200	Clear
FFN	34350-9	1000	1000PAR64QVNSP	120	Ext. Mog. End	6			400,000	800		3200	Clear
FFP	34351-7	1000	1000PAR64QNSP	120	Ext. Mog. End	6			330,000	800		3200	Clear
FFR	34352-5	1000	1000PAR64QMFL	120	Ext. Mog. End	6			125,000	800		3200	Clear
FFS	34353-3	1000	1000PAR64QWFL	120	Ext. Mog. End	6			40,000	800		3200	Clear
FFT	39070-8	1000	1000T4Q	120	RX7s	6 5/8		2.56	27,000	300	C-8	3200	Clear
FHM	26130-5	1000	1000T3Q	120	RX7s	4 1/16			27,300	400	C-8	3200	Frosted
FLK	24861-7	575		115	G9.5	4		2 3/8	16,500	300	CC-8	3200	Clear
FRK	39168-0	650	6638P	120	GY 9.5	1 3/8			17,500	200	C-13D	3200	Clear
GAC	23667-9	1000	6995I/BP 120V 1000W	120	2-Pin Pf.	3 ¾		1.8	27,000	250	C-13D	3200	Clear
GCX	258590	500	6986P (JPD 120-500C-BP)	120	GY 9.5	1 3/8			13,200	120	CC-6	3200	Clear
GKV	36372-1	575	6986P	230	G9.5	4 ½		2 3/8	15,000	400	C-13D	3200	Clear
GLA	29432-2	575	6992P	115	G9.5	3.97		2 3/8	13,000	1500	C-13D	3100	Clear
GLB	36373-9	575	6999P	230	G9.5	4.33		2 3/8	13,000	1500	C-13D	3100	Clear
GLC	28739-1	575	6989P	115	G9.5	3.97		2 3/8	15,500	400	C-13D	3200	Clear
HPL575	39170-6	575	7007	115	Special	4		2 3/8	16,520	300	4-C8	3250	Clear
HPL575LL	39167-2	575	7007 LL	115	Special	4		2 3/8	12,360	2000	4-C8	3050	Clear
HPL750	391714	750	7008	115	Special	4		2 3/8	21,900	300	4-C8	3250	Clear
	22886-6	250	250Q/CL	130	Mini-Can	3 5/32		1 5/8	5000	2000	CC-8	3000	Clear
6980Z	38296-0	1200	6980Z	80	G 22			2 ½	37,500	300	C-13D	3300	Clear
6981P	13420-5	750	6981P	115	G 9.5	4		2 3/8	20,500	300	C-13D	3200	Clear

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

For the most current product information, go to the e-catalog on **www.philips.com**

Stage/Studio/TV Lamps, continued

6982P	13421-3	800	6982P	120	G 9.5	4		2 3/8	20,000	300	C-13D	3200	Clear
7002Y	382978	1000	7002Y (V*L 1000)	115	G22	5 1/2		2 1/2	29,000	250	Biplane	3200	Clear
7010	25702-2	300	7010	120	GX6.35	2 11/32		1 9/32	7500	150	M	3200	Clear

High Volt SSTV Halogen Lamps

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Initial Lumens	Rated Avg. Life (Hrs.)*	Filament[2]	Color Temp. (K)	Burning Position	Std. Pkg. Qty.	LIF	Monoplane Equivalent LIF
Single-Ended																
FSL	25813-7	300	6872P	230	GY9.5	3 ½		1 ¾	7800	180	M Shape	3200	ANY	10	CP/81	
GCV/GVH	25796-4	500	6820P	230	GY9.5	3 ½		1 ¾	11,000	360	Biplane	3000	BDTH	10	T/25	T/18
FRH	25806-1	500	6873P	230	GY9.5	3 ½		1 ¾	13,500	180	M Shape	3200	ANY	10	CP/82	
—	14104-4	500	7389	230	GY 9.5	3		1 15/32	14,000	75	Biplane	3200	BDTH	10	A1/224	
HPL 575 (230)	14564-9	575	7007	230	SPECIAL	4		2 3/8	14,900	400	SPECIAL	3200	ANY	10		
HPL 575LL (230)	14565-6	575	7007	230	SPECIAL	4		2 3/8	11,780	1500	SPECIAL	3100	ANY	10		
GKV	36372-1	600	6986P	230	G 9.5	4		2 3/8	15,000	300	Biplane	3200	ANY	10		
GLB	36373-9	600	6991P	230	G 9.5	4		2 3/8	13,000	1500	Biplane	3100	ANY	10		
—	14103-6	650	6998P	230	GX 9.5	4 3/8		2 1/8	13,000	750	Biplane	3000	ANY	10	T 21	
GCK/GCT	25794-9	650	6823P	230	GY9.5	3 ½		1 ¾	14,500	600	Biplane	3050	BDTH	10	T/27	T/26
FKH	25820-2	650	6993Z	230	G22	5 ½		2 ½	16,500	120	Biplane	3200	BDTH	10	CP/68	CP/39
HPL 750 (230)	14566-4	750	7008	230	SPECIAL	4		2 3/8	20,650	300	SPECIAL	3200	ANY	10		
—	13421-3	800	6982P	230	G 9.5	4 1/8		2 3/8	20,000	300	Biplane	3200	ANY	10		
FEP	14107-7	1000	6983P	230	G 9.5	4		2 3/8	26,000	250	Biplane	3200	ANY	10	CP/77	
FVA	14108-5	1000	6995P	230	GX9.5	4 ½		2 1/8	25,000	240	Biplane	3200	BDTH	10	CP/70	CP/24
FKD	25803-8	1000	6996C	230	P28s	5		2 1/8	21,000	900	Biplane	3050	BDTH	10	T/20	T/14
VL 1000	13041-9	1000	7002Y	230	G 22	5 ½		2 ½	29,000	250	Biplane	3200	ANY	10		
FKJ	14247-1	1000	6995Z	230	G 22	5 ½		2 1/8	25,000	240	Biplane	3200	ANY	10	T/20	
FWP	25804-6	1000	6996P	230	GX 9.5	4		2 1/8	21,000	750	Biplane	3050	ANY	10	T/19	
FWS	14105-1	1200	6897P	230	GX 9.5	4 ¾		2 3/8	27,600	400	Biplane	3000	ANY	10	T/29	
—	14106-9	2500	6894Y	230	G 22	6 ⅞		3 ½	67,500	350	Biplane	3200	ANY	10	CP/91	
—	29093-2	5000	6963Z	230	G38	11		6 ½	132,500	400	Biplane	3200	ANY	1	CP/85	CP/29
Double-Ended																
—	36417-4	500	PF821 R	230	RX7s	5.31	3		11,000	75	CC-8	3200	Horiz. ±15°	10		
	25841-8	625	7775R/16	230	R 7s	7 ½	4 ¾		16,250	150	CC-8	3200	Horiz. ±15°	10	P2/10	
EME[1]	31349-4	800	13477 R	230	RX7s	4 ⅜	2 ½		24,000	150	C-8	3200	Horiz. ±15°	10	P2/11	
	27085-0	1000	13704R	230	R7s	3 ⅝	1 ⅛		26,500	120	C-8	3200	Any	10	P 2/35	
	27072-8	1000	7786R	230	R7s	4 ⅜	2 ⅜		27,000	300	C-8	3200	Horiz. ±15°			

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
1) These lamp types must be operated with a separate rapid acting High Breaking-Capacity fuse, either 415V AC or 500V DC working in accordance with the supply in use as per end of table.
2) C.C. = coiled coil, S.C. = single coil

MSR Lamps Single-Ended Gas Discharge

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base
Hot Restrike[1]										
MSR 125 HR	35468-8	125	80	1.6	9400	200	4		6000	GZX9.5
MSR 200 HR	32466-5	200	70	3.3	15,000	200	5	92	6000	GZY9.5
MSR 400 HR	20477-6	400	70	6.9	32,000	750	6	95	6000	GZZ9.5
MSR 575 HR	31160-5	575	95	6.95	49,000	2000	7	95	6000	G 22
MSR 1200 HR	30270-3	1200	100	13.8	110,000	1000	10	95	6000	G 38
MSR 1200 HR/C	36041-2	1200	100	13.8	110,000	1000	10	95	6000	Special
MSR 2500 HR	30265-3	2500	115	25.6	240,000	500	14	95	6000	G 38
MSR 4000 HR	33579-4	4000	200	24	380,000	500	20	95	6000	G 38
MSR 6000 HR	36042-0	6000	125	55	570,000	500	24	95	6000	GY 38
MSR 12,000 HR	39071-6	12,000	160	86	1,200,000	300	30	95	6000	GY 38
Standard										
MSR 400	30268-7	400	70	6.9	32,000	1000	6	92	5900	GX 9.5
MSR 575/2	24528-2	575	95	6.95	49,000	1000	7	80	7200	GX 9.5
MSR700/2	28723-5	700	72	11	55,000	1000	8	80	7200	G 22/28x42
MSR 1200	30266-1	1200	100	13.8	110,000	800	10	95	5900	G 22/30x53
MSR 1200/2	28695-5	1200	90	13.8	110,000	800	10	85	7200	G 22/30x53
Short Arc										
MSR 400 SA	35365-6	400	54	8.4	30,000	750	3	92	5500	GY 9.5
MSR 700 SA	28718-5	700	72	11	45,000	750	4	80	5600	GY 9.5
MSR 1200 SA	29135-1	1200	100	13.8	96,000	750	7	80	5600	GY 22
MSR 2000 SA	38281-2	2000		20	155,000	750	7	80	6000	GY 22

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
1) Lamps must be used in fixtures designed for hot restrike.

For the most current product information, go to the e-catalog on **www.philips.com**

MSR SA/DE Gold (Double-Ended) Lamps

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base	MOL (mm)
MSR 400 SA/DE GOLD	13617-6	400		8.4	27,000	1000	3	70	7500	SFC 10-4	135
MSR 700 SA/DE GOLD	13701-8	700	70	10.2	59,000	1000	4	80	6500	SFC 10-4	135
MSR 1200 SA/DE GOLD	13986-5	1200	100	13.6	110,000	1000	7	85	6000	SFC 10-4	135

MSD Lamps

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base
MSD 200	34592-6	200	70	3.4	13,500	2000[1]	5	80	6000	GY 9.5
MSD 250	29152-6	250	90	3	17,000	3000	5	77	6700	GY 9.5
MSD 250/2	27721-0	250	90	3	17,000	3000	5	65	8500	GY 9.5
MSD 575	27479-5	575	95	6.95	45,000	3000	8	75	6000	GX 9.5
MSD 575 HR	39168-9	575	95	6.95	46,000	2000	8	75	6000	G 22
MSD 700	35364-9	700	72	11	55,000	3000	10	75	6000	G 22
MSD 1200	29134-4	1200	115	13.8	92,000	3000	14	95	6000	G 22

MHD Lamps

MHD 200	20985-8	200	63	4.5	12,500	2000	4.5	75	6600	Special Prefocus
MHD 1800	31360-1	1800	120	17.3	155,000	4000		92	5600	SFC20-6

Sealed Beam

ANSI Code	Product Number	Watts	Description	Volts	Base	Diameter (In.)	Diameter (mm)	MOL (In.)	MOL (mm)	Lumens	Rated Avg. Life (Hrs.)*	Color Temp. (K)	Burning Position	Beam Shape
—	35619-6	500	500PAR56Q/NSP	120	Mog. End	7	179	5	127	88,000	4000	2950	Universal	Narrow Spot
—	35621-2	500	500PAR56Q/MFL	120	Mog. End	7	179	5	127	43,000	4000	2950	Universal	Med. Flood
—	35620-4	500	500PAR56Q/WFL	120	Mog. End	7	179	5	127	22,500	4000	2950	Universal	Wide Flood
—	27555-2	1000	1000PAR64Q/NSP	120	Ext. Mog. End	8	204	6	150	200,000	4000	3000	Universal	Narrow Spot
—	27556-0	1000	1000PAR64Q/MFL	120	Ext. Mog. End	8	204	6	150	80,000	4000	3000	Universal	Med. Flood
—	27558-6	1000	1000PAR64Q/WFL	120	Ext. Mog. End	8	204	6	150	31,000	4000	3000	Universal	Wide Flood
FFN	34350-9	1000	1000PAR64QVNSP	120	Ext. Mog. End	8	204	6	150	400,000	800	3200	Universal	Very Nar. Spot
FFP	34351-7	1000	1000PAR64QNSP	120	Ext. Mog. End	8	204	6	150	330,000	800	3200	Universal	Narrow Spot
FFR	34352-5	1000	1000PAR64QMFL	120	Ext. Mog. End	8	204	6	150	125,000	800	3200	Universal	Medium Flood
FFS	34353-3	1000	1000PAR64QWFL	120	Ext. Mog. End	8	204	6	150	40,000	800	3200	Universal	Wide Flood

MasterColor® CDM/SA (Short Arc)

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Mean Lumens	Rated Avg. Life (Hrs.)*	CRI	Color Temp. (K)	Arc Gap (mm)
—	36039-6	150	CDM150SA/942	207	G12	5.71	—	2 ¼	12,900	6000	96	4200	6
—	38278-8	150	CDM-SA/R150/942	207	Special	5 ¾	—	—		6000	96	4200	6
—	14248-9	150	CDM-R 150/832	207	Special	5 ¾				6000	85	3200	6

Micro Power Light (MPXL)

Product Number	Description	Type	Wattage	Life	Lumens	Color Temperature (K)	CRI	Burning Position	MOL (In.)
14442-8	**MPXL DL35 24PK**	DL35	35	5000	3600	6500	90	Horizontal ±10°	3
14417-0	**MPXL DL50**	DL50	50	3000	5300	3900	75	Horizontal ±10°	3
14443-6	**MPXL RP50**	RP50	35	5000		3900	75	Horizontal ±10°	2.6
13474-2	**MPXL DUV**	DUV	35	500	—	—	—	Horizontal ±10°	3

MSI Lamps

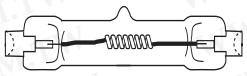
Product Number	Description	Watts	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	Color Temperature (K)	MOL (mm)	Base	Burning Position
39072-4	**MSI 575W**	575	6.95	49,000	1000	7	5600	136	SFC10-4	Any
13091-4 Replaced by	**MSI 1200W/S MSR 1200SA/DE GOLD**	1200	13.2	110,000	750	7	6000	136	SFC10-4	Any
39073-2	**MSI 1200W**	1200	13.8	110,000	1000	10	5600	220	SFC15.5-6	Any
16244-6	**MSI 1800W**	1800	17.5	155,000	2000	25	5600	240	SFC18.5-6	Horiz. ± 15°
39074-0	**MSI 2500W**	2500	25.6	240,000	600	20	5600	355	SFA21-12	Horiz. ± 30°
39075-7	**MSI 4000W**	4000	24	410,000	600	34	6000	405	SFA21-12	Horiz. ± 15°
39076-5	**MSI 6000W**	6000	55	570,000	400	22	6000	450	S25.5X60	Horiz. ± 15°
39165-6	**MSI 12000W**	12000	82	1,100,000	300	32	6000	470	S25.5X60	Horiz. ± 15°

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
1) Vertical burning position life is 750 hours.

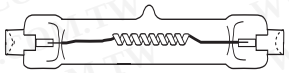
For the most current product information, go to the e-catalog on **www.philips.com**

Bulb Shapes and Base Types (Not Actual Sizes)

Double-Ended Tungsten Halogen Lamps
3 1/8, 3 3/4, 4 3/8, 4 11/16, 5 5/8 and 6 5/8 MOL
RX7s Base



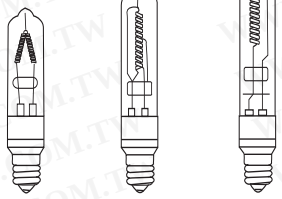
DWY, DWZ, DXN, DXW, FBY



DWT, FER/EHS, FEY

EHM, EHZ, EJG, FCL, FCM, FFT, FHM

Mini-Can Base Single-Ended
Tungsten Halogen Lamps

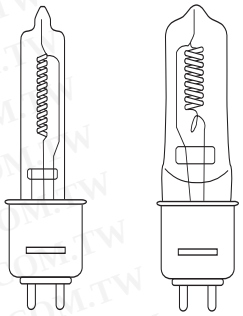


ESN
ETH

EHT
250Q/CL

EVR

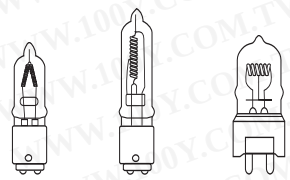
Medium Two-Pin
Tungsten Halogen Lamps (G9.5)



EHD
500Q/CL

EHG
FEL

Double Contact Bayonet Bases (BA 15d)
Tungsten Halogen-Miniature Two-Pin Base (G5.3)
Tungsten Halogen-Two-Pin Prefocus Base (GZ 9.5)

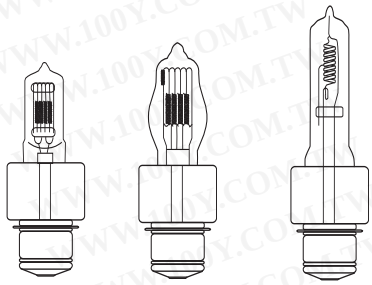


FEV
150/DC

ESS
500Q/CL/DC

DYS/DYV/BHC
(GZ9.5)

Medium Prefocus Lamps With 23/16" L.C.L. (P28s)
Medium Prefocus Lamps With 31/2" L.C.L. (P28s)

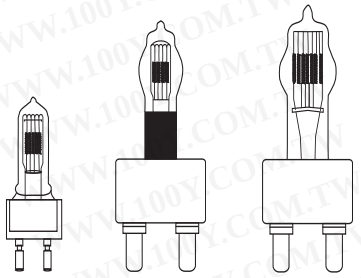


BTL

BTP
BTR

EGE, EGF,
EGG, EGJ

Medium Bipost Lamps With 21/2" L.C.L. (G 22)
Mogul Bipost Lamps With 5" And 61/2" L.C.L. (G 38)

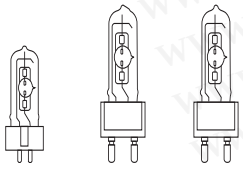


EGR
EGT

CYV

CYX
FKK (5" LCL)

MSR Lamps
(Medium Source Rare Earth Lamps)

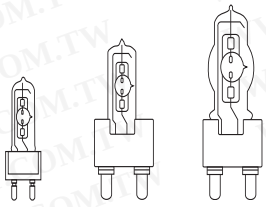


MSR 400

MSR 700

MSR 1200

MSR/HR Lamps (Medium Source Rare Earth
Lamps Hot Restrike Version)

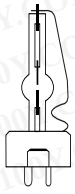


MSR
575/HR

MSR
1200/HR

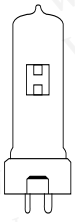
MSR
2500/HR

MSR Short
Arc Lamps



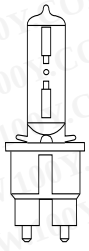
MSR
400W SA

MSD Lamps



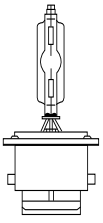
MSD
200W/2

MHD Lamps

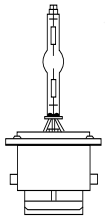


MHD
200

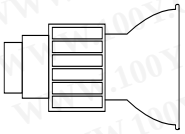
Micro Power Light (MPXL)



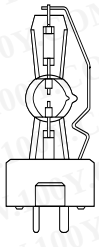
MPXL DL-35W
MPXL DL-50W



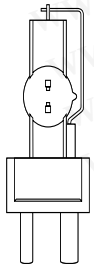
DUV-35W



MPXL RP50



MSR 400 SA/MSR 700 SA



MSR 1200 SA/MSR 2000 SA

Short Arc Lamps

Product Number	Description	Nominal Watts	Volts	Lumens	Base	LCL (In.)	MOL (In.)	Fig. No.
31644-8	**★SAH250B D.C. Operation Only**[1]	250	42	10,000	Med. Pf.	2.8	6	—

1) Should be operated on a control circuit which supplies direct current to the lamp.
★ Heat resisting glass bulb.

Medium Pressure Metal Halide Lamps

Product Number	Description	Nominal Wattage	Lamp Voltage	Nominal Length (mm)	Diameter (mm)	Fig. No.
44431-5	**HPM 10/B**	400	125	112	17	1-S
30832-0	**HPM 12**	460	120	98	21	2-S
44440-6	**HPM 13**	1000	125	147	27	1-S
30831-2	**HPM 15**	1950	240	203	32	2-S
30829-6	**HPM 17**	2000	243	175	27	2-S
30828-8	**HPM 19**	2000	200	179	27	2-S
30827-0	**HPM 20**	2900	350	236	27	1-S
44439-8	**HPM 20C**	2900	350	210	27	2-S
44448-9	**HPA 400S**	400	125	118	18	3-S

Low Pressure Pulsed Xenon Discharge Lamps

Product Number	Description	Nominal Wattage	Lamp Voltage	Maximum Length (mm)	Width or Diameter (mm)	Fig. No.
30750-4	**XOP 7 O/F**	750	52	241	16.2	8-S
30749-6	**XOP 15 O/F**	1500	105	395	16.2	8-S

Fluorescent Lamps with Super Actinic Radiation—Medium BiPin Base

Product Number	Description	Nominal Wattage	Nominal Current (Amps)	Bulb	Nominal Length (mm)	(In.)	Fig. No.
29747-3	**TLD 15W/03**	15	0.34	T8	452	18	10-S
30800-7	**TL20W/03**	20	0.37	T12	604	24	9-S
30805-6	**TLDK30W/03**	30	0.81	T8	452	18	10-S
30807-2	**TLK40W/03**	40	0.86	T12	604	24	9-S
30801-5	**TL40W/03**	40	0.86	T12	1214	48	9-S
30808-0	**TL140W/03**	140	1.46	T12	1514	60	9-S

Fluorescent Lamps with Actinic Radiation

Product Number	Description	Nominal Wattage	Nominal Current (Amps)	Bulb	Nominal Length (mm)	(In.)	Fig. No.
30812-2	**TLK40W/05**[2]	40	0.86	T12	604	24	9-S

2) No longer available after June 2006.

Black Light Blue Lamps These lamps are not intended and should not be used for therapeutic or diagnostic purposes.

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Bulb	Base	Rated Average Life (Hrs.)*	UVA Watts	Fig. No.
36017-2	**F4T5/BLB**	4	Black Light-Integral Filter	6	T5	Min. Bipin	6000	0.5	11-S
35841-6	**F6T5/BLB**	6	Black Light-Integral Filter	9	T5	Min. Bipin	7500	0.9	11-S
11065-0	**F8T5/BLB**	8	Black Light-Integral Filter	12	T5	Min. Bipin	7500	1.2	11-S
20678-9	**PL9W/08**	9	Black Light-Integral Filter	6 ½	PL-S	G23	10,000	1.7	16-S
39223-3	**F15T8/BLB, 6 pack**	15	Black Light-Integral Filter	18	T8	Med. Bipin	7500	3.1	10-S
29271-4	**F15T8/BLB**	15	Black Light-Integral Filter	18	T8	Med. Bipin	7500	3.1	10-S
39224-1	**F20T12/BLB, 6 pack**	20	Black Light-Integral Filter	24	T12	Med. Bipin	9000	3.7	9-S
39151-6	**F20T12/BLB**	20	Black Light-Integral Filter	24	T12	Med. Bipin	9000	3.7	9-S
26271-7	**F30T8/BLB**	30	Black Light-Integral Filter	36	T8	Med. Bipin	7500	6	10-S
39225-8	**F40BLB, 6 pack**	40	Black Light-Integral Filter	48	T12	Med. Bipin	20,000	9	9-S
39053-4	**F40BLB**	40	Black Light-Integral Filter	48	T12	Med. Bipin	20,000	9	9-S

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
For the most current product information, go to the e-catalog on **www.philips.com**

Special Blue (Therapeutic) Lamps T12 Bipin

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Rated Average Life (Hrs.)*	Approx. Initial Avg. Lumens	Design Lumens
31745-3	**F20T12/BB**	20	Special Blue	24	9000	192	154
20189-7	**F40/BB**	40	Special Blue	48	20,000	468	360

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
NOTE: Black Light and Special Blue Lamps are not designed for general illumination.
WARNING: Ultraviolet Radiation
Wear protective eyewear in occupational situations and in close proximity to these lamps. Failure to may result in severe burns and long-term injury to the eyes. Certain medications and chemicals may increase your sensitivity to ultraviolet radiation. Consult your physician. These lamps can be harmful to skin and eyes in situations where people are exposed for extended periods of time. Unshielded lamps should be installed at least 40 inches from people.

UVA 365nm Peak Lamps For graphic arts, lacquer curing and insect trap applications

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Bulb	Base	Rated Average Life (Hrs.)*	UVA Watts	Fig. No.
31006-0	**PL-S 9W/10**	9	UVA Lamp	6 1/2	PL-S	G23	2000	1.9	16-S
13036-9	**F15TB/BL**	15	Black Light	18	TB	Min. Bipin	5000	3.1	10-S
13034-4	**PL-L 18W/10**	18	UVA Lamp	9	PL-L	2G11	5000	3.4	15-S
39152-4	**F20BL**	20	Black Light	24	T12	Med. Bipin	5000	3.7	9-S
24675-1	**TLK 40W/10R**	40	UVA Reflector Lamp	24	T12	Med. Bipin	3000	7.4	9-S
39153-2	**F40BL**	40	Black Light	48	T12	Med. Bipin	9000	9.0	9-S
26169-3	**TL 60W/10R**	60	UVA Reflector Lamp	48	T12	Med. Bipin	1000	15.8	9-S
26885-4	**TL 80W/10R**	80	UVA Reflector Lamp	60	T12	Med. Bipin	1000	20.5	9-S
24694-2	**TL 100W/10R**	100	UVA Reflector Lamp	70	T12	Med. Bipin	1000	26.6	9-S
24607-6	**TL 140W/10R**	140	UVA Reflector Lamp	60	T12	Med. Bipin	1000	37.0	9-S
24697-5	**TL 176D38/10**	140	UVA Lamp	70	T12	Med. Bipin	1000	38.2	9-S
24698-3	**TL 176D38/10R**	140	UVA Reflector Lamp	70	T12	Med. Bipin	1000	31.7	9-S

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Germicidal Sterilamp® 254nm Lamps

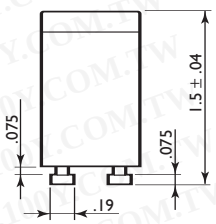
Product Number	Description	Lamp Wattage[1]	UV-C Watts[2]	Bulb	Base	Rated Average Life (Hrs)[3]	Nominal Length (In.)	Fig. No.
Hot Cathode								
36371-3	**TUV4T5**	4	0.9	T5	Min. Bipin	6000	6	12-S
24485-5	**TUV6T5**	6	1.5	T5	G5	8000	9	12-S
29930-5	**TUV8T5**	8	2.1	T5	Min. Bipin	8000	12[4]	12-S
30864-3	**TUV15T8**	15	4.7	T8	Med. Bipin	8000	18[4]	12-S
29268-0	**TUV25T8**	25	7	T8	Med. Bipin	8000	18[4]	12-S
36016-4	**TUV30T8**	30	11.2	T8	Med. Bipin	8000	36[4]	12-S
26269-1	**TUV36W**	36	15.3	T8	Med. Bipin	8000	48[4]	12-S
29090-8	**TUV75WHO**	75	26	T12	Med. Bipin	8000	48[4]	12-S
23596-0	**TUV115W**	115	38.8	T12	Med. Bipin	5000	48[4]	12-S
Twin Tube PL-S/ PL-L Hot Cathode								
38186-3	**TUV PL-S 5W**	5	1	PL-S	G23	8000	4	16-S
32512-6	**PL-S9W/TUV**	9	2.4	PL-S	G23	9000	6 ½	16-S
21064-1	**PL-L18W/TUV**	18	5.5	PL-L	2G11	9000	8 15/16	15-S
13726-5	**PL-L35W/TUV**	35	11	PL-L	2G11	9000	8 15/16	15-S
26585-0	**PL-L36W/TUV**	36	12	PL-L	2G11	9000	16 7/16	15-S
29464-5	**PL-L55W/TUV**	55	17	PL-L	2G11	9000	22 ½	15-S
13035-1	**PL-L60W/TUV**	60	18	PL-L	2G11	9000	16 7/16	15-S
13725-7	**PL-L95W/TUV**	95	32	PL-L	2G11	9000	22 ½	15-S
Slimline T5								
38542-7	**TUV 11W**	11	2.2	T5	4-Pin	8000	10	14-S
38541-9	**TUV 16W**	16	3.9	T5	4-Pin	8000	13	14-S
13341-3	**TUV 25W**	16	7.2	T5	4-Pin	8000	20	14-S
29267-2	**TUV36T5/SP**	39[5]	15	T5	Single Pin	9000	34	13-S
36209-5	**TUV36T5 4P SE**	39[5]	15	T5	4-Pin	9000	34	14-S
29269-8	**TUV64T5/SP**	75	31	T5	Single Pin	9000	62	13-S
38303-4	**TUV64T5 4P SE**	75	31	T5	4-Pin	9000	62	14-S
36217-8	**TUV64T5 4P SE**	75	31	T5	4-Pin	9000	62	14-S
13389-2	**TUV36T5 HO 4P SE**	75	25	T5	4-Pin	9000	34	14-S
39200-1	**TUV64T5 HO 4P SE**	145	48	T5	4-Pin	9000	62	14-S

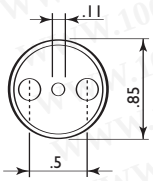
1) Wattages shown are for operation from a transformer or ballast, currently standard, under specified test conditions.
2) 100 Hour 3) Rated average life when burned at 8 hours per start and under IES/ANSI test conditions. 4) Approximate overall length including two standard lamp holders.
5) Wattage shown is for lamp operating current of 420 ma. Wattage will vary at other operating currents as follows: 120 ma. — 17 watts; 200 ma. — 25 watts; 300 ma. — 32 watts.
For the most current product information, go to the e-catalog on **www.philips.com**

Starters

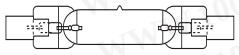
Product Number	Description	Circuit	Standard Package Quantity	Fluorescent Lamps
33118-1	**S10 STARTER 25PK**	Single 220-240V	25	4-85W
13367-2	**Cleo Power Starter**	Single 220-240V	500	100/180W

For the most current product information, go to the e-catalog on **www.philips.com**

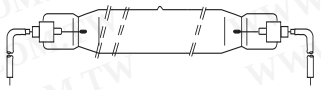




Specialty Bulb Shapes (Not Actual Sizes)

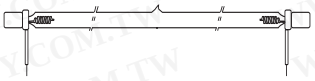


HPM 10/B, 13, 19, 20
Fig. 1-S



HPM 12,14, 15, 17, 19, 20C,
Fig. 2-S

HPA 400S
Fig. 3-S



XOP 7, 15, 25, O/F
Fig. 8-S

T12 Medium Bipin
Figure 9-S

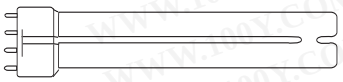
T8 Medium Bipin
Figure 10-S

T5 Miniature Bipin
Figure 11-S

Hot Cathode Sterilamp
Figure 12-S

Cold Cathode and Slimline Sterilamp
Figure 13-S

Slimline Sterilamp
Figure 14-S



PL-L
Figure 15-S

PL-S
Figure 16-S

Quartz Infrared Heat Lamps

Watts	Product Number	Description	Volts	Bulb	Base	Pkg. Qty.	Finish	Filament	LL (In.)	LL (mm)	MOL (In.)	MOL (mm)	Rated Avg. Life (Hrs.)*	Diam. (mm)	W/cm	Color Temp. (K)	Burning Position	Fig. No.
200	36043-8	**13912R**	230	T-3	RX7s	10	Clear	C-8	4.7	120	7.4	189	5000	11	16.7	2300	Universal	2
375	20997-3	**375T3/7**	120	T-3	RX7s	10	Trans.	C-8	5	127	8.6	217.6	5000	11	29.5	2450	Universal	2
500	21651-5	**500T3**	120	T-3	U	10	Trans.	C-8	5	127	8.8	223.8	5000	11	39.4	2450	Horiz.±15°	6
	20994-0	**500T3/7**	120	T-3	RX7s	10	Trans.	C-8	5	127	8.6	217.6	5000	11	39.4	2450	Horiz.±15°	2
	31203-3	**13169X**	120	T-3	X	10	Clear	C-8	5.6	142	9.5	241	5000	11	35.2	2450	Horiz.±15°	3
	31207-4	**13169Y**	120	T-3	Y	10	Clear	C-8	5.6	142	8.6	218	5000	11	30.3	2450	Horiz.±15°	7
	31205-8	**13169X/98**[1]	120	T-3	X	10	Reflector	C-8	5.6	142	9.5	241	5000	11	35.2	2450	Horiz.±15°	3
800	21680-4	**800T3**	120	T-3	U	10	Trans.	C-8	8	203	12	303	5000	11	39.4	2450	Horiz.±15°	6
1000	20995-7	**1000T3**	240	T-3	U	10	Trans.	C-8	10	254	13.8	350.8	5000	11	39.4	2450	Horiz.±15°	6
	21000-5	**1000T3/CL**	240	T-3	U	10	Clear	C-8	10	254	13.8	350.8	5000	11	39.4	2450	Horiz.±15°	6
	31213-2	**13195X**	235	T-3	X	10	Clear	C-8	10.7	272	14.6	370	5000	11	36.8	2450	Horiz.±15°	3
	31225-6	**13195Y**	235	T-3	Y	10	Clear	C-8	10.7	272	13.7	348	5000	11	36.8	2450	Horiz.±15°	7
	31267-8	**13713Z/98**[1]	235	T-3	Z	10	Reflector	C-8	10.7	272	14	357.5	5000	11	36.8	2450	Horiz.±15°	4
	31260-3	**13713X**	235	T-3	X	10	Clear	C-8	10.7	272	14.6	370	5000	11	36.8	2450	Horiz.±15°	3
	31216-5	**13195X/98**[1]	235	T-3	X	10	Reflector	C-8	10.7	272	14.1	360	5000	11	36.8	2450	Horiz.±15°	3
	29105-4	**6990P**	120	T6	G9.5	10	Clear	CC-8	1.375	60.3	4	101	300	20		2450	Universal	9
	29107-0	**6990P Long Life**	120	T6	G9.5	10	Clear	CC-8	1.375	60.3	4	101	450	20		3100	Universal	9
1200	28853-0	**13561Y/00**	144	T-3	Y	10	Clear	C-8	6.1	155	9	228	5000	11	77.4	2450	Horiz.±15°	1
	27063-7	**13561Y/98**[1]	144	T-3	Y	10	Reflector	C-8	6.1	155	9	228	5000	11	77.4	2400	Horiz.±15°	1
1600	21676-2	**1600T3**	208	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz.±15°	6
	20996-5	**1600T3**	240	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz.±15°	6
	21590-5	**1600T3**	277	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz.±15°	6
	21003-9	**1600T3/7**	240	T-3	RX7s	10	Trans.	C-8	16	406	19.6	498.5	5000	11	39.4	2450	Horiz.±15°	2
	21678-8	**1600T3/CL**	240	T-3	U	10	Clear	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz.±15°	6
	28875-3	**13568Y/00**	144	T-3	Y	10	Clear	C-8	6.1	155	9	228	5000	11	103.2	2450	Horiz.±15°	1
	27062-9	**13568Y/98**[1,2]	144	T-3	Y	10	Reflector	C-8	6.1	155	9	228	5000	11	103.2	2500	Horiz.±15°	1
	28378-8	**1600T3/CL**	277	T-3	U	10	Clear	C-8	16	406	19.8	503	5000	11	39.4	2500	Horiz.±15°	6
2000	31198-5	**13168X**	235	T-3	X	10	Clear	C-8	11.1	282	14.6	370	5000	11	71.4	2450	Horiz.±15°	3
	31200-9	**13168Z/98**[1]	235	T-3	Z	10	Reflector	C-8	11	280	14	357.5	5000	11	71.4	2450	Horiz.±15°	4
	21169-8	**13213Y/00**	235	T-3	Y	10	Clear	C-8	11	280	14	357.5	5000	11	71.4	2450	Horiz.±15°	1
	31252-0	**13245X/98**[1]	400	T-3	X	10	Reflector	C-8	16.2	410	20	508	5000	11	48.8	2450	Horiz.±15°	3
	31269-4	**13765X**	400	T-3	X	10	Clear	C-8	16.2	410	20	508	5000	11	48.8	2450	Horiz.±15°	3
	26665-0	**14103Z/98**[1]	235	T-3	SK15	10	Reflector	C-8	11	280	14.1	360	5000	11	71.4	2450	Horiz.±15°	5
	21592-1	**2000T3/1CL/HT**	240	T-3	U	10	Clear	C-8	10	254	12	303	5000	11	78.8	2500	Horiz.±15°	6
	21648-1	**2000T3/1CL**	240	T-3	U	10	Clear	C-8	10	254	12	303	5000	11	78.8	2450	Universal	6
	36855-5	**13765X/98**	400	T-3	X	10	Reflector	C-8	16.1	410	20	508	5000	11	48.8	2450	Universal	3
	35703-8	**13168V**	240	T-3	V	10	Clear	C-8	11	280	13.8	350	5000	11	71.4	2450	Horiz.±15°	8
	37811-7	**13213Z/98**	235	T-3	Z	10	Reflector	C-8	11	280	14.1	358	5000	11	71.1	2450	Horiz.±15°	4
2500	20998-1	**2500T3**	480	T-3	U		Trans.	C-8	25	635	28.8	731	5000	11	39.4	2450	Horiz.±15°	6
	21689-5	**2500T3/7**	480	T-3	RX7s	10	Trans.	C-8	25	635	28.7	730	5000	11	39.4	2450	Horiz.±15°	2
	23874-1	**2500T3/CL**	480	T-3	U	10	Clear	C-8	25	635	28.8	731	5000	11	39.4	2450	Horiz.±15°	6
	28217-8	**14120R**	480	T-3	RX7s	10	Clear	C-8	25	635	28.7	728	5000	11	39.4	2450	Horiz.±15°	2
3000	31244-7	**13230X**	400	T-3	X	10	Clear	C-8	27.6	700	31.4	798	5000	11	42.9	2450	Universal	3
	23648-9	**13230X/98**[1]	400	T-3	X	10	Reflector	C-8	27.6	700	31.4	798	5000	11	42.9	2450	Horiz.±15°	3
3200	25435-9	**3200T3/CL**	240	T-3	U	10	Clear	C-8	32.1	815	41.8	1062	5000	11	39.3	2450	Horiz.±15°	6
3800	22128-3	**3800T3**	575	T-3	U	6	Trans.	C-8	38	965	41.8	1062	5000	11	39.4	2450	Horiz.±15°	6
	22127-5	**3800T3/CL**	570	T-3	U	6	Clear	C-8	38	965	41.8	1062	5000	11	39.4	2450	Horiz.±15°	6
	22129-1	**3800T3/CL/UB**	575	T-3	U	6	Clear	C-8	38	965	41.8	1062	5000	11	39.4	2450	Vertical	6
5000	36845-6	**5000T3/1CL/HT**	600	T-3	U	6	Clear	C-8	25.1	638	28.8	731	5000	11	78.4	2450	Horiz.±15°	6
6000	29114-6	**13170V**	480	T-3	V	10	Clear	C-8	11.2	284	13.8	350	5000	11	211.3	2450	Horiz.±15°	8
	29123-7	**13138V**	480	T-3	V	10	Clear	C-8	9.3	236	12	303	5000	11	194.7	3000	Horiz.±15°	8
6850	29170-8	**14118V**	480	T-3	V	10	Clear	C-8	9.52	242	11.9	303	1000	11	28.3	3000	Horiz.±15°	8

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

1) Lamps have white reflective coating on bulb

2) Lamps have fork terminals

For the most current product information, go to the e-catalog on **www.philips.com**

HeLeN Quartz Infrared Heat Lamps

Infrared HeLeN glare reduction lamps have a gold coating which reduces visible glare and raises the infrared output when compared to existing zone ruby sleeve heating lamps. These lamps feature a substantially lower visible glare level than either ruby and neutral density zone heating lamps. They have a narrower diameter and better color rendering than ruby sleeve lamps

Watts	Product Number	Description	Volts	Bulb	Base	Pkg. Qty.	Finish	Filament	LL (In.)	LL (mm)	MOL (In.)	MOL (mm)	Rated Avg. Life*	Diam. (mm)	W/cm	Color Temp. (K)	Burning Position	Fig. No.
500	28836-5	**15018U**	120	T-3	U	10	HeLeN	C-8	5	127	8.8	223.8	5000	11	39.4	N/A	Horiz.±15°	6
1000	36516-3	**15024Z**	120	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	5000	11	35.7	N/A	Horiz.±15°	5
	28050-3	**15007Z**	235	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	7000	11	35.7	N/A	Horiz.±15°	5
	38175-6	**15019U**	235	T-3	U	10	HeLeN	C-8	10.7	272	13.7	347	7000	11	36.8	N/A	Horiz.±15°	6
	28925-6	**15019Z**	235	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	7000	11	35.7	N/A	Horiz.±15°	5
3000	249615	**15012U**	235	T-3	U	10	HeLeN	C-8	16.3	413	19.9	504	5000	11	72.6	N/A	Universal	6

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
For the most current product information, go to the e-catalog on **www.philips.com**

Tubular Quartz Infrared Bulb Shapes (Not Actual Sizes)

Tubular quartz infrared heat lamps are designed for service other than illumination. Unless otherwise noted,

1. Tubular quartz heat lamps should not be used in equipment where the seal temperatures exceed 350° F.
2. Operating position is HORIZONTAL.
3. RX7s Base = Recessed Single Contact

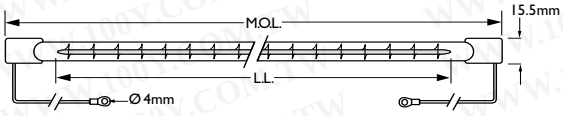


Fig. 1 (Y Base)
Leads Are Approximately 6"

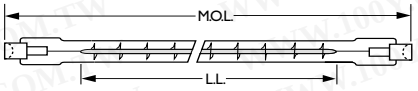


Fig. 2 (RX7s Base)

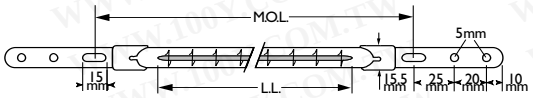


Fig. 3 (X Base)

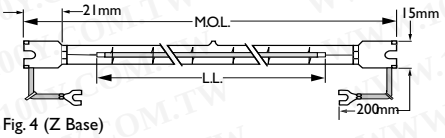


Fig. 4 (Z Base)

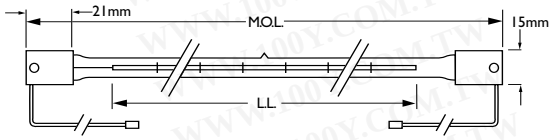


Fig. 5 (SK15 Base)
13844Z/98—Lead is 15.7", 14103Z/98—Lead is 9"

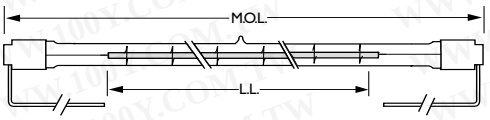


Fig. 6 (U Base)
Leads Are Approximately 6"

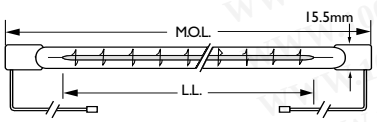


Fig. 7 (Y Base)
13169Y—Lead is 6.3". 13195Y—Lead is 7.8"

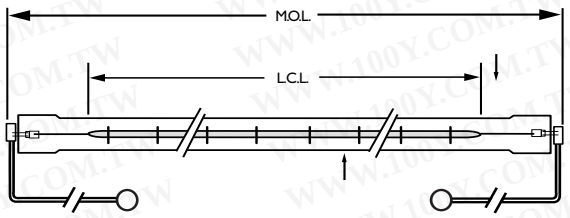


Figure 8 (V Base)
13136V, 13170V, 13138V, 14118V lead is 1.5"
13168V leads are 4.7" and 5.5"

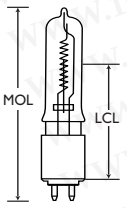


Fig. 9 (G9.5 Base)

Accent Lighting
Concentrated light on a subject which highlights it and causes it to stand out from its surrounding. Depending on degree of drama desired, accent light should minimally be 10x the general light or ambient light.

Accommodation
The involuntary muscular process by which the eye changes focus from one distance to another.

Adaptation
The involuntary process by which the visual system changes its sensitivity, depending on the luminances prevailing in the visual field. The process involves both the iris and the light sensitive cells of the retina.

ALTO® Lamp Technology
Philips ALTO® Lamp Technology is widely recognized as a leading low-mercury solution for fluorescent lighting. This technology uses capsule dosing to precisely control the amount of mercury in each ALTO lamp. Long-life ALTO lamps further reduce the need to replace lamps and, as a result, decrease the amount of mercury used over life of any lighting installation.

Ballast
The ballast is an electrical device that performs two basic functions: 1) provides the starting voltage and 2) limits the current to sustain lamp operation.

Ballast types for fluorescent lamps:

Instant Start: Instant start electronic ballasts are the most popular type of electronic ballast today because they provide maximum energy savings and they start lamps without delay or flashing. Since they do not provide lamp electrode heating, instant start ballasts consume less energy than comparable rapid start, program rapid start or programmed start ballasts. As a result, they provide the most energy efficient solution to fluorescent lamp ballasting. The instant start ballast uses 1.5 to 2 watts less energy per lamp than the rapid start alternative.

Instant-start electronic ballasts provide a high initial voltage (typically 600V for F32T8 lamps) to start the lamp. This high voltage is required to initiate discharge between the unheated electrodes of the lamp. However, the cold electrodes of lamps operated by an instant start ballast may deteriorate more quickly than the warmed electrodes of lamps operated by a rapid start, program rapid start or programmed start ballast. Lamps operated by instant start ballasts will typically withstand 10–15K switch cycles. Instant start ballasts are typically wired in *parallel*. This means that if one lamp fails, the other lamps in the circuit will remain lit.

Rapid Start: Rapid start ballasts have a separate set of windings which provide a low voltage (approx. 3.5 volts) to the electrodes for one second prior to lamp ignition. A starting voltage somewhat lower than that of instant ballast (typically 450–550V for F32T8 lamps) is applied, striking an electrical arc inside the lamp. Most rapid start electronic ballasts continue to heat the electrode even after the lamp has started, which results in a power loss of 1.5 to 2 watts per lamp. Lamps operated by a rapid start electronic ballast will typically withstand 15–20K switch cycles. Rapid start ballasts are typically wired in *series*. This means that if one lamp fails, all other lamps in the circuit will extinguish.

Programmed Start: Programmed start (PS) electronic ballasts provide maximum lamp life in frequent starting conditions (up to 50,000 starts). PS ballasts use a custom integrated circuit (IC) which monitors lamp and ballast conditions to ensure optimal system lighting performance. Life Program rapid start ballasts, PS ballasts also precisely heat the lamp cathodes. However, PS ballasts heat the lamp cathodes to 700° C prior to lamp ignition. This puts the least amount of stress on the lamp electrodes, resulting in maximum lamp life regardless of the number of lamp starts. Programmed start ballasts are typically wired in *series*.

Ballast types for HID lamps:

Reactor: Single coil, very efficient, but poor voltage regulation to the lamp.

Constant Wattage Autotransformer (CWA): Employing two coils, the ballast is less efficient then reactor types, but have better voltage regulation. Most popular type in use.

Magnetically Regulated (Mag Reg) or Regulated Lag (Reg Lag): Three coils make for very effective voltage regulation but also not very efficient.

Electronic: Allows for both high efficiency and the best voltage regulation.

Beam Angle
The beam angle defines the light pattern around the beam's central axis for which the luminous intensity is half that of the maximum luminous intensity.

Candela (cd) (Luminous Intensity)
The intensity base unit for light. Intensity is the luminous flux emitted from a point per unit solid angle into a particular direction, regardless of distance.

Candlepower (cp)
Luminous intensity expressed in candelas.

Color Rendering Index (CRI)
A method for describing the effect of a light source on the color appearance of objects, compared to a reference source of the same color temperature (CCT). The highest CRI attainable is 100. Originally based on an eight standardized color comparisons, it was later extended to fourteen colors.

Color Temperature or Correlated Color Temperature (CCT)
The color temperature of a light emitter refers to the temperature to which one would have to heat a "blackbody" source (Planckian radiator) to produce light of similar overall appearance or chromaticity. A low color temperature implies warmer color (more yellow/red) light while high color temperature implies a cooler light (more blue). The standard unit for color temperature measurement is expressed in Kelvin (K).

Field Angle
The field angle defines the light pattern around the beam's central axis for which the luminous intensity is 10% that of the maximum luminous intensity.

Footcandle
The unit of measure for the density of light on a surface unique to the USA. One footcandle is equal to one lumen per foot (lm/ft^2). One footcandle = 10.674 lux.

General Lighting (Ambient Lighting)
Lighting designed to deliver a predominately uniform level of light throughout an area.

Glare
Glare is an interference with visual perception caused by an uncomfortably bright light source or reflection within one's field of view; a form of visual noise. In its simplest form, glare (unwanted light) is a consequence of the human eye to adapt to different light levels. In the case of glare, the eye adapts to the high level of the glare source, which makes it difficult to perceive details in the now too dark work area.

Direct Glare: Glare resulting from high luminances in the visual environment that are directly visible from a viewers position; such as an insufficiently shielded luminaire.

Reflected Glare or Veiling Reflection: A reflection of incident light that partially or totally obscures the details to be seen on a surface by reducing the contrast.

Discomfort Glare: Glare which is distracting or uncomfortable (subjective), which interferes with the perception of visual information, but which does not significantly reduce visual performance.

Disability Glare: The effect of light which significantly reduces visual performance and perception; such as car high beams in your face on a dark country road.

Illuminance
The total density of visible light—from all directions—illuminating, falling on or incident to, a surface. Standard unit of measure for illuminance is LUX (lx) which is lumens per square meter (lm/m^2). See Footcandle.

Initial vs. Mean Lumens
The measured luminous output of a new light source versus the output at 40% of lamp life.

Inverse Square Law
This law says that the measured flux density from a light source decreases along any line from the source. It falls off in proportion to the square of the relative distance traversed. Thus the illuminance measurement 2 feet from the light source will be 1/4 of the measurement 1 foot from the source—not 1/2.

Kelvin
The Kelvin unit is the basis of all temperature measurement. In lighting, Kelvin is the unit of measure for Color Temperature used to indicate the overall color of the light produced from a source. See Color Temperature.

Kilowatt Hour (kWh)
The measure of electrical energy from which electricity billing is determined. For example, at the rate of $0.10 per kWh, a 100 watt lamp operating for 2000 hours will cost $20.00 (100 x 2000/1000 = 200 kWh x .10 = $20.00)

Light
Radiant energy that stimulates the sense of sight. The "visible" part of the electromagnetic spectrum from 380–770 nm. Light is the energy which allows us to see.

Lumen (lm)
SI unit of luminous flux. Photometrically, it is the luminous flux emitted within a unit solid angle (lsr) by a point source having a uniform luminous intensity of 1 cd. —or— The SI unit for measuring the flux of light being produced by a light source or received by a surface.

Luminaire (light fixture)
A complete lighting unit which consists of lamp(s), ballast(s)—if applicable—as well as mechanism for light distribution, lamp protection and alignment and connection to power.

Luminaire Efficacy
The ratio of luminous flux emitted by the fixture to that emitted by the lamp(s) within the fixture. Expressed as a percentage.

Luminance (The physical measure of brightness)
Luminance is the amount of visible light leaving a point on a surface in a given direction. The light leaving the surface can be due to reflection, transmission and/or emission. Standard unit of luminance is candela per square meter (cd/m^2).

Luminous Efficacy
The expression of efficiency in converting power (watts) into light (lumens). Expressed as lumens per watt or l/w.

Luminous Exitance
Refers to the total amount of visible light leaving a surface in all directions. Unit for luminous exitance is lumens per square meter (lm/m^2)

Photometry
Photometry is the science of measuring visible light in units that are weighted according to the sensitivity of the human eye known as the Visual Wavelength ($V\lambda$) factor. Photometric theory does not address how we perceive colors.

Radiometry
Radiometry is the science of quantifying the phenomena of electromagnetic radiation. In our context, we are interested in light, the limited range of electromagnetic radiation that is visible to the human eye, sometimes extended to the areas of infrared and ultraviolet.

Rated Average Life
The length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Task Lighting
Lighting designed for a specific visible operation which requires higher light levels; most often characterized by proximity to that task.

Voltage
A measure of electromotive force or simply said, the pressure of electricity. This is analogous to pressure in a water line. In this catalog, voltage refers to supply voltage required by the lamp (incandescent) or operating voltage required by the arc tube (discharge lamps).

Watt
Unit used to measure electric power consumed by a lamp or any electrical device.

TECHNICAL DESCRIPTIONS

Lamp Listing Sequence
Lamps are listed in wattage sequence except for special groupings such as Street Lighting, Tungsten Halogen, High Intensity and Silicone Coated Lamps.

Ordering Code
The complete information shown in the ordering code column together with the voltage, if applicable, should be used when placing orders. In a number of instances a lamp type may be available in different kinds of packaging such as 2 or 4 lamp wrappers. Some small lamp types which are generally multiple packed on a platform with an overwrap are also packaged as a blister-carded item for the retail market. Each of these items is shown as a separate listing. To identify them, additional information is included with the ordering code. The following examples illustrate this:

Ordering Code	BC-7T7/W 12/2
Pkg. Qty.*	12cds
Explanation	Carded pack—2 lamps per card. The number shown under "Pkg. Qty" is the number of cards per min. shipping case.

Ordering Code	60T/SW 12/4
Pkg. Qty.	48
Explanation	12-4 lamp wrappers = 48 lamps per min. shipping case.

Ordering Code	50/150T/WL/TP 96/1
Pkg. Qty.	96
Explanation	96-1 lamp wrappers = 96 lamps per min. shipping case.

* Quantity shown is minimum shipping container. Refer to Net Price Schedule for number of lamps required for qualification as a standard case.

Voltage
Lamps listed are available only in the voltage shown. Lamps listed in range voltages such as 115–125 or 230–250 are intended for use on circuits normally varying within these voltage limits and are designed for an average voltage suitable for operation on such circuits. Lamps intended for operation in range voltages have a design volt center as follows, unless otherwise noted by a footnote:

Range Voltage	Design Voltage
115–125	120
120–125	120
120–130	125
125–130	130
230–250	240

Class of Lamp
Incandescent lamps are classified as type B or type C. The type B lamp is one in which the filament operates in a vacuum. The type C lamp is one in which the filament operates in an atmosphere of inert gas. For gas-filled lamps which can be operated in any position the lumen maintenance is best when lamps are operated base up. For the vacuum type lamps which have no restrictions on operating position the lumen maintenance is the same in all operating positions.

Lamp Dimensions
Bulb designations consist of a letter or letters to indicate shape and a number to indicate the approximate diameter in eighths of an inch.

Maximum Overall Length (MOL)
Maximum Overall Length is measured from the top of the bulb to bottom of the base.

Nominal Length
A measurement of fluorescent lamp length based on the length of the lamp plus the proper allowance for standard lamp holders.

Light Center Length (LCL)
Light Center Length is the distance from a reference point on a lamp base (usually the eyelet) to the center of the light source. For high intensity discharge lamps, it is the distance from the center of the filament or center of the arc to the point shown below for the base indicated.

All Screw Bases: Bottom base contact

Medium and Mogul Prefocus: Top of base pin

Medium Bipost: Bottom of bulb

Bayonet Candelabra and Medium Bayonet: Top of base pins

SC or DC Prefocus: Plane of locating bosses of prefocusing collar

Mini-Can: Intersection of 45° taper with max. diameter of base

Inches to Metric Conversion
To calculate the metric equivalent of inches in millimeters (mm) use the following formula: inches x 25.4001 = millimeters

Operating Position
Lamps may be operated in any position unless otherwise indicated.

Base Pin Position for Bayonet Candelabra-Based Lamps
When lamps are based with a bayonet candelabra base, the plane of the base pins will be approximately at right angles to the plane of the filament, unless otherwise indicated.

SC or DC Prefocus Based Lamps
The plane containing the base axis and the major locking eyelet which is the eyelet equidistant from the two other eyelets, will be at right angles to the plane of the filament or lead wires unless otherwise indicated. The letter (A) shown in the Base column after SC or DC Pref. based lamps indicates that the distance from the bottom of base contact or contacts to the bottom of the collar is .406". In the case of DC Pref. based lamps, the letter (A) also indicates that the plane containing the base axis and contacts is at right angles to the plane containing the base axis and the major locking eyelet.

MEASURING LAMPS

Measuring Incandescent, Halogen, CFL and HID Lamps

Letters designate the shape of the glass bulb and numbers indicate the diameter of the bulb in eighths of an inch. For example:

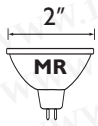
"A-19" indicates a standard bulb having a diameter of 1⅞ or 2 ⅜ inches.

A-19 Lamp

"T-10" indicates a tubular shaped having a diameter of 1⅛ or 1 ¼ inches.

T-10 Lamp

"MR-16" indicates mini reflector having a diameter of 1⅛ or 2 inches.



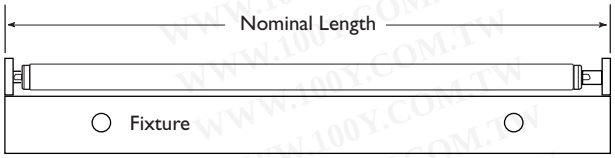
MR-16 Lamp

"ED-37" indicates a large HID bulb having a diameter of 3⅞ or 4⅝ inches.

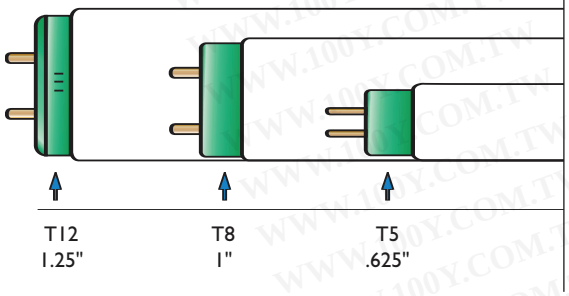
ED-37 Lamp

Measuring Fluorescent Lamps

To determine the length of a fluorescent lamp, you do not measure the bulb. The Nominal Length of the bulb is the measurement from back of socket to back of socket on the fixture.



To determine the type of lamp you need, measure the endcap and use the illustration below as a guide.



UNDERSTANDING ORDERING CODES

Typical ordering codes can be understood with the examples below:

Incandescent ordering code: BC15BA9C/CL/LL

BC = Blister Carded Package
15 = Wattage
BA9 = Lamp Type
C = Candelabra Base (Blank = Medium)
CL = Clear (W = White, etc.)
LL = Long Life (Blank = Standard)

Halogen ordering code: 45PAR38/HAL/SP10

45 = Lamp Wattage
PAR38 = Lamp Type
Hal = Halogen
SP = Spot Lamp
10 = Beam Spread in Degrees

CFL ordering code: PL-C 13W/827/4P/ALTO

PL-C = Lamp Type
13W = Lamp Wattage
827 = Lamp Color
4P = Base has 4-Pins
ALTO = Low Mercury Content

Fluorescent ordering code: F32T8/ADV841/ALTO

F = Fluorescent
32 = Nominal Lamp Wattage
T8 = 1" Diameter Tube
ADV = Advantage
841 = CRI of 80+ and Color Temp. of 4100K
ALTO = Low Mercury Content

HID ordering code: MS320/C/U/PS

MS = High Output Art Tune
320 = Lamp Wattage
C = Coated
U = Universal Burning Position
PS = Pulse Start

Additional Information

Incandescent Cross Reference Guide

Philips	GE	OSI
BC4C7	4C7 CARD 2	4C7/BL/2PK
BC4C7/W	4C7/W CD 2	4C7/W/BL/2PK
10C7	10C7 TRAY	10C7/CL
10S11N	10S11N	10S11N/CL
10S11N/IF	10S11N/F	10S11N/IF
BC15BA9C/CL/LL	15CAC/F-CD/2-12	15B10/BL/2PK
15BA9C/4M	—	15B10C/DL/BL
BC15T10	15T10	15T10/CL
20T61/2DC/IF	20T61/2DC/F	20T61/2DC/IF
20T61/2/IF	20T61/2/F	20T61/2/I
25A/RS	25A/RS	25A/RS
BC25BA9-1/2/CL/LL	—	25B10/DL/BL
BC25BA9C/CL/LL	25CAC-CD/2-120	25B10C/BL/2PK
25G16-1/2C/4M	25GC 12PK	25G161/2C
25G25/CL/LL	25G25	25G25
25G40/4M	25G40	25G40
25S11/2C	25S11/5C	25S11C/P
BC25T10	25T10	25T10
30/100A/W	30/100	30/100A21/W/RP
30A15	30A15-130	30A15
30R20	30R20-120	30R20
BC40A15/FAN/CL/LL	40A15/CF CD2	40A15/CL/FAN
40A/TF	40A15/CF/STG CD2	40A15/SL
40A	40A 48PK	40A
40A-34A/EW	40A/34WM	40A/34/SS
40A-34A/99/EW	40A/34/WMP/99	40A/34/SS/XL
BC40BA9-1/2/CL/LL	40CAM CD/2	40B10/BL/2PK
BC40BA9C/CL/LL	40CAC-CD/2-120	40B10C/BL/2PK
40BA-91/2/4M	—	40B10/DL/BL/2PK
40B101/2/4M	—	40B10C/DL/BL
BC40B9-1/2/F/LL	40CAM/F CD/2	40B10/W/BL/2PK
BC40F15/CL/LL	40FM/L	40F/CL
BC40G16-1/2C/CL/LL	40GC-12PK-120	40G161/2C
BC40G16-1/2C/W/LL	40GC/W/CD/2	40G161/2/c/w/bl
40G25/CL/LL	40G25/L	40G25
40G25/W/LL	40G25/W/L/24	40G25/DLSW/RP
40G40/CL/LL	40G40/CL	40G40
40G40/W/LL	40G40/W	40G40/W
BC40S11/NTP	40S11N/1CARD	40S11N/BL
40S11N/IF	40S11N/1/F	40S11N/CF
BC40T10/IF	40T10/F	40T10/IF
50/150A/W	50/150 12PK	50/150A21/W/RP
50/150A/DL	50/150 12PK	50/150/PS25
50A/RS/TF	50A/RS/CVG 24PK	50A/RS/SL
60A	60A	60A
60A-52A/EW	60A/52WM	60A/52/SS
60A19/B	60A21/B	60A/CB
60A19/G	60A21/G	60A/CG
60A/CL	60A/CL 24PK	60A/CL
60A/D	60A/D	60A/D
60A/WL	60A/W/LL-24PK-120	60A/DLSW/2PK/RP
60A/AGRO	60A/PL 6PK	60A/GRO
60A/TF	60A/CVG 24PK	60A/SL
60A/W/TP	60A/W 48PK	60A/W/4RP
60A/Y	60A/Y 24PK	60A/Y/RP
K60A19/TS/EW	69A21/60WM/TS	60A19/TS/8M/SS
K60A19/TS/EW	—	60A21/TS
BC60BA9-1/2/C/LL	60CAM CD/2	60B10/BL/2PK
BC60BA9C/CL/LL	60CAC CD/2 6PK	60B10C/BL/2PK
60BA9-1/2/4M	—	60B10/DL/BL/2PK
60BA9C/4M	—	60B10C/DL/BL/2PK
BC60BA9-1/2/F/LL	—	60B10C/F/BL/2PK
BC60BA9C/F/LL	60CAM/F CD/2	60B10/W/BL/2PK
BC60F15/CL/LL	—	60F/BL
60G25/CL/LL	60G25 6PK 120V	60G25/RP
60G25/W/LL	—	60G25/DLSW/RP

Philips	GE	OSI
60G40/CL/LL	60G40 6PK	60G40/RP
60G40/W/LL	60G40/W 6PK	60G40/W
60K19/DL	—	60K19/DR
60T10/64/IF	60T10/F 24PK	60T10/CF
65BR30/FL/LL55	65BR30/FL/LL 6PK	65BR30/DL/FL/RP
65BR30/FL55	—	65BR30/FL
65BR30/FL55	75R30/FL/65WM	65BR30/FL/SS
65BR30/SP20/LL	65R30/SP/LL 6PK	65BR30/SP/RP
65BR30/SP20	75R30/SP/65/WM	65BR30/SP/SS
75A	75A	75A
75A/CL	75A/CL 24PK	75A/CL
75A/RS/VS	75A/RS	75A19/RS
75A/RH/TF	75A/RT 6PK	75A21/RS/SL
75A/RH/TF	75A/RS/CVG 24PK	75A21/SL/RP
75A-67A/EW	75A/67WM	75A/67/SS
75A-67A/99/EW 120	75A/67WMP/99	75A/67/SS/XL
75BR30/B	75R30/B	75BR30/B/FL/RP
75BR30/AGRO	75R30/PL/1 6PK	75BR30/GRO/FL/RP
75BR30/PK	75R30/PK	75BR30/PK/FL/RP
75ER30	75ER30	75ER30
75K19/DL	—	75K19/DR
75R20/LL	75R20 6PK	75R20/RP
75BR30/FL/TF	—	75R30/FL/SL
K90A19/TS/EW	100A21/90WM/TS 12	90A19/TS/8M/SS
100A/1SBIF	100A21/SBIF 60 PK	100A21/1SB/IF
100A	100A	100A
100A/W	—	100A/DLSW/2PK/RP
100A/CL/RS/VS	100A/RS 12PK	100A19/RS
100A21	100A21	100A21
100A/RS/TF	100A/RS/CVG	100A21/RS/SL
100A/RS/VS	100A23/VS 24PK	100A21/VS
100A-90A/EW	100A/90WM	100A/90/SS
100-90A/99EW	100A/90WMP/98	100A/90/SS/XL
100A/CL	100A/CL 24PK	100A/CL
120BR/FL60	100R/FL-120	100BR/FL
100G40/CL/LL	100G40	100G40
100G40/W/LL	100G40/W/L	100G40/W
120BR/FL60	120R40/FL/MI-6PK	120BR/FL
120BR/SP20	120R40/SP/MI-6PK	120BR/SP
120ER40	120ER40	120ER40
125R40/1	125R40	125BR40
150A	150A	150A21
150A-135A/EW	150A/135WM	150A21/135/SS
150A/99	150Q21/99/IF	150A21/99/XL
150A/CL	150A/CL 12PK	150A21/CL
150BR/AGRO	150R40/PL-1 6PK	150BR/GRO
150G40/W/LL	150G40/W	150G40/W/RP
200A (A23)	200A 12PK	200A21
200/99	200/99	200CL/99/XL
200/IF	200/IF	200PS/IF
200/99IF	200/99IF	200PS/IF/99/XL
250R40/1	250R40/1	250BR40
K250PAR38/FL	—	250KBR38/FL
K250PAR38/SP	—	250KR38/SP
300R/FL/1	300R/FL	300BR/FL
300M/99IF	300M/99/IF	300M/99/IF/XL
300M	300M	300/M/CL
300PAR56/MFL	300PAR56/MFL	300PAR56/MFL
300PAR56/NSP	300PAR56/NSP	300PAR56/NSP
300PAR56/WFL	300PAR56/WFL	300PAR56/WFL
300/99IF	300/99IF	300PS35/99/IF/XL

Philips	GE	OSI
BC60BT15/HAL/CL	60BTT/CL	60BT15/HAL/CL
BC60BT15/HAL/W	60BTT/SW	60BT15/HAL/W
BC75BT15/HAL/W	75BTT/SW	75BT15/HAL/W
BC100BT15/HAL/W	100BTT/SW	100BT15/HAL/W
BC150BT15/HAL/W	150BTT/SW	150BT15/HAL/W
BC25CP19/HAL/CL	—	—
BC25F10-1/2C/HAL/CL	—	—
BC25F10-1/2/HAL/CL	—	—
BC25F15/HAL/CL	—	—
BC40CP19/HAL/CL	—	—
BC40F10-1/2C/HAL/CL	—	—
BC40F10-1/2/HAL/CL	—	—
BC40F15/HAL/CL	—	—
BC60CP19/HAL/CL	—	—
BC60F10-1/2C/HAL/CL	—	—
BC60F10-1/2/HAL/CL	—	—
BC60F15/HAL/POST TOP	—	—
60BR30/HAL/SP	—	—
60BR30/HAL/FL	—	—
60BR40/HAL/FL	—	—
45PAR16/HAL/SP10	—	—
45PAR16/HAL/FL27	—	—
60PAR16/HAL/SP10	60PAR16/H/NSP10	60PAR16/CAP/NSP10
60PAR16/HAL/FL27	60PAR16/H/NFL30	60PAR16/CAP/NFL30
50PAR20/HAL/SP10	50PAR20/H/NSP10	50PAR20/CAP/NSP10
50PAR20/HAL/FL25	50PAR20/H/FL25	50PAR20/HAL/SPL/NFL30
50PAR30L/HAL/SP10	50PAR30L/H/SP10	50PAR30LN/CAP/SPL/NSP9
50PAR30L/HAL/WSP16	—	—
50PAR30L/HAL/FL25	—	50PAR30LN/CAP/SPL/NFL25
50PAR30L/HAL/WFL40	50PAR30L/H/FL40	50PAR30LN/CAP/SPL/WFL50
75PAR30L/HAL/SP10	75PAR30L/H/SP10	75PAR30L/CAP/SPL/NSP9
75PAR30L/HAL/WSP16	—	—
75PAR30L/HAL/FL25	75PAR30L/H/FL25	75PAR30LN/CAP/SPL/NFL25
75PAR30L/HAL/WFL40	75PAR30L/H/WFL	75PAR30LN/CAP/SPL/WFL50
50PAR30S/HAL/SP10	50PAR30/H/SP10	50PAR30/CAP/SPL/NSP9
50PAR30S/HAL/FL25	50PAR30/H/NFL25	50PAR30/CAP/SPL/NFL25
50PAR30S/HAL/WFL40	50PAR30/H/FL35	50PAR30/CAP/SPL/FL40
60PAR30S/HAL/NSP10	60PAR30/H/NSP9	60PAR30/CAP/SPL/NSP9
60PAR30S/HAL/FL25	60PAR30/H/FL25	60PAR30/CAP/SPL/NFL25
60PAR30S/HAL/WFL40	60PAR30/H/FL35	60PAR30/CAP/SPL/FL40
75PAR30S/HAL/NSP10	75PAR30/H/SP10	75PAR30/CAP/SPL/NSP9
75PAR30S/HAL/FL25	75PAR30/H/FL25	75PAR30/CAP/SPL/NFL25
75PAR30S/HAL/WFL40	75PAR30/H/WFL35	75PAR30/CAP/SPL/FL40
*40PAR30S/IRC/HAL/SP10	—	—
*40PAR30S/IRC/HAL/FL25	—	—
*40PAR30S/IRC/HAL/WFL40	—	—
45PAR30S/IRC/HAL/SP10	45PAR30/HIR/SP9XL	—
45PAR30S/IRC/HAL/FL25	45PAR30/HIR/FL25X	—
45PAR30S/IRC/HAL/WFL40	45PAR30/HIR/FL35X	—
50PAR30S/IRC/HAL/SP10	50PAR30/HIR/SP9	50PAR30/CAP/IR/NSP9
50PAR30S/IRC/HAL/FL25	50PAR30/HIR/FL25	50PAR30/CAP/IR/NFL25
50PAR30S/IRC/HAL/WFL40	50PAR30/HIR/FL35	50PAR30/CAP/IR/FL40
50PAR36Q/VNSP5	50PAR36/H/SP5	50PAR36/CAP/NSP6
45PAR38/HAL/SP10	45PAR/H/SP10	45PAR/CAP/SPL/SP9
45PAR38/HAL/FL25	45PAR/H/FL25	45PAR/CAP/SPL/FL30
60PAR38/HAL/SP10	60PAR/H/SP10	60PAR/CAP/SPL/SP9
60PAR38/HAL/FL25	60PAR/H/FL25	60PAR/CAP/SPL/FL25
75PAR38/HAL/NSP8	—	—
75PAR38/HAL/SP10	75PAR/H/SP9	75PAR/CAP/SPL/SP9
75PAR38/HAL/FL25	75PAR/H/FL25	75PAR/CAP/SPL/FL30
90PAR38/HAL/SP10	90PAR/H/SP10	90PAR/CAP/SPL/SP9
90PAR38/HAL/FL25	90PAR/H/FL25	90PAR/CAP/SPL/FL30
90PAR38/HAL/WFL40	90PAR/H/WFL	90PAR/CAP/SPL/WFL50
*40PAR38/IRC/HAL/SP10	45PAR/HIR/R/SP10	—
*40PAR38/IRC/HAL/FL25	45PAR/HIR/R/FL25	—
*40PAR38/IRC/HAL/WFL40	—	—
50/45PAR38/IRC/HAL/SP10	45PAR/HIR/SP12SX	—
50/45PAR38/IRC/HAL/FL25	—	—
50/45PAR38/IRC/HAL/WFL40	45PAR/HIR/FL40SX	—
50PAR38/IRC/SP10	50PAR/HIR/S/SP10 & 55PAR/HIR/R/SP10	50PAR/CAP/IR/SP9
50PAR38/IRC/FL25	50PAR/HIR/S/FL25 & 55PAR/HIR/R/FL25	50PAR/CAP/IR/NFL25
50PAR38/IRC/WFL40	—	—
60/55PAR38/IRC/SP10	55PAR/HIR/SP12XL	53PAR38/CAP/IR/XP/SP9
60/55PAR38/IRC/FL25	—	53PAR38/CAP/IR/XP/FL30
60/55PAR38/IRC/WFL40	55PAR/HIR/FL40XL	—
60PAR38/IRC/SP10	60PAR/HIR/S/SP10	60PAR/CAP/IR/SP9
60PAR38/IRC/FL25	60PAR/HIR/S/FL30	60PAR/CAP/IR/NFL25
60PAR38/IRC/WFL40	60PAR/HIR/FL40	—

Philips	GE	OSI
70PAR38/IRC/HAL/SP10	70PAR38/HIR/SP10 & 80PAR38/HIR/SP10	80PAR38/CAP/IR/SP10
70PAR38/IRC/HAL/FL25	70PAR38/HIR/FL25 & 80PAR38/HIR/FL25	80PAR38/CAP/IR/FL25
70PAR38/IRC/HAL/WFL40	—	—
100/90PAR38/IRC/HAL/SP10	90PAR/HIR/SP12XL	—
100/90PAR38/IRC/HAL/FL25	—	—
100/90PAR38/IRC/HAL/WFL40	90PAR/HIR/FL40XL	—
100PAR38/IRC/SP10	100PAR/HIR/SP10	100PAR/CAP/IR/SP10
100PAR38/IRC/FL25	100PAR/HIR/FL25	100PAR/CAP/IR/NFL25
100PAR38/IRC/WFL40	100PAR/HIR/FL40	100PAR/CAP/IR/FL40
20MRC11/SP10	Q20MR11/SP15	
20MRC11/FL35	Q20MR11/NFL30	20MR11/FL35
20MR16/SP10	Q20MR16/SP	20MR16/NSP8
20MR16/FL36	Q20MR16/FL	20MR16/FL40
35MR16/SP10		35MR16/NSP8
35MR16/FL36		35MRC16/FL40
50MR16/SP10	Q50MR16/SP	50MR16/NSP12
50MR16/NFL24	—	50MR16/NFL25
50MR16/FL36	Q50MR16/FL	50MR16/FL40
20MRC16/SP10	Q20MR16C/CG15	20MR16/T/NSP10
20MRC16/FL36	Q20MR16C/CG40	20MR16/T/FL40
35MRC16/SP10	Q35MR16C/CG12	35MR16/T/NSP10
35MRC16/NFL24	Q35MR16C/CG20	35MR16/T/NFL25
35MRC16/FL36	Q35MR16C/CG40	35MR16/T/FL40
50MRC16/SP10	—	50MR16/T/NSP10
50MRC16/SP15	Q50MR16C/CG15	—
50MRC16/NFL24	Q50MR16C/CG25	50MR16/T/NFL25
50MRC16/FL36	Q50MR16C/CG40	50MR16/T/FL40
75MR16/SP10	Q71MR16/C/NSP15	65MR16/T/NSP10
75MR16/FL36	Q71MR16/C/FL40	65MR16/T/FL40
20MRC16/IRC/SP8	—	20MR16/IR/SP10/C
20MRC16/IRC/FL36	—	20MR16/IR/FL40/C
30MRC16/IRC/SP8	—	—
30MRC16/IRC/NFL24	—	—
30MRC16/IRC/FL36	—	—
35MRC16/IRC/SP8	Q37MR16/HIR/CG10	37MR16/IR/SP10/C
35MRC16/IRC/NFL24	Q37MR16/HIR/CG25	37MR16/IR/NFL25/C
35MRC16/IRC/FL36	Q37MR16/HIR/CG40	37MR16/IR/FL40/C
35MRC16/IRC/WFL60	—	37MR16/IR/WFL60/C
45MRC16/IRC/SP8	Q50MR16/HIR/CG10	50MR16/IR/SP10/C
45MRC16/IRC/NFL24	Q50MR16/HIR/CG25	50MR16/IR/NFL25/C
45MRC16/IRC/FL36	Q50MR16/HIR/CG40	50MR16/IR/FL40/C
45MRC16/IRC/WFL60	—	50MR16/IR/WFL60/C
50MRC16/NFL24/A	—	50MR16/B/NFL25
50MRC16/FL40/A	—	50MR16/B/FL35
50Q/CL		
75Q/CL	Q75CL/MC	75Q/CL
100Q/CL	Q100CL/MC	100Q/CL/MC
100Q/CL/DC	Q100CL/DC	100Q/CL/DC
150Q/CL	Q150CL/MC	150Q/CL/MC
150Q	Q150MC	150Q/MC
150Q/CL/DC	Q150CL/DC	150Q/CL/DC
150Q/DC	Q150DC	150Q/DC
250Q/CL	Q250CL/MC	250Q/CL/MC
250Q/CL/DC	Q250CL/DC	250Q/CL/DC
500Q/CL	—	500Q/MC
500Q/CL	—	—
750Q/CL	—	—
100T3Q/CL	Q100T3/CL	100T3Q/S/CL
150T3Q/CL	Q150T3/CL	150T3Q/S/CL
150T3Q/CL LONG	Q150T3/117/CL	—
250T3Q/CL	Q250T3/CL	—
300T3Q/P/CL EHM	Q300T3/CL	300T3Q/CL
500T3Q/P/CL	Q500T3/CL	500T3Q/CL
1000T3Q/P/CL 240V	Q1000T3/CL 240V	1000T3Q/CL 240V
1500T3Q/P/CL 240V	Q1500T3/CL 240V	1500T3Q/CL 240?V
1500T3Q/P/CL 277V	Q1500T3/CL 277V	1500T3Q/CL 277V
10W/T3/12V	Q10T3/CL	10T3Q/CL
20W/T3/12V	Q20T3/CL	20T3Q/CL
35W/T4/12V	Q35T3/CL	35T4Q/CL
50W/T4/12V	Q50T4/CL	50T4Q/CL
75W/T4/12V	Q75T4/CL	75T4Q/CL
ALU111MM 50W G53 12V 8D	—	50AR111/SP8
ALU111MM 50W G53 12V 24D	—	50AR111/FL25
ALU111MM 75W G53 12V 8D	—	75AR111/SP8
ALU111MM 75W G53 12V 24D	—	75AR111/FL25
ALU111MM 75W G53 12V 45D	—	75AR111/WFL45
BC25TWISTLINE GU10/FL25	Q20GU10/FL/CD	—
BC35TWISTLINE GU10/FL25	Q35GU10/FL/CD	—
BC50TWISTLINE GU10/NFL25	Q50GU10/FL/CD	50PAR16/CAP/GU10/FL40

Additional Information

Compact Fluorescent Cross Reference Guide

	Philips	Generic Description	GE	OSI
PL-S	PL-S 5W/827	CFT5W/G23/827	F5BX/SPX27	CF5DS/827
	PL-S 7W/827	CFT7W/G23/827	F7BX/SPX27	CF7DS/827
	PL-S 7W/835	CFT7W/G23/835	F7BX/SPX35	CF7DS/835
	PL-S 7W/841	CFT7W/G23/841	F7BX/SPX41	CF7DS/841
	PL-S 7W/850	CFT7W/G23/850	F7BX/SPX50	CF7DS/850
	PL-S 9W/827	CFT9W/G23/827	F9BX/SPX27	CF9DS/827
	PL-S 9W/835	CFT9W/G23/835	F9BX/SPX35	CF9DS/835
	PL-S 9W/841	CFT9W/G23/841	F9BX/SPX41	CF9DS/841
	PL-S 9W/850	CFT9W/G23/850	F9BX/SPX50	CF9DS/850
	PL-S 13W/827	CFT13W/GX23/827	F13BX/SPX27	CF13DS/827
	PL-S 13W/830	CFT13W/GX23/830	F13BX/SPX30	CF13DS/830
	PL-S 13W/835	CFT13W/GX23/835	F13BX/SPX35	CF13DS/835
	PL-S 13W/841	CFT13W/GX23/841	F13BX/SPX41	CF13DS/841
	PL-S 13W/850	CFT13W/GX23/850	F13BX/SPX50	CF13DS/850
PL-C 2-PIN	PL-C 13W/827/USA/ALTO	CFQ13W/GX23/827	F13DBX23T4/SPX27	CF13DD/827
	PL-C 13W/830/USA/ALTO	CFQ13W/GX23/830	F13DBX23T4/SPX30	CF13DD/830
	PL-C 13W/835/USA/ALTO	CFQ13W/GX23/835	F13DBX23T4/SPX35	CF13DD/835
	PL-C 13W/841/USA/ALTO	CFQ13W/GX23/841	F13DBX23T4/SPX41	CF13DD/841
	PL-C 13W/827/ALTO	CFQ13W/G24d/827	F13DBXT4/SPX27	—
	PL-C 13W/830/ALTO	CFQ13W/G24d/830	F13DBXT4/SPX30	—
	PL-C 18W/827/ALTO	CFQ18W/G24d/827	F18DBXT4/SPX27	CF18DD/827
	PL-C 18W/830/ALTO	CFQ18W/G24d/830	F18DBXT4/SPX30	CF18DD/830
	PL-C 18W/835/ALTO	CFQ18W/G24d/835	F18DBXT4/SPX35	CF18DD/835
	PL-C 18W/841/ALTO	CFQ18W/G24d/841	F18DBXT4/SPX41	CF18DD/841
	PL-C 26W/827/ALTO	CFQ26W/G24d/827	F26DBXT4/SPX27	CF26DD/827
	PL-C 26W/830/ALTO	CFQ26W/G24d/830	F26DBXT4/SPX30	CF26DD/830
	PL-C 26W/835/ALTO	CFQ26W/G24d/835	F26DBXT4/SPX35	CF26DD/835
	PL-C 26W/841/ALTO	CFQ26W/G24d/841	F26DBXT4/SPX41	CF26DD/841
PL-C 2-PIN 15MM	PL-C 15MM/22W/827	CFQ20W/GX32d/827	—	—
	PL-C 15MM/28W/827	CFQ27W/GX32d/827	—	—
PL-C 4-PIN	PL-C 13W/827/4P/ALTO	CFQ13W/G24q/827	F13DBX/SPX27/4P	CF13DD/E/827
	PL-C 13W/830/4P/ALTO	CFQ13W/G24q/830	F13DBX/SPX30/4P	CF13DD/E/830
	PL-C 13W/835/4P/ALTO	CFQ13W/G24q/835	F13DBX/SPX35/4P	CF13DD/E/835
	PL-C 13W/841/4P/ALTO	CFQ13W/G24q/841	F13DBX/SPX41/4P	CF13DD/E/841
	PL-C 18W/827/4P/ALTO	CFQ18W/G24q/827	F18DBX/SPX27/4P	CF18DD/E/827
	PL-C 18W/830/4P/ALTO	CFQ18W/G24q/830	F18DBX/SPX30/4P	CF18DD/E/830
	PL-C 18W/835/4P/ALTO	CFQ18W/G24q/835	F18DBX/SPX35/4P	CF18DD/E/835
	PL-C 18W/841/4P/ALTO	CFQ18W/G24q/841	F18DBX/SPX41/4P	CF18DD/E/841
	PL-C 26W/827/4P/ALTO	CFQ26W/G24q/827	F26DBX/SPX27/4P	CF26DD/E/827
	PL-C 26W/830/4P/ALTO	CFQ26W/G24q/830	F26DBX/SPX30/4P	CF26DD/E/830
	PL-C 26W/835/4P/ALTO	CFQ26W/G24q/835	F26DBX/SPX35/4P	CF26DD/E/835
	PL-C 26W/841/4P/ALTO	CFQ26W/G24q/841	F26DBX/SPX41/4P	CF26DD/E/841
PL-L	PL-L 18W/830	FT18W/2G11/830	F18BX/SPX30	FT18DL/830
	PL-L 18W/835	FT18W/2G11/835	F18BX/SPX35	FT18DL/835
	PL-L 18W/841	FT18W/2G11/841	F18BX/SPX41	FT18DL/841
	PL-L 18W/830	FT18W/2G11/RS/830	F18BX/SPX30/RS	FT18DL/830/RS
	PL-L 18W/835	FT18W/2G11/RS/835	F18BX/SPX35/RS	FT18DL/835/RS
	PL-L 18W/841	FT18W/2G11/RS/841	F18BX/SPX41/RS	FT18DL/841/RS
	PL-L 24W/830	FT24W/2G11/830	F27/24BX/SPX30	FT24DL/830
	PL-L 24W/835	FT24W/2G11/835	F27/24BX/SPX35	FT24DL/835
	PL-L 24W/841	FT24W/2G11/841	F27/24BX/SPX41	FT24DL/841
	PL-L 36W/830	FT36W/2G11/830	F39/36BX/SPX30	FT36DL/830
	PL-L 36W/835	FT36W/2G11/835	F39/36BX/SPX35	FT36DL/835
	PL-L 36W/841	FT36W/2G11/841	F39/36BX/SPX41	FT36DL/841
	PL-L 40W/830/RS/IS	FT40W/2G11/RS/830	F40/30BX/SPX30	FT40DL/830/RS
	PL-L 40W/835/RS/IS	FT40W/2G11/RS/835	F40/30BX/SPX35	FT40DL/835/RS
	PL-L 40W/841/RS/IS	FT40W/2G11/RS/841	F40/30BX/SPX41	FT40DL/841/RS
	PL-L 50W/830/RS	FT50W/2G11/RS/830	F50BX/SPX30/RS	—
	PL-L 50W/835/RS	FT50W/2G11/RS/835	F50BX/SPX35/RS	—
	PL-L 50W/841/RS	FT50W/2G11/RS/841	F50BX/SPX41/RS	—
	PL-L 80W/830	FT80W/2G11/830	—	FT80DL/830
	PL-L 80W/835	FT80W/2G11/835	—	FT80DL/835
	PL-L 80W/841	FT80W/2G11/841	—	FT80DL/841
PL-T 4-PIN	PL-T 18W/827/4P/ALTO	CFTR18W/GX24q/827	F18TBX/SPX27/A/4P	CF18DT/E/IN/827
	PL-T 18W/830/4P/ALTO	CFTR18W/GX24q/830	F18TBX/SPX30/A/4P	CF18DT/E/IN/830
	PL-T 18W/835/4P/ALTO	CFTR18W/GX24q/835	F18TBX/SPX35/A/4P	CF18DT/E/IN/835

	Philips	Generic Description	GE	OSI
PL-T 4-PIN, cont.	PL-T 18W/841/4P/ALTO	CFTR18W/GX24q/841	F18TBX/SPX41/A/4P	CF18DT/E/IN/841
	PL-T 26W/827/4P/ALTO	CFTR26W/GX24q/827	F26TBX/SPX27/A/4P	CF26DT/E/IN/827
	PL-T 26W/830/4P/ALTO	CFTR26W/GX24q/830	F26TBX/SPX30/A/4P	CF26DT/E/IN/830
	PL-T 26W/835/4P/ALTO	CFTR26W/GX24q/835	F26TBX/SPX35/A/4P	CF26DT/E/IN/835
	PL-T 26W/841/4P/ALTO	CFTR26W/GX24q/841	F26TBX/SPX41/A/4P	CF26DT/E/IN/841
	PL-T 32W/827/4P/ALTO	CFTR32W/GX24q/827	F32TBX/SPX27/A/4P	CF32DT/E/IN/827
	PL-T 32W/830/4P/ALTO	CFTR32W/GX24q/830	F32TBX/SPX30/A/4P	CF32DT/E/IN/830
	PL-T 32W/835/4P/ALTO	CFTR32W/GX24q/835	F32TBX/SPX35/A/4P	CF32DT/E/IN/835
	PL-T 32W/841/4P/ALTO	CFTR32W/GX24q/841	F32TBX/SPX41/A/4P	CF32DT/E/IN/841
	PL-T 42W/827/4P/ALTO	CFTR42W/GX24q/827	F42TBX/SPX27/A/4P	CF42DT/E/IN/827
	PL-T 42W/830/4P/ALTO	CFTR42W/GX24q/830	F42TBX/SPX30/A/4P	CF42DT/E/IN/830
	PL-T 42W/835/4P/ALTO	CFTR42W/GX24q/835	F42TBX/SPX35/A/4P	CF42DT/E/IN/835
	PL-T 42W/841/4P/ALTO	CFTR42W/GX24q/841	F42TBX/SPX41/A/4P	CF42DT/E/IN/841
	PL-T 42W/827/4P/ALTO	CFTR42W/GX24q/827	F42QBX/SPX27/A/4P	CF42DT/E/IN/827
	PL-T 42W/830/4P/ALTO	CFTR42W/GX24q/830	F42QBX/SPX30/A/4P	CF42DT/E/IN/830
	PL-T 42W/835/4P/ALTO	CFTR42W/GX24q/835	F42QBX/SPX35/A/4P	CF42DT/E/IN/835
	PL-T 42W/841/4P/ALTO	CFTR42W/GX24q/841	F42QBX/SPX41/A/4P	CF42DT/E/IN/841

Ordering Code Cross Reference Guide: Although certain fluorescent lamp types listed by Philips, General Electric and Sylvania have different ordering codes, they are physically and electrically interchangeable. For your convenience, we are listing a direct type comparison between manufacturers. In the Econ-o-watt® line only Philips makes an F40/EW-PH lamp for preheat installations.

	Philips	GE		OSI	
SILHOUETTE	F28T5/841/ALTO	STARCOAT	F28W/T5/841	PENTRON	FP28/841/ECO
	F54T5/841/HO/ALTO		F54W/T5/842		FP54/841/HO/ECO
	F15T8/CW/24/ALTO		F24"T8/CW/4		F18T8/CW/K/24
	F16T8/CW/26		F26"T8/CW/4		F18T8/CW/K/26
	F17T8/CW/28		F28"T8/CW/4		F18T8/CW/K/28
	F18T8/CW/30		F30"T8/CW/4		F18T8/CW/K/30
	F20T12/CW/ALTO (6 Pack)		F20T12/CW (6 Pack)		F20T12/CW/6
	F25T12/CW		F25T12/CW/33		F25T12/CW/33
	F30T12/CW/RS/EW/ALTO		F30T12/CW/RS/WM		F30T12/CW/RS/SS
TL 70	F17T8/TL741/ALTO	Trimline	F17T8/SP41/RS	Octron	FO17/741
	F25T8/TL741/ALTO		F25T8/SP41/RS		FO25/741
	F32T8/TL741/ALTO		F32T8/SP41/RS		FO32/741
	F40T8/TL741/ALTO		F40T8/SP41/RS		FO40/741
	F96T8/TL741/ALTO		F96T8/SP41		FO96T8/741
	FB32T8/TL741/ALTO		F32T8/SP41/U/6		FB032/741/6
TL 80	F17T8/TL841/ALTO		F17T8/SPX41		FO17/841
	F25T8/TL841/ALTO		F25T8/SPX41		FO25/841
	F32T8/TL841/ALTO		F32T8/SPX41		FO32/841
	F40T8/TL841/ALTO		F40T8/SPX41		FO40/841
	F96T8/TL841/ALTO		F96T8/SPX41		FO96/841
	FB32T8/TL841/ALTO		F32T8/SPX41/U/6		FBO32/841/6
Long Life	F17T8/TL841/PLUS/ALTO	XL EXTRA-LIFE	F17T8/XL/SPX41/ECO	XP	FO17/841/XP/ECO
	F25T8/TL841/PLUS/ALTO		F25T8/XL/SPX41/ECO		FO25/841/XP/ECO
	F32T8/TL841/PLUS/ALTO		F32T8/XL/SPX41/ECO		FO32/841/XP/ECO
Energy Savings	F32T8/ADV841/EW/ALTO 30 Watt	WATT-MISER	F32T8/XL/SP41/WM/ECO	SS	FO30/841/XP/SS/ECO
	F32T8/ADV841/EW/ALTO 28 Watt	ULTRAMAX	F28T8/XL/SP41/WM/ECO		FO28/841/XP/SS/ECO
	F32T8/ADV841/XEW/ALTO 25 Watt		NA		NA
	F40CW/RS/EW/ALTO		F40CW/RS/WM		F40CW/RS/SS
	F40LW/RS/EW/ALTO		F40LW/RS/WM		F40LW/RS/SS
	F40T12/841/ALTO		F40/SP41		F40/D41
	F40T12/ADV41/ALTO		F40/SPX41		F40/D841
	F96T12/CW/EW/ALTO		F96T12/CW/WM		F96T12/CW/SS
	F96T12/CW/HO/EW/ALTO		F96T12/CW/HO/WM		F96T12/CW/HO/SS
	F96T12/CW/HO-O/ALTO		F96T12/CW/HO/CT		F96T12/CW/HO/COLD TEMP
	F96T12/CW/VHO/EW/ALTO		F96PG17/CW/WM		F96T12/CW/VHO/SS
	FB40CW/6/EW/ALTO		F40CW/U/6/WM		FB40CW/6/SS
	F48T12/CW/VHO		F48T12/CW/1500		F48T12/CW/VHO
	F72T12/CW/VHO		F72T12/CW/1500		F72T12/CW/VHO
	F96T12/CW/VHO		F96T12/CW/1500		F96T12/CW/VHO
	F48T12/CW/VHO-O		F48T12/CW/1500/0		F48T12/CW/VHO/LT
	F60T12/CW/VHO-O		F60T10/CW		—
	F72T12/CW/VHO-O		F72T12/CW/1500/0		F72T12/CW/VHO/LT
	F96T12/CW/VHO-O		F96T12/CW/1500/0		F96T12/CW/VHO/LT

Additional Information

Fluorescent Cross Reference Guide

Color Cross Reference Guide

Philips		GE		OSI	
	SPEC 30 or 730		SP 30		D 30
	SPEC 35 or 735		SP 35		D 35
	SPEC 41 or 741		SP 41		D 41
Ultralume	27 or 27U	*Designer 800*	SPX 27		27K
	30U or 830		SPX 30		D 830
	35U or 835		SPX 35		D 835
	41U or 841		SPX 41		D 841
	C50		C50		DSGN50

Light Source Color Chart

Fluorescent Color	Color Abbreviation	Atmosphere	Light Output (%) In 4' Lamp	CCT	CRI	Lighted Appearance CIE Color Coordinates X	Y
Cool White	CW	Cool	100	4100K	62	0.380	0.380
Deluxe Cool White	CWX	Cool	72	4100K	89	0.376	0.367
Daylight	D	Cool Daylight	85	6500K	79	0.313	0.337
Daylight Deluxe	DX	Cool Daylight	76	6500K	84	0.314	0.341
Lite White	LW	Cool	104	4200K	51	0.376	0.386
Natural	N	Neutral	69	3700K	90	0.384	0.357
3000K, SPEC30	SPEC30	Warm	105	3000K	70	0.444	0.409
3500K, SPEC35	SPEC35	Neutral	105	3500K	73	0.410	0.395
4100K, SPEC41	SPEC41	Cool	105	4100K	70	0.382	0.385
Advantage T12 30	ADV30	Warm	118	3000K	82	0.444	0.409
Advantage T12 35	ADV35	Neutral	118	3500K	82	0.410	0.395
Advantage T12 41	ADV41	Cool	118	4100K	82	0.382	0.385
Advantage T12 50	ADV50	Daylight	118	5000K	82	0.346	0.360
Warm White	WW	Warm	102	3000K	53	0.440	0.403
Colortone 50	C50	Daylight	72	5000K	92	0.345	0.359
Colortone 75	C75	Daylight Plus	66	7500K	95	0.299	0.316
3000K, Ultralume	30U	Warm	108	3000K	85	0.444	0.409
3500K, Ultralume	35U	Neutral	108	3500K	85	0.413	0.395
4100K, Ultralume	41U	Cool	108	4100K	85	0.382	0.385
5000K, Ultralume	50U	Daylight	93	5000K	85	0.346	0.356
3000K, TL 70	TL730	Warm	93	3000K	78	0.439	0.402
3500K, TL 70	TL735	Neutral	93	3500K	78	0.410	0.395
4100K, TL 70	TL741	Cool	93	4100K	78	0.382	0.385
5000K, TL 70	TL750	Daylight	90	5000K	76	0.346	0.356
3000K, TL 80	TL830	Warm	98	3000K	86	0.439	0.402
3500K, TL 80	TL835	Neutral	98	3500K	86	0.410	0.395
4100K, TL 80	TL841	Cool	98	4100K	86	0.382	0.385
5000K, TL 80	TL850	Daylight	97	5000K	86	0.346	0.356
3000K, TL 90	TL930	Warm	66	3000K	95	0.438	0.399
5000K, TL 90	TL950	Daylight	66	5000K	98	0.344	0.355
Advantage T8 830	ADV830	Warm	105	3000K	86	0.444	0.409
Advantage T8 835	ADV835	Neutral	105	3500K	86	0.410	0.395
Advantage T8 841	ADV841	Cool	105	4100K	86	0.382	0.385
Advantage T8 850	ADV850	Daylight	105	5000K	86	0.346	0.360

Residential Applications Light Source Color Chart

Fluorescent Color	Light Output Atmosphere	Light Output (%) In 4' Lamp	CCT	CRI	Lighted Appearance CIE Color Coordinates X	Y
Homelight Cool White Plus®	Cool	105	4100K	62-70	0.382	0.385
Homelight Natural Sunshine®	Daylight	72	5000K	92	0.345	0.359
Homelight Soft White®	Warm	108	3000K	85	0.444	0.409

Correlated Color Temperature, CCT, describes the apparent color, or chromaticity, of a light source. Fluorescent light sources of 3000K, for example, Warm White or 3000K Ultralume, have a warm chromaticity, while 5000K lamps such as Colortone® 50 or 5000K Ultralume have a higher blue content and are considered to be cooler in color.

Color Rendering Index, CRI, is a relative value that indicates the color rendering quality of illumination provided by a light source. The higher the index number, the better the quality of illumination. While one lamp may have the same apparent color in CCT as another, its ability to render colors properly may be more or less than another light source. For example, Warm White 3000K 53 CRI lamps will not render colors of objects in an illuminated space as well as 3000K Ultralume 85 CRI lamps.

Both CCT and CRI should be cited together when properly describing light source color attributes.

Metal Halide Ordering Code Cross Reference Guide

Philips	GE	OSI	Venture	ANSI
Metal Halide	*Multi-Vapor*	*Metalarc*		
CDM35/T6/830	CMH39/T/U/830/G12	MC39T6/U/G12/830	N/C	M130/E
CDM35/TC/830	CMH39/TC/U/830/G8.5	N/C	N/C	M130/E
CDM35/PAR20/M/SP(10°)	CMH39/PAR20/830/SP10(10°)	MCP39PAR20/U/830/SP(10°)	N/C	M130/O
CDM35/PAR20/M/FL(30°)	CMH39/PAR20/830/FL25(25°)	MCP39PAR20/U/830/FL(30°)	N/C	M130/O
CDM35/PAR30L/M/SP(10°)	CMH39PAR30L/SP10(10°)	MCP39PAR30LN/U/830/SP(10°)	N/C	M130/O
CDM35/PAR30L/M/FL(30°)	CMH39PAR30L/FL25(25°)	MCP39PAR30LN/U/830/FL(30°)	N/C	M130/O
MHC50/U/M/3K	N/C	N/C	N/C	M148/M110/E
MHC50/C/U/M/3K	N/C	N/C	N/C	M148/M110/E
MHC50/U/M/4K	N/C	N/C	N/C	M148/M110/E
MHC50/C/U/M/4K	N/C	N/C	N/C	M148/M110/E
MHC50/U/MP/3K	N/C	N/C	N/C	M148/M110/O
MHC50/U/MP/4K	N/C	N/C	N/C	M148/M110/O
CDM70/T6/830	CMH70/T/U/830/G12	MC70T6/U/G12/830	N/C	M98/M139/E
CDM70/T6/942	CMH70/T/U/942/G12	N/C	N/C	M98/M139/E
CDM70/TD/830	CMH70/TD/830/RX7S	N/C	N/C	M85/M139/E
CDM70/TD/942	CMH70/TD/942/RX7S	N/C	N/C	M85/M139/E
CDM70/TC/830	CMH70/TC/U/830/G8.5	N/C	N/C	M139/E
MHN70/TD/840	ARC70/TD/942/R7S	N/C	N/C	M85/E
CDM70/PAR30L/M/SP(10°)	CMH70/U/PAR30L/15(15°)	MCP70PAR30LN/U/830/SP(12°)		M98/M143/O
CDM70PAR30L/M/FL(40°)	CMH70/U/PAR30L/40(40°)	MCP70PAR30LN/U/830/FL(30°)		M98/M143/O
CDM70/PAR38/SP/3K(15°)	N/C	MCP70PAR38/U/830/SP(15°)	N/C	M98/M143/O
CDM70/PAR38/FL/3K(25°)	N/C	MCP70PAR38/U/830/FL(25°)	N/C	M98/M143/O
CDM70/PAR38/SP/4K(15°)	N/C	N/C	N/C	M98/M143/O
CDM70/PAR38/FL/4K(25°)	N/C	N/C	N/C	M98/M143/O
MHC70/U/M/3K	CMH70/U/830/MED	N/C	N/C	M98/M143/E
MHC70/C/U/M/3K	CMH70/C/U/830/MED	N/C	N/C	M98/M143/E
MHC70/U/M/4K	N/C	N/C	N/C	M98/M143/E
MHC70/C/U/M/4K	N/C	N/C	N/C	M98/M143/E
MHC70/U/MP/3K	CMH70/U/830/MED/O	MPD70/U/MED/830	N/C	M98/M143/O
MHC70/C/U/MP/3K	CMH70/C/U/830/MED/O	N/C	N/C	M98/M143/O
MHC70/U/MP/4K	N/C	N/C	N/C	M98/M143/O
MHC70/C/U/MP/4K	N/C	N/C	N/C	M98/M143/O
CDM100/PAR38/SP/3K(15°)	N/C	MCP100PAR38/U/830/SP(15°)	N/C	M90/M140/O
CDM100/PAR38/FL/3K(25°)	N/C	MCP100PAR38/U/830/FL(25°)	N/C	M90/M140/O
CDM100/PAR38/SP/4K(15°)	N/C	N/C	N/C	M90/M140/O
CDM100/PAR38/FL/4K(25°)	N/C	N/C	N/C	M90/M140/O
MHC100/U/M/3K	CMH100/U/830/MED	N/C	N/C	M90/M140/E
MHC100/C/U/M/3K	CMH100/C/U/830/MED	N/C	N/C	M90/M140/E
MHC100/U/M/4K	N/C	N/C	N/C	M90/M140/E
MHC100/C/U/M/4K	N/C	N/C	N/C	M90/M140/E
MHC100/U/MP/3K	CMH100/U/830/MED/O	MPD100/U/MED/830	N/C	M90/M140/O
MHC100/U/MP/3K	CMH100/U/830/MED/O	MCP100/U/MED/830	N/C	M90/M140/O
MHC100/C/U/MP/3K	CMH100/C/U/830/MED/O	MPD100/C/U/MED/830	N/C	M90/M140/O
MHC100/C/U/MP/3K	CMH100/C/U/830/MED/O	MCP100/C/U/MED/830	N/C	M90/M140/O
MHC100/U/MP/4K	N/C	MPD100/U/MED/840	N/C	M90/M140/O
MHC100/C/U/MP/4K	N/C	MPD100/C/U/MED/840	N/C	M90/M140/O
CDM150/T6/830	N/C	MC150T6/U/G12/830	N/C	M142/E
CDM150/T6/942	N/C	N/C	N/C	M142/E
CDM150/TD/830	N/C	N/C	N/C	M142/E
CDM150/TD/942	N/C	N/C	N/C	M142/E
MHN150/TD/840	ARC150/TD/742/R7S	N/C	N/C	M81/E
MH150/U/M	N/C	N/C	MH150W/U/EM	M107/E
MH150/C/U/M	N/C	N/C	MH150W/C/U/EM	M107/E
MHC150/U/M/3K	N/C	N/C	N/C	M102/M142/E
MHC150/C/U/M/3K	N/C	N/C	N/C	M102/M142/E
MHC150/U/M/4K	N/C	N/C	N/C	M102/M142/E
MHC150/C/U/M/4K	N/C	N/C	N/C	M102/M142/E
MHC150/U/MP/3K	N/C	MCP150/U/MED/830	N/C	M102/M142/O
MHC150/C/U/MP/3K	N/C	MCP150/C/U/MED/830	N/C	M102/M142/O
MHC150/U/MP/4K	N/C	N/C	N/C	M102/M142/O
MHC150/C/U/MP/4K	N/C	N/C	N/C	M102/M142/O
MS175/BU/PS	N/C	N/C	MS175W/BU/PS	M137/M152/E
MP175/BU	N/C	MP175/BU-ONLY	N/C	M57/O
MH175/RFL(65°)	MVR175/PAR38FL/1(50°)	N/C	N/C	M57/E
MH175/U/M	MVR175/U/MED	M175/U/MED	MH175W/U/MED	M57/E
MH175/C/U/M	MVR175/C/U/MED	M175/C/U/MED	MH175W/C/U/MED	M57/E
MH175/U	MVR175/U	N/C	MH175W/U	M57/E
MH175/C/U	MVR175/C/U	N/C	MH175W/C/U	M57/E
MH175/3K/BU	N/C	M175/3K/BU-ONLY	N/C	M57/E
MS175/BU	N/C	N/C	MS175W/BU	M57/E
MS250/BU/PS	N/C	MS250/PS/BU-ONLY	MH250W/HBU/PS	M138/M153/E
MP250/BU	N/C	MP250/BU-ONLY	N/C	M58/O
MH250/U	MVR250/U	M250/U	MH250W/U	M58/E
MH250/C/U	MVR250/C/U	M250/C/U	MH250W/C/U	M58/E
MH250/3K/BU	N/C	M250/3K/BU-ONLY	MS250W/BU/3K	M58/E
CDM250S50/V/O/4K	MVR250/C/VBU/R	N/C	MS250W/C/BU/LU	M168/O
MS320/U/PS	N/C	MS320/PS/BU-ONLY	N/C	M132/M154/E
MS320/C/U/PS	N/C	MS320/C/PS/BU-ONLY	N/C	M132/M154/E
MS320/U/PS	N/C	N/C	MH320W/U/ED28/PS	M132/M154/E
MS320/C/U/PS	N/C	N/C	MH320W/C/U/ED28/PS	M132/M154/E

Additional Information

High Intensity Discharge Cross Reference Guide

Metal Halide Ordering Code Cross Reference Guide, continued

Philips	GE	OSI	Venture	ANSI
MP320/BU/PS	MPR320/VBU/XHO/PA	N/C	N/C	M132/M154/O
MP320/C/BU/PS	MPR320/C/VBU/XHO/PA	N/C	N/C	M132/M154/O
MS350/BU/PS	N/C	N/C	N/C	M131/E
MS350/C/BU/PS	N/C	N/C	N/C	M131/E
MP350/BU/PS	N/C	N/C	MP350W/V/UVS/PS	M131/O
MP350/C/BU/PS	N/C	N/C	MP350W/C/V/UVS/PS	M131/O
MS360/BU/EW	MVR360/VBU/WM/HO	MS360/SS/BU-HOR	MS360W/BU/EM	M59/M165/S
MS360/C/BU/EW	MVR360/C/VBU/WM/HO	MS360/C/SS/BU-HOR	MS360W/C/BU/EM	M59/M165/S
MP360/BU/EW	MPR360/VBU/WM/O	MSP360/SS/BU-ONLY	N/C	M59/M165/O
MP360/C/BU/EW	N/C	MSP360/C/SS/BU-ONLY	MPI360W/C/BU/EM	M59/M165/O
CDM400S51/V/O/4K	N/C	N/C	N/C	M169/O
MS400/BU/PS	N/C	MS400/PS/BU-ONLY	MS400W/BU/PS	M135/M155/S
MS400/C/BU/PS	N/C	MS400/C/PS/BU-ONLY	MS400W/C/BU/PS	M135/M155/S
MP400/BU	N/C	MP400/BU-ONLY	MPI400W/BU	M59/O
MP400/C/BU	N/C	MP400/C/BU-ONLY	MPI400W/C/BU	M59/O
MH400/U/ED28	MVR400/U/ED28	M400/U/BT-28	MH400W/U/ED28	M59/E
MS400/BU/ED28	MVR400/VBU/BT28	MS400/BU-ONLY/BT-28	MS400W/BU/ED28	M59/E
MS400/HOR	MVR400/HOR/MOG	MS400/HOR/BT-28	N/C	M59/E
MS400/C/HOR	MVR400/C/HOR/MOG	MS400/C/HOR/BT-28	N/C	M59/E
MH400/U	MVR400/U	M400/U	MH400W/U	M59/S
MH400/C/U	MVR400/C/U	M400/C/U	MH400W/C/U	M59/S
MH400/3K/U	MVR400/SP30/U	N/C	N/C	M59/S
MS400/BU	MVR400/VBU	MS400/BU-ONLY	MS400W/BU	M59/S
MS400/C/BU	MVR400/C/VBU	MS400/C/BU-ONLY	MS400W/C/BU	M59/S
MS400/3K/BU	N/C	MS400/3K/BU-ONLY	MS400W/BU/3K	M59/S
MP400/BU/PS	N/C	N/C	N/C	M135/M155/O
MP400/C/BU/PS	N/C	N/C	N/C	M135/M155/O
MHT400/U	MVT400/VBU	MT400/BU-ONLY	N/C	M59/S
MHT400/C/U	MVT400/C/VBU	MT400/C/BU-ONLY	N/C	M59/S
CDM400S51/V/O/4K	MVR400/C/VBU/R	N/C	N/C	M169/O
MS1000/BU/BT37/PS	N/C	N/C	N/C	M141/E
MP1000/BU	N/C	N/C	N/C	M47/O
MH1000/U/BT37	N/C	M1000/U/BT-37	N/C	M47/E
MH1000/U	MVR1000/U	M1000/U	MH1000W/U	M47/S
MH1000/C/U	MVR1000/C/U	M1000/C/U	MH1000W/C/U	M47/S
MS1000/BU	MVR1000/VBU	MS1000/BU-ONLY	MS1000W/BU	M47/S
MS1000/BD	N/C	MS1000/BD-ONLY	MS1000W/BD	M47/S
MS1000/C/BU	MVR1000/C/VBU	MS1000/C/BU-ONLY	MS1000W/C/BU	M47/S
MHT1000/U	N/C	MT1000/BU-ONLY	N/C	M47/S
MH1500/U	MVR1500/HBU	M1500/BU-HOR	MH1500W/HBU	M48/E
MH1500/U	MVR1500/HBD	M1500/BD	MH1500W/HBD	M48/E
MHD1800W	N/C	N/C	N/C	N/A
MHD1800/HV	N/C	N/C	N/C	N/A

Ceramalux® High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
Ceramalux	*Lucalox*	*Lumalux*	
C35S76/M	LU35/MED	LU35/MED	S76
C35S76/D/M	LU35/D/MED	LU35/D/MED	S76
C50S68/M	LU50/MED	LU50/MED	S68
C50S68/D/M	LU50/D/MED	LU50/D/MED	S68
C50S68/ALTO	N/C LU50	LU50/ECO	S68
C50S68/D/ALTO	N/C	N/C	S68
C70S62/M	LU70/MED	LU70/MED	S62
C70S62/D/M	LU70/D/MED	LU70/D/MED	S62
C70S62/ALTO	N/C LU70	LU70/ECO	S62
C70S62/D/ALTO	N/C LU70/D	N/C LU70/D	S62
C70S62/RFL	N/C	N/C	S62
C100S54/M	LU100/MED	LU100/MED	S54
C100S54/D/M	LU100/D/MED	LU100/D/MED	S54
C100S54/ALTO	N/C LU100	LU100/ECO	S54
C100S54/D/ALTO	N/C LU100/D	N/C LU100/D	S54
C150S55/M	LU150/MED	LU150/55/MED	S55
C150S55/D/M	LU150/D/MED	LU150/55/D/MED	S55
C150S55/ALTO	N/C LU150	LU150/55/ECO	S55
C150S55/D/ALTO	N/C LU150/D	N/C LU150/55/D	S55
C150S56/ALTO	N/C LU150/100 (ED28)	N/C LU150/100	S56
C200S66/ALTO	N/C LU200	LU200/ECO	S66
C225S50/EW	N/C	N/C	S50
C250S50/ALTO	N/C	LU250/ECO	S50
C250S50/D/ALTO	N/C	N/C	S50VC-250
C250S50/S N/C	LU250/S	N/C	S50
C310S67	LU310	N/C LU310/ECO	S67
C360S51/EW	N/C	N/C	S51
C400S51/ALTO	N/C	LU400/ECO	S51
C400S51/D/ALTO	N/C	N/C	S51WB-400
C600S106	LU600/T	LU600/SUPER	S106
C1000S52/ED37	N/C	N/C	S52
C1000S52/ALTO	LU1000/ECO	N/C LU1000	S52

Ceramalux® Comfort High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
Ceramalux	*Lucalox*	*Lumalux*	
C70S62/C/M	LU70/DX/MED	N/C	S62LG-70/C
C70S62/C/D/M	N/C	N/C	S62LH-70/C
C70S62/C	N/C	N/C	S62ME-70/C
C100S54/C/M	N/C	N/C	S54SG-100/C
C100S54/C	N/C	N/C	S54SB-100/C
C100S54/C/D	N/C	N/C	S54MC-100/C
C150S55/C/M	LU150/DX/MED	N/C	S55RN-150/C
C150S55/C/D/M	N/C	N/C	S55RP-150/C
C150S55/C	LU150/55/DX	N/C	S55SC-150/C
C250S50/C	LU250/DX	N/C	S50VA-250/C
C400S51/C	LU400/DX	N/C	S51WF-400/C

Ceramalux® RetroLux High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
RetroLux	*E-Z Lux*	*Unalux*	
C150S63/RetroLux	LUH150/EZ	ULX150	S63
C220S65/Retrolux	LUH215/EZ	ULX215	S65
C360S64/Retrolux	LUH360/EZ	ULX360	S64

Mercury Vapor Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
H46DL-40-50/DX	HR40/50DX45-46	H45/46DL-40/50/DX	H45/46
H43AV-75/DX	HR75DX43	H43AV-75/DX	H43
H38MP-100/DX	HR100DX38/A23	H38AV-100/DX	H38
H38HT-100	HR100A38	H38HT-100	H38
H38JA-100/DX	HR100DX38	H38JA-100/DX	H38
H38JA-T100/DX	HT100DX38 N/C	H38JA-T100/DX	H38
H38BP-100/DX	HR100RDXFL38	H38BP-100/DX	H38
H44GS-100 N/C	HR100PSP44 N/C	H44GS-100	H44
H44GS-100/M N/C	N/C	H44GS-100/MDSK	H44
H39KB-175	HR175A39	H39KB-175	H39
H39KC-175/DX	HR175DX39	H39KC-175/DX	H39
H39KC-T175/DX	HT175DX39	H39KC-T175/DX	H39
H39BM-175	HR175RFL39	N/C	H39
H39BP-175/DX	HR175RDXFL39	H39BP-175/DX	H39
H37KB-250	HR250A37	H37KB-250	H37
H37KC-250/DX	HR250DX37	H37KC-250/DX	H37
H37KC-T250/DX	HT250DX37 N/C	H37KC-T250/DX	H37
H33CD-400	HR400A33	H33CD-400	H33
H33GL-400/DX	HR400DX33	H33GL-400/DX	H33
H33GL-T400/DX	HT400DX33	H33GL-T400/DX	H33
H33DN-400/DX	HR400RDX33	N/C	H33
H33FS-400/DX	HR400RDXFL33	N/C	H33
H35ND-700/DX	HR700DX35	N/C	H35
H34GW-1000/DX	HR1000DX34	H34GW-1000/DX	H34
H36GV-1000	HR1000A36	H36GV-1000	H36
H36GW-1000/DX	HR1000DX36	H36GW-1000/DX	H36
H36GW-T1000/DX	HT1000DX36 N/C	H36GW-T1000/DX	H36

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2. Click on Lighting Application Center in the left-hand navigation.
3. Enjoy your visit as you see what's possible at the Lighting Application Center.

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Philips Lighting Company Locations

City	Address	Telephone No.	Fax No.
Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800	(732) 563-3000	(732) 563-3641
Markham, ON	281 Hillmount Road, Markham, ON, Canada L6C 2S3	(905) 201-4100	(905) 887-7938

Sales Offices—USA

City	Address	Telephone No.	Fax No.
Atlanta, GA	975 Cobb Place Blvd, NW, Suite 215, Kennesaw, GA 30144-4802	(678) 581-1600	(678) 581-1658
Boston, MA	3 Charlesview Road, Unit D, Hopedale, MA 01747-1552	(508) 966-5011	(508) 966-5120
Los Angeles, CA	P.O. Box 4377, Cerritos, CA 90703-4377	(562) 865-1007	(562) 860-3120

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London, ON		(519) 433-7553	(519) 433-7637
Toronto, ON		(905) 201-4100	(905) 887-7938
Guelph, ON		(519) 489-0646	(416) 915-6185
Halifax, NS		(902) 455-9009	(902) 455-9009
Gatineau, PQ		(819) 682-0215	(613) 321-3422
Québec, PQ		(418) 831-1710	(418) 836-3146
Montréal, PQ		(514) 956-2109	(514) 956-2108
St. Clet, PQ		(450) 456-3265	(514) 227-8191
Winnipeg, MB		(204) 669-3346	(204) 669-3350
Edmonton, AB		(780) 459-3353	(780) 459-3080
Calgary, AB		(403) 995-9557	(403) 995-9558
Burnaby, BC		(604) 272-3095	(604) 272-3531

Export, Business Group—Sales Offices and Lamp Technical Information, Export Sales

City	Address	Telephone No.	Fax No.
Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800	(732) 563-3033	(732) 563-3155

Customer Service Department/Order Entry Locations—USA

City	Address	Telephone No.	Fax No.
Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800		
	Industrial Commercial	1(800) 937-5483	1(800) 635-3818
	Consumer	1(800) 805-2517	1(800) 808-4899
	OEM	1(800) 832-2852	1(800) 937-8989
	Special Lighting	1(800) 437-2205	1(800) 616-0435
	TradeLink℠ (www.tradelink.philips.com)	1(800) 238-0483	

Customer Service Department/Order Entry Locations—Canada

City	Address	Telephone No.	Fax No.
Markham, ON	281 Hillmount Road, Markham, ON, Canada L6C 2S3		
	Professional/Consumer/OEM	(905) 201-4100	(905) 887-9313
			1(800) 668-9020
	TradeLink℠ (www.tradelink.philips.com)	1(800) 387-5393	
		1(800) 668-9009	

Customer Hotline/Technical Information

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Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800	1(800) 555-0050	1(800) 752-2852

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